Avaya MCC1 & SCC1

Media Gateways Installation and

Avaya DEFINITY® Server SI Upgrades

Made Easy

03-300189
Issue 1
June 2004

Copyright 2004, Avaya Inc.
All Rights Reserved

Notice

Every effort was made to ensure that the information in this document was complete and accurate at the time of printing. However, information is subject to change.

Warranty

Avaya Inc. provides a limited warranty on this product. Refer to your sales agreement to establish the terms of the limited warranty. In addition, Avaya's standard warranty language as well as information regarding support for this product, while under warranty, is available through the following Web site: http://www.avaya.com/support.

Preventing Toll Fraud

"Toll fraud" is the unauthorized use of your telecommunications system by an unauthorized party (for example, a person who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf). Be aware that there may be a risk of toll fraud associated with your system and that, if toll fraud occurs, it can result in substantial additional charges for your telecommunications services.

Avaya Fraud Intervention

If you suspect that you are being victimized by toll fraud and you need technical assistance or support, in the United States and Canada, call the Technical Service Center's Toll Fraud Intervention Hotline at 1-800-643-2353.

Disclaimer

Avaya is not responsible for any modifications, additions or deletions to the original published version of this documentation unless such modifications, additions or deletions were performed by Avaya. Customer and/or End User agree to indemnify and hold harmless Avaya, Avaya's agents, servants and employees against all claims, lawsuits, demands and judgments arising out of, or in connection with, subsequent modifications, additions or deletions to this documentation to the extent made by the Customer or End User.

How to Get Help

For additional support telephone numbers, go to the Avaya support Web site: http://www.avaya.com/support. If you are:

- Within the United States, click the *Escalation Management* link. Then click the appropriate link for the type of support you need.
- Outside the United States, click the *Escalation Management* link. Then click the *International Services* link that includes telephone numbers for the international Centers of Excellence.

Providing Telecommunications Security

Telecommunications security (of voice, data, and/or video communications) is the prevention of any type of intrusion to (that is, either unauthorized or malicious access to or use of) your company's telecommunications equipment by some party.

Your company's "telecommunications equipment" includes both this Avaya product and any other voice/data/video equipment that could be accessed via this Avaya product (that is, "networked equipment").

An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or is not working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based), or asynchronous (character-, message-, or packet-based) equipment, or interfaces for reasons of:

- Utilization (of capabilities special to the accessed equipment)
- Theft (such as, of intellectual property, financial assets, or toll facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including but not limited to, human/data privacy, intellectual property, material assets, financial resources, labor costs, and/or legal costs).

Responsibility for Your Company's Telecommunications Security

The final responsibility for securing both this system and its networked equipment rests with you - Avaya's customer system administrator, your telecommunications peers, and your managers. Base the fulfillment of your responsibility on acquired knowledge and resources from a variety of sources including but not limited to:

- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

To prevent intrusions to your telecommunications equipment, you and your peers should carefully program and configure:

- Your Avaya-provided telecommunications systems and their interfaces
- Your Avaya-provided software applications, as well as their underlying hardware/software platforms and interfaces
- Any other equipment networked to your Avaya products

TCP/IP Facilities

Customers may experience differences in product performance, reliability and security depending upon network configurations/design and topologies, even when the product performs as warranted.

Standards Compliance

Avaya Inc. is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Avaya Inc. The correction of interference caused by such unauthorized modifications, substitution or attachment will be the responsibility of the user. Pursuant to Part 15 of the Federal Communications Commission (FCC) Rules, the user is cautioned that changes or modifications not expressly approved by Avaya Inc. could void the user's authority to operate this equipment.

Product Safety Standards

This product complies with and conforms to the following international Product Safety standards as applicable:

Safety of Information Technology Equipment, IEC 60950, 3rd Edition, or IEC 60950-1, 1st Edition, including all relevant national deviations as listed in Compliance with IEC for Electrical Equipment (IECEE) CB-96A.

Safety of Information Technology Equipment, CAN/CSA-C22.2 No. 60950-00 / UL 60950, 3rd Edition, or CAN/CSA-C22.2 No. 60950-1-03 / UL 60950-1.

Safety Requirements for Customer Equipment, ACA Technical Standard (TS) 001 - 1997.

One or more of the following Mexican national standards, as applicable: NOM 001 SCFI 1993, NOM SCFI 016 1993, NOM 019 SCFI 1998.

The equipment described in this document may contain Class 1 LASER Device(s). These devices comply with the following standards:

- EN 60825-1, Edition 1.1, 1998-01
- 21 CFR 1040.10 and CFR 1040.11.

The LASER devices used in Avaya equipment typically operate within the following parameters:

Typical Center Wavelength	Maximum Output Power
830 nm - 860 nm	-1.5 dBm
1270 nm - 1360 nm	-3.0 dBm
1540 nm - 1570 nm	5.0 dBm

Luokan 1 Laserlaite

Klass 1 Laser Apparat

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposures. Contact your Avaya representative for more laser product information.

Electromagnetic Compatibility (EMC) Standards

This product complies with and conforms to the following international EMC standards and all relevant national deviations:

Limits and Methods of Measurement of Radio Interference of Information Technology Equipment, CISPR 22:1997 and EN55022:1998.

Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement, CISPR 24:1997 and EN55024:1998, including:

- Electrostatic Discharge (ESD) IEC 61000-4-2
- Radiated Immunity IEC 61000-4-3
- Electrical Fast Transient IEC 61000-4-4
- Lightning Effects IEC 61000-4-5
- Conducted Immunity IEC 61000-4-6
- Mains Frequency Magnetic Field IEC 61000-4-8
- Voltage Dips and Variations IEC 61000-4-11

Power Line Emissions, IEC 61000-3-2: Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions.

Power Line Emissions, IEC 61000-3-3: Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems.

Federal Communications Commission Statement

Part 15:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Part 68: Answer-Supervision Signaling

Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 rules. This equipment returns answer-supervision signals to the public switched network when:

- answered by the called station,
- answered by the attendant, or
- routed to a recorded announcement that can be administered by the customer premises equipment (CPE) user.

This equipment returns answer-supervision signals on all direct inward dialed (DID) calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered.
- A busy tone is received.
- A reorder tone is received.

Avaya attests that this registered equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator Consumers Act of 1990.

REN Number

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

This equipment complies with Part 68 of the FCC rules. On either the rear or inside the front cover of this equipment is a label that contains, among other information, the FCC registration number, and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

For G350 and G700 Media Gateways:

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the rear of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. The digits represented by ## are the ringer equivalence number (REN) without a decimal point (for example, 03 is a REN of 0.3). If requested, this number must be provided to the telephone company.

For all media gateways:

The REN is used to determine the quantity of devices that may be connected to the telephone line. Excessive RENs on the telephone line may result in devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed 5.0. To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.

REN is not required for some types of analog or digital facilities.

Means of Connection

Connection of this equipment to the telephone network is shown in the following tables.

For MCC1, SCC1, CMC1, G600, and G650 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Off premises station	OL13C	9.0F	RJ2GX, RJ21X, RJ11C
DID trunk	02RV2-T	0.0B	RJ2GX, RJ21X
CO trunk	02GS2	0.3A	RJ21X
	02LS2	0.3A	RJ21X
Tie trunk	TL31M	9.0F	RJ2GX
Basic Rate Interface	02IS5	6.0F, 6.0Y	RJ49C
1.544 digital interface	04DU9-BN	6.0F	RJ48C, RJ48M
	04DU9-IKN	6.0F	RJ48C, RJ48M
	04DU9-ISN	6.0F	RJ48C, RJ48M
120A4 channel service unit	04DU9-DN	6.0Y	RJ48C

For G350 and G700 Media Gateways:

Manufacturer's Port Identifier	FIC Code	SOC/REN/ A.S. Code	Network Jacks
Ground Start CO trunk	02GS2	1.0A	RJ11C
DID trunk	02RV2-T	AS.0	RJ11C
Loop Start CO trunk	02LS2	0.5A	RJ11C
1.544 digital interface	04DU9-BN	6.0Y	RJ48C
	04DU9-DN	6.0Y	RJ48C
	04DU9-IKN	6.0Y	RJ48C
	04DU9-ISN	6.0Y	RJ48C
Basic Rate Interface	02IS5	6.0F	RJ49C

For all media gateways:

If the terminal equipment (for example, the media server or media gateway) causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please contact the Technical Service Center at 1-800-242- 2121 or contact your local Avaya representative. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. It is recommended that repairs be performed by Avaya certified technicians.

The equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

This equipment, if it uses a telephone receiver, is hearing aid compatible.

Canadian Department of Communications (DOC) Interference Information

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This equipment meets the applicable Industry Canada Terminal Equipment Technical Specifications. This is confirmed by the registration number. The abbreviation, IC, before the registration number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

Installation and Repairs

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Declarations of Conformity

United States FCC Part 68 Supplier's Declaration of Conformity (SDoC)

Avaya Inc. in the United States of America hereby certifies that the equipment described in this document and bearing a TIA TSB-168 label identification number complies with the FCC's Rules and Regulations 47 CFR Part 68, and the Administrative Council on Terminal Attachments (ACTA) adopted technical criteria.

Avaya further asserts that Avaya handset-equipped terminal equipment described in this document complies with Paragraph 68.316 of the FCC Rules and Regulations defining Hearing Aid Compatibility and is deemed compatible with hearing aids.

Copies of SDoCs signed by the Responsible Party in the U. S. can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

All Avaya media servers and media gateways are compliant with FCC Part 68, but many have been registered with the FCC before the SDoC process was available. A list of all Avaya registered products may be found at: http://www.part68.org by conducting a search using "Avaya" as manufacturer.

European Union Declarations of Conformity

CE

Avaya Inc. declares that the equipment specified in this document bearing the "CE" (*Conformité Europeénne*) mark conforms to the European Union Radio and Telecommunications Terminal Equipment Directive (1999/5/EC), including the Electromagnetic Compatibility Directive (89/336/EEC) and Low Voltage Directive (73/23/EEC).

Copies of these Declarations of Conformity (DoCs) can be obtained by contacting your local sales representative and are available on the following Web site: http://www.avaya.com/support.

Japan

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may occur, in which case, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）の基準に基づくクラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

To order copies of this and other documents:

Call: Avaya Publications Center
Voice 1.800.457.1235 or 1.207.866.6701
FAX 1.800.457.1764 or 1.207.626.7269

Write: Globalware Solutions
200 Ward Hill Avenue
Haverhill, MA 01835 USA
Attention: Avaya Account Management

E-mail: totalware@gwsmail.com

For the most current versions of documentation, go to the Avaya support Web site: http://www.avaya.com/support.

Contents

Upgrades to Avaya Commnication Manager Made Easy 29

- Note these important considerations: 29
- Upgrade Procedures 29
- Before you start 30
  - Preparation and process steps 30
  - Make the Blowback Tape 33
  - Blowback vs. On site? 33
  - What DEFINITY System Is This? 34
  - Minimum required hardware 35
  - When to use the TN2401 versus the TN2401/2400 sandwich pack 36

Release 9si/10si/Communication Manager 1.x to Communication Manager 2.1 39

- Read this first 39
  - License File 39
  - Service interruption 39
  - Call Management System (CMS) 39
  - Software compatibility 40
  - Usable circuit packs 40
  - Wireless systems 40
  - Antistatic protection 40
- Task list: R9si/10si/Communication Manager 1.x to Communication Manager 2.1 40
  - Pre-upgrade checklist 42
  - Go to the RFA website 43
  - G3V4 through Release 9si upgrades only 43
    - Direct connection between the switch and RFA 43
    - No connection between the switch and RFA 44
    - If you have problems with RFA 44
  - Pre-upgrade administration 45
  - Check SPE 46
  - Verify the software version 46
  - Verify system status 46
  - Disable Scheduled Maintenance and Alarm Origination 47
  - Check link status 48

Save translations 48
High and Critical Reliability 48
All 48
Save announcements (TN750 or TN750B only) 49
Shut down DEFINITY LAN Gateway 49
Shut down DEFINITY AUDIX system 50
Determine active SPE 50
Upgrade software 51
Standard Reliability 51
High and Critical Reliability 51
Deliver or install the License File 52
New Duplicated G3r installations only 52
New simplex and upgraded G3r only 52
New or upgraded G3si only 53
Direct connection between the switch and RFA 53
No connection between the switch and RFA 53
Administer no-license/emergency numbers 54
Set Daylight Savings rule 54
Verify the upgrade 55
Check link status 55
Verify software version 56
Standard Reliability 56
High or Critical Reliability 56
All 56
Power up DEFINITY LAN Gateway system 56
Power up DEFINITY AUDIX system 56
If the AUDIX was removed from the cabinet 56
If the AUDIX remained in the cabinet 57
Enable scheduled maintenance 57
Register the switch for maintenance 57
Resolve alarms 60
Restore busyouts 60
Restore announcements (TN750 or TN750B only) 60
Check SPE 60
Save announcements and translations 61
Return equipment 62
Helpful links 62

G3iV4 to Avaya Communication Manager 63

- Introduction 63
  - References 63
  - When to use the TN2401 versus the TN2401/2400 sandwich pack 63
  - About circuit-pack carriers 64
  - Before you begin the upgrade 65
  - Preparation and process steps 65
  - Make the Blowback Tape 68
- Task List: G3iV4 to Avaya Communication Manager 68
  - Verify the required hardware [G3V4 to from R5/R6/R7/R8si] 70
  - Provide the required tools [from G3V4] 71
  - Go to the RFA website [from G3V4] 72
  - G3V4 through Release 9si upgrades only 72
    - Direct connection between the switch and RFA 72
    - No connection between the switch and RFA 73
    - If you have problems with RFA 73
  - Pre-upgrade administration [from G3V4] 74
  - Check existing software load [from G3V4] 75
  - Verify system status [from G3V4] 75
  - Disable scheduled maintenance and alarm origination [from G3V4] 76
  - Record all links and remove only ISDN interface links [from G3V4] 76
  - Save translation [from G3V4] 77
  - Save translation, duplicated system [from G3V4] 78
  - Save announcements (TN750 or TN750B only) [from G3V4] 78
  - Shut down DEFINITY LAN Gateway [from G3V4] 79
  - Shut down DEFINITY AUDIX system [from G3V4] 79
  - Power down PPN [from G3V4] 80
  - Remove translation card and CPP1, TN777B, and TN786B circuit packs [from G3V4] 81
  - Install TN2404 and TN2401 circuit packs and original translation card [from G3V4] 81
  - Verify TDM cables and terminators [from G3V4] 81
  - Power up [from G3V4] 82
  - Deliver or install the License File [from G3V4] 83
    - New Duplicated G3r installations only 83
    - New simplex and upgraded G3r only 83
    - New or upgraded G3si only 84
      - Direct connection between the switch and RFA 84

No connection between the switch and RFA 84
Administer No-License/Emergency Numbers [from G3V4] 85
Verify the upgrade [from G3V4] 85
Check customer options [from G3V4] 86
High or Critical Reliability 86
All 86
Restore busyouts [from G3V4] 86
Run acceptance tests [from G3V4] 87
Test single-carrier cabinet systems 87
Test multi-carrier cabinet systems 87
Test telephones and other equipment 88
Enable Scheduled Maintenance and Alarm Notification [from G3V4] 88
Register the switch for maintenance [from G3V4] 89
Restore announcements (TN750 or TN750B only) [from G3V4] 91
Rerecord announcements [from G3V4] 92
Save announcements and translation (TN750 or TN750B only) [from G3V4] 92
Return equipment [from G3V4] 93
Helpful links 93

R5/R6/R7/R8si to Avaya Communication Manager 95

- Introduction 95
When to use the TN2401 versus the TN2401/2400 sandwich pack 95
About circuit-pack carriers 97
Before you begin the upgrade 97
Preparation and process steps 97
Make the Blowback Tape 100
- Task List: R5/R6/R7/R8si to Avaya Communication Manager 101
Verify the required hardware [from R5/R6/R7/R8si] 102
Provide the required tools [from R5/R6/R7/R8si] 103
Go to the RFA website [from R5/R6/R7/R8si] 104
G3V4 through Release 9si upgrades only 105
Direct connection between the switch and RFA 105
No connection between the switch and RFA 105
If you have problems with RFA 106
Pre-upgrade administration [from R5/R6/R7/R8si] 106
Verify the software version [from R5/R6/R7/R8si] 107
Verify system status [from R5/R6/R7/R8si] 108

Modify external alarm connections [from R5/R6/R7/R8si] 108
Label and connect cables [from R5/R6/R7/R8si] 113
Disable scheduled maintenance and alarm origination [from R5/R6/R7/R8si] 113
Check link status [from R5/R6/R7/R8si] 114
Record all links and remove only ISDN interface links [from R5/R6/R7/R8si] 114
Save translation [from R5/R6/R7/R8si] 115
Save announcements (TN750 or TN750B only) [from R5/R6/R7/R8si] 116
Shut down DEFINITY LAN Gateway [from R5/R6/R7/R8si] 116
Shut down DEFINITY AUDIX system [from R5/R6/R7/R8si] 117
Power down cabinet(s) [from R5/R6/R7/R8si] 117
Verify TDM cables and connectors [from R5/R6/R7/R8si] 118
Remove translation card(s), TN790/B, TN778, TN777B or TN794 or TN794/TN2400 circuit packs [from R5/R6/R7/R8si] 118
Remove TN765 circuit pack [from R5/R6/R7/R8si] 119
Replace TN772 duplication interfaces with the TN792 duplication interfaces (R6si or earlier) [from R5/R6/R7/R8si] 119
Install TN2404 and TN2401 circuit packs and original translation card(s) [from R5/R6/R7/R8si] 120
Power up the system [from R5/R6/R7/R8si] 121
Set Daylight Savings Rule [from R5/R6/R7/R8si] 122
Deliver or install the License File [from R5/R6/R7/R8si] 122
- New Duplicated G3r installations only 122
- New simplex and upgraded G3r only 123
- New or upgraded G3si only 123
  - Direct connection between the switch and RFA 124
  - No connection between the switch and RFA 124

Administer No-License/Emergency Numbers [from R5/R6/R7/R8si] 124
Affix label [from R5/R6/R7/R8si] 125
Verify the upgrade [from R5/R6/R7/R8si] 125
Verify software version [from R5/R6/R7/R8si] 126
- Standard Reliability 126
- High or Critical Reliability 126

Restore busyouts [from R5/R6/R7/R8si] 126
Re-enable scheduled maintenance and alarm notification [from R5/R6/R7/R8si] 126
Check customer options [from R5/R6/R7/R8si] 126
- High or Critical Reliability 126
- All 127

Register the Switch for Maintenance [from R5/R6/R7/R8si] 127
Check link status [from R5/R6/R7/R8si] 130
Power up DEFINITY LAN Gateway system [from R5/R6/R7/R8si] 130
Power up DEFINITY AUDIX system [from R5/R6/R7/R8si] 130
Resolve alarms [from R5/R6/R7/R8si] 131
Run acceptance tests [from R5/R6/R7/R8si] 131
Test single-carrier cabinet systems 132
Test multi-carrier cabinet systems 132
Test telephones and other equipment 132
Restore announcements (TN750 or TN750B only) [from R5/R6/R7/R8si] 133
Rerecord announcements [from R5/R6/R7/R8si] 133
Check SPE [from R5/R6/R7/R8si] 133
Save announcements and translation [from R5/R6/R7/R8si] 134
Return equipment [from R5/R6/R7/R8si] 134
Helpful links 134

G3V4vs/R5vs/R6vs to Avaya Communication Manager 135

- Introduction 135
  - When to use the TN2401 versus the TN2401/2400 sandwich pack 135
  - Before you begin the upgrade 136
  - Preparation and process steps 137
  - Make the Blowback Tape 139
- Task List: DEFINITY vs to Avaya Communication Manager 140
  - Verify the required hardware [from G3V4vs/R5vs/R6vs] 141
  - Provide the required tools [from G3V4vs/R5vs/R6vs] 142
  - Go to the RFA website 143
  - G3V4 through Release 9si upgrades only 144
    - Direct connection between the switch and RFA 144
    - No connection between the switch and RFA 144
    - If you have problems with RFA 144
  - Pre-upgrade administration [from G3V4vs/R5vs/R6vs] 145
  - Unpack and inspect control cabinet [from G3V4vs/R5vs/R6vs] 146
  - Install new control cabinet [from G3V4vs/R5vs/R6vs] 147
  - Install new control cabinet with earthquake protection [from G3V4vs/R5vs/R6vs] 147
  - Label and connect cables [from G3V4vs/R5vs/R6vs] 149
  - Install TDM/LAN bus terminators [from G3V4vs/R5vs/R6vs] 150

Swing existing system into maintenance position [from G3V4vs/R5vs/R6vs] 150
Check existing software load [from G3V4vs/R5vs/R6vs] 151
Verify system status [from G3V4vs/R5vs/R6vs] 151
Disable scheduled maintenance and alarm origination [from G3V4vs/R5vs/R6vs] 152
Check link status [from G3V4vs/R5vs/R6vs] 152
Record all links and remove only ISDN interface links [from G3V4vs/R5vs/R6vs] 153
Save translation [from G3V4vs/R5vs/R6vs] 154
Save recorded announcements (TN750B) [from G3V4vs/R5vs/R6vs] 154
List configuration software version [from G3V4vs/R5vs/R6vs] 155
Shut down DEFINITY LAN Gateway system [from G3V4vs/R5vs/R6vs] 155
Shut down the DEFINITY AUDIX system [from G3V4vs/R5vs/R6vs] 156
Power down existing system [from G3V4vs/R5vs/R6vs] 156
Remove ground connections [from G3V4vs/R5vs/R6vs] 157
Move 25-pair cables from G3V4vs System from G3V4vs/R5vs/R6vs 157
Move management terminal cable from G3V4vs/R5vs/R6vs 157
Move circuit packs from G3V4vs/R5vs/R6vs 158
Verify TDM cables and connectors [from G3V4vs/R5vs/R6vs] 158
Connect control cabinet power and ground [from G3V4vs/R5vs/R6vs] 158
Power up [from G3V4vs/R5vs/R6vs] 159
Deliver or install the License File [from G3V4vs/R5vs/R6vs] 160
- New Duplicated G3r installations only 160
- New simplex and upgraded G3r only 161
- New or upgraded G3si only 161
  - Direct connection between the switch and RFA 162
  - No connection between the switch and RFA 162

Administer No-License/Emergency Numbers [from G3V4vs/R5vs/R6vs] 162
Set Daylight Savings rule [from G3V4vs/R5vs/R6vs] 163
Check customer options [from G3V4vs/R5vs/R6vs] 163
- High or Critical Reliability 163
- All 163

Verify the upgrade [from G3V4vs/R5vs/R6vs] 164
Restore busyouts [from G3V4vs/R5vs/R6vs] 164
Run acceptance tests [from G3V4vs/R5vs/R6vs] 165
- Test single-carrier cabinet systems 165
- Test multi-carrier cabinet systems 165
- Test telephones and other equipment 166

Enable Scheduled Maintenance and Alarm Notification [from G3V4vs/R5vs/R6vs] 166
Register the switch for maintenance [from G3V4vs/R5vs/R6vs] 167
Restore announcements [from G3V4vs/R5vs/R6vs] 169
Rerecord announcements [from G3V4vs/R5vs/R6vs] 170
Save announcements and translation [from G3V4vs/R5vs/R6vs] 170
Disassemble the G3V4vs System [from G3V4vs/R5vs/R6vs] 171
Return equipment [from G3V4vs/R5vs/R6vs] 172
Helpful links 172
AC-powered cabinet port carrier power upgrade compatibility 173
Alarm connections 175
Redistribution methods 175
Results of ganging method 175
Port-network configurations 175

Install Fiber Optic Cable Pass-Thru Kit for MCC1 (Multicarrier) Cabinets 177

- Install the fiber optic cable pass-thru kit (MCC1) 177
  LASER Product 177

Install Fiber Optic Cable Pass-Thru Kit for SCC1 (Single-Carrier) Cabinets 193

- Install the fiber optic cable pass-thru kit (SCC1) 193
  LASER Product 193
- Administering Fiber Optic Cables 210
  Fiber Link Administration Form 210
  Administration commands 210
  PN reliability configurations 211
  Simplex PNC 211
- Task List: Administration Details 211
- Administering PNC Duplication 212
- Administering Fiber Links 212
- Duplicated Fiber Link Administration 213
- DS1C Converter Complex Administration for TN574 Circuit Packs 214
- Duplicated DS1C Converter Complex Administration for TN574 Circuit Packs 218
- DS1 Converter Complex Administration for T1 TN1654 Circuit Packs 219
- Duplicated DS1 Converter Complex Administration for T1 TN1654 Circuit Packs 220

- DS1 Converter Complex Administration for E1 TN1654 Circuit Packs 221
- Duplicated DS1 Converter Complex Administration for E1 TN1654 Circuit Packs 222

System 75 XE to R8si (Blowback) 223

Before you begin the upgrade 223
Preparation and process steps 223
Make the Blowback Tape 226

- Task List: System 75 XE to R8si 227

About fiber-optic cables 258
Connecting standard or high reliability adjacent cabinets 258
Connecting standard or high reliability remote cabinets 260
Connecting Critical Reliability adjacent cabinets 262
Connecting critical reliability remote cabinets 265
Reference 275
Test single-carrier cabinet systems 277
Test multi-carrier cabinet systems 277
Test telephones and other equipment 277

System 75 Small-Cabinet to R8si (Blowback) 281

Before you begin the upgrade 281
Preparation and process steps 281
Make the Blowback Tape 284

- Task List: System 75 Small Cabinet to R8si 285

Notes: 287
Notes: 288
Reference 316
Test single-carrier cabinet systems 317
Test multi-carrier cabinet systems 318
Test telephones and other equipment 318
Helpful links 320
Upgrade overview: System 75 XE 321
Relocating PPN port circuit packs 321
Relocating EPN port circuit packs 322
Upgrade overview: small-cabinet System 75 322
Replacing the control carrier 322
Replacing the cabinet and control carrier 323
Power requirements 323

Installation for MCC1 (Multicarrier Cabinets) Made Easy 325

Install and Connect MCC1 (Multicarrier) Cabinet 327

- Task List: Install and Connect MCC1 327
  - Install Concrete Floor Mounting 331
  - Install Raised Computer Floor Mounting 332
- Connect AC Power and Ground 334
- Task List: Connect AC power and ground 335
  - Power Requirements 335
  - Power Supply Sources (J58890CE-1, J58890CE-2, and J58890CH-1) 335
  - Grounding an AC-Powered System (J58890CE) 336
- Connect DC Power and Ground 343
- Task List: Connect DC Power and Ground 343
- Connect Fiber Optic Interconnect Cabling 356

(Single Carrier Cabinets) Made Easy 361

Install and Connect SCC1 (Single-Carrier Cabinets) 363

- Task List: Install and Connect Single-Carrier Cabinets (SCC1) 363
- Ground DC-Powered Cabinets 370
- Task List: Connect the cabinet grounds on the J58890R DC Power Cabinet and the Single-Carrier Cabinets 370
- Connect DC Power 374
- Task List: Connect the DC power 374
  - Making DC Power Connections 375
- Task List: Install a J58890CG DC Power Distribution Unit 375
  - DC Power Connections with DC Distribution Unit 376
  - Stacking DC Power Cabinets 376
- Ground and Connect AC-Powered Cabinets 382
- Task List: Connect the cabinet grounds on the J58890R DC Power Cabinet and the Single-Carrier Cabinets 382
- Connect Time Division Multiplexing Bus Cables 385

Install Telecommunications Cabling 403

Information about Installing the Cabling 403

- Task List: Installing the Telecommunications Cabling 403
- Provisioning Plan 404
- Main Distribution Frame (MDF) Hardware 404
- MDF Cross-Connect Fields 406
- Main Distribution Frame 408
- Main Distribution Frame Labels 409
- Off-Premises Circuit Protection 410
- Sneak Fuse Panels 411
- Cable Installation 411
  - Equipment Room Cabling Labels 412
  - Cable Routing Guidelines 412
  - Control Carrier Outputs Cable Installation 413
  - Trunk Cables Among Network Interface, Sneak Fuse Panel, and Cabinet 413
- Coupled Bonding Conductor 415
- Installation Space Requirements 416
  - Sneak Fuse Panels and Emergency Transfer Units 416
  - 110-Type Hardware 416
  - Cable Slack Manager 416
- Station Wiring Design 417
  - Information Outlets 417
  - Station Cables 417
  - Closets 418
    - Site Locations 418
    - Satellite Locations 419
      - Satellite Locations Using 110-Type Hardware 419
- Station Circuit Distribution from Equipment Room 421
  - 4-Pair Station Circuits 421
  - 3-Pair to 4-Pair Station Circuit Distribution 421
- Voice and Data Terminals 425
- Connectable Administration Terminals 427
- Layout 427
  - Information Outlet Locations 427
  - Site, Satellite, and Adapter Locations 427
  - Sizing 4-Pair Station Cables 428

Sizing 25-Pair and Multiple 25-Pair Station Cables 428
3-Pair Station Cable Circuits 428
4-Pair Station Cable Circuits 428
- Patch Cord/Jumper Installation and Administration 429

Bring the System Online 447

- Task List: Setting up the PC and Administering the System 447
- About Accessing the System 448
- Administration Screens and Commands 448
- Administering the Circuit Packs 449
  - Administration Commands 449
  - Change Circuit Packs Form 450
  - Change Circuit Pack Form Implementation Notes 451
- DEFINITY AUDIX System Power Procedures 451
  - Manually Power Down AUDIX System 451
  - Manually Power Up AUDIX System 452
- Access the System 452
- Task List: Access the system 452
- Task List: Make Data Module Settings 452
- Activate the System 460
- Task List: Activate the System 461
- Administer the System 463
- Task List: Administer the System 464
    - New Duplicated G3r installations only 465
    - New simplex and upgraded G3r only 465
    - New or upgraded G3si only 465
      - Direct connection between the switch and RFA 466
      - No connection between the switch and RFA 466

Test the System 483

- Task List: Test the System 483
- LED Indicators 484
  - Attendant Console LEDs 484
  - Terminal Alarm Notification 484
  - Circuit Pack LEDs 485
  - DS1 Converter Circuit Pack LEDs 485

SPAN LEDs 485
LEDS on Standby Components 485

Install and Wire Telephones 499

- Task List: Wiring Examples and Wiring Procedures 499
- Voice and Data Terminals 500
- Task List: Connect Voice and Data Terminals 500
  - Connectable Voice and Data Terminals 500
  - Connectable Administration Terminals 502
- Analog Tie Trunk Example 506
- Digital Tie Trunk Example 507
- DS1 Tie Trunk Example 508
  - Collocated DS1 Tie Trunks 508
  - DS1 Tie Trunks Using T1 Channel Service Unit 508
- Auxiliary Connector Outputs 510
- Three-Pair and Four-Pair Modularity 514
- Adjunct Power Connection Locations 515
    - Powering IP phones 516
- Attendant Console Example 516
- Task List: Attendant Console Procedures 516
  - Attendant Console Cabling Distances, Local and Phantom Power 516
  - Auxiliary Power 517
  - Hard-Wire Bridging 518
  - Dual Wiring of Two-Wire and Four-Wire Endpoints 518
- Remote Network Interface 523
- Task List: Install the Remote Network Interface 524
- Off-Premises or Out-of-Building Stations 526
- Task List: Off-Premises Requirements 526
- Off-Premises Connections 526
  - Installing the ITW Linx Enhanced Protector 530
  - Installing the 4C3S-75 Enhanced Protector 530
  - Installing the Data Link Protector 530
- Emergency Transfer Units and Associated Telephones 532
- 808A Emergency Transfer Panel and Telephone Installation Examples 533
- Task List: Typical Emergency Transfer Panel and Telephone Installation 533

Install and Wire Telephone Power Supply 549

- Task List: Power Supplies 549
- 1145B Power Supply 549
- Important Warning for 1145B Power Supply 553
- 1151A1 and 1151A2 Power Supplies 561
  - Using 1151A1 and 1151A2 Power Supplies 562
- Important Safety Instructions for 1151A1 and 1151A2 Power Supplies 563

Install Additional Hardware 565

- Task List: Installing Additional Port Circuit Packs 565
- Installing Other Equipment 566
  - DEFINITY Wireless Business System 566
  - Cellular Business System 566
  - Forum PCM 566
- Add Port Circuit Packs 567
- Circuit Pack and Auxiliary Equipment Classifications 567
- Install and Administer ISDN - BRI 570
- Task List: Installing ISDN - BRI 570
- BRI Terminating Resistor Installation 570
  - BR851-B Adapter (T-Adapter) 573
  - 367A Adapter 574
  - Basic Multipoint Installation Distances 576
- Add a TN2501AP Announcement Circuit Pack 578
- Add Multiple Announcement 580
  - TN750C Announcement Circuit Pack 580
  - TN2501AP Announcement Circuit Pack 581
    - Important File Specifications 581
  - Save and Restore Recorded Announcements 581
  - TN750 and TN750B Announcement Circuit Packs 582
- Task List: Add Multiple Announcement Circuit Packs 582
- Add CallVisor ASAI 584
- Task List: Add CallVisor ASAI 585
    - New Duplicated G3r installations only 585
    - New simplex and upgraded G3r only 586

New or upgraded G3si only 586
Direct connection between the switch and RFA 586
No connection between the switch and RFA 586
- Add Packet Bus Support 588
- Task List: Add Packet Bus Support 588
New Duplicated G3r installations only 590
New simplex and upgraded G3r only 591
New or upgraded G3si only 591
Direct connection between the switch and RFA 592
No connection between the switch and RFA 592
- Add DCS Interface 593
- Task List: Add DCS 594
New Duplicated G3r installations only 596
New simplex and upgraded G3r only 596
New or upgraded G3si only 597
Direct connection between the switch and RFA 597
No connection between the switch and RFA 597
- Administer TN464GP/TN2464BP with Echo Cancellation 598

Add IP Solutions 601

- Task List: Implementing Avaya Media Gateway IP Solutions 601
TN802B IP Interface Assembly 601
TN2302AP Media Processor 602
- Installing a TN2302AP IP Media Processor 602
- Preparing for Installation and Upgrade 602
- Task List: Prepare for Installation and Upgrade 603
- Installing the TN2302AP IP Media Processor 604
- Task List: Install TN2302AP 605
- Upgrading TN802 IP Trunking to TN2302AP IP Media Processor 610
- Task List: Upgrade TN802 to TN2302AP 611
- Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor 613
- Task List: Upgrade TN802B to TN2302AP 613
- Installing a TN802B in Media Processor Mode 616
- Task list: Install the TN802B in Media Processor mode 616
- Installing a TN802B in IP Trunk Mode 626

- Task list: Install the TN802B in IP Trunk mode 626
- Upgrading a TN802 V3 (or later) to a TN802B (MedPro Mode) 643
- Task list: Upgrade a TN802 to a TN802B 644

Add Channel Service Units 651

- About Installing an ICSU Module 651
  - Check for required components 651
  - H700-383-Equivalent Cable Guidelines 652
- Installing the 120A3A CSU 652
- Installing a 3150/3170 Channel Service Unit 654

Install and Administer Trunks 657

- Task List: Add Trunks 657
- Install CAMA/E911 Trunk 657
  - Task List: Installing CAMA/E911 Trunks 657
  - Installing the Circuit Pack 659
  - Adding the Trunks 660
  - Changing the Feature Access Code 661
  - Changing the ARS Digit Analysis 662
  - Changing the Route Patterns 663
  - Changing the CAMA Numbering and Class of Restriction 665
- Install ISDN—PRI Trunks 666
  - Task List: Installing ISDN—PRI Trunks 667
  - Installing ISDN - PRI in North American 667
  - Installing ISDN - PRI Internationally 667
  - Add Packet Bus Support (ISDN PRI) 668
  - Add Circuit Packs (ISDN PRI) 668
  - Install Cables (ISDN PRI) 668
  - Enter Added Translations (ISDN PRI) 668
  - Resolve Alarms (ISDN PRI) 668
  - Save Translations (ISDN PRI) 668
- Adding CO, FX, WATS, and PCOL Trunks 669
- Adding DID Trunks 669
- Adding Tie Trunks 669

- Add DS1 Tie and OPS Trunks 670
  - Task List: Adding DS1 Tie and OPS Trunks 671
  - Upgrading from a TN722 to a TN767C 671
  - Disable Scheduled Maintenance and Alarm Origination to INADS (DS1 Tie and OPS Trunks) 672
  - Save Translations (DS1 Tie and OPS Trunks) 672
  - Shut Down DEFINITY LAN Gateway System (DS1 Tie and OPS Trunks) 672
  - Shut Down DEFINITY AUDIX System (DS1 Tie and OPS Trunks) 673
  - Power Down System (DS1 Tie and OPS Trunks) 673
  - Add Circuit Packs (DS1 Tie and OPS Trunks) 674
  - Install Cables (DS1 Tie and OPS Trunks) 674
  - Power Up System (DS1 Tie and OPS Trunks) 674
  - Enter Added Translations (DS1 Tie and OPS Trunks) 674
  - Save Translations (DS1 Tie and OPS Trunks) 674
  - Resolve Alarms (DS1 Tie and OPS Trunks) 675
  - **Deliver or Install License file** (DS1 Tie and OPS Trunks) 675
    - New Duplicated G3r installations only 675
    - New simplex and upgraded G3r only 676
    - New or upgraded G3si only 676
      - Direct connection between the switch and RFA 677
      - No connection between the switch and RFA 677
- Adding TTC Japanese 2-Mbit Trunks 677
- Add TN1654 DS1 Converter (r only) 677
  - Task List: Adding a TN1654 DS1 Converter 678
  - Circuit Pack Switches 678
  - Circuit Pack and Cabling (T1 Only) 678
  - 75-ohm E1 Interface Cabling 678
  - Set Circuit Pack Switches (TN1654 DS1 Converter) 681
  - Installing TN1654s in a Port Carrier 682
  - Installing TN1654s in a Switch Node Carrier 683
  - Connecting a Port Carrier to a Switch Node Carrier (TN1654 DS1 Converter) 684
  - Connecting Through a Channel Service Unit 685
  - Mounting the 127A (TN1654 DS1 Converter) 689
  - Wiring Off-Premises Stations (TN1654 DS1 Converter) 690

Installing the Stratum 3 Clock 693

- Task List: Install the Stratum 3 clock 693
  - Unpack and Inspect Stratum 3 Clock Cabinet 693
  - Install and Position Stratum 3 Clock Cabinet 693
  - Connect AC Power to Stratum 3 Clock Cabinet 694
  - Check and Connect Commercial AC Power 694
  - Connect DC Power and Ground to Stratum 3 Clock Cabinet 694
  - Connect Clock Cabinet Grounding 694
  - Connect Stratum 3 Clock DC Power 695
  - Set the Clock Options 695
  - Cable the Stratum 3 Clock 696
  - Install the Stratum 3 Clock Wiring 698

Install and Connect Modems 701

- Task List: Install and Connect Modems 701
  - Connect Modem to Telephone Network 701
  - Set External Modem Options 702
  - Add U.S. Robotics Model USR 33.6 EXT External Modem to EPN 704
  - Add U.S. Robotics Model USR 33.6 EXT External Modem to PPN 705
  - Add External Modem to TN1648B 706
  - Add Modem Pooling 712
- Task List: Set up Modem Pooling 712
  - Add Pooled Modem (Paradyne 3800 Series) 712
  - Set the Modem Connected to Data Module 713
  - Set the Modem Connected to the Data Terminal Equipment (DTE) 713
  - Set 7400A and 7400B Options (Modem Pooling) 713

Upgrade Firmware on Programmable Circuit Packs 715

- Self and C-LAN-distributed download Procedure 716
  - Prepare for download 717
    - Verify hardware/software requirements 717
    - Get circuit pack information 718
    - Set up source circuit pack’s file system 719
  - Upload image file from the Web to staging area 720
  - FTP the image file to source 720
  - Schedule a download to target(s) 721
  - Monitor download progress 725

Reseat VAL circuit pack 726
Disable file system 727
Troubleshooting firmware downloads 727
Aborting a firmware download 727
Testing firmware download 727
Backing out of a firmware download 728
Reverting to an older TN799DP or TN2501AP vintage 728

Test Telephones and Other Equipment 731

- Task List: Perform Acceptance Tests 731
- Make Test Calls 731
- Test 302C Attendant Console 732
- Test Selector Console 732
- Test External Ringing 733
- Test Queue Warning Indicator 733
- Test Integrated Announcement 733
- Record Announcement 733
- Playback Announcement 734
- Delete Announcement 734
- Test Music-on-Hold 734
- Test Emergency Transfer 734
- Test Remote Access Interface 734
- Remote Test 735
- Local Test 735
- Test Basic Rate Interface 735
- Test Duplication Option Processing Element Interchange 736
- Test Terminating Trunk Transmission 736
- Test the C-LAN Connection 737
- Test Stratum 3 Clock (if used) 737
- Task List: Test Stratum 3 Clock 738
  - Check for Red LEDs 738
  - Verify Timing to the System 739
- Perform Complete System Test 739
- Resolve Alarms 739
- Activate and Test Alarm Origination Feature 740

Option Switch Settings 741

- Task List: Option Settings 741
- Data Module Option Switch Settings 741
- Task List: Data Module Switches and Options 741
  - About DCS Switch Settings 742
  - About 7400D Data Module Option Settings 743
  - Set DCS Switches 744
  - Set 7400D Options 745
  - Set 7400A and 7400B Options 745
- External Modem Option Settings 746
- Printer Option Settings 749
- Call Detail Recording Option Settings 752
- AUDIX Interface Option Settings 756
- TN760E Tie Trunk Circuit Pack Option Settings 757
- TN464GP/2464 Option Settings 760

Approved Grounds 761

- Approved Floor Grounds 762

Connecting and Handling Fiber Optic Cables 763

- LASER Product 763
- Detailed Information 763
- Optical Cross-Connect Hardware 763
- Task List: Optical Cross-connect and Interconnect Hardware Descriptions 764
- 100A Lightguide Interconnect Unit 765
- 10A Lightguide Connector Panel and Couplings 766
- Lightguide Troughs 767
- Fiber Interconnection Cable 767
  - Multimode Fiber Cable 767
  - Single-mode Fiber Cable 767
- Labels for Fiber Optic Cables 768
  - Cable Labels 768
  - Cross-Connect Labels 768
- Cleaning Fiber Optic Cables 768

Connector and Cable Diagrams (Pinout Charts) 771

- Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) 771
- Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) 774
- Lead and Color Designations 776
- TN2185B ISDN-BRI 4-wire S Interface 778
- TN2198 ISDN-BRI 2-wire U Interface 780
- TN793B 24-Port Analog Line circuit pack 781
- DS1 Interface Cable H600-307 783

UPS Installation for SCC1 EPN A-Carrier Cabinet 785

- Task List: Install UPS 785
  - Parts List 785
    - Required Hardware 785
    - Connect the UPS 785
    - Wire the 700A8 Plug 786
    - Make the Remaining Connections 787
    - Administer the External Device Alarm (EDA) 790
    - Load-test and Verify Alarms 791

Adjuncts and Peripherals 793

- Terminal server installation 793
  - Installing and administering the terminal server 794
    - Distance limits 794
    - Cabling diagram 795
    - Making the connections 796
    - Administering the IOLAN+ 797
      - Setting up HyperTerminal on the computer 797
      - Navigating the IOLAN+ terminal server 797
      - Administering the IOLAN+ the first time 798
      - Rebooting the IOLAN+ 799
      - Administering the gateway 800
      - Administering an IOLAN+ port 800
      - Testing 802
    - Potential failure scenarios and repair actions 802
  - Administering IP node names 803
  - Administering IP services 803

- Call detail recording (CDR) 804
  - Connecting CDR Equipment 804
  - Administering CDR Data Collection 805
  - Administering CDR parameters 806
  - Testing the switch-to-adjunct link 806
- Reliable Data Transport Tool (RDTT) Package 807
  - Contents of the RDTT 807
  - Downloading the tool 807
  - Installing RDTT 807
  - Administering RDTT 808
  - Related Topics 808
- Wideband endpoints 808
  - Nonsignaling configuration 808
  - Signaling configuration 809
- Multimedia call handling (MMCH) 811
  - Connect the endpoints 811
    - Administer the system 812
    - Administer the endpoints 812
    - Administer one number complex 813
  - Expansion services module 813
    - ESM installation 813
  - Administration 814
  - Place test call 814
  - Troubleshooting 815
- Printers 815
  - Connecting printers using TCP/IP 815
    - Task list 815
    - Administering adjunct parameters 815
      - PMS journal and PMS log printers 815
      - System printer 816
      - Testing the switch-to-adjunct link 816
    - Using the downloadable reliable session-layer protocol (RSP) tool 816
- DS1/T1 CPE loopback jack 816
  - With a smart jack 817
  - Without a smart jack 817
  - Administering the loopback jack 818
  - Loopback testing with a smart jack 818

Testing the DS1 span from the ICSU to the loopback jack 818
Checking the integrity of local equipment 818
Busying out the DS1 circuit pack 819
Administering the DS1 for the test 819
Testing the integrity of the loopback circuit 819
Testing the integrity of data sent over the loop 819
Clearing the results of previous tests 819
Running the data test 820
Restoring DS1 administration 821
Releasing the DS1 circuit pack 821
Testing the DS1 span from the smart jack to the network interface termination or fiber multiplexer (MUX) 821
Testing the DS1 span from the loopback jack to the smart jack 822
Testing a loopback jack without a smart jack 824
Configurations using fiber multiplexers 827

- .Install ISDN converters and adapters 828

Converters for single-carrier cabinets 828
PRI-to-DASS and PRI-to-DPNSS converters 828
PRI-to-BRI converter 829
Converters for multi-carrier cabinets 830
PRI-to-DASS and PRI-to-DPNSS converters 830
PRI-to-BRI converter 830

- 909A/B universal coupler 831
- Malicious call trace 835
- Music-on-hold 836

Registered music source 837
Nonregistered music source 837

- Paging and announcement equipment 839

Loudspeaker paging 839
Loudspeaker paging without paging adapter 840
Loudspeaker paging access without universal coupler 841
Loudspeaker paging with universal coupler 841
ESPA radio paging 842
External ringing 842
Queue warning indicator 843

- Adjunct Information Sources 843
  - Call Management System 843
  - INTUITY AUDIX Messaging Systems 843
  - Avaya Modular Messaging System 844
  - ASAI and DEFINITY LAN Gateway 844
  - Avaya Interactive Response 844
  - Avaya EC500 Extension to Cellular 844
  - Call Accounting Systems 844

Links and FAQs 845

- Links 845
  - Public link (from the internet) 845
  - Technician links 845
- Frequently Asked Questions 846
    - Notes 854

Index 861

Upgrades to Avaya Commnication Manager Made Easy

Upgrade Procedures provides links to procedures to upgrade an Avaya DEFINITY® Server SI to Avaya Communication Manager™. For general information, see Before you start, Blowback vs. On site?, and Minimum required hardware.

When to use the TN2401 versus the TN2401/2400 sandwich pack explains the differences and provides a list of the carriers and backplanes that use the TN2401 alone.

Note these important considerations:

- Before upgrading to Avaya Communication Manager, you must obtain a license file for the system. To obtain a license file, you must have completed Remote Feature Activation (RFA) training at least 48 hours before you try to access RFA. For more information, access the RFA web site.
- For some earlier upgrades, the control carrier or cabinet replacement was optional. *If the carrier or cabinet was not previously replaced*, you must replace it before you can complete the upgrade.
- It is essential to use the Automatic Registration Tool (ART) as the final step of any installation or upgrade. It automates the checking and setting of many of the administration forms that are not normally reviewed, and it corrects a wide range of problems that can generate alarms or make the switch inaccessible.
- Duplicated systems have Special Administration Requirements not yet handled by ART.
- If you have questions on connecting the fiber cables for a duplicated carrier cabinet installation, see Install fiber optic cable for duplicated SCC1 systems.
- For more general fiber cable information, see Install Fiber Optic Cable Pass-Thru Kit for MCC1 (Multicarrier) Cabinets.
- The upgrade procedures assume you are working on locally connected SAT. If you use Avaya Site Administration or the Terminal Emulation on a PC connected to the DEFINITY system via C-LAN or the Netcon channel, then you may not see all the status messages. So, your upgrade may be successful even though the status messages do not reflect that the system has rebooted.

Upgrade Procedures

Click on the link to the upgrade procedure you want:

- Release 9si/10si/Communication Manager 1.x to Communication Manager 2.1
- R5/R6/R7/R8si to Avaya Communication Manager
- G3iV4 to Avaya Communication Manager
- G3V4vs/R5vs/R6vs to Avaya Communication Manager

I’m not sure; I need help to know What DEFINITY System Is This?

Before you start

The project manager, sales engineer, software specialist, software associate, and technician all have tasks that precede the upgrade. They must review and complete the preparation and process steps well in advance of the upgrade.

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps			
What		**When**	**Who**
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

> **NOTE:**
> There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

   > **NOTE:**
   > The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).
5. Reinstall the system tape.
6. Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Blowback vs. On site?

A blowback is an off-site replication and upgrade to the target release. You must schedule blowback upgrades in advance with the organization performing the software blowback.

Blowback upgrades are preferred over on site upgrades that require multiple-step hardware/software interim configurations. Although multiple-step on site upgrades are technically feasible, they require multiple-step hardware and software upgrades, which cause extended customer outages. They also require additional hardware to upgrade to the interim configurations prior to final required configuration.

Bottom line: on site multiple-step upgrades are normally not the way to go!

Upgrade	Considerations
R1 V3 and System 75	An on site upgrade is impractical for almost all upgrades of this type. This upgrade requires a blowback.
G1, G3i V1, G3s V1	Blowbacks are preferred. Although we have the capability to perform these upgrades on site, such upgrades are less desirable due to extensive down time or are not practical for other reasons.
G3iV1.1, G3iV2, G3iV3, G3iV4	On site or blowback upgrades can be performed. Considerations in selecting the upgrade method include the amount and complexity of any associated translation work related to — or done in conjunction with — the upgrade.
G3s V1.1, G3s V2, G3s V3, G3s V4	These upgrades require none of the multi-step interim procedures of the G1, G3i V1 or G3s V1 upgrades.
G3vs (V1 – R5/6)	All hardware must be replaced; the G3vs hardware is supported only through R6. Existing translations can be carried forward to the upgraded hardware and software.

What DEFINITY System Is This?

The table below will tell you what system you have based on Processor Board, Cabinet, and some other criteria. Click the link for the system type to proceed to the correct si upgrade procedure.

If the existing Processor Board is:	AND	Then this link takes you to this si upgrade:
TN786 or TN786B	The cabinet is wall-mounted with no CPP1 board and no slot on the carrier for a CPP1 board	G3V4vs/R5vs/R6vs to Avaya Communication Manager (includes G3vs versions V1, V2, V3, or V4)
TN790 or TN790B	The cabinet is wall-mounted with no CPP1 board and no slot on the carrier label for a CPP1 board.	G3V4vs/R5vs/R6vs to Avaya Communication Manager
TN786 or TN786B	plus a CPP1 Memory Card	G3iV4 to Avaya Communication Manager
TN790 or TN790B		R5/R6/R7/R8si to Avaya Communication Manager
TN798 or TN798B	This type of upgrade is not covered in this documentation (Upgrades Made Easy)	

Special Administration Requirements

Duplicated si systems, release 7.1 or later, must have the `SPE Interchange` field set correctly, or the system will sometimes generate packet alarms that will prevent ISDN from working properly.

Type **change system-parameters maintenance** to display the ***MAINTENANCE-RELATED SYSTEM PARAMETERS*** form and verify that the `SPE Interchange` field is set to **daily**.

```
display system-parameters maintenance                          Page   1 of   4
                  MAINTENANCE-RELATED SYSTEM PARAMETERS

OPERATIONS SUPPORT PARAMETERS
           Product Identification: 1020000942
        First OSS Telephone Number: 18004513036        Abbrev Alarm Report? y
       Second OSS Telephone Number:                    Abbrev Alarm Report? n
  Alarm Origination to OSS Numbers: first-only
       Cleared Alarm Notification? n                Suspension Threshold: 5
             Restart Notification? y
          Test Remote Access Port? y
       CPE Alarm Activation Level: minor

    Customer Access to INADS Port? y
      Repeat Dial Interval (mins): 7

SCHEDULED MAINTENANCE
                  Start Time: 05 : 00                  Stop Time: 06 : 00
          Daily Maintenance: daily              Save Translation: daily
                                             Command Time-out (hours): 2
 Control Channel Interchange: no           System Clocks Interchange: no
             SPE Interchange: daily             EXP-LINK Interchange: no
```

Minimum required hardware

You need the following minimum required hardware to upgrade to Avaya Communication Manager.

Equipment	Notes
Basic si processor cabinet (SCC) or Basic si processor carrier (MCC)	Contains the following circuit packs: • TN780 or TN2182 tone clock • TN2404 processor, Vintage 3 or higher • TN792 duplicate interface (opt) • TN2401 NetCtrl/PktIntf
Duplex processor cabinet (SCC) or Duplex processor carrier (MCC)	Contains the following circuit packs: • TN780 TN2182 tone clock • TN2404 processor, Vintage 3 or higher • TN792 duplicate interface • TN2401 NetCtrl/PktIntf
AC Power unit	
TDM/LAN bus terminator (SCC)	Need 2

When to use the TN2401 versus the TN2401/2400 sandwich pack

Field upgrades normally require the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809, but there are exceptions to this rule!

NOTE:
IMPORTANT NOTE:

MCC1 SI Processor Carrier J58890AH-2 List 12 (which replaces List 5) *does require* the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809. This carrier has been identified in older DEFINITY documentation as not requiring the sandwich pack!

Only the carriers and backplanes listed in this table use the TN2401 NetCon circuit pack, Comcode 108516675:

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC1 Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC1 Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3 with a label on the left-rear of the SCC1 identifying the quick-fix backplane.	This backplane, a List 2 with a CRW1, Series 2, bridge card installed, is electrically equivalent to the PWJ58890AL-1,L3 backplane. This backplane replaces List 2.
SCC1 Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC1 Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC1 SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC1 SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC1 SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC1 SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54

DEFINITY Carrier / Backplane	Equipment	Notes
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC1 Dup-Int	848204434	14” cable
Fiber Optic Cable: SCC1 Dup-Int	LL2SC-SC-10 107122640	10’ cable

Release 9si/10si/Communication Manager 1.x to Communication Manager 2.1

This section provides the information on upgrading from a DEFINITY® Release 9si/10si/Avaya Communication Manager 1.3 to Avaya Communication Manager 2.1.

Administrator's Guide for Avaya Communication Manager (555-233-506) lists the features and functions and describes the commands, procedures, and screens to initialize and administer the system.

Read this first

License File

Remote Feature Activation (RFA) is a Web-based application that enables the creation and deployment of License Files for all switches. The License File enables the switch's software category, release, features, and capacities. License Files are created using SAP order information and/or current customer configuration information. *Without a license file, the switch does not provide normal call processing.*

Service interruption

The upgrade process requires a non–call-preserving service interruption in a standard reliability system. The service interruption must be closely coordinated with the customer and the local account team. The service outage for standard reliability is 2 to 15 minutes, depending on the size of the installation.

Call Management System (CMS)

The CMS link is dropped and restarted during the upgrade. This causes CMS data to be lost. This data loss can be minimized if the upgrade is performed just after the last CMS measurement interval.

All measurement data is lost during the upgrade (including BCMS). If needed, the reports can be printed before the upgrade begins.

CMS could abort the processing of a call if a measured trunk that was part of the conference dropped off the call before the end of the call. Customers experiencing this symptom and who are running R3V4 CMS should update to r3v4ao.e or higher.

Software compatibility

Before starting the upgrade, always check the *Software Release Letter* that accompanies the system removable media. Translation corruption occurs if incompatible software is loaded. Also check the Minimum Vintage Table, which is included with the letter, before starting the upgrade.

Usable circuit packs

Every circuit pack used must conform to the minimum usable vintage requirements for that system. At a presale site inspection, the remediation process checks the vintages of existing circuit packs to be reused. Replace all unusable vintage circuit packs with current vintages.

Refer to the *Software Release Letter* for information about usable circuit pack vintages. For information about usable vintages of non-U.S. circuit packs, refer to the ITAC Tech Alert from your regional distributor.

Wireless systems

If the system uses Wireless Business System, you need to re-enable the radio controllers after the upgrade. Refer to Chapter 1, “UTAM Disablement” in the *DEFINITY® Wireless Business System Maintenance (555-232-103)* book. Refer also to Chapter 2, “Switch Administration” in *DEFINITY® Wireless Business System Installation and Test (555-232-102).*

Antistatic protection

CAUTION:
When handling circuit packs or any components, always wear an antistatic wrist ground strap. Connect the strap to an approved ground such as ground jack.

Task list: R9si/10si/Communication Manager 1.x to Communication Manager 2.1

Ensure that these tasks are complete *before* the upgrade visit:

1. Pre-upgrade checklist
2. Go to the RFA website
3. Pre-upgrade administration

Perform these tasks *during* the upgrade visit:

4. Check SPE
5. Verify the software version
6. Verify system status
7. Disable Scheduled Maintenance and Alarm Origination

8 Check link status

NOTE:
Because of a change in Release 1.3 of Avaya Communication Manager, you do not need to disable Terminal Translation Initialization (TTI) before an upgrade or enable it afterwards.

9 Save translations
10 Save announcements (TN750 or TN750B only)
11 Shut down DEFINITY LAN Gateway
12 Shut down DEFINITY AUDIX system
13 Determine active SPE
14 Upgrade software
15 Deliver or install the License File
16 Administer no-license/emergency numbers
17 Set Daylight Savings rule
18 Verify the upgrade
19 Check link status
20 Verify software version
21 Power up DEFINITY LAN Gateway system
22 Power up DEFINITY AUDIX system
23 Enable scheduled maintenance
24 Register the switch for maintenance
25 Resolve alarms
26 Restore busyouts
27 Restore announcements (TN750 or TN750B only)
28 Check SPE
29 Save announcements and translations
30 Return equipment

Return to Task List

Pre-upgrade checklist

Return to Task List

This upgrade may require the following tools and other items:

Required Tools	
No.	**Description**
1	Software Release Letter
2	Avaya Communication Manager on removable media
3	Extra formatted removable media
4	Authorized wrist grounding strap
5	Documentation (book or PDF file) for the current release: — *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* — *Administrator's Guide for Avaya Communication Manager (555-233-506)* — *Feature Extraction Tool (FET) and License Installation Tool (LIT)* documentation
6	Your personal Single Sign-On (SSO) for RFA website authentication login.
7	SAP order number with RTUs
8	Look up hardware serial number(s) with the **list configuration license** (**long**) SAT command. Duplicated configurations require **long** in the command.
9	Transaction Record number
10	System Identification (SID) number
11	Switch telephone number or IP address
12	Access to the RFA Information page for these items (if not already installed on your PC): — Features Extraction Tool (FET) application (only for Release 9si to Avaya Communication Manager. — License Installation Tool (LIT) application
13	Adobe Acrobat Reader application installed on your PC (to read FET and LIT documentation)
14	Internet Explorer 5.0 or higher, with high (128-bit) encryption installed on your laptop/PC
15	Intranet access to your designated RFA portal (see Go to the RFA website).

Return to Task List

Go to the RFA website

Return to Task List

The Remote Feature Activation (RFA) website automates some of the upgrade procedures, including generating a License File.

1. At your laptop/PC browser, go to the appropriate website:
   - *Associates*: **http://associate2.avaya.com/** or the services portal: **http://usservices.avaya.com/**
   - *Business Partners* go to the appropriate regional Business Partner portal:
     - United States: **http://www.avaya.com/businesspartner/**
     - Canada: **https://www.avaya.ca/BusinessPartner**
     - Brazil: **http://www.avaya.com.br/Home.asp**
     - CALA: **https://cala-businesspartner.avaya.com/mnc/index.html**
     - EMEA: **https://emea-businesspartner.avaya.com/**
     - APAC: **http://www.avaya-apac.com/bp**
   - *Contractors* go to **http://www.avaya.com/services/rfa/**
   - If you are unable to access RFA using your recommended portal, try: **http://rfa.avaya.com**
2. Using your SSO, log in to the RFA website.
3. Follow the links to the RFA Information page.
4. Complete the information necessary to create a License File.

NOTE:
If you have problems with a hardware serial number that is not in the SAP database, go to the If you have problems with RFA section.

G3V4 through Release 9si upgrades only

Direct connection between the switch and RFA

If you are upgrading from G3V4 through Release 9si and you have a direct connection between the switch and RFA:

1. Using your RFA Job Aids, run the Features Extraction Tool (FET) from the RFA website to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. The FET creates and uploads the Switch Configuration File automatically.
4. Do not deliver the License File at this time. You will deliver and install it later in this upgrade procedure.

No connection between the switch and RFA

If you are upgrading from Release 9si and you do not have a direct connection between the switch and RFA:

1. Run the Features Extraction Tool (FET) from your laptop/PC to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. Use the FET instructions to create a new switch connection profile.
4. Create the Switch Configuration File.
5. Upload the Switch Configuration File to the RFA website.
6. Deliver the License File to your laptop/PC for installation later in this procedure.

If you have problems with RFA

If you get an error message that a hardware serial number is not in the SAP database, you must call the RFA Helpdesk to have them correct the SAP information.

Table 1: RFA Helpdesk contact numbers

Where	Who	Phone number/URL	Prompt or selection
Channel: • U.S. and Canada • Variable Workforce Group • Avaya contractors	 Avaya Associates Members Contractors	877-615-4174	Prompt 8
U.S. and Canada	Business Partners	866-800-5194	Prompt 8
EMEA	Direct and Business Partners	+31-70-414-8720 *or* http://www.avayanetwork.com	Prompt 3 Select GSO; select EMEA
APAC RTAC	Direct and Business Partners	+65-6872-8686	
CALA • Mexico TAC • Brazil TAC • Columbia TAC • Argentina TAC • Mexico Call Receipt	Direct and Business Partners	 +525-278-7878 +5511-5185-6655 +571-616-6077 +5411-4114-4440 +1-720-444-9998	

Return to Task List

Pre-upgrade administration

Return to Task List

You must make the administration changes prior to the upgrade.

1 Remove Print Messages Feature Access Code

Remove the value from the Print Messages Access Code field on the Feature Access Code (FAC) form. This feature access code allows users to print undelivered messages without having to call the message center.

2 Remove print-msgs buttons

If any of the Button Assignments are administered as `print-msgs` (print messages) on the Station and Attendant forms, remove these buttons.

3 Remove MSA node names

Remove all MSA node names from the `MSA Names` field on the Audix-MSA Node Names form.

4 Remove MSA processor channels

If the `Appl.` field on the Processor Channel Assignment form is

- `msaamwl`
- `msaclk`
- `msahlwc`
- `msallwc`
- `msamcs`

you must remove this administration. These processor channel assignments are used in conjunction with a messaging adjunct that is no longer supported.

5 Remove MET station administration

If the field value in the `Type` field on the Station form is

- `10MET`
- `20MET`
- `30MET`

you must remove these stations from administration. These Multi-Button Electronic Telephone (MET) stations are no longer supported and will not work after the upgrade.

Return to Task List

Check SPE

Return to Task List

1. Type **status system 1** and press **Return**.

   Check these fields for the corresponding values:

   — Maj/Min alarms = **0**

   — Service State = **in service**

Return to Task List

Verify the software version

Return to Task List

1. Type **list configuration software-version** and press **Return**.

   The Software Versions screen appears.

2. In the UPDATE FILE section, check the `Update State` field for a software patch:

   — If there is a patch number, then a patch has been applied.

   — If the field is **none in memory**, there is no software patch in system memory.

   If you need to restore the system to the old software version, you must also download a patch onto the system.

3. In the SOFTWARE VERSION section note the current software version listed in the `Memory Resident` field.

   Ensure that the current software version is compatible with this software-only upgrade path.

Return to Task List

Verify system status

Return to Task List

1. Type **status system 1** and press **Return**.

   Check these fields for the corresponding values:

   — In the **SPE ALARMS** section, `MAJOR` and `MINOR alarms` = **0**

   — `Service State` = **in service**

2. If there are alarms, take the necessary corrective actions (**display alarms**).

3. Type **display errors** and press **Return**.

4. Examine the Hardware Error Log and record any Error Code 18 alarm that identifies existing busyouts. After the upgrade you will restore the busyouts as they were (Restore busyouts).

5. For configurations with existing BX.25 links that are being retained after the upgrade, type **display communication-interface links** and press **Return**.

6 Identify and note all of these links.

7 Execute the following commands to see whether the switch has administration:

- **list station**
- **list trunk-group**
- **list hunt-group**
- **list data-module**
- **list announcements**

If any command does not complete successfully, escalate the problem immediately. After the upgrade you will check the same administration to ensure that the translations are intact.

Return to Task List

Disable Scheduled Maintenance and Alarm Origination

Return to Task List

To prevent scheduled daily maintenance and alarm generation from interfering with the upgrade:

1 Type **change system-parameters maintenance** and press **Return**.

2 If scheduled maintenance is in progress, set the `Stop Time` field to 1 minute after the current time.

or

If scheduled maintenance is not in progress, set the `Start Time` field to a time after the upgrade will be completed.

For example, if you start the upgrade at 8:00 P.M. and the upgrade takes 90 minutes, set the **`Start Time`** field to 21:30.

CAUTION:
If you do not disable Alarm Origination, the system can generate alarms, resulting in unnecessary trouble tickets.

3 Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter.**

NOTE:
Disabling alarm origination prevents the system from generating alarms, thus preventing unnecessary trouble tickets.

Return to Task List

Check link status

Return to Task List

This optional step is to make sure the links are in service before and after the upgrade.

1. Type **display communication-interface links** and press **Enter**. Write down all enabled links.
2. Type **status link *number*** and press **Enter** for each enabled link.
3. Write down which links are enabled and in service.

   NOTE:
   If any links are enabled and out of service, resolve the problem before continuing the upgrade.

4. Type **list signaling group** and press **Return**.

   Note the signaling groups listed by number.
5. For each of the signaling groups listed, type **status signaling group *<number>*** and press **Return**.
6. If any of the links are not up, take the necessary corrective action to restore the link before continuing with the upgrade.

Return to Task List

Save translations

Return to Task List

NOTE:
Duplicated translations must match exactly or the command fails.

High and Critical Reliability

1. Execute **status system 1** before you save translations.
2. Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go into a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

All

1. Ensure that the translation card (ATA) is in the TN2401 (Netcon/Pkt Intf) circuit pack's card slot.
2. Type **save translation** and press **Return** to write all translations from memory to the translation flashcard (about 10 minutes).

   The screen goes blank. This is normal.

   NOTE:
   Do not press any keyboard key until after the system displays the status (success or failure) message. If you press **Return** again, you will not see the status message.

3 Ensure that the **save translation** command was successful (Error Code must be zero). If the value is anything else, the translations were not copied to the flashcard. If the translations are corrupted, the following error message appears when logging in:

WARNING:
Translation corruption detected; call Avaya immediately.

4 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

5 Remove the translation card from the slot. Keep the translation media in a safe and secure place. In case of failure, use this translation to restore the system.

Return to Task List

Save announcements (TN750 or TN750B only)

Return to Task List

NOTE:
Use this procedure only for configurations with the TN750 or TN750B announcement circuit pack. You do not need to save announcements on the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

To determine whether the system has recorded announcements

1 Type **display announcements** and press **Return**.

If no recorded announcements are listed, you do not have to save announcements.

NOTE:
If none of the announcements has changed since they were last saved, you do not have to save announcements. If there is any doubt, save the announcements anyway.

2 Type **save announcements *UUCSS*** and press **Return**.

Saving announcements takes about 40 minutes.

Return to Task List

Shut down DEFINITY LAN Gateway

Return to Task List

WARNING:
Neglecting to shut down the LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1 Log onto the DEFINITY LAN Gateway.

2 From the main menu, select **Maintenance > Reset System > Shutdown**.

Return to Task List

Shut down DEFINITY AUDIX system

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1. Log into the AUDIX as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **reset system shutdown** and press **Return**.
3. Press **Return** again to start the shutdown.

   The `SHUTDOWN Completed` message appears when the AUDIX is successfully shutdown. This takes about 2 minutes.

   WARNING:
   If you are leaving the AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Determine active SPE

NOTE:
Perform this procedure on high and critical reliability systems.

Return to Task List

1. Type **status system 1** and press **Return.**
2. Determine which side is the active SPE.
3. The standby side should be in the standby state.

Upgrade software

Return to Task List

Standard Reliability

1. Insert the 48MB, PCMCIA (orange) card in the TN2404 (Netcon/Pkt Intf) circuit pack's slot.
2. Type **upgrade software** and press **Return** to upgrade the system software.

   Do not press **Return** again.
3. When the system beeps, it is prompting you to put the original translation card in the TN2404 (Netcon/Pkt Intf) circuit pack's slot.

   NOTE:
   You have 2 minutes to replace the software card with the translation card. If you miss this window, the system comes up without translations. Correct this by inserting the original translation card into the TN2404 (Netcon/Pkt Intf) circuit pack's slot and use the **reset system 3** command at the SAT.

High and Critical Reliability

1. Insert the 48MB PCMCIA (orange) card in the standby SPE.
2. Type **upgrade software** and press **Return** to upgrade the system software.
3. Do not press **Return** again.
4. When the SAT beeps, it is prompting you to put the original translation card in the standby SPE.
   a. Remove the orange card and replace it with the translation card.
   b. Remove the translation card from the active (other) SPE.
   c. Insert the 48MB PCMCIA (orange) card into the other SPE.

   NOTE:
   You have 2 minutes to complete the preceding steps. If you miss this window, the upgrade aborts, and you must begin again with Step 1 in this section.

   SPE interchange occurs (active and standby sides swap roles) and the new software is present on the active SPE.
5. When the SAT beeps, remove the orange card and replace it with the translation card.

   NOTE:
   You have 2 minutes to replace the software card with the translation card. If you miss this window, no corrective action is necessary. Wait until the system is able to achieve active/standby state.
6. At the login prompt, log into the switch as **craft**.

Return to Task List

Deliver or install the License File

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - Direct connection between the switch and RFA
   - No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

   Wait until the system has completely reset before continuing.
6. Type **change cabinet 1** and press **Enter**.

   In the `Carrier Type` column change the “B” carrier to **processor** and submit the form.
7. Type **change system-parameters duplication** and press **Enter**.

   Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.
8. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
9. Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
2. Type **reset system 3** and press **Enter**.

   Wait until the system has completely reset before continuing.
3. If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

   This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Return to Task List

Administer no-license/emergency numbers

Return to Task List

If the system enters a No-License mode, the switch only processes emergency calls. Use this procedure to adminster the emergency numbers for No-License mode situations.

1. At the SAT, type **change system-parameters features** and press **Enter**.

   The ***Feature-Related System Parameters*** screen displays.

2. In the `Emergency Numbers - Internal` field (optional) type a valid extension.

   NOTE:
   This field is intended for campus environments where there is an internal emergency number that people are directed to use instead of 911. Calls to other extensions will not go through. This number cannot be a hunt group or ACD number.

3. In the `Emergency Number - External` field (required) type a 21-digit, dialpad-valid character string that can include trunk access codes. The default for this field is **911**.

4. In the `No-License Incoming Call Number` field (optional) type a valid extension.

   NOTE:
   All calls are not rerouted to this number; only calls to this number get through. This number cannot be a hunt group or ACD number.

5. Press **Enter** to save the changes.

Return to Task List

Set Daylight Savings rule

Return to Task List

1. Type **set time** and press **Return**.

   The ***Date and Time*** screen appears.

2. In the `Type` field, type **standard** or **daylight savings**, depending on whether you are currently on standard or daylight savings time.

3. In the `Daylight Savings Rule` field, set the rule value. If your area uses daylight savings time, set the value to **1**; otherwise, use the default setting of **0**, no changeover to daylight savings time.

4. Press **Enter** to set the time.

Return to Task List

Verify the upgrade

Return to Task List

1. Type **status system 1** and press **Return**.

   The ***System 1 Status*** screen appears.

2. Check these fields for the corresponding values:

   — In the `SPE ALARMS` section, `MAJOR` and `MINOR alarms` = **0**

   — In the four `SERVICE STATE` areas, ensure that the active (and standby -- High and Critical Reliability) side(s) read **in** (service).

   NOTE:
   High and Critical Reliability: Following the upgrade, duplicated configurations enter into a SPE maintenance interval that lasts approximately 50 minutes. When the `Mode` fields indicate that one side is active and the other standby, then the `SERVICE STATE` fields should read **in**.

   You can continue with the upgrade, however some commands will be not be available until the maintenance interval has completed.

3. If there are alarms, take the necessary corrective actions (**display alarms**).

Return to Task List

Check link status

Return to Task List

1. Type **display communication-interface links** and press **Return**.

   NOTE:
   ISDN-PRI D-channel links no longer appear on this screen. (ISDN-PRI resides on the network packet circuit pack.) The only way to determine if an ISDN-PRI D-Channel is up is to use the **status signaling group** command.

2. Type **status link *number*** and press **Return**. Repeat this step for each type of administered link.
3. Check that DS1 trunks and BRI phones are functioning normally.
4. Type **list signaling-group** press **Return**.
5. For each signaling group, type ***status signal*** <***number***> and press **Return**.
6. Ensure that the `Group State` field is **in-service**.
7. Execute the following commands and verify that the information is correct:

   — **list station**

   — **list trunk-group**

   — **list hunt-group**

   — **list data-module**

   — **list ars analysis**

   — For a system with Expert Agent, **list agent**

Return to Task List

Verify software version

Return to Task List

Standard Reliability

1 Type **list configuration software-version** and press **Return**.

High or Critical Reliability

1 Type **list configuration software-version *long*** and press **Return**.

All

2 Check the `Memory Resident` field to verify that it shows the correct software load.

Return to Task List

Power up DEFINITY LAN Gateway system

Return to Task List

1 Log on to the DEFINITY LAN Gateway.

2 From the main menu, select **Maintenance > Reset System > Reboot System**.

Return to Task List

Power up DEFINITY AUDIX system

If the AUDIX was removed from the cabinet

Return to Task List

1 Re-install the AUDIX and allow it to boot up automatically.

2 Check for AUDIX System errors.

3 If the AUDIX remained in the cabinet but the cabinet was powered down:

4 Reseat the AUDIX.

5 Power up the cabinet.

6 The AUDIX reboots automatically.

7 Check for AUDIX System errors.

If the AUDIX remained in the cabinet

If the AUDIX remained in the cabinet, and the cabinet was *not* powered down:

1. At the AUDIX console, hold the **CTRL** key and type **cc**.
2. Type **5** at the prompt.

   In about 2 minutes, the AUDIX boots up.
3. When the system initialization is complete, log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.
4. Check for AUDIX System errors.

Return to Task List

Enable scheduled maintenance

Return to Task List

1. Type **change system-parameters maintenance** and press **Return**.
2. Ensure that the `Start Time` and `Stop Time` fields' administration is the same as before the upgrade.

Return to Task List

Register the switch for maintenance

Return to Task List

The Automatic Registration Tool (ART) is a web-based tool that permits field technicians and TSO Database Administration (DBA) to register U.S. direct channel products.

The product that you are registering must have switch connectivity through:

- The INADS line
- An IP address

  NOTE:
  ART is not accessible from the public internet (outside the Avaya intranet firewall).

1. At your laptop/PC, direct your browser to this URL:

   http://spiexp1.eng.avaya.com:8000/cgi-bin/ART/ARTstart.cgi

   You can also save this URL in your *Favorites* or *Bookmarks* list.

   The ART User Menu displays.
2. Click on the *Register a Product* button.

   The Enter Network Password dialog box appears.

3 Type your ART **User Name** and **Password** in the indicated fields.

NOTE:
ART user IDs and passwords are unique to ART, and are not the same as other user IDs and passwords. If you are a first-time user and do not have an ART user ID and password:

a Go back to the ART User Menu and click on the *Administer My User ID/Password* button.

b Follow the instructions on the User ID and Password page to create your ART user ID and password.

Unless you exit and restart your browser, you do not need to re-enter your user ID and password to perform other ART operations.

The ART Start of Product Registration page appears, and the ART session ID appears in the middle of the screen.

4 Type the Installation Location or Sold-To data in the `FL/Sold-To Number` field.

NOTE:
Sold-To number replaces the FL numbers as customer-site identifiers in the Maestro database.

- Sold-To numbers are typically 7 digits long, sometimes beginning with an upper-case “S” followed by two zeros, for example: **S001234567**.
- FL numbers are 10-12 letters or digits.

5 In the `Session Type` field, select:

— *NEW INSTALL REGISTRATION* for products that are initially installed at a customer site.

— *UPGRADE REGISTRATION* for all subsequent product registrations.

6 In the `Product Type` field choose *DEFINITY* for the following products:

7 Click on the *Start Product Registration* button.

8 If the data you have entered matches a Maestro database record, the Customer Verification page appears.

9 Verify the information in the `Customer Name` and `Customer Address` fields.

If the information is not what you expected, ensure that you entered the customer’s FL/Sold-To number correctly (Step 4 above). If you entered an incorrect number:

a Click on the *Abort Upgrade Registration Session* button at the bottom of the screen.

CAUTION:
DO NOT exit your browser to abort the session. This can result in an incomplete upgrade registration.

b Return to the ART User Menu page to begin a new session.

If the FL/Sold-To number matches multiple customers in the database, ART displays the name and address of each customer with a button to select for this registration session.

10 In the `Customer Type` field, select

— *GOODYEAR, MOTEL 6, STATE FARM*

— *IN CINCINNATI BELL SERVICE AREA*

— *OTHER*

11 Click on the *Continue Upgrade Registration* button.

The DEFINITY Product List page appears.

12 Look in the product table (first column heading is "#") to find the row for the product that you want to register. Click on the number in the far-left column ("#") of the correct row.

NOTE:
It might be helpful to identify the product by looking at the *Product Nickname*, *Product Alarm ID*, *INADS Number*, *Serial Number*, or *IP Address* columns in the table.

If the product is not shown in the table, or if you are not sure whether a listed product is the one you want to register, contact the DBA group for assistance (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2).

Four new fields appear.

13 In the `Data Lock` field, choose:

— *YES* for products with ASG enabled

— *NO* for all others

14 In the `Dialing Type` field choose the dialing type that the product will use to report alarms:

— *DON'T CHANGE* to leave the product's dialing type unchanged

— *TONE* for DTMF dialing

— *PULSE* for rotary or pulse dialing

15 In the `Alarm Origination` field choose:

— *DON'T CHANGE* to leave the product's current alarm origination status unchanged (the common choice for upgrades).

— *YES* to enable alarm origination.

— *NO* for no alarm origination.

16 In the `Alarm Destination` field, choose

— *DON'T CHANGE* to leave the product's currently-administered alarm origination number unchanged (the common choice for upgrades).

— *SET NUMBER TO* and type the complete alarm destination telephone number, including any dialing prefix (for example, "9" or "*9"). The default value in this field is the TSO-Denver number (18005353573).

17 Click on the *Continue Registration* button at the bottom of the page.

ART begins automatically registering the product and displays progress messages to indicate the current status.

CAUTION:
DO NOT exit your browser or click on the **Refresh**, **Back**, **Stop**, or **Home** buttons while ART displays these progress messages.

If you have to abort your registration, click on the **Abort Session** button that appears with one of the progress messages.

If the preceding steps have been completed successfully, ART displays the DEFINITY Upgrade Registration Report.

18 Review the information displayed in the report.

If any of the data are incorrect, contact the DBA Group (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2) immediately for assistance.

19 Save the DEFINITY Upgrade Registration Report in a file for future reference or print the report and keep the copy.

Return to Task List

Resolve alarms

Return to Task List

1 Type **display alarms** and press **Return**.

2 Examine the alarm log.

3 Resolve any alarms.

Return to Task List

Restore busyouts

Return to Task List

1 Restore any busyouts that you removed in the Verify system status section prior to the upgrade.

Return to Task List

Restore announcements (TN750 or TN750B only)

Return to Task List

1 Insert the white flash card with the saved announcements.

2 Type **restore announcements** and press **Return**.

This command takes about 45 minutes to execute.

Return to Task List

Check SPE

1 Type **status system 1** and press **Return**.

Check these fields for the corresponding values:

— ***Maj/Min alarms*** = **0**

— `Service State` = **in** (service)

Return to Task List

Save announcements and translations

Return to Task List

1. Insert the translation card(s) into the TN2401 (Netcon/Pkt Intf) circuit pack(s).
2. Type **save announcements** and press **Return**.

   NOTE:
   Use this step only for configurations with the TN750 or TN750B announcement circuit pack. Skip this step for the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

   This takes about 45 minutes.
3. Type **save translation** and press **Return**.

   This takes about 20 minutes.

   NOTE:
   Do not press any keyboard key until after the screen shows the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

   NOTE:
   If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Keep the translation media in a safe and secure place.

Return to Task List

Return equipment

Return to Task List

The Return of Excess & Unused Equipment on Sales Orders is a process for returning excess and unused equipment from customer premises to Avaya.

- When the Project Manager completes a project sales order in SAP or the Technician completes a non-project sales order in Workbench, a return order is created in SAP for any items that were on the sales order, but not installed. Credit is provided to the customer on the initial invoice.
- The Project Managers and technicians are accountable for returning the equipment until the carrier has picked it up. If the carrier does not pick up the equipment, the Services Cost Center in which they reside is charged for the cost of the equipment.

Helpful links

- You can access the *Open Return Order Report* under "Jeopardy Report" at: http://nccc.usaw.avaya.com/portal/
- Get the *Equipment Pick Up Request Form* at: http://nccc.usaw.avaya.com/forms/EquipPickUp/
- Visit the *Reverse Logistics Web Site* at: http://cobldw2ksvr/Reverse%20Logistics/ to view the updated process document in the Cancellation Folder, file name (pd_Return of Excess and Unused Equipment on Sales Orders.doc).

Return to Task List

G3iV4 to Avaya Communication Manager

Introduction

This section provides the information necessary to upgrade a DEFINITY® G3iV4 system with a single-carrier or a multicarrier PPN to Avaya Communication Manager using the on-site upgrade method.

References

For hardware details, see *Hardware Guide for Avaya Communication Manager (555-245-207)* and When to use the TN2401 versus the TN2401/2400 sandwich pack.

When to use the TN2401 versus the TN2401/2400 sandwich pack

Field upgrades normally require the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809, but there are exceptions to this rule!

NOTE:
IMPORTANT NOTE:

MCC1 SI Processor Carrier J58890AH-2 List 12 (which replaces List 5) *does require* the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809. This carrier has been identified in older DEFINITY documentation as not requiring the sandwich pack!

Only the carriers and backplanes listed in this table use the TN2401 NetCon circuit pack, Comcode 108516675:

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC1 Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC1 Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3 with a label on the left-rear of the SCC1 identifying the quick-fix backplane.	This backplane, a List 2 with a CRW1, Series 2, bridge card installed, is electrically equivalent to the PWJ58890AL-1,L3 backplane. This backplane replaces List 2.

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC1 Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC1 SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC1 SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC1 SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC1 SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC1 Dup-Int	848204434	14” cable
Fiber Optic Cable: SCC1 Dup-Int	LL2SC-SC-10 107122640	10’ cable

About circuit-pack carriers

If the system currently being upgraded was originally a System 75, the circuit-pack carrier or cabinet is no longer supported. This table identifies the obsolete carriers and cabinet.

Upgrade from	to
J58890AA J58890AB (originally System 75 small-cabinet carriers)	J58890AH carrier
J58890G (originally System 75XE cabinet)	J58890L cabinet

NOTE:
In some previous upgrades, the control cabinet or carrier replacement was optional. The replacement is required for this upgrade. Use the upgrade instructions in this section, but

refer to the System 75 Small-Cabinet to R8si (Blowback) upgrade for instructions on replacing the carrier, and the System 75 XE to R8si (Blowback) upgrade for instructions on replacing the cabinet.

Before you begin the upgrade

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps			
What		**When**	**Who**
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

> **NOTE:**
> There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

> **NOTE:**
> The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).
5. Reinstall the system tape.
6. Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Task List: G3iV4 to Avaya Communication Manager

Use this task list when you are upgrading a DEFINITY G3iV4 PPN to Avaya Communication Manager.

Ensure that these tasks are complete *before* the upgrade visit:

1. Verify the required hardware [G3V4 to from R5/R6/R7/R8si]
2. Provide the required tools [from G3V4]
3. Go to the RFA website [from G3V4]
4. Pre-upgrade administration [from G3V4]

Perform these tasks *during* the upgrade visit:

5. Check existing software load [from G3V4] to identify any software patches.
6. Disable scheduled maintenance and alarm origination [from G3V4]
7. Verify system status [from G3V4] Record any customer-placed busy-outs.
8. Record all links and remove only ISDN interface links [from G3V4]

NOTE:
Because of a change in Release 1.3 of Avaya Communication Manager, you do not need to disable Terminal Translation Initialization (TTI) before an upgrade or enable it afterwards.

9 Save translation [from G3V4] or Save translation, duplicated system [from G3V4]

10 If necessary, Save announcements (TN750 or TN750B only) [from G3V4]

11 For systems so equipped: Shut down DEFINITY LAN Gateway [from G3V4]

12 For systems so equipped: Shut down DEFINITY AUDIX system [from G3V4]

13 Power down PPN [from G3V4] and unseat any adjuncts

NOTE:
If a cabinet or carrier upgrade is required, do it now!

NOTE:
Any BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot.

14 Remove translation card and CPP1, TN777B, and TN786B circuit packs [from G3V4]

15 Install TN2404 and TN2401 circuit packs and original translation card [from G3V4]

16 Verify TDM cables and terminators [from G3V4]. If new TDM terminators and cables are required, install them now.

17 Power up [from G3V4]

18 Deliver or install the License File [from G3V4]

19 Administer No-License/Emergency Numbers [from G3V4]

20 Verify the upgrade [from G3V4]

21 Check customer options [from G3V4]

22 Restore busyouts [from G3V4]

23 Run acceptance tests [from G3V4]

24 Enable Scheduled Maintenance and Alarm Notification [from G3V4]

25 Register the switch for maintenance [from G3V4]

26 Restore announcements (TN750 or TN750B only) [from G3V4] or Rerecord announcements [from G3V4] as necessary.

27 Replace the pre-R5 translation card with the new translation card and Save announcements and translation (TN750 or TN750B only) [from G3V4] (For duplicated systems, first verify that both SPEs are functional and can be interchanged. For instructions on how to verify, refer to Save translation, duplicated system [from G3V4].)

28 Return equipment [from G3V4]

Verify the required hardware [G3V4 to from R5/R6/R7/R8si]

Return to Task List

The equipment in the table below *must* be:

- Acquired from local Material Stocking Location (MSL) as part of the upgrade kit
- Delivered to the installation site before the upgrade begins

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Table 2: Required Hardware

Description	Quantity
TN2404 Processor Circuit Pack	1
TN2401 or TN2401/TN2400 NetPkt Circuit Pack [1]	1
Translations Card: [2] 8 Mbyte Mass-Storage Translation Card (White Card) or 16 Mbyte Mass-Storage Translation Card (White Card) or 48 Mbyte Mass-Storage Translation Card (White Card)	1

1 See When to use the TN2401 versus the TN2401/TN2400 sandwich pack to identify backplanes that use the TN2401 circuit pack.

2 16 Mbyte translation card is required for a system that uses recorded announcements or if a DEFINITY Wireless Business System is installed.

Return to Task List

Provide the required tools [from G3V4]

Return to Task List

This upgrade may require the following tools and other items:

Required Tools		
No.	**Description**	**4**
1	Software Release Letter	
2	Avaya Communication Manager on removable media	
3	Extra formatted removable media	
4	Authorized wrist grounding strap	
5	Documentation (book or PDF file) for the current release: — *Maintenance for Avaya DEFINITY® Server SI* — *Administrator's Guide for Avaya Communication Manager*	
6	Your personal Single Sign-On (SSO) for RFA website authentication login.	
7	SAP order number with RTUs	
8	Look up hardware serial number(s).	
9	Transaction Record number	
10	System Identification (SID) number	
11	Switch telephone number or IP address	
12	Access to the RFA Information page for these items (if not already installed on your PC): — Features Extraction Tool (FET) application — FET documentation — License Installation Tool (LIT) application — LIT documentation	
13	Adobe Acrobat Reader application installed on your PC (to read FET and LIT documentation)	
14	Internet Explorer 5.0 or higher installed on your laptop/PC	
15	Intranet access to your designated RFA portal (see Go to the RFA website [from G3V4]).	

Go to the RFA website [from G3V4]

Return to Task List

The Remote Feature Activation (RFA) website automates some of the upgrade procedures, including generating a License File.

1. At your laptop/PC browser, go to the appropriate website:
   - *Associates*: **http://associate2.avaya.com/** or the services portal: **http://usservices.avaya.com/**
   - *Business Partners* go to the appropriate regional Business Partner portal:
     - United States: **http://www.avaya.com/businesspartner/**
     - Canada: **https://www.avaya.ca/BusinessPartner**
     - Brazil: **http://www.avaya.com.br/Home.asp**
     - CALA: **https://cala-businesspartner.avaya.com/mnc/index.html**
     - EMEA: **https://emea-businesspartner.avaya.com/**
     - APAC: **http://www.avaya-apac.com/bp**
   - *Contractors* go to **http://www.avaya.com/services/rfa/**
   - If you are unable to access RFA using your recommended portal, try: **http://rfa.avaya.com**
2. Using your SSO, log in to the RFA website.
3. Follow the links to the RFA Information page.
4. Complete the information necessary to create a License File.

NOTE:
If you have problems with a hardware serial number that is not in the SAP database, go to the If you have problems with RFA section.

G3V4 through Release 9si upgrades only

Direct connection between the switch and RFA

If you are upgrading from G3V4 through Release 9si and you have a direct connection between the switch and RFA:

1. Using your RFA Job Aids, run the Features Extraction Tool (FET) from the RFA website to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. The FET creates and uploads the Switch Configuration File automatically.
4. Do not deliver the License File at this time. You will deliver and install it later in this upgrade procedure.

No connection between the switch and RFA

If you are upgrading from Release 9si and you do not have a direct connection between the switch and RFA:

1. Run the Features Extraction Tool (FET) from your laptop/PC to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. Use the FET instructions to create a new switch connection profile.
4. Create the Switch Configuration File.
5. Upload the Switch Configuration File to the RFA website.
6. Deliver the License File to your laptop/PC for installation later in this procedure.

If you have problems with RFA

If you get an error message that a hardware serial number is not in the SAP database, you must call the RFA Helpdesk to have them correct the SAP information.

Table 3: RFA Helpdesk contact numbers

Where	Who	Phone number/URL	Prompt or selection
Channel: • U.S. and Canada • Variable Workforce Group • Avaya contractors	 Avaya Associates Members Contractors	877-615-4174	Prompt 8
U.S. and Canada	Business Partners	866-800-5194	Prompt 8
EMEA	Direct and Business Partners	+31-70-414-8720 *or* http://www.avayanetwork.com	Prompt 3 Select GSO; select EMEA
APAC RTAC	Direct and Business Partners	+65-6872-8686	
CALA • Mexico TAC • Brazil TAC • Columbia TAC • Argentina TAC • Mexico Call Receipt	Direct and Business Partners	 +525-278-7878 +5511-5185-6655 +571-616-6077 +5411-4114-4440 +1-720-444-9998	

Pre-upgrade administration [from G3V4]

Return to Task List

You must make the administration changes prior to the upgrade.

1 Remove Print Messages Feature Access Code

Remove the value from the Print Messages Access Code field on the Feature Access Code (FAC) form. This feature access code allows users to print undelivered messages without having to call the message center.

2 Remove print-msgs buttons

If any of the Button Assignments are administered as **print-msgs** (print messages) on the Station and Attendant forms, remove these buttons.

3 Remove MSA node names

Remove all MSA node names from the `MSA Names` field on the Audix-MSA Node Names form.

4 Remove MSA processor channels

If the `Appl.` field on the Processor Channel Assignment form is

- `msaamwl`
- `msaclk`
- `msahlwc`
- `msallwc`
- `msamcs`

you must remove this administration. These processor channel assignments are used in conjunction with a messaging adjunct that is no longer supported.

5 Remove MET station administration

If the field value in the `Type` field on the Station form is

- `10MET`
- `20MET`
- `30MET`

you must remove these stations from administration. These Multi-Button Electronic Telephone (MET) stations are no longer supported and will not work after the upgrade.

Return to Task List

Check existing software load [from G3V4]

Return to Task List

1. Type **list configuration software-version** and press **Enter**.
2. Check the `UPDATE FILE` column and make a record of any patches that have been applied.

   If the system has to be restored to the old software, you will need to download the patches onto the system.

Return to Task List

Verify system status [from G3V4]

Return to Task List

1. Verify that system status is normal.

   Execute **status system 1** (If status is not normal, take the needed corrective actions.)
2. Verify that the system is alarm-free.

   Execute **display alarms** (If the system is not alarm-free, take the needed corrective actions.)
3. Identify and record customer-placed busy-outs.

   Execute **display errors** (Examine the error log and record the error 18s that identify the busy-outs placed by the customer.)

   NOTE:
   You will restore the customer-placed busy-outs after you have upgraded the system.
4. For a system that has existing BX.25 links that are being retained after the upgrade: identify and record them.

   Execute **display communication-interface links**
5. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**

   If any command does not complete successfully, escalate the problem immediately.

Return to Task List

Disable scheduled maintenance and alarm origination [from G3V4]

Return to Task List

1. To prevent scheduled daily maintenance from interfering with the update or upgrade, type **change system-parameters maintenance** and press **Enter**.
2. If scheduled maintenance:
   - has begun: set the `Stop Time` field to 1 minute after the current time.
   - has not begun: set the `Start Time` field to at least 8 hours after the upgrade starts.

   CAUTION:
   If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.
3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter**.

Return to Task List

Record all links and remove only ISDN interface links [from G3V4]

Return to Task List

For R7 and later, ISDN links move to the Net Packet circuit pack. They are not retranslated. If you are upgrading *from any release earlier than R7*, you remove the ISDN links and do not readminister them.

NOTE:
Any BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot. Remove the TN765 P/I only if the sales team has specified that all adjunct connectivity is being migrated to a TN799 Control LAN (C-LAN) circuit pack.

Use this procedure to identify, record, and remove the ISDN links from the communication link and communication processor forms:

1. Type **display communication-interface links** and press **Enter**. If any links were administered on this form, note them.
2. For each link where the `Prot` field is **ISDN**, record the information in all fields.

   If you must back out of the upgrade, you will need this information.
3. For each ISDN link, type **busyout link [*link*]** and press **Enter**.
4. Type **change communication-interface links** and press **Enter**.
5. For each link where the `Prot` field is **ISDN**, type **n** in the `Enable` field and press **Enter**.
6. Type **display communication-interface processor-channels** and press **Enter**.

7 For each processor channel where the `Application` field is **ISDN**, record the information in all fields.

If you must back out of the upgrade, you will need this information.

8 Type **change communication-interface processor-channels** and press **Enter**.

9 For each processor channel where the `Application` field is **ISDN**, clear the information from all fields and press **Enter**.

10 Type **change communication-interface links** and press **Enter**.

11 For each PI extension where the `Prot` field is **ISDN** make these entries:

Field	Value
Est Conn	**n**
Prot	**bx25**
DTE/DCE	**dte**
Identification	[blank]

12 Press **Enter**.

13 For each PI extension where the `Application` field is **ISDN**:

a Type **display data-module [*PI EXT*]** and press **Enter**. Record the information in each field.

If you must back out of the upgrade, you will need this information.

b Type **remove data-module [*PI EXT*]** and press **Enter**.

Return to Task List

Save translation [from G3V4]

Return to Task List

NOTE:
To save translations on duplicated systems, the systems must be in sync or the command will fail.

For High and Critical Reliability only, execute **status system 1** before you save translations.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go into a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

1 Type **save translation** and press **Enter**.

This takes about 10 minutes.

NOTE:
Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Keep the translation media in a safe and secure place. In case of failure, you use this translation to restore the system.

Return to Task List

Save translation, duplicated system [from G3V4]

Return to Task List

To save translations on duplicated systems, the systems must be in sync or the command will fail. Both switch processing elements (SPEs) must be functional: one in active mode and the other in standby mode.

1 Execute **status system 1** before you save translations.

Verify that conditions are normal — this can take a few minutes. If the system is not in a normal condition, refer to the maintenance procedures; if maintenance fails, escalate the problem. *DO NOT PROCEED!*

2 Type **save translation** and press **Enter**.

This takes about 10 minutes.

NOTE:
Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

3 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Store the translation media in a safe and secure place. In case of failure, you use this translation to restore the system.

Return to Task List

Save announcements (TN750 or TN750B only) [from G3V4]

Return to Task List

NOTE:
You do not need to save announcements for configurations containing the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

Use this procedure for configurations containing the TN750 or TN750B announcement circuit pack. Saving announcements takes about 40 minutes.

1. To determine whether the sytem has recorded announcements, type **display announcements** and press **Enter**.

   If no recorded announcements are listed, you do not have to save announcements.

   NOTE:
   If the customer can verify that no announcements have been changed since the announcements were last saved, you do not have to save announcements. (But if there is any doubt, save announcements!)

2. Type **save announcements** <***port network***> <***carrier***> <***slot***> and press **Enter**.

Return to Task List

Shut down DEFINITY LAN Gateway [from G3V4]

Return to Task List

WARNING:
Neglecting to shut down the LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. Log onto the DEFINITY LAN Gateway.
2. From the main menu, click **Maintenance** > **Reset System** > **Shutdown**.

Return to Task List

Shut down DEFINITY AUDIX system [from G3V4]

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1. Log into the AUDIX as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **reset system shutdown** and press **Enter**.

3 Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power down PPN [from G3V4]

Return to Task List

CAUTION:
Important system data such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests will be lost on power down. You cannot store to or retrieve data from tape or flash.

CAUTION:
On a DC-powered SCC, do *not* power down by reseating the power supply as it will trip the breakers on the DC power cabinet.

NOTE:
The breaker on an MCC is on the bottom front of the cabinet; the breaker on an SCC is on the back of the cabinet.

1 At the PPN power-distribution unit, set the main circuit breaker to OFF.

2 If the site has a power-failure transfer panel, connect a ground strap to the panel and to a ground source. Verify that the power-failure stations are working.

Remember to disconnect this strap before reapplying power.

Return to Task List

Remove translation card and CPP1, TN777B, and TN786B circuit packs [from G3V4]

Return to Task List

Remove the following equipment:

- Translation card
- TN786B and CPP1 circuit packs
- TN777B circuit pack

Return to Task List

Install TN2404 and TN2401 circuit packs and original translation card [from G3V4]

Return to Task List

Install the following equipment:

- Original translation card in TN2401 circuit pack
- TN2404 processor circuit pack
- TN2401or TN2401/2400 Netcon/Paccon circuit pack

Return to Task List

Verify TDM cables and terminators [from G3V4]

Return to Task List

Verify that the system has the correct TDM/LAN cables and TDM terminators installed. Using this table as a reference, visually inspect the PPN and EPN connections.

Cabinet	TDM/LAN cable	TDM Terminator
SCC1	WP-91716 L3	AHF110
MCC1	WP-91716 L6 and L7 (older cables have blue labels; yellow labels are newer)	ZAHF4

Return to Task List

Power up [from G3V4]

Return to Task List

Set the circuit breaker to ON.

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap (Comcode 900698226) when handling all system components.

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1 Power up the AC- or DC-powered system.

For Single Carrier Cabinets (SCC1)	
System	**Steps**
AC	**a** Set the switch on the AC power panel to ON position (up). **b** Set the cabinet circuit breakers to ON. This starts the system initialization and test. All red LEDs on the circuit packs go on and then off.
DC	**a** At the DC Battery Cabinet (if installed), set the circuit breaker to ON. **b** At the DC Power Cabinet, set the circuit breaker(s) on the rectifiers to ON. This starts the system initialization and test. Some red LEDs may be turned on, but they are turned off during the boot-up process. No action is required.

The results of system tests display on the monitor.

2 Verify that all tests pass.

If any of the terminal messages indicate a test has failed or if the message `spe down mode` is displayed, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble.

Return to Task List

Deliver or install the License File [from G3V4]

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - Direct connection between the switch and RFA
   - No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

   Wait until the system has completely reset before continuing.
6. Type **change cabinet 1** and press **Enter**.

   In the `Carrier Type` column change the “B” carrier to **processor** and submit the form.
7. Type **change system-parameters duplication** and press **Enter**.

   Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.
8. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
9. Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
2. Type **reset system 3** and press **Enter**.

   Wait until the system has completely reset before continuing.
3. If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

   This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Administer No-License/Emergency Numbers [from G3V4]

Return to Task List

If the system enters a No-License mode, the switch only processes emergency calls. Use this procedure to adminster the emergency numbers for No-License mode situations.

1. At the SAT, type **change system-parameters features** and press **Enter**.

   The ***Feature-Related System Parameters*** screen displays.

2. In the `Emergency Numbers - Internal` field (optional) type a valid extension.

   NOTE:
   This field is intended for campus environments where there is an internal emergency number that people are directed to use instead of 911. Calls to other extensions will not go through. This number cannot be a hunt group or ACD number.

3. In the `Emergency Number - External` field (required) type a 21-digit, dialpad-valid character string that can include trunk access codes. The default for this field is **911**.

4. In the `No-License Incoming Call Number` field (optional) type a valid extension.

   NOTE:
   All calls are not rerouted to this number; only calls to this number get through. This number cannot be a hunt group or ACD number.

5. Press **Enter** to save the changes.

Verify the upgrade [from G3V4]

Return to Task List

1. Execute **status system 1** and verify that the system is in a normal state.
2. Type **display alarms** and press **Enter**.

   If the system is not alarm-free, take the needed corrective actions.

3. Type **list configuration software-version** (simplex) or **list configuration software-version *long*** (duplex) and press **Enter**. Check the `Memory Resident` field to verify that it shows the correct software load.
4. Type **display communication-interface links** and press **Enter**.

   Status each of the links.

   NOTE:
   ISDN-PRI D-channel links no longer appear on this screen. (For release 7 and later, ISDN-PRI resides on the network packet circuit pack.) For release 7 and later, the only way to determine if an ISDN-PRI D-Channel is up is to use the status signaling group command.

5 Type **list signaling-group** and press **Enter**. For each signal, execute **status signal <*number*>**.

Validate that all the signal groups that should be operational are in service.

6 Execute the following commands and verify that the information is correct:

list station

list trunk-group

list hunt-group

list data-module

For upgrades from systems later than G1, **list ars analysis**

For a system with Expert Agent later than G3V3, **list agent**

7 For duplicated systems only, execute **status system 1**

Return to Task List

Check customer options [from G3V4]

Return to Task List

High or Critical Reliability

1 Verify that the switches are in **auto**: Type **status system 1** and press **Enter**.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go onto a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

All

1 Type **display system-parameters customer-options** and press **Enter**.

Check that the `G3 version:` field is **V11**.

Restore busyouts [from G3V4]

Return to Task List

1 Restore any busyouts that you removed in the Verify system status [from G3V4] section prior to the upgrade.

Run acceptance tests [from G3V4]

Return to Task List

Run any acceptance tests that are appropriate for this upgrade. The acceptance tests are listed in these 3 checklists:

Test single-carrier cabinet systems

Test multi-carrier cabinet systems

Test telephones and other equipment

For details of the tests, see

Test the System

Test Telephones and Other Equipment

Test single-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test Time Division Multiplexing Bus in Processor Port Network
4. Test Tone-Clock Boards
5. Test Expansion Interface Circuit Packs
6. Test Time Division Multiplexing Bus for Each Expansion Port Network
7. Test Tone-Clock for Each Expansion Port Network
8. Test Tone-Clock Interchange for Each Expansion Port Network
9. Test Expansion Interface Exchange for Each Expansion Port Network
10. Check Circuit Pack Configuration
11. Save Translations, if Required

Test multi-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test TDM Bus in PPN
4. Test Tone-Clock Circuit Packs
5. Test SPE Duplication Memory Shadowing Link
6. Test Duplicated Switch Processing
7. Element Interchange
8. Test Expansion Interface Circuit Packs
9. Test TDM for each EPN
10. Test Tone-Clock for each EPN
11. Test Tone-Clock Interchange for each EPN

12 Test Expansion Interface Exchange for Each EPN
13 Check Circuit Pack Configuration Again
14 System Test Completion
15 LED Indicators

Test telephones and other equipment

1 Make Test Calls
2 Test 302C Attendant Console
3 Test External Ringing
4 Test Queue Warning Indicator
5 Test Integrated Announcement
6 Test Music-on-Hold
7 Test Emergency Transfer
8 Test Remote Access Interface
9 Test Basic Rate Interface
10 Test Duplication Option Processing
11 Element Interchange
12 Test Terminating Trunk Transmission
13 Test Stratum 3 Clock
14 Perform Complete System Test
15 Activate and Test Alarm Origination Feature

Return to Task List

Enable Scheduled Maintenance and Alarm Notification [from G3V4]

Return to Task List

1 Type **change system-parameters maintenance** and press **Enter**.
2 Enable the scheduled daily maintenance.
3 If you changed the `Start Time` or `Stop Time` field, change it back to the original time.
4 Re-enable alarm notification.

Register the switch for maintenance [from G3V4]

Return to Task List

The Automatic Registration Tool (ART) is a web-based tool that permits field technicians and TSO Database Administration (DBA) to register U.S. direct channel products.

The product that you are registering must have switch connectivity through:

- The INADS line
- An IP address

NOTE:
ART is not accessible from the public internet (outside the Avaya intranet firewall).

1 At your laptop/PC, direct your browser to this URL:

http://spiexp1.eng.avaya.com:8000/cgi-bin/ART/ARTstart.cgi

You can also save this URL in your *Favorites* or *Bookmarks* list.

The ART User Menu displays.

2 Click on the *Register a Product* button.

The Enter Network Password dialog box appears.

3 Type your ART **User Name** and **Password** in the indicated fields.

NOTE:
ART user IDs and passwords are unique to ART, and are not the same as other user IDs and passwords. If you are a first-time user and do not have an ART user ID and password:

a Go back to the ART User Menu and click on the *Administer My User ID/Password* button.

b Follow the instructions on the User ID and Password page to create your ART user ID and password.

Unless you exit and restart your browser, you do not need to re-enter your user ID and password to perform other ART operations.

The ART Start of Product Registration page appears, and the ART session ID appears in the middle of the screen.

4 Type the Installation Location or Sold-To data in the `FL/Sold-To Number` field.

NOTE:
Sold-To number replaces the FL numbers as customer-site identifiers in the Maestro database.

- Sold-To numbers are typically 7 digits long, sometimes beginning with an upper-case “S” followed by two zeros, for example: **S001234567**.
- FL numbers are 10-12 letters or digits.

5 In the `Session Type` field, select:

— *NEW INSTALL REGISTRATION* for products that are initially installed at a customer site.

— *UPGRADE REGISTRATION* for all subsequent product registrations.

6 In the `Product Type` field choose *DEFINITY* for the following products:

7 Click on the *Start Product Registration* button.

8 If the data you have entered matches a Maestro database record, the Customer Verification page appears.

9 Verify the information in the `Customer Name` and `Customer Address` fields.

If the information is not what you expected, ensure that you entered the customer's FL/Sold-To number correctly (Step 4 above). If you entered an incorrect number:

a Click on the *Abort Upgrade Registration Session* button at the bottom of the screen.

CAUTION:
DO NOT exit your browser to abort the session. This can result in an incomplete upgrade registration.

b Return to the ART User Menu page to begin a new session.

If the FL/Sold-To number matches multiple customers in the database, ART displays the name and address of each customer with a button to select for this registration session.

10 In the `Customer Type` field, select

— *GOODYEAR, MOTEL 6, STATE FARM*

— *IN CINCINNATI BELL SERVICE AREA*

— *OTHER*

11 Click on the *Continue Upgrade Registration* button.

The DEFINITY Product List page appears.

12 Look in the product table (first column heading is "#") to find the row for the product that you want to register. Click on the number in the far-left column ("#") of the correct row.

NOTE:
It might be helpful to identify the product by looking at the *Product Nickname*, *Product Alarm ID*, *INADS Number*, *Serial Number*, or *IP Address* columns in the table.

If the product is not shown in the table, or if you are not sure whether a listed product is the one you want to register, contact the DBA group for assistance (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2).

Four new fields appear.

13 In the `Data Lock` field, choose:

— *YES* for products with ASG enabled

— *NO* for all others

14 In the `Dialing Type` field choose the dialing type that the product will use to report alarms:

— *DON'T CHANGE* to leave the product's dialing type unchanged

— *TONE* for DTMF dialing

— *PULSE* for rotary or pulse dialing

15 In the `Alarm Origination` field choose:

- *DON'T CHANGE* to leave the product's current alarm origination status unchanged (the common choice for upgrades).
- *YES* to enable alarm origination.
- *NO* for no alarm origination.

16 In the `Alarm Destination` field, choose

- *DON'T CHANGE* to leave the product's currently-administered alarm origination number unchanged (the common choice for upgrades).
- *SET NUMBER TO* and type the complete alarm destination telephone number, including any dialing prefix (for example, "9" or "*9"). The default value in this field is the TSO-Denver number (18005353573).

17 Click on the *Continue Registration* button at the bottom of the page.

ART begins automatically registering the product and displays progress messages to indicate the current status.

CAUTION:
DO NOT exit your browser or click on the **Refresh**, **Back**, **Stop**, or **Home** buttons while ART displays these progress messages.

If you have to abort your registration, click on the **Abort Session** button that appears with one of the progress messages.

If the preceding steps have been completed successfully, ART displays the DEFINITY Upgrade Registration Report.

18 Review the information displayed in the report.

If any of the data are incorrect, contact the DBA Group (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2) immediately for assistance.

19 Save the DEFINITY Upgrade Registration Report in a file for future reference or print the report and keep the copy.

Return to Task List

Restore announcements (TN750 or TN750B only) [from G3V4]

Return to Task List

1 Insert the white flash card with the saved announcements.

2 Type **restore announcements** and press **Enter**.

This command takes about 45 minutes to execute.

Return to Task List

Rerecord announcements [from G3V4]

Return to Task List

If you have not saved and restored announcements during the upgrade, the customer must re-record all announcements now.

If the customer changed any announcements after the they provided the source tape for the blowback flash card, the customer must re-record the new announcements.

Return to Task List

Save announcements and translation (TN750 or TN750B only) [from G3V4]

Return to Task List

1. Remove the original translation card(s) from the TN2401 NetPkt circuit pack(s). These cards are read-only in the new TN2401.
2. Insert the new translation card(s) into the TN2401 NetPkt circuit pack(s).
3. Type **save announcements** and press **Enter**.

   NOTE:
   Use this step only for systems equipped with the TN750 or TN750B announcement circuit pack. Skip this step for systems equipped with the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

   This takes about 45 minutes.
4. Type **save translation** and press **Enter**.

   This takes about 20 minutes.

   NOTE:
   Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.
5. If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

   Keep the translation media in a safe and secure place.

Return to Task List

Return equipment [from G3V4]

Return to Task List

The Return of Excess & Unused Equipment on Sales Orders is a process for returning excess and unused equipment from customer premises to Avaya.

- When the Project Manager completes a project sales order in SAP or the Technician completes a non-project sales order in Workbench, a return order is created in SAP for any items that were on the sales order, but not installed. Credit is provided to the customer on the initial invoice.
- The Project Managers and technicians are accountable for returning the equipment until the carrier has picked it up. If the carrier does not pick up the equipment, the Services Cost Center in which they reside is charged for the cost of the equipment.

Helpful links

- You can access the *Open Return Order Report* under "Jeopardy Report" at: http://nccc.usaw.avaya.com/portal/
- Get the *Equipment Pick Up Request Form* at: http://nccc.usaw.avaya.com/forms/EquipPickUp/
- Visit the *Reverse Logistics Web Site* at: http://cobldw2ksvr/Reverse%20Logistics/ to view the updated process document in the Cancellation Folder, file name (pd_Return of Excess and Unused Equipment on Sales Orders.doc).

Return to Task List

R5/R6/R7/R8si to Avaya Communication Manager

Introduction

This section provides the information necessary to upgrade a DEFINITY® R5si, R6si, R7si, or R8si system with a single carrier or multicarrier PPN to Avaya Communication Manager using the on-site upgrade method.

Refer to these reference books:

- *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* for changing the processor circuit pack.
- *Administrator's Guide for Avaya Communication Manager (555-233-506)* for information on how to administer features.

For hardware details, see *Hardware Guide for Avaya Communication Manager (555-245-207)* and When to use the TN2401 versus the TN2401/2400 sandwich pack.

When to use the TN2401 versus the TN2401/2400 sandwich pack

Field upgrades normally require the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809, but there are exceptions to this rule!

> **NOTE:**
> IMPORTANT NOTE:
>
> MCC1 SI Processor Carrier J58890AH-2 List 12 (which replaces List 5) *does require* the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809. This carrier has been identified in older DEFINITY documentation as not requiring the sandwich pack!

Only the carriers and backplanes listed in this table use the TN2401 NetCon circuit pack, Comcode 108516675:

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC1 Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC1 Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2

DEFINITY Carrier / Backplane	Equipment	Notes
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3 with a label on the left-rear of the SCC1 identifying the quick-fix backplane.	This backplane, a List 2 with a CRW1, Series 2, bridge card installed, is electrically equivalent to the PWJ58890AL-1,L3 backplane. This backplane replaces List 2.
SCC1 Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC1 Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC1 SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC1 SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC1 SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC1 SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC1 Dup-Int	848204434	14” cable
Fiber Optic Cable: SCC1 Dup-Int	LL2SC-SC-10 107122640	10’ cable

About circuit-pack carriers

If the system currently being upgraded was originally a System 75, the circuit-pack carrier or cabinet is no longer supported. This table identifies the obsolete carriers and cabinet.

Upgrade from	to
J58890AA J58890AB (originally System 75 small-cabinet carriers)	J58890AH carrier
J58890G (originally System 75XE cabinet)	J58890L cabinet

NOTE:
In some previous upgrades, the control cabinet or carrier replacement was optional. The replacement is required for this upgrade. Use the upgrade instructions in this section, but refer to the System 75 Small-Cabinet to R8si (Blowback) upgrade for instructions on replacing the carrier, and the System 75 XE to R8si (Blowback) upgrade for instructions on replacing the cabinet.

Before you begin the upgrade

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps			
What		**When**	**Who**
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec

Upgrade preparation steps			
What		**When**	**Who**
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

NOTE:
There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

   NOTE:
   The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).
5. Reinstall the system tape.
6. Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Task List: R5/R6/R7/R8si to Avaya Communication Manager

Use this task list to upgrade from simplex or duplex R5si, R6si, R7si, or R8si systems to Avaya Communication Manager.

Ensure that these tasks are complete *before* the upgrade visit:

1. Verify the required hardware [from R5/R6/R7/R8si]
2. Provide the required tools [from R5/R6/R7/R8si]
3. Go to the RFA website [from R5/R6/R7/R8si]
4. Pre-upgrade administration [from R5/R6/R7/R8si]

Perform these tasks *during* the upgrade visit:

5. Verify the software version [from R5/R6/R7/R8si] to identify any software patches.
6. Verify system status [from R5/R6/R7/R8si] to check the health of the SPE. Record any customer-placed busy-outs.
7. Modify external alarm connections [from R5/R6/R7/R8si] if they change with the upgrade (for sites with external alarm reporting)
8. Label and connect cables [from R5/R6/R7/R8si] if you are replacing a carrier or cabinet.
9. Disable scheduled maintenance and alarm origination [from R5/R6/R7/R8si]
10. Check link status [from R5/R6/R7/R8si]
11. Record all links and remove only ISDN interface links [from R5/R6/R7/R8si]

    NOTE:
    Because of a change in Release 1.3 of Avaya Communication Manager, you do not need to disable Terminal Translation Initialization (TTI) before an upgrade or enable it afterwards.

12. Save translation [from R5/R6/R7/R8si]
13. Save announcements (TN750 or TN750B only) [from R5/R6/R7/R8si]
14. For systems so equipped: Shut down DEFINITY LAN Gateway [from R5/R6/R7/R8si]
15. For systems so equipped: Shut down DEFINITY AUDIX system [from R5/R6/R7/R8si]
16. Power down cabinet(s) [from R5/R6/R7/R8si] and unseat any adjuncts. For a high or critical reliability system in an SCC, power down both A and B cabinets.
17. Verify TDM cables and connectors [from R5/R6/R7/R8si]. If new TDM terminators and cables are required, install them now.
18. Remove translation card(s), TN790/B, TN778, TN777B or TN794 or TN794/TN2400 circuit packs [from R5/R6/R7/R8si]
19. If the system has no administered BX.25 links, Remove TN765 circuit pack [from R5/R6/R7/R8si]
20. For a high or critical reliability system, Replace TN772 duplication interfaces with the TN792 duplication interfaces (R6si or earlier) [from R5/R6/R7/R8si]
21. Install TN2404 and TN2401 circuit packs and original translation card(s) [from R5/R6/R7/R8si]
22. Power up the system [from R5/R6/R7/R8si]

23 Set Daylight Savings Rule [from R5/R6/R7/R8si]

Make sure the active tone clock is in the active SPE before continuing.

24 Deliver or install the License File [from R5/R6/R7/R8si]

25 Administer No-License/Emergency Numbers [from R5/R6/R7/R8si]

26 Affix label [from R5/R6/R7/R8si]

27 Verify the upgrade [from R5/R6/R7/R8si]

28 Verify software version [from R5/R6/R7/R8si]

29 Restore busyouts [from R5/R6/R7/R8si]

30 If you changed scheduled maintenance parameters, restore the original values. Re-enable scheduled maintenance and alarm notification [from R5/R6/R7/R8si]

31 Check customer options [from R5/R6/R7/R8si]

32 Register the Switch for Maintenance [from R5/R6/R7/R8si]

33 Check link status [from R5/R6/R7/R8si]

34 Power up DEFINITY LAN Gateway system [from R5/R6/R7/R8si]

35 Power up DEFINITY AUDIX system [from R5/R6/R7/R8si]

36 Resolve alarms [from R5/R6/R7/R8si]

Restore any customer-placed busy-outs before you run the acceptance tests!

If the system contains adjuncts such as DEFINITY AUDIX, reseat them as required before you run the acceptance tests.

37 Run acceptance tests [from R5/R6/R7/R8si]

38 Restore announcements (TN750 or TN750B only) [from R5/R6/R7/R8si] or Rerecord announcements [from R5/R6/R7/R8si] as necessary

39 Check SPE [from R5/R6/R7/R8si]

40 Save announcements and translation [from R5/R6/R7/R8si]

41 Return equipment [from R5/R6/R7/R8si]

Verify the required hardware [from R5/R6/R7/R8si]

Return to Task List

The equipment in the table below must be:

- Acquired from local Material Stocking Location (MSL
- Delivered to the installation site before the upgrade begins

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Required Hardware		
	Quantity	
Description	**Simplex**	**Duplex**
TN2404 Processor Circuit Pack	1	2
TN2401 or TN2401/TN2400 NetPkt Circuit Pack [1]	1	2
Translations Card:[2] 8-Mbyte Mass-Storage Translation Card (white card) or 16-Mbyte Mass-Storage Translation Card (white card) or 48-Mbyte Mass-Storage Translation Card (white card)	1	2
TN792 Duplication Interface Circuit Pack	NA	2
Dup-Int Fiber Optic Cable (10 foot for MCC) or Dup-Int Fiber Optic Cable (14 inch for SCC)	NA	1
Fiber Cable Pass-through Kit (for SCC)	NA	1
Control Cabinet Label or Duplex Control Cabinet Label	1	2

1 See When to use the TN2401 versus the TN2401/TN2400 sandwich pack to identify backplanes that use the TN2401 circuit pack.

2 16 Mbyte translation card is required for a system that uses recorded announcements or if a DEFINITY Wireless Business System is installed..

Return to Task List

Provide the required tools [from R5/R6/R7/R8si]

Return to Task List

This upgrade may require the following tools and other items:

Required Tools		
No.	**Description**	**4**
1	Software Release Letter	
2	Avaya Communication Manager on removable media	
3	Extra formatted removable media	
4	Authorized wrist grounding strap	

Required Tools		
No.	**Description**	**4**
5	Documentation (book or PDF file) for the current release: — *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* — *Administrator's Guide for Avaya Communication Manager (555-233-506)*	
6	Your personal Single Sign-On (SSO) for RFA website authentication login.	
7	SAP order number with RTUs	
8	Look up hardware serial number(s).	
9	Transaction Record number	
10	System Identification (SID) number	
11	Switch telephone number or IP address	
12	Access to the RFA Information page for these items (if not already installed on your PC): — Features Extraction Tool (FET) application — FET documentation — License Installation Tool (LIT) application — LIT documentation	
13	Adobe Acrobat Reader application installed on your PC (to read FET and LIT documentation)	
14	Internet Explorer 5.0 or higher installed on your laptop/PC	
15	Intranet access to your designated RFA portal (see Go to the RFA website [from R5/R6/R7/R8si]).	

Return to Task List

Go to the RFA website [from R5/R6/R7/R8si]

Return to Task List

The Remote Feature Activation (RFA) website automates some of the upgrade procedures, including generating a License File.

1 At your laptop/PC browser, go to the appropriate website:

— *Associates*: **http://associate2.avaya.com/** or the services portal: **http://usservices.avaya.com/**

— *Business Partners* go to the appropriate regional Business Partner portal:

- United States: **http://www.avaya.com/businesspartner/**
- Canada: **https://www.avaya.ca/BusinessPartner**
- Brazil: **http://www.avaya.com.br/Home.asp**

- CALA: **https://cala-businesspartner.avaya.com/mnc/index.html**
- EMEA: **https://emea-businesspartner.avaya.com/**
- APAC: **http://www.avaya-apac.com/bp**

— *Contractors* go to **http://www.avaya.com/services/rfa/**

— If you are unable to access RFA using your recommended portal, try: **http://rfa.avaya.com**

2 Using your SSO, log in to the RFA website.

3 Follow the links to the RFA Information page.

4 Complete the information necessary to create a License File.

NOTE:
If you have problems with a hardware serial number that is not in the SAP database, go to the If you have problems with RFA section.

G3V4 through Release 9si upgrades only

Direct connection between the switch and RFA

If you are upgrading from G3V4 through Release 9si and you have a direct connection between the switch and RFA:

1 Using your RFA Job Aids, run the Features Extraction Tool (FET) from the RFA website to create a Switch Configuration File.

2 When prompted, type in the Transaction ID number.

3 The FET creates and uploads the Switch Configuration File automatically.

4 Do not deliver the License File at this time. You will deliver and install it later in this upgrade procedure.

No connection between the switch and RFA

If you are upgrading from Release 9si and you do not have a direct connection between the switch and RFA:

1 Run the Features Extraction Tool (FET) from your laptop/PC to create a Switch Configuration File.

2 When prompted, type in the Transaction ID number.

3 Use the FET instructions to create a new switch connection profile.

4 Create the Switch Configuration File.

5 Upload the Switch Configuration File to the RFA website.

6 Deliver the License File to your laptop/PC for installation later in this procedure.

If you have problems with RFA

If you get an error message that a hardware serial number is not in the SAP database, you must call the RFA Helpdesk to have them correct the SAP information.

Table 4: RFA Helpdesk contact numbers

Where	Who	Phone number/URL	Prompt or selection
Channel: • U.S. and Canada • Variable Workforce Group • Avaya contractors	 Avaya Associates Members Contractors	877-615-4174	Prompt 8
U.S. and Canada	Business Partners	866-800-5194	Prompt 8
EMEA	Direct and Business Partners	+31-70-414-8720 *or* http://www.avayanetwork.com	Prompt 3 Select GSO; select EMEA
APAC RTAC	Direct and Business Partners	+65-6872-8686	
CALA • Mexico TAC • Brazil TAC • Columbia TAC • Argentina TAC • Mexico Call Receipt	Direct and Business Partners	 +525-278-7878 +5511-5185-6655 +571-616-6077 +5411-4114-4440 +1-720-444-9998	

Return to Task List

Pre-upgrade administration [from R5/R6/R7/R8si]

Return to Task List

You must make the administration changes prior to the upgrade.

1 Remove Print Messages Feature Access Code

Remove the value from the `Print Messages Access Code` field on the ***Feature Access Code (FAC)*** form. This feature access code allows users to print undelivered messages without having to call the message center.

2 Remove print-msgs buttons

If any of the Button Assignments are administered as **print-msgs** (print messages) on the ***Station*** and ***Attendant*** forms, remove these buttons.

3 Remove MSA node names

Remove all MSA node names from the `MSA Names` field on the ***Audix-MSA Node Names*** form.

4 Remove MSA processor channels

If the `Appl.` field on the Processor Channel Assignment form is

- `msaamwl`
- `msaclk`
- `msahlwc`
- `msallwc`
- `msamcs`

you must remove this administration. These processor channel assignments are used in conjunction with a messaging adjunct that is no longer supported.

5 Remove MET station administration

If the field value in the `Type` field on the ***Station*** form is

- `10MET`
- `20MET`
- `30MET`

you must remove these stations from administration. These Multi-Button Electronic Telephone (MET) stations are no longer supported and will not work after the upgrade.

Return to Task List

Verify the software version [from R5/R6/R7/R8si]

Return to Task List

1 Type **list configuration software-version** and press **Enter**.

2 Check the `UPDATE FILE` column and make a record of any patches that have been applied.

If the system has to be restored to the old software, you will need to download the patches onto the system.

Return to Task List

Verify system status [from R5/R6/R7/R8si]

Return to Task List

1. Verify that system status is normal.

   Execute **status system 1** (If status is not normal, take the needed corrective actions.)

2. Verify that the system is alarm-free.

   Execute **display alarms** (If the system is not alarm-free, take the needed corrective actions.)

3. Identify and record customer-placed busy-outs.

   Execute **display errors** (Examine the error log and record the error 18s that identify the busy-outs placed by the customer.)

   NOTE:
   You will restore the customer-placed busy-outs after you have upgraded the system.

4. For a system that has existing BX.25 links that are being retained after the upgrade: identify and record them.

   Execute **display communication-interface links**

5. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**

   If any command does not complete successfully, escalate the problem immediately.

Return to Task List

Modify external alarm connections [from R5/R6/R7/R8si]

Return to Task List

You modify the external alarm connections if necessary (that is, if they changed with this upgrade).

See the Auxiliary lead appearances at AUX connector table for the current pinouts for an external alarm, and the Auxiliary lead appearances for System 75, G1, and G3 table for the prior pinouts.

The control carrier AUX connector outputs include:

- Alarm monitoring for the auxiliary cabinet.
- Seven -48 VDC power sources for emergency transfer units.
- Three -48 VDC power sources for remotely powering 3 attendant consoles or telephone adjuncts.

- The remote management terminal interface trunk connection location.
- Access to a relay contact is available to actuate a customer-provided light, bell, or similar alarm device. Administer the system to make contact when a major, minor or warning alarm condition occurs in the system. The circuitry required for this feature is customer-provided. The device connected to the alarm leads must not exceed a rating of 30 VAC RMS or 60 VDC at 0.75 amps.

A 25-pair connector labeled AUX is provided on the rear of the control carrier. Connect a cable to this connector and route to a connecting block on the trunk/auxiliary field.

Auxiliary lead appearances at AUX connector		
Color	**Pin number**	**AUX connector outputs**
W-BL BL-W	26 1	Major (Note 1)
W-O O-W	27 2	Minor (Note 1)
W-G G-W	28 3	GND
W-BR BR-W	29 4	GND
W-S S-W	30 5	GND
R-BL BL-R	31 6	GND
R-O O-R	32 7	GND
R-G G-R	33 8	N/C
R-BR BR-R	34 9	N/C
R-S S-R	35 10	N/C

Auxiliary lead appearances at AUX connector			
Color	**Pin number**	**AUX connector outputs**	
BK-BL BL-BK	36 11	-48 GND	Emergency transfer relay power
BK-O O-BK	37 12	-48 GND	
BK-G G-BK	38 13	-48 GND	
BK-BR BR-BK	39 14	-48 GND	
BK-S S-BK	40 15	-48 GND	
Y-BL BL-Y	41 16	-48 GND	
Y-O O-Y	42 17	-48 GND	
Y-G G-Y	43 18	N/C	
Y-BR BR-Y	44 19	GND -48	AUX power
Y-S S-Y	45 20	GND -48	
V-BL BL-V	46 21	GND -48	
V-O O-V	47 22	N/C	
V-G G-V	48 23	External Alarm A (Note 1) External Alarm return	
V-BR BR-V	49 24	N/C	
V-S S-V	50 25	INADS Tip INADS Ring	

External alarm with signal incoming to system.

Auxiliary lead appearances for System 75, G1, and G3					
Color	66-type conn block term	Multi-carrrier AUX conn outputs	Single-carrrier AUX conn outputs	808A emerg xfer unit outputs	574-5 power xfer unit outputs
W-BL BL-W	01 02	1M	1M	TC	TC
W-O O-W	03 04	1m	1m	TK	TK
W-G G-W	05 06	2M (Note 1)	2M (Note 2)	LC	LC
W-BR BR-W	07 08	2m (Note 1)	2m (Note 2)	ST	ST
W-S S-W	09 10	3M (Note 1)	3M (Note 2)	TC	TC
R-BL BL-R	11 12	3m (Note 1)	3m (Note 2)	TK	TK
R-O O-R	13 14	3W (Note 1)	3W (Note 2)	LC	LC
R-G G-R	15 16	N/C	N/C	ST	ST
R-BR BR-R	17 18	N/C	N/C	TC	TC
R-S S-R	19 20	N/C	N/C	TK	TK

Auxiliary lead appearances for System 75, G1, and G3							
Color	66-type conn block term	Multi-carrrier AUX conn outputs		Single-carrrier AUX conn outputs		808A emerg xfer unit outputs	574-5 power xfer unit outputs
BK-BL BL-BK	21 22	GND -48	Emerg xfer relay power	GND -48	Emerg xfer relay power	LC	LC
BK-O O-BK	23 24	GND -48		GND -48		ST	ST
BK-G G-BK	25 26	GND -48		GND -48		TC	TC
BK-BR BR-BK	27 28	GND -48		GND -48		TK	TK
BK-S S-BK	29 30	GND -48		GND -48		LC	LC
Y-BL BL-Y	31 32	GND -48		GND -48		ST	ST
Y-O O-Y	33 34	GND -48		GND -48		TC	TC
Y-G G-Y	35 36	N/C		N/C		TK	TK
Y-BR BR-Y	37 38	GND -48	ACC power	N/C		LC	LC
Y-S S-Y	39 40	GND -48		N/C		ST	ST
V-BL BL-V	41 42	GND -48		N/C		COM1 N01	COM1 N01
V-O O-V	43 44	N/C		N/C		NC2 NC1	NC2 NC1
V-G G-V	45 46	Ext Alarm A Ext Alarm B		Ext Alarm A Ext Alarm B		COM2 N02	COM2 N02
V-BR BR-V	47 48	N/C		N/C		N/C	N/C
V-S S-V	49 50	INADS		INADS		GND -48	GND -48

These leads are not available on DEFINITY G1 or later systems. If you are upgrading a System 75 and these leads were previously used, these alarm connections have to be dropped.

Return to Task List

Label and connect cables [from R5/R6/R7/R8si]

Return to Task List

1. To make reconnecting the cables simpler and more reliable, label every reusable connector cable in the system.
2. Install new connector cables, as needed, onto the connectors at the rear of the cabinet.
3. Route the cables to the MDF and cross-connect as needed.

Return to Task List

Disable scheduled maintenance and alarm origination [from R5/R6/R7/R8si]

Return to Task List

1. To prevent scheduled daily maintenance from interfering with the update or upgrade, type **change system-parameters maintenance** and press **Enter**.
2. If scheduled maintenance:
   - has begun: set the `Stop Time` field to 1 minute after the current time.
   - has not begun: set the `Start Time` field to at least 8 hours after the upgrade starts.

   CAUTION:
   If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.

3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter**.

Return to Task List

Check link status [from R5/R6/R7/R8si]

Return to Task List

This optional step is to make sure the links are in service before and after the upgrade.

1. Type **display communication-interface links** and press **Enter**. Write down all enabled links.
2. Type **status link *number*** and press **Enter** for each enabled link.
3. Write down which links are enabled and in service.

   NOTE:
   If any links are enabled and out of service, resolve the problem before continuing the upgrade.

4. Type **list signaling group** and press **Return**.

   Note the signaling groups listed by number.
5. For each of the signaling groups listed, type **status signaling group *<number>*** and press **Return**.
6. If any of the links are not up, take the necessary corrective action to restore the link before continuing with the upgrade.

Return to Task List

Record all links and remove only ISDN interface links [from R5/R6/R7/R8si]

Return to Task List

For R7 and later, ISDN links move to the Net Packet circuit pack. They are not retranslated. If you are upgrading *from any release earlier than R7*, you remove the ISDN links and do not readminister them.

NOTE:
Any BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot. Remove the TN765 P/I only if the sales team has specified that all adjunct connectivity is being migrated to a TN799 Control LAN (C-LAN) circuit pack.

Use this procedure to identify, record, and remove the ISDN links from the communication link and communication processor forms:

1. Type **display communication-interface links** and press **Enter**. If any links were administered on this form, note them.
2. For each link where the `Prot` field is **ISDN**, record the information in all fields.

   If you must back out of the upgrade, you will need this information.
3. For each ISDN link, type **busyout link [*link*]** and press **Enter**.
4. Type **change communication-interface links** and press **Enter**.
5. For each link where the `Prot` field is **ISDN**, type **n** in the `Enable` field and press **Enter**.

6 Type **display communication-interface processor-channels** and press **Enter**.

7 For each processor channel where the `Application` field is **ISDN**, record the information in all fields.

If you must back out of the upgrade, you will need this information.

8 Type **change communication-interface processor-channels** and press **Enter**.

9 For each processor channel where the `Application` field is **ISDN**, clear the information from all fields and press **Enter**.

10 Type **change communication-interface links** and press **Enter**.

11 For each PI extension where the `Prot` field is **ISDN** make these entries:

Field	Value
Est Conn	**n**
Prot	**bx25**
DTE/DCE	**dte**
Identification	[blank]

12 Press **Enter**.

13 For each PI extension where the `Application` field is **ISDN**:

a Type **display data-module [*PI EXT*]** and press **Enter**. Record the information in each field.

If you must back out of the upgrade, you will need this information.

b Type **remove data-module [*PI EXT*]** and press **Enter**.

Return to Task List

Save translation [from R5/R6/R7/R8si]

Return to Task List

NOTE:
To save translations on duplicated systems, the systems must be in sync or the command will fail.

For High and Critical Reliability only, execute **status system 1** before you save translations.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go into a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

1 Type **save translation** and press **Enter**.

This takes about 10 minutes.

NOTE:
Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Keep the translation media in a safe and secure place. In case of failure, you use this translation to restore the system.

Return to Task List

Save announcements (TN750 or TN750B only) [from R5/R6/R7/R8si]

Return to Task List

NOTE:
You do not need to save announcements for configurations containing the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

Use this procedure for configurations containing the TN750 or TN750B announcement circuit pack. Saving announcements takes about 40 minutes.

1 To determine whether the sytem has recorded announcements, type **display announcements** and press **Enter**.

If no recorded announcements are listed, you do not have to save announcements.

NOTE:
If the customer can verify that no announcements have been changed since the announcements were last saved, you do not have to save announcements. (But if there is any doubt, save announcements!)

2 Type **save announcements** <***port network***> <***carrier***> <***slot***> and press **Enter**.

Return to Task List

Shut down DEFINITY LAN Gateway [from R5/R6/R7/R8si]

Return to Task List

WARNING:
Neglecting to shut down the LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1 Log onto the DEFINITY LAN Gateway.

2 From the main menu, click **Maintenance > Reset System > Shutdown**.

Shut down DEFINITY AUDIX system [from R5/R6/R7/R8si]

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1 Log into the AUDIX as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **reset system shutdown** and press **Enter**.

3 Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power down cabinet(s) [from R5/R6/R7/R8si]

Return to Task List

NOTE:
Before powering down the cabinet(s), make sure you have all replacement circuit packs and new ATA flashcards nearby to minimize down time.

CAUTION:
Important system data such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests will be lost on power down. You cannot store to or retrieve data from tape or flash.

CAUTION:
On a DC-powered SCC, do *not* power down by reseating the power supply as it will trip the breakers on the DC power cabinet.

NOTE:
The breaker on an MCC is on the bottom front of the cabinet; the breaker on an SCC is on the back of the cabinet.

1. At the PPN power-distribution unit, set the main circuit breaker to OFF.
2. If the site has a power-failure transfer panel, connect a ground strap to the panel and to a ground source. Verify that the power-failure stations are working.

   Remember to disconnect this strap before reapplying power.

Return to Task List

Verify TDM cables and connectors [from R5/R6/R7/R8si]

Return to Task List

Verify that the system has the correct TDM/LAN cables and TDM terminators installed. Using this table as a reference, visually inspect the PPN and EPN connections.

Cabinet	TDM/LAN cable	TDM Terminator
SCC1	WP-91716 L3	AHF110
MCC1	WP-91716 L6 and L7 (older cables have blue labels; yellow labels are newer)	ZAHF4

Return to Task List

Remove translation card(s), TN790/B, TN778, TN777B or TN794 or TN794/TN2400 circuit packs [from R5/R6/R7/R8si]

Return to Task List

NOTE:
If you are upgrading a duplex installation, remove the circuit packs on both SPEs.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1. Remove the following equipment:
   - — Translation card from the TN777B or TN794
   - — TN790/B processor circuit pack
   - — TN778 packet control circuit pack
   - — TN777B network control or TN794, TN794/TN2400 NetPkt circuit packs
2. Store each component separately in anti-static packing material.

   NOTE:
   Keep original translation card nearby.

Return to Task List

Remove TN765 circuit pack [from R5/R6/R7/R8si]

Return to Task List

1. Remove the TN765 processor interface circuit pack if no bx.25 links were administered and the customer does not plan on using them in the future.

Replace TN772 duplication interfaces with the TN792 duplication interfaces (R6si or earlier) [from R5/R6/R7/R8si]

Return to Task List

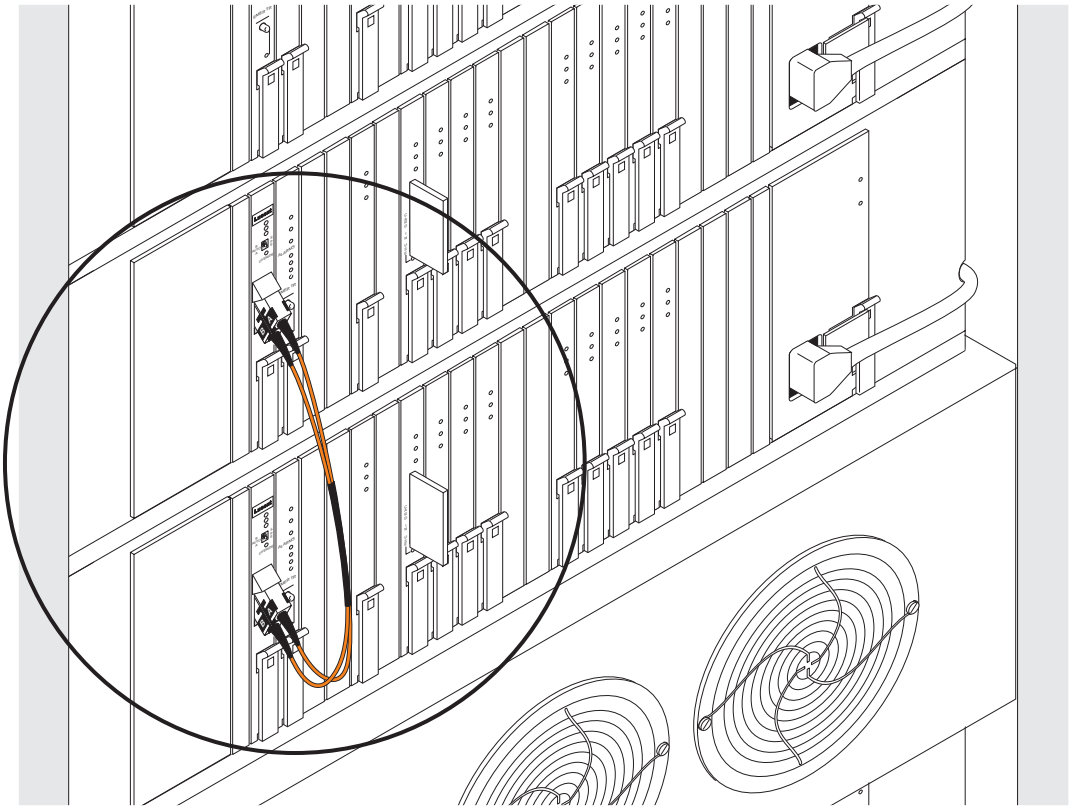
1. Remove the TN772 Duplication Interface circuit packs and place them in antistatic packing material.

   Leave the existing duplication cables connected to the backplane. The fiber optic cable connecting the new TN792 Duplication Interface circuit packs does not replace these cables.
2. Insert the TN792 Duplication Interface circuit packs into the slots labeled DUPN INTFC.
3. If the carrier is located in a Multicarrier Cabinet (MCC1), attach the 14-in. fiber optic cable to the faceplates of the installed TN792 Duplication Interface circuit packs (see Figure 1, Fiber optic cable connecting the two TN792 duplication interface circuit packs (multicarrier cabinet only), on page 120).

   or

   If the carrier is in a Single-Carrier Cabinet (SCC1), then attach the 10-ft fiber optic cable to the faceplates of the installed TN792 Duplication Interface circuit packst.

Figure 1: Fiber optic cable connecting the two TN792 duplication interface circuit packs (multicarrier cabinet only)



fodf792 KLC 090399

Return to Task List

Install TN2404 and TN2401 circuit packs and original translation card(s) [from R5/R6/R7/R8si]

Return to Task List

NOTE:
If you are upgrading a duplex installation, install the circuit packs on both SPEs.

NOTE:
Avaya Communication Manager is loaded onto the TN2404 processor circuit pack. If you received an orange software flashcard, read the Software Release Letter that accompanied it for further instructions.

Install the following equipment:

- Original translation card in TN2401 circuit pack
- TN2404 processor circuit pack
- TN2401or TN2401/2400 Netcon/Paccon circuit pack

Return to Task List

Power up the system [from R5/R6/R7/R8si]

Return to Task List

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap (Comcode 900698226) when handling all system components.

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1 Power up the AC- or DC-powered system.

For Single Carrier Cabinets (SCC1)	
System	**Steps**
AC	**a** Set the switch on the AC power panel to ON position (up). **b** Set the cabinet circuit breakers to ON. This starts the system initialization and test. All red LEDs on the circuit packs go on and then off.
DC	**a** At the DC Battery Cabinet (if installed), set the circuit breaker to ON. **b** At the DC Power Cabinet, set the circuit breaker(s) on the rectifiers to ON. This starts the system initialization and test. Some red LEDs may be turned on, but they are turned off during the boot-up process. No action is required.

The results of system tests display on the monitor.

2 Verify that all tests pass.

If any of the terminal messages indicate a test has failed or if the message `spe down mode` is displayed, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble.

Return to Task List

Set Daylight Savings Rule [from R5/R6/R7/R8si]

Return to Task List

1 If your area does not use daylight saving time, set the value of `Daylight Savings Rule` to **0**; otherwise, set `Daylight Savings Rule` to **1**.

Figure 2: Typical Date and Time Screen

```
                  DATE AND TIME
DATE
     Day of the Week: Tuesday    Month: June
    Day of the Month: 26          Year: 2000

TIME
    Hour: 20 Minute: 30  Second: XX   Type: standard
          Daylight Savings Rule: 1
```

Deliver or install the License File [from R5/R6/R7/R8si]

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

3 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

4 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

5 Type **reset system 4** and press **Enter**.

Wait until the system has completely reset before continuing.

6 Type **change cabinet 1** and press **Enter**.

In the `Carrier Type` column change the "B" carrier to **processor** and submit the form.

7 Type **change system-parameters duplication** and press **Enter**.

Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.

8 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

9 Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

2 Type **reset system 3** and press **Enter**.

Wait until the system has completely reset before continuing.

3 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Administer No-License/Emergency Numbers [from R5/R6/R7/R8si]

Return to Task List

If the system enters a No-License mode, the switch only processes emergency calls. Use this procedure to adminster the emergency numbers for No-License mode situations.

1 At the SAT, type **change system-parameters features** and press **Enter**.

The ***Feature-Related System Parameters*** screen displays.

2 In the `Emergency Numbers - Internal` field (optional) type a valid extension.

NOTE:
This field is intended for campus environments where there is an internal emergency number that people are directed to use instead of 911. Calls to other extensions will not go through. This number cannot be a hunt group or ACD number.

3 In the `Emergency Number - External` field (required) type a 21-digit, dialpad-valid character string that can include trunk access codes. The default for this field is **911**.

4 In the `No-License Incoming Call Number` field (optional) type a valid extension.

NOTE:
All calls are not rerouted to this number; only calls to this number get through. This number cannot be a hunt group or ACD number.

5 Press **Enter** to save the changes.

Affix label [from R5/R6/R7/R8si]

Return to Task List

1 Affix the circuit pack position label (designation strip) to the front of the cabinet.

Verify the upgrade [from R5/R6/R7/R8si]

Return to Task List

1 Execute **status system 1** and verify that the system is in a normal state.

2 Type **display alarms** and press **Enter**.

If the system is not alarm-free, take the needed corrective actions.

3 Type **list configuration software-version** (simplex) or **list configuration software-version *long*** (duplex) and press **Enter**. Check the `Memory Resident` field to verify that it shows the correct software load.

4 Type **display communication-interface links** and press **Enter**.

Status each of the links.

> **NOTE:**
> ISDN-PRI D-channel links no longer appear on this screen. (For release 7 and later, ISDN-PRI resides on the network packet circuit pack.) For release 7 and later, the only way to determine if an ISDN-PRI D-Channel is up is to use the status signaling group command.

5 Type **list signaling-group** and press **Enter**. For each signal, execute **status signal <*number*>**.

Validate that all the signal groups that should be operational are in service.

6 Execute the following commands and verify that the information is correct:

list station

list trunk-group

list hunt-group

list data-module

For upgrades from systems later than G1, **list ars analysis**

For a system with Expert Agent later than G3V3, **list agent**

7 For duplicated systems only, execute **status system 1**

Return to Task List

Verify software version [from R5/R6/R7/R8si]

Return to Task List

Standard Reliability

1 Type **list configuration software-version** and press **Enter** to verify the system software version (see the Memory Resident field).

High or Critical Reliability

1 Type **list configuration software-version *long*** and press **Enter** to verify the system software version (see the Memory Resident field).

Restore busyouts [from R5/R6/R7/R8si]

Return to Task List

1 Restore any busyouts that you removed in the Verify system status [from R5/R6/R7/R8si] section prior to the upgrade.

Re-enable scheduled maintenance and alarm notification [from R5/R6/R7/R8si]

Return to Task List

1 Type **change system-parameters maintenance** and press **Enter**.

2 Enable the scheduled daily maintenance.

3 If you changed the `Start Time` or `Stop Time` field, change it back to the original time.

4 Re-enable alarm notification.

Check customer options [from R5/R6/R7/R8si]

Return to Task List

High or Critical Reliability

1 Verify that the switches are in **auto**: Type **status system 1** and press **Enter**.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go onto a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

All

1 Type **display system-parameters customer-options** and press **Enter**.

Check that the `G3 version:` field is **V11**.

Register the Switch for Maintenance [from R5/R6/R7/R8si]

Return to Task List

The Automatic Registration Tool (ART) is a web-based tool that permits field technicians and TSO Database Administration (DBA) to register U.S. direct channel products.

The product that you are registering must have switch connectivity through:

- The INADS line
- An IP address

NOTE:
ART is not accessible from the public internet (outside the Avaya intranet firewall).

1 At your laptop/PC, direct your browser to this URL:

http://spiexp1.eng.avaya.com:8000/cgi-bin/ART/ARTstart.cgi

You can also save this URL in your *Favorites* or *Bookmarks* list.

The ART User Menu displays.

2 Click on the *Register a Product* button.

The Enter Network Password dialog box appears.

3 Type your ART **User Name** and **Password** in the indicated fields.

NOTE:
ART user IDs and passwords are unique to ART, and are not the same as other user IDs and passwords. If you are a first-time user and do not have an ART user ID and password:

a Go back to the ART User Menu and click on the *Administer My User ID/Password* button.

b Follow the instructions on the User ID and Password page to create your ART user ID and password.

Unless you exit and restart your browser, you do not need to re-enter your user ID and password to perform other ART operations.

The ART Start of Product Registration page appears, and the ART session ID appears in the middle of the screen.

4 Type the Installation Location or Sold-To data in the `FL/Sold-To Number` field.

NOTE:
Sold-To number replaces the FL numbers as customer-site identifiers in the Maestro database.

- Sold-To numbers are typically 7 digits long, sometimes beginning with an upper-case “S” followed by two zeros, for example: **S001234567**.
- FL numbers are 10-12 letters or digits.

5 In the `Session Type` field, select:

— *NEW INSTALL REGISTRATION* for products that are initially installed at a customer site.

— *UPGRADE REGISTRATION* for all subsequent product registrations.

6 In the `Product Type` field choose *DEFINITY* for the following products:

7 Click on the *Start Product Registration* button.

8 If the data you have entered matches a Maestro database record, the Customer Verification page appears.

9 Verify the information in the `Customer Name` and `Customer Address` fields.

If the information is not what you expected, ensure that you entered the customer’s FL/Sold-To number correctly (Step 4 above). If you entered an incorrect number:

a Click on the *Abort Upgrade Registration Session* button at the bottom of the screen.

CAUTION:
DO NOT exit your browser to abort the session. This can result in an incomplete upgrade registration.

b Return to the ART User Menu page to begin a new session.

If the FL/Sold-To number matches multiple customers in the database, ART displays the name and address of each customer with a button to select for this registration session.

10 In the `Customer Type` field, select

— *GOODYEAR, MOTEL 6, STATE FARM*

— *IN CINCINNATI BELL SERVICE AREA*

— *OTHER*

11 Click on the *Continue Upgrade Registration* button.

The DEFINITY Product List page appears.

12 Look in the product table (first column heading is “#”) to find the row for the product that you want to register. Click on the number in the far-left column (“#”) of the correct row.

NOTE:
It might be helpful to identify the product by looking at the *Product Nickname*, *Product Alarm ID*, *INADS Number*, *Serial Number*, or *IP Address* columns in the table.

If the product is not shown in the table, or if you are not sure whether a listed product is the one you want to register, contact the DBA group for assistance (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2).

Four new fields appear.

13 In the `Data Lock` field, choose:

— *YES* for products with ASG enabled

— *NO* for all others

14 In the `Dialing Type` field choose the dialing type that the product will use to report alarms:

- *DON'T CHANGE* to leave the product's dialing type unchanged
- *TONE* for DTMF dialing
- *PULSE* for rotary or pulse dialing

15 In the `Alarm Origination` field choose:

- *DON'T CHANGE* to leave the product's current alarm origination status unchanged (the common choice for upgrades).
- *YES* to enable alarm origination.
- *NO* for no alarm origination.

16 In the `Alarm Destination` field, choose

- *DON'T CHANGE* to leave the product's currently-administered alarm origination number unchanged (the common choice for upgrades).
- *SET NUMBER TO* and type the complete alarm destination telephone number, including any dialing prefix (for example, "9" or "*9"). The default value in this field is the TSO-Denver number (18005353573).

17 Click on the *Continue Registration* button at the bottom of the page.

ART begins automatically registering the product and displays progress messages to indicate the current status.

CAUTION:

DO NOT exit your browser or click on the **Refresh**, **Back**, **Stop**, or **Home** buttons while ART displays these progress messages.

If you have to abort your registration, click on the **Abort Session** button that appears with one of the progress messages.

If the preceding steps have been completed successfully, ART displays the DEFINITY Upgrade Registration Report.

18 Review the information displayed in the report.

If any of the data are incorrect, contact the DBA Group (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2) immediately for assistance.

19 Save the DEFINITY Upgrade Registration Report in a file for future reference or print the report and keep the copy.

Check link status [from R5/R6/R7/R8si]

Return to Task List

This optional step is to make sure the links are in service before and after the upgrade.

1. Type **display communication-interface links** and press **Enter**. Write down all enabled links.
2. Type **status link *number*** and press **Enter** for each enabled link.
3. Write down which links are enabled and in service.

   NOTE:
   If any links are enabled and out of service, resolve the problem before continuing the upgrade.

4. Type **list signaling group** and press **Return**.

   Note the signaling groups listed by number.
5. For each of the signaling groups listed, type **status signaling group *<number>*** and press **Return**.
6. If any of the links are not up, take the necessary corrective action to restore the link before continuing with the upgrade.

Power up DEFINITY LAN Gateway system [from R5/R6/R7/R8si]

Return to Task List

1. Log onto the DEFINITY LAN Gateway.
2. From the main menu, click **Maintenance > Reset System > Reboot System**.

Power up DEFINITY AUDIX system [from R5/R6/R7/R8si]

Return to Task List

If the AUDIX was removed from the cabinet:

1. Re-install the AUDIX and allow it to boot up automatically.
2. Check for AUDIX System errors.

If the AUDIX remained in the cabinet but the cabinet was powered down:

3. Reseat the AUDIX
4. Power up the cabinet. The AUDIX reboots automatically.
5. Check for AUDIX System errors.

If the AUDIX remained in the cabinet and the cabinet was *not* powered down:

6. At the AUDIX console, hold the **Crtl** key and type **cc**.
7. Type **5** at the prompt.

   In about 2 minutes, the AUDIX boots up.
8. When the system initialization is complete, log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.
9. Check for AUDIX System errors.

Return to Task List

Resolve alarms [from R5/R6/R7/R8si]

Return to Task List

1. See your record of customer busy-outs and recreate the pre-upgrade busy-out states.
2. Type **display alarms** and press **Enter**.
3. Examine the alarm log.
4. Resolve any alarms using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* book.

Return to Task List

Run acceptance tests [from R5/R6/R7/R8si]

Return to Task List

Run any acceptance tests that are appropriate for this upgrade. The acceptance tests are listed in these 3 checklists:

Test single-carrier cabinet systems

Test multi-carrier cabinet systems

Test telephones and other equipment

For details of the tests, see

Test the System

Test Telephones and Other Equipment

Test single-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test Time Division Multiplexing Bus in Processor Port Network
4. Test Tone-Clock Boards
5. Test Expansion Interface Circuit Packs
6. Test Time Division Multiplexing Bus for Each Expansion Port Network
7. Test Tone-Clock for Each Expansion Port Network
8. Test Tone-Clock Interchange for Each Expansion Port Network
9. Test Expansion Interface Exchange for Each Expansion Port Network
10. Check Circuit Pack Configuration
11. Save Translations, if Required

Test multi-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test TDM Bus in PPN
4. Test Tone-Clock Circuit Packs
5. Test SPE Duplication Memory Shadowing Link
6. Test Duplicated Switch Processing
7. Element Interchange
8. Test Expansion Interface Circuit Packs
9. Test TDM for each EPN
10. Test Tone-Clock for each EPN
11. Test Tone-Clock Interchange for each EPN
12. Test Expansion Interface Exchange for Each EPN
13. Check Circuit Pack Configuration Again
14. System Test Completion
15. LED Indicators

Test telephones and other equipment

1. Make Test Calls
2. Test 302C Attendant Console
3. Test External Ringing
4. Test Queue Warning Indicator
5. Test Integrated Announcement
6. Test Music-on-Hold
7. Test Emergency Transfer

8 Test Remote Access Interface
9 Test Basic Rate Interface
10 Test Duplication Option Processing
11 Element Interchange
12 Test Terminating Trunk Transmission
13 Test Stratum 3 Clock
14 Perform Complete System Test
15 Activate and Test Alarm Origination Feature

Return to Task List

Restore announcements (TN750 or TN750B only) [from R5/R6/R7/R8si]

Return to Task List

1 Insert the white flash card with the saved announcements.
2 Type **restore announcements** and press **Enter**.

This command takes about 45 minutes to execute.

Rerecord announcements [from R5/R6/R7/R8si]

Return to Task List

If you have not saved and restored announcements during the upgrade, the customer must re-record all announcements now.

If the customer changed any announcements after the they provided the source tape for the blowback flash card, the customer must re-record the new announcements.

Check SPE [from R5/R6/R7/R8si]

Return to Task List

1 Type **status system 1** and press **Enter**.

Save announcements and translation [from R5/R6/R7/R8si]

Return to Task List

1. Insert the translation card(s) into the TN2401 NetPkt circuit pack(s).
2. Type **save announcements** and press **Enter**.

   NOTE:
   Use this step only for systems equipped with the TN750 or TN750B announcement circuit pack. Skip this step for systems equipped with the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

   This takes about 45 minutes.
3. Type **save translation** and press **Enter**.

   This takes about 20 minutes.

   NOTE:
   Do not press any keyboard key until after the screen displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

   NOTE:
   If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

   Keep the translation media in a safe and secure place.

Return equipment [from R5/R6/R7/R8si]

Return to Task List

The Return of Excess & Unused Equipment on Sales Orders is a process for returning excess and unused equipment from customer premises to Avaya.

- When the Project Manager completes a project sales order in SAP or the Technician completes a non-project sales order in Workbench, a return order is created in SAP for any items that were on the sales order, but not installed. Credit is provided to the customer on the initial invoice.
- The Project Managers and technicians are accountable for returning the equipment until the carrier has picked it up. If the carrier does not pick up the equipment, the Services Cost Center in which they reside is charged for the cost of the equipment.

Helpful links

- You can access the *Open Return Order Report* under "Jeopardy Report" at: http://nccc.usaw.avaya.com/portal/
- Get the *Equipment Pick Up Request Form* at: http://nccc.usaw.avaya.com/forms/EquipPickUp/
- Visit the *Reverse Logistics Web Site* at: http://cobldw2ksvr/Reverse%20Logistics/ to view the updated process document in the Cancellation Folder, file name (pd_Return of Excess and Unused Equipment on Sales Orders.doc).

G3V4vs/R5vs/R6vs to Avaya Communication Manager

This section provides the information necessary to upgrade a DEFINITY® vs (G3V4vs, R5vs, or R6vs) system to Avaya Communication Manager.

Introduction

The vs cabinet cannot be upgraded to accommodate Avaya Communication Manager. To upgrade a vs cabinet, you must change out the vs cabinet and install an si cabinet (SCC1). You can reuse the port circuit packs from the vs system only if a site inspection determines that the port circuit pack vintages are reusable.

For more information, see

- *Hardware Guide for Avaya Communication Manager (555-245-207)*
- When to use the TN2401 versus the TN2401/2400 sandwich pack.

When to use the TN2401 versus the TN2401/2400 sandwich pack

Field upgrades normally require the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809, but there are exceptions to this rule!

> **NOTE:**
> IMPORTANT NOTE:
>
> MCC1 SI Processor Carrier J58890AH-2 List 12 (which replaces List 5) *does require* the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809. This carrier has been identified in older DEFINITY documentation as not requiring the sandwich pack!

Only the carriers and backplanes listed in this table use the TN2401 NetCon circuit pack, Comcode 108516675:

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC1 Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC1 Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2

DEFINITY Carrier / Backplane	Equipment	Notes
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3 with a label on the left-rear of the SCC1 identifying the quick-fix backplane.	This backplane, a List 2 with a CRW1, Series 2, bridge card installed, is electrically equivalent to the PWJ58890AL-1,L3 backplane. This backplane replaces List 2.
SCC1 Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC1 Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC1 SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC1 SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC1 SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC1 SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC1 Dup-Int	848204434	14” cable
Fiber Optic Cable: SCC1 Dup-Int	LL2SC-SC-10 107122640	10’ cable

Before you begin the upgrade

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps

What		When	Who
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr

Upgrade preparation steps			
What		**When**	**Who**
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

NOTE:
There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

   NOTE:
   The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).

5 Reinstall the system tape.

6 Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Task List: DEFINITY vs to Avaya Communication Manager

Ensure that these tasks are complete *before* the upgrade visit:

1 Verify the required hardware [from G3V4vs/R5vs/R6vs]

2 Provide the required tools [from G3V4vs/R5vs/R6vs]

3 Go to the RFA website

4 Pre-upgrade administration [from G3V4vs/R5vs/R6vs]

Perform these tasks *during* the upgrade visit:

5 Unpack and inspect control cabinet [from G3V4vs/R5vs/R6vs]

6 Install new control cabinet [from G3V4vs/R5vs/R6vs] or Install new control cabinet with earthquake protection [from G3V4vs/R5vs/R6vs]

7 Label and connect cables [from G3V4vs/R5vs/R6vs]

8 Install TDM/LAN bus terminators [from G3V4vs/R5vs/R6vs]

9 Swing existing system into maintenance position [from G3V4vs/R5vs/R6vs]

10 Check existing software load [from G3V4vs/R5vs/R6vs] to identify any software patches.

11 Verify system status [from G3V4vs/R5vs/R6vs] Record any customer-placed busy-outs.

12 Disable scheduled maintenance and alarm origination [from G3V4vs/R5vs/R6vs]

13 Check link status [from G3V4vs/R5vs/R6vs]

14 Record all links and remove only ISDN interface links [from G3V4vs/R5vs/R6vs]

NOTE:
Because of a change in Release 1.3 of Avaya Communication Manager, you do not need to disable Terminal Translation Initialization (TTI) before an upgrade or enable it afterwards.

15 Save translation [from G3V4vs/R5vs/R6vs]

16 Save recorded announcements (TN750B) [from G3V4vs/R5vs/R6vs]

17 List configuration software version [from G3V4vs/R5vs/R6vs]

18 For systems so equipped: Shut down DEFINITY LAN Gateway system [from G3V4vs/R5vs/R6vs]

19 For systems so equipped: Shut down the DEFINITY AUDIX system [from G3V4vs/R5vs/R6vs]

20 Power down existing system [from G3V4vs/R5vs/R6vs]

21 Remove ground connections [from G3V4vs/R5vs/R6vs]

22 Move 25-pair cables from G3V4vs System from G3V4vs/R5vs/R6vs

23 Move management terminal cable from G3V4vs/R5vs/R6vs

NOTE:
Any BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot.

24 Move circuit packs from G3V4vs/R5vs/R6vs

25 Verify TDM cables and connectors [from G3V4vs/R5vs/R6vs]. If new TDM terminators and cables are required, install them now.

26 Connect control cabinet power and ground [from G3V4vs/R5vs/R6vs]

27 Power up [from G3V4vs/R5vs/R6vs]

28 Deliver or install the License File [from G3V4vs/R5vs/R6vs]

29 Administer No-License/Emergency Numbers [from G3V4vs/R5vs/R6vs]

30 Set Daylight Savings rule [from G3V4vs/R5vs/R6vs]

31 Check customer options [from G3V4vs/R5vs/R6vs]

32 Verify the upgrade [from G3V4vs/R5vs/R6vs]

33 Restore busyouts [from G3V4vs/R5vs/R6vs]

34 Run acceptance tests [from G3V4vs/R5vs/R6vs]

35 Enable Scheduled Maintenance and Alarm Notification [from G3V4vs/R5vs/R6vs]

36 Register the switch for maintenance [from G3V4vs/R5vs/R6vs]

37 Restore announcements [from G3V4vs/R5vs/R6vs] or Rerecord announcements [from G3V4vs/R5vs/R6vs] as necessary.

38 Save announcements and translation [from G3V4vs/R5vs/R6vs]

39 Disassemble the G3V4vs System [from G3V4vs/R5vs/R6vs]

40 Return equipment [from G3V4vs/R5vs/R6vs]

Verify the required hardware [from G3V4vs/R5vs/R6vs]

Return to Task List

The equipment in this table must be on-site before the upgrade begins.

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Required hardware	
Description	**Quantity**
Basic Control Cabinet	1
WP-91153 Power Unit	1
TN2404, Vintage 3 Processor Circuit Pack	1[1]
TN2401 Network Controller/Packet Interface Circuit Pack	1 [1]
AHF110 TDM/LAN Bus Terminator	2
8 Mbyte Mass-Storage Translation Card (White Card) or 16 Mbyte Mass-Storage Translation Card (White Card) or 48 Mbyte Mass-Storage Translation Card (White Card)	1 [2]
Stiffener (Earthquake mounting only)	1
Earthquake Front Mounting Angle (Earthquake mounting only)	1

1 The TN2404 and TN2401 circuit packs ship inside the Basic Control Cabinet.

2 A 16 Mbyte translation card is required for a system that uses recorded announcements or if a DEFINITY Wireless Business System is installed.

Return to Task List

Provide the required tools [from G3V4vs/R5vs/R6vs]

Return to Task List

This upgrade may require the following tools and other items:

Required Tools		
No.	**Description**	**4**
1	Software Release Letter	
2	Avaya Communication Manager on removable media	
3	Extra formatted removable media	
4	Authorized wrist grounding strap	
5	Documentation (book or PDF file) for the current release: — *Maintenance for Avaya DEFINITY® Server SI* — *Administrator's Guide for Avaya Communication Manager*	
6	Your personal Single Sign-On (SSO) for RFA website authentication login.	
7	SAP order number with RTUs	
8	Look up hardware serial number(s).	

Required Tools		
No.	**Description**	**4**
9	Transaction Record number	
10	System Identification (SID) number	
11	Switch telephone number or IP address	
12	Access to the RFA Information page for these items (if not already installed on your PC): — License Installation Tool (LIT) application — LIT documentation	
13	Adobe Acrobat Reader application installed on your PC (to read FET and LIT documentation)	
14	Internet Explorer 5.0 or higher installed on your laptop/PC	
15	Intranet access to your designated RFA portal (see Go to the RFA website).	

Go to the RFA website

Return to Task List

The Remote Feature Activation (RFA) website automates some of the upgrade procedures, including generating a License File.

1. At your laptop/PC browser, go to the appropriate website:
   - *Associates*: **http://associate2.avaya.com/** or the services portal: **http://usservices.avaya.com/**
   - *Business Partners* go to the appropriate regional Business Partner portal:
     - United States: **http://www.avaya.com/businesspartner/**
     - Canada: **https://www.avaya.ca/BusinessPartner**
     - Brazil: **http://www.avaya.com.br/Home.asp**
     - CALA: **https://cala-businesspartner.avaya.com/mnc/index.html**
     - EMEA: **https://emea-businesspartner.avaya.com/**
     - APAC: **http://www.avaya-apac.com/bp**
   - *Contractors* go to **http://www.avaya.com/services/rfa/**
   - If you are unable to access RFA using your recommended portal, try: **http://rfa.avaya.com**
2. Using your SSO, log in to the RFA website.
3. Follow the links to the RFA Information page.
4. Complete the information necessary to create a License File.

NOTE:
If you have problems with a hardware serial number that is not in the SAP database, go to the If you have problems with RFA section.

G3V4 through Release 9si upgrades only

Direct connection between the switch and RFA

If you are upgrading from G3V4 through Release 9si and you have a direct connection between the switch and RFA:

1. Using your RFA Job Aids, run the Features Extraction Tool (FET) from the RFA website to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. The FET creates and uploads the Switch Configuration File automatically.
4. Do not deliver the License File at this time. You will deliver and install it later in this upgrade procedure.

No connection between the switch and RFA

If you are upgrading from Release 9si and you do not have a direct connection between the switch and RFA:

1. Run the Features Extraction Tool (FET) from your laptop/PC to create a Switch Configuration File.
2. When prompted, type in the Transaction ID number.
3. Use the FET instructions to create a new switch connection profile.
4. Create the Switch Configuration File.
5. Upload the Switch Configuration File to the RFA website.
6. Deliver the License File to your laptop/PC for installation later in this procedure.

If you have problems with RFA

If you get an error message that a hardware serial number is not in the SAP database, you must call the RFA Helpdesk to have them correct the SAP information.

Table 5: RFA Helpdesk contact numbers

Where	Who	Phone number/URL	Prompt or selection
Channel: • U.S. and Canada • Variable Workforce Group • Avaya contractors	 Avaya Associates Members Contractors	877-615-4174	Prompt 8
U.S. and Canada	Business Partners	866-800-5194	Prompt 8

Table 5: RFA Helpdesk contact numbers

Where	Who	Phone number/URL	Prompt or selection
EMEA	Direct and Business Partners	+31-70-414-8720 *or* http://www.avayanetwork.com	Prompt 3 Select GSO; select EMEA
APAC RTAC	Direct and Business Partners	+65-6872-8686	
CALA • Mexico TAC • Brazil TAC • Columbia TAC • Argentina TAC • Mexico Call Receipt	Direct and Business Partners	 +525-278-7878 +5511-5185-6655 +571-616-6077 +5411-4114-4440 +1-720-444-9998	

Return to Task List

Pre-upgrade administration [from G3V4vs/R5vs/R6vs]

Return to Task List

You must make the administration changes prior to the upgrade.

1 Remove Print Messages Feature Access Code

Remove the value from the `Print Messages Access Code` field on the ***Feature Access Code (FAC)*** form. This feature access code allows users to print undelivered messages without having to call the message center.

2 Remove `print-msgs` buttons

If any of the Button Assignments are administered as `print-msgs` (print messages) on the ***Station*** and ***Attendant*** forms, remove these buttons.

3 Remove MSA node names

Remove all MSA node names from the `MSA Names` field on the ***Audix-MSA Node Names*** form.

4 Remove MSA processor channels

If the `Appl.` field on the ***Processor Channel Assignment*** form is

- `msaamwl`
- `msaclk`
- `msahlwc`

- `msallwc`
- `msamcs`

You must remove this administration. These processor channel assignments are used in conjunction with a messaging adjunct that is no longer supported.

5 Remove MET station administration

If the field value in the `Type` field on the ***Station*** form is

- `10MET`
- `20MET`
- `30MET`

You must remove these stations from administration. These Multi-Button Electronic Telephone (MET) stations are no longer supported and will not work after the upgrade.

Return to Task List

Unpack and inspect control cabinet [from G3V4vs/R5vs/R6vs]

Return to Task List

CAUTION:
Take care to avoid injury while cutting and removing bands.

1 Unpack the J58890L control cabinet.

2 Inspect the cabinet for shipping damage.

3 Report any damage according to local procedures.

4 Remove all packing material from the cabinet.

Return to Task List

Install new control cabinet [from G3V4vs/R5vs/R6vs]

Return to Task List

The new control cabinet already contains a processor circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Position the J58890L control cabinet A at the desired location. This should be as close to the MDF as possible.
2. Install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Return to Task List

Install new control cabinet with earthquake protection [from G3V4vs/R5vs/R6vs]

Return to Task List

The new control cabinet already contains a processor circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Position the J58890L control cabinet A at the desired location.
2. Place the front mounting angle at the location selected for the front of the control cabinet.
3. Using the angle as a template, mark the locations of the 2 mounting bolts.
4. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 3.
5. Mount the front mounting angle to the floor (Figure 3, Front mounting angle — concrete floor, on page 148).
6. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with 2 No. 12-24 by 1/2-inch thread-forming screws.
7. Insert a pencil or marker through the 2 holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
8. Remove the 2 screws installed in Step 6, and move the cabinet out of the way.
9. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 7.

10 Move the cabinet back into place.

11 Attach the cabinet to the front mounting angle using 4 No. 12-24 by 1/2-inch thread-forming screws.

12 In the rear of the cabinet, lay the stiffener on the bottom of the cabinet aligning the stiffener with the holes in the bottom of the cabinet.

13 Fasten the cabinet to the floor (Figure 4, Cabinet earthquake mounting — concrete floor, on page 149).

NOTE:
You install the earthquake front plate and earthquake ground plate later in the upgrade procedure.

Figure 3: Front mounting angle — concrete floor

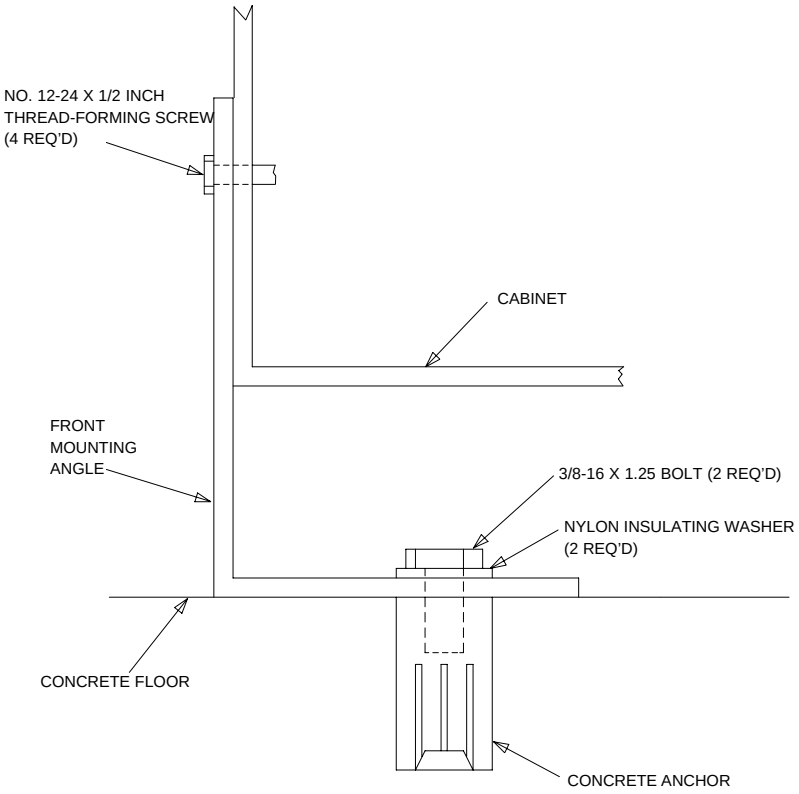
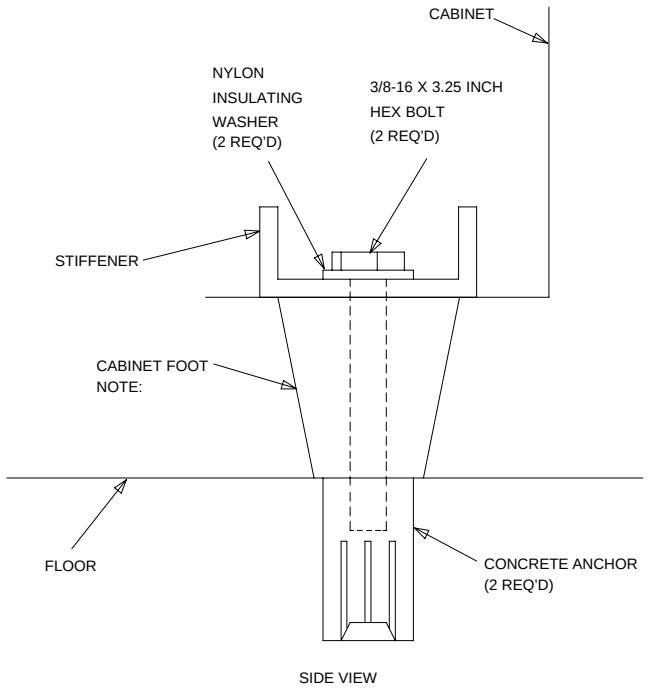


Figure 4: Cabinet earthquake mounting — concrete floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Return to Task List

Label and connect cables [from G3V4vs/R5vs/R6vs]

Return to Task List

1. To make reconnecting the cables simpler and more reliable, label every reusable connector cable in the system.
2. Install new connector cables, as needed, onto the connectors at the rear of the cabinet.
3. Route the cables to the MDF and cross-connect as needed.

Return to Task List

Install TDM/LAN bus terminators [from G3V4vs/R5vs/R6vs]

Return to Task List

1 Install the 2 AHF110 TDM/LAN bus terminators in slots 02 and 20 of the cabinet (see Location of TDM/LAN bus terminators).

Figure 5: Location of TDM/LAN bus terminators

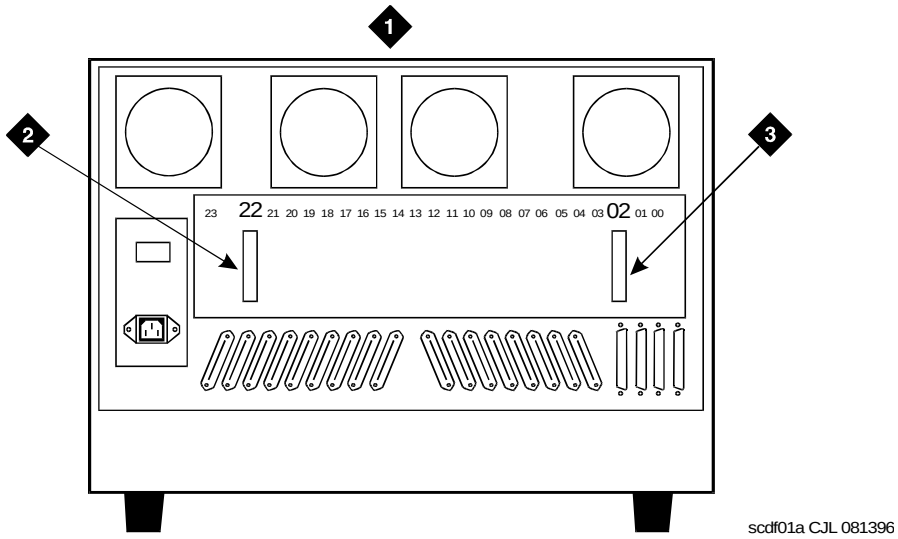


Figure notes

1 Rear of control cabinet
2 TDM/LAN bus terminator in slot 22
3 TDM/LAN bus terminator in slot 02

Return to Task List

Swing existing system into maintenance position [from G3V4vs/R5vs/R6vs]

Return to Task List

1 While lifting on the left side of the existing cabinet, allow the left side to swing outward and to the right.

Check existing software load [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Type **list configuration software-versions memory-resident** and press **Enter**.
2. Record the software load.

Verify system status [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Verify that system status is normal.

   Execute **status system 1** (If status is not normal, take the needed corrective actions.)
2. Verify that the system is alarm-free.

   Execute **display alarms** (If the system is not alarm-free, take the needed corrective actions.)
3. Identify and record customer-placed busy-outs.

   Execute **display errors** (Examine the error log and record the error 18s that identify the busy-outs placed by the customer.)

   NOTE:
   You will restore the customer-placed busy-outs after you have upgraded the system.
4. For a system that has existing BX.25 links that are being retained after the upgrade: identify and record them.

   Execute **display communication-interface links**
5. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**

   If any command does not complete successfully, escalate the problem immediately.

Return to Task List

Disable scheduled maintenance and alarm origination [from G3V4vs/R5vs/R6vs]

Return to Task List

1. To prevent scheduled daily maintenance from interfering with the update or upgrade, type **change system-parameters maintenance** and press **Enter**.
2. If scheduled maintenance:
   - has begun: set the `Stop Time` field to 1 minute after the current time.
   - has not begun: set the `Start Time` field to at least 8 hours after the upgrade starts.

   CAUTION:
   If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.
3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter**.

Return to Task List

Check link status [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Type **display communication-interface *links*** and press **Enter**.
2. Record the enabled links.
3. Type **status link *<number>*** and press **Enter**.
4. Check the following items and record which links are in service. You will need this information after the upgrade.
   - ISDN
   - BX25
   - AUDIX links
   - CMS links at both ends (also check the recovery time)
   - ASAI links at the DEFINITY ECS end
5. Repeat Steps 3 and 4 for each enabled link.

Return to Task List

Record all links and remove only ISDN interface links [from G3V4vs/R5vs/R6vs]

Return to Task List

For R7 and later, ISDN links move to the Net Packet circuit pack. They are not retranslated. If you are upgrading *from any release earlier than R7*, you remove the ISDN links and do not readminister them.

> **NOTE:**
> Any BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot. Remove the TN765 P/I only if the sales team has specified that all adjunct connectivity is being migrated to a TN799 Control LAN (C-LAN) circuit pack.

Use this procedure to identify, record, and remove the ISDN links from the communication link and communication processor forms:

1. Type **display communication-interface links** and press **Enter**. If any links were administered on this form, note them.
2. For each link where the `Prot` field is **ISDN**, record the information in all fields.

   If you must back out of the upgrade, you will need this information.
3. For each ISDN link, type **busyout link [*link*]** and press **Enter**.
4. Type **change communication-interface links** and press **Enter**.
5. For each link where the `Prot` field is **ISDN**, type **n** in the `Enable` field and press **Enter**.
6. Type **display communication-interface processor-channels** and press **Enter**.
7. For each processor channel where the `Application` field is **ISDN**, record the information in all fields.

   If you must back out of the upgrade, you will need this information.
8. Type **change communication-interface processor-channels** and press **Enter**.
9. For each processor channel where the `Application` field is **ISDN**, clear the information from all fields and press **Enter**.
10. Type **change communication-interface links** and press **Enter**.
11. For each PI extension where the `Prot` field is **ISDN** make these entries:

Field	Value
Est Conn	**n**
Prot	**bx25**
DTE/DCE	**dte**
Identification	[blank]

12. Press **Enter**.

13 For each PI extension where the `Application` field is **ISDN**:

a Type **display data-module [*PI EXT*]** and press **Enter**. Record the information in each field.

If you must back out of the upgrade, you will need this information.

b Type **remove data-module [*PI EXT*]** and press **Enter**.

Return to Task List

Save translation [from G3V4vs/R5vs/R6vs]

Return to Task List

NOTE:
To save translations on duplicated systems, the systems must be in sync or the command will fail. *For duplicated systems*, type **status system 1** and press **Enter**.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go into a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

1 Type **save translation** and press **Enter**.

This takes about 10 minutes.

NOTE:
Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2 It the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Keep the translation card in a safe and secure place. In case of failure, you use this translation card to return the system to the old load.

Return to Task List

Save recorded announcements (TN750B) [from G3V4vs/R5vs/R6vs]

Return to Task List

NOTE:
You do not need to save announcements for configurations containing the TN750C or TN2501AP integrated announcement circuit packs, which contain on-board, nonvolatile memory.

Use this procedure for configurations containing the TN750 or TN750B announcement circuit pack. Saving announcements takes about 40 minutes.

1. To determine whether the sytem has recorded announcements, type **display announcements** and press **Enter**.

   If no recorded announcements are listed, you do not have to save announcements.

   NOTE:
   If the customer can verify that no announcements have been changed since the announcements were last saved, you do not have to save announcements. (But if there is any doubt, save announcements!)

2. Type **save announcements** <***port network***> <***carrier***> <***slot***> and press **Enter**.

Return to Task List

List configuration software version [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Type **list configuration software-version** and press **Enter**.
2. Check the `UPDATE FILE` column and make a record of any patches that have been applied.

   If the system has to be restored to the old software, you will need to download the patches onto the system.

Return to Task List

Shut down DEFINITY LAN Gateway system [from G3V4vs/R5vs/R6vs]

Return to Task List

WARNING:
Neglecting to shut down the LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. Log onto the DEFINITY LAN Gateway.
2. From the main menu, click **Maintenance** > **Reset System** > **Shutdown**.

Return to Task List

Shut down the DEFINITY AUDIX system [from G3V4vs/R5vs/R6vs]

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1 Log into the AUDIX as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **reset system shutdown** and press **Enter**.

3 Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power down existing system [from G3V4vs/R5vs/R6vs]

Return to Task List

CAUTION:
Powering down the control cabinet causes loss of important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests. BCMS data cannot be stored to or retrieved from tape or flash.

1 Set the circuit breaker to OFF.

Return to Task List

Remove ground connections [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Remove the 6 AWG (#40) (16-mm^2) ground wire from the ground block on the rear of the G3vs system.

   This wire later attaches to the new control cabinet.

2. Remove the 10 AWG (#25) (6-mm^2) coupled bonding conductor (CBC) wire from the ground block on the rear of the G3vs system.

   This wire later attaches to the new control cabinet.

Return to Task List

Move 25-pair cables from G3V4vs System from G3V4vs/R5vs/R6vs

Return to Task List

1. Remove any reusable 25-pair cables from the rear of the old system.

For G3vs upgrades Cables connecting the wall-mount G3vs and the si cabinet may be too short. If so, replace these cables with new, longer cables.

2. Attach any reusable 25-pair cables to the needed connectors on the rear of the si cabinet.
3. Attach any *new* 25-pair cables to the needed connectors on the rear of the si cabinet.
4. Route the new cables to the MDF and attach.

Return to Task List

Move management terminal cable from G3V4vs/R5vs/R6vs

Return to Task List

1. Remove the management terminal cable from the rear of the G3vs.
2. Attach the management terminal cable to the rear of the si system.

Return to Task List

Move circuit packs from G3V4vs/R5vs/R6vs

Return to Task List

1. Label each port circuit pack in the G3V4vs with its slot number.
2. Remove all circuit packs from the G3V4vs. Store the circuit packs in the static-proof packaging.
3. Remove and keep all circuit pack blanks.
4. Install the power unit and the remaining control circuit packs into the new si cabinet.
5. Install the port circuit packs into their corresponding slots in the control cabinet.

   The new control cabinet has more port slots than the G3V4vs cabinet so you should not need to retranslate these circuit packs.
6. Install blank face plates in any vacant slots.
7. Insert the old translation card into the Net/Pkt interface circuit pack.

Return to Task List

Verify TDM cables and connectors [from G3V4vs/R5vs/R6vs]

Return to Task List

Verify that the system has the correct TDM/LAN cables and TDM terminators installed. Using this table as a reference, visually inspect the PPN and EPN connections.

Cabinet	TDM/LAN cable	TDM Terminator
SCC1	WP-91716 L3	AHF110
MCC1	WP-91716 L6 and L7 (older cables have blue labels; yellow labels are newer)	ZAHF4

Return to Task List

Connect control cabinet power and ground [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Connect the 6 AWG (#40) (16-mm^2) wire from the single-point ground block on the control cabinet to the approved ground (see Typical AC power and ground layout).

   This wire was previously used on the DEFINITY vs cabinet.
2. Connect the 10 AWG (#25) (6-mm^2) wire between the cabinet single-point ground block and the CBC.

   This wire was previously used on the DEFINITY vs cabinet.

3 Connect the supplied cabinet AC power cord to the AC receptacle on the rear of the control cabinet. Plug the opposite end of the cord into the dedicated electrical outlet.

Figure 6: Typical AC power and ground layout

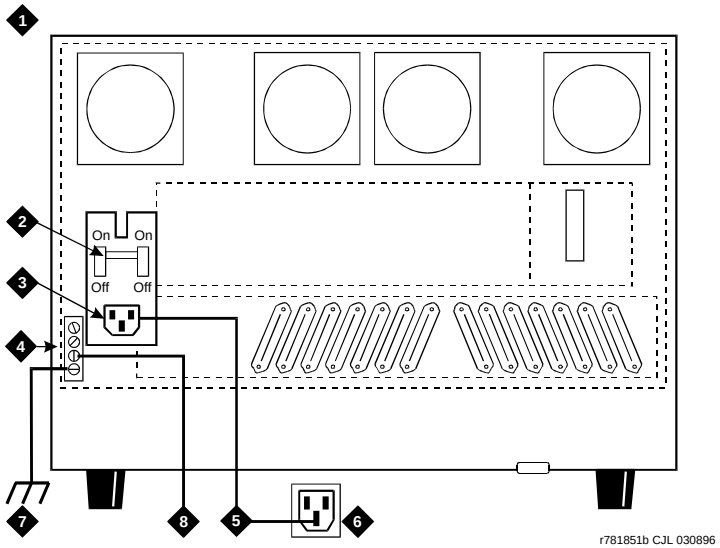


Figure notes

1	Control cabinet	**5**	NEMA 5-15 or 5-20 receptacle or equivalent
2	Circuit-breaker receptacle	**6**	6 AWG (16-mm^2) CABINET GROUND wire to approved ground
3	Single-point ground block	**7**	10 AWG (6-mm^2) wire to CBC
4	8-ft power cord (2.5 m)		

Return to Task List

Power up [from G3V4vs/R5vs/R6vs]

Return to Task List

Set the circuit breaker to ON.

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap (Comcode 900698226) when handling all system components.

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1 Power up the AC- or DC-powered system.

For Single Carrier Cabinets (SCC1)	
System	**Steps**
AC	**a** Set the switch on the AC power panel to ON position (up). **b** Set the cabinet circuit breakers to ON. This starts the system initialization and test. All red LEDs on the circuit packs go on and then off.
DC	**a** At the DC Battery Cabinet (if installed), set the circuit breaker to ON. **b** At the DC Power Cabinet, set the circuit breaker(s) on the rectifiers to ON. This starts the system initialization and test. Some red LEDs may be turned on, but they are turned off during the boot-up process. No action is required.

The results of system tests display on the monitor.

2 Verify that all tests pass.

If any of the terminal messages indicate a test has failed or if the message `spe down mode` is displayed, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble.

Return to Task List

Deliver or install the License File [from G3V4vs/R5vs/R6vs]

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

3 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

4 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

5 Type **reset system 4** and press **Enter**.

Wait until the system has completely reset before continuing.

6 Type **change cabinet 1** and press **Enter**.

In the `Carrier Type` column change the "B" carrier to **processor** and submit the form.

7 Type **change system-parameters duplication** and press **Enter**.

Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.

8 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

9 Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

2 Type **reset system 3** and press **Enter**.

Wait until the system has completely reset before continuing.

3 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Administer No-License/Emergency Numbers [from G3V4vs/R5vs/R6vs]

Return to Task List

If the system enters a No-License mode, the switch only processes emergency calls. Use this procedure to adminster the emergency numbers for No-License mode situations.

1 At the SAT, type **change system-parameters features** and press **Enter**.

The ***Feature-Related System Parameters*** screen displays.

2 In the `Emergency Numbers - Internal` field (optional) type a valid extension.

NOTE:
This field is intended for campus environments where there is an internal emergency number that people are directed to use instead of 911. Calls to other extensions will not go through. This number cannot be a hunt group or ACD number.

3 In the `Emergency Number - External` field (required) type a 21-digit, dialpad-valid character string that can include trunk access codes. The default for this field is **911**.

4 In the `No-License Incoming Call Number` field (optional) type a valid extension.

NOTE:
All calls are not rerouted to this number; only calls to this number get through. This number cannot be a hunt group or ACD number.

5 Press **Enter** to save the changes.

Set Daylight Savings rule [from G3V4vs/R5vs/R6vs]

Return to Task List

1 If your area does not use daylight saving time, set the value of `Daylight Savings Rule` to **0**; otherwise, set `Daylight Savings Rule` to **1**.

Figure 7: Typical Date and Time Screen

```
                  DATE AND TIME
DATE
     Day of the Week: Tuesday    Month: June
    Day of the Month: 26          Year: 2000

TIME
    Hour: 20 Minute: 30  Second: XX   Type: standard
          Daylight Savings Rule: 1
```

Return to Task List

Check customer options [from G3V4vs/R5vs/R6vs]

Return to Task List

High or Critical Reliability

1 Verify that the switches are in **auto**: Type **status system 1** and press **Enter**.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go onto a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

All

1 Type **display system-parameters customer-options** and press **Enter**.

Check that the `G3 version:` field is **V11**.

Return to Task List

Verify the upgrade [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Execute **status system 1** and verify that the system is in a normal state.
2. Type **display alarms** and press **Enter**.

   If the system is not alarm-free, take the needed corrective actions.
3. Type **list configuration software-version** (simplex) or **list configuration software-version *long*** (duplex) and press **Enter**. Check the `Memory Resident` field to verify that it shows the correct software load.
4. Type **display communication-interface links** and press **Enter**.

   Status each of the links.

   NOTE:
   ISDN-PRI D-channel links no longer appear on this screen. (For release 7 and later, ISDN-PRI resides on the network packet circuit pack.) For release 7 and later, the only way to determine if an ISDN-PRI D-Channel is up is to use the status signaling group command.
5. Type **list signaling-group** and press **Enter**. For each signal, execute **status signal <*number*>**.

   Validate that all the signal groups that should be operational are in service.
6. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**
7. For duplicated systems only, execute **status system 1**

Return to Task List

Restore busyouts [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Restore any busyouts that you removed in the Verify system status [from G3V4vs/R5vs/R6vs] section prior to the upgrade.

Run acceptance tests [from G3V4vs/R5vs/R6vs]

Return to Task List

Run any acceptance tests that are appropriate for this upgrade. The acceptance tests are listed in these 3 checklists:

Test single-carrier cabinet systems

Test multi-carrier cabinet systems

Test telephones and other equipment

For details of the tests, see

Test the System

Test Telephones and Other Equipment

Test single-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test Time Division Multiplexing Bus in Processor Port Network
4. Test Tone-Clock Boards
5. Test Expansion Interface Circuit Packs
6. Test Time Division Multiplexing Bus for Each Expansion Port Network
7. Test Tone-Clock for Each Expansion Port Network
8. Test Tone-Clock Interchange for Each Expansion Port Network
9. Test Expansion Interface Exchange for Each Expansion Port Network
10. Check Circuit Pack Configuration
11. Save Translations, if Required

Test multi-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test TDM Bus in PPN
4. Test Tone-Clock Circuit Packs
5. Test SPE Duplication Memory Shadowing Link
6. Test Duplicated Switch Processing
7. Element Interchange
8. Test Expansion Interface Circuit Packs
9. Test TDM for each EPN
10. Test Tone-Clock for each EPN

11 Test Tone-Clock Interchange for each EPN
12 Test Expansion Interface Exchange for Each EPN
13 Check Circuit Pack Configuration Again
14 System Test Completion
15 LED Indicators

Test telephones and other equipment

1 Make Test Calls
2 Test 302C Attendant Console
3 Test External Ringing
4 Test Queue Warning Indicator
5 Test Integrated Announcement
6 Test Music-on-Hold
7 Test Emergency Transfer
8 Test Remote Access Interface
9 Test Basic Rate Interface
10 Test Duplication Option Processing
11 Element Interchange
12 Test Terminating Trunk Transmission
13 Test Stratum 3 Clock
14 Perform Complete System Test
15 Activate and Test Alarm Origination Feature

Return to Task List

Enable Scheduled Maintenance and Alarm Notification [from G3V4vs/R5vs/R6vs]

Return to Task List

1 Type **change system-parameters maintenance** and press **Enter**.
2 Enable the scheduled daily maintenance.
3 If you changed the `Start Time` or `Stop Time` field, change it back to the original time.
4 Re-enable alarm notification.

Register the switch for maintenance [from G3V4vs/R5vs/R6vs]

Return to Task List

The Automatic Registration Tool (ART) is a web-based tool that permits field technicians and TSO Database Administration (DBA) to register U.S. direct channel products.

The product that you are registering must have switch connectivity through:

- The INADS line
- An IP address

NOTE:
ART is not accessible from the public internet (outside the Avaya intranet firewall).

1 At your laptop/PC, direct your browser to this URL:

http://spiexp1.eng.avaya.com:8000/cgi-bin/ART/ARTstart.cgi

You can also save this URL in your *Favorites* or *Bookmarks* list.

The ART User Menu displays.

2 Click on the *Register a Product* button.

The Enter Network Password dialog box appears.

3 Type your ART **User Name** and **Password** in the indicated fields.

NOTE:
ART user IDs and passwords are unique to ART, and are not the same as other user IDs and passwords. If you are a first-time user and do not have an ART user ID and password:

a Go back to the ART User Menu and click on the *Administer My User ID/Password* button.

b Follow the instructions on the User ID and Password page to create your ART user ID and password.

Unless you exit and restart your browser, you do not need to re-enter your user ID and password to perform other ART operations.

The ART Start of Product Registration page appears, and the ART session ID appears in the middle of the screen.

4 Type the Installation Location or Sold-To data in the `FL/Sold-To Number` field.

NOTE:
Sold-To number replaces the FL numbers as customer-site identifiers in the Maestro database.

- Sold-To numbers are typically 7 digits long, sometimes beginning with an upper-case “S” followed by two zeros, for example: **S001234567**.
- FL numbers are 10-12 letters or digits.

5 In the `Session Type` field, select:

— *NEW INSTALL REGISTRATION* for products that are initially installed at a customer site.

— *UPGRADE REGISTRATION* for all subsequent product registrations.

6 In the `Product Type` field choose *DEFINITY* for the following products:

7 Click on the *Start Product Registration* button.

8 If the data you have entered matches a Maestro database record, the Customer Verification page appears.

9 Verify the information in the `Customer Name` and `Customer Address` fields.

If the information is not what you expected, ensure that you entered the customer's FL/Sold-To number correctly (Step 4 above). If you entered an incorrect number:

a Click on the *Abort Upgrade Registration Session* button at the bottom of the screen.

CAUTION:
DO NOT exit your browser to abort the session. This can result in an incomplete upgrade registration.

b Return to the ART User Menu page to begin a new session.

If the FL/Sold-To number matches multiple customers in the database, ART displays the name and address of each customer with a button to select for this registration session.

10 In the `Customer Type` field, select

— *GOODYEAR, MOTEL 6, STATE FARM*

— *IN CINCINNATI BELL SERVICE AREA*

— *OTHER*

11 Click on the *Continue Upgrade Registration* button.

The DEFINITY Product List page appears.

12 Look in the product table (first column heading is "#") to find the row for the product that you want to register. Click on the number in the far-left column ("#") of the correct row.

NOTE:
It might be helpful to identify the product by looking at the *Product Nickname*, *Product Alarm ID*, *INADS Number*, *Serial Number*, or *IP Address* columns in the table.

If the product is not shown in the table, or if you are not sure whether a listed product is the one you want to register, contact the DBA group for assistance (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2).

Four new fields appear.

13 In the `Data Lock` field, choose:

— *YES* for products with ASG enabled

— *NO* for all others

14 In the `Dialing Type` field choose the dialing type that the product will use to report alarms:

— *DON'T CHANGE* to leave the product's dialing type unchanged

— *TONE* for DTMF dialing

— *PULSE* for rotary or pulse dialing

15 In the `Alarm Origination` field choose:

- *DON'T CHANGE* to leave the product's current alarm origination status unchanged (the common choice for upgrades).
- *YES* to enable alarm origination.
- *NO* for no alarm origination.

16 In the `Alarm Destination` field, choose

- *DON'T CHANGE* to leave the product's currently-administered alarm origination number unchanged (the common choice for upgrades).
- *SET NUMBER TO* and type the complete alarm destination telephone number, including any dialing prefix (for example, "9" or "*9"). The default value in this field is the TSO-Denver number (18005353573).

17 Click on the *Continue Registration* button at the bottom of the page.

ART begins automatically registering the product and displays progress messages to indicate the current status.

CAUTION:
DO NOT exit your browser or click on the **Refresh**, **Back**, **Stop**, or **Home** buttons while ART displays these progress messages.

If you have to abort your registration, click on the **Abort Session** button that appears with one of the progress messages.

If the preceding steps have been completed successfully, ART displays the DEFINITY Upgrade Registration Report.

18 Review the information displayed in the report.

If any of the data are incorrect, contact the DBA Group (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2) immediately for assistance.

19 Save the DEFINITY Upgrade Registration Report in a file for future reference or print the report and keep the copy.

Return to Task List

Restore announcements [from G3V4vs/R5vs/R6vs]

Return to Task List

This step is not required for systems using TN750C announcement circuit packs. You must restore announcements for the TN750 or TN750B

1 Type **restore announcements** and press **Enter**.

This command takes about 45 minutes to execute.

Rerecord announcements [from G3V4vs/R5vs/R6vs]

Return to Task List

If you have not saved and restored announcements during the upgrade, the customer must re-record all announcements now.

If the customer changed any announcements after the they provided the source tape for the blowback flash card, the customer must re-record the new announcements.

Return to Task List

Save announcements and translation [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Remove the original translation card(s) from the TN2401 NetPkt circuit packs. These cards are not formatted to be used with the new TN2401.
2. Insert the new translation card(s) into the TN2401 circuit packs.
3. Type **save announcements** and press **Enter**.

   NOTE:
   Use this step only for systems equipped with the TN750 or TN750B announcement circuit pack.

   This takes about 45 minutes.
4. Type **save translation** and press **Enter** to copy upgraded translations in memory to the new translation card, which takes about 20 minutes.

   NOTE:
   It takes longer to save translations to the new, larger flashcards.

   NOTE:
   Do not press any keyboard key until after the screen displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

   NOTE:
   If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

   Keep the translation media in a safe and secure place.

Disassemble the G3V4vs System [from G3V4vs/R5vs/R6vs]

Return to Task List

1. Remove any unused 25-pair cables from the rear of the system.
2. Loosen the 4 shoulder screws that hold the cabinet to the mounting plate (see Figure 8, Exploded view of DEFINITY vs cabinet, on page 171).
3. Remove the locking screw that holds the cabinet to the center of the mounting plate.
4. Return the system cabinet to its locked operating position.
5. Align the 4 shoulder screws with the keyhole slots and remove the cabinet from the mounting plate.
6. Remove the 5 lower wood screws from the wall plate and loosen the top 2 wood screws.
7. Remove the mounting assembly.
8. Remove the top 2 wood screws.

Figure 8: Exploded view of DEFINITY vs cabinet

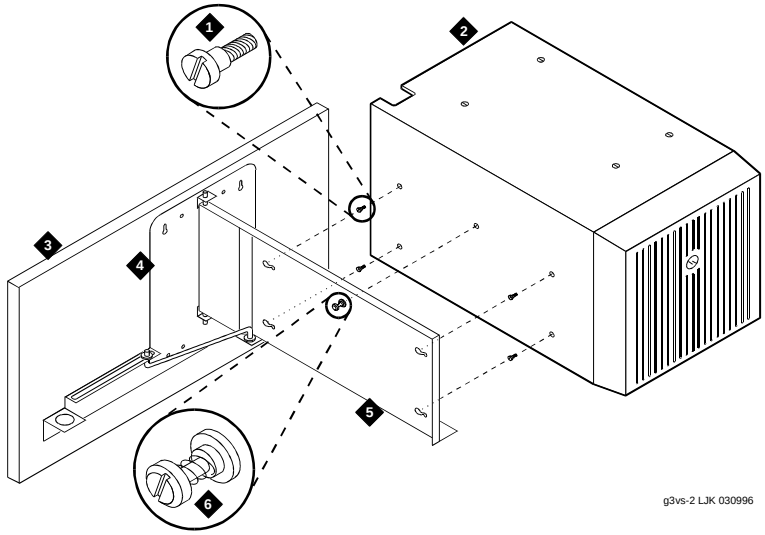


Figure notes

1	Shoulder screws	**4**	Wall-mounting plate with keyhole slots
2	Compact single-carrier cabinet	**5**	Cabinet support bracket
3	Plywood sheet	**6**	Locking screws on spring-loaded housing

Return to Task List

Return equipment [from G3V4vs/R5vs/R6vs]

Return to Task List

The Return of Excess & Unused Equipment on Sales Orders is a process for returning excess and unused equipment from customer premises to Avaya.

- When the Project Manager completes a project sales order in SAP or the Technician completes a non-project sales order in Workbench, a return order is created in SAP for any items that were on the sales order, but not installed. Credit is provided to the customer on the initial invoice.
- The Project Managers and technicians are accountable for returning the equipment until the carrier has picked it up. If the carrier does not pick up the equipment, the Services Cost Center in which they reside is charged for the cost of the equipment.

Helpful links

- You can access the *Open Return Order Report* under "Jeopardy Report" at: http://nccc.usaw.avaya.com/portal/
- Get the *Equipment Pick Up Request Form* at: http://nccc.usaw.avaya.com/forms/EquipPickUp/
- Visit the *Reverse Logistics Web Site* at: http://cobldw2ksvr/Reverse%20Logistics/ to view the updated process document in the Cancellation Folder, file name (pd_Return of Excess and Unused Equipment on Sales Orders.doc).

Return to Task List

AC-powered cabinet port carrier power upgrade compatibility

AC-powered cabinet port carrier power upgrade information					
Port Carrier From Oldest To Newest & Product Used on	**Backplane & Assembly Comcode**	**SD/CD Drawings & Functional Difference From Previous Version**	**Left Hand Power Slot (POS 00) Choices**	**1.25" Wide Power Slot (POS 01) Choices**	**Right Hand Power Slot (POS 22) Choices**
J58890BB-2,L1 R1V1 - R1V3	PWJ58890BB-1,L2 104 325 410	SD-66982-01 CD-66982-01 -5V only from POS 01	631AR +5V 631WA +5V 631DA +5V	TN736 -5V TN752 -5V,-150V	631BR -48V 631WB -48V 631DB -48V, -5V Backplane doesn't wire -5V to this POS, so POS 01 supplies needed for -5V
J58890BB-2,L2 or J58890BB-3,L2 R1V3,G1 eff. 11/IV/88 week	PWJ58890BB-2,L3 105 450 514	SD-66982-02 CD-66982-02* -5V from POS 01 or POS 22 POS 01 now for service circuits	631AR +5V 631WA +5V 631DA +5V	TN736 -5V TN752 -5V,-150V	631BR -48V 631WB -48V
				Choices for use with 631DB only: TN755B-150V TN2036 Test V	631DB -48V, -5V
J58890BB-2,L3 or J58890BB-3,L3 G1 DC G2 AC&DC 3rd QTR 1989	PWJ58906BA-1,L1 105 519 623	SD-66982-03* CD-66982-03* Duplicated Power Ready No old supplies allowed.	See Do Not Use Note. 631DA +5V	TN755B -150V TN2036 Test V	631DB -48V, -5V

AC-powered cabinet port carrier power upgrade information					
Port Carrier From Oldest To Newest & Product Used on	**Backplane & Assembly Comcode**	**SD/CD Drawings & Functional Difference From Previous Version**	**Left Hand Power Slot (POS 00) Choices**	**1.25" Wide Power Slot (POS 01) Choices**	**Right Hand Power Slot (POS 22) Choices**
J58890BB-3,L3 or J58890BB-3,L3,W G1,G2,G3 10/II/90 week	PWJ58906BA-1,L2 106 048 150	SD-66982-04* CD-66982-04* 2nd Tone-Clock & EI slot for dup.EPN No old supplies allowed.	See Do Not Use Note. Slot 631DA +5V	 TN755B-150V TN2036 Test V	 631DB - 48V, -5V

* Not completed drawing.

NOTE:
Do Not Use: Old power supplies (631AR, 631BR, 631WA, and 631WB) are not to be used in this carrier because if they are mixed and matched with new power supplies, (631DA and 631DB) in the this carrier the old power supply shorts out the new power supply that is installed at the other end of the carrier. In a hot plug-in situation this can cause arcing that damages backplane pins and power supply connector contacts.

Notes

- POS is an acronym for Board Position. This has also been referred to as the Equipment Location(EQL) and the Physical Slot Number in previous documentation.

  These numbers appear etched or silkscreened on the wiring side of the backplanes. *They are not the same as the slot numbers on the front carrier label!*

- The assembly comcode for the backplane has been included because backplane and carrier marking over the years has been inconsistent; the comcode appears etched or silkscreened on the wiring side of most backplanes.
- -150V is the voltage for TN769's & TN746's that are powering neon lamps in analog message waiting phones.
- Test V means Test Backplane/Carrier Voltages. Previously all the POS 01 power supplies provided test points for the different DC voltages on the backplane. The TN2036 provides that functionality.

Alarm connections

Table 6: AUXILIARY connector appearances

System	Alarm monitor appearances
System 75 XE	1M, 1m, 2M, 2m, 3M, 3m, 3W
R 7si	1M, 1m only

The system you are upgrading may use more than 1M and 1m alarm-monitor appearances. If so, use one of the following methods to redistribute the alarm-monitor appearances:

Redistribution methods

- Distribute the alarms to the AUXILIARY connector on an R7si EPN.
- Parallel the alarms to the connections shown in the table above.
- "Gang" the alarms so that several external devices share the same appearance.

  Note that:

Results of ganging method

  — When several external devices are ganged to the same appearance, each device loses its individual identity.

  — An alarm on a shared appearance denotes only that one of several devices reported a problem. Subsequent maintenance effort is needed to determine which device reported the problem and the nature of the problem.

  — The control circuit pack behind the AUXILIARY connector detects external alarms with a ground-detector chip. Therefore, if you gang several external devices, every device must be able to return a true relay ground closure to the AUXILIARY connector. (Alternatives such as a TTL low driver are inadequate.)

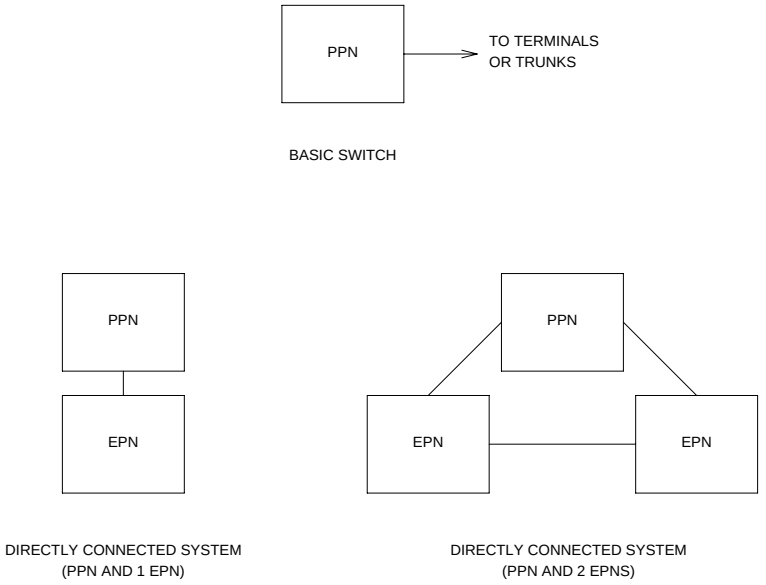
Port-network configurations

Consider the following:

- Every DEFINITY si port-network configuration holds 1 PPN. This can be either a multicarrier or single-carrier cabinet.
- Larger configurations can contain either 1 or 2 EPNs.
- As shown in si port-network configurations, the 3 main port-network configurations include:
  - Basic system that holds only a PPN
  - Directly connected systems that hold:
    - 2 port networks (PPN and EPN) connected directly together
    - 3 port networks (PPN and two EPNs) connected directly together
- Upgrading a System 75 system to an R7si or later system offers an optional 2nd and 3rd port network.

- Each port network with single-carrier cabinets allows the system to grow by 1 expansion control cabinet and up to 3 more port cabinets. These EPN cabinet stacks are the same as the DEFINITY-style EPN stacks that were first available for G1 systems.

Figure 9: si port-network configurations



Install Fiber Optic Cable Pass-Thru Kit for MCC1 (Multicarrier) Cabinets

This section details the installation of the fiber optic pass-thru kit for multi-carrier cabinets (MCC1) only. This kit provides the equipment necessary to install the fiber optic connectors and associated cabling.

Install the fiber optic cable pass-thru kit (MCC1)

Use this task list to install the fiber optic cable in the MCC1 (multicarrier) cabinet:

1. Prepare the cabinet
2. Install the Pass-Thru Kit
3. Test the Installation

LASER Product

CLASS 1 LASER PRODUCT
IEC 825 1993

The Avaya Media Gateway may contain a Class 1 LASER device if single-mode fiber optic cable is connected to a remote Expansion Port Network (EPN). The LASER device operates within the following parameters:

- Maximum Power Output: -5dBm
- Wavelength: 1310 nm
- Mode Field Diameter: 8.8 microns

CAUTION:
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Contact your Avaya representative for more information.

Prepare the cabinet

Return to Task List

1. Verify the equipment received.

   See Fiber pass-thru kit equipment. Actual equipment may vary in appearance and may ship in separate packages.

2. Open the front door.

   NOTE:
   Administration may be required before removing the circuit pack in the following step.

3 Determine which slot (1 or 2) will contain the new fiber optic circuit pack. Remove the circuit pack or the blanking plate from this slot.

NOTE:
If a circuit pack is removed from the required slot, it must be installed into a different slot in the cabinet. All translations associated with this circuit pack must also be moved.

4 Remove the circuit pack or the blanking plate from the slot next to the slot determined in Step 3. Two consecutive open slots are required to install the fiber optic adapter.

NOTE:
If a circuit pack was removed in Step 4, it will be replaced into the same slot in the next procedure.

5 Install the new circuit pack.

6 Open the rear door.

7 From the rear, remove the I/O cable connector plate associated with the slot that will contain the new fiber optic circuit pack. See Figure 11, Remove the I/O cable connector, on page 180.

8 Using a supplied cable tie, secure the removed I/O connector to nearby cabling. See Figure 12, Secure the I/O cable connector, on page 181.

9 From the front, remove the fan cover. See Figure 13, Remove the fan cover, on page 182.

Figure 10: Fiber pass-thru kit equipment

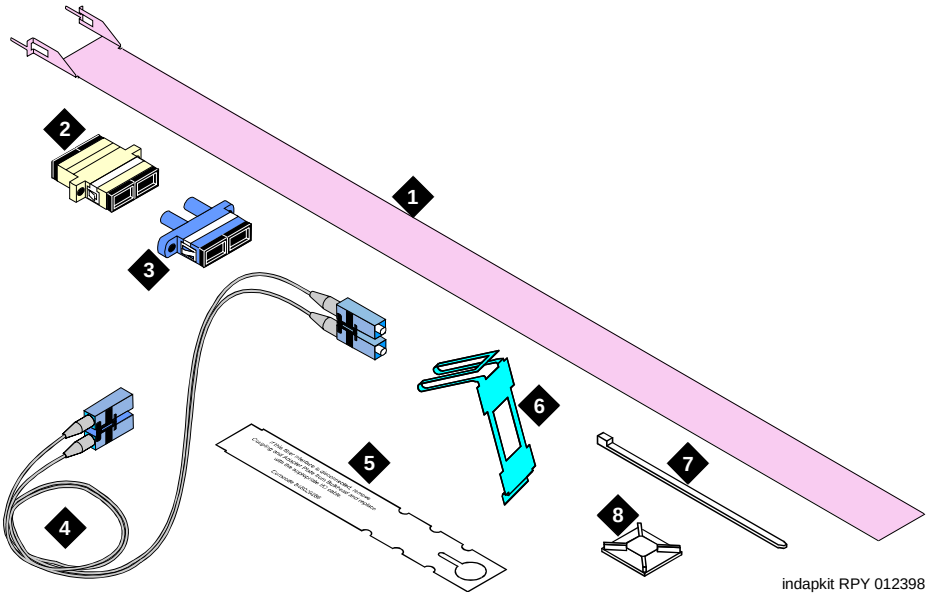


Figure notes

1	Pass-thru Tool	**5**	Fiber Optic Cable Disconnect Label
2	SC-SC Fiber Optic Adapter	**6**	I/O Connector Adapter Bracket
3	ST-SC Fiber Optic Adapter	**7**	Cable Tie
4	Fiber Optic Cable (Multimode or Single-mode)	**8**	Cable Tie Mount

Table 7: Fiber Pass-Thru Kit Equipment list

List of Fiber Pass-Thru Kit Equipment	
Quantity	**Description**
1	Pass-thru Tool
1	Beige SC-SC Fiber Optic Adapter (multimode)
1	Beige ST-SC Fiber Optic Adapter (multimode)
1	Ten-foot (3 m) Fiber Optic Cable (multimode)
1	Beige SC-SC Fiber Optic Adapter (single-mode)
1	Beige ST-SC Fiber Optic Adapter (single-mode)
1	10-ft. (3 m) Fiber Optic Cable (single-mode)
1	I/O Connector Adapter Bracket
1	Fiber Optic Cable Disconnect Label
10	Cable Ties
6	Cable Tie Mounts

Figure 11: Remove the I/O cable connector

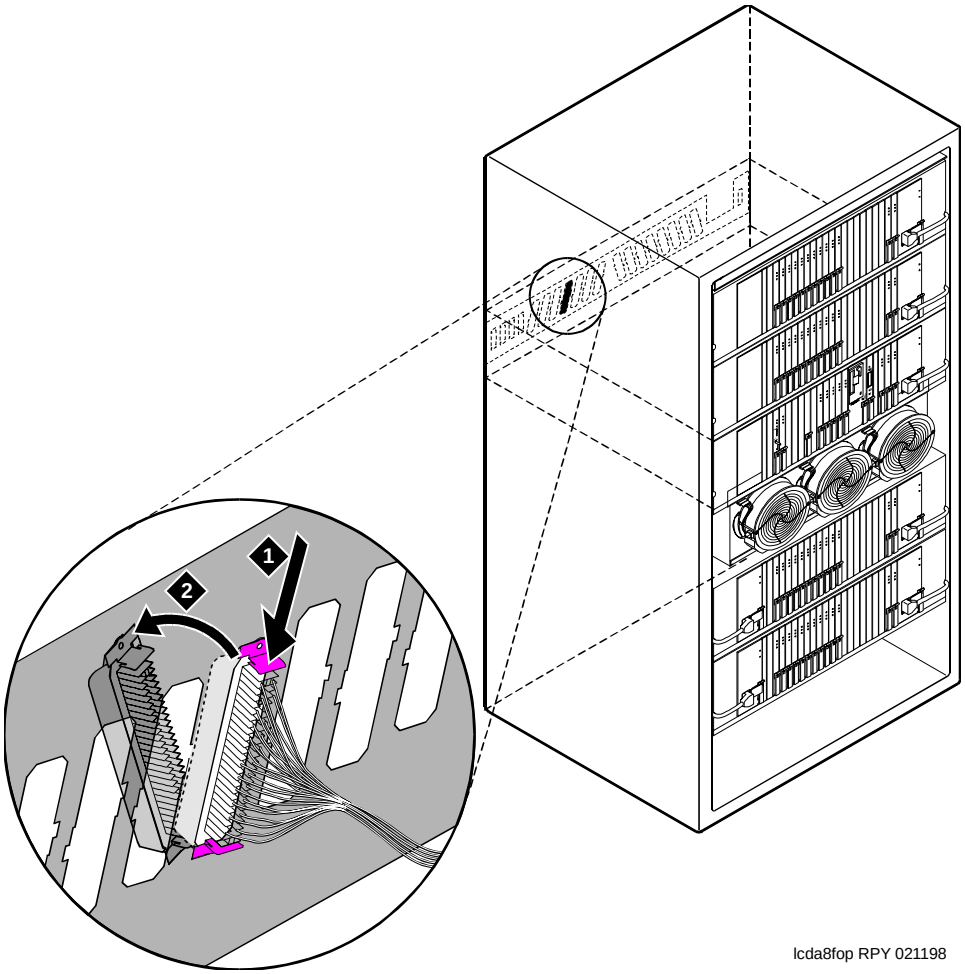


Figure notes

1 Press tab down. **2** Pull connector forward.

Figure 12: Secure the I/O cable connector

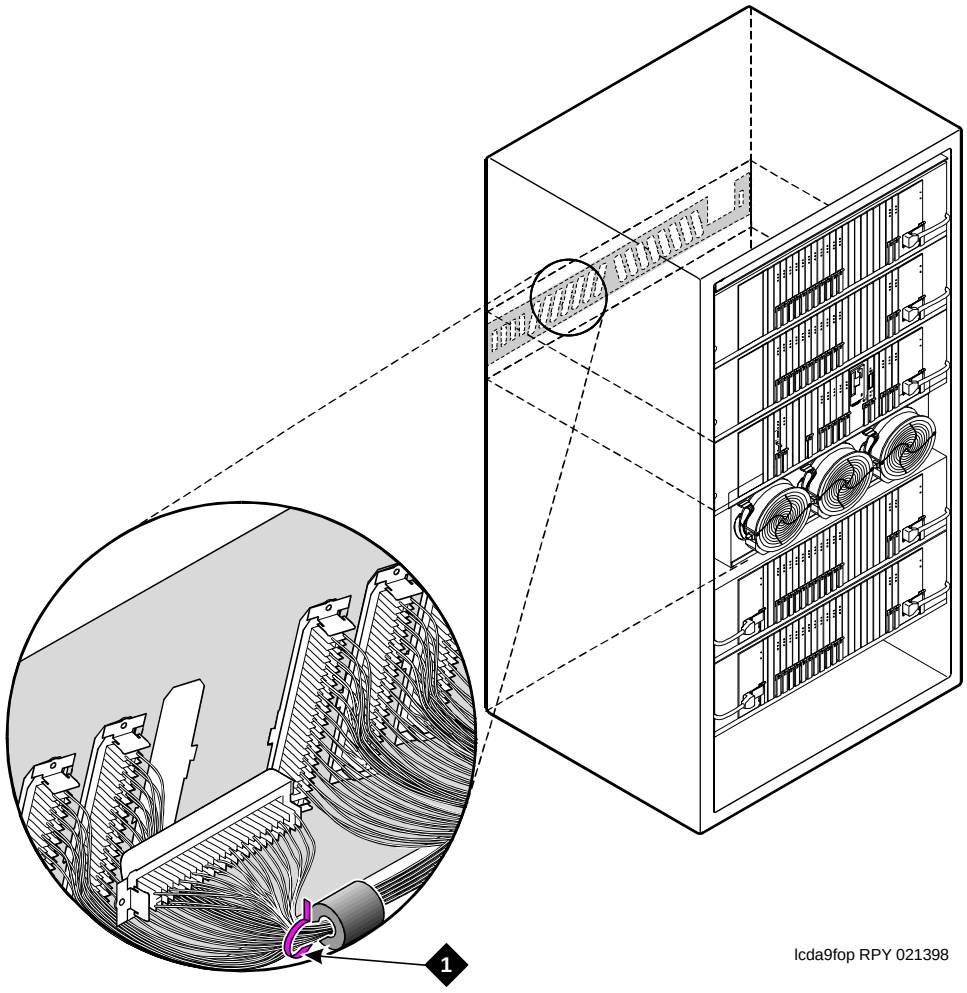
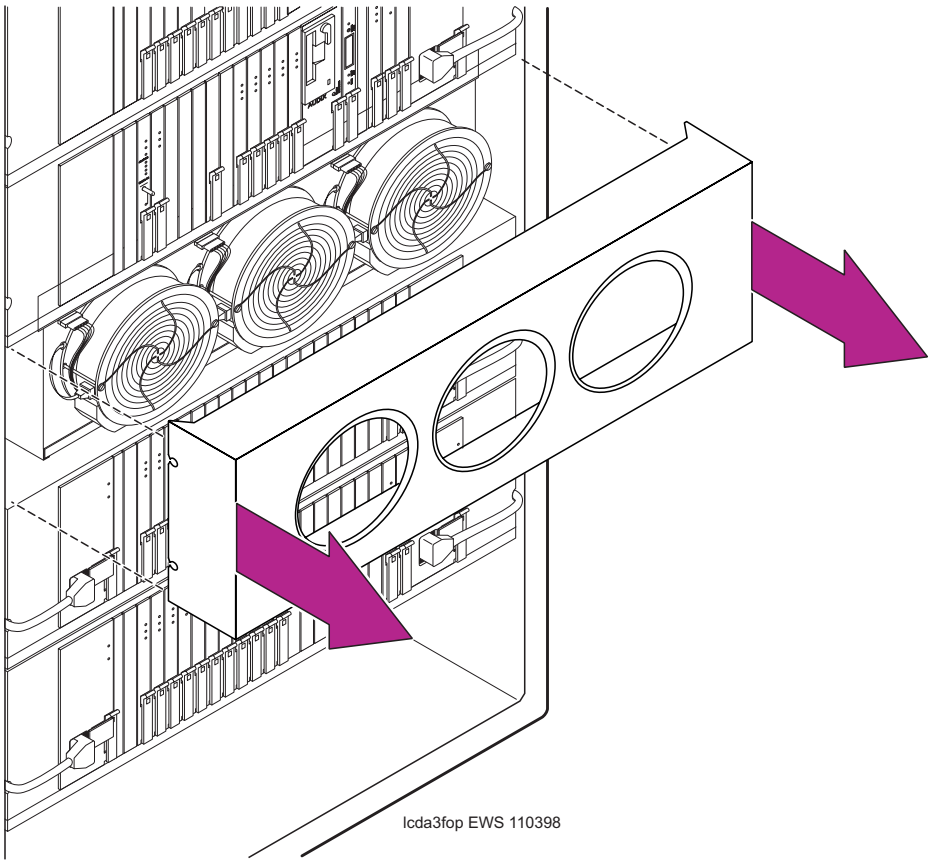


Figure notes

1 Press tab down.

Figure 13: Remove the fan cover



Install the Pass-Thru Kit

Return to Task List

1. Snap the beige SC-SC fiber optic adapter onto the pass-thru tool. See Figure 14, Fiber optic adapter and pass-thru tool, on page 184.

   Use the beige adapter even if single-mode fiber is being installed. The beige adapter is better suited for cable routing in the next steps.

   If single-mode fiber is being installed, the beige adapter will be replaced with a blue adapter later.

2. Slide the pass-thru tool to the rear of the cabinet. See Figure 15, Insert the pass-thru tool, on page 185.

3. Slide the tool to the rear of the cabinet.

CAUTION:
Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables.

CAUTION:
During the actual installation of fiber optic components, use either all beige or all blue adapters. Beige denotes multimode fiber and blue denotes single-mode fiber. Do not mix beige with blue.

4 Attach the supplied fiber optic cable to the adapter.

5 Pull the tool (with adapter and cable attached) out through the front of the cabinet. See Figure 16, Fiber Optic Cable and Adapter, on page 186.

6 From the rear, route the fiber optic cable through the opening vacated by the I/O cable connector.

7 If necessary, remove the beige fiber adapter from the tool and plug the fiber optic cable into the SC-SC (single-mode) or SC-ST (multimode) adapter. See Figure 17, Bracket Attachments, on page 187.

8 From the front of the I/O connector adapter bracket (with fiber cable), snap the adapter into the supplied I/O connector adapter bracket.

9 Snap the I/O connector adapter bracket into the I/O connector opening.

10 Attach the outside fiber plant to the I/O connector on the rear of the cabinet.

11 Wrap the cable disconnect label around the fiber optic cable. See Figure 18, Cable disconnect label, on page 188.

Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables. Plan the use of cable ties to avoid crimping the cable or creating a fixed stress point where, at a later time, movement of the cable causes it to exceed the minimum bend radius.

12 Close the rear door.

CAUTION:
Be careful not to crimp the fiber cable when you replace the fan cover.

13 Replace the fan cover. See Figure 19, Replace the fan cover, on page 189.

14 Connect the fiber cable to the angled connector on the front of the circuit pack. See Figure 20, Connect fiber cable to circuit pack, on page 190.

NOTE:
Dress the fiber optic cable straight down the front of the circuit pack. Do not allow the cable to cross in front of another circuit pack.

15 Dress the cable using the supplied cable ties and cable tie mounts. See Figure 21, Dress the cable, on page 191.

16 If a circuit pack was removed in the previous procedure to access 2 open slots, replace the circuit pack into its original slot.

17 Close the front door.

18 Discard the pass-thru tool.

Return to Task List

Figure 14: Fiber optic adapter and pass-thru tool

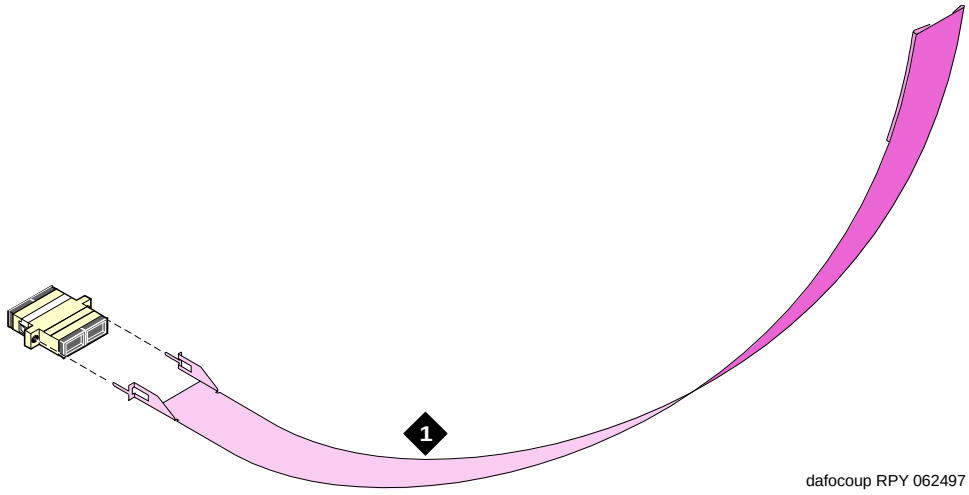


Figure notes

1 Pass-thru Tool **2** Beige SC-SC Fiber Optic Adapter

Figure 15: Insert the pass-thru tool

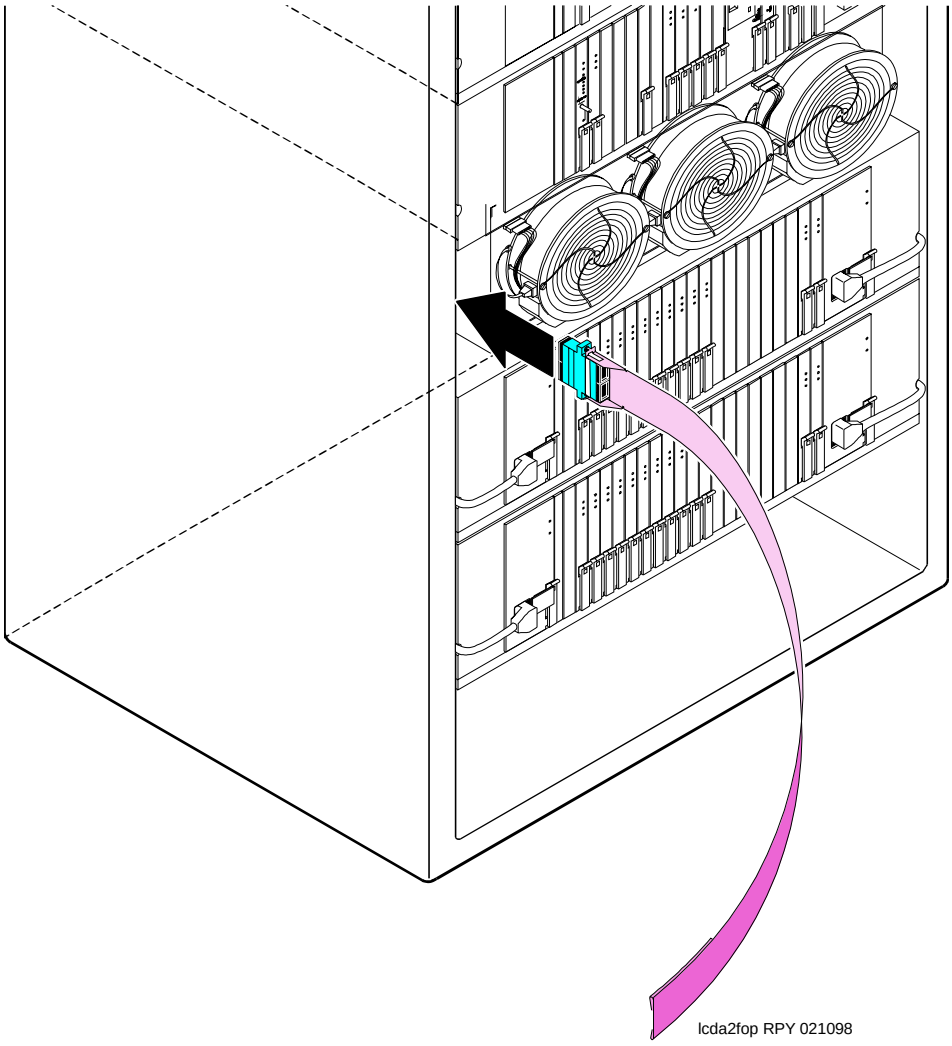
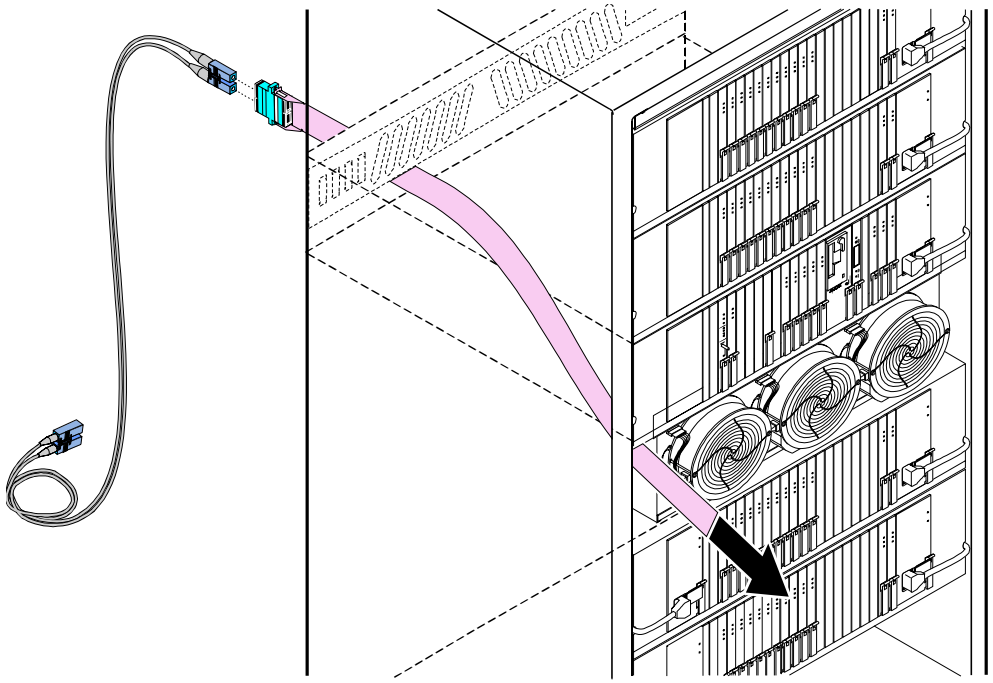


Figure 16: Fiber Optic Cable and Adapter



lcda6fop RPY 021698

Figure 17: Bracket Attachments

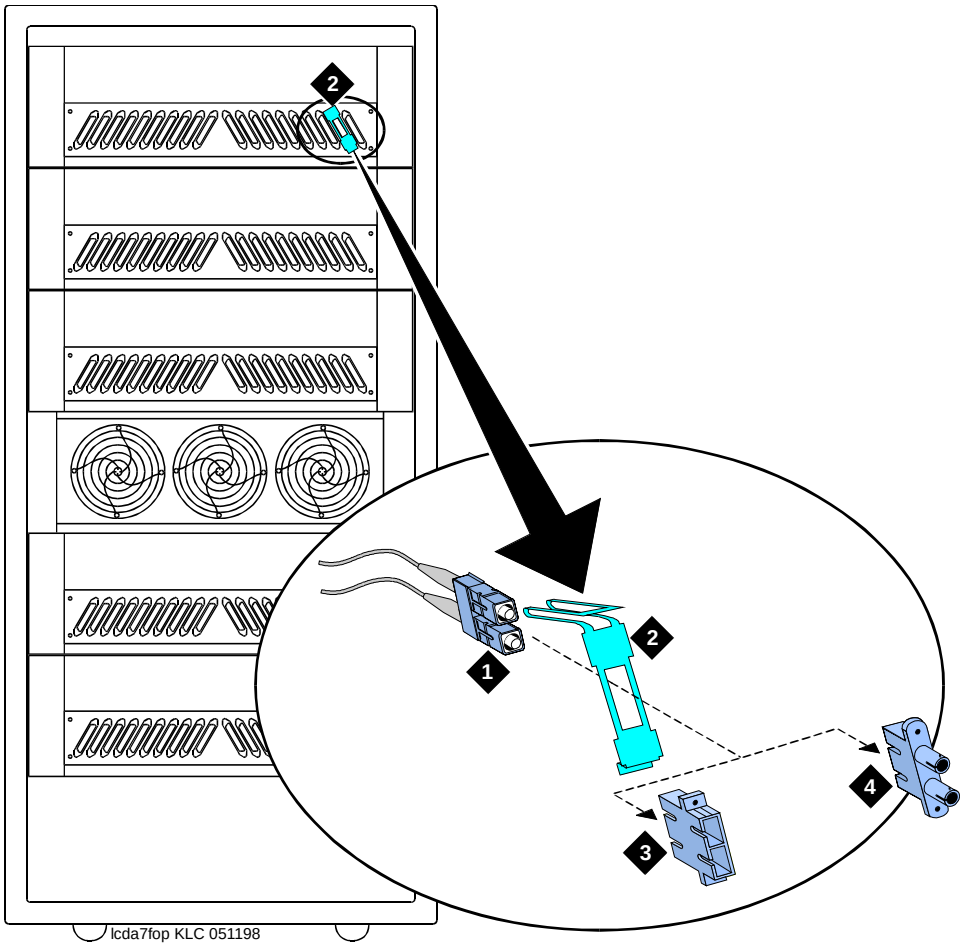


Figure notes

1	Fiber cable	**3**	SC-SC adapter
2	I/O connector adapter bracket	**4**	SC-ST adapter

Figure 18: Cable disconnect label

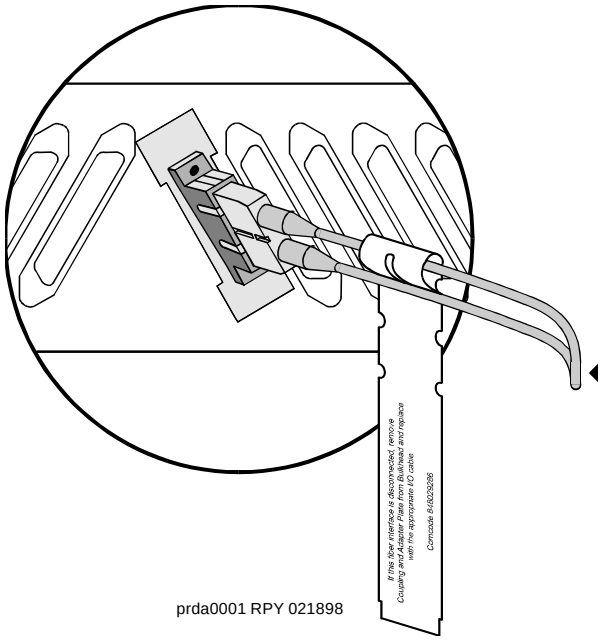


Figure 19: Replace the fan cover

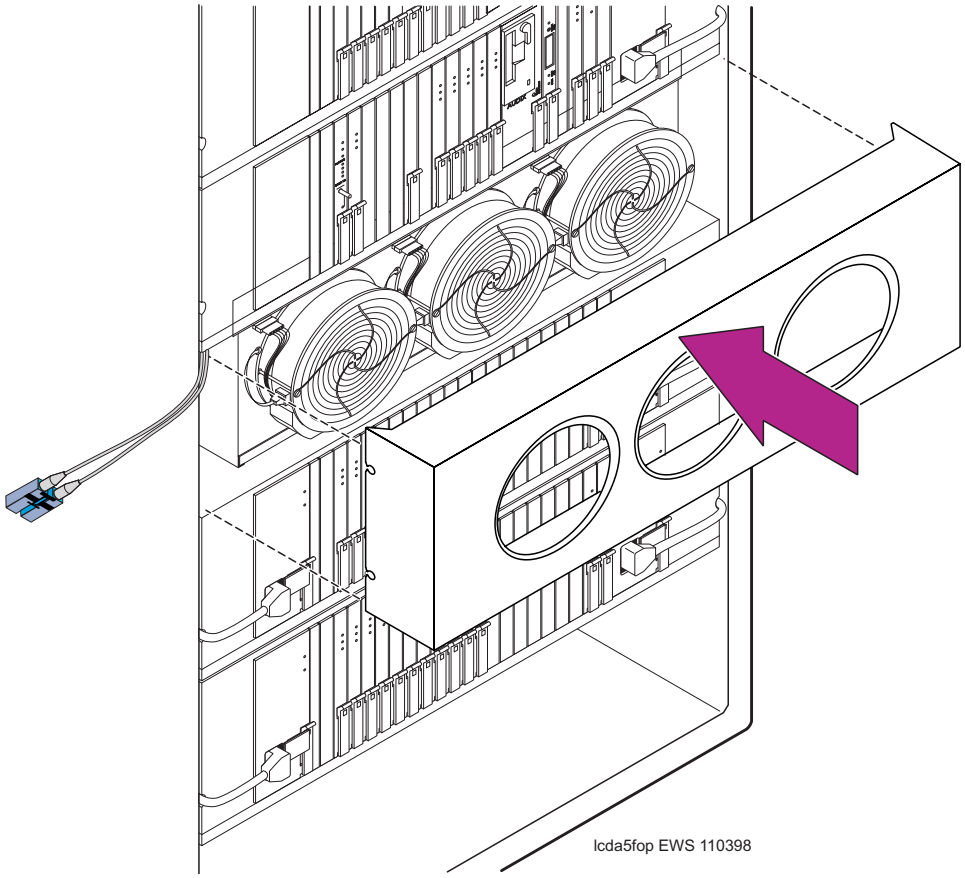


Figure 20: Connect fiber cable to circuit pack

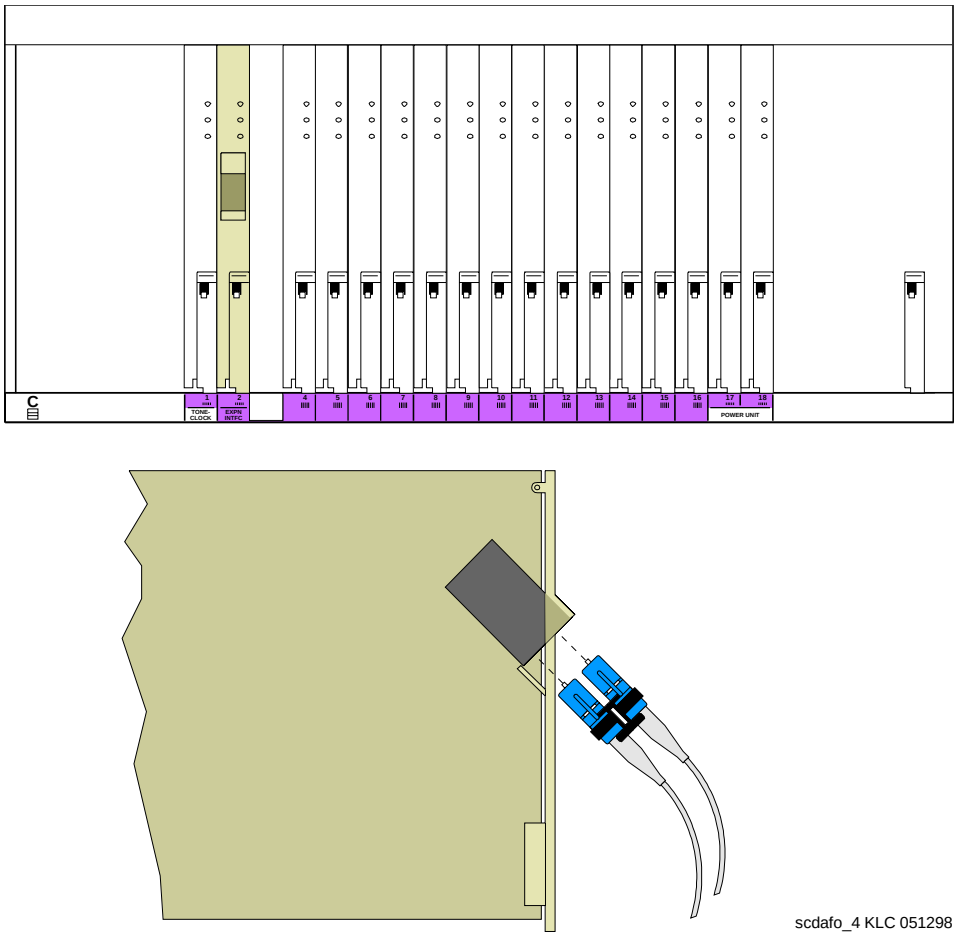
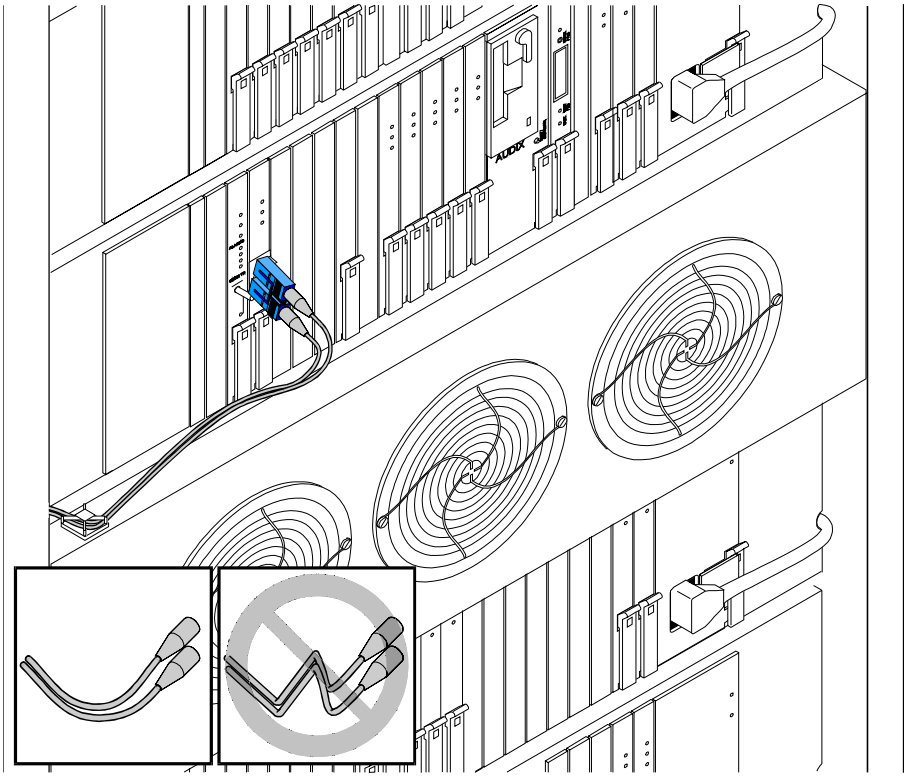


Figure 21: Dress the cable



Test the Installation

Return to Task List

1. Log into the management terminal.
2. Administer the system by referring to Administering Fiber Optic Cables.
3. Type **list configuration all** and press **Enter** to determine if the new circuit pack appears in the correct slot and that there are no circuit pack conflicts.

Return to Task List

Install Fiber Optic Cable Pass-Thru Kit for SCC1 (Single-Carrier) Cabinets

This section details the installation of the fiber optic pass-thru kit for the SCC1 (Single-Carrier) cabinet only. This kit provides the equipment necessary to install the fiber optic connectors and associated cabling.

Install the fiber optic cable pass-thru kit (SCC1)

Use this task list to install the fiber optic cable in the SCC1 (Single-Carrier) cabinet:

1. Prepare the cabinet
2. Install the Fiber-optic Cable with the Pass-thru Kit or Install fiber optic cable for duplicated SCC1 systems
3. Test the Installation

LASER Product

CLASS 1 LASER PRODUCT
IEC 825 1993

The Avaya Media Gateway may contain a Class 1 LASER device if single-mode fiber optic cable is connected to a remote Expansion Port Network (EPN). The LASER device operates within the following parameters:

- Maximum Power Output: -5dBm
- Wavelength: 1310 nm
- Mode Field Diameter: 8.8 microns

CAUTION:
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Contact your Avaya representative for more information.

Prepare the cabinet

Return to Task List

1. Verify the equipment received.

   See Figure 22, Fiber pass-thru kit equipment, on page 195. Actual equipment may vary in appearance and may ship in separate packages.

2. Remove the 2 perforated metal panels from the rear of the cabinet. See Figure 23, Remove the rear panels, on page 196.

3. Remove the front door.

   NOTE:
   Administration may be required before removing the circuit pack in the following step.

4. Determine which slot (1 or 2) will contain the new fiber optic circuit pack. Remove the circuit pack or the blanking plate from this slot.

   NOTE:
   For duplicated systems, you must install the duplication interface circuit pack in slot 1.

   NOTE:
   If a circuit pack is removed from the required slot, it must be installed into a different slot in the cabinet. All translations associated with this circuit pack must also be moved.

5. Remove the circuit pack or the blanking plate from the slot next to the slot determined in Step 4. Two consecutive open slots are required to install the fiber optic adapter.

   NOTE:
   If a circuit pack was removed in Step 5, it will be replaced into the same slot in the next procedure.

6. From the rear, remove the I/O cable connector plate associated with the slot that will contain the new fiber optic circuit pack.

7. Using a supplied cable tie, secure the removed I/O connector plate to the back of the cabinet or to nearby cabling. This will keep it from moving loosely inside the cabinet.

8. From the rear, remove the I/O cable connector associated with the slot that will contain the new fiber optic circuit pack. See Figure 24, Remove the I/O cable connector, on page 197.

9. Using a supplied cable tie, secure the removed I/O connector to nearby cabling. See Figure 25, Secure the I/O cable connector, on page 198.

Return to Task List

Figure 22: Fiber pass-thru kit equipment

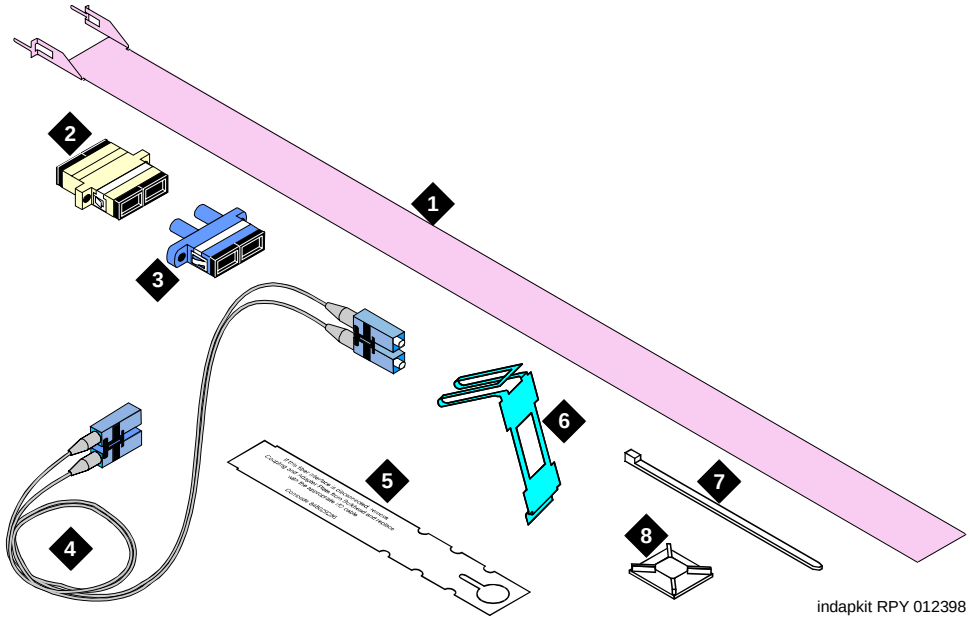


Figure notes

1	Pass-thru Tool	**5**	Fiber Optic Cable Disconnect Label
2	SC-SC Fiber Optic Adapter	**6**	I/O Connector Adapter Bracket
3	ST-SC Fiber Optic Adapter	**7**	Cable Tie
4	Fiber Optic Cable (Multimode or Single-mode)	**8**	Cable Tie Mount

Table 8: Fiber Pass-Thru Kit Equipment

List of Fiber Pass-Thru Kit Equipment	
Quantity	**Description**
1	Pass-thru Tool
1	Beige SC-SC Fiber Optic Adapter (multimode)
1	Beige ST-SC Fiber Optic Adapter (multimode)
1	Ten-foot (3 m) Fiber Optic Cable (multimode)
1	Beige SC-SC Fiber Optic Adapter (single-mode)
1	Beige ST-SC Fiber Optic Adapter (single-mode)
1	10-ft. (3 m) Fiber Optic Cable (single-mode)
1	I/O Connector Adapter Bracket
1	Fiber Optic Cable Disconnect Label
10	Cable Ties
6	Cable Tie Mounts

Figure 23: Remove the rear panels

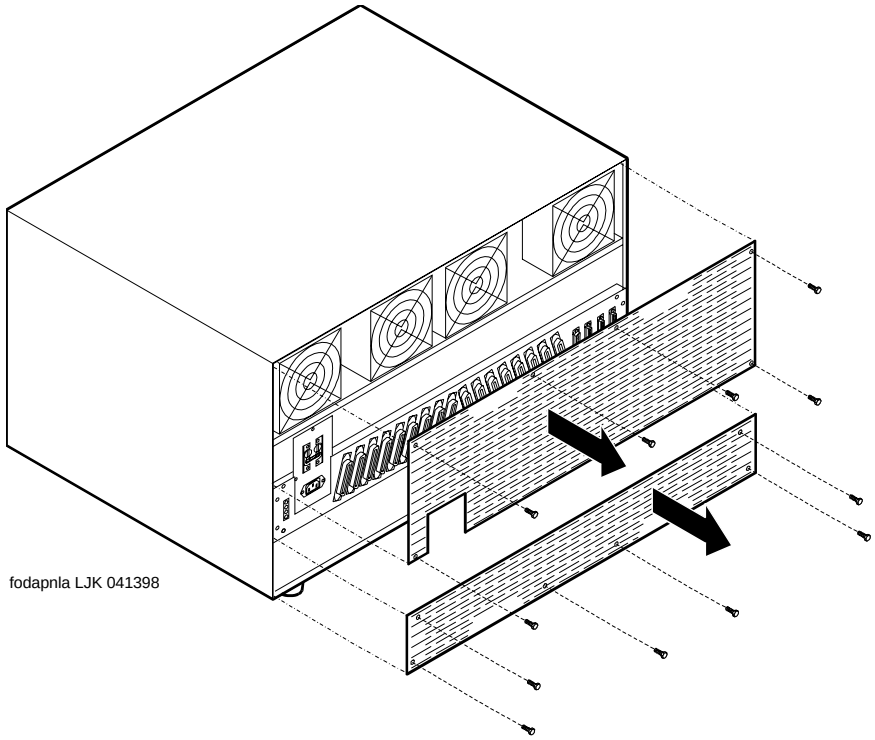


Figure 24: Remove the I/O cable connector

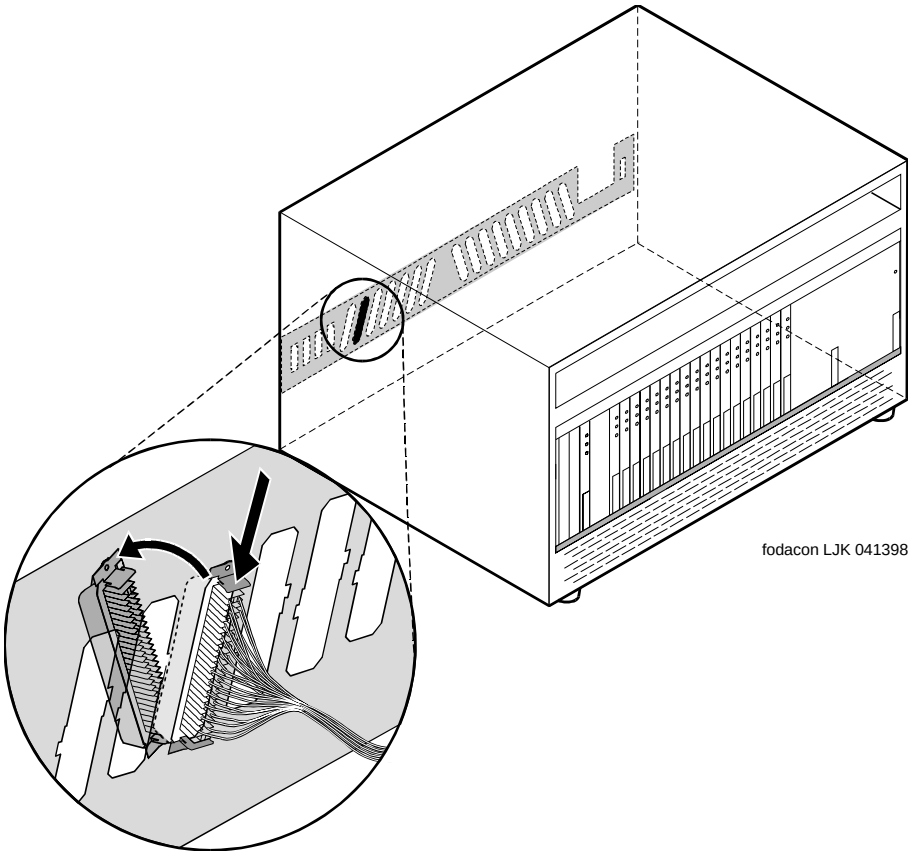
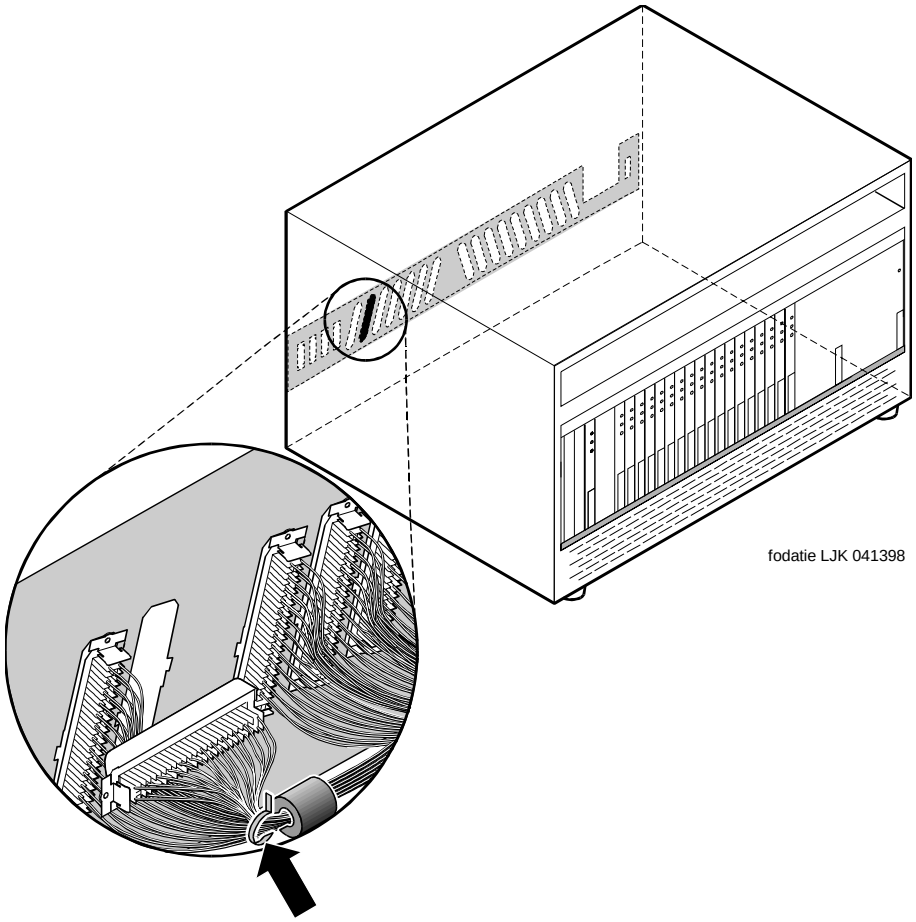


Figure 25: Secure the I/O cable connector



Install the Fiber-optic Cable with the Pass-thru Kit

Return to Task List

CAUTION:
During the actual installation of fiber optic components, use either all beige or all blue adapters. Beige denotes multimode fiber and blue denotes single-mode fiber. Do not mix beige with blue.

1 Snap the beige SC-SC fiber optic adapter onto the pass-thru tool. See Figure 26, Fiber optic adapter and pass-thru tool, on page 200.

Use the beige adapter even if single-mode fiber is being installed. The beige adapter is better suited for cable routing in the next steps.

If single-mode fiber is being installed, the beige adapter will be replaced with a blue adapter later.

2 From the front of the cabinet, insert the pass-thru tool into the opening between the bottom of the circuit packs and the circuit pack label. See Figure 27, Insert the pass-thru tool, on page 200.

3 Slide the tool to the rear of the cabinet.

CAUTION:
Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables.

4 Attach the supplied fiber optic cable to the adapter.

5 Pull the tool (with adapter and cable attached) out through the front of the cabinet. See Figure 28, Fiber Optic Cable and Adapter, on page 201.

6 Install the new circuit pack.

7 Connect the fiber cable to the angled connector on the front of the new circuit pack. See Figure 29, Connect fiber cable to circuit pack, on page 202, which shows an expansion interface circuit pack.

NOTE:
For a duplicated system, use the pass-thru tool to bring 1 end of the cable to the front of each cabinet containing the duplication interface circuit packs. Connect the fiber cable to the duplication interface circuit pack in each carrier. *Do not remove* the I/O connector adaptor (referred to in Step 9 through Step 12 of this procedure). See Install fiber optic cable for duplicated SCC1 systems for illustrations of this process.

8 Route the fiber optic cable through the opening vacated by the I/O cable connector plate.

9 If necessary, remove the beige fiber adapter from the tool and plug the fiber optic cable into the SC-SC (single-mode) or SC-ST (multimode) adapter. See Figure 30, Bracket Attachments, on page 203.

10 From the front of the I/O connector adapter bracket (with fiber cable), snap the adapter into the supplied I/O connector adapter bracket.

11 Snap the I/O connector adapter bracket into the I/O connector opening.

12 Attach the outside fiber plant to the I/O connector on the rear of the cabinet.

13 Wrap the cable disconnect label around the fiber optic cable. See Figure 31, Cable Disconnect Label, on page 204.

Avoid bending fiber optic cables to a radius smaller than 1.5 inches (3.8 cm), to prevent mechanical stress on the cables. Plan the use of cable ties to avoid crimping the cable or creating a fixed stress point where, at a later time, movement of the cable causes it to exceed the minimum bend radius.

14 If a circuit pack was removed in the previous procedure to access 2 open slots, replace the circuit pack into its original slot.

15 Replace the 2 perforated metal panels onto the rear of the cabinet. See Figure 32, Install the rear panels, on page 204.

16 Replace the front cover panel.

17 Discard the pass-thru tool.

Figure 26: Fiber optic adapter and pass-thru tool

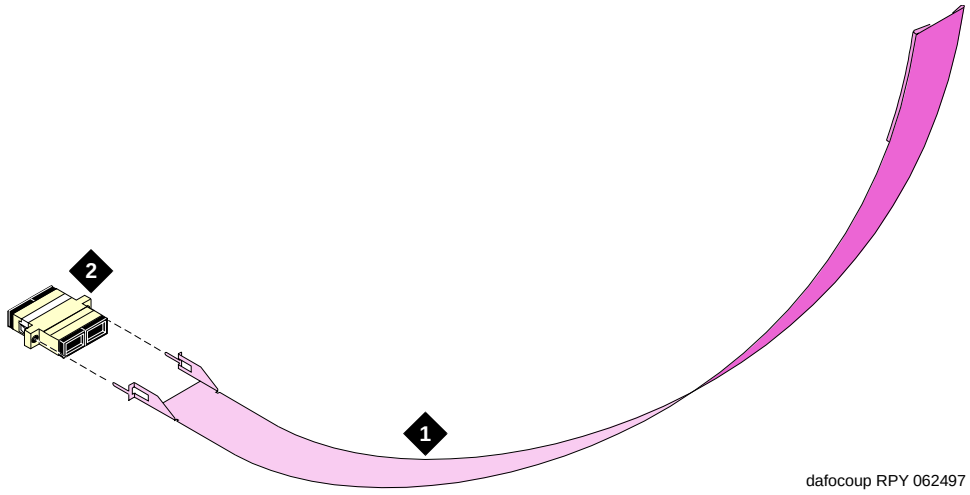


Figure notes

1	Pass-thru Tool	**2**	Beige SC-SC Fiber Optic Adapter

Figure 27: Insert the pass-thru tool

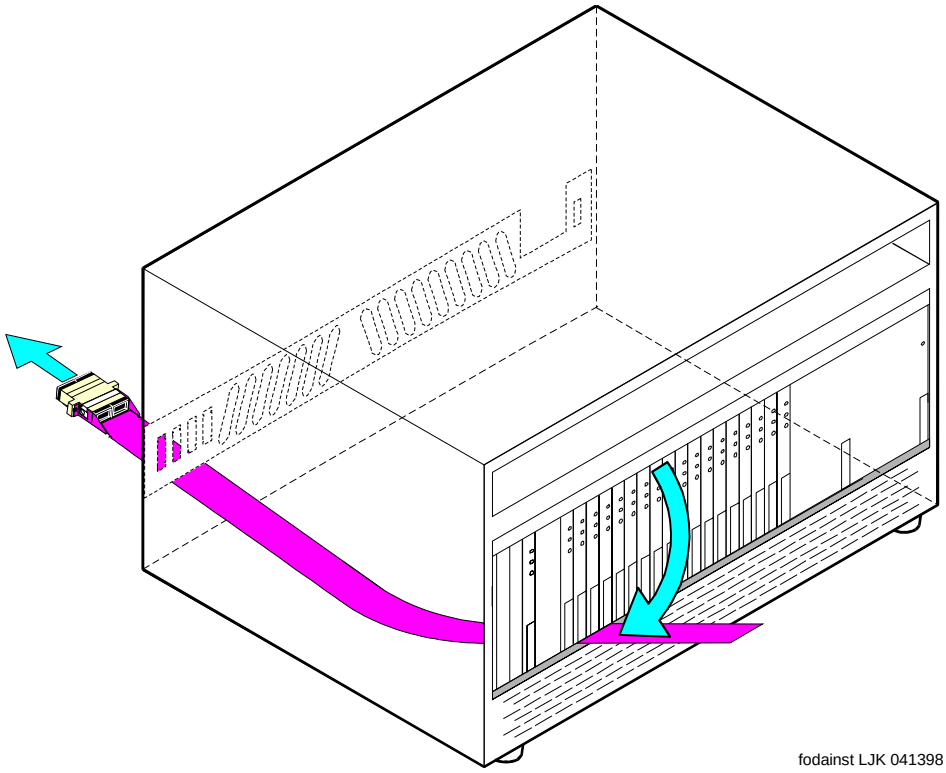


Figure 28: Fiber Optic Cable and Adapter

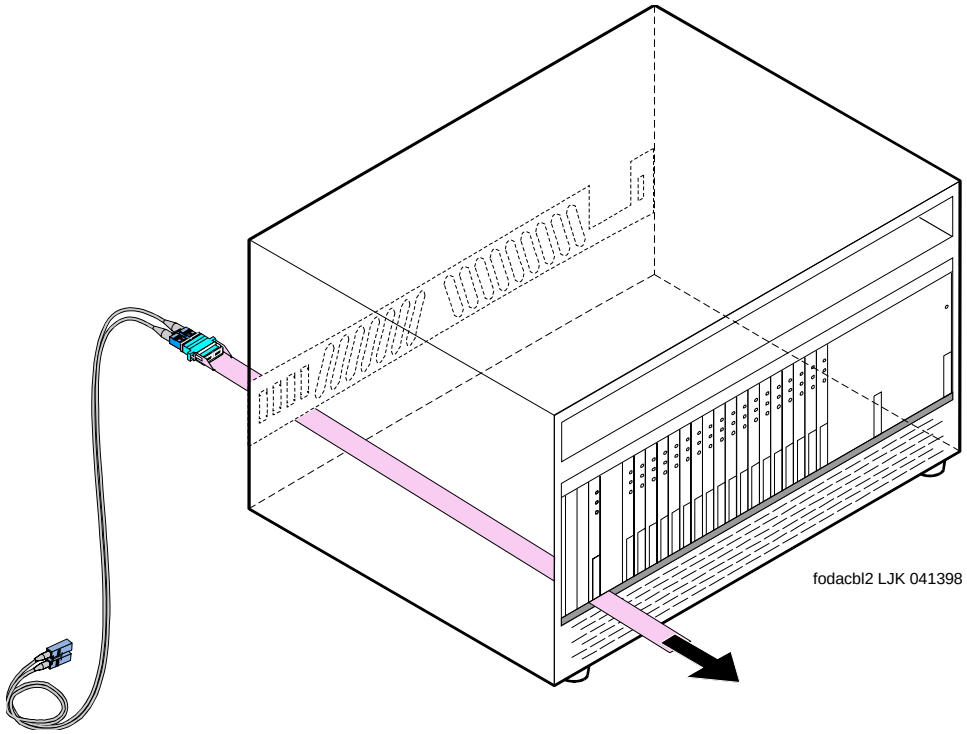


Figure 29: Connect fiber cable to circuit pack

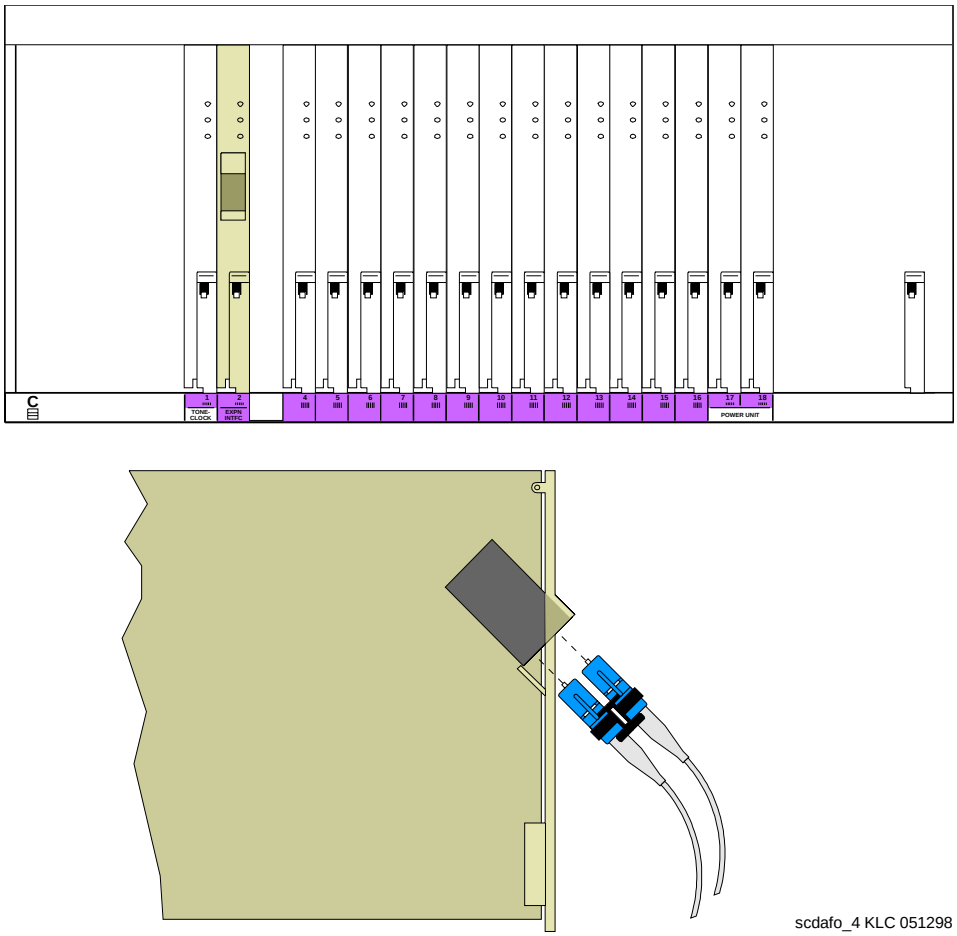


Figure 30: Bracket Attachments

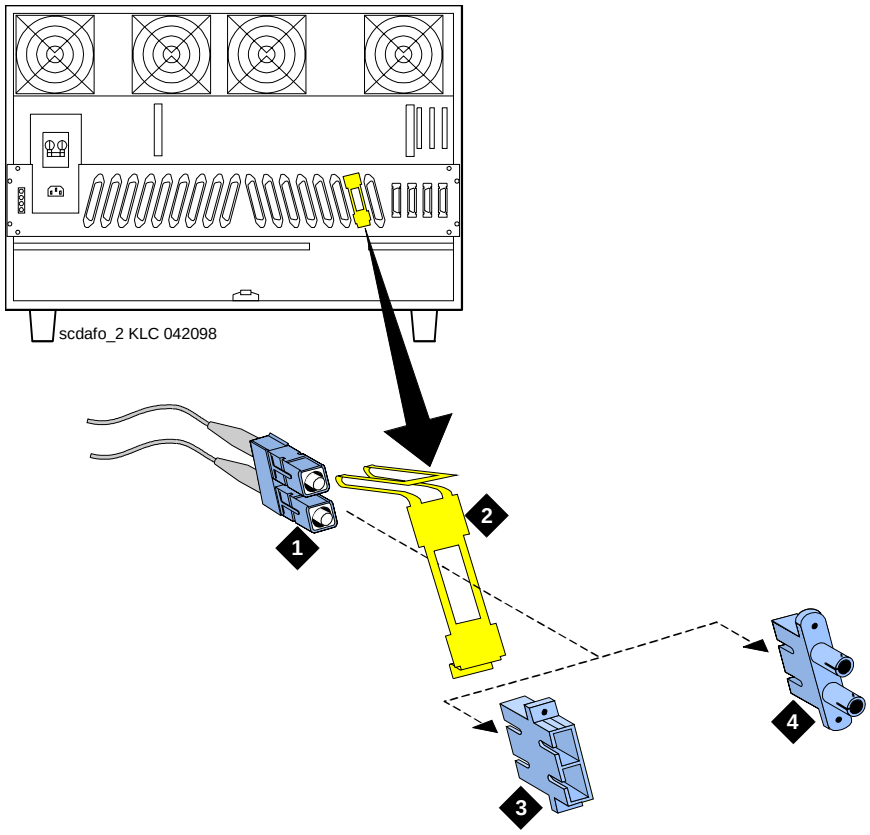


Figure notes

1	Fiber cable	**3**	SC-SC adapter
2	I/O connector adapter bracket	**4**	SC-ST adapter

Figure 31: Cable Disconnect Label

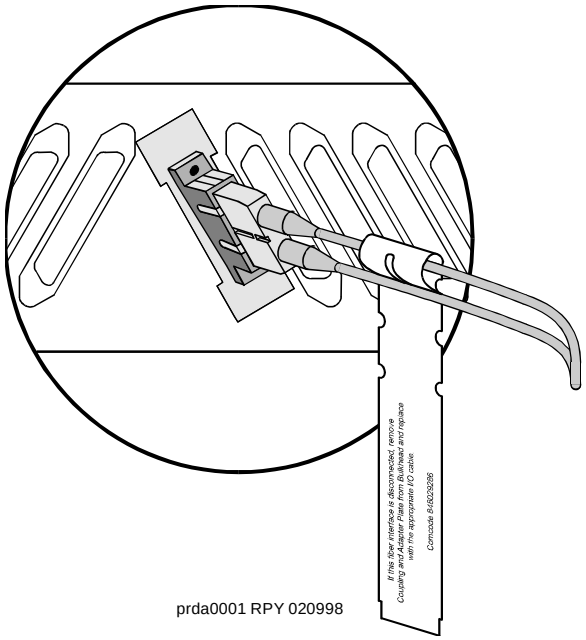
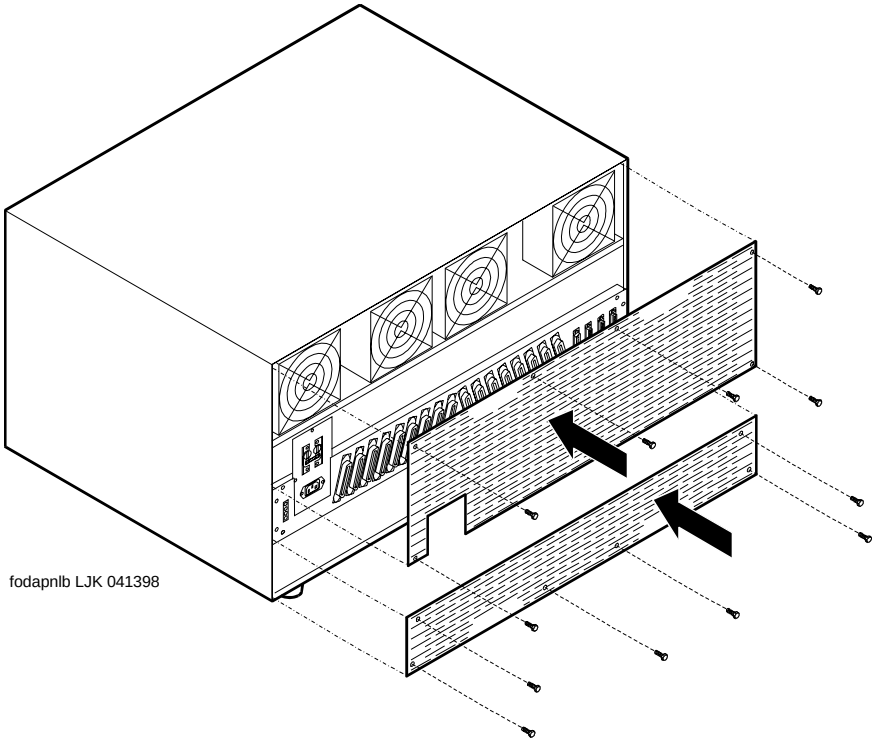


Figure 32: Install the rear panels



Install fiber optic cable for duplicated SCC1 systems

Return to Task List

1. Remove both back panels from the A and B cabinets. See Figure 33.
2. Insert the pass-through tool from the front to the back of either the A cabinet or the B cabinet. See Figure 34.
3. Pull the cable through from the back to the front of the cabinet. See Figure 35.
4. It is critical to pass the fiber-optic cable through the opening in the A cabinet. See Figure 36.

   Repeat steps 2 and 3 for the other cabinet.
5. Dress the fiber-optic cable through the openings at the right side of the back panels, to the right of the duplication interface ribbon cables. See Figure 37.

   Dress the TDM-LAN cable (not illustrated) through the opening at the left side of the back panels.
6. Connect the fiber-optic cable to the duplication interface circuit pack in each cabinet. Verify that the circuit pack is the first (left-most) circuit pack in each cabinet. See Figure 38.

Figure 33: Illustration 1

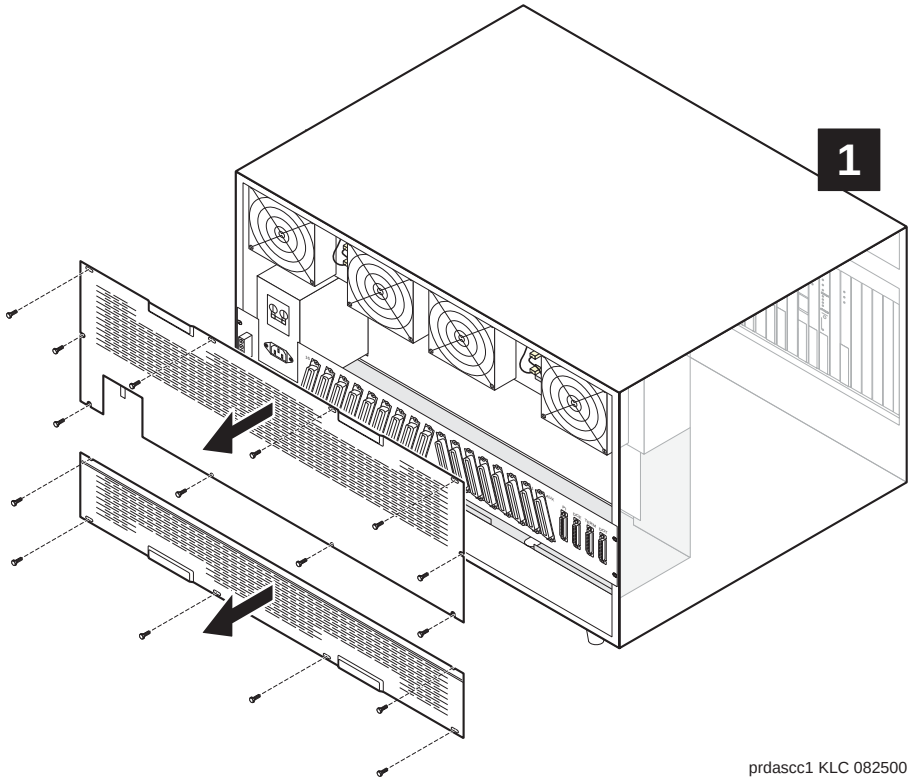


Figure 34: Illustration 2

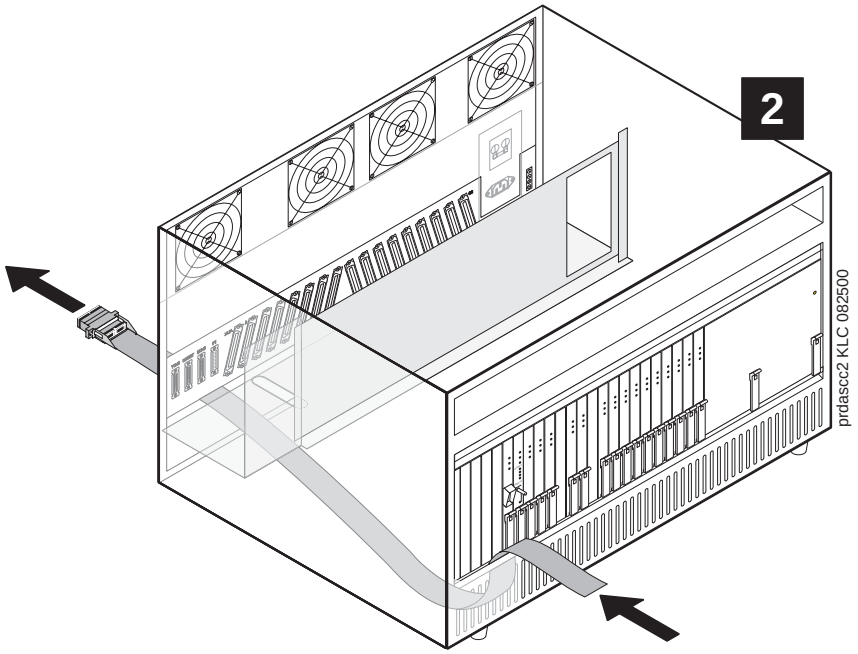


Figure 35: Illustration 3

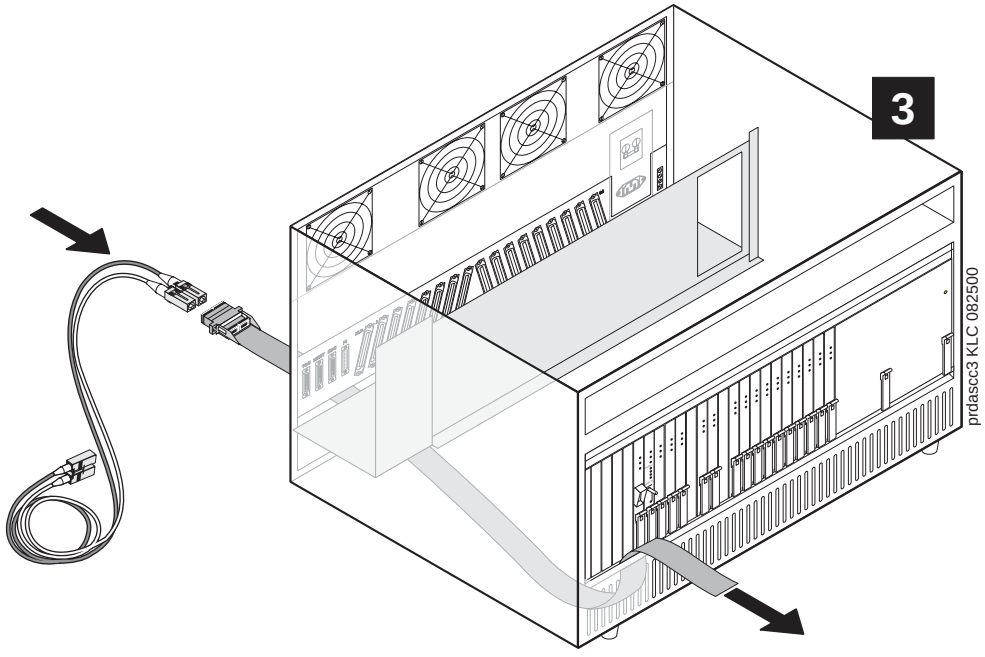


Figure 36: Illustration 4

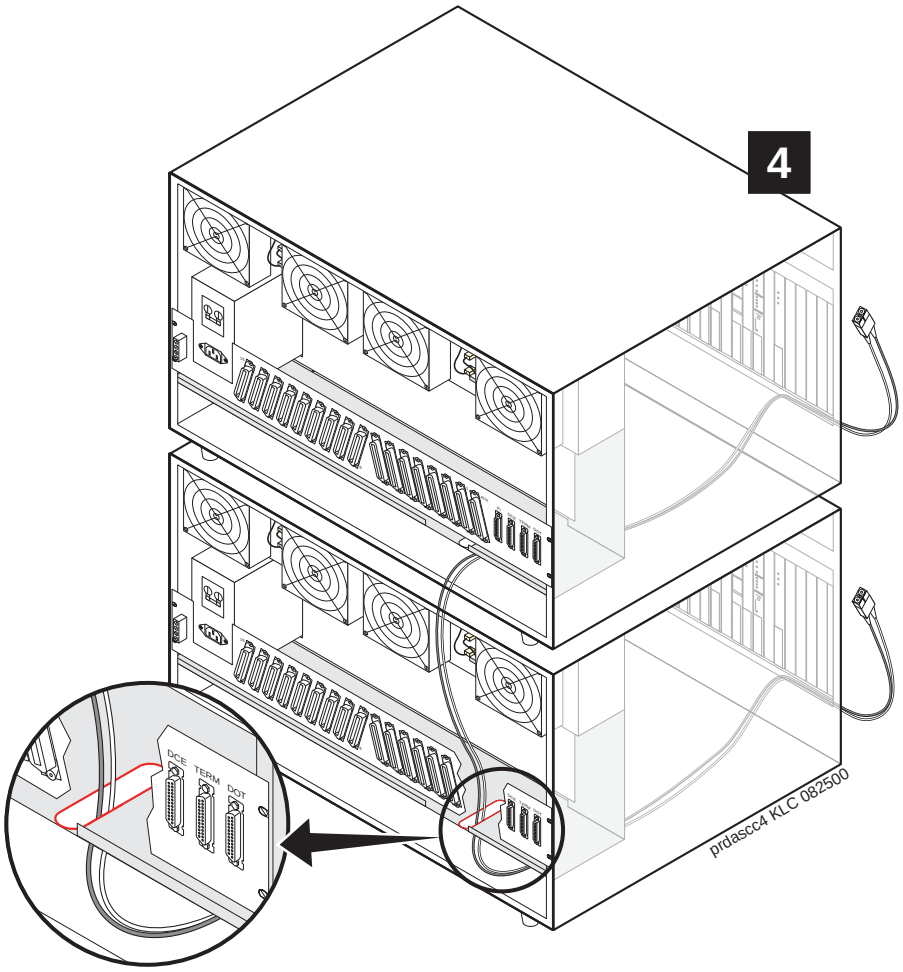


Figure 37: Illustration 5

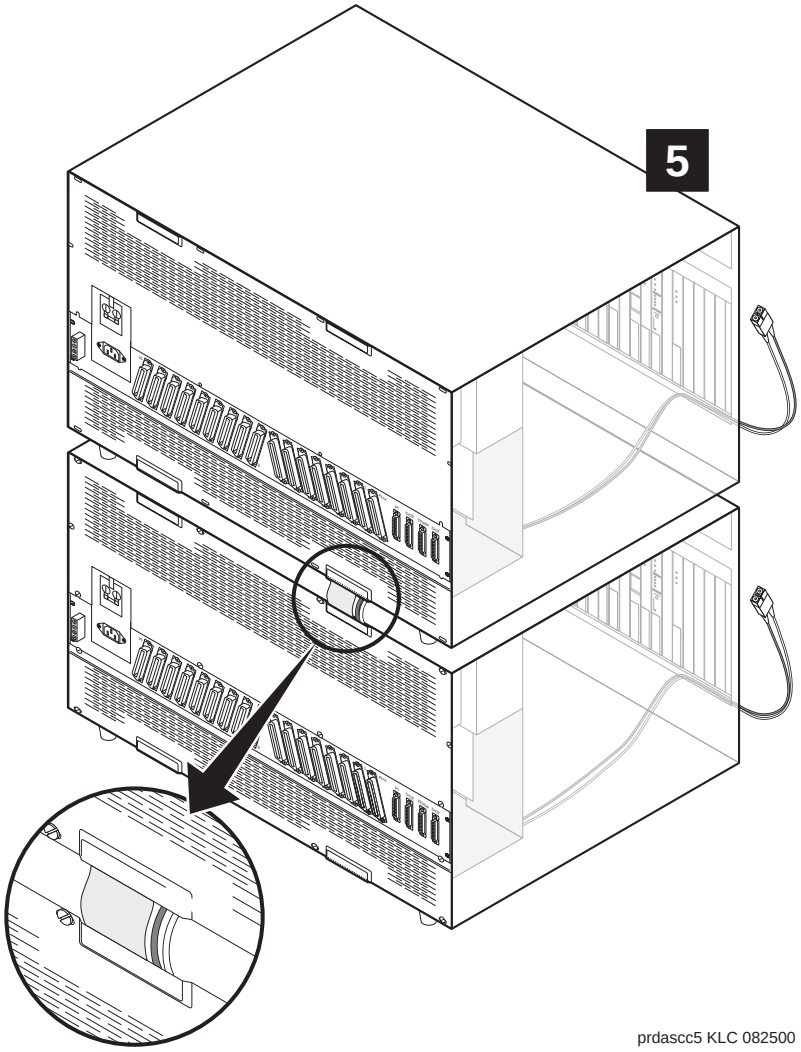
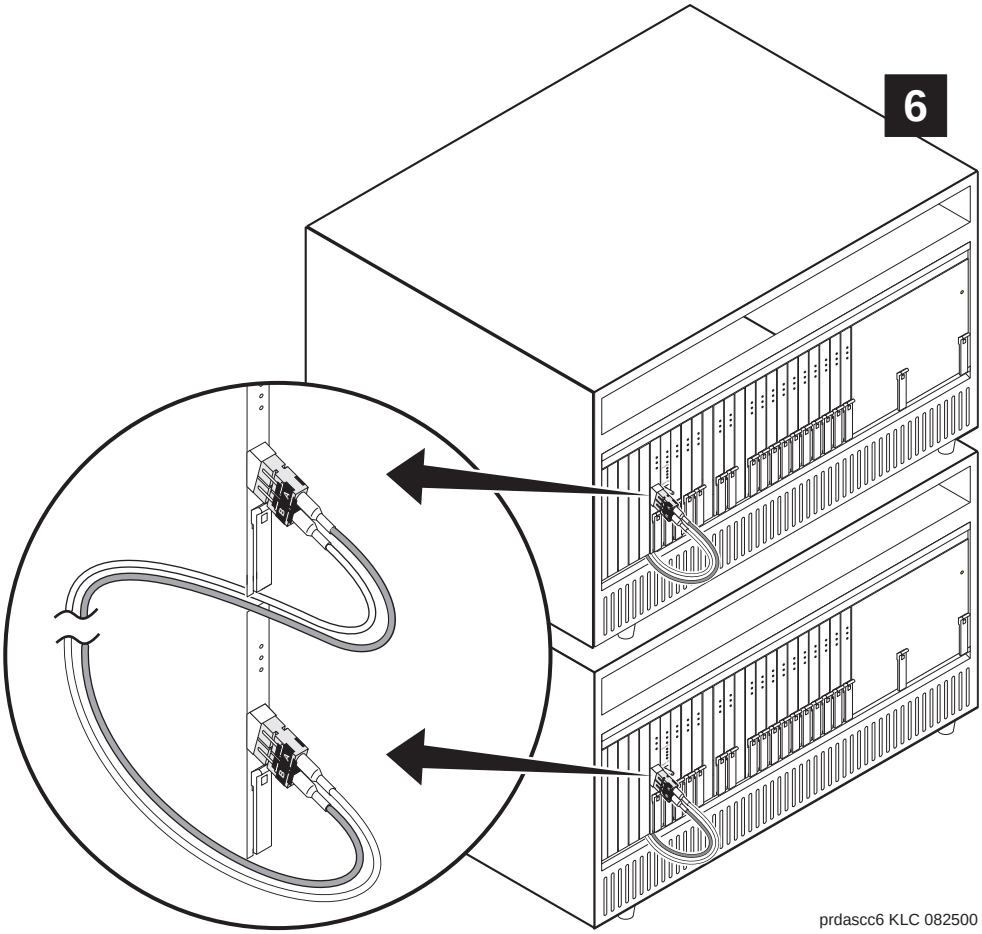


Figure 38: Illustration 6



Test the Installation

Return to Task List

1. Log into the management terminal.
2. Administer the system by referring to Administering Fiber Optic Cables.
3. Type **list configuration all** and press **Enter** to determine if the new circuit pack appears in the correct slot and that there are no circuit pack conflicts.

Administering Fiber Optic Cables

NOTE:
You administer Fiber Optic Cables only on an Avaya Media Gateway or in a Multicarrier Cabinet (MCC1).

When a fiber optic cable is properly labeled, it is easy to trace the desired circuit by looking at the labels on the cross-connect, the cable itself, and the individual fibers in the cable.

Refer to

- Fiber Link Administration Form
- Administration commands
- PN reliability configurations
- Task List: Administration Details

Fiber Link Administration Form

This form administers fiber links, each of which is identified by a fiber number.

Port networks (PNs) are connected via direct fiber link connections or through a center stage switch (CSS) to provide the interconnection of port networks required for voice/data information transfer. The CSS is composed of "switch nodes" that can be interconnected in one or two levels to provide Port Network Connectivity (PNC). The CSS provides circuit-switched connectivity for voice and data communications as well as packet-switched connectivity. Fiber link administration permits an administration of translation data associated with a switch connection (such as optical fiber, metallic cable, or DS1CONV circuit packs and DS1 facility links between two endpoints). The two fiber endpoints can be:

- An expansion interface (EI) circuit pack
- A switch node interface (SNI) circuit pack

NOTE:
Only one administrative terminal can administer fiber links at a time; others can display fiber link information.

Administration commands

Use the following commands to administer the Fiber Link Administration form.

Action	Object	Qualifier
add	fiber-link	link number or ['next']
change	fiber-link	link number
display	fiber-link	link number
list	fiber-link	link number
remove	fiber-link	link number

PN reliability configurations

PNCs have three different reliability configurations (one for each system reliability configuration) as follows:

System Configuration	PNC
Standard Reliability	Simplex Fibers
High Reliability	Simplex Fibers to Expansion Port Networks and Duplicated Fibers between Processor Port Networks (PPN) and Switch Nodes
Critical Reliability	Duplicated Fibers

Simplex PNC

For Simplex PNC, PNC Duplication is disabled with a license file and Duplication is disabled on the Duplication-Related System-Parameters form.

Task List: Administration Details

For details of administration, select the topics that relate to your installation:

- Administering PNC Duplication
- Administering Fiber Links
- Duplicated Fiber Link Administration
- DS1C Converter Complex Administration for TN574 Circuit Packs
- Duplicated DS1C Converter Complex Administration for TN574 Circuit Packs
- DS1 Converter Complex Administration for T1 TN1654 Circuit Packs
- Duplicated DS1 Converter Complex Administration for T1 TN1654 Circuit Packs
- DS1 Converter Complex Administration for E1 TN1654 Circuit Packs
- Duplicated DS1 Converter Complex Administration for E1 TN1654 Circuit Packs

Administering PNC Duplication

Return to Task List

The license file enables PNC Duplication. If PNC Duplication is enabled on the System-Parameters Customer-Options form, the following administration forms change:

- Cabinet form — Additional fields appear to allow administration of switch nodes to A-PNC and B-PNC sides of the CSS. The B-PNC is the duplicated hardware for the A-PNC. Either the A-PNC or the B-PNC can provide full customized service. B-PNC cannot be used in a simplex PNC configuration. Pairing of switch nodes is also defined here.
- Fiber Link form — Additional fields appear to allow administration of fiber links on the B-PNC side of the CSS. If an endpoint on the A-PNC side is administered as an SNI, its corresponding endpoint on the B-PNC side is determined (if switch nodes are paired in the cabinet form prior to this administration) and displayed. However, administration of the duplicate B-PNC link is not enforced until duplication is in full operation.
- Duplication-Related System-Parameters form — An additional field appears to enable operation of PNC duplication.

Return to Task List

Administering Fiber Links

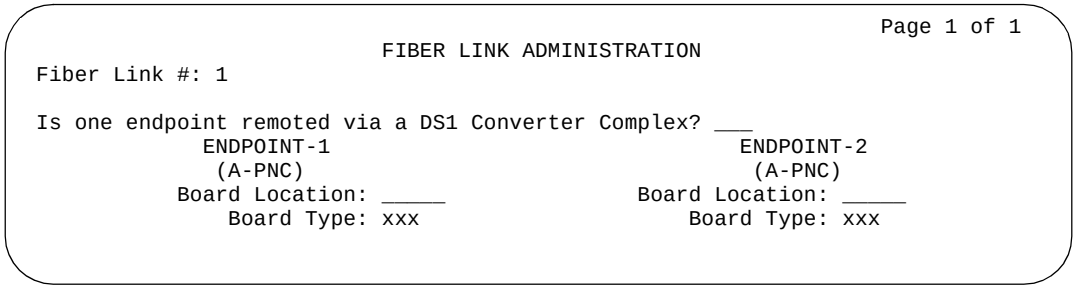
Return to Task List

Additional fields appear on the Figure 39, Fiber Link Administration form, on page 213 to allow administration of fiber links on the B-PNC side of the CSS. If an endpoint on the A-PNC side is administered as an SNI, its corresponding endpoint on the B-PNC side is determined (if switch nodes are paired in the cabinet form prior to this administration) and displayed. However, administration of the duplicate B-PNC link is not enforced until duplication is in full operation.

The following fields appear for basic fiber link administration:

- **Fiber Link #** — Display-only field. From the command line, enter a 1- to 3-digit number to uniquely identify a switch connection in the system and its duplicate if appropriate.
- **Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of an SNI or EI board that is the first endpoint of the fiber link.
- **Board Type** — Display-only field showing the type of circuit pack in Endpoint-1.
- **Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of an SNI or EI board that is the second endpoint of the fiber link.
- **Board Type** — Display-only field showing the type of circuit pack in Endpoint-2.
- **Is one endpoint remoted via a DS1 Converter Complex?** — Enter **y** to specify that a DS1 Converter complex is used to remote one endpoint. If a **y** is entered, A-PNC DS1 Converter circuit pack Location must be administered on Page 1. A-PNC DS1 Converter circuit pack Type displays. A-PNC DS1 Converter (DS1CONV) Attributes must be administered on Page 2 of this form.

Figure 39: Fiber Link Administration form



```
                                                                Page 1 of 1
                            FIBER LINK ADMINISTRATION
Fiber Link #: 1

Is one endpoint remoted via a DS1 Converter Complex? ___
             ENDPOINT-1                                  ENDPOINT-2
              (A-PNC)                                     (A-PNC)
           Board Location: _____                   Board Location: _____
               Board Type: xxx                         Board Type: xxx
```

Return to Task List

Duplicated Fiber Link Administration

Return to Task List

Figure 40, Fiber Link Administration form (page 1 of 3), on page 214 shows the fields available when duplication is enabled.

The following fields appear when **Administration of PNC Duplication** is enabled on the System-Parameters Customer-Options form:

- **Fiber Link #** — Display-only field. From the command line, enter a 1- to 3-digit number to uniquely identify a switch connection in the system and its duplicate if appropriate.
- **Is one endpoint remoted via DS1 Converter Complex?** — Enter **yes** to specify that a *DS*1 converter complex is used to remote one endpoint. If **yes** is entered, A-PNC and B-PNC DS1 Converter (DS1CONV) Attributes must be administered on Pages 2 and 3 (respectively) of the form.
- **Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of a circuit pack in the first endpoint of the duplicate fiber link. Endpoint-1's duplicate along with Endpoint-2's duplicate make up the duplicate fiber link called the B-PNC link.
- **Board Type** — Display-only field showing the type of circuit pack in Endpoint-1. The circuit pack type in Endpoint-1 (A-PNC) and Endpoint-1 (B-PNC) must be the same.
- **DS1CONV Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of DS1 Converter circuit pack in the first endpoint of the duplicate fiber link. Endpoint-1's duplicate along with Endpoint-2's duplicate make up the duplicate fiber link called the B-PNC link.
- **DS1CONV Board Type** — Display-only field showing the type of DS1 Converter circuit pack in Endpoint-1. The circuit pack type in Endpoint-1 (A-PNC) and Endpoint-1 (B-PNC) must be the same. This field is updated via the Change Circuit-packs command.
- **Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of a circuit pack in the second endpoint of the duplicate fiber link. Endpoint-2's duplicate along with Endpoint-1's duplicate make up the duplicate fiber link called the B-PNC link.
- **Board Type** — Display-only field showing the type of circuit pack in Endpoint-2. The circuit pack type in Endpoint-2 (A-PNC) and Endpoint-2 (B-PNC) must be the same.

- **DS1CONV Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of DS1 Converter circuit pack in the second endpoint of the duplicate fiber link. Endpoint-2's duplicate along with Endpoint-1's duplicate make up the duplicate fiber link called the B-PNC link.
- **DS1CONV Board Type** — Display-only field showing the type of DS1 Converter circuit pack in Endpoint-2. The circuit pack type in Endpoint-2 (A-PNC) and Endpoint-2 (B-PNC) must be the same. This field is updated via the Change Circuit-packs command.

Figure 40: Fiber Link Administration form (page 1 of 3)

```
add fiber-link next                                        Page 1 of 3
                        FIBER LINK ADMINISTRATION

Fiber Link #: 1
Is one endpoint remoted via DS1 Converter Complex? yes

    ENDPOINT-1                              ENDPOINT-2
    (A-PNC)                                 (A-PNC)
Board Location: 01E01                   Board Location: 02A01
Board Type: ei                          Board Type: ei
DS1CONV Board Location: 01B01           DS1CONV Board Location: 02B01
DS1CONV Board Type: TN574               DS1CONV Board Type: TN574


    ENDPOINT-1                              ENDPOINT-2
    (B-PNC)                                 (B-PNC)
Board Location: 01D01                   Board Location: 02A02
Board Type: ei                          Board Type: ei
DS1CONV Board Location: 01C01           DS1CONV Board Location: 02C01
DS1CONV Board Type: TN574               DS1CONV Board Type: TN574
```

Return to Task List

DS1C Converter Complex Administration for TN574 Circuit Packs

Return to Task List

Figure 41, Fiber Link Administration form for TN574 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3), on page 217 shows the fields available to administer the TN574 circuit pack.

The following DS1 Converter Complex fields appear on Page 2 when the **Is one endpoint remoted via a DS1 Converter Complex?** field is **y**.

NOTE:
When you administer DS1 Converter TN1654 circuit packs, different fields display.

- **DS1CONV Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of the converter circuit pack connected to the first endpoint of the fiber link. This is entered on Page 1 and displays on Page 2.
- **DS1CONV Board Type** — Display-only field showing the type of DS1 Converter circuit pack for the first endpoint.
- **DS1CONV Board Location** — Enter the cabinet, carrier, and slot that identifies the physical location of the converter circuit pack connected to the second endpoint of the fiber link.
- **DS1CONV Board Type** — Display-only field showing the type of DS1 Converter circuit pack for the second endpoint. This field is updated via the Change Circuit-packs command.
- **Facility Installed** — Enter **yes** in the B, C, and D columns under the DS1 Converter Facilities heading to indicate that this DS1 facility is physically installed. At least facility A must be installed within the converter complex. Default is **yes** for Facility A.
- **Passes Far-end Clock** — Enter **yes** in the B, C, and D columns under the DS1 Converter Facilities heading to indicate that this DS1 facility is suitable to be used as a clock source. If the DS1 signal does not come directly from the far end converter circuit pack or the network (such as when the signal is converted from digital to analog and then back to digital), enter **no**. Default is **yes** for Facility A.

  This field determines whether the DS1 converter circuit pack can use receive DS1 signal timing to time the transmit fiber signal. This is necessary for passing timing from a master PN to a slave PN across a Converter Complex.
- **Digital Data Compatible** — Enter **yes** (default) in the B, C, and D columns under the DS1 Converter Facilities heading to indicate that this DS1 facility is suitable for transmission of digital data. At least Facility A must be suitable for transmission of digital data. If Customer Premises Equipment that alters digital data exists on this facility (such as with a channel expansion multiplexer), enter **no**.
- **Line Coding** — Enter the line coding format, **ami-zcs** (default), or **ami-basic**, **b8zs**, or **hdb3** in the A, B, C, and D columns under the DS1 Converter Facilities heading for each DS1 facility.

  When ami-zcs line coding is used, all-zero bytes are prevented from being transmitted on the DS1 facility because a 1 is arbitrarily written into the second position of each byte. Thus, if no measures are taken to prevent it, ami-zcs line coding results in data corruption. The DS1CONV circuit pack protects the packet facility (one of up to four facilities dynamically allocated by the DS1CONV circuit pack) from corruption through a special escape mechanism.

  When b8zs line coding is used, it maintains DS1 facility's ones-density requirements by encoding a zero data byte into a specific unique pattern of bipolar violations on the DS1 line. The opposite end recognizes this pattern and replaces it with a zero data byte when the data is recovered at the receiving end.

  NOTE:
  Note that although the esf framing mode and b8zs line coding are the preferable modes of operation, you should confirm that the DS1 facilities support them before selecting this line coding.

- **Framing Mode** — Enter the framing format, **esf** (default) or **d4**, in the A, B, C, and D columns under the DS1 Converter Facilities heading for each DS1 facility.

  NOTE:
  The D4 format is supported by the Converter circuit packs, but because of problems inherent with this format (specifically, inability to frame on a bit stream that contains data that emulates the D4 framing pattern), its use is discouraged.

- **DS1CONV-1 Line Compensation** — Enter the line compensation (**1** to **5**) in the A, B, C, and D columns under the DS1 Converter Facilities heading for each DS1 facility connected to ENDPOINT-1 (see Distance to DSX-1 Interface (feet)).

  The DS1 line signal is pre-equalized at the transmitter so that DS1 line pulses are the correct amplitude and shape when they reach the Network Interface. The amount of equalization necessary is determined by the distance to the Network Interface (when the endpoint supplies a DSX-1 interface) and also by the type of wiring used to connect to the Network Interface. The types of wiring allowed are 22-gauge ABAM (shielded twisted pair) cable, 24-gauge Premises Distribution System (PDS) wiring, and 26-gauge PDS wiring.

  NOTE:
  The line equalization setting defaults to 2 and remains in effect until changed by administration. Because incorrect equalizer settings cause a potentially higher error rate on the DS1 facility, it is necessary to provide the correct settings based on the distance to the Network interface.

  If it is a TN574 circuit pack, the default for all facilities is **1**.

- **DS1CONV-2 Line Compensation** — Enter the line compensation (**1** to **5**) in the A, B, C, and D columns under the DS1 Converter Facilities heading for each DS1 facility connected to ENDPOINT-2 (see Distance to DSX-1 Interface (feet). The DS1 line signal is pre-equalized at the transmitter so that DS1 line pulses are the correct amplitude and shape when they reach the Network Interface. The amount of equalization necessary is determined by the distance to the Network Interface (when the endpoint supplies a DSX-1 interface) and also by the type of wiring used to connect to the Network Interface. The types of wiring allowed are 22-gauge ABAM (shielded twisted pair) cable, 24-gauge Premises Distribution System (PDS) wiring, and 26-gauge PDS wiring.
- **Facility A Circuit ID** — Displays when the value in **Facility Installed** for Facility A is **yes**. Enter up to 40 characters to identify the cabinet, carrier, and slot of the DS1 Converter circuit pack's physical location.

  Similarly, Facility B Circuit ID, Facility C Circuit ID, and Facility D Circuit ID fields display for each of the DS1 Converter Facilities when **yes** is entered in the corresponding Facility Installed field.

Figure 41: Fiber Link Administration form for TN574 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3)

```
add fiber-link next                                      Page 2 of 3

                      FIBER LINK ADMINISTRATION
                A-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01B01              DS1CONV Board Location: 02B01
DS1CONV Board Type: TN574                  DS1CONV Board Type: TN574

                        DS1 CONVERTER FACILITIES

                             A        B        C         D
         Facility Installed? yes      no       no        no
       Passes Far-end Clock? yes      yes      yes       yes
   Digital Data Compatible? yes      yes      yes       yes
               Line Coding: ami-zcs  ami-zcs  ami-zcs   ami-zcs
             Framing Mode:  esf      esf      esf       esf
DS1CONV-1 Line Compensation: 1        1        1         1
DS1CONV-2 Line Compensation: 1        1        1         1

Facility A Circuit ID: 09876543
```

Distance to DSX-1 Interface (feet)		
Equalizer Setting	**22 AWG ABAM & 24 AWG PDS**	**26 AWG PDS**
1	1 to 133	0 to 90
2	133 to 266	90 to 180
3	266 to 399	180 to 270
4	399 to 533	270 to 360
5	533 to 655	360 to 450

Return to Task List

Duplicated DS1C Converter Complex Administration for TN574 Circuit Packs

Return to Task List

Figure 42, Fiber Link Administration form for TN574 Circuit Pack (Duplicated DS1 Converter Complex Administration) (page 3 of 3), on page 218 allows you to admininster the DS1 converter.

Page 3 appears when the **Is one endpoint remoted via a DS1 Converter Complex?** field is **yes** and duplication is enabled.

NOTE:
When you administer DS1 Converter TN1654 circuit packs, different fields display.

For field definitions of the fields displayed on page 3 of the Fiber Link Administration form, see DS1C Converter Complex Administration for TN574 Circuit Packs.

Figure 42: Fiber Link Administration form for TN574 Circuit Pack (Duplicated DS1 Converter Complex Administration) (page 3 of 3)

```
add fiber-link next                                      Page 3 of 3

                      FIBER LINK ADMINISTRATION
                B-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01C01              DS1CONV Board Location: 02C01
DS1CONV Board Type: TN574                  DS1CONV Board Type: TN574

                        DS1 CONVERTER FACILITIES

                             A        B        C         D
         Facility Installed? yes      no       no        no
       Passes Far-end Clock? yes      yes      yes       yes
    Digital Data Compatible? yes      yes      yes       yes
               Line Coding:  ami-zcs  ami-zcs  ami-zcs   ami-zcs
              Framing Mode:  esf      esf      esf       esf
DS1CONV-1 Line Compensation:  1        1        1         1
DS1CONV-2 Line Compensation:  1        1        1         1

Facility B Circuit ID: 01112343
```

Return to Task List

DS1 Converter Complex Administration for T1 TN1654 Circuit Packs

Return to Task List

Figure 43, Fiber Link Administration form for T1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3), on page 219 shows the fields available to administer the TN1654 circuit pack.

The following unique fields display when administering a T1 TN1654 DS1 Converter.

- **Bit Rate** — Displays when the DS1 Converter circuit pack is TN1654. Enter either **1.544** for domestic T1 operation or **2.048** for international E1 operation.

  NOTE:
  Since one bit rate applies for all facilities within the same DS1 Converter complex, the **Bit Rate** field displays only under Facility A.

- **Facility Startup Idle Code**— Displays when the DS1 Converter circuit pack is TN1654. Enter 8 digits, each digit must be **0** or **1**. The second digit must be **1**. Default is **11101000**. You can administer this field on a per circuit pack basis. This is the idle code used when a TN1654 first establishes a link on a T1/E1 facility. The initial idle code used by the TN1654 is overwritten by the center stage switch to an “all ones” pattern once framing is established on that T1/E1 facility.
- **Framing Mode** — For TN1654 with 1.544 Mbps Bit Rate, this is a display-only field.

Figure 43: Fiber Link Administration form for T1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3)

```
add fiber-link next                                      Page 2 of 3

                      FIBER LINK ADMINISTRATION
                A-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01B01              DS1CONV Board Location: 02B01
DS1CONV Board Type: TN1654                 DS1CONV Board Type: TN1654

                        DS1 CONVERTER FACILITIES

                             A        B        C         D
         Facility Installed? yes      yes      no        no
                   Bit Rate: 1.544
 Facility Startup Idle Code: 11101000
               Line Coding:  ami-zcs  ami-zcs  ami-zcs   ami-zcs
              Framing Mode:
DS1CONV-1 Line Compensation: 1        1        1         1
DS1CONV-2 Line Compensation: 1        1        1         1

Facility A Circuit ID: 09876543
Facility B Circuit ID: 234567889
```

Return to Task List

Duplicated DS1 Converter Complex Administration for T1 TN1654 Circuit Packs

Return to Task List

Figure 44, Fiber Link Administration form for E1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3), on page 220 allows you to admininster the DS1 converter.

The following unique fields display when administering a TN1654 DS1 Converter.

- **Bit Rate** — A display-only field for TN1654 entered on page 3 of the form. **1.544** indicates domestic (USA) T1 operation and **2.048** indicates international E1 operation. See at DS1C Converter Complex Administration for TN574 Circuit Packs for more information.

Figure 44: Fiber Link Administration form for E1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3)

```
add fiber-link next                                      Page 2 of 3

                      FIBER LINK ADMINISTRATION
                A-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01B01              DS1CONV Board Location: 02B01
DS1CONV Board Type: TN1654                 DS1CONV Board Type: TN1654

                        DS1 CONVERTER FACILITIES

                              A        B        C         D
         Facility Installed?  yes      yes      yes       no
                    Bit Rate:  2.048
 Facility Startup Idle Code:  11101000
                Line Coding:  hdb3     hdb3     hdb3      hdb3
                        CRC?  yes
           Line Termination:


Facility A Circuit ID: 09876543
Facility B Circuit ID: 234567889
Facility C Circuit ID: 434566335
```

Return to Task List

DS1 Converter Complex Administration for E1 TN1654 Circuit Packs

Return to Task List

Figure 45, Fiber Link Administration form for E1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3), on page 221 allows you to admininster the DS1 converter.

The following unique fields display when administering a E1 TN1654 DS1 Converter.

- **Bit Rate** — Displays when the DS1 Converter circuit pack is TN1654. Enter either **1.544** for domestic (USA) T1 operation or **2.048** for international E1 operation.

  NOTE:
  Since one bit rate applies for all facilities within the same DS1 Converter complex, **Bit Rate** displays only under Facility A. To activate the desired Bit Rate, the toggle switch on the circuit pack must be set and it must correspond to the Bit Rate.

- **Idle Code MSB(1) ... LSB(8)** — Displays when the DS1 Converter circuit pack is TN1654. Enter 8 digits, each digit must be **0** or **1**. The second digit must be **1**. Default is **11101000**. You can administer this field on a per circuit pack basis.
- **CRC** — Displays when the DS1 Converter circuit pack is TN1654 and the Bit Rate is 2.048 Mbps. Enter **yes** to receive a “yellow 2” alarm for E1 operation. Default is **no**. You can administer this field on a per circuit pack basis.
- **Line Termination** — A display-only field for DS1 Converter circuit packs that are TN1654 and have a Bit Rate of 2.048 Mbps. It identifies facility connections as CEPT 75 ohm coaxial or 120 ohm CEPT twisted pair.

Figure 45: Fiber Link Administration form for E1 TN1654 Circuit Pack (DS1 Converter Complex Administration) (page 2 of 3)

```
add fiber-link next                                    Page 2 of 3

                      FIBER LINK ADMINISTRATION
                A-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01B01              DS1CONV Board Location: 02B01
DS1CONV Board Type: TN1654                 DS1CONV Board Type: TN1654

                        DS1 CONVERTER FACILITIES

                             A        B        C        D
        Facility Installed?  yes      yes      yes      no
                  Bit Rate:  2.048
 Facility Startup Idle Code:  11101000
               Line Coding:  hdb3     hdb3     hdb3     hdb3
                      CRC?  yes
          Line Termination:


Facility A Circuit ID: 09876543
Facility B Circuit ID: 234567889
Facility C Circuit ID: 434566335
```

Return to Task List

Duplicated DS1 Converter Complex Administration for E1 TN1654 Circuit Packs

Return to Task List

Figure 46, Fiber Link Administration form for B-PNC DS1 Converter (DS1CONV) Attributes, on page 222 allows you to admininster the DS1 converter.

The following unique fields display when administering a E1 TN1654 DS1 Converter.

- **Bit Rate** — Displays when the DS1 Converter circuit pack is TN1654. Enter either **1.544** for domestic (USA) T1 operation or **2.048** for international E1 operation.

  NOTE:
  Since one bit rate applies for all facilities within the same DS1 Converter complex, **Bit Rate** displays only under Facility A. To activate the desired Bit Rate, the toggle switch on the circuit pack must be set and it must correspond to the Bit Rate.

- **Idle Code MSB(1) ... LSB(8)** — Displays when the DS1 Converter circuit pack is TN1654. Enter 8 digits, each digit must be **0** or **1**. The second digit must be **1**. Default is **11101000**. You can administer this field on a per circuit pack basis.
- **CRC** — Displays when the DS1 Converter circuit pack is TN1654 and the Bit Rate is 2.048 Mbps. Enter **yes** to receive a “yellow 2” alarm for E1 operation. Default is **no**. You can administer this field on a per circuit pack basis.
- **Line Termination** — A display-only field for DS1 Converter circuit packs that are TN1654 and have a Bit Rate of 2.048 Mbps. It identifies facility connections as CEPT 75 ohm coaxial or 120 ohm CEPT twisted pair.

Figure 46: Fiber Link Administration form for B-PNC DS1 Converter (DS1CONV) Attributes

```
add fiber-link next                                        Page 3 of 3

                        FIBER LINK ADMINISTRATION
                  B-PNC DS1 CONVERTER (DS1CONV) ATTRIBUTES

DS1CONV Board Location: 01C01              DS1CONV Board Location: 02C01
DS1CONV Board Type: TN1654                 DS1CONV Board Type: TN1654

                          DS1 CONVERTER FACILITIES

                               A        B        C         D
          Facility Installed?  yes      yes      yes       no
                    Bit Rate:  2.048
 Facility Startup Idle Code:  11101000
                 Line Coding:  hdb3     hdb3     hdb3      hdb3
                         CRC?  yes
            Line Termination:


Facility A Circuit ID: 0AABB01
Facility B Circuit ID: 0CCDD02
Facility C Circuit ID: 0EEFF03
```

Return to Task List

System 75 XE to R8si (Blowback)

This section provides the instructions for an upgrade from an R1V3 System 75 XE system to a DEFINITY® Release 8si system. This upgrade includes a control-cabinet replacement.

NOTE:
You upgrade the System 75XE J58890G cabinet by completely replacing it with the R8si J58890L cabinet.

For further information, see

- Upgrade overview: System 75 XE on page 321

Before you begin the upgrade

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps			
What		**When**	**Who**
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec

Upgrade preparation steps			
What		**When**	**Who**
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

NOTE:
There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

   NOTE:
   The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).
5. Reinstall the system tape.
6. Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Task List: System 75 XE to R8si

Use this task list to upgrade a System 75 XE to R8si. Steps are provided for

- Single cabinets (PPN)
- Dual cabinets (EPN)
- Earthquake protection

Ensure that these tasks are complete *before* the upgrade visit:

1. Verify the required hardware [75 XE upgrade]
2. Provide the required tools [75 XE upgrade]

Perform these tasks *during* the upgrade visit:

3. Unpack and inspect control cabinet for damage [75 XE upgrade]
4. Verify software load [75 XE upgrade]
5. Verify system status [75 XE upgrade] Record any customer-placed busy-outs.
6. Disable scheduled maintenance and alarm origination [75 XE upgrade]
7. Save translations to tape [75 XE upgrade]
8. Verify power and grounding and check for power transfer stations [75 XE upgrade]
9. Modify external alarm connections [75 XE upgrade]
10. Label cables [75 XE upgrade]
11. For systems so equipped: Shut down DEFINITY AUDIX system [75 XE upgrade]
12. Power down PPN [75 XE upgrade]
13. Disconnect power and grounding and SAT terminal [75 XE upgrade]
14. Verify power failure stations (if present) [75 XE upgrade]
15. Remove door and panels [75 XE upgrade] (EPN only)
16. Remove circuit packs from the carrier [75 XE upgrade]
17. Disconnect TDM cables [75 XE upgrade]
18. Remove the control cabinet [75 XE upgrade]
19. Install new control cabinet [75 XE upgrade] or Install new control cabinet with earthquake protection [75 XE upgrade]
20. Install enhanced control cabinet (duplicated system) [75 XE upgrade]
21. Install port cabinets [75 XE upgrade]
22. Install circuit packs into the port cabinets [75 XE upgrade] (If a TN2182 is installed, do not reinstall the TN756.)
23. Change cabinet address plugs [75 XE upgrade] (PPN upgrade only)
24. Move 25-pair cables from System 75 to R8si [75 XE upgrade]
25. Install TDM/LAN bus terminators [75 XE upgrade]
26. Connect TDM/LAN cables and ICC cables for PPN Upgrade [75 XE upgrade]
27. Connect TDM/LAN Cables and ICC Cables for EPN Upgrade [75 XE upgrade]

28 Interconnect Port Networks - Dual cabinet (EPN) upgrade only [75 XE upgrade]

29 Install ground plate(s) [75 XE upgrade] (skip this step if Earthquake protection is used)

30 Install cabinet clip(s) [75 XE upgrade] (skip this step if Earthquake protection is used)

31 Verify TDM cables and connectors [75 XE upgrade]. If new TDM terminators and cables are required but have not yet been installed, install them now.

32 Connect power and grounding and the SAT terminal [75 XE upgrade]

33 Close PPN stack without earthquake protection [75 XE upgrade] or Close PPN stack with earthquake protection [75 XE upgrade]

34 Install cable clamps [75 XE upgrade]

35 Power up and set date, time, and daylight savings rule [75 XE upgrade]

36 Enable customer options and alarm origination [75 XE upgrade] (You identify the upgrade as R7 or R8 here.)

37 Verify the upgrade [75 XE upgrade]

Restore any customer-placed busy-outs before you run the acceptance tests!

38 Run acceptance tests [75 XE upgrade]

39 Retranslate port circuits [75 XE upgrade] if necessary

40 Readminister translation [75 XE upgrade] if necessary

41 Rerecord announcements [75 XE upgrade]

42 Save announcements and translation [75 XE upgrade]

43 Register the upgraded switch [75 XE upgrade]

44 Return equipment to MSL [75 XE upgrade]

Verify the required hardware [75 XE upgrade]

Return to Task List

This equipment *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains 4 Mbytes of memory.

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Table 9: Required hardware for System 75 XE to R8si upgrade

Equipment	Description	Quantity	Notes
J58890L	Enhanced Control Cabinet	1	L-2 List 25 or newer uses TN794; older carriers use TN794/TN2400 NetCon
J58890M	Enhanced Duplicated Control Cabinet	1	Required for critical reliability M-2 List 15 or newer uses TN794; older carriers use TN794/TN2400 NetCon
108595638	TN790B Processor	1 or 2	One with standard reliability, two with critical reliability.
103557187	TN765 Processor Interface	1, 2, or 4	Provided as required for DCS, CMS, AUDIX, etc.
PEC 6300-04X	Processor Port Network	1	EPN upgrade only
J58890N	Expansion Control Cabinet	1	EPN upgrade only
106647985	TN775C Maintenance	1	EPN upgrade only
103557476 848254942	TN794 Network Control TN794/TN2400 Network Control	1 or 2	One with standard reliability, two with critical reliability.
103557294 or 103281788	TN776 or TN570D Expansion Interface	2 or 4	EPN upgrade only. 2 for std/high-reliability. 4 for critical reliability. TN570D required with optional packet bus.
One type of: 103557096 103557211 103557336 106706955	One type of: TN756 Tone-Detector TN768 Tone-Clock TN780 Tone-Clock TN2182 Tone-Clock	 1 or 2 1 or 2 1 or 2 1	One with standard reliability, two with critical reliability.
H600-259 G1	Intercabinet Cables A, B, and C	3	Required for critical reliability
103557252	TN772 Duplication Interface	2	Required for critical reliability
405907015	WP-91716 L3 TDM/LAN Cable	0 to 3	Quantity depends on the number of single-carrier cabinets in the upgraded PPN.
105631527	AHF110 TDM/LAN Bus Terminator	2	
601817448 or 601817422 or 601817430	R7/R8 Translations Card: 2 Mbyte Mass-Storage Translation Card (white card) or 4 Mbyte Mass-Storage Translation Card (white card) or 10 Mbyte Mass-Storage Translation Card (white card)	1 or 2	One with standard reliability, two with critical reliability. 4-Mbyte translation memory cards are required for a system that uses recorded announcements. A 10 Mbyte card is required if a DEFINITY Wireless Business System is installed.
63300A	FL2P-P-XX Fiber Cable	1 or 2	EPN upgrade only. 2 cables for critical reliability systems.

Table 9: Required hardware for System 75 XE to R8si upgrade

Equipment	Description	Quantity	Notes
106455348 or 106455363	9823-A or -B Lightwave Transceiver	2 or 4	EPN upgrade only. 4 tranceivers are required for critical reliability systems.
H600-248 G1	ICC Cables	2	EPN upgrade only. Required for critical reliability.
846307817	Lower Rear Cover	1	EPN upgrade only. Use in “B” port cabinet in critical reliability system.
846307841	C Port Label	1	
846307958	D Port Label	1	
106689516	TN771DP Maintenance/Test	1	Required in a port slot of a critical-reliability Release 8si PPN with the optional packet bus.
846307809	Ground Plate	1	Required for critical reliability
846309466	DEFINITY Label	1 per cabinet	
846408268	Earthquake Front Panel	1	Earthquake protection only
846408386	Earthquake Ground Plate	1	Earthquake protection only
846408250	Stiffener	1	Earthquake protection only
846408243	Earthquake Front Mounting Angle	1	Earthquake protection only

Return to Task List

Provide the required tools [75 XE upgrade]

Return to Task List

The following tools and items may be required during the upgrade:

- PPN only: Flash maintenance kit (MTCE 00037), acquired from Material Stocking Location (MSL)
- Flashlight or high-intensity AC drop light
- Power screwdriver (optional)
- 1/4-inch flat-blade screwdriver
- 1/4-inch socket with ratchet (optional)
- Long-nose pliers to straighten backplane pins
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for identifying the port circuit packs and cables attached to the rear of cabinets
- Receptacle for holding screws
- One dozen #8 self-tapping screws

- Repair kit for backplane pins (KS-22876 L2 or equivalent)
- Documentation (book or PDF file) for the current release:
  - — *Maintenance for Avaya DEFINITY® Server SI (555-233-123)*
  - — *DEFINITY® ECS R8.1 Administrator's Guide (555-233-503)*

Return to Task List

Unpack and inspect control cabinet for damage [75 XE upgrade]

Return to Task List

DANGER:
Take care to avoid injury while cutting and removing bands.

1. Unpack the cabinet and remove the front door.
2. Visually inspect the cabinet for any physical damage caused during shipping.
3. Report any damage for appropriate action according to local procedures.
4. Remove all packing material from the cabinet.

Return to Task List

Verify software load [75 XE upgrade]

Return to Task List

1. Type **list configuration software-versions memory-resident** and press **Enter**.
2. Record the software load.

Return to Task List

Verify system status [75 XE upgrade]

Return to Task List

1. Verify that system status is normal.

   Execute **status system 1** (If status is not normal, take the needed corrective actions.)
2. Verify that the system is alarm-free.

   Execute **display alarms** (If the system is not alarm-free, take the needed corrective actions.)

3 Identify and record customer-placed busy-outs.

Execute **display errors** (Examine the error log and record the error 18s that identify the busy-outs placed by the customer.)

NOTE:
You will restore the customer-placed busy-outs after you have upgraded the system.

4 For a system that has existing BX.25 links that are being retained after the upgrade: identify and record them.

Execute **display communication-interface links**

5 Execute the following commands and verify that the information is correct:

list station

list trunk-group

list hunt-group

list data-module

For upgrades from systems later than G1, **list ars analysis**

For a system with Expert Agent later than G3V3, **list agent**

If any command does not complete successfully, escalate the problem immediately.

Return to Task List

Disable scheduled maintenance and alarm origination [75 XE upgrade]

Return to Task List

1 To prevent scheduled daily maintenance from interfering with the update or upgrade, type **change system-parameters maintenance** and press **Enter**.

2 If scheduled maintenance:

— has begun: set the `Stop Time` field to 1 minute after the current time.

— has not begun: set the `Start Time` field to at least 8 hours after the upgrade starts.

CAUTION:
If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.

3 Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter**.

Return to Task List

Save translations to tape [75 XE upgrade]

Return to Task List

As a safety precaution, create a backout tape:

1. Log into the DEFINITY switch.
2. Type **save translation** and press **Enter**.

   NOTE:
   If the system uses the TN750C announcement circuit pack (which has onboard, nonvolatile memory) you do not need to save announcements. Stop here.

3. If the system uses the TN750B or earlier announcement circuit pack, type **display announcements** and press **Enter**.
4. If administered recorded announcements are listed, type **list configuration software-version** and press **Enter**.
5. Check page 2 of this form to see when the announcements were last saved, and ask the customer whether any announcements have changed since then.
6. If announcements have changed, type **save announcements** and press **Enter**.

Return to Task List

Verify power and grounding and check for power transfer stations [75 XE upgrade]

Return to Task List

1. Verify the power and grounding and make any changes, if necessary.
2. Insert an isolator, if necessary.
3. Visually inspect for power transfer panels.

Return to Task List

Modify external alarm connections [75 XE upgrade]

Return to Task List

You modify the external alarm connections if necessary (that is, if they changed with this upgrade).

See the Auxiliary lead appearances at AUX connector table for the current pinouts for an external alarm, and the Auxiliary lead appearances for System 75, G1, and G3 table for the prior pinouts.

The control carrier AUX connector outputs include:

- Alarm monitoring for the auxiliary cabinet.
- Seven -48 VDC power sources for emergency transfer units.

- Three -48 VDC power sources for remotely powering 3 attendant consoles or telephone adjuncts.
- The remote management terminal interface trunk connection location.
- Access to a relay contact is available to actuate a customer-provided light, bell, or similar alarm device. Administer the system to make contact when a major, minor or warning alarm condition occurs in the system. The circuitry required for this feature is customer-provided. The device connected to the alarm leads must not exceed a rating of 30 VAC RMS or 60 VDC at 0.75 amps.

A 25-pair connector labeled AUX is provided on the rear of the control carrier. Connect a cable to this connector and route to a connecting block on the trunk/auxiliary field.

Auxiliary lead appearances at AUX connector		
Color	**Pin number**	**AUX connector outputs**
W-BL BL-W	26 1	Major (Note 1)
W-O O-W	27 2	Minor (Note 1)
W-G G-W	28 3	GND
W-BR BR-W	29 4	GND
W-S S-W	30 5	GND
R-BL BL-R	31 6	GND
R-O O-R	32 7	GND
R-G G-R	33 8	N/C
R-BR BR-R	34 9	N/C
R-S S-R	35 10	N/C

Auxiliary lead appearances at AUX connector			
Color	**Pin number**	**AUX connector outputs**	
BK-BL BL-BK	36 11	-48 GND	Emergency transfer relay power
BK-O O-BK	37 12	-48 GND	
BK-G G-BK	38 13	-48 GND	
BK-BR BR-BK	39 14	-48 GND	
BK-S S-BK	40 15	-48 GND	
Y-BL BL-Y	41 16	-48 GND	
Y-O O-Y	42 17	-48 GND	
Y-G G-Y	43 18	N/C	
Y-BR BR-Y	44 19	GND -48	AUX power
Y-S S-Y	45 20	GND -48	
V-BL BL-V	46 21	GND -48	
V-O O-V	47 22	N/C	
V-G G-V	48 23	External Alarm A (Note 1) External Alarm return	
V-BR BR-V	49 24	N/C	
V-S S-V	50 25	INADS Tip INADS Ring	

External alarm with signal incoming to system.

Auxiliary lead appearances for System 75, G1, and G3					
Color	66-type conn block term	Multi-carrrier AUX conn outputs	Single-carrrier AUX conn outputs	808A emerg xfer unit outputs	574-5 power xfer unit outputs
W-BL BL-W	01 02	1M	1M	TC	TC
W-O O-W	03 04	1m	1m	TK	TK
W-G G-W	05 06	2M (Note 1)	2M (Note 2)	LC	LC
W-BR BR-W	07 08	2m (Note 1)	2m (Note 2)	ST	ST
W-S S-W	09 10	3M (Note 1)	3M (Note 2)	TC	TC
R-BL BL-R	11 12	3m (Note 1)	3m (Note 2)	TK	TK
R-O O-R	13 14	3W (Note 1)	3W (Note 2)	LC	LC
R-G G-R	15 16	N/C	N/C	ST	ST
R-BR BR-R	17 18	N/C	N/C	TC	TC
R-S S-R	19 20	N/C	N/C	TK	TK

Auxiliary lead appearances for System 75, G1, and G3							
Color	66-type conn block term	Multi-carrrier AUX conn outputs		Single-carrrier AUX conn outputs		808A emerg xfer unit outputs	574-5 power xfer unit outputs
BK-BL BL-BK	21 22	GND -48	Emerg xfer relay power	GND -48	Emerg xfer relay power	LC	LC
BK-O O-BK	23 24	GND -48		GND -48		ST	ST
BK-G G-BK	25 26	GND -48		GND -48		TC	TC
BK-BR BR-BK	27 28	GND -48		GND -48		TK	TK
BK-S S-BK	29 30	GND -48		GND -48		LC	LC
Y-BL BL-Y	31 32	GND -48		GND -48		ST	ST
Y-O O-Y	33 34	GND -48		GND -48		TC	TC
Y-G G-Y	35 36	N/C		N/C		TK	TK
Y-BR BR-Y	37 38	GND -48	ACC power	N/C		LC	LC
Y-S S-Y	39 40	GND -48		N/C		ST	ST
V-BL BL-V	41 42	GND -48		N/C		COM1 N01	COM1 N01
V-O O-V	43 44	N/C		N/C		NC2 NC1	NC2 NC1
V-G G-V	45 46	Ext Alarm A Ext Alarm B		Ext Alarm A Ext Alarm B		COM2 N02	COM2 N02
V-BR BR-V	47 48	N/C		N/C		N/C	N/C
V-S S-V	49 50	INADS		INADS		GND -48	GND -48

These leads are not available on DEFINITY G1 or later systems. If you are upgrading a System 75 and these leads were previously used, these alarm connections have to be dropped.

Return to Task List

Label cables [75 XE upgrade]

Return to Task List

To make reconnecting the cables simpler and more reliable, label every connector cable associated with the system (if it is not already labeled).

Return to Task List

Shut down DEFINITY AUDIX system [75 XE upgrade]

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1 Log into the AUDIX as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **reset system shutdown** and press **Enter**.

3 Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power down PPN [75 XE upgrade]

Return to Task List

CAUTION:
Important system data such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests will be lost on power down. You cannot store to or retrieve data from tape or flash.

CAUTION:
On a DC-powered SCC, do *not* power down by reseating the power supply as it will trip the breakers on the DC power cabinet.

NOTE:
The breaker on an MCC is on the bottom front of the cabinet; the breaker on an SCC is on the back of the cabinet.

1. At the PPN power-distribution unit, set the main circuit breaker to OFF.
2. If the site has a power-failure transfer panel, connect a ground strap to the panel and to a ground source. Verify that the power-failure stations are working.

   Remember to disconnect this strap before reapplying power.

Return to Task List

Disconnect power and grounding and SAT terminal [75 XE upgrade]

Return to Task List

1. Disconnect the cabinet power cords from the rear of each cabinet.
2. Disconnect the coupled bonding conductor.
3. Disconnect the 6AWG cabinet ground wire from the ground bar in the cabinet.

   NOTE:
   A screwdriver is required to loosen and tighten the bolts that secure the ground wire to the ground bar.

4. Disconnect the SAT terminal.

Return to Task List

Verify power failure stations (if present) [75 XE upgrade]

Return to Task List

Verify that the power failure stations are functioning.

Remove door and panels [75 XE upgrade]

Return to Task List

1. Remove the front door from each of the cabinets.
2. Disconnect all of the previously labeled connector cables.
3. Disconnect the Manager I from the TERM connector.
4. Remove the ground plate(s) from between all of the cabinets.
5. Remove the top and bottom rear covers from all of the cabinets.

Return to Task List

Remove circuit packs from the carrier [75 XE upgrade]

Return to Task List

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1. Label each port circuit pack in control cabinet A with its slot number.
2. Remove all circuit packs and power units from the control cabinet. Store the circuit packs in the static-proof packaging.

   NOTE:
   You can use a TN756 Tone Detector/Generator in an upgraded PPN system. You can **not** use the TN756 in an EPN upgrade. If a TN756 is being replaced by a new tone-clock during the upgrade, you will replace this circuit pack *either* with a TN2182 tone-clock/tone detector *or with both* a new Release 8si tone-clock (TN768 or TN780) and a new tone detector (TN748B).

3. If a TN741 (or an international TN419A) Tone-Clock resides in port cabinet B, remove this circuit pack from the port cabinet. It will not be reused.

Return to Task List

Disconnect TDM cables [75 XE upgrade]

Return to Task List

NOTE:
The cables and adapters will not be reused.

1. Note the position of each cable adapter.
2. Remove all of the TDM cables.
3. Remove the AHF103 TDM cable adapters.

Return to Task List

Remove the control cabinet [75 XE upgrade]

Return to Task List

To remove the control cabinet from the bottom of the port network, you must completely dismantle the system.

DANGER:
A port cabinet may weigh as much as 125 pounds and requires 2 handlers to unstack the cabinets. If third or fourth cabinet is to be removed, remove the front door, power supply, and circuit packs to lighten the load. Use caution to avoid injury.

1. Verify that all of the power, grounding, TDM, and connector cables have been disconnected.
2. Ensure that there is adequate space available to place each cabinet in an out-of-the-way location as the port network is dismantled.
3. Remove the cabinet clip between each cabinet.
4. Remove each port cabinet from the stack, and put it in a safe place.
5. If the control cabinet is earthquake mounted, remove the hardware securing the cabinet to the floor.
6. Move the existing control cabinet out of its present location. It will not be reused, so it can be removed at this time.

Return to Task List

Install new control cabinet [75 XE upgrade]

Return to Task List

The new control cabinet already contains a processor circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Position the J58890L control cabinet A at the desired location. This should be as close to the MDF as possible.
2. Install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Return to Task List

Install new control cabinet with earthquake protection [75 XE upgrade]

Return to Task List

The new control cabinet already contains a processor circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Position the J58890L control cabinet A at the desired location.
2. Place the front mounting angle at the location selected for the front of the control cabinet.
3. Using the angle as a template, mark the locations of the 2 mounting bolts.
4. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 3.
5. Mount the front mounting angle to the floor (Figure 47, Front mounting angle — concrete floor, on page 243).
6. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with 2 No. 12-24 by 1/2-inch thread-forming screws.
7. Insert a pencil or marker through the 2 holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
8. Remove the 2 screws installed in Step 6, and move the cabinet out of the way.
9. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 7.
10. Move the cabinet back into place.

11 Attach the cabinet to the front mounting angle using 4 No. 12-24 by 1/2-inch thread-forming screws.

12 In the rear of the cabinet, lay the stiffener on the bottom of the cabinet aligning the stiffener with the holes in the bottom of the cabinet.

13 Fasten the cabinet to the floor (Figure 48, Cabinet earthquake mounting — concrete floor, on page 244).

NOTE:
You install the earthquake front plate and earthquake ground plate later in the upgrade procedure.

Figure 47: Front mounting angle — concrete floor

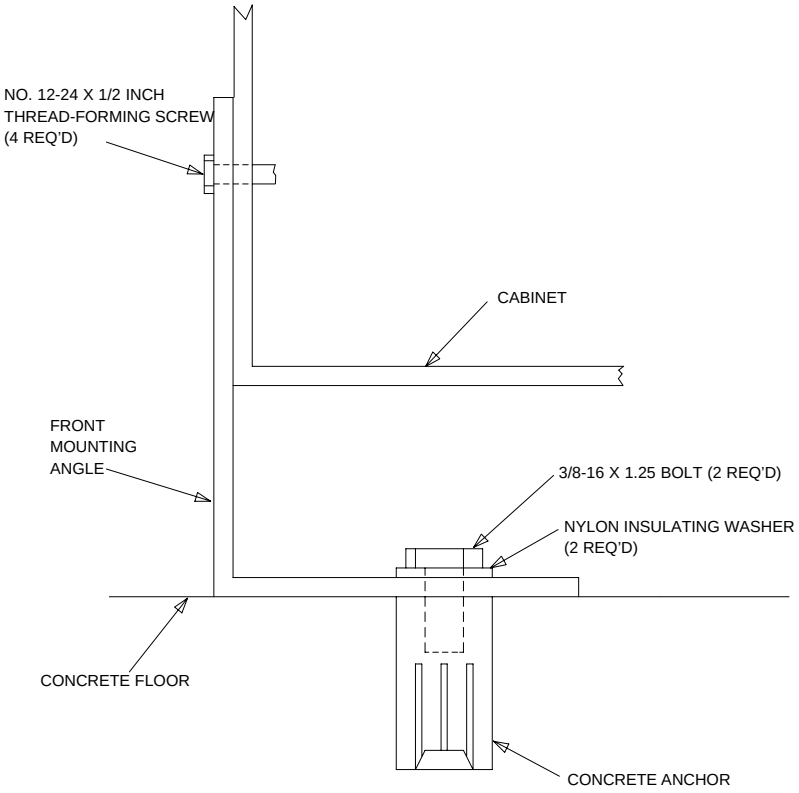
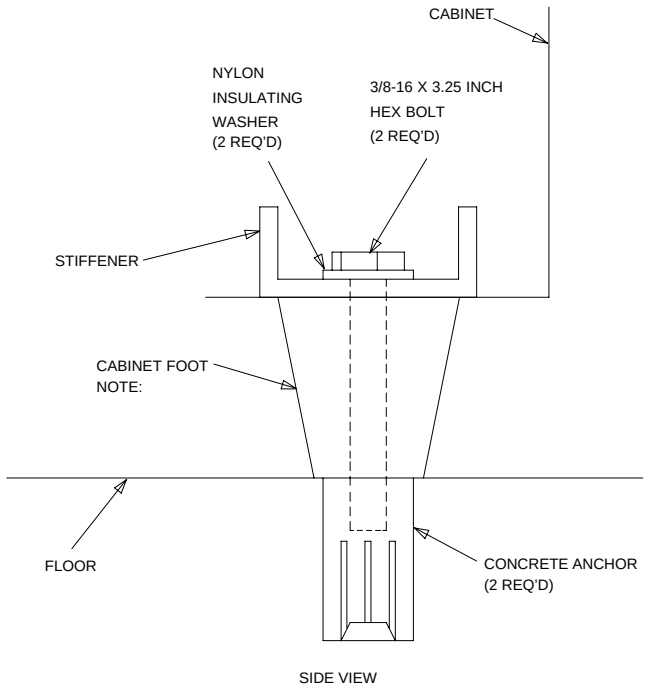


Figure 48: Cabinet earthquake mounting — concrete floor



NOTE: BOLT DOES NOT RUN THROUGH CABINET FOOT

Return to Task List

Install enhanced control cabinet (duplicated system) [75 XE upgrade]

Return to Task List

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

For a duplicated system, position the J58890M duplicated control cabinet B above cabinet A.

Install port cabinets [75 XE upgrade]

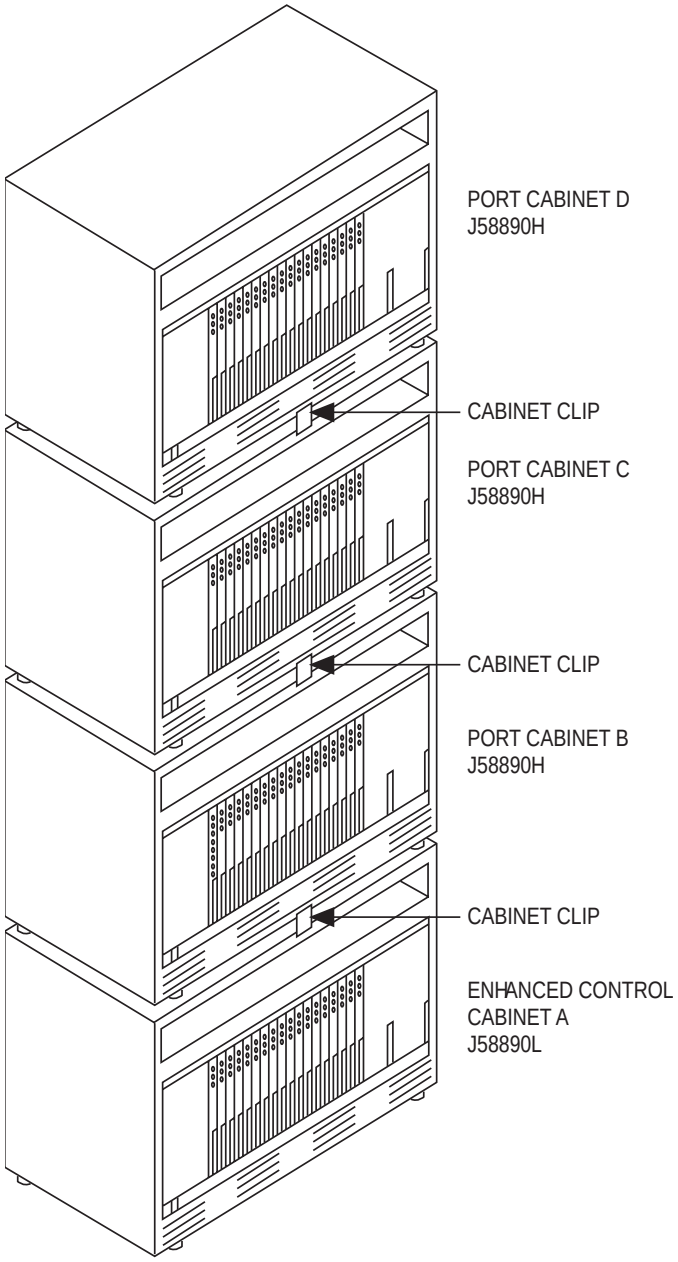
Return to Task List

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1. Place the port cabinets into the positions from which they were previously removed (see Figure 49, 4-cabinet R8si PPN — front view doors removed, on page 246).
2. Replace the circuit packs and power supplies in port cabinets C and D if they were previously removed.
3. Install the new labels on the front and rear of the port cabinets.

Figure 49: 4-cabinet R8si PPN — front view doors removed



Return to Task List

Install circuit packs into the port cabinets [75 XE upgrade]

Return to Task List

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

WARNING:
The replaced port circuit packs must conform to the usable vintage requirements for a Release 8si system (see Reference Guide for Circuit-Pack Vintages and Change Notices).

1 Using the label and the annotated **list configuration all** printout (provided with the Release 8si translation memory card), install the Release 8si control circuit packs into the new enhanced control cabinet(s) or the expansion control cabinet, as appropriate.

NOTE:
You can use a TN756 Tone Detector/Generator in an upgraded PPN system. You can **not** use the TN756 in an EPN upgrade. If a TN756 is being replaced by a new tone-clock during the upgrade, you will replace this circuit pack *either* with a TN2182 tone-clock/tone detector *or with both* a new Release 8si tone-clock (TN768 or TN780) and a new tone detector (TN748B).

2 Reinstall the previously-removed port circuit packs into the A cabinet using the decal and the annotated **list configuration all** printout (provided with the Release 8si translation memory card) as a guide.

NOTE:
If a TN2182 is installed, do not reintstall the TN756 in the port network.

You do not need to move and retranslate these circuit packs. The new Release 8si enhanced control cabinet has 2 or 3 more port slots than the System 75 control cabinet you removed.

Return to Task List

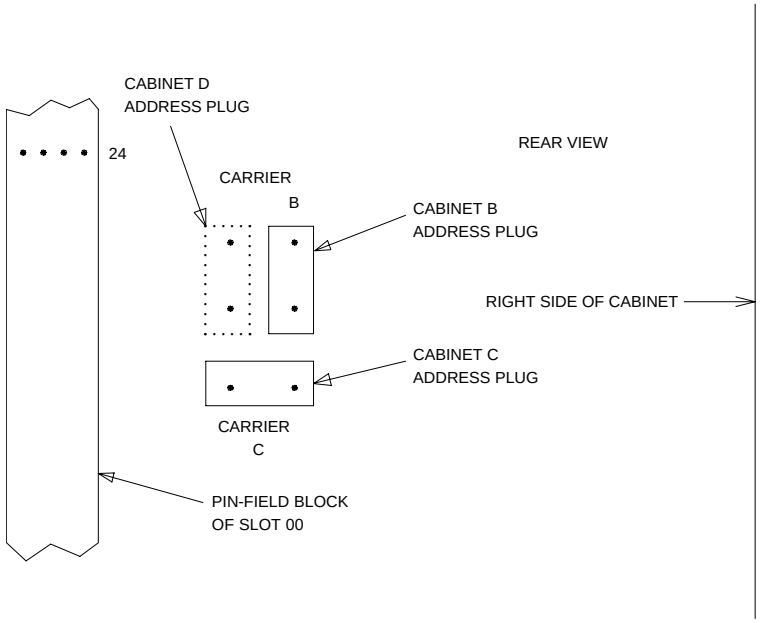
Change cabinet address plugs [75 XE upgrade]

Return to Task List

If a duplicated control cabinet was added to position B and did not replace a port cabinet, the upgraded PPN's port cabinets occupy different positions in the cabinet stack. You must change the location of each port cabinet's address plug to reflect the cabinet's current position (see Figure 50, Cabinet address-plug location, on page 248).

The cabinet address plug-pins are to the right of the pin-field block for slot 00. For each port cabinet, attach the address plug to the pair of backplane pins corresponding to the cabinet's position in the stack.

Figure 50: Cabinet address-plug location



Return to Task List

Move 25-pair cables from System 75 to R8si [75 XE upgrade]

Return to Task List

1 Remove any reusable 25-pair cables from the rear of the old system.

For G3vs upgrades Cables connecting the wall-mount G3vs and the si cabinet may be too short. If so, replace these cables with new, longer cables.

2 Attach any reusable 25-pair cables to the needed connectors on the rear of the si cabinet.

3 Attach any *new* 25-pair cables to the needed connectors on the rear of the si cabinet.

4 Route the new cables to the MDF and attach.

Return to Task List

Install TDM/LAN bus terminators [75 XE upgrade]

Return to Task List

If the PPN has only 1 single-carrier cabinet, install AHF110 TDM/LAN bus terminators in slot 22 and slot 02. See Figure 51.

If the PPN has more than 1 single-carrier cabinet, install an AHF110 TDM/LAN bus terminator in slot 02 of the cabinet in the A position and in slot 17 of the upper-most port cabinet. (See Figure 52, TDM/LAN connections for R8si PPN, on page 250.)

Figure 51: Locations of TDM/LAN bus terminators for single-cabinet PPN

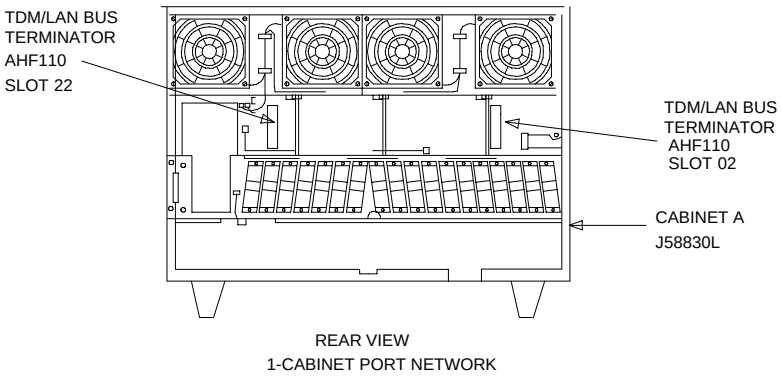
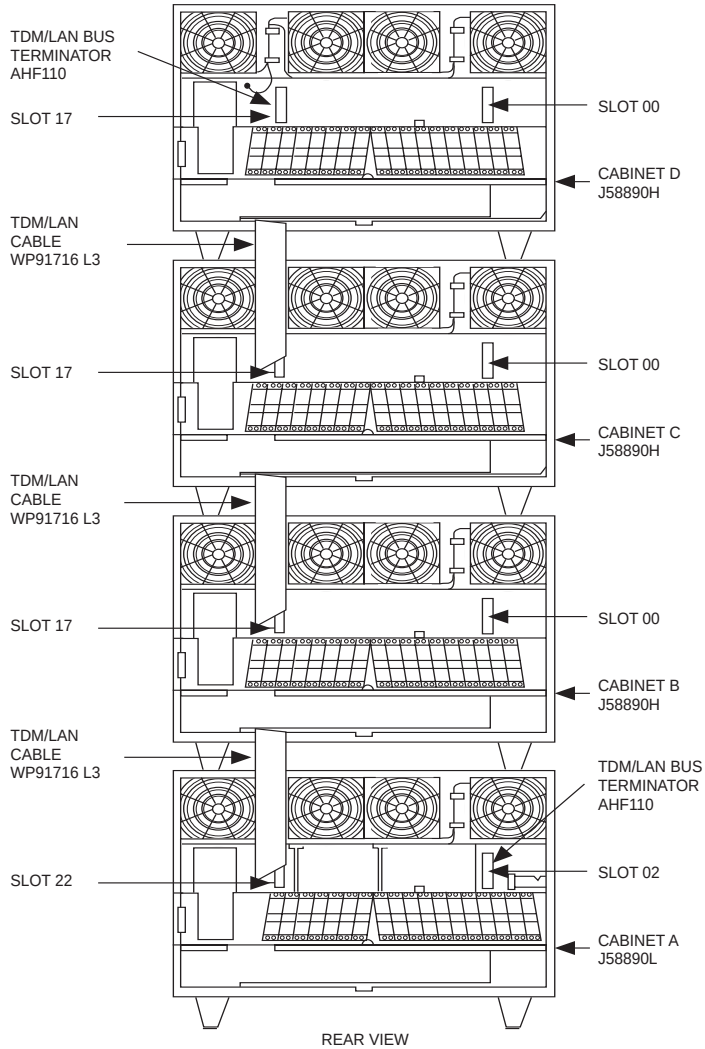


Figure 52: TDM/LAN connections for R8si PPN



Return to Task List

Connect TDM/LAN cables and ICC cables for PPN Upgrade [75 XE upgrade]

Return to Task List

NOTE:
This procedure is for single cabinet (PPN) upgrades only.

Use this procedure to route and connect the new WP-91716 L3 TDM/LAN cables between the System 75 XE port cabinets that are being reused.

CAUTION:
Do not run the new cables through the existing slot in the rear shelves.

1. Working from the rear of the cabinets, loosen the 2 screws on the left side of the connector-panel, and then remove the other 2 connector-panel screws.
2. Attach the TDM/LAN cable to the backplane, and slide the cable between the connector panel and the rear shelf.

   Do not run the cable through the existing slot in the rear shelves.
3. Route the cable along the bottom of the cabinet.
4. Replace and tighten the connector-panel screws.
5. For a duplicated system, connect the ICC cables as shown in this table:

Table 10: Intercabinet cable connections — PPN

FROM: Carrier	Pin-Field Block	TO: Carrier	Pin-Field Block
J58890L-1 L5	ICCB	J58890M-1 L5	ICCB
	ICCC		ICCC

For the locations of the pin-field blocks, see Figure 53, ICC pin-field blocks on J58890L-1 L5 enhanced control cabinet, on page 252 or Figure 54, ICC pin-field blocks on J58890M-1 L5 or J58890M-2 L7 enhanced duplicated control cabinet, on page 253.

6. On the A carrier, verify that the 982LS current limiter (CURL) is properly connected to the pin-field block marked CURL (see Figure 53, ICC pin-field blocks on J58890L-1 L5 enhanced control cabinet, on page 252). The CURL's components should be on the left side as viewed from the rear.

Figure 53: ICC pin-field blocks on J58890L-1 L5 enhanced control cabinet

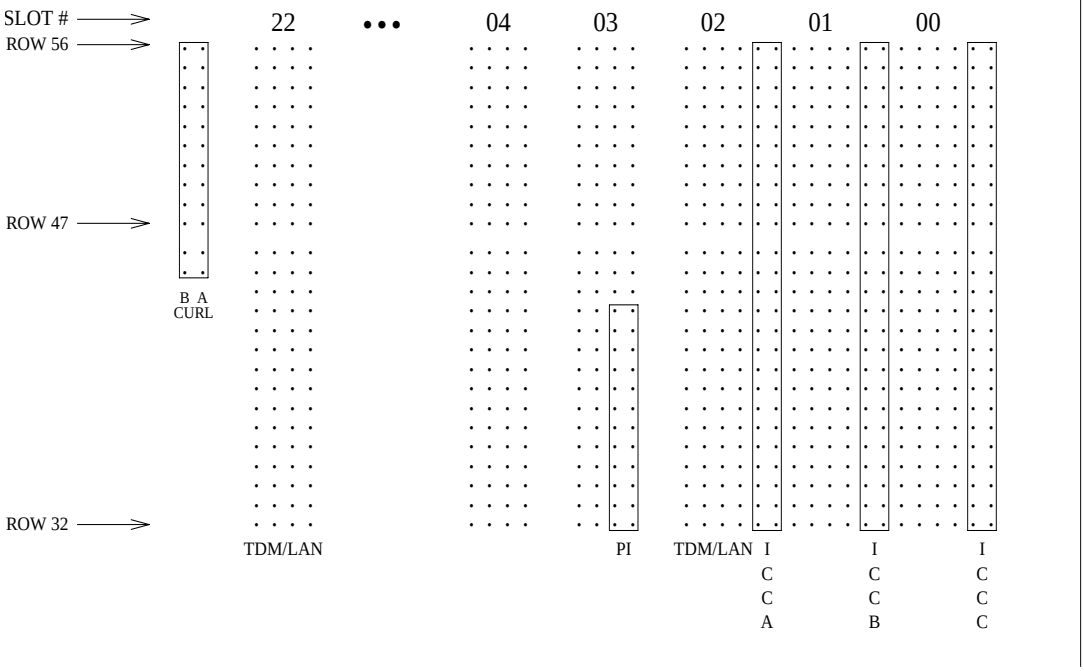
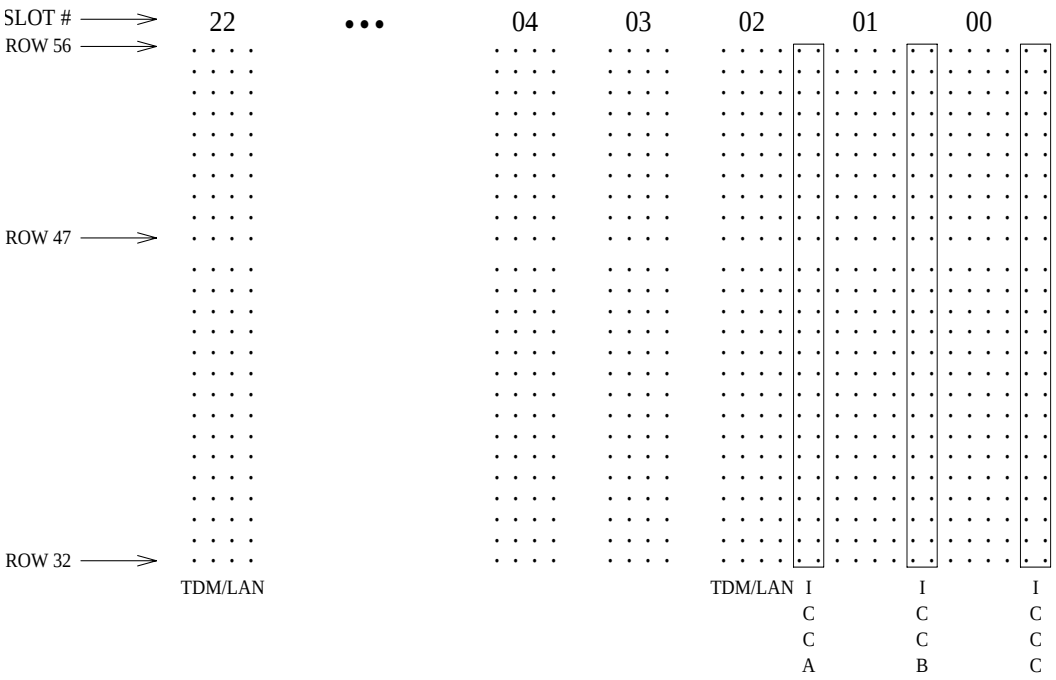


Figure 54: ICC pin-field blocks on J58890M-1 L5 or J58890M-2 L7 enhanced duplicated control cabinet



Return to Task List

Connect TDM/LAN Cables and ICC Cables for EPN Upgrade [75 XE upgrade]

Return to Task List

NOTE:
This procedure is for dual cabinet (EPN) upgrades only.

Use this procedure to route and connect the new WP-91716 L3 TDM/LAN cables between the System 75 XE port cabinets that are being reused.

CAUTION:
Do not run the new cables through the existing slot in the rear shelves.

1. For a duplicated system, connect the ICC cables as shown in the Table 11, Intercabinet Cable Connections — EPN, on page 254 table and in Figure 55, TDM/LAN Connections for Release 8si EPN, on page 255, Figure 56, ICC Pin-Field Blocks on J58890N Expansion Control Cabinet, on page 256 and Figure 57, ICC Pin-Field Blocks on J58890H Port Cabinet, on page 257.
2. On the A carrier, verify the CFY1 current limiter (CURL) is properly connected to pin-field block 00 (see Figure 57, ICC Pin-Field Blocks on J58890H Port Cabinet, on page 257). The CURL's components should be on the left side as viewed from the rear.

Table 11: Intercabinet Cable Connections — EPN

FROM: Carrier	Pin-Field Block	TO: Carrier	Pin-Field Block
J58890N	ICCA	J58890H	ICCA
	ICCB		ICCB

Figure 55: TDM/LAN Connections for Release 8si EPN

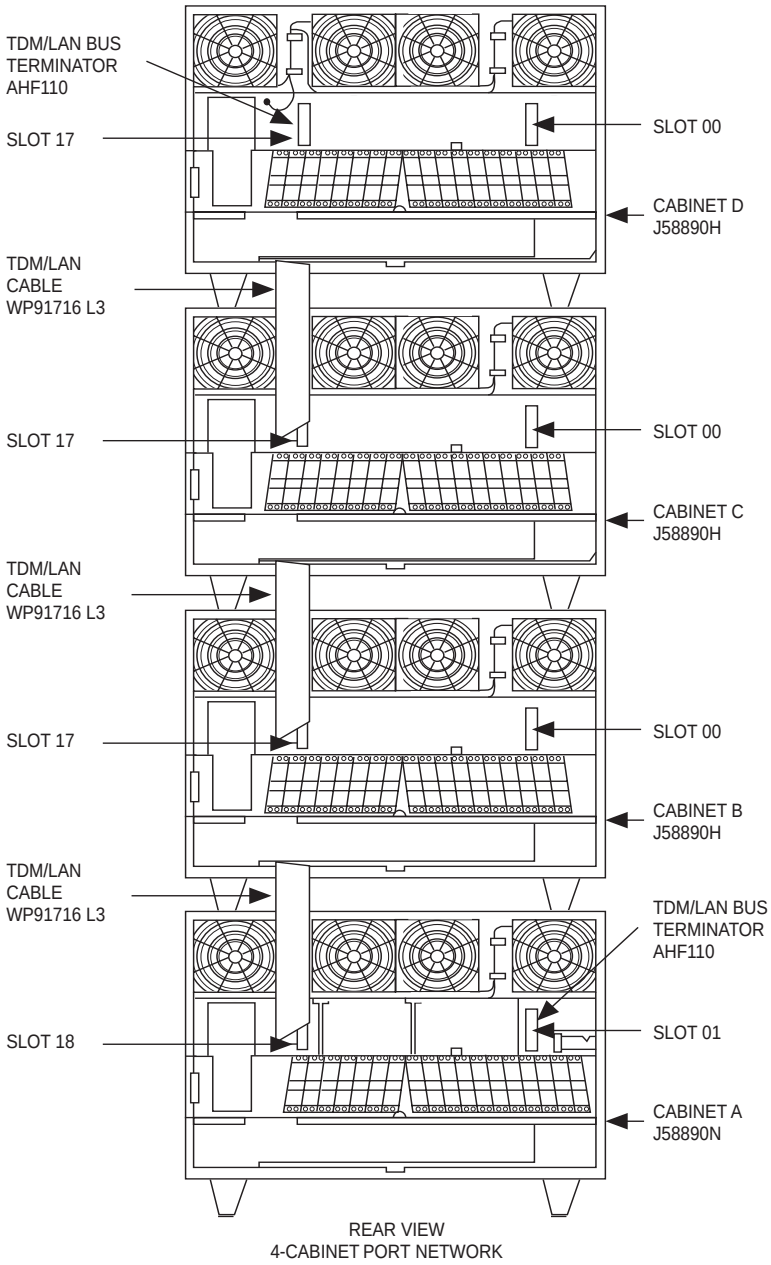


Figure 56: ICC Pin-Field Blocks on J58890N Expansion Control Cabinet

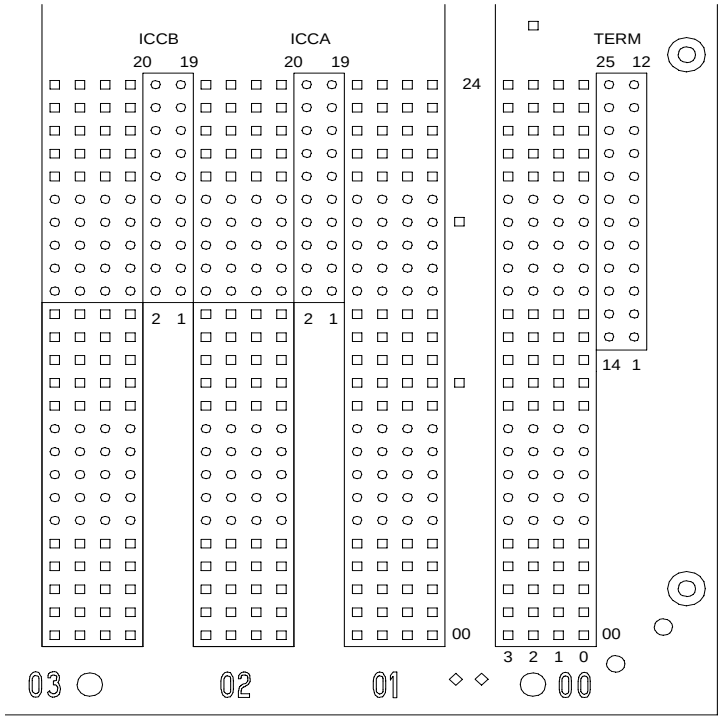
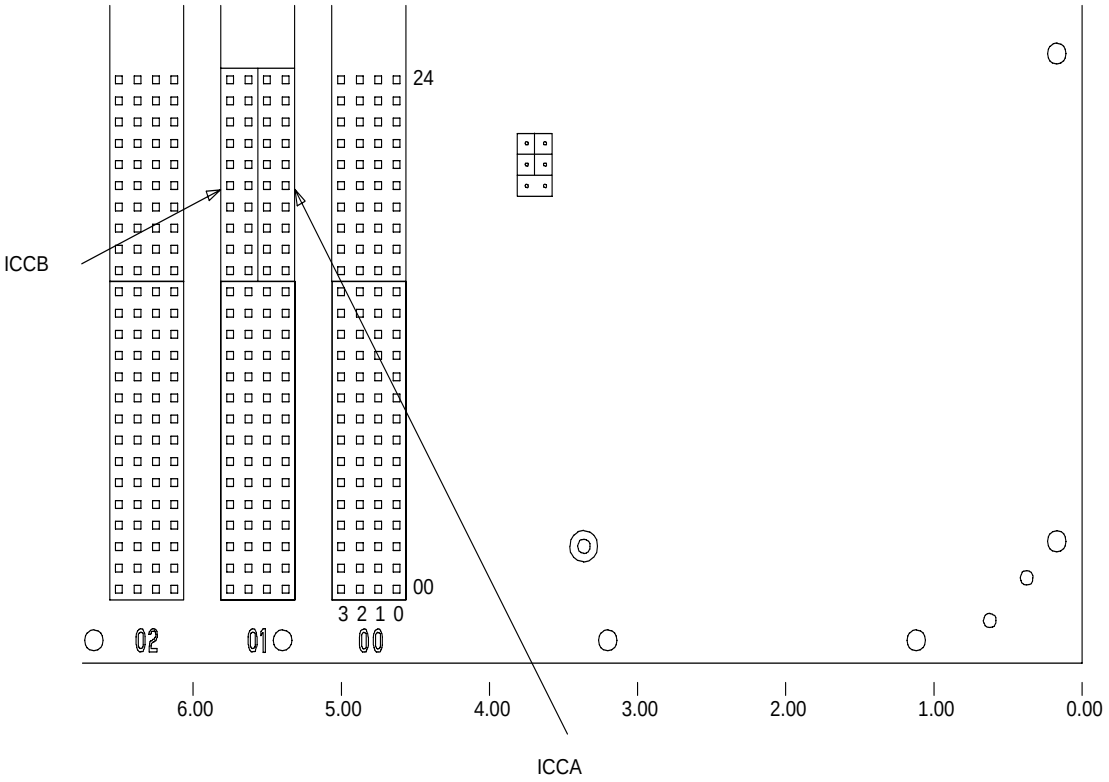


Figure 57: ICC Pin-Field Blocks on J58890H Port Cabinet



Return to Task List

Interconnect Port Networks - Dual cabinet (EPN) upgrade only [75 XE upgrade]

Return to Task List

NOTE:
These procedures are for an EPN upgrade only.

You will be making fiber-optic connections between cabinets.

Select the procedure that best fits your location and reliability level from the table below:

Reliability level	Adjacent cabinets	Remote cabinets
Standard/High	Connecting standard or high reliability adjacent cabinets	Connecting standard or high reliability remote cabinets
Critical	Connecting Critical Reliability adjacent cabinets	Connecting critical reliability remote cabinets

About fiber-optic cables

NOTE:
It is important to label every cable that you install. For details, refer to the section, *Labels for Fiber-Optic Cables*, in Appendix E of *DEFINITY® Communications System Generic 3 V4 Implementation (555-230-655)*.

NOTE:
Throughout these procedures, remember to keep track of which fiber is attached to which connector on each lightwave transceiver. This section provides figures offering the suggested way of making these connections.

The connectors on the lightwave transceivers are labeled either TX (transmit) or RX (receive), while the fibers attached to each connector are numbered either 1 or 2. A viable fiber connection is only made when both fibers in each cable (that is 1 and 2) route from the TX connector of a port network to the RX connector of its adjacent port network. For an example, refer to Figure 59, Fiber-Optic Connections PPN to EPN (standard/high reliability adjacent cabinets), on page 260.

NOTE:
For implementation details, refer to the “Fiber Link Administration” sections of *DEFINITY® Communications System Generic 3 V4 Implementation (555-230-655)*.

Table 12: Maximum fiber cable lengths

Transceiver type	Maximum distance
9823-A Lightwave transceiver	4900 feet (.9 mile)
9823-B Lightwave transceiver	25,000 feet (4.7 miles)

NOTE:
These distance limitations are approximate measurements of the *actual* fiber right-of-way (not of the shortest linear distance) between the two endpoints.

Connecting standard or high reliability adjacent cabinets

When a standard-reliability PPN and EPN are collocated, one fiber-optic cable (FL2P-P-XX) and two lightwave transceivers (9823-type) are required to connect the EPN.

NOTE:
For the FL2P-P-XX fiber-optic cable, the -XX suffix represents the length of the cable in feet. Based on floor-plan considerations, the length of these cables may vary. However, 20-foot cables are normally adequate for a Release 8si with two port networks.

1 Behind control cabinet A of the single-carrier PPN (see Figure 58, Standard-Reliability Release 8si with Two Port Networks, on page 259 and Figure 59, Fiber-Optic Connections PPN to EPN (standard/high reliability adjacent cabinets), on page 260):

— Install a 9823-type lightwave transceiver on the connector at slot 1A01.

— Connect one end of the fiber-optic cable to the 9823-type lightwave transceiver at slot 1A01.

— Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.

2 Behind control cabinet A of the single-carrier EPN:

— Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.

— Connect the other end of the fiber-optic cable, coming from the PPN, to the 9823-type lightwave transceiver at slot 2A01.

3 Carefully attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.

4 Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.

Figure 58: Standard-Reliability Release 8si with Two Port Networks

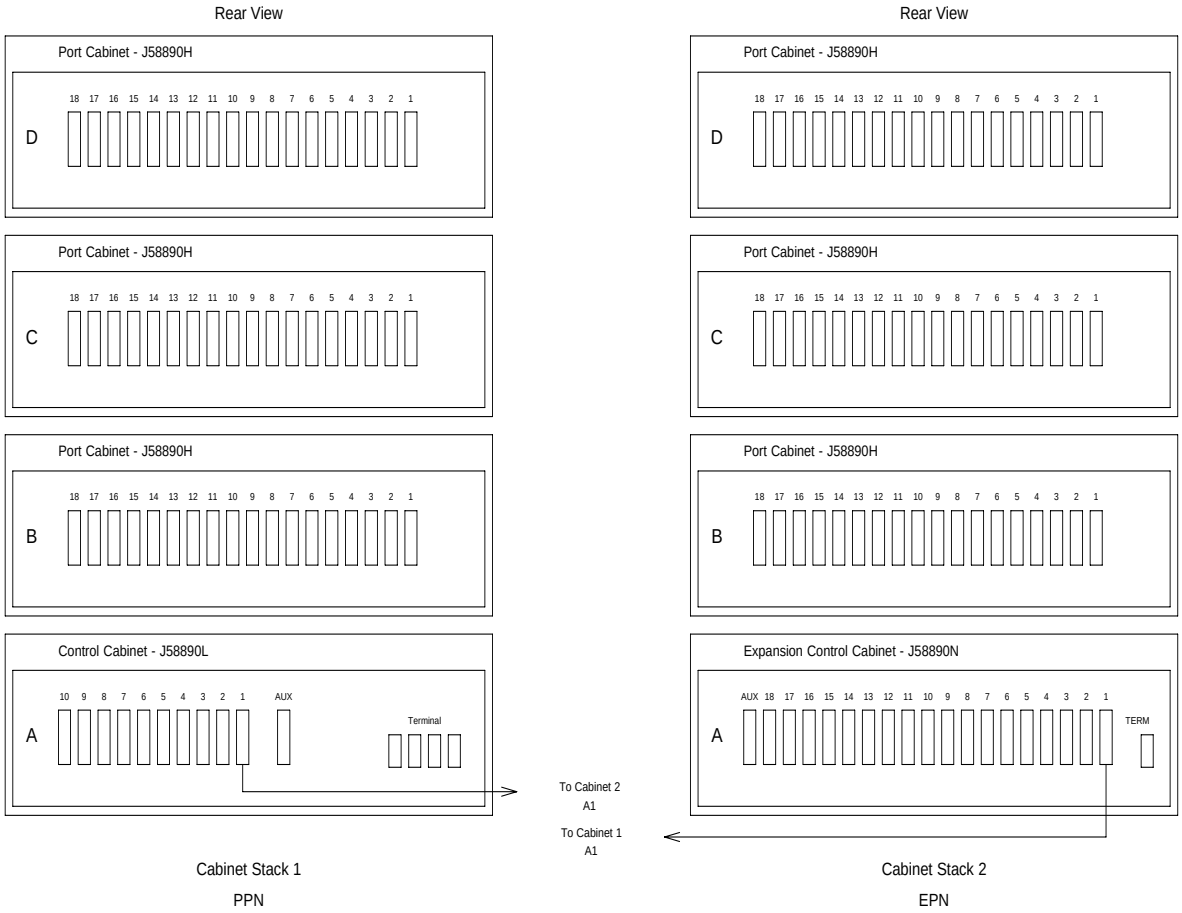
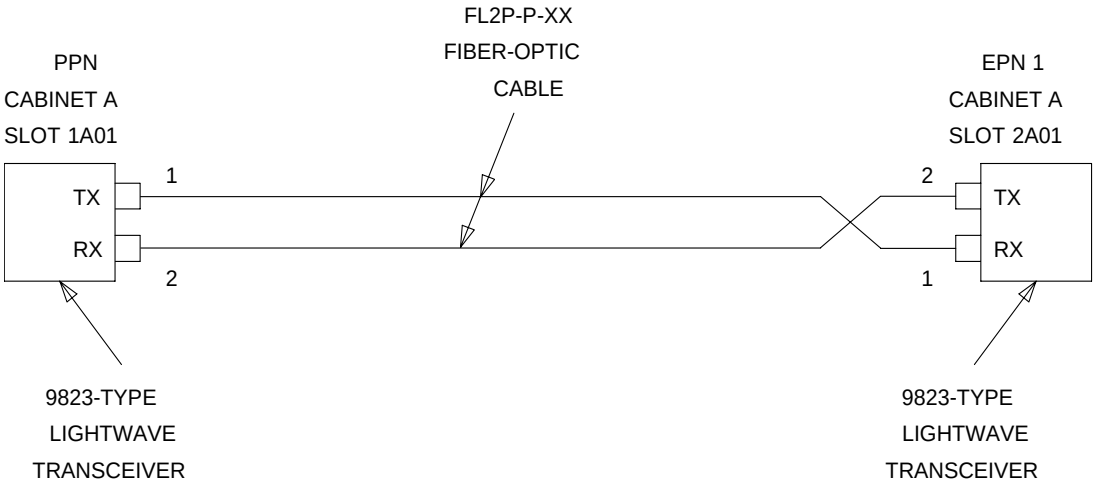


Figure 59: Fiber-Optic Connections PPN to EPN (standard/high reliability adjacent cabinets)



Return to Task List

Connecting standard or high reliability remote cabinets

When a standard-reliability PPN and EPN are remotely separated with fiber, two fiber-optic cables (FL2P-P-XX), two lightwave transceivers (9823-type), and two lightwave-interface units (provided by the PSC) are required.

1 Behind control cabinet A of the single-carrier PPN (Figure 60, Standard-Reliability Release 8si with Two Port Networks, on page 261 and Figure 61, Fiber-Optic Connections PPN to EPN (standard reliability remote cabinets), on page 262):

- — Install a 9823-type lightwave transceiver on the connector at slot 1A01.
- — Connect one end of the fiber-optic cable to the 9823-type lightwave transceiver at slot 1A01.
- — Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- — At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- — Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2 Behind control cabinet A of the single-carrier EPN:

— Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.

— Connect the fiber-optic cable to the 9823-type lightwave transceiver at slot 2A01.

— Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.

— At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.

— Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.

— Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

Figure 60: Standard-Reliability Release 8si with Two Port Networks

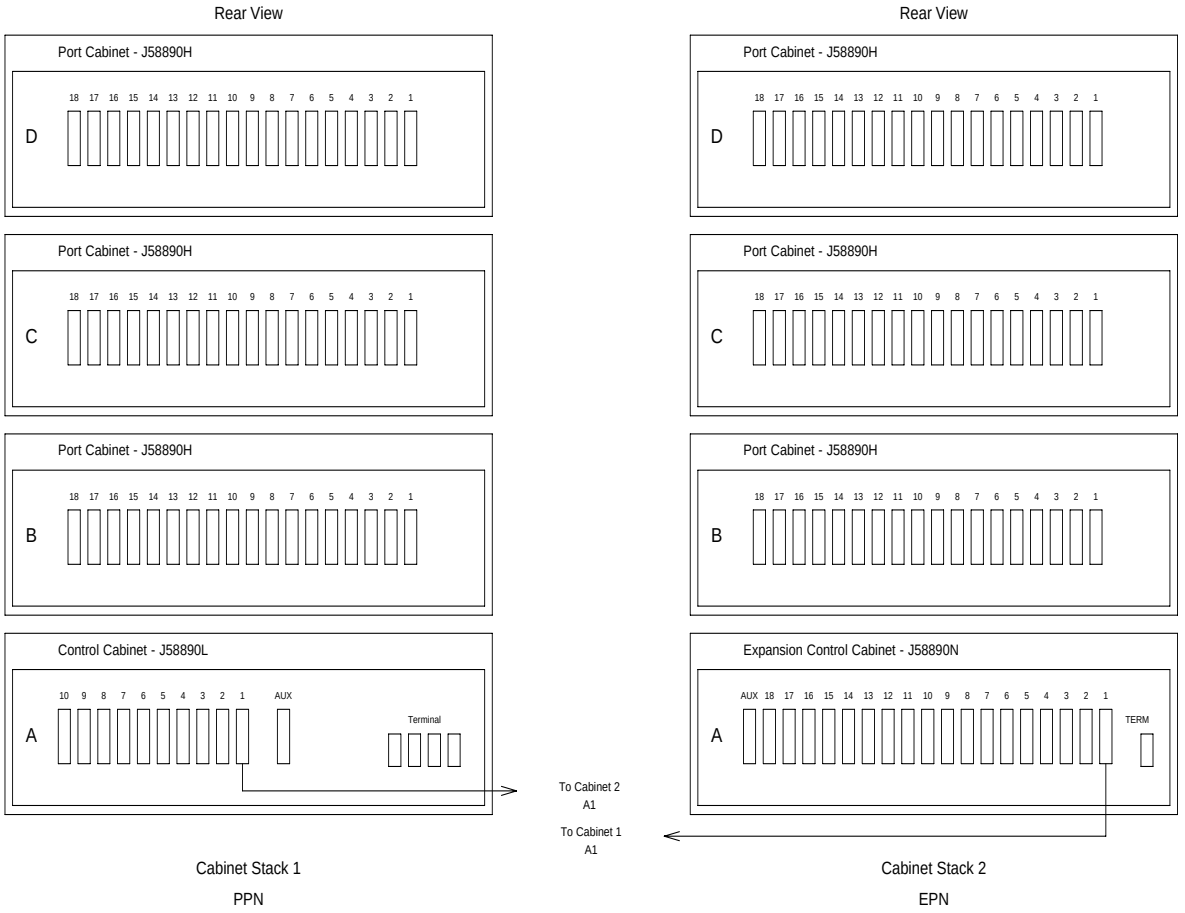
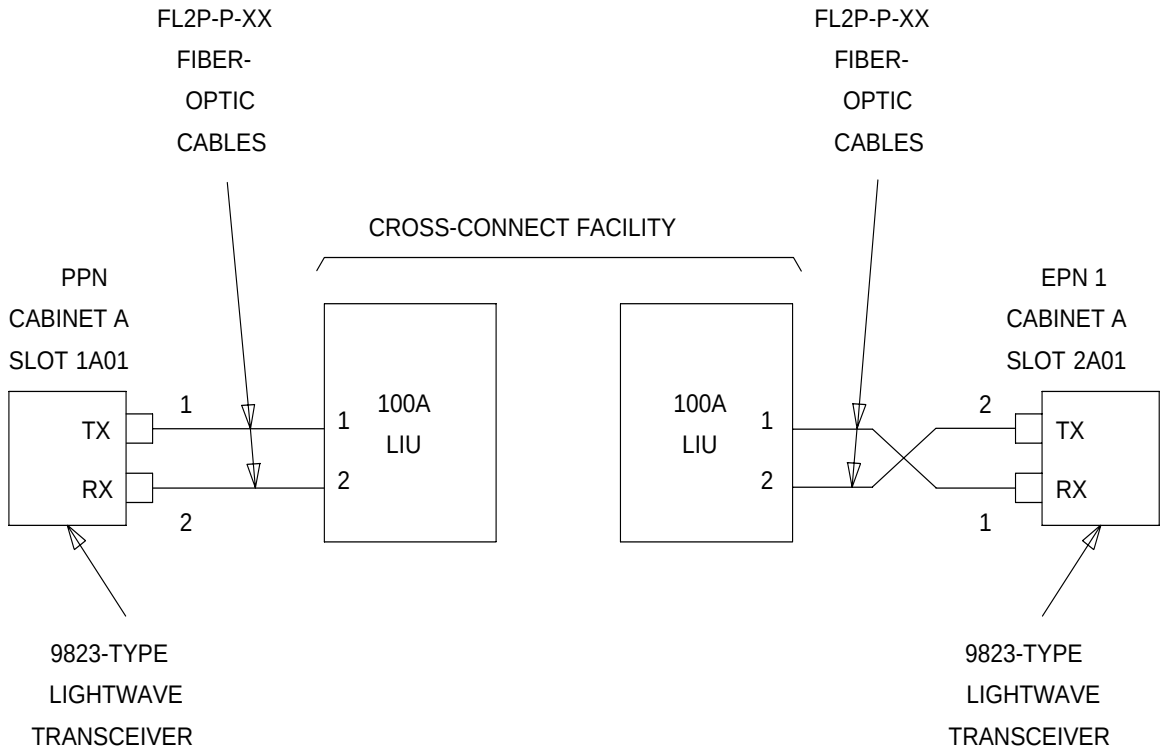


Figure 61: Fiber-Optic Connections PPN to EPN (standard reliability remote cabinets)



Return to Task List

Connecting Critical Reliability adjacent cabinets

When a critical-reliability PPN and EPN are collocated, two fiber-optic cables (FL2P-P-XX) and four lightwave transceivers (9823-type) are required to connect the EPN.

1 Behind control cabinet A of the single-carrier PPN (see Figure 62, Critical-Reliability Release 8si with Two Port Networks, on page 264 and Figure 63, Critical Reliability fiber optic connections (adjacent cabinets), on page 265):

- — Install a 9823-type lightwave transceiver on the connector at slot 1A01.
- — Connect one end of a fiber-optic cable to the 9823-type lightwave transceiver at slot 1A01.
- — Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
- — Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2 Behind control cabinet A of the single-carrier EPN:

- — Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
- — Connect the fiber-optic cable, coming from control cabinet A of the PPN, to the 9823-type lightwave transceiver at slot 2A01.
- — Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
- — Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.

3 Behind control cabinet B of the single-carrier PPN:

- — Install a 9823-type lightwave transceiver on the connector at slot 1B01.
- — Connect one end of a fiber-optic cable to the 9823-type lightwave transceiver at slot 1B01.
- — Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet's cable tray and downward out of the cabinet to the EPN stack.
- — Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4 Behind port cabinet B of the single-carrier EPN:

- — Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
- — Connect the fiber-optic cable, coming from control cabinet B of the PPN, to the 9823-type lightwave transceiver at slot 2B02.
- — Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
- — Coil up the surplus length of fiber-optic cable, and place the coil either in the cable manager or on the bottom shelf (holding the power supply) of the PPN cabinet.

Figure 62: Critical-Reliability Release 8si with Two Port Networks

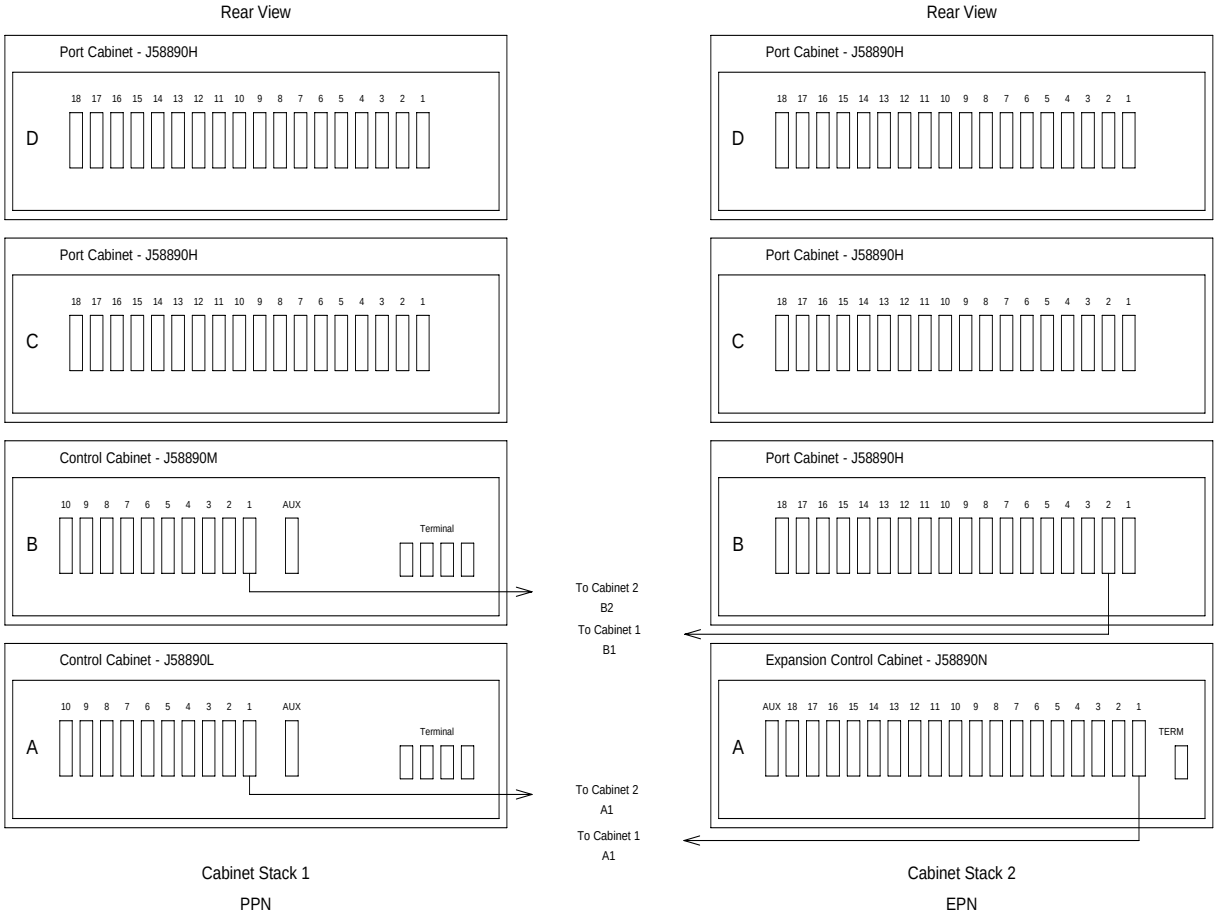
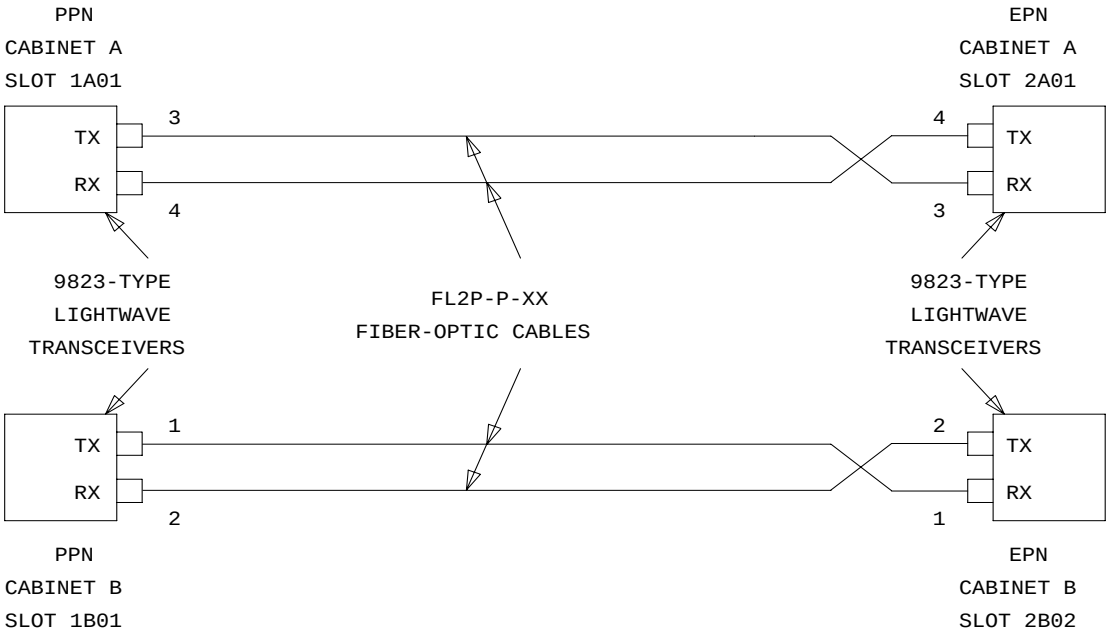


Figure 63: Critical Reliability fiber optic connections (adjacent cabinets)



Return to Task List

Connecting critical reliability remote cabinets

When a critical-reliability PPN and EPN are remotely separated with fiber, four fiber-optic cables (FL2P-P-XX), four lightwave transceivers (9823-type), and four lightwave-interface units (provided by the PSC) are required.

1 Behind control cabinet A of the single-carrier PPN (see Figure 64, Critical-Reliability Release 8si with Two Port Networks, on page 267 and Figure 65, Critical Reliability fiber-optic connections (remote), on page 268):

- — Install a 9823-type lightwave transceiver on the connector at slot 1A01.
- — Connect one end of a fiber-optic cable to the 9823-type lightwave transceiver at slot 1A01.
- — Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- — At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- — Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

2 Behind control cabinet A of the single-carrier EPN:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2A01.
- Connect the fiber-optic cable, coming from control cabinet A of the PPN, to the 9823-type lightwave transceiver at slot 2A01.
- Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the rear covers of the EPN stack.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

3 Behind control cabinet B of the single-carrier PPN:

- Install a 9823-type lightwave transceiver on the connector at slot 1B01.
- Connect one end of a fiber-optic cable to the 9823-type lightwave transceiver at slot 1B01.
- Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.

4 Behind port cabinet B of the single-carrier EPN:

- Install the same kind (either 9823-A or 9823-B) of lightwave transceiver on cable connector at slot 2B02.
- Connect the fiber-optic cable, coming from control cabinet B of the PPN, to the 9823-type lightwave transceiver at slot 2B02.
- Route the fiber-optic cable from the 9823-type lightwave transceiver to the cabinet cable tray and out of the cabinet through the cable manager to the PDS cross-connect facility.
- At the PDS cross-connect facility, connect the fiber-optic cable to the lightwave-interface unit provided.
- Delicately attach the fiber-optic cable (with cable ties) to the wall of the cable tray at the built-in cable-tie positions.
- Coil up the surplus length of fiber-optic cable, and place the coil in the cable manager.

Figure 64: Critical-Reliability Release 8si with Two Port Networks

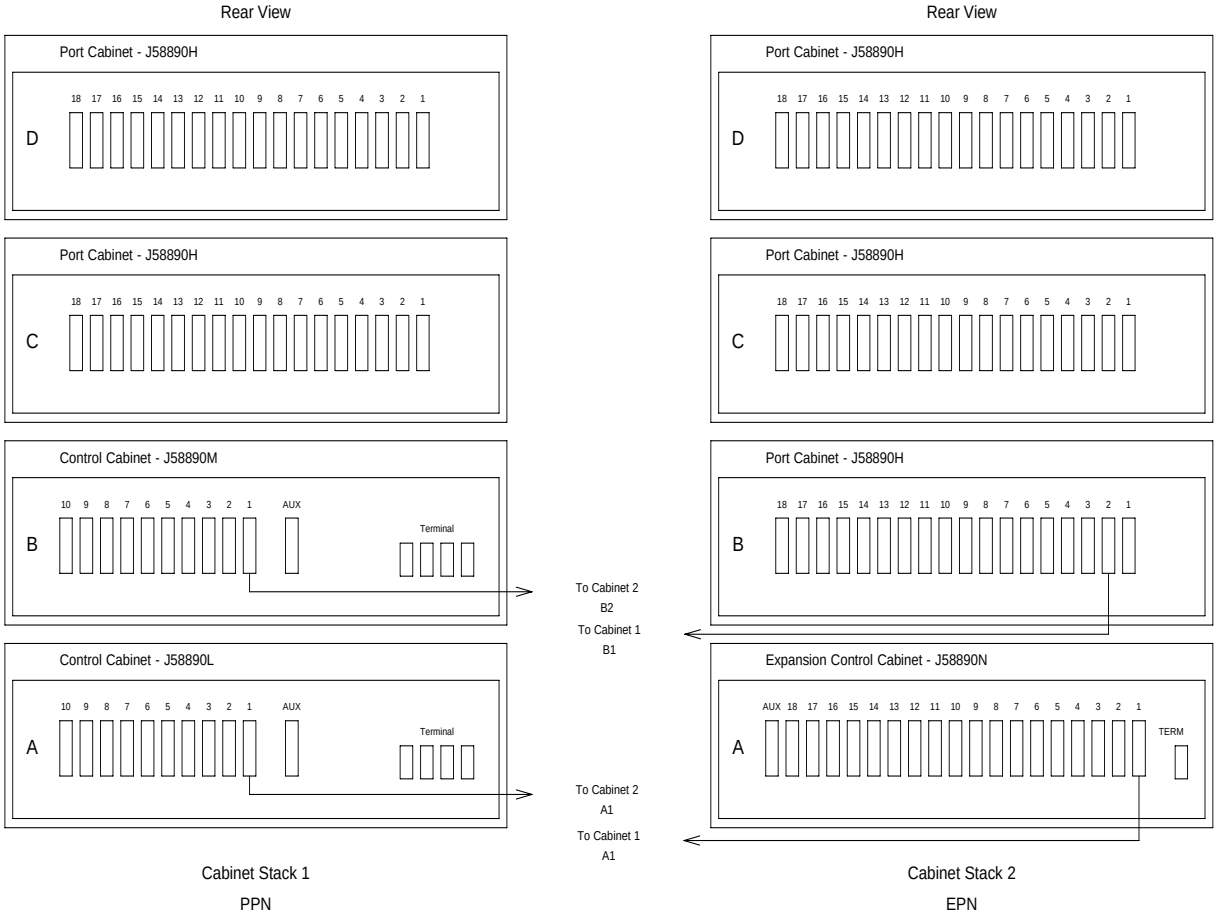
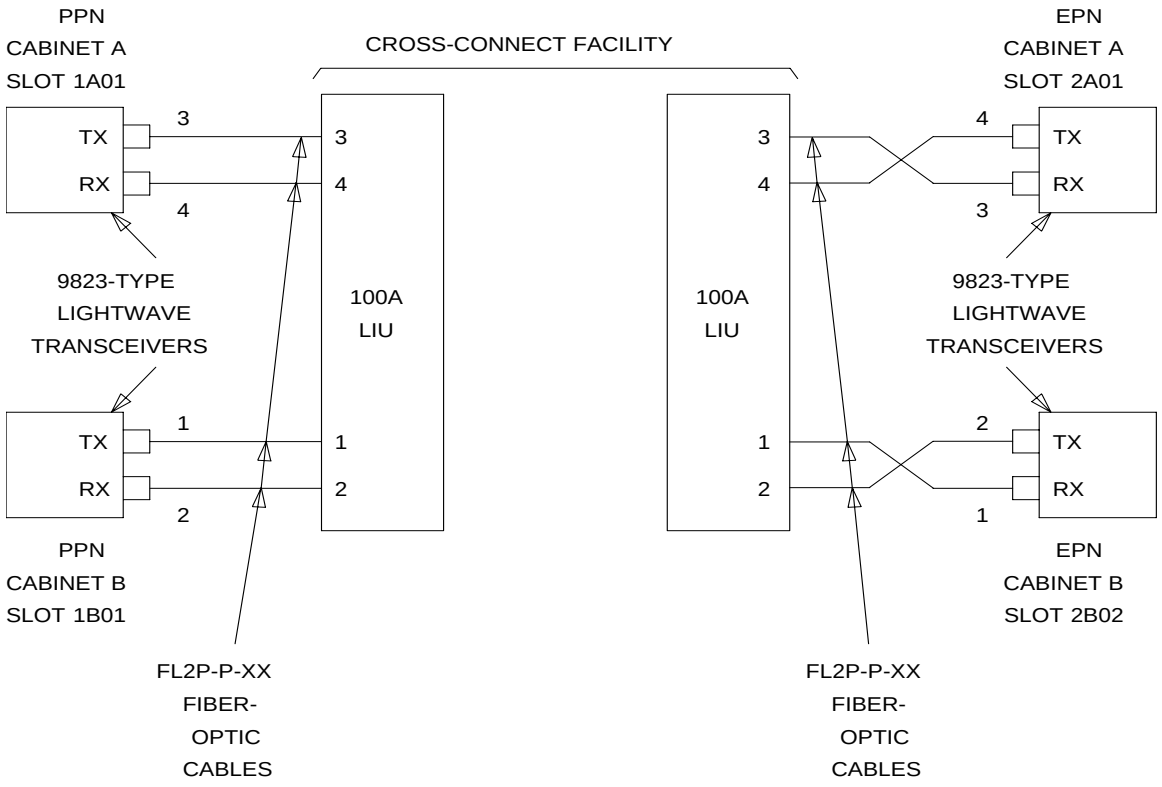


Figure 65: Critical Reliability fiber-optic connections (remote)



Return to Task List

Install ground plate(s) [75 XE upgrade]

Return to Task List

Use this procedure to install the ground plates only for systems without earthquake protection.

(See Figure 66, Locations of ground plate cabinet clip and battery, on page 269.)

1. Working from the rear of the cabinets, replace the upper and lower covers, but do not tighten the screws.

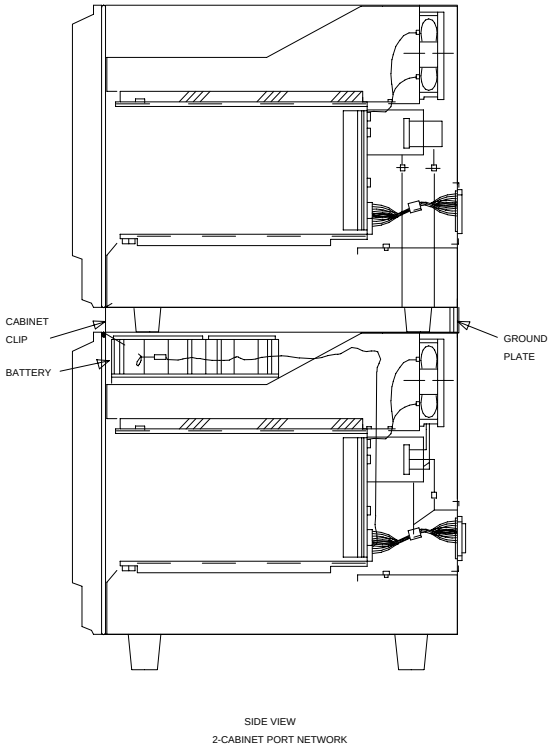
   NOTE:
   Critical-reliability Release 8si rear covers for the control cabinets need 2 detents, 1 for the TDM/LAN cable, and 1 for the ICC cables.

2. Place the ground plate over the lower rear cover of the upper cabinet so that the 4 screws that attach the lower rear cover go through the 4 ground-plate keyhole slots.
3. Slide the ground plate down over the upper rear cover of the lower cabinet so that the 4 screws that attach the upper rear cover of the lower cabinet go through the 4 lower ground-plate slots.

4 Ensure that the exposed portion of the TDM/LAN cable that is between the cabinets does not get pinched.

5 Tighten all screws.

Figure 66: Locations of ground plate cabinet clip and battery



Return to Task List

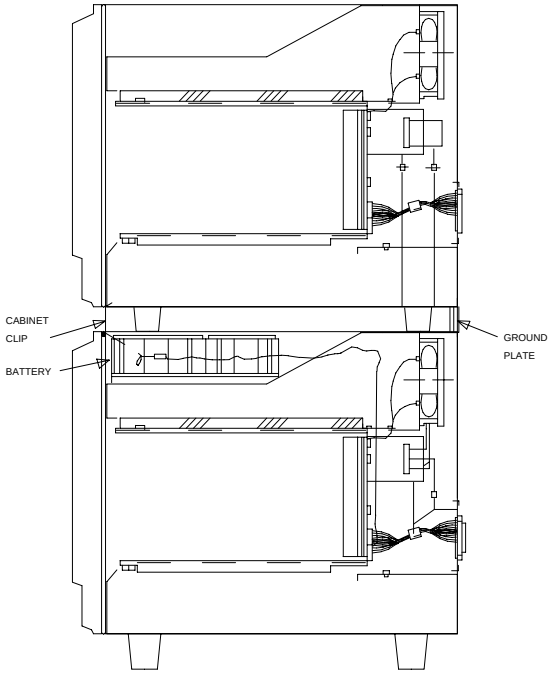
Install cabinet clip(s) [75 XE upgrade]

Return to Task List

A cabinet clip, used to ground and stabilize the cabinets, is required between each cabinet. Use this procedure to install the cabinet clips in systems without earthquake protection.

At the front of the cabinets, install the cabinet clip between the cabinets by hooking the clip into the slot of the upper cabinet and snapping the straight leg of the clip into the slot on the lower cabinet (see Figure 67).

Figure 67: Locations of ground plate cabinet clip and battery



Return to Task List

Verify TDM cables and connectors [75 XE upgrade]

Return to Task List

Verify that the system has the correct TDM/LAN cables and TDM terminators installed. Using this table as a reference, visually inspect the PPN and EPN connections.

Cabinet	TDM/LAN cable	TDM Terminator
SCC1	WP-91716 L3	AHF110
MCC1	WP-91716 L6 and L7 (older cables have blue labels; yellow labels are newer)	ZAHF4

Return to Task List

Connect power and grounding and the SAT terminal [75 XE upgrade]

Return to Task List

1. Reconnect the 6-AWG cabinet ground wire from the ground bar in the cabinet.
2. Reconnect the coupled bonding conductor.
3. Reconnect the cabinet power cords behind each cabinet.
4. Reconnect the SAT terminal.

Return to Task List

Close PPN stack without earthquake protection [75 XE upgrade]

Return to Task List

1. Install the front door on each cabinet.
2. Install a DEFINITY label on each existing port cabinet.
3. Install the top and bottom rear covers.
   - — Verify that the correct rear covers are installed on the new control cabinets.
   - — Do not use these rear covers on the port cabinets.

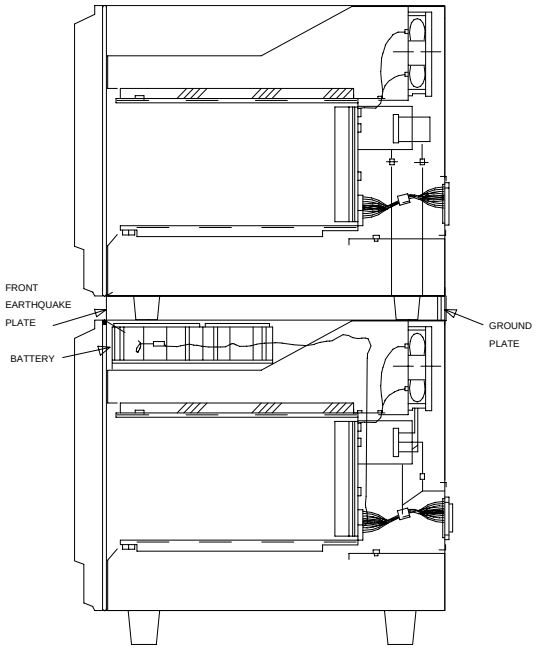
Return to Task List

Close PPN stack with earthquake protection [75 XE upgrade]

Return to Task List

1. Install the upper and lower rear covers.
   - — Use all the screws except the screws that run along the top and bottom of the cabinet. Do not tighten the screws.
   - — Note that on a critical-reliability R7si or R8si, the rear covers for the control cabinets need 2 detents. One is for the TDM/LAN cable and the other is for the ICC cables.
2. Line up the 4 holes in the ground plate with the 4 holes at the bottom of the lower rear cover of the upper cabinet. Install the 4 screws but do not tighten them.
3. Line up the ground plate with the top holes of the upper rear cover of the lower cabinet. Install the 4 screws but do not tighten them.
4. At the front of the cabinet, line up the earthquake front plate with the holes at the top and bottom of the cabinet. See Figure 68. Install the 8 screws but do not tighten them.
5. Tighten all screws.
6. Repeat Step 1 through Step 5 for the remaining cabinets.
7. Install the front door on each cabinet.
8. Install a DEFINITY label on each existing port cabinet.

Figure 68: Locations of ground plate, earthquake front plate, and battery



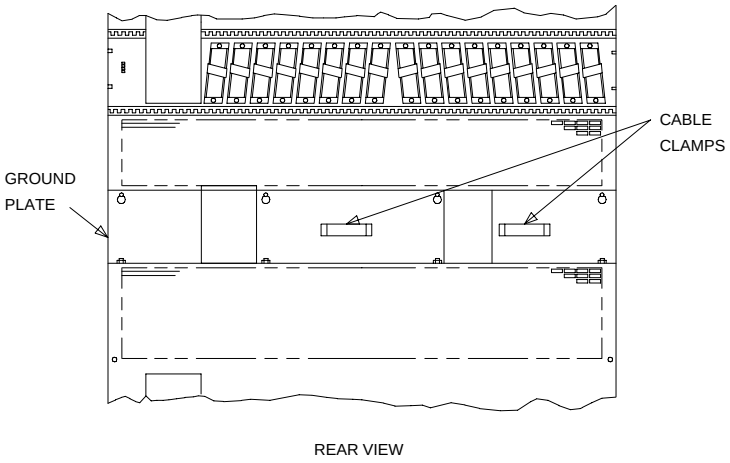
Return to Task List

Install cable clamps [75 XE upgrade]

Return to Task List

Behind the cabinets using screws provided, install two cable clamps on each ground plate (see Figure 69). These clamps are used to hold the port cables.

Figure 69: Locations of ground plate and cable clamps on single-carrier cabinet



Return to Task List

Power up and set date, time, and daylight savings rule [75 XE upgrade]

Return to Task List

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap (comcode 900698226) when handling all system components.

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1 Verify that the write switch on the Translation Flash-Memory Card (translation card) is positioned down so the card can be written to. Install the R8si translation card into the TN794 circuit pack in the direction indicated by the arrow on the label.

NOTE:
If the system is high or critical reliability, power up the EPN cabinet first, then the PPN cabinet. *Always* power up the control cabinet *last*.

2 Power up the AC- or DC-powered system.

System	Steps
AC	**1** Set the circuit breakers on the AC power panel to ON. **2** Set the cabinet circuit breakers to ON. This starts the system initialization and test. All red LEDs on the circuit packs go on and then off.
DC	**1** At the DC Battery Cabinet (if installed), set the circuit breaker to ON. **2** At the DC Power Cabinet, set the circuit breaker(s) on the rectifiers to ON. This starts the system initialization and test. Some red LEDs may be turned on, but they are turned off during the boot-up process. No action is required.

The results of system tests display on the monitor.

3 Verify that all tests pass.

If any of the terminal messages indicate a test has failed or if the message `spe down mode` is displayed, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble.

4 Type **set time** and press **Enter**.

See Figure 70.

5 Enter the date information and the time in 24-hour format. Enter either ***daylight saving time*** or ***standard time***, depending on the current time in your time zone. If your area does not use daylight saving time, set the value of `Daylight Savings Rule` to **0**; otherwise, set `Daylight Savings Rule` to **1**. Press **Enter** to set the date and time and ensure that the system boots properly.

Figure 70: Typical Date and Time Screen

```
                  DATE AND TIME
DATE
     Day of the Week: Tuesday    Month: June
    Day of the Month: 26          Year: 2000

TIME
    Hour: 20 Minute: 30  Second: XX   Type: standard
          Daylight Savings Rule: 1
```

Return to Task List

Enable customer options and alarm origination [75 XE upgrade]

Return to Task List

> **NOTE:**
> This procedure requires an init login.

If the upgrade is after hours, coordinate with the regional CSA to have the features turned on.

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to administer customer options. See the Avaya Support Web page for telephone numbers.
2. Log in to the switch and respond to the ASG challenge.
3. *For duplicated systems*, verify that the switches are in **auto**: Type **status system 1** and press **Enter**.

   Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go onto a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.
4. If it is necessary to change the offer, type **change system-parameters offer-options** and press **Enter**.
5. If changing offers and the `Activate Offer` field is **n**, set it to **y** and press **Tab**. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press **Enter** to effect the changes or **Cancel** if there were no changes.
7. Type **change system-parameters customer-options** and press **Enter** to set the customer options that were purchased. Change the `G3 version:` field to **V9**.

   Use these forms to verify the customer options are set correctly.
8. If the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade, set the `Basic Call Setup` field on the ***QSIG Optional Features*** page to **y**.
9. Press **Enter** to effect the changes.
10. Call the INADS database administrator at the TSC to verify that the system is part of the existing INADS database.
11. Verify that INADS can dial into the system and that the system can dial out to INADS.
12. Log off and log back in as **craft**.

Reference

The INADS database administrator enables alarm origination and customer options as part of system registration.

Return to Task List

Verify the upgrade [75 XE upgrade]

Return to Task List

1. Execute **status system 1** and verify that the system is in a normal state.
2. Type **display alarms** and press **Enter**.

   If the system is not alarm-free, take the needed corrective actions.
3. Type **list configuration software-version** (simplex) or **list configuration software-version *long*** (duplex) and press **Enter**. Check the Memory Resident field to verify that it shows the correct software load.
4. Type **display communication-interface *links*** and press **Enter**.

   Status each of the links.

   NOTE:
   ISDN-PRI D-channel links no longer appear on this screen. (For release 7 and later, ISDN-PRI resides on the network packet circuit pack.) For release 7 and later, the only way to determine if an ISDN-PRI D-Channel is up is to use the status signaling group command.
5. Type **list signaling-group** press **Enter**. For each signal, execute **status signal <*number*>**.

   Validate that all the signal groups that should be operational are in service.
6. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**
7. For duplicated systems only, execute **status system 1**

Return to Task List

Run acceptance tests [75 XE upgrade]

Return to Task List

Run any acceptance tests that are appropriate for this upgrade. The acceptance tests are listed in these 3 checklists:

Test single-carrier cabinet systems

Test multi-carrier cabinet systems

Test telephones and other equipment

For details of the tests, see

Test the System

Test Telephones and Other Equipment

Test single-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test Time Division Multiplexing Bus in Processor Port Network
4. Test Tone-Clock Boards
5. Test Expansion Interface Circuit Packs
6. Test Time Division Multiplexing Bus for Each Expansion Port Network
7. Test Tone-Clock for Each Expansion Port Network
8. Test Tone-Clock Interchange for Each Expansion Port Network
9. Test Expansion Interface Exchange for Each Expansion Port Network
10. Check Circuit Pack Configuration
11. Save Translations, if Required

Test multi-carrier cabinet systems

1. Check System Status for Each Cabinet
2. Check Circuit Pack Configuration
3. Test TDM Bus in PPN
4. Test Tone-Clock Circuit Packs
5. Test SPE Duplication Memory Shadowing Link
6. Test Duplicated Switch Processing
7. Element Interchange
8. Test Expansion Interface Circuit Packs
9. Test TDM for each EPN
10. Test Tone-Clock for each EPN
11. Test Tone-Clock Interchange for each EPN
12. Test Expansion Interface Exchange for Each EPN
13. Check Circuit Pack Configuration Again
14. System Test Completion
15. LED Indicators

Test telephones and other equipment

1. Make Test Calls
2. Test 302C Attendant Console
3. Test External Ringing
4. Test Queue Warning Indicator
5. Test Integrated Announcement
6. Test Music-on-Hold
7. Test Emergency Transfer

8 Test Remote Access Interface

9 Test Basic Rate Interface

10 Test Duplication Option Processing

11 Element Interchange

12 Test Terminating Trunk Transmission

13 Test Stratum 3 Clock

14 Perform Complete System Test

15 Activate and Test Alarm Origination Feature

Return to Task List

Retranslate port circuits [75 XE upgrade]

Return to Task List

1 If port circuit packs in the R1V3 control cabinet were relocated, verify that they were retranslated during the off-site software upgrade.

2 If they were not retranslated, you must retranslate them now.

Refer to *DEFINITY® ECS R8.1 Administrator's Guide (555-233-503)* for instructions on performing the retranslations.

Return to Task List

Readminister translation [75 XE upgrade]

Return to Task List

If the customer has added one or more components (for example, a call pickup group) to the system since translation was done, the customer is responsible for readministering the translation.

Rerecord announcements [75 XE upgrade]

Return to Task List

If you have not saved and restored announcements during the upgrade, the customer must re-record all announcements now.

If the customer changed any announcements after the they provided the source tape for the blowback flash card, the customer must re-record the new announcements.

Return to Task List

Save announcements and translation [75 XE upgrade]

Return to Task List

If you have restored announcements using the white translation card from an earlier release, insert the R8 white translation card now.

> **NOTE:**
> If the customer does not have a backup white translation card, it is very important to make sure that the new software is running normally before you save the translation. After you save translation to the translation card, the card cannot be used to bring up translation if you restore the old system.

1. Type **save translation** and press **Enter**.

   This takes about 10 minutes.

   > **NOTE:**
   > Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2. If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.
3. Type **save announcements** and press **Enter**.

   This takes about 45 minutes.
4. Keep the translation media in a safe and secure place.

Return to Task List

Register the upgraded switch [75 XE upgrade]

Return to Task List

You register the system from a laptop or via a technical work bench such as INADS.

1. Get the serial number of the upgraded PPN.
2. Call the INADS database administrator at the TSC (1-800-248-1111) to register the upgraded system.

Return equipment to MSL [75 XE upgrade]

Return to Task List

- Return the system equipment replaced during the upgrade to Avaya according to:

  Methods and Procedures for Basic Material Returns

- In general, return old equipment and crash kits to the MSL, and return ordered but unused equipment to the Denver factory.
- If you are returning heavy equipment such as a cabinet, the project manager should arrange for Avaya personnel to pick up the equipment.
- Tag the returned equipment appropriately.

The replaced System 75 equipment includes:

- System 75 control cabinet, control circuit packs, and RMSS tape drive
- System 75 TN741 (or international TN419A) tone-clock circuit pack if replaced
- R1V3 tape cartridges
- TDM cables and AHF103 cable adapters
- TDM cables and AHF103 cable adapters
- AHF1 TDM bus terminators
- Lower rear cover for expansion control cabinet

Return to Task List

System 75 Small-Cabinet to R8si (Blowback)

This section provides the information necessary to upgrade a small-cabinet R1V3 System 75 system to either a standard-reliability DEFINITY® R8si PPN (control-carrier replacement) or a multi-carrier DEFINITY® R8si PPN with standard or critical reliability (cabinet replacement).

NOTE:
You upgrade the System 75 small-cabinet J58890AA or J58890AB carrier to the R7si/R8si J58890AH carrier.

For further information, see

- Upgrade overview: small-cabinet System 75

Before you begin the upgrade

To prevent the most common upgrade problems, be sure that you have

- Identified the correct TDM bus cables and terminators for the upgraded system.
- Verified si expansion interface compatibility for packet bus applications:

  If the new si system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.
- Checked for software upgrade compatibility and identified any patches that need to be re-applied.
- Created the license file with RFA.

Preparation and process steps

If the system includes TN750 or TN750B announcement packs, discuss with the customer whether they are willing to re-record announcements. Doing so can significantly reduce the time it takes to do the upgrade. Every **save announcements** or **restore announcements** command can add up to 45 minutes to the upgrade process. Note that you do not have to save and restore announcements on systems with only TN750C or TN2501AP announcement circuit packs.

CAUTION:
You cannot resolve any upgrade problems without a valid **craft** or **dadmin** login and password. You may have to contact Avaya before or during the upgrade to get the **dadmin** password, and you may have to have ASG keys to use **craft** remotely.

For customers without an Avaya maintenance contract, the INADS database does not have a record of passwords. Discuss with the customer who is responsible for making the passwords available.

This information in these tables applies to all upgrades. Complete the work in the Upgrade preparation steps table before the upgrade. Use the Upgrade process steps table during the upgrade.

Upgrade preparation steps			
What		**When**	**Who**
1	Check that circuit packs vintages are inspected.	Before upgr	Project Mgr
2	Check that all adjunct versions are compatible with the new switch version.	Before upgr	Project Mgr
3	Verify expansion interface compatibility for packet bus applications: If the new system will have one or more expansion port network cabinets and will run any packet applications, *do not reuse* the TN776 expansion interface circuit packs; they must be replaced with TN570 circuit packs.	Before upgr	Project Mgr
4	Identify proper TDM/LAN bus cables and terminators for the system. If PACCON is not currently enabled, the cables and terminators may need to be replaced for V3 and later si systems, R5/R6vs systems, and SRPs upgrading to Avaya™ Communication Manager. Packet applications currently running in one port network do not guarantee that the system has the correct hardware. Adding a packet application to another network without verifying the TDM/LAN bus cables and terminators frequently causes upgrade problems. We recommend that you schedule a time to replace the cables and terminators before the upgrade. Note that this requires a service outage.	Before upgr	Project Mgr
5	Check for software upgrade compatibility: — current software patches that will need to be re-applied — software upgrades that include all relevant bug fixes	Before upgr	Project Mgr
6	Use the latest software QPPCN to check the vintages of all circuit packs that will be reused in the upgrade. **a** Replace circuit packs that have unusable vintages. **b** Make a final vintage check. For current information about usable vintages in a DEFINITY ECS system, see the Stockable, Minimum Usable Vintages, & Certifiable Vintages, COMPAS ID 42751.	Before upgr	Design Spec
7	For blowback upgrades only: Make the Blowback Tape. The blowback tape is converted and written to removable media. This takes 2 weeks and must be done before the upgrade.	Before upgr	Tech or Design Spec

Upgrade preparation steps			
What		**When**	**Who**
8	Schedule the upgrade with the customer and inform the customer of a service interruption (total outage) during the upgrade. If it is not an Avaya-maintained customer, get password information. You can obtain downtime from QPPCNs.	Before upgr	Project Mgr
9	Verify with the customer that they do not use any login ID subject to ASG challenge. The **craft**, **inads**, and **init** login IDs must respond to a challenge. If necessary, set the required permissions for the **cust** login ID.	Before upgr	Project Mgr
10	If the system is pre-R8, verify that the customer does not have a dadmin login set to **craft** level. If they do, remove the login and re-add it as dadmin set to **Inads** level. After the upgrade this login will be dadmin at the **dadmin** service level.	Before upgr	Project Mgr
11	Coordinate the service interruption with the local account team.	Before upgr	Project Mgr
12	To preclude a busy-out of network access trunks at the far end, inform the support organization for each public and private network accessed by the switch at least one day before the scheduled upgrade.	Before upgr	Project Mgr
13	Provide translation information for the upgraded system.	Before upgr	Software Specialist
14	Check that the inventory, tools, hardware, project manager binder, translation information, and crash kit are at the customer site.	Before upgr	Project Mgr
15	Complete RFA training and registration. Allow up to 48 hours before attempting to access RFA.	Before upgr	Tech, SS, SA, Project Mgr
16	Create the license file in RFA	Before upgr	Tech, SS, SA, Project Mgr

Upgrade process steps			
What		**When**	**Who**
1	Check that the software load version on the processor is the same as or higher than the version on the translation card. (Use the **list configuration software-version memory-resident** command.) **a** Compare the software load version on the processor with the version on the translation card. **b** If the version on the processor is not the same as or higher than the version on the card, download the software load from the orange card that is included in the crash kit.	During upgr	Design Spec
2	Use the procedures in this information product to do the upgrade.	During upgr	Tech
3	Verify that the translations are correct for the upgraded system. Make the needed changes.	After upgr	Software Assoc

Make the Blowback Tape

To upload the translations remotely, contact the CSA. If you choose to make a blowback tape, follow this procedure:

NOTE:
There must always be 2 system tapes on site with the DEFINITY system. Do not send the system or backup tape to the CSA.

1. Get a blank R1V3 tape from the regional CSA. This will be the **blowback tape**.
2. Remove the backup tape, install the blowback tape, and wait for the tape to retension.

   NOTE:
   The off-site CSA translation upgrade does not preserve the contents of recorded announcements on TN750/B or earlier circuit packs. Therefore, if a TN750/B or earlier circuit pack resides in the stack of single-carrier cabinets which is dismantled during the upgrade, any announcements stored on the circuit pack must be rerecorded.

3. Enter **save translation**. Press **Return**.
4. Remove the blowback tape and label it with IL information (customer name and customer contact).
5. Reinstall the system tape.
6. Use next-day delivery to mail the blowback tape to the CSA for use in making the translation memory cards for the upgrade.

Task List: System 75 Small Cabinet to R8si

Ensure that these tasks are complete *before* the upgrade visit:

1. Verify the required hardware for a control-carrier replacement [75 small upgrade] or Verify the required hardware for a control cabinet replacement [75 small upgrade]
2. Provide the required tools [75 small upgrade]

Perform these tasks *during* the upgrade visit:

3. Inspect the new control carrier and install CURL [75 small upgrade] or Unpack the control cabinet and inspect for damage [75 small upgrade]
4. Verify software load [75 small upgrade]
5. Verify system status [75 small upgrade] Record any customer-placed busy-outs.
6. Save translations [75 small upgrade]
7. Verify external alarm connections; modify cabling if necessary [75 small upgrade]
8. Label cables [75 small upgrade]

For systems so equipped:

9. Shut down DEFINITY AUDIX system [75 small upgrade]
10. Power down [75 small upgrade]
11. Disconnect power and grounding [75 small upgrade]
12. Verify power failure [75 small upgrade] if the system uses power failure stations
13. Open/remove doors and panels [75 small upgrade]
14. Disconnect TDM cables [75 small upgrade]
15. Remove circuit packs (A carrier only) [75 small upgrade] or Remove circuit packs (A and B carriers) [75 small upgrade]
16. Remove tape drive [75 small upgrade]
17. Remove control carrier A [75 small upgrade]
18. Prepare and install new control carrier [75 small upgrade]
19. Install new control cabinet [75 small upgrade] or Install new control cabinet with earthquake protection [75 small upgrade]
20. Install circuit packs [75 small upgrade]
21. Move 25-pair cables from System 75 to R8si [75 small upgrade]
22. Install TDM/LAN bus terminators and connect cables [75 small upgrade] (The multi-carrier cabinet requires the new ZAHF4 TDM bus terminators. Do not skip this!)
23. Verify TDM cables and connectors [75 small upgrade]. If new TDM terminators and cables are required but have not yet been installed, install them now.
24. Connect power and grounding [75 small upgrade]
25. Close upgraded PPN stack without earthquake protection [75 small upgrade] or Close upgraded PPN stack with earthquake protection [75 small upgrade]
26. Install cable clamps [75 small upgrade]
27. Power up and set date, time and daylight savings rule [75 small upgrade]

28 Enable customer option and alarm origination [75 small upgrade] (You identify the upgrade as R7 or R8 here.)

29 Verify the upgrade [75 small upgrade]

Restore any customer-placed busy-outs before you run the acceptance tests!

30 Run acceptance tests [75 small upgrade]

31 Readminister translation [75 small upgrade] if necessary

32 Rerecord announcements [75 small upgrade]

33 Save announcements and translation [75 small upgrade]

34 Register the upgraded switch [75 small upgrade]

35 Return equipment to MSL [75 small upgrade]

Verify the required hardware for a control-carrier replacement [75 small upgrade]

Return to Task List

The equipment in the following table *must* be on-site before the upgrade begins. Ensure that the translation memory card is current and, if necessary, contains enough memory for recorded announcements.

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Required hardware, small System 75 control-carrier upgrade to R8si		
Description	**Equipment**	**Quantity**
Enhanced Control Carrier	J58890AH	1
TN790B Processor	108595638	1
TN765 Processor Interface	103557187	1 or 2 (Note 1)
TN794 Network Control (depends on control carrier)	103557476	1
TN768 Tone-Clock TN780 Tone-Clock TN2182 Tone-Clock	103557211 or 103557336 or 106706955	1 1 (Note 5) 1 (Note 6)
631DB1 Power Supply	106432602	1
982LS Current Limiter	106455504	1
ZAHF4 TDM/LAN Bus Terminator	103960456	2
WP91716 L6 TDM/LAN Cable	J58890A L20	1 (Note 2)

Required hardware, small System 75 control-carrier upgrade to R8si		
Description	**Equipment**	**Quantity**
2 Mbyte Mass-Storage Translation Card (White Card) or 4 Mbyte Mass-Storage Translation Card (White Card) or 10 Mbyte Mass-Storage Translation Card (White Card)	601817448 or 601817422 or 601817430	1 (Note 3)
TN771DP Maintenance/Test	106689516	1 (Note 4)
176A Apparatus Blank (for removed tape drive)	105731202	1
DEFINITY Label	846309466	1

Notes:

1 Optional. Replaces TN716, TN719, and TN738 if present in the system.

2 Required only if carrier B is present.

3 A 4 Mbyte translation card is required for a system that uses recorded announcements. A 10 Mbyte card is required if a DEFINITY Wireless Business System is installed.

4 Optional. Required for digital trunk testing.

5 Use TN780 as Tone-Clock for Stratum 3 timing. Also required with the TN780 are the TN748, and TN744/E for tone-detection.

6 The TN2182 Tone-Clock provides tone detection, tone generation, and tone-clock in one circuit pack, and it replaces the TN756, TN768, and TN780 circuit packs, while providing the same functionality as the TN748 and TN420 circuit packs.

Return to Task List

Verify the required hardware for a control cabinet replacement [75 small upgrade]

Return to Task List

The equipment in the following table *must* be on-site before the upgrade begins. Ensure that the translation memory cards are current and, if necessary, contain 4 Mbytes of memory.

MCC configurations vary. The table provides the master price element code (PEC) for your cabinet. Check your DOSS for your exact configuration.

The TSC cannot source equipment for you.

To place a claim for missing equipment as part of the Streamlined Implementation process, call 1-800-772-5409 and respond to the call prompter, or call the number provided by your Avaya representative.

Required hardware, Small Sytem 75 upgrade to multi-carrier R8si		
Description	**Equipment**	**Quantity**
Processor Port Network	6300-159	1
DC-Powered Port Carrier	63155	1 (Note 1)
2 Mbyte Mass-Storage Translation Card (White Card) or 4 Mbyte Mass-Storage Translation Card (White Card) or 10 Mbyte Mass-Storage Translation Card (White Card)	601817448 or 601817422 or 601817430	1 or 2 (Notes 2 and 3)
Port Carrier	J58890BB	1 (Note 4)
WP-91716 L6 TDM/LAN Cable	J58890A L20	1 (Note 5)
TN771DP Maintenance (optional)	106689516	1 (Note 6)

Notes:

1. To provide enough port slots, may be ordered separately for upgrade to DC-powered R7si.
2. One with standard-reliability, two with critical reliability.
3. A 4 Mbyte translation card is required for a system that uses recorded announcements. A 10 Mbyte card is required if a DEFINITY Wireless Business System is installed.
4. For upgrade, reused from the small R1V3 cabinet (if present).
5. Shipped loose with the upgrade equipment. Extends TDM/LAN bus to reused port carrier.
6. Required in a port slot of a critical-reliability R8si P with the optional packet bus. Optional for use with digital trunk testing.

Return to Task List

Provide the required tools [75 small upgrade]

Return to Task List

The following tools and items may be required during the upgrade:

- Flash maintenance kit (MTCE 00037), acquired from MSL (control-carrier replacement only)
- High-intensity drop light or flashlight
- 3/8-inch flat-blade screwdriver with a 10-inch shank (minimum)
- 5/16-inch and 1/4-inch sockets with a ratchet and 10-inch extension
- Power screwdriver (optional)
- Pliers (for cabinet replacement, long-nose pliers to disconnect grounding straps and straighten backplane pins)
- Static-proof or original circuit-pack packaging for transporting circuit packs
- Labels for labeling the cables attached to the rear of cabinets and port circuit pack
- Receptacle for holding approximately 100 self-tapping screws
- Twelve spare #12 and #10 self-tapping screws
- Four spare carrier grounding straps

- Authorized wrist grounding strap
- Cabinet air filter (may be required)
- Backplane pin repair kit (KS-22876-L2 or equivalent)
- Documentation (book or PDF file) for the current release:
  - — *Maintenance for Avaya DEFINITY® Server SI (555-233-123)*
  - — *DEFINITY® ECS R8.1 Administrator's Guide (555-233-503)*

Return to Task List

Inspect the new control carrier and install CURL [75 small upgrade]

Return to Task List

NOTE:
Note

This procedure is for **control-carrier replacement** upgrades ***only***.

1. Visually inspect the new carrier for any damage. Verify that the backplane pins are not bent.
2. Place the enhanced control carrier on the floor so that the rear of the carrier faces up.
3. Install the 982LS current limiter (CURL) on the A carrier to the pin-field block marked CURL. The CURL is inserted with the components on the left side as viewed from the rear.
4. At the rear connector panel, determine which connectors will have a cable attached, and install a 4B cable retainer on each of these connectors.

Return to Task List

Unpack the control cabinet and inspect for damage [75 small upgrade]

Return to Task List

DANGER:
Take care to avoid injury while cutting and removing bands.

1. Unpack the cabinet and remove the front door.
2. Visually inspect the cabinet for any physical damage caused during shipping.
3. Report any damage for appropriate action according to local procedures.
4. Remove all packing material from the cabinet.

Return to Task List

Verify software load [75 small upgrade]

Return to Task List

1. Type **list configuration software-versions memory-resident** and press **Enter**.
2. Record the software load.

Return to Task List

Verify system status [75 small upgrade]

Return to Task List

1. Verify that system status is normal.

   Execute **status system 1** (If status is not normal, take the needed corrective actions.)
2. Verify that the system is alarm-free.

   Execute **display alarms** (If the system is not alarm-free, take the needed corrective actions.)
3. Identify and record customer-placed busy-outs.

   Execute **display errors** (Examine the error log and record the error 18s that identify the busy-outs placed by the customer.)

   NOTE:
   You will restore the customer-placed busy-outs after you have upgraded the system.
4. For a system that has existing BX.25 links that are being retained after the upgrade: identify and record them.

   Execute **display communication-interface links**
5. Execute the following commands and verify that the information is correct:

   list station

   list trunk-group

   list hunt-group

   list data-module

   For upgrades from systems later than G1, **list ars analysis**

   For a system with Expert Agent later than G3V3, **list agent**

   If any command does not complete successfully, escalate the problem immediately.

1.

Return to Task List

Save translations [75 small upgrade]

Return to Task List

NOTE:
To save translations on duplicated systems, the systems must be in sync or the command will fail.

For High and Critical Reliability only, execute **status system 1** before you save translations.

Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go into a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.

1 Type **save translation** and press **Enter**.

This takes about 10 minutes.

NOTE:
Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

Keep the translation media in a safe and secure place. In case of failure, you use this translation to restore the system.

Return to Task List

Verify external alarm connections; modify cabling if necessary [75 small upgrade]

Return to Task List

You modify the external alarm connections if necessary (that is, if they changed with this upgrade).

See the Auxiliary lead appearances at AUX connector table for the current pinouts for an external alarm, and the Auxiliary lead appearances for System 75, G1, and G3 table for the prior pinouts.

The control carrier AUX connector outputs include:

- Alarm monitoring for the auxiliary cabinet.
- Seven -48 VDC power sources for emergency transfer units.
- Three -48 VDC power sources for remotely powering 3 attendant consoles or telephone adjuncts.
- The remote management terminal interface trunk connection location.
- Access to a relay contact is available to actuate a customer-provided light, bell, or similar alarm device. Administer the system to make contact when a major, minor or warning alarm condition occurs in the system. The circuitry required for this feature is customer-provided. The device connected to the alarm leads must not exceed a rating of 30 VAC RMS or 60 VDC at 0.75 amps.

A 25-pair connector labeled AUX is provided on the rear of the control carrier. Connect a cable to this connector and route to a connecting block on the trunk/auxiliary field.

Auxiliary lead appearances at AUX connector			
Color	**Pin number**	**AUX connector outputs**	
W-BL BL-W	26 1	Major (Note 1)	
W-O O-W	27 2	Minor (Note 1)	
W-G G-W	28 3	GND	
W-BR BR-W	29 4	GND	
W-S S-W	30 5	GND	
R-BL BL-R	31 6	GND	
R-O O-R	32 7	GND	
R-G G-R	33 8	N/C	
R-BR BR-R	34 9	N/C	
R-S S-R	35 10	N/C	
BK-BL BL-BK	36 11	-48 GND	Emergency transfer relay power
BK-O O-BK	37 12	-48 GND	
BK-G G-BK	38 13	-48 GND	
BK-BR BR-BK	39 14	-48 GND	
BK-S S-BK	40 15	-48 GND	
Y-BL BL-Y	41 16	-48 GND	
Y-O O-Y	42 17	-48 GND	
Y-G G-Y	43 18	N/C	

Auxiliary lead appearances at AUX connector			
Color	**Pin number**	**AUX connector outputs**	
Y-BR BR-Y	44 19	GND -48	AUX power
Y-S S-Y	45 20	GND -48	
V-BL BL-V	46 21	GND -48	
V-O O-V	47 22	N/C	
V-G G-V	48 23	External Alarm A (Note 1) External Alarm return	
V-BR BR-V	49 24	N/C	
V-S S-V	50 25	INADS Tip INADS Ring	

External alarm with signal incoming to system.

Auxiliary lead appearances for System 75, G1, and G3					
Color	66-type conn block term	Multi-carrrier AUX conn outputs	Single-carrrier AUX conn outputs	808A emerg xfer unit outputs	574-5 power xfer unit outputs
W-BL BL-W	01 02	1M	1M	TC	TC
W-O O-W	03 04	1m	1m	TK	TK
W-G G-W	05 06	2M (Note 1)	2M (Note 2)	LC	LC
W-BR BR-W	07 08	2m (Note 1)	2m (Note 2)	ST	ST
W-S S-W	09 10	3M (Note 1)	3M (Note 2)	TC	TC
R-BL BL-R	11 12	3m (Note 1)	3m (Note 2)	TK	TK
R-O O-R	13 14	3W (Note 1)	3W (Note 2)	LC	LC

Auxiliary lead appearances for System 75, G1, and G3							
Color	66-type conn block term	Multi-carrrier AUX conn outputs		Single-carrrier AUX conn outputs		808A emerg xfer unit outputs	574-5 power xfer unit outputs
R-G G-R	15 16	N/C		N/C		ST	ST
R-BR BR-R	17 18	N/C		N/C		TC	TC
R-S S-R	19 20	N/C		N/C		TK	TK
BK-BL BL-BK	21 22	GND -48	Emerg xfer relay power	GND -48	Emerg xfer relay power	LC	LC
BK-O O-BK	23 24	GND -48		GND -48		ST	ST
BK-G G-BK	25 26	GND -48		GND -48		TC	TC
BK-BR BR-BK	27 28	GND -48		GND -48		TK	TK
BK-S S-BK	29 30	GND -48		GND -48		LC	LC
Y-BL BL-Y	31 32	GND -48		GND -48		ST	ST
Y-O O-Y	33 34	GND -48		GND -48		TC	TC
Y-G G-Y	35 36	N/C		N/C		TK	TK
Y-BR BR-Y	37 38	GND -48	ACC power	N/C		LC	LC
Y-S S-Y	39 40	GND -48		N/C		ST	ST
V-BL BL-V	41 42	GND -48		N/C		COM1 N01	COM1 N01
V-O O-V	43 44	N/C		N/C		NC2 NC1	NC2 NC1
V-G G-V	45 46	Ext Alarm A Ext Alarm B		Ext Alarm A Ext Alarm B		COM2 N02	COM2 N02

Auxiliary lead appearances for System 75, G1, and G3					
Color	66-type conn block term	Multi-carrrier AUX conn outputs	Single-carrrier AUX conn outputs	808A emerg xfer unit outputs	574-5 power xfer unit outputs
V-BR BR-V	47 48	N/C	N/C	N/C	N/C
V-S S-V	49 50	INADS	INADS	GND -48	GND -48

These leads are not available on DEFINITY G1 or later systems. If you are upgrading a System 75 and these leads were previously used, these alarm connections have to be dropped.

Return to Task List

Label cables [75 small upgrade]

Return to Task List

1. To make reconnecting the cables simpler and more reliable, label every reusable connector cable in the system.
2. Install new connector cables, as needed, onto the connectors at the rear of the cabinet.
3. Route the cables to the MDF and cross-connect as needed.

4

Return to Task List

Shut down DEFINITY AUDIX system [75 small upgrade]

Return to Task List

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1. Log into the AUDIX as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **reset system shutdown** and press **Enter**.
3. Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power down [75 small upgrade]

Return to Task List

CAUTION:
Powering down the control cabinet causes loss of important system data, such as BCMS data, records of queued ACD calls, Automatic Wakeup requests, and Do Not Disturb requests. BCMS data cannot be stored to or retrieved from tape or flash.

1. Set the circuit breaker to OFF.

Return to Task List

Disconnect power and grounding [75 small upgrade]

Return to Task List

Disconnect the power cable from the wall plug.

Verify power failure [75 small upgrade]

Return to Task List

During routine operation, the ground for the emergency transfer stations is derived from the system's auxiliary cable. Disconnect this ground during the upgrade to disable the stations. A ground strap is run to the emergency transfer panel. Connect this strap shortly after removing power and disconnect it just before restoring power to the upgraded system.

Return to Task List

Open/remove doors and panels [75 small upgrade]

Return to Task List

1. Remove the front door from the cabinet, if desired.
2. With the cable retainer in front of you and the part number visible (4B or 4C), locate the slot that is almost vertical. (This slot is adjacent to the part number.) Insert a flat-blade screwdriver with a wide blade (1/4-inch is recommended) into the slot, and twist the screwdriver. The cable retainer will snap open easily so that the cable can be removed.
3. At the cabinet, disconnect the previously labeled cables associated with the carrier to be removed.

4 Behind the cabinet, remove all of the back panels.

Two different types of screws hold the back panels to the cabinet. Remove the #10 screws with a screwdriver or a 1/4-inch socket. Remove the #12 screws with a screwdriver or a 5/16-inch socket.

Return to Task List

Disconnect TDM cables [75 small upgrade]

Return to Task List

NOTE:
Before disconnecting each cable adapter, note its position.

Remove all of the TDM cables and AHF103 TDM cable adapters. They will not be reused.

Return to Task List

Remove circuit packs (A carrier only) [75 small upgrade]

Return to Task List

NOTE:
This procedure is for **single-carrier** systems ***only***.

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1 To ensure that the port circuit packs in the A carrier are properly replaced, label each component with its slot number.

2 Disconnect the power cords from the power units in the A carrier.

3 Remove all circuit packs and power units from carrier A. Store the circuit packs in the static-proof packaging.

4 Remove circuit-pack blanks from the slots that do not contain circuit packs.

5 Remove the front trim plate from the A carrier by pulling straight off.

Return to Task List

Remove circuit packs (A and B carriers) [75 small upgrade]

Return to Task List

NOTE:
This procedure is for **A and B carrier** systems *only.*

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1. To ensure that the port circuit packs (in the A and B carriers) and the power units (in the B carrier) are properly replaced, label each component with its slot number.
2. Disconnect the power cords from the power units in the B carrier.
3. Remove all port circuit packs from carriers A and B and the power units from carrier B. Store the circuit packs in the static-proof packaging.
4. Remove the circuit-pack blanks from slots that do not contain circuit packs.
5. Remove the front trim plate from the A carrier by pulling straight off.

Return to Task List

Remove tape drive [75 small upgrade]

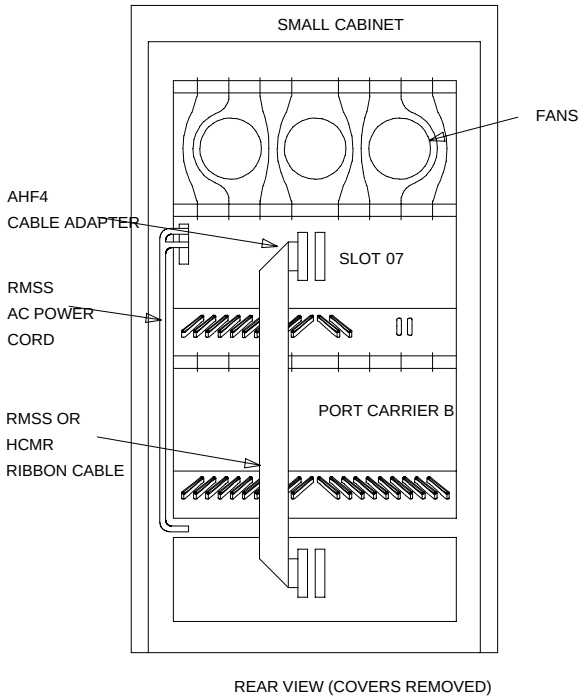
Return to Task List

NOTE:
The tape drive does not have to be physically removed at this time. You can disconnect it now, and then remove it after you complete the upgrade and time is less critical.

1. Remove the tape.
2. Disconnect the AHF4 cable adapter from behind slot 07 of control carrier A (see Figure 71, R1V3 System 75 cabinet, on page 299).
3. Open the snap connectors to remove the adapter from the tape drive's ribbon cable. Route the cable back to the tape drive and remove it. (There are 2 cable clamps on the cabinet's side panel. Use a screwdriver to unsnap them.)

   Neither the cable nor the adapter will be used in the upgraded cabinet.
4. Disconnect and remove the tape drive.
   - — On the HCMR tape drive, disconnect the power supply from the front of the unit. Then remove the screws at the rear of the unit that attach the drive to the chassis, and slide the tape drive out the front of the cabinet.
   - — On the RMSS tape drive, disconnect the red and black wire. Remove the faceplate. Then remove the screws that hold the unit to the chassis. Slide the drive out the front of the cabinet.
5. Coil the red and black wire in an out-of-the-way position in the cabinet.
6. Install the 176A Apparatus Blank over the empty space left by the removal of the tape drive.

Figure 71: R1V3 System 75 cabinet



Return to Task List

Remove control carrier A [75 small upgrade]

Return to Task List

CAUTION:
When removing the cable adapters, be careful that none of the short pieces of shrink tubing come off the 4 corner pins of the pin-field block. Otherwise, when the new equipment is connected, -48 volts could short to ground.

NOTE:
Before disconnecting each cable adapter, note its position.

1. Remove the cable and AHF3 cable adapters from between the A and B carriers (see Figure 72, TDM connections for small R1V3 System 75, on page 300). They will not be reused.
2. Disconnect one end of the 8 ground straps (between the A and B carriers) from the A carrier (see Figure 73, Locations of grounding jumpers, on page 301). These straps will be reconnected to the new A carrier.
3. Slide the latch up, and disconnect the P1 (small 9-pin) connector and the P2 (large 37-pin) connector from the A carrier (see Figure 74, Location of P1 and P2 connectors on System 75 carrier, on page 301). Move the cables into a position where they will not interfere with removing the carrier.
4. Remove the fan trim plate by pulling straight off.

5 Clean or replace the air filter (403326820) if necessary.

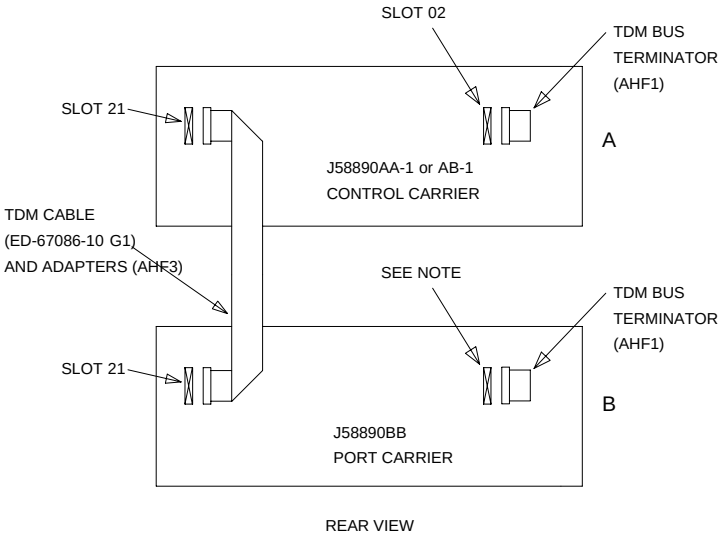
6 In front of carrier, remove the 4 screws (top 2 first) holding the A carrier to the cabinet frame. Use a long-handle screwdriver or 5/16-inch socket with a 10-inch extension.

CAUTION:
Cables and wiring harnesses can be damaged if they catch on the framework and if too much pressure is applied in removing the carrier.

7 Slide the carrier forward 1 to 2 inches; then, from the back, be sure that no cables or wiring harnesses are caught on the cabinet/carrier framework.

8 Remove the carrier by sliding it out the front of the cabinet.

Figure 72: TDM connections for small R1V3 System 75



NOTE: ON PORT CARRIER J58890BB-1, DISCONNECT THE TDM TERMINATOR FROM SLOT 02. ON PORT CARRIERS J58890BB-2 AND J58890BB-3, DISCONNECT THE TDM TERMINATOR FROM SLOT 01. IF THE PORT CARRIER HAS BOTH J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT AS A J58890BB-1.

Figure 73: Locations of grounding jumpers

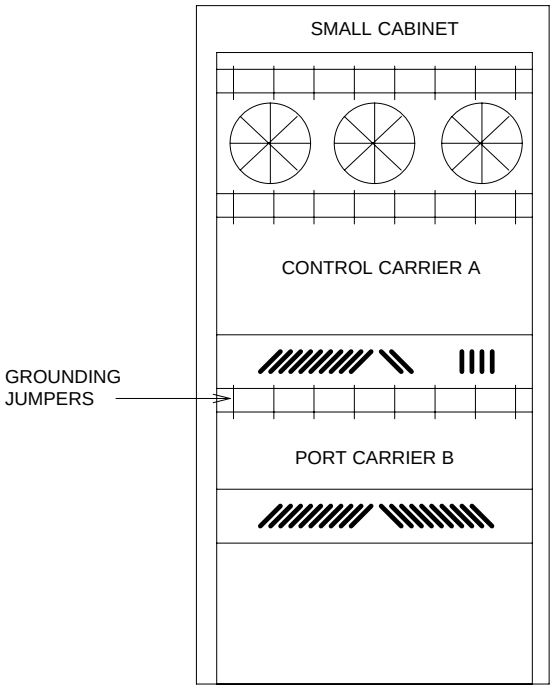
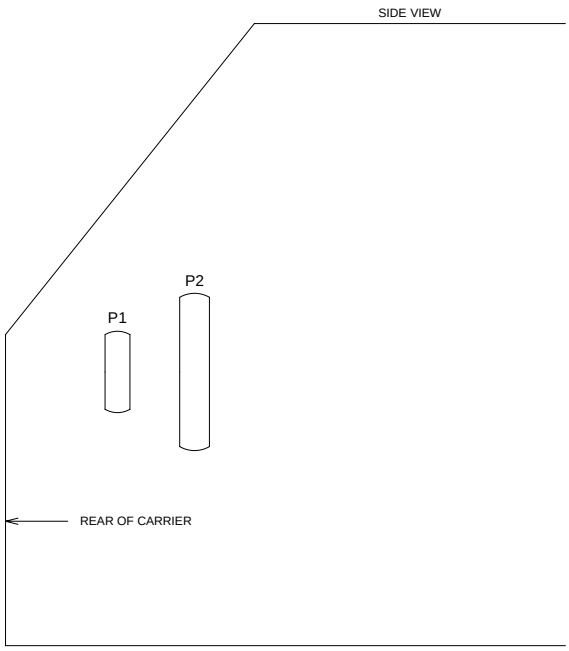


Figure 74: Location of P1 and P2 connectors on System 75 carrier



Return to Task List

Prepare and install new control carrier [75 small upgrade]

Return to Task List

1. Install the J58890AH control carrier in position A by lining up the plastic alignment tips on the top rear of the carrier with the screw holes in the cabinet. These alignment tips will support the carrier while the screws are being installed. Ensure that the power cords are properly placed in the slots at the sides of the carrier.

   CAUTION:
   Carefully realign the threads on the self-tapping screws by turning them clockwise a turn or two before tightening them to avoid stripping the threads out of the framework.

2. Fasten the carrier into position with 4 self-tapping screws saved from the removal of the old carrier.
3. Connect the P2 and P1 (large and small) connectors to the rear of A carrier. If necessary, to get enough slack in the cables, cut the tie wrap holding the intercabinet cable from the upright in the area of the carrier being installed. Snap the connector lock into place to ensure connection is properly made.
4. Connect the 8 ground straps from the B carrier to the new A carrier (see Figure 75, Locations of grounding jumpers, on page 303). These straps were left connected to the B carrier when the old A carrier was removed.
5. For the AC-powered control carrier, install the 2 new carrier-ground straps. One strap connects ground point 1 to the A-carrier frame (on the right side), and the other connects ground point 8 to the A-carrier frame (on the left side).
6. Connect the new TDM/LAN cable (WP-91716 L6) between the A and B carriers (see Figure 76, TDM/LAN connections for R7si/R8si PPN, on page 303 and the Table 13, TDM/LAN connections, on page 304 table). The cable is connected to the A and B carriers at the pin-field blocks marked on the left side of each carrier.
7. Replace the existing bus terminators (AHF1) with the new ZAHF4 bus terminators. (See Figure 76, TDM/LAN connections for R7si/R8si PPN, on page 303 and the Table 13, TDM/LAN connections, on page 304 table).
8. Install the front trim plates on the A carrier. Install the fan trim plate.
9. Peel the old decal strip (designation strip) from the trim plates. Then install the new decal strip at the bottom of the trim panel.
10. Install the connector-panel decal on the rear connector panel.
11. Install the 631-type power units into the A carrier. Install the new 631DB1 in the right side of the carrier, and reuse the old 631-type power supply in the left side. Do not interchange the units. The 631AR, 631WA1, or 631DA1 is installed in the left side, while the new 631DB1 is installed in the right side (see Figure 77, Locations of power units, on page 304).
12. If the system is equipped with neon message waiting, install the previously removed TN752 or TN755B power unit in port slots 12 and 13 of the carrier (adjacent to the 631DB1).
13. Connect the power cords to the power units. The power cords are the white cables equipped with plugs that are run through the slots in the front of each carrier (see Figure 78, 631-type power unit, on page 304).

Figure 75: Locations of grounding jumpers

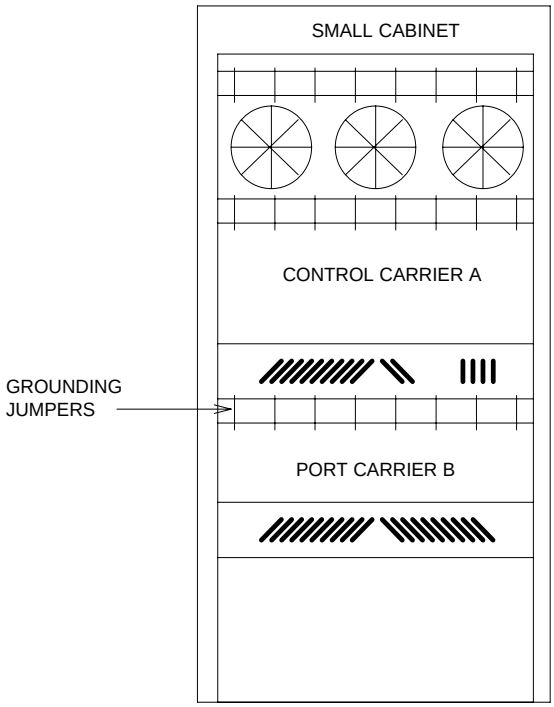
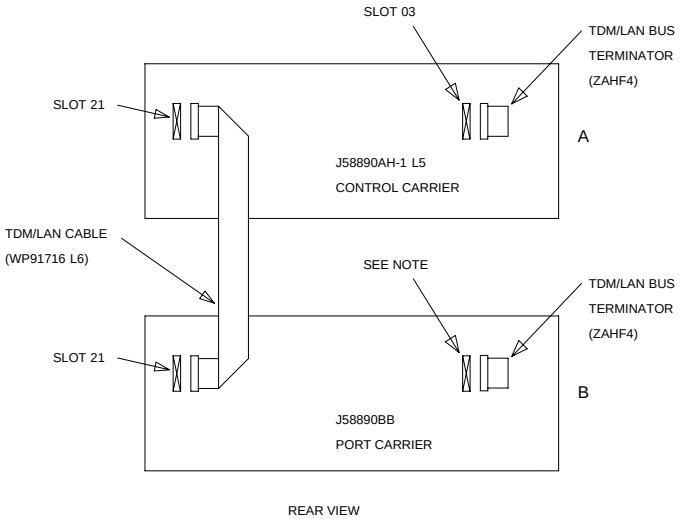


Figure 76: TDM/LAN connections for R7si/R8si PPN



NOTE: ON PORT CARRIER J58890BB-1, CONNECT THE TDM/LAN TERMINATOR TO SLOT 02.
ON PORT CARRIERS J58890BB-2 AND J58890BB-3, CONNECT THE TDM/LAN TERMINATOR TO SLOT 01.
IF THE PORT CARRIER HAS BOTH J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT
AS A J58890BB-1.

Table 13: TDM/LAN connections

J Number	Carrier Type	LHS Slot	RHS Slot
J58890BB-1	Port	21	02
J58890BB-2	Port	21	01
J58890BB-3	Port	21	01
J58890AH	Enhanced Control A	20	03

Figure 77: Locations of power units

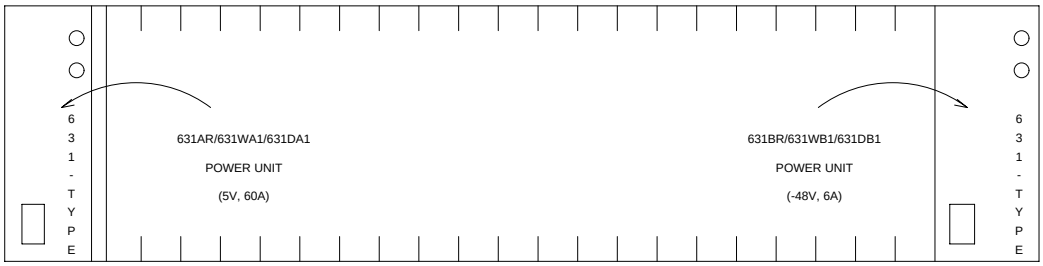
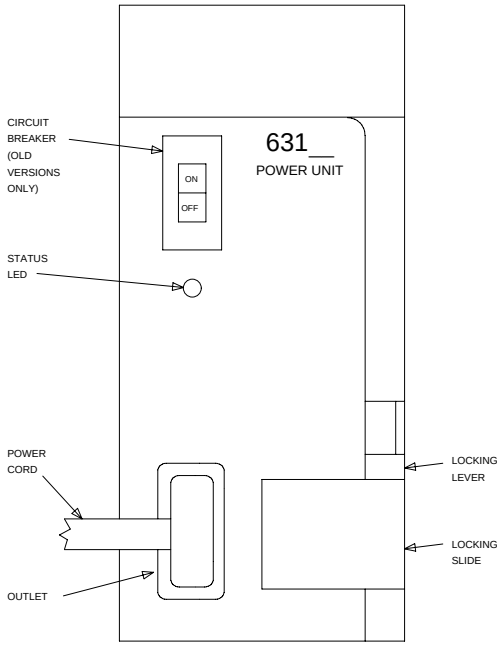


Figure 78: 631-type power unit



Return to Task List

Install new control cabinet [75 small upgrade]

Return to Task List

NOTE:
This procedure is for systems not requiring earthquake protection.

The new control cabinet already contains a TN790B circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Roll the multi-carrier cabinet into position at the desired location.
2. Install hole plugs (provided with cabinet) in the holes previously occupied by the two carriage bolts at the bottom rear of the cabinet.

Return to Task List

Install new control cabinet with earthquake protection [75 small upgrade]

Return to Task List

NOTE:
This procedure is for systems requiring earthquake protection.

The new control cabinet already contains a TN790B circuit pack, and the network control and packet control mechanism are already in place.

DANGER:
The cabinet may weigh as much as 130 pounds and requires 2 handlers. Use caution to avoid injury.

1. Roll the multi-carrier cabinet into position at the desired location.
2. Place the front mounting angle at the location selected for the front of the control cabinet.
3. Using the angle as a template, mark the locations of the 2 mounting bolts.
4. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 3.
5. Mount the front mounting angle to the floor (Figure 79, Front mounting angle — concrete floor, on page 306).
6. Move the cabinet back into place, and temporarily stabilize the cabinet by attaching the cabinet to the angle with 2 No. 12-24 by 1/2-inch thread-forming screws.
7. Insert a pencil or marker through the 2 holes (previously occupied with carriage bolts) in the bottom rear of the cabinet, and mark the floor directly beneath each hole.
8. Remove the 2 screws installed in Step 6, and move the cabinet out of the way.
9. Drill 2 holes 1/2 inch in diameter and 1-1/2 inches deep at the spots marked in Step 7.
10. Move the cabinet back into place.

11 Attach the cabinet to the front mounting angle using 4 No. 12-24 by 1/2-inch thread-forming screws.

12 In the rear of the cabinet, lay the stiffener on the bottom of the cabinet aligning the stiffener with the holes in the bottom of the cabinet.

13 Fasten the cabinet to the floor (Figure 80, Cabinet earthquake mounting — concrete floor, on page 307).

NOTE:
You install the earthquake front plate and earthquake ground plate later in the upgrade procedure.

Figure 79: Front mounting angle — concrete floor

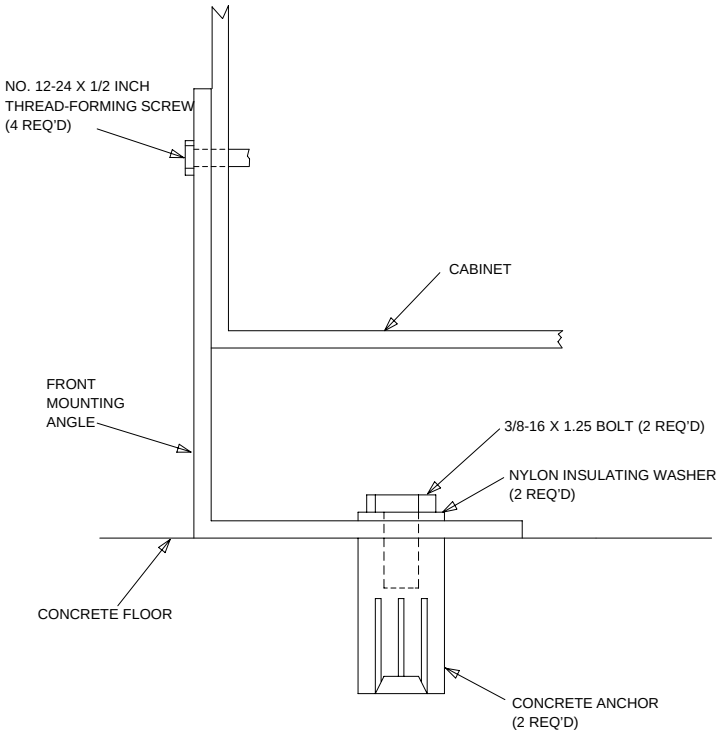
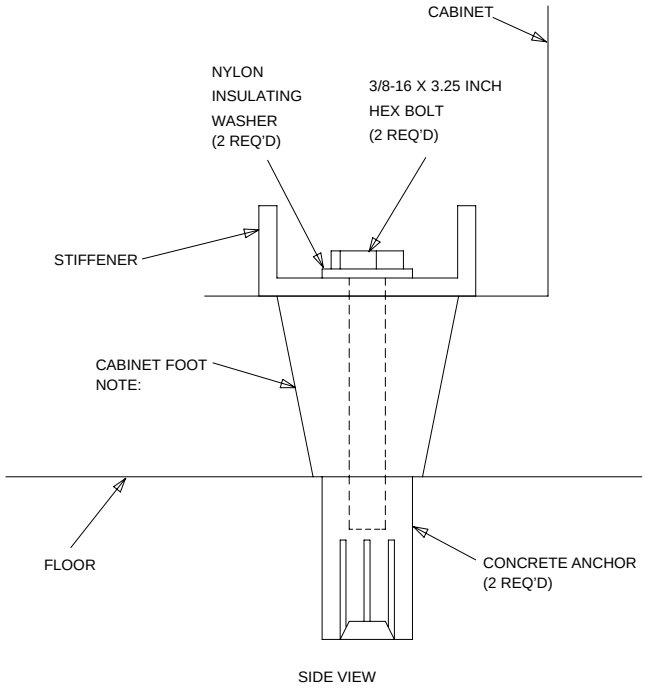


Figure 80: Cabinet earthquake mounting — concrete floor



Return to Task List

Install circuit packs [75 small upgrade]

Return to Task List

WARNING:
Before inserting or removing a circuit pack from a cabinet, put on a wrist strap and attach its plug or clip to the cabinet's frame.

1 For a carrier upgrade only:
Install the new R8si control circuit packs into control carrier A. See Figure 81, Representative J58890AH control carrier, on page 308, the new decal, and the annotated **list configuration all** (provided with the R8si translation memory card) as a guide.

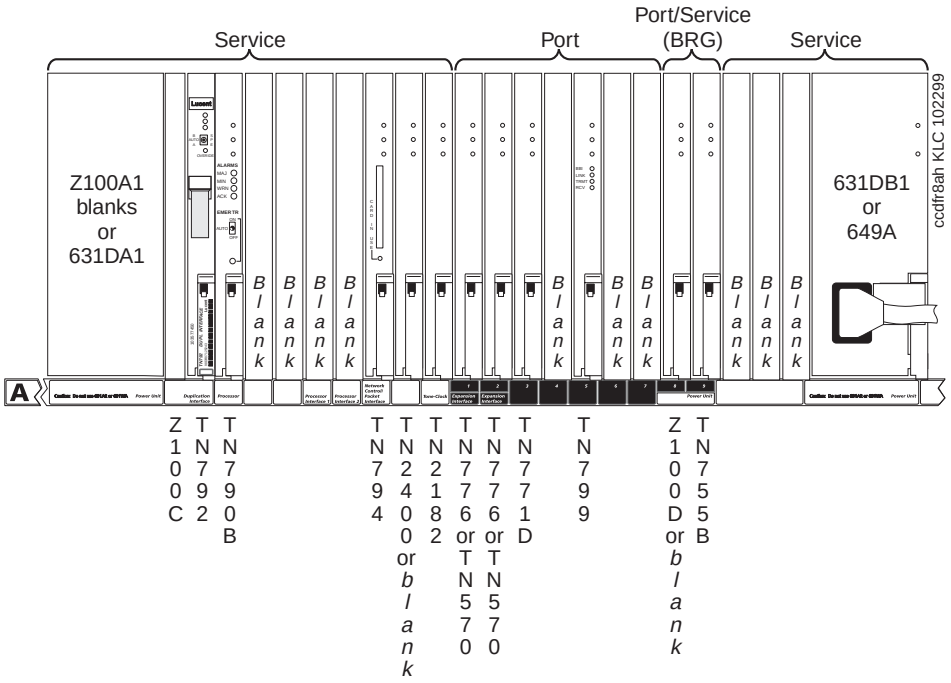
WARNING:
The reinstalled port circuit packs must conform to the usable vintage requirements for an R8si system (see Reference Guide for Circuit-Pack Vintages and Change Notices).

2 Install the port circuit packs previously removed into the A carrier using the decal and the annotated **list configuration all** (provided with the R8si translation memory card) as a guide.

NOTE:
The new R8si control carrier has only 1 more port slot than a J58890AB control carrier. You may need to move and retranslate circuit packs. If it was not done before the upgrade, relocate the circuit packs now. The relocated port circuits will have to be translated after the system is rebooted with the R8si translation memory card.

3 Install circuit-pack blanks in slots not equipped with circuit packs.

Figure 81: Representative J58890AH control carrier



Return to Task List

Move 25-pair cables from System 75 to R8si [75 small upgrade]

Return to Task List

1 Remove any reusable 25-pair cables from the rear of the old system.

For G3vs upgrades Cables connecting the wall-mount G3vs and the si cabinet may be too short. If so, replace these cables with new, longer cables.

2 Attach any reusable 25-pair cables to the needed connectors on the rear of the si cabinet.

3 Attach any *new* 25-pair cables to the needed connectors on the rear of the si cabinet.

4 Route the new cables to the MDF and attach.

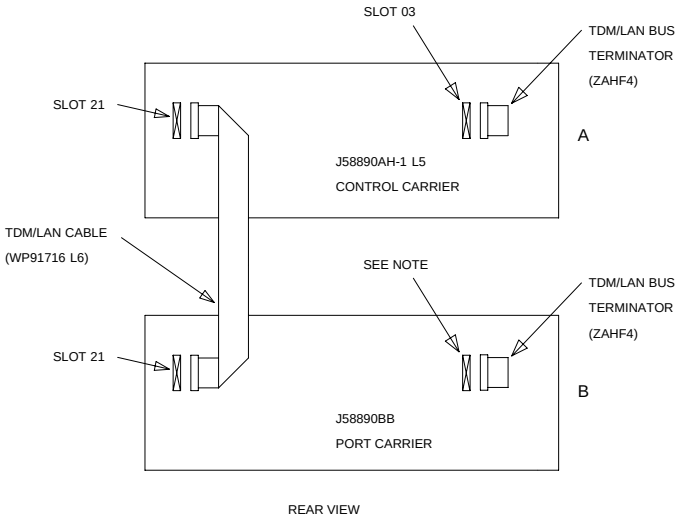
Return to Task List

Install TDM/LAN bus terminators and connect cables [75 small upgrade]

Return to Task List

1. On the top port cabinet, remove the existing terminator (AHF1), and replace it with a AHF110 TDM/LAN bus terminator.
2. Route and connect the new WP-91716 L3 TDM/LAN cables (see Figure 82, TDM/LAN connections for R7si/R8si PPN, on page 309). Use the following steps to route the cables between the R1V3 port cabinets being reused. The new cables are not run through the existing slot in the rear shelves.
   a. Loosen the 2 left (as viewed from the rear) connector-panel screws, and then remove the other 2 connector-panel screws.
   b. Attach the TDM/LAN cable to the backplane and slide the cable between the connector panel and the rear shelf (not through the existing hole in the shelf). Route the cable along the bottom of the cabinet.
   c. Replace and tighten the connector-panel screws.
3. If you are upgrading *and adding duplication*, connect the cables as shown in the Table 14, Intercabinet Cable Connections, on page 310 table and Figure 83, ICC pin-field blocks on J58890L-1 L5 enhanced control cabinet, on page 310 and Figure 84, ICC pin-field blocks on J58890M-1 L5 or J58890M-2 L7 enhanced duplicated control cabinet, on page 311.

Figure 82: TDM/LAN connections for R7si/R8si PPN



NOTE: ON PORT CARRIER J58890BB-1, CONNECT THE TDM/LAN TERMINATOR TO SLOT 02. ON PORT CARRIERS J58890BB-2 AND J58890BB-3, CONNECT THE TDM/LAN TERMINATOR TO SLOT 01. IF THE PORT CARRIER HAS BOTH J58890BB-1 AND J58890BB-2 STENCILLED ON IT, TREAT IT AS A J58890BB-1.

Table 14: Intercabinet Cable Connections

Connect Cables				
	From		To	
	Carrier	Pin-Field Block	Carrier	Pin-Field Block
PPN	J58890L-1 L5	ICCB	J58890M-1 L5	ICCB
		ICCC		ICCC

Figure 83: ICC pin-field blocks on J58890L-1 L5 enhanced control cabinet

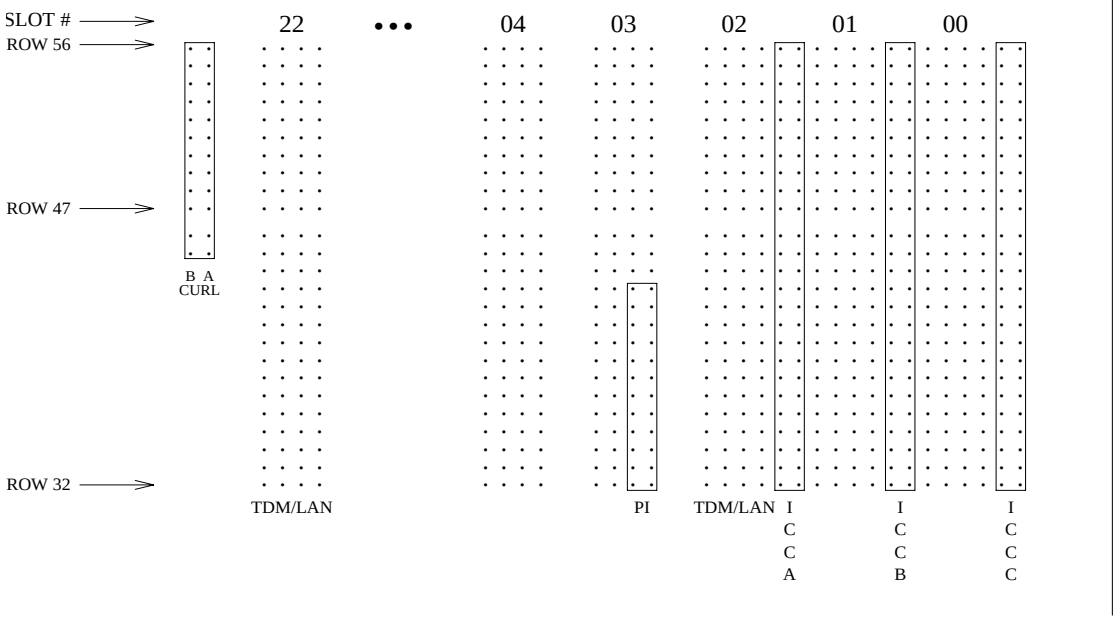
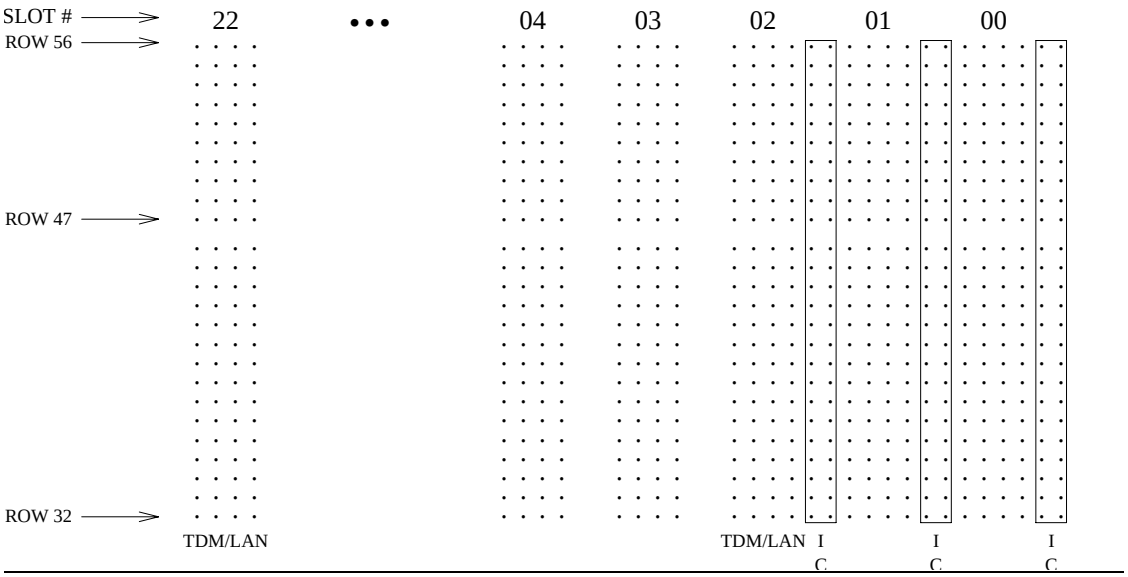


Figure 84: ICC pin-field blocks on J58890M-1 L5 or J58890M-2 L7 enhanced duplicated control cabinet



Return to Task List

Verify TDM cables and connectors [75 small upgrade]

Return to Task List

Verify that the system has the correct TDM/LAN cables and TDM terminators installed. Using this table as a reference, visually inspect the PPN and EPN connections.

Cabinet	TDM/LAN cable	TDM Terminator
SCC1	WP-91716 L3	AHF110
MCC1	WP-91716 L6 and L7 (older cables have blue labels; yellow labels are newer)	ZAHF4

Return to Task List

Connect power and grounding [75 small upgrade]

Return to Task List

During routine operation, the ground for the emergency transfer stations is derived from the system's auxiliary cable. You disconnected this ground and ran a ground strap to the emergency transfer panel after you removed power.

1 Disconnect the ground strap just before restoring power to the upgraded system.

2 Connect the power cable to the wall plug.

Return to Task List

Close upgraded PPN stack without earthquake protection [75 small upgrade]

Return to Task List

NOTE:
This procedure is for systems not requiring earthquake protection.

1 Install the front door on each cabinet.

2 Install a DEFINITY label on each existing port cabinet.

3 Install the top and bottom rear covers.

— Verify that the correct rear covers are installed on the new control cabinets.

— Do not use these rear covers on the port cabinets.

Return to Task List

Close upgraded PPN stack with earthquake protection [75 small upgrade]

Return to Task List

NOTE:
This procedure is for systems requiring earthquake protection.

1 Install the upper and lower rear covers.

— Use all the screws except the screws that run along the top and bottom of the cabinet. Do not tighten the screws.

— Note that on a critical-reliability R7si or R8si, the rear covers for the control cabinets need 2 detents. One is for the TDM/LAN cable and the other is for the ICC cables.

2 Line up the 4 holes in the ground plate with the 4 holes at the bottom of the lower rear cover of the upper cabinet. Install the 4 screws but do not tighten them.

3 Line up the ground plate with the top holes of the upper rear cover of the lower cabinet. Install the 4 screws but do not tighten them.

4 At the front of the cabinet, line up the earthquake front plate with the holes at the top and bottom of the cabinet. See Figure 85. Install the 8 screws but do not tighten them.

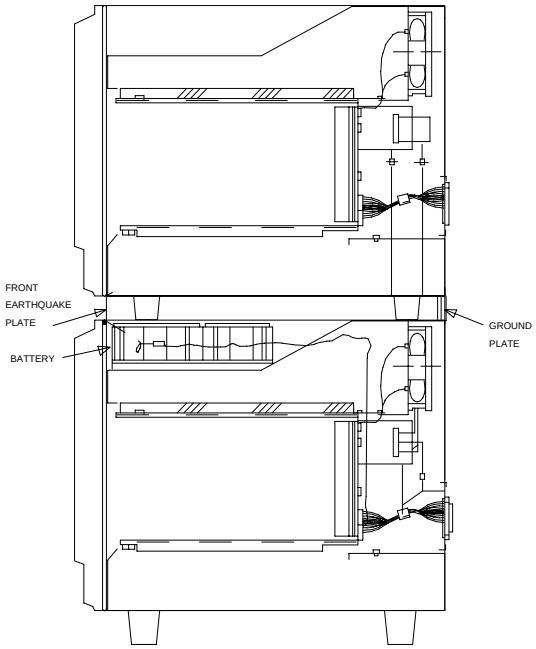
5 Tighten all screws.

6 Repeat Step 1 through Step 5 for the remaining cabinets.

7 Install the front door on each cabinet.

8 Install a DEFINITY label on each existing port cabinet.

Figure 85: Locations of ground plate, earthquake front plate, and battery



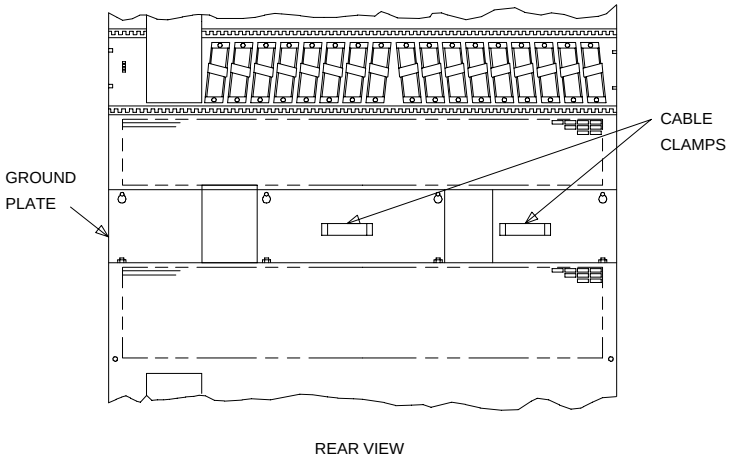
Return to Task List

Install cable clamps [75 small upgrade]

Return to Task List

Behind the cabinets using screws provided, install two cable clamps on each ground plate (see Figure 86). These clamps are used to hold the port cables.

Figure 86: Locations of ground plate and cable clamps on single-carrier cabinet



Return to Task List

Power up and set date, time and daylight savings rule [75 small upgrade]

Return to Task List

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap (comcode 900698226) when handling all system components.

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1 Verify that the write switch on the Translation Flash-Memory Card (translation card) is positioned down so the card can be written to. Install the R8si translation card into the TN794 circuit pack in the direction indicated by the arrow on the label.

NOTE:
If the system is high or critical reliability, power up the EPN cabinet first, then the PPN cabinet. *Always* power up the control cabinet *last*.

2 Power up the AC- or DC-powered system.

System	Steps	
AC	**1**	Set the circuit breakers on the AC power panel to ON.
	2	Set the cabinet circuit breakers to ON. This starts the system initialization and test. All red LEDs on the circuit packs go on and then off.

System	Steps
DC	**1** At the DC Battery Cabinet (if installed), set the circuit breaker to ON. **2** At the DC Power Cabinet, set the circuit breaker(s) on the rectifiers to ON. This starts the system initialization and test. Some red LEDs may be turned on, but they are turned off during the boot-up process. No action is required.

The results of system tests display on the monitor.

3 Verify that all tests pass.

If any of the terminal messages indicate a test has failed or if the message `spe down mode` is displayed, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble.

4 Type **set time** and press **Enter**.

See Figure 87.

5 Enter the date information and the time in 24-hour format. Enter either ***daylight saving time*** or ***standard time***, depending on the current time in your time zone. If your area does not use daylight saving time, set the value of `Daylight Savings Rule` to **0**; otherwise, set `Daylight Savings Rule` to **1**. Press **Enter** to set the date and time and ensure that the system boots properly.

Figure 87: Typical Date and Time Screen

```
                  DATE AND TIME
DATE
     Day of the Week: Tuesday    Month: June
    Day of the Month: 26          Year: 2000

TIME
    Hour: 20 Minute: 30  Second: XX   Type: standard
          Daylight Savings Rule: 1
```

Return to Task List

Enable customer option and alarm origination [75 small upgrade]

Return to Task List

NOTE:
This procedure requires an **init** login.

If the upgrade is after hours, coordinate with the regional CSA to have the features turned on.

1. Get the DOSS order number of the upgrade from the project manager and ask the regional Customer Software Administration to administer customer options. See the Avaya Support Web page for telephone numbers.
2. Log in to the switch and respond to the Access Security Gateway (ASG) challenge.
3. *For duplicated systems,* verify that the switches are in **auto**: Type **status system 1** and press **Enter**.

   Verify that conditions are normal (this can take as long as 5 to 10 minutes). If the system refuses to go onto a normal condition, refer to the maintenance procedures; if that fails, escalate the problem.
4. If it is necessary to change the offer, type **change system-parameters offer-options** and press **Enter**.
5. If changing offers and the `Activate Offer` field is **n**, set it to **y** and press **Tab**. A warning message lets you know whether you need to save translations and reboot to make the change permanent.
6. Press **Enter** to effect the changes or **Cancel** if there were no changes.
7. Type **change system-parameters customer-options** and press **Enter** to set the customer options that were purchased. Change the `G3 version:` field to **V9**.

   Use these forms to verify the customer options are set correctly.
8. If the customer was using Supplementary Services Protocol b or d on an ISDN-PRI trunk group before the upgrade, set the `Basic Call Setup` field on the ***QSIG Optional Features*** page to **y**.
9. For R8 to R9 only and customers having IP softphones, go to the Maximum IP Registrations by Product ID screen (last screen) and verify that the number listed in the `IP_Soft` field did not default to **1**. If it did, get the number from field technician and type it in.
10. Press **Enter** to effect the changes.
11. Call the INADS database administrator at the TSC to verify that the system is part of the existing INADS database.
12. Verify that INADS can dial into the system and that the system can dial out to INADS.
13. Log off and log back in as **craft**.

Reference

The INADS database administrator enables alarm origination and customer options as part of system registration.

Return to Task List

Verify the upgrade [75 small upgrade]

Return to Task List

1. Execute **status system 1** and verify that the system is in a normal state.
2. Type **display alarms** and press **Enter**.

   If the system is not alarm-free, take the needed corrective actions.
3. Type **list configuration software-version** (simplex) or **list configuration software-version *long*** (duplex) and press **Enter**. Check the `Memory Resident` field to verify that it shows the correct software load.

4 Type **display communication-interface links** and press **Enter**.

Status each of the links.

> **NOTE:**
> ISDN-PRI D-channel links no longer appear on this screen. (For release 7 and later, ISDN-PRI resides on the network packet circuit pack.) For release 7 and later, the only way to determine if an ISDN-PRI D-Channel is up is to use the status signaling group command.

5 Type **list signaling-group** and press **Enter**. For each signal, execute **status signal <*number*>**.

Validate that all the signal groups that should be operational are in service.

6 Execute the following commands and verify that the information is correct:

list station

list trunk-group

list hunt-group

list data-module

For upgrades from systems later than G1, **list ars analysis**

For a system with Expert Agent later than G3V3, **list agent**

7 For duplicated systems only, execute **status system 1**

Return to Task List

Run acceptance tests [75 small upgrade]

Return to Task List

Run any acceptance tests that are appropriate for this upgrade. The acceptance tests are listed in these 3 checklists:

Test single-carrier cabinet systems

Test multi-carrier cabinet systems

Test telephones and other equipment

For details of the tests, see

Test the System

Test Telephones and Other Equipment

Test single-carrier cabinet systems

1 Check System Status for Each Cabinet

2 Check Circuit Pack Configuration

3 Test Time Division Multiplexing Bus in Processor Port Network

4 Test Tone-Clock Boards

5 Test Expansion Interface Circuit Packs
6 Test Time Division Multiplexing Bus for Each Expansion Port Network
7 Test Tone-Clock for Each Expansion Port Network
8 Test Tone-Clock Interchange for Each Expansion Port Network
9 Test Expansion Interface Exchange for Each Expansion Port Network
10 Check Circuit Pack Configuration
11 Save Translations, if Required

Test multi-carrier cabinet systems

1 Check System Status for Each Cabinet
2 Check Circuit Pack Configuration
3 Test TDM Bus in PPN
4 Test Tone-Clock Circuit Packs
5 Test SPE Duplication Memory Shadowing Link
6 Test Duplicated Switch Processing
7 Element Interchange
8 Test Expansion Interface Circuit Packs
9 Test TDM for each EPN
10 Test Tone-Clock for each EPN
11 Test Tone-Clock Interchange for each EPN
12 Test Expansion Interface Exchange for Each EPN
13 Check Circuit Pack Configuration Again
14 System Test Completion
15 LED Indicators

Test telephones and other equipment

1 Make Test Calls
2 Test 302C Attendant Console
3 Test External Ringing
4 Test Queue Warning Indicator
5 Test Integrated Announcement
6 Test Music-on-Hold
7 Test Emergency Transfer
8 Test Remote Access Interface
9 Test Basic Rate Interface
10 Test Duplication Option Processing
11 Element Interchange
12 Test Terminating Trunk Transmission

13 Test Stratum 3 Clock

14 Perform Complete System Test

15 Activate and Test Alarm Origination Feature

Return to Task List

Readminister translation [75 small upgrade]

Return to Task List

If the customer has added one or more components (for example, a call pickup group) to the system since translation was done, the customer is responsible for readministering the translation.

Return to Task List

Rerecord announcements [75 small upgrade]

Return to Task List

If you have not saved and restored announcements during the upgrade, the customer must re-record all announcements now.

If the customer changed any announcements after the they provided the source tape for the blowback flash card, the customer must re-record the new announcements.

Return to Task List

Save announcements and translation [75 small upgrade]

Return to Task List

If you have restored announcements using the white translation card from an earlier release, insert the R8 white translation card now.

> **NOTE:**
> If the customer does not have a backup white translation card, it is very important to make sure that the new software is running normally before you save the translation. After you save translation to the translation card, the card cannot be used to bring up translation if you restore the old system.

1 Type **save translation** and press **Enter**.

This takes about 10 minutes.

> **NOTE:**
> Do not press any keyboard key until after the terminal displays the success message. For example, if you press **Enter** more than once after typing the command, the second **Enter** erases the screen and you never see the success message.

2 If the **save translation** command fails, do not continue. Record the error code that appears on the screen and escalate the problem immediately.

3 Type **save announcements** and press **Enter**.

This takes about 45 minutes.

4 Keep the translation media in a safe and secure place.

Return to Task List

Register the upgraded switch [75 small upgrade]

Return to Task List

You register the system from a laptop or via a technical work bench such as INADS.

1 Get the serial number of the upgraded PPN.

2 Call the INADS database administrator at the TSC (1-800-248-1111) to register the upgraded system.

Return to Task List

Return equipment to MSL [75 small upgrade]

Return to Task List

The Return of Excess & Unused Equipment on Sales Orders is a process for returning excess and unused equipment from customer premises to Avaya.

- When the Project Manager completes a project sales order in SAP or the Technician completes a non-project sales order in Workbench, a return order is created in SAP for any items that were on the sales order, but not installed. Credit is provided to the customer on the initial invoice.
- The Project Managers and technicians are accountable for returning the equipment until the carrier has picked it up. If the carrier does not pick up the equipment, the Services Cost Center in which they reside is charged for the cost of the equipment.

Helpful links

- You can access the *Open Return Order Report* under "Jeopardy Report" at: http://nccc.usaw.avaya.com/portal/
- Get the *Equipment Pick Up Request Form* at: http://nccc.usaw.avaya.com/forms/EquipPickUp/
- Visit the *Reverse Logistics Web Site* at: http://cobldw2ksvr/Reverse%20Logistics/ to view the updated process document in the Cancellation Folder, file name (pd_Return of Excess and Unused Equipment on Sales Orders.doc).

Return to Task List

Insert An Isolator

Power-Failure Stations

During routine switch operation, the ground for the power-failure stations is derived from the system's auxiliary cable. This ground will be disconnected during the upgrade, thus disabling the power-failure stations. Therefore, a ground strap will have to be run to the power-failure transfer panel. This strap should be connected shortly after power is removed and then disconnected just before power is restored to the upgraded system.

To minimize downtime during the R8si upgrade, power-failure transfer equipment should be tested and, if need be, repaired before the hardware upgrade begins.

Upgrade overview: System 75 XE

When you upgrade a System 75 XE, consider the following:

- Many configurations of System 75 XEs are in the field.
- Each system can have a unique hardware and software configuration.
- How you upgrade a system depends on its present configuration.
- To upgrade a System 75 XE, you replace the control cabinet with either:
  - An R7si/R8si enhanced control cabinet for a PPN upgrade
  - An expansion control cabinet for an EPN upgrade
- For an upgrade to a duplicated R7si or R8si PPN, you also add an enhanced duplicated control cabinet.

Relocating PPN port circuit packs

When you upgrade a System 75 XE:

- You *can* need to move and manually retranslate port circuit packs from the control cabinet.
- You replace the System 75 XE control cabinet with 14 port slots with an R7si/R8si enhanced control cabinet with 16 port slots. This provides 2 extra port slots.
- However, out of these 16 port slots, nonport-related (control and service) circuit packs may need to occupy certain slots:
  - If you are replacing the TN756 tone detector/generator in the System 75 XE control cabinet, use a new TN2182 tone-clock. The TN2182 replaces the tone-detector circuits on the TN756.
  - If you simultaneously add an EPN, you must install a TN776 or TN570D expansion interface circuit pack in slot 1 of the new R7si enhanced control cabinet.
  - If the control cabinet in the System 75 XE holds a TN755B power supply in slot 13 or 14, this circuit pack is relocated to port slots 15 or 16 of the new R7si/R8si enhanced control cabinet (with no effect on available port circuits).
- If you have all of the above scenarios, the result is neither a gain nor a loss of port slots.

Relocating EPN port circuit packs

When you upgrade a System 75 XE to an R7si or R8si EPN:

You *can* need to move and manually retranslate port circuit packs.

- An R7si/R8si expansion control cabinet with 17 port slots replaces the System 75 XE control cabinet with 14 port slots. This provides 3 extra port slots.
- However, out of these 17 port slots, nonport-related (control and service) circuit packs may need to occupy certain slots:
  - For an EPN upgrade, you must have a TN768, TN780, or TN2182 tone-clock or a TN756 tone detector/generator in the System 75 XE control cabinet. If you have a TN768 or TN780, you need to add a TN748 tone detector.
  - A TN776 or TN570D must be installed in slot 1 of the new R7si expansion control cabinet to interconnect the upgraded R7si EPN with the new PPN. Therefore, you must relocate any circuit pack residing in slot 1 of the System 75 XE control cabinet (usually to one of the extra port slots in the new expansion control cabinet).
  - If the control cabinet in the System 75 XE holds a TN755B power supply in slot 13 or 14, this circuit pack is relocated to port slots 16 or 17 of the new R7si or R8si expansion control cabinet (with no effect on available port circuits).
- If you have all of the above scenarios, the result is a net gain of *only* 1 port slot.

Upgrade overview: small-cabinet System 75

When you upgrade a System 75 small cabinet, consider the following:

- Many configurations of small-cabinet System 75s are in the field.
- Each system can have a unique hardware and software configuration.
- How you upgrade a small-cabinet System 75 depends on its present configuration.
- To upgrade a control carrier, you replace the small-cabinet System 75 control carrier with a new R7si enhanced control carrier.
- To upgrade a small-cabinet System 75 control carrier *and* cabinet, you install a new multicarrier PPN.

Replacing the control carrier

When you replace the control carrier in a small-cabinet System 75:

- You may need to move and manually retranslate port circuit packs from the small-cabinet System 75.
- A new R7si or R8si enhanced control carrier with 13 port slots and new power supplies will replace either:
  - An R1V3 J58890AB control carrier in a Model 1 with 12 port slots. This provides 1 extra port slot.
  - An R1V3 J58890AA control carrier in a Model 2 with 8 port slots. This provide 5 extra port slots
- Out of these 13 port slots, nonport-related circuit packs may need to occupy certain slots.

- If the control carrier in the small-cabinet System 75 system contains a TN752 or TN755B power supply, this circuit pack will occupy port slots 12 and 13 of the new R7si enhanced control carrier.
- If you simultaneously add an EPN, you must install a TN776 or TN570D expansion interface circuit pack in slot 1 of the new R7si or R8si enhanced control carrier.
- If you have both of the above scenarios, the result is either a net *loss* of 2 port slots (from the AB carrier) or a net gain of only 2 port slots (from the AA carrier).

Replacing the cabinet and control carrier

When you replace the cabinet and control carrier for a small-cabinet System 75:

- You need to move and manually retranslate port circuit packs from the small-cabinet System 75 control carrier.
- A new R7si/R8si control carrier with 9 port slots and new power supplies will replace either:
  - An R1V3 J58890AB control carrier in a Model 1 with 12 port slots. This provides 3 fewer port slots.
  - An R1V3 J58890AA control carrier in a Model 2 with 8 port slots. This provides 1 extra port slot.
- Out of these 9 port slots, nonport-related circuit packs may need to occupy certain slots.
- If the control carrier in the small-cabinet System 75 system holds a TN752 or TN755B power supply, this circuit pack will occupy port slots 8 and 9 of the new R7si/R8si control carrier.
- If you simultaneously add an EPN, you must install a TN776 or TN570D expansion interface circuit pack in slot 1 of the new R7si/R8si control carrier.
- If you have both of the above scenarios, the result is either a net *loss* of 6 port slots (from the AB carrier) or a net *loss* of 2 port slots (from the AA carrier).

Power requirements

See the power and grounding requirements in *DEFINITY Communications System Generic 1 and Generic 3 Installation and Test (555-230-104)*.

Installation for MCC1 (Multicarrier Cabinets) Made Easy

Perform these tasks to install multicarrier cabinets:

1. Install and Connect MCC1 (Multicarrier) Cabinet
2. Install Telecommunications Cabling
3. Bring the System Online
4. Test the System
5. Install and Wire Telephones
6. Install and Administer Trunks
7. Install and Wire Telephone Power Supply
8. Install Additional Hardware
9. Add IP Solutions
10. Install and Connect Modems
11. Administer the features, telephones, and other equipment according to customer data found on the provisioning plan. Use the procedures in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
12. Test Telephones and Other Equipment

Select the activity you are currently performing to see information, task lists, and procedures for that activity.

NOTE:
It may be more efficient to install each hardware component, administer it, and test it before going on to install another component. As an example, install the attendant console using the procedures in Install and Wire Telephones, administer it using the procedures in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*, and test it using the procedures in Test Telephones and Other Equipment.

You can also find information on these topics here:

- Option Switch Settings
- Approved Grounds
- Administering Fiber Optic Cables
- Connector and Cable Diagrams (Pinout Charts)

Install and Connect MCC1 (Multicarrier) Cabinet

This section describes how to install the MCC1 (Multicarrier) cabinet. For information on Single-Carrier Cabinets, go to Install and Connect SCC1 (Single-Carrier Cabinets).

Floor plans and equipment layouts for typical system installations are provided in the *Hardware Guide for Avaya Communication Manager (555-245-207)* book.

NOTE:
Before you begin the cabinet installation, check the location of the AC/DC power receptacles. The receptacles must be on separately fused circuits not controlled by wall switches. They must be located within 10 feet (3 meters) of the cabinet, and outside the Main Distribution Frame (MDF) area.

Task List: Install and Connect MCC1

Perform these tasks before you begin the installation:

1. Check Customer's Order
2. Unpack and Inspect Cabinets
3. Unpack and Inspect Auxiliary Cabinet
4. If you cannot get timing from the service provider, you may need to install a Stratum 3 clock. If this system includes a Stratum 3 clock, go to Installing the Stratum 3 Clock for instructions.
5. Check Circuit Packs
6. Correct Shipping Errors

Perform these tasks to install the cabinets:

7. Position the PPN Cabinet
8. Position the EPN Cabinets
9. Position the Auxiliary Cabinet (Optional) and Install Auxiliary Cabinet Equipment
10. If required, Install Earthquake Protection for MCC1

WARNING:
If the approved ground or approved floor ground can only be accessed inside a dedicated power equipment room, then connections to this ground should be made by a licensed electrician. See Approved Grounds for more information.

11. Connect AC Power and Ground or Connect DC Power and Ground (These tasks have their own task lists.)
12. Connect Remote Power Off Cable

13 Connect External Alarm Cable
14 Check Commercial Power and Connect AC Power
15 Verify Fiber Optic Duplication Interface Cabling (TN792 port networks)
16 Connect Fiber Optic Interconnect Cabling

Check Customer's Order

Return to Task List

1 Check the customer's order and the shipping packing lists to confirm all equipment is present.
2 Check the system adjuncts for damage and report all damage according to local shipping instructions.
3 If any equipment is missing, report the information to your Avaya representative.

Unpack and Inspect Cabinets

Return to Task List

CAUTION:
A cabinet may weigh as much as 800 lb (363 kg) and may be top heavy. Use extreme caution.

1 Check the status of the SHOCKWATCH and/or TILTWATCH indicators on the container. If the container has been shaken or tilted beyond specifications, the indicators are red, indicating potential damage. Report any damage according to local shipping instructions.

DANGER:
Take care to avoid injury while cutting and removing the 2 metal bands.

2 Unpack the cabinet and remove all packing material.
3 Move the cabinets into their proper positions.
4 Do not adjust the leveling feet at this time.

Return to Task List

Unpack and Inspect Auxiliary Cabinet

Return to Task List

The Auxiliary cabinet is normally positioned adjacent to the PPN cabinet or the EPN cabinet, if provided.

1 Check the status of the SHOCKWATCH and/or TILTWATCH indicators on the container. If the container has been shaken or tilted beyond specifications, the indicators are red, indicating potential damage. Report any damage according to local shipping instructions.

DANGER:
Take care to avoid injury while cutting and removing the 2 metal bands.

2 Unpack the cabinet and remove all packing material.

3 Move the cabinet into its proper position.

4 Remove the lower rear panel from the Auxiliary cabinet.

NOTE:
You reinstall the lower rear panel when the installation is completed.

Return to Task List

Check Circuit Packs

Return to Task List

1 Ensure all circuit packs are fully inserted into the proper slots according to the Customer Service Document (CSD).

Report any discrepancies in circuit pack type or quantity to your Avaya representative. For detailed circuit pack descriptions, refer to the *Hardware Guide for Avaya Communication Manager (555-245-207)* book.

2 Check the system adjuncts for damage and report all damage according to local shipping instructions.

Correct Shipping Errors

Return to Task List

1 Red-tag all defective and over-shipped equipment.

For Streamlined Implementation in the United States, call 1-800-772-5409. For customers outside the United States, contact your order service agent.

Position the PPN Cabinet

Return to Task List

1 If the system is supplied with cable ductwork, space the cabinets on 32 in. (81.3 cm) centers +-1/8 in. (0.3 cm). They must be level and must be square with respect to each other.

2 If the system is supplied with cable slack managers, place the cabinets far enough from the connection field to lay down the 32 in. (81.3 cm) slack managers and to provide a little extra room for the cables to access the cable slack managers.

3 If earthquake protection is required, Install Earthquake Protection for MCC1.

4 If earthquake protection is not required, level the cabinets and adjust and lock the cabinet stabilizing bolts to keep the cabinet from moving.

5 At the bottom of the cabinet, install hole plugs (provided with cabinet) in the holes previously occupied by the 4 carriage bolts.

Return to Task List

Position the EPN Cabinets

Return to Task List

Each EPN cabinet is normally positioned adjacent to the PPN cabinet but may be located remotely in a different room or a different building. A configuration can have up to 5 EPNs in a MCC1.

1. The procedure for installing an EPN cabinet is the same as for the PPN cabinet.
2. If earthquake protection is required, Install Earthquake Protection for MCC1.
3. If earthquake protection is not required, level the cabinets and adjust and lock the cabinet stabilizing bolts to keep the cabinets from moving.

> **NOTE:**
> To install a new EPN cabinet to an *existing* system, refer to the *Upgrades and Additions for Avaya™ DEFINITY® Server R (555-233-115)*.

Return to Task List

Position the Auxiliary Cabinet (Optional)

Return to Task List

1. Position the Auxiliary cabinet next to the PPN cabinet (or EPN cabinet, if installed). The location of equipment inside the Auxiliary cabinet is specified in the Customer Service Document (CSD).
2. If earthquake protection is required, Install Earthquake Protection for MCC1.
3. If earthquake protection is not required, level the cabinets and adjust and lock the cabinet stabilizing bolts to keep the cabinet from moving.

Return to Task List

Install Auxiliary Cabinet Equipment

Return to Task List

The Auxiliary cabinet allows for carrier, 23-in. (58.4 cm) rack, or panel mounting of hardware. The following equipment is furnished with the cabinet:

- Fuse panel — Distributes -48 VDC power to fused cabinet circuits
- Power receptacle strip — Provides switched and unswitched 120 VAC receptacles
- DC connector block — Required when Auxiliary cabinet is powered by an external DC source
- AC to DC power supply — Converts AC power provided by the AC power strip switched outlet to the required DC voltage

Install equipment inside the cabinet as specified in the CSD. The following optional equipment can be installed:

- Audichron H9040 Wake-Up Announcement System
- 909A/B Universal Coupler
- 7400 Series Data Modules
- Z77A Multiple Data Mounting
- Fan Assembly — Requires 120 volt AC power
- COMSPHERE 3000-series modems
- External Channel Service Unit (CSU) — 1 is required for each T1 carrier link
- PagePac Paging System — 3 models are available. All PagePac models require 120 VAC power.

- Model 15A Announcement System — see the table for a list of equipment.

  The BLD1 circuit pack provides 8 channels with up to 20 seconds of recording time on each channel. The BLD2 circuit pack provides 8 channels with up to 40 seconds of recording time on each channel. Each chassis can be populated with any combination of 2 BLD circuit packs.

  The Model 15A Announcement System is FCC registered and does not require a voice coupler.

Model 15A Announcement Equipment
Description
1 chassis and 1 BLD1 circuit pack
1 BLD1 circuit pack
1 chassis and 1 BLD2 circuit pack
1 BLD2 circuit pack
1 remote record module

Return to Task List

Install Earthquake Protection for MCC1

Return to Task List

Use the correct procedure for your installation:

Install Concrete Floor Mounting

Install Raised Computer Floor Mounting

Install Concrete Floor Mounting

1. Position the cabinet in the exact position it is to occupy when the installation is complete.
2. Insert a pencil or marker through the holes previously occupied by the carriage bolts (front and rear) in the bottom of the cabinet and mark the floor directly beneath each hole.
3. Roll the cabinet out of the way and drill four 1/2-in. (1.27 cm) diameter holes about 1.5 in. (3.8 cm) deep at the locations marked in Step 2.
4. Insert concrete floor anchors (STARR part number 3425) into the holes.
5. Roll the cabinet back into place and align the cabinet holes over the concrete floor anchors.Adjust the leveling legs until the cabinet is level. See Earthquake Mounting — Raised Computer Floor.

   NOTE:
   If the system is supplied with cable ductwork, the cabinets must be level from front to rear and from side to side. They must be square with respect to each other to within ±1/8-in. (0.3 cm).

6. Secure the cabinet to the floor with the 4 supplied 3/8-16 x 4.5-in. (11.4 cm) bolts and four 3/8-in. flat washers.
7. Repeat this procedure for each cabinet to be installed.

Install Raised Computer Floor Mounting

1. Position the cabinet in the exact position it is to occupy when the installation is complete.
2. Insert a pencil or marker through the holes previously occupied by the carriage bolts (front and rear) in the bottom of the cabinets and mark the raised floor panels directly beneath each hole.
3. Roll the cabinet out of the way and drill 4 holes 5/8-in. (1.6 cm) in diameter through the raised floor panels marked in Step 2.

   CAUTION:
   Take care while drilling the holes through the raised floor that the drill bit does not penetrate any cables below the floor that could cause damage to the cable or injury to the installer.

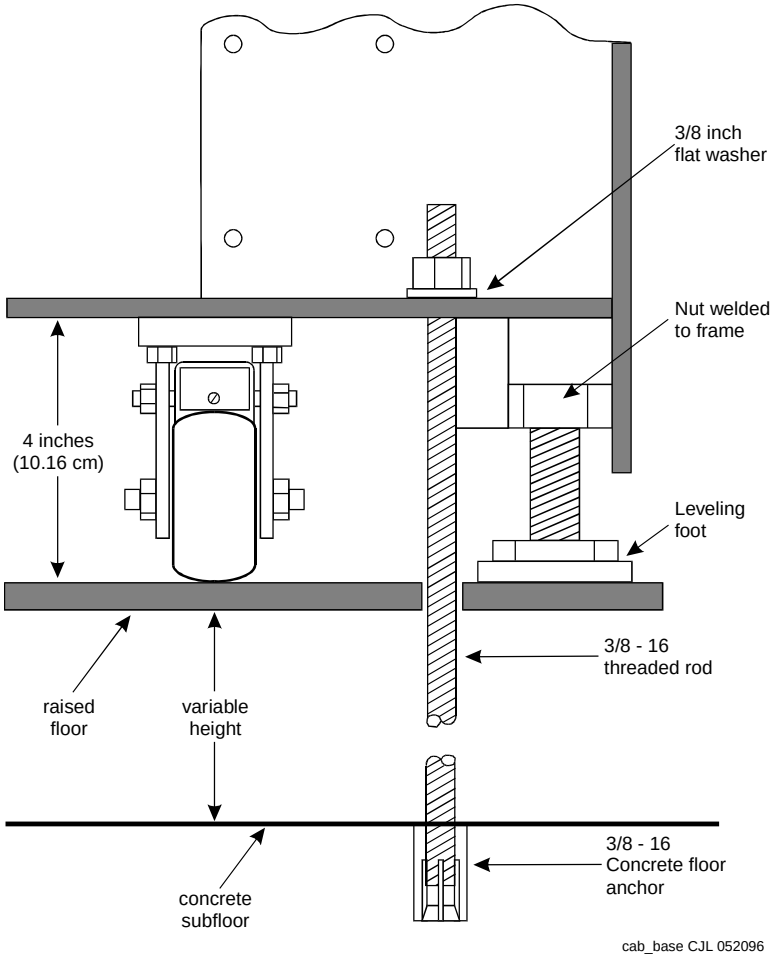
4. Insert a long punch through the holes drilled in Step 3 and mark the concrete floor beneath the raised floor panels.
5. Remove the raised floor panels in which the holes were drilled.
6. Using 1/2-in. (1.3 cm) anchor bits, drill a hole at each of the locations marked in Step 4. Stop drilling when the mark on the side of the bit reaches the floor level.
7. Insert a concrete floor anchor (STARR part number 3425) into the hole until the mark on the bit reaches floor level again. Snap the top of the anchor bit off. Repeat for the remaining holes.
8. A 3/8-16 threaded rod is used to secure the cabinet to each concrete floor anchor. See Earthquake Mounting — Raised Computer Floor.

   Measure the distance from 1 of the anchors to the bottom of the cabinet. Add 1/2-in. (1.3 cm) to this measurement to allow the rod to be threaded into the floor anchor. Add an additional 1/2-in. (1.3 cm) to allow the rod to protrude up through the bottom of the cabinet. For example: if the distance from the floor anchor to the bottom of the cabinet is 10 in. (25 cm), cut the threaded rod 11 in. (27.9 cm) long.
9. When all 4 threaded rods are cut, replace the raised floor panels removed in Step 5.
10. Position the cabinet over the holes and adjust the leveling legs until the cabinet is level.

    NOTE:
    If the system is supplied with cable ductwork, the cabinets must be level from front to rear and from side to side. They must be square with respect to each other to within +-1/8-in. (0.3 cm).

11. Insert the threaded rods through the cabinet bottom and thread into the concrete floor anchors.
12. Place a 3/8-in. flat washer onto each rod. Thread a 3/8-16 hex nut onto each rod and tighten securely.
13. Repeat this procedure for each cabinet to be installed (including the Auxiliary Cabinet and the Stratum 3 Clock Cabinet, if required).

Figure 88: Earthquake Mounting — Raised Computer Floor



Return to Task List

Connect AC Power and Ground

Return to Task List

CAUTION:
The equipment room AC power and ground wiring must be performed by a qualified electrician. Refer to the *Hardware Guide for Avaya Communication Manager (555-245-207)* for site requirement information.

CAUTION:
The power circuit must be dedicated to the system and must not be shared with other equipment and must not be controlled by a wall switch. The AC receptacle should not be located under the MDF.

CAUTION:
System grounding must comply with the general rules for grounding contained in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electric code in the country containing the equipment. For more information, refer to Approved Grounds.

For information about connecting AC power and ground, see:

- Power Requirements
- Power Supply Sources (J58890CE-1, J58890CE-2, and J58890CH-1)
- Grounding an AC-Powered System (J58890CE)
- Connect Mixed AC/DC Power and Ground

Task List: Connect AC power and ground

Perform these tasks to connect AC power and ground:

1. Ground AC Load Center 50 ft (15.2 m) or Less from Cabinet or Ground AC Load Center More Than 50 ft (15.2 m) from Cabinet
2. Connect Battery Leads (J58890CH-1)
3. Connect Small Battery Holdover or Connect Large Battery Holdover
4. Connect Shorting Cable to J58890CE-2
5. Connect AC Power

Power Requirements

DEFINITY System Power Requirements			
Maximum DEFINITY UL Rating Label Power Capacity			
Vac In	Iac In	Max W In	BTU/Hr
208	24	3245	11071.26
240	21	3276	11177.71
120	40	3120	10645.44

Power Supply Sources (J58890CE-1, J58890CE-2, and J58890CH-1)

The connect AC power and ground procedures apply to the AC-powered PPN and EPN cabinets.

Any of these power sources can supply 60 Hz power to the AC load in Release 5 and later systems:

- Single-phase, 4-wire, 120/240 VAC supplying 240 VAC.This source has 2 hot wires, 1 ground wire, and 1 neutral wire (J58890CE).
- Single-phase, 4-wire, 120/208 VAC supplying 208 VAC. This source has 2 hot wires, 1 ground wire, and 1 neutral wire (J58890CE).
- Single-phase, 3-wire, 208 or 240 VAC. This source has 2 hot wires and 1 ground wire (J58890CH).

Either of these power sources can supply 50 Hz power to the AC load in Release 5 and later systems:

- Non-United States 5-wire, Y, 220/380 VAC. This source has 3 hot wires, 1 neutral wire, and 1 ground wire.
- Non-United States Delta, 4-wire, 220 or 240 VAC. This source has 3 hot wires and 1 ground wire.

AC Power Sources and Plug Type describes the power sources and required AC input power.

AC Power Sources and Plug Type		
Power Distribution Unit	**Power Sources**	**Power Input**
AC power distribution (J58890CE-1 and J58890CE-2) Multi-Carrier Cabinet	Single-phase 120 VAC with neutral Single-phase 240 VAC with neutral, or single phase of 3-phase, 208 VAC with neutral	120 VAC, 60 Hz NEMA 5-50R 208-240 VAC, 60 Hz NEMA L14-30R
AC power distribution (J58890CH-1) Multi-Carrier Cabinet	Single-phase 176-264 VAC	200-240 Volts, 50-60 Hz NEMA L6-30R. Installations outside the United States require a receptacle suitable for use in the country of installation.

NOTE:
The type of power required is shown on the cabinet's rear door.

Grounding an AC-Powered System (J58890CE)

Grounding is relatively simple for an AC-powered system. Basically, the cabinets connect to the single-point ground terminal block located at either the AC load center or to a separate single-point ground block wired to the AC load center (or optional AC protector cabinet).

- The approved ground wire must be a green (or green with yellow stripe), 6 AWG (#40) (16 mm^2), copper, stranded wire.
- Bond all approved grounds at the single-point ground to form a single grounding electrode system.

Ground AC Load Center 50 ft (15.2 m) or Less from Cabinet

Return to Task List

1. At the bottom rear of the PPN cabinet, connect a 6 AWG (#40) (16 mm^2) CABINET GROUND wire to the cabinet ground terminal block. See Figure 89, Typical Cabinet Ground Location, on page 337.
2. Route the CABINET GROUND wire to the single-point ground block at the AC load center and connect.
3. At the bottom rear of the first EPN cabinet (if provided), connect a 6 AWG (#40) (16 mm^2) CABINET GROUND wire to the cabinet ground terminal block.
4. Route the CABINET GROUND wire to the single-point ground block at the AC load center and connect.

NOTE:
If the EPN cabinet is located remote from the PPN cabinet (in a separate room or building), connect the CABINET GROUND wire to an approved ground.

5 Repeat connecting each EPN cabinet to the single-point ground block.

6 At the AC load center, connect a 10 AWG (#25) (6 mm^2) wire to the single-point ground block. This ground wire will later be tie-wrapped to the trunk cables and connected to the Coupled Bonding Conductor (CBC) ground block at the MDF.

The Coupled Bonding Conductor (CBC) wires are installed and terminated in Install Telecommunications Cabling.

Figure 89: Typical Cabinet Ground Location

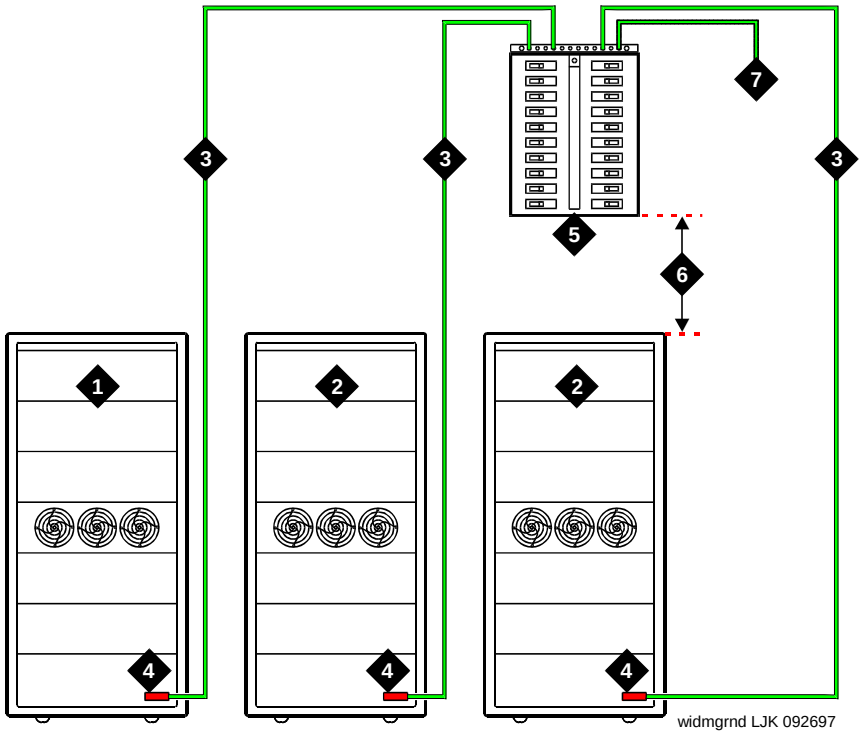


Figure notes

1 PPN Cabinet

2 EPN Cabinet (if Installed)

3 6 AWG (#40) (16 mm^2) CABINET GROUND Wire

4 Cabinet Ground Terminal Block

5 AC Load Center Single-Point Ground

6 Less than 50 Wire feet (15.2 m)

7 10 AWG (#25) (6 mm^2) Ground Wire to CBC

Return to Task List

Ground AC Load Center More Than 50 ft (15.2 m) from Cabinet

Return to Task List

1 Mount the single-point ground block to any surface between the MCC cabinets and the AC load center single-point ground. The single-point ground block must be mounted to a non-metallic surface.

2 At the bottom rear of the PPN cabinet, connect a 6 AWG (#40) (16 mm^2) CABINET GROUND wire to the cabinet ground block. See Figure 90, Typical Cabinet Grounding Wiring Diagram, on page 338.

3 Route the opposite end of the wire to the single-point ground block and connect.

4 At the first EPN cabinet (if provided) DC Power Cabinet, connect a the 6 AWG (#40) (16 4 mm^2) CABINET GROUND wire to the cabinet ground terminal block GROUND DISCHARGE bar.

5 Route the CABINET GROUND wire to Control Cabinet and connect to the single-point ground block.

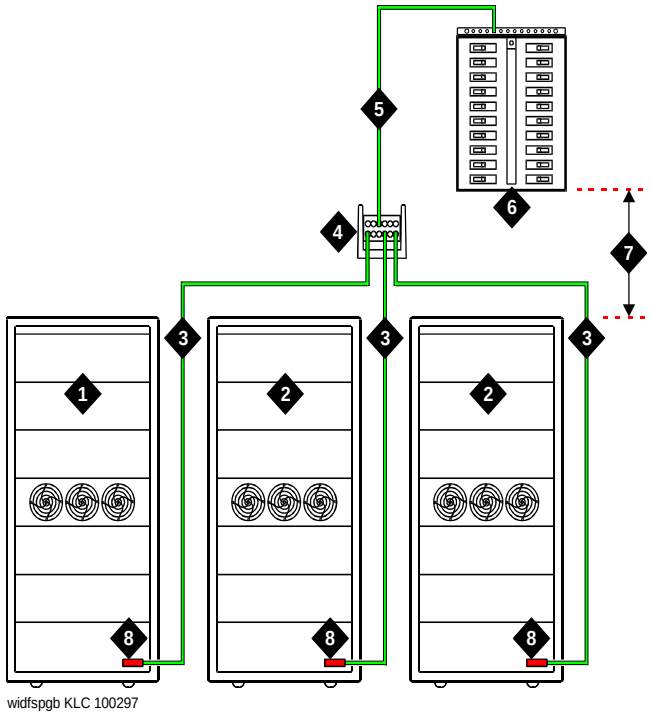
NOTE:
If the EPN cabinet is located remote from the PPN cabinet (in a separate room or building), route the EPN CABINET GROUND wire to an approved protective ground.

6 Repeat connecting each EPN cabinet to the single-point ground block.

7 Connect a 6 AWG (#40) (16 mm^2) ground wire to an unused terminal on the single-point ground block.

8 Route the ground wire to the AC load center ground and connect.

Figure 90: Typical Cabinet Grounding Wiring Diagram



widfspgb KLC 100297

Figure notes

1	PPN Cabinet	**5**	6 AWG (#40) (16 4 mm^2) Ground Wire to Approved Ground
2	EPN Cabinet (if Installed)	**6**	AC Load Center Single-Point Ground
3	6 AWG (#40) (16 mm^2) CABINET GROUND Wire	**7**	Over 50 ft (15.2 m)
4	Single-Point Ground Block	**8**	Cabinet Ground Terminal Block

Return to Task List

Connect Battery Leads (J58890CH-1)

Return to Task List

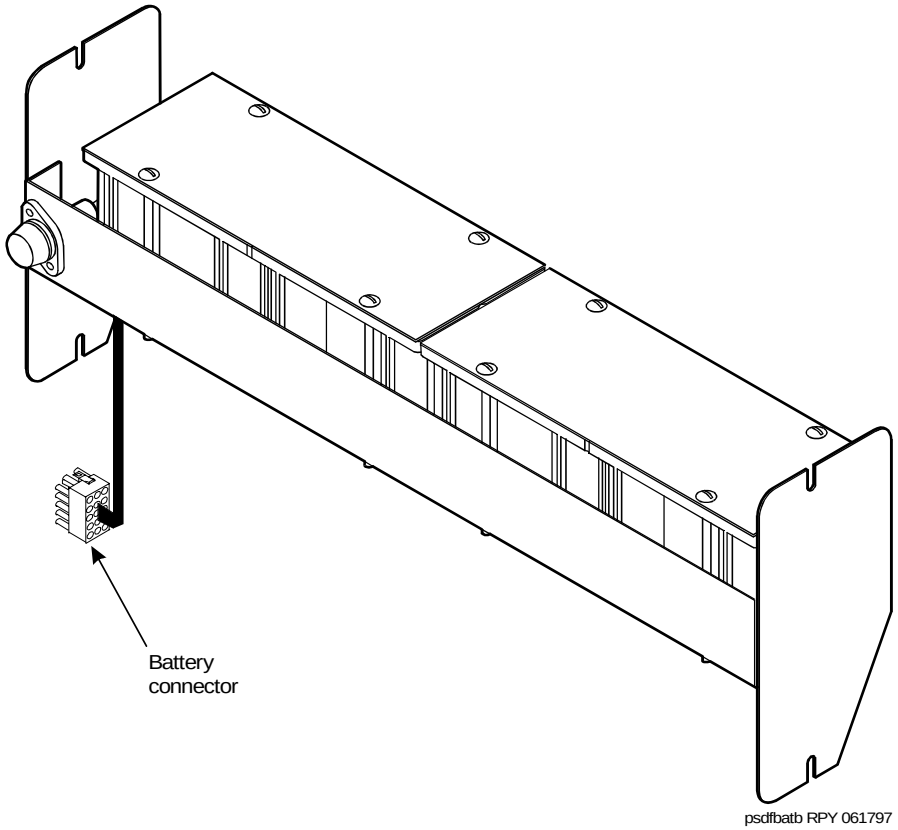
Figure 91, Typical Small Battery Assembly, on page 339 shows a typical optional small battery holdover assembly. These assemblies may ship with the battery leads disconnected to prevent the batteries from discharging.

1. Plug the battery connector into the -48 VDC Batteries connector on the rear of the J58890CH-1 Power Distribution Unit.

   CAUTION:
   Power is present in the cabinet even if the AC power cable is unplugged. When procedures require ALL power to be removed from the cabinet and to prevent unnecessary discharging of the battery, turn off the main circuit breaker located on the front of the power distribution unit.

2. Be sure the main power to the power distribution unit is OFF.
3. At the power distribution unit, set all carrier circuit breakers OFF.

Figure 91: Typical Small Battery Assembly



Return to Task List

Connect Small Battery Holdover

Return to Task List

Connect the small battery holdover cable to J20. See Figure 93, Power Distribution Unit (J58890CH), on page 341.

Figure 92: Power Distribution Unit (J58890CH)

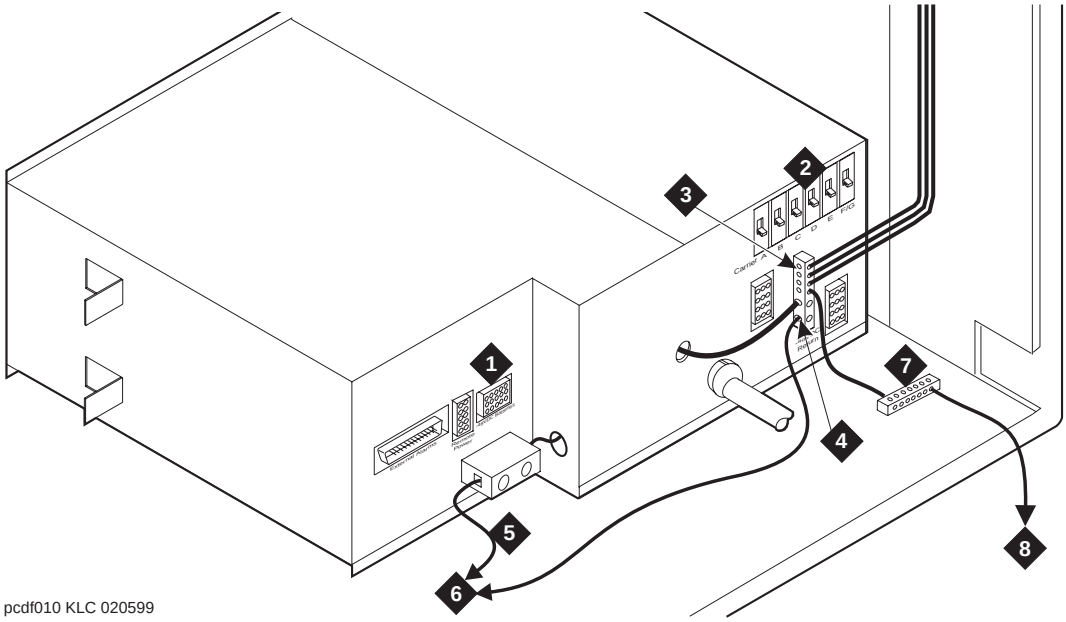


Figure notes

1. Connect small battery holdover cable (or temperature sensor cable from large battery cabinet) to J20
2. Carrier Circuit Breakers
3. Ground Terminal Block
4. Connect -48 VDC Return - 1 AWG (50 mm^2) red cable here.
5. Connect -48 VDC - 1 AWG (50 mm^2) black cable
6. 1 AWG (50 mm^2) 50 ft (15.2 m) cable to large battery cabinet. For cables greater than 50 ft (15.2 m), contact your Avaya representative.
7. Ground Terminal Block
8. To AC load center or approved single-point ground block

Return to Task List

Connect Large Battery Holdover

Return to Task List

When using large battery holdover, 1 battery cabinet is required for every system cabinet requiring holdover. The 24-cell battery cabinet must have a float voltage of 54.2 VDC.

1. Connect the -48 VDC cable to the large battery connector. See Figure 93, Power Distribution Unit (J58890CH), on page 341.
2. Connect the -48 VDC RETURN cable to the ground terminal block.
3. Connect the temperature sensor cable, from the battery cabinet, to J20.

NOTE:
An adapter cable may be required when connecting the temperature sensor cable to the J58890CH unit. See Temperature Sensor Cable Adapter Cables.

Figure 93: Power Distribution Unit (J58890CH)

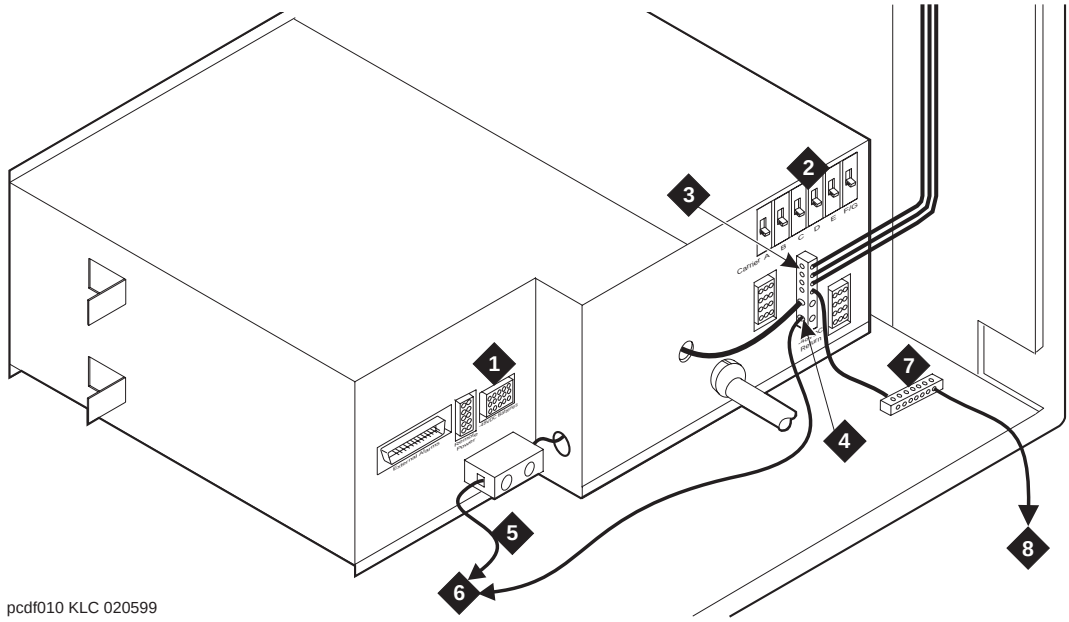


Figure notes

1. Connect small battery holdover cable (or temperature sensor cable from large battery cabinet) to J20
2. Carrier Circuit Breakers
3. Ground Terminal Block
4. Connect -48 VDC Return - 1 AWG (50 mm^2) red cable here.
5. Connect -48 VDC - 1 AWG (50 mm^2) black cable
6. 1 AWG (50 mm^2) 50 ft (15.2 m) cable to large battery cabinet. For cables greater than 50 ft (15.2 m), contact your Avaya representative.
7. Ground Terminal Block
8. To AC load center or approved single-point ground block

Temperature Sensor Cable Adapter Cables	
H600-476 Adapter Cable	**Usage**
Group 1 (G1)	24-cell customer-provided battery
Group 3 (G3) (included with battery cabinet)	24-cell Avaya battery

Return to Task List

Connect Shorting Cable to J58890CE-2

Return to Task List

CAUTION:
For a cabinet with a battery charger, read the caution label on the 397C battery charger before disconnecting batteries.

Some cabinets contain a J58890CE-2 AC Power Distribution Unit without an optional battery charger. Install the shorting cable only when a battery charger is *not* installed. If you do not install the shorting cable or a battery charger, then an alarm appears.

1. Set the circuit breakers on the power distribution unit OFF. See Figure 94.
2. At the rear of the cabinet, insert the shorting cable (H600-442-G1) into J11. The cable is keyed so it can fit only 1 way.

Figure 94: Shorting Cable Installation

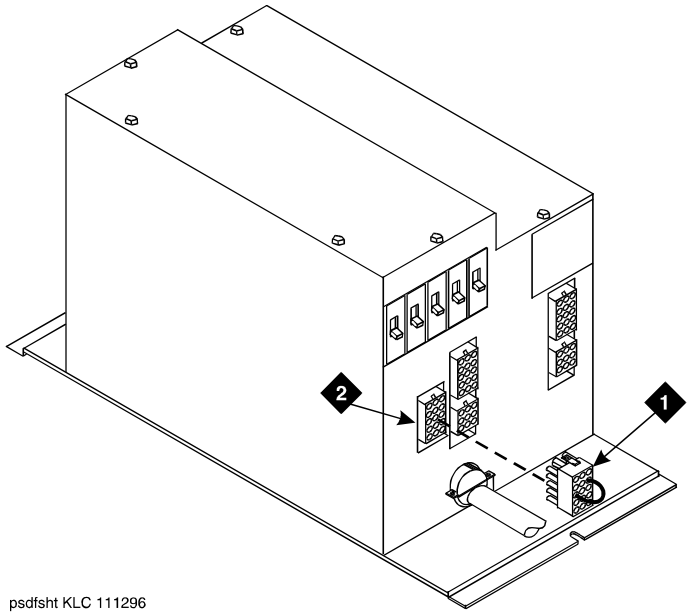


Figure notes

1. Shorting Cable (H600-442-G1) (If Battery Charger is Not Installed)
2. J11

Return to Task List

Connect AC Power

Return to Task List

1. Set the main circuit breakers on the power distribution unit OFF.
2. Connect cabinet AC line cords to the AC power receptacles.

NOTE:
Do not power up the system at this time.

Connect DC Power and Ground

Return to Task List

CAUTION:
Grounding of the system shall comply with the general rules for grounding contained in Article 250 of the National Electrical Code, NFPA 70. For more information, refer to Approved Grounds.

The grounding methods for the DC-powered system are more complex than that of an AC-powered system.

Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344 shows a typical power and ground layout for a DC-powered cabinet. The size of the wire required for the -48 volt DC and -48 volt return must ensure the voltage supplied by the battery plant is maintained between -42.5 and -54.2 volts DC at all times for proper operation and to prevent hardware damage. The wire must be sized for a maximum voltage drop of 0.5 VDC in each leg of the DC distribution. This procedure applies to both PPN and EPN cabinets.

Task List: Connect DC Power and Ground

Perform these tasks to connect DC power and ground, power distribution unit (J58890CH-1 Only):

1. Install Rectifier Modules and Battery Interface Unit
2. Connect Power and Ground(s)

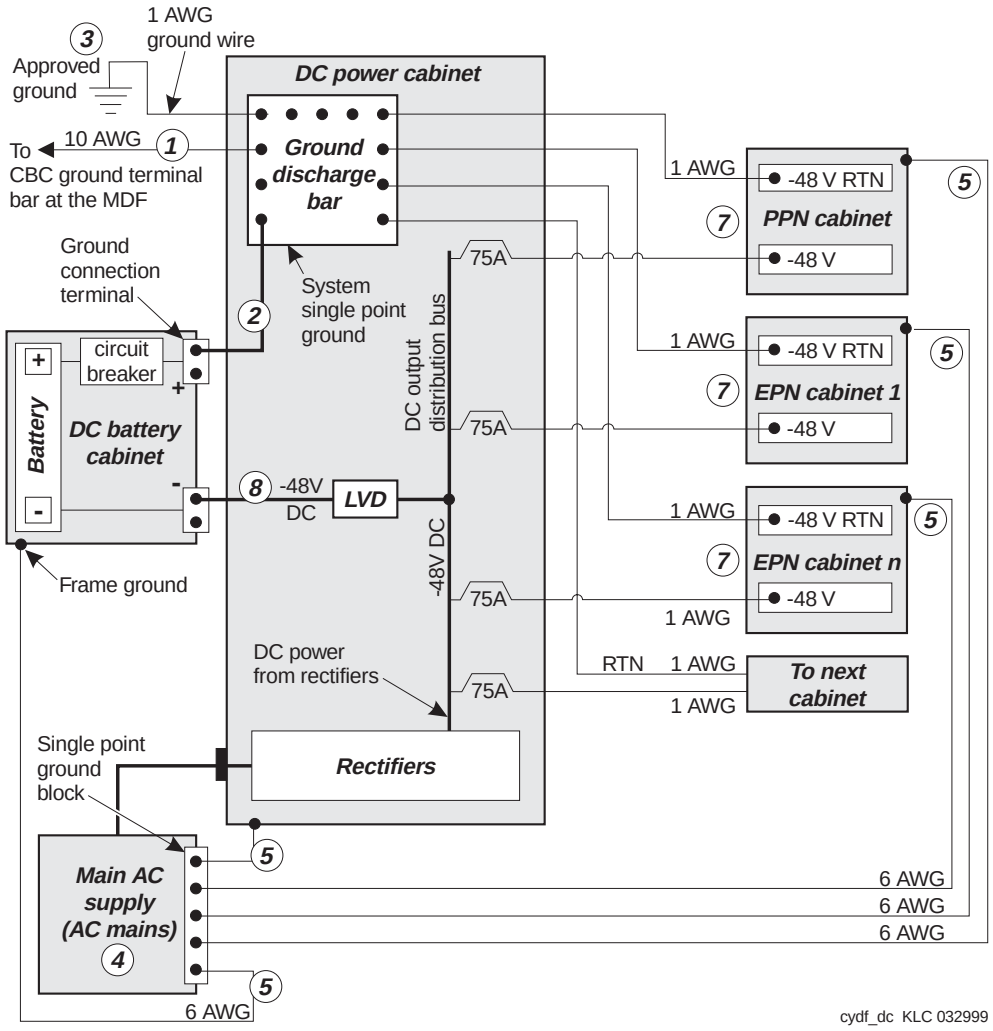
Perform these tasks to connect DC Power and Ground (J58890CF Only):

NOTE:
These installation tasks correspond to the numbers in Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344:

1. Install Coupled Bonding Conductor Wires
2. Connect DC Battery and Power Cabinet Grounds
3. Connect DC Power Cabinet Approved Ground

4 Connect AC Power to DC Power Cabinet
5 Connect Ground Wires for DC-Powered Systems
6 Turn Circuit Breakers Off
7 Connect DC Power to PPN and EPN Cabinets
8 Connect DC Battery Cabinet to DC Power Cabinet
9 If necessary, Connect Mixed AC/DC Power and Ground

Figure 95: Typical Power and Ground for a DC-Powered Cabinet



Return to Task List

Install Rectifier Modules and Battery Interface Unit

Return to Task List

Each rectifier module operates as an integral part of a complete power system with battery backup. The modules operate in a redundant, high reliability mode to provide -48 VDC at 850 Watts to a common power bus.

The Battery Interface Unit (BIU) controls the rectifier modules, manages the batteries, and reports the status of system power. The BIU provides the Remote Power Off (RPO) option and battery alarm interfaces for internal and external alarms.

1. Install the BU3200A Battery Interface Unit in the first slot of the power distribution unit. See Figure 96, Rectifier Module Installation, on page 345.

   NOTE:
   The BIU and the rectifier modules are keyed and can only install 1 way.

2. Install the first 2 RM0850HA100 Rectifier Modules into the second and third slots of the power distribution unit.
3. If 2 to 3 carriers are installed in the system, install a third rectifier module (N+1).
4. If 4 to 5 carriers are installed in the system, install a fourth rectifier module.
5. The fifth rectifier module slot is reserved for future system growth.

Figure 96: Rectifier Module Installation

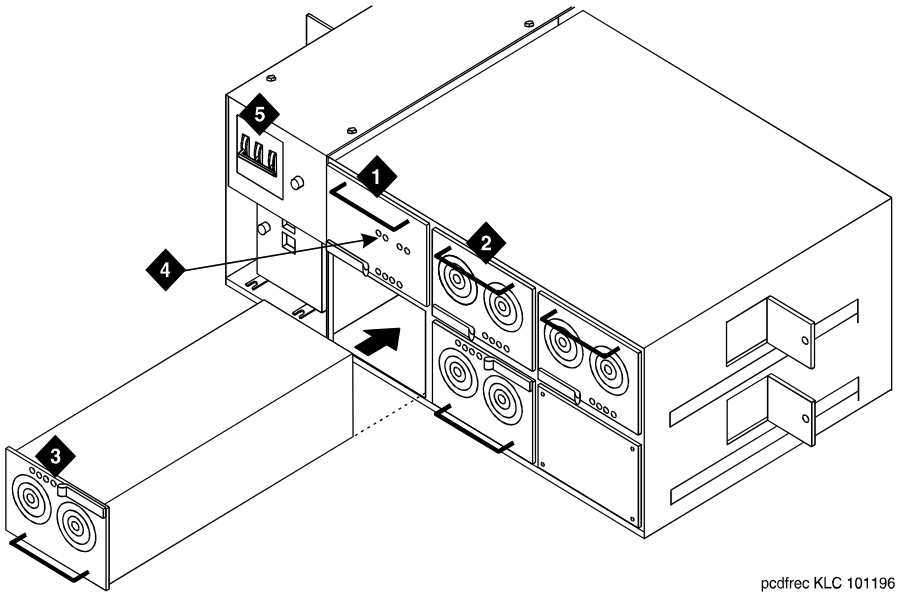


Figure notes

1. Install Battery Interface Unit into Slot 1
2. Install Rectifier Modules into Slots 2-5
3. Rectifier Module 3 (in Slot 4)
4. Test Points
5. Main Circuit Breakers

Return to Task List

Connect Power and Ground(s)

Return to Task List

1. Have a qualified electrician connect and route wires from the AC load center to the dedicated electrical outlet for the power distribution unit.

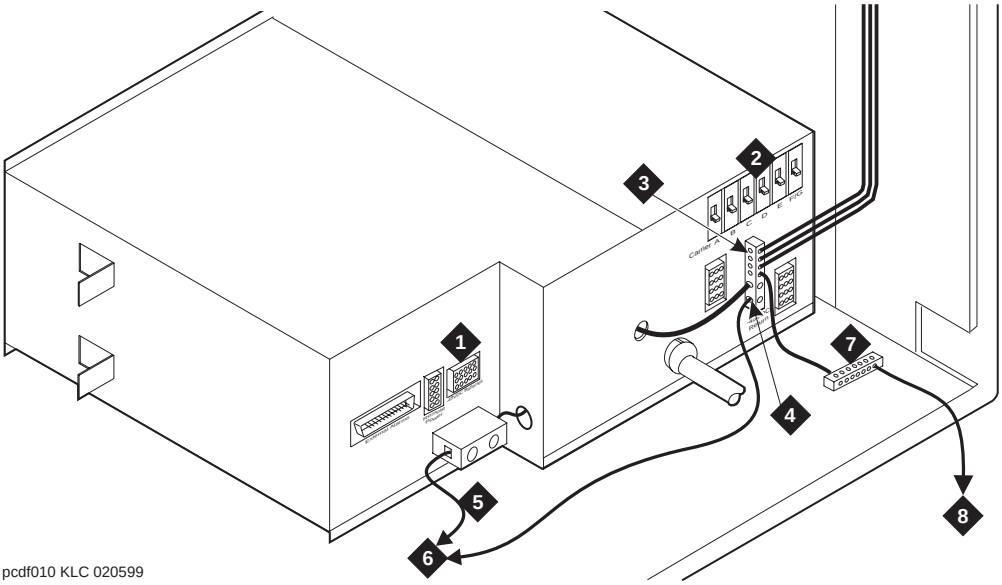
Connect PPN Cabinet Ground:

2. Connect 1 end of a 6 AWG (#40) (16 mm^2) wire to the ground terminal block on the rear of the cabinet. See Figure 97, Power Distribution Unit (J58890CH), on page 346.
3. Route the CABINET GROUND wire to the AC load center single-point ground block and connect.

Connect EPN Cabinet Ground(s)

4. Connect 1 end of a 6 AWG (#40) (16 mm^2) CABINET GROUND wire to the ground terminal block at the bottom rear of the EPN cabinet. See Figure 98, Typical Cabinet Grounding Wiring Diagram, on page 347.
5. Route the CABINET GROUND wire to the AC load center single-point ground and connect.
6. Connect each remaining EPN cabinet to the AC load center single-point ground.

Figure 97: Power Distribution Unit (J58890CH)



pcdf010 KLC 020599

Figure notes

1. Connect small battery holdover cable (or temperature sensor cable from large battery cabinet) to J20
2. Carrier Circuit Breakers
3. Ground Terminal Block
4. Connect -48 VDC Return - 1 AWG (50 mm^2) red cable here.
5. Connect -48 VDC - 1 AWG (50 mm^2) black cable
6. 1 AWG (50 mm^2) 50 ft (15.2 m) cable to large battery cabinet. For cables greater than 50 ft (15.2 m), contact your Avaya representative.
7. Ground Terminal Block
8. To AC load center or approved single-point ground block

Figure 98: Typical Cabinet Grounding Wiring Diagram

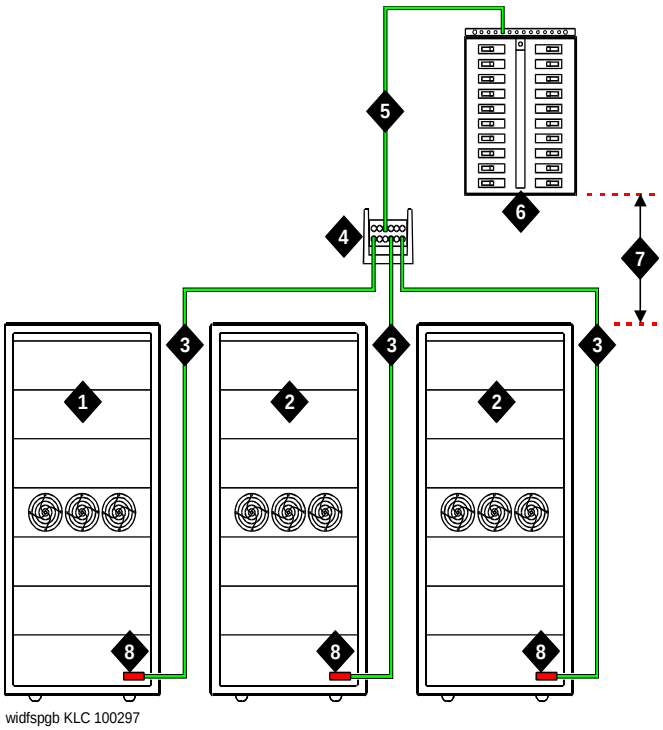


Figure notes

1	PPN Cabinet	**5**	6 AWG (#40) (16 4 mm2) Ground Wire to Approved Ground
2	EPN Cabinet (if Installed)	**6**	AC Load Center Single-Point Ground
3	6 AWG (#40) (16 mm2) CABINET GROUND Wire	**7**	Over 50 ft (15.2 m)
4	Single-Point Ground Block	**8**	Cabinet Ground Terminal Block

Return to Task List

Install Coupled Bonding Conductor Wires

Return to Task List

This is a conductor that connects to the single-point ground block and run adjacent to pairs in an associated cable. The mutual coupling between the CBC and the pairs reduces potential differences in terminating equipment. The conductor consists of a 10 AWG (#25) (6 mm^2) wire terminated at the CBC ground terminal bar at the Main Distribution Frame (MDF).

1. At the DC Power Cabinet, connect a 10 AWG (#25) (6 mm^2) ground wire to the Ground Discharge Bar. See Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344.
2. Route the 10 AWG (#25) (6 mm^2) ground wire to the CBC ground terminal bar at the MDF. Be sure a minimum of 12 in. (30.5 cm) spacing is maintained between the CBC and other power and ground leads.

3 Tie wrap the ground wire to the inside wiring cable.

NOTE:
The ground wires are connected to the CBC as instructed in Install Telecommunications Cabling.

Return to Task List

Connect DC Battery and Power Cabinet Grounds

Return to Task List

NOTE:
The wire in the next step must be sized for a maximum voltage drop of 0.5 VDC in each leg of the DC distribution. In this example 1 AWG is used.

1 Measure and cut a minimum of a 1 AWG (#70) (44 mm^2) wire long enough to reach between the ground connection terminal in the DC Battery Cabinet and the Ground Discharge Bar in the DC Power Cabinet. See Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344.

2 Crimp terminal lugs on each end of the wire. Terminal lugs are furnished as part of D-181895, Kit of Parts.

3 At the DC Power Cabinet, connect the wire to the Ground Discharge Bar.

4 Route the wire through 1 of the holes in the side of the cabinets and terminate it on the Ground Connection Terminal in the DC Battery Cabinet.

Return to Task List

Connect DC Power Cabinet Approved Ground

Return to Task List

NOTE:
The wire must be at least as large as the largest distribution wire in the system (required by UL). In this example 1 AWG is used.

1 At the DC Power Cabinet, connect a 1 AWG (#70) (44 mm^2) ground wire to the Ground Discharge Bar. See Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344.

2 Route the ground wire out of the cabinet and terminate it on the approved ground. The approved ground must be identified with a grounding tag (FORM 15657NR or equivalent). See Approved Grounds.

Return to Task List

Connect AC Power to DC Power Cabinet

Return to Task List

This procedure applies to both the Processor Port Networks (PPN) and Expansion Port Networks (EPN).

CAUTION:
Power is present in the cabinet even if the AC power cable is unplugged. Turn off the main circuit breaker on the front of the cabinet when procedures require ALL power to be removed from the cabinet.

1. Ensure the associated circuit breakers at the AC power panel are OFF.
2. Have an electrician connect AC power leads to the rectifiers using the instructions provided with the rectifiers in the DC Power Cabinet. Each rectifier should have its own branch circuit. Terminate leads on the AC INPUT terminal block of each rectifier.

Return to Task List

Connect Ground Wires for DC-Powered Systems

Return to Task List

CAUTION:
Do not connect any ground wires from an EPN cabinet to another EPN cabinet or to a PPN cabinet. All ground wires must be terminated at the single-point ground block at the main AC supply (AC mains).

1. Connect a 6 AWG (#40) (16 mm^2) wire to the PPN cabinet ground terminal block.
2. Route the wire to the AC mains single-point ground block and connect.
3. Connect a 6 AWG (#40) (16 mm^2) wire to each EPN's cabinet ground terminal block.
4. Route the wire(s) to the AC mains single-point ground block and connect.
5. Connect a 6 AWG (#40) wire to the DC battery cabinet and DC power cabinet.
6. Route wires to the AC mains single point ground block and connect them.

Return to Task List

Turn Circuit Breakers Off

Return to Task List

The main circuit breaker on a DC-powered PPN/EPN cabinet is located on the front of the power distribution unit. The circuit breakers on the rear of the power distribution unit control the individual carriers. See Figure 99, Power Distribution Unit (J58890CH), on page 350 for the location of the carrier breakers.

1. Set the main circuit breaker to **OFF**.

2 Set the carrier circuit breakers to **OFF**.

Figure 99: Power Distribution Unit (J58890CH)

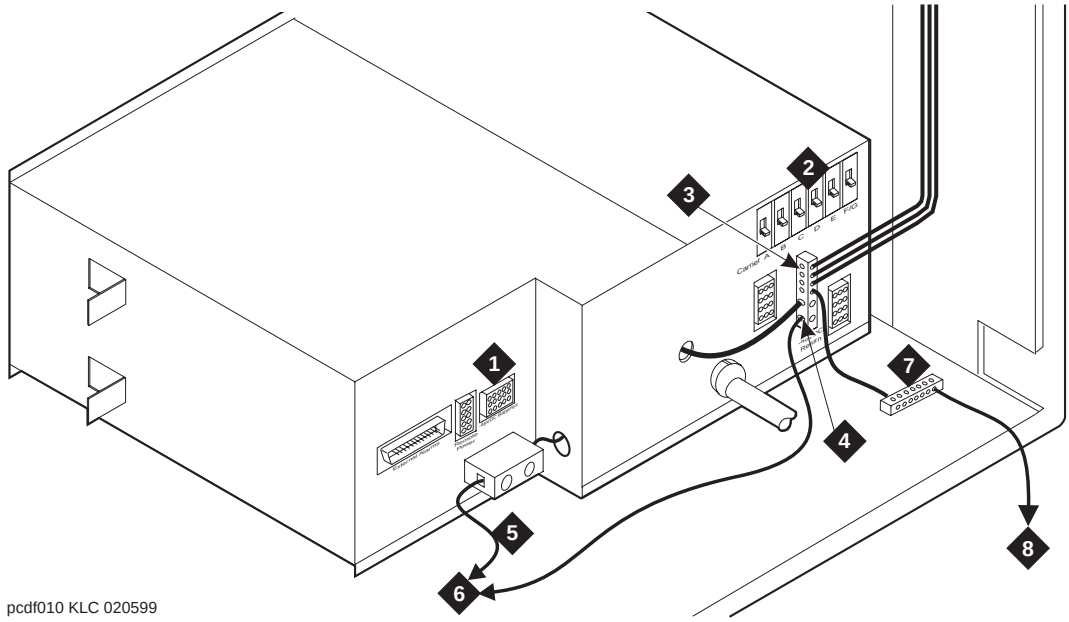


Figure notes

1 Connect small battery holdover cable (or temperature sensor cable from large battery cabinet) to J20

2 Carrier Circuit Breakers

3 Ground Terminal Block

4 Connect -48 VDC Return - 1 AWG (50 mm^2) red cable here.

5 Connect -48 VDC - 1 AWG (50 mm^2) black cable

6 1 AWG (50 mm^2) 50 ft (15.2 m) cable to large battery cabinet. For cables greater than 50 ft (15.2 m), contact your Avaya representative.

7 Ground Terminal Block

8 To AC load center or approved single-point ground block

Return to Task List

Connect DC Power to PPN and EPN Cabinets

Return to Task List

1 Be sure the main circuit breaker is **OFF**.

2 Measure and cut 2 pieces of 1 AWG (#70) (44 mm^2) wire long enough to reach from the DC Power Cabinet to the PPN cabinet.

3 At the DC Power Cabinet, connect the -48 volt DC wire to the DC OUTPUT circuit breaker. See Figure 95, Typical Power and Ground for a DC-Powered Cabinet, on page 344. Connect the -48 volt RTN (return) wire to the ground discharge bar.

4 Route the wires out of the cabinet, through the hole in the lower rear cover, and to the PPN cabinet.

5 Connect the -48 volt DC wire to the -48VDC terminal on the J58890CF Power Distribution Unit.

6 Connect the -48 volt RTN wire to the -48RTN terminal on the J58890CF Power Distribution Unit terminal block.

7 Repeat Steps 2 through 6 for each EPN and Auxiliary cabinet in the system.

Return to Task List

Connect DC Battery Cabinet to DC Power Cabinet

Return to Task List

NOTE:
The wire in the next step must be sized for a maximum voltage drop of 0.5 VDC in each leg of the DC distribution. In this example 1 AWG is used.

1 Turn off the main circuit breaker on the DC Battery Cabinet.

2 Turn off the main circuit breaker on the DC Power Cabinet.

3 Measure and cut a 6 AWG (#40) (16 mm^2) wire long enough to reach from the DC Battery Cabinet's -48 Volt DC terminal to a DC OUTPUT distribution bus on the DC Power Cabinet.

4 At the DC Battery Cabinet, connect the -48 volt DC wire to the -48 VDC connector.

5 Route the wire out of the cabinet through the hole in the lower rear cover and to the DC Power Cabinet.

6 At the DC Power Cabinet, terminate the -48 volt DC wire on a DC OUTPUT distribution bus.

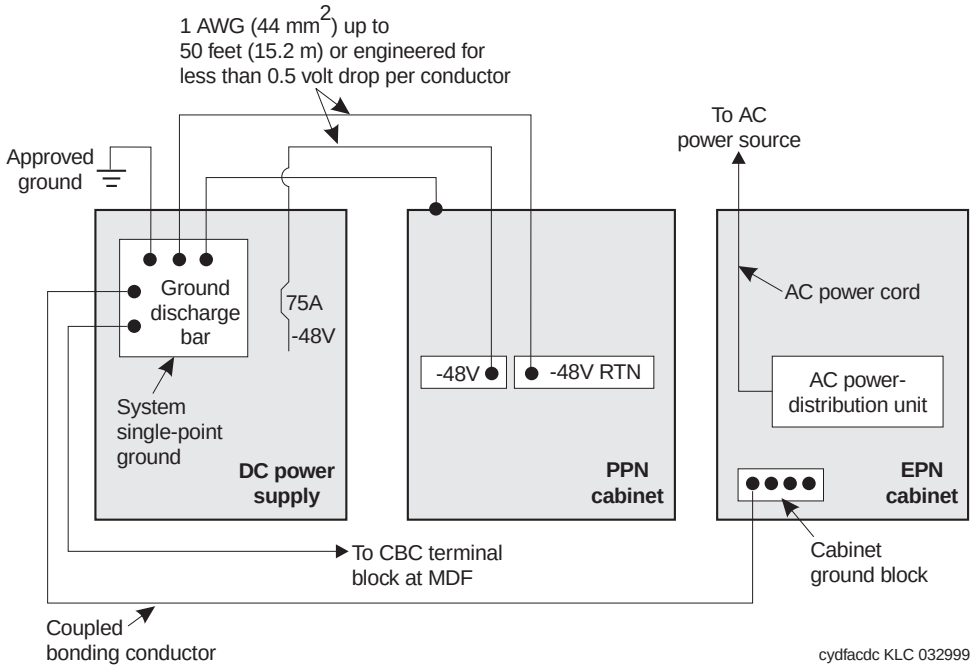
Return to Task List

Connect Mixed AC/DC Power and Ground

Return to Task List

Figure 100, Typical Power and Ground for a Mixed AC/DC-Powered Cabinet, on page 352 shows a power and ground layout for a mixed AC/DC-powered cabinet configuration in the same equipment room with the PPN being DC powered and the EPN being AC powered. If a second EPN is part of the system, use the same basic connections.

Figure 100: Typical Power and Ground for a Mixed AC/DC-Powered Cabinet



Return to Task List

Connect Remote Power Off Cable

Return to Task List

Figure 101, Remote Power Off Cable Connections — Part 1, on page 353 shows the location of the Remote Power Off (RPO) cable. The opposite end of the cable connects to the Emergency Power Off (EPO) switch located outside of the equipment room.

Even though the equipment room EPO switch disconnects main AC power to the equipment room, it cannot disconnect the battery power from the J58890CH. An auxiliary set of contacts inside the EPO are used for this function.

1. Plug the RPO cable into the connector shown in Figure 101, Remote Power Off Cable Connections — Part 1, on page 353.
2. Route the opposite end of the wires to the EPO switch. The opposite end of the RPO cable connects to the internal relay.

NOTE:
The EPO switch and the auxiliary contacts (inside the EPO switch assembly) are customer-provided.

CAUTION:
The auxiliary contacts inside the EPO switch assembly must **close** when the switch is pressed. This contact closure energizes the relay inside the power distribution unit, causing the connection to the battery holdover assembly to open.

Figure 102, Remote Power Off Cable Connections — Part 2, on page 353 shows the cabling from the auxiliary contacts inside the EPO switch assembly and how they connect to the internal relay.

3 Connect the RPO wires to the auxiliary contacts on the EPO switch. See Figure 102, Remote Power Off Cable Connections — Part 2, on page 353.

NOTE:
The EPO switch and the auxiliary contacts for the RPO connection are customer-supplied.

Figure 101: Remote Power Off Cable Connections — Part 1

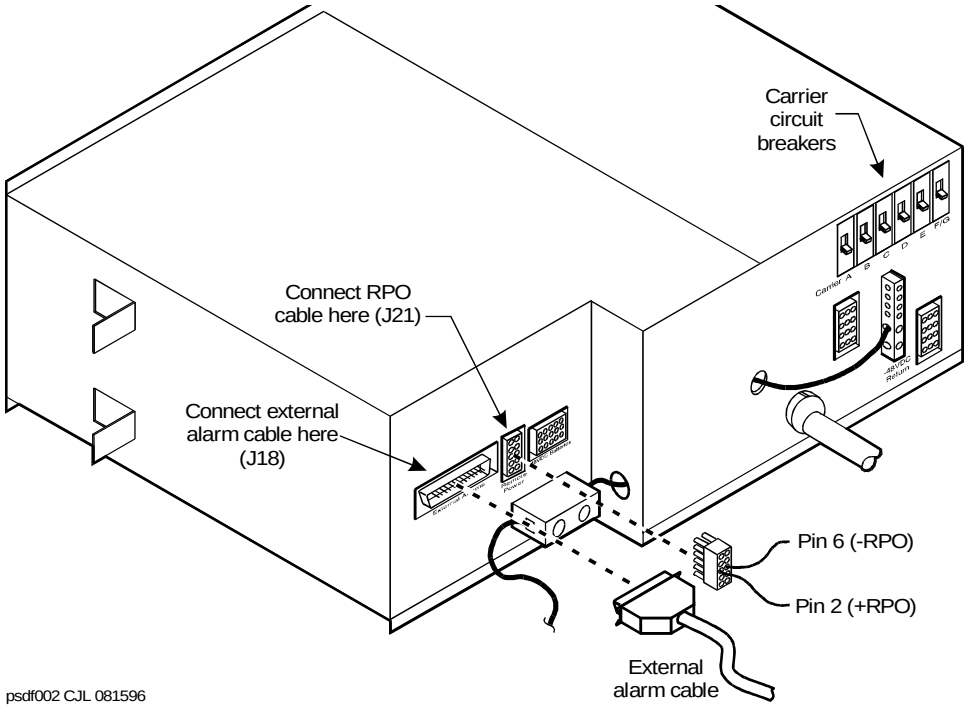
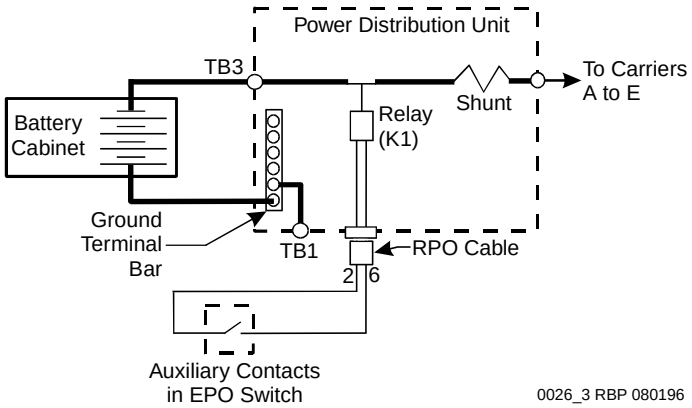


Figure 102: Remote Power Off Cable Connections — Part 2



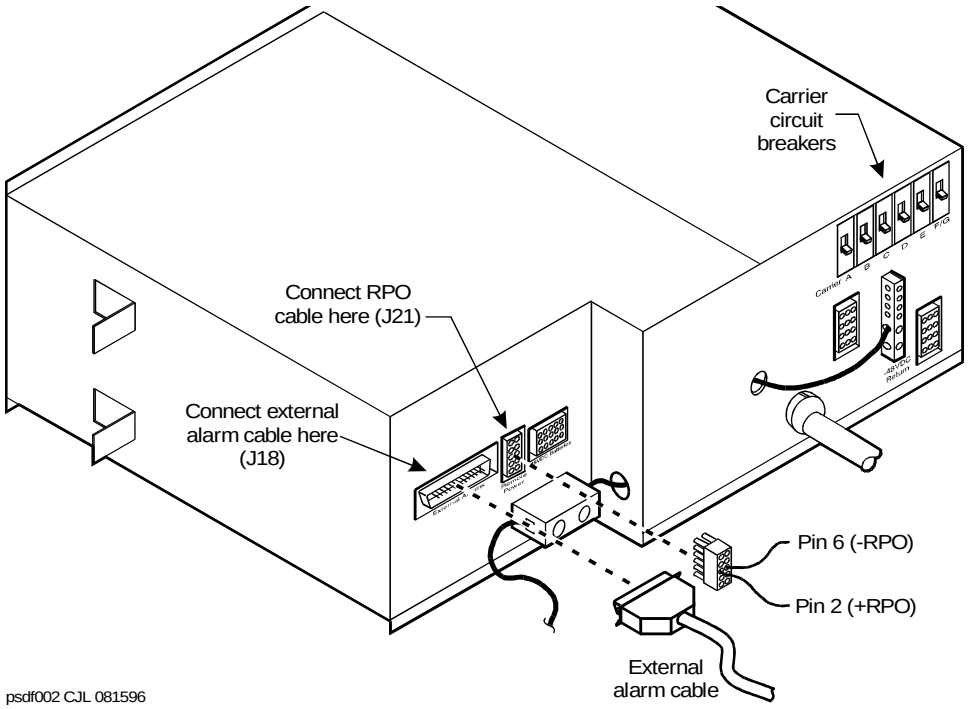
Return to Task List

Connect External Alarm Cable

Return to Task List

1. Plug the external alarm cable into the connector shown in Figure 103, External Alarm Cable Connection, on page 354.
2. Route the opposite end of the cable to the MDF. The alarm cable is connected to the MDF later.

Figure 103: External Alarm Cable Connection



Check Commercial Power and Connect AC Power

Return to Task List

Before powering up the system, check the AC power using a KS-20599 digital voltmeter (DVM) (or equivalent).

1. Set the DVM to the 250 volt range.
2. Carefully measure the voltage between the hot and neutral side of the receptacle. The neutral wire is white, the hot wire is black.
3. Verify the meter reads 106 to 128 VAC. If not, have a qualified electrician correct the problem.
4. Measure the voltage between the neutral and ground side of the receptacle. The ground wire is green.
5. Verify the meter reads 0 VAC. If not, have a qualified electrician correct the problem.
6. Set all cabinet power modules **OFF**. Plug the AC power cable into the receptacle.

Return to Task List

Verify Fiber Optic Duplication Interface Cabling (TN792 port networks)

Return to Task List

If the fiber optic duplicate interface cabling is not already installed, interconnect the A and B port networks (TN792) with the 14-in. fiber optic cable (see Figure 104).

Figure 104: Fiber optic cable connecting the two duplication interface circuit packs

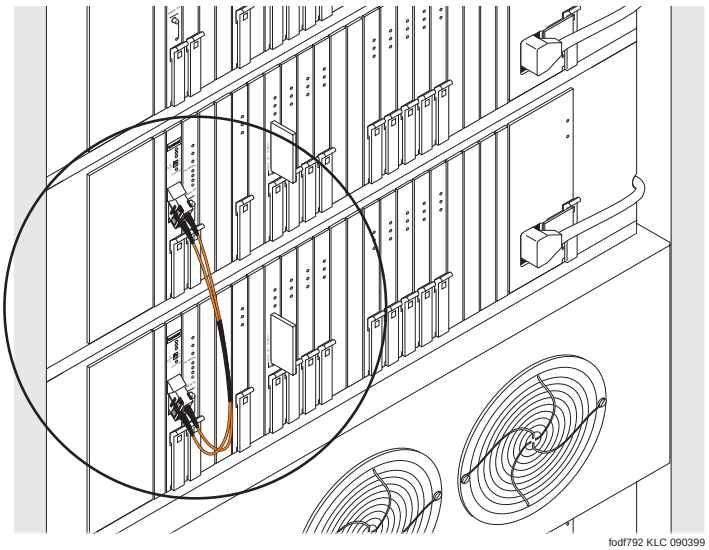


Figure notes

1	AHF110 TDM Bus Terminator (Slot 17)	**4**	Port Cabinet (Standard Reliability)
2	TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)	**5**	Control Cabinet A Position
		6	AHF110 TDM Bus Terminator (Slot 03)
3	TDM Bus Cable WP-91716 L3	**7**	Slot 18

Return to Task List

Connect Fiber Optic Interconnect Cabling

Return to Task List

Signals between the cabinets are carried by fiber optic cables. Lightwave transceivers provide the required fiber optic interface.

The fiber optic cables from the DEFINITY ECS route to a Lightguide Interconnect Unit (LIU) or fiber optic shelf. Go to Connecting and Handling Fiber Optic Cables for fiber optic equipment, connecting to LIUs or shelves, and routing through lightguide equipment.

Use multi-mode fiber transceivers and multi-mode fiber optic cables between cabinets unless single-mode fiber is required (distance restrictions). Use metallic cables between carriers.

CAUTION:
The DEFINITY ECS may contain a Class 1 LASER device if single-mode fiber optic cable is connected to a remote Expansion Port Network (EPN).

Make the required connections for the installation:

- Connect Fiber Optic Cables
- Connect Standard-Reliability CSS-Connected System with 1 Switch Node
- Connect High-Reliability CSS-Connected System with 1 Switch Node
- Connect Critical Reliability CSS-Connected System with 1 Switch Node

Connect Fiber Optic Cables

Return to Task List

NOTE:
Always use the Cable Running List that accompanies the system when installing fiber optic cables. The following procedure is a *typical* example of how to cable a system.

If the cabinets are close together, the signal may go through a single, directly- connected fiber optic cable. If the cabinets are far apart, it may be easier to connect the cabinets through an LIU or fiber shelf.

For each fiber indicated in the fiber optic Cable Running List:

1. Install a lightwave transceiver on the cabinet connector at the position in the FROM column in the running list.
2. Select a cable indicated by the CABLE CODE and LENGTH in the running list. Connect 1 of the fibers to each connector on the lightwave transceivers just installed. The fiber is numbered 1 or 2. The connector on the transceiver is labeled TX or RX. Keep track of which fiber connects to which transceiver connector. Label both ends of these cables.
3. Route the fiber optic cables from the transceiver out of the cabinet. Secure the cables to the cable-tie rack. Keep the fiber optic cables clear of the heavier I/O cables.
4. If the cabinet in the TO column in the running list is located remotely from the FROM cabinet, connect to the TO cabinet by way of the LIU.
5. Install a lightwave transceiver on the cabinet connector at the position in the TO column in the running list.

6 Route the cables from the FROM cabinet down into the cable trays of each EPN cabinet. Connect the cables to the lightwave transceiver just installed on the TO cabinet.

7 Connect the fiber that comes from the TX connector of the FROM transceiver to the RX connector of the TO transceiver and vice versa.

8 Route the cables through the cabinet and through cable organizers as provided. Secure the cables to the cable-tie rack.

Return to Task List

Connect Standard-Reliability CSS-Connected System with 1 Switch Node

Return to Task List

Figure 105, Standard Reliability CSS-Connected with 1 Switch Node, on page 357 shows typical fiber optic cabling between cabinets. The cable between the EI and SNI on the PPN is a pre-installed metallic cable (H600-278).

1 If no running list is available, use the outer slots first in alternating order. Connect the first 2 SNI slots to 3 and 20 (the leftmost and rightmost of the unused slots). Next, use 4 and 19, and so forth.

2 Add links to the EPNs in alternating order (20, 3, 19, 4, 18, 5, and so forth).

Figure 105: Standard Reliability CSS-Connected with 1 Switch Node

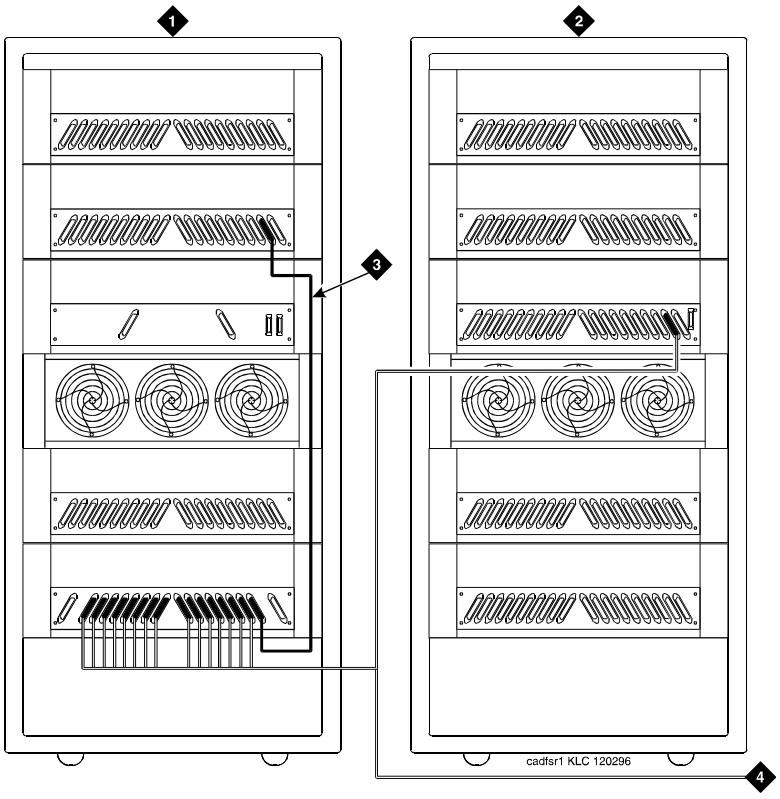


Figure notes

1	Cabinet 1 (PPN with 1 Switch Node)	**3**	H600-278 Metallic Cable
2	Cabinet 2 through 16 (EPN)	**4**	To other EPNs

Return to Task List

Connect High-Reliability CSS-Connected System with 1 Switch Node

Return to Task List

Figure 106, High-Reliability CSS-Connected with 1 Switch Node, on page 358 shows typical fiber optic cabling between cabinets. The cable between the EI and SNI on the PPN cabinet is a pre-installed metallic cable (H600-278).

Connect the cables between the PPN cabinet and each EPN cabinet in an alternating port slot order: 3, 19; 4, 18; 5, 17; and so forth. Cabinet 1 is a PPN with 1 Switch Node.

Figure 106: High-Reliability CSS-Connected with 1 Switch Node

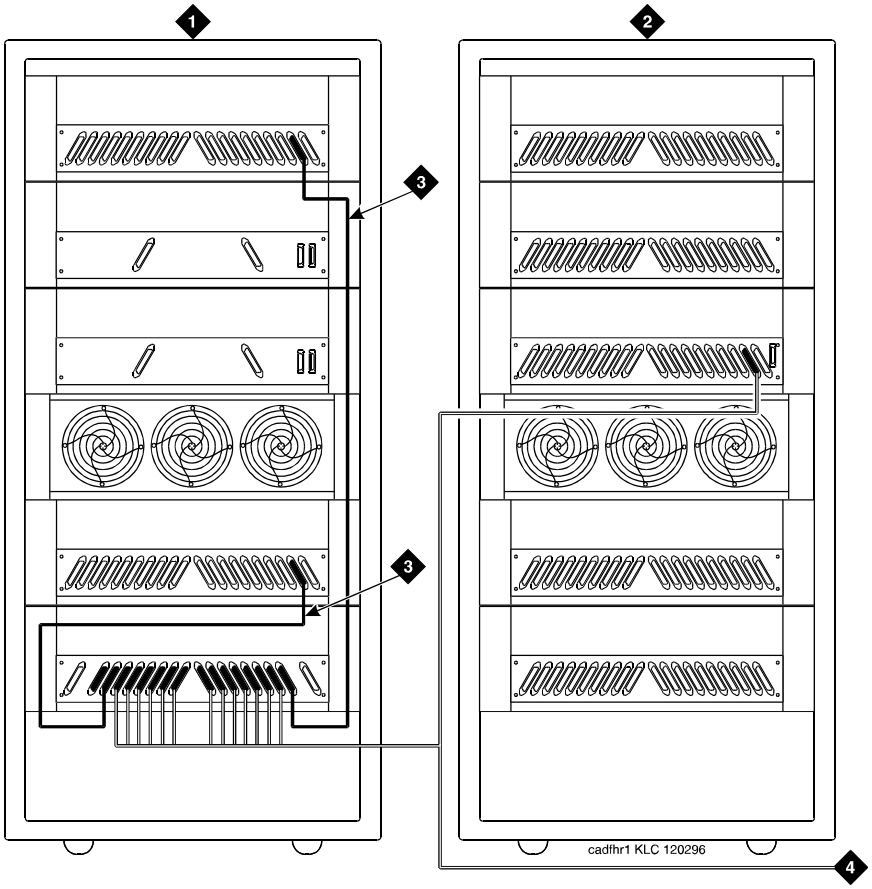


Figure notes

1	Cabinet 1 (PPN with 1 Switch Node)	**3**	H600-278 Metallic Cable
2	Cabinet 2 through 15 (EPN)	**4**	To other EPNs

Return to Task List

Connect Critical Reliability CSS-Connected System with 1 Switch Node

Return to Task List

Figure 107, Critical-Reliability CSS-Connected with 1 Switch Node, on page 359 shows typical fiber optic cabling between cabinets. The cable between port slots 1 and 2 on each switch node is a metallic cable (H600-278).

Connect the 2 groups of 1 to 15 cables between the PPN and each EPN in an alternating port slot order: 20, 3; 19, 4; 18, 5; and so forth.

Figure 107: Critical-Reliability CSS-Connected with 1 Switch Node

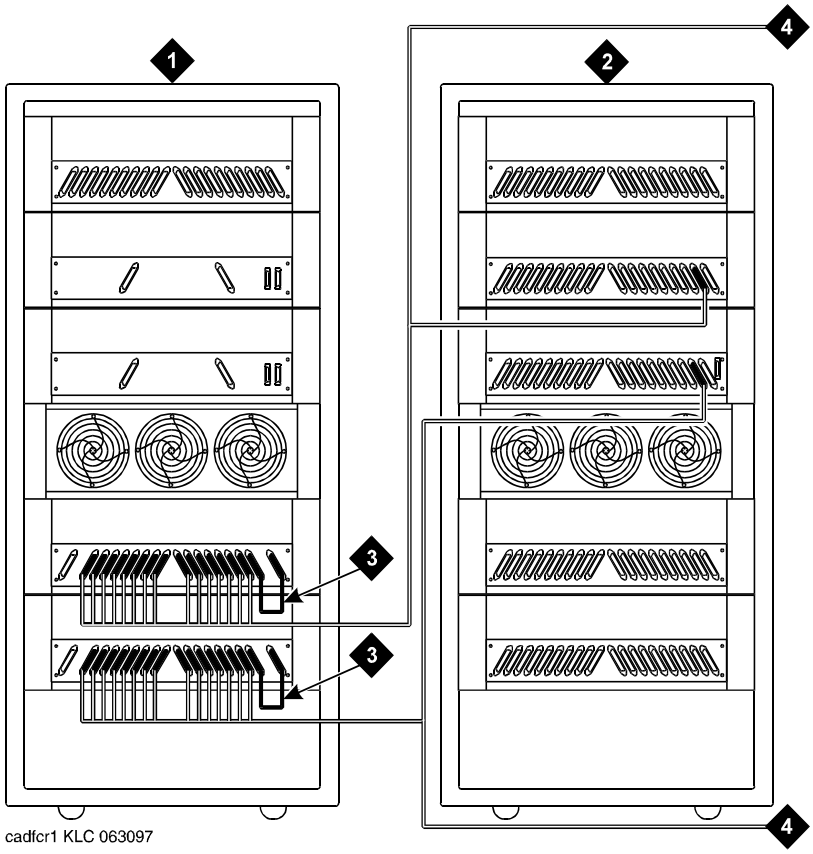


Figure notes

1	Cabinet 1 (PPN with 1 Duplex Switch Node)	**3**	H600-278 Metallic Cable
2	Cabinet 2 through 16 (EPN)	**4**	To other EPNs

Return to Task List

(Single Carrier Cabinets) Made Easy

Perform these tasks to install single-carrier cabinets:

1. Install and Connect SCC1 (Single-Carrier Cabinets)
2. Install Telecommunications Cabling
3. Bring the System Online
4. Test the System
5. Install and Wire Telephones
6. Install and Administer Trunks
7. Install and Wire Telephone Power Supply
8. Install Additional Hardware
9. Add IP Solutions
10. Install and Connect Modems
11. Administer the features, telephones, and other equipment according to customer data found on the provisioning plan. Use the procedures in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
12. Test Telephones and Other Equipment

Select the activity you are currently performing to see information, task lists, and procedures for that activity.

NOTE:
It may be more efficient to install each hardware component, administer it, and test it before going on to install another component. As an example, install the attendant console using the procedures in Install and Wire Telephones, administer it using the procedures in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*, and test it using the procedures in Test Telephones and Other Equipment.

You can also find information on these topics here:

- Option Switch Settings
- Approved Grounds
- Administering Fiber Optic Cables
- Install Fiber Optic Cable Pass-Thru Kit for SCC1 (Single-Carrier) Cabinets

  For duplicated systems only: Install Fiber Optic Cable Pass-Thru Kit for SCC1 (Single-Carrier) Cabinets includes instructions for installing the fiber optic cable between the duplication interface circuit packs installed in cabinets A and B.
- Connector and Cable Diagrams (Pinout Charts)
- UPS Installation for SCC1 EPN A-Carrier Cabinet

Install and Connect SCC1 (Single-Carrier Cabinets)

This section describes how to install the Single-Carrier Cabinets (SCC1). For information on Multicarrier Cabinets (MCC1), go to Install and Connect MCC1 (Multicarrier) Cabinet on page 327.

Floor plans and equipment layouts for typical system installations are provided in *Hardware Guide for Avaya Communication Manager (555-245-207)*.

For duplicated systems only: Install Fiber Optic Cable Pass-Thru Kit for SCC1 (Single-Carrier) Cabinets on page 193 includes instructions for installing the fiber optic cable between the duplication interface circuit packs in cabinets A and B.

Task List: Install and Connect Single-Carrier Cabinets (SCC1)

Perform these tasks before you begin the installation:

1. Check Customer's Order on page 364
2. Unpack and Inspect Cabinets on page 364
3. If you cannot get timing from the service provider, you may need to install a Stratum 3 clock. If this system includes a Stratum 3 clock, go to Installing the Stratum 3 Clock on page 693 for instructions.
4. Check Circuit Packs on page 364
5. Correct Shipping Errors on page 365

Perform these steps to install the cabinets:

6. Position the Cabinets (Standard Reliability) on page 365 or Position Cabinets (High or Critical Reliability) on page 366
7. If required, Install Earthquake Protection for SCC1 on page 367

   CAUTION:
   System grounding must comply with the general rules for grounding contained in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable electric code in the country containing the equipment.

8. Ground DC-Powered Cabinets and Connect DC Power on page 374 or Ground and Connect AC-Powered Cabinets on page 382
9. If the cabinet stack contains more than one Single-Carrier Cabinet, Connect Time Division Multiplexing Bus Cables on page 385
10. Verify Port Cabinet Address Plugs on page 390
11. Install Rear Panels on page 391

12 Install Rear Ground Plates (Systems with Earthquake Protection) on page 391 or Install Front Ground Plates (Systems with Radiation Shielding and Earthquake Protection) on page 393 or Install Cabinet Clips (Systems without Earthquake Protection) on page 395

13 Connect System Cables on page 396

Check Customer's Order

Return to Task List

1 Check the customer's order and the shipping packing lists to confirm all equipment is present.

2 Check the system adjuncts for damage and report all damage according to local shipping instructions.

3 If any equipment is missing, report the information to your Avaya representative.

Unpack and Inspect Cabinets

Return to Task List

CAUTION:
Lifting the cabinet may require two people, as it may weigh as much as 130 pounds (60 kilograms). Use caution to avoid injury.

1 Unpack the cabinets from the shipping material and inspect for damage.

2 Open and remove the front door and rear panels from the cabinet.

3 Verify the label near the circuit breaker on the power supply toward the rear of each cabinet corresponds to the local voltage type.

DANGER:
If the label is different than the voltage type at the site, notify your Avaya representative immediately for a replacement power supply. Do *not*, under any circumstances, connect an incorrect power supply or power source.

Return to Task List

Check Circuit Packs

Return to Task List

1 Ensure all circuit packs are fully inserted into the proper slots according to the Customer Service Document (CSD).

Report any discrepancies in circuit pack type or quantity to your Avaya representative. For detailed circuit pack descriptions, refer to the *Hardware Guide for Avaya Communication Manager (555-245-207).*

2 Check the system adjuncts for damage and report all damage according to local shipping instructions.

Correct Shipping Errors

Return to Task List

1 Red-tag all defective and over-shipped equipment.

For Streamlined Implementation in the United States, call 1-800-772-5409. For customers outside the United States, contact your order service agent.

Position the Cabinets (Standard Reliability)

Return to Task List

CAUTION:
Lifting the cabinet may require 2 people, as it may weigh as much as 130 pounds (60 kilograms). Use caution to avoid injury.

Before beginning the cabinet installation, check the location of the AC/DC power receptacles. The receptacles must be on separately fused circuits *not* controlled by wall switches. They must be located within 10 feet (3 meters) of the cabinet, and outside the Main Distribution Frame (MDF) area.

Refer to the serial numbers and lettered designation strips in the Customer Service Document (CSD) when stacking the cabinets. If earthquake protection is required, skip to Install Earthquake Protection for SCC1 on page 367. Return to this section when finished.

Perform this step first for *all* standard reliability cabinet installations.

1 Install the cabinet stack (processor port network)

- — Place Control Cabinet A (J58890L) on the floor in the position determined when the room layout was planned.
- — Set Port Cabinet B (J58890H) on top of Control Cabinet A.
- — Set Port Cabinet C (J58890H) on top of Port Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

2 If additional cabinet stacks are being installed, install the second cabinet stack (EPN)

- — Place the Expansion Control Cabinet (J58890N) on the floor next to Control Cabinet A. See previous instructions.
- — Set Port Cabinet B (J58890H) on top of the Expansion Control Cabinet.
- — Set Port Cabinet C (J58890H) on top of Port Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

3 If three cabinet stacks are being installed, install the third cabinet stack (EPN).

- — Place the second Expansion Control Cabinet (J58890N) on the floor next to the first Expansion Control Cabinet. See previous instructions.
- — Set Port Cabinet B (J58890H) on top of the Expansion Control Cabinet.
- — Set Port Cabinet C (J58890H) on top of Port Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

Return to Task List

Position Cabinets (High or Critical Reliability)

Return to Task List

CAUTION:
Lifting the cabinet may require two people, as it may weigh as much as 130 pounds (60 kilograms). Use caution to avoid injury.

Before beginning the cabinet installation, check the location of the AC/DC power receptacles. The receptacles must be on separately fused circuits *not* controlled by wall switches. They must be located within 10 feet (3 meters) of the cabinet, and outside the Main Distribution Frame (MDF) area.

Refer to the serial numbers and lettered designation strips in the Customer Service Document (CSD) when stacking the cabinets. If earthquake protection is required, skip to Install Earthquake Protection for SCC1 on page 367. Return to this section when finished.

Perform this step first for *all* high or critical reliability cabinet installations.

1 Install the Cabinet Stack (Processor Port Network)

- — Place Control Cabinet A (J58890L) on the floor in the position determined when the room layout was planned.
- — Set Duplicate Control Cabinet B (J58890M) on top of Control Cabinet A.
- — Set Port Cabinet C (J58890H) on top of Duplicate Control Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

2 If additional cabinet stacks are being installed, install the second cabinet tack (EPN)

- — Place the Expansion Control Cabinet (J58890N) on the floor next to Control Cabinet A
- — Set Port Cabinet B (J58890H) on top of the Expansion Control Cabinet.
- — Set Port Cabinet C (J58890H) on top of Port Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

3 If three cabinet stacks are being installed, install the third cabinet stack (EPN)

- — Place the second Expansion Control Cabinet (J58890N) on the floor next to the first Expansion Control Cabinet.
- — Set Port Cabinet B (J58890H) on top of the second Expansion Control Cabinet.
- — Set Port Cabinet C (J58890H) on top of Port Cabinet B.
- — Set Port Cabinet D (J58890H) on top of Port Cabinet C.

Return to Task List

Install Earthquake Protection for SCC1

Return to Task List

Earthquake protection installs only on SCC1 (Single-Carrier Cabinets).

1. Position the Control Cabinet (J58890L) in the position it is to occupy when the installation is complete. Be sure the cabinet is level.
2. Using a pencil or marker and using the Front Mounting Angle as a template, mark the locations of the two floor mounting holes.
3. Move the cabinet out of the way and drill a hole 0.5-inch (1.3 cm) in diameter and 1.5 inches (3.8 cm) deep at the locations marked in Step 2.
4. Insert a concrete floor anchor (STARR part number 3425) into each hole.
5. Secure the Front Mounting Angle to the floor using the short hex head bolts provided.
6. Move the cabinet back into place.
7. At the rear of the cabinet, remove the two hole plugs from the bottom of the cabinet. See Figure 108, Cabinet Earthquake Mounting — Rear View, on page 368.
8. Insert a pencil or marker through the holes in the bottom of the cabinet and mark the floor directly beneath each hole.
9. Move the cabinet out of the way and drill a hole 0.5-inch (1.27 cm) in diameter and 1.5 inches (3.8 cm) deep at the locations marked in Step 8.
10. Insert a concrete floor anchor (STARR part number 3425) into each hole.
11. Move the cabinet back into place and align with the Front Mounting Angle.
12. Attach the cabinet to the Front Mounting Angle using the four supplied #12-24 x 1/2-inch (1.27 cm) thread-forming screws. See Figure 109, Front Mounting Angle Location, on page 369.
13. Lay the supplied Stiffener on the bottom rear of the cabinet and align with the holes in the bottom of the cabinet. See Figure 108, Cabinet Earthquake Mounting — Rear View, on page 368.
14. Slide a nylon washer onto each of the two supplied long hex head bolts.
15. Insert the bolts through the Stiffener and thread into the concrete floor anchor. Tighten securely.

NOTE:
For a critical reliability installation, position the Expansion Control Cabinet on the floor next to Control Cabinet A. Repeat the procedure steps.

Figure 108: Cabinet Earthquake Mounting — Rear View

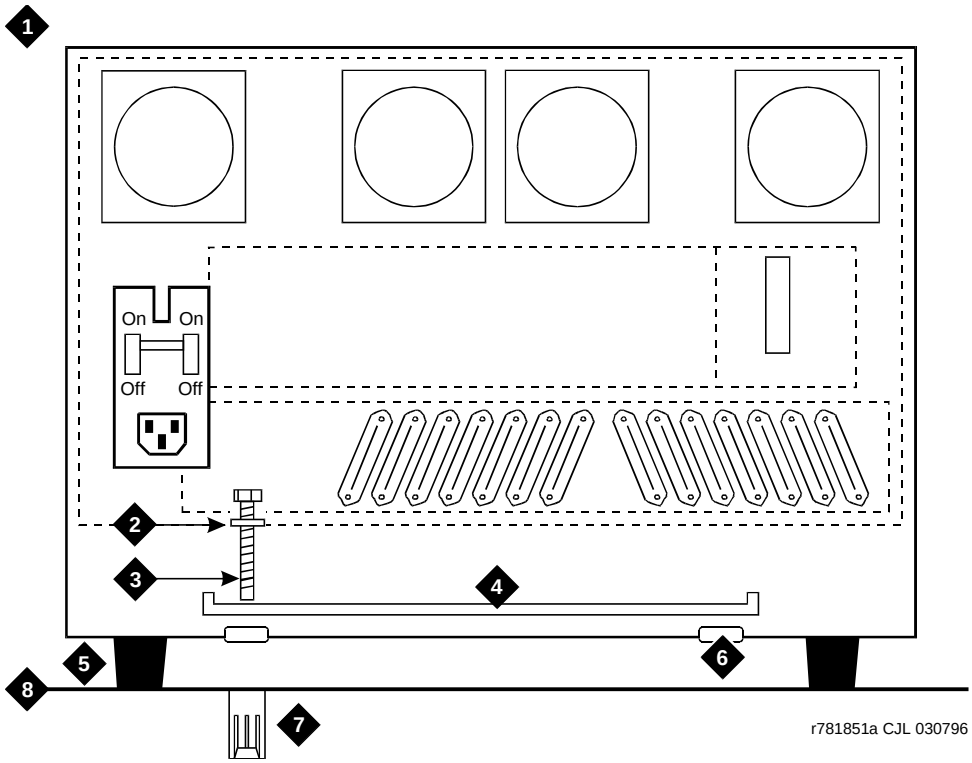


Figure notes

1	Cabinet	**5**	Cabinet Foot
2	Nylon Insulating Washer (2 Required)	**6**	Floor Plugs (Remove)
3	Long Hex Head Bolt (2 Required)	**7**	Concrete Floor Anchor
4	Stiffener	**8**	Concrete Floor

Figure 109: Front Mounting Angle Location

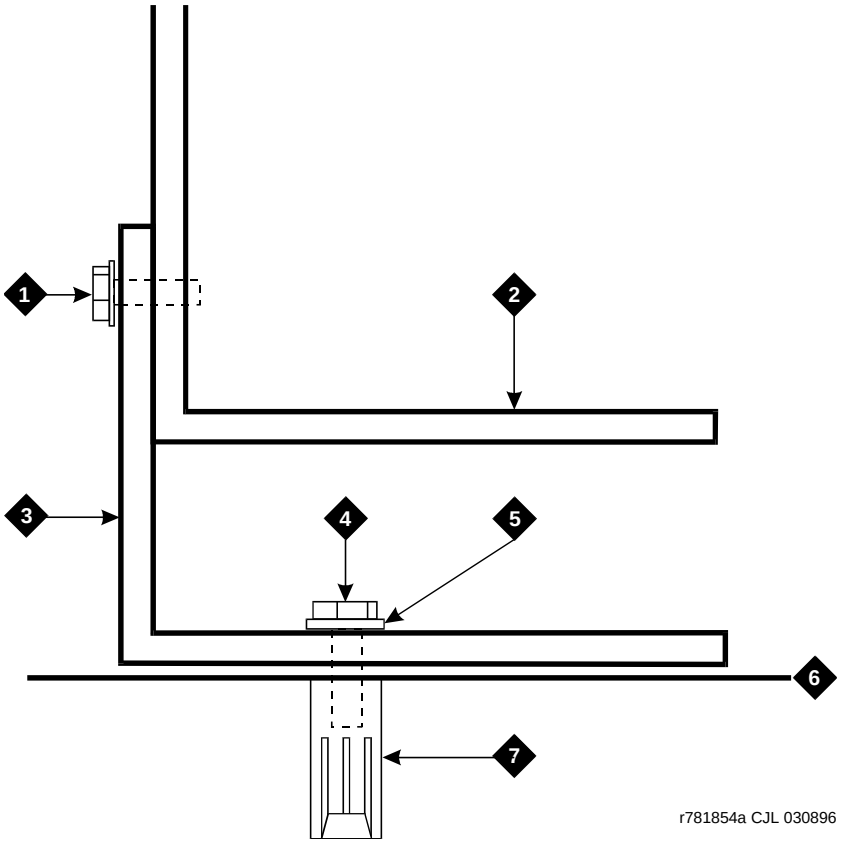


Figure notes

1	#12-24x1/2-inch Thread Forming Screw	**4**	Hex Head Bolt
2	Control Cabinet	**5**	Nylon Insulating Washer
3	Front Mounting Angle	**6**	Concrete Floor
		7	Concrete Floor Anchor

Return to Task List

Ground DC-Powered Cabinets

Return to Task List

CAUTION:
System grounding shall comply with the general rules for grounding contained in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable code at the installation site.

NOTE:
Before connecting the cabinets to the approved ground, determine the best method of grounding. See Approved Grounds on page 761 for more information. Also, locate the approved ground as close to the cabinets as possible.

NOTE:
The ground plates and cabinet clips are installed later in this procedure.

Task List: Connect the cabinet grounds on the J58890R DC Power Cabinet and the Single-Carrier Cabinets

1. Connect DC Power Cabinet Ground on page 370
2. Connect DC Battery Cabinet Frame Ground
3. Connect DC Power Distribution Unit Ground on page 372
4. Connect Single-Carrier Cabinet Ground on page 373

Connect DC Power Cabinet Ground

Return to Task List

1. At the DC Power Cabinet, connect a 1 AWG (#70) (7 mm^2) ground wire to the GROUND DISCHARGE bar. See Figure 110, DC Power Cabinet Grounding, on page 371.
2. Route the ground wire out of the cabinet and terminate it on the approved ground.

CAUTION:
The approved ground must be connected using the correct gauge wire, terminated with a listed clamp, and identified with a grounding tag (FORM 15657NR, or equivalent).

Figure 110: DC Power Cabinet Grounding

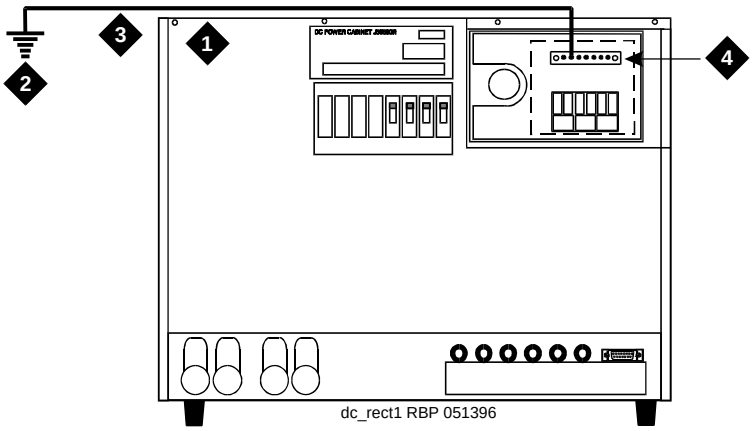


Figure notes

1	DC Power Cabinet	**3**	1 AWG (#70) (7 mm^2) Wire
2	To Approved Ground	**4**	Ground Discharge Bar

Return to Task List

Connect DC Battery Cabinet Frame Ground

Return to Task List

1. Cut a length of 6 AWG (#40) (4 mm^2) wire long enough to reach between the DC Power Cabinet and the DC Battery Cabinet. See Figure 111, Frame Ground Wiring Between Power Cabinets, on page 372.
2. Crimp a terminal lug on the each end of the wire. The terminal lugs are furnished as part of D-181895, kit of parts.
3. At the DC Battery Cabinet, attach the 6 AWG (#2540) (6 4 mm^2) wire to the frame ground mounting hole using a pan head slotted screw, star washer, and hex nut. Tighten the screw securely.
4. Route the opposite end of the wire to the DC Power Cabinet.
5. Attach the 6 AWG (#40) (4 mm^2) wire to the mounting hole in the top of the cabinet. Use a pan head slotted screw, star washer, and hex nut. Tighten the screw securely.

Figure 111: Frame Ground Wiring Between Power Cabinets

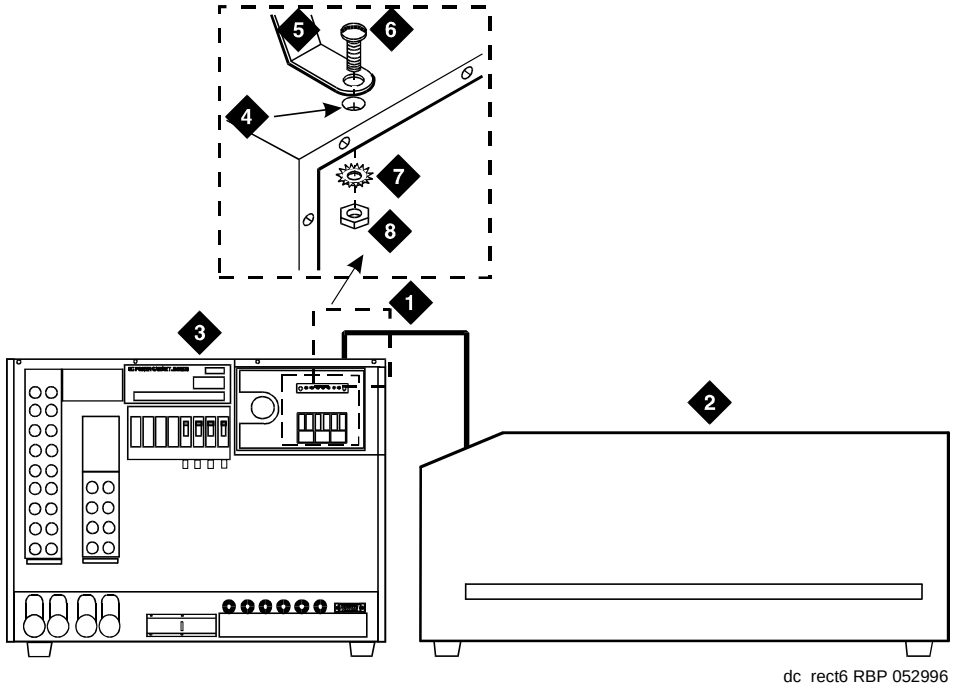


Figure notes

1	6 AWG (#40) (4mm^2) Wire	**5**	Terminal Lug (Part of D-18181895)
2	DC Battery Cabinet	**6**	Pan Head Slotted Screw
3	DC Power Cabinet	**7**	Star Washer
4	Grounding Hole in Top of Cabinets	**8**	Hex Nut

Return to Task List

Connect DC Power Distribution Unit Ground

Return to Task List

1. Measure and cut a length of 4 AWG (#5) (21 mm^2) wire long enough to reach between the GROUND DISCHARGE bar in the DC Power Cabinet and the GRD connector on the DC Distribution Unit. See Figure 112, DC Power Distribution Unit Ground, on page 373.
2. At the DC Power Cabinet, connect a the 4 AWG (#5) (21 mm^2) wire to the GROUND DISCHARGE bar.
3. Route the opposite end of the wire to the DC Power Distribution Unit and connect the wire to the GRD connector.
4. Repeat Steps 2 and 3 for each remaining DC Power Distribution Unit.

Figure 112: DC Power Distribution Unit Ground

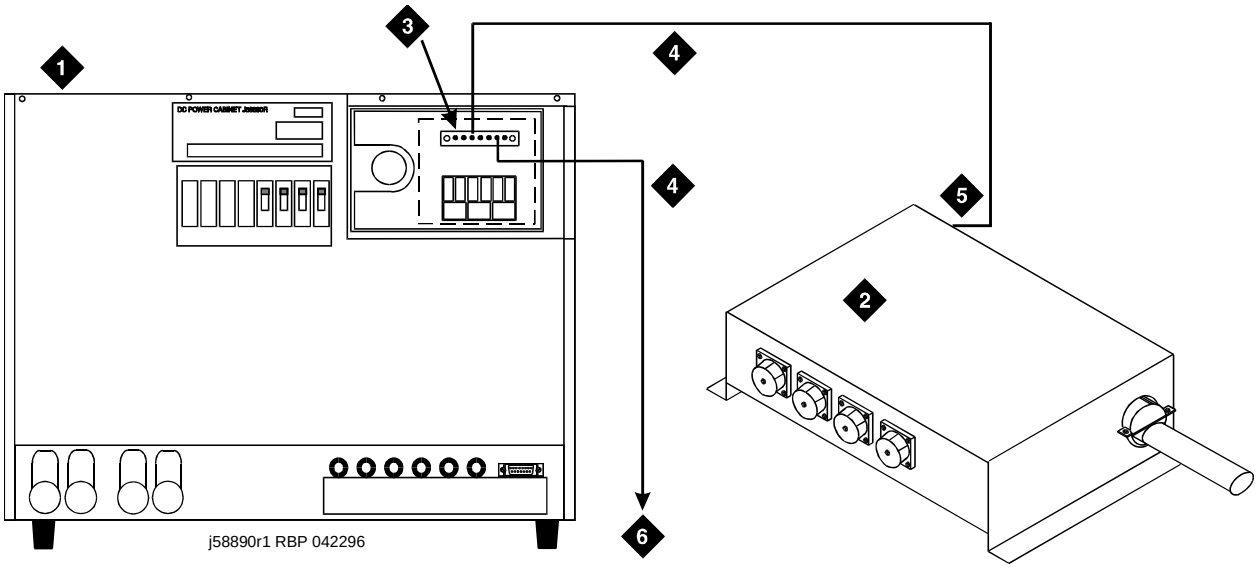


Figure notes

1 DC Power Cabinet

2 DC Power Distribution Unit

3 Ground Discharge Bar

4 4 AWG (#5) (21 mm^2) Wire

5 GRD Connector Terminal on DC Power Distribution Unit

6 To Additional DC Power Distribution Units (if required)

Return to Task List

Connect Single-Carrier Cabinet Ground

Return to Task List

1 Measure and cut a length of 4 AWG (#5) (21 mm^2) wire long enough to reach between the GROUND DISCHARGE bar on the DC Power Cabinet and the single-point ground block on the Control Cabinet (bottom cabinet in Figure 113, Single-Carrier Cabinet Ground, on page 374).

2 At the DC Power Cabinet, connect the 4 AWG (#5) (21 mm^2) wire to the GROUND DISCHARGE bar.

3 Route the wire to Control Cabinet and connect to the single-point ground block.

4 Repeat for each Control Cabinet in the system room (duplicated Control Cabinet and Expansion Control Cabinet).

Figure 113: Single-Carrier Cabinet Ground

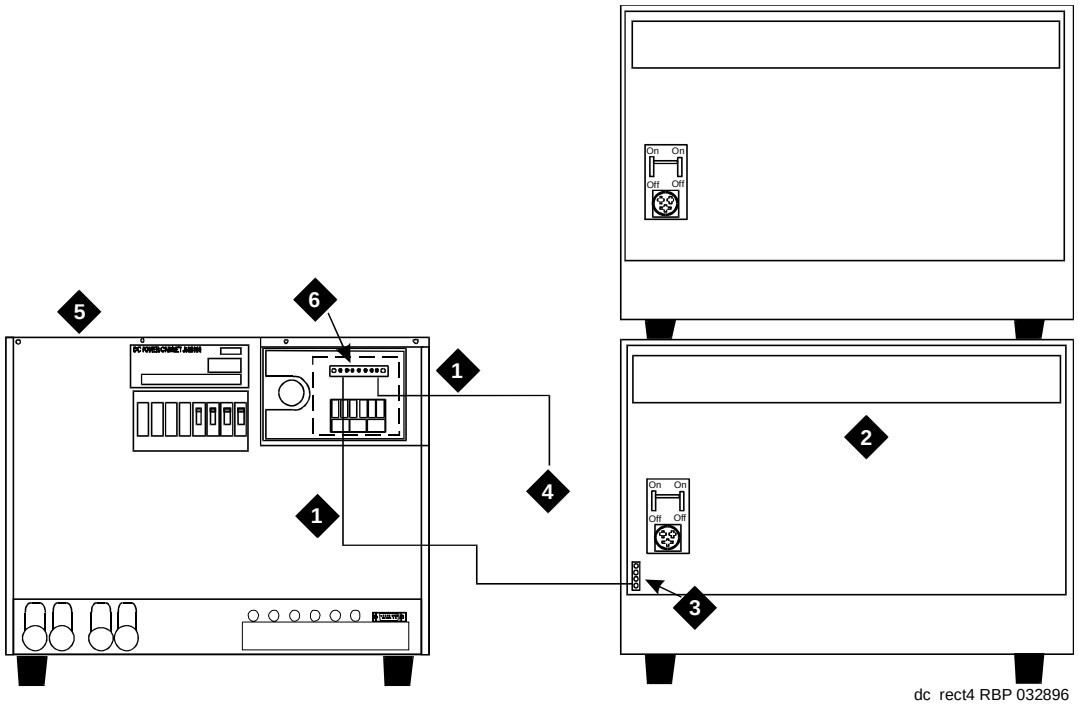


Figure notes

1	4 AWG (#5) (21 mm^2) Wire	**4**	To Additional Control Cabinets in Same Room
2	Control Cabinet (Cabinet A)	**5**	DC Power Cabinet
3	Single-Point Ground Block	**6**	Ground Discharge Bar

Return to Task List

Connect DC Power

Return to Task List

Use the procedures in the following task list to connect DC power.

Task List: Connect the DC power

1. Connect AC Power to DC Power Cabinet on page 379
2. Connect Battery Cabinet on page 380
3. Connect Optional Battery Leads on page 381

Making DC Power Connections

A 30 foot (9 m) cable connects to each cabinet. A special connector on one end of the cable is plugged into the cabinet power connector. The cable must be cut to length and terminated inside the J58890R DC Power Cabinet.

Each rectifier assembly can supply up to 50 Amps of DC current. A minimum of two rectifiers are installed in each DC Power Cabinet to supply a total of 100 Amps. A third rectifier assembly can be installed and is used as a backup (N+1). Each Single-Carrier Cabinet can pull up to 18 Amps. Up to three DC Power Cabinets can be stacked to supply power to Single-Carrier Cabinet stacks.

Figure 114, Typical DC Power Connections, on page 377 shows a typical power and ground layout for a DC-powered system without a J58890CG DC Power Distribution Unit. Figure 115, Connections Using DC Power Distribution Unit, on page 378 shows a typical power and ground layout for a DC-powered system containing a DC power distribution unit.

NOTE:
If the distance between the DC Power Cabinet(s) is greater than 30 feet (9 m), use the Task List: Install a J58890CG DC Power Distribution Unit on page 375.

Task List: Install a J58890CG DC Power Distribution Unit

- Install on a wall without a plywood backing plate on page 375
- Installing on a wall with a plywood backing plate on page 376

Install on a wall without a plywood backing plate

1. Hold the unit at the desired location and mark the four hole (slots and keyholes) centers with a pencil.

   NOTE:
   The J58890CG DC Power Distribution Unit should be installed to the right of the SCC Cabinet Stack and mounted approximately 12 inches (30.5 cm) off the floor.

2. Use a level to make sure the power unit is straight, then set the unit aside and install four ZINC drywall “screw-in” anchors rated for at least 50 lbs each.
3. Install the top two screws supplied with the zinc anchors.
4. Mount the power distribution unit on the top screws and install the bottom screws through the slots in the power distribution housing.

Return to Task List

Installing on a wall** with **a plywood backing plate

1. Hold the unit at the desired location and mark the four hole (slots and keyholes) centers with a pencil.

   NOTE:
   The J58890CG DC Power Distribution Unit should be installed to the right of the SCC Cabinet Stack and mounted approximately 12 inches (30.5 cm) off the floor.

2. Use a level to make sure the power unit is straight, then set the unit aside and install two #12 pan head phillips wood screws (rated for at least 50 lbs each) in the top position.
3. Mount the power distribution unit on the top screws and install the bottom screws through the slots in the power distribution housing.

Return to Task List

DC Power Connections with DC Distribution Unit

A 10 foot (3 meter) power cord is equipped with the appropriate connectors. In the configuration shown in Figure 115, Connections Using DC Power Distribution Unit, on page 378, each cabinet stack has a DC Power Distribution Unit associated with it.

Stacking DC Power Cabinets

Up to three DC Power Cabinets can be stacked to supply power to Single-Carrier Cabinet stacks. See Figure 116, DC Power Cabinet Stack — Rear, on page 379.

Figure 114: Typical DC Power Connections

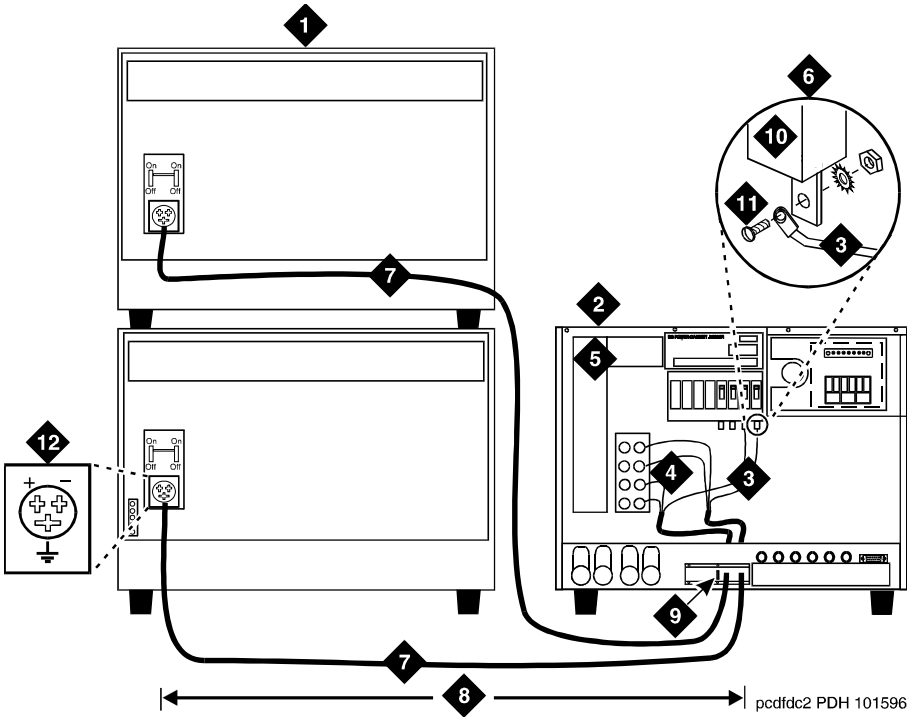


Figure notes

1 System Cabinet Stack

2 DC Power Cabinet

3 White Wires

4 Green Ground Wires and Black Wires Connect to the -48 VDC Return Bus

5 -48 VDC Bus

6 Connect White Wires to Circuit Breakers

7 DC Power Cable (H600-436, G1) to Power Connector on Each Cabinet. Cut to Length and Crimp a Ring Terminal Onto Each Wire

8 30 Feet (9 m) Maximum

9 Route Cables Through Sliding Door

10 Circuit Breaker

11 Supplied #10-32 Screw, #10 Star Washer, and #10-32 Hex Nut

12 Inset Showing DC Power Connector (Male)

Figure 115: Connections Using DC Power Distribution Unit

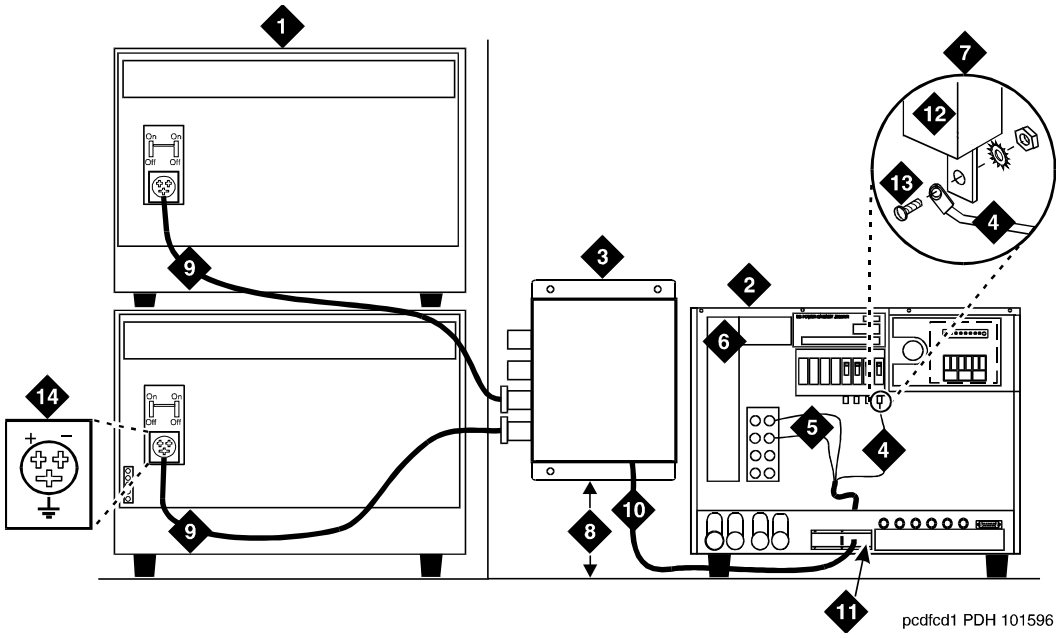


Figure notes

1 System Cabinet Stack

2 DC Power Cabinet

3 DC Power Distribution Unit (position to right of the cabinet stack

4 White Wire (connect to Circuit Breaker). See inset.

5 Green Ground Wires and Black Wire (connect to the -48 VDC Return Bus)

6 -48 VDC Bus

7 Inset

8 12 inches (30.5 cm) from floor to DC Power Distribution Unit

9 DC Power Cable to Power Connector on Each Cabinet.

10 DC Power Distribution Unit Power Cord (route to rear of DC Power Cabinet)

11 Route Power Cord Through Sliding Door

12 Circuit Breaker

13 Supplied #10-32 Screw, #10 Star Washer, and #10-32 Hex Nut

14 Inset Showing DC Power Connector (Male)

Figure 116: DC Power Cabinet Stack — Rear

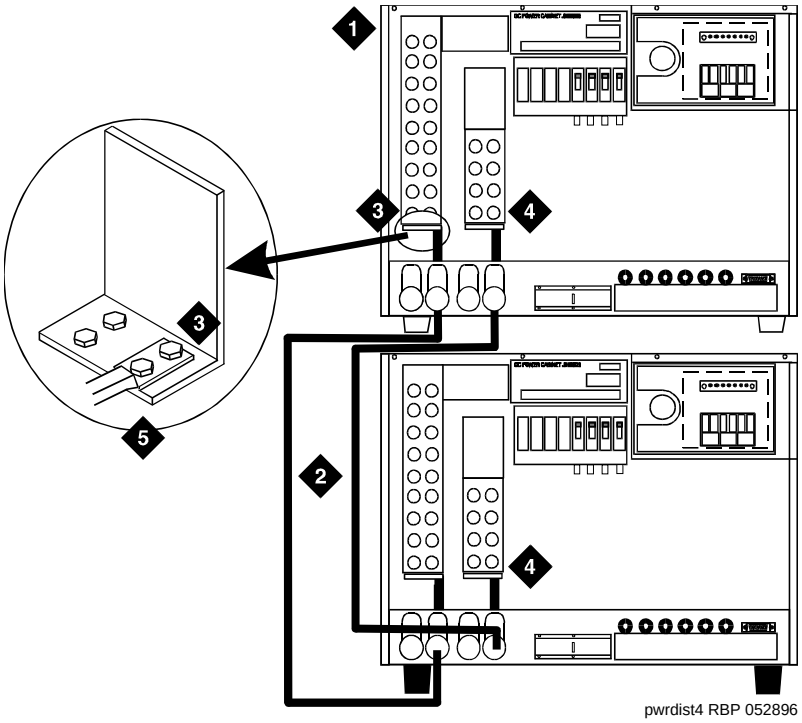


Figure notes

1	DC Power Cabinet Stack	**4**	Connect to -48 VDC Return Bus
2	DC Power Cables Daisy Chained Between DC Power Cabinets	**5**	Inset Applies to -48 VDC and -48 VDC Return Buses in All Three DC Power Cabinets
3	Connect to -48 VDC Bus		

Connect AC Power to DC Power Cabinet

Return to Task List

This procedure applies to both the Processor Port Networks (PPN) and Expansion Port Networks (EPN).

CAUTION:
Power is present in the cabinet even if the AC power cable is unplugged. Turn off the main circuit breaker on the front of the cabinet when procedures require ALL power to be removed from the cabinet.

1 Ensure the associated circuit breakers at the AC power panel are OFF.

2 Have an electrician connect AC power leads to the rectifiers using the instructions provided with the rectifiers in the DC Power Cabinet. Each rectifier should have its own branch circuit. Terminate leads on the AC INPUT terminal block of each rectifier.

Connect Battery Cabinet

Return to Task List

CAUTION:
Power is present in the cabinet even if the AC power cable is unplugged. Turn off the main circuit breaker on the front of the cabinet when procedures require ALL power to be removed from the cabinet.

Connect the DC Battery Cabinet to the DC Power Cabinet.

Figure 117, DC Battery to DC Power Cabinet Connections, on page 380 shows how to make typical connections from the DC Battery Cabinet to the DC Power Cabinet.

Figure 117: DC Battery to DC Power Cabinet Connections

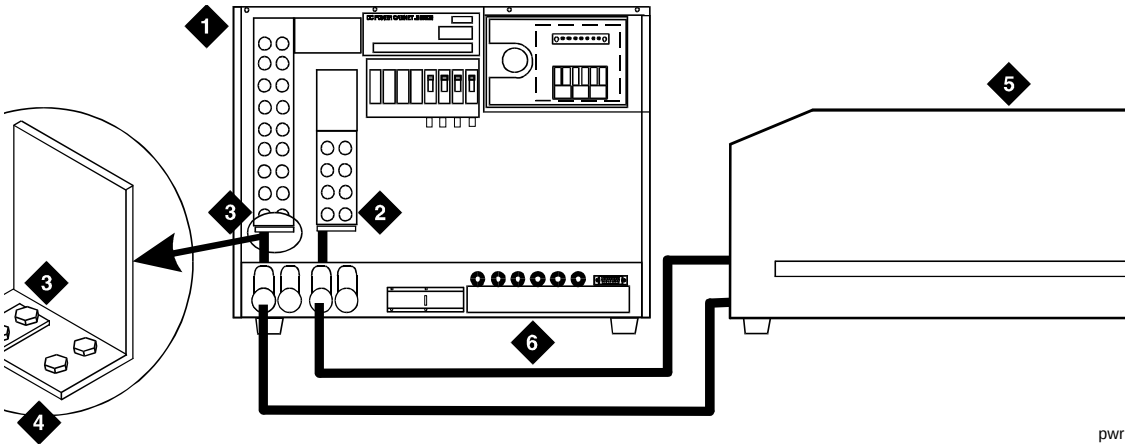


Figure notes

1	DC Power Cabinet	**4**	Inset Applies to -48 VDC Buses and -48 VDC Return Buses
2	Connect Red DC Power Cable to -48 VDC Return Bus	**5**	Battery Cabinet
3	Connect Black DC Power Cable to -48 VDC Bus	**6**	DC Power Cables (Red and Black)

Return to Task List

Connect Optional Battery Leads

Return to Task List

To prevent the internal batteries from discharging, the Control Cabinet is shipped with the battery leads disconnected.

1. Set the circuit breakers OFF. See Figure 118, Control Cabinet Battery Location — Right Side, on page 381.
2. Connect the battery leads. The battery is near the top of the carrier toward the front-right. The battery leads are located next to the battery and are accessible from the front of the cabinet.

Figure 118: Control Cabinet Battery Location — Right Side

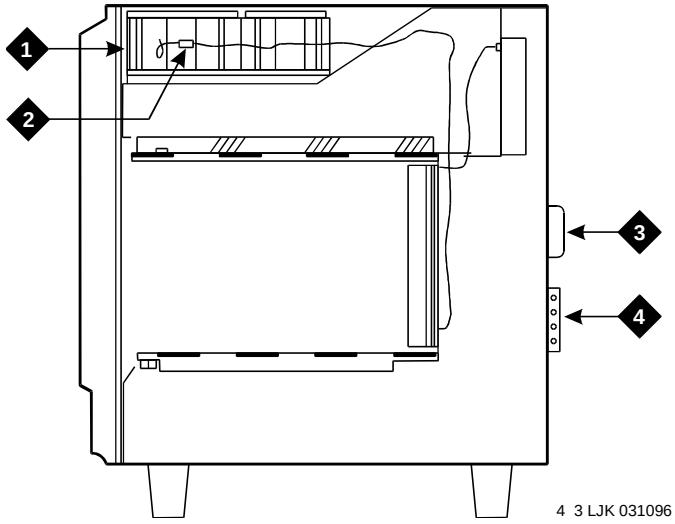


Figure notes

1	Battery	**3**	Circuit Breakers (Located Between plates)
2	Battery Lead Connector	**4**	Cabinet Single-Point Ground Block

Return to Task List

Ground and Connect AC-Powered Cabinets

Return to Task List

CAUTION:
System grounding shall comply with the general rules for grounding contained in Article 250 of the National Electrical Code (NEC), National Fire Protection Agency (NFPA) 70, or the applicable code at the installation site.

NOTE:
Before connecting the cabinets to the approved ground, determine the best method of grounding. See Approved Grounds on page 761 for more information. Also, locate the approved ground as close to the cabinets as possible.

NOTE:
The ground plates and cabinet clips are installed later in this procedure.

Task List: Connect the cabinet grounds on the J58890R DC Power Cabinet and the Single-Carrier Cabinets

1. Connect AC-Power Ground on page 382
2. Set the Ringer Frequency on page 384
3. Connect the Power Cord into the Power Receptacle on page 384

Connect AC-Power Ground

Return to Task List

1. Measure and cut a length of 6 AWG (#40) (4 mm^2) wire long enough to reach between the cabinet stack single-point ground block and the approved ground. See Figure 119, Typical AC Power and Ground Layout — Rear, on page 383.
2. At the lower left rear of the Control Cabinet (Cabinet A), connect the 6 AWG (#40) (4 mm^2) ground wire to the cabinet stack single-point ground block.
3. Run the ground wire to the approved ground and attach securely.
4. Repeat Steps 1-3 for each Expansion Control Cabinet.

NOTE:
If the Expansion Control Cabinet is remotely located from Cabinet A (in a separate room or building), run the 6 AWG (#40) (4 mm^2) cabinet ground wire to an approved protective ground.

5 At Cabinet A, connect a 10 AWG (#25) (2.5 mm^2) wire to the single-point ground block. The 10 AWG (#25) (2.5 mm^2) wire must be long enough to reach the telecommunications cables at the rear of the system cabinets, follow these cables to the Main Distribution Frame (MDF), and to terminate at the Coupled Bonding Conductor (CBC).

The Coupled Bonding Conductor (CBC) wires are installed and terminated in Install Telecommunications Cabling on page 403.

Figure 119: Typical AC Power and Ground Layout — Rear

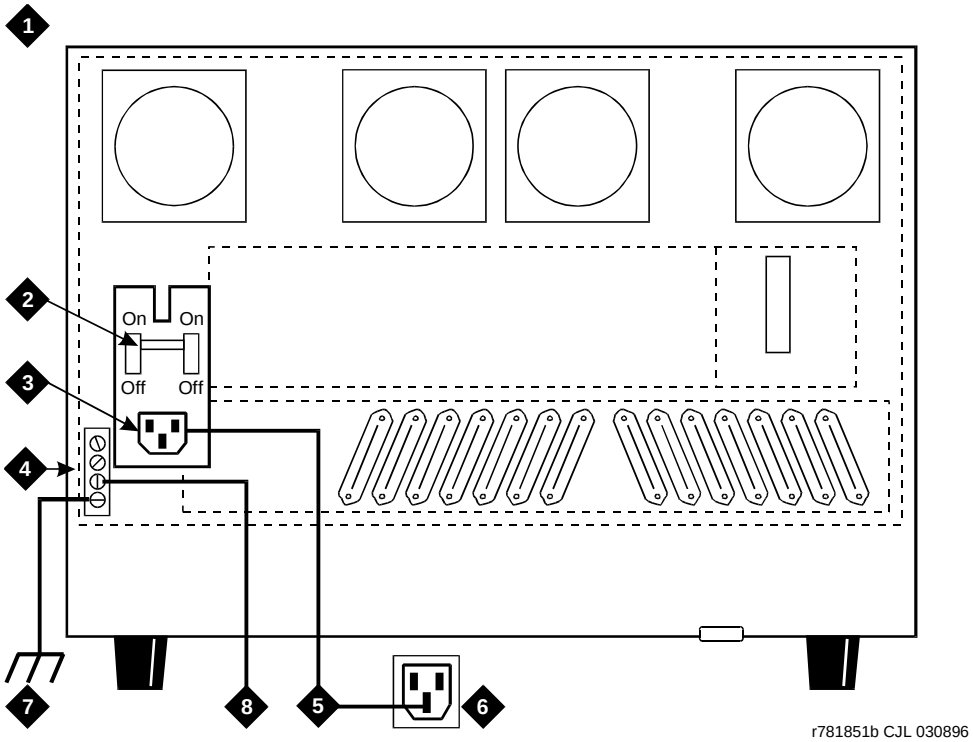


Figure notes

1 Cabinet Stack 1 Control Cabinet A

2 Circuit Breaker

3 AC Power Receptacle

4 Cabinet Stack Single-Point Ground Block

5 8-foot (2.5 meters) Power Cord

6 National Electrical Manufacturers Association (NEMA) 5-15 or 5-20 Receptacle or Equivalent

7 6 AWG (#40) (4 mm2) Ground Wire to Approved Ground

8 10 AWG (#25) (2.5 mm2) Wire to Coupled Bonding Conductor

Return to Task List

Set the Ringer Frequency

Return to Task List

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

The default ringer frequency setting on the 1217A power supply for North America is 20 Hz and the international setting can be either 20 Hz or 25 Hz. To set the ringer frequency on the 1217A power supply:

1. Power down AUDIX and any other circuit pack that might be running an application.
2. Power down the cabinet.
3. Release both latches on the power supply and slide the unit out of the cabinet.
4. Observe the ring frequency switch label on the side of the power supply and locate the switch on the bottom.
5. Set the ring frequency select switch to the appropriate frequency setting.
6. Slide the power supply back into the slot and ensure that both latches snap closed.

Return to Task List

Connect the Power Cord into the Power Receptacle

Return to Task List

1. Provide one receptacle per Single-Carrier Cabinet.
2. Verify the circuit breakers are OFF.
3. Plug the cabinet AC power cord into the AC power receptacle on the rear of each cabinet.
4. Plug the opposite end of each AC power cord into the appropriate AC power receptacle in the equipment room.

NOTE:
Loop the excess cord and tie wrap it to the back cover to prevent accidental unplugging.

Return to Task List

Connect Time Division Multiplexing Bus Cables

Return to Task List

If the cabinet stack contains only one Single-Carrier Cabinet, skip this task.

Locate the white fabric-covered Time Division Multiplexing (TDM) bus cable on the rear of the cabinets. Use the procedures that apply to this installation:

- Standard Reliability PPN - One Cabinet Stack on page 385
- High or Critical Reliability PPN - Two Cabinet Stack on page 386
- High or Critical Reliability PPN - Three Cabinet Stack on page 388
- Expansion Port Network (All Reliability Options) on page 389

Standard Reliability PPN - One Cabinet Stack

Return to Task List

1. Remove the Time Division Multiplexing (TDM) Bus Terminator (AHF110) from Slot 18 of the Control Cabinet (Processor Port Network (PPN)) and move it to Slot 17 on the top Port Cabinet. See Figure 120, Connections for Standard Reliability Systems, on page 386.
2. Connect the supplied Time Division Multiplexing (TDM) Bus Cables (WP-91716 L3) as shown in Figure 120.

Figure 120: Connections for Standard Reliability Systems

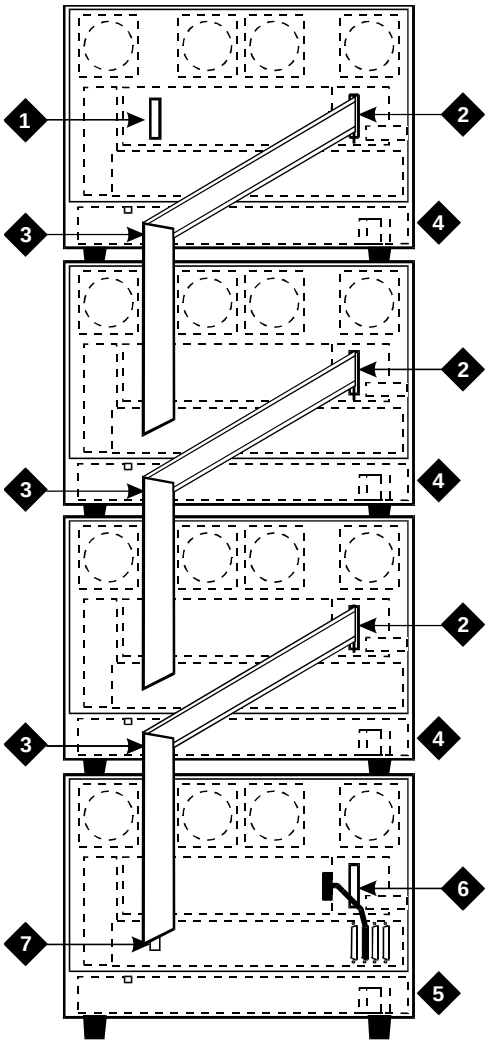


Figure notes

1 AHF110 TDM Bus Terminator (Slot 17)

2 TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)

3 TDM Bus Cable WP-91716 L3

4 Port Cabinet (Standard Reliability)

5 Control Cabinet A Position

6 AHF110 TDM Bus Terminator (Slot 03)

7 Slot 18

Return to Task List

High or Critical Reliability PPN - Two Cabinet Stack

Return to Task List

1 Remove the Time Division Multiplexing (TDM) Bus Terminator from Slot 18 of Control Cabinet A (Processor Port Network (PPN)) and move it to Slot 18 of Control Cabinet B. See Figure 121, Connections for High or Critical Reliability Systems, on page 387.

2 Connect the supplied Time Division Multiplexing (TDM) Bus Cables (WP-91716 L3) from Cabinet A to Cabinet B as shown.

Figure 121: Connections for High or Critical Reliability Systems

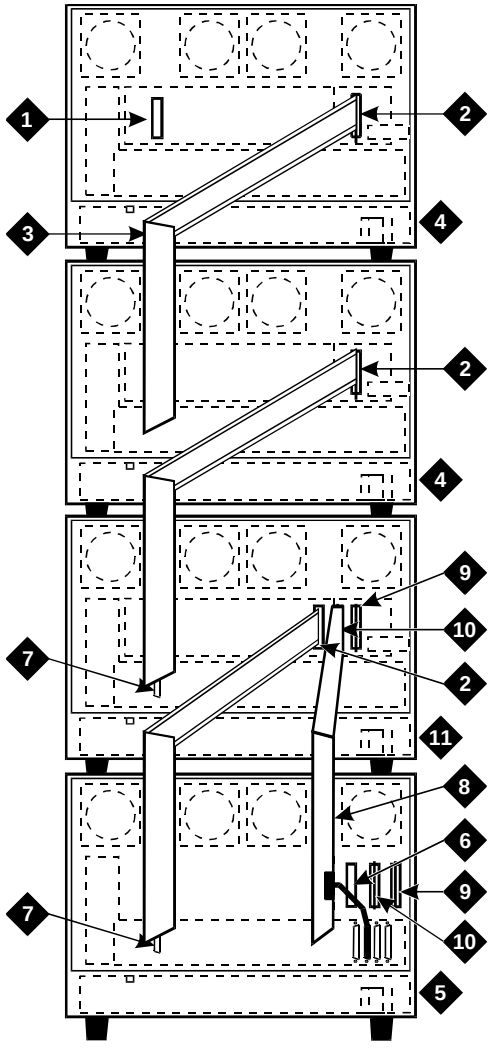


Figure notes

1	AHF110 TDM Bus Terminator (Slot 17)	**7**	Slot 18
2	TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)	**8**	Inter-Cabinet Cables (ICC) A, B and C (H600-248-G1)
3	TDM bus Cable (WP-91716 L3)	**9**	Inter-Cabinet Cable (ICC) A
4	Port Cabinet	**10**	Inter-Cabinet Cable (ICC) B
5	Control Cabinet A Position	**11**	Duplicated Control Cabinet B Position
6	AHF110 TDM Bus Terminator (Slot 01)		

Return to Task List

High or Critical Reliability PPN - Three Cabinet Stack

Return to Task List

1. Remove the Time Division Multiplexing (TDM) Bus Terminator from Slot 18 of Control Cabinet A (Processor Port Network (PPN)) and move it to Slot 17 on the top port cabinet. See Figure 122, Connections for High or Critical Reliability Systems, on page 388.
2. Connect the supplied TDM Bus Cables (WP-91716 L3) as shown.

Figure 122: Connections for High or Critical Reliability Systems

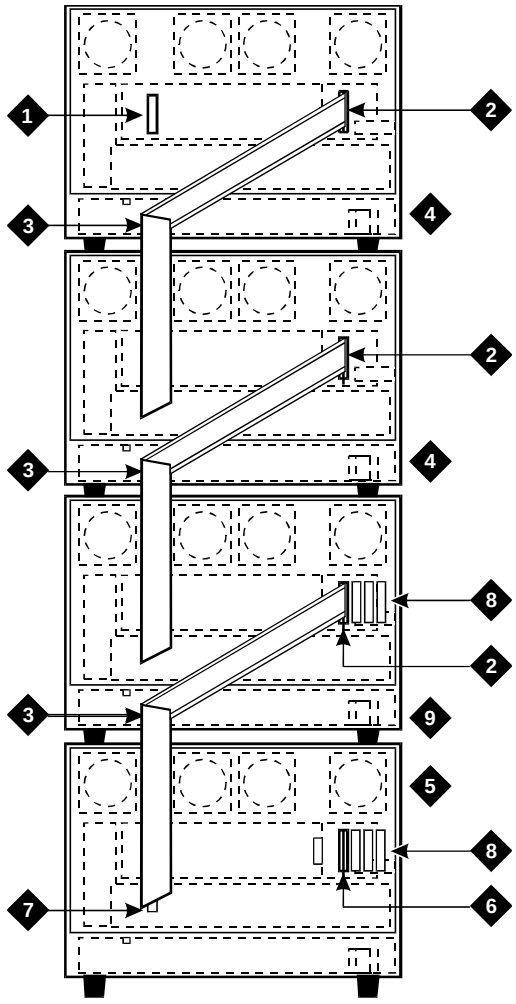


Figure notes

1. AHF110 TDM Bus Terminator (Slot 17)
2. TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)
3. TDM bus Cable (WP-91716 L3)
4. Port Cabinet
5. Control Cabinet A Position
6. AHF110 TDM Bus Terminator (Slot 03)
7. Slot 18
8. Inter-Cabinet Cables (ICC) B and C (H600-259-G1)
9. Duplicated Control Cabinet B Position

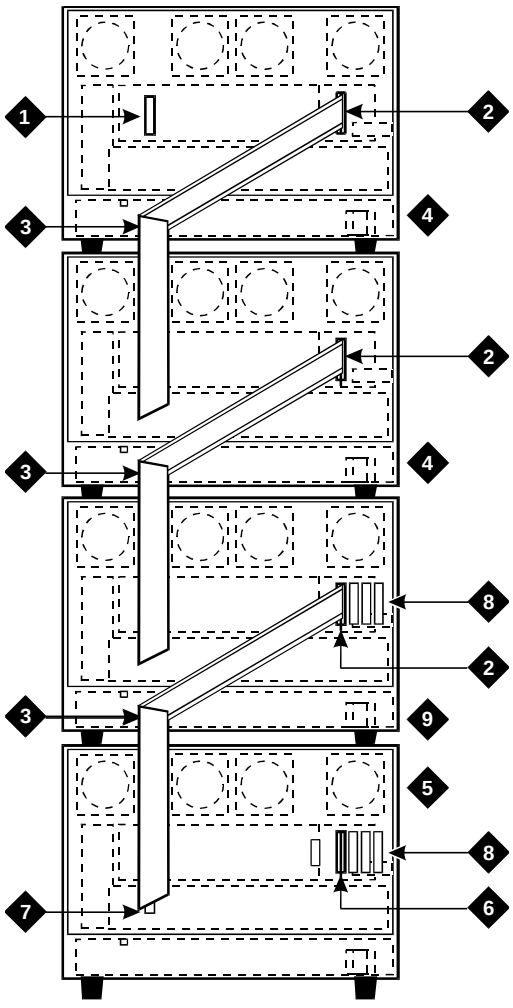
Return to Task List

Expansion Port Network (All Reliability Options)

Return to Task List

1. Remove the TDM Bus Terminator from Slot 18 of Control Cabinet A (PPN) and move it to Slot 17 on the top port cabinet. See Figure 123, Connections for High or Critical Reliability Systems, on page 389.
2. Connect the supplied TDM Bus Cables (WP-91716 L3) as shown.

Figure 123: Connections for High or Critical Reliability Systems



tdm_cab4 CJL 053096

Figure notes

1. AHF110 TDM Bus Terminator (Slot 17)
2. TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)
3. TDM bus Cable (WP-91716 L3)
4. Port Cabinet
5. Control Cabinet A Position
6. AHF110 TDM Bus Terminator (Slot 03)
7. Slot 18
8. Inter-Cabinet Cables (ICC) B and C (H600-259-G1)
9. Duplicated Control Cabinet B Position

Return to Task List

Verify Port Cabinet Address Plugs

Return to Task List

The address plug is a jumper field on port cabinets only. The address plug is located on the far right hand side of the backplane, to the right of slot 00.

A group of six pins is labeled for the cabinet (carrier) jumper connections. Verify that the address plug for *each* port carrier is in the correct location for that carrier. See Figure 124, Port Cabinet Address Plug Location — Cabinet Rear, on page 390. The factory default setting is “B” (callout 2).

Figure 124: Port Cabinet Address Plug Location — Cabinet Rear

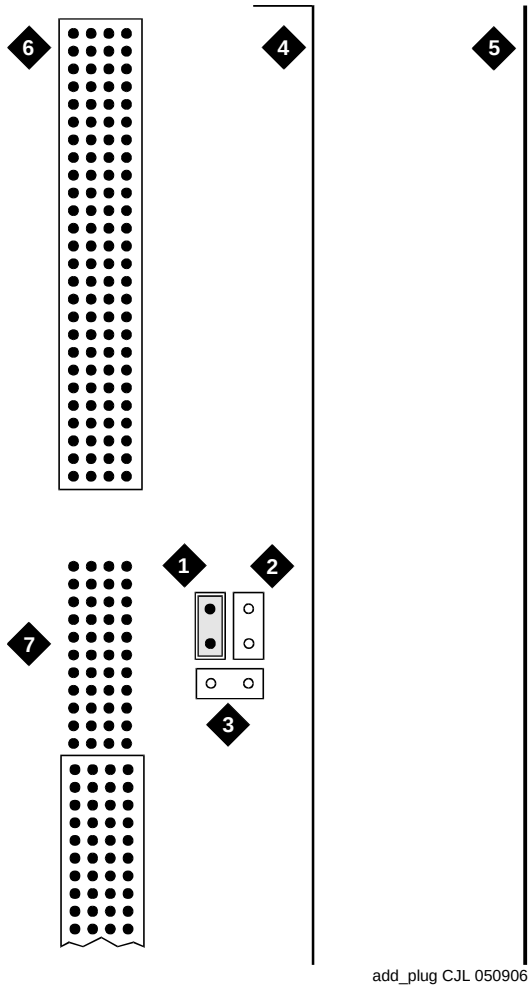


Figure notes

1	Address Plug (Shown Set to Carrier D)	**4**	Right Edge of Backplane
2	Carrier B Jumper Location (Default)	**5**	Right Edge of Cabinet
3	Carrier C Jumper Location	**6**	Backplane Slot 00
		7	To Connector Panel

Return to Task List

Install Rear Panels

Return to Task List

1. Install the rear panels and loosely thread each screw. See Figure 125, Rear Panel Screw Locations, on page 391.
2. For *unstacked* cabinets, tighten the screws securely.

   For a *stack* of cabinets, allow the screws labeled callout 4 to remain loose. These screws are tightened when the ground plates are installed.
3. Be sure the Time Division Multiplexing (TDM) bus cables and the Inter-Cabinet Cables (ICC) are not pinched by the panels. Also be sure the cables are routed through the channels provided on the rear panels.

Figure 125: Rear Panel Screw Locations

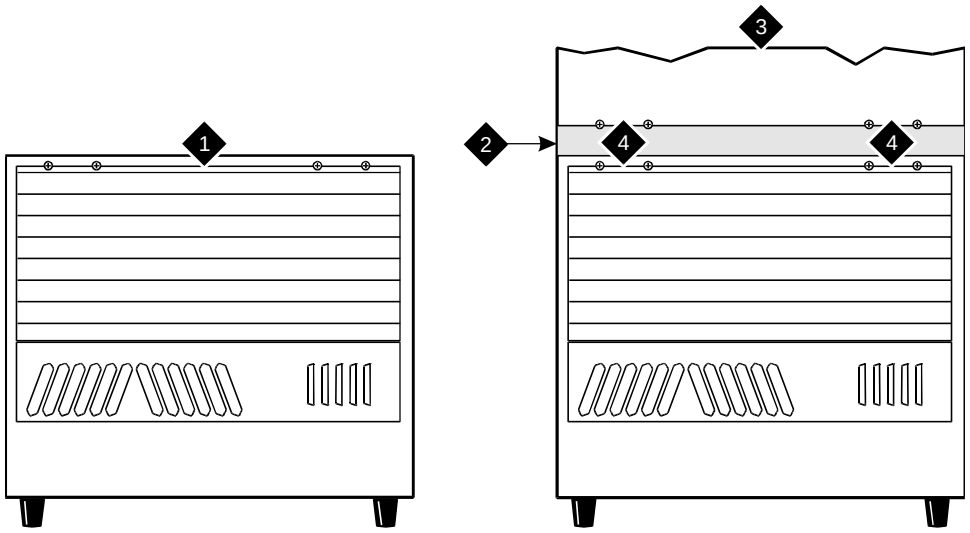


Figure notes

1. Cabinet in A Position (No Ground Plate is Installed on an Unstacked Cabinet)
2. Rear Ground Plate (Attached Between Stacked Cabinets)
3. Cabinet in B Position
4. Screws to Loosen

Return to Task List

Install Rear Ground Plates (Systems with Earthquake Protection)

Return to Task List

Ground plates are installed between stacked cabinets, provide the ground connection between cabinets, provide radio frequency (RF) radiation protection, and help stabilize the cabinets.

1. Loosen the four screws at the bottom of the top cabinet and at the top of the cabinet underneath the top cabinet. See Figure 125, Rear Panel Screw Locations, on page 391.

2. Align the mounting holes in the rear ground plate over the bottom screws in the top cabinet. See Figure 127, Rear Ground Plate and Front Plate or Cabinet Clip — Side View, on page 393.
3. Align the mounting holes in the ground plate with the four holes at the top of the cabinet below the top cabinet. Slide the mounting plate down to seat on the screws.
4. Check all Time Division Multiplexing (TDM) bus cables and the Inter Cabinet Cables (ICC) to be sure they are not pinched by the plates.
5. Repeat Steps 1-3 until the rear ground plates are installed between all stacked cabinets.
6. Do not tighten the screws yet.

Figure 126: Rear Panel Screw Locations

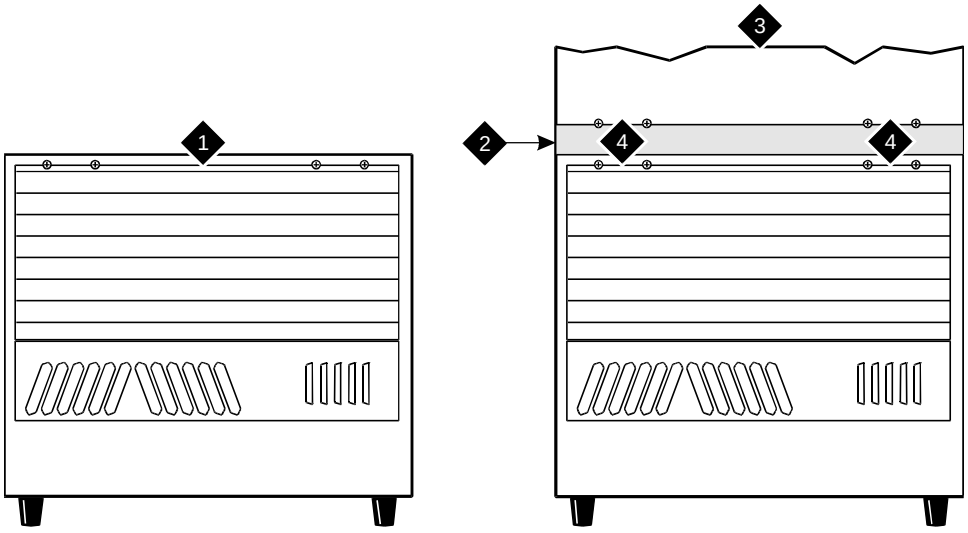


Figure notes

1. Cabinet in A Position (No Ground Plate is Installed on an Unstacked Cabinet)
2. Rear Ground Plate (Attached Between Stacked Cabinets)
3. Cabinet in B Position
4. Screws to Loosen

Figure 127: Rear Ground Plate and Front Plate or Cabinet Clip — Side View

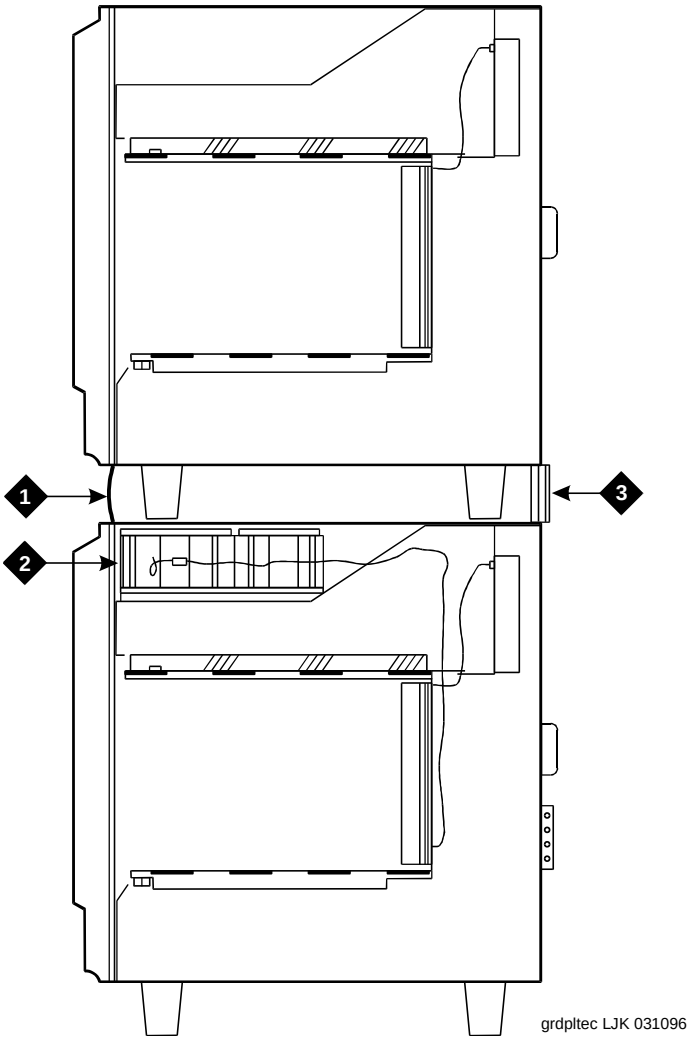


Figure notes

1	Front Ground Plate or Cabinet Clip	**2**	Battery
		3	Rear Ground Plate

Return to Task List

Install Front Ground Plates (Systems with Radiation Shielding and Earthquake Protection)

Return to Task List

Ground plates are installed between stacked cabinets, provide the ground connection between cabinets, provide radio frequency (RF) radiation protection, and help stabilize the cabinets.

Use the front ground plate instead of the cabinet clip to attach the cabinets to each other. Use one front ground plate between two *stacked* cabinets.

1. At the front of the cabinets, align the holes in the top of the front ground plate with the holes at the bottom of the upper cabinet, and insert the four screws. Do not tighten the screws yet. See Figure 127, Rear Ground Plate and Front Plate or Cabinet Clip — Side View, on page 393.
2. At the front of the cabinets, align the holes in the bottom of the front ground plate with the holes at the top of the lower cabinet. Insert the four supplied #12-24 x 1/2-inch (1.27 cm) thread-forming screws. Do not tighten the screws yet.
3. Repeat Steps 1 and 2 until all stacked cabinets are fastened together.
4. Tighten all screws securely.

Figure 128: Rear Ground Plate and Front Plate or Cabinet Clip — Side View

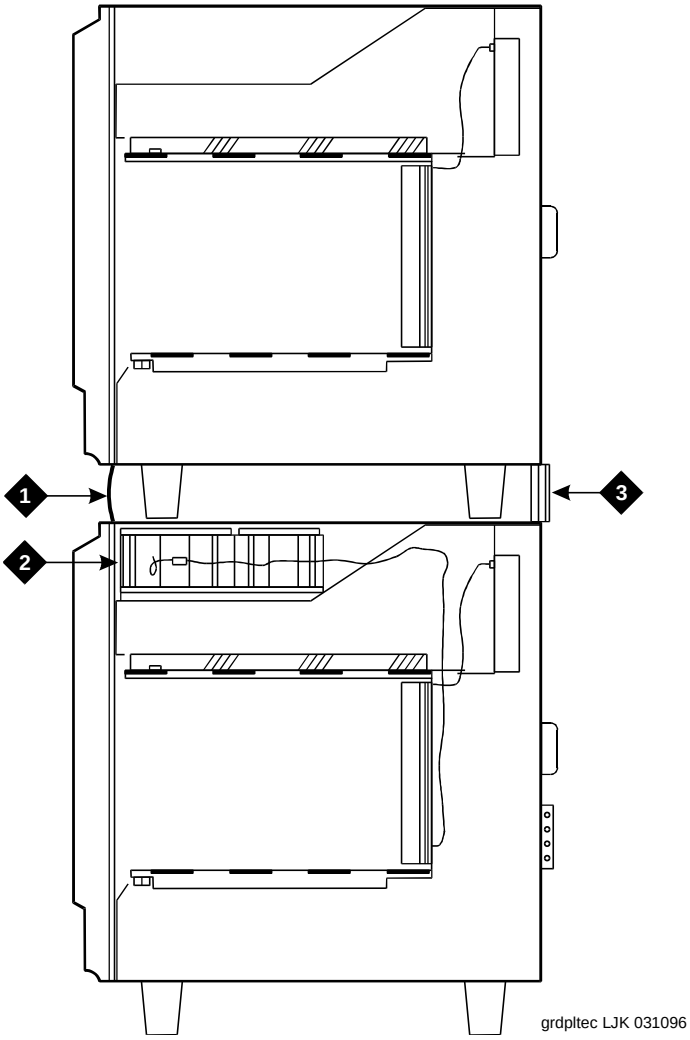


Figure notes

1 Front Ground Plate or Cabinet Clip
2 Battery
3 Rear Ground Plate

Return to Task List

Install Cabinet Clips (Systems without Earthquake Protection)

Return to Task List

A cabinet clip is required between each pair of stacked cabinets.

At the front of the cabinets, install a cabinet clip between each pair of cabinets by hooking the clip into the slot of the upper cabinet and snapping the straight leg of the clip into the slot on the lower cabinet. See Figure 129.

Figure 129: Location of Cabinet Clips

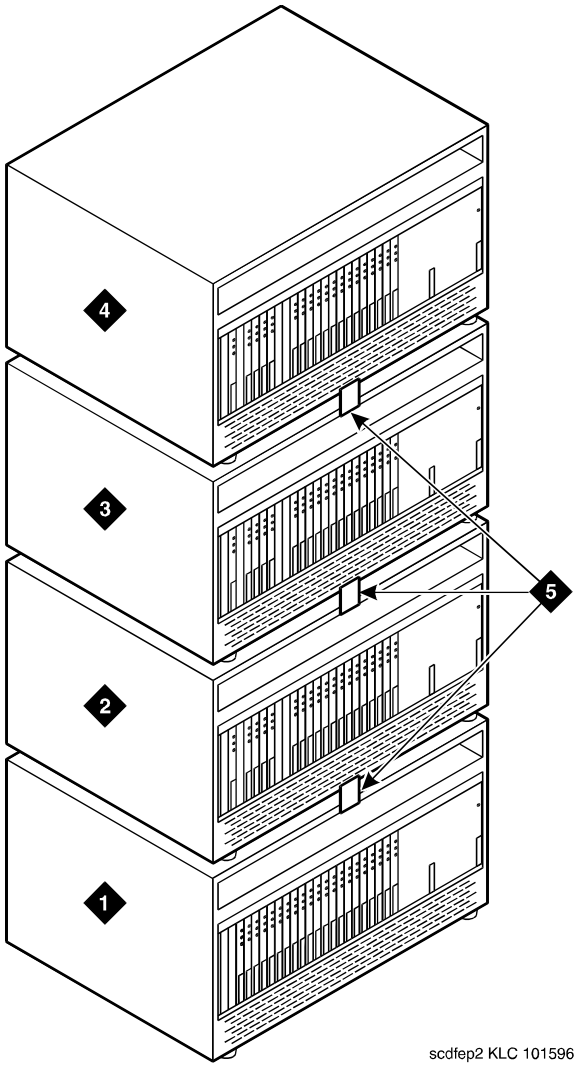


Figure notes

1	Control Cabinet	**3**	Port Cabinet
2	Port Cabinet or Duplicated Control Cabinet	**4**	Port Cabinet
		5	Cabinet Clips

Return to Task List

Connect System Cables

Return to Task List

1. Connect the cables for critical reliability Expansion Port Networks (EPNs) as shown in Figure 121, Connections for High or Critical Reliability Systems, on page 387 and in Inter-Cabinet Cable Connections on page 398.
2. Connect the cables for high or critical reliability Processor Port Networks (PPNs) as shown in Figure 122, Connections for High or Critical Reliability Systems, on page 388

   NOTE:
   The fiber optic cables are connected to the Main Distribution Frame (MDF) in Install Telecommunications Cabling on page 403. Refer to Connecting and Handling Fiber Optic Cables on page 763 for information about connecting to optical cross-connect hardware and routing through lightguide equipment.

3. Connect the fiber optic cable.

   The Customer Service Document (CSD) provides an “Inter-Cabinet Cable Running List.” Each row on the list represents a cable connection. Use the running list to determine where to connect each fiber optic cable.

   CAUTION:
   Do not route fiber optic cables and the B25A cables together.

   For standard reliability fiber connections: see Figure 132, Connections to Standard Reliability Systems, on page 399 for a sample cable routing.

   For high reliability fiber connections: see Figure 133, Connections to High Reliability Systems, on page 400 for a sample cable routing.

   For Critical Reliability Fiber Connections: see Figure 134, Connections to Critical Reliability Systems, on page 401 for a sample cable routing.

4. Route the fiber optic cable up toward the top of the cabinet. The excess cable should be looped and draped from the B25A cable clamp on the top ground plate in the stack. See Figure 131, Single-Carrier Cabinet Fiber Routing, on page 398.
5. Dress the cable by tie wrapping it to the outside of the B25A cable clamp.

Figure 130: Connections for High or Critical Reliability Systems

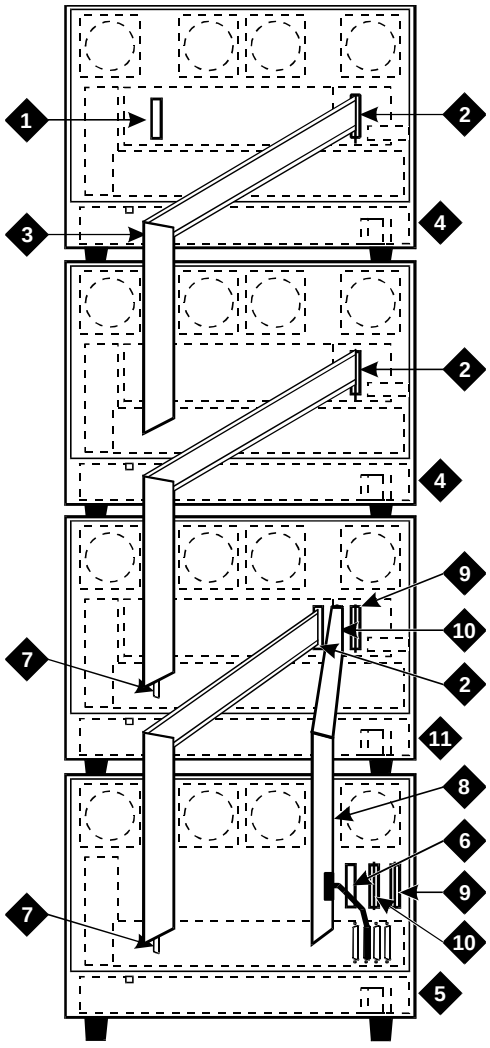


Figure notes

1	AHF110 TDM Bus Terminator (Slot 17)	**6**	AHF110 TDM Bus Terminator (Slot 01)
2	TDM/Local Area Network (TDM/LAN) Pinfield (Slot 00)	**7**	Slot 18
3	TDM bus Cable (WP-91716 L3)	**8**	Inter-Cabinet Cables (ICC) A, B and C (H600-248-G1)
4	Port Cabinet	**9**	Inter-Cabinet Cable (ICC) A
5	Control Cabinet A Position	**10**	Inter-Cabinet Cable (ICC) B
		11	Duplicated Control Cabinet B Position

Inter-Cabinet Cable Connections				
	From Cabinet A		**To Cabinet B**	
Cabinet	Carrier	Connection	Carrier	Connection
Processor Port Network (PPN)	J58890L	(ICC) B	J58890M	(ICC) B
		(ICC) C		(ICC) C
Expansion Port Network (EPN)	J58890N	(ICC) A	J58890H	(ICC) A
		(ICC) B		(ICC) B

Figure 131: Single-Carrier Cabinet Fiber Routing

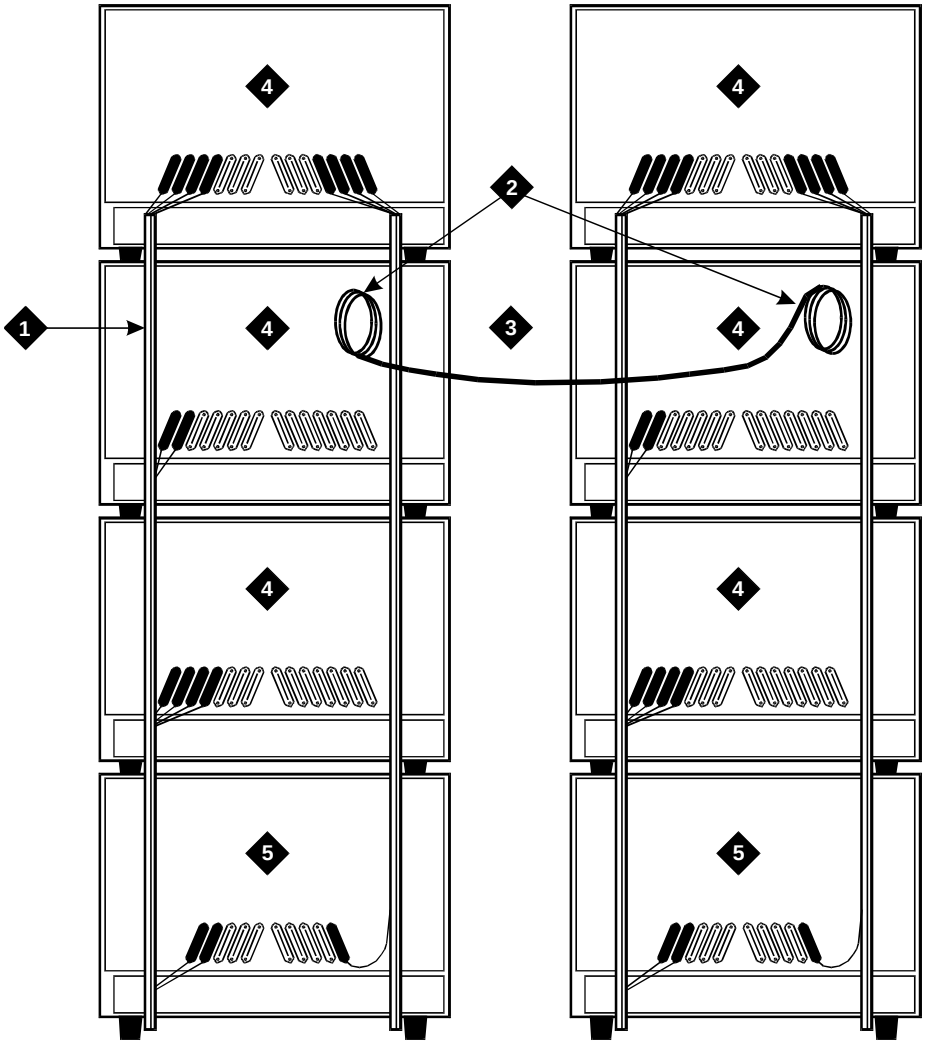


Figure notes

1 Supplied B25A Cables

2 Loop and Drape Excess Fiber Optic Cable

3 Fiber Optic Cable Sheath

4 Port Cabinet

5 Control Cabinet

Figure 132: Connections to Standard Reliability Systems

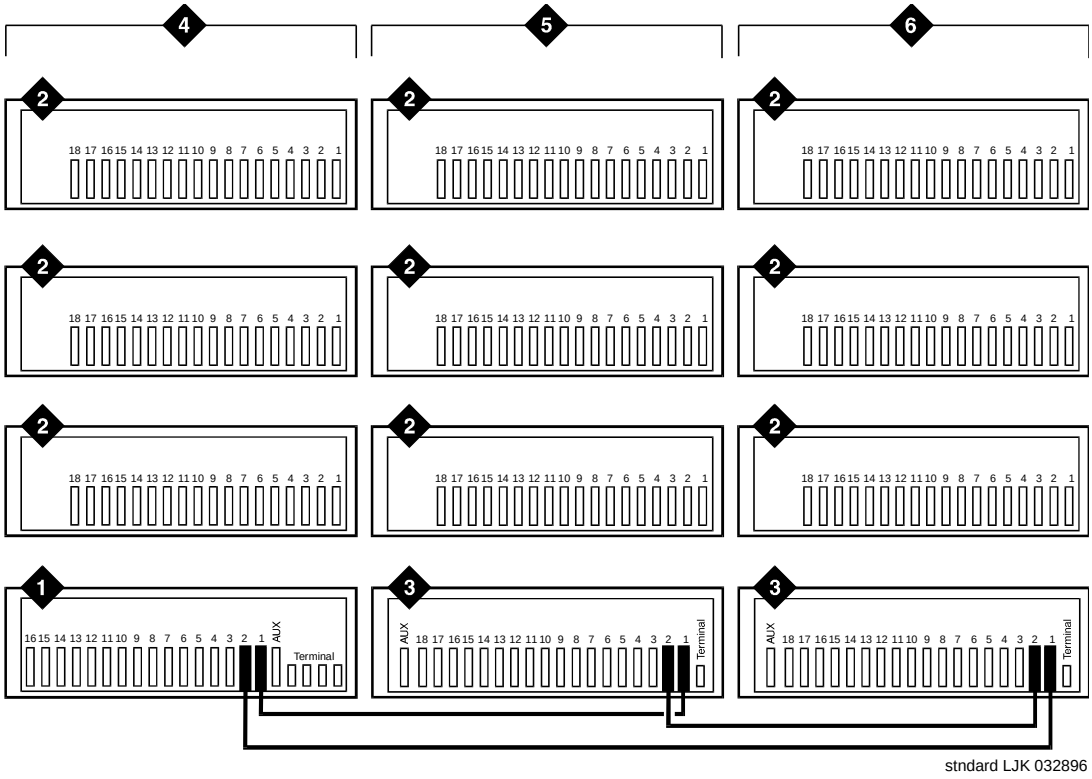


Figure notes

1	Control Cabinet	**4**	Cabinet Stack 1
2	Port Cabinet	**5**	Cabinet Stack 2
3	Expansion Control Cabinet	**6**	Cabinet Stack 3

Figure 133: Connections to High Reliability Systems

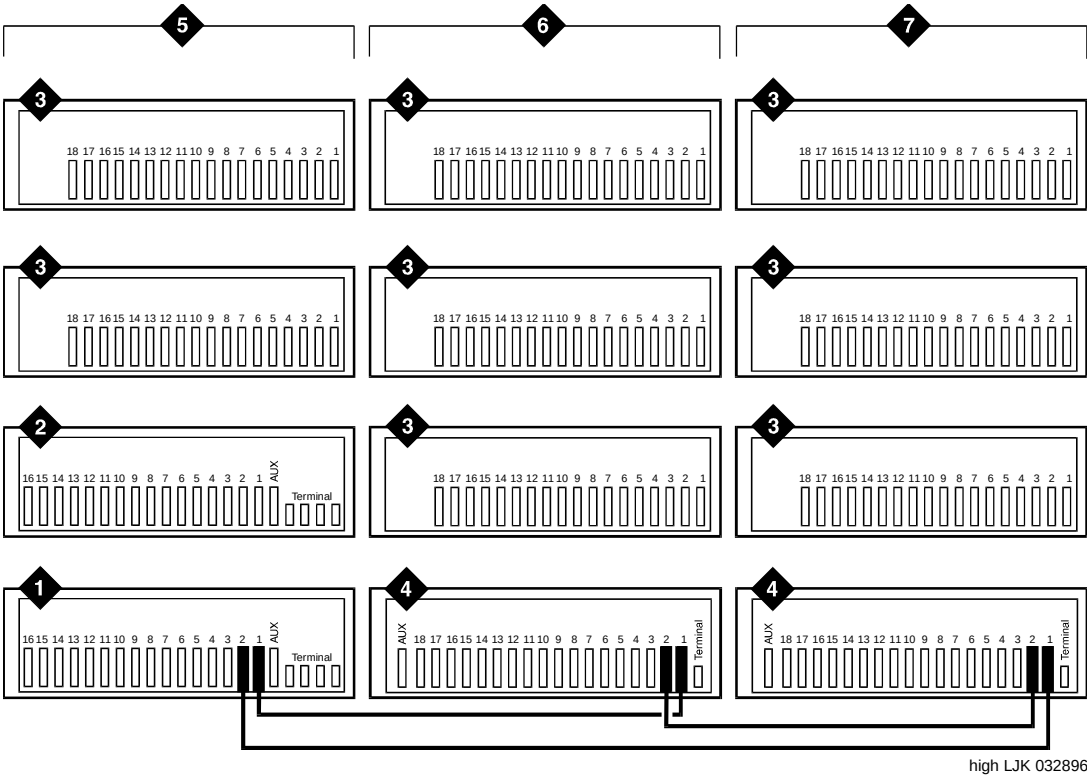


Figure notes

1	Control Cabinet	**4**	Expansion Control Cabinet
2	Duplicate Control Cabinet	**5**	Cabinet Stack 1
3	Port Cabinet	**6**	Cabinet Stack 2
		7	Cabinet Stack 3

Figure 134: Connections to Critical Reliability Systems

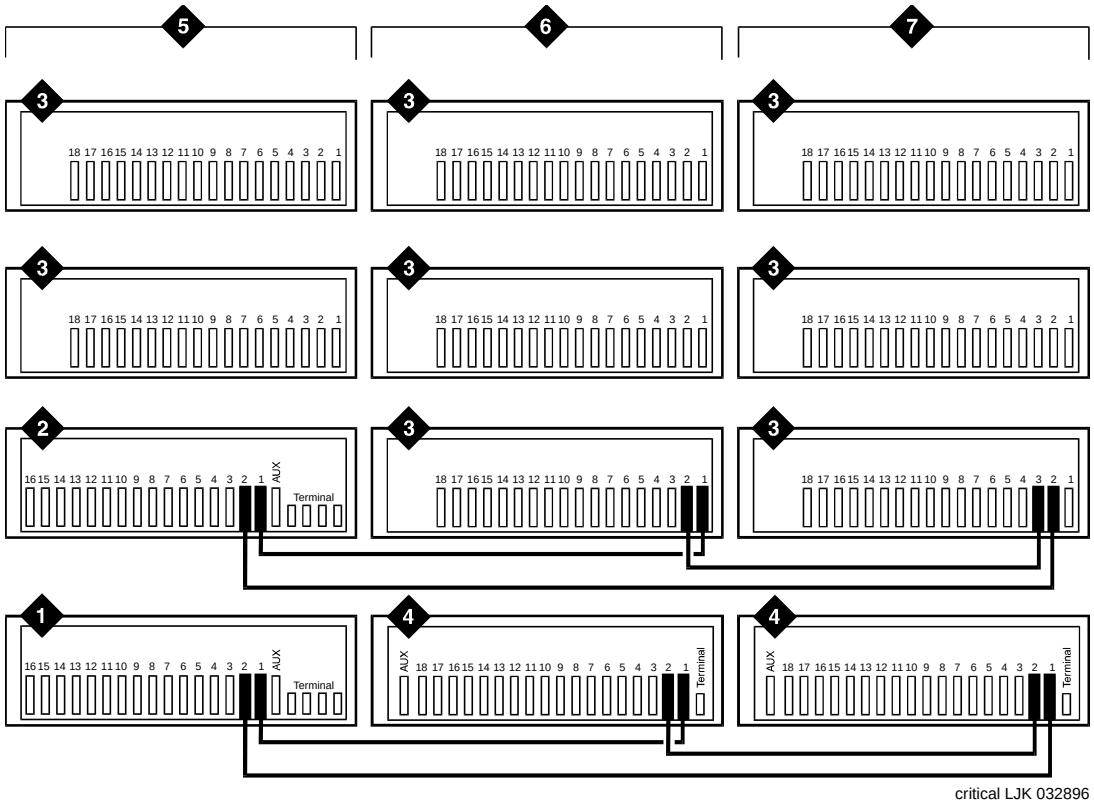


Figure notes

1	Control Cabinet	**4**	Expansion Control Cabinet
2	Duplicate Control Cabinet	**5**	Cabinet Stack 1
3	Port Cabinet	**6**	Cabinet Stack 2
		7	Cabinet Stack 3

Return to Task List

Install Telecommunications Cabling

This section provides both information about installing the telecommunications cabling and procedures for doing the installation.

Information about Installing the Cabling

- Provisioning Plan on page 404
- Main Distribution Frame (MDF) Hardware on page 404
- MDF Cross-Connect Fields on page 406
- Main Distribution Frame on page 408
- Main Distribution Frame Labels on page 409
- Off-Premises Circuit Protection on page 410
- Cable Installation on page 411
- Sneak Fuse Panels on page 411
- Coupled Bonding Conductor on page 415
- Installation Space Requirements on page 416 for the sneak fuse panels, the 110-type hardware, and the Cable Slack Manager
- Station Wiring Design on page 417
- Station Circuit Distribution from Equipment Room on page 421
- Layout on page 427
- Patch Cord/Jumper Installation and Administration on page 429

Task List: Installing the Telecommunications Cabling

1. Label Control Carrier Cable on page 431
2. Connect Control Carrier Outputs Cable on page 432
3. Connect Trunk Pairs Using Concentrator Cables on page 432
4. Connect Trunk Pairs to Cabinet Using Jumper Wires To Establish 3-Pair Modularity on page 433
5. Install Cables Between Cabinet and MDF on page 435
6. Install Connector Cables Between Auxiliary Cabinet and MDF on page 436
7. Mount 110A- or 110P-type terminal blocks on the wall on page 437 or Mount 110P-type terminal blocks on a frame on page 439
8. Install Cable Slack Managers on page 441
9. Install Sneak Fuse Panels on page 443
10. Install Coupled Bonding Conductor on page 445

Provisioning Plan

A provisioning plan should be completed prior to an installation. The plan determines an appropriate available port circuit on the Avaya Media Gateway for each telephone, trunk, and peripheral connection needed, and any auxiliary power for Basic Rate Interface (BRI) and certain display sets.

The Port Assignment Record must have this information:

- Station or trunk type or feature/service
- Building location (floor/room/desk/outlet)
- Extension number or trunk group and member number
- Port circuit location on the system for each endpoint (cabinet/carrier/slot/circuit)
- Route from equipment room through equipment closets to each endpoint
- Auxiliary power supply, if required

Main Distribution Frame (MDF) Hardware

SYSTIMAX 110-type hardware is used for the Main Distribution Frame (MDF). 110-type hardware is available in two basic types: the 110A and 110P. The 110A requires less wall space than the 110P. The 110P includes horizontal and vertical cable troughs for managing cross-connect cables. The system is connected to the MDF with the supplied B25A male to female 25-pair cables. The cables are provided in 10-foot (3 m) and 15-foot (4.5 m) lengths.

Figure 135, Example MDF Connections (SCC1-Single-Carrier Cabinet, on page 405 shows a detailed example of Single-Carrier Cabinet cables connecting system cabinets and satellite closets to the Main Distribution Frame (MDF). The figure shows the cross-connections for one example station circuit.

Figure 136, Example MDF Connections (MCC1-Multicarrier Cabinet), on page 406 shows the cross-connections for common circuit packs. Refer to this figure when cross-connecting wire pairs to the MDF.

Figure 135: Example MDF Connections (SCC1-Single-Carrier Cabinet

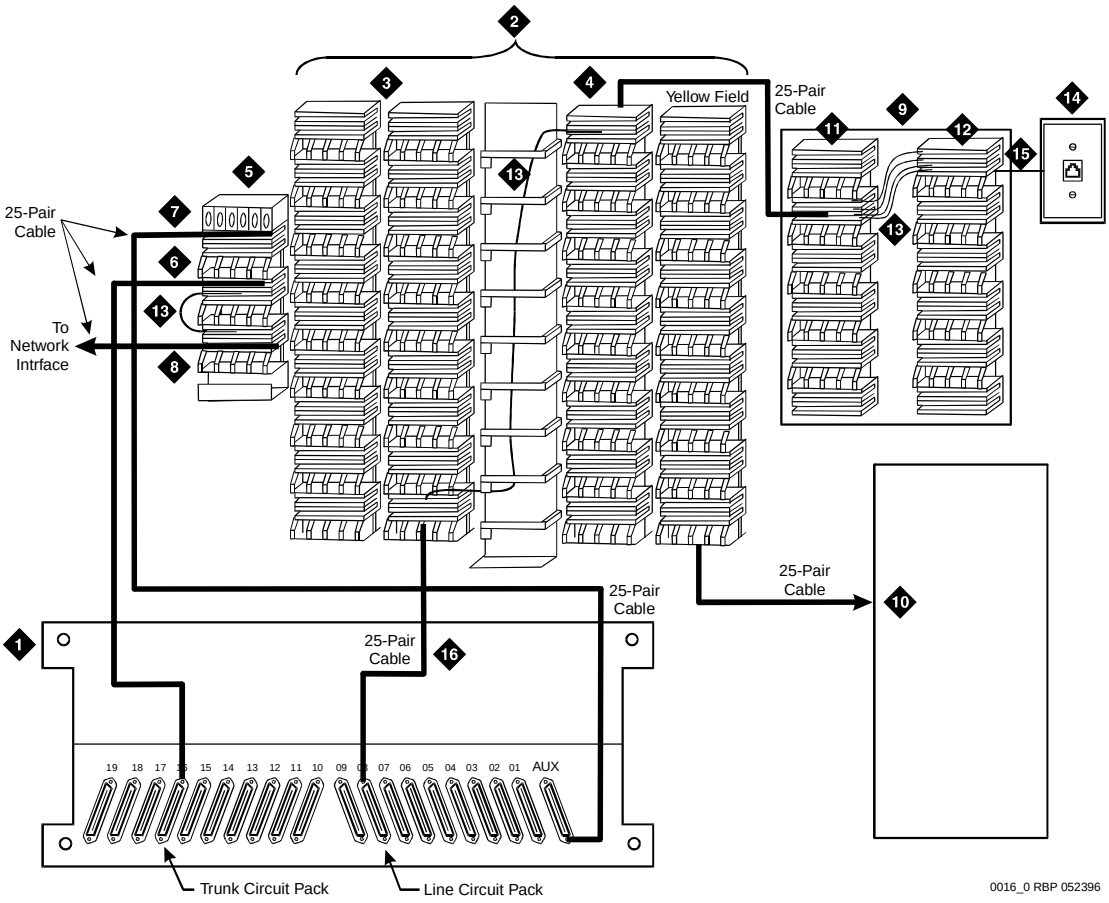
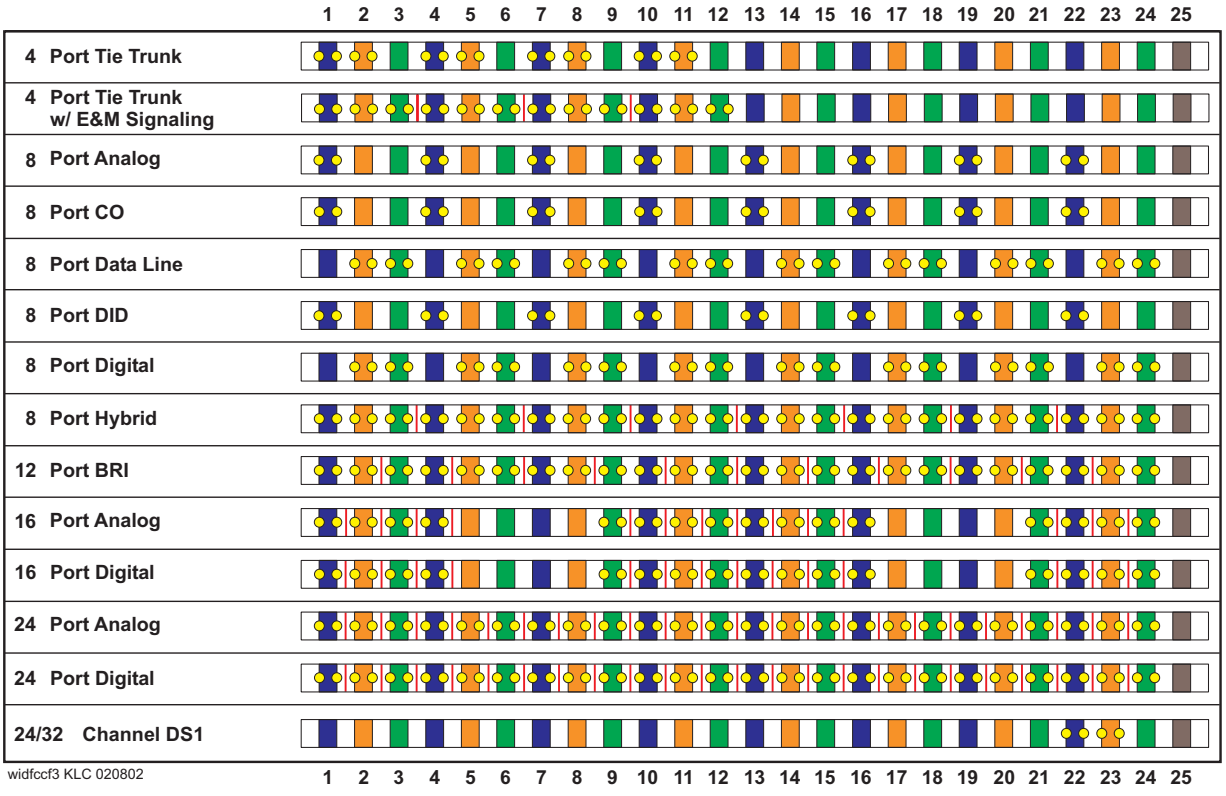


Figure notes

1	Rear of Port Cabinet	**9**	Satellite Closet
2	Main Distribution Frame (MDF)	**10**	Auxiliary Cabinet (Yellow Field)
3	Port Distribution Field (Purple Field)	**11**	White Field
4	Station Distribution Field (White Field)	**12**	Blue Field
5	Trunk/Auxiliary Field	**13**	Cross-Connect Jumpers
6	Purple Field	**14**	103A or Modular Wall Jack
7	Yellow Field	**15**	4-Pair Line Cord
8	Green Field	**16**	To Line Circuit Pack

Figure 136: Example MDF Connections (MCC1-Multicarrier Cabinet)



MDF Cross-Connect Fields

Each Main Distribution Frame (MDF) contains a trunk/auxiliary field and a distribution field. The trunk/auxiliary field contains three cross-connect areas:

- *The green field* terminates the network interface leads from the Central Office (CO) and provides the terminals to cross-connect the leads to the purple or yellow fields as required. A single row of the 110-type terminal block can terminate twenty-four 1-pair, eight 3-pair, or twelve 2-pair trunks.
- *The purple field* terminates the trunk circuits from the system with WP-90929, List 1 or 3 concentrator cables. Also, 25-pair cables can be used to terminate trunk circuits from the system with each trunk circuit pack connecting to one 25-pair row of the 110-type terminal block. Each terminal block row can terminate twenty-four 1-pair, eight 3-pair, or twelve 2-pair trunks.
- *The yellow field* provides cross-connect terminals for all miscellaneous leads from the system, such as alarm monitors, emergency transfer relay power, and attendant console power. This field is used for emergency transfer wiring, paging equipment, music sources, and so forth.

The distribution field contains four cross-connect areas:

- *The purple field* (port field) terminates 25-pair cables from the system. Each line circuit pack connects to one 25-pair row of the 110-type terminal block. One 25-pair cable is required for each line circuit pack.

  NOTE:
  The 16-port analog line circuit pack requires an adapter cable to connect from one connector on the system to two 25-pair connectors on a terminal block. Two MET circuit packs require a concentrator cable to connect from two connectors on the system to one 25-pair connector on a terminal block.

- *The yellow field* (auxiliary field) terminates all 25-pair cables from the auxiliary cabinet and the Processor Interface. The yellow field is located in the lower right-hand corner of the distribution field.
- *The white field* (station field) terminates the station wiring. The white field indicates 3-pair station circuits (eight circuits per 25-pair cable) routed through a satellite closet.
- *The blue field* (station field) also terminates station wiring. The blue field indicates 3- and/or 4-pair station circuits (eight or six circuits, respectively, per 25-pair cable). The fourth pair, of the 4-pair station circuit provides adjunct power from the cross-connect field on an as-needed basis to terminals within 250 feet (76 m) of the MDF.

Main Distribution Frame

The preferred location of the Main Distribution Frame (MDF) is directly behind the Single-Carrier Cabinet (SCC1) stack or the Multi-Carrier Cabinet MCC1). Figure 137, Typical 110A-Type Terminal Blocks (SCC1), on page 408 shows a typical SCC1 (Single-Carrier Cabinet) installation using 110A-type terminal blocks, and Figure 138, Typical 110P-Type Terminal Blocks (MCC1), on page 409 shows a typical Multi-Carrier Cabinet installation using 900-pair 110P-type terminal blocks.

Figure 137: Typical 110A-Type Terminal Blocks (SCC1)

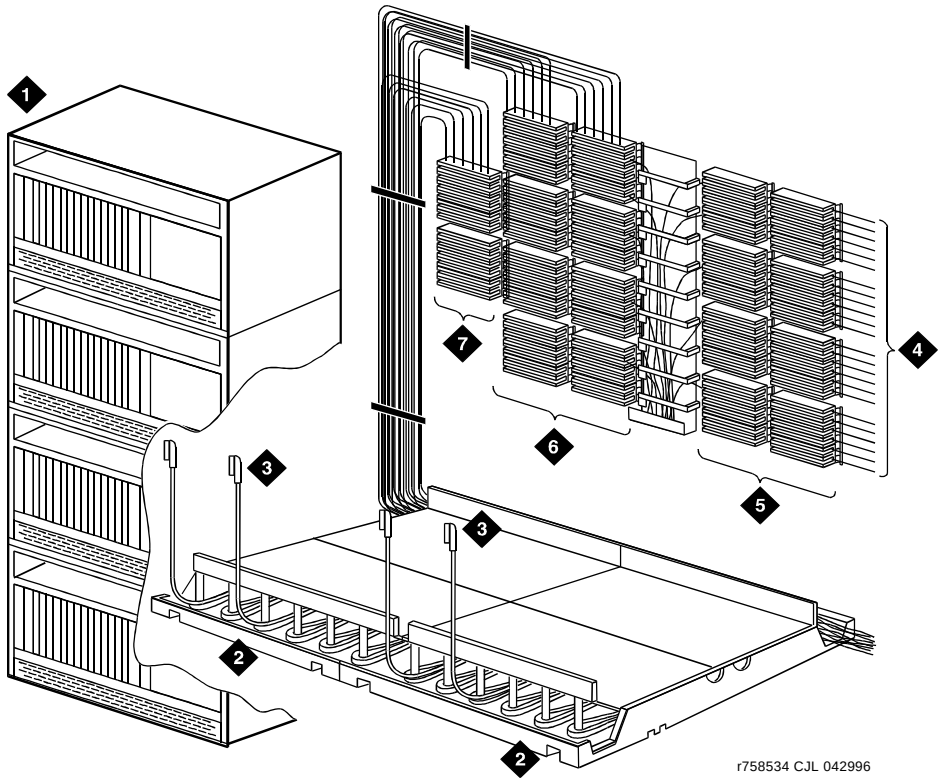


Figure notes

1	Single-Carrier Cabinets (Stacked) (SCC1)	**4**	Station Cables
2	Z113A Cable Slack Manager	**5**	Station Distribution Field
3	25-Pair Cable to System Cabinet	**6**	Port Distribution Field
		7	Trunk/Auxiliary Field

Figure 138: Typical 110P-Type Terminal Blocks (MCC1)

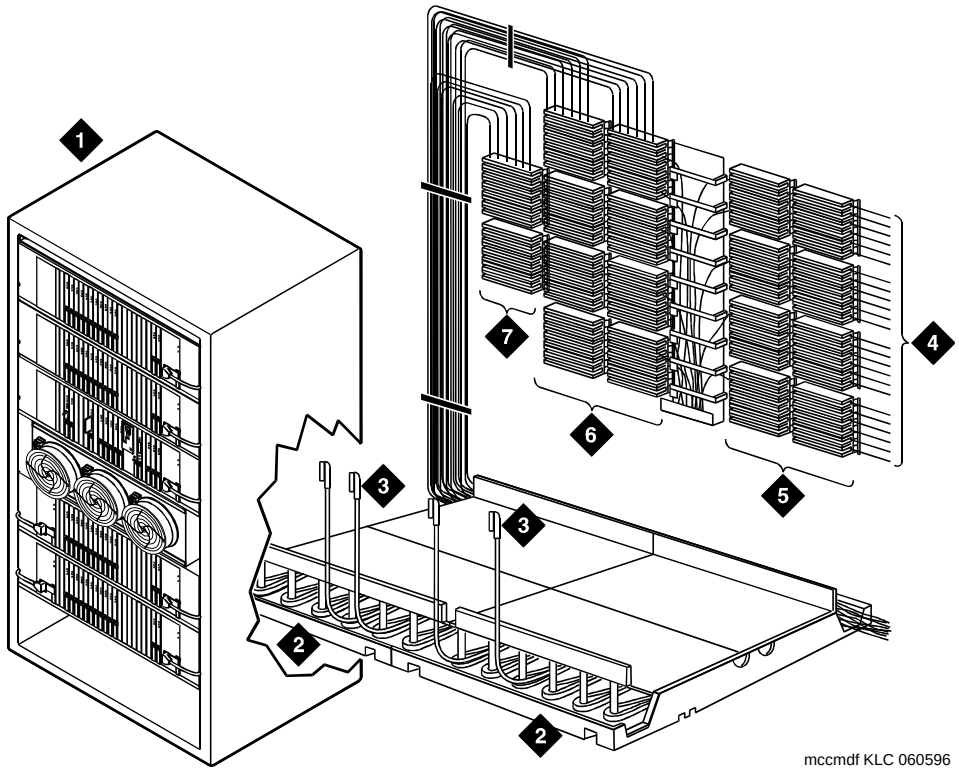


Figure notes

1	Multi-Carrier Cabinet (MCC1)	**4**	Station Cables
2	Z113A Cable Slack Manager	**5**	Station Distribution Field
3	25-Pair Cable to System Cabinet	**6**	Port Distribution Field
		7	Trunk/Auxiliary Field

Main Distribution Frame Labels

Figure 139, Label Graphic Symbols and Nomenclature, on page 410 shows the graphic symbols used on labels for the system, cross-connections, information outlets, and cables. The labels are color-coded to identify system wiring:

- Green — To Central Office (CO)
- Purple — To system ports
- Yellow — To auxiliary equipment and miscellaneous system leads
- Blue — To information outlets
- White — From Main Distribution Frame to satellite locations (3-pair)

Each label identifies 2 rows on the terminal block. The upper half identifies the row above it and the lower half identifies the row below it. The labels are inserted into the clear plastic designation strips furnished with the terminal blocks. The strip is snapped in place between the terminal block rows. Label code number 1220A contains all of the required labels.

Figure 139: Label Graphic Symbols and Nomenclature

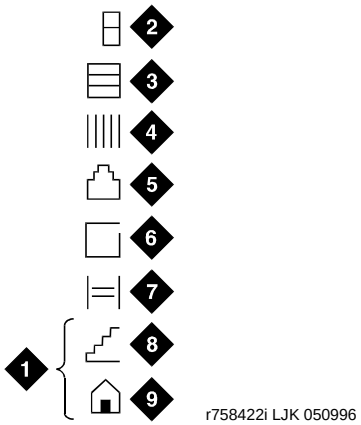


Figure notes

1 Write Floor or Building Identification on Label as Required

2 Cabinet

3 Carrier

4 Slot

5 Information Outlet

6 Site/Satellite Closet

7 Tie Circuit

8 Floor

9 Building

Off-Premises Circuit Protection

Protection from hazardous voltages and currents is required for all off-premises (out of building) trunks, lines, and terminal installations. Both over-voltage protection (lightning, power induction, and so forth), and sneak current protection are required. Sneak current protectors must be either UL listed/CSA certified, or must comply with local safety standards.

Sneak current protectors must have a maximum rating of 350 mA, and a minimum voltage rating of 600 V, or as required by local regulations. The following devices protect the system from over-voltages:

- Analog trunks use the 507B sneak protector or equivalent. Over-voltage protection is normally provided by the local telephone company.
- Analog voice terminals use one of the following types of combined over-voltage and sneak current protection, or equivalent:
  - — Carbon block with heat coil for UL code 4B1C
  - — Gas tube with heat coil for UL code 4B1E-W
  - — Solid state with heat coil for UL code 4C1S
- DCP and ISDN-BRI terminals use the solid state 4C3S-75 with heat coil protector, or equivalent
- DS1/E1/T1 circuits require isolation from exposed facilities. This isolation may be provided by a CSU (T1), LIU (E1), or other equipment that provides equivalent protection

Sneak Fuse Panels

Sneak current protection is required between the incoming RJ21X or RJ2GX network interface and the system for both trunk and off-premise circuit packs.

The Model 507B sneak current fuse panel, or equivalent, is recommended for sneak current protection. The panel contains two 25-pair connectors, fuse removal tool, and fifty 220029 sneak fuses (and two spares).

Connector cables (B25A male to female) connect the network interface to the sneak fuse panel. Also, 157B connecting blocks equipped with SCP-110 protectors can be used for sneak current protection.

NOTE:
Sneak current protectors with a rating of 350 mA at 600 volts must be Underwriter's Laboratory (UL) listed for domestic (USA) installation and Canadian Standards Association (CSA) certified for Canadian installation.

- The 507B includes 52 sneak fuses and two cables.
- The SCP-110 protectors are used with 110-type hardware and on the 507B Sneak Fuse Panel. The SCP-110 Protectors can be ordered separately and installed on the 157B connecting block. Fifty protectors are required per block.

Cable Installation

NOTE:
To route the cables from the rear of the SCC1 stack or MCC1 to the MDF, use the Install Cable Slack Managers on page 441 procedure. Also see Cable Slack Manager on page 416.

This section has information about

- Equipment Room Cabling Labels on page 412
- Cable Routing Guidelines on page 412
- Control Carrier Outputs Cable Installation on page 413
- Connect Control Carrier Outputs Cable on page 432
- Trunk Cables Among Network Interface, Sneak Fuse Panel, and Cabinet on page 413

And procedures for:

- Label Control Carrier Cable on page 431
- Connect Control Carrier Outputs Cable on page 432
- Connect Trunk Pairs Using Concentrator Cables on page 432
- Connect Trunk Pairs to Cabinet Using Jumper Wires To Establish 3-Pair Modularity on page 433
- Install Cables Between Cabinet and MDF on page 435
- Install Connector Cables Between Auxiliary Cabinet and MDF on page 436

Equipment Room Cabling Labels

The purple port label shown in Figure 140, Equipment Room Cabling Labels, on page 413 is installed on both ends of the 25-pair cables connecting to the trunk/auxiliary field and/or distribution field.

The top blue/yellow building and floor labels are for cables connecting from the equipment room to a site/satellite location on another floor or in another building. The yellow label is for auxiliary circuits connecting to the trunk/auxiliary field. The bottom blue/yellow label is for 25-pair cables connecting to site/satellite closets.

Equipment Room Labels on page 414 details the label name and range of each label.

Figure 141, Self-Stick Label on 25-Pair Cable Connector, on page 414 shows the proper way to install a label on a 25-pair cable connector. Install the label near the rear of the connector so it is not obscured by the cabinet connector retainers. It can also be installed on the skin of the cable near the connector.

Cable Routing Guidelines

Figure 142, Cable Routing to Top Terminal Blocks, on page 414 and Figure 143, Cable Routing to Bottom Terminal Blocks, on page 415 show typical cable routing from the cabinet to the top and bottom of the MDF, respectively.

Use these guidelines when routing cables from the cabinet to the MDF. Following these guidelines will maximize use of the cable slack managers and make future cabling additions and changes easier.

- Connect each port cable at the cabinet, and then route it along the front trough of the cable slack manager to the connecting/terminal block, where the cable is terminated.
- Leave enough slack at the cabinet end of the cable to allow for proper dressing of the cables.
- Route the cable from the cabinet to the wall. Place the cable beside 1 of the rows of columns in the cable slack manager.

  NOTE:
  Retainers mounted on the columns keep the cable from protruding above the top of the base of the cable slack manager.

- Determine the length of the cable required to reach from the cable slack manager to the assigned connecting/terminal block.
- Use D rings on the wall to support the cable. (The cable must be supported.)
- Coil the cable around the columns in the cable slack manager to store cable slack. The first run should always go across the full length of the 5 columns in the cable slack manager.
- Connect the cable to the assigned connecting/terminal block.
- Avoid placing copper cables where they may bend or strain fiber optic cables.

Control Carrier Outputs Cable Installation

A connector on the rear of the Control Carrier is labeled **AUX**. A 25-pair cable connects the **AUX** connector to a 110-type terminal block in the yellow field of the trunk/auxiliary field. The **AUX** connector outputs include the following:

- Alarm monitoring for the processor interface
- 7 DC power (-48 VDC) sources for emergency transfer units
- 3 DC power (-48 VDC) sources for remotely powering a total of 3 attendant consoles or executive voice terminal adjuncts
- The remote maintenance internal modem connection location
- Access to a relay contact is available to actuate a light, bell, or similar type customer-supplied device. The relay can be administered to make contact when a major, minor, or warning alarm condition occurs in the system

Trunk Cables Among Network Interface, Sneak Fuse Panel, and Cabinet

The 1-pair of Central Office (CO) trunks are installed by the network provider in the green field. Up to 24 pairs may be terminated on each row of the 110-type terminal block. Tie trunks also appear in the green field with up to eight 3-pair trunks terminated on each row of the 110-type terminal block.

WP-90929, List 1 and 3 concentrator cables can be used to connect the cabinet to the 110-type terminal blocks in the purple field. The 1-pair patch cords/jumper wires are then run from the purple terminal block rows to the green terminal block rows in order to establish the correct 3-pair modularity.

Figure 140: Equipment Room Cabling Labels

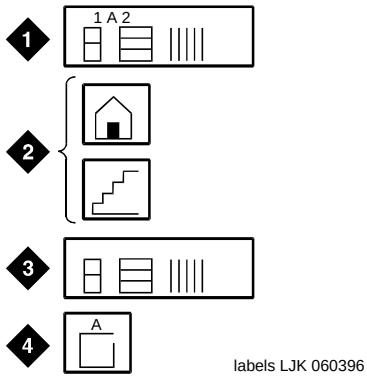


Figure notes

1	Purple Label (Port Cable)	**3**	Yellow Label (Auxiliary)
2	Blue/Yellow Label (Building and Floor)	**4**	Blue/Yellow Label (Site or Satellite)

Equipment Room Labels	
Label Name	**Range**
Port Cable	1A1-1A20, 1B1-1B20, 1C1-1C20, 1D1-1D20, 1E1-1E20
Building	Field Identified
Floor	Field Identified
Auxiliary Cable	Field Identified
Site or Satellite	A-F and/or Field Identified

Figure 141: Self-Stick Label on 25-Pair Cable Connector

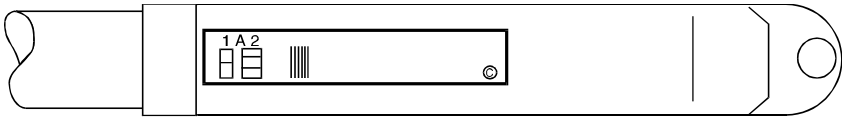


Figure 142: Cable Routing to Top Terminal Blocks

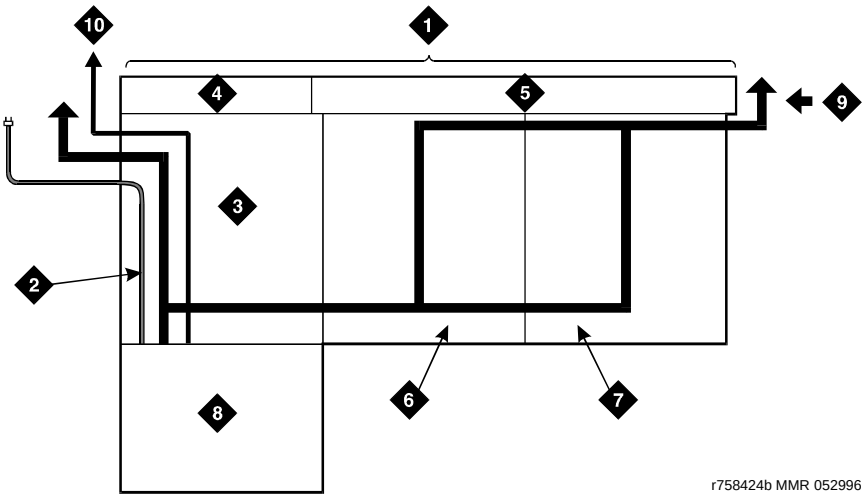


Figure notes

1 Main Distribution Frame

2 AC Power Cord (AC-Powered Cabinets Only)

3 Cable Slack Manager Number 1

4 Trunk/Auxiliary Field

5 Station Distribution Field

6 Cable Slack Manager Number 2

7 Cable Slack Manager Number 3

8 System Cabinet(s)

9 To Building Cables

10 10 AWG (#25) (6 mm^2) Wire to Coupled Bonding Conductor

Figure 143: Cable Routing to Bottom Terminal Blocks

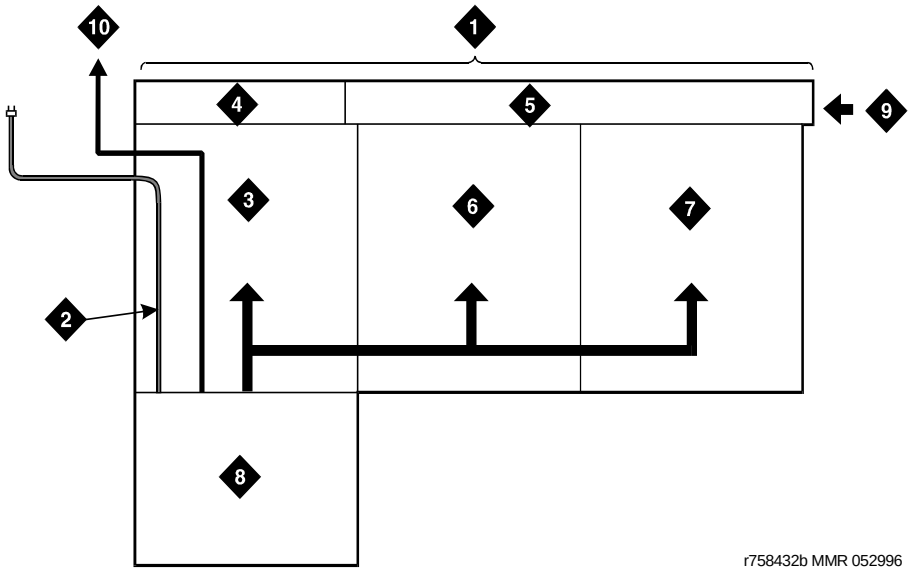


Figure notes

1	Main Distribution Frame	**6**	Cable Slack Manager Number 2
2	AC Power Cord (AC-Powered Cabinets Only)	**7**	Cable Slack Manager Number 3
3	Cable Slack Manager Number 1	**8**	System Cabinet(s)
4	Trunk/Auxiliary Field	**9**	Building Cables (Through Cable Trough)
5	Station Distribution Field	**10**	10 AWG (#25) (6 mm^2) Wire to Coupled Bonding Conductor

Coupled Bonding Conductor

The Coupled Bonding Conductor (CBC) connects to the single-point ground block and runs adjacent to pairs in an associated telecommunications cable. The mutual coupling between the bonding conductor and the pairs reduces potential differences in terminating equipment.

The conductor consists of a 10 AWG (#25) (2.5 mm^2) wire tie-wrapped to the inside wiring cable and terminated at the CBC terminal bar at the Main Distribution Frame (MDF). A minimum of 12 inches (30.48 cm) spacing must be maintained between the CBC and other power and ground leads.

The 10 AWG (#25) (2.5 mm^2) wire must be long enough to reach the telecommunications cables at the rear of the system cabinets, follow these cables to the MDF, and to terminate at the CBC.

Installation Space Requirements

This section has information about

Sneak Fuse Panels and Emergency Transfer Units on page 416

110-Type Hardware on page 416

Cable Slack Manager on page 416

Sneak Fuse Panels and Emergency Transfer Units

Approximately eight inches (20 cm) of horizontal wall space is required for each column of sneak fuse panels. Horizontal wall space must also be provided for emergency transfer units.

110-Type Hardware

The trunk/auxiliary field and the distribution field are mounted on the same wall. Each 110P-type terminal block is 8.5 inches (21.6 cm) wide. Vertical patch cord troughs are 5.31 inches (13.4 cm) wide and horizontal patch cord troughs are 23 inches (58.4 cm) wide.

Each 110A-type terminal block is 10.81 inches (27.4 cm) wide; however, no horizontal patch cord troughs are used and the blocks are shorter than 110P-type terminal blocks. This allows the 110A-type terminal blocks to be stacked. Therefore, the 110A-type hardware requires less space than the 110P-type hardware on a per-station basis.

Cable Slack Manager

A Cable Slack Manager is 32 inches (81.3 cm) wide. Slack managers are commonly used in installations consisting of cabinet stacks. The quantity of slack managers is determined by dividing the total length of the Main Distribution Frame (MDF) in inches (cm) by 32 (81.3). A partial number of 0.4 or less should be rounded down, and a partial number of 0.5 or more should be rounded up (for example: 2.4 = 2 Cable Slack Managers and 2.5 = 3 Cable Slack Managers).

NOTE:
Cable clamps are required in installations with Cable Slack Managers. At the rear of the cabinets, on each rear ground plate, install two cable clamps using the screws provided. These clamps hold the 25-pair input/output or Main Distribution Frame (MDF) cables in place.

Station Wiring Design

The following hardware and cabling is used:

- Information Outlets on page 417 (modular wall jacks)
- Station Cables on page 417
- Closets on page 418
  - — Site locations
  - — Satellite locations

A brief description of each of the above listed items follows. Ordering information is not provided for station cables and information outlets.

Information Outlets

Information outlets are 8-pin modular wall jacks. Most of the outlets are wired with push-on connections. Information outlets are also available that connect to a double modular plug-ended 4-pair station cable routed from the MDF, a site/satellite location, or an adapter.

Station Cables

For clarity, a station cable is either a 25-pair cable, multiple 25-pair cable, or 4-pair D-inside wire (DIW) run from the equipment room, site/satellite location, or adapter to the information outlets. The following station cables are available. See Figure 144, Example of Extending 4-Pair Station Cables, on page 419.

25-pair station cable — Use between the equipment room and site/ satellite locations or adapters. Use an A25D cable (male to male) between the equipment room and satellite closet. Use a B25A cable between the equipment room and site closet or adapter.

Multiple 25-pair station cable — Use between the equipment room and site/satellite locations or adapters. This cable consists of individually sheathed 25-pair cables with a factory-installed 25-pair connector on each end. Use a male to female cable to connect between the equipment room and site location or adapter. Use a male to male cable to connect between the equipment room and satellite location. Staggered-finger cables are recommended for all multiple 25-pair station cables and are available in both double-ended and single-ended types.

Single modular plug-ended 4-pair station cable — Use this cable between adapters and information outlets that require push-on connections. It can also be used when 4-pair station cables are field-terminated on the 110-type terminal blocks in the equipment room or satellite closet and modularly connected to information outlets. The station cables are available in the following lengths:

- 10 ft (3.05 m)
- 25 ft (7.62 m)
- 50 ft (15.24 m)
- 75 ft (22.86 m)
- 100 ft (30.5 m)

- 150 ft (45.72 m)
- 200 ft (61 m)

NOTE:
If more than 200 ft (61 m) of 4-pair station cable is required, a 451A in-line adapter (double-ended modular female connector) is attached to the cable and a second 4-pair cable of the required length is plugged into the adapter. See Figure 144, Example of Extending 4-Pair Station Cables, on page 419.

Double modular plug-ended 4-pair station cable — Use this cable to provide nonstandard length runs between adapters and information outlets with push-on connections. It can also be used between adapters and modularly connected information outlets. It is available in the same lengths as the single modular plug-ended cable.

Bulk Cable — Same as the 25-pair cable or multiple 25-pair cable; however, the bulk cable is not equipped with connectors. Use this cable between the equipment room and satellite closets when both are equipped with punch-down type terminal/connecting blocks.

4-pair station cable — Use this cable when 4-pair station cables are to be field-terminated on the 110-type terminal blocks in the equipment room or satellite closet and the information outlets require push-on connections

Closets

Site Locations

Site locations are closets that provide a point in the station wiring for the administration of remote powering. Adapters are used at site locations to terminate the 25-pair station cables and provide connection points (modular jacks) for power adapters and 4-pair station cables.

The258A and BR2580A adapters plug into a 25-pair female cable connector. These adapters divide the 25-pair cable into six 4-pair (modular jack) circuits. See Figure 145, 258A and BR2580A Adapters, on page 420.

The 356A adapter plugs into a 25-pair female cable connector. See Figure 146, 356A Adapter, on page 420. The 356A adapter divides the 25-pair cable into eight 3-pair circuits. Although the circuits are 3-pair, the adapters modular jacks will accept the 8-wide modular plug used on the 4-pair station cable.

CAUTION:
Adapters wired similarly to the 356A should not be used. Their jacks do not accept 4-pair plugs.

Use theZD8AJ adapter to connect a Multi-button Electronic Telephone (MET) line cord to an information outlet. The adapter interchanges pairs 3 and 4 to correspond with the pair assignments for the telephone. The line cord plugs into the adapter, and then the adapter plugs into an information outlet.

Satellite Locations

Satellite locations are closets that provide an administration point (using cross-connect equipment) for station cables and where adjunct power may be applied. The station cable circuits from the equipment room MDF are 3-pair. At the satellite location, 4-pair circuits run to the information outlets. The hardware used is 110-type terminal blocks.

Satellite Locations Using 110-Type Hardware

Each terminal block has a 3-pair (white field) and a 4-pair (blue field) located on the same terminal block.

The 110A-type terminal block that can be used is the 110AE1-75FT. It must be field-terminated to both the white and blue fields.

The 300-pair 110P-type terminal blocks that can be used are:

- 110PE1-300CT/FT — 25-pair connector on the white field and field-terminated on the blue field
- 110PE1-300FT — Field-terminated on both the white and blue fields

The 900-pair 110P-type terminal blocks that can be used are:

- 110PE1-900CT/FT — 25-pair connector on the white field and field-terminated on the blue field
- 110PE1-900FT — Field-terminated on both the white and blue fields

Figure 144: Example of Extending 4-Pair Station Cables

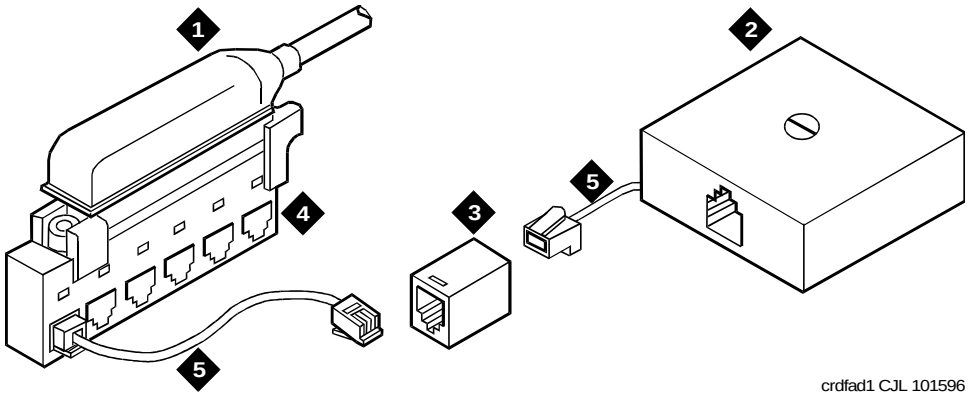


Figure notes

1	Station Cable	**3**	451A In-Line Adapter
2	Information Outlet	**4**	258A Adapter
		5	4-Pair Station Cable

Figure 145: 258A and BR2580A Adapters

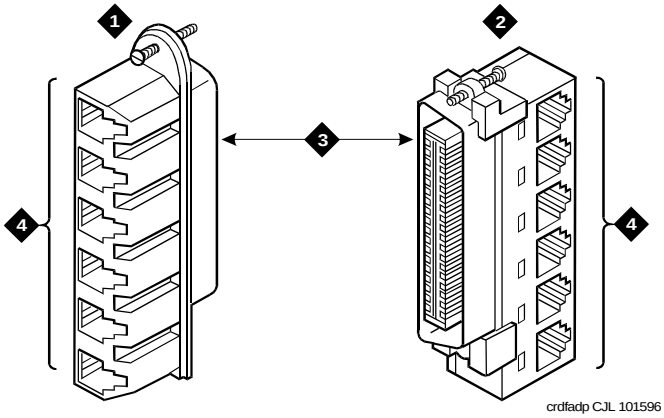


Figure notes

1	BR2580A Adapter	**3**	25-Pair Male Ribbon Connector
2	258A Adapter	**4**	4-Pair Modular Jacks (8 Pins)

Figure 146: 356A Adapter

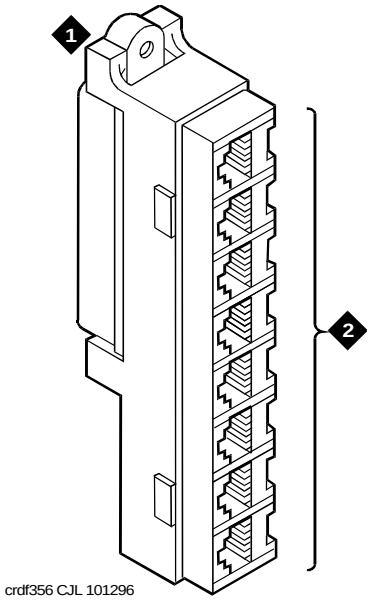


Figure notes

1 356A Adapter

2 4-Pair Modular Jacks (6 pins each, connected to 25-pair ribbon connector)

Station Circuit Distribution from Equipment Room

This section explains the station circuit distribution from the equipment room to the information outlets for new wiring installations. Example connection diagrams are provided to show the options for running and connecting the station cables.

If most of the telephones/voice terminals that require remote powering are within 250 ft (76.2 m) of the equipment room, 4-pair station circuits are run from the equipment room to the information outlets. If this is not the case, or if the customer requires 2-point administration, 3-pair station circuits are run from the equipment room to satellite locations. Then, the 4-pair station circuits are run from the satellite locations to the information outlets.

This section has information about

- 4-Pair Station Circuits on page 421
- 3-Pair to 4-Pair Station Circuit Distribution on page 421

Lists of terminals that can be connected to the system are provided in

- Voice and Data Terminals on page 425
- Connectable Administration Terminals on page 427

4-Pair Station Circuits

Four-pair circuits can be run directly from an equipment room MDF to a 258A or BR2580A adapter as shown in Figure 147, 4-Pair Circuit Distribution and Connectivity, on page 422. The 4-pair station cables connect the adapter to the information outlets.

The 4-pair station cables can be run directly from the equipment room to the information outlets if 4-pair terminal blocks are used in the distribution field. See Figure 148, 4-Pair Run to Equipment Room or Satellite Location, on page 422. The station cables must be field-terminated on the 110-type terminal blocks.

If 110-type terminal blocks are used with a modular plug-ended station cable, an adapter can be connected directly to the 110-type terminal block connectors. See Figure 149, 4-Pair Run to Equipment Room or Satellite Location, on page 423.

3-Pair to 4-Pair Station Circuit Distribution

Figure 150, 3-Pair to 4-Pair Satellite Location Connectivity, on page 424 shows the 3-pair circuit distribution from an equipment room MDF to a satellite location using 110-type hardware. Four-pair circuits are distributed from the satellite location to the information outlets.

Three-pair circuits can also be run directly from the equipment room MDF to a 356A adapter as shown in Figure 151, 3-Pair to 4-Pair Circuit Distribution and Connectivity, on page 425. Four-pair station cables connect the adapter to the information outlets. Four-pair station cables can be run directly from a satellite location to the information outlets as previously described.

NOTE:
Bridged taps are not allowed on any part of the station wiring.

Figure 147: 4-Pair Circuit Distribution and Connectivity

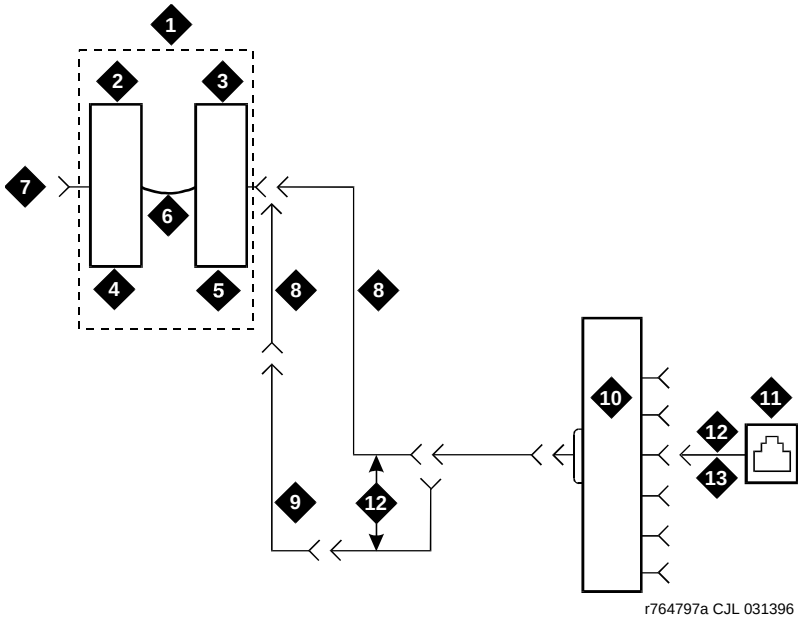


Figure notes

1 Part of Main Distribution Frame (MDF)

2 3-Pair Connecting Blocks

3 4-Pair Connecting Blocks

4 Purple Field

5 Blue Field

6 Patch Cord or Cross-Connect Jumpers

7 To System Cabinet (Three-Pair Modularity)

8 B25A Cable

9 Connectorized (Staggered Finger) Multiple 25-Pair Cable

10 258A or BR2580A Adapter

11 Information Outlet

12 4-Pair Circuit

13 DIW Station Cable (D-Inside Wire)

Figure 148: 4-Pair Run to Equipment Room or Satellite Location

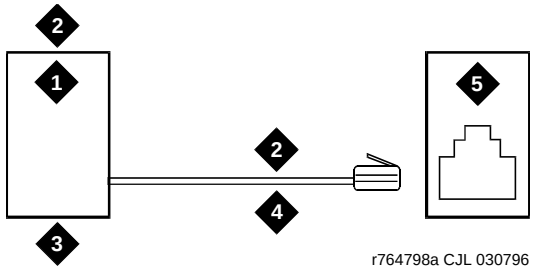


Figure notes

1 Station Side of MDF or Satellite Location

2 4-Pair Circuit

3 Blue Field

4 DIW Station Cable (D-Inside Wire)

5 Information Outlet

Figure 149: 4-Pair Run to Equipment Room or Satellite Location

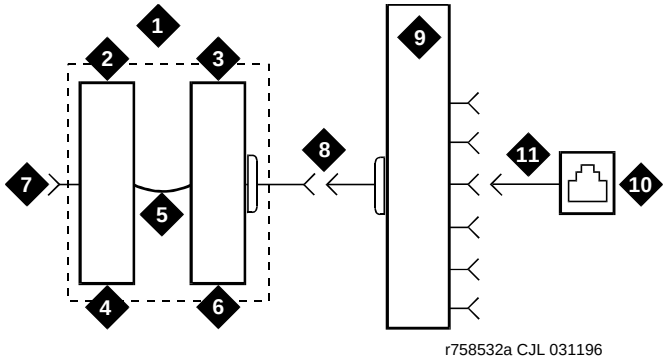


Figure notes

1	Part of MDF	**7**	To System Cabinet (3 pair modularity)
2	3-Pair Connecting Blocks	**8**	A25D Cable
3	4-Pair Connecting Blocks	**9**	258A or BR2580A Adapter
4	Purple Field	**10**	Information Outlet
5	Patch Cord or Cross-Connect Jumpers	**11**	4-Pair Circuit (DIW station cable (D-Inside Wire))
6	Blue Field		

Figure 150: 3-Pair to 4-Pair Satellite Location Connectivity

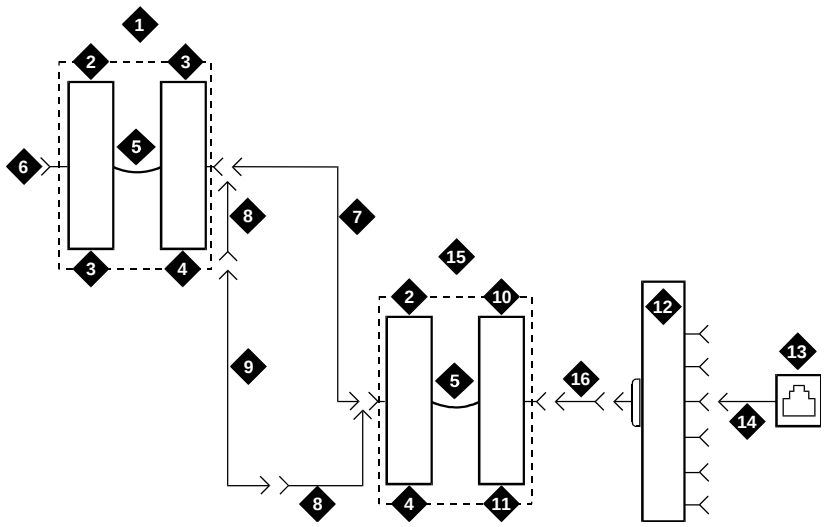


Figure notes

1	Part of MDF	**9**	Connectorized (staggered finger) Multiple 25-Pair Cable
2	3-Pair Connecting Blocks	**10**	4-Pair Connecting Blocks
3	Purple Field	**11**	Blue Field
4	White Field	**12**	258A or BR2580A Adapter
5	Patch Cord or Cross-Connect Jumpers	**13**	Information Outlet
6	To System Cabinet (3 Pair Modularity)	**14**	4-Pair Circuit [DIW Station Cable (D-Inside Wire)]
7	A25D Cable (3-Pair Circuits)	**15**	Part of Satellite Location
8	B25A Cable	**16**	4-Pair Circuits (B25A Cable)

Figure 151: 3-Pair to 4-Pair Circuit Distribution and Connectivity

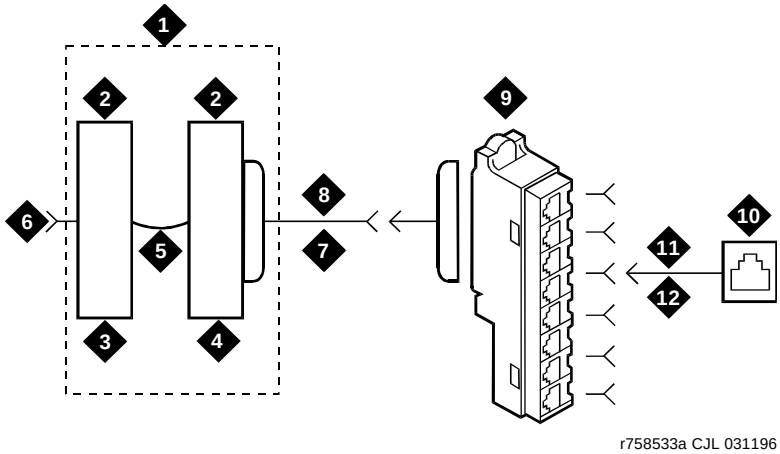


Figure notes

1	Part of Main Distribution Frame (MDF)	**7**	B25A Cable
2	3-Pair Connecting Blocks	**8**	3-Pair Circuits
3	Purple Field	**9**	356A Adapter
4	Blue Field	**10**	Information Outlet
5	Patch Cord or Cross-Connect Jumpers	**11**	3-Pair Circuit in 4-Pair Wire
6	To System Cabinet (3-Pair Modularity)	**12**	DIW Station Cable (D-Inside Wire)

Voice and Data Terminals

These voice and data terminals can connect to the system.

Voice and Data Terminals	Type
Multi-button Electronic Telephone (MET) sets: 10, 20, 30 Button	Voice
Analog: 500, 2500/2554, 2500 DMGC, 2500YMGK, S203A Speakerphone	Analog voice
71XXX series: 7101A, 7102A, 7103A, 7104A	Analog voice
73XXX series: 7302H, 7303H, 7303S, 7305S, 7305H	Hybrid voice
74XXD series: 7401D, 7403D, 7404D, 7405D, 7406D, 7407D, 7410D, 7434D, 7444	Digital voice

81XX series: 8102, 8110 91XX series: 9101, 9103, 9110	Analog voice
84XX series: 8403B, 8405B/D/B+/D+, 8410B/D, 8411B/D, 8412, 8434, 8435 94XX series: 9403, 9410, 9434	Digital voice
Basic Rate Interface (BRI) (75XX series): 7505-VOM/T, 7506-VOM/T, 7507-VOM/T 85XX series: 8503, 8510, 8520	BRI voice
Workstation series Business Communications Terminals (BCTs) and Business Communications Systems (BCS): PC/PBX platform (digital): PC/ISDN platform (BRI)	Data
Consoles: 301A Attendant Console, 302A1 Enhanced Generic 1 Console 602A1 ACD Console (CallMaster® digital communications terminal)	Data and voice
ZE01A Expansion Module for 8434Dx	Voice and Features
Cordless Hybrid: MDW 9000 (TransTalk 9000) MDC 9000	Voice
DCP Data interface: Constellation Automatic Call Distribution (ACD) data terminal	Data and voice
PassageWay interface: Consoles: 302B1, 302C1 Attendant Console 603A/D Automatic Call Distribution (ACD) Console (CallMaster digital console) 603E Automatic Call Distribution (ACD) Console (CallMaster digital console)	Data and voice

Connectable Administration Terminals

These administration terminals can connect to the system.

Administration Terminal	Application
715 BCS and 715 BCS-2 Management Terminal	Management Terminal system administration and maintenance terminal

*The keyboards and terminals are interchangeable when an adapter cable is used.

NOTE:
The older version of 715 BCT (the 715 Business Communications System (BCS)) (406803148 and 406803155), has a 6-pin mini-DIN keyboard connector.

The new version of 715 BCT (the 715 Business Communications System (BCS)) (4073113881 and 407313899), has a 6-pin RJ-11 keyboard jack located on the side of the terminal.

Layout

This section has information about

- Information Outlet Locations on page 427
- Site, Satellite, and Adapter Locations on page 427
- Sizing 4-Pair Station Cables on page 428
- Sizing 25-Pair and Multiple 25-Pair Station Cables on page 428
- 3-Pair Station Cable Circuits on page 428
- 4-Pair Station Cable Circuits on page 428

Information Outlet Locations

The customer or marketing representative must provide floor plans showing the information outlet locations and types (flush- or surface-mounted) required. The floor plans must also show a complete overview of all conduit and cabling facilities in the building.

Site, Satellite, and Adapter Locations

Use the following information when determining site, satellite, or adapter locations.

- Keep the number of locations to a minimum.
- To minimize the station wiring distances, centrally locate the sites/satellites, or adapters among the information outlets.
- Site/satellite locations must be easily accessible and contain AC-powered receptacles.

One 258A/BR2580A adapter is required for each 25-pair station cable containing 4-pair station circuits. One 356A adapter is required for each 25-pair station cable containing 3-pair station circuits. Hardware requirements are the same as for the equipment room.

Sizing 4-Pair Station Cables

Use the scale of the floor plan to determine the approximate length of the station cables required per the standard SYSTIMAX wiring concepts.

Sizing 25-Pair and Multiple 25-Pair Station Cables

Use the scale of the floor plan to determine the approximate length of each 25-pair station cable. The cables must be selected and properly sized to make maximum use of the hardware at the equipment room or satellite location.

Use 25-pair B25A cables to connect adapters directly to the MDF or satellite location. Staggered-finger cables, equipped with factory-installed 25-pair connectors at both ends, should be used when multiple 25-pair cables are used between the equipment room or satellite location and the adapters. B25A cables are required at the equipment room or satellite location to connect the staggered-finger cables to the 110-type terminal blocks.

Use the following information to determine the cable size (cable pairs) required for either 3-pair or 4-pair circuits. Note the length and size on the floor plan to aid in the ordering and installation of the station cables.

3-Pair Station Cable Circuits

To determine the size of station cables containing 3-pair circuits, multiply the number of 3-pair circuits required at the satellite location by 3.5. Then, using the minimum size cable requirement, round up the cable size requirement to the next highest available cable bundle size. This will provide additional pairs for growth and compensate for every twenty-fifth pair in a cable that is not used.

4-Pair Station Cable Circuits

To determine the size of station cables containing 4-pair circuits, find out how many information outlets are served by the equipment room MDF or satellite location MDF. Multiply the number of information outlets by 4. Then, using the minimum size cable requirement, round up the cable size requirement to the next highest available cable bundle size.

NOTE:
This formula may not compensate for the unused twenty-fifth pair in all cases. If not, it must be allowed for.

Patch Cord/Jumper Installation and Administration

Before starting the patch cord installation, obtain a copy of the Port Assignment Record forms from the customer or marketing representative. See Figure 152, Port Assignment Record Form, on page 429. These forms contain the port assignments and identify the extension numbers (**Terminal No.**) of the telephones/voice terminals. Enter the jack assignments at the equipment room and indicate if adjunct power is required and where it is provided (MDF, site/satellite closet, or information outlet).

When satellite locations are provided, enter the satellite letter designation (A through F) and the jack appearance in the equipment room on the form. Also, enter the floor designation and/or building designation if appropriate. For 1-point administration, this entry is all that is required.

The white label identifying the terminal block row associated with circuits 17 to 24 connects to an identically labeled terminal block row at the satellite closet. See Figure 153, Example 3-Pair Labeling to Information Outlet, on page 430. This is always the case for either 1-point or 2-point administration.

The satellite symbol must be installed at all connection points between the blue field and the information outlet. It must also be installed at the information outlet itself.

Figure 154, Example 4-Pair Labeling to Information Outlet, on page 431 shows an example labeling scheme for 4-pair circuits from the equipment room to the information outlets. The labeling scheme for 3-pair circuits from the MDF to a satellite location.

Figure 152: Port Assignment Record Form

CARRIER _____ PORT ASSIGNMENT RECORD Page _____

Slot	Port	Jack*	Extension Number		Bldg Flr Rm	Voice Terminal		Voice Terminal Adjunct	Module	Power*		User Name/Use
			Old	New		Type	Color					
___ Slot	01											
	02											
	03											
	04											
	05											
	06											
	07											
	08											
	09											
	10											
	11											
	12											
	13											
_____ CKT PK Type	14											
	15											
	16											
	17											
	18											
	19											
	20											
	21											
	22											
	23											
	24											

* To be completed by installation technician

r764787 PDH 071596

Figure 153: Example 3-Pair Labeling to Information Outlet

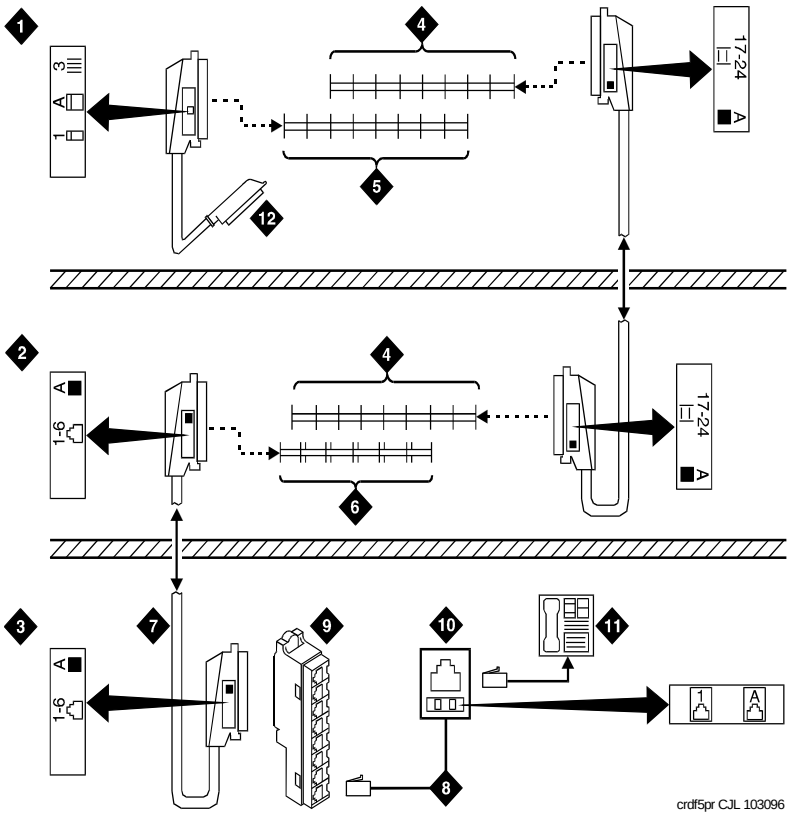


Figure notes

1	Equipment Room	**7**	Central Location for Terminals 1 through 6
2	Satellite Location	**8**	D-Inside Wire Cut Down to Connecting Block
3	Work Location	**9**	258A Adapter
4	White Row on 110 Terminal Block	**10**	Information Outlet
5	Purple Row on 110 Terminal Block	**11**	Voice Terminal
6	Blue Row on 110 Terminal Block	**12**	To Port Connector on Cabinet (Cabinet 1, Carrier A, Slot 03)

Figure 154: Example 4-Pair Labeling to Information Outlet

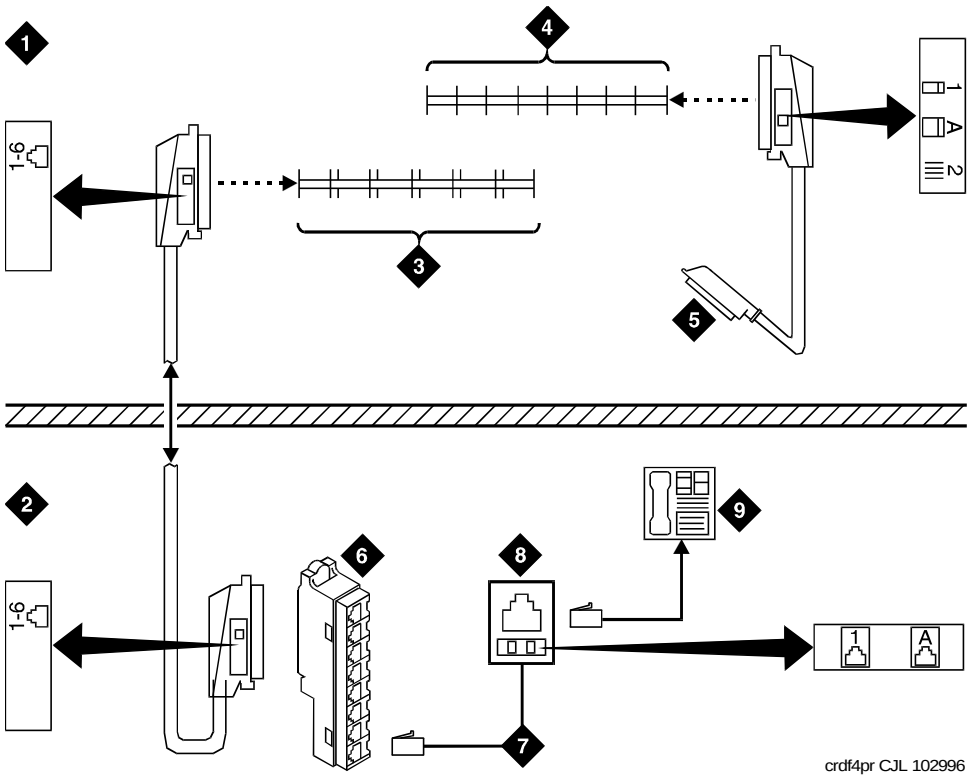


Figure notes

1	Equipment Room	**6**	258A Adapter
2	To Central Location for Terminals 1 through 6	**7**	D-Inside Wire Cut Down to Connecting Block
3	Blue Row on 110 Terminal Block	**8**	Information Outlet
4	Purple Row on 110 Terminal Block	**9**	Voice Terminal
5	To Port Connector on Cabinet (Cabinet 1, Carrier A, Slot 03)		

Label Control Carrier Cable

Return to Task List

1. Place the appropriate **AUX** connector label on the assigned 110-type terminal block row.
2. On the control carrier cable, place a yellow auxiliary label on the connectors at each end of the cable.
3. Write “AUX” on each label.

Connect Control Carrier Outputs Cable

Return to Task List

1. Plug the connector cable in the **AUX** connector on the rear of the Control Carrier.
2. Route the connector cable through the cable slack manager to the assigned 110-type terminal block in the yellow field of the trunk/auxiliary field.

Connect Trunk Pairs Using Concentrator Cables

Return to Task List

Figure 155, Connect Trunk Pairs Using Concentrator Cables, on page 433 shows trunk pairs connected to the cabinet with concentrator cables. To install the cables:

1. Connect B25A cables between the network interface and sneak fuse panels.
2. Connect A25D cables from the sneak fuse panels to the 110-type terminal block connectors in the green field.
3. Connect patch cords/jumper wires from the terminal block in the green field to the associated terminal block in the purple field.
4. Connect the single-fingered end of the concentrator cables to the 110-type terminal block connectors in the purple field in Step 3.
5. Connect the other end (2/3-fingered end) of the concentrator cables to the appropriate carrier slots. Equipped carrier slots are identified on the CSD. Mark the nomenclature strips above the carriers to identify the slots.
6. Label connectors on each end of the cables that connect to the cabinet.
7. Route the cables down the sides of the cabinet and store the excess cable slack in the cable slack manager as previously described.

Figure 155: Connect Trunk Pairs Using Concentrator Cables

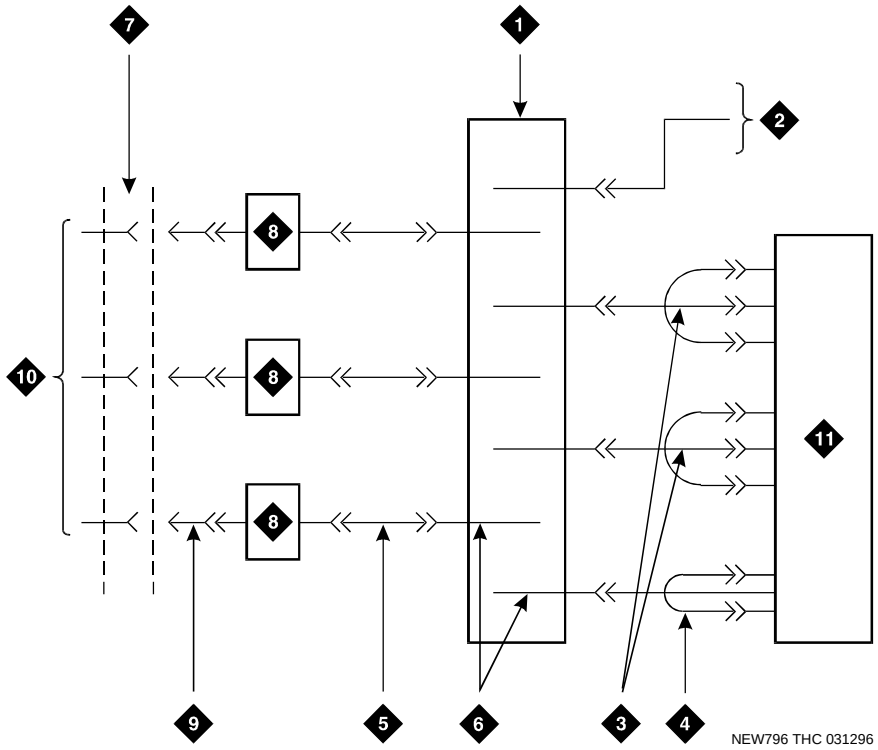


Figure notes

1	Trunk/Auxiliary Field	**6**	Alternate Block/Rows
2	To Control Carrier AUX Connector	**7**	RJ21X/RJ2GX Network Interface
3	Concentrator Cable (WP90929, List 1)	**8**	Sneak Fuse Panel
4	Concentrator Cable (WP90929, List 3)	**9**	B25A Cable
5	A25D (Male-to-Male) Cable	**10**	Central Office Trunks
		11	System Cabinet

Return to Task List

Connect Trunk Pairs to Cabinet Using Jumper Wires To Establish 3-Pair Modularity

Return to Task List

Figure 156, 3-Pair Modularity for Trunk Pairs for 1-Pair Trunks, on page 434 and Figure 157, 3-Pair Modularity for Trunk Pairs for 3-Pair Tie Trunks, on page 435 show trunk pairs connected to the cabinet with jumper wires to establish 3-pair modularity.

To connect the trunk pairs to the purple field:

1. Connect B25A cables between the network interface and the sneak fuse panels. See Figure 156, 3-Pair Modularity for Trunk Pairs for 1-Pair Trunks, on page 434.
2. Connect A25D/B25A cables from the sneak fuse panels to the 110-type terminal block-type connecting block connectors in the green field.

3 Connect 1-pair patch cords/jumper wires from each 110-type terminal block row in the green field to the 110-type terminal block rows in the purple field for 1-pair Central Office (CO) trunks or in Figure 157, 3-Pair Modularity for Trunk Pairs for 3-Pair Tie Trunks, on page 435 for 3-pair tie trunks.

Figure 156: 3-Pair Modularity for Trunk Pairs for 1-Pair Trunks

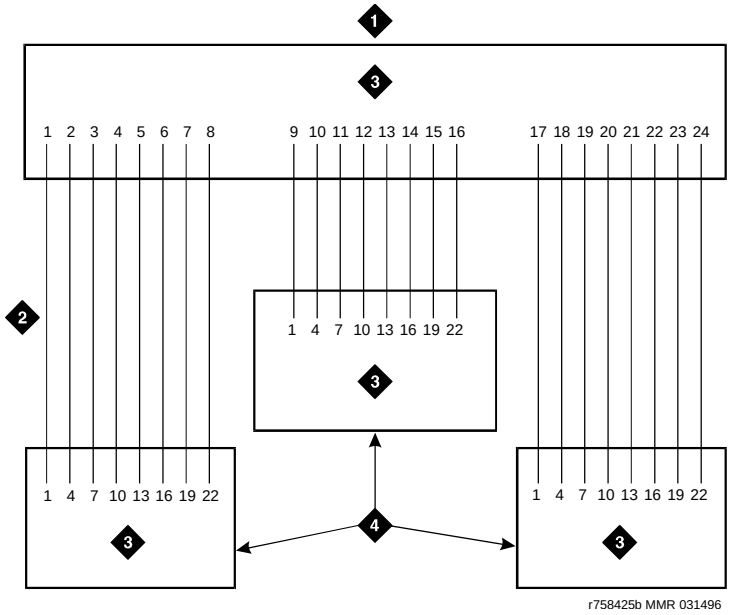


Figure notes

1	Green Field	**3**	Pairs
2	1-Pair Jumpers	**4**	Purple Field

Figure 157: 3-Pair Modularity for Trunk Pairs for 3-Pair Tie Trunks

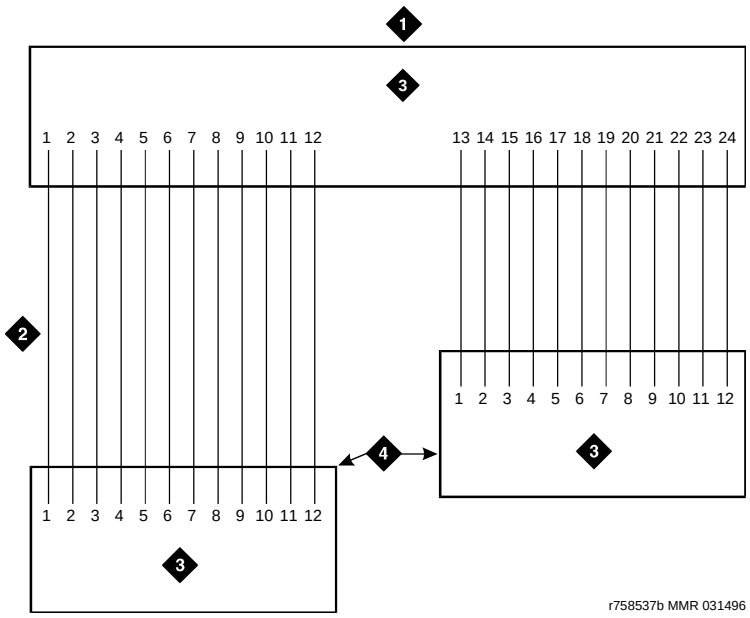


Figure notes

1	Green Field	**3**	Pairs
2	1-Pair Jumpers	**4**	Purple Field

Return to Task List

Install Cables Between Cabinet and MDF

Return to Task List

1. Install D rings on the wall between the cable slack manager and the terminal/connecting blocks mounted on the MDF.
2. Install a self-adhesive port label on the back of each connector on the connector cable. Position the labels so the cabinet connector retainers do not cover them.
3. At the rear of the cabinet, connect 1 end of the connector cable to the assigned connector.
4. Route the cable down the rear of the cabinet, through the cable slack manager, and to the MDF.
5. At the MDF, connect the other end of the cable to the assigned terminal/ connecting block connector.
6. Store the cable slack in the cable slack manager.
7. Repeat Steps 2 through 6 until all cables are installed.

Return to Task List

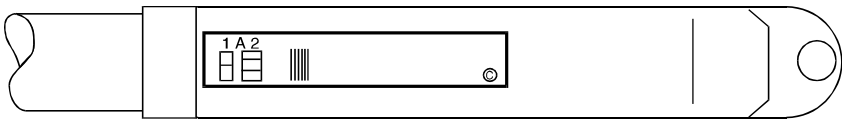
Install Connector Cables Between Auxiliary Cabinet and MDF

Return to Task List

Auxiliary equipment that connects to the MDF can be mounted inside the Auxiliary cabinet. The equipment connects to an ED-1E1443-10 (Group 1) intraconnection panel mounted in the cabinet. This intraconnection panel consists of a 110-type 100-pair wiring block. Auxiliary equipment is connected to the 110-type wiring block. The wiring block is pre-wired to four 25-pair female connectors mounted on the outside rear of the cabinet.

1. Install “D” rings on the wall between the cable slack manager and the terminal/connecting blocks mounted on the MDF.
2. Install a self-sticking port label on the rear of each connector on the B25A connector cable. See Figure 141, Self-Stick Label on 25-Pair Cable Connector, on page 414.
3. Labels should be positioned so they will not be obscured by the cabinet connector retainers.
4. At the rear of the Auxiliary cabinet, connect 1 end of the connector cable to the assigned connector.
5. Route the cable down the rear of the cabinet and through the cable slack manager to the MDF.
6. At the MDF, connect the other end of the cable to the assigned terminal/connecting block connector.
7. Store the excess cable in the cable slack manager.
8. Repeat Steps 2 through 6 until all cables are installed.

Figure 158: Self-Stick Label on 25-Pair Cable Connector



lbdf25p LJK 101596

Return to Task List

Mount 110A- or 110P-type terminal blocks on the wall

Return to Task List

The 110A-type terminal blocks can be stacked in almost any arrangement at any height or location on the wall. One arrangement is shown in Figure 159, 110A-Type Terminal Blocks (300-Pair), on page 438. The distance between the mounting screw holes on the terminal blocks is 10.8 in. (27.4 cm). If a vertical patch cord trough is used, the distance between the mounting screw holes is 5.31 in. (13.3 cm).

With 110P-type terminal blocks, the first block of the trunk/auxiliary field is aligned with the left side of the system cabinet. See Figure 160, 110P-Type Terminal Blocks (900-Pair), on page 439. This arrangement allows for growth on the right side of the MDF.

1. Route the cables from the rear of the cabinet stack to the MDF via the Cable Slack Manager on page 416. See Install Cable Slack Managers on page 441.
2. If you are installing 300-pair terminal blocks, draw a level horizontal line on the wall 47.5 in. (1.2 m) above the floor. See Figure 159, 110A-Type Terminal Blocks (300-Pair), on page 438.

   If you are installing 900-pair terminal blocks, draw a level horizontal line on the wall 23 in. (58.4 cm) above the floor. See Figure 160, 110P-Type Terminal Blocks (900-Pair), on page 439.
3. To mount the first trunk/auxiliary field terminal block, partially install 2 3/4-in. #12 wood screws, 7-11/16 in. (19.5 cm) apart on the left side of the horizontal line on the wall.
4. Slide the bottom terminal block ft onto the mounting screws and mark the upper mounting screw locations.
5. Remove the terminal block and partially install the upper mounting screws.
6. Place the terminal block on the mounting screws and tighten the screws.
7. If installing a vertical patch cord trough, partially install the first screw for the patch cord trough, on the line, 7/8-in. (2.2 cm) to the right of the previous screw. Partially install the second mounting screw 5.31 in. (13.5 cm) to the right of the screw just installed. Repeat Steps 4, 5, and 6.
8. If another trunk/auxiliary field terminal block is to be installed, partially install the first screw for the terminal block, on the line, 7/8-in. (2.2 cm) to the right of the previous screw. Partially install the second mounting screw 7-11/16 in. (19.5 cm) to the right of the screw just installed. Repeat Steps 4, 5, and 6.
9. If a horizontal patch cord trough is to be installed, install it, on the line, between the trunk/auxiliary field and the distribution field.
10. To install the first distribution field terminal block, partially install 2 3/4-in., #12 wood screws, 7-11/16 in. (19.5 cm) apart on the line, to the right of the vertical patch cord trough. Repeat Steps 4, 5, and 6.
11. If installing another distribution field terminal block, partially install the first screw for the terminal block, on the line, 7/8-in. (2.2 cm) to the right of the previous screw. Partially install the second mounting screw 7-11/16 in. (19.5 cm) to right of the screw just installed. Repeat Steps 4, 5, and 6.
12. If installing a vertical patch cord trough in the distribution field, repeat Step 6.
13. Repeat Steps 11 and 12 until all the terminal blocks and vertical patch cord troughs in the distribution field are installed.

Figure 159: 110A-Type Terminal Blocks (300-Pair)

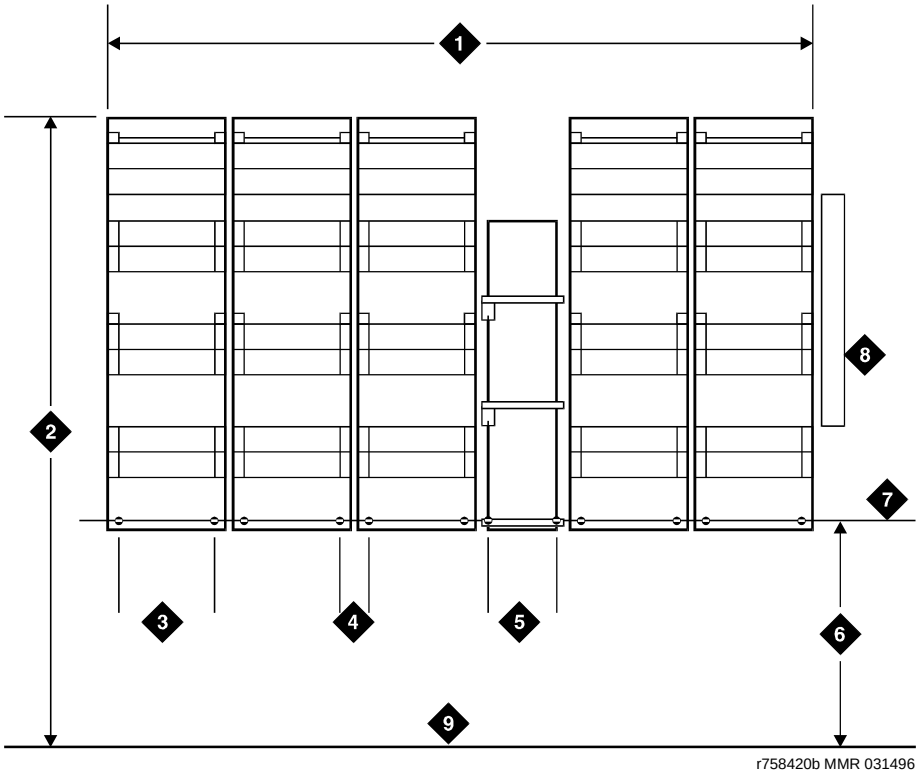


Figure notes

1	4 ft (1.22 m)	**5**	5.31 in. (13.5 cm)
2	6.6 ft (2 m)	**6**	47.5 in. (120.6 cm)
3	7.68 in. (19.5 cm)	**7**	Horizontal Line
4	7/8-in. (2.22 cm)	**8**	AC Power Strip
		9	Floor Line

Figure 160: 110P-Type Terminal Blocks (900-Pair)

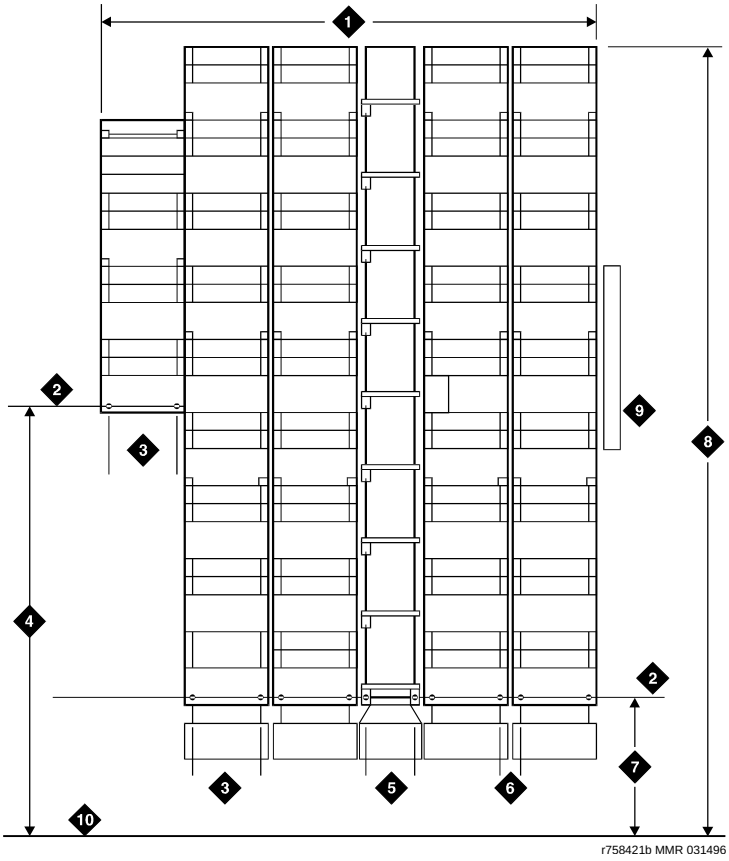


Figure notes

1	4 ft (1.22 m)	**6**	7/8-in. (2.22 cm)
2	Horizontal Line	**7**	23 in. (58.4 cm)
3	7.68 in. (19.5 cm)	**8**	8 ft (2.43 m)
4	47.5 in. (120.6 cm)	**9**	AC Power Strip
5	5.31 in. (13.5 cm)	**10**	Floor Line

Return to Task List

Mount 110P-type terminal blocks on a frame

Return to Task List

The 900-pair 110P-type terminal blocks and the associated patch cord troughs can also be mounted on a free-standing, floor-mounted 1110A2 Apparatus Mounting Frame. See Figure 161, 1110A2 and 1110C1 Apparatus Mountings, on page 440.

Each 1110A2 provides the space to mount 5 terminal blocks/patch cord troughs on each side of the frame. A cable support structure, apparatus mounting 1110C1, mounts directly on top of the 1110A2 and provides support for all cables routed to and from the frame. See Apparatus Mounting Frame Information on page 440

Figure 161: 1110A2 and 1110C1 Apparatus Mountings

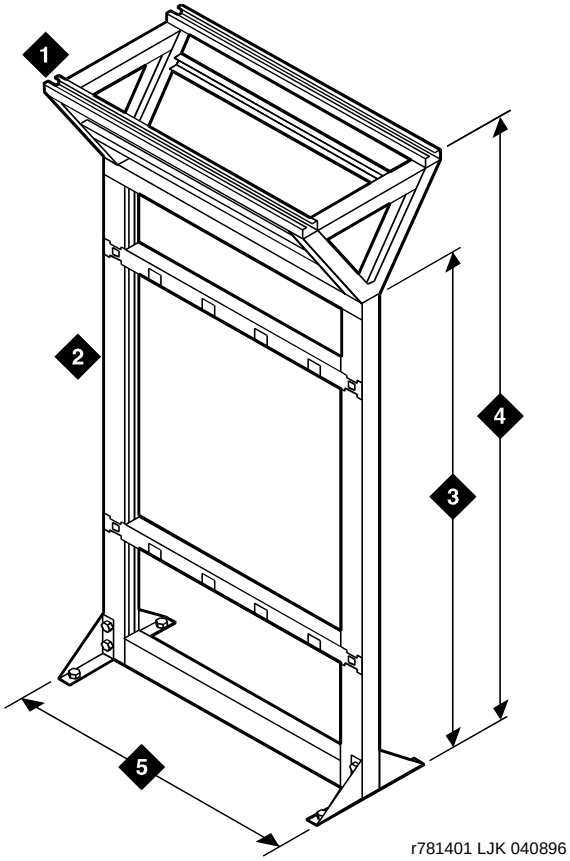


Figure notes

1	1110C1 Apparatus Mounting	**3**	76 in. (193 cm)
2	1110A2 Apparatus Mounting	**4**	88.5 in. (225 cm)
		5	43.5 in. (110.5 cm)

Apparatus Mounting Frame Information	
Code Number	**Description**
1110A2	Apparatus Mounting Frame
1110C1	Cable Support Assembly
1110A1	End Dress Panel
2110A1	Top Dress Panel
2110B1	Bottom Dress Panel

Return to Task List

Install Cable Slack Managers

Return to Task List

1. Place the Z113A Cable Slack Manager against the wall under the MDF. See Figure 163, Cable Routing Through Cable Slack Manager (SCC1), on page 442. Align the left side of the cable slack manager with the first terminal block of the trunk/auxiliary field.
2. Place the next cable slack manager beside the previously installed unit. Align the tabs and interlocks and snap the units together.
3. Repeat Step 2 until all cable slack managers are installed.

   NOTE:
   Nine 1/4-in. holes (0.63 cm) are provided in a cable slack manager base if earthquake mounting is required. If a base is mounted on an uneven floor, shims may be required for leveling and to assure proper fit of the covers.

   Holes are provided in the sides of the base for bolting cable slack manager together. Bolts and shims must be obtained locally.

4. The system cables will route through the cable slack manager as shown. Complete cable routing is covered later in this chapter.

Cable clamps are required in installations with cable slack managers. At the rear of the cabinets, install 2 cable clamps using the screws provided. These clamps hold the 25-pair input/output or MDF cables in place. Figure 162, Cable Routing Through Cable Slack Manager (MCC1), on page 441 and Figure 163, Cable Routing Through Cable Slack Manager (SCC1), on page 442 show cable clamp placement and cable routing.

Figure 162: Cable Routing Through Cable Slack Manager (MCC1)

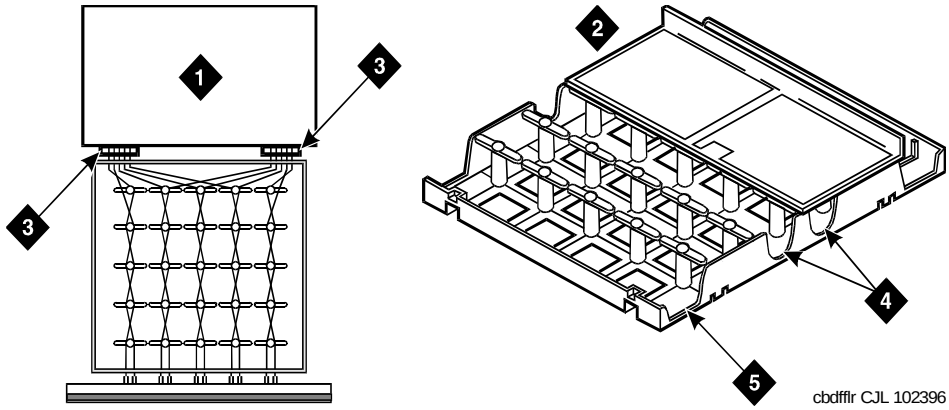


Figure notes

1	Top of Cabinet	**3**	Cable Clamp
2	Cable Slack Manager	**4**	Spare Center Troughs
		5	Cabinet Trough for Port Cables

Figure 163: Cable Routing Through Cable Slack Manager (SCC1)

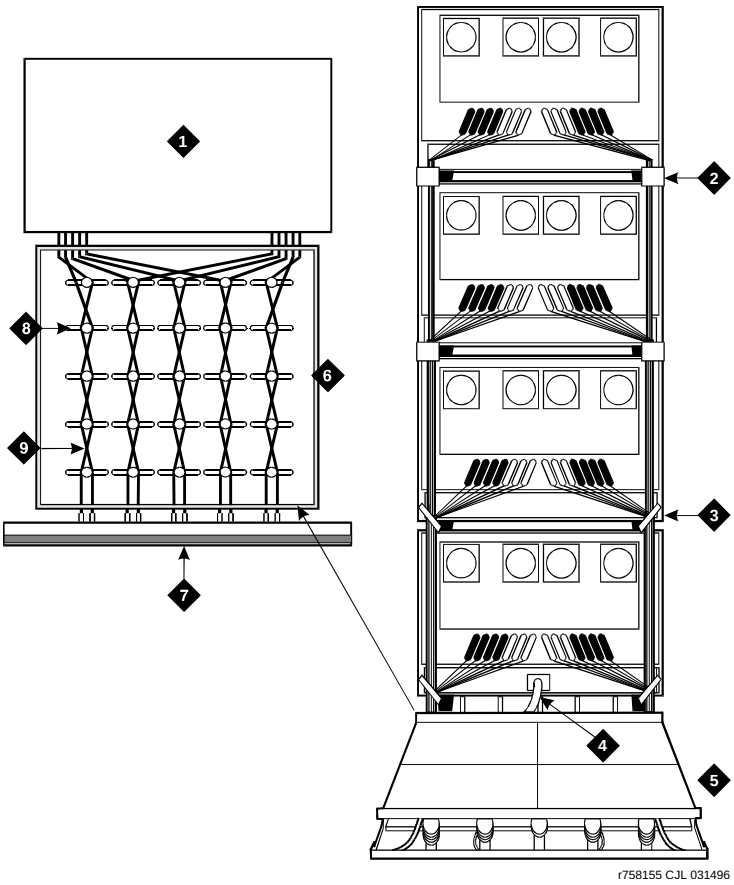


Figure notes

1	Top of System Cabinets	**6**	Cable Slack Manager (Cover Removed)
2	Cable Clamps	**7**	Main Distribution Frame (MDF)
3	Cable Ties (Optional)	**8**	Route Cables Along Path Shown
4	Power Cord	**9**	Port Cables
5	Cable Slack Manager		

Return to Task List

Install Sneak Fuse Panels

Return to Task List

(For general information, see Sneak Fuse Panels on page 411.)

The Figure 164, Model 507B Sneak Fuse Panel, on page 443, or equivalent, is recommended for sneak current protection. The panel contains two 25-pair connectors, fuse removal tool, and fifty 220029 sneak fuses (and two spares). See Sneak Fuse Connector Pinout on page 444 for pinout data.

1. Locate the 507B near the network interface or the Main Distribution Frame (MDF).
2. Hold the panel against the mounting surface and mark the mounting screw locations. Drill pilot holes at the marked locations and partially install a locally obtained #12 x 3/4-inch screw into the two bottom mounting slots.
3. Slide the sneak fuse panel onto the mounting screws and tighten the screws securely.
4. Install a locally obtained #12 x 3/4-inch screw into the top two mounting slots and tighten securely.
5. Repeat the procedure for each sneak fuse panel.
6. Secure the B25A cable to the panel with the captive screw on the connector and a supplied cable tie.

Figure 164: Model 507B Sneak Fuse Panel

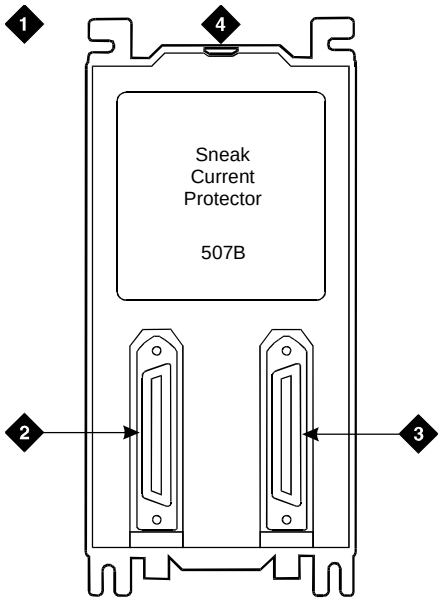


Figure notes

1	Sneak Fuse Panel	**3**	25-Pair Female Connector (Out)
2	25-Pair Male Connector (In)	**4**	220029 Fuses (Inside Panel). Use small screwdriver to pry top cover off.

Sneak Fuse Connector Pinout	
Connector Pin Numbers	**Pair/Fuse Number**
26/1	1
27/2	2
28/3	3
29/4	4
30/5	5
31/6	6
32/7	7
33/8	8
34/9	9
35/10	10
36/11	11
37/12	12
38/13	13
39/14	14
40/15	15
41/16	16
42/17	17
43/18	18
44/19	19
45/20	20
46/21	21
47/22	22
48/23	23
49/34	24
50/25	25

Return to Task List

Install Coupled Bonding Conductor

Return to Task List

The Figure 165, Coupled Bonding Conductor, on page 446 (CBC) connects to the single-point ground block and runs adjacent to pairs in an associated telecommunications cable. The mutual coupling between the bonding conductor and the pairs reduces potential differences in terminating equipment.

1. Cut a 10 AWG (#25) (2.5 mm^2) wire long enough to reach from the system's single-point ground block or DC power cabinet Ground Discharge Bar to the MDF CBC block.
2. Connect one end of the 10 AWG (#25) (2.5 mm^2) wire to the single-point ground block (or Ground Discharge Bar).
3. Route the wire next to the 25-pair cables connecting to the trunk/auxiliary (purple) field.
4. Tie wrap the 10 AWG (#25) (2.5 mm^2) wire to the 25-pair cables.
5. Connect the 10 AWG (#25) (2.5 mm^2) wire to the MDF CBC ground block.
6. Repeat the above steps for each CBC ground wire installed.

Figure 165: Coupled Bonding Conductor

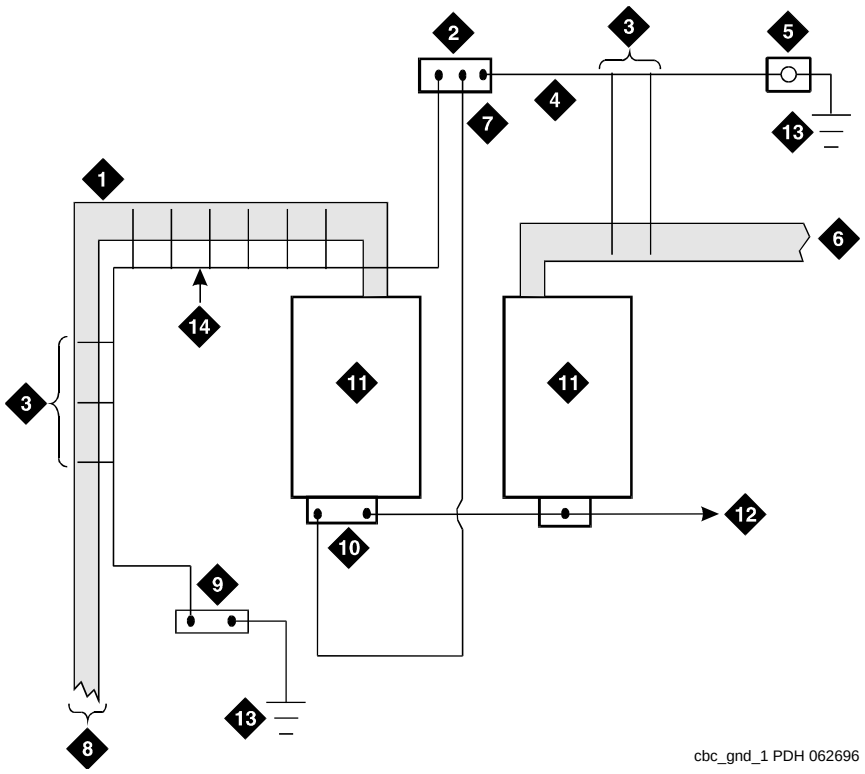


Figure notes

1	25-Pair Tip & Ring Cables to Cabinets	**8**	To Network Cabinets
2	Coupled Bonding Conductor (CBC) Terminal Block	**9**	Battery Plant Ground Discharge Bar for Single-Point Ground
3	Tie Wraps	**10**	Cross-Connect Ground Block
4	Cable Shield or Six Spare Pairs	**11**	Main Distribution Frame (MDF)
5	Ground on Carbon Block Protector or Equivalent	**12**	To Other Cross-Connect Ground Blocks
6	Trunk Cable to Network Interface	**13**	Approved Ground
7	10 AWG (#25) (2.5 mm^2) Wire	**14**	Coupled Bonding Conductor (CBC)

Return to Task List

Bring the System Online

This section provides

- information about installing the system access software, activating the system, administering the system, and powering a DEFINITY AUDIX system.
- procedures for doing the installation and administration.

Information about Installing the Software, Administering the System, and Powering a DEFINITY AUDIX System

- About Accessing the System on page 448
- Administration Screens and Commands on page 448
- Administering the Circuit Packs on page 449
- DEFINITY AUDIX System Power Procedures on page 451

Task List: Setting up the PC and Administering the System

1. Access the System on page 452
2. Activate the System on page 460
3. Administer the System on page 463

   If necessary, administer the Circuit Packs (See Administering the Circuit Packs on page 449 for general information)
4. Reboot High Reliability System (MCC1 only) on page 476
5. Enable Duplication and Boot Critical Reliability System (Avaya DEFINITY Server r) on page 477
6. Administer Attendant Console on page 477
7. Save Translations (Avaya DEFINITY Server si) on page 477 or Save Translations (Avaya DEFINITY Server r) on page 478
8. Administering Fiber Optic Cables on page 210
9. Add Translations (Avaya DEFINITY Server si) on page 478 or Add Translations (Avaya DEFINITY Server r) on page 478
10. Resolve Alarms on page 479
11. Register the Switch for Maintenance on page 479
12. Log off the System on page 482

About Accessing the System

To administer the Avaya Media Gateway, you must be able to access the system. The Avaya Media Gateway no longer requires a dedicated management terminal, known as a system administration terminal, or SAT. Personal computers and technician laptops equipped with Avaya Site Administration software are the primary support access for system initialization, aftermarket additions, and ongoing maintenance. SAT is now an option.

Administration Screens and Commands

The system is administered using screens displayed on the PC. The screens are used to add, change, display, list data, and to remove system and telephone features. To access a screen, enter a valid system command in response to the **command:** prompt.

System commands are standard words and phrases instructing the system to perform a specific function. The commands are arranged in a hierarchy of keywords; that is, enter one command to go to a different level. The commands contain three parts: ACTION, OBJECT, and QUALIFIER.

- ACTION is the first part of the command. When **command:** appears on the screen. The ACTION specifies the operation desired. Examples include add**, duplicate, change, remove, display, list,** and **save.**
- OBJECT is the second part of the command and specifies the particular object to be administered. Typical entries are **hunt-group, coverage path,** and **station.**
- QUALIFIER is the last part of the command. It is one or more words or digits used to further identify or complete the OBJECT. For example, **hunt group *15*** or **station *3600***, where ***15*** and ***3600*** are qualifiers.

An example of the command line required to add a station with extension number *1234* is **add station *1234***. In this example, **add** is the ACTION, **station** is the OBJECT, and ***1234*** is the QUALIFIER. In the command line, spaces are required between the ACTION, OBJECT, and QUALIFIER.

To save time, enter enough letters for each part of the command to make it unique. For example, if you want to enter the command **change system-parameters country-options**, typing **cha sys coun** is sufficient.

> **NOTE:**
> The **craft** or **dadmin** logins may not be allowed to perform some of the steps needed to initialize the system. If access is denied to some of these procedures, contact Avaya for assistance.

Use the **Help** key for a list of options and the **Cancel** key to back out of any command. Refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)* for detailed procedures.

Administering the Circuit Packs

After the equipment is installed (including circuit packs), the circuit packs must be administered. This section provides brief information about:

- Administration Commands on page 449
- Change Circuit Packs Form on page 450
- Change Circuit Pack Form Implementation Notes on page 451

Refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)* for more information.

In general:

- Use the ***Circuit Packs*** screen to administer circuit packs to carrier slots. The circuit packs must be installed (or assigned using the ***Circuit Packs*** form) before administering voice terminals, attendant consoles, or trunks.
- Each page represents one carrier in the cabinet shown on the command line. All carriers and slots appear even if they are not included in the hardware.
- It is not necessary to fill in the ***Circuit Packs*** screen if the circuit packs are installed at the time of administration.
- For initial installation, assign circuit packs to slots using the hardware configuration layout record from the factory or Customer Services Organization. Do not arbitrarily assign circuit packs to slots.
- **For r:** If the carrier type administered on the ***Cabinet Administration*** form does not match the physical hardware, question marks (??) may display in the `Code` fields.
  For si: When a circuit pack in a slot differs from what has been administered on the form, # displays between the `Sfx` and `Name` fields.
- **For r:** The number of slot fields displayed represents administrable slots for the given carrier type.
  For si: All slot fields are displayed.

Administration Commands

Use the following administration commands to administer the ***Circuit Pack*** form.

Action	Object	Qualifier
change	circuit-packs	xx (cabinet number)
display	circuit-packs	xx (cabinet number) ['print' or 'schedule']

NOTE:
If no cabinet number is specified, this command defaults to "**1**."

Change Circuit Packs Form

NOTE:
Each page of the form represents 1 carrier within the cabinet specified on the command line. All carriers and slots appear even if they are not included in the actual hardware. This supports reconfiguration.

- `Cabinet` — Display-only field. This field shows the cabinet number as entered on the command line.
- `Carrier` — Display-only field. This field shows the letter of the carrier (A through E) circuit packs are being administered on.
- `Carrier Type` — Display-only field. This field shows the type of carrier.
- `Slot` — Display-only field. The slot equates to the physical slot of the given carrier; the number of slots displayed depends on the system being configured.

  For si configurations: ALL slots that could possibly be administered are displayed even if they do not apply to the current configuration of the system. This is to accommodate the situation when a system is being reconfigured.

  Table 15, Circuit Pack Cabinet Layout, on page 450 lists the slots to use, and the circuit pack types that may be administered in those slots, for each combination of Cabinet/Carrier/Carrier Type in an si configuration.
- `Code` — Enter the circuit pack code (**TN** followed by a 3- or 4-digit number). If there is a physical circuit pack installed in the slot, the entry must match that of the circuit pack. If there is equipment administered on a slot, the equipment must be removed from the circuit pack before the circuit pack can be changed or removed.
- `Sfx` — Enter the circuit pack suffix, if applicable.
- `Name` — Display-only field. This field shows the alphanumeric name of the circuit pack (such as Digital Line).

NOTE:
When the circuit pack physically inserted in the slot differs from what has been administered on this form, a # displays between the `Sfx` and `Name` fields.

Table 15: Circuit Pack Cabinet Layout

Cabinet Layout	Carrier Type	Use Slots	Circuit Pack Types
1A (SCC1 Basic Control Cabinet)	processor	01-10	All port circuit packs
1A (SCC1 Enhanced Control Cabinet)	processor	01-16	All port circuit packs
1B (SCC1 Duplicated Control Cabinet)	processor	01-10	All port circuit packs
1B, C, D (SCC1 Port Cabinet)	port	01-18	All port circuit packs
2A & 3A (SCC1 Expansion Control Cabinet)	expansion-control	01	TN570D, TN776
		02-17	All port circuit packs
2B, C, D (SCC1 Port Cabinet) 3B, C, D	port	01-18	All port circuit packs

Change Circuit Pack Form Implementation Notes

Figure 166 shows all fields that may be displayed. The fields that appear on a particular screen may vary depending upon the system configuration being administered.

The number of slot fields displayed may vary depending on the system being configured.

Figure 166: Change Circuit-Packs Screen

```
change circuit-packs                                    Page   1 of   5
                          CIRCUIT PACKS
        Cabinet: 1                              Carrier: A
                                              Carrier Type: processor
 Slot Code  Sf Mode   Name
  01: TN758          POOLED MODEM
  02: TN726  B       DATA LINE
  03: TN763  D       AUXILIARY TRUNK
  04: TN750  C       ANNOUNCEMENT
  05: TN2181         DIGITAL LINE
  06: TN464  GP      DS1 INTERFACE
  07: TN2138         CO TRUNK
  08: TN754  C       DIGITAL LINE
  09: TN799  DP      CONTROL-LAN
  10: TN767  E       DS1 INTERFACE
 Slot Code  Sf Mode   Name                Slot Code  Sf Mode   Name
                                       11: TN464  GP     DS1 INTERFACE
  01: TN758         POOLED MODEM         12: MEDPRO       RESERVED-IP
  02: TN726  B      DATA LINE            13: TN802  B     MAPD BOARD
  03: TN763  D      AUXILIARY TRUNK      14: TN2149       ANALOG LINE
  04: TN750  C      ANNOUNCEMENT         15: TN754  C     DIGITAL LINE
  05: TN2181        DIGITAL LINE         16: TN754  C     DIGITAL LINE
  '#' indicates circuit pack conflict.
```

DEFINITY AUDIX System Power Procedures

Manually Power Down AUDIX System

A yellow caution sticker on the system's power unit notifies technicians to shut down the DEFINITY AUDIX System prior to powering down the system.

1. Using a pointed object such as a paper clip or pen (do not use a pencil), press the Boot/Shutdown button. The button is located at the top right portion of the front panel.
2. Hold the Boot/Shutdown button in until the LCD display flashes the message `MSHUT`.
3. Release the Boot/Shutdown button.

NOTE:
The DEFINITY AUDIX System takes about five minutes to shut down. The "heartbeat" indication on the display continues to flash.

Manually Power Up AUDIX System

1. Using a pointed object such as a paper clip or a pen (do not use a pencil), press the Boot/Shutdown button.
2. Hold the Boot/Shutdown button in until the display indicates the message, `BTEST`, steady on.
3. Release the Boot/Shutdown button. The DEFINITY AUDIX System takes approximately five minutes to power up.
   - — The display has the following sequence of steady on messages:
     - `OSINIT`
     - `OS`
     - `AINIT`
     - `ADX`
   - — The DEFINITY AUDIX System is now powered up. When the system is in the active state, the display indicates `ADX`, and the red LED is off.

     NOTE:
     Upon the system powering up, the DEFINITY AUDIX System automatically reboots. This sequence may show an `MD` or `MJ ADX` alarm in the display until the system has powered up. When the system has completed its power up sequence, the DEFINITY AUDIX System display reads: `ADX`.

Access the System

Return to Task List

To access the system, you first install Avaya Site Administration software on the PC and then connect to the Avaya Media Gateway. Select the correct procedures for this installation from the task lists.

Task List: Access the system

- Install and Use Avaya Site Administration on page 453
- Connect Directly to the Avaya Media Gateway on page 454
- Connect Remotely to the Avaya Media Gateway Through a Data Module on page 455
- Connect Remotely to the Avaya Media Gateway Through a Modem on page 456

Task List: Make Data Module Settings

1. Set the Data Module to DCE Mode on page 458 if necessary
2. Add a Data Module to the Switch on page 458
3. Test Data Module Hardware Connections on page 459

4 Set the Data Module Operating Mode on page 459

5 Set the 7400B+ Data Module Options on page 460

Install and Use Avaya Site Administration

Return to Task List

To install Avaya Site Administration, your PC or laptop must meet the minimum requirements described in Minimum requirements to run Avaya Site Administration on page 453:

To install Avaya Site Administration on your computer, place the Avaya Site Administration CD in the CD-ROM drive and follow the installation instructions. To start Avaya Site Administration, click on

Start > Programs > Avaya Site Administration.

Avaya Site Administration supports SAT emulation, which is directly equivalent to using the SAT. Avaya Site Administration also supports a whole range of other features, including the graphically enhanced DEFINITY interface (GEDI) and Data Import. For more information refer to the Help, Guided Tour, and Show Me accessed from the Help menu.

Minimum requirements to run Avaya Site Administration	
Operating systems: MS Windows 95 MS Windows 98 MS Windows NT 4.0 MS Windows 2000	*Processor/RAM:* 486SL/66/16 MB Pentium/32 MB Pentium/64 MB Pentium-class 300 MHz/64 MB
Graphics adapter	SVGA with minimum screen resolution of 800 x 600
Floppy disk drive	3-1/2 in. 1.44-MB floppy disk drive
CD-ROM	CD-ROM drive (required to install Avaya Site Administration from CD)
Available hard disk space	A minimum of 100-MB free hard disk space is required. The requirement for disk space depends on the size and number of configuration data sets.
Printer port	Standard PC or network printer port is required for connecting to a printer to produce station button labels.
Network adapter	May be required for network access to AUDIX and other network-connected systems.

Minimum requirements to run Avaya Site Administration	
Free serial ports	One free serial port capable of 9600-bps operation is required for a connection to each serial device (ADU, modem, data module) or direct connection to a Avaya Media Gateway. We recommend that PCs have at least a 16550A UART or 16550A UART simulator (capable of 56 kbps DTE-speed connections). USB and internal modems should emulate this hardware. A second serial port is required for simultaneous connection to AUDIX through a serial connection.

Return to Task List

Connect Directly to the Avaya Media Gateway

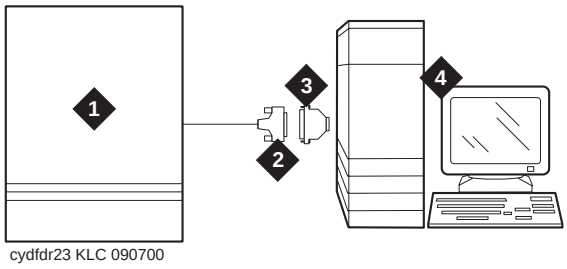
Return to Task List

You can connect directly from the PC if it is 50 ft (15 m) or less from the Avaya Media Gateway.

Connect the equipment as shown in Figure 167, A typical direct connection, on page 454. Also see PC connections by platform on page 455.

CAUTION:
For a DC-powered system, install an EIA 116A Isolator in series between the cable and the TERM, DOT, or Terminal Active connector.

Figure 167: A typical direct connection



cydfdr23 KLC 090700

Figure notes

1	Avaya Media Gateway PPN	**3**	9-to-25 pin adapter if needed
2	50-ft (15-m) M25A cable (RS-232)	**4**	Computer with Avaya Site Administration

PC connections by platform			
Reliability	**r**	**si**	**csi**
Standard	Terminal Active	TERM	TERM
High/Critical	—	DOT	—

Return to Task List

Connect Remotely to the Avaya Media Gateway Through a Data Module

Return to Task List

If the PC is more than 50 ft (15 m) from the Avaya Media Gateway, you can connect it through a data module.

1. Connect the equipment as shown in Figure 168, A typical remote connection using an 8400B (top) or 7400B (bottom) data module, on page 456.

   NOTE:
   With a 7400A or 7400B+ data module, use a 4-wire digital line circuit pack. With the 8400B+ data module, use a 2-wire digital line circuit pack.

   In place of a 7400B+ data module, you can use a 7400A data module. If you do, see Set the Data Module to DCE Mode on page 458.

2. Wire the digital line circuit pack to the wall jack as follows:
   - For a 7400B+, wire to the second and third pair of the wall jack.
   - For an 8400B+, wire to the first pair of the wall jack.

After connecting the data module, check the Set the Data Module to DCE Mode on page 458 and perform any necessary tasks.

Return to Task List

Figure 168: A typical remote connection using an 8400B (top) or 7400B (bottom) data module

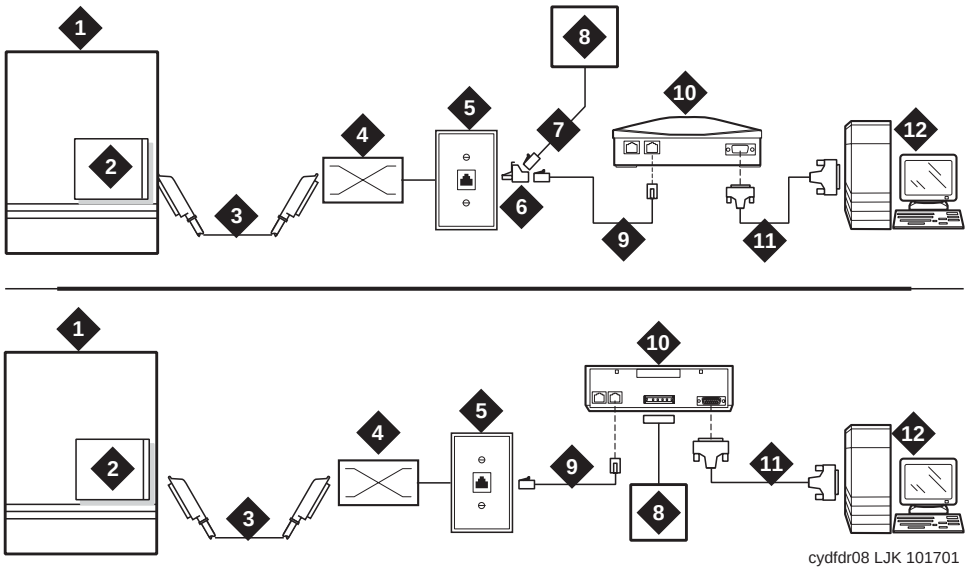


Figure notes

1	Avaya Media Gateway	**7**	D6AP power cord (8400B+ only)
2	Digital line circuit pack	**8**	Data module power supply
3	B25A 25-pair cable	**9**	7-ft (2-m) D8W modular cord
4	Main distribution frame (MDF)	**10**	Data module (8400B+ [top] or 7400B+ [bottom])
5	103A or Avaya modular wall jack	**11**	50-ft (15-m) M25A cable (RS-232)
6	400B2 adapter	**12**	Computer with Avaya Site Administration

Return to Task List

Connect Remotely to the Avaya Media Gateway Through a Modem

Return to Task List

You can connect a PC to the Avaya Media Gateway through an analog modem to an INADS port.

Connect the equipment as shown in Figure 169, A typical remote connection through a modem to access a remote Avaya Media Gateway, on page 457.

Follow these steps to connect to the Avaya Media Gateway through a modem.

1. Connect the computer to the modem.
2. Connect an analog telephone line to the leftmost analog-line port on the modem.
3. Make sure that the modem's DIP switches are set as shown in U.S. Robotics Modem DIP Switch Settings on page 457.
4. Plug the modem into an AC power outlet.
5. Turn on the modem.

6 Set the following port settings:

Baud rate	9600
Data bits	8
Parity	None
Stop bits	1
Flow control	hardware

Figure 169: A typical remote connection through a modem to access a remote Avaya Media Gateway

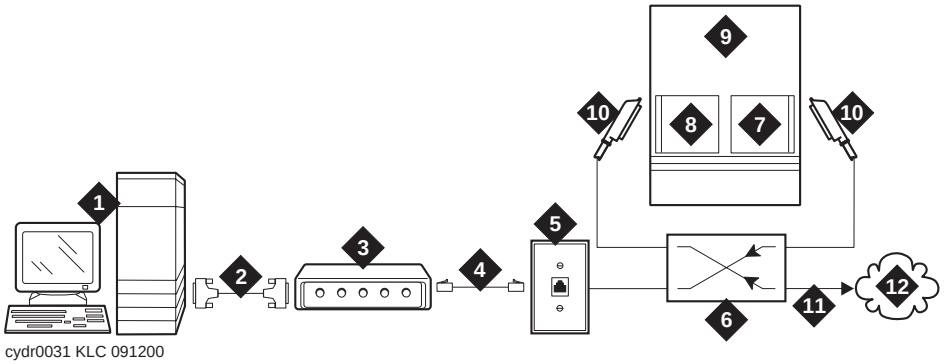


Figure notes

1 Computer with Avaya Site Administration

2 50-ft (15-m) M25A cable (RS-232—9-25 pin adapter if needed)

3 Analog modem

4 7-ft (2-m) D2W modular cord

5 103A or Avaya modular wall jack

6 Main distribution frame (MDF)

7 Analog line circuit pack

8 Analog trunk circuit pack
Packet data line (r)
Data line (r)

9 Avaya Media Gateway

10 B25A cable

11 Analog line

U.S. Robotics Modem DIP Switch Settings		
Dip Switch	**Setting**	**Description**
1	UP **DOWN**	Data Terminal Ready normal **Data Terminal Ready override**
2	UP **DOWN**	Verbal result codes **Numeric result codes**
3	UP **DOWN**	Suppress result codes **Display result codes**

U.S. Robotics Modem DIP Switch Settings		
Dip Switch	**Setting**	**Description**
4	UP **DOWN**	Echo offline commands **No echo, offline commands**
5	UP **DOWN**	Auto answer on first ring or higher if specified in NVRAM Auto answer off
6	UP **DOWN**	Carrier detect normal **Carrier detect override**
7	UP **DOWN**	Load NVRAM defaults **Load factory defaults**
8	UP **DOWN**	Dumb mode **Smart mode**

Return to Task List

Set the Data Module to DCE Mode

Return to Task List

1. Cycle the power to the data module.

   The unit performs a self test and displays its operating mode. Observe the display.

   If the display reads DCE mode, proceed to Add a Data Module to the Switch on page 458.

2. If the display reads DTE mode, reverse the mode select circuit board:

   Remove the power cord from the unit, remove the cover from the top rear of the unit, remove the mode select circuit board and turn it around, replace the cover, and connect the power cord.

   The unit performs a self test.

   NOTE:
   The power LED must be steady on. If the power LED is blinking, the data module is not communicating with the Avaya Media Gateway. Check the wiring at the MDF, wall jacks, and data module.

Return to Task List

Add a Data Module to the Switch

Return to Task List

1. Add the data module administratively to the switch by typing add data-module ***number*** or **add data-module *next*** and pressing **Enter**.
2. In the `Type:` field, type **pdm** and press **Enter**.
3. In the `Port:` field, type the location of the digital line circuit pack connected to the data module (for example 01A1503).
4. If system access ports and hunt groups have not been set up, set them up.

   Refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Return to Task List

Test Data Module Hardware Connections

Return to Task List

Find your data module in the table below and follow the instructions for testing and troubleshooting it.

Type of Data Module	How to Test and Troubleshoot
8400B+	The red LED should be steady on. If the red and green LEDs are blinking, the unit is not communicating with the Avaya Media Gateway. Check the wiring at the MDF, wall jack, and the 8400B+.
7400B+	The Power and TR LEDs should be steady on. If the Power and Data LEDs are blinking, the unit is not communicating with the Avaya Media Gateway. Check the wiring at the MDF, wall jack, and the 7400B+.
7400A	Set the 7400A to DCE mode. The Power LED must be steady on. The DTR, DSR, DCD, RTS, and CTS settings must be highlighted in the display. If the Power LED is blinking, the data module is not communicating with the Avaya Media Gateway. Check the wiring at the MDF, wall jack, and 7400A.

Return to Task List

Set the Data Module Operating Mode

Return to Task List

1. Connect an RS-232 cable from the Avaya Site Administration computer to the data module.
2. If you are using an 8400B+, connect the Avaya Site Administration computer to the data module using the supplied adapter cable.
3. Using a terminal emulator, connect to the serial port to which the data module is connected, and set the emulation to **vt100** mode.
4. Type **AT** at the prompt and press **Enter**.
5. The data module should return an `OK`. If it does not, be sure that a standard RS-232 or EIA-232 cable is connected (not a null modem cable).
6. Set the operating mode:

Type of Data Module	How to set the operating mode
8400B+	Type **AT&F** and press **Enter**. Type **ATS24=1** and press **Enter**. Type **AT&WØ** and press **Enter** to save the operating mode into non-volatile RAM.
7400A 7400B+	Type **AT&F** and press **Enter**. Type **AT&WØ** and press **Enter** to save the operating mode into non-volatile RAM.

7 Disconnect the terminal from the data module and reconnect the data module to the system cabling.

Return to Task List

Set the 7400B+ Data Module Options

Return to Task List

1 Set the DIP switches for the 7400B+ using DIP Switch Settings (7400B+) on page 460.

The DIP switches are located inside the unit. To access them, remove the power cord from the unit, remove the cover from the top rear of the unit, set the dip switches, replace the cover, and connect the power cord.

The unit performs a self test.

2 If any switches were set in step 1, cycle the power to the data module so that the firmware can read the new switch settings.

DIP Switch Settings (7400B+)		
Option	**DIP Switch**	**Setting**
No Telephone Connected	1	On
Data Metering	5	Off
Suppress Touch-tone/Dial Tone	6	Off
Speakerphone Disable/Enable	7	Off
Busyout on Local Loop	8	Off
Unused DIP Switches	2, 3, and 4	Off

Return to Task List

Activate the System

Return to Task List

NOTE:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

CAUTION:
It may be necessary to reseat circuit packs. To prevent damage from static electricity, always wear an Electromagnetic Compatibility (EMC) wrist strap when handling all system components.

Task List: Activate the System

1. Install Translation Flash Memory Card (Avaya DEFINITY Server si) on page 461 or Install Removable Media (MCC1 only) on page 461
2. Power Up AC-Powered System on page 462 or Power Up DC-Powered System on page 462
3. Verify Messages on Terminal on page 463

Return to Task List

Install Translation Flash Memory Card (Avaya DEFINITY Server si)

Return to Task List

1. Insert the translation card into processor circuit pack.

Return to Task List

Install Removable Media (MCC1 only)

Return to Task List

1. Insert the formatted removable media, label facing left, into the optical drive (see Figure 170, TN2211 Optical Drive, on page 461).

NOTE:
Make sure the formatted removable media is not write-protected (see Figure 171, Make sure the disk is not write protected, on page 462) before placing it into the optical drive.

Figure 170: TN2211 Optical Drive

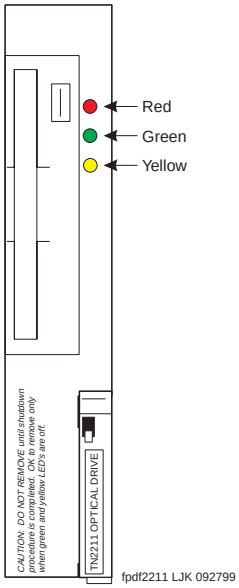


Figure 171: Make sure the disk is not write protected

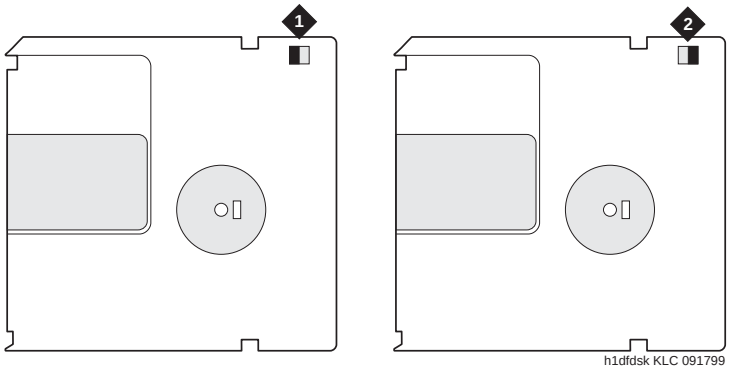


Figure notes

1 Not write protected **2** Write protected

Return to Task List

Power Up AC-Powered System

Return to Task List

1 Set the associated circuit breakers on the AC power panel **ON**.

> **NOTE:**
> If the system is high or critical reliability, power-up the Expansion Port Network (EPN) first, then the Processor Port Network (PPN). *Always* power up the control cabinet *last*.

2 At the rear of each cabinet, set the circuit breaker to **ON**. This starts the system initialization and test. Some red lights may be on but will be turned off by other procedures in this chapter.

Power Up DC-Powered System

Return to Task List

1 At the DC Battery Cabinet (if installed), set the circuit breaker to **ON**.

2 At the DC Power Cabinet, set the circuit breakers on the associated rectifiers **ON**.

This starts the system initialization and test. Some red LEDs may be on but are turned off by other procedures in this section

3 At the rear of each Power Distribution Unit (if installed), set the circuit breaker to **ON**.

> **NOTE:**
> If the system is high or critical reliability, power-up the Expansion Port Network (EPN) first, then the Processor Port Network (PPN). *Always* power up the control cabinet *last*.

Return to Task List

Verify Messages on Terminal

Return to Task List

1 After several minutes, verify all tests pass. Figure 172, Typical Start-up Messages, on page 463 displays the screen of a typical DEFINITY ECS.

NOTE:
If any of the screen messages indicate a test has failed or if the message `spe down mode` displays, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* to clear the trouble, or call your Avaya representative.

2 About two minutes after `REBOOT PERFORMED` is displayed, verify the screen displays: `Login:`

Figure 172: Typical Start-up Messages

```
INTERNAL REGISTER TEST                PASSED
LOOP DATA TEST                        PASSED
DUART TEST                            PASSED
ROM CHECKSUM TEST                     PASSED
CONTROL STATUS TEST                   PASSED
DCACHE TEST                           PASSED
ICACHE TEST                           PASSED
WRITE BUFFER TEST                     PASSED
BTO TEST                              PASSED
MEM CONFIG TEST                       PASSED
MEMORY FUNCTIONAL TEST                PASSED
MEMORY MODULE A STUCK BIT TEST        PASSED
MEMORY MODULE A PARITY TEST           PASSED
MEMORY MODULE A BURST TEST            PASSED
MEMORY MODULE B STUCK BIT TEST        PASSED
MEMORY MODULE B PARITY TEST           PASSED
MEMORY MODULE B BURST TEST            PASSED
MEMORY MODULE C STUCK BIT TEST        PASSED
MEMORY MODULE C PARITY TEST           PASSED
MEMORY MODULE C BURST TEST            PASSED
VIRTUAL MEMORY TEST                   PASSED
EXCEPTION TEST                        PASSED
TIMER TEST                            PASSED
MTP TEST                              PASSED
SANITY TIMER TEST                     PASSED
ADDRESS MATCHER TEST                  PASSED
FLASH DATA CHECKSUM TEST              PASSED
RAM DATA CHECKSUM TEST                PASSED
RESET 4 (REBOOT PERFORMED)
```

Return to Task List

Administer the System

Return to Task List

NOTE:
The following sections describe some of the procedures used to access and change certain options. These sections are not intended to replace or modify the instructions provided in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Task List: Administer the System

1. Log in to the System on page 464
2. Deliver or install the License File on page 464
3. Administer no-license/emergency numbers on page 467
4. Change Site Data (MCC1 only) on page 467
5. Change Cabinet 1 (MCC1 only) on page 467
6. Add Cabinet 2 through N (AvayaDEFINITY Server r) on page 469
7. Set Country Options on page 470
8. Change the Password on page 472
9. Set Daylight Savings Rules on page 473
10. Set Date and Time on page 474

Log in to the System

Return to Task List

1. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password. You may have to contact Avaya to get the **dadmin** password.

2. Verify the screen displays `password:`
3. Type the default password and press **Enter**.

   For security reasons, the password is not displayed as it is typed. The system verifies a valid login and password name were entered.
4. If an invalid login or password name was entered, the screen displays `login incorrect:` In this case, repeat the procedure using the correct login and matching password.
5. If the system recognizes the login and password name, the screen displays the software version. Verify the screen display is similar to:

   ```
   Terminal Type (513, 715, 4410, 4425, VT220): [715]
   ```

6. Type the number of the management terminal and press **Enter**.
7. Verify the screen displays `command:`

Return to Task List

Deliver or install the License File

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:

   — Direct connection between the switch and RFA

   — No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

   Wait until the system has completely reset before continuing.
6. Type **change cabinet 1** and press **Enter**.

   In the `Carrier Type` column change the "B" carrier to **processor** and submit the form.
7. Type **change system-parameters duplication** and press **Enter**.

   Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.
8. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
9. Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
2. Type **reset system 3** and press **Enter**.

   Wait until the system has completely reset before continuing.
3. If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

   This disconnects (unregisters) all IP endpoints.
4. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
5. Use one of these installation methods:

   — Direct connection between the switch and RFA

   — No connection between the switch and RFA

New or upgraded G3si only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Return to Task List

Administer no-license/emergency numbers

Return to Task List

If the system enters a No-License mode, the switch only processes emergency calls. Use this procedure to adminster the emergency numbers for No-License mode situations.

1. At the SAT, type **change system-parameters features** and press **Enter**.

   The ***Feature-Related System Parameters*** screen displays.

2. In the `Emergency Numbers - Internal` field (optional) type a valid extension.

   NOTE:
   This field is intended for campus environments where there is an internal emergency number that people are directed to use instead of 911. Calls to other extensions will not go through. This number cannot be a hunt group or ACD number.

3. In the `Emergency Number - External` field (required) type a 21-digit, dialpad-valid character string that can include trunk access codes. The default for this field is **911**.

4. In the `No-License Incoming Call Number` field (optional) type a valid extension.

   NOTE:
   All calls are not rerouted to this number; only calls to this number get through. This number cannot be a hunt group or ACD number.

5. Press **Enter** to save the changes.

Return to Task List

Change Site Data (MCC1 only)

Return to Task List

This screen initializes the building, floor, and color data to make them available later in help messages that refer to site.

1. Type **change site-data** and press **Enter**.
2. Type in the optional names for the buildings or offices served by the system.
3. Access the remaining site-data pages and fill them in appropriately.

Change Cabinet 1 (MCC1 only)

Return to Task List

If you are not familiar with the fields on the Cabinet Administration form, refer to Cabinet Field Descriptions on page 468 and Carrier Descriptions on page 468,

1. Type **change cabinet 1** and press **Enter**. A screen similar to Figure 173, Cabinet Administration form, on page 469 appears.
2. Fill in the blanks as required by the location and nature of the cabinet. If the system is critical reliability, verify the `B` field is set to the **processor** option, the `D` field is set to the **dup-sw-node** option, and the `E` field is set to the **switch-node** option.

Cabinet Field Descriptions	
Field Name	**Field Description**
Cabinet	Display-only field. This field shows the cabinet number as entered in the command line.
Cabinet Layout	Enter the type of physical carrier layout. Valid entries are **five-carrier** and **single-carrier-stack**. Default is blank.
Cabinet Type	Display-only field. This field shows the type of cabinet being administered. If cabinet **01** is being administered, this field is **processor**. If cabinets **02 through 44** are being administered, this field is **expansion-portnetwork**.
Number of Port Networks	Enter the number of PNs in the cabinet. Valid entries are **1** (default), and **2**.
Survivable Remote EPN	Displays only if the Cabinet Type field is **expansion-portnetwork**. If set to **y**, the cabinet has a remote si processor that provides a backup if the links to this cabinet are inoperative.
Survivable Remote Processor ID	Displays only if the Survivable Remote EPN field is **y**. Enter the product ID assigned to the remote si. This allows DEFINITY Fault Management to know which machine is the backup for this cabinet. The entry in this field cannot be the same as the entry in the Production Identification field in the ***Maintenance-Related System Parameters*** form.
Room	Enter up to ten characters identifying the room where the cabinet is located. Default is blank.
Floor	Enter up to ten characters identifying the floor in the building where the cabinet is located. Default is blank.
Building	Enter up to ten characters identifying the building where the cabinet is located. Default is blank.

Carrier Descriptions	
Carrier Type	Enter the type of carrier in the cabinet being administered. Valid entries are **dup-switch-node**, **expansion-control**, **not-used**, **port**, **processor**, and **switch-node**.

Carrier Descriptions	
Number	Display-only field. Consists of two fields: the Designator and **Number** fields. The Designator field contains one of the following entries: **PN —** If the carrier is a port carrier, processor carrier, or unused carrier. **SN** — If the carrier is a switch node carrier, or duplicate switch node carrier. The Number field contains either the switch node number or port network number.
Duplicate	The location for the duplicate of a switch node. Only displays when administration of PNC Duplication is enabled. If the Carrier Type is **dup-switch-node**, the field displays the three-character carrier address of the duplicate. The first two characters represent the cabinet number; the third character represents the carrier (A through E). This is a display-only field if the Carrier Type field is **switch-node**.

Figure 173: Cabinet Administration form

```
                                                              Page 1 of 1
                                    CABINET
CABINET DESCRIPTION
                  Cabinet: 1
           Cabinet Layout: five-carrier_________
             Cabinet Type: processor______________
  Number of Portnetworks: 1
   Survivable Remote EPN: _          Survivable Remote Processor ID: _____
                    Room: __________
                   Floor: __________
                Building: __________
CARRIER DESCRIPTION
  Carrier       Carrier Type        Number     Duplicate
     C        port_____________     PN  01       ___
     B        processor________     PN  01       ___
     A        processor             PN  01       ___
     X        Fan
     D        dup-sw-node______     SN  01       01E
     E        switch-node______     SN  01       01D
```

Return to Task List

Add Cabinet 2 through N (AvayaDEFINITY Server r)

Return to Task List

1. Type **add cabinet *<2-44>*** and press **Enter**. See Figure 174, Typical Add Cabinet Form, on page 470.
2. Fill in the blanks as required by the location and nature of the cabinet.

Figure 174: Typical Add Cabinet Form

```
                                                                Page 1 of 1
                                     CABINET
CABINET DESCRIPTION
                  Cabinet: 5
           Cabinet Layout: _____________________
             Cabinet Type: expansion-port network
  Number of Portnetworks: 1
   Survivable Remote EPN: _          Survivable Remote Processor ID: _____
                    Room: __________
                   Floor: __________
                Building: __________
CARRIER DESCRIPTION
  Carrier       Carrier Type        Number     Duplicate
```

Return to Task List

Set Country Options

Return to Task List

Certain country options need to be set to turn red failure indication LEDs off. Refer to Table 16, Country Codes, on page 471 for a list of country codes.

1. Type **change system-parameters country options** and press **Enter**.

   A screen similar to Figure 175, Typical System Parameters Country-Options Screen, on page 472 is displayed. The cursor is set on the `Companding Mode` line.

2. If the country uses A-Law companding, type **A-Law** and press **Enter**.

   The default companding mode is mu-Law.

   Other items eventually need to be entered on this screen, but this is all that must be done to turn the red alarm LEDs off.

3. If all red LEDs do not go off, reseat (unplug and reinsert) any *port* circuit packs displaying red LEDs.

   CAUTION:
   To avoid a disk crash, *never* reseat the DEFINITY AUDIX System without first shutting it down. Shut down the DEFINITY AUDIX System (and allow the disk to completely spin down) before unplugging the assembly. See DEFINITY AUDIX System Power Procedures on page 451 for the proper procedures.

4 If the red LEDs still do not go off, refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* or *Maintenance for Avaya DEFINITY® Server R (555-233-117).*

NOTE:
Ignore the red alarm indication LED on the TN767E or TN464GP/2464 DS1 circuit pack until after the DS1 circuit pack is administered. Alarms will appear in the Alarm Log when power is applied to the system before all equipment connecting to port circuit packs is installed. Normally, some alarms will be logged when power is applied to the system, but should be resolved quickly. If no equipment is connected to the port circuit packs, alarms associated with these ports can take up to four hours to log, but will clear automatically after all equipment is installed and operating correctly.

Table 16: Country Codes

Country	Code	Country	Code
USA	1	Czechoslovakia	14
Australia	2	Russia	15
Japan	3	Argentina	16
Italy	4	Greece	17
Netherlands	5	China	18
Singapore	6	Hong Kong	19
Mexico	7	Thailand	20
Belgium	8	Macedonia	21
Saudi Arabia	9	Poland	22
United Kingdom	10	Brazil	23
Spain	11	Nordic	24
France	12	South Africa	25
Germany	13		

Figure 175: Typical System Parameters Country-Options Screen

```
change system-parameters country-options                    Page   1 of  21
                     SYSTEM PARAMETERS COUNTRY-OPTIONS

            Companding Mode: A-Law                Base Tone Generator Set: 4
        440Hz PBX-dial Tone? n                  440Hz Secondary-dial Tone? n
          Digital Loss Plan: 1
      Analog Ringing Cadence: 1       Set Layer 1 timer T1 to 30 seconds? n
  Analog Line Transmission: 1     Enhanced 84xx Display Character Set? y


TONE DETECTION PARAMETERS
         Tone Detection Mode: 6
            Interdigit Pause: short
```

Return to Task List

Change the Password

Return to Task List

Change the password for the **craft** login to prevent unauthorized administration changes.

> **NOTE:**
> If you are using a **dadmin** login and password, you can skip this procedure or change the **dadmin** password if you want.

> **CAUTION:**
> After changing the password, safeguard the new password so no unauthorized administration changes can be made. DO NOT REVEAL this password to any unauthorized person.

Passwords are changed using the ***PASSWORD ADMINISTRATION*** screen. See Figure 176, Typical Change Password Screen, on page 473.

1. Verify the screen displays `command:`
2. Type **change password *craft*** and press **Enter**.
3. Verify the screen displays the ***PASSWORD ADMINISTRATION*** screen.

   The cursor is positioned on `Password of Login Making Change:`
4. Type the craft default password and press **Enter**.

   The cursor is positioned on `Login's Password`.

5 Enter new password and press **Enter**.

Valid passwords consist of a combination of from 4 to 11 alphanumeric characters. At least one letter and one digit must be used in each password.

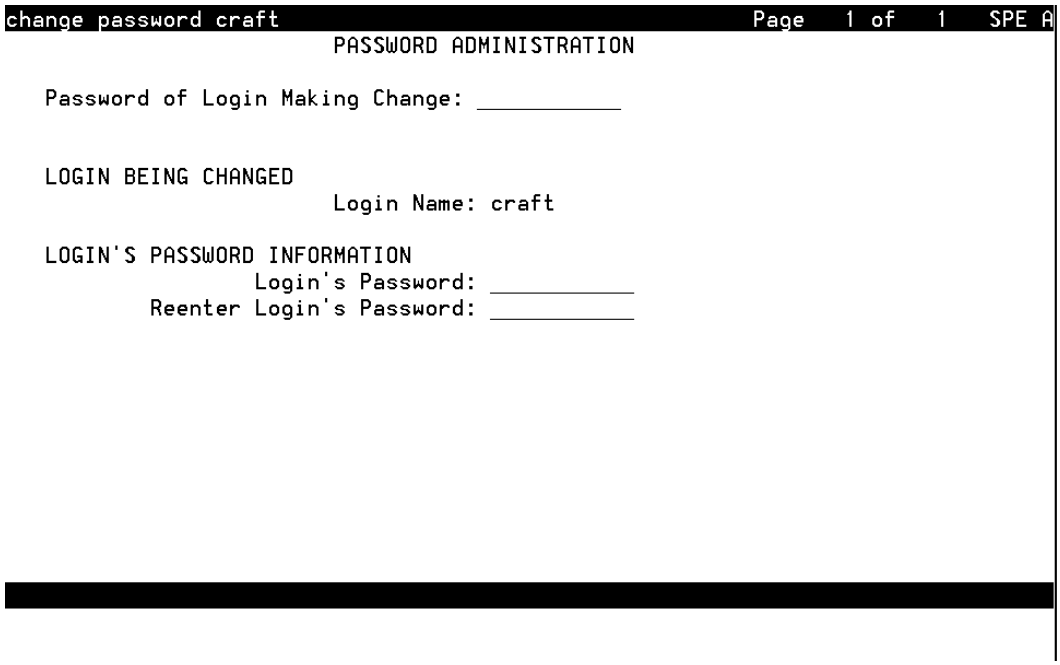
6 The cursor is positioned on `Reenter Login's Password:`.

7 Type new password again and press **Enter**.

8 Verify the screen displays:

`command successfully completed`

Figure 176: Typical Change Password Screen



Return to Task List

Set Daylight Savings Rules

Return to Task List

You can set up to 15 customized daylight savings rules. See Figure 177, Typical Daylight Savings Time Rules, on page 474. If you have switches in several different time zones, you can set up rules for each. A daylight savings time rule specifies the exact time when you want to transition to and from daylight savings time. It also specifies the increment at which to transition.

1 Type **change daylight-savings-rules** and press **Enter**.

2 Type the appropriate start and stop information in the `Change Day`, `Month`, `Date`, `Time`, and `Increment` (for example, **1:00** equals one hour) fields for each rule.

NOTE:
You can change any rule except rule 0 (zero). You cannot delete a daylight savings rule if it is in use on either the ***Locations*** or ***Date and Time*** screens.

3 Press **Enter**.

Figure 177: Typical Daylight Savings Time Rules

```
DAYLIGHT SAVINGS RULES
Rule            Change Day           Month    Date Time    Increment

0:  No Daylight Savings

1:  Start: first Sunday___ on or after April____ 1 at _3:00  01:00
    Stop:  first Sunday___ on or after October_ 25 at _3:00
2:  Start: first Sunday___ on or after April___ 1  at _4:00  01:00
    Stop:  first Sunday___ on or after October_ 25 at _3:00
3:  Start: first _________ on or after ________ __ at __:__
    Stop:  first _________ on or after ________ __ at __:__
4:  Start: first _________ on or after ________ __ at __:__
    Stop:  first _________ on or after ________ __ at __:__
5:  Start: first _________ on or after ________ __ at __:__
    Stop:  first _________ on or after ________ __ at __:__
6:  Start: first _________ on or after ________ __ at __:__
    Stop:  first _________ on or after ________ __ at __:__
7:  Start: first _________ on or after ________ __ at __:__
    Stop:  first _________ on or after ________ __ at __:__
```

Return to Task List

Set Date and Time

Return to Task List

1 Type **set time** and press **Enter**.

2 Verify the screen displays the ***Date and Time*** screen. See Figure 178, Typical Date and Time Screen, on page 475. The cursor is positioned on the `Day of the Week:` field.

3 Type the day of the week in English (Sunday through Saturday) and press **Tab** to move to next field. See Table 17, English Day of the Week Names, on page 475 for English day of the week names.

4 The cursor is positioned on the `Month:` field. Type the current month in English (January through December). See Table 18, English Month Names, on page 475 for English month names. After the month is entered, press **Tab** to move to next field.

5 The cursor is positioned on the `Day of the Month:` field. Type the day of month (1 through 31) and press **Tab** to move to the next field.

6 The cursor is positioned on the `Year:` field. Type the current year and press **Tab** to move to the next field.

7 The cursor is positioned on the `Hour:` field. Type the current hour for a 24-hour clock. See Table 19, Conversion to 24-Hour Clock, on page 476. Press **Tab** to move to the next field.

8 The cursor is positioned on the `Minute:` field. Type current minute (0 through 59). Seconds cannot be set.

9 Type **standard** or **daylight savings** in the `Type` field.

10 Type the rule (number) in the `Daylight Savings Rule` field.

11 Press **Enter** when the information is correct.

12 Verify the screen displays:

```
command successfully completed
```

13 Type **display time**, and press **Enter** to verify date/time data.

Figure 178: Typical Date and Time Screen

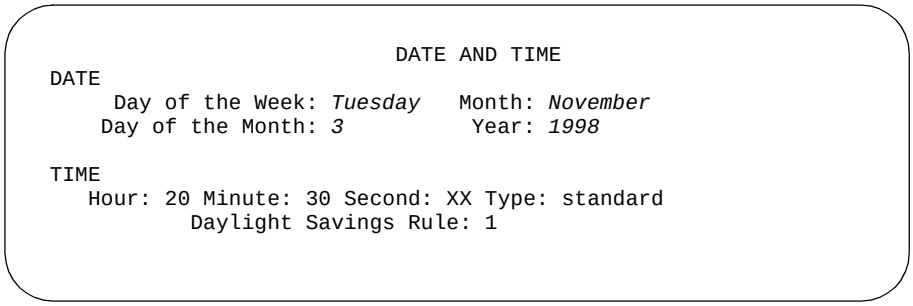


Table 17: English Day of the Week Names

Day Number	Day Name
1	Sunday
2	Monday
3	Tuesday
4	Wednesday
5	Thursday
6	Friday
7	Saturday

Table 18: English Month Names

Month Number	Month Name
1	January
2	February
3	March
4	April
5	May
6	June
7	July

1 of 2

Table 18: English Month Names

Month Number	Month Name
8	August
9	September
10	October
11	November
12	December
	2 of 2

Table 19: Conversion to 24-Hour Clock

Standard Time		Standard Time	
12-Hour	**24-Hour**	**12-Hour**	**24-Hour**
12:00 midnight	0000	12:00 noon	1200
1:00 am	0100	1:00 pm	1300
2:00 am	0200	2:00 pm	1400
3:00 am	0300	3:00 pm	1500
4:00 am	0400	4:00 pm	1600
5:00 am	0500	5:00 pm	1700
6:00 am	0600	6:00 pm	1800
7:00 am	0700	7:00 pm	1900
8:00 am	0800	8:00 pm	2000
9:00 am	0900	9:00 pm	2100
10:00 am	1000	10:00 pm	2200
11:00 am	1100	11:00 pm	2300

Return to Task List

Reboot High Reliability System (MCC1 only)

Return to Task List

1. Type **reset system 4** and press **Enter**.
2. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

3. About 8 minutes after booting, type **status spe** and press **Enter**.
4. Verify that `handshake`, `shadowing`, and `refreshed` are all shown to be either **yes** or **on**.

Enable Duplication and Boot Critical Reliability System (Avaya DEFINITY Server r)

Return to Task List

1. Type **change system-parameters duplication** and press **Enter**.
2. Make sure duplication of both SPE and PNC are enabled on the screen that follows the command. Confirm that **y** is the value in both fields.
3. Type **save translation** and press **Enter**.
4. Type **reset system 4** and press **Enter** to reboot the system.
5. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

6. About 8 minutes after booting the system, type **status spe** and press **Enter**.
7. Verify that `handshake`, `shadowing`, and `refreshed` are all shown to be either **yes** or **on**.

Return to Task List

Administer Attendant Console

Return to Task List

1. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **display system-parameters country-options** and press **Enter** to verify the system's companding mode for its local stations is set to the desired value (usually, A-Law for Europe and mu-Law for North America and Japan).
3. If necessary, type **change terminal-parameters** and press **Enter** to change the default system-level parameters and audio levels for these terminals.
4. Administer other forms for Attendant Console (refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)* for more information).

Return to Task List

Save Translations (Avaya DEFINITY Server si)

Return to Task List

This command copies the current system translations onto the translation card or removable media. For Standard Reliability systems, one translation card plus one backup is required. For High or Critical Reliability systems, two translation cards plus two backups are required.

CAUTION:
Do not attempt to save translations on the orange-labeled generic program card. Use the white translation card.

The following procedure can be used to save system translations on the original card(s) and can also can be used to make a backup card or cards:

1. Type **save translation** and press **Enter**.
2. Verify a **0** is displayed in the `Error Code` column for each Switch Processing Element (SPE). A **0** indicates the **save translation** was successfully completed. If a **0** did not appear, the **save translation** did not complete. Record the error code number and the error message and notify your Avaya representative.
3. Remove the original translation card from the processor circuit pack and replace it with the backup card.
4. Repeat steps 1 through 4 for the backup card.
5. Remove the backup translation card from the processor circuit pack and replace it with the original translation card.
6. Label the backup card with the date and time of the backup. Store the backup card in a secure place.
7. Repeat this process for High or Critical Reliability systems.

Return to Task List

Save Translations (Avaya DEFINITY Server r)

Return to Task List

This command copies the current system translations onto the translation card or removable media. For standard reliability systems, one removable media for backup is required. For high or critical reliability systems, two removable media for backup are required.

To copy the current system translations onto both disks:

1. Type **save translation** and press **Enter**.
2. Verify the save completes to both disks and returns a result code of "**0**" (zero).

Add Translations (Avaya DEFINITY Server si)

Return to Task List

1. To add new terminals, refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
2. Type **save translation** and press **Enter** to merge these translations with the contents of Flash memory.

Add Translations (Avaya DEFINITY Server r)

Return to Task List

1. To add new terminals, refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
2. Type **save translation** and press **Enter** to merge these translations with the contents of the disk.
3. If a standard reliability: type **backup disk incremental**
   or
   If a high or critical reliability: type **backup disk incremental *both*** and press **Enter**.

Resolve Alarms

Return to Task List

1 Type **display alarms** and press **Enter**.

Examine the alarm log. Resolve any alarms that may exist using the *Maintenance for Avaya DEFINITY® Server (555-233-117)* manual.

CAUTION:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed. This section describes basic system start-up procedures only and is not intended to identify all system alarms or error conditions.

Return to Task List

Register the Switch for Maintenance

Return to Task List

The Automatic Registration Tool (ART) is a web-based tool that permits field technicians and TSO Database Administration (DBA) to register U.S. direct channel products.

The product that you are registering must have switch connectivity through:

- The INADS line
- An IP address

NOTE:
ART is not accessible from the public internet (outside the Avaya intranet firewall).

1 At your laptop/PC, direct your browser to this URL:

http://spiexp1.eng.avaya.com:8000/cgi-bin/ART/ARTstart.cgi

You can also save this URL in your *Favorites* or *Bookmarks* list.

The ART User Menu displays.

2 Click on the *Register a Product* button.

The Enter Network Password dialog box appears.

3 Type your ART **User Name** and **Password** in the indicated fields.

NOTE:
ART user IDs and passwords are unique to ART, and are not the same as other user IDs and passwords. If you are a first-time user and do not have an ART user ID and password:

a Go back to the ART User Menu and click on the *Administer My User ID/Password* button.

b Follow the instructions on the User ID and Password page to create your ART user ID and password.

Unless you exit and restart your browser, you do not need to re-enter your user ID and password to perform other ART operations.

The ART Start of Product Registration page appears, and the ART session ID appears in the middle of the screen.

4 Type the Installation Location or Sold-To data in the `FL/Sold-To Number` field.

NOTE:
Sold-To number replaces the FL numbers as customer-site identifiers in the Maestro database.

- Sold-To numbers are typically 7 digits long, sometimes beginning with an upper-case “S” followed by two zeros, for example: **S001234567**.
- FL numbers are 10-12 letters or digits.

5 In the `Session Type` field, select:

— *NEW INSTALL REGISTRATION* for products that are initially installed at a customer site.

— *UPGRADE REGISTRATION* for all subsequent product registrations.

6 In the `Product Type` field choose *DEFINITY* for the following products:

7 Click on the *Start Product Registration* button.

8 If the data you have entered matches a Maestro database record, the Customer Verification page appears.

9 Verify the information in the `Customer Name` and `Customer Address` fields.

If the information is not what you expected, ensure that you entered the customer’s FL/Sold-To number correctly (Step 4 above). If you entered an incorrect number:

a Click on the *Abort Upgrade Registration Session* button at the bottom of the screen.

CAUTION:
DO NOT exit your browser to abort the session. This can result in an incomplete upgrade registration.

b Return to the ART User Menu page to begin a new session.

If the FL/Sold-To number matches multiple customers in the database, ART displays the name and address of each customer with a button to select for this registration session.

10 In the `Customer Type` field, select

— *GOODYEAR, MOTEL 6, STATE FARM*

— *IN CINCINNATI BELL SERVICE AREA*

— *OTHER*

11 Click on the *Continue Upgrade Registration* button.

The DEFINITY Product List page appears.

12 Look in the product table (first column heading is “#”) to find the row for the product that you want to register. Click on the number in the far-left column (“#”) of the correct row.

NOTE:
It might be helpful to identify the product by looking at the *Product Nickname*, *Product Alarm ID*, *INADS Number*, *Serial Number*, or *IP Address* columns in the table.

If the product is not shown in the table, or if you are not sure whether a listed product is the one you want to register, contact the DBA group for assistance (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2).

Four new fields appear.

13 In the `Data Lock` field, choose:

- *YES* for products with ASG enabled
- *NO* for all others

14 In the `Dialing Type` field choose the dialing type that the product will use to report alarms:

- *DON'T CHANGE* to leave the product's dialing type unchanged
- *TONE* for DTMF dialing
- *PULSE* for rotary or pulse dialing

15 In the `Alarm Origination` field choose:

- *DON'T CHANGE* to leave the product's current alarm origination status unchanged (the common choice for upgrades).
- *YES* to enable alarm origination.
- *NO* for no alarm origination.

16 In the `Alarm Destination` field, choose

- *DON'T CHANGE* to leave the product's currently-administered alarm origination number unchanged (the common choice for upgrades).
- *SET NUMBER TO* and type the complete alarm destination telephone number, including any dialing prefix (for example, "9" or "*9"). The default value in this field is the TSO-Denver number (18005353573).

17 Click on the *Continue Registration* button at the bottom of the page.

ART begins automatically registering the product and displays progress messages to indicate the current status.

CAUTION:

DO NOT exit your browser or click on the **Refresh**, **Back**, **Stop**, or **Home** buttons while ART displays these progress messages.

If you have to abort your registration, click on the **Abort Session** button that appears with one of the progress messages.

If the preceding steps have been completed successfully, ART displays the DEFINITY Upgrade Registration Report.

18 Review the information displayed in the report.

If any of the data are incorrect, contact the DBA Group (1-800-248-1234, selecting prompt, 2, prompt 6, then prompt 2) immediately for assistance.

19 Save the DEFINITY Upgrade Registration Report in a file for future reference or print the report and keep the copy.

Log off the System

Return to Task List

1 Type **logoff**.

The `login:` prompt appears on the screen.

Test the System

This section provides tests to:

- review the status of the system
- test the tone-clock, TDM bus, and duplication link in the Processor Port Network (PPN)
- test the expansion interfaces, tone-clock(s), TDM buses, and duplication in the Expansion Port Networks (EPNs).

These tests verify the Time Division Multiplexing (TDM) cables, terminators, and the Inter-Cabinet Cables (ICC). If a **FAIL** Result code is seen or other problems are indicated, check these cables. If problems persist, refer to the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation.

See LED Indicators on page 484 for information regarding the LED status indicators for the different circuit packs.

NOTE:
Circuit pack positions are usually given by cabinet, carrier, and slot. They may also be given by port. The term “cabinet” refers either to a stack of SCC1 (Single-Carrier Cabinets) or to an MCC1 (Multi-Carrier Cabinet) making up one port network. A port network is defined as a group of cabinets connected together with one TDM bus.

Task List: Test the System

CAUTION:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

1. Check System Status for Each Cabinet on page 487
2. Check Circuit Pack Configuration on page 489
3. Test Time Division Multiplexing Bus in Processor Port Network on page 490
4. Test Tone-Clock Boards on page 491
5. Test SPE Duplication Memory Shadowing Link (if duplicated) on page 492
6. Test Duplicated Switch Processing Element Interchange (if duplicated) on page 492
7. Test Time Division Multiplexing Bus for Each Expansion Port Network on page 494
8. Test Tone-Clock for Each Expansion Port Network on page 495
9. Test Tone-Clock Interchange for Each Expansion Port Network on page 495
10. Test Expansion Interface Exchange for Each Expansion Port Network on page 495
11. Check Circuit Pack Configuration on page 497
12. Save Translations, if Required on page 497

LED Indicators

Refer to the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation for detailed alarm and LED descriptions. If a maintenance object begins to fail some periodic tests, the system generates an alarm. The system identifies 3 levels of alarms:

- Major Alarms — Failures that cause critical degradation of service and require immediate attention.
- Minor Alarms — Failures that cause some degradation of service, but do not cause a critical portion of the system to be inoperable. This condition requires action, but its consequences are not immediate. Problems might be impaired service to a few trunks or stations or interfering with one feature across the entire system.
- Warning Alarms — Failures that cause no significant degradation of service or failures in equipment external to the system. Warning alarms are not reported to the attendant console or INADS.

Alarms are communicated to the system users and technicians by entries in the alarm log and the lighting of LEDs located on the attendant console, on all circuit packs, and, optionally, on customer-designated voice terminals.

More detailed information is available here for:

- Attendant Console LEDs on page 484
- Terminal Alarm Notification on page 484
- Circuit Pack LEDs on page 485
- DS1 Converter Circuit Pack LEDs on page 485
- SPAN LEDs on page 485
- LEDS on Standby Components on page 485

Attendant Console LEDs

The console has 2 red LEDs, labeled “ALM” and “ACK”. The ALM LED lights steadily when there is a major or minor alarm at the system cabinet. The ACK LED lights steadily if the alarm has been successfully reported to INADS. If the system is unable to report the alarm to INADS, the LED flashes; this signals the attendant to call INADS and report the alarm.

Terminal Alarm Notification

Terminal Alarm Notification is an optional feature that displays several types of alarms on voice terminals with administered feature buttons or the attendant console. A maximum of 10 digital and/or hybrid voice terminals may be used.

When an alarm occurs, the green status LED associated with the assigned button is in a steady state. The LED may be turned off by pressing the button associated with the LED. If the LED is off and the alarm has not been resolved by the time maintenance reschedules testing, the green status LED resumes its steady state.

Circuit Pack LEDs

Typically, each circuit pack has 3 LEDs on the front panel. The

table describes the red, green, and yellow LEDs and their meaning. Also see Figure 179, Circuit Pack LEDs on Faceplate, on page 486.

DS1 Converter Circuit Pack LEDs

Eleven LEDs provide an indication of the state of the Figure 180, TN1654 DS1 Converter Circuit Pack LEDs, on page 487 and the T1/E1 facilities. The top group has the standard red, green and yellow LEDs. The red LED indicates an alarm condition and the green LED indicates testing in progress. The 4 SPAN LEDs indicate the status of the T1/E1 facilities. The four STATUS LEDs are currently unused and remain off.

The yellow LED is used to indicate the state of the fiber interface, the fiber channel, the control channel, and the communications link to the SPE in the following manner and order of priority. See DS1 Converter Yellow LED Flashing States on page 487

SPAN LEDs

The 4 SPAN LEDs indicate the status of the 4 T1/E1 facilities. A SPAN LED is in one of the following states:

- Solid on yellow: Facility is operational and alarm free.
- Blinking yellow for 2 seconds, off 0.1 seconds: Facility is operational and alarm free AND is carrying the control channel (facility A or B only).
- Solid on red: Facility is alarmed.
- Solid off: Facility is not administered or has been busied out.

LEDS on Standby Components

In high and critical reliability systems, duplicated components on standby usually have the yellow LEDs off, with the following exceptions:

- The major, minor and warning alarm LEDs on the SYSAM circuit pack on the standby SPE do not give reliable indications. Note only LEDs on the active SYSAM circuit pack.
- The yellow LED blinks on and off when the standby processor circuit pack is up and standby maintenance is running.
- In high reliability systems with a Center Stage Switch, (duplicated SPE, simplex PNC), the standby Switch Node clock's yellow LED is off. In critical reliability systems, the standby SNC is located on a separate carrier and normally remains lit.
- Yellow LEDs on power units on standby carriers normally remain lit.

CAUTION:
To prevent unnecessary trouble tickets, do not enable the system alarms (Alarm Origination feature) until all installation and administration procedures are completed.

Circuit Pack LEDs		
LED Color	**Status**	**Description**
Red	Alarm	The system has detected a fault in this circuit pack. The alarm log should contain an on-board alarm. The red LED is also lit briefly when a circuit pack is inserted or reset. If the circuit pack passes its initialization tests, the LED goes out.
Green	Testing	The system is currently running tests on this circuit pack as part of background maintenance or demand testing. This LED is also lit during initialization tests when a circuit pack is inserted or reset.
Yellow	Busy	The circuit pack is currently in use by the system.

Figure 179: Circuit Pack LEDs on Faceplate

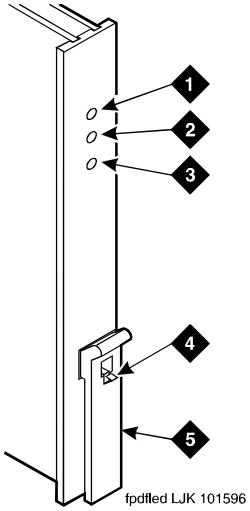


Figure notes

1 Alarm LED (Red)
2 Test LED (Green)
3 Busy LED (Yellow)
4 Latch Pin
5 Locking Lever

Figure 180: TN1654 DS1 Converter Circuit Pack LEDs

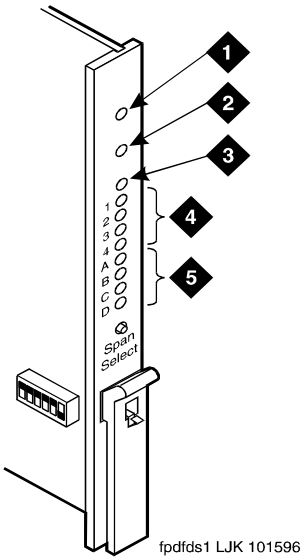


Figure notes

1	Alarm LED (Red)	**4**	STATUS LEDs
2	Test LED (Green)	**5**	SPAN LEDs
3	Busy LED (Yellow)		

DS1 Converter Yellow LED Flashing States		
LED on	**LED off**	**Condition**
0.1 second	0.1 second	Fiber out-of-frame or fiber loss of signal
0.5 second	0.5 second	In frame, fiber channel down. The fiber channel communicating between the DS1 Converter and the other fiber endpoint (EI or SNI) is down.
1 second	1 second	In frame, control channel down. The control channel between the 2 DS1 Converters in the DS1 Converter complex is down.
2 seconds	0.2 second	No response from SPE. The SPE is not acknowledging messages from the DS1 Converter or the communications link to the SPE is down.
solid on		DS1 Converter active. This is the normal state for an active DS1 Converter.
	solid off	DS1 Converter standby. This is the normal state for a standby DS1 Converter in critical reliability systems (duplicated PNC).

Check System Status for Each Cabinet

Return to Task List

The system status may suggest problem areas. Specific tests later provide more specific diagnostic information.

1 If Multi-Carrier Cabinet (MCC1), type **status system *cabinet number <1-44>*** and press **Enter**.
or
If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

2 Verify the screen displays system status screens similar to Figure 181, Sample System Status Screen for Cabinet 1 (Page 1 of 3), on page 488 and to Figure 182, Sample System Status Screen for Cabinet 2 (Page 2 of 3), on page 489.

Verify these service states:

Screen page/section	Field	Service State
Page 1, section 1	Tone/Clock	in
Page 1, section 2	TDM	in
Page 1, section 3	EXP-LINK*	in
Page 2, section 1	Tone/Clock	in (for Cabinet 2)
Page 2, section 2	TDM	in (for Cabinet 2)
Page 2, section 3	EXP-LINK*	in (for Cabinet 2)

* The cabinet/carrier/slot numbers for the fiber optic cables are listed. For example, **01A01** in Figure 181, Sample System Status Screen for Cabinet 1 (Page 1 of 3), on page 488 refers to cabinet stack 01, carrier A, and slot 01.

Figure 181: Sample System Status Screen for Cabinet 1 (Page 1 of 3)

```
status system all-cabinets                                  Page   1 of   3   SPE A
                           SYSTEM STATUS CABINET 1

                      SELECT  SPE ALARMS    TONE/  SERVICE SYSTEM  SYSTEM
 SPE  MODE            SWITCH  MAJOR MINOR   CLOCK  STATE   CLOCK   TONE
 1A   active                 auto  0    0         1A     in     standby standby
 1B   maint/init             auto  0    0         1B     in     active  active

     SERVICE   CONTROL  DEDICATED         SERVICE  BUS ALARMS    BUS   OPEN BUS
TDM  STATE     CHANNEL    TONES      PKT   STATE  MAJOR MINOR   FAULTS  LEADS
 1A    in         y          n       1     in
 1B    in         n          y

 EMERGENCY     SELECT                    SERVICE             CABINET
 TRANSFER      SWITCH      EXP-LINK      STATE     MODE      TYPE
 1A            auto-on     01A01-02A01    in       standby   SCC
 1B            auto-on     01B01-02B02    in       active
```

Figure 182: Sample System Status Screen for Cabinet 2 (Page 2 of 3)

```
status system all-cabinets                                  Page   2 of   3   SPE A
                           SYSTEM STATUS CABINET 2

                  SELECT  SPE ALARMS    TONE/  SERVICE SYSTEM  SYSTEM
 SPE  MODE        SWITCH  MAJOR MINOR   CLOCK  STATE   CLOCK   TONE
 1A   active                 auto  0    0         2A     in     active  active
 1B   maint/init             auto  0    0         2B     in     standby standby
     SERVICE  CONTROL  DEDICATED          SERVICE  BUS ALARMS    BUS   OPEN BUS
TDM  STATE    CHANNEL    TONES      PKT   STATE  MAJOR MINOR   FAULTS LEADS
 2A    in         y          n       2
 2B    in         n          y

 EMERGENCY     SELECT                   SERVICE             CABINET
 TRANSFER      SWITCH      EXP-LINK     STATE     MODE      TYPE
 2A            auto-on     01A01-02A01   in       standby   MCC
                           01B01-02B02   in       active
```

Return to Task List

Check Circuit Pack Configuration

Return to Task List

The list configuration report provides a list of circuit packs connected to the system and recognized by the software.

1. Type **list configuration all** and press **Enter**.
2. Verify the screen displays list configuration similar to Figure 183, Sample System Configuration Screen — Page 1, on page 490. Make sure the software is communicating with each circuit pack (except power supply circuit packs). Do not attempt to correct any problems until after the diagnostic tests that you run later in the system tests.
3. Note any boards with a `VINTAGE` column entry of **NO BOARD** or **CONFLICT**.

NOTE:
A **u** indicates unassigned ports, and a number indicates the port has been translated.

Figure 183: Sample System Configuration Screen — Page 1

```
 list configuration all                                          Page   1

                          SYSTEM CONFIGURATION

Board                                                 Assigned Ports
Number Board Type           Code    Vintage  u=unassigned t=tti p=psa

01A01  EXPANSION INTRFC     TN570D  000001
01A03  DID TRUNK            TN459B  000004     u  u  u  u  u  u  u  u
01A04  DID TRUNK            TN436B  000004     u  u  u  u  u  u  u  u
01A07  TIE TRUNK            TN439   000004     u  u  u  u
01A09  ANNOUNCEMENT         TN750   000007     01 02 03 04 05 06 07 08
                                               09 10 11 12 13 14 15 16
01B01  EXPANSION INTRFC     TN570D  000009
01B02  TONE DETECTOR        TN748D  000002     01 02 03    05 06 07
01B03  DATA LINE            TN726B  000012     u  u  u  u  u  u  u  u
01B08  BRI LINE             TN556D  000003     u  u  u  u  u  u  u  u
                                               u  u  u  u  u  u  u  u
                                               u  u  u  u  u  u  u  u
01C01  ANALOG LINE          TN746B  000006     u  u  u  u  u  u  u  u
                                               u  u  u  u  u  u  u  u

                press CANCEL to quit --  press NEXT PAGE to continue
```

Return to Task List

Test Time Division Multiplexing Bus in Processor Port Network

Return to Task List

1. Type **test tdm port-network 1** and press **Enter**.
2. Verify the screen displays the results of this test. See Figure 184, Sample Test Results for TDM Bus Port Network 1, on page 491.
3. If the result is `FAIL` for any test, check the connectors of the TDM bus cables in Processor Port Network (PPN) 1.

Figure 184: Sample Test Results for TDM Bus Port Network 1

```
test tdm port-network 1

                                TEST RESULTS

 Port     Maintenance Name  Alt. Name Test No. Result        Error Code

 PN 01A   TDM-BUS                    294      PASS
 PN 01A   TDM-BUS                    296      PASS
 PN 01A   TDM-BUS                    297      ABORT            1005
 PN 01B   TDM-BUS                    294      PASS
 PN 01B   TDM-BUS                    296      ABORT            1005
 PN 01B   TDM-BUS                    297      PASS

 Command successfully completed

 Command:
```

Return to Task List

Test Tone-Clock Boards

Return to Task List

Testing the Tone-Clock board also detects problems with the TDM bus cables.

1. Type **test tone-clock *1a*** and press **Enter**.
2. Verify page 1 displays the test results similar to Figure 185, Sample Test Results for Tone-Clock 1A, on page 491.

Figure 185: Sample Test Results for Tone-Clock 1A

```
test tone-clock 1a

                                TEST RESULTS

   Port   Maintenance Name  Alt. Name Test No.       Result     Error Code

   01A       TONE-BD                   46       PASS
   01A       TONE-BD                   52       PASS
   01AXX01   ETR-PT                    42       PASS
   01AXX01   ETR-PT                    43       PASS
   01AXX02   ETR-PT                    42       PASS
   01AXX02   ETR-PT                    43       PASS
   01AXX03   ETR-PT                    42       PASS
   01AXX03   ETR-PT                    43       PASS
   01AXX04   ETR-PT                    42       PASS
   01AXX04   ETR-PT                    43       PASS
   01AXX05   ETR-PT                    42       PASS
   01AXX05   ETR-PT                    43       PASS
   01AXX06   ETR-PT                    42       PASS
   01AXX06   ETR-PT                    43       PASS
```

Return to Task List

Test SPE Duplication Memory Shadowing Link (if duplicated)

Return to Task List

1 Type **test shadow-link** and press **Enter**.

2 Verify the screen displays test results similar to Figure 186, Example Test Results for SPE Duplication Memory Shadowing Link, on page 492.

Figure 186: Example Test Results for SPE Duplication Memory Shadowing Link

```
                                TEST RESULTS

Port      Maintenance Name  Alt. Name Test No. Result       Error Code

          SHDW-LNK                    318      PASS

 Command successfully completed
```

Return to Task List

Test Duplicated Switch Processing Element Interchange (if duplicated)

Return to Task List

1 If Multi-Carrier Cabinet (MCC1), type status system ***cabinet number <1-44>*** and press **Enter**.
or
If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

2 Verify the screen displays test results similar to Figure 187, Example System Status Report for All Cabinets, on page 493.

3 Note the `MODE` of `SPE 1A` and `1B`.

4 Type **refresh spe** and press **Enter**.

`Command successfully completed` displays.

5 Type **reset system interchange** and press **Enter**. This causes the terminal to log off.

6 Log in as **craft** again.

> **NOTE:**
> If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

7 Note the `MODE` for `SPE 1A` and `1B` should have changed from that noted in Step 3.

Figure 187: Example System Status Report for All Cabinets

```
status cabinet 1                                                    SPE B
 CABINET CONFIGURATION STATUS                 CABINET CONNECTIVITY STATUS

 Carrier  PN/SN  Carrier          Cabinet    PN/SN         Connectivity Status
 Location Number Type             Type                     Active    Standby

   01A    PN 1   processor        MCC        PN 1          up        up
   01B    PN 1   processor                   SN 1  B-PNC   up
   01C    PN 1   port                        SN 1  A-PNC             up
   01D    SN 1   dup-sw-node
   01E    SN 1   switch-node

   CABINET EMERGENCY TRANSFER               CABINET ALARM STATUS

   Emergency  Select                        PN/SN         Mj     Mn     Wn
   Transfer   Switch
                                            PN 1          0      0      35
     01B      auto-                        SN 1  B-PNC   0      0      0
     01A      auto-                        SN 1  A-PNC   0      0      0


Command:
```

Return to Task List

Test Expansion Interface Circuit Packs

Return to Task List

Check each Expansion Interface (EI) circuit pack in the system.

1. Type ***test board UUCSS*** where ***UUCSS*** is the cabinet, carrier, and slot for an Expansion Interface (EI) circuit pack in the system, and press **Enter**.

   NOTE:
   Labels on the port network and carrier and on the strip under the circuit pack contain this information.

2. Verify the screen displays test results similar to Figure 188, Sample Test Results for Expansion Interface Board 2A01, on page 494. This example is for board 2a01.
3. If any result is `FAIL`, check the connections for the fiber optic link.
4. Repeat Steps 1 and 2 for each Expansion Interface circuit pack.

Figure 188: Sample Test Results for Expansion Interface Board 2A01

```
                                TEST RESULTS

  Port      Maintenance Name  Alt. Name Test No. Result     Error Code

  02A01     EXP-INTF                    237      PASS
  02A01     EXP-INTF                    238      PASS
  02A01     EXP-INTF                    240      PASS
  02A01     EXP-INTF                    241      PASS
  02A01     EXP-INTF                    244      PASS
  02A01     EXP-INTF                    316      PASS
```

Return to Task List

Test Time Division Multiplexing Bus for Each Expansion Port Network

Return to Task List

Check each TDM bus for each Expansion Port Network (EPN) in the system.

1. Type **test tdm port-network *2*** and press **Enter**.
2. Verify a test results screen similar to Figure 189, Sample Test Results for TDM Bus Port Network 2, on page 494 is displayed.
3. If result is `FAIL` for any test, check the connectors of the TDM bus cables in Processor Port Network (PPN) 2.
4. Repeat these steps for each Expansion Port Network (EPN) to check the TDM bus cables.

Figure 189: Sample Test Results for TDM Bus Port Network 2

```
test tdm port-network 2

                                TEST RESULTS

  Port      Maintenance Name  Alt. Name Test No. Result     Error Code

  PN 02A    TDM-BUS                     294      PASS
  PN 02A    TDM-BUS                     296      PASS
  PN 02A    TDM-BUS                     297      ABORT          1005
  PN 02B    TDM-BUS                     294      PASS
  PN 02B    TDM-BUS                     296      ABORT          1005
  PN 02B    TDM-BUS                     297      PASS


 Command successfully completed

 Command:
```

Return to Task List

Test Tone-Clock for Each Expansion Port Network

Return to Task List

1. Type **test tone-clock *2A*** where ***2A*** is the cabinet and carrier number for one of the Tone-Clocks installed, and press **Enter**.

   If any result is `FAIL`, check the associated TDM bus cables and intercabinet cables in the Expansion Port Network (EPN).

2. Repeat Step 1 for each installed Tone-Clock circuit pack.

Test Tone-Clock Interchange for Each Expansion Port Network

Return to Task List

If the system is critical reliability, test the Tone-Clock interchange for each Expansion Port Network (EPN).

1. If Multi-Carrier Cabinet (MCC1), type **status system *cabinet number <1-44>*** and press **Enter**.
   or
   If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

   This displays the location of the Standby Tone-Clock.

2. Type **set tone-clock *xx*** where ***xx*** is the Port-Network/Carrier for the Standby Tone-Clock. Press **Enter**.

3. If Multi-Carrier Cabinet (MCC1), type **status system *cabinet number <1-44>*** and press **Enter**.
   or
   If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

4. Verify the duplicated Tone-Clock is active using the information displayed on the screen.

If any problems are indicated, check the TDM cables in the associated Expansion Port Network (EPN).

Return to Task List

Test Expansion Interface Exchange for Each Expansion Port Network

Return to Task List

If the system is critical reliability, test the expansion interface exchange for each Expansion Port Network (EPN).

1. If Multi-Carrier Cabinet (MCC1), type **status system *cabinet number <1-44>*** and press **Enter**.
   or
   If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

   This displays the standby expansion link. See Figure 190, Sample of System Status before Expansion Link is Set, on page 496.

2. Type **set expansion-link *UUCSS*** where ***UUCSS*** is one of the cabinet, carrier, and port locations of the standby expansion link.

3. Verify the bottom of the screen displays:

   ```
   Command successfully completed

   Command:
   ```

4 If Multi-Carrier Cabinet (MCC1), type **status system *cabinet number <1-44>*** and press **Enter**.
or
If Single-Carrier Cabinet (SCC1), type **status system all-cabinets** and press **Enter**.

A screen similar to Figure 191, Sample of System Status after Expansion Link is Set, on page 496 is displayed.

5 Verify the MODE of the expansion links have changed.

6 If any problems are indicated, check the TDM cables and the inter-cabinet cables (ICC) in the associated Expansion Port Network (EPN).

Figure 190: Sample of System Status before Expansion Link is Set

```
status system all-cabinets
                          SYSTEM STATUS CABINET 1

EMERGENCY     SELECT                    SERVICE             CABINET
TRANSFER      SWITCH      EXP-LINK      STATE     MODE      TYPE
1A            unavail     01A01-02A01    in       standby   ESCC
1B            auto-on     01B01-02B02    in       active
                               -
                               -



Command successfully completed

Command:
```

Figure 191: Sample of System Status after Expansion Link is Set

```
status system all-cabinets
                          SYSTEM STATUS CABINET 1

EMERGENCY     SELECT                    SERVICE             CABINET
TRANSFER      SWITCH      EXP-LINK      STATE     MODE      TYPE
1A            auto-on     01A01-02A01    in       active    ESCC
1B            auto-on     01B01-02B02    in       standby



Command successfully completed

Command:
```

Return to Task List

Check Circuit Pack Configuration

Return to Task List

1. Type **list configuration all** and press **Enter**.
2. Verify all circuit packs are listed in the reports.

   Refer to the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation to resolve any discrepancies.

Save Translations, if Required

Return to Task List

If any administration changes have been made, save and make a back up copy of the translations.

Install and Wire Telephones

The wiring procedures are the same for most of the Avaya Media Gateway telephones and other equipment.

This task list provides wiring examples of similar installation procedures. These are examples only; actual wiring procedures may vary at each site.

After installing the hardware, the data for telephone features must be administered. These procedures are provided in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

NOTE:
Refer to the Chapter , "Adjuncts and Peripherals" to install the necessary peripheral equipment.

Task List: Wiring Examples and Wiring Procedures

- Voice and Data Terminals on page 500
- Analog Tie Trunk Example on page 506
- Digital Tie Trunk Example on page 507
- DS1 Tie Trunk Example on page 508
- Auxiliary Connector Outputs on page 510
- Three-Pair and Four-Pair Modularity on page 514
- Adjunct Power Connection Locations on page 515
- Attendant Console Example on page 516
- Connect External Alarm Indicators and Auxiliary Power on page 519
- Connect Power Distribution Unit External Alarm Wires on page 520
- Remote Network Interface on page 523
- Off-Premises or Out-of-Building Stations on page 526
- Emergency Transfer Units and Associated Telephones on page 532
- 808A Emergency Transfer Panel and Telephone Installation Examples on page 533
- Install External Ringing on page 544
- Install the Queue Warning Indicator on page 545

These links provide useful reference information:

- Voice and Data Terminals on page 500
- Circuit Pack and Auxiliary Equipment Classifications on page 567
- Connector and Cable Diagrams (Pinout Charts) on page 771

Voice and Data Terminals

Return to Task List

The Avaya Media Gateway can be connected to all DTE terminals that have RS-232 (or EIA-232) or DCP interfaces. Terminals include:

- Connectable Voice and Data Terminals on page 500
- Connectable Administration Terminals on page 502

Task List: Connect Voice and Data Terminals

- Connect a Typical Telephone on page 502
- Connect Adjunct Power on page 503
- Connect an Analog Station or 2-Wire Digital Station on page 504

Connectable Voice and Data Terminals

These voice and data terminals can connect to an Avaya Media Gateway.

Voice and Data Terminals	
Terminal Model	**Type**
Multi-button Electronic Telephone (MET) sets: 10, 20, 30 Button	Voice
Analog: 500, 2500/2554, 2500 DMGC, 2500YMGK, S203A Speakerphone	Analog voice
46xx series: 4602, 4602SW, 4606, 4612, 4620, 4620SW, 4624, 4630, 4630SW	Internet Protocol (IP)
71XXX series: 7101A, 7102A, 7103A, 7104A	Analog voice
73XXX series: 7302H, 7303H, 7303S, 7305S, 7305H	Hybrid voice
74XXD series: 7401D, 7403D, 7404D, 7405D, 7406D, 7407D, 7410D, 7434D, 7444	Digital voice
81XX series: 8102, 8110 91XX series: 9101, 9103, 9110	Analog voice

Voice and Data Terminals	
Terminal Model	**Type**
64XX series 6402, 6402D, 6408/D/+/D+, 6416D+, 6424D+, XM24 84XX series: 8403B, 8405B/D/B+/D+, 8410B/D, 8411B/D, 8412, 8434, 8435 94XX series: 9403, 9410, 9434	Digital voice
Basic Rate Interface (BRI) (75XX series): 7505-VOM/T, 7506-VOM/T, 7507-VOM/T 85XX series: 8503, 8510, 8520	BRI voice
Workstation series Business Communications Terminals (BCTs) and Business Communications Systems (BCS): 510D BCT, 513 BCT, 515 BCT, 615 BCT, 715 BCT, 715 BCS PC/PBX platform (digital): PC/ISDN platform (BRI)	Data
Consoles: 301A Attendant Console, 302A1 Enhanced Generic 1 Console 602A1 ACD Console (CallMaster® digital communications terminal)	Data and voice
ZE01A Expansion Module for 8434Dx	Voice and Features
Cordless Hybrid: MDW 9000 (TransTalk 9000) MDC 900	Voice
DCP Data interface: Constellation Automatic Call Distribution (ACD) data terminal	Data and voice
PassageWay interface: Consoles: 302B1, 302C1 Attendant Console 603A/D Automatic Call Distribution (ACD) Console (CallMaster digital console) 603E Automatic Call Distribution (ACD) Console (CallMaster digital console)	Data and voice

Connectable Administration Terminals

These administration terminals can connect to a Avaya Media Gateway.

Administration Terminals	
Administration Terminal	**Application**
510D	Remote administration
610D, 513, 610, 615, 715* Business Communications Terminal (BCT), 4410, 4425, and VT220	Management Terminal: administration and general purpose
515 Business Communications Terminal (BCT)	Remote administration, general purpose
615 Management Terminal	Management Terminal system administration and maintenance terminal
715 BCS and 715 BCS-2 Management Terminal	Management Terminal system administration and maintenance terminal

*The keyboards and terminals are interchangeable when an adapter cable is used.

NOTE:
The older version of 715 BCT (the 715 Business Communications System [BCS]) (406803148 and 406803155), has a 6-pin mini-DIN keyboard connector.

The new version of 715 BCT (the 715 BCS) (4073113881 and 407313899), has a 6-pin RJ-11 keyboard jack located on the side of the terminal

Connect a Typical Telephone

Return to Task List

The 302C1 Attendant Console is used to describe a typical telephone connection. This information is typical of the 603E, 84xx (4-wire), and 94xx telephones.

The attendant console always requires auxiliary (adjunct) power (-48 VDC). Power is connected to the console through Pins 7 and 8 of the information outlet. Only three consoles can be powered by the system through the AUX connector. When possible, the primary console should be powered from the system so it has the same power failure backup as the system.

The maximum cabling distance for the console powered from the cabinet is 350 feet (100 meters).

The general steps to connect a telephone are:

1. Choose a device to connect such as a 302C1 Attendant Console.
2. Choose the port circuit pack and its carrier and slot number, such as cabinet 1, carrier C, slot 02.
3. Choose a port circuit on the port circuit pack, such as Port 05.

4 Install cross-connect jumpers to wire the terminal to the port circuit pack. See Figure 192, 302C1 to 4-wire DCP Wiring, on page 503. This pinout is for the 4-wire Digital Line circuit pack.

CAUTION:
Do not use the 329A power unit for the attendant console. Use an 1151A1, 1151A2, 1145A, or MSP-1 power unit.

5 For terminals needing adjunct power, wire -48 VDC and ground to appropriate pins on the terminal. See Figure 192.

Figure 192: 302C1 to 4-wire DCP Wiring

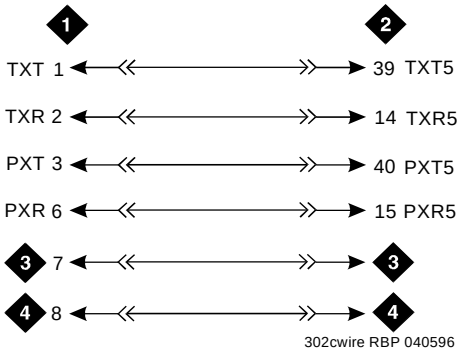


Figure notes

1	302C1 Attendant Console	**3**	-48 VDC From Adjunct Power
2	4-wire Digital Line Circuit Pack (Position 1C02)	**4**	Ground From Adjunct Power

Return to Task List

Connect Adjunct Power

Return to Task List

The 400B2 adapter is convenient for connecting local -48 VDC power to a modular plug. See Figure 193, 400B2 Adapter Connecting to a Modular Plug, on page 504.

Each port network can provide power for up to three attendant consoles. This source of power is preferred for the attendant consoles because it has the same battery backup as the system. See Auxiliary Connector Outputs on page 510.

NOTE:
Adjunct power can be provided locally at the telephone or console by either the 1151A1 or 1151A2 power supply. Adjunct power can be provided from the equipment room or equipment closet with the 1145B power unit. Go to Install and Wire Telephone Power Supply on page 549 for power supply information and installation procedures.

Figure 193: 400B2 Adapter Connecting to a Modular Plug

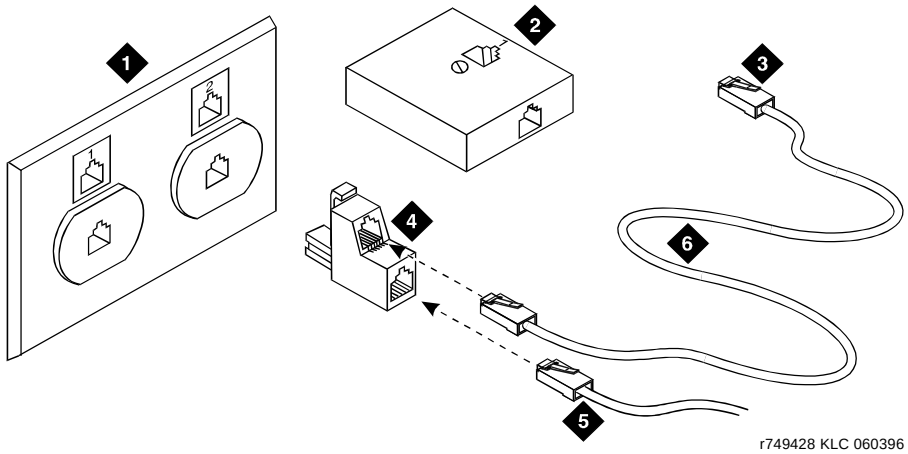


Figure notes

1	Flush-Mounted Information Outlet	**4**	400B2 Adapter
2	Surface-Mounted Information Outlet	**5**	To Telephone
3	To Individual Power Unit	**6**	Destination Service Access Point (DSAP) Power Cord

Return to Task List

Connect an Analog Station or 2-Wire Digital Station

Return to Task List

This example is typical of the 2-wire digital stations (603E, 84xx, 94xx, 302C1), 2-wire analog stations (500, 2500, 71xx), analog Central Office (CO) trunks, Direct Inward Dial (DID) trunks, and external alarms. See Figure 194, 2500-Type Analog Telephone Wiring, on page 505.

1. Choose a peripheral to connect (such as a 2-wire digital station).
2. Choose the port circuit pack to use and its carrier and slot number (from Table 20, Port Circuit Pack and Telephone Pin Designations, on page 505). For example: TN2183 Analog Line, Cabinet 1, Carrier C, Slot 1.
3. Choose a port circuit on the port circuit pack, for example port 3.
4. Install cross-connect jumpers to connect the pins from the 2-wire digital station to the appropriate pins on the port circuit pack.
5. Administer using *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Figure 194: 2500-Type Analog Telephone Wiring

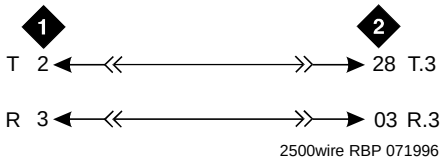


Figure notes

1 2500-Type Analog Station **2** TN2183 Analog Line Circuit Pack, Position 1C01

Table 20: Port Circuit Pack and Telephone Pin Designations

Pin on Modular Plug	4-wire; 302C1, 8400-Series, 603E, 9403, 9434	2-wire; 302C1, 8400-Series, 603E, 9403, 9410, 9434	8510T Basic Rate Interface (BRI) (with adjunct speaker phone)	Analog Station, Modem	NT1	Z3A1 & Z3A2 Asynchronous Data Units (ADU), Data Module
1	TXT					TXT
2	TXR			T		TXR
3	PXT		TXT	R		PXT
4		T	PXR		T	
5		R	PXT	No Connection 4-pin modular jack	R	
6	PXR		TXR			PXR
7	-48VDC	(-48VDC)	(-48VDC)		-48VDC	
8	GRD	GRD	GRD		GRD	
Circuit Pack	TN754C 4-wire digital (8 port)	TN2181 2-wire digital (16 port) TN2224CP 2-wire digital (24 port)	TN556D ISDN-BRI Line	TN2183 Analog line (16 port)	TN2198 2-wire Basic Rate Interface line	TN726B Data Line

PX PBX transmit T Tip (A)
TX Terminal transmit R Ring (B)

Return to Task List

Analog Tie Trunk Example

Return to Task List

This example shows how to connect analog tie trunk wiring from one DEFINITY System to another DEFINITY System.

1. Set the option switches on the port circuit pack (such as TN760E).

   Go to Option Switch Settings on page 741 for detailed information.

2. Install cross-connect jumpers to connect the pins from the tie trunk circuit pack to the appropriate leads on the external tie trunk.

   Figure 195, Analog Tie Trunk Wiring, on page 506 shows a DEFINITY System tie trunk connected to a DEFINITY System tie trunk. Names of the tie trunk leads must be determined from the manufacturer or supplier of the external trunk circuit.

3. Administer on the Trunk Group Screen of the management terminal. Refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)* for more details.

Figure 195: Analog Tie Trunk Wiring

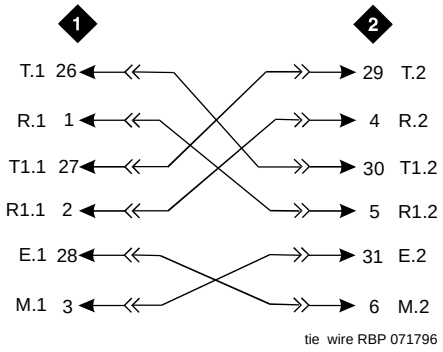


Figure notes

1 External Trunk or Adapter **2** Tie Trunk Circuit Pack (Position 1C05)

Return to Task List

Digital Tie Trunk Example

Return to Task List

This example shows how to connect digital tie trunk wiring from one DEFINITY System to another DEFINITY System. Figure 196, Digital Tie Trunk Wiring, on page 507 shows the connections.

1. Install cross-connect jumpers to connect the pins from the digital trunk circuit pack to appropriate pins on the manufacturer's or supplier's external digital trunk.
2. Set option switches on the port circuit pack (Digital Trunk).

   Go to Option Switch Settings on page 741 for detailed information.
3. Administer on the DS1 and Trunk Group Screens of the management terminal. Refer to the *Administrator's Guide for Avaya Communication Manager (555-233-506)* for more details.

Figure 196: Digital Tie Trunk Wiring

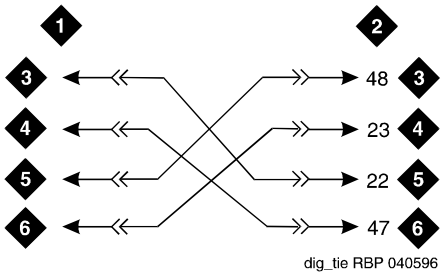


Figure notes

1	External Trunk	**4**	LO (Balanced Output Pair)
2	Digital Trunk Circuit Pack, Position 1C06	**5**	LI
3	LO	**6**	LI (Balanced Input Pair)

Return to Task List

DS1 Tie Trunk Example

Return to Task List

Digital Signal Level 1 (DS1) tie trunks provide a 1.544 Mbps (T1) or 2.048 Mbps (E1) digital data service between two collocated systems or between the system and a data network.

See these examples:

- Collocated DS1 Tie Trunks on page 508
- DS1 Tie Trunks Using T1 Channel Service Unit on page 508

For cable descriptions, see

- DS1 Cables on page 509
- Pinout of C6F Cable on page 510

Collocated DS1 Tie Trunks

Two DS1 tie trunk circuit packs can be in collocated systems. A DS1 Tie Trunk circuit pack in one system can be connected to a DS1 in another system. A C6D cable can be used if the distance is less than 50 feet (15.2 m). If the distance is between 50 feet (15.2 m) and 1310 feet (399 m), use a C6E cable.

NOTE:
The maximum distance between cabinets is 1310 feet (399.3 m).

DS1 Tie Trunks Using T1 Channel Service Unit

The T1 Channel Service Unit (CSU) interfaces the DS1 tie trunks with the 1.544 Mbps digital facility.

Connect the DS1 tie trunk to a T1 CSU. See Figure 197, Typical Connections to Channel Service Unit, on page 509.

NOTE:
A 3150 CSU is shown, a 120A Integrated CSU (ICSU) may be used.

Contact your Avaya representative for maximum cabling distances for the 31xx series CSU or the 120A ICSU.

Figure 197: Typical Connections to Channel Service Unit

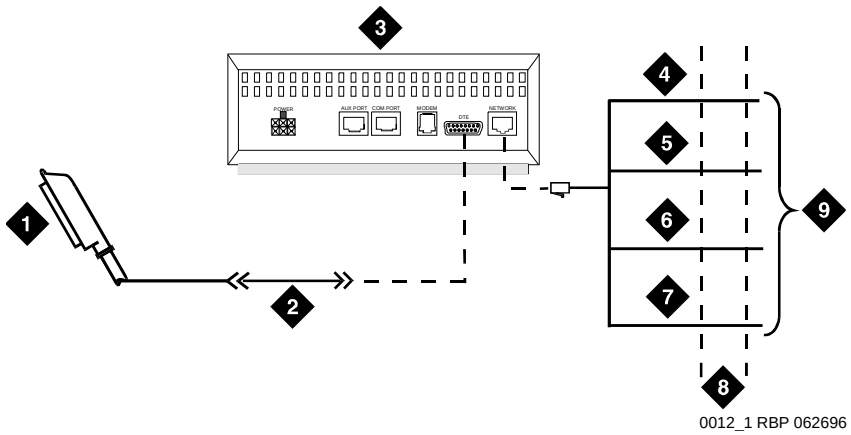


Figure notes

1 Connector to DS1 Interface Circuit Pack

2 C6C Cable (For Distances Over 50 Feet (15.24 m), Use C6E Cable(s))

3 T1 Channel Service Unit (CSU) 3150 Shown

4 T (Tip)

5 R (Ring)

6 T1 (Tip 1)

7 R1 (Ring 1)

8 1.544 Mbps Digital Service Interface

9 To T1 Carrier

DS1 Cables	
Connector Cable	**Description and Usage**
C6C connector cable	50-foot (15.2 m) shielded cable equipped with a 50-pin male connector on one end and a 15-pin male connector on the other end. Use this cable to connect a DS1 tie trunk circuit pack to a Channel Service Unit (CSU).
C6D connector cable	50-foot (15.2 m) shielded cable equipped with a 50-pin male connector on each end. Use this cable to connect a DS1 tie trunks in collocated cabinets.
C6E connector cable	100-foot (30.5 m) shielded cable equipped with a 50-pin male connector on one end and a 50-pin female connector on the other end. Use this cable as an “extension” cable between the DS1 tie trunk circuit pack and other connector cables.
C6F connector cable	50-foot (15.2 m) shielded cable equipped with a 50-pin male connector on one end and a three inch (7.62 cm) stub on the other end. Use this cable to connect the DS1 tie trunk circuit pack to channel multiplexers requiring hardwired connections.

Pinout of C6F Cable		
Wire Color	**Lead Designation**	**Pin Number**
White/Green	LI* (High Side)	47
Green	LI	22
White/Brown	LO	48
Brown	LO* (High Side)	23
White/Slate	LBACK2	49
Slate	LBACK1	24

Return to Task List

Auxiliary Connector Outputs

Return to Task List

Connect a 25-pair cable from the **AUX** connector on the back of the control carrier to a connecting block on the trunk/auxiliary field.

Table 21, Auxiliary Lead Appearances at AUX Connector, on page 511 shows the Control Carrier outputs cable pinouts. The Control Carrier **AUX** connector outputs include:

- Alarm monitoring for the auxiliary cabinet
- Seven -48 VDC power sources for emergency transfer units
- Three -48 VDC power sources for remotely powering three attendant consoles or telephone adjuncts
- The remote management terminal interface trunk connection location
- A relay contact that actuates a customer-supplied light, bell, or similar device. The relay can activate when a major, minor, or warning condition occurs. The device connected to the alarm leads must not exceed a rating of 30 VAC rms or 60 VDC at 0l75 amps.

  Table 21 shows the pinouts for an external alarm.

Table 22, Port Circuit Pack and Telephone Pin Designations, on page 513 provides port circuit pack and telephone pin designations.

Table 21: Auxiliary Lead Appearances at AUX Connector

Color[1]	Pinouts	Output	Power
W-BL BL-W	26 1	Major*	
W-O O-W	27 2	Minor*	
W-G G-W	28 3	GRD	
W-BR BR-W	29 4	GRD	
W-S S-W	30 5	GRD	
R-BL BL-R	31 6	GRD	
R-O O-R	32 7	GRD	
R-G G-R	33 8	Not Connected	
R-BR BR-R	34 9	Not Connected	
R-S S-R	35 10	Not Connected	
BK-BL BL-BK	36 11	-48 GND	Emergency Transfer Relay Power
BK-O O-BK	37 12	-48 GND	
BK-G G-BK	38 13	-48 GND	
BK-BR BR-BK	39 14	-48 GND	
BK-S S-BK	40 15	-48 GND	
Y-BL BL-Y	41 16	-48 GND	
Y-O O-Y	42 17	-48 GND	
Y-G G-Y	43 18	Not Connected	

1 of 2

Table 21: Auxiliary Lead Appearances at AUX Connector

Color[1]	Pinouts	Output	Power
Y-BR BR-Y	44 19	GND -48	AUX Power
Y-S S-Y	45 20	GND -48	
V-BL BL-V	46 21	GND -48	
V-O O-V	47 22	Not Connected	
V-G G-V	48 23	Ext Alarm A** Ext Alarm Return	
V-BR BR-V	49 24	Not Connected	
V-S S-V	50 25	INADS Tip INADS Ring	

2 of 2

1 Color designation is the main wire color and the color of the stripe on the wire. The following wire colors apply:
W-White
BL-Blue
O-Orange
G-Green
BR-Brown
S-Slate (Grey)
R-Red
BK-Black
Y-Yellow
V-Violet

* External alarm with signal incoming to system.

** External alarm with signal outgoing from system.

Table 22: Port Circuit Pack and Telephone Pin Designations

Pin on Modular Plug	4-wire; 302C1, 8400-Series, 603E, 9403, 9434	2-wire; 302C1, 8400-Series, 603E, 9403, 9410, 9434	8510T Basic Rate Interface (BRI) (with adjunct speaker phone)	Analog Station, Modem	NT1	Z3A1 & Z3A2 Asynchronous Data Units (ADU), Data Module
1	TXT					TXT
2	TXR			T		TXR
3	PXT		TXT	R		PXT
4		T	PXR		T	
5		R	PXT	No Connection 4-pin modular jack	R	
6	PXR		TXR			PXR
7	-48VDC	(-48VDC)	(-48VDC)		-48VDC	
8	GRD	GRD	GRD		GRD	
Circuit Pack	TN754C 4-wire digital (8 port)	TN2181 2-wire digital (16 port) TN2224CP 2-wire digital (24 port)	TN556D ISDN-BRI Line	TN2183 Analog line (16 port)	TN2198 2-wire Basic Rate Interface line	TN726B Data Line

PX PBX transmitT Tip (A)
TX Terminal transmitRRing(B)

Return to Task List

Three-Pair and Four-Pair Modularity

Return to Task List

Figure 198, 3-Pair and 4-Pair Modularity, on page 514 is from the port circuit pack to the voice or data terminal. Refer to Install Telecommunications Cabling on page 403 for descriptions of 3- and 4-pair modularity and distribution.

Most terminals connect to an information outlet (modular jack) installed at the work location. Make the connections from the port circuit pack to the modular jacks, as shown in Figure 198, 3-Pair and 4-Pair Modularity, on page 514. Then, plug the terminal into the modular jack.

Adjunct Power Connection Locations on page 515 shows three methods of connecting adjunct power.

Figure 198: 3-Pair and 4-Pair Modularity

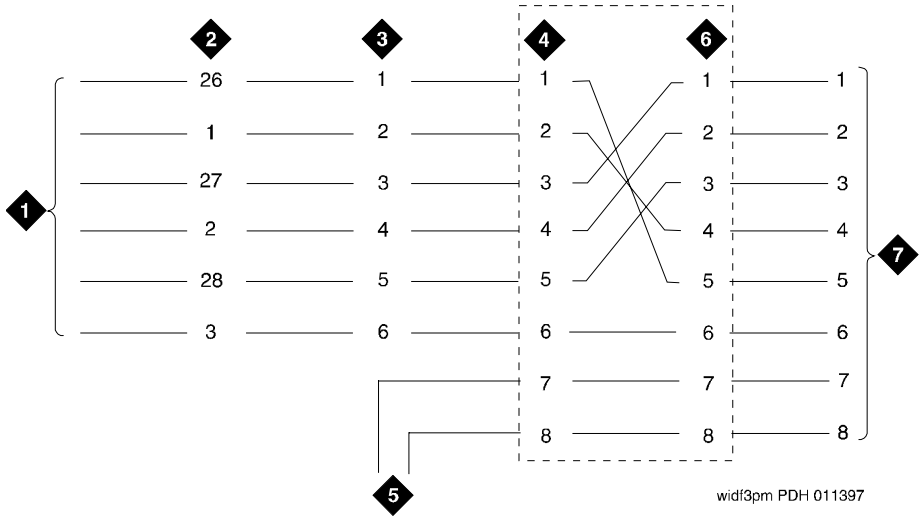


Figure notes

1 Port Circuit Pack

2 System Cabinet Connector Pins (3-Pair Modularity)

3 Main Distribution Frame (MDF) Pins (3-Pair Modularity)

4 Input to Information Outlet (4-Pair Modularity)

5 Adjunct Power

6 Output From Information Outlet (4-Pair Modularity)

7 Voice or Data Terminal Pins

Return to Task List

Adjunct Power Connection Locations

Return to Task List

Figure 199, Example Adjunct Power Connections, on page 515 shows typical connection locations for adjunct power. Adjunct power for station equipment may be supplied from the equipment room, satellite location, or the work location.

For this figure, the following example is used:

1. If 25 telephones are connected to the system and all 25 telephones need adjunct power, install a bulk power supply in the equipment room.
2. If only ten of the telephones need adjunct power, install a bulk power supply at the satellite location.
3. If only one telephone needs adjunct power, install the individual power supply at the work location.

Figure 199: Example Adjunct Power Connections

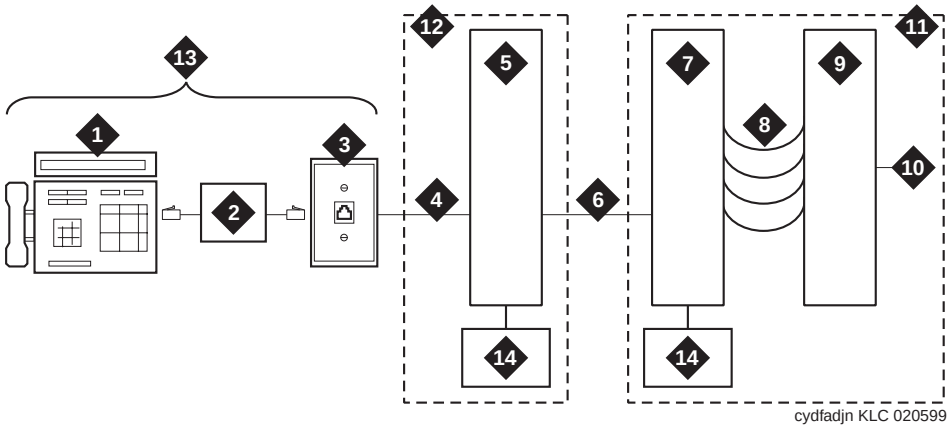


Figure notes

1	Typical Display Telephone	**8**	100P6A Patch Cord or Jumpers
2	Individual Power Supply (Such as 1151A1 or 1151A2)	**9**	System Side of Main Distribution Frame (MDF)
3	Information Outlet (Modular Jack)	**10**	25-Pair Cable to System Cabinet (Analog Line Circuit Pack)
4	4-Pair D-Inside Wire (DIW) Cable	**11**	Equipment Room
5	Satellite Site or Adapter Location	**12**	Satellite Location
6	25-Pair D-Inside Wire (DIW) Cable	**13**	Work Location
7	Station Side of Main Distribution Frame (MDF)	**14**	Bulk Power Supply (Such as 1145B)

Powering IP phones

If customers do not want to use local power for their IP phones, they can use either the

- P333T-PWR 24-port Cajun switch that provides power over the Ethernet.
- 1152A1 midspan power unit, which supplies power between the Avaya Media Gateway or Server and IP phones. This power unit also works with the X330 Ethernet expansion module.

Return to Task List

Attendant Console Example

Return to Task List

These links provide specific information:

- Attendant Console Cabling Distances, Local and Phantom Power on page 516
- Auxiliary Power on page 517
- Hard-Wire Bridging on page 518
- Dual Wiring of Two-Wire and Four-Wire Endpoints on page 518

Task List: Attendant Console Procedures

- Install the Attendant Console on page 518
- Install the 26B1 Selector Console on page 519

Attendant Console Cabling Distances, Local and Phantom Power

The maximum distance from the system for the 302C1 (hardwired) consoles is shown in Table 23, Attendant Console Cabling Distances, on page 517.

NOTE:
IP Softconsole installations are not subject to these distance limitations.

Table 23: Attendant Console Cabling Distances

Enhanced Attendant Console (302C1)	24 AWG Wire (0.5106 mm^2)		26 AWG Wire (0.4049 mm^2)	
	Feet	Meters	Feet	Meters
With Selector Console				
Phantom powered	800	244	500	152
Locally powered	5000	1524	3400	1037
Without Selector Console				
Phantom powered	1400	427	900	274
Locally powered	5000	1524	3400	1037

Auxiliary Power

CAUTION:
Do not use the 329A power unit for the attendant console.

The nonessential functions of an attendant console and its optional 26A1 or 24A1 selector console derive their power from an auxiliary power source. Of the maximum of 27 attendant consoles, 3 of the consoles can derive auxiliary power from the system and through the auxiliary cable located in the trunk/auxiliary field. Provide auxiliary power for a primary attendant console through this cable so the console remains fully operational during short power outages.

NOTE:
For a console to realize the longest possible nominal battery holdover of 10 minutes, the console's TN754C or TN413 Digital Line circuit pack should reside in an EPN's duplicated control cabinet.

An attendant console can also derive auxiliary power from:

- Individual 1151A1 or 1151A2 power supply
- 258A-type adapters
- Bulk power supplies such as the 1145B

A console's maximum distance from its auxiliary power source is:

- 800 feet (244 m) for a 302A1
- 350 feet (106.8 m) for a 301B1 and 302C1

Hard-Wire Bridging

Analog type hard-wire bridging is not allowed for four-wire (only) DCP endpoints. Hard-wire bridging provides no way of combining the digital output of two bridged DCP sets. Also, a bridged endpoint causes degradation of the DCP signal.

CAUTION:
Bridging or paralleling these endpoints can cause electrical damage to the consoles or cause the circuit pack to remove power from the consoles.

Dual Wiring of Two-Wire and Four-Wire Endpoints

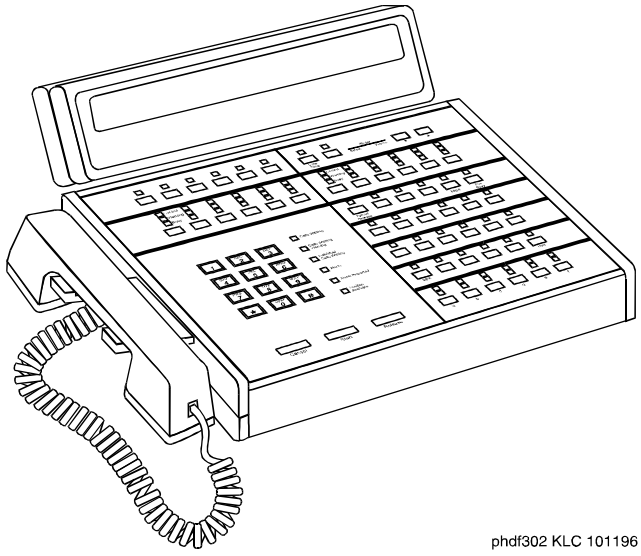
Do not simultaneously wire a two-wire and four-wire endpoint to the same equipment location in an MDF. The Avaya Media Server or Gateway uses separate circuit packs to interface two- and four-wire endpoints.

Install the Attendant Console

Return to Task List

1. Install the Attendant Console and connect the modular cord to the information outlet.
2. Install labels per the Attendant Console form and the Display Module form assignments.
3. Install a Digital Line circuit pack in the assigned carrier slot (if an additional circuit pack is required).
4. Administer the forms listed in “Attendant Console” in *Administrator’s Guide for Avaya Communication Manager (555-233-506)*.

Figure 200: 302C1 Console



Return to Task List

Install the 26B1 Selector Console

Return to Task List

1. Connect the supplied 3-foot (0.9 m) D8AC cable to the modular jack on the bottom of the 26B1 Selector Console.
2. Route the cable to the attendant console and connect to the DXS/BLF jack.
3. Attach labels according to the Attendant Console form.
4. Administer the console using *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Return to Task List

Connect External Alarm Indicators and Auxiliary Power

Return to Task List

Alarms can be generated on adjunct equipment, sent to the DEFINITY System, and recorded and reported as "external alarms." A typical major alarm *input* is from an Uninterruptible Power Supply (UPS).

The system provides a relay contact that can operate a customer-provided alarm, such as a light or bell. The circuitry and power source are customer- provided. The alarm device must not exceed a rating of more than 100 Volts at 0.75 Amp.

1. Connect 1 major and 1 minor alarm *input* pair to the trunk/auxiliary field from the AUX connector. See Table 24, Alarm Inputs at AUX Connector, on page 519.
2. Connect an external alarm *output* through pins 48 and 23 of the AUX connector. See Table 25, Alarm Output at AUX Connector, on page 520.
3. Note which device connects to which alarm and give this information to your Avaya representative for troubleshooting purposes.
4. Connect emergency transfer power and auxiliary power as shown in Table 26, Emergency Transfer and Auxiliary Power, on page 520. Auxiliary power includes power to an attendant console or adjunct device.

Table 24: Alarm Inputs at AUX Connector

Color	AUX Connector
White-Blue	AP1 (Pin 26) Major Alarm Input
Blue-White	Ground (Pin 1)
White-Orange	AP2 (Pin 27) Minor Alarm Input
Orange-White	Ground (Pin 2)

Table 25: Alarm Output at AUX Connector

Color	AUX Connector
Violet-Green	EXTALMA (Pin 48) Alarm Output
Green-Violet	EXTALMB (Pin 23) (Ground) Alarm Output

Table 26: Emergency Transfer and Auxiliary Power

Color	AUX Connector
Black-Green	XFER48 (Emergency Transfer) (Pin 36)
Green-Black	Ground (Pin 11)
Black-Slate	ACC48A (Adjunct -48 VDC) (Pin 19)
Slate-Black	Ground (Pin 44)

Return to Task List

Connect Power Distribution Unit External Alarm Wires

Return to Task List

The external alarm plug should already be connected to the J58890CH-1 Power Distribution Unit. The pinout for the connector is shown in External Alarm Connector Pinout on page 521.

NOTE:
RS-232 alarms (RXD, DTR, DSR, TXD, RS-232 GRD, and RTS) are not supported on the BU3200A Battery Interface Unit.

1. Choose an alarm to connect (such as Battery Interface Failure).
2. Choose the port circuit pack to use and its carrier and slot number (from Table 27, Port Circuit Pack and Telephone Pin Designations, on page 523). For example TN2183 Analog Line, Cabinet 1, Carrier C, Slot 1.
3. Choose a port circuit on the port circuit pack, for example Port 3.
4. Install cross-connect jumpers to connect the named pins from the alarm wires to the appropriate pins on the port circuit pack.

   NOTE:
   It is recommended that the RFA, ACF, and BIF alarm leads be connected to the major alarm device and the BOD alarm leads be connected to the minor alarm device.

5. Connect the major and minor alarm devices to the appropriate cross- connect pins on the MDF.
6. Administer the alarms using the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

External Alarm Connector Pinout		
Pin	**Designation**	**Definition**
26	Not Used	
1	Not Used	
27	Not Used	
2	Not Used	
28	Not Used	
3	Not Used	
29	Not Used	
4	Not Used	
30	Not Used	
5	Not Used	
31	Not Used	
6	Not Used	
32	Not Used	
7	Not Used	
33	RFA2 +	Rectifier Failure (positive)
8	RFA2 -	Rectifier Failure (negative)
34	ACF2 +	AC Failure (positive)
9	ACF2 -	AC Failure (negative)
35	BIF2 +	Battery Interface Failure (positive)
10	BIF2 -	Battery Interface Failure (negative)
36	BOD2 +	Battery On Discharge (positive)
11	BOD2 -	Battery On Discharge (negative)
37	Not Used	
12	RXD	Receive Data
38	TXD	Transmit Data
13	DTR	Data Terminal Ready
39	RS-232 GRD	RS-232 Ground
14	DSR	Data Set Ready

1 of 2

External Alarm Connector Pinout		
Pin	**Designation**	**Definition**
40	RTS	Request To Send
15	Not Used	
41	Not Used	
16	Not Used	
42	Not Used	
17	Not Used	
43	Not Used	
18	Not Used	
44	Not Used	
19	Not Used	
45	Not Used	
20	Not Used	
46	Not Used	
21	Not Used	
47	Not Used	
22	Not Used	
48	Not Used	
23	Not Used	
49	Not Used	
24	Not Used	
50	Not Used	
25	Not Used	
		2 of 2

Table 27: Port Circuit Pack and Telephone Pin Designations

Pin on Modular Plug	4-wire; 302C1, 8400-Series, 603E, 9403, 9434	2-wire; 302C1, 8400-Series, 603E, 9403, 9410, 9434	8510T Basic Rate Interface (BRI) (with adjunct speaker phone)	Analog Station, Modem	NT1	Z3A1 & Z3A2 Asynchronous Data Units (ADU), Data Module
1	TXT					TXT
2	TXR			T		TXR
3	PXT		TXT	R		PXT
4		T	PXR		T	
5		R	PXT	No Connection 4-pin modular jack	R	
6	PXR		TXR			PXR
7	-48VDC	(-48VDC)	(-48VDC)		-48VDC	
8	GRD	GRD	GRD		GRD	
Circuit Pack	TN754C 4-wire digital (8 port)	TN21812-wire digital (16 port) TN2224CP 2-wire digital (24 port)	TN556D ISDN-BRI Line	TN2183 Analog line (16 port)	TN2198 2-wire Basic Rate Interface line	TN726B Data Line
PX PBX transmitT Tip (A) TX Terminal transmitRRing(B)						

Return to Task List

Remote Network Interface

Return to Task List

The Remote Network Interface (formerly Initialization and Administration System (INADS) provides a 9600 bps modem connection for the remote management terminal. The network interface trunk should appear on the twenty-fifth pair of a RJ21X network interface jack. The trunk is a two-way, rotary dial, loop start trunk that connects to a maintenance circuit pack, the processor circuit pack, or the SYSAM circuit pack through the Remote Network Interface terminals at the trunk/auxiliary field. Figure 201, Connections at Trunk/Auxiliary Field, on page 524 shows a typical Remote Network Interface trunk installation.

Task List: Install the Remote Network Interface

1. Install the Remote Network Interface on page 524
2. Install Off-Premises Station Wiring on page 525

Figure 201: Connections at Trunk/Auxiliary Field

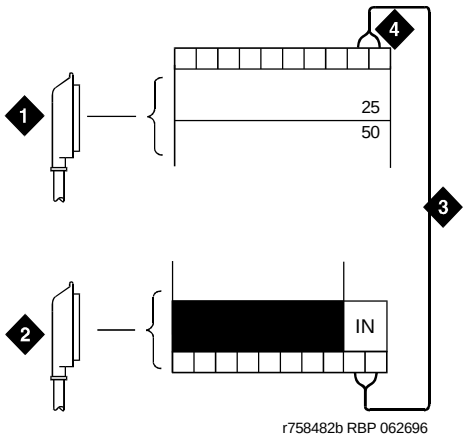


Figure notes

1	To Network Interface Facility	**3**	One Pair of Wires
2	To Control Carrier Auxiliary Connector	**4**	Twenty-fifth Pair of RJ21X Network Interface Jack

Install the Remote Network Interface

Return to Task List

You must obtain the product identification and the INADS OSS telephone number from the NTSO or the TSC before you begin to install the Remote Network Interface.

Figure 202, Connections at Trunk/Auxiliary Field, on page 525 shows a typical Remote Network Interface trunk installation.

1. Determine the network interface trunk appearance at the green trunk/auxiliary field.
2. Label the terminals for the trunk appearance.
3. Install jumpers between the trunk appearance and Remote Network Interface terminals.
4. Enter **change system-parameters maintenance** and press **Enter**.
5. Enter the ten-digit product identification. Enter the INADS OSS telephone number in the `First OSS Telephone Number` field.
6. Enter **first-only** in the `Alarm Origination to OSS Numbers` field and press **Enter** to enable Alarm Origination (to the first OSS).

7 If they are needed, enable `Cleared Alarm Notification` and `Restart Notification`.

NOTE:
Avaya Media Gateway supports up to two OSS telephone numbers. Some services contracts may require the second OSS telephone numbers and a different option in the `Alarm Origination to OSS Numbers` field to be administered.

Figure 202: Connections at Trunk/Auxiliary Field

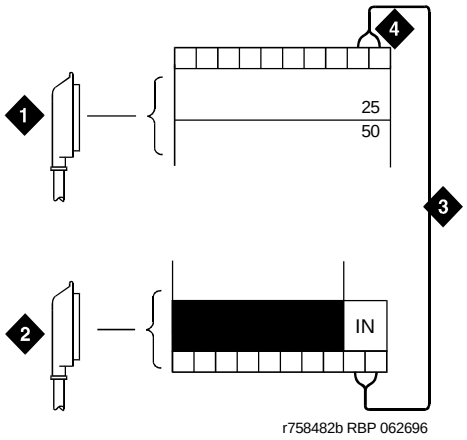


Figure notes

1	To Network Interface Facility	**3**	One Pair of Wires
2	To Control Carrier Auxiliary Connector	**4**	Twenty-fifth Pair of RJ21X Network Interface Jack

Return to Task List

Install Off-Premises Station Wiring

Return to Task List

The local telephone company provides cabling outside the building for off-premises stations. The off-premises stations can appear on any of the RJ21X network interfaces provided for the Central Office (CO) trunks.

CAUTION:
Only an FCC-approved (or equivalent) analog type telephone (such as a 2500-type), can be used as an off-premises station. The TN746B and TN2183 Analog Line circuit packs can be connected to off-premises stations.

1 Install an A25D (male to male) cable between the RJ21X network interface and a sneak fuse panel.

2 At the Main Distribution Frame (MDF), connect jumper wires between one row/connecting block in the green field and up to three rows/connecting blocks in the purple field to concentrate the analog line pairs.

3. Connect an A25D cable between the sneak fuse panel and the terminal block connector associated with the green row in the previous step.
4. Install a green label on the terminal block to identify the remote location.
5. Administer using the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Return to Task List

Off-Premises or Out-of-Building Stations

Return to Task List

Out-of-building campus stations are telephones/voice terminals not physically located in the same building as the equipment room but located on the same property. Only analog telephones connected to TN742, TN746B, TN2183, or TN769 Analog Line circuit packs can be installed out-of-building.

Task List: Off-Premises Requirements

- Off-Premises Connections on page 526
- Off-Premises Protection Requirements on page 528
- Voice Terminal Restrictions for Exposed Environments on page 529
- Digital Out-of-Building Voice Terminal Protection on page 529

Off-Premises Connections

Return to Task List

Figure 203, Connections for 1 to 8 Out-of-Building Analog Telephones, on page 527 shows the connections for 1 to 8 off-premises analog telephones.

Figure 204, Connections to 24 Out-of-Building Telephones, on page 528 shows the connections for up to 24 off-premises analog telephones. Concentrations of analog line pairs are used at both buildings to minimize the off-premises wiring required. At the MDF, jumpers must be connected between 1 row/connecting block in the white field and up to 3 rows/connecting blocks in the purple field. At the station location, a WP-90929, List 1 Concentrator Cable is used. There are 8 station appearances on each of the 3 fingers of the concentrator cable.

The maximum distance from the system cabinet to the out-of-building voice terminal is 6000 feet (1828.8 meters) using 24 AWG (#5) (0.5 mm^2) wire.

The maximum range of out-of-building analog telephones (500-, 2500-, or 7100-types) connected to an analog line circuit pack should be such that the maximum loop resistance does not exceed 1300 ohms.

Figure 203: Connections for 1 to 8 Out-of-Building Analog Telephones

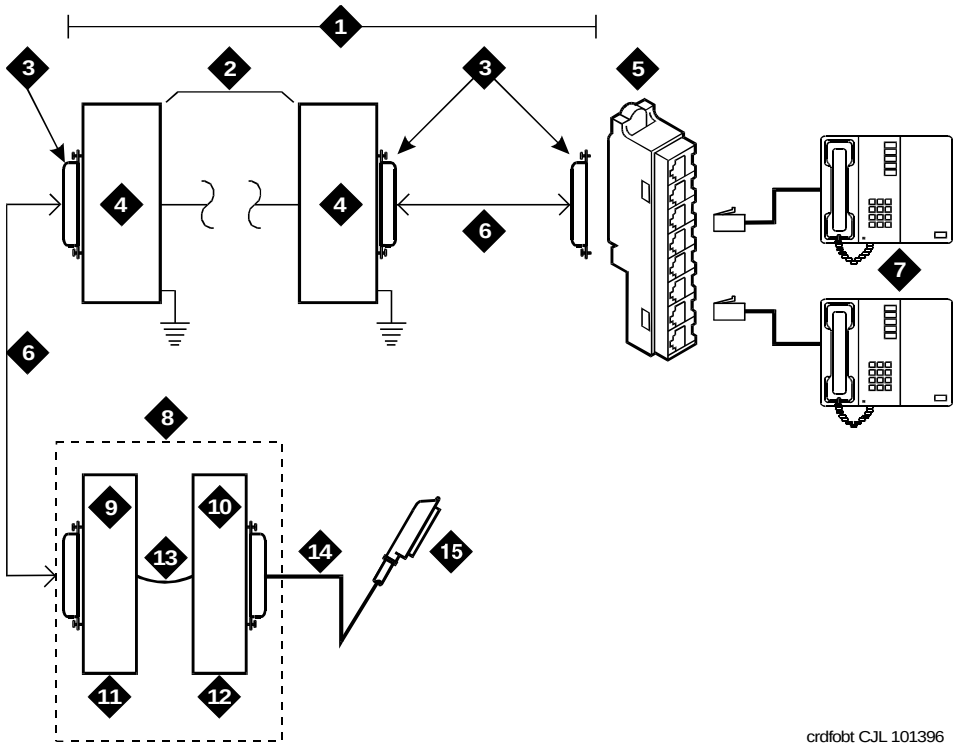


Figure notes

1 Locally Engineered Cables and Equipment

2 Out-of-Building Wiring

3 25-Pair Connector

4 Multi-Pair Protector Units (Primary Protectors with Heat Coils or Equivalent with Sneak Current Protection)

5 356A Adapter

6 B25A Cable (Male to Female)

7 Out-Of-Building Analog Telephones

8 Part of Main Distribution Frame (MDF)

9 Station Side

10 System Side

11 White Field

12 Purple Field

13 Cross-Connect Jumpers

14 Tip and Ring Wires

15 To Analog Line Circuit Pack

Figure 204: Connections to 24 Out-of-Building Telephones

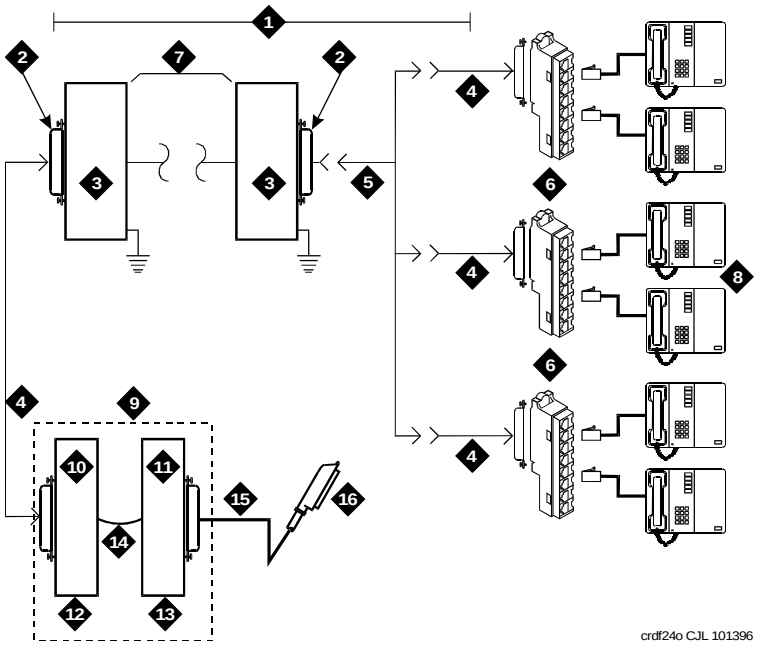


Figure notes

1	Locally Engineered Cables and Equipment	**8**	Out-Of-Building Analog Telephones
2	25-Pair Connector	**9**	Part of Main Distribution Frame (MDF)
3	Multi-Pair Protector Units (Primary Protectors with Heat Coils or Equivalent with Sneak Current Protection)	**10**	Station Side
		11	System Side
4	B25A Cable (Male to Female)	**12**	White Field
5	Concentrator Cable (WP90929 List 1)	**13**	Purple Field
6	356A Adapter	**14**	Cross-Connect Jumpers
7	Out-of-Building Wiring	**15**	Tip and Ring Wires

Return to Task List

Off-Premises Protection Requirements

Return to Task List

Both building entrances require carbon block or equivalent protection and sneak current protection. Protection can be provided by:

- a 4-type protector, which is equipped with a heat coil
- a 3-type protector plus a separate sneak current protector

The 4-type protector is the preferred device. For installations not using primary protection, 4-type protectors should always be used. When the 3-type protector is already installed, a separate sneak current protector is required.

The multi-pair protector units and the off-premises cabling must be locally engineered. Connectorized multi-pair protector units (female 25-pair connector) are recommended. Analog Line Circuit Protectors on page 529 shows the recommended protectors.

The protectors can be ordered from the *Premises Distribution Systems Equipment and Supplies Catalog.*

Analog Line Circuit Protectors		
Primary[1]	Primary (with heat coil)	Sneak Current Protectors[1]
3B1A (carbon)	4B1C (carbon)	220029 Fuse
3B1E-W (wide gap gas tube)	4B1E-W (wide gap gas tube)	SCP-1
3C1S (solid state)	4C1S (solid state)	

1 The 3-type protectors should be used only if they are already part of the existing protection system. A sneak current protector is always required when a 3-type primary protector is used.

Return to Task List

Voice Terminal Restrictions for Exposed Environments

Return to Task List

The following voice terminals cannot be installed in an exposed environment:

- 7300-type voice terminals connected to TN762B Hybrid Line circuit packs
- Multi-button Electronic Telephone (MET) sets connected to TN735 Multi-button Electronic Telephone (MET) Line circuit packs
- Analog telephones connected to TN746B Analog Line circuit packs

Return to Task List

Digital Out-of-Building Voice Terminal Protection

Return to Task List

For information about specific protectors, see

Installing the ITW Linx Enhanced Protector on page 530

Installing the 4C3S-75 Enhanced Protector on page 530

Installing the Data Link Protector on page 530

Digital out-of-building voice terminals require protection at both building entrances. The 4C3S-75 Enhanced Protector and the ITW Linx Enhanced Protector can be used to protect digital voice terminals and digital line circuit packs. These units provide primary and sneak current protection. The 4C3S-75 is equipped with a heat coil for sneak current protection, and the ITW Linx is equipped with replaceable fuses for sneak current protection.

> **NOTE:**
> The TN2181 16 Port Two-Wire Digital Line circuit pack may not be approved for some out-of-building uses. Contact your Avaya representative for more information.

The 4C3S-75 may be used only with Vintage 14 or newer TN754C circuit packs. Digital Voice Circuit Protectors on page 531 lists the approved protectors.

When possible, all new and reused wiring installations should use blocks that accept the standard 5-pin plug-in 4C3S-75 protector. However, there are reused wiring installations where this may not be cost effective. For these installations, the ITW Linx protector may be installed.

> An example of this is where screw-type carbon block protectors — or other non plug-compatible types — are in place and it is too costly to re-terminate the outside plant cable on a 5-pin mounting block for only a few out-of-building terminals.

Installing the ITW Linx Enhanced Protector

The ITW Linx Enhanced Protector can be installed in series with existing primary protection. The ITW Linx Enhanced Protector mounts directly on connecting blocks and requires a separate ground bar.

Installing the 4C3S-75 Enhanced Protector

The 4C3S-75 protector cannot be installed in series with other types of primary protection. It must be installed as the only protection on the line entering the building. For the 4C3S-75 protector there are a variety of 25-, 50-, and 100-pair protector panels equipped with 110-type connecting blocks and/or RJ21X connectors.

Installing the Data Link Protector

Return to Task List

The maximum range for out-of-building digital voice terminals is 3400 feet when using 24 AWG (#5) (0.5 mm^2) wire and 2200 feet (670 m) when using 26 AWG (#4) (0.4 mm^2) wire. The range can be extended to 5000 feet (1524 m) using 24 AWG (#5) (0.5 mm^2) wire or 4000 feet (1220 m) using 26 AWG (#4) (0.4 mm^2) wire with the use of a data link protector. The protector is an isolating transformer used to remove phantom power on the system side and re-introduce it on the terminal side.

When a protector is used, the voice terminal must be locally powered by an external power supply or through the AC power cord provided with some of the 7400-type voice terminals. The protector is installed on the equipment side of the protection in both buildings.

Refer to Figure 205, Example Adjunct Power Connections, on page 531 and Figure 206, Connections at Trunk/Auxiliary Field, on page 532.

Digital Voice Circuit Protectors	
Circuit Pack	**Enhanced Primary Protector (With Sneak Current Protection)**
TN754 V13 or earlier	ITW Linx Only
TN754 V14 or later	4C3S-75 or ITW Linx
TN754B all vintages	4C3S-75 or ITW Linx
TN754C	4C3S-75 or ITW Linx
TN2181 all vintages	4C3S-75 or ITW Linx
TN2224 all vintages	4C3S-75 or ITW Linx

Refer to Figure 205, Example Adjunct Power Connections, on page 531 and Figure 206, Connections at Trunk/Auxiliary Field, on page 532.

Figure 205: Example Adjunct Power Connections

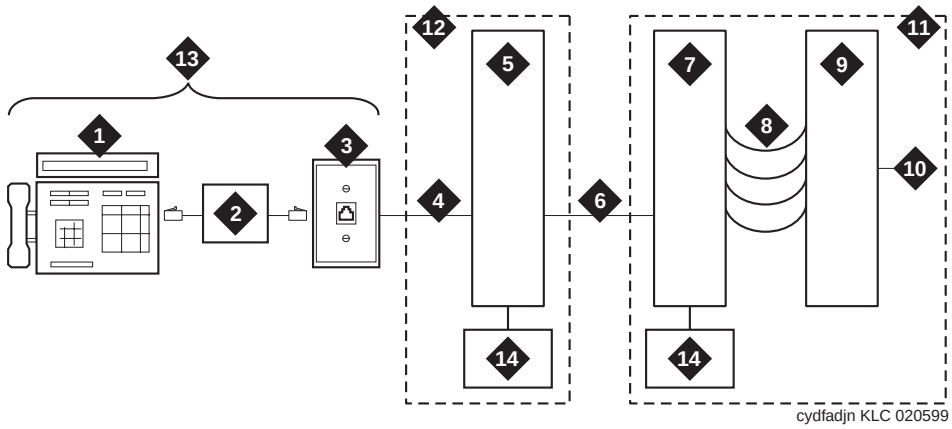


Figure notes

1 Typical Display Telephone

2 Individual Power Supply (Such as 1151A1 or 1151A2)

3 Information Outlet (Modular Jack)

4 4-Pair D-Inside Wire (DIW) Cable

5 Satellite Site or Adapter Location

6 25-Pair D-Inside Wire (DIW) Cable

7 Station Side of Main Distribution Frame (MDF)

8 100P6A Patch Cord or Jumpers

9 System Side of Main Distribution Frame (MDF)

10 25-Pair Cable to System Cabinet (Analog Line Circuit Pack)

11 Equipment Room

12 Satellite Location

13 Work Location

14 Bulk Power Supply (Such as 1145B)

Figure 206: Connections at Trunk/Auxiliary Field

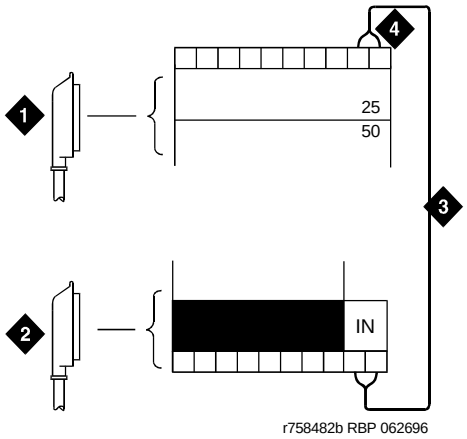


Figure notes

1	To Network Interface Facility	**3**	One Pair of Wires
2	To Control Carrier Auxiliary Connector	**4**	Twenty-fifth Pair of RJ21X Network Interface Jack

Return to Task List

Emergency Transfer Units and Associated Telephones

Return to Task List

An 808A Emergency Transfer Panel mounted next to the trunk/auxiliary field provides emergency transfer capability. You can use 500- and 2500-series analog telephones either for emergency transfer or as normal extensions. For emergency transfer, connect the phones directly to the 808A; for normal extensions, wire them through the 808A. Analog Central Office (CO) and Wide Area Telecommunications Service (WATS) trunks can provide emergency transfer capability.

The 808A Emergency Transfer Panel provides emergency trunk bypass or power-fail transfer for up to five incoming Central Office (CO) trunk loops to five selected station sets. The 808A equipment's Ringer Equivalency Number (REN) is 1.0A.

At the Main Distribution Frame (MDF), the unit is controlled by a connection to a yellow terminal row/connecting block in the trunk/auxiliary field. The unit is controlled by -48 VDC from the EM TRANS RELAY PWR terminals. There are seven EM TRANS RELAY PWR terminal pairs that allow powering of up to seven transfer units.

Should power be restored to the relays while a call connected through the 808A is in progress, the 808A maintains the connection until the user goes on-hook. Each 808A can handle up to five Central Office (CO) trunks.

Return to Task List

808A Emergency Transfer Panel and Telephone Installation Examples

Return to Task List

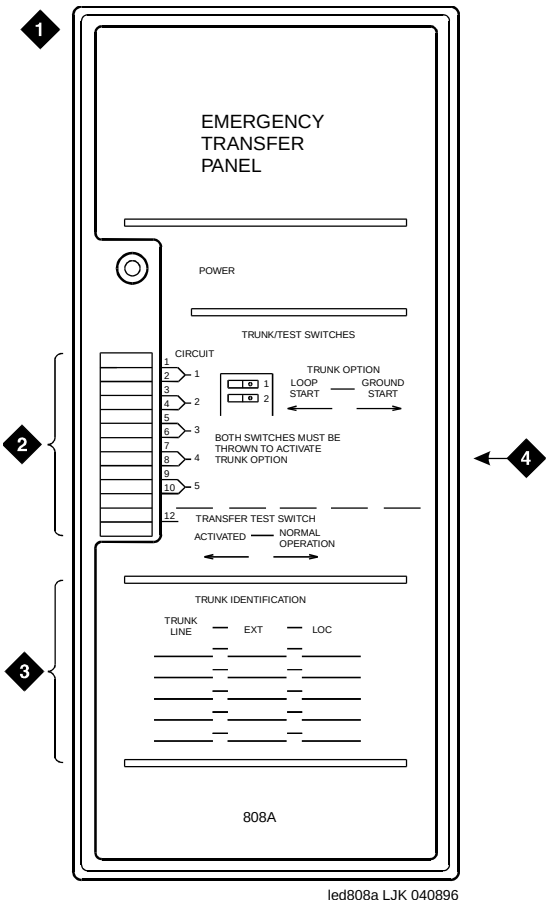
Figure 207, 808A Emergency Transfer Panel, on page 534 shows a typical 808A Emergency Transfer Panel. The 808A connects to the Main Distribution Frame (MDF) with B25A or A25B cable.

The panel can be installed on any mounting frame in either a vertical or horizontal position. The housing has ears for screw-mounting and cutouts for snap- mounting the unit in an 89-type mounting bracket. See Figure 208, 808A Emergency Transfer Panel Mounting, on page 535.

Task List: Typical Emergency Transfer Panel and Telephone Installation

- Install the 808A Emergency Transfer panel on page 535
- Install Telephones Used Only for Emergency Transfer (Trunk/Auxiliary Field) on page 541
- Install Telephones Used for Emergency Transfer and as Normal Extension (Trunk/Auxiliary Field) on page 542

Figure 207: 808A Emergency Transfer Panel



led808a LJK 040896

Figure notes

1	808A Emergency Transfer Panel	**3**	Trunk Identification Label
2	Circuit Start Selection Switches	**4**	25-Pair Male Connector

Figure 208: 808A Emergency Transfer Panel Mounting

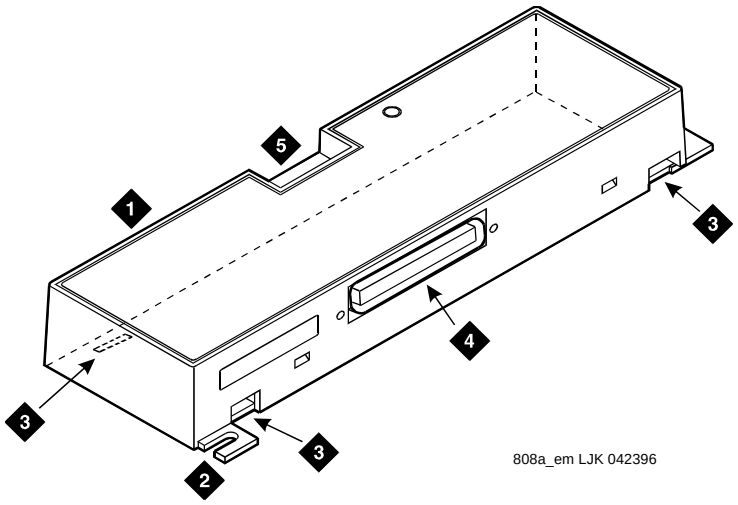


Figure notes

1	808A Emergency Transfer Panel	**4**	25-Pair Male Connector
2	Ear for Screw Mount	**5**	Circuit Start Switches
3	Cut-Out for Snap Mount		

Install the 808A Emergency Transfer panel

Return to Task List

NOTE:
The 808A must be installed in a location that can be accessed only by authorized personnel. The location must meet standard environmental considerations such as temperature, humidity, and so forth.

1 Verify dial tone is present at each trunk circuit.

2 Locate the circuit start selection switches (see Figure 209, 808A Emergency Transfer Panel, on page 537).

These are the first 10 two-position switches on the left side of the Emergency Transfer Panel. They are used to set each of the five incoming trunk lines to either loop start or ground start. Two switches are used for each circuit; switches 1 and 2 are used for circuit 1, switches 3 and 4 are used for circuit 2, and so forth. See Trunk/Test Switches on page 537.

3 For loop start, set the switches to the left. For ground start, set the switches to the right.

4 Connect a 25-pair cable between the male RJ21 25-pair connector on the Emergency Transfer Panel and the yellow field of the Main Distribution Frame (MDF). Pin Assignments for 25-Pair Connector on page 538 shows the pinouts.

5 Make cross-connections for each emergency trunk/emergency station pair.

The 808A is connected to the Main Distribution Frame (MDF) by means of a B25A cable. Figure 210, Connections for Telephone Used for Emergency Transfer, on page 540 shows the connections at the trunk/auxiliary field for a telephone used only for emergency transfer.

Figure 211, Connections for Telephone Used for Emergency Transfer and as Normal Extension, on page 541 shows the connections at the trunk/auxiliary field for a telephone used for emergency transfer as well as a normal extension.

6 On the trunk identification label at the bottom of the panel, record the trunk line, extension, and location for each circuit.

7 To each voice terminal designated as an emergency terminal, attach a label identifying it as such. The labels are provided with the unit.

8 Check the system for normal operation as follows:

— Place the test switch (switch 12) in NORMAL OPERATION.

— Ensure the power supply is providing -48 VDC at 80 mA maximum. The power LED should be ON.

— Check wiring connections.

— Verify there is dial tone on all emergency transfer sets.

If all of the above conditions are not met, remove the panel from service and replace it with a new panel.

9 Check the system for transfer operation as follows:

— Place the test switch (switch 12) in the ACTIVATED position.

— The power LED should be OFF.

— Verify there is dial tone on all emergency transfer sets.

If all of the above conditions are not met, remove the panel from service and replace it with a new panel.

Figure 209: 808A Emergency Transfer Panel

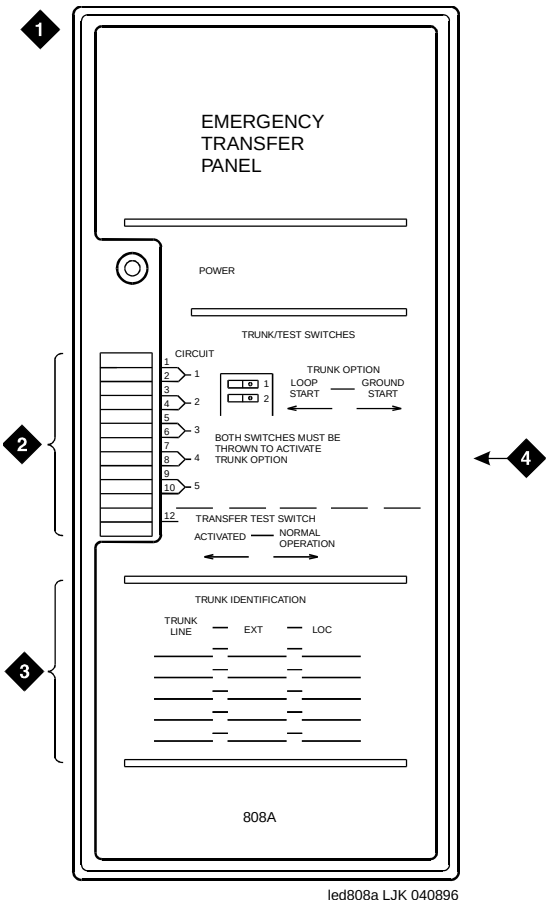


Figure notes

1 808A Emergency Transfer Panel

2 Circuit Start Selection Switches

3 Trunk Identification Label

4 25-Pair Male Connector

Trunk/Test Switches	
Switch Number	**Circuit Number**
1	1
2	1
3	2
4	2
5	3
6	3
7	4

1 of 2

Trunk/Test Switches	
Switch Number	**Circuit Number**
8	4
9	5
10	5
11	Not Used
12	Test Switch

2 of 2

Pin Assignments for 25-Pair Connector			
26	W-BL	TTC1	Tip-PBX Trunk Circuit 1
1	BL-W	RTC1	Ring-PBX Trunk Circuit 1
27	W-O	TTK1	Tip-CO Trunk Circuit 1
2	O-W	RTK1	Ring-CO Trunk Circuit 1
28	W-G	TLC1	Tip-PBX Line Port 1
3	G-W	RLC1	Ring-PBX Line Port 1
29	W-BR	TST1	Tip-Emergency Terminal 1
4	BR-W	RST1	Ring-Emergency Terminal 1
30	W-S	TTC2	Tip-PBX Trunk Circuit 2
5	S-W	RTC2	Ring-PBX Trunk Circuit 2
31	R-BL	TTK2	Tip-CO Trunk Circuit 2
6	BL-R	RTK2	Ring-CO Trunk Circuit 2
32	R-O	TLC2	Tip-PBX Line Port 2
7	O-R	RLC2	Ring-PBX Line Port 2
33	R-G	TST2	Tip-Emergency Terminal 2
8	G-R	RST2	Ring-Emergency Terminal 2
34	R-BR	TTC3	Tip-PBX Trunk Circuit 3
9	BR-R	RTC3	Ring-PBX Trunk Circuit 3
35	R-S	TTK3	Tip-CO Trunk Circuit 3
10	S-R	RTK3	Ring-CO Line Port 3

1 of 2

Pin Assignments for 25-Pair Connector			
36	BK-BL	TLC3	Tip-PBX Line Port 3
11	BL-BK	RLC3	Ring-PBX Line Port 3
37	BK-O	TST3	Tip-Emergency Terminal 3
12	O-BK	RST3	Ring-Emergency Terminal 3
38	BK-G	TTC4	Tip-PBX Trunk Circuit 4
13	G-BK	RTC4	Ring-PBX Trunk Circuit 4
39	BK-BR	TTK4	Tip-CO Trunk Circuit 4
14	BR-BK	RTK4	Ring-CO Trunk Circuit 4
40	BK-S	TLC4	Tip-PBX Line Port 4
15	S-BK	RLC4	Ring-PBX Line Port 4
41	Y-BL	TST4	Tip-Emergency Terminal 4
16	BL-Y	RST4	Ring-Emergency Terminal 4
42	Y-O	TTC5	Tip-PBX Trunk Circuit 5
17	O-Y	RTC5	Ring-PBX Trunk Circuit 5
43	Y-G	TTK5	Tip-CO Trunk Circuit 5
18	G-Y	RTK5	Ring-CO Trunk Circuit 5
44	Y-BR	TLC5	Tip-PBX Line Port 5
19	BR-Y	RLC5	Ring-PBX Line Port 5
45	Y-S	TST5	Tip-Emergency Terminal 5
20	S-Y	RST5	Ring-Emergency Terminal 5
46	V-BL	COM1	Common 1 Relay Contact
21	BL-V	NO1	Normally Open 1 Contact
47	V-O	NC2	Normally Closed 2 Contact
22	O-V	NC1	Normally Closed 1 Contact
48	V-G	COM2	Common 2 Relay Contact
23	G-V	NO2	Normally Open 2 Contact
49	V-BR		
24	BR-V		
50	V-S	GRD	Ground from Aux Cable
25	S-V	-48PX	-48V from AUX Cable

2 of 2

Figure 210: Connections for Telephone Used for Emergency Transfer

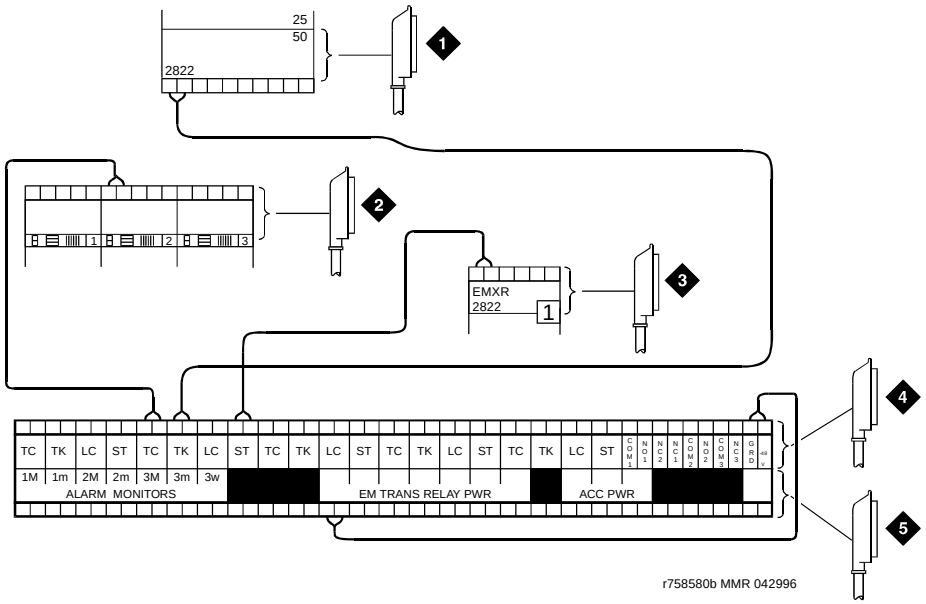


Figure notes

1 To Network Interface Circuitry

2 To TN747B (or Equivalent) Central Office Trunk Circuit Pack

3 To Blue or White Station Distribution Field

4 To Power Transfer Unit

5 To Control Carrier Auxiliary Connector

Figure 211: Connections for Telephone Used for Emergency Transfer and as Normal Extension

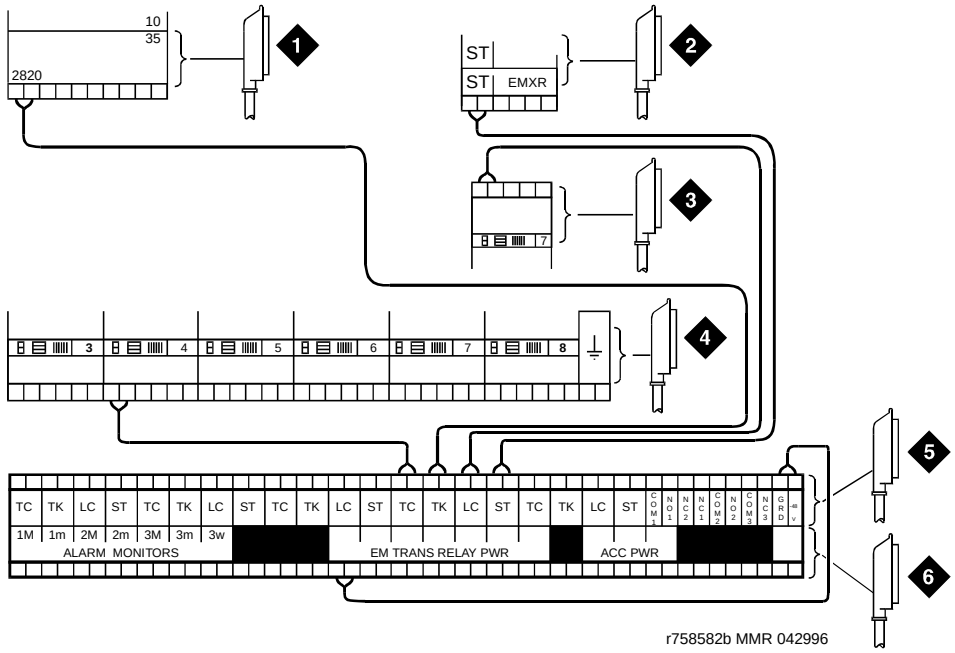


Figure notes

1. To Network Interface Facility
2. To Blue or White Station Distribution Field
3. To TN2183 or Equivalent Analog Line Circuit Pack
4. To TN747B (or Equivalent) Central Office Trunk Circuit Pack
5. To Power Transfer Unit
6. To Control Carrier AUX Connector

Return to Task List

Install Telephones Used Only for Emergency Transfer (Trunk/Auxiliary Field)

Return to Task List

1. Connect a pair of wires between the **-48V** and **GRD** terminals on the yellow emergency transfer row/connecting block and the **EM TRANS RELAY PWR** terminal. See Figure 212, Connections for Telephone Used for Emergency Transfer, on page 542.
2. Connect Central Office (CO) trunk leads from the purple field to **TC** terminals on the yellow emergency transfer row/connecting block for each trunk.
3. Connect CO trunk leads from the green field to **TK** terminals on the yellow emergency transfer row/connecting block for each trunk.
4. Connect **ST** leads on the yellow emergency transfer row/connecting block for each emergency transfer telephone to the assigned terminal in the blue or white station distribution field. The **ST** terminal leads should be terminated on the following pairs: 1, 4, 7, 10, 13, 16, 19, or 22 (the first pair of any 3-pair group).

5 Install the telephone:

— Connect telephone to the information outlet.

— Install patch cords/jumper wires between the system side and the station side of the station distribution field on the MDF.

Figure 212: Connections for Telephone Used for Emergency Transfer

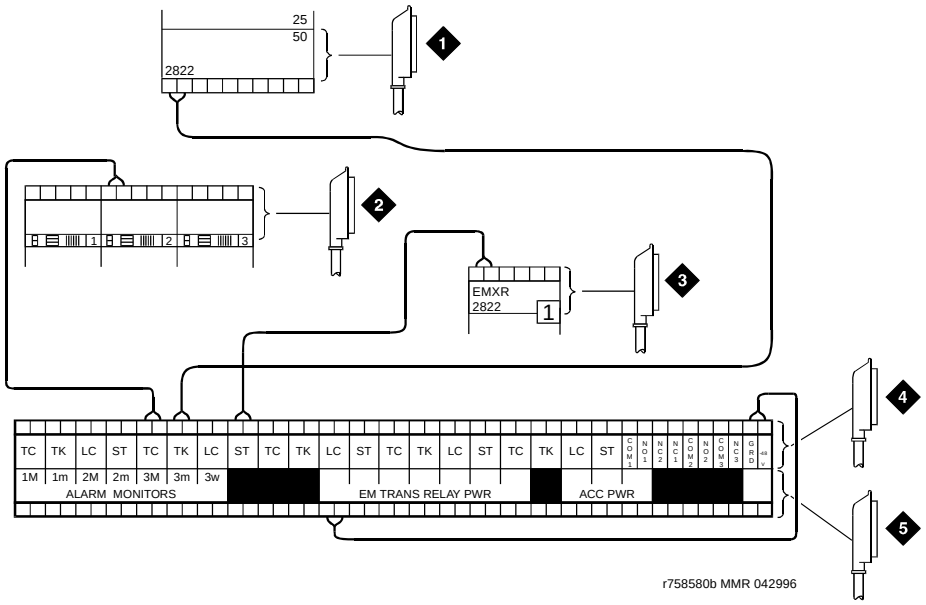


Figure notes

1 To Network Interface Circuitry

2 To TN747B (or Equivalent) Central Office Trunk Circuit Pack

3 To Blue or White Station Distribution Field

4 To Power Transfer Unit

5 To Control Carrier Auxiliary Connector

Return to Task List

Install Telephones Used for Emergency Transfer and as Normal Extension (Trunk/Auxiliary Field)

Return to Task List

1 Connect a pair of wires between the **-48V** and **GRD** terminals on the yellow emergency transfer row/connecting block to the **EM TRANS RELAY PWR** terminal. See Figure 213, Connections for Telephone Used for Emergency Transfer and as Normal Extension, on page 543.

2 Connect CO trunk leads from the purple field to **TC** terminals on the yellow emergency transfer row/connecting block for each trunk.

3 Connect CO trunk leads from the green field to **TK** terminals on the yellow emergency transfer row/connecting block for each trunk.

4 Connect telephone leads from the purple analog line circuit pack row/ connecting block to the **LC** terminals on the yellow emergency transfer row/connecting block for each telephone.

5 Connect **ST** leads on the yellow emergency transfer row/connecting block for each emergency transfer telephone to the assigned terminal in the blue or white station distribution field.

6 Install the telephone:

— Connect telephone to the information outlet.

— Install patch cords/jumper wires between the system side and the station side of the station distribution field on the MDF.

Figure 213: Connections for Telephone Used for Emergency Transfer and as Normal Extension

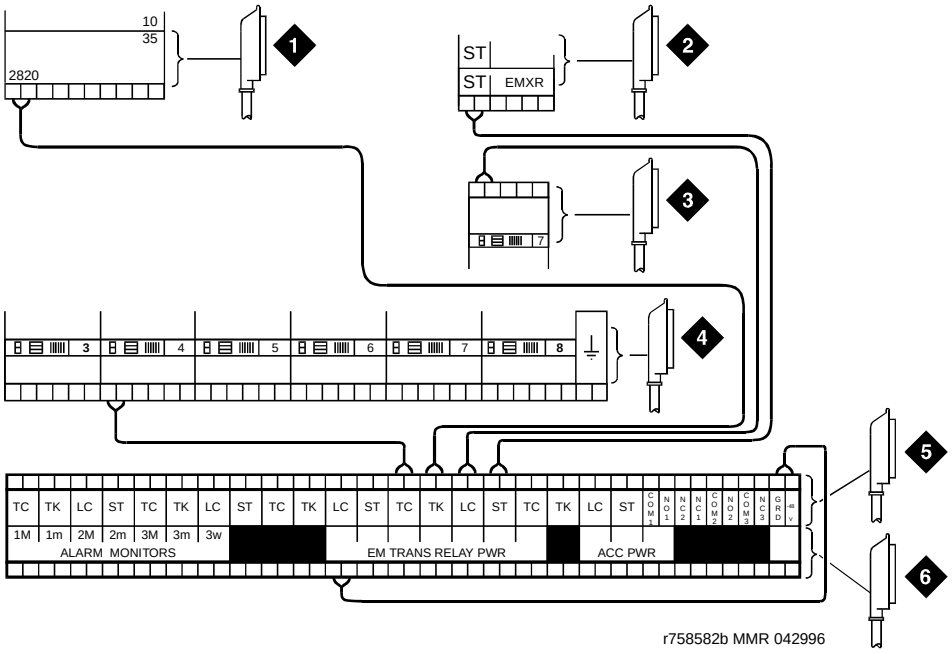


Figure notes

1 To Network Interface Facility

2 To Blue or White Station Distribution Field

3 To TN2183 or Equivalent Analog Line Circuit Pack

4 To TN747B (or Equivalent) Central Office Trunk Circuit Pack

5 To Power Transfer Unit

6 To Control Carrier AUX Connector

Return to Task List

Install External Ringing

Return to Task List

Connections for external ringing are at an information outlet. The system side of the Main Distribution Frame (MDF) is connected to a TN2183 (or equivalent) Analog Line circuit pack. The circuitry and power source for the device are customer-provided.

NOTE:
A maximum of 3 devices can connect to 1 analog line circuit pack port.

1. Wire the ringing device to the information outlet as shown in Figure 214, 3-Pair and 4-Pair Modularity, on page 544 and Figure 215, Example Adjunct Power Connections, on page 545.
2. Administer per the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Figure 214: 3-Pair and 4-Pair Modularity

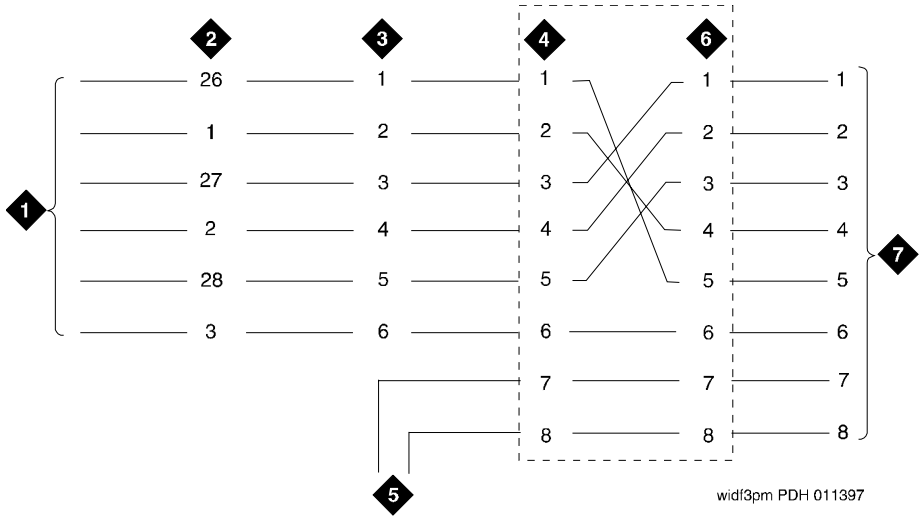


Figure notes

1. Port Circuit Pack
2. System Cabinet Connector Pins (3-Pair Modularity)
3. Main Distribution Frame (MDF) Pins (3-Pair Modularity)
4. Input to Information Outlet (4-Pair Modularity)
5. Adjunct Power
6. Output From Information Outlet (4-Pair Modularity)
7. Voice or Data Terminal Pins

Figure 215: Example Adjunct Power Connections

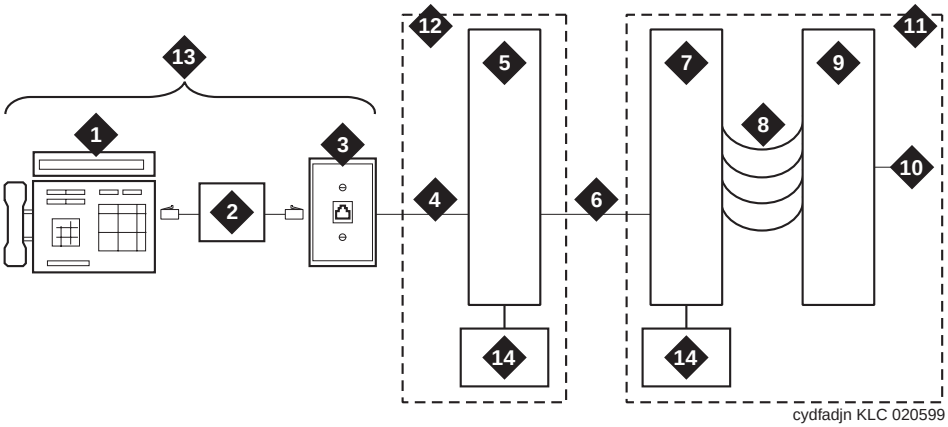


Figure notes

1	Typical Display Telephone	**8**	100P6A Patch Cord or Jumpers
2	Individual Power Supply (Such as 1151A1 or 1151A2)	**9**	System Side of Main Distribution Frame (MDF)
3	Information Outlet (Modular Jack)	**10**	25-Pair Cable to System Cabinet (Analog Line Circuit Pack)
4	4-Pair D-Inside Wire (DIW) Cable	**11**	Equipment Room
5	Satellite Site or Adapter Location	**12**	Satellite Location
6	25-Pair D-Inside Wire (DIW) Cable	**13**	Work Location
7	Station Side of Main Distribution Frame (MDF)	**14**	Bulk Power Supply (Such as 1145B)

Return to Task List

Install the Queue Warning Indicator

Return to Task List

The connections for the queue warning indicator are the same as external ringing. An AC indicator (lamp) such as a 21C49 can be used in a Uniform Call Distribution/Direct Departmental Calling (UCD/DDC) queue.

The lamp is connected to an information outlet. The system side of the MDF is connected to an analog line circuit pack located in a port carrier.

1. Wire the queue warning indicator to the information outlet as shown in Figure 216, 3-Pair and 4-Pair Modularity, on page 546 and Figure 217, Example Adjunct Power Connections, on page 547.
2. Administer using the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Figure 216: 3-Pair and 4-Pair Modularity

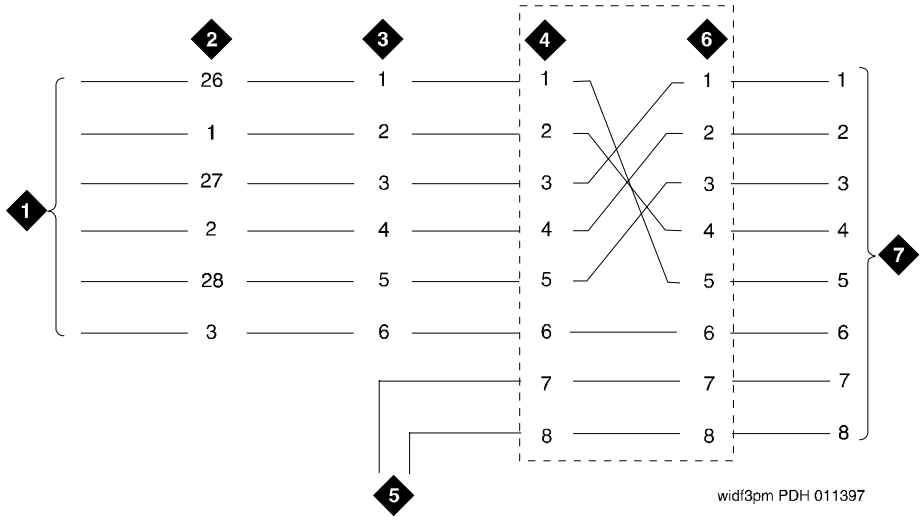


Figure notes

1 Port Circuit Pack

2 System Cabinet Connector Pins (3-Pair Modularity)

3 Main Distribution Frame (MDF) Pins (3-Pair Modularity)

4 Input to Information Outlet (4-Pair Modularity)

5 Adjunct Power

6 Output From Information Outlet (4-Pair Modularity)

7 Voice or Data Terminal Pins

Figure 217: Example Adjunct Power Connections

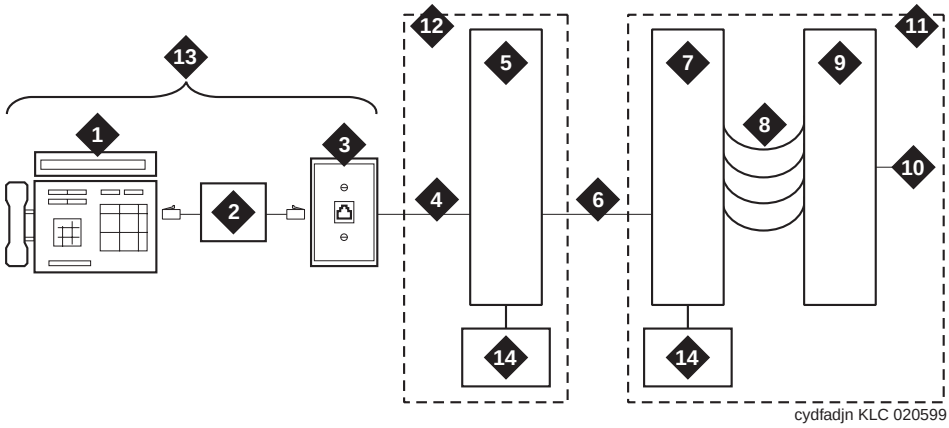


Figure notes

1	Typical Display Telephone	**8**	100P6A Patch Cord or Jumpers
2	Individual Power Supply (Such as 1151A1 or 1151A2)	**9**	System Side of Main Distribution Frame (MDF)
3	Information Outlet (Modular Jack)	**10**	25-Pair Cable to System Cabinet (Analog Line Circuit Pack)
4	4-Pair D-Inside Wire (DIW) Cable	**11**	Equipment Room
5	Satellite Site or Adapter Location	**12**	Satellite Location
6	25-Pair D-Inside Wire (DIW) Cable	**13**	Work Location
7	Station Side of Main Distribution Frame (MDF)	**14**	Bulk Power Supply (Such as 1145B)

Return to Task List

Install and Wire Telephone Power Supply

This section provides information and wiring examples of installation procedures for various telephone and console power supplies. These are examples only and actual wiring procedures may vary at each site.

NOTE:
Refer to Chapter , “Adjuncts and Peripherals” to install the necessary peripheral equipment.

Task List: Power Supplies

For 1145B Power Supply on page 549, see:

- Important Warning for 1145B Power Supply on page 553
- Install the Wall-Mounting Plates on page 554
- Mount the 1146B Power Distribution Unit on page 555
- Install the Battery Mounting/Wiring on page 557
- Install the Expanded Power Distribution Unit on page 557
- Power Up and Test the Power Supply on page 559
- Wire the 1146B Power Distribution Unit on page 559
- Reset LEDs on Power Distribution Unit on page 560

For 1151A1 and 1151A2 Power Supplies on page 561 see:

- Important Safety Instructions for 1151A1 and 1151A2 Power Supplies on page 563
- Using 1151A1 and 1151A2 Power Supplies on page 562
- Connect the 1151A1 or 1151A2 Power Supplies on page 563

1145B Power Supply

The 1145B2 closet power arrangement provides an uninterruptible -48 VDC power source with battery and 1146B2 distribution unit for ISDN/DCP, terminal equipment, adjuncts, and other customer-supplied equipment. During AC power interruptions, batteries automatically provide power to the load. Although this power supply is available, we recommend that you use the 1151B1 or 1151B2 power supplies.

NOTE:
Before you begin, read this Important Warning for 1145B Power Supply on page 553.

Perform these tasks in order:

1. Install the Wall-Mounting Plates on page 554
2. Mount the 1146B Power Distribution Unit on page 555
3. Install the Battery Mounting/Wiring on page 557
4. Install the Expanded Power Distribution Unit on page 557
5. Power Up and Test the Power Supply on page 559
6. Wire the 1146B Power Distribution Unit on page 559
7. Reset LEDs on Power Distribution Unit on page 560

Figure 218, 1145B/1146B Mounting Arrangement, on page 551 shows how the standard power supply and wall-mounting plates fit together. Figure 219, Expanded Power Distribution Unit, on page 552 shows the expanded power supply components (power distribution unit and "T" cable).

A manual switch on the distribution unit allows the user to redirect reserve power to outputs 1 through 32 so all outputs are provided battery reserve power, or to outputs 1 through 8 to provide high power above 6.25 watts.

NOTE:
The switch must be set to the 1-32 position.

The 1145B/1146B is a -48V power supply with 275 watts total output. Each output circuit is current limited by a Polymer Positive Temperature Coefficient Resistance Device (PTC) that limits the maximum output to 12 watts. Each 1146B output has an LED to indicate the status of the PTC. If the LED is on, the PTC has a short on that power pair.

Not all outputs can simultaneously provide 12 watts. The average power per output cannot exceed 8.6 watts (275/32 = 8.6). The 1145B is designed to power one ISDN terminal or DCP adjunct per output. The maximum number of terminals or adjuncts is 32 at less than or equal to 6.25 watts each. The 1145B is required for installations outside the United States.

Auxiliary power (local or bulk) is always required for the following:

- Attendant Console 302C1
- Any 8520 terminal
- Any 7500- or 8500-series terminal with an asynchronous data module
- Any 7500-series terminal whether in passive bus, or point to point (one per BRI port)
- Any 8510 terminal in passive bus or with an asynchronous data module (unless the 8510 will not be used to support data or video)
- PassageWay adapter interface
- Some 8400-series terminal and adjuncts
- Some 7400-series terminal and adjuncts

Figure 218: 1145B/1146B Mounting Arrangement

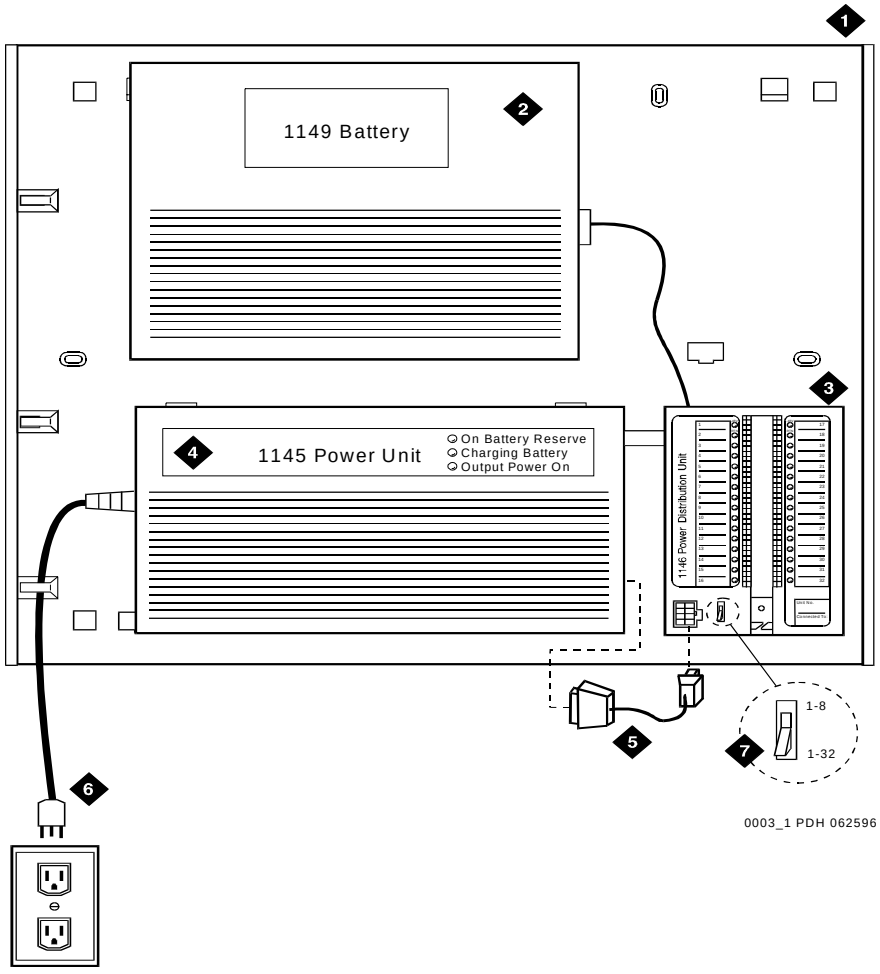


Figure notes

1 Wall Mounting Plate

2 Battery (1149B Shown)

3 1146B Power Distribution Unit

4 1145B Power Unit

5 Power Cable

6 Unswitched Outlet (120 VAC, 20 Amp or 230 VAC, 15 Amp)

7 Battery Backup Switch Setting

Figure 219: Expanded Power Distribution Unit

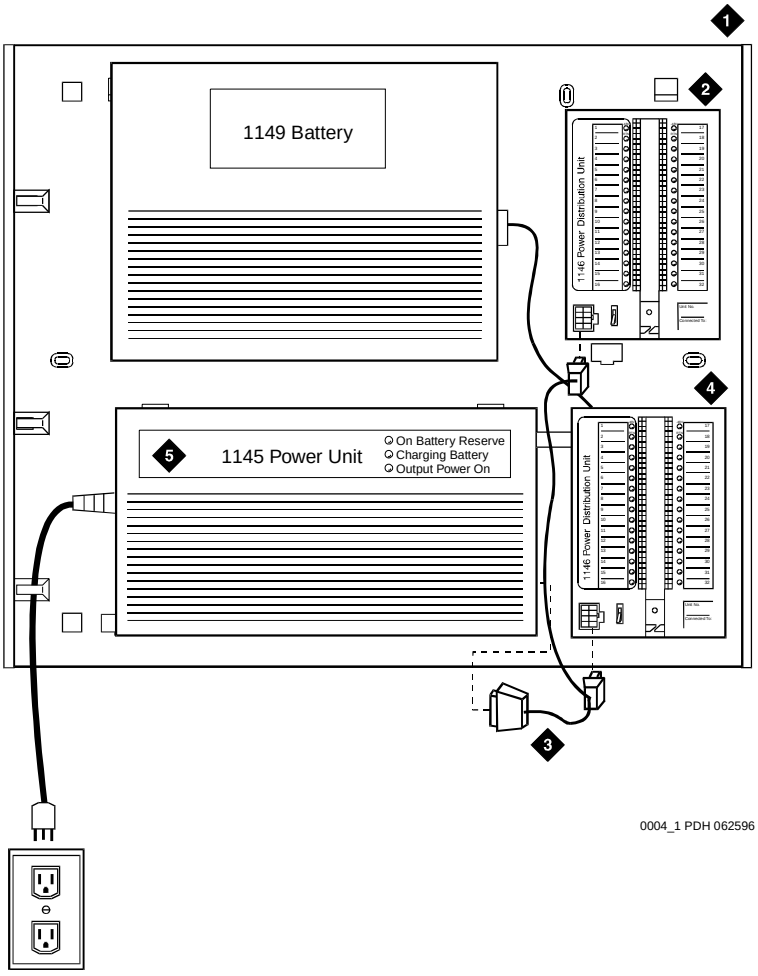


Figure notes

1 Wall-Mounting Plate

2 Second 1146B Power Distribution Unit

3 “T” Cable (H600-347-G7)

4 First 1146B Power Distribution Unit

5 1145B Power Unit

Important Warning for 1145B Power Supply

Return to Task List

WARNING:
Important Safety Instructions follow.

When operating this equipment, basic safety precautions must be followed to reduce the risk of fire, electric shock and personal injury, including the following:

- Read and understand all instructions.
- Do not attach the power supply cord to building surfaces.
- For continued back-up protection and battery reliability, replace batteries every four years.
- Follow all warnings and instructions marked on the products.
- Clean products only with a dry rag.
- Do not use this product near water.
- For mounting security, follow all installation instructions when mounting product.
- Openings on top and bottom of power unit are provided for ventilation. Do not block or cover these openings. Do not exceed recommended environmental temperatures.
- Operate these products only from the type of power source indicated on the product labels.
- The power unit is equipped with a three wire grounding type plug; a plug having a third (grounding) pin. This plug will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace the outlet. Do not defeat the safety purpose of the grounding type plug.
- Do not allow anything to rest on or spill into the products.
- To reduce risk of fire and electrical shock, do not overload power outlets.
- Never push objects of any kind through the power supply or distribution unit slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electrical shock.
- To reduce risk of electric shock, do not disassemble these products. Return them for repair when needed. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the products are subsequently used.
- Power down the power unit (see label on power unit on how to do this) and refer servicing under the following conditions:
  - — If liquid has been spilled into any of the products
  - — If any of the products have been exposed to water
  - — If any of the products do not operate normally
  - — If any of the products have been dropped or damaged
  - — If any of the products exhibits a change in performance
- Do not attempt to recharge batteries on your own. The batteries may leak corrosive electrolyte or explode. The 1145B power unit recharges the batteries safely.
- Remove the batteries if the power unit will not be used for a long period of time (several months or more) since during this time the battery may leak.

- Discard discharged batteries as soon as possible. Discharged batteries are more likely to leak.
- Do not store batteries in high temperature areas. Batteries stored in a cold environment should be protected from condensation during storage and warming. Batteries should be stabilized at room temperature prior to use after cold storage. Do not install batteries if the manufacturing date on the label indicates that the batteries are more than six months old.

Return to Task List

Install the Wall-Mounting Plates

Return to Task List

The top plate is used for mounting the back-up battery. The bottom plate is used to mount the power supply and distribution units. The plates can be rack-mounted using standard rack-mounting brackets. See Figure 220, 1145B/1146B Mounting Arrangement, on page 555.

1. Locate one plate directly below the other one such that the AC power cord (6.5 feet or 2 meters) reaches the electrical outlet from a power supply mounted on the bottom plate. Both plates should be located so the raised letters are right side up.

   NOTE:
   A maximum of four power supplies can be powered from one dedicated 110 VAC, 20 amp (or 230 VAC, 15 amp) feeder. Use only unswitched receptacles (receptacles not connected to a wall switch).

2. Secure the wall mounting plates to a standard 3/4 inch (2 cm) thick plywood mounting board. Each mounting plate comes with four #10 x 1/2-inch wood screws.
3. The 1145B Power Supply is snap-fit onto the bottom wall mounting plate without tools.
4. An installer-provided insulated ground wire, 16 AWG (#12) (1.2 mm^2) or greater, is required to connect the power supply frame ground lug to an approved ground. The frame ground screw is located next to the AC receptacle, to the left of the unit.
5. Mark the Unit Number and Connectivity information on the front label next to the LEDs.

Figure 220: 1145B/1146B Mounting Arrangement

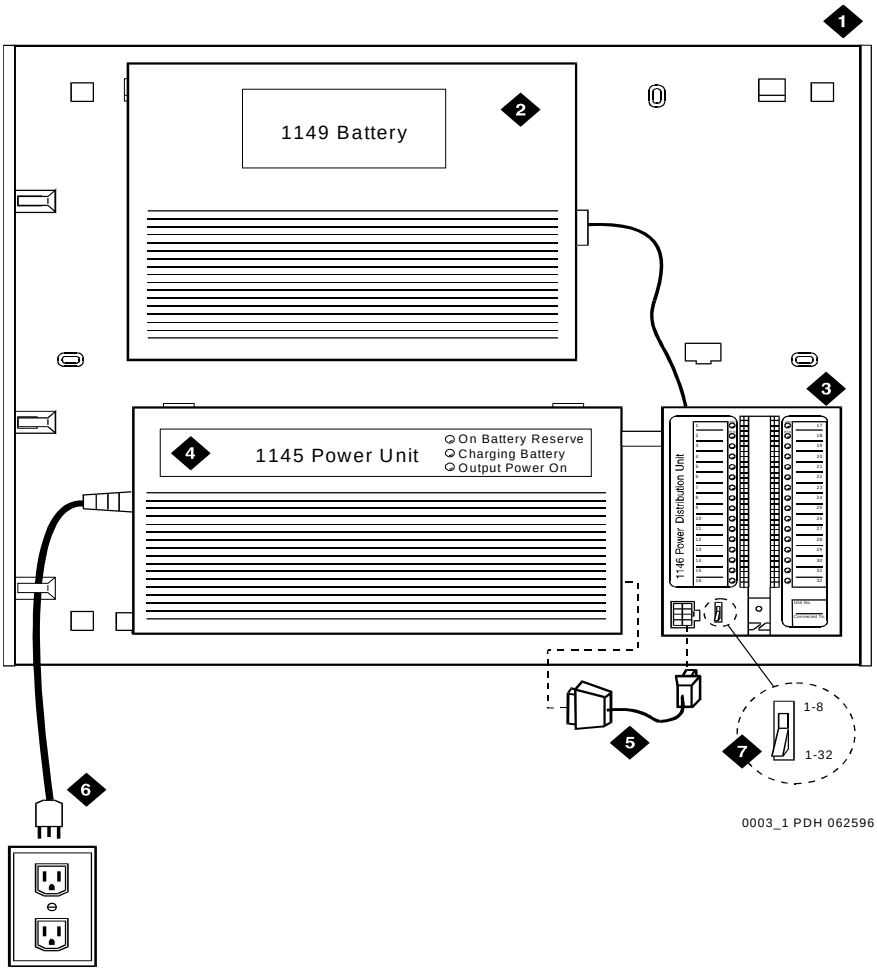


Figure notes

1. Wall Mounting Plate
2. Battery (1149B Shown)
3. 1146B Power Distribution Unit
4. 1145B Power Unit
5. Power Cable
6. Unswitched Outlet (120 VAC, 20 Amp or 230 VAC, 15 Amp)
7. Battery Backup Switch Setting

Return to Task List

Mount the 1146B Power Distribution Unit

Return to Task List

See the 1146B Power Distribution Unit in Figure 221, Expanded Power Distribution Unit, on page 556.

1 Insert and securely tighten the two supplied #8-32 x 1/2-inch shoulder screws (they have an unthreaded section at the top) into the top holes designated for 1146B Power Distribution Unit on the bottom plate. Mount the unit on these two shoulder screws, using the key holes on the back of the unit.

2 Secure the unit by inserting the #8-32 x 1 inch screw through the bottom of the unit (just above the wire clips) into the plate and tighten.

3 Set the battery back-up switch option to the 1-32 (down) position to provide battery back-up to all outputs.

4 Connect the power distribution unit to the power supply's right-hand label to locate the output power connection.

Figure 221: Expanded Power Distribution Unit

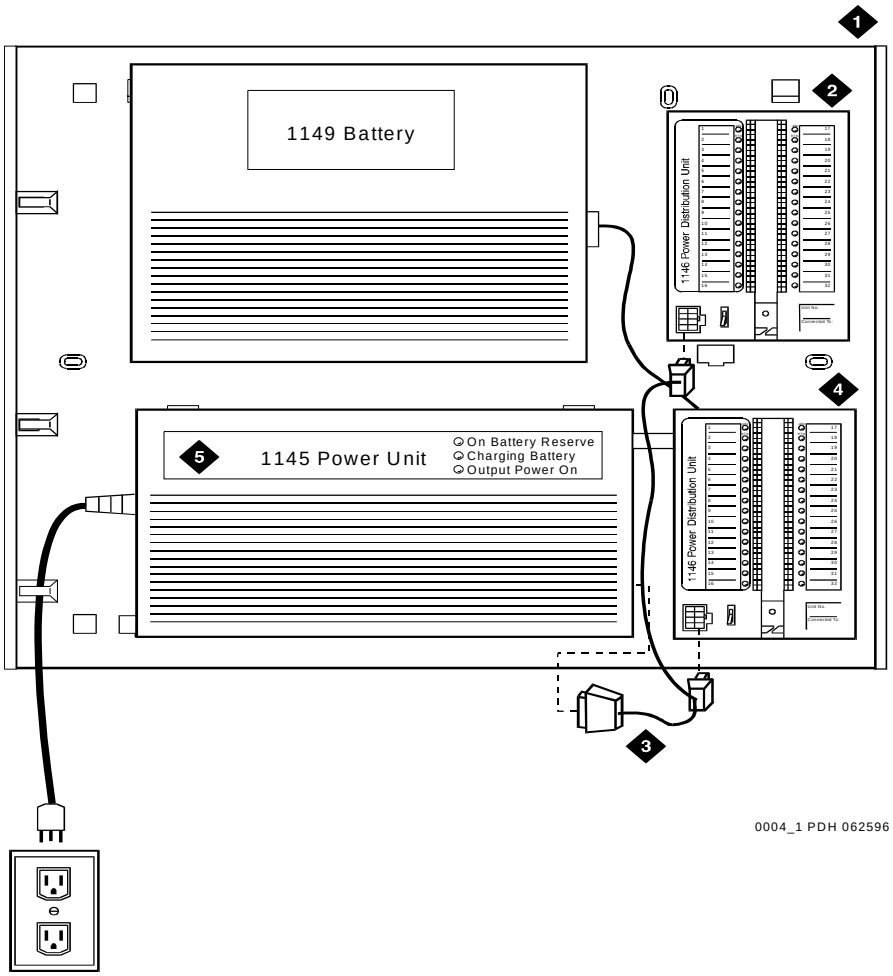


Figure notes

1 Wall-Mounting Plate

2 Second 1146B Power Distribution Unit

3 "T" Cable (H600-347-G7)

4 First 1146B Power Distribution Unit

5 1145B Power Unit

Return to Task List

Install the Battery Mounting/Wiring

Return to Task List

Three types of back-up batteries are used. See Back-Up Battery Rating on page 557 for the battery type and rating.

1. Insert two #10-32 x 1/2-inch shoulder screws into the top designated battery holes on the wall mounting plate. Lightly screw in but do not tighten.
2. Place the keyhole slots in the battery bracket on these two screws. The battery cord exits from the right of the bracket. Make sure the label on the battery is visible. Tighten the screws securely.
3. Plug the battery cord into the power supply's right rear receptacle. The rear receptacle is indicated on the right label.

Back-Up Battery Rating

Battery	Rating
1148B	2.5 amp-hours
1149B	5 amp-hours
1147B	8 amp-hours

Return to Task List

Install the Expanded Power Distribution Unit

Return to Task List

A second power distribution unit can be installed to provide power to additional devices.

CAUTION:
Total power cannot exceed 275 Watts. The maximum ISDN terminal mixture is twenty four 7500-series and twenty four 8500-series terminals.

The maximum DCP terminal mixture is twenty four 7400-series and twenty four 8400-series or sixty four 8400-series terminals.

The expanded power distribution unit kit contains:

- One 1146B Power Distribution Unit
- One "T" Cable
- Two #8-32 x 1/2-inch Shoulder Screws
- One #8-32 x 1 inch Screw
- One Spacer Bracket

Refer to Figure 222, Expanded Power Distribution Unit, on page 558 while installing the power distribution unit.

1. Set the spacer bracket onto the mounting plate and secure with the #8-32 x 1/2-inch shoulder screws. The spacer bracket is not shown in the figure but is installed behind the top power distribution unit.
2. Slide the keyhole slots in the power distribution unit over the shoulder screws.
3. Insert the #8-32 x 1 inch screw through the distribution unit, through the spacer bracket, and into the plate. The mounting hole is located just above the wire clip. Tighten the screw securely.
4. Set the battery back-up switch to the 1-32 (down) position.
5. Power-down the 1145B unit as described on the label on the side of the unit.
6. Remove the output power cable between the 1145B and the 1146B units. The cable will not be reused.
7. Connect the P1 connector end of the “T” cable to the bottom power distribution unit. Connect the P2 connector to the top distribution unit. Connect the P3 connector to the 1145B.
8. Power-up the 1145B as described on the label on the side of the unit.

Figure 222: Expanded Power Distribution Unit

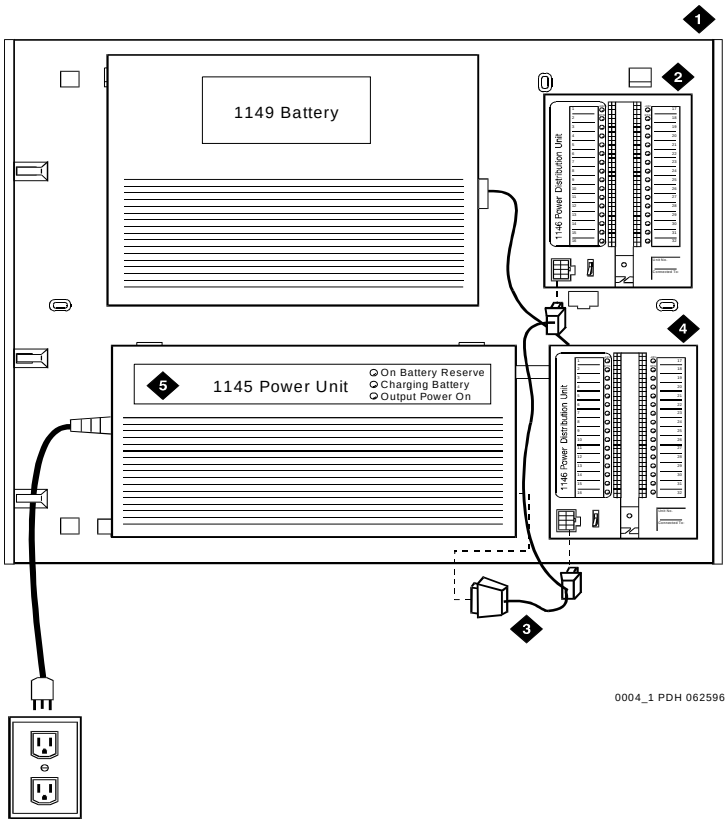


Figure notes

1. Wall-Mounting Plate
2. Second 1146B Power Distribution Unit
3. “T” Cable (H600-347-G7)
4. First 1146B Power Distribution Unit
5. 1145B Power Unit

Return to Task List

Power Up and Test the Power Supply

Return to Task List

The following table describes the meaning of the power supply LEDs when lit.

LED Color	Meaning
Green	Power Supply is providing power
Yellow	Battery is charging
Red	Power Supply is on battery reserve

1 Connect the AC power cord to the power supply and route the cord to an appropriate AC outlet using the clips provided on the unit.

NOTE:
A maximum of four power supplies can be powered from one dedicated 100V-120V, 50/60 Hz, 20 amp feeder or 200V-240V, 50/60 Hz, 10 Amp feeder. Use only unswitched receptacles.

2 Plug the cord into the outlet. This powers up the power supply.

3 Check AC operation of the 1145B Power Supply by monitoring the LEDs:

PASS: Green and yellow LEDs at front of the unit should be lit together. Green means the power supply is providing power. Yellow means the battery is being charged. After the battery reaches full charge (maximum of twenty hours), the yellow LED should go out.

FAIL: If either green or yellow LED is not lit after powering up, check the connections. Test the AC outlet. If power is available and the AC power cord and connections are good, replace the power unit.

4 Disconnect the AC plug on the power supply, this activates the DC supply.

5 Check DC (battery back-up) operation of the 1145B Power Supply by monitoring the LEDs:

PASS: The red and green LEDs should be lit together. Red means the power supply is on battery back-up.

FAIL: If either green or red LED is not lit after disconnecting AC power, check the connections. If the connections are good, replace the power unit or batteries.

6 Reconnect AC power to the power supply.

Return to Task List

Wire the 1146B Power Distribution Unit

Return to Task List

Wire endpoints to the1146B while power from the 1145B is on. A red LED lights if its associated circuit is connected to shorted wiring or to a shorted terminal.

1 Install cross-connect jumpers to wire from the unit (the label shows polarity) to Pins 7 and 8 of the appropriate information outlet. Route the wires through the clip provided on the unit. If a red LED is on, see Reset LEDs on Power Distribution Unit on page 560. See Figure 223, Typical Wiring to a Terminal, on page 560.

2 Mark lead destinations on the label next to each connector. Also mark the Unit Number and Connectivity information on the label.

Figure 223: Typical Wiring to a Terminal

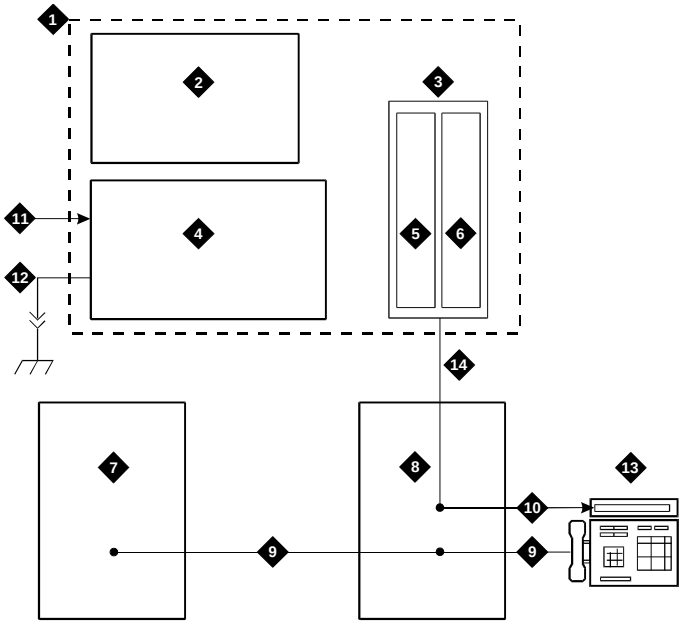


Figure notes

1	Power Supply Kit	**8**	Main Distribution Frame
2	2.5, 5.0, or 8.0 Amp Hour Battery	**9**	Modular Cord
3	1146B Distribution Unit	**10**	Pins 7 and 8 (Display Terminal Power)
4	1145B Power Supply	**11**	AC Input
5	Circuits 1-16	**12**	Installer-Provided Ground Wire
6	Circuits 17-32	**13**	ISDN/ Display System Protocol Terminal
7	Port Circuit	**14**	Circuits 1-32

Return to Task List

Reset LEDs on Power Distribution Unit

Return to Task List

A red LED next to any of the 32 power output connectors indicates a short circuit in the building wiring or the terminal equipment. To reset the LED:

1 Disconnect the terminal equipment from the wall jack.

2 If the LED goes off, the terminal equipment is faulty and must be replaced. If the LED is still lit, find and repair the short circuit in the building wiring.

3 Reconnect the terminal equipment to the wall jack and re-test terminal equipment operation.

Return to Task List

1152A1 Mid-Span Power Distribution Unit

The 1152A1 Mid-Span Power Distribution Unit (PDU) is an Ethernet power supply that provides power to up to 24 46xx-series IP telephones or wireless LAN (WLAN) access points. This unit is used with a 10/100BaseTx standard Ethernet network over a standard TIA/EIA-568 Category 5, 6 or 6e cabling plant. The 1152A1 meets the current requirements of the IEEE802.3af standard for resistive detection.

The 1152A1 PDU complies with the Underwriters Laboratories Inc. (UL) standard UL 1950, second edition.

Complies	UL 1950
Approved	CSA C22.2 No.950 Std.
Approved	CE Regulatory Compliance
Approved	EN 60950
Approved	TUV EN 60950

For safety instructions, see Important Safety Instructions for 1151A1 and 1151A2 Power Supplies on page 563.

1151A1 and 1151A2 Power Supplies

Return to Task List

The 1151A1 and 1151A2 Power Supplies comply with the UL Standard UL 1950, second edition.

Complies	UL 1950
Certified	CSA 22.2
Approved	EN6950
Approved	CE

For safety instructions, see Important Safety Instructions for 1151A1 and 1151A2 Power Supplies on page 563. For installation instructions, see Connect the 1151A1 or 1151A2 Power Supplies on page 563.

Using 1151A1 and 1151A2 Power Supplies

The 1151A1 and 1151A2 Power Supplies can be used to supply local power to ISDN-T 65xx, 74xx, 75xx, 84xx, and 85xx series voice terminals connected to a system and to the 302C1 Attendant Console that requires auxiliary power for its display. The unit can supply power to adjunct equipment such as S201A and CS201A speakerphones or a 500A Headset Adapter attached to any currently manufactured analog, DCP, or ISDN-T voice terminal equipped with an adjunct jack.

CAUTION:
The power supply can be used *only* with telecommunications equipment, indoors, and in a controlled environment.

The power supply has a single output of -48 VDC, 0.4 Amps, and can operate from either a 120 VAC 60 Hz power source (105 to 129 VAC) or a 220/230/240 VAC 50 Hz power source (198 to 264 VAC). Input voltage selection is automatic. The output capacity is 19.2 Watts.

The power supply can be placed on a flat surface such as a desk. For wall-mounting, keyhole slots are provided on the bottom of the chassis.

CAUTION:
Do not locate the unit within six inches (15.25 cm) of the floor.

Return to Task List

Important Safety Instructions for 1151A1 and 1151A2 Power Supplies

Return to Task List

Please read the following helpful tips. Retain these tips for later use.

When using this power supply, the following safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons.

- Read and understand all instructions.
- Follow all warnings and instructions marked on this power supply.
- This product can be hazardous if immersed in water. To avoid the possibility of electrical shock, do not use it near water.
- To reduce the risk of electric shock, do not disassemble this product except to replace battery.
- This product should be operated only from the type of AC power source indicated on the label. If you are not sure of the type of AC power being provided, contact a qualified service person.
- Do not allow anything to rest on the power cord. Do not locate this product where the cord will be abused by persons walking on it.
- Do not overload wall outlets and extension cords as this can result in the risk of line or electric shock.
- Disconnect the cords on this product and refer servicing to qualified service personnel under the following conditions:
  - — When the power supply cord or plug is damaged or frayed.
  - — If liquid has been spilled into the product.
  - — If the product has been exposed to rain or water.
  - — If the product was dropped or the housing has been damaged.
  - — If the product exhibits a distinct change in performance.
  - — If the product does not operate normally by following the operating instructions.

Return to Task List

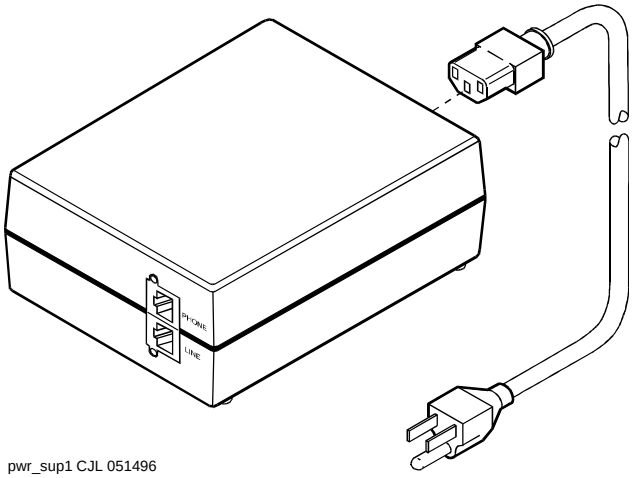
Connect the 1151A1 or 1151A2 Power Supplies

Return to Task List

The 1151A1 is a standard (no battery backup) power supply unit. The 1151A2 is a battery backup version of the 1151A1. Either power supply can support one telephone with or without an adjunct. The maximum loop range is 250 feet (76 meters). Two modular jacks are used. Power is provided on the PHONE jack, pins 7 and 8 (- and +, respectively).

The PHONE and LINE jacks are 8-pin female non-keyed 657-type jacks that can accept D4, D6, and D8 modular plug cables. See an Figure 224, 1151A1/2 Power Supply — Front, on page 564.

Figure 224: 1151A1/2 Power Supply — Front



Return to Task List

Install Additional Hardware

This section provides information about and procedures for installing additional port circuit packs and other equipment to add more functionality to the DEFINITY ECS.

For procedures to install Avaya Media Gateways (IP) solutions, see Add IP Solutions on page 601.

For procedures to install channel service units (CSUs) see Add Channel Service Units on page 651.

For procedures to install trunks, see Install and Administer Trunks on page 657.

For procedures to upgrade firmware, see Upgrade Firmware on Programmable Circuit Packs on page 715.

Avaya Media Gateways do not require an external modem because an internal modem is in the processor circuit pack. For procedures to install modems, see Install and Connect Modems on page 701.

Task List: Installing Additional Port Circuit Packs

If adding the packet bus support and TN570Ds must be installed as part of that support, adding ISDN—BRI requires a service interruption. Notify the customer in advance as to when the addition will be carried out. See Add Packet Bus Support on page 588 for further information.

Select the information you need:

- Add Port Circuit Packs on page 567
- Install and Administer ISDN - BRI on page 570
- Add a TN2501AP Announcement Circuit Pack on page 578
- Add Multiple Announcement on page 580
- Add Speech Synthesis on page 584
- Add Code Calling Access on page 584
- Add CallVisor ASAI on page 584
- Add Packet Bus Support on page 588
- Add DCS Interface on page 593
- Administer TN464GP/TN2464BP with Echo Cancellation on page 598

Installing Other Equipment

To install the following equipment, you must refer to the installation and usage documentation that comes with the product:

- DEFINITY Wireless Business System
- Cellular Business System
- Forum PCM

DEFINITY Wireless Business System

To install and test the hardware, refer to *DEFINITY® Wireless Business System Installation and Test (555-232-102)*.

To interface the Wireless Business System to the system cabinet, refer to *DEFINITY® ECS Interface for DEFINITY® Wireless Guide (555-232-108)*.

To operate the wireless handsets, refer to *DEFINITY® WBS 9630 Series WT User's Guide (555-232-701)*.

Cellular Business System

The DEFINITY Cellular Business System allows use of the same full-feature cellular telephone inside and outside of the building. The system supports up to 600 users. Total system coverage is up to 4 million square feet.

Refer to the installation and usage documentation that comes with the system components.

Forum PCM

The Forum Personal Communications Manager uses a Forum switch, serving as an adjunct to the Avaya Media Gateway, to manage mobility. The system uses Cordless Telephone Generation 2 (CT2) technology, which is a global standard for wireless telephone service. This standard defines the radio interface between the Forum pocket telephones and the base stations in the system.

Refer to the installation and usage documentation that comes with the Forum Personal Communications Manager components.

Add Port Circuit Packs

Return to Task List

When installing additional features or equipment, it may be necessary to install additional port circuit packs. See Circuit Packs and Circuit Modules by Code for a list of circuit packs. This is a general procedure to use when adding features or equipment that require adding circuit packs.

CAUTION:
Control circuit packs with white rectangles on the label cannot be removed or installed when the power is on. The port circuit packs with gray rectangles on the label (older version port circuit packs had purple labels) can be removed or installed when the power is on.

Topics covered include:

- Circuit Pack and Auxiliary Equipment Classifications on page 567
- Installing Circuit Packs on page 569

Circuit Pack and Auxiliary Equipment Classifications

Circuit packs are listed by these classifications:

- Analog Line (8) on page 568
- 2-Wire Digital & Analog Line (16) and (24) on page 568
- Data Line & Digital Line 4-Wire on page 568
- 2-Wire Digital & Analog Line 24 Ports on page 568
- Hybrid Line on page 568
- Multibutton Electronic Telephone (MET) Line on page 568
- AUX Trunk on page 568
- Central Office Trunk on page 568
- Central Office Trunk 3-Wire on page 568
- Direct Inward Dialing/Direct Inward Outward Dialing (DID/DIOD) Trunk on page 569
- Tie Trunk on page 569
- DS1 Tie Trunk on page 569
- ISDN BRI Line 4-Wire on page 569
- ISDN BRI Line 2-Wire on page 569
- Packet Data Line on page 569
- Four-Port DIOD on page 569

Equipment Classifications	Circuit Packs
Analog Line (8)	TN467 TN432 TN431 TN411B TN742 TN769
2-Wire Digital & Analog Line (16) and (24)	TN2149 TN2135 TN468B TN448 TN746B TN2181 TN2183 TN793 TN793B TN2793B
Data Line & Digital Line 4-Wire	TN726B TN754C TN564B TN413
2-Wire Digital & Analog Line 24 Ports	TN2224CP TN2793 TN2214CP TN793B TN2793B
Hybrid Line	TN762B
Multibutton Electronic Telephone (MET) Line	TN735
AUX Trunk	TN417 TN763D
Central Office Trunk	TN429D TN493 TN422 TN421 TN438B TN447 TN465C TN747B TN2138 TN2147C TN2148
Central Office Trunk 3-Wire	TN2199

Equipment Classifications	Circuit Packs
Direct Inward Dialing/Direct Inward Outward Dialing (DID/DIOD) Trunk	TN429D TN2139 TN459B TN436B TN753B TN2146 TN414
Tie Trunk	TN478 TN458 TN449 TN760E TN434 TN415
DS1 Tie Trunk	TN483 TN722 TN767 TN722B TN464F TN464GP
ISDN BRI Line 4-Wire	TN556D
ISDN BRI Line 2-Wire	TN2198
Packet Data Line	TN553
Four-Port DIOD	TN2184

Installing Circuit Packs

Return to Task List

1. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **y** when asked `Suppress Alarm Origination?` during login.
3. Install the circuit pack(s) into the carrier.
4. Log off the system after all the additions (and any required administration) are complete.

Return to Task List

Install and Administer ISDN - BRI

Return to Task List

NOTE:
Adding ISDN - BRI requires a service interruption when you add packet bus support and you install TN570Ds as part of that support. Give the customer advance notice of the scheduled addition. See Add Packet Bus Support on page 588 for further information.

See BRI Terminating Resistor Installation on page 570 for an important warning, details on the resistors, adapters, and multipoint installation distances.

Task List: Installing ISDN - BRI

Perform these tasks to install and administer ISDN - BRI:

1. Add Circuit Packs (ISDN BRI) on page 576
2. Install Cables (ISDN BRI) on page 577
3. Enter Added Translations (ISDN BRI) on page 577
4. Resolve Alarms on page 577
5. Save Translations (ISDN BRI) on page 577

BRI Terminating Resistor Installation

The resistors balance the cable plant between the receiver and the transmitter on the interface. When using the TN2198 ISDN-BRI 2-Wire U Interface circuit pack, an NT1 is required. A terminating resistor is always required near the terminal when the BRI S-type interface circuit pack (TN556D BRI 4-Wire S-NT Line circuit pack) is used (see *5ESS Switch Integrated Services Digital Network Customer Premises Planning Guide*).

The resistor is built into the NT1 and can be one of three values, depending on the configuration and the distance from the NT1 to the ISDN terminal. The resistor value is controlled from the NT1. A terminating resistor adapter may be needed near the terminal and can be placed in the satellite closet or work location.

NOTE:
The 440A4 terminating resistor and 110RA1-12 terminating resistor block are UL listed. Most new installations are the 110RA1-12 terminating resistor block.

See these BRI terminating resistor topics:

- Important Warning for Telephone Wiring on page 571
- Terminating Resistor Adapter and Block on page 571
- Installing Multipoint Adapters on page 573
- Basic Multipoint Installation Distances on page 576

Important Warning for Telephone Wiring

Observe these precautions:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.

Terminating Resistor Adapter and Block

Figure 225, 8-Wide Terminating Resistor Adapter (440A4), on page 572 shows an 8-pin 440A4 terminating resistor adapter. The adapter is three inches long with an 8-wide plug at one end, a short cord, and an 8-wide jack at the opposite end.

The 110RA1-12 terminating resistor block is designed to mount in the telecommunications wire closet. It consists of twelve 2-pair circuits and provides the 100 Ohm termination used for ISDN-BRI circuits.

Figure 226, Terminating Resistor Block (110RA1-12), on page 572 shows the wiring of the 110RA1-12. Three rows of 110D-4 connector blocks are mounted on a printed wire board along with circuit resistors and capacitors. The bottom row is designated as the input row and the top and middle rows are designated as the output rows. The circuit assembly is mounted on a standard 110A-100 pair mounting base. The 110RA1-12 is shipped with preprinted designation strips to simplify circuit identification and installation.

Figure 227, Typical Installation of Terminating Resistor Block Using Multipoint Connection, on page 573 shows the wiring connections for the 110RA1-12 terminal block. The TN556D BRI switch port is terminated to bottom row C.

For point-to-point wiring, the top row is connected to the blue station field. The pair connects from the 110RA1-12 to the standard 4-pair circuit. Pair 1 from the 110RA1-12 is connected to Pair 1 of the station field, and Pair 2 is connected to Pair 3 of the station field.

Two terminal basic multi-point applications are accommodated by connecting row B (output) to the second terminal common to the multi-point circuit.

Figure 225: 8-Wide Terminating Resistor Adapter (440A4)

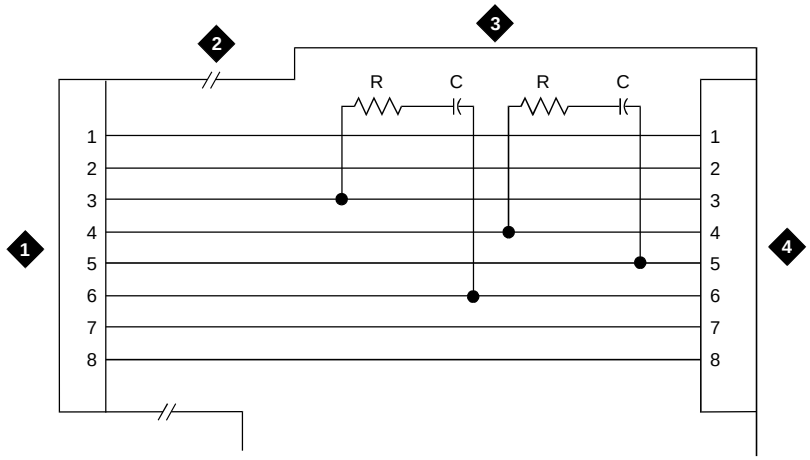


Figure notes

1	8-Wide Plug	**3**	Plastic Housing
2	Cord	**4**	8-Wide Jack

Figure 226: Terminating Resistor Block (110RA1-12)

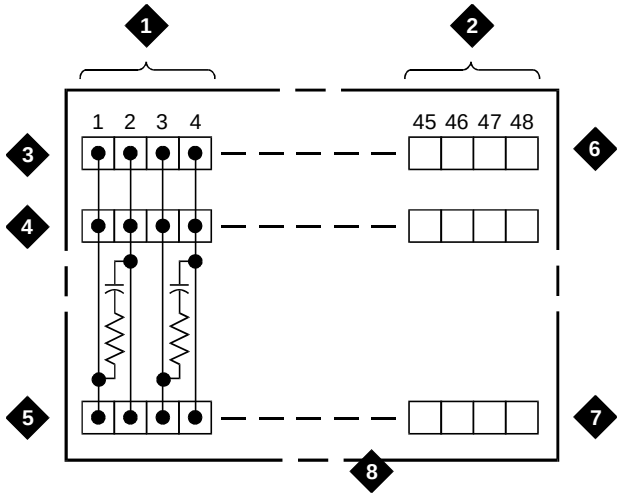


Figure notes

1	Circuit 1	**5**	Input Row C
2	Circuit 12	**6**	Only First Circuit Shown to All 12 Circuits (2APR) Per Block
3	Output Row A	**7**	110D-4 Connector Block
4	Output Row B	**8**	Printed Circuit Board Mounted on Standard 110A or 100APR Block

Figure 227: Typical Installation of Terminating Resistor Block Using Multipoint Connection

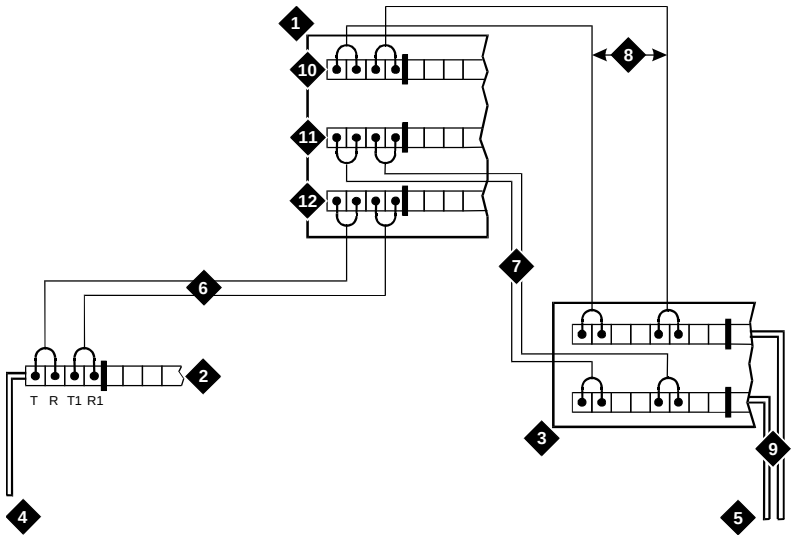


Figure notes

1	Part of Terminating Resistor Block	**7**	Basic Multi-point Option
2	White or Purple Field	**8**	2-Pair Cross-Connect
3	Part of 4-Pair Blue Field	**9**	4-Pair Horizontal Cables
4	From ISDN T-interface Circuit (2-Pair)	**10**	Row A
5	To ISDN S/T-interface Terminals	**11**	Row B
6	2-Pair Cross-Connect	**12**	Row C

Installing Multipoint Adapters

Multipoint adapters are used to provide signal fanout of the T-interface. Fanout can be performed at the work station by the BR851-B Adapter (T-Adapter) on page 573 or the 367A Adapter on page 574. These adapters support more than one ISDN terminal per horizontal 4-pair D-inside wire (DIW). To support multiple horizontal runs, fanout must be performed in the satellite closet by a MDF with multiple common rows. The 110RA1-12 provides fanout for two horizontal runs and contains the 100 Ohm terminating resistor. This can be used for basic multipoint or point-to-point with terminating resistor in the closet. Other fanout blocks include the 110AB1-025M and the 110AB1-050M.

BR851-B Adapter (T-Adapter)

The BR851-B supports two terminals on one multi-point BRI at the work station. It is a T-shaped device used to fanout transmission and power. The BR851-B is an 8-pin device with a single plug and two jacks. See Figure 228, Wiring Diagram of BR851-B, on page 574.

367A Adapter

The 367A is an 8-conductor adapter used at the work location to bridge 3 to 7 terminals. See Figure 229, Wiring Diagram of 367A Adapter, on page 575.

Figure 228: Wiring Diagram of BR851-B

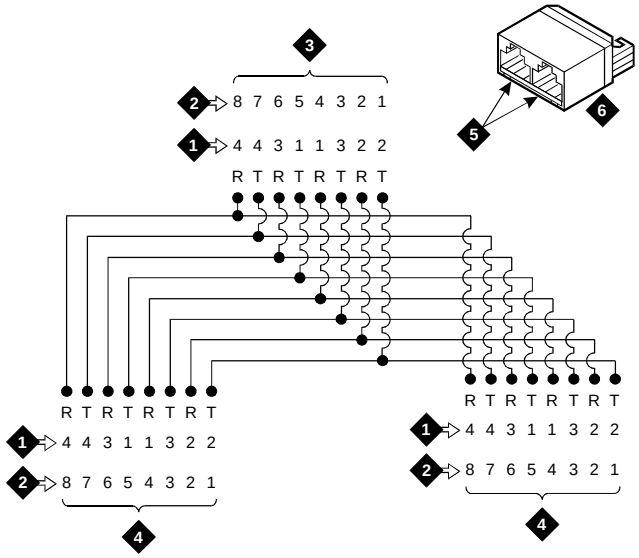


Figure notes

1	Wire Pairs	**4**	Female
2	Pin Numbers	**5**	Two 8-pin Modular Jacks
3	Modular Plug (Male)	**6**	T-Type Adapter

Figure 229: Wiring Diagram of 367A Adapter

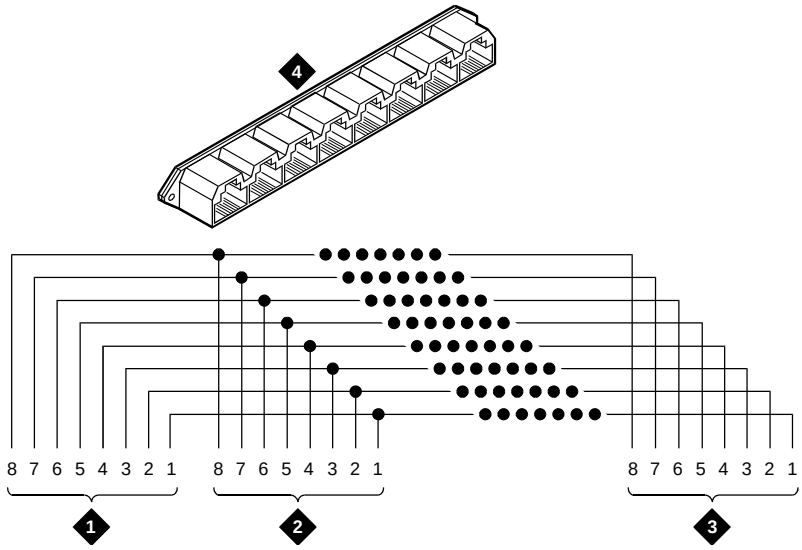


Figure notes

1	Jack 1	**3**	Jack 8
2	Jack 2	**4**	367A Adapter

Basic Multipoint Installation Distances

Figure 230, Basic Multipoint with One Work Location, on page 576 provides cabling information for fanout of ISDN-BRI multipoint installations. In this illustration, the terminating resistor is located in the satellite closet. All distances assume 24 AWG (#5) (0.5 mm^2) D-Inside Wire (DIW).

Figure 230: Basic Multipoint with One Work Location

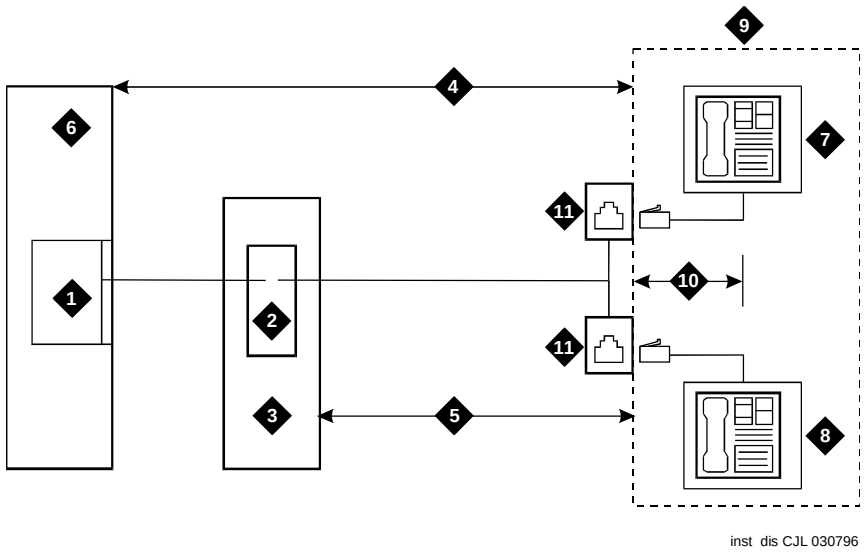


Figure notes

1	S-Interface Source (TN556D)	**6**	System Cabinet
2	Terminating Resistor	**7**	Terminating Endpoint 1
3	Satellite Closet	**8**	Terminating Endpoint 2
4	Maximum Distance from S-Interface Source to Work Location (1600 Feet) (488 m)	**9**	Work Location
		10	Maximum Distance from Information Outlet to Terminating Endpoint (33 Feet) (10 m)
5	Maximum Distance From Terminating Resistor to Work Location (250 Feet) (76 m)	**11**	Information Outlet

Add Circuit Packs (ISDN BRI)

Return to Task List

1. Determine port assignments of circuit packs to be added.
2. Install the appropriate circuit packs in assigned cabinet slot (as required).

   Required circuit packs:

   - TN2401 Processor circuit pack
   - TN556D or TN2198 ISDN BRI line circuit pack.
   - TN570D Expansion Interface circuit pack (if EPN present)

Return to Task List

Install Cables (ISDN BRI)

Return to Task List

Install the cables from the cabinet to the MDF as required.

> **NOTE:**
> A TN556D ISDN BRI requires an 8-port backplane cable terminator (breakout connector); aTN2198 ISDN BRI requires a 12-port backplane cable terminator. Connect the 25-pair cable to the appropriate terminator.

Enter Added Translations (ISDN BRI)

Return to Task List

Administer the required translation data using the forms listed under 7500D voice terminals and 8500 voice terminals in the *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.

Resolve Alarms

Return to Task List

Examine the alarm log. Resolve any alarms using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation.

Save Translations (ISDN BRI)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation cards.
3. If the system contains a TN750/B/C Announcement circuit pack, type **list configuration software-version** and press **Enter**. To restore these announcements, type **restore announcements** and press **Enter**.
4. Update backup cards, if required.

Add a TN2501AP Announcement Circuit Pack

Return to Task List

NOTE:
To install a TN2501AP, you must ensure the system is enabled for TN2510AP (VAL) boards. If the `Maximum VAL boards` field on the ***Customer Options*** screen is set to **0**, then you need to obtain and install a new license file before you can install the card.

Installing the pack includes:

1. Verifying the required hardware on page 578
2. Installing the TN2501AP circuit pack on page 578
3. Configuring the system for the TN2501AP on page 579

Verifying the required hardware

Ensure that you have the required hardware:

- TN2501AP circuit pack
- Backplane adapter
- LAN cable

Installing the TN2501AP circuit pack

WARNING:
To prevent electrostatic discharge (ESD), be sure to wear a grounding strap while handling the circuit pack.

1. Remove connector (if any) from the back of the switch cabinet corresponding to the TN2501AP circuit pack slot.
2. Insert the circuit pack into any port slot and close the latch securely.

   At first, both the red and green LEDs are on steady, then the green LED flashes. If there are announcements on the circuit pack, the amber LED flashes while the announcements are copied from FLASH to RAM. After approximately 3-5 minutes, all of the top 3 LEDs go out, although this time is longer if there are announcements already recorded on the circuit pack.

   NOTE:
   If the TN2501AP or TN750C circuit packs are at the system limit and you insert a VAL circuit pack, the red LED on that circuit pack stays on, indicating that the system does not accept it.

3. Connect the Backplane Adapter to the Amphenol connector on the back of the switch cabinet, corresponding to the TN2501AP circuit pack slot.
4. Connect the LAN cable to the RJ-45 connector on the Backplane Adapter.

Configuring the system for the TN2501AP

1. At the SAT, type **list configuration board *board-location*** and press **Enter**.

   The System Configuration report appears. Use this report to ensure that the switch recognizes the TN2501AP circuit pack after it is latched in the carrier slot.

2. Verify the following field values:

   — `Board Type` shows `VAL-ANNOUNCEMENT`

   — `Code` is `TN2501AP`

3. At the SAT, type **change node-names ip** and press **Enter**.

   The ***IP Node Names*** screen appears. Use this screen to administer the circuit pack's node name.

4. Type a unique name in the `Name` field.

   This name is recognized only within the switch, and does not need to match the node name on your network.

5. Enter the `IP Address`.

   You can get this information from the network manager.

6. Press **Enter** to save the changes.

7. Type **change ip-interfaces** and press **Enter**.

   The ***IP Interfaces*** screen appears. Use this screen to administer an `IP interface`, which associates the circuit pack with an IP address.

8. Set the `Enable Eth Pt` field to **y**.

9. Set the `Type` field to **VAL**.

10. Type the circuit pack location in the `Slot` field (**UUCSS**).

    If a TN2501AP circuit pack is not at this location when you submit the screen, the system prompts you to enter a VAL circuit pack location.

11. In the `Node Name` field, enter the **Node Name** you entered in Step 4.

    If you press Help, a list of administered node names appears (including the name you administered with the **change node-names ip** command), and you can select from the list.

12. Set the `Subnet Mask` field according to your network requirements.

    `Gateway Address` is usually the same as the TN2501AP circuit pack's IP address, usually with the fourth octet changed. Be sure to set this address according to your network requirements.

13. Press **Enter** to save the changes.

14. Type **add data-module *extension*** and press **Enter**.

    The ***Data Module*** screen appears. Use this screen to administer the data module that is associated with the TN2501AP ethernet port.

15. Set the `Type` field to **ethernet**.

16. Set the `Port` field to correspond to the circuit pack location.

    The port number (final two digits) is always **33** for the TN2501AP circuit pack.

17. Set the `Link` field to an unassigned or next-available link number.

18. Set the `Network uses 1's for Broadcast Address` field according to the your network requirements.

19. Type a unique name in the `Name` field.

20 Press **Enter** to save your changes.

21 If your system uses IP routing, type **add ip-route** and press **Enter**.

22 Administer IP routes to the TN2501AP circuit pack and press **Enter** to save your changes.

23 Use the **ping** and **status link** commands to test the new IP connections that you have administered.

Add Multiple Announcement

Return to Task List

TN750C and TN2501AP circuit packs are required if the system has more than one announcement circuit pack. No more than 1 TN750 or TN750B can reside in the system. The TN750C or TN2501AP can install in any port or service (TDM) slot, and need not reside in a control carrier for extra power holdovers.

NOTE:
Do not copy or restore announcements from a TN750C to a TN750 or TN750B circuit pack, as this process may corrupt the announcement data.

This section provides information on

- TN750C Announcement Circuit Pack on page 580
- TN2501AP Announcement Circuit Pack on page 581
- Save and Restore Recorded Announcements on page 581
- TN750 and TN750B Announcement Circuit Packs on page 582
- Task List: Add Multiple Announcement Circuit Packs

TN750C Announcement Circuit Pack

The TN750C circuit pack contains on-board flash memory which provides internal backup of announcements on the circuit packs. Thus, the TN750C circuit pack does not need the save and restore processes. However, you can use the save and restore processes to copy announcements from the TN750 or TN750B to a TN750C circuit pack.

The TN750C circuit pack can replace a TN750 or TN750B circuit pack. The difference in operation is that the TN750C circuit pack automatically restores and reports the availability of announcements from its own internal flash memory in 5 minutes, rather than the approximately 40 minutes for the TN750 or TN750B circuit pack reporting from the mass-storage system.

If a circuit pack already has announcements in its flash memory, the yellow LED flashes as the announcements copy to the Voice RAM.

TN2501AP Announcement Circuit Pack

The TN2501AP integrated announcement circuit pack

- offers up to 1 hour of announcement storage capacity.
- requires shorter backup and restore times.
- is firmware downloadable.
- plays announcements over the TDM bus, similar to the TN750C.
- has 33 ports, including
  - 1 dedicated telephone port for recording and playing back announcements (port number 1).
  - 1 ethernet port (port number 33).
  - 31 playback ports (ports 2–32).
- 10/100 Mb ethernet interface, allowing announcement and firmware file portability over your LAN (FTP server functions).
- supports .wav announcement files (see Important File Specifications on page 581).
- works in r, si, csi, DEFINITY ONE, and Avaya IP600 models.

Important File Specifications

Voice Announcement over LAN (VAL) requires that announcement files are in the following .wav formats:

- CCITT A-Law or CCITT μ-Law companding format (do not use PCM)
- 8KHz sample rate
- 8-bit resolution (bits per sample)
- Mono (channels = 1)

You must convert other wave (.wav) file formats to those listed above. Telephone access creates the correct file formats.

Save and Restore Recorded Announcements

CAUTION:
If the yellow LED is on, do not remove the circuit pack. This will corrupt the announcement data.

The syntax for saving from any TN750 circuit pack is **save announcements** [***from PCSS***] and press **Enter**. Where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21).

The syntax for restoring to a TN750C circuit pack is **restore announcements** [***disk*** **|** ***removable media*** [***to PCSS***]] and press **Enter**. Where P is the port network number (1 for PPN, and 2-4 for EPN), C is the carrier designation (A, B, C, D, or E), and SS is the number of the slot in which the circuit pack resides (01 to 21). When executing a restore command and there are existing announcements on the circuit pack, the following warning message appears:

WARNING:
This **restore announcements** command will overwrite the existing announcements on the specified board.

After 5 minutes (with no alterations to the announcements), the TN750C automatically copies the announcements from the Voice RAM to the internal flash memory. The yellow LED on the front of the TN750C flashes.

You can only save the announcement contents of 1 circuit pack to mass storage at a time. For the contents of every circuit pack, save to separate translation cards. Label each card to match the circuit pack saved to it.

TN750 and TN750B Announcement Circuit Packs

NOTE:
The following save and restore procedures are only necessary for TN750 and TN750B announcement circuit packs.

The recorded announcements in the system can be saved on the mass-storage system by typing **save announcements** ***spe-active/spe-standby*** and pressing **Enter**. These commands should only be used after business hours or when the system is operating during a low-usage period. The system takes about 40 minutes to transfer the recorded announcements from the announcement circuit pack to the mass-storage system. During this time period, the management terminal cannot be used to administer the system until the transfer finishes; however, all other administration terminals, if provided, are allowed to perform administration procedures.

The recorded announcements in the system can be restored to system memory from the translation card by entering the **restore announcements** command.

Task List: Add Multiple Announcement Circuit Packs

- Replace a TN750 or TN750B with a TN750C or Move all Announcements from a TN750B to a TN750C on page 583
- Add additional TN750C Circuit Packs on page 583
- Add a TN2501AP Announcement Circuit Pack on page 578
- Move a Single Announcement from one Announcement Circuit Pack to another on page 584

Replace a TN750 or TN750B with a TN750C or Move all Announcements from a TN750B to a TN750C

Return to Task List

NOTE:
Do not copy or restore announcements from a TN750C to a TN750 or TN750B circuit pack, as this may corrupt the announcement data.

1. Save announcements from the TN750/B to the mass-storage system.
2. Insert the TN750C circuit pack into a vacant slot of a carrier.

   Any carrier is acceptable since power holdover is not a concern.
3. Lift the locking lever upward until the latch pin engages.
4. Administer a new data module on the TN750C circuit pack, as described in *Administrator's Guide for Avaya™ Communication Manager.*
5. Type **restore announcements** and press **Enter** to the TN750C circuit pack equipment location.
6. Wait until announcements copy from voice RAM to flash memory (yellow LED on the TN750C stops flashing). This may take about 10 minutes.
7. Type **busyout board *01c11*** and press **Enter** for the TN750/B circuit pack, where "***01c11***" is an example circuit pack location.
8. Type **change integrated announcements** and press **Enter**.

   This modifies the translations for the TN750B circuit pack to reference the TN750C circuit pack.
9. Verify proper playback of the announcements from the TN750C circuit pack by calling them.
10. Type **release board *01c11*** and press **Enter** for the TN750/B circuit pack, where "***01c11***" is an example circuit pack location.

Return to Task List

Add additional TN750C Circuit Packs

Return to Task List

1. Install the TN750C into a vacant slot in a carrier.

   Any carrier is acceptable since power holdover is not a concern.
2. Administer a new data module on the TN750C circuit pack, as described in *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.
3. Type **change announcements** and press **Enter** to administer new announcements to that TN750C slot. Fill in the `designated board location` field for the circuit pack's location.
4. Record the announcements, as described in *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.
5. Wait until the announcements copy from voice RAM to the on-board flash memory (the yellow LED on the TN750C starts and then stops flashing). This may take about 10 minutes.

Return to Task List

Move a Single Announcement from one Announcement Circuit Pack to another

Return to Task List

1. Type **change announcements** and press **Enter** to change the circuit pack locations of a particular announcement. You may also change the compression rate at this time.
2. Rerecord the announcement, as described in *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.

Add Speech Synthesis

Return to Task List

The Speech Synthesizer circuit pack is required when the Voice Message Retrieval, Automatic Wakeup, or Do Not Disturb features are activated. The circuit pack does not require administration.

1. Determine the port assignment of the Speech Synthesizer circuit pack to be added.
2. Install the Speech Synthesizer circuit pack in the designated carrier slot.

Add Code Calling Access

Return to Task List

The tones for the Code Calling feature are generated by the Tone-Clock circuit packs in the port networks.

1. Install a TN763B/C/D (or TN417) Auxiliary Trunk circuit pack or a Speech Synthesizer circuit pack and connect for Loudspeaker Paging. The Code Calling Access feature shares the same ports as Loudspeaker Paging. An Auxiliary Trunk circuit pack provides 4 ports for Loudspeaker Paging and Code Calling Access.
2. Administer the form listed under “Code Calling Access” in the *Administrator’s Guide for Avaya™ Communication Manager (555-233-506)*.

Add CallVisor ASAI

Return to Task List

NOTE:
Adding CallVisor ASAI requires a service interruption when you add packet bus support and you install TN570D circuit packs as part of that support. Give the customer advance notice of the scheduled addition. See Add Packet Bus Support on page 588 for further information.

Task List: Add CallVisor ASAI

- Deliver License File (CallVisor ASAI) on page 585
- Save Translations (CallVisor ASAI) on page 587
- Add Packet Bus Support on page 588 if it is not already installed
- Add Circuit Packs (CallVisor ASAI) on page 587
- Install Cables (CallVisor ASAI) on page 587
- Enter Added Translations (CallVisor ASAI) on page 587
- Resolve Alarms (CallVisor ASAI) on page 587
- Save Translations (CallVisor ASAI) on page 588

Deliver License File (CallVisor ASAI)

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - Direct connection between the switch and RFA
   - No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

   Wait until the system has completely reset before continuing.
6. Type **change cabinet 1** and press **Enter**.

   In the `Carrier Type` column change the “B” carrier to **processor** and submit the form.
7. Type **change system-parameters duplication** and press **Enter**.

   Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.
8. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
9. Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

2. Type **reset system 3** and press **Enter**.

   Wait until the system has completely reset before continuing.

3. If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

   This disconnects (unregisters) all IP endpoints.

4. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.

5. Use one of these installation methods:

   — Direct connection between the switch and RFA

   — No connection between the switch and RFA

New or upgraded G3si only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

   This disconnects (unregisters) all IP endpoints.

3. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.

4. For *duplicated systems only* type **status system all** and press **Enter**.

   Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5. Use one of these installation methods:

   — Direct connection between the switch and RFA

   — No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the “Deliver to G3r/G3si/G3csi” chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the “Deliver to G3r/G3si/G3csi” chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Save Translations (CallVisor ASAI)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation cards.

Add Circuit Packs (CallVisor ASAI)

Return to Task List

1. Determine port assignment of circuit packs to be added.
2. Install the appropriate circuit packs in assigned cabinet slot (as required).

NOTE:
A vacant port is required on a TN556D ISDN—BRI circuit pack.

Return to Task List

Install Cables (CallVisor ASAI)

Return to Task List

1. Install cables from cabinet to the MDF as required.

Enter Added Translations (CallVisor ASAI)

Return to Task List

1. Administer the required translation data using the forms listed under “Adjunct/Switch Applications Interface (ASAI)” in the *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.

Resolve Alarms (CallVisor ASAI)

Return to Task List

1. Examine the alarm log.
2. Resolve any alarms that may exist using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation for your system.

Save Translations (CallVisor ASAI)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation cards.
3. Update backup translation cards, if required.

Add Packet Bus Support

Return to Task List

You may need to add packet bus support when adding ISDN - BRI or CallVisor ASAI port circuit packs.

NOTE:
Installing TN570D expansion interface circuit packs as part of adding packet bus support requires a service interruption. Give the customer advance notice of the scheduled addition.

Task List: Add Packet Bus Support

- Disable Alarm Origination (Packet Bus Support) on page 589
- Save Translations (Packet Bus Support) on page 589
- Power Down Cabinet (Packet Bus Support) on page 589
- Install Circuit Packs (Packet Bus Support) on page 589
- Power Up System (Packet Bus Support) on page 590
- Test the Packet Bus and C-LAN Circuit Pack (Packet Bus Support) on page 592
- Resolve Alarms (Packet Bus Support) on page 592
- Enable Scheduled Maintenance and Alarm Notification (Packet Bus Support) on page 592
- Save Translations (Packet Bus Support) on page 593

If installing TN570D Expansion Interface circuit packs as part of adding packet bus support, then service is interrupted. Notify the customer in advance as to when the addition will be carried out.

If *not* installing TN570D circuit packs, then service is not interrupted and you can skip to Install Circuit Packs (Packet Bus Support) on page 589

Disable Alarm Origination (Packet Bus Support)

Return to Task List

1. Type **change system-parameters maintenance** and press **Enter**.
2. Set the **Alarm Origination Activated** field to **n**.

   CAUTION:
   If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.

3. For some releases of software, disable Cleared Alarm Notification and Restart Notification before submitting the form.

Return to Task List

Save Translations (Packet Bus Support)

Return to Task List

If standard reliability:

1. Type **status system 1** and press **Enter** to verify that the system is in the active/standby mode.

If high or critical reliability:

1. Type **status system 1** and press **Enter** to verify that the system is in the active/standby mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation card.
3. If the system contains a TN750/B Announcement circuit pack, type **display announcements** and press **Enter**. If administered recorded announcements are listed, type **list configuration software-version *long*** and press **Enter**. To save the announcements, type **save announcements** and press **Enter**.

Return to Task List

Power Down Cabinet (Packet Bus Support)

Return to Task List

1. At the PPN, set the main circuit breaker to OFF.
2. At an EPN, set the main circuit breaker to OFF.

Install Circuit Packs (Packet Bus Support)

Return to Task List

Install the appropriate circuit packs. See Circuit Pack Locations for Packet Bus in PPN.

Circuit Pack Locations for Packet Bus in PPN			
Circuit Pack	**Carrier**	**Quantity**	**Slot**
TN570D	Control Carrier A	1 or 2[1]	EXPN INTFC/1 and /2
	Control Carrier B (if duplicated)	1 or 2	EXPN INTFC/1 and /2
TN771C	Control Carrier A	1[2]	Any available port slot

1 Quantity of this pack should equal the number of EPNs.

2 Required for critical-reliability EPNs and PPN. Optional for digital trunk testing in high-reliability PPN.

Power Up System (Packet Bus Support)

Return to Task List

1. At the EPN, set the main circuit breaker to ON.
2. At the PPN, set the main circuit breaker to ON.
3. The system performs a level 4 reboot, loading the system translations from the translation cards. Rebooting takes about 10 minutes.
4. After all trouble is cleared, verify the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Return to Task List

Deliver or install the License File (Packet Bus Support)

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - — Direct connection between the switch and RFA
   - — No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

5 Type **reset system 4** and press **Enter**.

Wait until the system has completely reset before continuing.

6 Type **change cabinet 1** and press **Enter**.

In the `Carrier Type` column change the "B" carrier to **processor** and submit the form.

7 Type **change system-parameters duplication** and press **Enter**.

Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.

8 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

9 Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

2 Type **reset system 3** and press **Enter**.

Wait until the system has completely reset before continuing.

3 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Return to Task List

Test the Packet Bus and C-LAN Circuit Pack (Packet Bus Support)

Return to Task List

Type **test packet port-network 1** ***long*** and press **Enter**. For more detail about these tests, refer to the **test pkt** command section in the appropriate maintenance book.

Resolve Alarms (Packet Bus Support)

Return to Task List

1. Type **display alarms** and press **Enter**.
2. Examine the alarm log.
3. Resolve alarms using the appropriate maintenance book.

Enable Scheduled Maintenance and Alarm Notification (Packet Bus Support)

Return to Task List

1. Type **change system-parameters maintenance** and press **Enter**.
2. Enable the scheduled daily maintenance.
3. If you changed the `Start Time` or `Stop Time` field, change it back to the original time.
4. Re-enable alarm notification.

Save Translations (Packet Bus Support)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation cards.
3. If the system contains a TN750/B/C Announcement circuit pack, type **restore announcements** and press **Enter**.
4. Update backup cards, if necessary.

Add DCS Interface

Return to Task List

This section includes general information on adding the DCS interface and the Task List: Add DCS on page 594.

Systems in a Distributed Communications System (DCS) network are interconnected by both tie trunks (for voice communications) and data links (for control and transparent feature information). These data links, also called DCS signaling links, support the feature transparency.

Various subsets (depending on the specific configuration) of DS1 Interface circuit packs provide the voice-communications interface. The TN799x Control LAN (C-LAN) circuit pack provides the data link interface (between the processor and the physical signaling link).

In some configurations, the TN799x passes the signaling information over a separate ethernet network (usually via a hub) to adjuncts applications such as CMS, Intuity, and DCS Networking. The C-LAN circuit pack has one Ethernet connection and up to 16 DS0 physical interfaces for PPP connections. In addition to the ethernet functionality, C-LAN extends the ISDN capabilities by providing packet bus access. For use with an ethernet network, connect the appropriate pins of the I/O field to the hub. For pinouts and diagrams, refer to Connector and Cable Diagrams (Pinout Charts) on page 771.

In other configurations, the TN799x circuit pack carries signaling over point-to-point protocol (PPP) for subsequent inclusion (via the switching fabric) in the same DS1 bitstream as the DSC voice transmissions.

A remote socket control link (RSCL) links the C-LAN and the SPE to pass call control and other management information. Because one link serves all the ports on the circuit pack, RSCL maintenance is part of the C-LAN circuit pack maintenance.

For further information about DCS, refer to the *Administration for Network Connectivity for Avaya Communication Manager (555-233-504).*

Task List: Add DCS

- Install Cables (Add DCS) on page 594
- Add Circuit Packs (Add DCS) on page 595
- Test the External Connection to the LAN (Add DCS) on page 595
- Deliver License File (Add DCS) on page 596
- Administer DCS (Add DCS) on page 598
- Save Translations (Add DCS) on page 598

Return to Task List

Install Cables (Add DCS)

Return to Task List

Install cable from the cabinet to a hub or Internet Protocol (IP) Switch as required. See Figure 231, Cable Connection for C-LAN, on page 594. For a pinout of TN799x, see TN799x Pinout on page 595.

From the rear of the cabinet:

1. Connect the 259A connector to the backplane connector corresponding to the TN799x slot.
2. Connect one end of the CAT5 cable to the 259A connector. Connect the other end to the customer's network.

Figure 231: Cable Connection for C-LAN

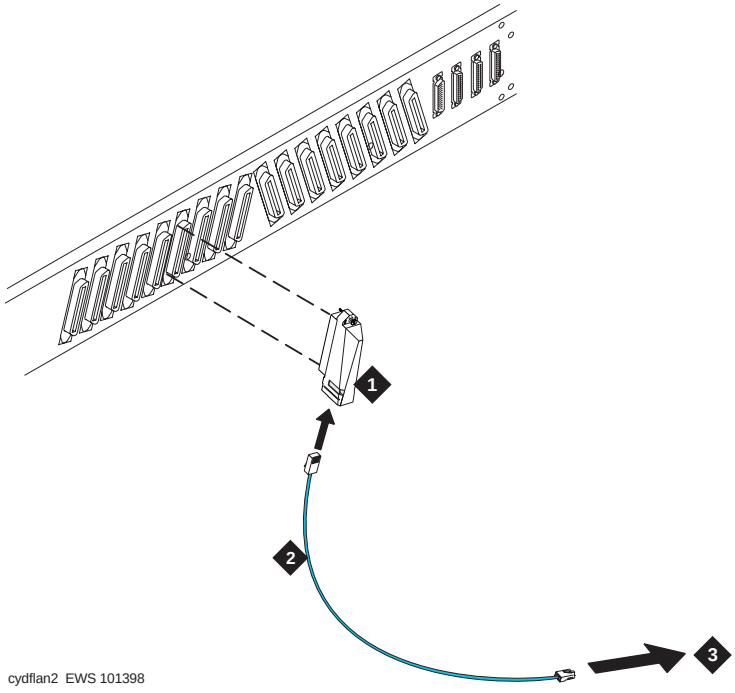


Figure notes

1 259A Connector **2** DW8A Cable **3** Hub or IP Switch

TN799x Pinout			
Backplane Pin	**25-Pair Wire Color**	**Lead Name**	**Peripheral Connector Pin**
103	White/Orange	TD+	27
003	Orange/White	TD-	2
104	White/Green	RD+	28
004	Green/White	RD-	3

Return to Task List

Add Circuit Packs (Add DCS)

Return to Task List

Determine the port assignments of the circuit packs to be added. If there are no available port slots in the processor cabinet for the C-LAN circuit pack, place it in an EPN cabinet port slot.

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

NOTE:
The TN799x circuit pack is hot-swappable, so you do not need to power down the carrier to install it.

Insert the TN799x circuit pack into the port slot identified earlier.

Return to Task List

Test the External Connection to the LAN (Add DCS)

Return to Task List

To test the external IP connections, ping the C-LAN server and ping a known computer connected to your network. If everything is configured correctly, the `Result` column on the ***Ping Results*** screen reads `pass`. If it reads `abort`, verify the IP-address information and check the connectivity, including the cabling.

3. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the TN799x C-LAN circuit pack and ***UUCSS*** is the cabinet, carrier, and slot of the TN799x C-LAN circuit pack.
4. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the customer's gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN799x C-LAN circuit pack.
5. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of another computer beyond the gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN799x C-LAN circuit pack.

The TN799x C-LAN circuit pack is now installed in the DEFINITY carrier and connected to the IP network.

Return to Task List

Deliver License File (Add DCS)

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - Direct connection between the switch and RFA
   - No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

   Wait until the system has completely reset before continuing.
6. Type **change cabinet 1** and press **Enter**.

   In the `Carrier Type` column change the “B” carrier to **processor** and submit the form.
7. Type **change system-parameters duplication** and press **Enter**.

   Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.
8. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
9. Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
2. Type **reset system 3** and press **Enter**.

   Wait until the system has completely reset before continuing.

3 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Administer DCS (Add DCS)

Return to Task List

1. Administer the required translation data using the screens listed under Distributed Communications System (DCS) in the *Administrator's Guide for Avaya™ Communication Manager.*

Save Translations (Add DCS)

Return to Task List

1. If the system is high- or critical-reliability, type **status spe** and press **Enter** to verify that the standby SPE is refreshed and that the standby disk is in service.
2. Type **save translation [*spe-a or both*] *disk*** and press **Enter**. This command instructs the system to take all translation information in memory and write it to the disk(s).

Administer TN464GP/TN2464BP with Echo Cancellation

Return to Task List

This section provides information about the TN464GP and TN2464BP circuit packs with echo cancellation and the procedure to Administer TN464GP/TN2464BP on page 599.

The TN464GP and TN2464BP circuit packs with echo cancellation are intended for DEFINITY customers who are likely to encounter echo over circuits connected to the Direct Distance Dialing (DDD) network. These circuit packs are intended for channels supporting voice; therefore, they support the following trunks: CAS, CO, DID, DIOD, DMI, FX, Tie, WATS. They do not support any data trunk groups.

> **NOTE:**
> The P suffix designation means the circuit pack is programmable; new firmware can be downloaded directly to the circuit pack. For more information, see Upgrade Firmware on Programmable Circuit Packs on page 715.

The TN464GP and TN2464BP circuit packs are backwards compatible, although the echo cancellation feature can be used only with Release 1.1 or later of Avaya™ Communication Manager and after the feature is enabled.

The echo cancellation feature cancels echoes with delays up to 96 ms. Echo cancellation is disabled automatically when the circuit pack detects a 2100-Hz *phase-reversed* tone put out by high-speed modems (56 kbaud) but not when it detects a 2100-Hz *straight* tone generated by low-speed modems (9.6 kbaud).

For information on installing port circuit packs, see Add Port Circuit Packs on page 567. For information on setting the option switches, see Option Switch Settings on page 741.

Echo cancellation must first be purchased, then added to the system via a new License File.

Return to Task List

Administer TN464GP/TN2464BP

NOTE:
You do not need to busyout the circuit packs to modify the settings. But the modified settings do not take effect until either the port is busied out or the scheduled maintenance runs.

1. Type **display system-parameters customer-options** and press **Enter**. On screen 2 verify that the `DS1 Echo Cancellation?` field is set to **y**. If not, contact your representative as this must be set by the license file.
2. Type **[add | change] trunk-group [*next* | *number*]** and press **Enter**. See Figure 232, Trunk Features screen, on page 600.
3. On ***Trunk Features***, screen 2, set the `DS1 Echo Cancellation?` field to **y**.
4. Type **[add | change] ds1 *UUCSS*** and press **Enter**. See Figure 233, DS1 Circuit Pack screen, on page 600.
5. On the DS1 Circuit Pack screen, set the `Echo Cancellation?` field to **y**.

   When set to **y**, 2 new fields display: `EC Direction:` and `EC Configuration:`.

   — If you know the echo is coming into DEFINITY, keep the default setting for the `EC Direction:` field of `inward`.

   — If you know that the distant party is hearing echo that originates in DEFINITY or its line side stations or equipment, set the `EC Direction:` field to `outward`.

   — Keep the default setting for the `EC Configuration:` field.
6. Test the voice quality on a telephone connected through the TN464GP or TN2464BP circuit packs and known to have echo to see if the echo was eliminated.
7. If the echo still exists, set the `EC Configuration:` field to one of the other available settings, then test the voice quality. These settings provide help for the following scenarios:

   — Setting 1 rapidly minimizes echo when first detected, regardless of the loudness of the talker's voice.

   NOTE:
   Settings 1 and 4 have the same EC settings except that Setting 1 introduces 6 dB of loss.

   — Setting 2 minimizes speech clipping, but it takes a fraction of a second longer for the echo to fade.

   — Setting 3 eliminates speech clipping, but a strong echo may take 2 or 3 seconds to fade.

   — Setting 4 minimizes extremely strong echo, very hot signals, or excessive clipping or breakup of speech from a distant party. It reduces speech clipping but may allow slight residual echo or more background noise.
8. If after trying all these settings, the echo still exists, contact technical support. For telephone numbers, go to Avaya Support Centre and select **ONLINE SERVICES**, then select **- Contact Us**.

Figure 232: Trunk Features screen

```
add trunk-group next                                Page   2 of 11   SPE A
                           TRUNK FEATURES

             ACA Assignment? n                      Measured: both
             Internal Alert? n              Maintenance Tests? y
           Data Restriction? n
             Glare Handling: none

               Used for DCS? n
      Suppress # Outpulsing? n
Seize When Maintenance Busy: neither-end



Incoming Tone (DTMF) ANI: no            Per Call CPN Blocking Code:
         Connected to CO? n           Per Call CPN Unblocking Code:

                                            Ds1 Echo Cancellation? y
```

Figure 233: DS1 Circuit Pack screen

```
add ds1 2b08                                    Page   1 of 1   SPE B

                               DS1 CIRCUIT PACK

            Location: 02B08                      Name: Echo Cancel t23
            Bit Rate: 2.048               Line Coding: hdb3

      Signaling Mode: CAS

        Interconnect: pbx            Country Protocol: 1

Interface Companding: mulaw                      CRC? n
           Idle Code: 11111111



      Slip Detection? y             Near-end CSU Type: other

   Echo Cancellation? y
        EC Direction: inward
    EC Configuration: 1
```

Return to Task List

Add IP Solutions

Avaya offers several IP solutions for customers, including the Avaya R300 Remote Office Communicator. For information on the Avaya R300, refer to the *Avaya™ Communication Manager, Avaya DEFINITY® Servers, and Avaya S8100 Media Server Library (555-233-823).*

The Avaya Media Gateway IP Media Processor allows you to send voice and fax from the Avaya Media Gateway through an Internet protocol (IP) network to other Avaya Media Gateways having this feature or to other H.323 V2 compliant endpoints. It is implemented using either the TN802B IP Interface Assembly on page 601, which is a Windows NT server residing on the IP Interface Assembly or the TN2302AP Media Processor on page 602.

NOTE:
The P board suffix designation means the circuit pack is programmable, see Upgrade Firmware on Programmable Circuit Packs on page 715 for more information.

Task List: Implementing Avaya Media Gateway IP Solutions

Avaya Media Gateways are implemented in these ways:

- Installing a TN2302AP IP Media Processor on page 602, including
  - — Upgrading TN802 IP Trunking to TN2302AP IP Media Processor on page 610
  - — Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor on page 613
- Installing a TN802B in Media Processor Mode on page 616
- Installing a TN802B in IP Trunk Mode on page 626
- Upgrading a TN802 V3 (or later) to a TN802B (MedPro Mode) on page 643

TN802B IP Interface Assembly

The IP Interface is an assembly composed of a TN802B circuit board, a processor card, and DSP resource card. For ordering purposes, the assembly is identified as a J58890MA-1 L30, but for simplicity, we refer to it in this section as the TN802B IP Interface.

The TN802B IP Interface operates in two modes:

- IP Trunk, available with Release 7 or later
- Media Processor (MedPro), available with Release 10 or later

The IP Trunk mode is Internet Telephone Server—Enterprise (ITS-E) compatible, and the MedPro mode is H.323 V2 compatible. The TN802B IP Interface is backwards compatible and defaults to IP Trunk mode. You must administer it to use it in MedPro mode.

TN2302AP Media Processor

Unlike the TN802B IP Interface Assembly, the TN2302AP operates in one mode: Media Processor (MedPro), which is H.323 V2 compatible.

For more information on the IP Solutions capabilities and limitations, refer to the *Overview for Avaya™ Communication Manager (555-233-767)*.

Installing a TN2302AP IP Media Processor

Return to Task List

Installing a TN2302AP media processor consists of 4 sets of tasks:

- Preparing for Installation and Upgrade on page 602
- Installing the TN2302AP IP Media Processor on page 604
- Upgrading TN802 IP Trunking to TN2302AP IP Media Processor on page 610
- Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor on page 613

For administration, refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.

Preparing for Installation and Upgrade

This section includes general information on preparations and the Task List: Prepare for Installation and Upgrade on page 603.

In addition to the TN2302AP IP Media Processor, you must also install and administer a C-LAN circuit pack (*TN799x*). For C-LAN administration, refer to *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.

The TN2302AP IP Media Processor can work with the TN802 IP Trunking and the TN802B IP Interface Assembly. When figuring the maximum number of circuit packs, you must include all in your total count.

Each TN2302AP can support between 32 and 64 voice channels, depending on the codecs used.

NOTE:
The TN802 IP Trunk cannot talk directly via Ethernet to the TN2302AP IP Media Processor.

Task List: Prepare for Installation and Upgrade

Perform these tasks in order:

1. Check your onsite equipment on page 603
2. Check your shipment on page 603

Check your onsite equipment

Return to Task List

Have the following equipment on site before your shipment arrives:

- An unoccupied port slot in the Avaya Media Gateway for each TN2302AP IP Media Processor

  NOTE:
  The TN2302AP consumes 16 W of power per slot compared with an average of 15 W per slot. Do not fill every available slot in a given carrier with them.

- An additional unoccupied port slot for the TN799x, if needed. If you have an existing C-LAN TN799x circuit pack, replace it with the TN799DP or later if it is to be used for IP solutions registration.
- A 10 BaseT or 10/100 BaseT Ethernet connection into your local area network (LAN) for the TN2302AP.
- A 10 BaseT Ethernet connection into your LAN for the TN799x.
- Two or more valid, unused IP addresses on your network (one for each TN2302AP or TN802/B and one for each C-LAN) that can be assigned to the IP Media Processor server. You also need the subnet mask and default gateway.

  NOTE:
  The customer provides the IP address, subnet mask, and gateway address.

See Check your shipment on page 603 to make sure you have everything you need to start the installation procedure.

Return to Task List

Check your shipment

Return to Task List

When your Avaya Media Gateway IP Solutions order arrives at your site, check the contents (see Required Hardware on page 604).

1. Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.
2. If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. The carton should contain the items in Required Hardware on page 604 for *each TN2302AP* IP Media Processor ordered.
3. Read and follow any directions inserted into the package by the factory.

Required Hardware	
Description	**Quantity**
TN799x C-LAN circuit pack	1 [1]
TN2302AP IP Media Processor	1
TN2302AP Amphenol Adapter [2]	1
ADPTR-259A connector	1

1 One TN799x supports more than one TN2302AP.

2 The adapter has an amphenol connector on one side and an RJ45 connector on the other for connecting to the LAN. See Figure 234, TN2302AP Amphenol Adapter, on page 604.

NOTE:
The customer must provide one CAT5 or better cable for each TN2302AP.

Figure 234: TN2302AP Amphenol Adapter

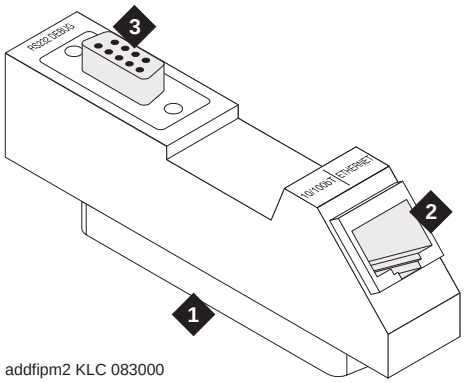


Figure notes

1 Amphenol connector to backplane connector corresponding to TN2302AP slot

2 To Ethernet

3 9-pin connector for maintenance

Return to Task List

Installing the TN2302AP IP Media Processor

To install a TN2302AP IP Media Processor, you must install

- One or more TN2302AP circuit pack
- One or more TN799x circuit pack (each TN799x can support more than one TN2302AP)
- An IP Media Processor adapter.

Task List: Install TN2302AP

Perform these tasks in order:

1. Connect the cables for TN799x on page 605
2. Connect the cables for TN2302AP on page 605
3. Connect the Ethernet on page 605
4. Install the Circuit Packs on page 606
5. Perform Initial Administration Steps for C-LAN and IP Media Processor on page 607
6. Test the External Connection to the LAN on page 610

Connect the cables for TN799x

Return to Task List

1. Determine into which port slots you are putting the TN799x C-LAN circuit packs.

From the rear of the cabinet:

2. Connect the 259A connector to the backplane connector corresponding to the TN799x slot.
3. Connect one end of the CAT5 cable to the 259A connector. Connect the other end to the customer's network.

Connect the cables for TN2302AP

Return to Task List

1. Determine into which port slots you are putting the TN2302AP IP Media Processor circuit packs.

From the rear of the cabinet:

2. Connect the amphenol connector on the adapter to the backplane connector corresponding to each TN2302AP slot.

Connect the Ethernet

Return to Task List

Connect the network cable to the ETHERNET connector on the TN802B external cable assembly.

You need a CAT5 or better cable for 100-Mbyte operation.

Install the Circuit Packs

Return to Task List

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

NOTE:
The TN799B/C/DP and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to install them.

1 Insert the TN799x circuit pack into the port slot identified earlier.

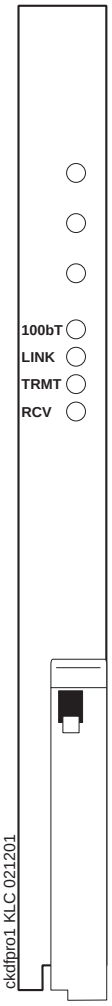
NOTE:
To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

2 Insert the TN2302AP IP Media Processor into the port slot you reserved for it and seat it properly (See Figure 235, TN2302AP IP Interface faceplate, on page 607).

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3 Type **list configuration all** and press **Enter** to verify that the system recognizes the TN2302AP circuit packs.

Figure 235: TN2302AP IP Interface faceplate



Return to Task List

Perform Initial Administration Steps for C-LAN and IP Media Processor

Return to Task List

NOTE:
Refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)* for specific information.

1 Log in as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **change node-names** and press **Enter**. See Figure 236, Node Names screen, on page 609.

3 On page 2, type in the node names and IP addresses for the TN799x and the TN2302AP.

NOTE:
The customer or design team provides the actual name and address. Suggest a generic name and not one tied to the circuit pack.

4 Type **display circuit-pack** and press **Enter**. Verify that the TN2302AP shows up in the `Code` column.

5 Type **change ip-interfaces** and press **Enter**. See Figure 237, IP Interfaces screen, on page 609

NOTE:
The customer provides the IP address, subnet mask, and gateway address.

6 Type in the following information for the TN2302AP IP Media Processor and TN799x C-LAN:

- Set `Slot` field to **UUCSS**.
- The `Code` and `SFX` fields are automatically populated with TN799x and TN2302AP.
- In the `Node Name` field type the same node name entered on the ***Node Name*** screen.
- In the `Subnet Mask` field use the default setting unless you are given a different subnet mask.
- In the `Gateway Address` field use the address you are given or leave blank.
- Set the `Net Region` field to **1** unless you are given a different number.
- Set the `Enable Eth Pt` field to **y**

7 Press **Enter** to save the information and effect the new settings.

Refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)* for more information on these administration steps and for the steps to administer IP Softphones and H.323 trunks.

NOTE:
The administration of the TN2302AP is the same as that for the TN802B.

Figure 236: Node Names screen

```
change node-names                                          Page   2 of   6
                                NODE NAMES

    Name             IP Address           Name             IP Address

clan-a1             192.168.1 .31                      .   .   .
clan-b1             192.168.2 .31                      .   .   .
default             0  .0  .0  .0                      .   .   .
mrmedpro1           192.168.1 .81                      .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
```

Figure 237: IP Interfaces screen

```
change ip-interfaces                                       Page   1 of   2

                                  IP INTERFACES
 Inter-region IP connectivity allowed?  n
Enable                                                                  Net
Eth Pt Type   Slot  Code Sfx Node Name       Subnet Mask     Gateway Address Rgn
   y  C-LAN  01A09 TN799  B  clan-a1         255.255.255.0      .   .   .    1
   y  MEDPRO 01A13 TN802  B  med-a1          255.255.255.0   192.168.10 .21  1
   y  C-LAN  01B03           ppp10           255.255.255.0      .   .   .    1
   y  MEDPRO 01B09 TN2302 AP mrmedpro1       255.255.255.0      .   .   .    1
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
   n                                         255.255.255.0      .   .   .
```

Return to Task List

Test the External Connection to the LAN

Return to Task List

To test the external IP connections, ping the C-LAN or IP Media Processor server and ping a known computer connected to your network. If everything is configured correctly, the `Result` column on the ***Ping Results*** screen reads `pass`. If it reads `abort`, verify the IP-address information and check the connectivity, including the cabling.

1. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the IP Media Processor and ***UUCSS*** is the cabinet, carrier, and slot of the IP Media Processor.
2. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the customer's gateway and ***UUCSS*** is the cabinet, carrier, and slot of the IP Media Processor.
3. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of another computer beyond the gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN2302AP IP Media Processor.

The IP Media Processor is now installed in the carrier and connected to the IP network.

Figure 238: Ping Results screen

```
ping ip-address 192.168.10.21

                          PING RESULTS

  End-pt IP        Port      Port Type  Result    Time(ms)  Error Code

  192.168.10.21    01A13      MEDPRO   PASS       10        1124
```

Return to Task List

Upgrading TN802 IP Trunking to TN2302AP IP Media Processor

Return to Task List

To upgrade IP Trunking to IP Media Processor, you must replace

- the TN802 circuit pack with a TN2302AP circuit pack
- the TN799 circuit pack with a TN799DP circuit pack
- the H600 512, G1 external cable assembly with an IP Media Processor adapter

Task List: Upgrade TN802 to TN2302AP

Perform these tasks to upgrade the TN802 to TN2302AP:

1. Perform Pre-upgrade Administration on page 611
2. Remove the Circuit Packs on page 611
3. Replace the Cables on page 611
4. Install the Circuit Packs on page 612
5. Administer and Test on page 612

Perform Pre-upgrade Administration

Return to Task List

1. Type **list configuration all** and press **Enter** to locate all the TN802 circuit pack ports.
2. Type **display port *UUCSSppp*** and press **Enter** to find the trunk group number associated with the TN802 circuit pack port.
3. Type **change trunk-group *number*** and press **Enter**. Go to screen 4. Delete all the TN802 ports.
4. Repeat steps1 through 3 for each port.
5. Type **remove ds1 *UUCSS*** and press **Enter**.

Remove the Circuit Packs

Return to Task List

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

NOTE:
The TN799 and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to remove or install them.

1. Press the recessed Reset button on the TN802 circuit pack until `MSHUT*` starts flashing on the LCD. When `MSHUT*` is in a steady state, it is safe to remove the circuit pack.
2. Remove the TN799 and TN802 circuit packs.

Replace the Cables

Return to Task List

1. Disconnect the network cable from the Ethernet connection.
2. Turn off the monitor and unplug it from the AC outlet, if necessary.
3. Disconnect the monitor, keyboard, and mouse from the H600-512 external cable assembly, if necessary.
4. Turn off the modem and unplug it from the AC outlet.
5. Disconnect the modem's RS232 port from the H600-512 external cable assembly.

From the rear of the cabinet:

6 Disconnect the amphenol connector on the existing external cable assembly from the backplane connector corresponding to the TN802 circuit pack.

7 Connect the amphenol connector of the TN2302AP Amphenol adapter to the backplane connector corresponding to the slot selected for the TN2302AP circuit pack.

> **NOTE:**
> The TN802 occupied 3 slots, and the cable was connected to the rightmost backplane slot. For convenience use the same rightmost slot vacated by the TN802 circuit pack for the TN2302AP circuit pack.

8 Connect the network cable to the Ethernet connector on the TN2302AP Amphenol adapter.

Return to Task List

Install the Circuit Packs

Return to Task List

1 If replacing the TN799 circuit pack, install the TN799DP circuit pack in the slot vacated by the TN799 circuit pack.

2 For convenience install the TN2302AP circuit pack in the rightmost slot vacated by the TN802. The other 2 slots are now available for other circuit packs.

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3 Type **list configuration all** and press **Enter** to verify that the system recognizes the TN2302AP circuit packs.

Administer and Test

Return to Task List

1 Administer the TN799DP C-LAN. Refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.

2 Administer the IP Media Processor, which is usually done remotely. Call your service representative to start the process.

3 Complete the administration and testing.

See Perform Initial Administration Steps for C-LAN and IP Media Processor on page 607 and Test the External Connection to the LAN on page 610 for detailed instructions.

Return to Task List

Upgrading a TN802B IP Interface Assembly to TN2302AP IP Media Processor

Return to Task List

To upgrade IP Interface Assembly to IP Media Processor, you must replace

- the TN802B circuit pack with a TN2302AP circuit pack
- the TN799 circuit pack with a TN799DP circuit pack, if necessary
- the H600 512, G1 external cable assembly with an IP Media Processor adapter

Task List: Upgrade TN802B to TN2302AP

1. Perform Pre-upgrade Administration on page 613
2. Remove the Circuit Packs on page 614
3. Replace the Cables on page 615
4. Install the Circuit Packs on page 615
5. Perform Additional Administration Steps on page 615

Perform Pre-upgrade Administration

Return to Task List

1. Type **change ip-interfaces** and press **Enter**. See Figure 237, IP Interfaces screen, on page 609.
2. Set the `Enable Eth Pt` field to **n**.
3. Press **Enter** to effect the change.
4. Type **change ip-interfaces** and press **Enter**.
5. Delete the information in the `Type`, `Slot`, and `Node Name` fields for each TN802B you are replacing.
6. Press **Enter** to save the information and effect the new settings.

Figure 239: IP Interfaces Screen

```
change ip-interfaces                                          Page   1 of   2

                                  IP INTERFACES
 Inter-region IP connectivity allowed?  n
Enable                                                                  Net
Eth Pt Type   Slot  Code Sfx Node Name       Subnet Mask     Gateway Address Rgn
   y   C-LAN  01A09 TN799 DP clan-a1         255.255.255.0      .   .   .    1
   n   MEDPRO                med-a1         255.255.255.0   192.168.10 .21  1
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
   n 255.255.255.0      .   .   .
```

Return to Task List

Remove the Circuit Packs

Return to Task List

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

NOTE:
The TN799 and TN2302AP circuit packs are hot-swappable, so you do not need to power down the carrier to remove or install them.

NOTE:
If replacing the existing TN799 circuit pack, remove it first and replace it with the new TN799DP.

1. Press the recessed Reset button on the TN802B circuit pack until `MSHUT*` starts flashing on the LCD. When `MSHUT*` is in a steady state, it is safe to remove the circuit pack.
2. Remove the TN799 and TN802B circuit packs.

Return to Task List

Replace the Cables

Return to Task List

1. Disconnect the network cable from the Ethernet connection.
2. Turn off the modem and unplug it from the AC outlet. It is not needed for the TN2302AP.
3. Disconnect the modem's RS232 port from the H600-512 external cable assembly.

From the rear of the cabinet:

4. Disconnect the amphenol connector on the external cable assembly from the backplane connector corresponding to the TN802B circuit pack.
5. Connect the amphenol connector on the TN2302AP Amphenol adapter to the backplane connector corresponding to slot selected for the TN2302AP circuit pack.

   NOTE:
   The TN802 circuit pack occupied 3 slots, and the cable was connected to the rightmost slot. For convenience use the same rightmost slot vacated by the TN802 circuit pack for the TN2302AP circuit pack. The other 2 slots are now available for other circuit packs.

6. Connect the network cable to the Ethernet connector on the TN2302AP Amphenol adapter.

Return to Task List

Install the Circuit Packs

Return to Task List

1. If replacing the TN799 circuit pack, install the TN799DP circuit pack in the slot vacated by the TN799 circuit pack.
2. For convenience install the TN2302AP circuit pack in the rightmost slot vacated by the TN802 circuit pack. The other 2 slots are now available for other circuit packs.

When you plug in the TN2302AP IP Media Processor, the circuit pack starts to boot. The RED LED stays on until an IP address is assigned to the circuit pack.

3. Type **list configuration all** and press **Enter** to verify that the system recognizes the TN2302AP circuit packs.

Return to Task List

Perform Additional Administration Steps

Return to Task List

1. Administer the TN799DP C-LAN, if necessary. Refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.
2. Administer the IP Media Processor, which is usually done remotely. Call your service representative to start the process.
3. Complete the administration and testing. Refer to Perform Initial Administration Steps for C-LAN and IP Media Processor on page 607 and Test the External Connection to the LAN on page 610.

Installing a TN802B in Media Processor Mode

Return to Task List

To operate in MedPro mode, you must install the TN802B IP Interface and, if the system does not have one, you must also install and administer a TN799DP C-LAN circuit pack. For C-LAN administration, refer to *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.

If you have existing TN802 IP Interface circuit packs, you can upgrade them either by replacing the circuit pack with a TN802B or by downloading the TN802B firmware onto the circuit packs (see Upgrade to TN802B (R10) on page 647).

Task list: Install the TN802B in Media Processor mode

1 Prepare for Installation on page 616
2 Check your shipment on page 617
3 Connect the Cables for TN799x on page 618
4 Connect the Cables for TN802B on page 619
5 Connect the Modem on page 619
6 Connect the Ethernet on page 620
7 Install the Circuit Packs on page 621
8 Administer the TN799x C-LAN on page 623
9 Administer the IP Interface on page 623
10 Test the External Connection to the LAN on page 625

Prepare for Installation

Return to Task List

Have the following equipment on site before your shipment arrives:

- AC power outlets for the modem and monitor.
- Three unoccupied and adjoining port slots in the DEFINITY ECS for the TN802B IP Interface, if needed.
- The TN802B occupies only one slot, but it needs the two slots to its left for clearance.
- A 10 BaseT or 10/100 BaseT Ethernet connection into your local area network for the TN802B.
- One or more valid, unused IP addresses on your network that can be assigned to the IP Interface server. You also need the subnet mask and default gateway.
- An analog telephone line reserved (DID is okay) for the IP Interface diagnostic modem
- A valid telephone number reserved for the IP Interface diagnostic modem

In addition if non-U.S. customer:

- Modem comparable to a U.S. Robotics Sportster Model USR 33.6 EXT.
- Cable from modem to TN802B external cable assembly.

We recommend that you protect your cabinet with an uninterruptible power system (UPS).

If adding a TN799DP C-LAN circuit pack:

- An unoccupied port slot for the TN799DP, if needed. If you have an existing TN799x circuit pack, replace it with the TN799DP.
- A 10 BaseT Ethernet connection into your local area network for the TN799DP.
- One or more valid, unused IP addresses on your network that can be assigned to the IP Interface server.

Return to Task List

Check your shipment

Return to Task List

When your DEFINITY IP Interface Assembly order arrives at your site, check the contents (see Required Hardware on page 617).

1. Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.
2. If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. See Required Hardware on page 617 for what the carton should contain for each IP Interface ordered.
3. Read and follow any directions inserted into the package by the factory.

The TN802B external cable assembly is a bundle of cables with an amphenol connector at the end of the bundle and various PC-type connectors (VGA, Universal Serial Bus [USB], mouse, keyboard, Ethernet, modem, and COM2) at the ends of the individual cables. See Figure 240, TN802B IP Interface External Cable Assembly, on page 618. Look for the label where the bundle enters the amphenol connector.

Required Hardware	
Description	**Quantity**
TN799x C-LAN circuit pack.	1[1]
TN802B IP Interface Assembly	1 or more
H600-512.G1 external cable assembly	1 or more
259A connector	1
CAT5 or better cable	1
U.S. Robotics Sportster external modem, Model USR 33.6 EXT (U.S. customers only). Non-U.S. customers must provide a modem comparable to this model.	1

Required Hardware	
Description	**Quantity**
20-ft DB-25 serial cable from modem to TN802B external cable assembly (U.S. customers only). Non-U.S. customers must provide a serial cable.	1

1 One TN799x supports more than one TN802B.

Figure 240: TN802B IP Interface External Cable Assembly

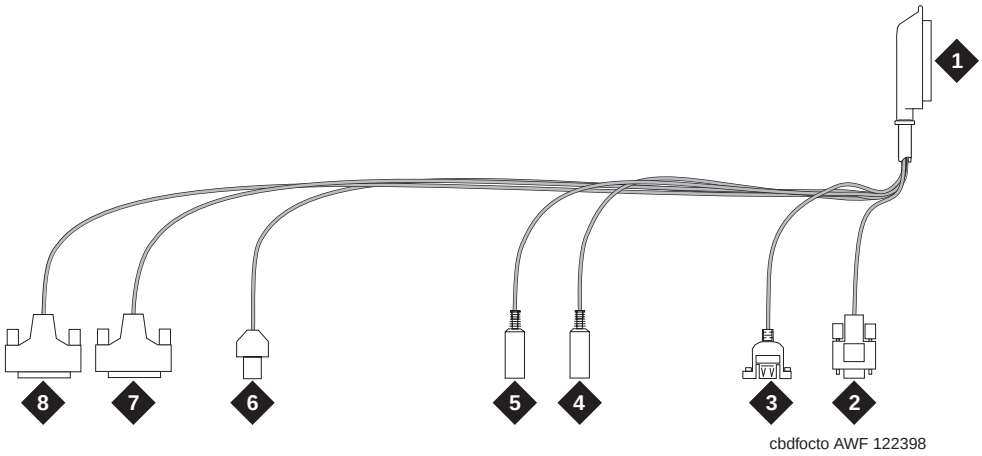


Figure notes

1 Amphenol connector to connector corresponding to TN802B slot

2 To VGA monitor

3 To USB (not used)

4 To keyboard

5 To mouse

6 To ethernet

7 25-pin male connector to modem

8 25-pin male connector to COM2 (not used)

Return to Task List

Connect the Cables for TN799x

Return to Task List

1 Determine into which port slots you are putting the TN799x C-LAN circuit packs.

From the rear of the cabinet:

2 Connect the 259A connector to the backplane connector corresponding to the TN799x slot.

3 Connect one end of the CAT5 cable to the 259A connector. Connect the other end to the customer's network.

4

Connect the Cables for TN802B

Return to Task List

1 Determine into which port slot you are putting the TN802B IP Interface.

NOTE:
Make sure that at least 3 adjoining slots are free.

2 From the rear of the cabinet, connect the amphenol connector on the external cable assembly to the backplane connector corresponding to that slot (the highest numbered connector of the 3 slots required).

Connect the Modem

Return to Task List

NOTE:
These instructions are for connecting the U.S. Robotics modem supplied to U.S. customers only. If using a different modem, follow the manufacturer's instructions on connecting the modem.

1 Connect the RS232 port of the modem to the MODEM connector of the TN802B external cable assembly.

NOTE:
Check the labels near the connectors; the MODEM and COM2 connectors look the same.

2 Connect an analog telephone line to the left most analog-line port on the modem as shown in Figure 241, External Modem Connections for U.S. Robotics Modem, on page 619.

3 Make sure that the modem's DIP switches are set as shown in Figure 241, External Modem Connections for U.S. Robotics Modem, on page 619 and U.S. Robotics Modem Dip Switch Settings on page 620.

4 Plug the modem into an AC power outlet.

5 Turn on the modem using the switch on the front of the modem.

Figure 241: External Modem Connections for U.S. Robotics Modem

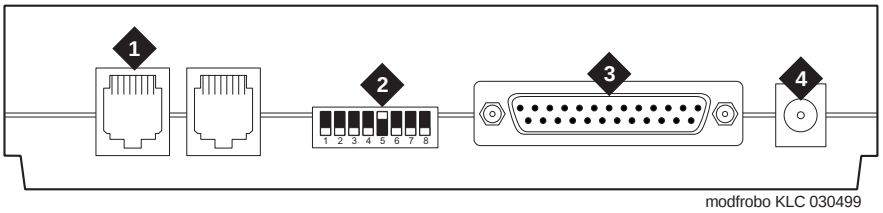


Figure notes

1	Connect analog line here.	**3**	Connect MODEM connector here.
2	DIP switch 5 must be up.	**4**	Connect power connector here.

U.S. Robotics Modem Dip Switch Settings		
Dip Switch	**Setting**	**Description**
1	UP DOWN	Data Terminal Ready normal Data Terminal Ready override
2	UP DOWN	Verbal result codes Numeric result codes
3	UP DOWN	Suppress result codes Display result codes
4	UP DOWN	Echo offline commands No echo, offline commands
5	**UP** DOWN	**Auto answer on first ring or higher if specified in NVRAM** Auto answer off
6	UP DOWN	Carrier detect normal Carrier detect override
7	UP DOWN	Load NVRAM defaults Load factory defaults
8	UP DOWN	Dumb mode Smart mode

Return to Task List

Connect the Ethernet

Return to Task List

Connect the network cable to the ETHERNET connector on the TN802B external cable assembly.

You need a CAT5 or better cable for 100-Mbyte operation.

Install the Circuit Packs

Return to Task List

CAUTION:
When adding or replacing any hardware, be sure to ground yourself against electrostatic discharge (ESD) by wearing a grounded wrist strap.

NOTE:
The circuit packs are hot-swappable, so you do not need to power down the carrier to install them.

If you need to remove the TN802B IP Interface from the carrier at a later time, shut down Windows NT first by pressing the recessed reset button on the faceplate (see Figure 242, TN802B IP Interface faceplate, on page 622) of the TN802B IP Interface until the LCD shows a flashing `MSHUT*`. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.

NOTE:
If replacing the existing TN799 circuit pack, remove it first and replace it with the new one.

To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

1. Insert the TN799x circuit pack into the port slot identified earlier.
2. Insert the TN802B IP Interface into the rightmost of the three slots you reserved for it (see Figure 243, J58890MA-1 L30 IP Interface Assembly, on page 623) and seat it properly.

   When you plug in the TN802B IP Interface, the circuit pack starts to boot and the LCD reads **PC Boot**. The circuit pack automatically reboots, and after about 3 to 4 minutes, the LCD changes to **MEDPRO***.

   If the TN802B is pre-administered at the factory, it reboots several times to initialize to MedPro mode.

   NOTE:
   For an initial installation, the TN802B IP Interface needs to be administered first.

   If the TN802B is not pre-administered, go to Administer the IP Interface on page 623.

Figure 242: TN802B IP Interface faceplate

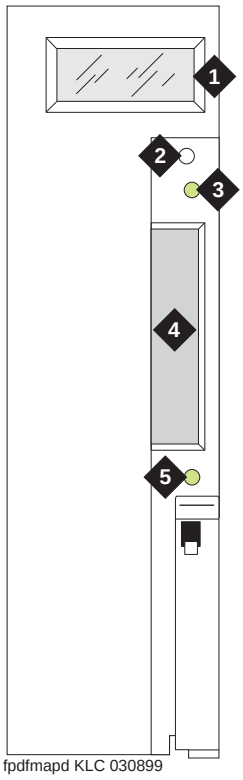


Figure notes

1 LCD display

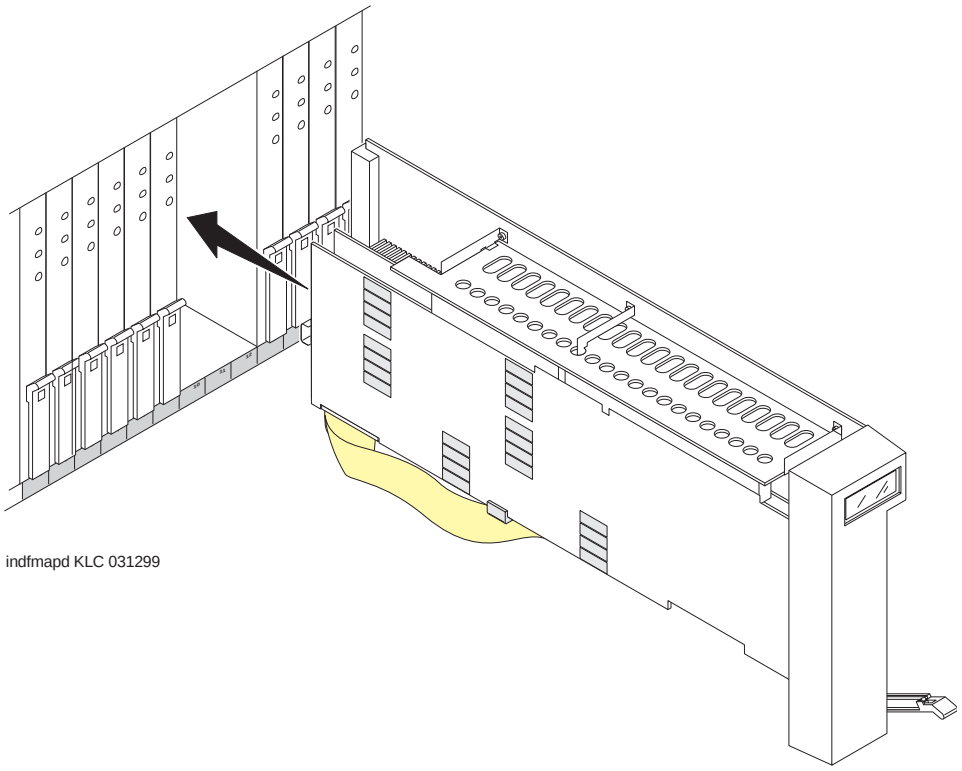
2 Reset button (recessed)

3 Red board status LED

4 PCMCIA card slot

5 Yellow PCMCIA disk-in-use LED

Figure 243: J58890MA-1 L30 IP Interface Assembly



Return to Task List

Administer the TN799x C-LAN

Return to Task List

To administer the TN799x circuit pack, refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)*.

Administer the IP Interface

Return to Task List

Administration is done either locally or remotely. If administered locally, proceed with the following administration steps. If administered remotely, call your service representative to start the process.

NOTE:
Refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)* for more information.

1 Log in as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **change node-names** and press **Enter**.

3 On Figure 244, Node Names - Screen 2, on page 624, type in the node name and IP address for the TN802B.

4 Type **change circuit-pack** and press **Enter**.

5 On Figure 245, Circuit Packs - Screen 1, on page 625, check the `Code` column to see if it says `DSMAPD` or `MEDPRO`.

6 If not, type **MEDPRO** in the slot just above TN802B slot, and press **Enter**. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

MedPro type requires TN802 with application. Type **MEDPRO** on circuit-packs form.

7 Type **change ip-interfaces** and press **Enter**.

8 On Figure 246, IP Interfaces - Screen 1, on page 625, type in the information for the TN802B IP Interface,

9 Set the `Enabled` field to **y**, and press **Enter**.

NOTE:
The customer provides the IP address, subnet mask, and gateway address.

At this time the TN802B LCD reads `PC BOOT *`, and about 3 to 4 minutes later reads `MEDPRO *` with the asterisk flashing.

Figure 244: Node Names - Screen 2

```
change node-names                                          Page   2 of   6
                                NODE NAMES

    Name             IP Address          Name              IP Address

clan-a1             192.168.1 .31                      .   .   .
clan-b1             192.168.2 .31                      .   .   .
default             0  .0  .0  .0                      .   .   .
med-a1              192.168.1 .81                      .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
                       .   .   .                       .   .   .
```

Figure 245: Circuit Packs - Screen 1

```
change circuit-packs                                      Page   1 of   5
                              CIRCUIT PACKS

        Cabinet: 1                            Carrier: A
                                            Carrier Type: processor

 Slot Code Sf Mode   Name                Slot Code   Sf  Mode   Name
                                          11:  MEDPRO         RESERVED-IP
01: TN754  C     DIGITAL LINE            12:  MEDPRO         RESERVED-IP
02: TN758        POOLED MODEM            13:  TN802  B       MAPD BOARD
03: TN2144       ANALOG LINE             14:
04: TN746  B     ANALOG LINE             15:
05                                       16:
06: TN771  DP    MAINTENANCE/TEST
07: TN464  GP    DS1 INTERFACE
08: TN2140 B     E&M TIE TRUNK
09: TN767  E     DS1 INTERFACE
10: TN799  DP    CONTROL-LAN

  '#' indicates circuit pack conflict.
```

Figure 246: IP Interfaces - Screen 1

```
change ip-interfaces                                Page   1 of   2


 Network regions are interconnected?  n
  En-                                                                  Net
 abled Type   Slot  Code Sfx Node Name      Subnet Mask     Bcast/Gway Addr Rgn
   n  C-LAN  01A09 TN799  DP  clan-a1      255.255.255.0    192.168.1.100    1
   y  MEDPRO 01A13 TN802  B   med-a1       255.255.255.0    192.168.1 .21    1
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
   n                                        255.255.255.0      .   .   .
```

Return to Task List

Test the External Connection to the LAN

Return to Task List

To test the external IP connections, ping the IP Interface server, and ping a known computer connected to your network. If everything is configured correctly, the `Result` column on the ***Ping Results*** screen reads `pass`. If it reads `abort`, verify the IP-address information and check the connectivity, including the cabling.

1. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the TN802B IP Interface and ***UUCSS*** is the cabinet, carrier, and slot of the TN802B IP Interface.
2. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of the customer's gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN802B IP Interface.
3. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**. The variable ***nnn.nnn.nnn.nnn*** is the IP address of another computer beyond the gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN802B IP Interface.

Return to Task List

Installing a TN802B in IP Trunk Mode

Return to Task List

NOTE:
IP Trunk mode should only be used to maintain compatibility with existing Release 7 IP Trunk or ITS-E installations. We strongly recommend that MedPro mode be used whenever possible.

Task list: Install the TN802B in IP Trunk mode

1. Prepare for Installation on page 627
2. Check your Shipment on page 627
3. Connect the Cables for TN802B on page 629
4. Connect the Modem on page 629
5. Connect the Monitor, Keyboard, and Mouse on page 630
6. Connect the Ethernet on page 631
7. Install the Circuit Pack on page 631
8. Test the Modem on page 633
9. Administer the IP Interface on page 633
10. Log onto the TN802B Interface Server on page 634
11. Change Mu-Law to A-Law (for systems using A-Law companding only) on page 635
12. Assign Server and Domain Names on page 636
13. Assign an IP Address on page 636
14. Assign Default Gateway on page 638 if you use gateways.

15 Check Network Services on page 641

16 Test the External Connection to the LAN on page 625

17 Test the IP Interface Onboard LAN Connections on page 642

Prepare for Installation

Return to Task List

Have the following equipment on site before your shipment arrives:

- AC power outlets for the modem and monitor.
- Three unoccupied and adjoining port slots in the DEFINITY ECS for the TN802B IP Interface, if needed.
- The TN802B occupies only one slot, but it needs the two slots to its left for clearance.
- A 10 BaseT or 10/100 BaseT Ethernet connection into your local area network for the TN802B.
- One or more valid, unused IP addresses on your network that can be assigned to the IP Interface server. You also need the subnet mask and default gateway.
- An analog telephone line reserved (DID is okay) for the IP Interface diagnostic modem
- A valid telephone number reserved for the IP Interface diagnostic modem

In addition if non-U.S. customer:

- Modem comparable to a U.S. Robotics Sportster Model USR 33.6 EXT.
- Cable from modem to TN802B external cable assembly.

We recommend that you protect your cabinet with an uninterruptible power system (UPS).

Return to Task List

Check your Shipment

Return to Task List

When your DEFINITY IP Interface Assembly order arrives at your site, check the contents (see Required Hardware on page 617).

1 Inspect the shipping carton for damage before opening it. If the box is damaged, *do not open it*. Inform the shipping company, and ask for instructions on filing a claim.

2 If the box is undamaged, check the contents against the packing slip. Check the condition of each component, and note any damage or shortages on the packing slip. See Required Hardware on page 617 for what the carton should contain for each IP Interface ordered.

3 Read and follow any directions inserted into the package by the factory.

The TN802B external cable assembly is a bundle of cables with an amphenol connector at the end of the bundle and various PC-type connectors (VGA, Universal Serial Bus [USB], mouse, keyboard, Ethernet, modem, and COM2) at the ends of the individual cables. See Figure 240, TN802B IP Interface External Cable Assembly, on page 618. Look for the label where the bundle enters the amphenol connector.

Required Hardware	
Description	**Quantity**
TN799x C-LAN circuit pack.	1[1]
TN802B IP Interface Assembly	1 or more
H600-512.G1 external cable assembly	1 or more
259A connector	1
CAT5 or better cable	1
U.S. Robotics Sportster external modem, Model USR 33.6 EXT (U.S. customers only). Non-U.S. customers must provide a modem comparable to this model.	1
20-ft DB-25 serial cable from modem to TN802B external cable assembly (U.S. customers only). Non-U.S. customers must provide a serial cable.	1

1 One TN799x supports more than one TN802B.

Figure 247: TN802B IP Interface External Cable Assembly

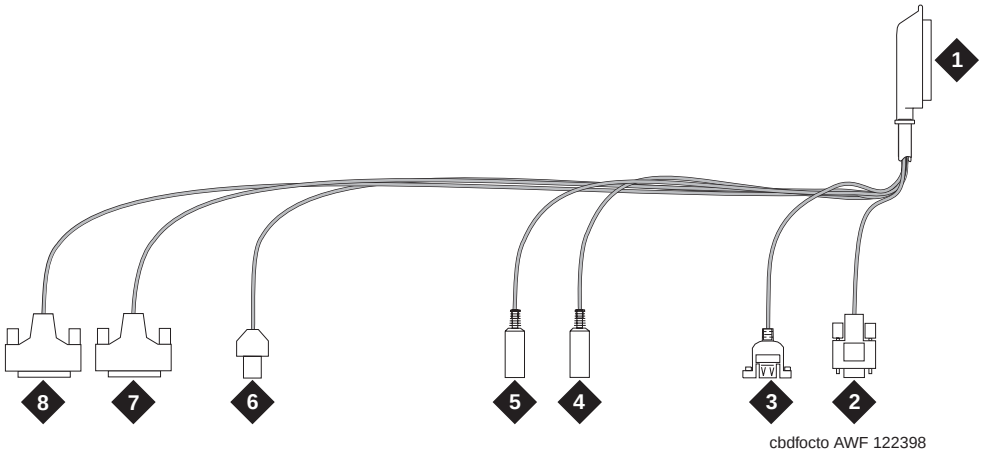


Figure notes

1 Amphenol connector to connector corresponding to TN802B slot

2 To VGA monitor

3 To USB (not used)

4 To keyboard

5 To mouse

6 To ethernet

7 25-pin male connector to modem

8 25-pin male connector to COM2 (not used)

Return to Task List

Connect the Cables for TN802B

Return to Task List

1 Determine into which port slot you are putting the TN802B IP Interface.

NOTE:
Make sure that at least 3 adjoining slots are free.

2 From the rear of the cabinet, connect the amphenol connector on the external cable assembly to the backplane connector corresponding to that slot (the highest numbered connector of the 3 slots required).

Connect the Modem

Return to Task List

NOTE:
These instructions are for connecting the U.S. Robotics modem supplied to U.S. customers only. If using a different modem, follow the manufacturer's instructions on connecting the modem.

1 Connect the RS232 port of the modem to the MODEM connector of the TN802B external cable assembly.

NOTE:
Check the labels near the connectors; the MODEM and COM2 connectors look the same.

2 Connect an analog telephone line to the left most analog-line port on the modem as shown in Figure 241, External Modem Connections for U.S. Robotics Modem, on page 619.

3 Make sure that the modem's DIP switches are set as shown in Figure 241, External Modem Connections for U.S. Robotics Modem, on page 619 and U.S. Robotics Modem Dip Switch Settings on page 620.

4 Plug the modem into an AC power outlet.

5 Turn on the modem using the switch on the front of the modem.

Figure 248: External Modem Connections for U.S. Robotics Modem

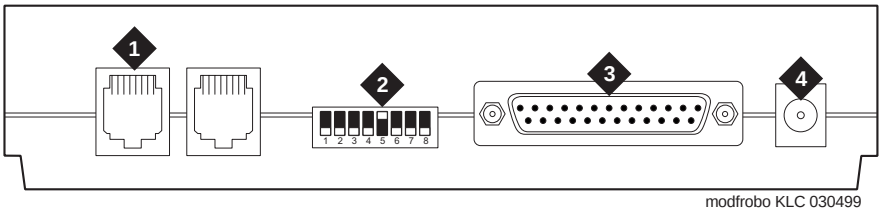


Figure notes

1	Connect analog line here.	**3**	Connect MODEM connector here.
2	DIP switch 5 must be up.	**4**	Connect power connector here.

U.S. Robotics Modem Dip Switch Settings		
Dip Switch	**Setting**	**Description**
1	UP DOWN	Data Terminal Ready normal Data Terminal Ready override
2	UP DOWN	Verbal result codes Numeric result codes
3	UP DOWN	Suppress result codes Display result codes
4	UP DOWN	Echo offline commands No echo, offline commands
5	**UP** DOWN	**Auto answer on first ring or higher if specified in NVRAM** Auto answer off
6	UP DOWN	Carrier detect normal Carrier detect override
7	UP DOWN	Load NVRAM defaults Load factory defaults
8	UP DOWN	Dumb mode Smart mode

Return to Task List

Connect the Monitor, Keyboard, and Mouse

Return to Task List

NOTE:
Only make these connections if administered locally. Not necessary if administered remotely.

You must connect these before inserting the TN802B IP Interface.

1. Attach a VGA monitor to the VGA connector of the TN802 IP Interface external cable assembly.
2. Attach the keyboard to the KEYBOARD connector of the external cable assembly.
3. Attach the mouse to the MOUSE connector of the external cable assembly.
4. Plug the monitor into an AC power receptacle and turn it on.

Return to Task List

Connect the Ethernet

Return to Task List

Connect the network cable to the ETHERNET connector on the TN802B external cable assembly.

You need a CAT5 or better cable for 100-Mbyte operation.

Install the Circuit Pack

Return to Task List

NOTE:
The TN802B IP Interface is hot-swappable, so you do not need to power down the carrier to install it.

If you need to remove the TN802B IP Interface from the carrier at a later time, shut down Windows NT first by pressing the recessed reset button on the faceplate (see Figure 249, TN802B IP Interface faceplate, on page 632) of the TN802B IP Interface until the LCD shows a flashing `MSHUT *`. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.

1 Insert the TN802B IP Interface into the rightmost of the three slots you reserved for it (see Figure 250, J58890MA-1 L30 IP Interface Assembly, on page 633).

NOTE:
To properly seat the circuit pack, push firmly on the front of the faceplate until the latch reaches the bottom rail of the carrier. Then close the latch until it is fully engaged.

When you plug in the TN802B IP Interface, the circuit pack starts to boot and the LCD reads `PC Boot` then after about 3 to 4 minutes it changes to `IP TRK *`, the default mode.

Figure 249: TN802B IP Interface faceplate

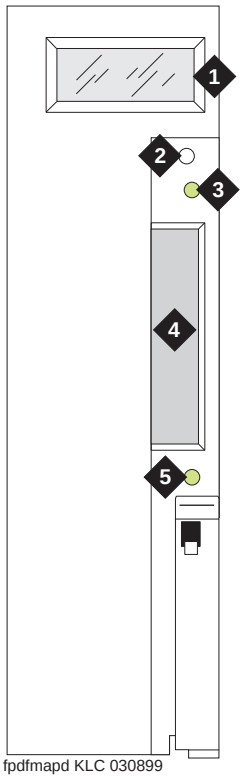
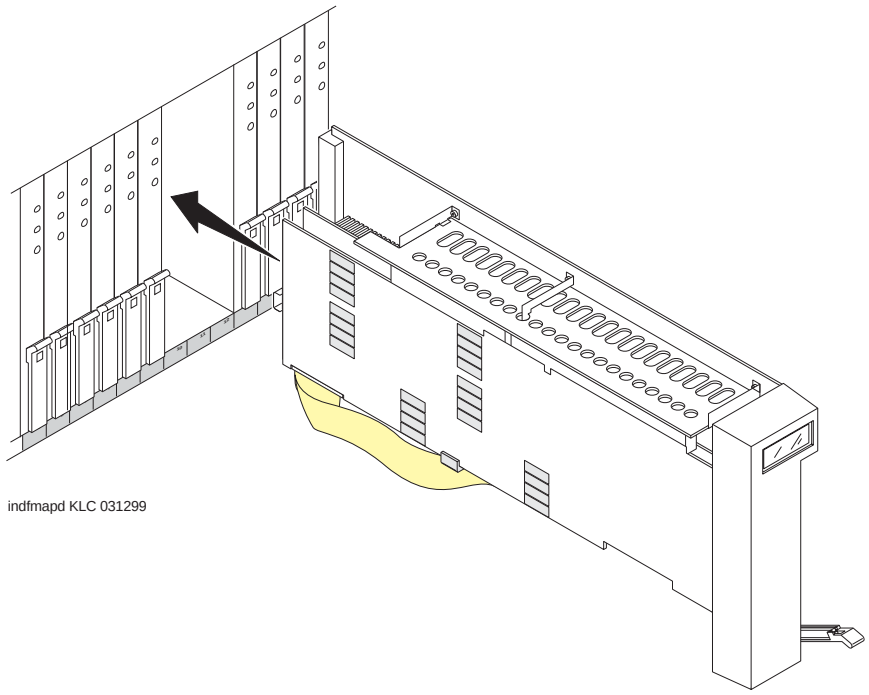


Figure notes

1	LCD display	**4**	PCMCIA card slot
2	Reset button (recessed)	**5**	Yellow PCMCIA disk-in-use LED
3	Red board status LED		

Figure 250: J58890MA-1 L30 IP Interface Assembly



Return to Task List

Test the Modem

Return to Task List

1. Check for dial tone.
2. Contact Avaya Support and ask a representative to dial in to your IP Interface server.

Administer the IP Interface

Return to Task List

Administration is done either locally or remotely. If administered locally, proceed with the following administration steps. If administered remotely, call your service representative to start the process.

1. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **change circuit-pack** and press **Enter**.
3. In Figure 251, Circuit Packs - Screen 1, on page 634, check the `Code` column to see if the slots above the TN802B says `DSMAPD` or `MEDPRO`.
4. If `MEDPRO`, go to the entry just above the TN802B that says `MEDPRO`.

5 Type **DSMAPD**, and press **Enter**. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

```
MedPro type requires TN802 with application. Type MEDPRO on circuit-packs form.
```

Figure 251: Circuit Packs - Screen 1

```
change circuit-packs                                        Page   1 of   5
                              CIRCUIT PACKS

        Cabinet: 1                              Carrier: A
                                             Carrier Type: processor

 Slot Code  Sf Mode   Name                Slot Code  Sf Mode   Name
                                           11:  MEDPRO        RESERVED-IP
01: TN754  C     DIGITAL LINE             12:  MEDPRO        RESERVED-IP
02: TN758        POOLED MODEM             13:  TN802  B      MAPD BOARD
03: TN2144       ANALOG LINE              14:
04: TN746  B     ANALOG LINE              15:
05                                        16:
06: TN771  DP    MAINTENANCE/TEST
07: TN464  GP    DS1 INTERFACE
08: TN2140 B     E&M TIE TRUNK
09: TN767  E     DS1 INTERFACE
10: TN799  DP    CONTROL-LAN

  '#' indicates circuit pack conflict.
```

Return to Task List

Log onto the TN802B Interface Server

Return to Task List

NOTE:
Use the attached keyboard, mouse, and monitor for the following administration.

To log on remotely through pcANYWHERE:

1 Dial in to the server through pcANYWHERE using the dialup number supplied.

WARNING:
When connected remotely via pcANYWHERE, use only the pcANYWHERE Restart Host Computer button on the toolbar to restart Windows NT.

2 Click on the pcANYWHERE Remote Host Computer button on the toolbar.

To log on locally using the monitor, keyboard, and mouse:

1 Press **Ctrl**, **Alt** and **Del** simultaneously.

To complete the logon steps:

1. Type **administrator** in the `User Name` field.
2. Type **iptrunk** in the `Password` field and click **OK**.
3. After logging on for the first time, change the administrator password and, if desired, the user name, to ensure security. See your Windows NT server documentation for details.

Return to Task List

Change Mu-Law to A-Law (for systems using A-Law companding only)

Return to Task List

For systems using A-Law companding, an additional procedure is necessary.

On the SAT:

1. Busyout the trunk group associated with the IP trunk by typing **busyout board *UUCSS*** and pressing **Enter**.

In the Windows interface to TN802B:

2. Click on **Control Panel** > **Services**.
3. Highlight ***IP Trunk Service***, then click on **Stop**.
4. In the lower left-hand corner, right-click **Start** > **Explore**.
5. Go to the c: drive and click on the **its** folder, then the **bin** folder.
6. Double-click on the **its.ini** file to open it in Notepad.
7. Under the ***[MediaLib]*** section, go to `COMPANDING=MLAW`. Change `MLAW` to `ALAW`.
8. Click on **File > Save** to save the file.
9. Click on **File** > **Exit** to exit Notepad.
10. Click on **Control Panel** > **Services**.
11. Highlight ***IP Trunk Service***, then click on **Start**.

    NOTE:
    Do not select **Startup**.

After service has started, go to the SAT.

12. Release the trunk group associated with the IP trunk by typing **release board *UUCSS*** and pressing **Enter**.

Return to Task List

Assign Server and Domain Names

Return to Task List

The Windows NT server identifies servers using a server name plus a domain name that locates the named server in a particular part of the network. The TN802B IP Interface is shipped with generic server and domain names. Assign replacement names that are meaningful within your network.

1. Click on **My Computer** > **Control Panel** > **Network**.
2. Select the ***Identification*** tab, then click **Change**.
3. Type the new server name in the `Computer Name` field.
4. Type the new domain name in the `Domain` field and click **OK** > **OK** > **Close**.
5. When prompted to reboot the computer, select one of the following options:
   - **No** if you have not assigned IP addresses; then go to Assign an IP Address on page 636
   - **Yes** if you have assigned IP addresses

Return to Task List

Assign an IP Address

Return to Task List

1. Click on **My Computer** > **Control Panel** > **Network**.
2. Click the ***Protocols*** tab.
3. Select ***TCP/IP Protocol*** from the list.
4. Click the **Properties** option in the ***Network*** window.
5. On the Figure 252, TCP/IP Properties Window - IP Address, Adapter [1], on page 637, verify that the ***Adapter*** drop down menu lists **2 DEC Ethernet** adapters.

   CAUTION:
   Do not change any settings on the adapter labeled [**1**] for any reason.

6. On the Figure 253, TCP/IP Properties Window - IP Address, Adapter [2], on page 638, select the **DEC Ethernet** adapter labeled [**2**].
7. Type a valid IP address for the IP Interface server in the `IP Address:` field.
8. Type the appropriate subnet mask in the `Subnet Mask:` field.

Figure 252: TCP/IP Properties Window - IP Address, Adapter [1]

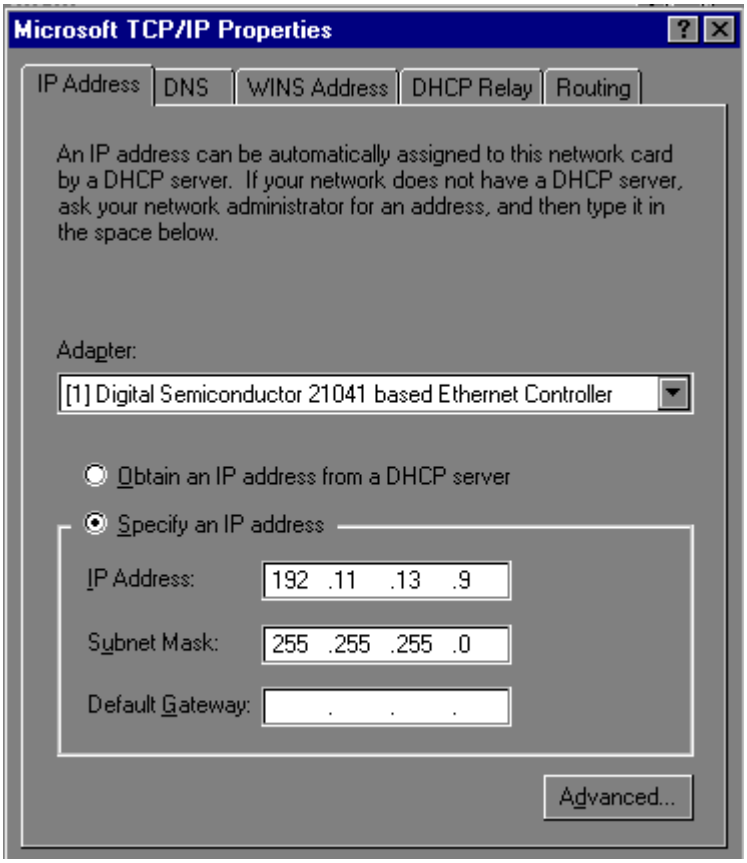
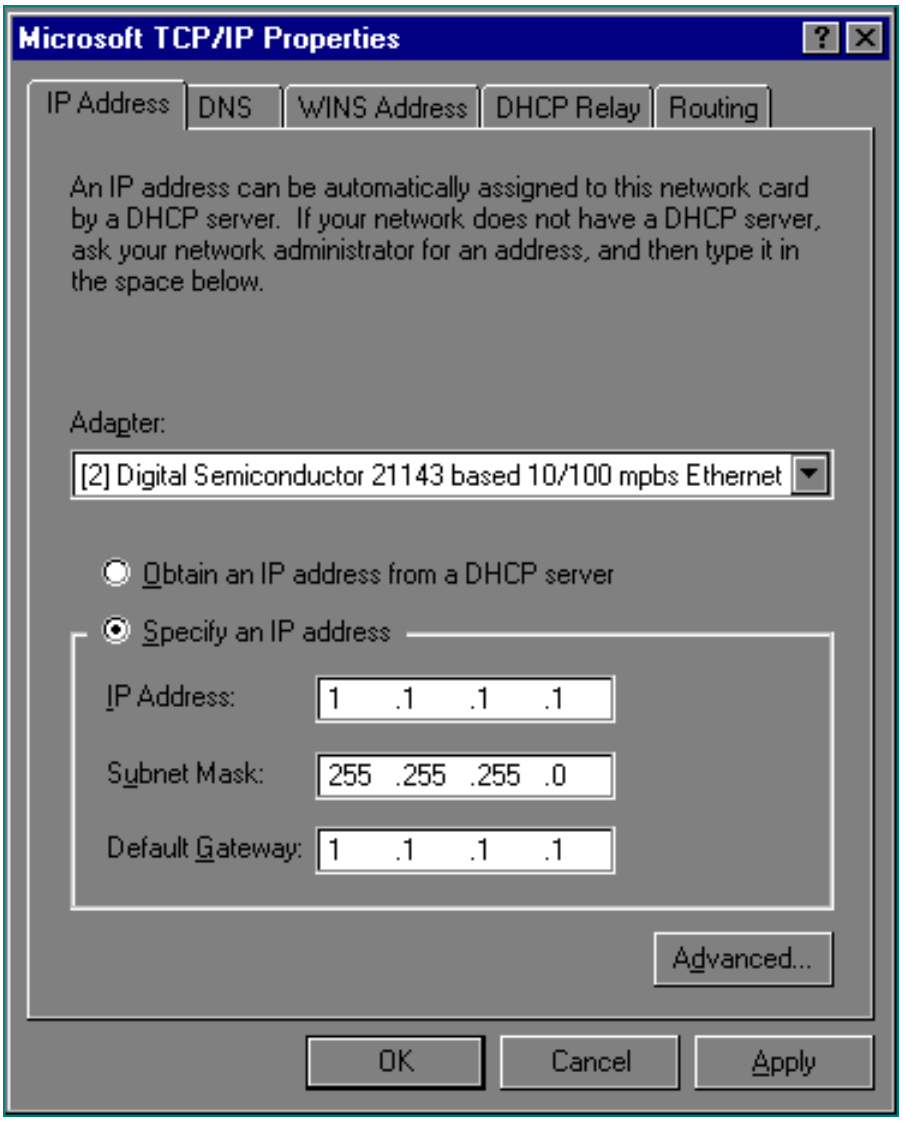


Figure 253: TCP/IP Properties Window - IP Address, Adapter [2]



Return to Task List

Assign Default Gateway

Return to Task List

NOTE:
Not all networks require these steps. Check with the local network administrator to determine which are required.

1 If you use gateways, type the IP address of the default gateway for the IP Interface server in the `Default Gateway:` field.

2 On the Figure 254, TCP/IP Properties Window - DNS, on page 640, click on the ***DNS*** tab and verify that the domain DNS server is correct.

3 Type domain name in the `Domain` field.

4 If using DNS, click **Add** under the `DNS Service Search Order` field and type its IP address.

5 On the Figure 255, TCP/IP Properties Window - WINS Address, on page 641, click on the ***WINS Address*** tab.

NOTE:
Make sure the `[2] DEC` shows in the `Adapter` field.

6 If WINS server is available, type its IP address in the `Primary WINS Server` field.

7 If DNS is available, select `Enable DNS for Windows Resolution`.

8 If the network uses an imported LMHOSTS file, select `Enable LMHOSTS Lookup` and `Import LMHOSTS` and click **OK**.

9 If the following dialog box opens, click **Yes**.

```
At least one of the adapter cards has an empty primary WINS address. Do
you want to continue?
```

10 Click the ***Bindings*** tab to effect the changes.

`NetBIOS Interface`, `Server`, and `Workstation` should now be enabled. If any are disabled (a red circle with a line through it), review the previous network-configuration steps for omissions or errors.

11 Click **Close**.

WARNING:
When connected remotely via pcANYWHERE, use only the pcANYWHERE Restart Host Computer button on the toolbar to restart Windows NT.

12 Restart the computer.

If administered remotely through pcANYWHERE, click on the pcANYWHERE **Restart Host Computer** button on the toolbar to restart the computer.

or if administered locally on a monitor, keyboard, and mouse:

Click **Yes** in the dialog box to restart the computer.

Figure 254: TCP/IP Properties Window - DNS

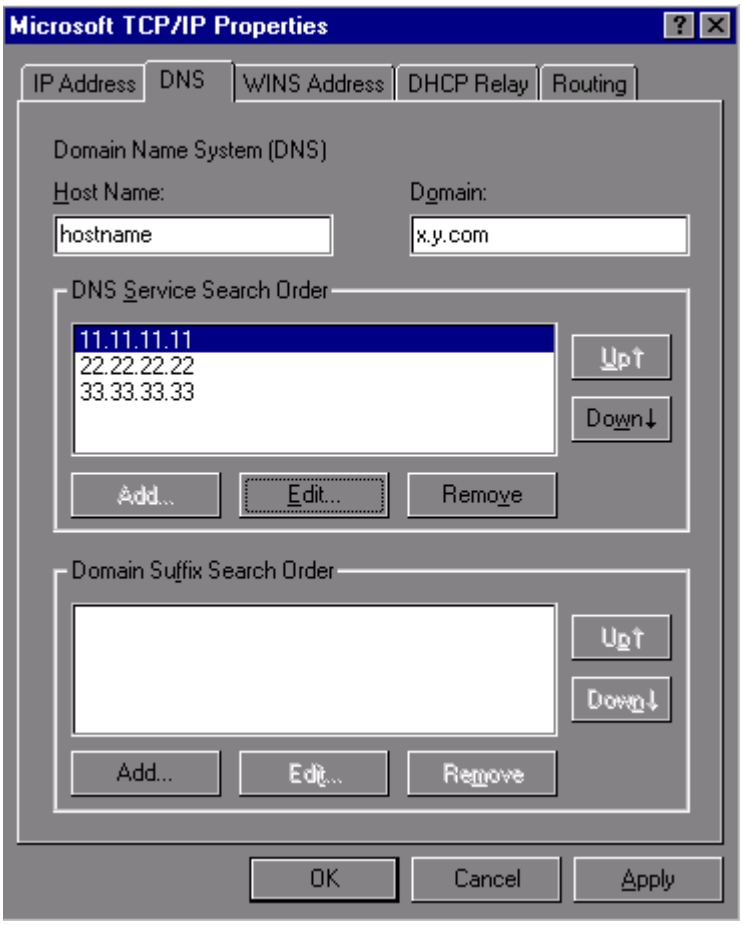
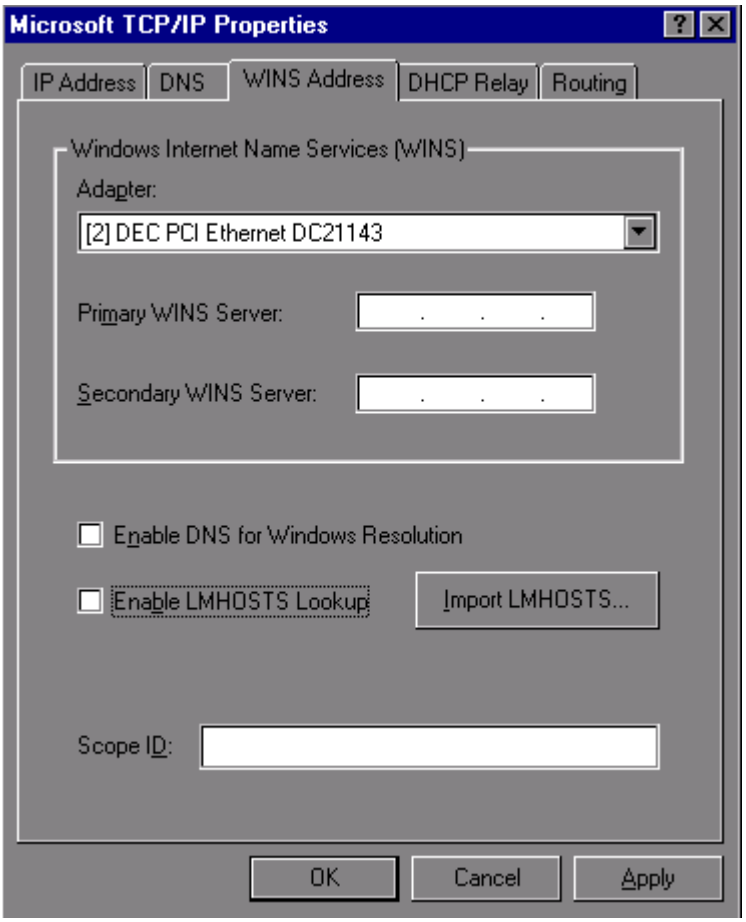


Figure 255: TCP/IP Properties Window - WINS Address



Return to Task List

Check Network Services

Return to Task List

When the server restarts, make sure that the required network services have started correctly. If you see an error dialog box, then the network services did not start correctly. Also, check the NT Event Log.

1 Click on **My Computer > Control Panel > Network > Services.** Make sure that the following services are listed:

- `Computer Browser`
- `Microsoft Internet Information Server 2.0`
- `NetBIOS Interface`
- `RPC Configuration`
- `Server`
- `Workstation`

2 Click the ***Protocols*** tab, and examine the `Network Protocols`. `TCP/IP` protocol should be the only one listed.

3 Click **OK**.

Return to Task List

Test the External Connection to the LAN

Return to Task List

To test the external IP connections, ping the IP Interface server and ping a known computer connected to your network.

1 Click **Start > Programs > Command Prompt**.

2 Type **ping *nnn.nnn.nnn.nnn*** (which is your IP address).

— If everything is configured correctly, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms TTL=###
```

— If no response, verify the IP-address information and check the connectivity, including the cabling.

3 At the command prompt, type **ping *nnn.nnn.nnn.nnn*** (which is the IP address of your gateway).

— If everything is configured correctly, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms TTL=###
```

— If no response, verify the IP address information and check the connectivity, including the cabling.

— If all else fails, click on **Start > Settings > Control Panel > Network**. Select the ***Adapters*** tab and highlight the `[2] DEC adapter`.

— Click **Properties > Change**.

— From the `Duplex Mode` drop down menu, select a setting that matches the switch/hub that the TN802B connects to. For example, 10BaseT Full Duplex or 10BaseT No Link Test.

4 At the command prompt, type **ping *nnn.nnn.nnn.nnn*** (which is the IP address of another external computer beyond the gateway).

— If you have connectivity, the system responds with the following message:

```
Reply from nnn.nnn.nnn.nnn: bytes=32 time<##ms TTL=###
```

— If no response, verify the IP address information and check the connectivity, including the cabling. Consult your IP network administrator.

5 Type **exit** and press **Enter**.

Return to Task List

Test the IP Interface Onboard LAN Connections

Return to Task List

To test the onboard LAN connections, ping the IP Interface server and the processor on the TN802B IP Interface.

1 Click **Start > Programs > Command Prompt**.

2 Type **ping *192.11.13.9*** (which is the IP address of the internal IP Interface server).

— If everything is configured correctly, the system responds with the following message:

```
Reply from 192.11.13.9: bytes=32 time<##ms TTL=###
```

— If no response, verify the IP address information and check the connectivity, including the cabling.

3 At the command prompt, type **ping *192.11.13.8*** (which is the IP address of the internal processor).

— If you have connectivity, the system responds with the following message:

```
Reply from 192.11.13.8: bytes=32 time<##ms TTL=###
```

— If no response, verify the IP settings for `Adapter [1]`.

4 Type **exit** and press **Enter**.

The TN802B IP Interface is now installed in the DEFINITY carrier and connected to the IP network. You can now use the Configuration Manager software (preinstalled on the TN802B hard disk) and Avaya Media Gateway switch administration to administer connections to other IP Trunk and ITS-E equipment.

Return to Task List

Upgrading a TN802 V3 (or later) to a TN802B (MedPro Mode)

Return to Task List

This section includes general information on adding the TN802/TN802B in MedPro mode and the Task list: Upgrade a TN802 to a TN802B on page 644.

If you have a TN802 V3 (or later) IP Interface, you must either replace it with a TN802B circuit pack or upgrade the existing TN802 V3 (or later) circuit pack to operate in MedPro mode. Also, to operate in the MedPro mode, the Avaya Media Gateway switch must be R10 or later.

NOTE:
The TN802 IP Interface must be V3 or later to upgrade to TN802B.

To upgrade the TN802 to a TN802B, you need the following hardware:

- Monitor, keyboard, and mouse to access the IP Interface's Windows NT environment or pcANYWHERE software.
- 10-Mbyte SanDisk PCMCIA flashcard loaded with the MedPro NT Application Install Wizard
- TN802B label

The upgrade adds or modifies the following directories or files on your computer's hard drive:

c:\dolan*

c:\mapd\dnld\medpro.img

c:\mapd\dnld\tmp.img

Task list: Upgrade a TN802 to a TN802B

Perform these tasks in order:

1. Connect the Monitor, Keyboard, and Mouse on page 644
2. Upgrade IP trunks (R7) to H.323 trunks on page 645
3. Upgrade to TN802B (R10) on page 647
4. Verify Circuit Packs on page 648

Connect the Monitor, Keyboard, and Mouse

Return to Task List

1. Attach a VGA monitor to the VGA connector of the TN802 IP Interface external cable assembly.
2. Attach the keyboard to the KEYBOARD connector of the external cable assembly.
3. Attach the mouse to the MOUSE connector of the external cable assembly.
4. Plug the monitor into an AC power receptacle and turn it on.
5. If upgrading locally, reboot Windows NT by pressing the recessed reset button on the faceplate (see Figure 256, TN802B IP Interface faceplate, on page 645) of the TN802B IP Interface until the LCD shows a flashing `MSHUT *`. When the flashing stops and the asterisk disappears (about 2 min), it is safe to remove the circuit pack.
6. After the TN802B is shut down, unlatch and pull the circuit pack out about 2 in. (5 cm) then re-insert it to restart the system.

Figure 256: TN802B IP Interface faceplate

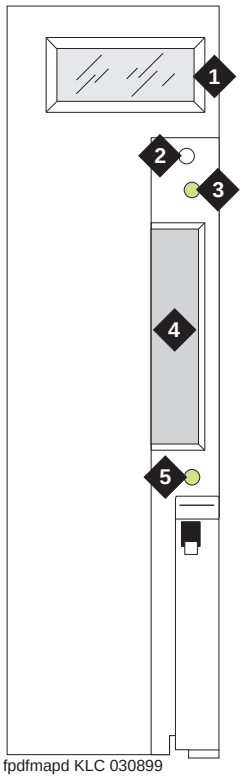


Figure notes

1	LCD display	**4**	PCMCIA card slot
2	Reset button (recessed)	**5**	Yellow PCMCIA disk-in-use LED
3	Red board status LED		

Return to Task List

Upgrade IP trunks (R7) to H.323 trunks

Return to Task List

If there are existing IP trunk connections that you want to upgrade to H.323 trunk connections, do the following steps. Otherwise, go to Upgrade to TN802B (R10) on page 647

To upgrade an existing IP trunk (R7) to an H.323 trunk (R10) requires first getting IP information from the existing TN802 before upgrading the TN802 to TN802B.

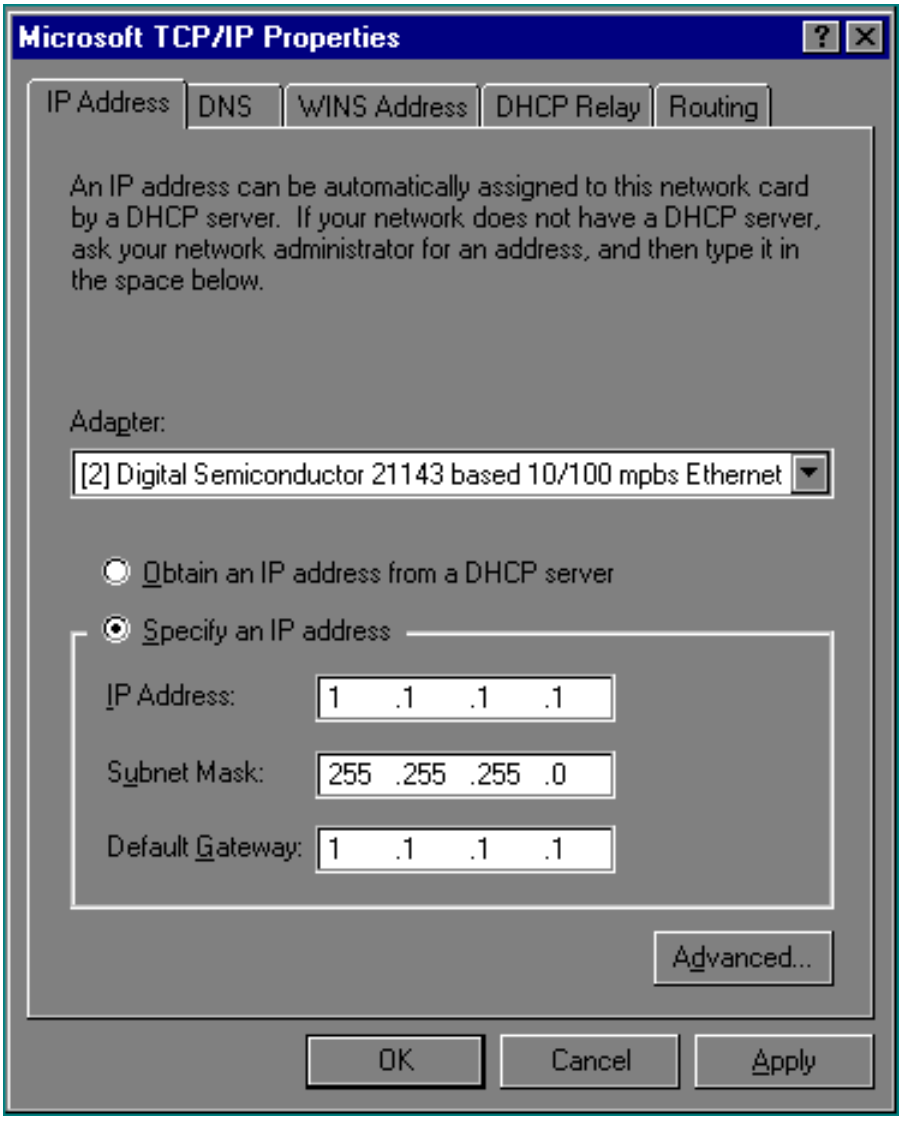
1. Click on **My Computer > Control Panel > Network**.
2. Click the ***Protocols*** tab.
3. Select `TCP/IP Protocol` from the list.

4 Click the `Properties` option in the ***Network*** window**.** Write down the IP address, subnet address, and gateway address shown for `adaptor [2]` For an example, see Figure 257, TCP/IP Properties Window - IP Address, Adapter [2], on page 646.

NOTE:
Do not use the addresses for `adapter [1]`.

5 When done, click **OK**, **OK**.

Figure 257: TCP/IP Properties Window - IP Address, Adapter [2]



Return to Task List

Upgrade to TN802B (R10)

Return to Task List

NOTE:
The upgrade takes about 20 minutes

1. Insert the flash disk into the right most slot on the TN802B IP Interface. On the terminal, a dialog box assigns a drive letter; the default is (D:).
2. Right click on Start > Explore to open the ***Windows NT Explore*** pane and select the drive letter indicated in the previous step.
3. Double-click on `Medpro` and select the `Setup` icon.
4. Follow the `Install Shield` procedure to transfer all the necessary files to the TN802 IP Interface.
5. In the ***Finish*** dialog box, select `I will restart later`; **DO NOT SELECT** `Restart computer`.

   This would be a good time to read the **Readme.txt** file.
6. Click on **Start** > **Settings** > **Control Panel** > **Services**.
7. Select `IP Trunk` and click on `Startup`. **DO NOT CLICK ON** `Start`.
8. Under `Startup Type`, select `Disabled` and click **OK** to disable IP Trunk mode.

   NOTE:
   If IP trunk and MedPro services are both set to automatic, the TN802B defaults to IP Trunk and MedPro features cannot be used.
9. Select `MedPro` and click on `Startup`. **DO NOT CLICK ON** `Start`.
10. Under `Startup Type`, select `Automatic` and click **OK** to enable MedPro mode.

    WARNING:
    When connected remotely via pcANYWHERE, only use the pcANYWHERE **Restart Host Computer** button on the toolbar to restart Windows NT.
11. Click **Start** > **Shut Down** and select `Restart the computer?`

    or on the TN802 circuit pack:

    Press the recessed reset button on the faceplate (see Figure 249, TN802B IP Interface faceplate, on page 632) of the TN802B IP Interface until the LCD shows a flashing `MSHUT *`. When the flashing stops and the asterisk disappears (about 2 min), reseat the circuit pack to restart the system.

    or on the SAT:

    f. Type **busyout board *UUCSS*** and press **Enter**.
    g. Type **reset board *UUCSS*** and press **Enter**.
    h. Type **release board *UUCSS*** and press **Enter**.

    Once the system is completely initialized, the LCD reads `MEDPRO *`.
12. Affix the new TN802B label to the circuit pack.

13 Disconnect the monitor, keyboard, and mouse.

Figure 258: TN802B IP Interface faceplate

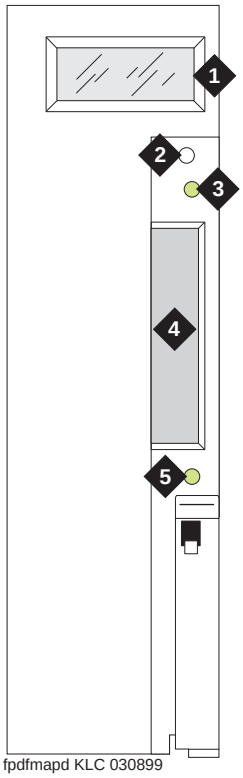


Figure notes

1	LCD display	**4**	PCMCIA card slot
2	Reset button (recessed)	**5**	Yellow PCMCIA disk-in-use LED
3	Red board status LED		

Return to Task List

Verify Circuit Packs

Return to Task List

1 Type **change circuit-pack** and press **Enter**.

2 On the Figure 259, Circuit Packs - Screen 1, on page 649, check the `Code` column to see if it says `DSMAPD` or `MEDPRO`.

3 To correct it, go to the entry just above the TN802B that says `DSMAPD`.

4 Type **MEDPRO**, and press **Enter**. Changing the one entry automatically changes the entry above it. If it is in IP Trunk mode, you get the following error message:

```
MedPro type requires TN802 with application. Type MEDPRO on circuit-packs form.
```

5 To complete the administration, refer to the *Administration for Network Connectivity for Avaya™ Communication Manager (555-233-504)* book.

Figure 259: Circuit Packs - Screen 1

```
change circuit-packs                                        Page   1 of   5
                              CIRCUIT PACKS

        Cabinet: 1                              Carrier: A
                                             Carrier Type: processor

 Slot Code  Sf Mode   Name                Slot Code  Sf Mode   Name
                                           11:  MEDPRO        RESERVED-IP
01: TN754  C     DIGITAL LINE             12:  MEDPRO        RESERVED-IP
02: TN758        POOLED MODEM             13:  TN802  B      MAPD BOARD
03: TN2144       ANALOG LINE              14:
04: TN746  B     ANALOG LINE              15:
05                                        16:
06: TN771  DP     MAINTENANCE/TEST
07: TN464  GP    DS1 INTERFACE
08: TN2140 B     E&M TIE TRUNK
09: TN767  E     DS1 INTERFACE
10: TN799  DP    CONTROL-LAN

  '#' indicates circuit pack conflict.
```

Return to Task List

Add Channel Service Units

A channel service unit (CSU) can be either an integrated CSU (ICSU) module or a 3150/3170 CSU module. See the relevant topics:

- About Installing an ICSU Module on page 651
- Installing the 120A3A CSU on page 652
- Installing a 3150/3170 Channel Service Unit on page 654

About Installing an ICSU Module

The integrated channel service unit (ICSU) is a combination of a 120A3A CSU module integrated with a DS1 circuit pack. A 700A DS1 loopback jack must be installed with this device.

See Installing the 120A3A CSU on page 652 for step-by-step installation procedures for the 120A3A CSU.

> **NOTE:**
> Re-manufactured/repaired ICSU units and any manufactured after May 7, 2002 are marked as “120A3A.”

Check for required components

The ICSU package contains:

- 120A3A CSU module
- 700A DS1 loopback jack
- Cable H600-383

  4-pair modular cord
  Group 2, 50-foot (15.2 m) cable (standard)

  > **NOTE:**
  > If using cabling other than the H600-383, see H700-383-Equivalent Cable Guidelines on page 652.

- Cord DW8A-DE

  4-pair modular cord to alarm contacts

- DS1 circuit pack

  The basic ICSU requires a TN464E or TN767D or later. The enhanced integrated channel service unit can also be used with the TN2464BP or TN2313/AP.

H700-383-Equivalent Cable Guidelines

If using cabling other than the H700-383 provided with the 120A3A, observe the following guidelines:

- Use 24-gauge wire that provides individually shielded, twisted pairs for transmit and receive signals. Use the cable between the network interface and the 120A3A. Ground the shields of this cable only at the 120A3A end to avoid ground loops.
- Cabling between the network interface and 120A3A can have no bridge taps.
- If using standard house riser cable for connections between the network interface and the 120A3A, maintain a 100-pair separation between the receive and transmit twisted pairs.
- If using standard house riser cable for connections between the network interface and the 120A3A, allow no more than 2 cross connects to 110-type cross connect blocks.
- Never use quad cable (untwisted two pair telephone cable) in a DS1 line.
- Avoid mixing wires of different gauges in a DS1 line.

Installing the 120A3A CSU

Figure 260, 120A3A Channel Service Unit Module, on page 653 shows the connection points.

NOTE:
Re-manufactured/repaired ICSU units and any manufactured after May 7, 2002 are marked as “120A3A.”

CAUTION:
Do not plug the 120A3A into any circuit packs other than a TN464F or TN767E (or later), or TN2464BP or TN2313/AP. Do not connect the 120A3A to any interface other than 700A DS1 loopback jack.

Be sure the DS1 circuit pack is set for 24-channel operation (1.544 Mbps). The 120A3A does not operate with the 32-channel interface. A switch on the circuit pack or administration sets this option.

1. *Always wear an anti-static wrist strap when installing a 120A3A module. Do not touch the external alarm cable when it is connected to the 120A3A. Static discharge can damage connector terminals and relays.*
2. Unplug the DS1 circuit pack from its slot.
3. Install a 4C retainer in the 50-pin plug associated with the DS1 circuit pack slot.
4. Plug the 25-pair connector on the 120A3A directly into the plug associated with the DS1 circuit pack slot.
5. Secure the 4C retainer around the 120A3A.
6. Attach the supplied H700-383 cable to the 120A3A and to the 700A loopback jack.

   This cable is directional. To determine the end that connects to the 120A3A, perform a continuity test between pins 3 and 7. The end with this continuity is the 120A3A end. The shield is grounded only at the 120A3A end.

   Use the cable provided. If using cabling other than that provided with the 120A3A, see H700-383-Equivalent Cable Guidelines on page 652.

7. If using external alarm equipment, attach the supplied DW8 cable to the 120A3A and the external equipment. The maximum length of this cable depends on the alarm equipment.
8. If a TN464F is used, make sure the circuit pack is set for 24-channel operation. Set the switch on the circuit pack.
9. From the DS1 circuit-pack form of the system administration console, set the line compensation field to 0-133 feet (40.6 m).
10. Reset the 120A3A by reseating the DS1 circuit pack.

    When you reinsert the DS1 circuit pack after installing a 120A3A CSU the 120A3A resets. The DS1 circuit pack initializes and tests the 120A3A. When initialization and testing is complete, the green LED goes off. If the RED indicator is OFF after the test, the ICSU is working.
11. If the circuits do not pass the self test, troubleshoot the 120A3A as instructed in *Integrated CSU Module Installation and Operation (555-230-193)*.

H700-383 Cable Pin Assignments on page 654 provides the H700-383 cable pinouts. H700-383 Cable Lengths by Group Number on page 654 provides the cable lengths for each cable group number.

Figure 260: 120A3A Channel Service Unit Module

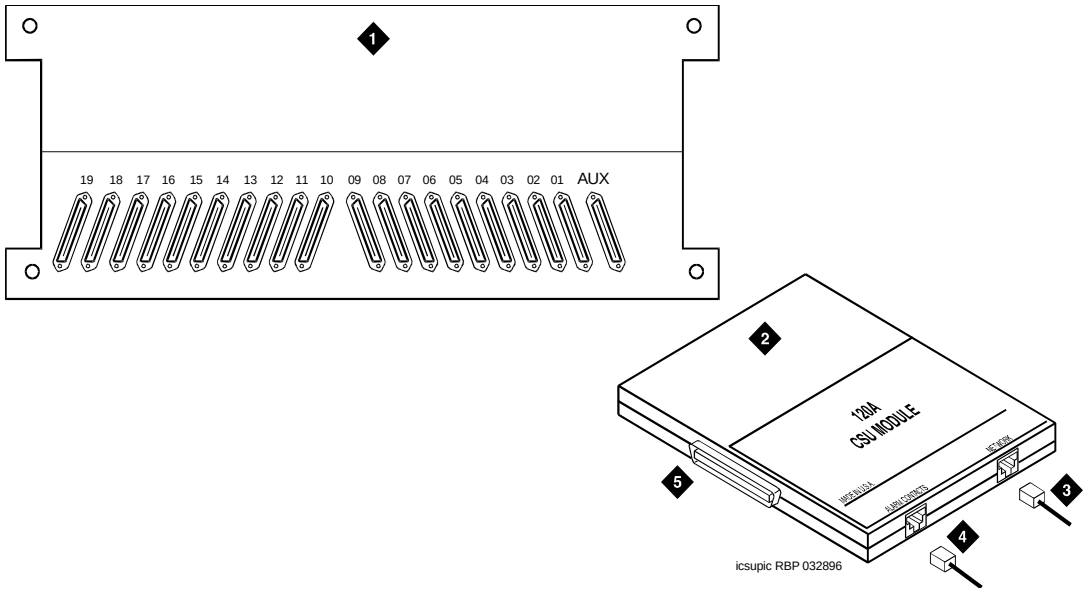


Figure notes

1. Rear of carrier containing DS1 circuit pack
2. 120A3A CSU
3. 4-pair cord to network interface (H700-383)
4. DW8A-DE 4-pair cord to alarm contacts (optional)
5. To 25-pair connector on rear of carrier containing DS1 circuit pack

H700-383 Cable Pin Assignments				
Pin	**Color**	**Channel Service Unit Designation**	**Network Designation**	**Function**
1	BK	Line in 0	R1	RCV
2	Y	Line in 1	T1	
3	Shield			
4	R	Line out 0	R	XMT
5	G	Line out 1	T	
7	Shield			
7				Not assigned
8				Not assigned

H700-383 Cable Lengths by Group Number			
Group	**Length**	**Group**	**Length**
1	25 feet (7.7 m)	5	125 feet (38.1 m)
2	50 feet (15.2 m)	7	200 feet (71 m)
3	75 feet (22.9 m)	7	400 feet (122 m)
4	100 feet (30.5 m)	8	750 feet (198.1 m)

Installing a 3150/3170 Channel Service Unit

Figure 261, 3150/3170 Channel Service Unit Connections, on page 655 shows a typical connection from the H600-348quad cable to the CSU, through the H600-307 network cable, and to the network interface through the smart jacks. The quad cable provides up to four connections using a 15-pin connector that plugs into the DTE jack on each CSU. The H600-348 quad cable may require an adapter cable.

1. Install the CSU as shown in Figure 261, 3150/3170 Channel Service Unit Connections, on page 655.

   For some installations (such as a DS1 converter), use a Y-cable to connect the DEFINITY System to the quad cable. Figure 262, DS1 Converter Connections Using Double-Headed cable, on page 656 shows the Y Cable Lengths on page 656.

2. Label all cables.

Figure 261: 3150/3170 Channel Service Unit Connections

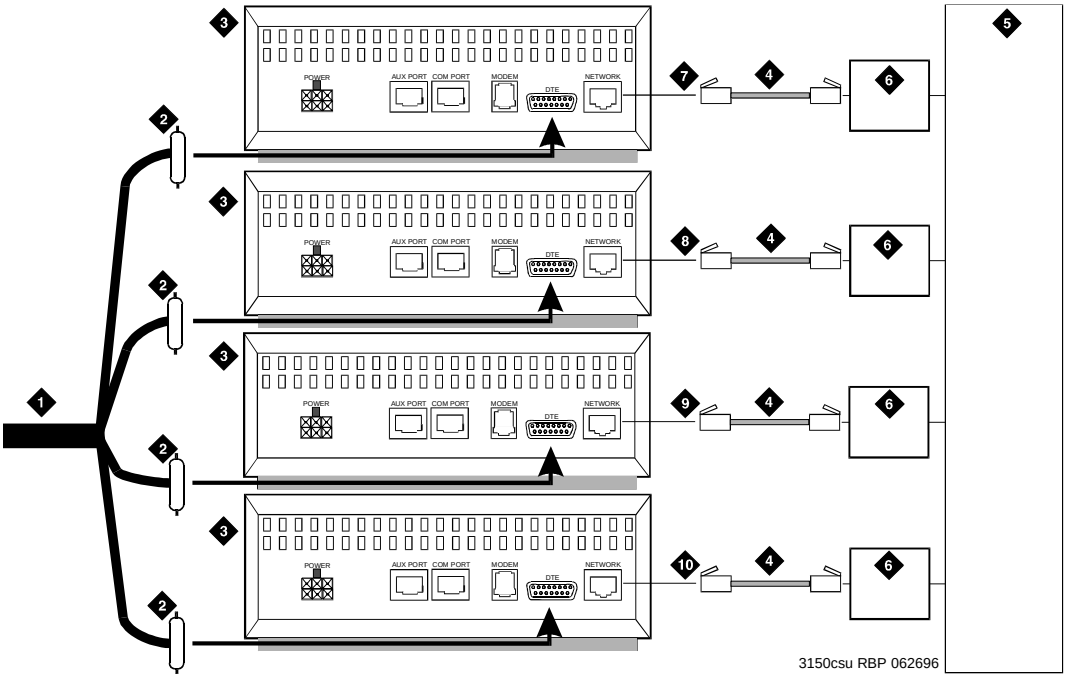


Figure notes

1	H700-348 quad cable	**6**	Smart jack (if provided)
2	15-pin male “D” connectors (to DTE jacks on CSU)	**7**	Cable A
3	Channel service unit (CSU)	**8**	Cable B
4	H700-307 cable (RJ-48C to RJ-48C)	**9**	Cable C
5	Network interface	**10**	Cable D

Figure 262: DS1 Converter Connections Using Double-Headed cable

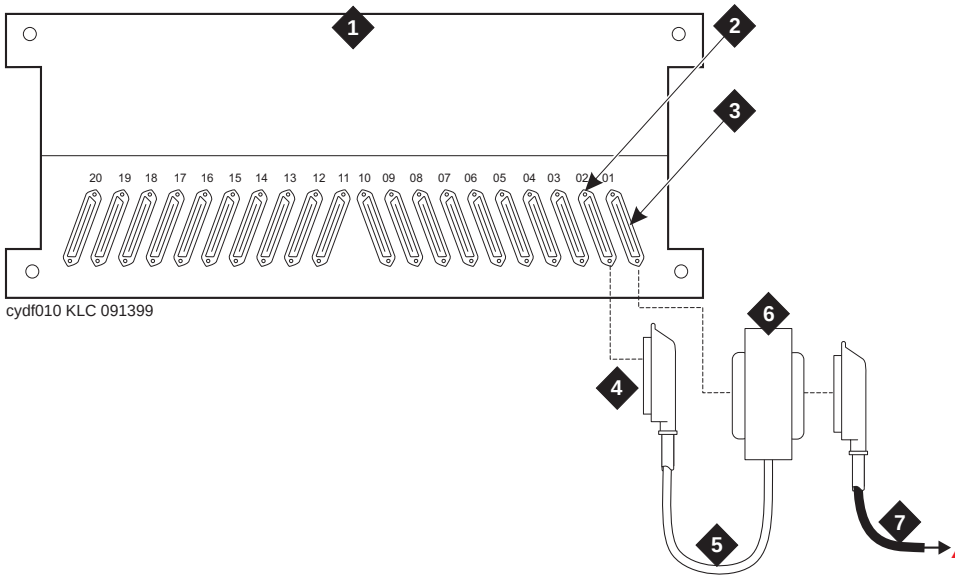


Figure notes

1 Port carrier

2 Backplane connector for TN570D EI

3 Backplane connector for DS1 Converter

4 50-pair female connector to EI connector

5 14-in. (35.6 cm) Y cable

6 50-pin male/50-pin female double-headed connector

7 H600-348 Quad Cable (with 50-pin male connector), which connects the Y cable to the 4 CSUs.

Y Cable Lengths	
Length	**Description**
14 in. (35.6 cm)	TN1654 circuit pack to adjacent EI circuit pack or TN573B SNI circuit pack in same carrier
70 in. (178 cm)	TN1654 circuit pack to EI circuit pack or SNI circuit pack in another carrier
14 in. (35.6 cm)	TN1654 circuit pack to fiber optic transceiver (DC-powered cabinets only). This cable is for intercabinet cabling only.

Install and Administer Trunks

These links provide installation and wiring examples for analog and digital trunks. These are examples only and actual wiring procedures may vary at each site. For IP trunks, see Add IP Solutions on page 601.

Task List: Add Trunks

- Install CAMA/E911 Trunk on page 657, with a separate task list
- Install ISDN—PRI Trunks on page 666, with a separate task list
- Adding CO, FX, WATS, and PCOL Trunks on page 669
- Adding DID Trunks on page 669
- Adding Tie Trunks on page 669
- Add DS1 Tie and OPS Trunks on page 670, with a separate task list
- Adding TTC Japanese 2-Mbit Trunks on page 677
- Add TN1654 DS1 Converter (r only) on page 677, with a separate task list

Install CAMA/E911 Trunk

Return to Task List

The CAMA/E911 feature requires the TN429C/D CO trunk circuit packs (or later suffix).

Port Networks (PNs) that include TN429C circuit packs used to interface to CAMA trunks require some CPTR resources to be either TN744E V2 or TN2182B circuit packs, since TTR/CPTR or General Purpose Tone Receiver (GPTR) resources are selected from the pool available in the PN when needed.

Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs on page 658 denotes which of these circuit packs are compatible and which are not affected.

Task List: Installing CAMA/E911 Trunks

1. Installing the Circuit Pack on page 659
2. Adding the Trunks on page 660
3. Changing the Feature Access Code on page 661
4. Changing the ARS Digit Analysis on page 662
5. Changing the Route Patterns on page 663
6. Changing the CAMA Numbering and Class of Restriction on page 665

Return to Task List

Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs				
Circuit Pack	**Description**	**Compatibility with CAMA Trunks in Same PN**	**Application**	**Notes**
TN744 TN744B TN744C TN744DV1	Call Classifier - Detector	Not Compatible	Used globally	8 GPTR/call classification ports. Used for call classification only initially prior to G3V3.3. Becomes a GPTR resource in G3V3.3 and later. Use TN744DV2 if CAMA feature is to be supported.
TN744DV2 TN744E	Call Classifier - Detector	Compatible	Used globally	8 GPTR/call classification ports. Required in PN supporting CAMA trunks if GPTR resources are required in excess of those on the TN2182BV2. Also required (if the TN768 or TN780 tone clocks are used) in place of TN748, TN744 and TN744/B/C.
TN748C TN748D	Touch Tone Detector / Call Progress Tone Detector	Not Compatible	Used in the U.S. and a few other countries	4 TTR and 2 CPTR ports. Used in combination with the TN756, TN768, or TN780 in many countries initially in versions prior to G3V3.3. Use TN744DV2 or TN744E if CAMA feature is to be supported.

Compatibility Tone Clock, TTR/CPTR, and GPTR Circuit Packs *Continued*				
Circuit Pack	**Description**	**Compatibility with CAMA Trunks in Same PN**	**Application**	**Notes**
TN756	Tone Detector Generator	Not Compatible	Used in the U.S. and a few other countries	Tone detector/tone clock with 4 TTR and 2 CPTR ports. Used in combination with the TN748 in many countries initially in versions prior to G3V3.3. Used only with SCC/ESCC cabinets with no EPNs, no duplication, no ASAI. Use TN2182BV2 if CAMA feature is to be supported.
TN768	Tone Clock	Not Affected	Used in the U.S. and many other countries	Tone clock only, no TTR/CPTR functionality. Typically found with TN748 circuit packs in the U.S. Use TN744DV2 or TN744E instead of TN748 with CAMA.
TN780	Tone Clock	Not Affected	Used in the U.S. (infrequently) for Stratum 3 clocking and used in many other countries	Tone clock only, no TTR/CPTR functionality. Typically found with TN748 circuit packs in the U.S. Use TN744DV2 or TN744E instead of TN748 with CAMA.
TN2182 TN2182B	Tone Detector/ Tone Generator/ Call Classifier	Compatible	Used globally	Tone clock plus 8 GPTR/call classification ports. Use TN2182B if CAMA feature is to be supported.

Installing the Circuit Pack

Return to Task List

1. Insert the TN429C or later CO trunk circuit pack in any available port slot. Be sure the TN744D Call Classifier - Detector circuit pack is Vintage 2 or later.
2. Wire the CAMA trunk to the MDF (the trunk from the CO). Refer to the pinouts in Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) on page 771 for 2- and 4-wire analog and digital lines, 8, 16, and 24 ports; hybrid line; MET line; AUX and CO trunk or Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) on page 774 for 3-wire CO trunk, DID/DIOD trunk, tie and DS1 tie trunk, 2- and 4-wire ISDN-BRI lines, packet data line, and 4 port DIOD.

Adding the Trunks

Return to Task List

1. At the prompt, type **add trunk *next*** and press **Enter**.
2. On the ***Trunk Group*** screen Figure 263, CAMA Trunk Group form (page 1), on page 660, in the `Group Type:` field, enter **cama**.
3. In the `Group Name:` field, enter the desired name.
4. In the `TAC:` field, enter the desired trunk access code.
5. In the `Outgoing Display:` field, enter **y**.
6. In the `CESID I Digits Sent:` field, enter the number directed by the Central Office (CO) or the Public Safety Answering Point (PSAP).
7. Scroll to Figure 264, Administrable Timers form (page 3), on page 661.
8. On the ***Administrable Timers*** screen (page 3), you may need to adjust these fields according to your CO. Scroll to Figure 265, Group Member Assignments form (page 5), on page 661.
9. On the ***Group Member Assignments*** screen, in the `Port` field, add the trunk members and press **Enter** when finished.

Figure 263: CAMA Trunk Group form (page 1)

```
                                                                Page 1 of 11

                              TRUNK GROUP

Group Number: 1                   Group Type: cama      CDR Reports: y
  Group Name:  cama Trunk Group - E911  COR: 1     TN: 1       TAC: 701
   Direction: outgoing     Outgoing Display? y CESID I Digits Sent: 0
                             Busy Threshold: 99

ESID I Digits Sent: 0
                             Busy Threshold: 99

TRUNK PARAMETERS
         Trunk Type: wink-start
 Outgoing Dial Type: r1mf
  Trunk Termination: rc
```

Figure 264: Administrable Timers form (page 3)

```
                                                              Page 3 of 11

                              TRUNK GROUP

ADMINISTRABLE TIMERS

                                     Outgoing Disconnect (msec): 400
                                 Cama Outgoing Dial Guard (msec): 75
                                     Outgoing Glare Guard (msec): 1000

                                    Cama Wink Start Time (msec): 5000
 Outgoing End of Dial (sec): 1    Outgoing Seizure Response (sec): 4
                                    Disconnect Signal Error (sec): 30
```

Figure 265: Group Member Assignments form (page 5)

```
                                                              Page 5 of 11
                               TRUNK GROUP

                                     Administered Members (min/max):  1/2
GROUP MEMBER ASSIGNMENTS                 Total Administered Members:  2
     Port    Code    Sfx  Name

 1: 01C0401 TN429    D
 2: 01C0402 TN429    D
 3:
 4:
 5:
 6:
 7:
 8:
 9:
 10:
 11:
 12:
 13:
```

Return to Task List

Changing the Feature Access Code

Return to Task List

1. At the prompt, type **change feature-access-code** and press **Enter**.

   The Figure 266, Feature Access Code (FAC) form (page 1), on page 662 appears.

2. In the `Auto Route Selection (ARS) Access Code 1:` field, administer the ARS access code (in the example above, type **9**) and press **Enter** (must match dial plan).

Figure 266: Feature Access Code (FAC) form (page 1)

```
                                                              Page 1 of 5
                              FEATURE ACCESS CODE (FAC)
         Abbreviated Dialing List1 Access Code: ____
         Abbreviated Dialing List2 Access Code: ____
         Abbreviated Dialing List3 Access Code: ____
Abbreviated Dial - Prgm Group List Access Code: ____
                      Announcement Access Code: ____
                       Answer Back Access Code: ____
      Auto Alternate Routing (AAR) Access Code: ____
         Auto Route Selection (ARS) Access Code 1: 9___  Access Code 2:
                 Automatic Callback Activation: ____  Deactivation:
 Call Forwarding Activation Busy/DA: ____  All: ____  Deactivation:
                        Call Park Access Code: ____
                      Call Pickup Access Code: ____
CAS Remote Hold/Answer Hold-Unhold Access Code: ____
                  CDR Account Code Access Code: ____
                               Change Coverage: ____
                  Data Origination Access Code: ____
                      Data Privacy Access Code: ____
              Directed Call Pickup Access Code: ____
     Emergency Access To Attendant Access Code: ____
   Extended Call Fwd Activate Busy D/A: ____  All: ____   Deactivation:
              Facility Test Calls Access Code: ____
                            Flash Access Code: ____
```

Return to Task List

Changing the ARS Digit Analysis

Return to Task List

1. At the prompt, enter **change ars analysis <*9*>** and press **Enter**.

   The Figure 267, ARS Digit Analysis Table, on page 663 appears.

2. In the `Dialed String` field, in the first empty row, enter **11**.
3. In the `Total Mn` field, enter **2**.
4. In the `Total Mx` field, enter **2**.
5. In the `Rte Pat` field, enter the desired Route Pattern (in the example, the route pattern is `11`).

   NOTE:
   For the following step, if you are using the Attendant Crisis Alerting feature, type **alrt** instead of **emer**

6. In `Call Type` field, enter **emer**.
7. On the next empty row, in the `Dialed String` field, type **911**.
8. In the `Total Mn` field, enter **3**.
9. In the `Total Mx` field, enter **3**.

10 In the `Rte Pat` field, type the desired Route Pattern (in the example, the route pattern is `12`).

NOTE:
For the following step, if you are using the Attendant Crisis Alerting feature, type **alrt** instead of **emer**

11 In the `Call Type` field, enter **emer** and press **Enter**.

Figure 267: ARS Digit Analysis Table

```
                         ARS DIGIT ANALYSIS TABLE
                       Partitioned Group Number:  _     Percent Full:    ___


     Dialed      Total  Rte Call Nd  ANI      Dialed      Total  Rte Call Nd ANI
     String      Mn Mx  Pat Type Num  Rq      String      Mn Mx  Pat Type Num Rq
9_________________ 7_ 7_  2__ hnpa ___ n _________________ __ __ ___ ____ ___ _
976_______________ 7_ 7_  den hnpa ___ n _________________ __ __ ___ ____ ___ _
11________________ 2_ 2_  11_ emer ___ n _________________ __ __ ___ ____ ___ _
911_______________ 3_ 3_  12_ emer ___ n _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
__________________ __ __  ___ ____ ___ _ _________________ __ __ ___ ____ ___ _
```

Return to Task List

Changing the Route Patterns

Return to Task List

1 At the prompt, type **change route-pattern *<number>*** (the route pattern to be changed; in the example in Figure 268, Route Pattern form (Page 1, Pattern Number 11), on page 664, the route pattern is `11`) and press **Enter**.

2 On the ***Route Pattern*** screen, in `Grp. No.` field, enter the CAMA trunk group number.

3 In the `FRL` field, enter **0**.

NOTE:
For the following step, if the Central Office (CO) wants KP11ST as the dialed digit string, then leave blank. If the CO wants KP911ST, then insert a **9** in the `Inserted Digits` field.

4 Administer the `Inserted Digits` field if needed and press **Enter**.

5 At the prompt, type **change route-pattern *<number>*** (the route pattern to be changed; in Figure 269, Route Pattern form (Page 1, Pattern Number 12), on page 665, the route pattern is `12`) and press **Enter**.

6 On the ***Route Pattern*** screen, in `Grp. No.` field, type the CAMA trunk group number and press **Enter**.

7 In the **FRL** field, type **0**.

> **NOTE:**
> For the following step, if the Central Office (CO) wants KP911ST as the dialed digit string, then leave blank. If the CO wants KP11ST, then delete one digit.

8 Administer `No. Del Digits` field if needed and press **Enter**.

Figure 268: Route Pattern form (Page 1, Pattern Number 11)

```
                                                                Page 1 of X
                            Pattern Number: 11

   Grp.  FRL NPA Pfx Hop Toll No. Del Inserted                          IXC
   No.           Mrk Lmt List Digits  Digits
1: 1__   0  ___  _  __   __    __    ________________________________ user
2: ___   _  ___  _  __   __    __    ________________________________ user
3: ___   _  ___  _  __   __    __    ________________________________ user
4: ___   _  ___  _  __   __    __    ________________________________ user
5: ___   _  ___  _  __   __    __    ________________________________ user
6: ___   _  ___  _  __   __    __    ________________________________ user

     BCC VALUE  TSC CA-TSC   ITC  BCIE Service/Feature           Numbering LAR
    0 1 2 3 4 W    Request                                       Format
 1: y y y y y n  y none_____ both ept  outwats-bnd____ BAND: ___ _________  none
 2: y y y y y n  n           rest      ________________           _________  next
 3: y y y y y n  n           rest      ________________           _________  rehu
 4: y y y y y n  n           rest      ________________           _________  none
 5: y y y y y n  n           rest      ________________           _________  none
 6: y y y y y n  n           rest      ________________           _________  none
```

Figure 269: Route Pattern form (Page 1, Pattern Number 12)

```
                                                          Page 1 of X
                          Pattern Number: 12

   Grp.  FRL NPA Pfx Hop Toll No. Del Inserted                      IXC
   No.           Mrk Lmt List Digits  Digits
1: 1__   0  ___  _  __   __    1_    ________________________________ user
2: ___   _  ___  _  __   __    __    ________________________________ user
3: ___   _  ___  _  __   __    __    ________________________________ user
4: ___   _  ___  _  __   __    __    ________________________________ user
5: ___   _  ___  _  __   __    __    ________________________________ user
6: ___   _  ___  _  __   __    __    ________________________________ user

    BCC VALUE  TSC CA-TSC   ITC  BCIE Service/Feature          Numbering LAR
    0 1 2 3 4 W    Request                                     Format
1: y y y y y n  y none_____ both ept  outwats-bnd____ BAND: ___ _________  none
2: y y y y y n  n          rest      ________________           _________  next
3: y y y y y n  n          rest      ________________           _________  rehu
4: y y y y y n  n          rest      ________________           _________  none
5: y y y y y n  n          rest      ________________           _________  none
6: y y y y y n  n          rest      ________________           _________  none
```

Return to Task List

Changing the CAMA Numbering and Class of Restriction

Return to Task List

1. At the prompt, type **change cama-numbering** and press **Enter**.

   The Figure 270, CAMA Numbering Format form, on page 666 appears.

2. Enter you own system default in the `System CESID Default:` field, and press **Enter**.

   This is the number outpulsed when the extension code is not found in the CAMA Numbering table.

3. In the `Ext Len`, `Ext Code`, `CESID`, and `Total Length` fields, fill out to your own CAMA numbering plan and press **Enter**. Be sure to cover all extensions.

4. At the prompt, type **change cor <*number*>** (the class of restriction (COR) to be changed) and press **Enter**.

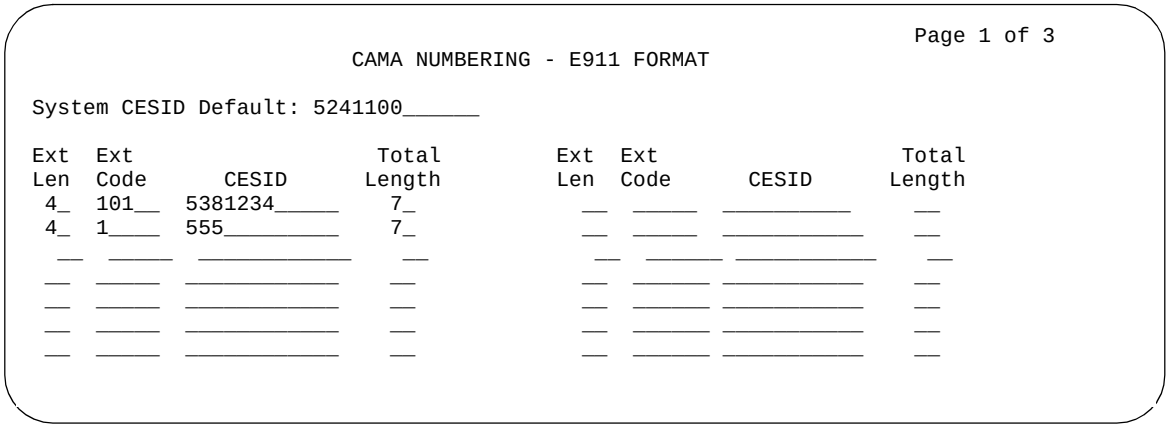
   The Figure 271, Class of Restriction form (page 1), on page 666 appears.

5. Change all CORs that are defined for stations in order to remove any calling party restrictions for 911 calls.

6. Type **none** in the `Calling Party Restriction:` field, and press **Enter**.

7. Type **save translation** and press **Enter**.

Figure 270: CAMA Numbering Format form

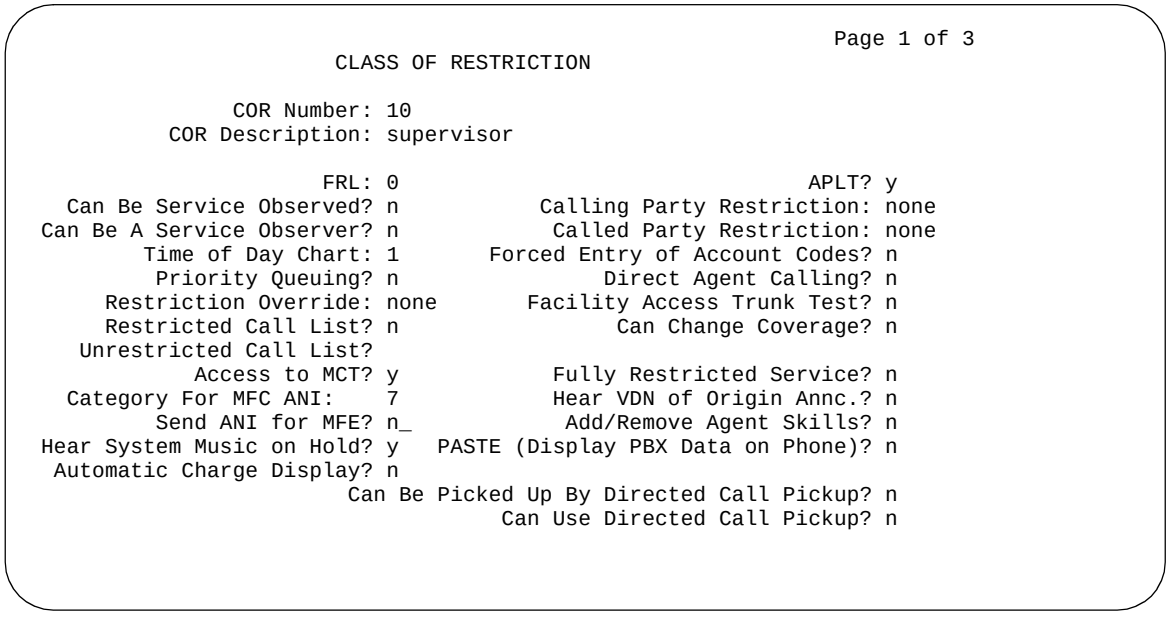


```
                                                              Page 1 of 3
                          CAMA NUMBERING - E911 FORMAT

System CESID Default: 5241100_____

Ext  Ext                   Total        Ext  Ext                   Total
Len  Code      CESID       Length       Len  Code      CESID       Length
 4_  101__  5381234_____    7_            __  _____  __________     __
 4_  1____  555_________    7_            __  _____  __________     __
  __  _____  ___________     __            __  _____ __________     __
 __  _____  ___________     __            __  _____ __________     __
 __  _____  ___________     __            __  _____ __________     __
 __  _____  ___________     __            __  _____ __________     __
 __  _____  ___________     __            __  _____ __________     __
```

Figure 271: Class of Restriction form (page 1)



```
                                                          Page 1 of 3
                        CLASS OF RESTRICTION

                 COR Number: 10
            COR Description: supervisor

                       FRL: 0                              APLT? y
    Can Be Service Observed? n          Calling Party Restriction: none
  Can Be A Service Observer? n           Called Party Restriction: none
          Time of Day Chart: 1       Forced Entry of Account Codes? n
           Priority Queuing? n                Direct Agent Calling? n
       Restriction Override: none       Facility Access Trunk Test? n
       Restricted Call List? n                 Can Change Coverage? n
     Unrestricted Call List?
               Access to MCT? y            Fully Restricted Service? n
    Category For MFC ANI:    7            Hear VDN of Origin Annc.? n
           Send ANI for MFE? n_            Add/Remove Agent Skills? n
  Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
   Automatic Charge Display? n
                          Can Be Picked Up By Directed Call Pickup? n
                                     Can Use Directed Call Pickup? n
```

Return to Task List

Install ISDN—PRI Trunks

Return to Task List

If packet bus support for Avaya Media Gateway (si) must be added and TN750s must be installed as part of that support, then adding ISDN — PRI requires a service interruption. Notify the customer in advance as to when the addition will be carried out. See Add Packet Bus Support on page 588 for further information.

Task List: Installing ISDN—PRI Trunks

1. Installing ISDN - PRI in North American on page 667
2. Installing ISDN - PRI Internationally on page 667
3. Add Packet Bus Support (ISDN PRI) on page 668
4. Add Circuit Packs (ISDN PRI) on page 668
5. Install Cables (ISDN PRI) on page 668
6. Enter Added Translations (ISDN PRI) on page 668
7. Resolve Alarms (ISDN PRI) on page 668
8. Save Translations (ISDN PRI) on page 668

Return to Task List

Installing ISDN - PRI in North American

Return to Task List

1. Use a TN767E (or later) DS1 or a TN464GP DS1/E1 circuit pack for a signaling link and up to 23 ISDN — PRI Trunk Group members.
2. Install a Tone-Clock circuit pack to provide synchronization for the DS1 circuit pack.
3. If using a TN464GP, then packet bus support has not been added, requiring greater than 4 PRI signaling groups, see Add Packet Bus Support on page 588 for installation of additional circuit packs for packet bus support.

As an option to the TN768 or TN2182B Tone-Clock, a TN780 Tone-Clock (installed in the PPN) can interface external Stratum 3 synchronization for DS1.

Return to Task List

Installing ISDN - PRI Internationally

Return to Task List

1. Install a TN464GP (or later) DS1/E1 circuit pack for the assignment of the 2 signaling channels and up to 30 ISDN — PRI Trunk Group members. Each E1 span provides 32 ports.
2. Install a Tone-Clock circuit pack to provide synchronization for the DS1/E1 circuit pack.
3. If packet bus support has not been added and greater than 8 PRI signaling groups are required, see Add Packet Bus Support on page 588 for installation of additional circuit packs for packet bus support.

As an option to the TN2182B Tone-Clock, a TN780 Tone-Clock (installed in the PPN) can interface external Stratum 3 synchronization for DS1.

Return to Task List

Add Packet Bus Support (ISDN PRI)

Return to Task List

If packet bus support is not already installed, see Add Packet Bus Support on page 588 and perform the steps.

Add Circuit Packs (ISDN PRI)

Return to Task List

4 Determine port assignment of circuit packs to be added.

5 Install the DS1 Interface circuit pack in the assigned carrier slot.

6 Install a TN748B (or later) (or the international TN420B/C) Tone Detector circuit pack if required.

Install Cables (ISDN PRI)

Return to Task List

Install cables from cabinet to MDF as required.

Enter Added Translations (ISDN PRI)

Return to Task List

Administer the forms listed under “Integrated Services Digital Network — Primary Rate Interface” in the *Administrator's Guide for Avaya™ Communication Manager (555-233-506)*.

Resolve Alarms (ISDN PRI)

Return to Task List

1 Examine the alarm log.

2 Resolve any alarms that may exist using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation.

Save Translations (ISDN PRI)

Return to Task List

1 If the system is High or Critical Reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.

2 Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation cards.

3 Update backup cards, if necessary.

Adding CO, FX, WATS, and PCOL Trunks

Return to Task List

Each Central Office (CO), Foreign Exchange (FX), Wide Area Telecommunications Service (WATS), or Personal Central Office Line (PCOL) trunk is connected to 1 port of either an 8-port TN747B or to 1 of an assortment of non-U.S. CO Trunk circuit packs.

1. See Wiring Off-Premises Stations (TN1654 DS1 Converter) on page 690 and install a CO trunk circuit pack in the assigned carrier slot (if an additional circuit pack is required).
2. Administer the Trunk Group screens listed under CO, FX, WATS, or PCOL Trunk Group in *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
3. Determine the port assignment of the trunk from the Trunk Group screen.

Return to Task List

Adding DID Trunks

Return to Task List

Each Direct Inward Dial (DID) trunk connects to 1 port of an 8-port TN753B or to 1 of an assortment of non-US DID trunk circuit packs.

4. Determine the port assignment of the trunk from Trunk Group form.
5. See Wiring Off-Premises Stations (TN1654 DS1 Converter) on page 690 and install a DID trunk circuit pack in assigned carrier slot (if an additional circuit pack is required).
6. Administer DID Trunk Group screens in *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Return to Task List

Adding Tie Trunks

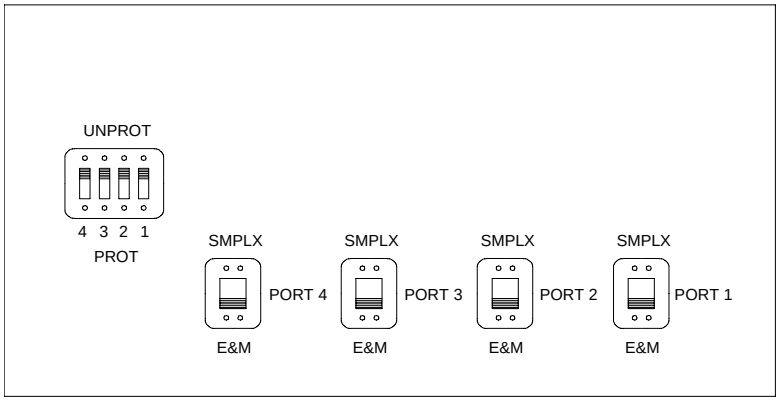
Return to Task List

Each tie trunk connects to 1 port of a 4-port TN760E or to an assortment of non-US tie trunk circuit packs.

1. Determine the port assignment of the trunk from Trunk Group form.
2. Install a TN760E or a non-United States tie trunk circuit pack in the assigned carrier slot (if an additional circuit pack is required).
3. For customer-owned (not leased) tie-trunk facilities (such as campus environments), TN760E circuit packs provide signaling capabilities beyond those specified by the industry-wide E & M standard. Use Figure 272, Tie Trunk Circuit Packs (Component Side), on page 670 and Tie Trunk Option Switch Settings and Administration on page 670 to choose the preferred signaling format, set switches on the TN760E circuit pack, and administer the port.

4 Administer forms listed under Tie Trunk Group in *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Figure 272: Tie Trunk Circuit Packs (Component Side)



Tie Trunk Option Switch Settings and Administration						
Installation Situation		**Preferred Signaling Format**		**E&M/SMPLX Switch**	**Prot/Unprot Switch**	**Administered Port**
Circumstance	**To**	**System**	**Far-End**			
Co-Located	DEFINITY	E&M Type 1	E&M Type 1	E&M	Unprotected	Type 1
		Compatible	Standard			Compatible
Inter-Building	DEFINITY	Protected Type 1	Protected Type 1	E&M	Protected	Type 1
		Compatible	Standard Plus			Compatible
			Protection			
			Unit			
Co-Located	Net Integrated	E&M Type 1	Any PBX	E&M	Unprotected	Type 1
		Standard				

Return to Task List

Add DS1 Tie and OPS Trunks

Return to Task List

The TN722B DS1 Tie Trunk, TN767C (or later) DS1 Interface, and TN464GP or later DS1 Interface circuit packs provide connections to a 1.544 Mbps or 2.08 Mbps DS1 facility as 24 independent 64-kbps trunks.

Adding DS1 tie-trunk service may require a service interruption; notify the customer in advance as to when the addition will be carried out.

Task List: Adding DS1 Tie and OPS Trunks

1. Upgrading from a TN722 to a TN767C on page 671
2. Disable Scheduled Maintenance and Alarm Origination to INADS (DS1 Tie and OPS Trunks) on page 672
3. Save Translations (DS1 Tie and OPS Trunks) on page 672
4. Shut Down DEFINITY LAN Gateway System (DS1 Tie and OPS Trunks) on page 672
5. Shut Down DEFINITY AUDIX System (DS1 Tie and OPS Trunks) on page 673
6. Power Down System (DS1 Tie and OPS Trunks) on page 673
7. Add Circuit Packs (DS1 Tie and OPS Trunks) on page 674
8. Power Up System (DS1 Tie and OPS Trunks) on page 674
9. Enter Added Translations (DS1 Tie and OPS Trunks) on page 674
10. Save Translations (DS1 Tie and OPS Trunks) on page 674
11. Resolve Alarms (DS1 Tie and OPS Trunks) on page 675
12. Deliver or Install License file (DS1 Tie and OPS Trunks) on page 675
13. Adding TTC Japanese 2-Mbit Trunks on page 677

Return to Task List

Upgrading from a TN722 to a TN767C

Return to Task List

1. Remove all TN722 trunk members from affected trunk groups.
2. Type **remove ds1 *UUCSS*** (the slot containing the TN722).
3. Remove the TN722 circuit pack.
4. Put the TN767C circuit pack into the same slot.
5. Wait until the red LED goes off. The hardware tests take 12 to 20 seconds to run. When the red LED goes off, the tests have completed.
6. If the red LED stays on, reseat the board and repeat this step.
7. Type **add ds1 *PCSS***.
8. Continue with appropriate procedures to set up members of trunk groups.

Return to Task List

Disable Scheduled Maintenance and Alarm Origination to INADS (DS1 Tie and OPS Trunks)

Return to Task List

1. To prevent scheduled daily maintenance from interfering with the update or upgrade, type **change system-parameters maintenance** and press **Enter**.
2. If scheduled maintenance:
   - has begun: set the `Stop Time` field to 1 minute after the current time.
   - has not begun: set the `Start Time` field to at least 8 hours after the upgrade starts.

   CAUTION:
   If you do not disable Alarm Origination, the system may generate alarms, resulting in unnecessary trouble tickets.
3. Type **neither** in the `Alarm Origination to OSS Numbers` field and press **Enter**.

Return to Task List

Save Translations (DS1 Tie and OPS Trunks)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation card or removable media.
3. If the system contains a TN750/B Announcement circuit pack, type **display announcements** and press **Enter**. If administered recorded announcements are listed, type **list configuration software-version** press **Enter.** Check Page 2 of this form to see when the announcements were last saved. To save the current announcements, type **save announcements** and press **Enter.**

Shut Down DEFINITY LAN Gateway System (DS1 Tie and OPS Trunks)

Return to Task List

WARNING:
Neglecting to shut down the LAN Gateway assembly before powering down the system cabinet can damage the LAN Gateway disk.

1. Log onto the DEFINITY LAN Gateway.
2. From the main menu, click **Maintenance > Reset System > Shutdown**.

WARNING:

Shut Down DEFINITY AUDIX System (DS1 Tie and OPS Trunks)

A yellow caution sticker on the system's power unit notifies you to shut down the AUDIX before powering down the system.

WARNING:
Neglecting to shut down an AUDIX assembly before powering down the system cabinet where it resides can damage the AUDIX disk.

1 Log into the AUDIX as **craft**.

NOTE:
If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2 Type **reset system shutdown** and press **Enter**.

3 Press **Enter** again to start the shutdown.

The `SHUTDOWN Completed` message displays when the AUDIX is successfully shutdown. This takes about 2 minutes.

CAUTION:
If leaving AUDIX System in the carrier, back it out about 2 in. (5 cm) to eliminate the possibility of damage due to power surges.

Return to Task List

Power Down System (DS1 Tie and OPS Trunks)

Return to Task List

NOTE:
Power down the PPN only if the existing Tone-Clock is being replaced in a standard reliability system.

1 At the PPN, set the main circuit breaker to OFF.

2 At each EPN, set the main circuit breaker to OFF.

Add Circuit Packs (DS1 Tie and OPS Trunks)

Return to Task List

1. Determine the port assignments of the circuit packs to be added.
2. Install the TN722B DS1 Tie Trunk, the TN767E DS1 Interface, or TN464GP DS1 Interface circuit pack in assigned carrier slot.
3. Replace an existing TN756 Tone Detector/Generator circuit pack with:
   - TN768, TN780, or a non-United States TN419B Tone-Clock
   - TN748B or a non-United States TN420B Tone Detector
   - TN2182 Tone-Clock

Install Cables (DS1 Tie and OPS Trunks)

Return to Task List

Install H600-307 cable from the cabinet to a Channel Service Unit (CSU) and install cables from the CSU to the MDF as required.

Power Up System (DS1 Tie and OPS Trunks)

Return to Task List

1. At each EPN, set the main circuit breaker to ON.
2. At the PPN, set the main circuit breaker to ON.
3. The system performs the level 4 rebooting process, loading the system translations from the translation card or removable media. Rebooting takes 8 to 11 minutes.
4. After the system reboot is finished and all trouble is cleared, verify that the EMERGENCY TRANSFER CONTROL switch is set to AUTO. This restores the system to the normal mode.

Return to Task List

Enter Added Translations (DS1 Tie and OPS Trunks)

Return to Task List

Administer forms listed under “DS1 Tie Trunk Service” in *Administrator’s Guide for Avaya Communication Manager (555-233-506).*

Save Translations (DS1 Tie and OPS Trunks)

Return to Task List

1. If the system is high or critical reliability, type **status system 1** and press **Enter** to verify that the system is in the `active/standby` mode.
2. Type **save translation** and press **Enter**. This instructs the system to take all translation information in memory and write it to the translation card or removable media.
3. If the PPN contains a TN750 Announcement circuit pack, type **list configuration software-version** and press **Enter.**
4. If Page 2 of this form shows that recorded announcements were saved, these announcements can be restored using the restore announcements command. Type **restore announcements** and press **Enter**.

Return to Task List

Resolve Alarms (DS1 Tie and OPS Trunks)

Return to Task List

1. See your record of customer busy-outs and recreate the pre-upgrade busy-out states.
2. Type **display alarms** and press **Enter**.
3. Examine the alarm log.
4. Resolve any alarms using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* book.

Deliver or Install License file (DS1 Tie and OPS Trunks)

Return to Task List

CAUTION:
This procedure must be done immediately after you upgrade the software. If the license file is not installed within 10 days, the switch enters a No-License mode and shuts down all call processing.

New Duplicated G3r installations only

1. Retrieve the RFA License File with both serial numbers from the RFA Application.
2. Type **set time** and press **Enter**.

   Ensure that the system date and time are set correctly.
3. Use one of these installation methods:
   - Direct connection between the switch and RFA
   - No connection between the switch and RFA
4. Type **save translation** and press **Enter**.

   After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.
5. Type **reset system 4** and press **Enter**.

Wait until the system has completely reset before continuing.

6 Type **change cabinet 1** and press **Enter**.

In the `Carrier Type` column change the "B" carrier to **processor** and submit the form.

7 Type **change system-parameters duplication** and press **Enter**.

Set the `Enable Operation of SPE Duplication` field to **y** and submit the form.

8 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

9 Type **reset system 3** ***preserve-license*** (or **reset system 3** ***no-preserve-license***, since the License File has been saved in translations) and press **Enter**.

New simplex and upgraded G3r only

1 Type **save translation** and press **Enter**.

After the translations have been copied (about 10 minutes), the system returns an error code, which must be a zero; otherwise, the translations are not copied.

2 Type **reset system 3** and press **Enter**.

Wait until the system has completely reset before continuing.

3 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

4 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

New or upgraded G3si only

1 Retrieve the RFA License File with both serial numbers from the RFA Application.

2 If the system has IP endpoints registered, unplug the Ethernet cable from the TN799 (C-LAN) circuit pack.

This disconnects (unregisters) all IP endpoints.

3 Type **set time** and press **Enter**.

Ensure that the system date and time are set correctly.

4 For *duplicated systems only* type **status system all** and press **Enter**.

Ensure that the standby SPE is *not* in the maintenance state. If it is, wait for the maintenance state to finish.

5 Use one of these installation methods:

— Direct connection between the switch and RFA

— No connection between the switch and RFA

Direct connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File.

NOTE:
This procedure sends the License File to the switch and installs it.

b If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

No connection between the switch and RFA

a Go to the RFA website, and, following the instructions in the "Deliver to G3r/G3si/G3csi" chapter of the RFA Job Aid, deliver the License File to your laptop/PC.

b Open the License Installation Tool (LIT) application at your laptop/PC.

c Use the LIT instructions to add a switch connection profile to the tool.

d Use the LIT instructions to install the License File on the switch.

e If the system has IP endpoints registered, and you unplugged the Ethernet cable from the TN799 (C-LAN) circuit pack, replug the cable.

This re-registers the IP endpoints.

Return to Task List

Adding TTC Japanese 2-Mbit Trunks

Return to Task List

The TN2242 Japan 2-Mbit trunk interconnects the switch with other vendor equipment in Japan as well as to interconnect other switches through the Time Division Multiplexor device.

1. Determine the port assignment of the trunk from the Trunk Group screen.
2. Install a TN2242 circuit pack in assigned carrier slot.
3. Connect the H600-513 cable from the cabinet to the Time Division Multiplexor device.
4. To administer forms, see the following sections in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.
   - For ISDN applications, see the ISDN Service section.
   - For non-ISDN applications, see the Managing Trunks section.

Return to Task List

Add TN1654 DS1 Converter (r only)

Return to Task List

The TN1654 DS1 converter circuit pack supports from 1 to 4 T1 (24 channel) or E1 (32 channel) facilities.

For more information on this DS1 converter, see

- Circuit Pack Switches on page 678
- Circuit Pack and Cabling (T1 Only) on page 678
- 75-ohm E1 Interface Cabling on page 678

Task List: Adding a TN1654 DS1 Converter

- Set Circuit Pack Switches (TN1654 DS1 Converter) on page 681
- Installing TN1654s in a Port Carrier on page 682
- Installing TN1654s in a Switch Node Carrier on page 683
- Connecting a Port Carrier to a Switch Node Carrier (TN1654 DS1 Converter) on page 684
- Connecting Through a Channel Service Unit on page 685
- Mounting the 127A (TN1654 DS1 Converter) on page 689

Return to Task List

Circuit Pack Switches

The configuration switches on the TN1654 must be set before the circuit pack is installed. The TN1654 can be configured for either T1 or E1 operation. All 4 facilities on the circuit pack are configured as a group. It is not possible to have T1 and E1 facilities supported on the same circuit pack at the same time.

The T1 line impedance is fixed at 100 ohms, and the T1 framing is selectable for ESF (Extended Super Frame) or D4 for each facility. The E1 facility line supports termination impedances of 120 ohms for twisted-pair and 75 ohms for coax wiring.

Figure 273, DS1 Converter Circuit Pack Switches, on page 679 shows the location of the switches. TN1654 DS1 Converter Switch Functions on page 679 and TN1654 DS1 Converter Switch Settings on page 680 show the switch-setting functions and positions, respectively.

Circuit Pack and Cabling (T1 Only)

The installation instructions are provided as examples only.

> **NOTE:**
> Be sure to label all of the cables as they are installed.

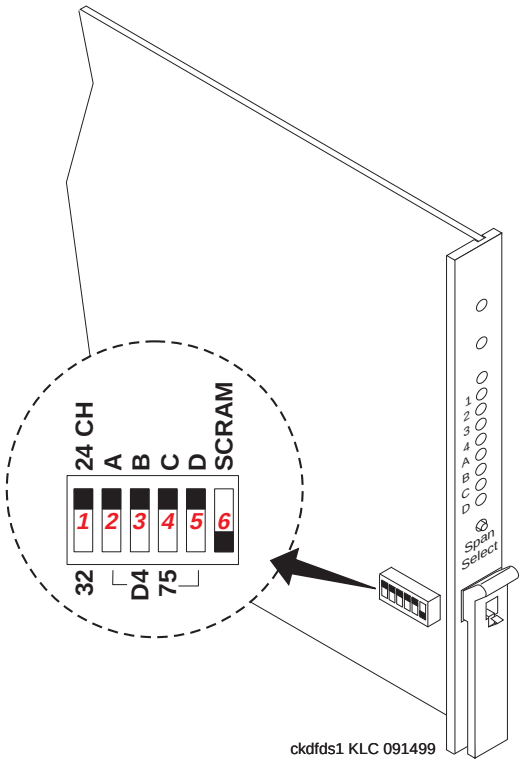
75-ohm E1 Interface Cabling

For certain markets with 75-ohm E1 service, the DS1 converter requires an adapter to convert the 120 ohms to 75 ohms. Figure 274, 127A BALUN Coaxial Adapter, on page 680 shows the 127A BALUN coaxial adapter.

NOTE:
Although the TN1654 DS1 converter supports 75 ohms, use the 127A BALUN to convert the 120 ohms to 75 ohms rather than the switch settings.

NOTE:
Set Circuit Pack Switches (TN1654 DS1 Converter) on page 681 shows a typical connection.

Figure 273: DS1 Converter Circuit Pack Switches



TN1654 DS1 Converter Switch Functions	
Switch	**Function**
1	Type of Facility
2	Span A Line Impedance (E1 Only) Span A Framing (T1 Only)
3	Span B Line Impedance (E1 Only) Span B Framing (T1 Only)
4	Span C Line Impedance (E1 Only) Span C Framing (T1 Only)
5	Span D Line Impedance (E1 Only) Span D Framing (T1 Only)
6	Force Fiber Data-Stream Scrambling

TN1654 DS1 Converter Switch Settings						
	1	**2**	**3**	**4**	**5**	**6**
up	T1	120 ohms ESF	120 ohms ESF	120 ohms ESF	120 ohms ESF	Enabled
down	E1[1]	75 ohms D4	75 ohms D4	75 ohms D4	75 ohms D4	Disabled

1 Although the TN1654 circuit pack supports 75 ohms, use the 127A BALUN to convert the 120 ohms to 75 ohms rather than the switch settings (see 75-ohm E1 Interface Cabling on page 678).

Figure 274: 127A BALUN Coaxial Adapter

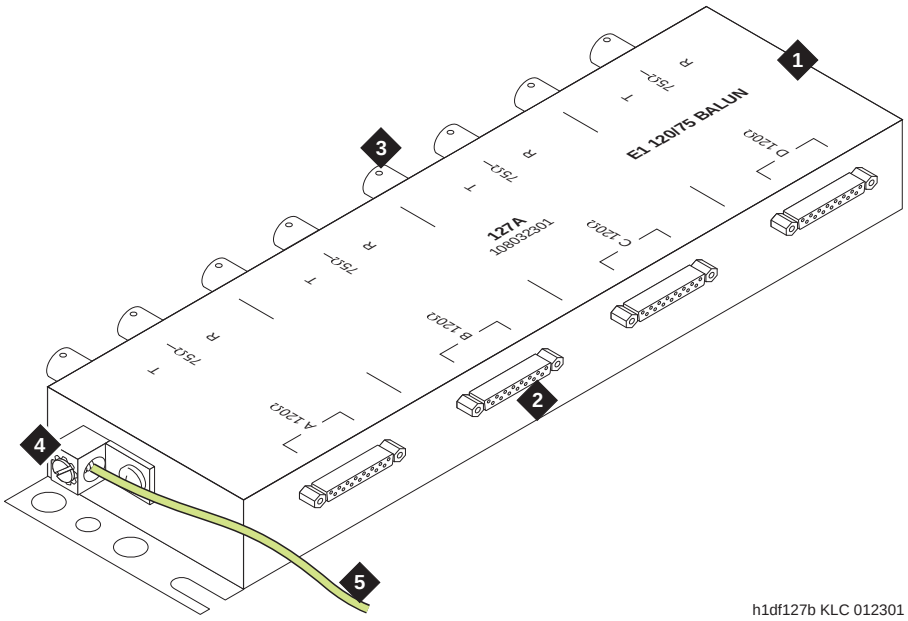


Figure notes

1 127A BALUN coaxial adapter

2 Connect to quad cable (H600-348 or similar)

3 BCN Connections to E1 network equipment

4 Single-point ground connection

5 >= 0.75 mm^2 (18 AWG) ground wire to ground terminal at MDF

Figure 275: DS1 Converter Connections for E1 75-ohm Service — Part 2

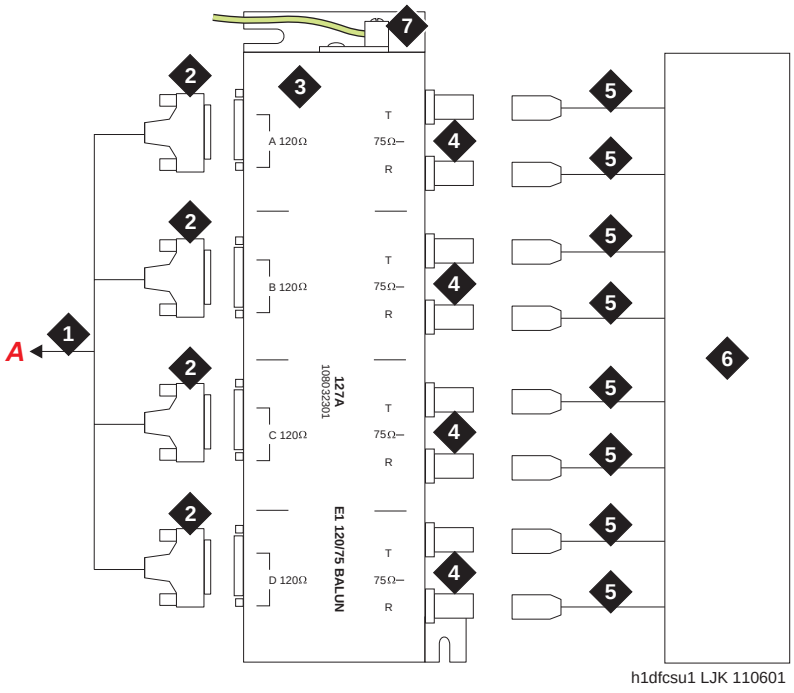


Figure notes

1 H600-348 quad cable

2 15-pin male D connectors

3 127A BALUN coaxial adapter

4 BNC connectors (transmit/receive) corresponding to each facility

5 E1 network connection

6 Network interface

Set Circuit Pack Switches (TN1654 DS1 Converter)

Return to Task List

1 Set the configuration switches on the TN1654 as required per site.

2 Set Switch 6 down (disabled).

Switch 6 may not be present (or active) on all TN1654 DS1 Converter circuit packs.

3 Set Switch 1 up for T1 facilities.

All subsequent facility switch settings (Switches 2-5) reflect T1 framing on each of the 4 facilities. See Examples of typical settings on page 682.

4 Set Switch 1 down for E1 facilities.

All subsequent facility switch settings (Switches 2-5) reflect E1 impedance on each of the 4 facilities. See Examples of typical settings on page 682 for examples.

Examples of typical settings	
Switch Settings	**Description**
swdft1es KLC 092799	T1 ESF Span A through D Framing set for ESF
swdft1d4 KLC 092799	T1 D4 Span A through D Framing set for D4
swdfe1es KLC 092799	E1 120 ohms ESF Span A through D Line Impedance set for ESF

Return to Task List

Installing TN1654s in a Port Carrier

Return to Task List

1. Install the TN1654 circuit pack in any slot in a Port Carrier close to a TN570D Expansion Interface circuit pack.
2. On the backplane, connect a 14-inch (35.56 cm) Y cable from the TN1654 circuit pack to the TN570D circuit pack. See Figure 276, DS1 Converter Connections — Part 1, on page 683.
3. The Y cable used with the TN1654 is different than the Y cable used with the TN574. These cables are NOT interchangeable.
4. Connect an H600-348 Quad cable to the other side of the double-headed Y cable.
5. Skip to Connecting Through a Channel Service Unit on page 685.

Figure 276: DS1 Converter Connections — Part 1

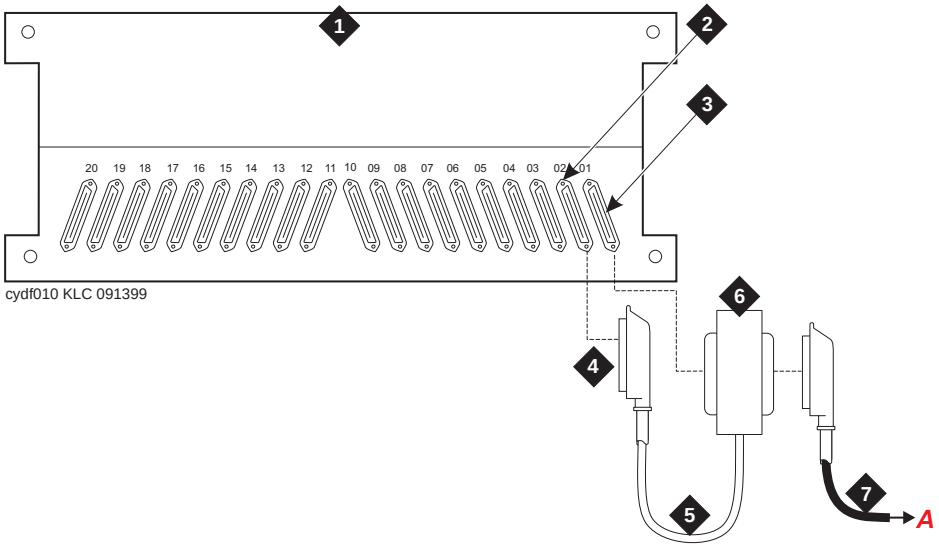


Figure notes

1	Port cabinet	5	14-in. (35.6 cm) Y cable
2	Backplane connector for TN570D EI	6	50-pin male/50-pin female double-headed connector
3	Backplane connector for TN1654 DS1 Converter	7	H600-348 Quad Cable (with 50-pin male connector), which connects the Y cable to the 4 CSUs.
4	50-pair female connector to EI connector		

Return to Task List

Installing TN1654s in a Switch Node Carrier

Return to Task List

You can install up to 2 TN1654 circuit packs in a Switch Node Carrier.

1 Install the TN1654 circuit pack in either slot 1 or 21 of the Switch Node Carrier close to a TN573B SNI circuit pack.

CAUTION:
Install the TN1654 circuit pack in either slot 1 or slot 21. Installing it in any other slots can damage the circuit pack and the system. Do *not* do it.

2 On the backplane, connect a 14-inch (35.56 cm) Y cable from the TN1654 circuit pack to the TN573B circuit pack. See Figure 277, DS1 Converter Connections — Part 1, on page 684.

CAUTION:
The Y cable used with the TN1654 circuit pack is different than the Y cable used with the TN574 circuit pack. These cables are NOT interchangeable.

3 Connect an H600-348 Quad cable to the other side of the Y cable.

4 Skip to Connecting Through a Channel Service Unit on page 685.

Figure 277: DS1 Converter Connections — Part 1

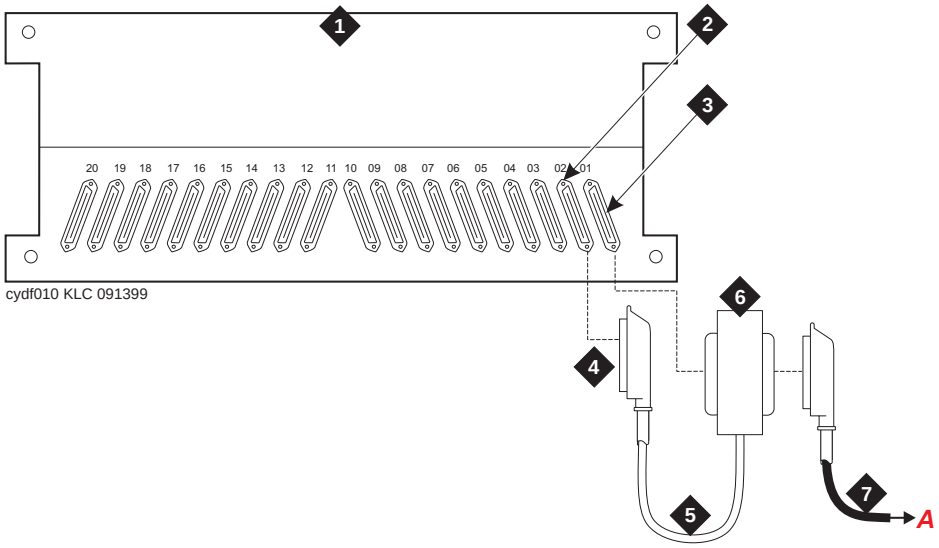


Figure notes

1	Port cabinet	5	14-in. (35.6 cm) Y cable
2	Backplane connector for TN570D EI	6	50-pin male/50-pin female double-headed connector
3	Backplane connector for TN1654 DS1 Converter	7	H600-348 Quad Cable (with 50-pin male connector), which connects the Y cable to the 4 CSUs.
4	50-pair female connector to EI connector		

Return to Task List

Connecting a Port Carrier to a Switch Node Carrier (TN1654 DS1 Converter)

Return to Task List

1 When the TN1654 circuit pack is in a port carrier and the TN 573B SNI circuit pack is in the Switch Node Carrier, connect the two circuit packs with a 70-in. (178 cm) Y Cable.

CAUTION:
The Y cable used with the TN1654 circuit pack is different than the Y cable used with the TN574 circuit pack. These cables are NOT interchangeable.

2 Connect an H600-348 Quad cable to the other side of the Y cable.

Connecting Through a Channel Service Unit

Return to Task List

Figure 278, DS1 Converter Connections for T1 Service — Part 2, on page 686 shows a typical connection for a T1 line, and Figure 279, DS1 Converter Connections for 120-ohm E1 Service — Part 2, on page 687 shows a typical connection for an E1 line.

1. Connect the H600-348 Quad Cable to the DTE jacks on each of the 4 CSUs.
2. You may need an adapter cable to connect the H600-348 cable to the CSU (see Adapter Descriptions on page 687).
3. Connect one end of the H600-383 cable to the network jack on the CSU and the other end to the smart jack.

Connection to the remote-located system is the same as that shown in Figure 280, DS1 Converter Circuit Pack Switches, on page 688 and Figure 281, CAMA Numbering Format form, on page 688.

Y Cable Lengths on page 689 shows theY cable lengths.

The distinction between facility types is important when using TN1654 circuit packs. The facility used to carry control channel messages between the pair of DS1 converter circuit packs and all packet traffic is known as the primary facility. The facility used to backup and takeover for the primary facility in the event of primary facility failure is known as the secondary facility. The TN1654 allows either facility, A or B, to be a primary channel. The control channel is restricted to only the A or B facilities. This permits full 24-channel access (T1) or 31-channel access (E1) for facilities C and D to support user traffic.

Figure 278: DS1 Converter Connections for T1 Service — Part 2

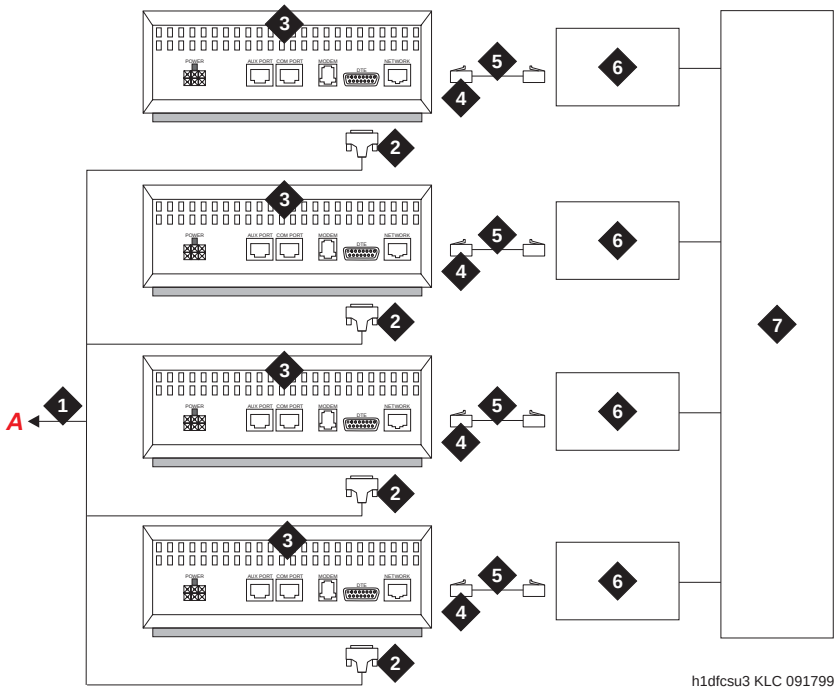


Figure notes

1	H600-348 Quad Cable	5	Network Interface
2	15-Pin Male D Connectors (to DTE Jacks on CSU)	6	700A Loopback Jack
3	Channel Service Unit (CSU)	7	Cables
4	H600-383 Cable (RJ-48C to RJ-48C)		

Figure 279: DS1 Converter Connections for 120-ohm E1 Service — Part 2

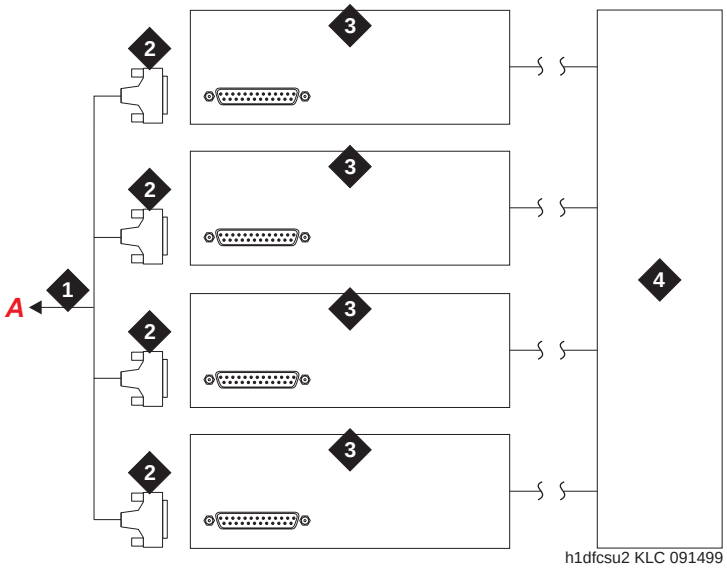


Figure notes

1 H600-348 Quad Cable

2 15-pin male D connectors (to DTE jacks on customer-provided network-interface equipment)

3 Customer-provided network-interface equipment

4 Network interface

Adapter Descriptions		
Type	**Color**	**Description**
Straight through	Black	Cable with a DB15 connector on one end and an RJ48 connector on the other
Rollover	Gray	Cable with a DB15 connector on one end and an RJ48 connector on the other
Null	Black	A DB15M to DB15F rollover/null adapter.

Figure 280: DS1 Converter Circuit Pack Switches

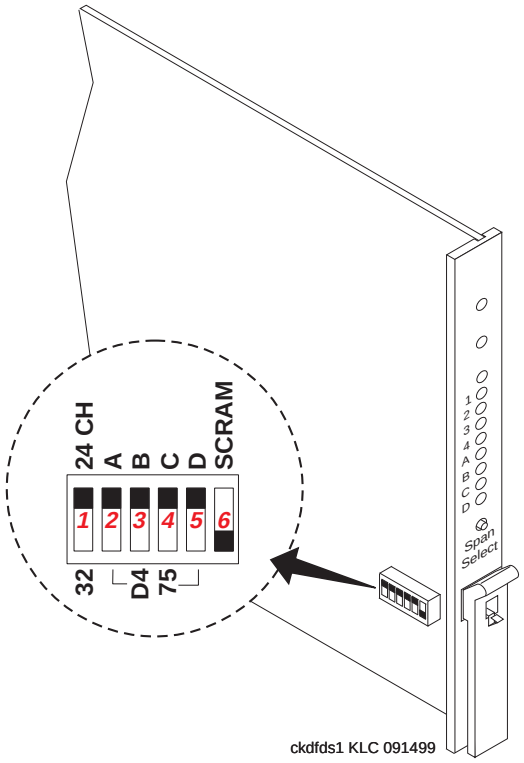


Figure 281: CAMA Numbering Format form

```
                                                              Page 1 of 3
                        CAMA NUMBERING - E911 FORMAT

System CESID Default: 5241100______

Ext  Ext                    Total        Ext  Ext                    Total
Len  Code      CESID        Length       Len  Code      CESID        Length
 4_  101__  5381234_____     7_            __  _____  ___________     __
 4_  1____  555_________     7_            __  _____  ___________     __
  __  _____  ____________     __            __  ______ ___________     __
 __  _____  ____________     __            __  ______ ___________     __
 __  _____  ____________     __            __  ______ ___________     __
 __  _____  ____________     __            __  ______ ___________     __
 __  _____  ____________     __            __  ______ ___________     __
```

Y Cable Lengths	
Length	**Description**
14 in. (35.6 cm)	TN1654 circuit pack to adjacent EI circuit pack or TN573B SNI circuit pack in same carrier
70 in. (178 cm)	TN1654 circuit pack to EI circuit pack or SNI circuit pack in another carrier
14 in. (35.6 cm)	TN1654 circuit pack to fiber optic transceiver (DC-powered cabinets only). This cable is for intercabinet cabling only.

Return to Task List

Mounting the 127A (TN1654 DS1 Converter)

Return to Task List

NOTE:
In Norway, Sweden, Denmark, and Finland, the 127A can be used only with MCCs or DC-powered SCCs.

1. Mount the 127A vertically near the main distribution frame (MDF). The 127A case has tabs for screw-mounting and cutouts for snap-mounting the unit in a 89-type mounting bracket.
2. Attach a ground wire (required) between the 127A and the MDF ground terminal bar. The wire must be green/yellow and no smaller than 0.75 mm^2 (18 AWG).
3. Strip both ends of an appropriate length of wire.
4. Insert one end of the wire into the MDF ground bar and secure.
5. Insert the other end into the screw-connection in the end of the 127A and secure. See Figure 282, 127A BALUN Coaxial Adapter, on page 690.
6. Connect the H600-348 quad cable to the 4 DB-15 connectors provided on the 127A adapter.
7. Connect the transmit connectors to the connectors marked T and the receiver connectors to the connectors marked R.
8. Connect the other end of the cables to whatever connects to the network.

Figure 282: 127A BALUN Coaxial Adapter

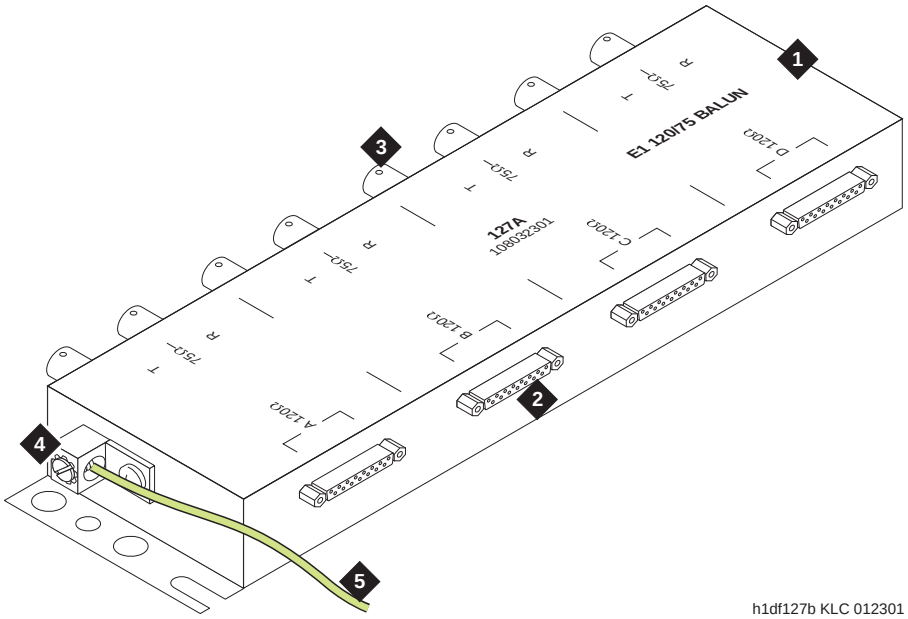


Figure notes

1	127A BALUN coaxial adapter	4	Single-point ground connection
2	Connect to quad cable (H600-348 or similar)	5	>= 0.75 mm^2 (18 AWG) ground wire to ground terminal at MDF
3	BCN Connections to E1 network equipment		

Return to Task List

Wiring Off-Premises Stations (TN1654 DS1 Converter)

Return to Task List

The cabling outside the building for off-premises stations is provided by the local telephone company. The off-premises stations can appear on any of the RJ21X network interfaces provided for the Central Office (CO) trunks.

CAUTION:
Only an FCC-approved (or equivalent) analog type telephone, for example, a 2500-type, can be used as an off-premises station. The TN746B and TN2183 Analog Line circuit packs can be used for off-premises stations.

1 Connect an A25D cable between the RJ21X network interface and a sneak fuse panel. See Install Sneak Fuse Panels on page 443 for details.

2 At the MDF, connect jumper wires between 1 row/connecting block in the green field and up to 3 rows/connecting blocks in the purple field to concentrate the analog line pairs.

3 Connect an A25D cable between the sneak fuse panel and the 110-type terminal block connector associated with the green row in Step 2.

4 Install a green label on the 110-type terminal block to identify the remote location.

5 Administer using the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Return to Task List

Installing the Stratum 3 Clock

Use this task list to install a Stratum 3 clock.

Task List: Install the Stratum 3 clock

1. Unpack and Inspect Stratum 3 Clock Cabinet on page 693
2. Install and Position Stratum 3 Clock Cabinet on page 693
3. Connect AC Power to Stratum 3 Clock Cabinet on page 694
4. Check and Connect Commercial AC Power on page 694
5. Connect DC Power and Ground to Stratum 3 Clock Cabinet on page 694
6. Connect Clock Cabinet Grounding on page 694
7. Connect Stratum 3 Clock DC Power on page 695
8. Set the Clock Options on page 695
9. Cable the Stratum 3 Clock on page 696
10. Install the Stratum 3 Clock Wiring on page 698

Unpack and Inspect Stratum 3 Clock Cabinet

Return to Task List

1. Check the status of the SHOCKWATCH and/or TILTWATCH indicators on the cardboard container. If the container has been jarred or tilted beyond specifications, the indicators are red, indicating possible damage.
2. Remove all packing material.
3. Remove front door and rear screw-on panels from the cabinet.
4. Inspect the cabinet for damage. Report any damage per local instructions.

Install and Position Stratum 3 Clock Cabinet

Return to Task List

Check the location of the AC power receptacle. The receptacle must be on a separately fused circuit that is not controlled by a wall switch. It must be located within 10 ft (3 m) of the cabinet and should be located outside the MDF area.

1. Position the clock cabinet in the designated location.
2. If earthquake protection is required, skip to Install Earthquake Protection for SCC or Install Earthquake Protection for MCC.
3. If earthquake protection is not required, level the cabinets and adjust and lock the cabinet stabilizing bolts to keep the cabinet from moving.

Return to Task List

Connect AC Power to Stratum 3 Clock Cabinet

Return to Task List

The clock cabinet requires a 120 VAC, 15 amp receptacle. The green wire ground provided by the receptacle is sufficient. The clock cabinet does not require a ground connection back to the single-point ground.

Check and Connect Commercial AC Power

Return to Task List

1. Before powering up the system, check the AC power using a KS-20599 digital voltmeter (DVM) (or equivalent).
2. Set the DVM to the 250 volt range.
3. Carefully measure the voltage between the hot and neutral side of the receptacle. The neutral wire is white, the hot wire is black.
4. Verify the meter reads 106 to 128 VAC. If not, have a qualified electrician correct the problem.
5. Measure the voltage between the neutral and ground side of the receptacle. The ground wire is green.
6. Verify the meter reads 0 VAC. If not, have a qualified electrician correct the problem.
7. Set all cabinet power modules OFF. Plug the AC power cable into the receptacle.

Return to Task List

Connect DC Power and Ground to Stratum 3 Clock Cabinet

Return to Task List

Provide power for the clock cabinet from the same DC power plant as the DEFINITY ECS.

Ground the clock cabinet to the DC power plant.

Connect Clock Cabinet Grounding

Return to Task List

1. Measure and cut a 6 AWG (#40) (16 mm^2) wire long enough to reach from the clock cabinet to the ground discharge bar in the DC power plant.
2. Insert 1 end of the wire into the ground lug on the clock cabinet and tighten the screw.

3 Attach the lug to the receptacle cover. Be sure the lug and cabinet ground wires connect to separate screws on the receptacle cover.

4 Route the ground wire to the DC power plant and connect to DISCH GRD inside the cabinet.

Connect Stratum 3 Clock DC Power

Return to Task List

1 Set the clock cabinet circuit breaker at the DC power plant OFF.

2 At the clock cabinet, connect a 6 AWG (#40) (16 mm^2) ground wire to the -48V terminal on the terminal strip.

3 At the clock cabinet, connect a 6 AWG (#40) (16 mm^2) wire to the -48VRTN terminal on the terminal strip.

4 Route the wires out of the cabinet and to the DC power plant.

5 At the DC power plant, connect the -48V wire to the DC OUTPUT circuit breaker.

6 At the DC power plant, connect the -48VRTN wire to the DISCH GRD bar.

Return to Task List

Set the Clock Options

Return to Task List

There are four sets of option switches on the clock.

1 Set the options on the Clock Input (CI) circuit pack according to CI Option Switch Settings on page 695.

2 Set the options on the Stratum 3 Clock (ST3) circuit pack according to ST3 Clock Circuit Pack Option Switch Settings on page 696.

3 Set the options on the Composite Clock Timing Output (TOCA) circuit pack according to Composite Clock Timing Output (TOCA) Circuit Pack on page 696.

4 Set the Stratum 2/Stratum 3 switch to the STRATUM 3 position.

CI Option Switch Settings

Switch	Function	Position
1	T1 Select	OFF = enable (default) ON = disable
2	CC Select	OFF = enable ON = disable (default)
3	Framing Select	OFF = ESF ON = D4 (default)
4	BX.25	OFF = enable ON = disable (default)

ST3 Clock Circuit Pack Option Switch Settings	
Switch	**Status/Results**
SW1 Minor Alarm Control	OFF = minor alarm never output ON = minor alarm is output if holdover occurs
SW2 Major Alarm Control	OFF = major alarm is output and fail lamp lights if 5 VDC power is lost and 4 kHz output is lost ON = major alarm is output and fail lamp lights if 5 VDC power is lost and 4 kHz output is lost and holdover occurs

NOTE:
Only SW 1 and SW2 are used. SW1 controls the output of alarm signals from the Stratum 3 Clock circuit pack.

Composite Clock Timing Output (TOCA) Circuit Pack								
Switch		**Range**						
500	1000	1 ft (0.3 m)	500 ft (152 m)	1000 ft (305 m)	1500 ft (457 m)	2000 ft (610 m)	2500 ft (762 m)	3000 ft (914 m)
OFF	OFF	<----------				---------->		
ON	OFF		<----------			---------->		
OFF	ON			<----------		---------->		
ON	ON				<----------		---------->	

NOTE:
Set switches 1 and 2 according to the distance from the Stratum 3 clock to the DEFINITY System. Set switch 3 to ON. Set switch 4 to OFF.

Return to Task List

Cable the Stratum 3 Clock

Return to Task List

Figure 283, Typical Connections to Stratum 3 Clock, on page 697 shows typical connections to a Stratum 3 Clock cabinet. Connections are made through the yellow field cross-connect. A custom “Y” cable (H600-274) connects the CSU to the DS1 circuit pack and taps off the input for the Stratum 3 Clock. A resistor built into the cable to provides the necessary isolation between the system and the clock. The “Y” cable plugs directly into the CSU and connects to standard cables for interface to the system and the yellow field on the MDF.

The H600-307 cable connects the system end of the “Y” cable to a DS1 circuit pack (shown as TN464GP/2464, TN722, or TN767). The B25A cable connects the clock end of the “Y” cable to the yellow field on the MDF.

Figure 283: Typical Connections to Stratum 3 Clock

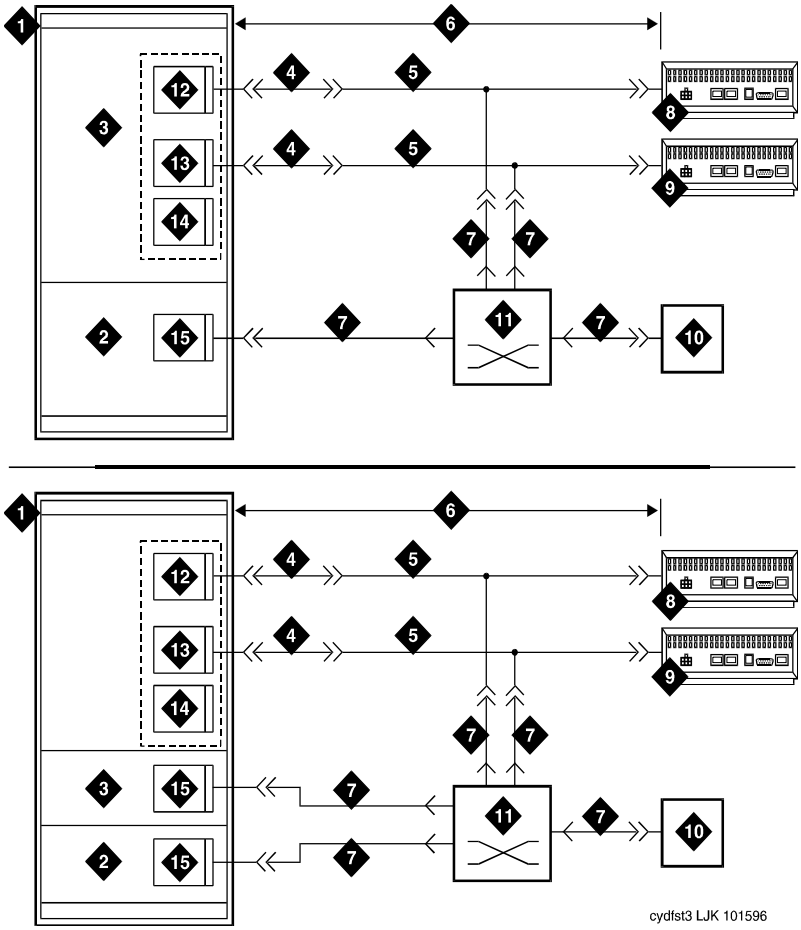


Figure notes

1	SCC1 Cabinet (PPN)	**9**	Channel Service Unit (Primary)
2	“A” Position	**10**	Stratum 3 Clock
3	“B” Position	**11**	Main Distribution Frame (MDF)
4	H600-307 Cable	**12**	DS1/E1 Interface Circuit Pack
5	H600-247 G2 Cable	**13**	DS1 Tie Trunk Circuit Pack
6	1300 Feet (396 m)	**14**	DS1 Interface Circuit Pack
7	B25A (Male-to-Female) Cable	**15**	Tone-Clock Circuit Pack
8	Channel Service Unit (Secondary)		

Return to Task List

Install the Stratum 3 Clock Wiring

Return to Task List

1. Connect the B25A cables from the TN780 connector panel slot on the system cabinet and the Stratum 3 Clock to the cross-connect module in the yellow field.
2. Connect the CSU plug end of the H-600-274 (Y) cable to the primary CSU. Route an H600-307 cable from the DS1 connector panel slot on the system cabinet to the connector on the "SYSTEM" end of the "Y" cable.
3. Route a B25A cable from the "CLOCK" end of the "Y" cable to the cross-connect module in the yellow field.
4. Repeat steps 2 and 3 for the secondary CSU. The maximum allowable cabling distance between the Stratum 3 clock and the CSU is shown in Maximum Cabling Distance on page 698.
5. For standard reliability systems, refer to Cross-Connects for Standard Reliability on page 698 to cross-connect the TN780 and "CLOCK" end connections to the Stratum 3 Clock connections on the cross-connect module.
6. For high or critical reliability systems, refer to Cross-Connects for High or Critical Reliability on page 699 to cross-connect the TN780 and "CLOCK" end connections to the Stratum 3 Clock connections on the cross-connect module.
7. The common cross-connection from the TN780 in A and B carriers to the Stratum 3 Clock should be done by bridging the jumper wires.
8. Dress the cables down sides of the cabinet and run through the Cable Slack Manager, if provided.
9. Administer using the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Maximum Cabling Distance

Channel Service Unit (CSU)	Maximum Cabling Distance
551A	85 Feet (26 m)
551V	85 Feet (26 m)
551V EFS/R	655 Feet (199.6 m)
EFS T1	655 Feet (199.6 m)

Cross-Connects for Standard Reliability

From: Stratum 3 Clock			To: Y Cable Clock End (Primary)		
Lead Designation	Lead Color	Connecting Block Terminal	Lead Designation	Lead Color	Connecting Block Terminal
RREF1	W-BL	1		V-O	43
TREF1	BL-W	2		O-V	44
			To: Y Cable Clock End (Secondary)		
RREF2	W-O	3		V-O	43

Cross-Connects for Standard Reliability					
From: Stratum 3 Clock			**To: Y Cable Clock End (Primary)**		
Lead Designation	**Lead Color**	**Connecting Block Terminal**	**Lead Designation**	**Lead Color**	**Connecting Block Terminal**
TREF2	O-W	4		O-V	44
			To: Tone-Clock Carrier A		
BCLKRTN	R-O	13	ALRM5B	V-G	45
BCLKLST	O-R	14	ALRM5A	G-V	46
BPWRRTN	R-BR	17	ALRM4B	BK-BL	21
BPWRLST	BR-R	18	ALRM4A	BL-BK	22
REF2RTN	W-BR	7	ALRM3B	R-BR	17
REF2LST	BR-W	8	ALRM3A	BR-R	18
SCLKRTN	R-BL	11	ALRM2B	R-BL	11
SCLKLST	BL-R	12	ALRM2A	BL-R	12
SPWRRTN	R-G	15	ALRM1B	Y-BL	31
SPWRLST	G-R	16	ALRM1A	BL-Y	32
REF1RTN	W-G	5	ALRM0B	W-BR	7
REF1LST	G-W	6	ALRM0A	BR-W	8
CCA01R	R-S	19	EXTSYN0T	V-BL	41
CCA01T	S-R	20	EXTSYN0R	BL-V	42
CCB01R	BK-BL	21	EXTSYN1T	Y-G	35
CCB01T	BL-BK	22	EXTSYN1R	G-Y	36

Cross-Connects for High or Critical Reliability								
From: Stratum 3 Clock			**To: Y Cable Clock End (Primary)**					
Lead Designation	**Lead Color**	**Connecting Block Terminal**	**Lead Designation**	**Lead Color**	**Connecting Block Terminal**			
RREF1	W-BL	1		V-O	43			
TREF1	BL-W	2		O-V	44			
			To: Y Cable Clock End (Secondary)					
	W-O	3		V-O	43	Lead Designation	Lead Color	Connecting Block Terminal
	O-W	4		O-V	44			
						To: Tone-Clock Carrier B		

Cross-Connects for High or Critical Reliability								
From: Stratum 3 Clock			To: Y Cable Clock End (Primary)					
Lead Designation	Lead Color	Connecting Block Terminal	Lead Designation	Lead Color	Connecting Block Terminal			
			ALRM5B			ALRM5B	V-G	45
			ALRM5A			ALRM5A	G-V	46
BPWRRTN	R-BR	17	ALRM4B	BK-BL	21	ALRM4B	BK-BL	21
BPWRLST	BR-R	18	ALRM4A	BL-BK	22	ALRM4A	BL-BK	22
REF2RTN	W-BR	7	ALRM3B	R-BR	17	ALRM3B	R-BR	17
REF2LST	BR-W	8	ALRM3A	BR-R	18	ALRM3A	BR-R	18
SCLKRTN	R-BL	11	ALRM2B	R-BL	11	ALRM2B	R-BL	11
SCLKLST	BL-R	12	ALRM2A	BL-R	12	ALRM2A	BL-R	12
SPWRRTN	R-G	15	ALRM1B	Y-BL	31	ALRM1B	Y-BL	31
SPWRLST	G-R	16	ALRM1A	BL-Y	32	ALRM1A	BL-Y	32
REF1RTN	W-G	5	ALRM0B	W-BR	7	ALRM0B	W-BR	7
REF1LST	G-W	6	ALRM0A	BR-W	8	ALRM0A	BR-W	8
CCA01R	R-S	19	EXTSYN0T	V-BL	41			
CCA01T	S-R	20	EXTSYN0R	BL-V	42			
CCB01R	BK-BL	21	EXTSYN1T	Y-G	35			
CCB01T	BL-BK	22	EXTSYN1R	G-Y	36			
CCA02R	BK-O	23				EXTSYN0T	V-BL	41
CCA02T	O-BK	24				EXTSYN0R	BL-V	42
CCB02R	BK-G	25				EXTSYN1T	Y-G	35
CCB02T	G-BK	26				EXTSYN1R	G-Y	36

Return to Task List

Install and Connect Modems

This section provides the information necessary to install and connect modems.

NOTE:
The Avaya Media Gateway (si) does not require an external modem because an internal modem is in the processor circuit pack.

Task List: Install and Connect Modems

- Connect Modem to Telephone Network on page 701
- Set External Modem Options on page 702
- Add U.S. Robotics Model USR 33.6 EXT External Modem to EPN on page 704
- Add U.S. Robotics Model USR 33.6 EXT External Modem to PPN on page 705
- Add External Modem to TN1648B on page 706
- Add Modem Pooling on page 712

Connect Modem to Telephone Network

Return to Task List

Cross-connect the network jack on the modem to the network interface (via a 103A or modular wall jack). See Pinout of Network Jack on page 701 and Figure 284, Network Jack on U.S. Robotics Modem, on page 702.

Pinout of Network Jack	
Pin Number	**Signal**
1	Unused
2	Tip
3	Ring
4	Unused

Figure 284: Network Jack on U.S. Robotics Modem

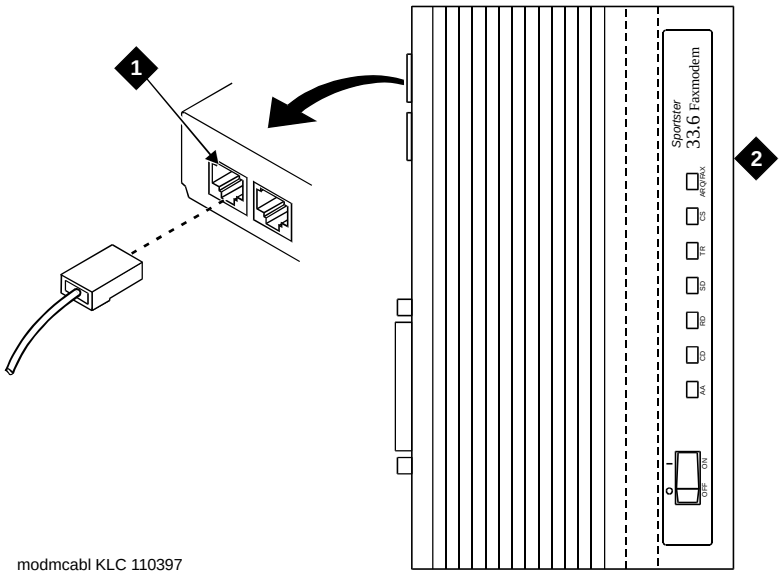


Figure notes

1	Pin 1 of network jack	**2**	Modem

Return to Task List

Set External Modem Options

Return to Task List

A locally obtained, type-approved external modem may be used. Contact your Avaya representative for information.

1. Set the modem switches:
   - If a U.S. Robotics Model 839 modem is installed, refer to U.S. Robotics Model 839 External Modem Switch Settings on page 703 to set the 8 option switches on the U.S. Robotics modem.
   - If any other modem is installed, refer to the setup instructions provided with that modem. Refer to SCC1 Modem Fields on page 703 while setting up the modem.
2. At the management terminal, enter **change system-parameters maintenance** and press **Enter**.
3. Scroll to page 3 of the form. Set the `Modem Connection:` field to **external** if a modem is installed. Set the field to **none** if no modem is installed.

   NOTE:
   This field must be administered or alarms will be generated. The `Modem Connection:` field cannot be set to **none** if Alarm Origination is activated.

4. Set the `Data Bits:` field to **8** (default).
5. Set the `Parity:` field to **none** (default).
6. For non-United States installations, set the remaining modem fields as shown in SCC1 Modem Fields on page 703.

7 Press **Enter** when the modem fields are properly administered.

U.S. Robotics Model 839 External Modem Switch Settings		
Switch	**Setting**	**Function**
1	OFF (Up)	DTR (Data Terminal Ready) override
2	OFF (Up)	Verbal result codes (text-formatted feedback characters such as *connected* or *no carrier*)
3	ON (Down)	Enable result codes
4	OFF (Up)	Displays keyboard commands (local echo)
5	OFF (Up)	Sets auto answer. Verify that the `Auto Answer Ring Count (rings):` on the ***maintenance-related system-parameters*** form is `S0=10`.
6	OFF (Up)	CD (Carrier Detect) override (modem sends CD signal on connect, drops CD on disconnect)
7	OFF (Up)	Power-on and ATZ reset software defaults (loads Y or Y1 configuration from NVRAM)
8	ON (Down)	AT (Attention) command set recognition (enables recognition, smart mode)

SCC1 Modem Fields	
Field	**Description**
Modem Connection	Default is `none`. Set to `external` if a modem is used.
Modem Name	This field is 20 characters long and permits alphanumeric characters to provide a unique qualifier for a given modem.
RTS/CTS Enabled	Informs modem that communication with the data source UART is driven with RTS/CTS flow control. The default 6-character field name is **&H1**. Set the field name to \Q3 for Intel modems. This field is not case-sensitive.
Asynchronous Data Mode	Configures modem as an asynchronous device. This 8-character field name has a default value of **&M0** (default) for R10 SCC. Set the field to &M0&Q0 for Intel modems. This field is not case-sensitive.
DTE Auto-Data Speed	Adjusts the speed of the data source (DTE) UART to the outgoing (modem-to-modem) data rate. At maximum, this speed is 9600 baud. It is not desirable to have the serial data fill the modem buffer faster than the outgoing data rate, since data compression is disabled. The field name has a 6-character blank default value. The Paradyne products use S90=1 to enable this functionality while the Intel product uses \J1 to enable similar functionality. This field is not case-sensitive.

SCC1 Modem Fields	
Field	**Description**
Disable Data Compression	Turns off the default data compression algorithms used by most modems. The field has a blank field of 6 characters as default. The AT commands that control this are supported by similar commands; however, these commands do not operate in the same manner. The Intel modems require H0%C0 to disable V.42bis & MNP Class 5 data compression algorithms. The Paradyne products only use%C0 to disable both algorithms. This field is not case-sensitive.
Enable Error Control	Turns on the V.42 LAPM and MNP error control protocols. The field has a blank default of 6 characters. The Paradyne products use the command \N5 to enable V.42/MNP/Buffer error control while the Intel product uses \N3 to provide similar functionality.
Misc. Init. Param	This field has a 20-character blank default and supports any initialization parameters not already specified. The AT commands specified in this field are always the last initialization parameters to be sent to the external modem. This field is not case-sensitive.
Auto-Answer Ring Number	This field controls the number of rings required before the modem answers an incoming call. This field should be set to S0=10.
Dial Type	This field controls the type of interregister signaling used between the modem and the CO. This 3-character field is denoted by “T” for tone dialing (default) and “P” for pulse dialing. This setting depends on type of line (tone or pulse) to the modem.
Adjustable Make/Break Ratio	This field controls the make/break ratios of pulses and DTMF dialing. Most modems have support for different make/ break options for pulse dialing only. Paradyne, Intel, and U.S. Robotics use the default **&P0** to select a ratio of 39% make and 61% break for communication for the United States and Canada. The option &P1 sets a ratio of 33% make and 67% break for the United Kingdom and Hong Kong. This is a 5-character blank field (default) and is not case-sensitive.
Dial Command	This field has a default of “D” in a 3-character field. This field denotes the standard dialing command of the modem and is not case-sensitive.
No Answer Time-Out	Most modems provide a timer that abandons any outbound data call after a predetermined interval. This is a non-administrable parameter.

Return to Task List

Add U.S. Robotics Model USR 33.6 EXT External Modem to EPN

Return to Task List

1 Connect an RS-232 cable to the modem. See Figure 285, Connect External Modem to EPN, on page 705.

NOTE:
In the following steps, a PC with Windows 95 or Windows NT 4.0 may be substituted for the dumb terminal. Use the Hyperterminal (terminal emulation) application.

2 Connect the opposite end of the RS-232 cable to a dumb terminal.

3 Set the dumb terminal to full duplex mode.

4 Type **AT&N6** to set the baud rate to 9600.

The modem connects at 9600 baud but throughput is at 1200 baud.

5 Type **AT&W0** to save the setting into non-volatile RAM.

6 Set Switch 5 to the OFF (up) position to disable auto answer.

7 Disconnect the RS-232 cable from the terminal and connect it to the TERMINAL connector on the rear of the system cabinet.

Figure 285: Connect External Modem to EPN

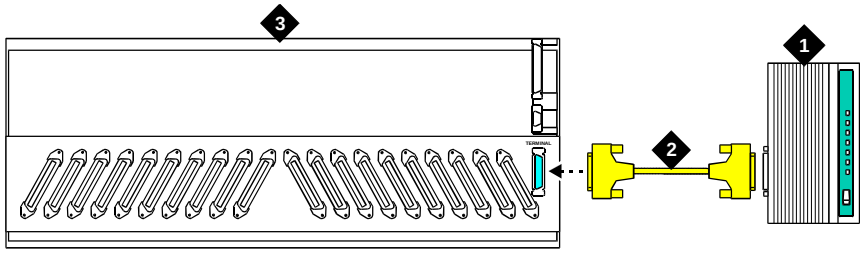


Figure notes

1 U.S. Robotics External Modem

2 RS-232 Cable

3 Expansion Port Network

Return to Task List

Add U.S. Robotics Model USR 33.6 EXT External Modem to PPN

Return to Task List

1 Connect an RS-232 cable to the modem. See Figure 286, Connect External Modem to PPN, on page 706.

NOTE:
In the following steps, a PC with Windows 95 or Windows NT 4.0 may be substituted for the dumb terminal. Use the Hyperterminal (terminal emulation) application.

2 Connect the opposite end of the RS-232 cable to a dumb terminal.

3 Set the dumb terminal to full duplex mode.

4 Type **AT&N6** to set the baud rate to **9600**.

The modem connects at 9600 baud but throughput is at 1200 baud.

5 Type **AT&W0** to save the setting into non-volatile RAM.

6 Set Switch 5 to the OFF (up) position to disable auto answer.

7 Disconnect the RS-232 cable from the terminal and connect it to the TERMINAL connector on the rear of the system cabinet.

Figure 286: Connect External Modem to PPN

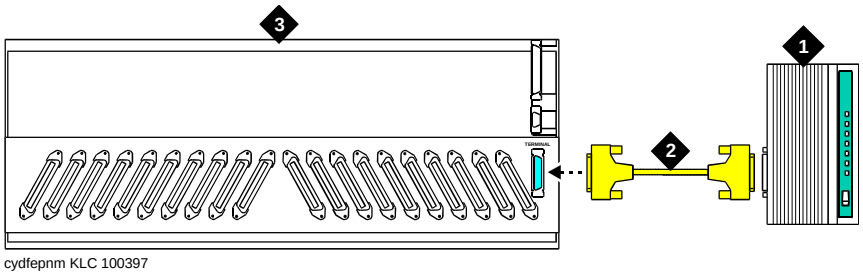


Figure notes

1 U.S. Robotics External Modem
2 RS-232 Cable
3 Processor Port Network

Return to Task List

Add External Modem to TN1648B

Return to Task List

Use a type-approved external modem.

1 Unpack and inspect the equipment received. See Figure 287, External Modem Pass-Thru Kit Equipment, on page 707 for the parts and Parts List on page 708 for a list of parts. Actual equipment may vary in appearance and may ship in separate packages.

2 Open the front door.

NOTE:
Administration may be required before removing the circuit pack in the following step.

3 Determine which slot will contain the new circuit pack. Remove the circuit pack or the apparatus blank from this slot.

4 Install the new circuit pack.

5 From the front, remove the fan cover. See Figure 288, Remove the Fan Cover, on page 708.

6 Open the rear door.

7 Attach the panel adapter bracket. See Figure 289, Attach the Panel Adapter Bracket, on page 709.

8 Insert the cable assembly. See Figure 290, Attach the Cable Assembly to the Bracket, on page 709.

9 Connect the external modem cable to the cable assembly.

10 Attach the RJ45 (telephone plug) to the pass-thru tool using a tie wrap. See Figure 291, Attach the Cable to the Pass-Thru Tool, on page 710. If you are using only one RJ45, bundle the other one and tie wrap it near the body of the cable assembly.

11 Slide the tool to the front of the cabinet. See Figure 292, Insert the Pass-thru Tool, on page 710.

12 Pull the tool (with adapter and cable attached) out through the front of the cabinet.

13 Close the rear door.

14 Replace the fan cover. See Figure 293, Replace the Fan Cover, on page 711.

15 Connect the cable to the front of the TN1648B circuit pack. See Figure 294, Connect the Cable to the TN1648B Circuit Pack, on page 711.

16 Dress the cable straight down the front of the circuit pack. Do not allow the cable to cross in front of another circuit pack.

17 Attach the cable mount to the cabinet and secure the cable. See Figure 294, Connect the Cable to the TN1648B Circuit Pack, on page 711.

18 Close the front door.

19 Discard the pass-thru tool.

20 Log in as **craft**.

> **NOTE:**
> If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

21 Administer the system by referring to the Chapter , “Adjuncts and Peripherals”.

22 Type **list configuration all** and press **Enter** to determine if the new circuit pack appears in the correct slot and that there are no circuit pack conflicts.

Figure 287: External Modem Pass-Thru Kit Equipment

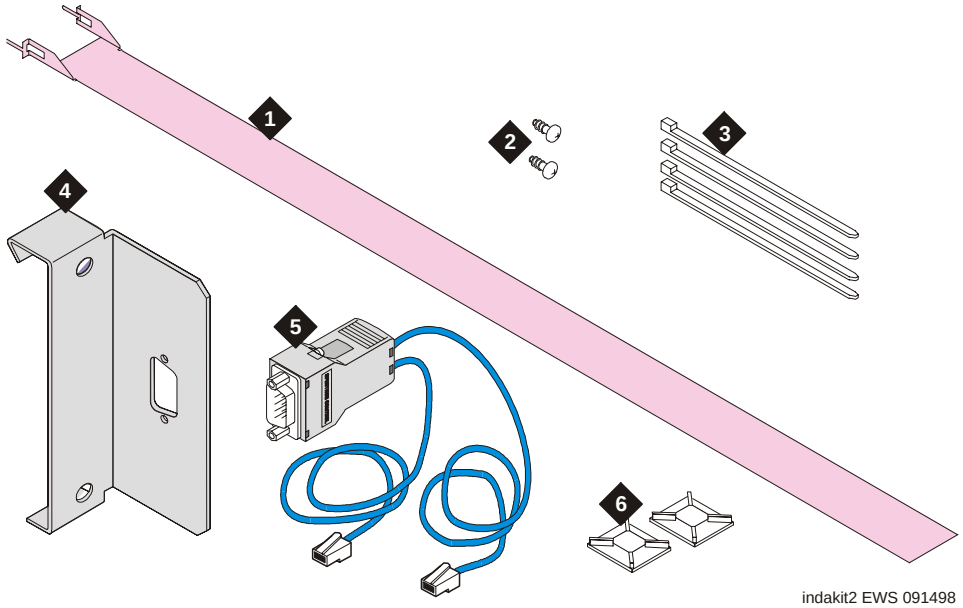


Figure notes

1	Pass-thru Tool	**4**	Panel Adapter Bracket
2	Machine Screw	**5**	Cable Assembly
3	Cable Tie	**6**	Cable Tie Mount

Parts List	
Quantity	**Description**
1	External modem pass-thru kit Kit includes: pass-thru tool, cable ties, panel adapter bracket, machine screws, and cable tie mounts.
1	Cable Assembly

Figure 288: Remove the Fan Cover

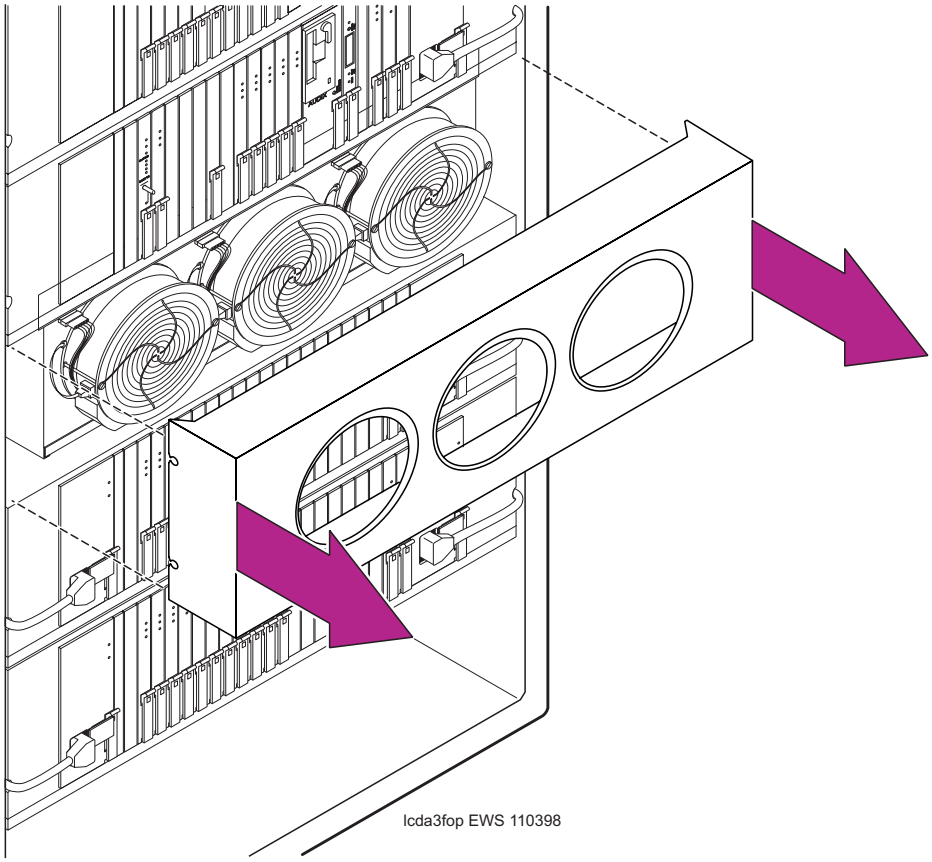


Figure 289: Attach the Panel Adapter Bracket

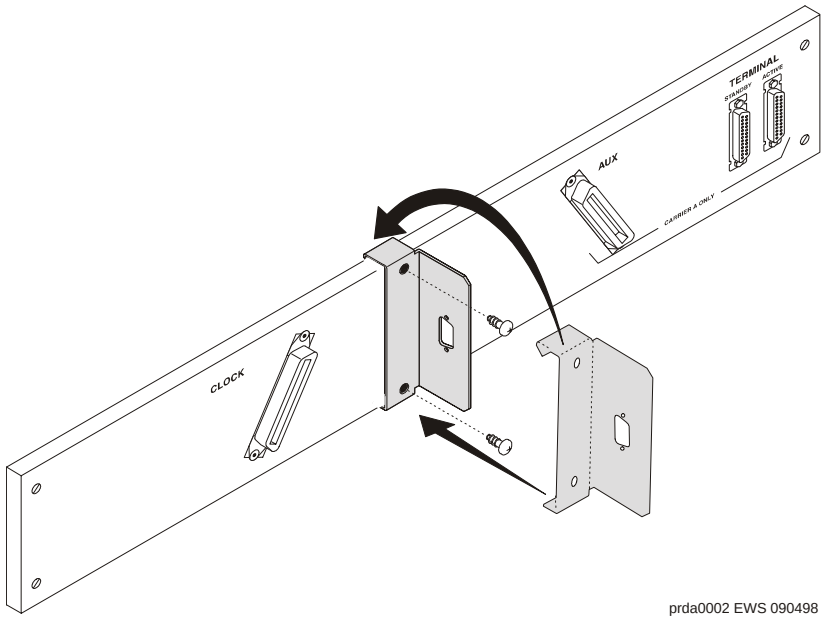


Figure 290: Attach the Cable Assembly to the Bracket

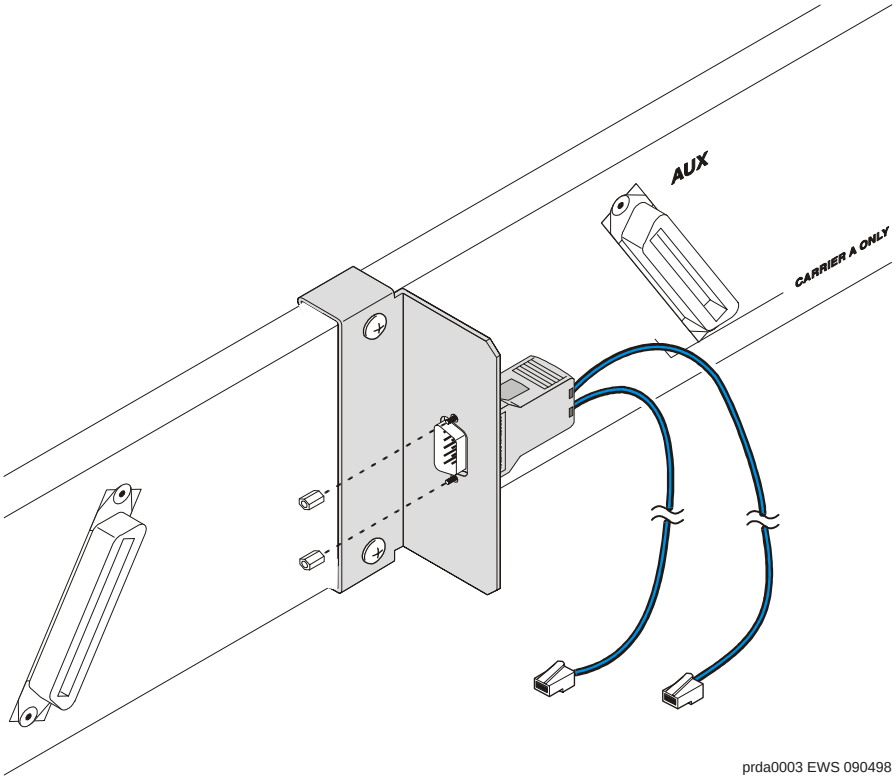


Figure 291: Attach the Cable to the Pass-Thru Tool

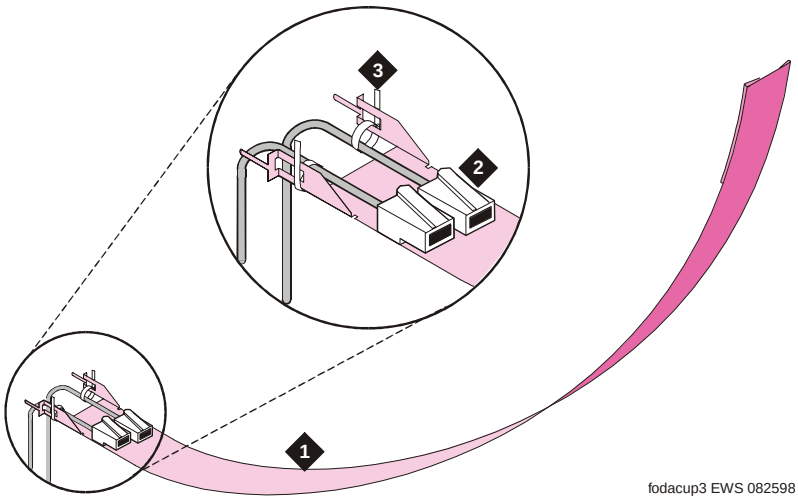


Figure notes

1 Pass-thru Tool **2** RJ45 (Telephone Plug) **3** Tie Wrap

Figure 292: Insert the Pass-thru Tool

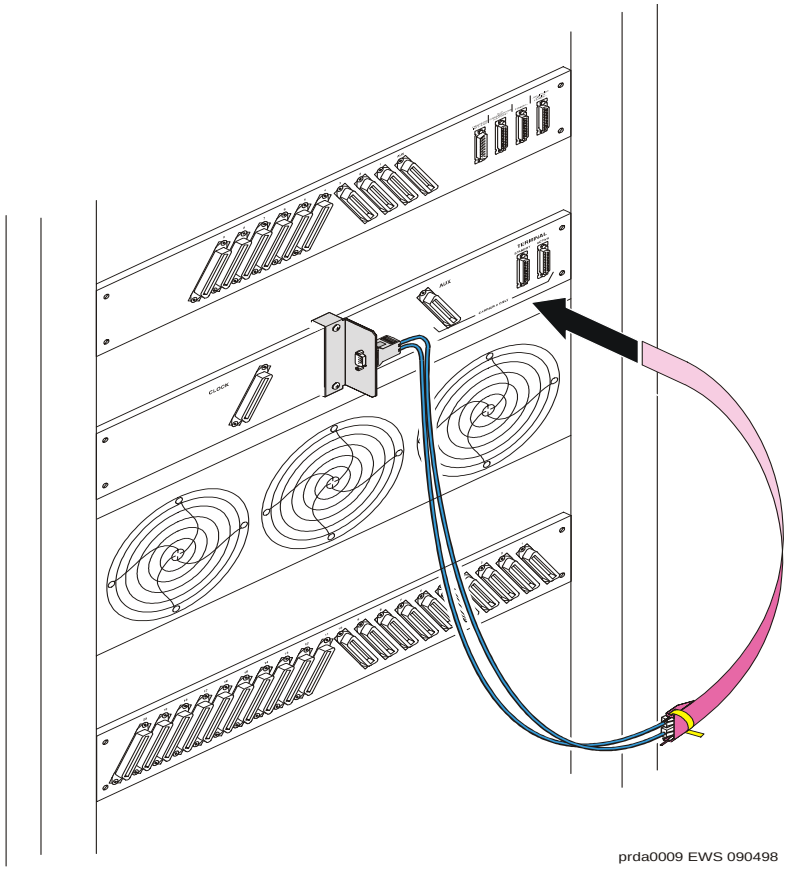


Figure 293: Replace the Fan Cover

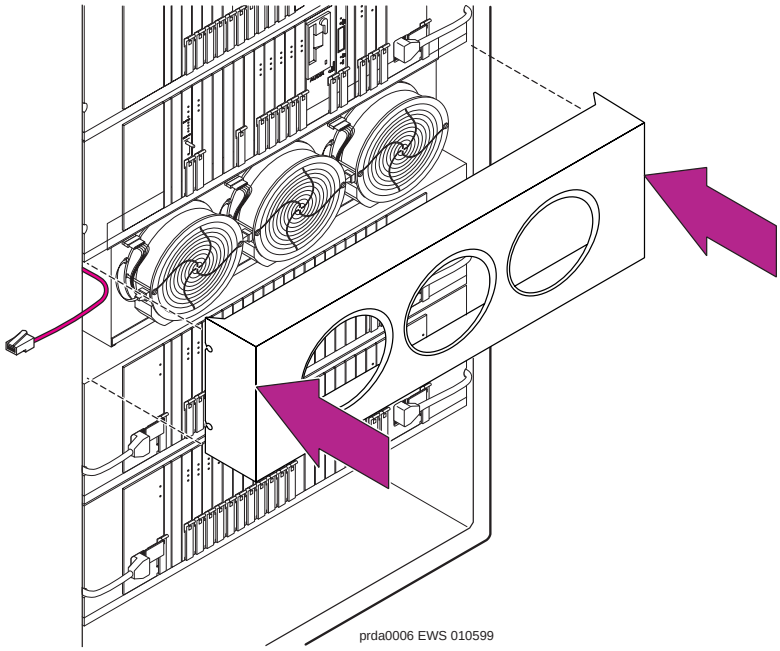
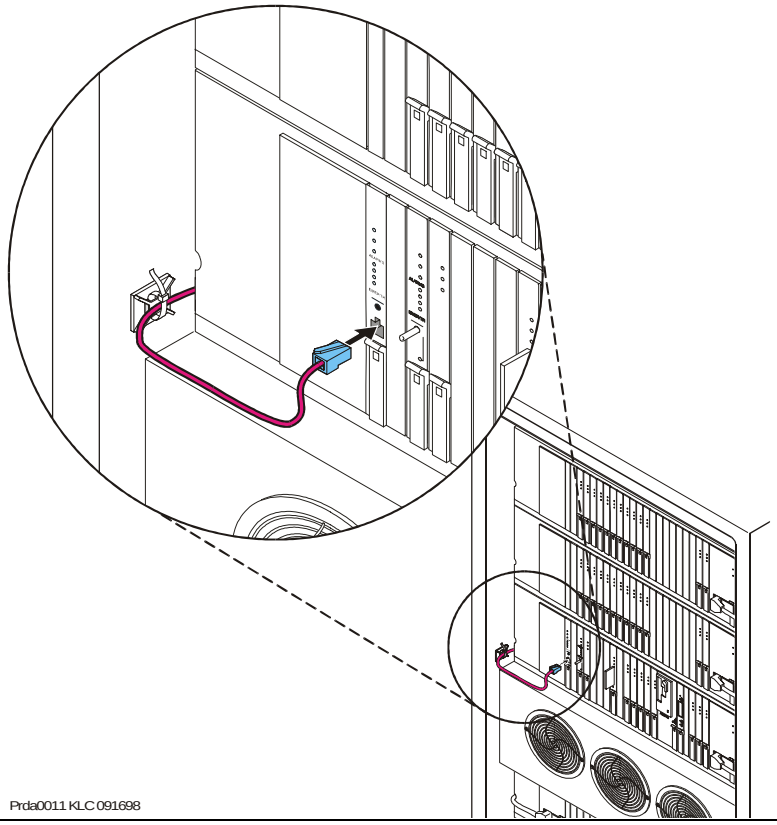


Figure 294: Connect the Cable to the TN1648B Circuit Pack



Return to Task List

Add Modem Pooling

Return to Task List

Modem Pooling supports 2 types of conversion resources: integrated and combined.

The integrated type requires a TN758 Pooled Modem circuit pack for each 2 conversion resources provided.

The combined type requires a port on a TN754C Digital Line circuit pack and a port on either an 8-port TN742, TN769; a 16-port TN746B; or a 24-port TN793/B, TN2793/B Analog Line circuit pack for each conversion resource provided.

The pooled modem requires a WP90110 L7 power supply. Although an integrated conversion resource can use either the L5 or L7, the combined only works with an L7.

CAUTION:
The L5 and L7 power supplies look identical. Check the list number on the power supply before installing.

Task List: Set up Modem Pooling

1. Add Pooled Modem (Paradyne 3800 Series) on page 712
2. Set the Modem Connected to Data Module on page 713
3. Set the Modem Connected to the Data Terminal Equipment (DTE) on page 713
4. Set 7400A and 7400B Options (Modem Pooling) on page 713

Return to Task List

Add Pooled Modem (Paradyne 3800 Series)

Return to Task List

Use this procedure for Paradyne 3800 Series modems. For other types of modems, refer to the vendor's documentation.

The pooled modem requires a WP90110 L7 power supply. The L5 and L7 power supplies look identical. Check the list number on the power supply before installing.

1. Determine the port assignment of the circuit packs to be added (if required).
2. Install the appropriate circuit packs in assigned carrier slot (if required).
3. Type **AT&F&D2&S4\D3S2=128x7V2S7=60S85=1** and press **Enter**.
4. Type **ATY0S10=100S78=2M0E0\N1&W** and press **Enter**.

Return to Task List

Set the Modem Connected to Data Module

Return to Task List

1. Type **add data-module *next*** and press **Enter**.
2. Type **pdm** in the `Type` field.
3. Type **x** in the `Port` field.
4. Type **dte** in the `Connected to` field and press **Enter**.
5. Type ***add station next*** and press **Enter**.
6. Type **2500** in the `Type` field.
7. Type **x** in the **`Port`** field.
8. Type **n** in the `Tests` field and press **Enter**.
9. Type **add modem-pool *next*** and press **Enter**.
10. Type **combined** in the `Group Type` field.
11. Type **5** in the `Hold Time (min)` field.
12. Type **two-way** in the `Direction` field.
13. Type **9600** in the `Speed` field.
14. Type **Full** in the `Duplex` field.
15. Type **async** in the `Synchronization` field.
16. Type the port pair assignments in the `Analog` and `Digital` fields and press **Enter**.

Return to Task List

Set the Modem Connected to the Data Terminal Equipment (DTE)

Return to Task List

1. Type **add station *next*** and press **Enter**.
2. Type **2500** in the `Type` field.
3. Type the port assignment in the `Port` field and press **Enter**.

Set 7400A and 7400B Options (Modem Pooling)

Return to Task List

Determine if the 7400A or 7400B will be interfacing with D-lead modems or attention control modems. Use Table 28, Options for D-Lead and Attention Control Modems, on page 714 to interface with either modem. You can set options for the 7400B through a dumb terminal.

Table 28: Options for D-Lead and Attention Control Modems

Set Option Display	Option	D-Lead Settings	Attention Control Settings
Set 300 Speed?	300	Note 1	Note 1
Set 1200 Speed?	1200	Note 1	Note 1
Set 2400 Speed?	2400	Note 1	Note 1
Set 4800 Speed?	4800	Note 1	Note 1
Set 9600 Speed?	9600	Note 1	Note 1
Set 19200 Speed?	19200	Note 1	Note 1
Set AT Control?	AT	OFF	ON
Set CI Lead?	CI	Note 2	Note 2
Set CI2 Lead?	CI2	Note 2	Note 2
Set CH Lead?	CH	Note 2	Note 2
Set CH2 Lead?	CH2	Note 2	Note 2
Set LL Lead?	LL	Note 2	Note 2
Set REMOTE Loop?	REMLOOP	Grant	Grant
Set RL Lead?	RL	Note 2	Note 2
Set SIGLS Disc?	SIGLS DISC	ON	ON
Set TM Lead?	TM	Note 2	Note 2

Note 1. Set speed to match remote modem. At least one speed must be set ON.

Note 2. Set to match remote modem.

Return to Task List

Upgrade Firmware on Programmable Circuit Packs

You can download new firmware to specific, programmable circuit packs. Programmable circuit packs have a “P” in their suffix. For example TN799DP is programmable, but TN799C is not. This programmable capability reduces the need to physically remove circuit packs and return them to Avaya for firmware updates.

You can download firmware to one or more programmable circuit packs of the same type residing within the same configuration.

During this firmware download process, a firmware image is installed on a circuit pack in three steps:

1. The image is copied from an Avaya server over the Web to a local “staging area” — a PC or server on the customer LAN.
2. The image is copied from the local staging area to the *source* circuit pack.
3. The image is downloaded from the *source* to the *target* with one of these methods:
   - — For a *self download*, the image is downloaded directly from RAM (the *source*) to flash memory (the *target*) on the same circuit pack.
   - — For a *C-LAN-distributed download*, the image is downloaded from RAM (the *source*) on a C-LAN circuit pack to flash memory (the *target*) on one or more separate circuit packs of the same type.

Although different circuit packs have different potential roles in a firmware download, currently the following circuit packs can participate in a firmware-download procedure. Additional circuit packs will be added in the future.

- TN799C or TN799DP—Control LAN (C-LAN)
- TN2214CP orTN2224CP—2-Wire Digital Line DIG-LINE)
- TN2302AP—IP Media Processor (IPMEDPRO)
- TN771DP—Maintenance/Test (M/T-ANL)
- TN464GP, TN2464BP, and TN2313AP—UDS1
- TN2501AP—Voice Announcements over LAN (VAL)

See Table 29, Programmable Circuit-Pack Roles in Firmware Downloads, on page 716 for each circuit pack’s roles in a firmware download.

Self and C-LAN-distributed download Procedure

Table 29: Programmable Circuit-Pack Roles in Firmware Downloads

Circuit Pack	TN Code	Role in Self Download	Role in C-LAN-distributed Download
C-LAN	TN799C[1]		Source
	TN799DP[2]	Source and Target	Source
VAL	TN2501AP	Source and Target	
IP Media Processor	TN2302AP[3]		Target
DIG-LINE (2-wire)	TN2214CP		Target
	TN2224CP		Target
Maintenance/Test	TN771DP		Target
UDS1	TN464GP		Target
	TN2464BP		Target
	TN2313AP		Target

1 The TN799C C-LAN circuit pack can be the source for a C-LAN-distributed download but cannot be the target circuit pack for either a self or C-LAN-distributed download because it is not a programmable circuit pack (no P suffix).

2 The TN799DP can be both source and target for a self download and can be the source for a C-LAN-distributed download.

3 For TN2302AP circuit packs with a vintage less than 22, a different download procedure is required that is not described here. Go to the Avaya Support Web site under **Software & Firmware Downloads**, DEFINITY ECS, TN2302AP firmware downloads. On the page titled "Retired - (OLD Do Not Use) DEFINITY Firmware Downloads", scroll down to the TN2302AP section and click on TFTP_Firmware_download_procedure.pdf.

This section describes the procedures for either a self or C-LAN-distributed firmware download. These procedures help you determine which method to use. The main differences between the two methods are:

C-LAN-distributed download	The source circuit pack is always a C-LAN, either TN799DP or TN799C. Multiple target circuit packs of the same TN code can be scheduled for download at a time.
Self download	The source and target circuit packs are the same. Each circuit pack must be scheduled for download individually.

The high-level steps used to perform a self- or C-LAN-distributed firmware download are

1. Prepare for download on page 717
2. Upload image file from the Web to staging area on page 720
3. FTP the image file to source on page 720
4. Schedule a download to target(s) on page 721

5 Monitor download progress on page 725

6 Reseat VAL circuit pack on page 726

7 Disable file system on page 727

NOTE:
If you have any trouble with this procedure, refer to Troubleshooting firmware downloads on page 727.

Prepare for download

The following subsections contain procedures to prepare for the firmware downloads to target circuit packs:

- Verify hardware/software requirements on page 717
- Get circuit pack information on page 718
- Set up source circuit pack's file system on page 719

Verify hardware/software requirements

Make sure you know which download procedure to use and that you have all the hardware and software that is necessary to proceed.

- Given the type of target circuit pack to be upgraded, choose an appropriate source circuit pack from the following table (Table 30, Download Method by Circuit Pack, on page 717). The last column indicates which download method must be used with the target and chosen source.

Table 30: Download Method by Circuit Pack

Target Circuit Pack(s)	Source Circuit Pack	Download Method
TN464GP, TN2464BP, and TN2313AP (UDS1)	TN799C or TN799DP	C-LAN-distributed
TN2214CP or TN2224CP (DIG-LINE)	TN799C or TN799DP	C-LAN-distributed
TN771DP (Maintenance/Test)	TN799C or TN799DP	C-LAN-distributed
TN2302AP (IP Media Processor)[1]	TN799C or TN799DP	C-LAN-distributed
TN799DP (C-LAN)	TN799DP	Self
TN2501AP (VAL)	TN2501AP	Self

1 For TN2302AP circuit packs with a vintage less than 22, a different download procedure is required that is not described here. Go to the Avaya Support Web site under **Software & Firmware Downloads**, DEFINITY ECS, TN2302AP firmware downloads. On the page titled "Retired - (OLD Do Not Use) DEFINITY Firmware Downloads", scroll down to the TN2302AP section and click on TFTP_Firmware_download_procedure.pdf.

- Make sure you have the following:
  - — Superuser or services login and password to the Avaya Communication Manager
  - — PC or other server with the following:
    - IP connectivity to the source board
    - Web browser (Internet Explorer 5.0 or higher or Netscape 4.x)
    - IP connectivity to the World Wide Web
    - File transfer protocol (FTP) software program

    NOTE:
    Some GUI-based FTP applications are incompatible with Avaya Communication Manager. Command-line FTP applications launched from a DOS prompt or UNIX shell work best.

If you need to distribute firmware from a source C-LAN to target boards on a DS1-C (DS1 converter complex) remote port network, then make sure a clear channel exists between the source C-LAN and those target boards:

1. Type **list fiber-link** and press **Enter**.
2. Find the link between the source C-LAN and the target boards.
3. Type **display fiber-link *n***, where ***n*** is the fiber link's number, and press **Enter** to access the ***Fiber Link Administration*** screen.
4. Go to the page 2 and verify that the `Line Coding` fields are set to `b8zs` for T1 facilities and `hdb3` for E1 facilities.

   If they are not, then escalate before proceeding with the firmware download.

Get circuit pack information

1. Type **list configuration all** and press **Enter** to access the ***System Configuration*** screen.

```
list configuration all

               SYSTEM CONFIGURATION
Board                           Assigned Ports
Number Board Type       Code   Vintage  u=unassigned t=tti p=psa

01A08 IP MEDIA PROCESSOR   TN2302AP HW03 FW044 01 02 03 04 05 06 07 08

01A04 CONTROL-LAN       TN799DP  HW00 FW005 u u u u u u u u
                          u u u u u u u u
                                                17

01B04  DS1 Interface           TN464GP  HW02 FW006 01 02 03 04 05 06 07 08
                          09 10 11 12 13 14 15 16
                          17 18 19 20 21 22 26 24
                          u u u u u u u u
01B05  DS1 Interface           TN464GP  HW02 FW006 01 02 03 04 05 06 07 08
                                                09 10 11 12 13 14 15 16
                          u u u u u u u u
                          u u u u u u u u
01B06  DS1 Interface           TN464F   000038     01 02 03 04 05 u u u
                          u u u u u u u u
                          u u u u u u u u
                          u u u u u u u u

01A10 VAL-ANNOUNCEMENT        TN2501AP HW01 FW004 01 02 03 04 05 06 07 08
                                                09 10 11 12 13 14 15 16
                                                17 18 19 20 21 22 26 24
                          25 26 27 28 29 30 31 32
                                                33
```

2 Look for the target circuit pack(s). If the suffix in the `Code` field does not have a "P" (e.g., TN2302A**P**), a firmware download is not possible.

3 Look for the firmware vintage(s) in the `Vintage` field of the target circuit pack(s) to see if a firmware download is needed.

4 Record the UUCSS address in the `Board Number` field of each source and target circuit pack.

If a C-LAN is the source, make sure port 17 is assigned on that C-LAN. If it is not assigned, administer the port.

5 Type **add data-module *UUC17*** and press **Enter**.

For a self download to a VAL board, make sure that port 33 is assigned on the VAL board. If it is not assigned, administer the port.

6 Type **add data-module *UUC33*** and press **Enter**.

7 Determine the IP address of the source circuit pack. You can either ask the data systems administrator or type the following commands:

a Type **display ip-interfaces**. Find the source circuit pack's `Slot` location and write down its `Node Name`.

b Type **display node-names ip**. Find the source circuit pack's `Node Name` and write down its `IP Address`.

Set up source circuit pack's file system

Before files can be copied to the source circuit pack, you must set up a file system on the source circuit pack to accept the files.

1 Log in using a superuser or services login and password.

2 Type **enable filesystem board *UUCSS* login *ftplogin ftppassword***, where:

— ***UUCSS*** is the location of the source circuit pack.

— ***ftplogin*** is any temporary login ID that you choose for this FTP session (for example, *denver*).

— ***ftppassword*** is any password that you choose for this FTP session (for example, *broncos*). The password must be at least 7 characters long.

You use this same ***ftplogin*** and ***ftppassword*** in the section, FTP the image file to source on page 720.

This completes the preparation for a firmware download.

Upload image file from the Web to staging area

To upload files from the Web, you need a temporary staging area to store the firmware images before downloading them to a circuit pack. Although the staging area is often on a PC platform, you can also use other platforms such as a UNIX or Linux.

1. Go to the Avaya Support Web site (http://avaya.com/support). Follow the **Software & Firmware Downloads** link and the subsequent links for your product and the target circuit pack TN code.
2. Find the section for the firmware vintage you want. Unless otherwise instructed, choose the highest vintage.
3. Be sure to read that vintage's ReadMe file before downloading the image file(s).
4. For each image file to be downloaded:
   a. Click on the image filename.
   b. Save this file to disk in a local staging area directory.
   c. Write down the path to the local staging area and the filename of the firmware image. You need this information later.

FTP the image file to source

The following steps are generic to most FTP programs.

1. From the computer where the local staging area is, bring up a DOS interface or UNIX/Linux shell.
2. Ensure that the new firmware image file is in the local staging area directory:
   a. Change the directory to the staging area:

      cd ***/your-staging-area***

   b. List the contents of the directory showing the most recent files last using **dir /od** (DOS) or **ls -ltr** (UNIX/Linux).
3. Use FTP to copy the firmware image file(s) to the source:
   a. Type **ping** ***ip_address***, where ***ip_address*** is the IP address of the source board, and press **Enter** to verify a communication link to the source board.
   b. Type **ftp** ***ip_address*** and press **Enter** to provide the FTP interface with a link to the source.

c Log into the FTP session with the same ***ftplogin*** and ***ftppassword*** that you set up earlier in Set up source circuit pack's file system on page 719.

d Type **binary** and press **Enter**. This requests that files be transferred in binary format.

CAUTION:
Files are corrupted during transfer if you do not specify **binary**.

a If you are self downloading to a TN2501AP (VAL) circuit pack, type **cd /**

This command moves you from the announcement directory (default for an FTP session on the VAL board) to the root directory ("/"), where firmware and other files reside. This keeps the firmware image file separate from the announcement files.

b Type **put *filename.ext*** and press **Enter** to copy the new firmware image file to the source directory in RAM.

c Type **ls** and press **Enter** to verify that the new firmware image file is on the circuit pack.

d Type **bye** and press **Enter** to end the FTP session.

Schedule a download to target(s)

You can schedule the download to occur immediately or at a later date and time. The procedures for self- and C-LAN-distributed download methods differ at this step.

1 Type **change firmware download** and press **Enter**.

2 Fill in the fields as described in Table 31.

Table 31: Firmware Download fields and descriptions

Field	Description	Notes
`Source Board's Location`	Type the UUCSS address of the source circuit pack.	For a self download, the same board is the source board and target board. For a C-LAN-distributed download, this is the source C-LAN location.
`Firmware Image File Name`	Type the complete filename of the new firmware image file. If the **list directory board** command showed that the file had an extension, such as.bin, include the extension as well.	
`Target Board Code`	Type the circuit pack ID, for example "TN2501." Do not type the suffix, such as "AP", "DP", or "GP".	Enter the TN code of the target circuit pack(s). For a self download, this is the same as for the source circuit pack.

1 of 3

Table 31: Firmware Download fields and descriptions

Field	Description	Notes
`Suffix`	Examples: • For VAL (TN2501AP), type **AP**. • For C-LAN (TN799DP), type **DP**. • For DS1 (TN464GP), type **GP**.	
`Firmware Vintage`	This is blank. It shows a value in the Firmware Download form of a **display firmware download** or a **status firmware download**.	
`Schedule Download`	Type **y** to schedule the firmware download for another time. Type **n** to start the firmware download immediately after completing the form.	Once the firmware download begins, you cannot make any changes to this form. You can only disable this schedule using **disable firmware download** and then start a new one. (See Aborting a firmware download on page 727 for instructions.) If you answer **n**(o), then the `Start Date/Time` and `Stop Date/Time` fields disappear. The download begins as soon as you press **Enter**.
`Remove Image File After Successful Download`	Type **y** if you want the procedure to automatically remove the new firmware image file [default]. Type **n** if you do not want the new firmware image file removed.	At the completion of a successful download, the procedure automatically removes the new firmware image file from the source file system, freeing up the memory on the source circuit pack. We recommend using the default setting. If field is set to **n**, you must manually remove the new firmware image file from the source file system after the download has completed. (See Disable file system on page 727 for instructions.)

2 of 3

Table 31: Firmware Download fields and descriptions

Field	Description	Notes
`Start Date/Time`	Type the date and time that you want the firmware download to begin.	
`Stop Date/Time`	Type the date and time that you want the firmware download to end.	If the scheduled stop time is reached before the new firmware image file has been downloaded to every circuit pack, the system finishes downloading to the circuit pack in progress before aborting the remainder of the download schedule.
`Target Location`	Type the UUCSS address of the circuit pack that you are updating.	For a self download, this circuit pack must reside in the same location as the source pack. For a C-LAN-distributed download, enter up to 50 locations — these must all be the same type of circuit pack.

3 of 3

If you are performing a self download, enter only one target board location; it is the same as the source board location. The following screen provides an example of self download to a VAL circuit pack.

```
change firmware download                    Page  1 of  1
                  FIRMWARE DOWNLOAD
  Source Board Location: 01A10
Firmware Image File Name: tn2501ap_f05.bin
    Target Board Code: TN2501 Suffix: AP Firmware Vintage:
    Schedule Download? y  Remove Image File After Successful Download? y
  Start Date/Time: 09/12/2002 13:30  Stop Date/Time: 09/12/2002 16:30

  Target     Target     Target     Target     Target
  Location    Location    Location    Location    Location
 1. 01A10       11. _____    21. _____    31. _____    41 _____
 2. _____    12. _____    22. _____    32. _____    42 _____
 3. _____    13. _____    23. _____    33. _____    43. _____
 4. _____    14. _____    24. _____    34. _____    44. _____
 5. _____    15. _____    25. _____    35. _____    45. _____
 6. _____    16. _____    26. _____    36. _____    46. _____
 7. _____    17. _____    27. _____    37. _____    47. _____
 8. _____    18. _____    28. _____    38. _____    48. _____
 9. _____    19. _____    29. _____    39. _____    49. _____
10. _____    20. _____    30. _____    40. _____    50. _____

Enter 5 character board number; cabinet(1-30):carrier(A-E):slot(0-20
```

If you are performing a C-LAN-distributed download, enter a C-LAN location as the source and 1 to 50 target locations, where the target boards are all of the same type. The following screen provides an example of a C-LAN-distributed download to 2 UDS1 circuit packs.

```
change firmware download                    Page  1 of  1
                 FIRMWARE DOWNLOAD
  Source Board Location: 01A04
Firmware Image File Name: usd1v22r1
    Target Board Code: TN464 Suffix: GP Firmware Vintage:
    Schedule Download? y Remove Image File After Successful Download? y
  Start Date/Time: 10/08/2002 22:00  Stop Date/Time: 10/08/2002 22:30

Target     Target     Target     Target     Target
Location    Location    Location    Location    Location
 1. 01B04    11. _____    21. _____    31. _____    41 _____
 2. 01B05    12. _____    22. _____    32. _____    42 _____
 3. _____    13. _____    23. _____    33. _____    43. _____
 4. _____    14. _____    24. _____    34. _____    44. _____
 5. _____    15. _____    25. _____    35. _____    45. _____
 6. _____    16. _____    26. _____    36. _____    46. _____
 7. _____    17. _____    27. _____    37. _____    47. _____
 8. _____    18. _____    28. _____    38. _____    48. _____
 9. _____    19. _____    29. _____    39. _____    49. _____
10. _____    20. _____    30. _____    40. _____    50. _____

Enter 5 character board number; cabinet(1-30):carrier(A-E):slot(0-20)
```

3 Press **Enter** to submit the schedule.

If you set the `Schedule Download` field to **n**, the download starts as soon as you submit the schedule.

NOTE:
If you are scheduling firmware downloads for a circuit pack that is designated as primary/secondary sync (timing) source (for example, TN464GP), this procedure automatically redesignates a local timing source during the download. After the download is complete and the circuit pack is returned to service, the procedure designates the original circuit pack as the timing source.

NOTE:
The target circuit packs are automatically removed from service while the firmware is downloaded to them and automatically returned to service after the download is completed. While a circuit pack is removed from service, any active calls through that circuit pack are dropped.

NOTE:
An error message asking you to use the command, **test firmware download**, means that there was a problem with a previous firmware download. Run the test before proceeding. Go to Testing firmware download on page 727.

CAUTION:
Unless the `Remove Image File After Successful Download` field is set to **y**, the ***ftplogin*** and ***ftppassword*** remain on the TN799DP or TN799C (C-LAN) and TN2501AP (VAL) circuit packs either until they are reset or until you type the **disable filesystem board *UUCSS*** command.

4 If the download is scheduled for later, ensure that the download will run as you intend by testing the firmware download. Go to Testing firmware download on page 727.

Monitor download progress

You can check the progress of a firmware download with this procedure.

1 Type **status firmware download** and press **Enter** to display the ***Status Firmware Download*** screen.

```
status firmware download last

              STATUS FIRMWARE DOWNLOAD

 Source Board Location: 01A04
Firmware Image File Name: usd1v22r1
    Target Board Code: TN464 Suffix: GP Firmware Vintage: 8
    Schedule Download? y  Remove Image File After Successful Download? y
  Start Date/Time: 10/08/2002 22:00  Stop Date/Time: 10/08/2002 22:02

  Target     Target     Target     Target     Target
  Location St   Location St   Location St   Location St   Location St
 1. 01B04  C  11.       21.       31.       41.
 2. 01B05  C  12.       22.       32.       42.
 3.       13.       23.       33.       43.
 4.       14.       24.       34.       44.
 5.       15.       25.       35.       45.
 6.       16.       26.       36.       46.
 7.       17.       27.       37.       47.
 8.       18.       28.       38.       48.
 9.       19.       29.       39.       49.
10.       20.       30.       40.       50.
Status: Pending(P) Completed(C) Failed(F) Aborted(A)
```

If this form is blank, the download has completed; go to Step 3.

2 Check the `St` (status) field immediately to the right of the `Target Location` field to view the progress of the firmware update:

   — `(P)`ending
   — **(**`C`**)**ompleted
   — **(**`F`**)**ailed
   — **(**`A`**)**borted

3 Type **status firmware download *last*** and press **Enter** to view the progress of the last completed firmware update or the entire schedule if it is completed. Notice in the previous screen that the `Start` and `Stop` times now reflect the actual start and stop times of the download schedule and that the `Firmware Vintage` now reflects the vintage that was downloaded.

4 If one or more downloads fail, go to Testing firmware download on page 727.

5 If previously you set the `Remove Image File After Successful Download?` field on the Firmware Download screen to **y**, then the download procedure is now complete.

   If you previously set it to **n**, then proceed to the next section, Disable file system on page 727, to manually remove the firmware image and disable the file system on the source circuit pack.

Reseat VAL circuit pack

For TN2501AP (VAL) circuit packs only, reseat the TN2501AP to reset the board after the download is complete.

CAUTION:
If you do not reseat the TN2501AP, then the pack runs using old firmware.

WARNING:
To prevent electrostatic discharge (ESD), be sure to wear a grounding strap while handling the circuit pack.

CAUTION:
Ensure that the top green and top amber LEDs on the TN2501AP are out.

1 Release the latch handle to free the TN2501AP from the carrier.

2 Pull the circuit pack out about 1 – 2 inches (3 – 5 cm).

3 Re-insert the circuit pack into the media gateway or carrier.

4 Close the latch securely.

5 Wait until all three of the top LEDs (red, green, and amber) are out.

Disable file system

NOTE:
Performing the following steps on the TN799DP (C-LAN) or TN2501AP (VAL) circuit packs removes only the ***ftplogin*** and the ***ftppassword***. The allocated memory for the file system remains reserved for the session.

To free up resources on the source circuit pack, you must delete the new firmware image files and disable the file system.

1. Type **remove file board *UUCSS filename.ext*** and press **Enter** to remove the image file from the source board.
2. Type **list directory board *UUCSS*** and press **Enter**.
3. Check the `File/Directory Name` field to verify that the new firmware image file is *not* listed.
4. Type **disable filesystem board *UUCSS*** and press **Enter** to disable the file system on the source circuit pack.

   NOTE:
   This command is successful only if no files remain on the source circuit pack.

This completes the self- and C-LAN-distributed download procedures.

Troubleshooting firmware downloads

This section contains these troubleshooting subsections:

- Aborting a firmware download on page 727
- Testing firmware download on page 727
- Backing out of a firmware download on page 728

Aborting a firmware download

You can only abort (disable/cancel) a scheduled download that has not yet started. Any download currently in progress to a circuit pack finishes. For example, if you had scheduled a C-LAN distributed download to multiple targets and the download was in progress to the first circuit pack when you disabled the download, then the download would stop after the completion of the first circuit pack's download and the remainder of the circuit packs would not receive the download.

To abort a self or C-LAN-distributed firmware download, enter the SAT command **disable firmware download**.

Testing firmware download

You can test a self- or C-LAN-distributed firmware download either before a scheduled download has begun or after an attempted download has reported errors.

1. Type **test firmware download** and press **Enter** to display the Test Results screen.

   If the download has already begun, the test is denied.

```
test firmware download                          SPE A

                 TEST RESULTS

Port    Maintenance Name Alt. Name Test No. Result      Error Code

      FW-DWNLD          1413   PASS
```

2 Look in the `Result` field for `FAIL/PASS` conditions.

The `Result` field in the screen shows `PASS`, indicating a successful test of the firmware download circuitry.

If the `Result` field shows **`FAIL`**, refer to the maintenance book in the FW-DWNLD maintenance object section, subsection entitled System Technician-Demanded Tests: Descriptions and Error Codes. Resolve every error and rerun the test.

When the test passes, every specified resource is currently available for the scheduled download. Note, however, that this does *not* guarantee the resource will still be available at the time of the download.

Backing out of a firmware download

To back out of a completed firmware download and revert to the previous image, follow the same download procedure you did before, except use the previous firmware vintage instead. The exception is TN799DP (C-LAN) and TN2501AP (VAL), which have a separate procedure.

Reverting to an older TN799DP or TN2501AP vintage

To revert back to the old firmware image file on a TN799DP (C-LAN) or TN2501AP (VAL) only:

1 Type **get boot-image *UUCSS*** and press **Enter** to check the status of the firmware images on the target circuit pack. .

```
get boot-image 1C07

              DISPLAY FIRMWARE IMAGE(S)

       Image 1    Image 2

 Board Type: TN2501     TN2501
 FW Vintage: 02       01
HW Signature: 02       02
   Suffix: A       A
    Date: 09/13/02    05/06/02
  Timestamp: 10:30:50    12:42:18
CRC Checksum: Good      Good
Active Image: Yes      No
Reboot Image: Yes      No
```

2 Check the `Active Image:` field in the `Image 1` and `Image 2` columns to see where the active image resides.

3 Check the `Date` and `Timestamp` fields to determine whether to revert back to a previous image.

In the following example, we are reverting back to Image 2, because it has the older date and time stamp.

NOTE:
In most cases, the image with the more recent date and time stamp is the new firmware image file.

4 Type **set boot-image board *UUCSS* image *1* | *2*** and press **Enter**.

Example: **set boot-image board 1C07 image 2**

The system responds with `Command Successfully Completed`.

5 Type **get boot-image *UUCSS*** and press **Enter** to check the status of the firmware images on the target circuit pack.

```
get boot-image 1C07

              DISPLAY FIRMWARE IMAGE(S)

       Image 1    Image 2

 Board Type: TN2501     TN2501
 FW Vintage: 02       01
HW Signature: 02       02
   Suffix: A       A
    Date: 09/13/02    05/06/02
  Timestamp: 10:30:50    12:42:18
CRC Checksum: Good      Good
Active Image: Yes      No
Reboot Image: No       Yes
```

Note that the values in the `Reboot Image` field has changed.

NOTE:
If a TN799C/DP C-LAN or TN2501 VAL circuit pack, reseat them to activate the new firmware image. Go to Reseat VAL circuit pack on page 726.

6 Type **get boot-image *UUCSS*** to check the status of the firmware images on the target circuit pack.

```
get boot-image 1C07

              DISPLAY FIRMWARE IMAGE(S)

       Image 1    Image 2

 Board Type: TN2501     TN2501
 FW Vintage: 02       01
HW Signature: 02       02
   Suffix: A       A
    Date: 09/13/02    05/06/02
  Timestamp: 10:30:50    12:42:18
CRC Checksum: Good      Good
Active Image: No       Yes
Reboot Image: No       Yes
```

7 Ensure that both the `Active Image` and the `Reboot Image` fields are as you expect.

Test Telephones and Other Equipment

This section describes how to test the telephones and other equipment. Perform these tests after the equipment has been wired to the system and after the customer's data for that equipment has been administered. The tests are acceptance tests and provide some assurance that the Avaya Media Gateways will perform properly after installation and administration.

If problems occur or more extensive tests are required, refer to the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation.

Task List: Perform Acceptance Tests

1 Make Test Calls on page 731
2 Test 302C Attendant Console on page 732
3 Test Selector Console on page 732
4 Test External Ringing on page 733
5 Test Queue Warning Indicator on page 733
6 Test Integrated Announcement on page 733
7 Record Announcement on page 733
8 Playback Announcement on page 734
9 Delete Announcement on page 734
10 Test Music-on-Hold on page 734
11 Test Emergency Transfer on page 734
12 Test Remote Access Interface on page 734 (formerly INADS)
13 Remote Test on page 735
14 Local Test on page 735
15 Test Basic Rate Interface on page 735 (BRI)
16 Test Duplication Option Processing Element Interchange on page 736
17 Test Terminating Trunk Transmission on page 736
18 Test the C-LAN Connection on page 737
19 Test Stratum 3 Clock (if used) on page 737
20 Perform Complete System Test on page 739 and Resolve Alarms on page 739
21 Activate and Test Alarm Origination Feature on page 740

Make Test Calls

Return to Task List

Make 2 calls from 1 telephone to another telephone. Make the first call by dialing a telephone and make the second call by dialing a trunk access code and a Listed Directory Number (LDN).

Test 302C Attendant Console

Return to Task List

Check all lamps are operational and call another telephone in the system.

1. Simultaneously press and hold the Ringer Volume up button and the POS BUSY button.

   This puts the console in the self-test mode.

   NOTE:
   Releasing the buttons returns the console to normal mode.

2. Verify all lamps on display light and remain lighted.

   Each row of lamps on the console lights and goes dark in sequence from top to bottom.

3. Press Start and listen for dial tone.
4. The green lamp associated with Idle Call Appearance lights up.

   The Position Available lamp goes dark.

5. Dial number associated with a working telephone.

   Audible ringing tone is heard in ear piece.

6. Press Release.

   Audible ringing tone is silenced. The green lamp associated with idle call appearance button goes dark. The Position Available lamp lights.

Return to Task List

Test Selector Console

Return to Task List

Check that all selector console lamps are operational. Make call to a telephone in the system.

1. Simultaneously press and hold the Ringer Volume up button and the POS BUSY button on the attendant console. This puts the console in the self-test mode.
2. Each row of lamps on the selector console lights and goes dark in sequence from top to bottom.
3. Press hundreds group select button. The hundreds group select lamp lights and any lamps associated with busy telephone light.
4. Press Direct Extension Selection (DXS) button for the desired extension. Audible ringing tone is heard in the earpiece on attendant console.
5. On attendant console, press Release. Audible ringing tone is silenced.

Return to Task List

Test External Ringing

Return to Task List

Make a test call to the attendant console to verify ringing device sounds when the Night lamp on console is lighted. If ringing device has not been installed by customer, connect spare telephone to information outlet reserved for ringing device and make test call.

Test Queue Warning Indicator

Return to Task List

Make a test call to an extension associated with a Uniform Call Distribution (UCD) or Direct Department Calling (DDC) group, and verify the queue warning indicator lamp lights. If the queue warning indicator has not been installed by customer, connect a spare telephone to the information outlet reserved for queue warning indicator and make a test call.

Test Integrated Announcement

Return to Task List

The TN750B/C and TN2501AP Announcement circuit packs provide the ability to store messages. The messages can be recorded from telephones on- or off-premises and have flexible message lengths. The telephone selected as the test telephone must have a class of service (COS) with console permission enabled.

Record Announcement

Return to Task List

1. Select test telephone with console permission enabled.
2. Dial the access code followed by the integrated announcement extension number. Dial tone is heard.
3. Dial “1.” A short burst of tone is heard and recording begins. Speak the announcement into the telephone.
4. Dial “#” or hang up. Recording stops and dial tone is heard.

Return to Task List

Playback Announcement

Return to Task List

1. Dial access code followed by the integrated announcement extension number. Dial tone is heard.
2. Dial “2.” The announcement is heard and dial tone is heard at completion of announcement.

Delete Announcement

Return to Task List

1. Dial access code followed by the integrated announcement extension number. Dial tone is heard.
2. Dial “3.” A confirmation tone is heard and announcement is deleted.

Test Music-on-Hold

Return to Task List

Verify music is provided to a held party during any hold interval.

Test Emergency Transfer

Return to Task List

Put system in emergency transfer mode and make call using emergency transfer telephone. There may be up to 4 Emergency Transfer switches depending on the system configuration. The switch is located on the Processor circuit pack(s) in the Processor Port Network (PPN) Control Carrier.

Test Remote Access Interface

Return to Task List

Test the communication link between the system and the remote interface (formerly INADS) and verify the alarm notification process. Make a remote test from the remote interface to the Avaya Media Gateway and a local test from the Avaya Media Gateway to the remote interface.

In some countries, this remote access interface is not allowed. Contact your Avaya representative.

Remote Test

Return to Task List

1. Call outside personnel who will be accessing the system remotely to perform administration, maintenance, and testing.
2. Ask remote personnel to call system and login and display System Parameters Maintenance screen. The login must be successful.

   NOTE:
   Product Identification on the System Parameters screen must match the Product Identification administered by the local technician.

3. Have the remote personnel type **test inads-link** and press **Enter**, terminate the login, and disconnect.
4. Have the remote personnel check the appropriate trouble ticket. The trouble ticket should show "INADS,n,MINOR" in the description field to indicate a minor off-board alarm was reported to the remote personnel. There may be more text in the description field if other resolved alarms were reported.
5. Have the remote personnel make second call and log into the system and check the error log to verify no problems. See *Maintenance for Avaya DEFINITY® Server SI (555-23-123)* documentation for your system for error log and error code information.
6. Have the remote access personnel terminate logoff and disconnect.

Return to Task List

Local Test

Return to Task List

1. Log in as **craft**.

   NOTE:
   If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

2. Type **test inads-link** and press **Enter**.
3. Request remote access personnel to verify that a trouble ticket was created.
4. Check error log to verify no problems.
5. Log off the system.

Test Basic Rate Interface

Return to Task List

Check for normal voice telephone function (dial tone, ability to make and receive calls). Check for the correct Service Profile Identifier (SPID) on a display telephone and the management terminal.

Test Duplication Option Processing Element Interchange

Return to Task List

The process of the standby Processing Element (PE) taking over for the active PE is referred to as a PE Interchange. This interchange should not be performed immediately after powering up the system. Wait a few minutes to allow the system to complete its internal tests. The system default is **PE_B** after powering up the system, so the active PE should be the B processor for this test, and the interchange should make **PE_A** the active PE. Verify the system can successfully perform a PE interchange.

1. At the management terminal, verify the screen displays `PE_B` in the upper right corner.
2. Type **check status** and press **Enter**. Verify `PE_B` is in the `standby` mode. If it is, proceed to Step 4. If it is not, proceed to Step 3.
3. Type **refresh-spr-standby** and press **Enter**.
4. Type **reset system interchange** and press **Enter**. The management terminal will be logged off and a beep will be heard.
5. Login and verify that the screen displays `PE_A` in the upper right corner.

   NOTE:
   Processor A's yellow light is on and its green LED is off. Processor B's yellow and green LEDs are off. The system is alarm free.

6. Make system test call. The call must complete and the conversation must be satisfactory.

Return to Task List

Test Terminating Trunk Transmission

Return to Task List

The Terminating Trunk Transmission Test provides for extension number access to 3 tone sequences that can be used for trunk transmission testing from the distant end of the trunks.

The 3 test types must have extension numbers assigned on the ***system-parameters maintenance*** form:

```
Test Type 100:_______Test Type 102:_______Test Type 105:_______
```

Test Type	Test Features
`Test type 100`	5.5 seconds of 1004 Hz tone at 0 dB Quiet until disconnect; disconnect is forced after 1 minute

Test Type	Test Features
`Test Type 102`	9 seconds of 1004 Hz tone at 0 dB 1 second of silence Cycle is repeated until disconnect, which is forced after 24 hours
`Test Type 105`	9 seconds of 1004 Hz tone at -16 dB 1 second of silence 9 seconds of 404 Hz tone at -16 dB 1 second of silence 9 seconds of 2804 Hz tone at -16 dB 30 seconds of silence 0.5 seconds of test progress tone (2225 Hz) About 5 seconds of silence Forced disconnect

Return to Task List

Test the C-LAN Connection

Return to Task List

To test the external IP connections, ping the C-LAN circuit pack and ping a known computer connected to your network. If everything is configured correctly, the `Result` column on the ***Ping Results*** screen reads `PASS`. If it reads `ABORT`, verify the IP-address information and check the connectivity, including the cabling.

1. To ping the C-LAN server, type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**.

   The variable ***nnn.nnn.nnn.nnn*** is the IP address of the TN799x C-LAN circuit pack and ***UUCSS*** is the cabinet, carrier, and slot of the TN799x C-LAN circuit pack.

2. Type **ping ip-address *nnn.nnn.nnn.nnn* board *UUCSS*** and press **Enter**.

   The variable ***nnn.nnn.nnn.nnn*** is the IP address of another computer beyond the gateway and ***UUCSS*** is the cabinet, carrier, and slot of the TN799x C-LAN circuit pack.

The TN799x C-LAN circuit pack is now installed in the DEFINITY carrier and connected to the IP network.

Return to Task List

Test Stratum 3 Clock (if used)

Return to Task List

These procedures test the ability of the Stratum 3 clock to correctly provide timing and alarms to the system.

CAUTION:
The following procedures are destructive to DS1 data and should not be attempted while DS1 facilities are active.

Task List: Test Stratum 3 Clock

1 Check for Red LEDs on page 738

2 Verify Timing to the System on page 739

Check for Red LEDs

Return to Task List

1 Turn on the Stratum 3 clock and wait 40-50 seconds to allow the system to complete the on-board diagnostics before checking LEDs.

2 If there are any red LEDs, follow the procedures in Table 32.

Table 32: Stratum 3 Clock LED Indicators

Card	LED Label	Procedure
PAI	REF A	Check that the CI circuit pack on the left is inserted properly. Check wiring for DS1 in carrier “A” which connects the system to the CSU and the External Synchronization Clock at the MDF through a Y-cable assembly. If all else fails to clear the LED then replace the circuit pack.
PAI	REF B	Check that the CI circuit pack on the right is inserted properly. Check wiring for DS1 in carrier B which connects the system to the CSU and the External Synchronization Clock at the MDF through a Y-cable assembly. If all else fails to clear the LED then replace the circuit pack.
PAI	ST A	Replace the ST3 card
PAI	ST B	Replace the ST3 card
CI	FAIL	Check wiring for its associated DS1 reference and replace the circuit pack if necessary
ST3	FAIL	Replace the circuit pack
ST3	LOCK	Ignore this LED
ST3	HOLDOVER	Ignore this LED
ST3	FREE RUN	Ignore this LED
TOCA	FAIL	Replace the circuit pack
TOCA	PORT ALM	Replace the circuit pack if necessary

Return to Task List

Verify Timing to the System

Return to Task List

1. To administer the Stratum 3 clock, type **change synchronization** and press **Enter**.
2. Type **3** in the `stratum` field.
3. Type the port network number where the TN780 Tone-Clock circuit packs reside in the `port network` field.

   NOTE:
   Wait 1 minute for the software to reconfigure the system synchronization.

4. Verify the results of test 649. If test 649 fails with a code of 2101, then check the wiring for **EXTSYN0** and **EXTSYN1**. Refer to *Maintenance for Avaya DEFINITY® Server SI (555-233-123)*.

If test 649 is successful, then the system is getting correct timing from the Stratum 3 clock.

Return to Task List

Perform Complete System Test

Return to Task List

Run the complete system test with the ***Allports*** option in the **SPE Interchange** and ***Long*** test modes. The hardware group tests are described in the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation for your system.

NOTE:
This test takes several hours. It may be best to run the test in the background, or at night, or both.

Resolve Alarms

Return to Task List

After the test has completed, inspect the alarms log. Type display alarms and resolve the alarms in the usual manner.

Check the error log for evidence of failure. The only failure results logged should be the outcome of tests requiring a connected station, where a station is not connected to the port under test. Repair all other failures or refer them to a maintenance technician for repair.

Resolve any alarms that may exist using the *Maintenance for Avaya DEFINITY® Server SI (555-233-123)* documentation for your system.

Return to Task List

Activate and Test Alarm Origination Feature

Return to Task List

1. Activate the `Alarm Origination` feature from the ***change system-parameter maintenance*** form.
2. Type **test inads link** and press **Enter** to verify the system can reach the INADS Database Administrator at the Technical Service Center (TSC).
3. Be sure the system is part of the existing INADS database by calling the INADS Database Administrator to verify the system can be dialed into and that the system can dial out to INADS.

   As part of the system registration process, the INADS Database Administrator enables Alarm Origination.

Have the serial number of the system and the software version number available at the time of the call.

Return to Task List

Option Switch Settings

Some of the interface units used between the system and other types of equipment require specific option switch settings for each application.

Task List: Option Settings

- Data Module Option Switch Settings on page 741 and information:
  - About DCS Switch Settings on page 742
  - About 7400D Data Module Option Settings on page 743
- External Modem Option Settings on page 746
- Printer Option Settings on page 749
- Call Detail Recording Option Settings on page 752
- AUDIX Interface Option Settings on page 756
- TN760E Tie Trunk Circuit Pack Option Settings on page 757
- TN464GP/2464 Option Settings on page 760

Refer to the user's guide for each type of equipment for information on how to locate and set the option switches.

Data Module Option Switch Settings

Return to Task List

This section contains information

- About DCS Switch Settings on page 742
- About 7400D Data Module Option Settings on page 743

Task List: Data Module Switches and Options

- Set DCS Switches on page 744
- Set 7400D Options on page 745
- Set 7400A and 7400B Options on page 745

About DCS Switch Settings

The Distributed Communications System (DCS) for a system is connected to the system through the Processor Interface circuit pack. The first circuit can be connected directly to the DCS through the processor interface (PI) connector on the rear of the control carrier.

Any of the remaining three circuits on the processor interface used to support the Distributed Communications System (DCS) must be connected through a data module serving as the interface link. The option settings for a 7400A Data Module are shown in Table 33. Refer to Figure 295, Data Module DIP Switch Locations:, on page 742 for the location of the switches.

Table 33: Data Module Option Switch Settings

DIP Switch	Function	Setting
1	With Phone Without Phone	ON OFF
5	Data Metering No Data Metering	ON OFF
8	Make Busy on Loc Loop No Make Busy on Loc Loop	ON OFF
2, 3, 4, 6, and 7		OFF

Figure 295: Data Module DIP Switch Locations:

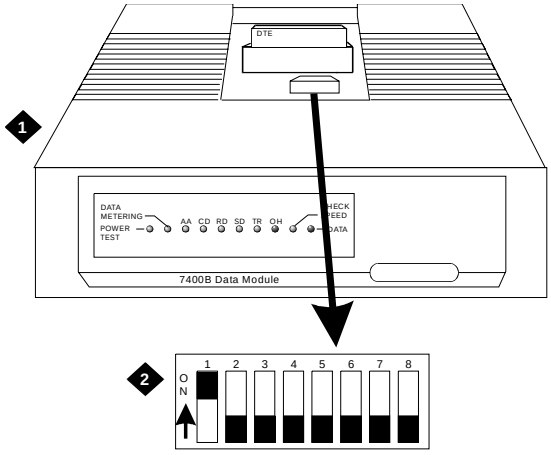


Figure notes

1 Data Module (7400A Shown) **2** DIP Switch

About 7400D Data Module Option Settings

The option settings shown in Table 34, 7400 Series Data Module Options (Answer Only Interface), on page 743 are for the Answer Only interface and are set from the front panel interface. Set only the desired speed of the 7400D. All other default settings can be used.

Table 34: 7400 Series Data Module Options (Answer Only Interface)

Set Option Display	Abbreviation	Possible Values	Default
Set 300 SPEED?	300	ON, OFF	ON
Set 1200 SPEED?	1200	ON, OFF	ON
Set 2400 SPEED?	2400	ON, OFF	ON
Set 4800 SPEED?	4800	ON, OFF	ON
Set 9600 SPEED?	9600	ON, OFF	ON
Set 19200 SPEED?	19200	ON, OFF	ON
Set ANSWER?	ANS	AUTO, MANUAL	AUTO
Set CI LEAD?	CI	ON, OFF	OFF (See Note)
Set CH LEAD?	CH	ON, OFF	OFF (See Note)
Set CTS LEAD?	CTS	NORMAL, ON	ON
Set DCD LEAD?	DCD	NORMAL, ON	ON (See Note)
Set DSR LEAD?	DSR	NORMAL, ON	ON (See Note)
Set DTR DETECT?	DTR	0, 10, 20, 30, 50, 100 MSEC	50
Set DTR LEAD?	DTR	EIA STANDARD, IGNORE	EIA STANDARD
Set LL LEAD?	LL	ON, OFF	OFF
Set REMOTE LOOP?	REMLOOP	GRANT, DENY	GRANT
Set RI LEAD?	RI	CYCLE, ON	ON
Set RL LEAD?	RL	ON, OFF	OFF
Set SIGLS DISC?	SIGLS DISC	ON, OFF	ON
Set TIMING?	TIMING	INTERNAL, EXTERNAL	INT
Set TM LEAD?	TM	ON, OFF	OFF

NOTE:
It is recommended that CI and CH be set to ON, and DCD and DSR be set to NORMAL. This allows login information to be displayed on the screen without having to send a carriage return character.

Return to Task List

Set DCS Switches

Return to Task List

1. Remove the top cover from the data module. See Figure 296, DIP Switch Locations, on page 744.
2. Switches 1, 5, and 8 are the only switches to be set. Refer to Table 35, Data Module Option Switch Settings, on page 744 for the option switch settings.

NOTE:
The options for the 7400A and 7400C Data Modules are set from the front panel interface. For the 7400A, refer to *7400A Data Module User's Guide (555-020-710)*. For the 7400C, refer to *DEFINITY® Communications System High Speed Link User's Guide*.

Figure 296: DIP Switch Locations

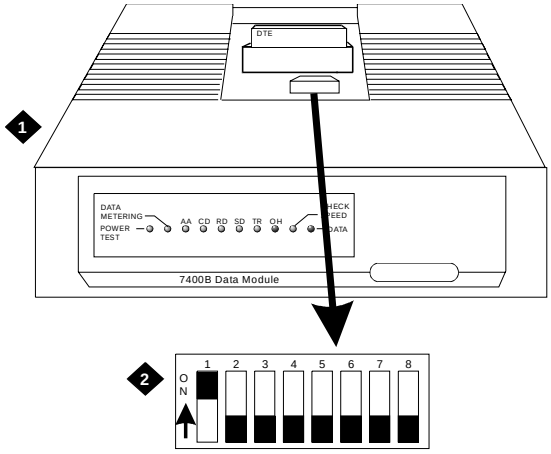


Figure notes

1 Data Module (7400A Shown) **2** DIP Switch

Table 35: Data Module Option Switch Settings

DIP Switch	Function	Setting
1	With Phone Without Phone	ON OFF
5	Data Metering No Data Metering	ON OFF
8	Make Busy on Loc Loop No Make Busy on Loc Loop	ON OFF
2, 3, 4, 6, and 7		OFF

Return to Task List

Set 7400D Options

Return to Task List

The following steps are an example of how to change the default setting of 9600 to the custom setting of 19200.

NOTE:
If the link is between a R10r and a CMS, set the 7400D to 19200. If the link is between any other system and a CMS, leave the speed of the 7400D set at 9600.

1. From the ***HOME*** screen, press **NEXT/NO** until `SET OPTIONS ?` is displayed.
2. Press **ENTER/YES** to stay in the `SET OPTIONS ?` menu.
3. Press **NEXT/NO** until `SET 9600 SPEED ?` is displayed.
4. Press **ENTER/YES** when `SET 9600 SPEED ?` is displayed.
5. Press **NEXT/NO** when `9600 = ON ?` is displayed.
6. Press **ENTER/YES** when `9600 -> OFF ?` is displayed.
7. Press **ENTER/YES** when `CONTINUE ?` is displayed.
8. Press **ENTER/YES** when `SET 19200 SPEED ?` is displayed.
9. Press **NEXT/NO** when `19200 = OFF ?` is displayed.
10. Press **ENTER/YES** when `19200 -> ON ?` is displayed.
11. Press **NEXT/NO** when `CONTINUE ?` is displayed.
12. Press **ENTER/YES** when `19200 -> ON ?` is displayed.
13. Press **ENTER/YES** when `SAVE CHANGES ?` is displayed.

NOTE:
The `SET OPTIONS ?` menu cannot be terminated if all speeds are set to off.

Return to Task List

Set 7400A and 7400B Options

Return to Task List

Determine if the 7400A or 7400B will be interfacing with D-lead modems or attention control modems. Use Table 36 to interface with either modem. You can set options for the 7400B through a dumb terminal.

Table 36: Options for D-Lead and Attention Control Modems

Set Option Display	Option	D-Lead Settings	Attention Control Settings
`Set 300 Speed?`	300	Note 1	Note 1
`Set 1200 Speed?`	1200	Note 1	Note 1

1 of 2

Table 36: Options for D-Lead and Attention Control Modems

Set Option Display	Option	D-Lead Settings	Attention Control Settings
Set 2400 Speed?	2400	Note 1	Note 1
Set 4800 Speed?	4800	Note 1	Note 1
Set 9600 Speed?	9600	Note 1	Note 1
Set 19200 Speed?	19200	Note 1	Note 1
Set AT Control?	AT	OFF	ON
Set CI Lead?	CI	Note 2	Note 2
Set CI2 Lead?	CI2	Note 2	Note 2
Set CH Lead?	CH	Note 2	Note 2
Set CH2 Lead?	CH2	Note 2	Note 2
Set LL Lead?	LL	Note 2	Note 2
Set REMOTE Loop?	REMLOOP	Grant	Grant
Set RL Lead?	RL	Note 2	Note 2
Set SIGLS Disc?	SIGLS DISC	ON	ON
Set TM Lead?	TM	Note 2	Note 2
			2 of 2

Note 1. Set speed to match remote modem. At least one speed must be set ON.

Note 2. Set to match remote modem.

Return to Task List

External Modem Option Settings

Return to Task List

The COMSPHERE 3700, 3800, and 3900 series (recommended) external modems may require option switch settings. Refer to the documentation that accompanies each modem to set the options.

> **NOTE:**
> A locally obtained, type-approved external modem may be used. Contact your Avaya representative for more information.

DEFINITY ECS operates with the COMSPHERE modems set to the factory default settings. The modem settings and descriptions are listed in Modem Fields on page 747.

Modem Fields	
Modem Connection	**Description**
Modem Name	This field is 20 characters long and permits alphanumeric characters to provide a unique qualifier for a given modem (such as INTEL).
RTS/CTS Enabled	Informs the modem that communication with the data source UART is driven with RTS/CTS flow control. The field name has a default of \Q3 in a field 6 characters long. This field is not case sensitive. Default is upper case.
Asynchronous Data Mode	Configures modem as an asynchronous communications device. The field name has a default value of &M0&Q0 in a field 8 characters long. This field is not case sensitive. Default is upper case.
DTE Auto-Data Speed	Adjusts the speed of the data source (DTE) UART to the outgoing (modem-to-modem) data rate. At maximum, this speed is 9600 baud. It is not desirable to have the serial data fill the modem buffer faster than the outgoing data rate, since data compression is disabled. The field name has a blank default value in a field of 6 characters. Avaya products use the command **S90=1** to enable this functionality while the Intel product uses the command **\J1** to enable similar functionality. This field is not case sensitive. Default is upper case.
Disable Data Compression	Turns off the default data compression algorithms in use by most modems. The field has a blank field of 6 characters as default. The AT commands that control this are supported by similar commands; however, these commands do not operate in the same manner. The Intel modems require “H0%C0” to disable V.42bis & MNP Class 5 data compression algorithms. The Paradyne products only use %C0 to disable both algorithms. This field is not case sensitive. Default is upper case.
Enable Error Control	Turns on the V.42 LAPM and MNP error control protocols, if available. The field has a blank field of 6 characters as default. The Paradyne products use the command **\N5** to enable V.42/MNP/Buffer error control while the Intel product uses \N3 to provide similar functionality. This V.42/MNP/Buffer mode attempts to negotiate V.42 error control with the remote modem. If this fails, the modem changes to MNP, if this fails, no error control is used. This field is not case sensitive. Default is upper case.
Misc. Init. Param	This field has a blank as a default and a field length of 20 characters. This field supports any initialization parameters not already specified. The AT commands specified in this free-form field is always the last initialization parameters to be sent to the external modem. This field is not case sensitive. Default is upper case.
Auto-Answer Ring Number	This field controls the number of rings required before the modem answers an incoming call. This field has a blank default value in a field 6 characters long. Typically, the maximum permissible value for this register is 255. The values 1-255 denote the number of incoming ring cycles. This field is not case sensitive. Default is upper case.

Modem Fields	
Modem Connection	**Description**
`Dial Type`	This field controls the type of interregister signaling to be used between the modem and the Central Office. The field has a default of “T” for tone dialing. Pulse dialing is indicated by “P”. The field length should be 3 characters long. This field is concatenated with the dial string. This field is not case sensitive. Default is upper case.
`Adjustable Make/Break Ratio`	This field controls the make/break ratios of pulses and DTMF dialing. The Intel product information has support for different make/ break options for pulse dialing only. Intel uses &P0 to select a ratio of 39% make and 61% break for communication within the United States and Canada. The option &P1 sets a ratio of 33% make and 67% break for the United Kingdom and Hong Kong. This field has a blank default and a 5 character long entry. This field is not case sensitive. Default is upper case.
`Dial Command`	This field has a default of “D” in a field 3 characters long. This field denotes the dialing command of the modem. This is a standard command. This field is not case sensitive. Default is upper case.
`No Answer Time-Out`	Most external modems provide a timer that abandons any outbound data call after a predetermined interval. Some modems disable this timer, allowing an outbound call to ring indefinitely. Paradyne does not provide this capability because it is undesirable to have an outbound call attempt to ring indefinitely. Therefore, the initialization string must contain the following ASCII string to set the “No-Answer Timer” to the maximum value: S7=255. The internal modem must have this parameter disabled or set to at least 255 seconds. This is a non-administrable parameter. For the modem connection, this parameter is the first initialization string to be transmitted to the modem. This field is visible on the administration form in display mode only. The new field is set to S7=255. This hardcoded constant can be overridden for type approval applications, specifically in the United Kingdom and other Western European nations, by the use of the “Misc. Init. Param:” field. (S7=255)

Return to Task List

Printer Option Settings

Return to Task List

Printers can be used with a management terminal as journal printers for the hospitality feature and also as an output device for Call Detail Recording (CDR).

A572 printer can function as a CDR device, system printer, or journal printer. The options are set with function keys rather than DIP switches. Figure 297, Control Panel for 572 Printer, on page 749 shows the arrangement of the function keys on the printer control panel.

1. Load the printer with paper and turn the power off (Callout 1).
2. Simultaneously press and hold the **Print Quality** and **On Line** buttons. Press the **Power On** button. Release all three buttons. The printer is now in set-up mode and it prints current settings:
3. If the printer is used with a management terminal, CDR, or as a journal printer, set the options as shown in 572 Printer Used with Management Terminal, CDR, and Journal Printer on page 750. If the printer is used as the system printer, set the options as shown in 572 Printer Used as System Printer on page 751.
4. Use **Line Feed** or **Form Feed** to step through the options for the function.
5. Press **On Line**. This activates the menu for the function. Use **Line Feed** and **Form Feed** to step through the options for the function.
6. When a desired option is located, press **Print Quality**. Each time an option is set, the setting is printed. Repeat for each option to be set.
7. When finished, press **Print Quality**. The printer changes to normal mode.

Figure 297: Control Panel for 572 Printer

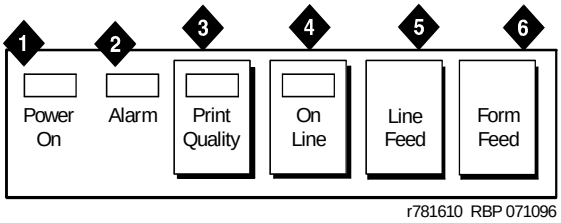


Figure notes

1	Power On Button	**4**	On Line Button
2	Alarm Button	**5**	Line Feed Button
3	Print Quality Button	**6**	Form Feed Button

572 Printer Used with Management Terminal, CDR, and Journal Printer			
Function	**Function Name**	**Menu**	**Menu Status**
01	FORM LENGTH	09	11
02	LPI	01	6
03	CPI	01	10
04	LQ or NLQ	01	LQ
05	BUZZER	01	ON
06	FONT	02	FONTCART
07	RESOLUTION	01	144
11	BUFFER	02	N-LINE
13	PW ON MODE	01	ON-LINE
14	DIRECTION	01	B1-DIR.1
15	BUFF FULL	02	LF + CR
16	P.E.	01	ACTIVE
17	AUTO CARRIAGE RETURN (CR)	01	CR + LF
18	ZERO	01	0
22	AUTO LINE FEED	01	CR ONLY
31	1’’ SKIP	01	OFF
32	CHAR.SET (GO, GL)	02	USA
33	CHAR.SET (G1, GR)	01	UK
34	CHAR SET (G2)	03	GE
35	CHAR SET (G3)	07	LINE DRAWING
81	OFF-LINE STATE	01	ALL RECEIVE
82	DSR	02	OFF
83	REQUEST TO SEND (RTS) TIMING	01	RTS
84	CD	02	OFF
85	CLEAR TO SEND (CTS)	02	OFF
91	OVER RUN	02	256
92	DATA BIT	02	8
93	PROTOCOL	03	XON/XOFF

1 of 2

572 Printer Used with Management Terminal, CDR, and Journal Printer			
Function	**Function Name**	**Menu**	**Menu Status**
94	STOP BIT	01	1
95	PARITY	01	NONE
96	PBS (matches connected device)	01	9600

2 of 2

572 Printer Used as System Printer			
Function	**Function Name**	**Menu**	**Menu Status**
01	FORM LENGTH	09	11
02	LPI	01	6
03	CPI	01	10
04	LQ or NLQ	01	LQ
05	BUZZER	01	ON
06	FONT	02	FONTCART
07	RESOLUTION	01	144
11	BUFFER	02	N-LINE
13	PW ON MODE	01	ON-LINE
14	DIRECTION	01	B1-DIR.1
15	BUFF FULL	02	LF + CR
16	P.E.	01	ACTIVE
17	AUTO CARRIAGE RETURN (CR)	01	CR + LF
18	ZERO	01	0
22	AUTO LINE FEED	01	CR ONLY
31	1’’ SKIP	01	OFF
32	CHAR.SET (GO, GL)	02	USA
33	CHAR.SET (G1, GR)	01	UK
34	CHAR SET (G2)	03	GE
35	CHAR SET (G3)	07	LINE DRAWING
81	OFF-LINE STATE	01	ALL RECEIVE
82	DSR	02	OFF

1 of 2

572 Printer Used as System Printer			
Function	**Function Name**	**Menu**	**Menu Status**
83	REQUEST TO SEND (RTS) TIMING	01	RTS
84	CD	02	OFF
85	CLEAR TO SEND (CTS)	02	OFF
91	OVER RUN	02	256
92	DATA BIT	02	8
93	PROTOCOL	03	XON/XOFF
94	STOP BIT	01	1
95	PARITY	01	NONE
96	PBS	04	1200
			2 of 2

Return to Task List

Call Detail Recording Option Settings

Return to Task List

The interface between the system and Call Detail Recording (CDR) equipment may be one of the following:

- Data Module — Recommended option settings are shown in Options for D-Lead and Attention Control Modems on page 753.
- Modem — Recommended option settings are in modem vendor document
- TN726B Data Line circuit pack and an Asynchronous Data Unit — Data modules or modems are not required.
- Connected directly to the **DCE** connector (Electronic Industries Association [EIA] Port) located on the rear of the Control Carrier — Data modules or modems are not required.

A 572 Printer can be used as an output receiving device for Call Detail Recording (CDR). The recommended option settings for this printer are shown in 572 Printer Used with Management Terminal, CDR, and Journal Printer on page 753 and 572 Printer Used as System Printer on page 755. Also, a TELESEER, Call Detail Recording (CDR), 94A Local Storage Unit (LSU), or Customer Premises Equipment (CPE) can be used as the output receiving device.

Administration procedures for Call Detail Recording (CDR) equipment are provided in *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Options for D-Lead and Attention Control Modems			
Set Option Display	**Option**	**D-Lead Settings**	**Attention Control Settings**
`Set 300 Speed?`	300	Note 1	Note 1
`Set 1200 Speed?`	1200	Note 1	Note 1
`Set 2400 Speed?`	2400	Note 1	Note 1
`Set 4800 Speed?`	4800	Note 1	Note 1
`Set 9600 Speed?`	9600	Note 1	Note 1
`Set 19200 Speed?`	19200	Note 1	Note 1
`Set AT Control?`	AT	OFF	ON
`Set CI Lead?`	CI	Note 2	Note 2
`Set CI2 Lead?`	CI2	Note 2	Note 2
`Set CH Lead?`	CH	Note 2	Note 2
`Set CH2 Lead?`	CH2	Note 2	Note 2
`Set LL Lead?`	LL	Note 2	Note 2
`Set REMOTE Loop?`	REMLOOP	Grant	Grant
`Set RL Lead?`	RL	Note 2	Note 2
`Set SIGLS Disc?`	SIGLS DISC	ON	ON
`Set TM Lead?`	TM	Note 2	Note 2

572 Printer Used with Management Terminal, CDR, and Journal Printer			
Function	**Function Name**	**Menu**	**Menu Status**
01	FORM LENGTH	09	11
02	LPI	01	6
03	CPI	01	10
04	LQ or NLQ	01	LQ
05	BUZZER	01	ON
06	FONT	02	FONTCART
07	RESOLUTION	01	144
11	BUFFER	02	N-LINE

1 of 2

572 Printer Used with Management Terminal, CDR, and Journal Printer			
Function	**Function Name**	**Menu**	**Menu Status**
13	PW ON MODE	01	ON-LINE
14	DIRECTION	01	B1-DIR.1
15	BUFF FULL	02	LF + CR
16	P.E.	01	ACTIVE
17	AUTO CARRIAGE RETURN (CR)	01	CR + LF
18	ZERO	01	0
22	AUTO LINE FEED	01	CR ONLY
31	1’’ SKIP	01	OFF
32	CHAR.SET (GO, GL)	02	USA
33	CHAR.SET (G1, GR)	01	UK
34	CHAR SET (G2)	03	GE
35	CHAR SET (G3)	07	LINE DRAWING
81	OFF-LINE STATE	01	ALL RECEIVE
82	DSR	02	OFF
83	REQUEST TO SEND (RTS) TIMING	01	RTS
84	CD	02	OFF
85	CLEAR TO SEND (CTS)	02	OFF
91	OVER RUN	02	256
92	DATA BIT	02	8
93	PROTOCOL	03	XON/XOFF
94	STOP BIT	01	1
95	PARITY	01	NONE
96	PBS (matches connected device)	01	9600

2 of 2

572 Printer Used as System Printer			
Function	**Function Name**	**Menu**	**Menu Status**
01	FORM LENGTH	09	11
02	LPI	01	6
03	CPI	01	10
04	LQ or NLQ	01	LQ
05	BUZZER	01	ON
06	FONT	02	FONTCART
07	RESOLUTION	01	144
11	BUFFER	02	N-LINE
13	PW ON MODE	01	ON-LINE
14	DIRECTION	01	B1-DIR.1
15	BUFF FULL	02	LF + CR
16	P.E.	01	ACTIVE
17	AUTO CARRIAGE RETURN (CR)	01	CR + LF
18	ZERO	01	0
22	AUTO LINE FEED	01	CR ONLY
31	1’’ SKIP	01	OFF
32	CHAR.SET (GO, GL)	02	USA
33	CHAR.SET (G1, GR)	01	UK
34	CHAR SET (G2)	03	GE
35	CHAR SET (G3)	07	LINE DRAWING
81	OFF-LINE STATE	01	ALL RECEIVE
82	DSR	02	OFF
83	REQUEST TO SEND (RTS) TIMING	01	RTS
84	CD	02	OFF
85	CLEAR TO SEND (CTS)	02	OFF
91	OVER RUN	02	256
92	DATA BIT	02	8
93	PROTOCOL	03	XON/XOFF

1 of 2

572 Printer Used as System Printer			
Function	**Function Name**	**Menu**	**Menu Status**
94	STOP BIT	01	1
95	PARITY	01	NONE
96	PBS	04	1200
			2 of 2

Return to Task List

AUDIX Interface Option Settings

Return to Task List

The Audio Information Exchange (AUDIX) is sometimes connected to the system through the TN765 Processor Interface circuit pack. The first circuit on the processor interface can be connected directly to the AUDIX through the **PI** connector on the rear of the control carrier.

Any of the remaining three circuits on the processor interface to be used to support AUDIX must be connected through a 7400D Data Module serving as the interface link for AUDIX. The option settings are shown in Table 37.

Table 37: Data Module Settings for DEFINITY AUDIX

DIP Switch 1	Setting
9600 SYNC	ON ON
INT	ON
AANS	ON
All Other Switches	OFF

Return to Task List

TN760E Tie Trunk Circuit Pack Option Settings

Return to Task List

The TN760E Tie Trunk circuit pack interfaces between the tie trunks and the Time Division Multiplex (TDM) bus. Two tip and ring pairs form a 4-wire analog transmission line. An E and M pair is used for signaling and are DC signaling leads used for call setup. The E lead receives signals from the tie trunk and the M lead transmits signals to the tie trunk.

To choose the preferred signaling format (Table 38, Signaling Formats for TN760E, on page 757 and Table 39, Signaling Type Summary, on page 757), set the switches on the TN760E and administer the port per Figure 298, TN760E Tie Trunk Circuit Pack (Component Side), on page 758 and Table 40, TN760E Option Switch Settings and Administration, on page 758.

CAUTION:
To prevent damage from static electricity, wear an EMC wrist strap when handling circuit packs or other components.

Table 38: Signaling Formats for TN760E

Mode	Type
E & M	Type I Standard (unprotected)
E & M	Type I Compatible (unprotected)
Protected	Type I Compatible, Type I Standard
Simplex	Type V
E & M	Type V
E & M	Type V Revised

Table 39: Signaling Type Summary

Signaling	Transmit (M-Lead)		Receive (E-Lead)	
Type	On-Hook	Off-Hook	On-Hook	Off-Hook
Type I Standard	grd	bat	open[1]/bat	grd
Type I Compatible	open[1]/bat	grd	grd	open[1]/bat
Type V	open[1]/bat	grd	open	grd
Type V Reversed	grd	open	grd	open

1 An open circuit is preferred instead of battery voltage.

Figure 298: TN760E Tie Trunk Circuit Pack (Component Side)

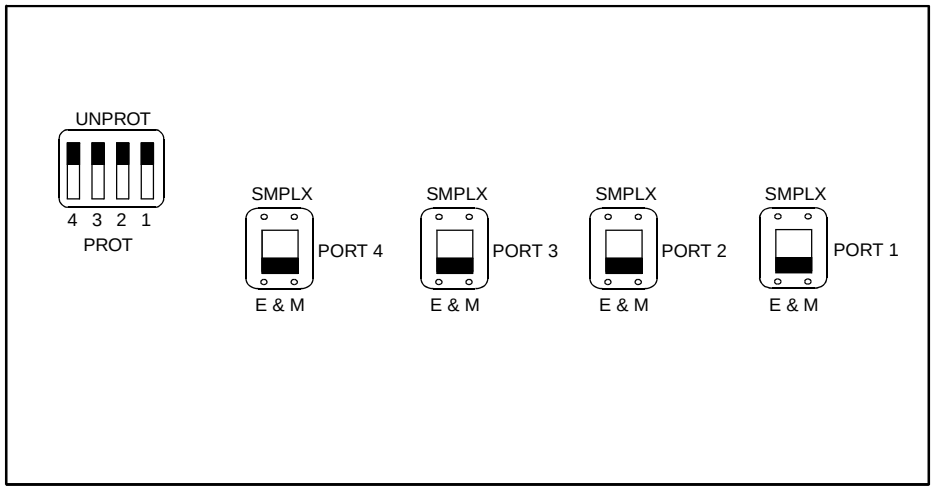


Table 40: TN760E Option Switch Settings and Administration

Installation Situation		Preferred Signaling Format		Set E&M/ SMPLX Option Switch	Set Prot/ Unprot Option Switch	Administered Port
Circumstance	**To**	**System**	**Far-End**			
Co-Located	Sys75/G1	Simplex	Simplex	SMPLX	Either	Type 5
		Type 5	Type 5			
Inter-Building	Sys75/G1	Simplex	Simplex	SMPLX	Either	Type 5
		Type 5	Type 5			
Co-Located	Sys85/G2	Simplex	Simplex	SMPLX	Either	Type 5
		Type 5	Type 5			
Inter-Building	Sys85/G2	Simplex	Simplex	SMPLX	Either	Type 5
		Type 5	Type 5			
Co-Located	DIMENSION	E&M Type 1	E&M Type 1	E&M	Unprotected	Type 1
	PBX	Compatible	Standard			Compatible
Inter-Building	DIMENSION	Protected Type 1	Protected Type 1	E&M	Protected	Type 1
	PBX	Compatible	Standard			Compatible
Co-Located	Other	E&M Type 1	E&M Type 1	E&M	Unprotected	Type 1
		Compatible	Standard			Compatible

1 of 2

Table 40: TN760E Option Switch Settings and Administration

Installation Situation		Preferred Signaling Format		Set E&M/ SMPLX Option Switch	Set Prot/ Unprot Option Switch	Administered Port
Circumstance	**To**	**System**	**Far-End**			
Inter-Building	Other	Protected Type 1	Protected Type 1	E&M	Protected	Type 1
		Compatible	Standard Plus			Compatible
			Protection			
			Unit			
Co-Located	Net Integrated	E&M Type 1	Any PBX	E&M	Unprotected	Type 1
		Standard				

2 of 2

Return to Task List

TN464GP/2464 Option Settings

Return to Task List

The TN464GP/2464 DS1/E1 Interface-T1/E1 circuit pack interfaces between a 24 or 32 channel CO/ISDN or tie trunk and the Time Division Multiplexing (TDM) bus.

Set the switches on the circuit pack to select bit rate and impedance match. See Table 41 and Figure 299, TN464GP/2464 Option Settings, on page 760.

Table 41: Option Switch Settings on TN464GP/2464

120 ohms	Twisted pair
75 ohms	Coaxial requiring 888A adapter
32 channel	2.048 Mbps
24 channel	1.544 Mbps

Figure 299: TN464GP/2464 Option Settings

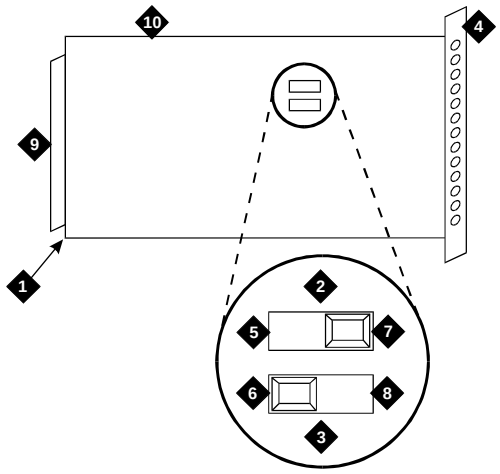


Figure notes

1	Backplane Connectors	**6**	120 ohm (shown selected)
2	24/32-Channel Selector	**7**	24 Channel (shown selected)
3	75/120-ohm Selector	**8**	75 ohm
4	Faceplate	**9**	Connector
5	32 Channel	**10**	TN464GP/2464

Return to Task List

Approved Grounds

An approved ground is the closest acceptable medium for grounding the building entrance protector, entrance cable shield, or single-point ground of electronic telephony equipment. If more than 1 type of approved ground is available on the premises, the grounds must be bonded together as required in Section 250-81 of the National Electrical Code.

Grounded Building Steel — The metal frame of the building where it is effectively grounded by 1 of the following grounds: acceptable metallic water pipe, concrete encased ground, or a ground ring.

Acceptable Water Pipe — A metal underground water pipe, at least 1/2-in. (1.3 cm) in diameter, in direct contact with the earth for at least 10 ft (3 m). The pipe must be electrically continuous (or made electrically continuous by bonding around insulated joints, plastic pipe, or plastic water meters) to the point where the protector ground wire connects. A metallic underground water pipe must be supplemented by the metal frame of the building, a concrete encased ground, or a ground ring. If these grounds are not available, the water pipe ground can be supplemented by 1 of the following types of grounds:

- Other local metal underground systems or structures — Local underground structures such as tanks and piping systems
- Rod and pipe electrodes — A 5/8-in. (1.6 cm) solid rod or 3/4-in. (2 cm) conduit or pipe electrode driven to a minimum depth of 8 ft (2.4 m).
- Plate electrodes — Must have a minimum of 2 square ft (0.185 square m) of metallic surface exposed to the exterior soil

Concrete Encased Ground — An electrode encased by at least 2 in. (5.1 cm) of concrete and located within and near the bottom of a concrete foundation or footing in direct contact with the earth. The electrode must be at least 20 ft (6.1 m) of 1 or more steel reinforcing bars or rods 1/2-in. (1.3 cm) in diameter, or at least 20 ft (6.1 m) of bare, solid copper, 4 AWG (26 mm^2) wire.

Ground Ring — A buried ground that encircles a building or structure at a depth of at least 2.5 ft (0.76 m) below the earth's surface. The ground ring must be at least 20 ft (6.1 m) of 2 AWG (35 mm^2), bare, copper wire.

Approved Floor Grounds

Approved floor grounds are those grounds on each floor of a high-rise building suitable for connection to the ground terminal in the riser closet and to the cabinet equipment single-point ground terminal. Approved floor grounds may include the following:

- Building steel
- The grounding conductor for the secondary side of the power transformer feeding the floor
- Metallic water pipes
- Power feed metallic conduit supplying panel boards on the floor
- A grounding point specifically provided in the building for the purpose

WARNING:

If the approved ground or approved floor ground can only be accessed inside a dedicated power equipment room, then connections to this ground should be made by a licensed electrician.

Connecting and Handling Fiber Optic Cables

Signals between the cabinets composing the system are carried by fiber optic cables. To accomplish this, the electronic signals at the connectors on the back of a cabinet must be converted into optical signals, and optical signals from another cabinet must be converted back into electronic signals. Opto-electronic devices (lightwave transceivers) provide this interface.

LASER Product

The Avaya Media Gateway may contain a Class 1 LASER device if single-mode fiber optic cable is connected to a remote Expansion Port Network (EPN). The LASER device operates within the following parameters:

- Maximum Power Output: -5 dBm
- Wavelength: 1310 nm
- Mode Field Diameter: 8.8 micrometers

CLASS 1 LASER PRODUCT

IEC 825 1993

CAUTION:
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Contact your Avaya representative for more information.

Detailed Information

See Optical Cross-Connect Hardware on page 763 for hardware details.

See Cleaning Fiber Optic Cables on page 768 for cleaning instructions.

Optical Cross-Connect Hardware

Optical cross-connects consist of Lightguide Interconnect Units (LIUs) with lightguide troughs in between them. Figure 300, Typical Optical Lightguide Interconnect Unit, on page 764 shows a typical LIU. One LIU terminates the incoming cables and the other terminates the outgoing cables. A fiber optic patch cord or jumper is used to connect the circuits. Circuits can be rerouted the same as on 110-type

connecting blocks, by moving the patch cord from one point on the Main Distribution Frame (MDF) to another.

Optical interconnects consist of Lightguide Interconnect Units (LIUs) without a trough between them. Figure 301, Typical Optical Interconnect Field, on page 765 shows a typical Interconnect field. Incoming and outgoing multi-mode and single-mode cables are connected directly to each other. This arrangement makes circuit changes more difficult, but reduces optical losses.

Task List: Optical Cross-connect and Interconnect Hardware Descriptions

- 100A Lightguide Interconnect Unit on page 765
- 10A Lightguide Connector Panel and Couplings on page 766:
  C2000A-2 Connector Coupling (Multi-Mode) or
  C3000A-2 Connector Coupling (Single-Mode)
- Lightguide Troughs on page 767 (1A4 Lightguide Trough and 1A6 Lightguide Trough)
- Fiber Interconnection Cable on page 767 (Multi-Mode or Single-Mode Fiber Interconnect Cable)
- Labels for Fiber Optic Cables on page 768

Figure 300: Typical Optical Lightguide Interconnect Unit

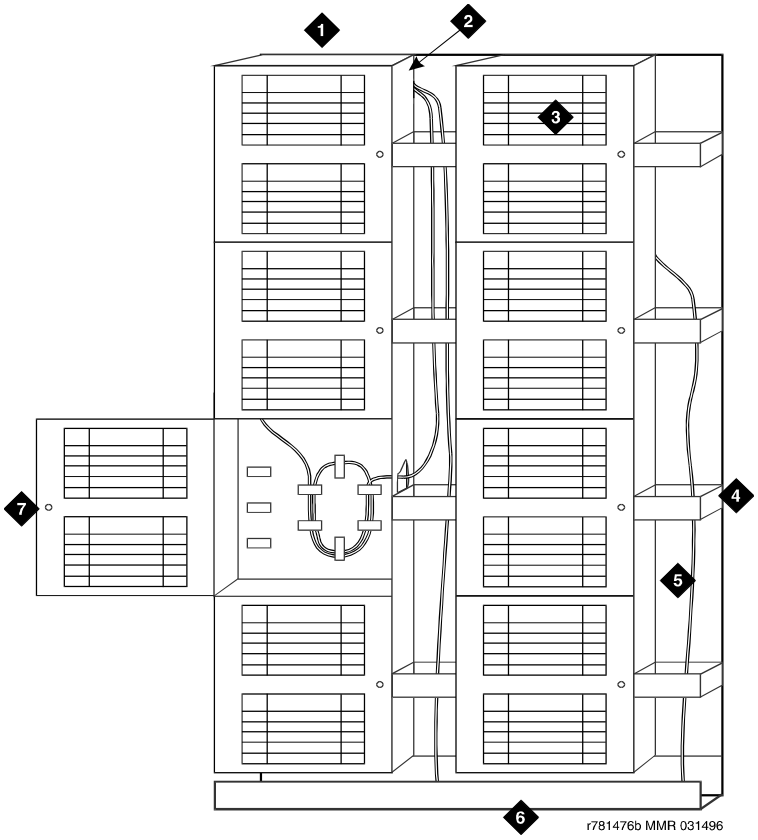


Figure notes

1 100A Lightguide Interconnect Unit (LIU)

2 Multi-Mode Connector (C2000A-2)
Single-Mode Connector (C3000A-2)

3 Adhesive-Backed Circuit Labels

4 1A4 Lightguide Trough

5 Fiber Patch Cord

6 1A6 Lightguide Trough

7 Open Lightguide Interconnect Unit (LIU)

Figure 301: Typical Optical Interconnect Field

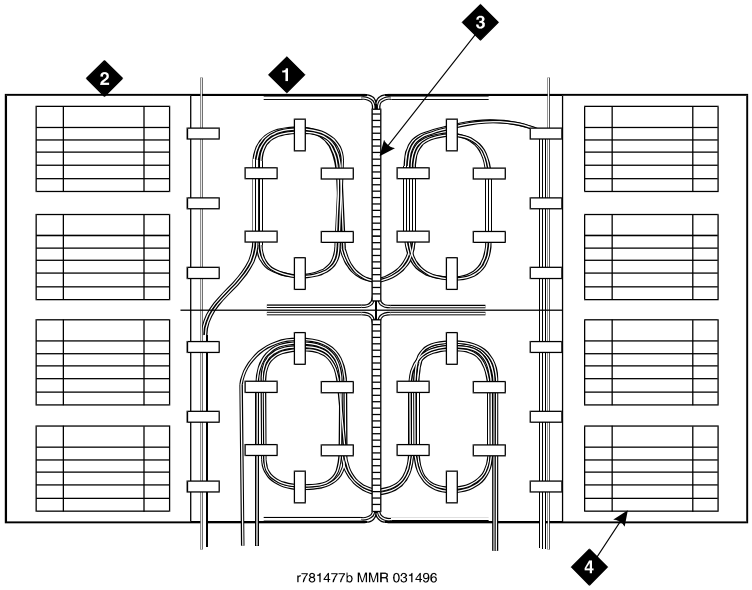


Figure notes

1 100A Lightguide Interconnect Unit (LIU)

2 Open Lightguide Interconnect Unit (LIU)
Door

3 C2000A-2 Connector (Multi-Mode)
C3000A-2 Connector (Single-Mode)

4 Labels

100A Lightguide Interconnect Unit

Return to Task List

The 100A Lightguide Interconnect Unit (LIU) consists of a cabinet with retainer rings to hold slack fiber cables, mounting cutouts for two 10A lightguide connector panels, and a door with circuit labels on each side. See Figure 302, 100A Lightguide Interconnection Unit, on page 766.

Figure 302: 100A Lightguide Interconnection Unit

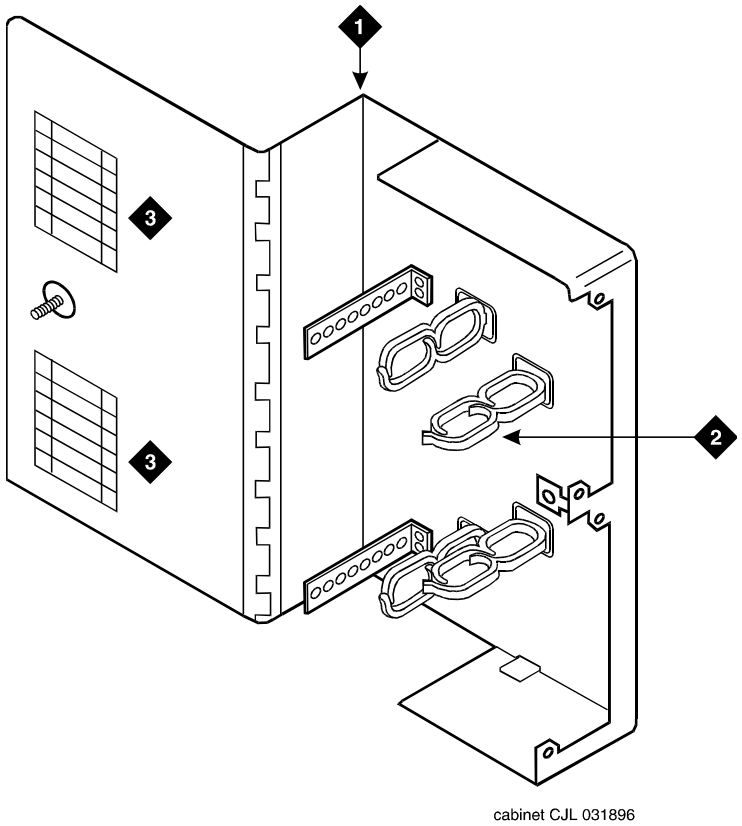


Figure notes

1	100A Lightguide Interconnect Unit (LIU)	**2**	Retainer Rings
		3	Circuit Labels

Return to Task List

10A Lightguide Connector Panel and Couplings

Return to Task List

The 10A Lightguide Connector Panel mounts in the cutouts of a 100A Lightguide Interconnect Unit (LIU). An LIU contains two connector panels. Each connector panel can hold six C2000A-2 Connector Couplings.

Use the C2000A-2 Connector Coupling to join multimode fiber optic cables equipped with ST connectors. It has a threaded midsection that allows it to be screwed into the 10A Lightguide Connector Panel.

Use the C3000A-2 Connector Coupling to join single-mode fiber optic cables equipped with ST connectors. It has a threaded midsection that allows it to be screwed into the 10A Lightguide Connector Panel.

Return to Task List

Lightguide Troughs

Return to Task List

Two types of troughs are used with optical cross-connect hardware. The 1A4 trough secures single fiber optic jumpers routed between Lightguide Interconnect Unit (LIU) columns, and the 1A6 trough is used at the bottom of an LIU column to prevent cable slack.

Fiber Interconnection Cable

Return to Task List

Both multi-mode and single-mode fiber interconnection cable are available.

Multimode Fiber Cable

The multimode fiber interconnection cables are used as patch cords and to connect fiber optic equipment to lightguide cross-connect and interconnect fields. This is a dual fiber cable equipped with ST connector plugs on each end.

The following components are used in multi-mode fiber optic connections:

- Expansion Interface (EI) circuit packs in port slots in cabinet carriers
- Cables from each interface circuit pack to each port slot connector
- The 9823A lightwave transceiver transmits up to 4900 feet (1.5 km). The 9823B lightwave transceiver transmits up to 25,000 feet (7.6 km).
- Multimode fiber optic cable consists of two separate 62.5 micrometer diameter fiber optic cables or 50 micrometer diameter fiber optic cables.

Single-mode Fiber Cable

The single-mode fiber interconnection cables are used as patch cords and to connect fiber optic equipment to lightguide cross-connect and interconnect fields. This is a dual fiber cable equipped with ST connector plugs on each end.

NOTE:
5 and 10dB attenuators are available. Contact your Avaya representative for more information.

The following components are used in single-mode fiber optic connections:

- Expansion Interface (EI) circuit packs in port slots in cabinet carriers
- Cables from each interface circuit pack to each port slot connector
- The 300A lightwave transceivers transmits light up to 115,000 feet (35 km). Fiber loss must be less than 17dB. Saturation may occur if distances are short; attenuators may be required if the total loss on the fiber link is less than 10dBm. An Optical Time Domain Reflectometer (OTDR) test is recommended to determine specific fiber optic hardware requirements.
- Single-mode fiber optic cable consists of two separate 8 to 10 micrometer core cables.

NOTE:
5 and 10dB attenuators are available. Contact your Avaya representative for more information.

Return to Task List

Labels for Fiber Optic Cables

Return to Task List

There are two types of labels used with fiber optic cables:

- Cable labels
- Cross-connect labels

Cable labels are used on the cables, and cross-connect labels are used on the cross-connect equipment.

Cable Labels

Cable labels, with adhesive backing, are installed on each end of a fiber optic cable. Each label displays the following information:

- The numbers of the cabinets, carriers, and slots connected by the cable
- Information on the cable itself, such as cable comcode number, and how it is used

Cross-Connect Labels

The label used with cross-connect fiber optic cables shows the cabinet, carrier and slot numbers of the source of the cable. It also indicates that the cable goes to the Main Distribution Frame (MDF).

Return to Task List

Cleaning Fiber Optic Cables

The use of isopropyl alcohol is recommended to properly clean fiber optic cables. Contact your Avaya representative for more information.

1. Moisten a lint-free cloth with isopropyl alcohol.
2. Wipe the ceramic ferrule with the cloth. Be sure to wipe the entire length of the ferrule and the ferrule tip.
3. Dry the ferrule with air.
4. If the connector is not being used immediately, cover the connector with the dust cap.

Connector and Cable Diagrams (Pinout Charts)

These pinout charts provide wire color and connector pin numbers for

- Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) on page 771, includes 2- and 4-wire analog and digital lines, 8, 16, and 24 ports; hybrid line; MET line; AUX and CO trunk.
- Circuit Pack and Auxiliary Equipment Leads (Pinout Charts) on page 774, includes 3-wire CO trunk, DID/DIOD trunk, tie and DS1 tie trunk, 2- and 4-wire ISDN-BRI lines, packet data line, and 4-port DIOD.
- Lead and Color Designations on page 776
- TN2185B ISDN-BRI 4-wire S Interface on page 778
- TN2198 ISDN-BRI 2-wire U Interface on page 780
- TN793B 24-Port Analog Line circuit pack on page 781
- DS1 Interface Cable H600-307 on page 783

Circuit Pack and Auxiliary Equipment Leads (Pinout Charts)

Color	Con-nector Pin Nos	Analog Line (8)	Digital Line & Analog Line (16) 2-wire	Data Line & Digital Line 4-wire	Digital Line & Analog Line (24) 2-wire	Hybrid Line	AUX Trunk	CO Trunk
W-BL	26	T1	T1		T1	V1T1	T1	T1
BL-W	01	R1	R1		R1	V1R1	R1	R1
W-O	27		T2	TXT1	T2	CT1	SZ1	
O-W	02		R2	TXR1	R2	CR1	SZ11	
W-G	28		T3	PXT1	T3	P-1	S1	
G-W	03		R3	PXR1	R3	P+1	S11	
W-BR	29	T2	T4		T4	V1T2	T2	T2
BR-W	04	R2	R4		R4	V1R2	R2	R2
W-S	30			TXT2	T5	CT2	SZ2	
S-W	05			TXR2	R5	CR2	SZ12	

1 of 3

Color	Con-nector Pin Nos	Analog Line (8)	Digital Line & Analog Line (16) 2-wire	Data Line & Digital Line 4-wire	Digital Line & Analog Line (24) 2-wire	Hybrid Line	AUX Trunk	CO Trunk
R-BL	31			PXT2	T6	P-2	S2	
BL-R	06			PXR2	R6	P+2	S12	
R-O	32	T3			T7	V1T3	T3	T3
O-R	07	R3			R7	V1R3	R3	R3
R-G	33			TXT3	T8	CT3	SZ3	
G-R	08			TXR3	R8	CR3	SZ13	
R-BR	34		T5	PXT3	T9	P-3	S3	
BR-R	09		R5	PXR3	R9	P+3	S13	
R-S	35	T4	T6		T10	V1T4	T4	T4
S-R	10	R4	R6		R10	V1R4	R4	R4
BK-BL	36		T7	TXT4	T11	CT4	SZ4	
BL-BK	11		R7	TXR4	R11	CR4	SZ14	
BK-O	37		T8	PXT4	T12	P-4	S4	
O-BK	12		R8	PXR4	R12	P+4	S14	
BK-G	38	T5	T9		T13	V1T5		T5
G-BK	13	R5	R9		R13	V1R5		R5
BK-BR	39		T10	TXT5	T14	CT4		
BR-BK	14		R10	TXR5	R14	CR4		
BK-S	40		T11	PXT5	T15	P-5		
S-BK	15		R11	PXR5	R15	P+5		
Y-BL	41	T6	T12		T16	V1T6		T6
BL-Y	16	R6	R12		R16	V1R6		R6
Y-O	42			TXT6	T17	CT6		
O-Y	17			TXR6	R17	CR6		
Y-G	43			PXT6	T18	P-6		

Color	Con-nector Pin Nos	Analog Line (8)	Digital Line & Analog Line (16) 2-wire	Data Line & Digital Line 4-wire	Digital Line & Analog Line (24) 2-wire	Hybrid Line	AUX Trunk	CO Trunk
G-Y	18			PXR6	R18	P+6		
Y-BR	44	T7			T19	V1T7		T7
BR-Y	19	R7			R19	V1R7		R7
Y-S	45			TXT7	T20	CT7		
S-Y	20			TXR7	R20	CR7		
V-BL	46		T13	PXT7	T21	P-7		
BL-V	21		R13	PXR7	R21	P+7		
V-O	47	T8	T14		T22	V1T8		T8
O-V	22	R8	R14		R22	V1R8		R8
V-G	48		T15	TXT8	T23	CT8		
G-V	23		R15	TXR8	R23	CR8		
V-BR	49		T16	PXT8	T24	P-8		
BR-V	24		R16	PXR8	R24	P+8		
V-S	50							
S-V	25							

3 of 3

The wire colors in this chart apply only to B25A and A25B cables. H600-307 cable colors are not shown.

The following wire colors apply to this chart:

W	White	S	Slate (Grey)
BL	Blue	R	Red
O	Orange	BK	Black
G	Green	Y	Yellow
BR	Brown	V	Violet

The following abbreviations apply for all circuit packs unless otherwise noted:

T,R	PBX transmit voice	T	Tip	(A)	Green
T1,R1	PBX receive voice	R	Ring	(B)	Red
M	PBX transmit signal	S	Sleeve		
E	PBX receive signal		PX	PBX transmit	
TX	Terminal transmit				
LI, LI*	Digital Trunk IN	LO, LO*	Digital Trunk OUT		

Circuit Pack and Auxiliary Equipment Leads (Pinout Charts)

Color	Con-nector Pin Nos	CO Trunk 3-wire	DID/ DIOD Trunk	Tie Trunk	DS1 Tie Trunk	ISDN BRI Line 4-wire	ISDN BRI Line 2-wire	Packet Data Line	4 Port DIOD
W-BL	26	A1	T1	T1		PXR1	T1	TXT1	T1
BL-W	01	B1	R1	R1		PXT1	R1	TXR1	R1
W-O	27			T11		TXT1	T2	PXT1	
O-W	02			R11		TXR1	R2	PXR1	
W-G	28			E1		PXR2	T3	TXT2	
G-W	03	C1		M1		PXT2	R3	TXR2	
W-BR	29	A2	T2	T2		TXT2	T4	PXT2	T2
BR-W	04	B2	R2	R2		TXR2	R4	PXR2	R2
W-S	30			T12		PXR3	T5	TXT3	
S-W	05			R12		PXT3	R5	TXR3	
R-BL	31			E2		TXT3	T6	PXT3	
BL-R	06	C2		M2		TXR3	R6	PXR3	
R-O	32	A3	T3	T3		PXR4	T7	TXT4	T3
O-R	07	B3	R3	R3		PXT4	R7	TXR4	R3
R-G	33			T13		TXT4	T8	PXT4	
G-R	08			R13		TXR4	R8	PXR4	
R-BR	34			E3		PXR5	T9	TXT5	
BR-R	09	C3		M3		PXT5	R9	TXR5	

1 of 3

Color	Con-nector Pin Nos	CO Trunk 3-wire	DID/ DIOD Trunk	Tie Trunk	DS1 Tie Trunk	ISDN BRI Line 4-wire	ISDN BRI Line 2-wire	Packet Data Line	4 Port DIOD
R-S	35	A4	T4	T4		TXT5	T10	PXT5	T4
S-R	10	B4	R4	R4		TXR5	R10	PXR5	R4
BK-BL	36			T14		PXR6	T11	TXT6	
BL-BK	11			R14		PXT6	R11	TXR6	
BK-O	37			E4		TXT6	T12	PXT6	
O-BK	12			M4		TXR6	R12	PXR6	
BK-G	38		T5			PXR7		TXT7	
G-BK	13		R5			PXT7		TXR7	
BK-BR	39					TXT7		PXT7	
BR-BK	14					TXR7		PXR7	
BK-S	40					PXR8		TXT8	
S-BK	15					PXT8		TXR8	
Y-BL	41		T6			TXT8		PXT8	
BL-Y	16		R6			TXR8		PXR8	
Y-O	42					PXR9		TXT9	
O-Y	17					PXT9		TXR9	
Y-G	43					TXT9		PXT9	
G-Y	18					TXR9		PXR9	
Y-BR	44		T7			PXR10		TXT10	
BR-Y	19		R7			PXT10		TXR10	
Y-S	45					TXT10		PXT10	
S-Y	20					TXR10		PXR10	
V-BL	46					PXR11		TXT11	
BL-V	21					PXT11		TXR11	
V-O	47		T8		LI*	TXT11		PXT11	
O-V	22		R8		LI	TXR11		PXR11	
V-G	48				LO	PXR12		TXT12	
G-V	23				LO*	PXT12		TXR12	

2 of 3

Color	Con-nector Pin Nos	CO Trunk 3-wire	DID/ DIOD Trunk	Tie Trunk	DS1 Tie Trunk	ISDN BRI Line 4-wire	ISDN BRI Line 2-wire	Packet Data Line	4 Port DIOD
V-BR	49				LBAC K2	TXT12		PXT12	
BR-V	24				LBAC K1	TXR12		PXR12	
V-S	50								
S-V	25								

3 of 3

The wire colors in this chart apply only to B25A and A25B cables. H600-307 cable colors are not shown.

The following wire colors apply to this chart:

W	White	S	Slate (Grey)
BL	Blue	R	Red
O	Orange	BK	Black
G	Green	Y	Yellow
BR	Brown	V	Violet

The following abbreviations apply for all circuit packs unless otherwise noted

T,R	PBX transmit voice	T	Tip	(A)	Green
T1,R1	PBX receive voice	R	Ring	(B)	Red
M	PBX transmit signal	S	Sleeve		
E	PBX receive signal		PX	PBX transmit	
TX	Terminal transmit				
LI, LI*	Digital Trunk IN	LO, LO*	Digital Trunk OUT		

Lead and Color Designations

Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
1	W-BL	26	102

1 of 3

Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
2	BL-W	01	002
3	W-O	27	103
4	O-W	02	003
5	W-G	28	104
6	G-W	03	004
7	W-BR	29	105
8	BR-W	04	005
9	W-SL	30	106
10	SL-W	05	006
11	R-BL	31	107
12	BL-R	06	007
13	R-O	32	108
14	O-R	07	008
15	R-G	33	109
16	G-R	08	009
17	R-BR	34	110
18	BR-R	09	010
19	R-SL	35	111
20	SL-R	10	011
21	BK-BL	36	112
22	BL-BK	11	012
23	BK-O	37	113
24	O-BK	12	013
25	BK-G	38	302
26	G-BK	13	202
27	BK-BR	39	303
28	BR-BK	14	203
29	BK-SL	40	304
30	SL-BK	15	204

2 of 3

Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
31	Y-BL	41	305
32	BL-Y	16	205
33	Y-O	42	306
34	O-Y	17	206
35	Y-G	43	307
36	G-Y	18	207
37	Y-BR	44	308
38	BR-Y	19	208
39	Y-SL	45	309
40	SL-Y	20	209
41	V-BL	46	310
42	BL-V	21	210
43	V-O	47	311
44	O-V	22	211
45	V-G	48	312
46	G-V	23	212
47	V-BR	49	313
48	BR-V	24	213
49	V-SL	50	300
50	SL-V	25	200

3 of 3

TN2185B ISDN-BRI 4-wire S Interface

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
1	TXT.1	1	W-BL	26	102
	TXR.1	2	BL-W	01	002
	PXT.1	3	W-O	27	103
	PXR.1	4	O-W	02	003

1 of 2

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
2	TXT.2	5	W-G	28	104
	TXR.2	6	G-W	03	004
	PXT.2	7	W-BR	29	105
	PXR.2	8	BR-W	04	005
3	TXT.3	9	W-SL	30	106
	TXR.3	10	SL-W	05	006
	PXT.3	11	R-BL	31	107
	PXR.3	12	BL-R	06	007
4	TXT.4	13	R-O	32	108
	TXR.4	14	O-R	07	008
	PXT.4	15	R-G	33	109
	PXR.4	16	G-R	08	009
5	TXT.5	17	R-BR	34	110
	TXR.5	18	BR-R	09	010
	PXT.5	19	R-SL	35	111
	PXR.5	20	SL-R	10	011
6	TXT.6	21	BK-BL	36	112
	TXR.6	22	BL-BK	11	012
	PXT.6	23	BK-O	37	113
	PXR.6	24	O-BK	12	013
7	TXT.7	25	BK-G	38	302
	TXR.7	26	G-BK	13	202
	PXT.7	27	BK-BR	39	303
	PXR.7	28	BR-BK	14	203
8	TXT.8	29	BK-SL	40	304
	TXR.8	30	SL-BK	15	204
	PXT.8	31	Y-BL	41	305
	PXR.8	32	BL-Y	16	205

2 of 2

TN2198 ISDN-BRI 2-wire U Interface

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
1	T.1	1	W-BL	26	102
	R.1	2	BL-W	01	002
2	T.2	3	W-O	27	103
	R.2	4	O-W	02	003
3	T.3	5	W-G	28	104
	R.3	6	G-W	03	004
4	T.4	7	W-BR	29	105
	R.4	8	BR-W	04	005
5	T.5	9	W-SL	30	106
	R.5	10	SL-W	05	006
6	T.6	11	R-BL	31	107
	R.6	12	BL-R	06	007
7	T.7	13	R-O	32	108
	R.7	14	O-R	07	008
8	T.8	15	R-G	33	109
	R.8	16	G-R	08	009
9	T.9	17	R-BR	34	110
	R.9	18	BR-R	09	010
10	T.10	19	R-SL	35	111
	R.10	20	SL-R	10	011
11	T.11	21	BK-BL	36	112
	R.11	22	BL-BK	11	012
12	T.12	23	BK-O	37	113
	R.12	24	O-BK	12	013

* Pins 25 and 50 are grounded by the backplane.

TN793B 24-Port Analog Line circuit pack

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
1	T.1	1	W-BL	26	102
	R.1	2	BL-W	01	002
2	T.2	3	W-O	27	103
	R.2	4	O-W	02	003
3	T.3	5	W-G	28	104
	R.3	6	G-W	03	004
4	T.4	7	W-BR	29	105
	R.4	8	BR-W	04	005
5	T.5	9	W-SL	30	106
	R.5	10	SL-W	05	006
6	T.6	11	R-BL	31	107
	R.6	12	BL-R	06	007
7	T.7	13	R-O	32	108
	R.7	14	O-R	07	008
8	T.8	15	R-G	33	109
	R.8	16	G-R	08	009
9	T.9	17	R-BR	34	110
	R.9	18	BR-R	09	010
10	T.10	19	R-SL	35	111
	R.10	20	SL-R	10	011
11	T.11	21	BK-BL	36	112
	R.11	22	BL-BK	11	012
12	T.12	23	BK-O	37	113
	R.12	24	O-BK	12	013
13	T.13	25	BK-G	38	302
	R.13	26	G-BK	13	202

1 of 2

Port	Signal	Cross-Connect Pin	Color	Amphenol Pin	Backplane Pin
14	T.14	27	BK-BR	39	303
	R.14	28	BR-BK	14	203
15	T.15	29	BK-SL	40	304
	R.15	30	SL-BK	15	204
16	T.16	31	Y-BL	41	305
	R.16	32	BL-Y	16	205
17	T.17	33	Y-O	42	306
	R.17	34	O-Y	17	206
18	T.18	35	Y-G	43	307
	R.18	36	G-Y	18	207
19	T.19	37	Y-BR	44	308
	R.19	38	BR-Y	19	208
20	T.20	39	Y-SL	45	309
	R.20	40	SL-Y	20	209
21	T.21	41	V-BL	46	310
	R.21	42	BL-V	21	210
22	T.22	43	V-O	47	311
	R.22	44	O-V	22	211
23	T.23	45	V-G	48	312
	R.23	46	G-V	23	212
24	T.24	47	V-BR	49	313
	R.24	48	BR-V	24	213

2 of 2

DS1 Interface Cable H600-307

50-Pin			15-Pin		
Pin	**Color**	**Designation**	**Pin**	**Color**	**Designation**
02	W-BL				
03	BL-W				
47	W-G	LI (High)	11	W-G	LI (High)
22	G-W	LI	03	G-W	LI
48	W-BR	LO	09	W-BR	LO
23	BR-W	LO (High)	01	BR	LO (High)
49	W-SL	LOOP2	06	W-SL	LOOP2
24	SL-W	LOOP1	05	SL-W	LOOP1
All other pins empty.					

UPS Installation for SCC1 EPN A-Carrier Cabinet

This section describes the procedure for connecting the Series 1 On-Line Uninterruptible Power System (UPS) to an SCC1 EPN cabinet. The UPS maintains critical A-carrier ports for about 14 minutes during a power outage. It also provides information on wiring, administering, and documenting alarms, which allows remote monitoring of power and UPS problems.

There are two configurations for connecting a UPS to an SCC1 cabinet:

- UPS connection for fiber-remoted SCC1 EPN
- UPS connection for DS1-remoted SCC1 EPN and associated Channel Service Unit (CSU).

Task List: Install UPS

1. Connect the UPS on page 785
2. Wire the 700A8 Plug on page 786
3. Make the Remaining Connections on page 787
4. Administer the External Device Alarm (EDA) on page 790
5. Load-test and Verify Alarms on page 791

Parts List

NOTE:
This procedure requires a cross-connect punchdown tool.

Required Hardware

- 800-VA UPS for 1 CSU and 1 SCC
- 1000-VA UPS for 2 to 4 CSUs and 1 SCC
- Z3A2 UPS alarm adapter with 700A8 plug included

Connect the UPS

Return to Task List

1. Notify the customer of an EPN outage during this procedure.
2. Turn off the SCC circuit breaker.
3. Unplug the SCC from the commercial power source.
4. Plug the SCC power cord into the UPS.
5. Turn on the SCC circuit breaker.

6 Plug the UPS into a 120 VAC NEMA 5-15R receptacle.

7 Press and hold the OUTPUT ON button on the UPS until you hear a beep. The INPUT ON and OUTPUT ON LEDs light up.

8 Program the UPS communication interface port for AS400 mode. Refer to the *UPS Site Preparation, Installation and Operator's Manual (167-405-120)*.

Return to Task List

Wire the 700A8 Plug

Return to Task List

1 Cut a piece of 24AWG (2 twisted pairs) wire long enough to reach from the rear of the UPS to the 110 cross-connect field.

2 Hold the clear cover for the 700A8 plug in your hand with the punch down grooves away from you. The groove on the left side is pin 1. See Figure 303, Wiring the 700A8 Plug, on page 786.

NOTE:
If the wire pairs are not in the correct positions, then the alarm verification test may not work.

3 Route the wires through the cover, placing the utility fail pair in positions 1 and 2 and the UPS pair in positions 5 and 6. Positions 3, 4, 7, and 8 are not used.

4 Press the plug onto the cover. This forces the wires into the plug contacts.

Figure 303: Wiring the 700A8 Plug

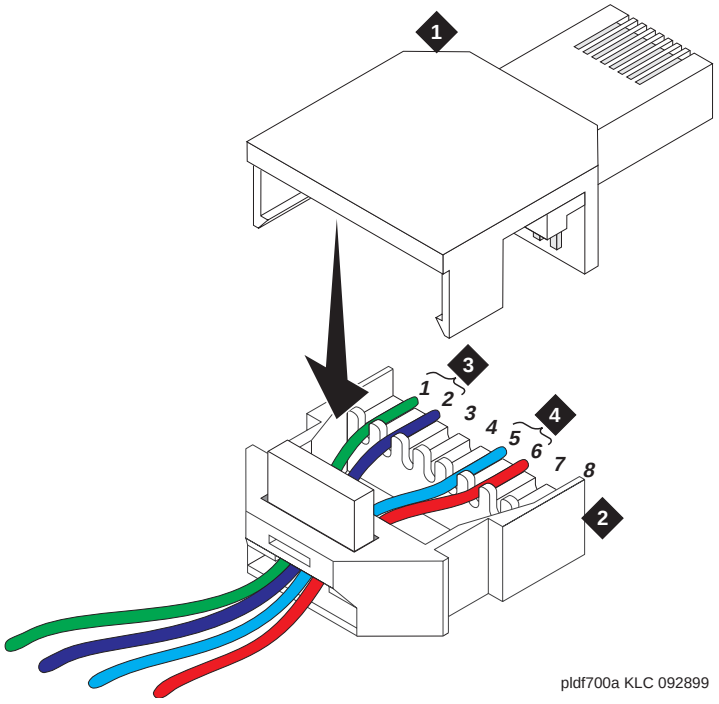


Figure notes

1	700A8 plug	**3**	Utility fail wire pair
2	Clear cover for 700A8 plug	**4**	UPS fail wire pair

Return to Task List

Make the Remaining Connections

Return to Task List

For a fiber-remoted SCC EPN, see Figure 304, UPS for Fiber-Remoted SCC1 EPN, on page 788. For a DS1-remoted SCC EPN and associated CSUs, see Figure 305, UPS for DS1 Remoted SCC1 EPN, on page 789.

1. Plug the 700A8 plug into the Z3A2 UPS alarm adapter.
2. Connect the alarm adapter to the UPS DB25 RS-232 serial port connector.
3. Connect the wires from the plug to the 110 cross-connect field for the AUX connector (see Table 42, Wire Connections, on page 787 and Figure 306, Enlarged View of the 110 Cross-Connect Field for the AUX Connector, on page 790).

If connecting a UPS for a DS1-remoted SCC1 EPN:

4. Plug the CSU(s) used in the A-level DS1 converter into the UPS.

Table 42: Wire Connections

700A8 Plug			DEFINITY AUX Connector 110 Field	
UPS Alarm Name	**Pins**		**Pins**	**External Alarm Name**
Pair 1: Utility Fail Alarm	1	*Connects to*	1	1M Major Alarm Pair
	2		2	
Pair 3: UPS Fail Alarm	5		3	1m Minor Alarm Pair
	6		4	

Figure 304: UPS for Fiber-Remoted SCC1 EPN

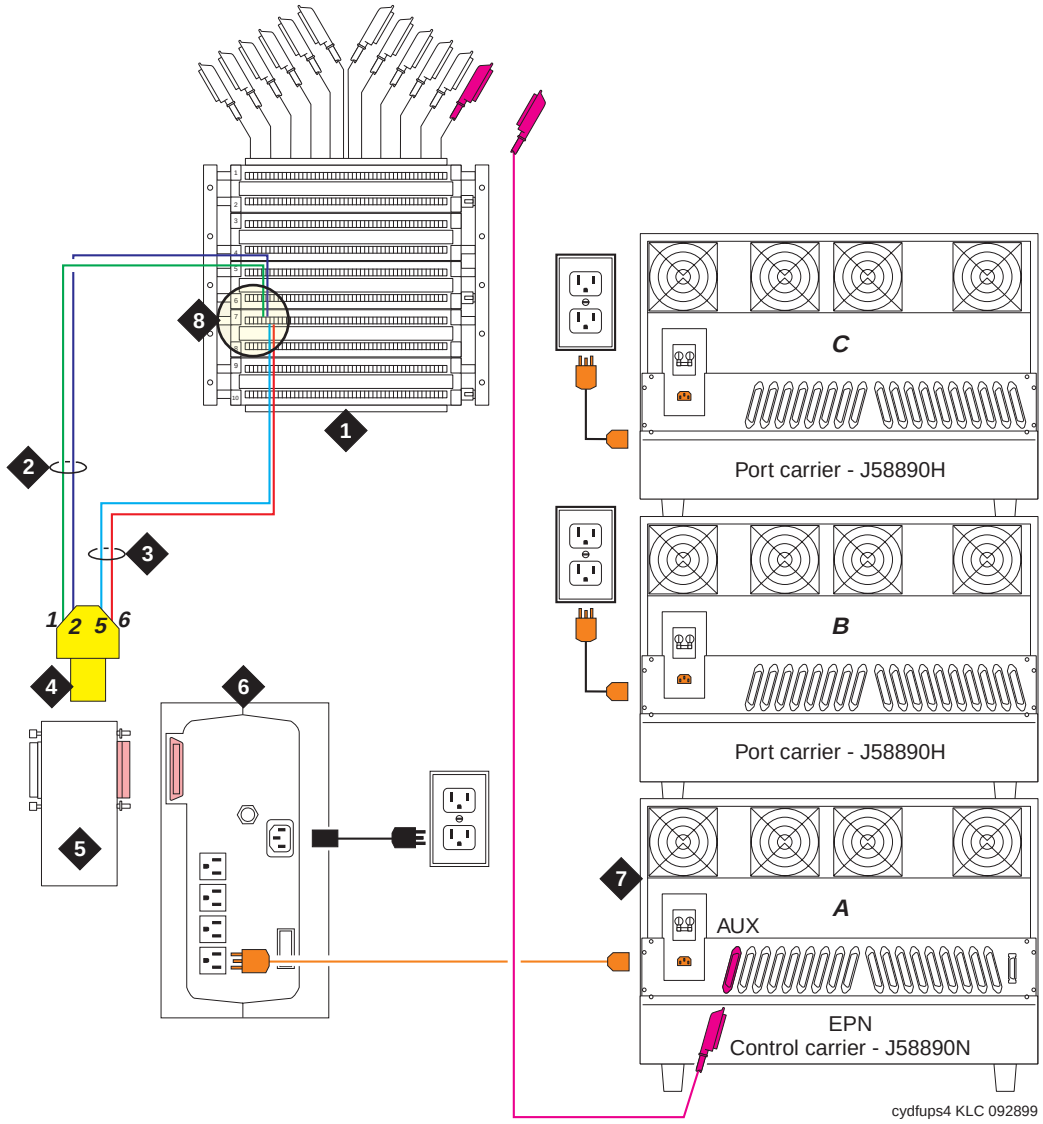


Figure notes

1 110 cross-connect field

2 Utility fail wire pair

3 UPS fail wire pair

4 700A8 (RJ45) modular plug (see Wire the 700A8 Plug on page 786 for wiring detail)

5 Z3A2 UPS alarm adapter plugs into DB25 connector

6 UPS 800/1000VA

7 EPN control carrier

8 See Figure 306, Enlarged View of the 110 Cross-Connect Field for the AUX Connector, on page 790 for wiring detail

Figure 305: UPS for DS1 Remoted SCC1 EPN

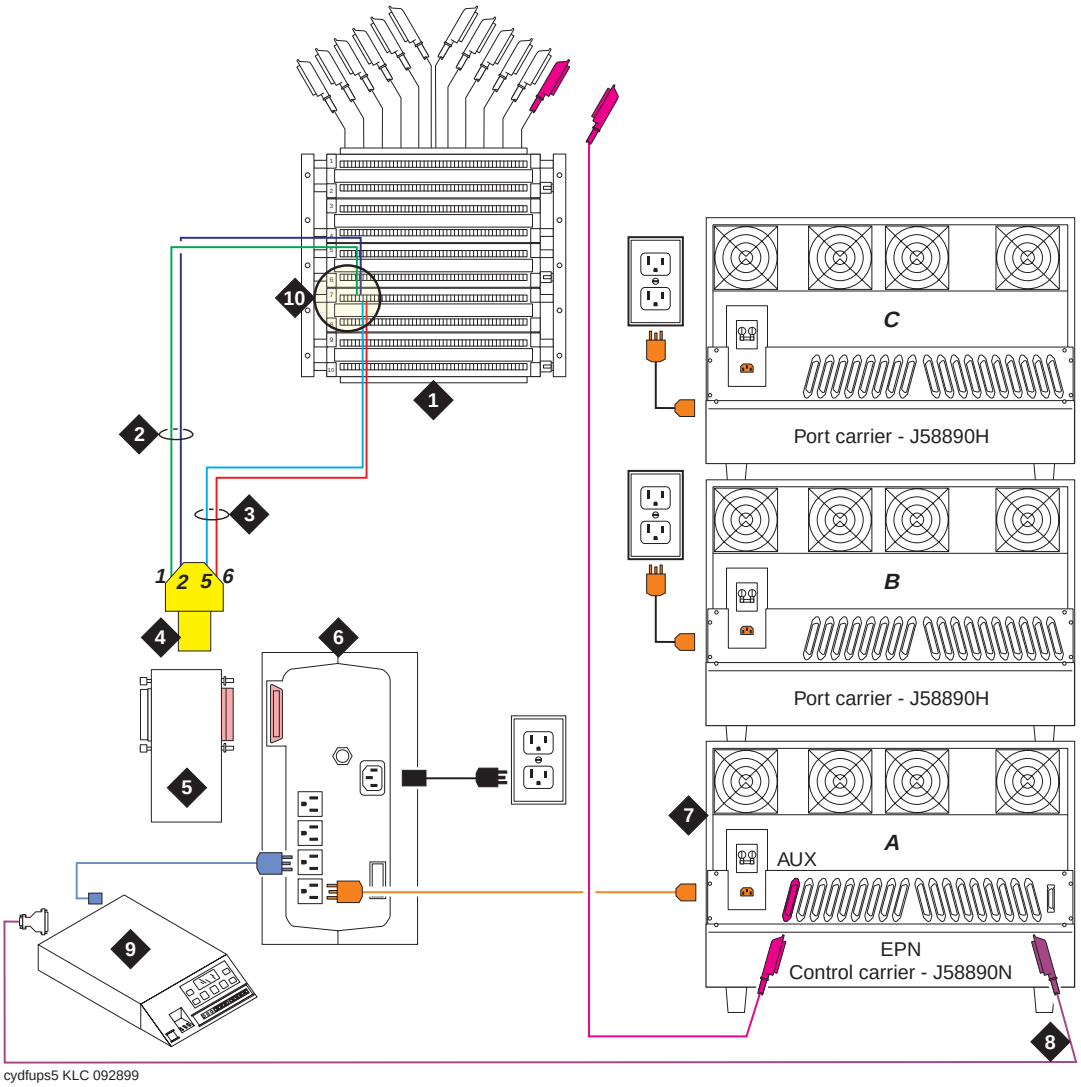


Figure notes

1	110 cross-connect field	**6**	UPS 800/1000VA
2	Utility fail wire pair	**7**	EPN control carrier
3	UPS fail wire pair	**8**	H600-348 DS1 converter cable
4	700A8 (RJ45) modular plug (see Figure 303, Wiring the 700A8 Plug, on page 786 for wiring detail)	**9**	Channel service unit
5	Z3A2 UPS alarm adapter plugs into DB25 connector	**10**	See Figure 306, Enlarged View of the 110 Cross-Connect Field for the AUX Connector, on page 790 for wiring detail

Figure 306: Enlarged View of the 110 Cross-Connect Field for the AUX Connector

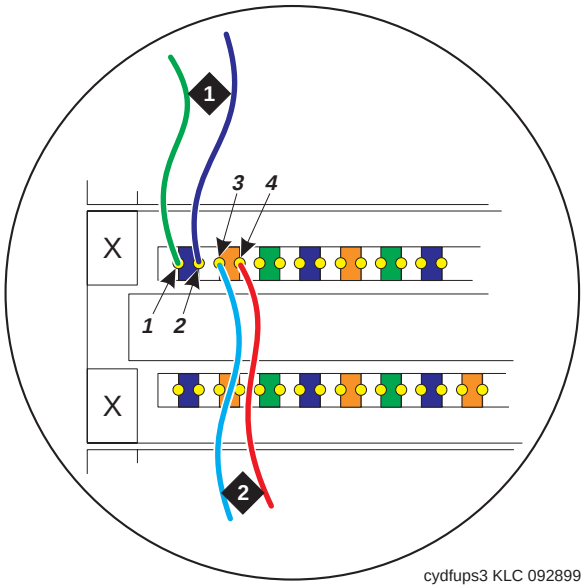


Figure notes

1 Utility fail wire pair:
- 1M (major alarm)
- return GRD

2 UPS fail wire pair:
- 1m (minor alarm)
- return GRD

Return to Task List

Administer the External Device Alarm (EDA)

Return to Task List

If the external device alarm (EDA) administration is turned on:

1 Log in as **craft**.

> **NOTE:**
> If you have a **dadmin** login and password, you can use them instead of craft and the craft password.

Enter the following information (***XX*** refers to the 2-digit cabinet number of the EPN):

2 Type **add eda-external-device-alrm *XXmajor*** and press **Enter**.

3 Type **XXmajor** in the `Port` field.

4 Type **major** in the `Alarm Type` field.

5 Type **AC Pwr** in the `Alt Name` field.

6 Type **Loss of AC Power A Level UPS on Battery** in the `Description` field.

7 Enter data in the remaining fields based on your installation requirements.

8. Type **add eda-external-device-alrm *XXminor*** and press **Enter**.
9. Type **XXminor** in the `Port` field.
10. Type **minor** in the `Alarm Type` field.
11. Type **UPS A** in the `Alt Name` field.
12. Type **A Level UPS is on Electronic Bypass** in the `Description` field.
13. Enter data in the remaining fields based on your installation requirements.
14. When done, press **Enter**.

Return to Task List

Load-test and Verify Alarms

Return to Task List

CAUTION:
Do not remove or unplug the input cord when the UPS is turned on. This removes the safety ground from the UPS and the equipment connected to the UPS.

15. With the Avaya Media Gateway on the UPS, find the (dedicated) circuit breaker that feeds power to the receptacle that the UPS is plugged into.
16. Turn the breaker off. At that time, the UPS sounds an alarm, and the RED LED (ON BATTERY) and 3 GREEN LEDs (L1, L2, and L3) above the GREEN LED (OUTPUT) light up.
17. If the EDA is turned on, type **test eda-external-device-alrm *physical XXmajor*** and press **Enter**. Verify that the test fails.
18. If the EDA is turned off, type **display alarms** and press **Enter**.
19. Type your requirements in the various fields of the Alarm Report, then press **Enter**.
20. Verify that you have a major alarm on EXT-DEV for Port XXmajor. You do not need to verify a minor alarm (UPS on Electronic Bypass).
21. If a U.S. installation, call the Product Performance and Analysis organization on 800-242-2121, press 0 (zero), and enter extension 85284. Verify that the EXT-DEV XX major alarm was reported to them.
22. Ask the Product Performance and Analysis organization to establish a data base for the installation location (IL). This defines the major and minor external alarms.

    The Product Performance and Analysis organization enters the major alarm on EXT DEV XX as “Loss of Commercial Power, UPS on Battery” and the minor alarm on EXT DEV XX is “UPS is on Electronic Bypass.”

Return to Task List

Adjuncts and Peripherals

The following sections provide information on the installation of a variety of adjuncts and peripheral devices. The sections cover:

- Terminal server installation
- Call detail recording (CDR)
- Reliable Data Transport Tool (RDTT) Package
- Printers
- DS1/T1 CPE loopback jack
- Music-on-hold
- Paging and announcement equipment
- Adjunct Information Sources

Terminal server installation

This chapter provides information on connecting adjunct equipment using a terminal server (Figure 307). Avaya supports the IOLAN+ 104 terminal server.

Any device that does not support a direct TCP/IP connection, but that does support an RS232 interface, can connect through a terminal server. System printers and some CDR devices use RS232 connections and can connect through a terminal server.

You can connect up to four adjuncts through one terminal server.

Figure 307: Switch-to-adjunct LAN connectivity through a terminal server

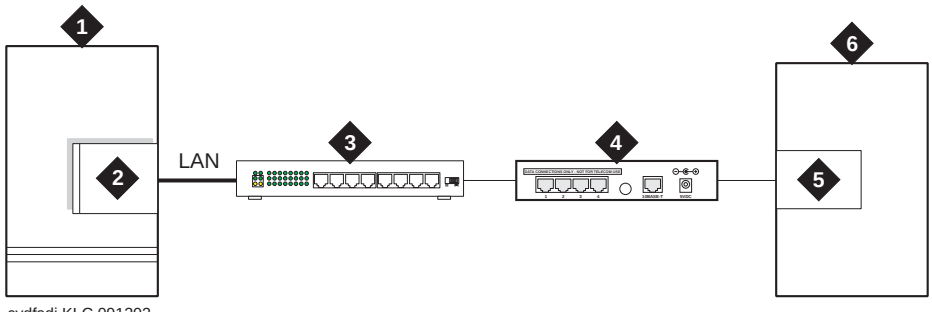


Figure notes

1	switch	**4**	terminal server
2	C-LAN circuit pack	**5**	serial port
3	10/100Base-T Hub (optional)	**6**	CDR adjunct

Installing and administering the terminal server

Make sure you have all the equipment on site before the installation. You must have the hardware listed in Table 43.

Table 43: Required equipment

Comcode	Description	Qty	Supplier
700015084	IOLAN+ 104 communications server	1	Avaya
NA	RJ45-to-DB25 connector for IOLAN+ (supplied with 700015084)	4	Avaya
NA	DB25-to-DB9 connector for PC COM port	1	Avaya
NA	RS232 Null modem (if needed for PC or printer connectivity)	1 or more	Avaya
405369042	Male/female adapter (if necessary)	1 or more	Avaya
846943306 or 104154414	6-inch RJ45 crossover cord, or	1	Avaya
NA	10/100Base-T auto-sensing LAN hub or router	1	Customer
102631413	259A adapter, or	1	Avaya
NA	CAT5 cross connect hardware and connecting blocks		Customer
NA	RJ45 UTP Category 5 modular cords	1–2	Customer
NA	451A in-line RJ45 adapters, as needed to connect modular cords together		

You also need a computer (laptop) with the HyperTerminal software program for the initial administration of the IOLAN+ and to set up the ports.

The general process is to

- Connect the IOLAN+ to the adjunct and the LAN
- Administer the ports on the IOLAN+ using a PC or laptop at the local site
- Test the connectivity back through the switch

Distance limits

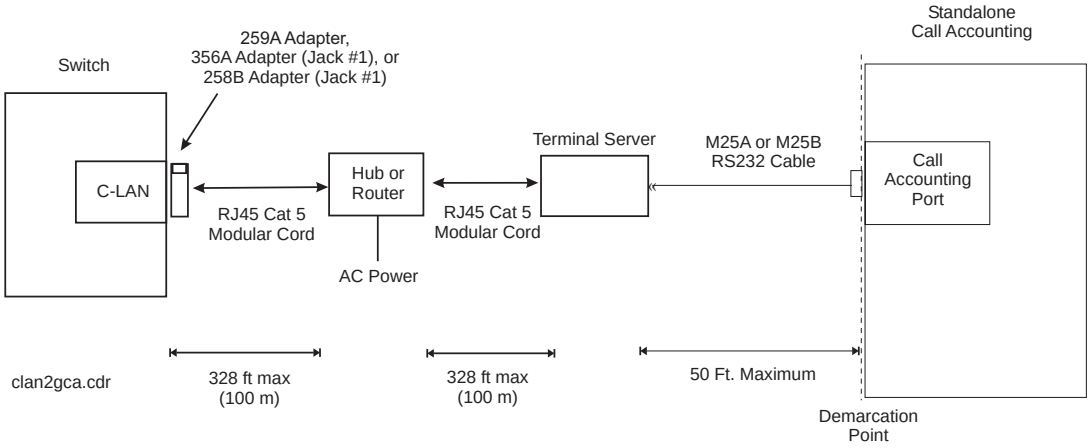
The distance limit from the switch to the LAN hub is 328 feet (100 meters). The distance limit from the LAN hub to the terminal server is 328 feet (100 meters). If installed, the limit from the terminal server to the adjunct is 50 feet (15 meters).

However, to achieve greater distance limits, the switch's LAN hub/router may be connected to a WAN and the hub/router for the terminal server also connected to the same WAN.

Cabling diagram

Figure 308 shows the connection between the terminal server port and a call accounting system.

Figure 308: Stand-alone call accounting system link using a terminal server



NOTE:
You can connect the directly to the terminal server with a data crossover cable. This connection eliminates the need for a hub or router in the middle, but the connection also allows the and the terminal server to communicate only with each other. With this connection, the and the terminal server should be configured with the same subnet.

Making the connections

Connect the adjunct to the IOLAN+, using the RJ45-to-DB25 cable and the null modem. You can use a male/female adapter. See Figure 309.

Figure 309: Connecting an adjunct to the IOLAN+

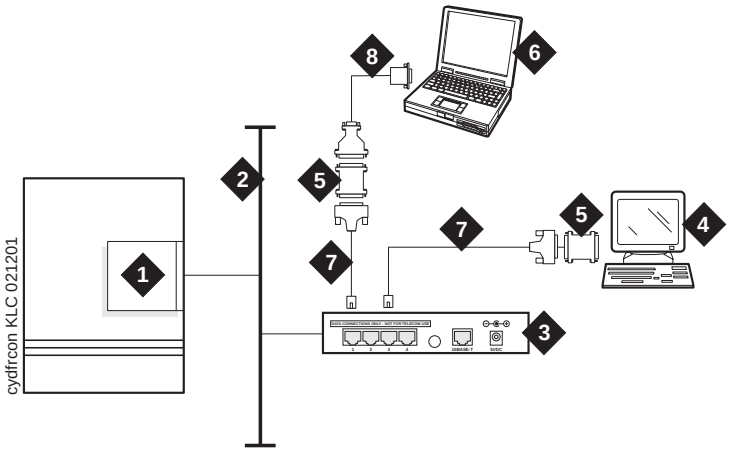


Figure notes

1	C-LAN circuit pack	**5**	Null modem
2	Local area network (LAN)	**6**	PC or laptop (for initial administration)
3	IOLAN+ 104 terminal server	**7**	DB25-to-RJ45 cable
4	Adjunct (system management terminal or a system printer, for example)	**8**	DB25-to-DB9 cable

Follow these typical steps:

> **NOTE:**
> Depending on the adjunct's connections, you may not need all of these pieces.

1 Connect the null modem adapter to COM1 port on the adjunct.

> **NOTE:**
> The null modem is an important element in this setup. Without it, data may not transfer correctly.

2 Connect the other end of the null modem adapter to the DB25 to RJ45 cable.

3 Connect the RJ45 end to any port on the IOLAN+.

Administering the IOLAN+

To administer the IOLAN+ the first time, you must connect a PC or laptop to the RS232 Port 1 on the IOLAN+ terminal server. Follow these typical steps:

> **NOTE:**
> Depending on the computer's COM port, you may not need all of these pieces.

1. Connect the DB9 end of the DB9-to-DB25 cable to the COM port on the PC or laptop.
2. Connect the DB25 end to the null modem adapter.
3. Connect the other end of the null modem adapter to the DB25 to RJ45 cable.
4. Connect the RJ45 end to Port 1 of the IOLAN+.

Before beginning the initial administration, make sure you have the following information:

- New IP address and subnet mask for IOLAN+
- Host name for IOLAN+
- IP address of Ethernet interface
- Port number of Ethernet interface where adjunct connects.

Setting up HyperTerminal on the computer

Use the HyperTerminal software program that comes with Windows 95/98/NT/2000 to administer the IOLAN+.

1. Open HyperTerminal.
2. Click on **File** > **Properties** > **Connect** tab. In the `Connect using:` field, select **COM n**, where **n** is the communication port your computer is using.
3. Click on **CONFIGURE** and set the `bits per second` field to **9600** and the `Flow control field` to **Hardware**.
4. Click **OK**.
5. Press `Enter` to get the login prompt.

Navigating the IOLAN+ terminal server

Refer to the IOLAN+ user guide for details. In general,

- Use the arrow keys to move to a menu item
- Use the **Tab** key to move from field to field horizontally.
- Use the **Enter** key to choose an item.

Administering the IOLAN+ the first time

1. At the login prompt type **any text** and press **Enter**.
2. At the second prompt type **set term ansi** and press **Enter** to view the ***Connections*** menu.

```
Name: port 2                  CONNECTIONS MENU                    Terminal: 2


                        Connection      Host

                           1            *** FREE ** === Commands ===
                           2            *** FREE ** | Telnet     ^T|
                           3            *** FREE ** | Rlogin    ^R|
                           4            *** FREE ** | Port      ^P|
                                                    | Admin mode ^A|
                                                    | CLI          |
                                                    | Lock         |
                                                    | Logout    ^D|
                                                    ================




_____________________________________________________________________________


IOLAN PLUS v4.02.00 a CDi                                           iolan
```

3. Under Connection select **Port 1** (the port to which the adjunct is connected) and press **Enter** to access the ***Commands*** menu.
4. Select **Admin mode** > **Password** and press **Enter**.

```
Name: port 2                ADMINISTRATION MENU                   Terminal: 2


    gateway     Examine/modify gateway table.
    host        Examine/modify host table.
    line        Terminal configuration organised by line.
    password    Specify password to allow modification of menu items.
    port        Terminal configuration organised by port.
    quit        Return to connections menu.
    server      Examine/modify Server parameters.
    stats       Examine Server statistics.




    Password          [          ]


_____________________________________________________________________________


IOLAN PLUS v4.02.00 a CDi                                         iolan-st
```

5. Type **iolan**, the default password, and press **Enter**.

   The Administration Menu changes, offering more options.
6. Select **server** and press **Enter** to view the ***Server Configuration*** menu.

```
** Administrator **         SERVER CONFIGURATION                    Terminal: 2

  Name              [iolan      ]                Debug mode      [0     ]
  IP address        [123.45.67.89 ]
  Subnet mask       [222.222.0.0        ]
  Ethernet address  [00:80:d4:03:11:cd]          Ethernet interface [AUTO   ]
  Language          [English  ]
  Identification    [                                  ]
  Lock              [Disabled]
  Password limit    [5     ]
  CR to initiate    [No  ]
  SNAP encoding     [Disabled]
  Boot host         [                  ]  Boot diagnostics [Enabled ]
  Boot file         [                                                 ]
  Init file         [                                                 ]
  MOTD file         [                                                 ]
  Domain name       [                                ]
  Name server       [                  ]           NS Port   [53    ]
  WINS server       [                  ]
_____________________________________________________________________________

    Name used for prompts and message on bottom right of screen.

IOLAN PLUS v4.02.00 a CDi                                                iolan
```

7 Fill in the following fields with information appropriate to your network. Leave the default settings for the other fields.

- `Name:`
- `IP address:` (for IOLAN+)
- `Subnet mask:`

8 Press **Enter** and select **Save & Exit** to effect the changes.

Rebooting the IOLAN+

You must reboot the server any time you change an IP address or Local Port value.

1 Press **Enter** to view the ***Administration Menu***.

```
** Administrator **         ADMINISTRATION MENU                     Terminal: 2


    access      Remote System Access (PPP).
    change      Change login and/or admin password.
    gateway     Examine/modify gateway table.
    host        Examine/modify host table.
    kill        Kill TCP connections on serial line.
    line        Terminal configuration organised by line.
    port        Terminal configuration organised by port.
    quit        Return to connections menu.
    reboot      Reboot Server.
    server      Examine/modify Server parameters.
    stats       Examine Server statistics.
    trap        Examine/modify SNMP Trap parameters.


    Port                    [2  ]

_____________________________________________________________________________



IOLAN PLUS v4.02.00 a CDi                                                iolan
```

NOTE:
The following steps re-initialize the IOLAN+ so it knows it's connected to the LAN through its IP address.

2 Select **reboot** and press **Enter**.

3 Press the **space bar** to restart the IOLAN+.

Administering the gateway

NOTE:
If the and IOLAN+ are in the same subnet, skip this step.

1 Select **Admin mode** > **Password** and press **Enter**.

2 Type **iolan** and press **Enter**.

3 Select **gateway** to access the Gateway menu

4 Fill in the following fields for Entry 1:

- `Destination:` *IP address*
- **Gateway:** *Gateway address*
- `Netmask:` *Subnet mask*

NOTE:
The following steps re-initialize the IOLAN+ so it knows it's connected to the LAN through your gateway.

5 Select **reboot** and press **Enter**.

6 Press the **space bar** to restart the IOLAN+.

Administering an IOLAN+ port

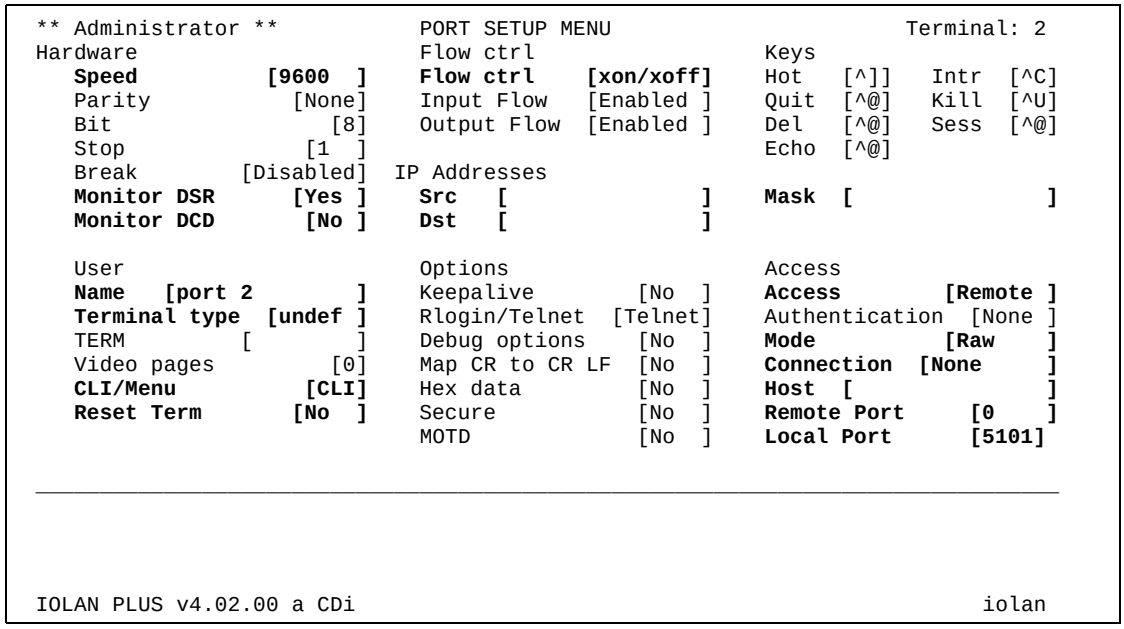
Use this procedure when connecting an adjunct or serial COM port on a PC directly (locally) to the IOLAN+ (see Figure 309).

1 Select **Admin mode** > **Password** and press **Enter**.

2 Type **iolan** and press **Enter**.

3 Select **port** and press **Enter**.

4 Type **port number**, where **port number** is the port that the adjunct connects to, and press **Enter** to view the ***Port Setup Menu***.



5 Fill in the following fields. Leave the default settings for the other fields.

- Speed: **9600**
- Monitor DSR: **Yes**
- Monitor DCD: **No**
- Name: *port number or other descriptive name*
- Terminal type: **undef**
- CLI/Menu: **CLI**
- Reset Term: **No**
- Flow ctrl: **xon/xoff**
- IP addresses: *leave blank*
- Mask: *leave blank*
- Access: **Remote**
- Authentication: **None**
- Mode: **Raw**
- Connection: **None**
- Host: *leave blank or enter IP Address*
- Remote Port: **0**
- Local Port: *must match the value of Remote Port on the IP Services screen of the Communication Manager software*

6 Press **Enter** and select **Save & Exit** to effect the changes.

7 Press **Enter** again to view the ***Administration Menu***.

8 Select **kill** to disable the port connection.

9 Repeat the steps for each additional port you want to administer.

10 When administration is complete, from the ***Connections Menu***, select **logout** (or press **Ctrl D**).

11 Close HyperTerminal.

At this point, you have established a connection path from the adjunct through the IOLAN+ to the .

Testing

1 On the system management terminal, press **Enter** to get the login prompt to the Communication Manager switch.

> **NOTE:**
> If you get garbled text, check the baud rate setting on the ***Port Setup Menu***. You can adjust it up or down.

2 If no login prompt appears, log back into the IOLAN+ through HyperTerminal.

3 Select **Admin mode > stats** and press **Enter** twice.

4 Select **users** and press **Enter**.

5 Look at the port that the adjunct is connected to and see if there is any traffic. If not, check all your connections and administration fields.

```
** Administrator **          SERVER STATISTICS                      Terminal: 2
 1. port1            Talking to host 172.22.22.67.5111<DSR+CTS+DCD >DTR+RTS
 2. port 2           SERVER STATISTICS               <DSR+DCD >DTR+RTS
 3. port 3           waiting for DSR or DCD           >DTR+RTS
 4. port 4 modem     waiting for DSR or DCD           >DTR+RTS
REM <unknown>        logged out
LOG                  logger not enabled









_____________________________________________________________________________


    Press <Enter> to see list of options.
IOLAN PLUS v4.02.00 a CDi                                              iolan-st
```

After you have successfully administered and validated the connection between the adjunct and the through the IOLAN+, you can disconnect the laptop or other PC from the IOLAN+. No further IOLAN+ administration is required.

Potential failure scenarios and repair actions

If a link goes down between the terminal server and the switch, you must reboot the terminal server for the link come back up. If you are performing a software upgrade or if a system reset occurs, you must reboot the terminal server to restore the link. See Rebooting the IOLAN+ on page 799 for instructions.

Administering IP node names

You must administer the IP addresses of the C-LAN board, any adjunct that connects directly to the LAN, the terminal server (if appropriate), and the PC running the Reliable Session-Layer Protocol (if appropriate). You use the Node Names screen to do this.

1. Type **change node-names ip** and press **Enter**.
2. Enter the name and the IP address of the C-LAN board, as well as any adjunct, terminal server or PC you need to administer.

```
change node-names ip                                        Page 1 of 1

                          NODE NAMES

Name              IP Address    Name              IP Address
 1. switch-clan___     123.456.7  .89   17. _______________     ___.___.___.___
 2. callacctg_____     123.456.9  .00   18. _______________     ___.___.___.___
 3. termserver____     123.456.11 .00   19. _______________     ___.___.___.___
 4. pmslogpc______     123.456.78 .00   20. _______________     ___.___.___.___
 5. _______________    ___.___.___.___  21. _______________     ___.___.___.___
 6. _______________    ___.___.___.___  22. _______________     ___.___.___.___
 7. _______________    ___.___.___.___  23. _______________     ___.___.___.___
 8. _______________    ___.___.___.___  24. _______________     ___.___.___.___
 9. _______________    ___.___.___.___  25. _______________     ___.___.___.___
10. _______________    ___.___.___.___  26. _______________     ___.___.___.___
11. _______________    ___.___.___.___  27. _______________     ___.___.___.___
12. _______________    ___.___.___.___  28. _______________     ___.___.___.___
13. _______________    ___.___.___.___  29. _______________     ___.___.___.___
14. _______________    ___.___.___.___  30. _______________     ___.___.___.___
15. _______________    ___.___.___.___  31. _______________     ___.___.___.___
16. _______________    ___.___.___.___  32. _______________     ___.___.___.___
```

3. Print a copy of this screen, or write down the node names you entered. You need this information for the next administration task.
4. Press **Enter** to save your changes.

Administering IP services

For each adjunct that you connect using TCP/IP, you need to administer IP services to establish the IP address/TCP port pairing. The IP address is associated with the node name that you just administered. In this example, we are administering the primary CDR connection as end-to-end TCP/IP.

1. Type **change ip-services** and press **Enter** to assign the CDR endpoint.
2. In the `Service Type` field, enter **CDR1** for the call accounting link.

```
change ip-services                                        Page   1 of   3

                                IP SERVICES
   Service   Enabled   Local           Local   Remote          Remote
    Type               Node            Port    Node            Port
   CDR1                switch-clan     0       callacctg       5101
```

3. In the `Local Node` field, enter the node name for the switch. In this example, `switch-clan` is the local node.

4 The `Local Port` field defaults to `0` for all client applications. You cannot make an entry in this field.

5 In the `Remote Node` field, enter the node name for the adjunct, as administered on the ***Node Names*** screen. For the call accounting application, type **callacctg**. Since the PMS application routes through the terminal server, **termserver** is the remote node for this service type.

6 In the `Remote Port` field, enter the TCP listen port assigned to the adjunct. The recommended value for CDR1 is 5101, and the recommended value for PMS is 5103.

NOTE:
This number must match the port administered on the end device. If you are using the Downloadable Reliable Session-Layer Protocol tool, this must match the port administered in the Server application. If you are using a terminal server, this number must match the `Local Port` number on the ***Port Setup*** menu. Consult the documentation for your Call Accounting system to determine the appropriate port for the CDR device.

7 Move to Page 3. Type **n** in the `Reliable Protocol` field for the CDR Service Type. You do not use RSP with a terminal server.

```
change ip-services                                        Page   3 of   3

                                SESSION LAYER TIMERS
Service    Reliable    Packet Resp    Session Connect    SPDU    Connectivity
 Type      Protocol       Timer         Message Cntr     Cntr       Timer
CDR1          n           3                  1            1          1
```

8 Press **Enter** to save your changes.

Call detail recording (CDR)

This section provides information on connecting call detail recording (CDR) equipment.

Connecting CDR Equipment

The interface between a DEFINITY and Avaya media server and CDR equipment is a C-LAN card.

CDR equipment connects to the CLAN board on an MCC1 or G650 Media Gateway through a TCP/IP connection (that is, an Ethernet connection). Any CDR equipment that supports the Reliable Session Protocol will support a direct TCP/IP connection. A CDR application that supports an RS232 interface can also connect to the CLAN through a terminal server (see Terminal server installation on page 793 for more information on connecting through a terminal server).

NOTE:
A printer or customer premises equipment (CPE) can also be used as the output receiving device. Please see Terminal server installation on page 793 of this book for instructions on using a printer.

Administering CDR Data Collection

NOTE:
To send CDR data via CLAN to a device on the LAN/WAN, you have the option to enable/disable RSP.

1. Setup the CDR adjunct to be ready to collect CDR data. Record the **IP address** and the **port number** of the CDR adjunct, which could be a terminal server or a CDR application that uses RSP.

   If the CDR adjunct is an application that uses RSP, start the application to listen for a client connection at the port.

2. Access the ***Node Names*** screen in Communication Manager (see Administering IP node names on page 803), and do the following:
   a. Enter the **CDR adjunct's name** from step 1 in the `Name` field.
   b. Enter the **CDR adjunct's IP address** in the `IP Address` field.

3. Access the ***IP Services*** screen in Communication Manager (see Administering IP services on page 803), and do the following:
   a. In the `Service Type` field, enter **CDR1** or **CDR2**.
   b. In the `Local Node` field, enter **switch-clan**.
   c. The `Local Port` field defaults to `0` for all client applications. You cannot make an entry in this field.
   d. In the `Remote Node` field, enter the node name you assigned to the CDR adjunct in step 2.
   e. In the `Remote Port` field, enter the port number used by the CDR adjunct determined in step 1.

4. Go to Page 3 and do the following:
   a. Enter **y** in the `Reliable Protocol` field if you have a CDR application using RSP. Enter **n** if the CDR adjunct is connected through a terminal server.
   b. If RSP is being used, complete the `Packet Resp Timer` and `Connectivity Timer` fields with some reasonable value that matches the network condition (the recommended values are **30** and **60** seconds, respectively).
   c. Leave the defaults in the other fields.

5. Administer CDR parameters as described in Administering CDR parameters on page 806.

Administering CDR parameters

You must administer CDR parameters to let the system know that the adjunct is connected through TCP/IP. For details on all fields on the CDR System Parameters screen, see *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

1. Type **change system-parameters cdr** and press **Enter**.

   The ***CDR System Parameters*** screen appears.

```
change system-parameters cdr                                    Page   1 of   1
                           CDR SYSTEM PARAMETERS

 Node Number (Local PBX ID):                        CDR Date Format: month/day
      Primary Output Format: unformatted   Primary Output Endpoint: CDR1
    Secondary Output Format: unformatted Secondary Output Endpoint: CDR2
           Use ISDN Layouts? n                          EIA Device Bit Rate: 9600
       Use Enhanced Formats? n      Condition Code 'T' for Redirected Calls? n
Modified Circuit ID Display? n                 Remove # From Called Number? n
                  Record Outgoing Calls Only? y            Intra-switch CDR? n
  Suppress CDR for Ineffective Call Attempts? y          CDR Call Splitting? y
      Disconnect Information in Place of FRL? n    Attendant Call Recording? y
                                                     Interworking Feat-flag? n
 Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n
                                    Calls to Hunt Group - Record: member-ext
Record Called Vector Directory Number Instead of Group or Member? n
         Record Called Agent Login ID Instead of Group or Member? n
     Inc Trk Call Splitting? n
  Record Non-Call-Assoc TSC? n
      Record Call-Assoc TSC? n   Digits to Record for Outgoing Calls: dialed
   Privacy - Digits to Hide: 0               CDR Account Code Length: 4
```

2. In the `Primary Output Format` field, enter a format specific to the call accounting system, if necessary. In the example, `unformatted` is used. If you were sending data directly to a printer, you would use `printer`.
3. In the `Primary Output Endpoint` field, type **CDR1**.
4. If you use a secondary output device, and that device is also connected through TCP/IP, complete the `Secondary Output Format` field. Also, type **CDR2** in the `Secondary Output Endpoint` field.
5. Press **Enter** to save your changes.

Testing the switch-to-adjunct link

You can use the test, status, busyout and release commands to find and correct problems with CDR links. For more information about these commands, see the Maintenance manual for your switch.

```
status cdr-link
                           CDR LINK STATUS
                Primary                         Secondary

       Link State: up                           extension not administered

 Maintenance Busy? no
```

Work with the vendor to test the link from the call accounting adjunct.

If a link does not come up immediately, use the **busyout cdr-link** and **release cdr-link** commands to bring up the link.

Additional administration procedures for CDR equipment are provided in the *Administrator's Guide for Avaya Communication Manager (555-233-506)*.

Reliable Data Transport Tool (RDTT) Package

Avaya provides this free software application to help vendors and customers develop CDR applications that use the reliable session protocol to collect CDR data from an Avaya Media Server. The Reliable Data Transport Tool (RDTT) is a testing tool and thus is not supported by Avaya.

Contents of the RDTT

The RDTT package consists of the following:

- Specifications for the Reliable Session Protocol
- The Client application (Client.exe)

  This application is designed to help you test the reliable session protocol without use of an Avaya Media Server.
- The Server application (Server.exe)

  This application is designed to help you understand the reliable session protocol and to start building your products to work with the Avaya media server.
- User Guide

  This document contains information about the client and server applications.

Downloading the tool

The RDTT tool is available from the Avaya support Web site as a self-extracting executable. To download the RDTT:

1. Go to the Avaya Customer Support Web site at http://avaya.com/support.
2. In the `Search For` text box, type **reliable** and click **Go**.
3. Select **Reliable Data Transport Client/Server Tool** from the list of found links.
4. When asked, save the **RDTT.exe** file to a temporary folder on your computer. It is approximately 1.6 to 2.0-MB.

Installing RDTT

To install the RDTT:

1. Double-click the **RDTT.exe** file.

   The ***Install Shield Wizard*** steps you through the installation.
2. When prompted to select **Client** or **Server**, select both programs.
3. Continue with the installation. Use the default destination folder and program folder.

Administering RDTT

See the instructions in the user_guide.doc file to administer the RDTT tool on a PC.

Related Topics

See the following topics related to CDR:

- Chapter 16, “Collecting Billing Information,” in *Administrator’s Guide for Avaya Communication Manager (555-233-506)*.
- “Call Detail Recording” in Chapter 21, “Features and Technical Reference” in *Administrator’s Guide for Avaya Communication Manager (555-233-506)*.
- Connecting printers using TCP/IP on page 815.

Wideband endpoints

Wideband endpoints include video equipment or bridges/routers for LANs. Use the running list that accompanies the system to make cable connections.

Nonsignaling configuration

A nonsignaling connection to a wideband endpoint may connect to a channel service unit (CSU). If *not* using a CSU, the distance between the system and the endpoint is limited to a few hundred feet. See Figure 310. The maximum distance depends on the type of cable and type of endpoint.

Figure 310: Typical nonsignaling wideband configuration

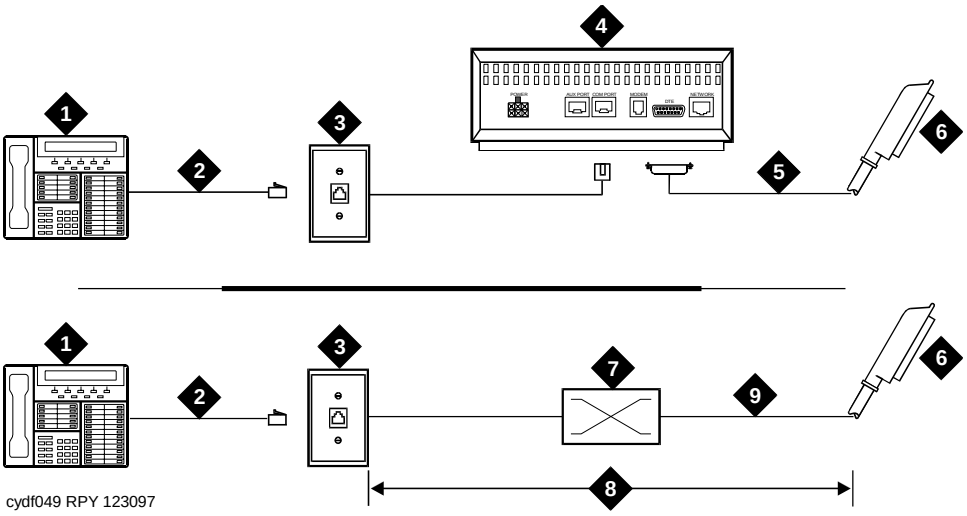


Figure notes

1 Wideband endpoint (wire per manufacturer)

2 Modular cord

3 103A or modular wall jack

4 Channel service unit (CSU)

5 H600-307 cable to DTE connector on CSU

6 DS1/E1 circuit pack

7 Main distribution frame (MDF)

8 Distance limit depends on cable and endpoint type.

9 A25D 25-pair cable (male-to-male)

If using a CSU, the distance between connections may be up to 1300 ft. (397.2 m). The maximum distance to the endpoint depends on the type of cable and the specifications of the endpoint.

Signaling configuration

A signaling connection from the system to a wideband endpoint passes through a bandwidth controller. The distance between the system and the bandwidth controller depends on the type of cable and controller. Figure 311 shows connections with and without a CSU.

Figure 311: Typical signaling wideband configuration

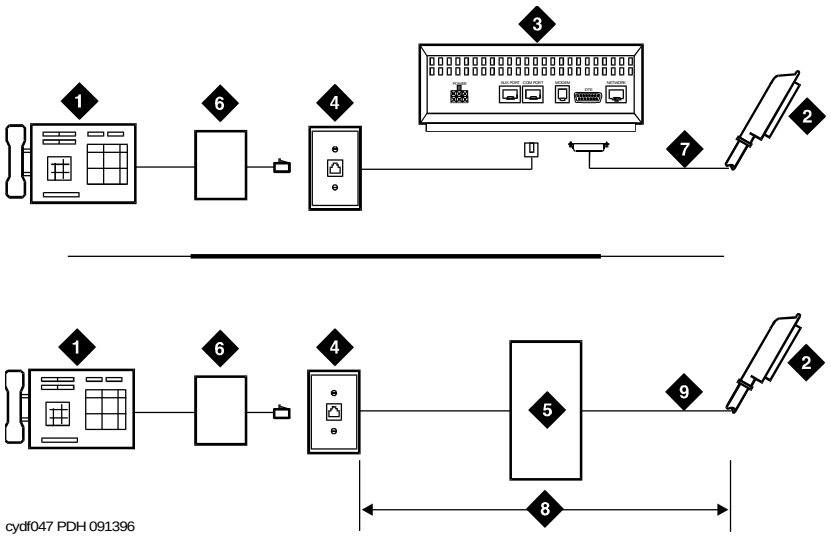


Figure notes

1 Wideband endpoint (wire per manufacturer)

2 To DS1/E1 circuit pack

3 Optional channel service unit (CSU)

4 103A or modular wall jack

5 Part of main distribution frame

6 Bandwidth controller

7 H600-307 cable to DTE connector on CSU

8 Distance limit depends on cable type and bandwidth controller type

9 A25D 25-pair cable (male-to-male)

The bandwidth controller connects directly to the wideband endpoint. The controller typically installs near the endpoint where they directly connect (usually within a few feet of each other).

- For non-CSU installations, cross the transmit and receive lines so a transmit signal from the DS1/E1 circuit pack connects to the receive connection on the bandwidth controller and a transmit signal from the bandwidth controller connects to the receive connection on the DS1/E1 circuit pack.
- For CSU installations, cross the transmit and receive lines between the CSU and the bandwidth controller.

Figure 312 shows a remote port module. In this configuration, there can be considerable distance between the bandwidth controller and the wideband endpoint. The maximum distance between elements depends on the quality of the cables and on the specifications of the wideband equipment.

Figure 312: Typical signaling wideband configuration with remote port module

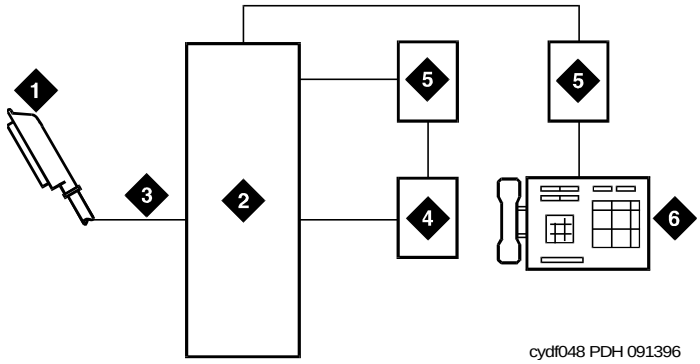


Figure notes

1	To TN464GP DS1/E1 circuit pack	**4**	Bandwidth controller
2	Part of main distribution frame (MDF)	**5**	Remote port module
3	H600-307 cable	**6**	Wideband endpoint (wire per manufacturer)

1 For non-CSU installations, cross the transmit and receive lines so a transmit signal from the TN464GP connects to the receive connection on the bandwidth controller and a transmit signal from the bandwidth controller connects to the receive connection on the TN464GP.

2 For CSU installations, cross the transmit and receive lines between the CSU and the bandwidth controller.

Multimedia call handling (MMCH)

MMCH provides a single point to point conference call using voice, video, and data from one endpoint to another. The customer must have endpoints and a personal computer with H.320 desktop video installed.

Connect the endpoints

Use the following procedure and Figure 313 to connect the endpoints:

Figure 313: Typical multimedia call handling connections

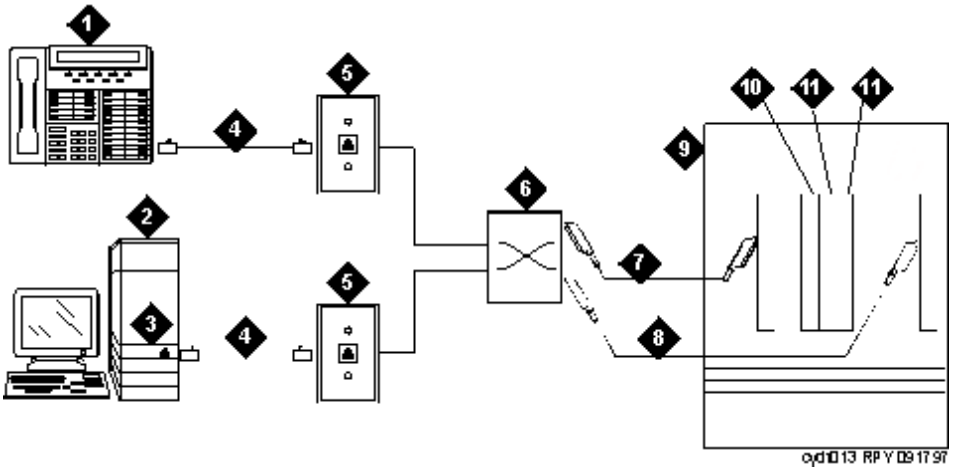


Figure notes

1	DCP telephone, 2 or 4 wire to match type of circuit pack	**7**	25-pair cable to digital line circuit pack
2	Personal computer	**8**	25-pair cable to BRI circuit pack or NT1, 4-to-2 wire adapter
3	BRI adapter	**9**	Avaya Media Server
4	D8W cord	**10**	Multimedia-interface circuit pack
5	103A or modular wall jack	**11**	Voice conditioner circuit pack
6	Main distribution frame		

1 Each PC MMCH endpoint must contain a BRI adapter.

2 Connect a DCP telephone to a digital line circuit pack. The DCP telephone must be used in conjunction with the PC. Refer to the tables at the end of this chapter for the pinout of the digital line circuit pack.

3 Connect the PC BRI adapter to any BRI port on the Avaya Media Server. Refer to the tables at the end of this chapter for the pinout of an ISDN BRI circuit pack.

Administer the system

1 Call INADS and notify the representative that the `Multimedia Call Handling (MMCH)?` field on page 2 of the ***customer-options*** form must be changed to **y**.

2 Logoff the terminal and then log back on the terminal to see your changes.

Administer the endpoints

1 Log in and enter **add data <*next*|*or a valid extension number*>**.

2 The data module form appears. On page 1 of the form, enter the `Data Extension:` **xxxx,** `Type:` **7500**, the `Name:` **user's name** (such as ProShare), and enter **y** in `Multimedia?` field.

3 On page 2 of the form, enter **n** in the `XID?` field, and enter **n** in the `MIM Support?` field and press **Enter**.

Administer one number complex

1. Identify the voice telephone (DCP set) to associate with the data endpoint. The station record for this voice station must be changed.
2. Type **change station *station number*** and press **Enter**.
3. On screen 1, type the data extension number in the `MM Complex Data Ext:` field.
4. On screen 2, type **y** in the `H.320 Conversion?` field and press **Enter**.
5. Type **y** in the `Multimedia Early Answer` field and press **Enter**.

Expansion services module

The Expansion Services Module (ESM) provides T.120 data sharing capability on a MMCH multipoint H.320 video conference. Each person in the conference must have endpoints and a personal computer with the H.320 video application installed. The Avaya Media Server must have the expansion service module installed.

Figure 314: Typical multimedia call handling ESM connections

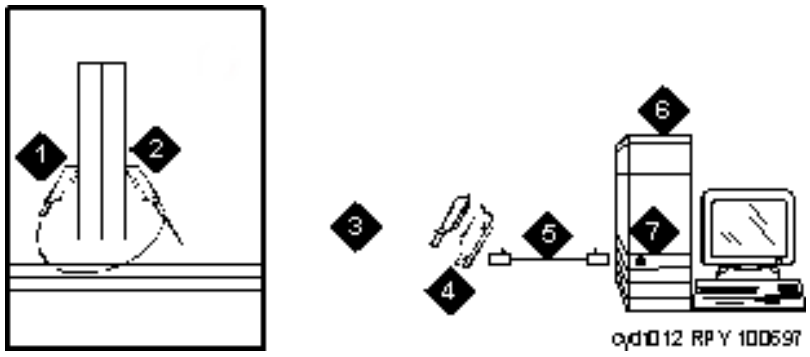


Figure notes

1. Port B Y-cable connector to a TN787K multimedia interface (MMI) circuit pack
2. Port A Y-cable connector to a TN2207 PRI circuit pack
3. 25-pair Y-cable
4. 357A adapter
5. D8W cord connected to 357A adapter S/B port 8
6. Expansion service module (ESM)
7. Port B on compatible primary rate interface (PRI) card

ESM installation

Use the following procedure and Figure 314 to connect to the ESM equipment:

1. Install the TN2207 primary rate interface (PRI) circuit pack and the TN787F/G/H/J/K multimedia interface (MMI) circuit pack in the port carrier.
2. Record the circuit pack locations.
3. Connect the ESM Y-cable as shown.

Administration

1. Enter **list configuration all,** and a list of the installed carriers, circuit packs, and ports appears.
2. Record the location (board number) of the new circuit packs and verify that all other required circuit packs (refer to ESM installation) are present.
3. Enter **add DS1** ***xxxxx*****,** (where ***xxxxx*** is the location of the TN2207 PRI circuit pack recorded in step 2), and the ***DS1 circuit pack administration*** form appears.
4. Set the `Name:` field to **ESM DS1**
5. Set the `Bit Rate:` field to **2.048**
6. Set the `Line Coding:` field to **hdb3**
7. Set the `Signaling Mode:` field to **isdn-pri**
8. Set the `Connect:` field to **pbx**
9. Set the `Interface:` field to **network**
10. Set the `Country Protocol:field` to **1**
11. Set the `Protocol Version:`field to **a**
12. Set the `CRC?:`field to **y**
13. The `Idle Code` default is **11111111**.
14. The `DCP/Analog Bearer Capability` default is **3.1 kHz**.
15. Set the `MMI Cabling Board:` field to **xxxxx** (where **xxxxx** is the location of the TN787F/H/J/K MMI circuit pack recorded in step 2). This must be the slot for port B of the Y-cable.
16. The `MMI Interface:` field **ESM** appears.
17. Enter **add signaling-group** ***next*** and the ***signaling-group*** form appears.
18. Change `Associated Signaling:` field to **y**.
19. Change `Primary D-Channel Port:` field to **xxxx17** (where **xxxx** is the address of the TN2207 PRI circuit pack, for example: 1B0517).
20. The `Max Number of NCA TSC:` default is `0`.
21. The `Max Number of GA TSC:` default is `0`.
22. `Trunk Group for NCA TSC: _____` (leave blank)
23. `Trunk Group for Channel Selection:_____` (leave blank)
24. Logoff the terminal and then log back on the terminal to view your changes.

Place test call

Place multimedia data-conference call to an endpoint with known video capability to test the esm function.

Troubleshooting

To determine ESM link status enter the following commands from the system administration terminal:

1. Status esm
2. Status signaling-group
3. List MMI

> **NOTE:**
> When you move ESM circuit packs, you MUST remove the DS1 and signaling group translations. You cannot use the **change circuit pack** command.

Refer to Expansion services module on page 813 for further information.

Printers

This section provides information on connecting and configuring printers that work with your system and Avaya™ Communication Manager.

Connecting printers using TCP/IP

Printers can be connected to the switch using asynchronous TCP/IP links and a terminal server. This section provides information on connecting adjuncts to the C-LAN and providing the initial administration.

Task list

Whether you use an end-to-end TCP/IP configuration, a terminal server or a PC running RSP, you must complete the following tasks:

- Administering IP node names on page 803.
- Administering IP services on page 803.
- Administering adjunct parameters on page 815.
- If you are using a terminal server, also complete Installing and administering the terminal server on page 794.
- If you are using a PC with the Downloadable RSP Tool, complete Using the downloadable reliable session-layer protocol (RSP) tool on page 816.

Administering adjunct parameters

You must administer adjunct parameters to let the system know that the adjunct is connected through TCP/IP.

PMS journal and PMS log printers

See *Guestworks® and DEFINITY® Systems Technician Handbook for Hospitality Installations (555-231-743)*.

System printer

1. Type **change system-parameters features** and press **Enter**.

   The ***Feature-Related System Parameters*** screen appears.

2. Move to Page 4.
3. In the `System Printer Endpoint` field, type **SYS_PRNT**.
4. Press **Enter** to save your changes.

Testing the switch-to-adjunct link

You can use the test, status, busyout and release commands to find and correct problems with a system printer, PMS log printer, or PMS journal printer. For more information about these commands, see the Maintenance manual for your switch.

If a link does not come up immediately, try using the busyout (journal-link pms-log and wakeup-log, and sp-link) and release (journal-link pms-log and wakeup-log, and sp-link) commands.

NOTE:
Status sp-link can show a system printer link as down, when it is actually properly connected. If no data is being transmitted, the switch may not see this link as active.

Using the downloadable reliable session-layer protocol (RSP) tool

The intent of the Reliable Session-Layer Protocol (RSP) is to guarantee delivery of data records from the switch to an output device that connects to the switch over an asynchronous TCP/IP link. The Downloadable RDTT tool allows you to implement this protocol on a PC that collects data records in a file. The protocol assures that the data records arrive safely at the PC. You can then send the output file to a printer. See Reliable Data Transport Tool (RDTT) Package on page 807.

DS1/T1 CPE loopback jack

This section provides information on how to install and use a DS1 loopback jack to test the DS1 span between the Avaya Media Server or Gateway and the network interface point. *The loopback jack is required when DC power is at the interface to the integrated channel service unit (ICSU).*

NOTE:
Do not remove the loopback jack after installation. It should always be available for remote tests of the DS1 span.

For earlier media gateway systems, the integrated channel service unit (ICSU) — also known as the 120A2 — is a separate device that plugs into the back of the media gateway.
Installing a loopback jack

You can install a loopback jack with or without a smart jack.

With a smart jack

Install the loopback jack at the interface to the smart jack, if possible. This position provides maximum coverage of CPE wiring when remote loopback tests are run.

If the smart jack is not accessible, install the loopback jack at the extended demarcation point.

If there is no extended demarcation point, install the loopback jack directly at the network interface point as shown in Figure 315.

If there is an extended demarcation point and the smart jack is not accessible, install the loopback jack as shown in Figure 316.

If there is an extended demarcation point, but the smart jack is accessible, install the loopback jack as shown in .

1. To install the loopback jack, simply disconnect the RJ-48 (8-wide) connector at the appropriate interface point and connect the loopback jack in series with the DS1 span. See Figure 315 through Figure 319.
2. Plug the H600-383 cable from the ICSU into the female connector on the loopback jack.
3. Plug the male connector on the loopback jack cable into the network interface point.

NOTE:
Do not remove the loopback jack after installation. This is not a test tool and should always be available to remotely test a DS1 span.

Without a smart jack

Install the loopback jack at the point where the cabling from the ICSU plugs into the *dumb* block. If there is more than one *dumb* block, choose the one that is closest to the Interface Termination feed or the fiber MUX to provide maximum coverage for loopback jack tests. Refer to Figure 318 and Figure 319.

1. To install the loopback jack, simply disconnect the RJ-48 (8-wide) connector at the appropriate interface point and connect the loopback jack in series with the DS1 span. See Figure 315 through Figure 319.
2. Plug the H600-383 cable from the ICSU, or from the MM710, into the female connector on the loopback jack.
3. Plug the male connector on the loopback jack cable into the network interface point.

NOTE:
Do not remove the loopback jack after installation. This is not a test tool and should always be available to remotely test a DS1 span.

Administering the loopback jack

1. At the management terminal, enter **change ds1** ***location***, where ***location*** is the DS1 interface circuit pack corresponding to the loopback jack.
2. Be sure the `near-end CSU type` is set to `integrated`.
3. On page 2 of the form, change the `supply CPE loopback jack power field` to **y**.

   Setting this field to **y** informs the technician that a loopback jack is present on the facility and allows the technician to determine that the facility is available for remote testing.
4. Enter **save translation** to save the new information.

Loopback testing with a smart jack

The loopback jack and smart jack isolate faults by dividing the DS1 span into 3 sections (see Figure 315 through Figure 317):

- From the 120A2 (or later) ICSU to the loopback jack
- From the loopback jack to the smart jack (network interface point)
- From the smart jack to the CO

The first two sections are your responsibility. The last is the responsibility of the DS1 service provider.

Testing the DS1 span from the ICSU to the loopback jack

The DS1 span test has 2 parts.

- Checking for circuit connectivity

  The first part of the test powers-up the loopback jack and sends a signal from the DS1 circuit pack, through the wiring, to the loopback jack. The test allows about 10 seconds for the signal to loop around the loopback jack and return to the DS1 circuit pack. Then it sends the results to the management terminal and proceeds to the second part of the test.
- The second part of the test sends the standard, 3-in-24 DS1 stress-testing pattern from the DS1 board, through the loopback jack, and back to a bit error detector and counter on the DS1 board. A bit-error rate counter displays the results on the management terminal until you terminates the test.

Always perform both parts of the test. Proceed as follows.

Checking the integrity of local equipment

Before you go any further, make sure that the problem is actually on the DS1 span by testing the equipment that connects to the span at the near end. Test the DS1 circuit pack, and perform any needed maintenance or repairs.

Busying out the DS1 circuit pack

Now take the DS1 circuit out of service.

1. Once you are sure that the DS1 circuit pack and ICSU are functioning correctly, go to the management terminal and busy out the DS1 circuit pack by typing **busyout board *UUCSS***, where ***UU*** is the cabinet number, ***C*** is the carrier letter, and ***SS*** is the slot number of the DS1 board.

Administering the DS1 for the test

1. At the management terminal, open the DS1 administration form. Type **change ds1 *UUCSS***, where ***UU*** is the cabinet number, ***C*** is the carrier letter, and ***SS*** is the slot number of the DS1 board.
2. Make sure that the `near-end csu type` field is set to `integrated`.
3. Change to page 2 of the ***DS1 administration*** form, and confirm that the value of the **`TX LBO`** field is `0dB`.
4. If the value of the `TX LBO` field is not `0dB`, record the current value. Then set the `TX LBO` field to **0dB** for testing.
5. Press **Enter** to make the changes, **CANCEL** to quit without changes.

Testing the integrity of the loopback circuit

Now perform the first part of the actual loopback test.

1. At the management terminal, enter **test ds1-loop *location* cpe-loopback-jack**.

   The loopback jack powers up. Active, DS1 facility alarms (if any) clear. After about 20 seconds, the first set of results appears on the terminal.
2. If `FAIL` appears on the terminal display, there may be a fault in the wiring between the ICSU and the loopback jack or the loopback jack may itself be faulty. Isolate the problem by replacing the loopback jack and repeating Step 1.
3. If `FAIL` still appears after the loopback jack has been replaced, suspect a wiring problem. Replace the cable between the ICSU and the loopback jack. Then repeat Step 1.
4. When `PASS` appears on the terminal, proceed with the second part of the test, checking the integrity of transmitted data.

Testing the integrity of data sent over the loop

Now perform the second part of the test, checking for data errors.

> **NOTE:**
> The loss of signal (LOS) alarm (demand test #138) is not processed during this test while the 3-in-24 pattern is active.

Clearing the results of previous tests

1. Zero out the bit-error counter. At the management terminal, enter **clear meas ds1 loop *location***.
2. Zero out the performance measurement counter. At the management terminal, enter **clear meas ds1 log *location***.
3. Zero out the ESF error count. At the management terminal, enter **clear meas ds1 esf *location***.

Running the data test

1. Display the bit error count. At the management terminal, enter **list meas ds1 sum *location***.
2. Step through Table 44 to troubleshoot.

Table 44: DS1 Troubleshooting

Condition	Solution
The value of the `Test: cpe-loopback-jack` field is `Pattern 3-in-24`	The loopback jack test is active.
The value of the `Synchronized` field is `N`	Retry the test 5 times.
The value of the `Synchronized` field remains `N` after 5 tries.	Excessive bit errors are likely. Check for intermittent connections or broken wires in an SPE receive or transmit pair, and repair as necessary. Then repeat Step 1.
The value of the `Bit-error count` field is *non-zero*	Repeat Step 1 several times.
The value of the `Synchronized` field is `Y`	The DS1 circuit pack has synchronized to the looped 3-in-24 pattern and is counting bit errors in the pattern.
The value of the `Bit-error count` field pegs at `75535` or increments by 100s or 1000s each time you repeat Step 1.	Suspect loose or corroded connections, severe crosstalk, or impedance imbalances between the two conductors of the receive or transmit pair. Wiring may need replacement.
The value of the `Bit-error count` field is `0`	There are no obvious wiring problems. Verify this by repeating Step 1 at 1-minute to 10-minute intervals until you are certain. If the test reports no errors for 1 minute, the error rate is less than 1 in 10^8. If the test reports no errors for 10 minutes, the error rate is less than 1 in 10^9.

3. Once you are fairly certain that the test is reporting no errors (after at least 1 error-free minute), confirm that the 3-in-24 pattern error detector is operating. Enter **test ds1-loop *location* inject-single-bit-error**.
4. Display the bit error count again. At the management terminal, enter **list meas ds1 sum *location***.

Condition	Solution
The value of the `Bit-error count` field is greater than 1	Replace the ICSU, and retest.
The value of the `Bit-error count` field is still greater than 1 after you replace the ICSU.	Replace the DS1 circuit pack, and retest.
The value of the `Bit-error count` field is `1`	The test passed.

5 End the test. Enter **test ds1-loop *location* end cpe-loopback-jack-test**.

6 Wait about 30 seconds for the DS1 to reframe on the incoming signal and clear DS1 facility alarms.

Condition	Solution
Loopback termination fails with an error code of 1313.	The span is still looped somewhere, possibly at the loopback jack, at the ICSU, or somewhere in the network.
The red LED on the loopback jack is on.	Replace the ICSU, and re-run the test.
Loopback termination still fails.	Replace the DS1 circuit pack, and repeat the test
The DS1 cannot frame on the incoming span's signal after the loopback jack power down.	There is something wrong with the receive signal into the loopback jack from the dumb block or the smart jack.
The span failed the service provider's loopback test.	The problem is in the service provider's network.
The service provider successfully loop tested the span, up to the smart jack.	The wiring between the loopback jack and the smart jack is suspect. Test, and make repairs, as needed.
You cannot locate and repair the problem in the time available and must terminate the test.	The test will not terminate normally in the absence of a good framing signal. You have to reset the circuit pack. Enter **reset board *location***.
The test terminated normally.	Proceed with Restoring DS1 administration.

Restoring DS1 administration

1 At the management terminal, open the ***DS1 administration*** form. Enter **change ds1 *location***.

2 Change to page 2 of the ***DS1 administration*** form.

3 Change the value of the TX LBO field to the original value that you wrote down when you were Administering the DS1 for the test on page 819.

4 Press **Enter** to make the changes, **CANCEL** to quit without changes.

Releasing the DS1 circuit pack

1 Release the DS1 circuit pack. From the management terminal, enter **release board *location***.

2 Leave the loopback jack in place.

Testing the DS1 span from the smart jack to the network interface termination or fiber multiplexer (MUX)

1 Have the service provider run a smart-jack loopback test against the network interface wiring that links the smart jack to the CO (section 3 in **Figure 315** through Figure 317).

2 If the tests fails, there is a problem on the network side. Have the service provider correct it.

Testing the DS1 span from the loopback jack to the smart jack

Test the short length of customer premises wiring between the loopback jack and the smart jack (Section 2 in the following 3 figures) using a loopback that overlaps this section of the span.

- Have the DS1 service provider at the CO end run a local ICSU line loopback test.
- Have the DS1 service provider at the CO end run a local DS1 payload loopback test.
- Run a far-end ICSU line loopback, using the procedure below.

NOTE:
This test cannot isolate the problem if there are problems in the wiring between the far-end CO and the far-end ICSU. You must coordinate this test with the DS1 service provider.

1. From the management terminal, enter **test ds1-loop *location*** .
2. Examine the bit-error counts, as in Testing the integrity of data sent over the loop on page 819."
3. Terminate the test. Enter **test ds1-loop *location* end-loopback/span-test**.

3. If the tests fails and the there were no problems Testing the DS1 span from the ICSU to the loopback jack or Testing the DS1 span from the smart jack to the network interface termination or fiber multiplexer (MUX), there is a problem between the loopback jack to the smart jack. Work with the service provider to isolate the fault.

Figure 315: Network interface at smart jack for a 120A2 (or later) ICSU

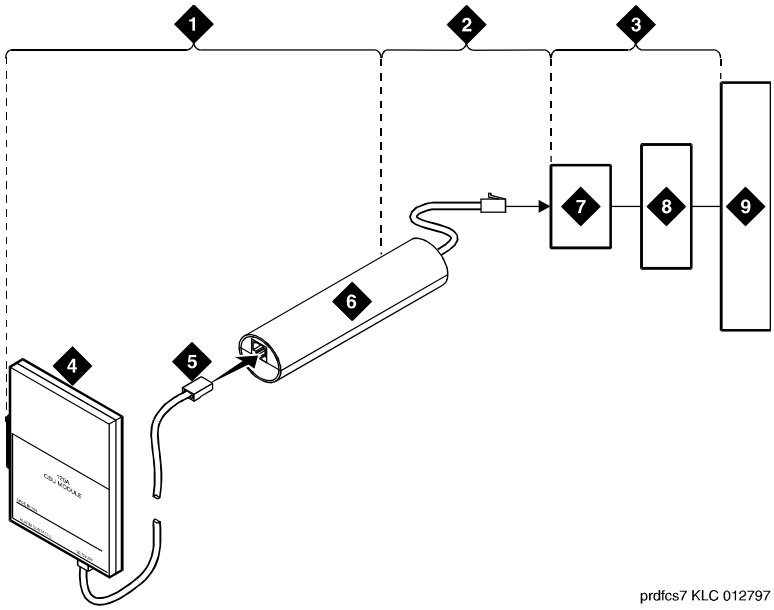


Figure notes

1	Span section 1	**6**	Loopback jack
2	Span section 2	**7**	Network interface smart jack
3	Span section 3	**8**	Interface termination or fiber multiplexer (MUX)
4	120A2 (or later) ICSU	**9**	Central office
5	RJ-48 to network interface (up to 1000 ft. [305 m])		

Figure 316: Network interface at extended demarcation point (smart jack inaccessible) for a 120A2 (or later) ICSU

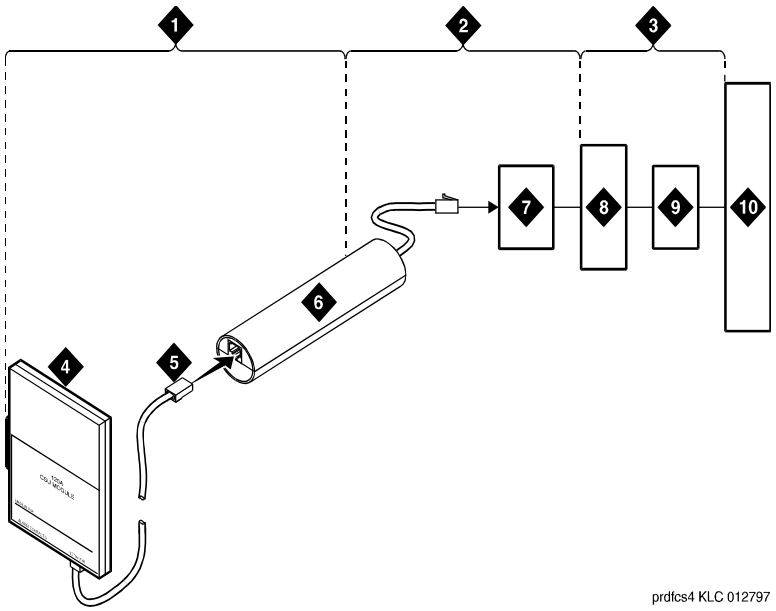


Figure notes

1	Span section 1	**6**	Loopback jack
2	Span section 2	**7**	Dumb block (extended demarcation)
3	Span section 3	**8**	Network interface smart jack
4	120A2 (or later) ICSU	**9**	Interface termination or fiber multiplexer (MUX)
5	RJ-48 to network interface (up to 1000 ft. [305 m])	**10**	Central office

Figure 317: Network interface at extended demarcation point (smart jack accessible) for a 120A2 (or later) ICSU

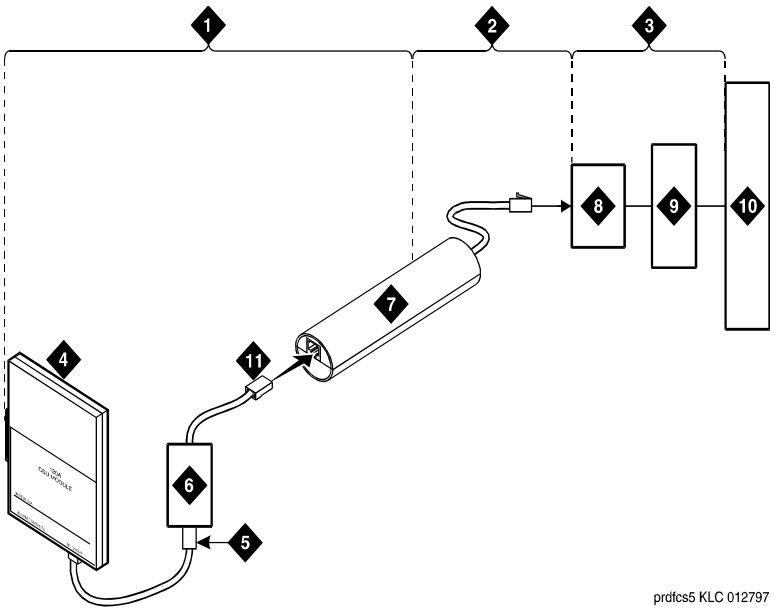


Figure notes

1	Span section 1	**6**	Dumb block (extended demarcation)
2	Span section 2	**7**	Loopback jack
3	Span section 3	**8**	Network interface smart jack
4	120A2 (or later) ICSU	**9**	Interface termination or fiber multiplexer (MUX)
5	RJ-48 to network interface (up to 1000 ft. [305 m])	**10**	Central office
		11	Dumb block to smart jack RJ-48

Testing a loopback jack without a smart jack

When the loopback jack is added to a span that does not contain a smart jack, the span is divided into 2 sections: from the ICSU to the loopback jack and from the loopback jack to the central office (CO). Section 2 includes the short cable from the loopback jack to the dumb block demarcation point (part of the loopback jack). This cable is the only part of Section 2 that is part of customer premises wiring. It is not covered in the loopback jack's loopback path. See Figure 318 and Figure 319.

Figure 318: Network interface at “dumb” block for a 120A2 (or later) ICSU

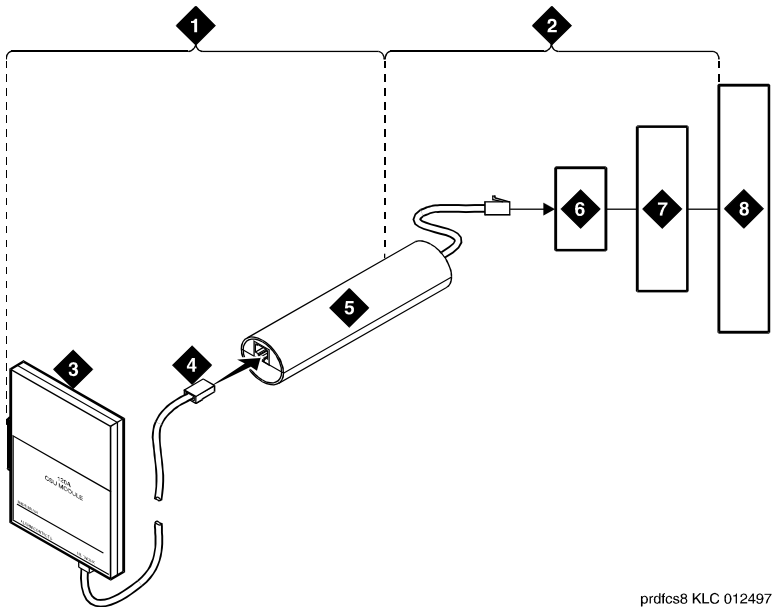


Figure notes

1	Span section 1	**5**	Loopback jack
2	Span section 2	**6**	Dumb block (demarcation point)
3	120A2 (or later) ICSU	**7**	Interface termination or fiber multiplexer (MUX)
4	RJ-48 to network interface (up to 1000 ft. [305 m])	**8**	Central office

Figure 319: Network interface at "dumb" block with repeater line to fiber MUX for a 120A2 (or later) ICSU

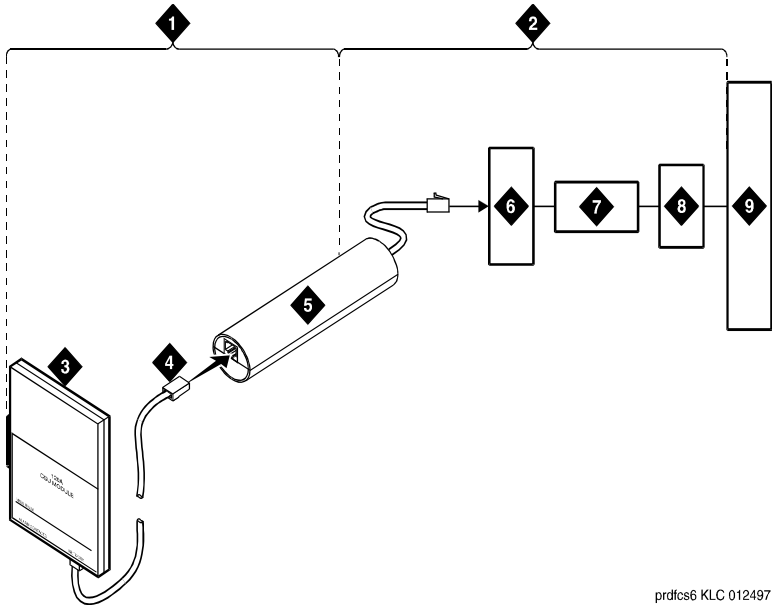


Figure notes

1	Span section 1	**5**	Loopback jack
2	Span section 2	**6**	Dumb block (demarcation point)
3	120A2 (or later) ICSU	**7**	Repeater
4	RJ-48 to network interface (up to 1000 ft. [305 m])	**8**	Fiber multiplexer (MUX)
		9	Central office

Proceed as follows.

1. Test customer premises wiring from the ICSU to the loopback jack, as described in the "DS1 Span Test" section.
2. Test the loopback jack-to-*dumb* block and *dumb* block-to-CO wiring (section 2 in Figure 318 and Figure 319). This can be done using a loopback that "overlaps" the section of the span. Any of the following loopbacks can do this:
   - The local ICSU's line loopback, which the DS1 service provider at the CO end typically activates, tests, and then deactivates.
   - The local DS1 interface's payload loopback, which the DS1 service provider at the CO end activates and tests.
   - The far-end ICSU's line loopback. Activate this test at the management terminal by entering **test ds1-loop *location* far-csu-loopback-test-begin**, where ***location*** is the DS1 interface circuit pack corresponding to the loopback jack. Terminate this test by entering **test ds1-loop *location* end-loopback/span-test**, where ***location*** is the DS1 interface circuit pack corresponding to the loopback jack.

     Bit error counts are examined as described in the "DS1 Span Test" section. This test only isolates problems to Section 2 wiring if there are no problems in the wiring between the far-end CO and the far-end ICSU. Coordinate this test with the DS1 service provider.

Failure of any of the above tests (a, b, or c) indicate a problem in Section 2. This could mean bad loopback jack -to-"dumb" block cabling, but is more likely to indicate a problem somewhere between the "dumb" block and the CO. This is the responsibility of the DS1 service provider.

If the DS1 Span Test confirms that there are no problems in Section 1, the technician should proceed as follows to avoid unnecessary dispatch.

1. Identify and contact the DS1 service provider.
2. Inform the DS1 provider that loopback tests of the CPE wiring to the "dumb" block (section 1) showed no problems.
3. If the far-end ICSU line loopback test failed, inform the DS1 provider.
4. Request that the DS1 provider perform a loopback test of their portion of the Section 2 wiring by sending someone out to loop Section 2 back to the CO at the "dumb" block.

   If this test fails, the problem is in the service provider's wiring.

   If the test passes, the problem is in the cable between the loopback jack and the "dumb" block. Replace the loopback jack.

Configurations using fiber multiplexers

Use the loopback jack when customer premises DS1 wiring connects to an on-site fiber multiplexer (MUX) and allows wiring to the network interface point on the MUX to be remotely tested.

Fiber MUXs can take the place of Interface termination feeds as shown in Figure 315 through Figure 318. Test these spans using the same procedures as metallic spans. Note the following points:

1. Fiber MUXs may have loopback capabilities that can the service provider can activate from the CO end. These may loop the signal back to the CO or back to the DS1 board. If the MUX provides the equivalent of a line loopback on the "problem" DS1 facility, activate it after a successful loopback jack test, and use it to isolate problems to the wiring between the loopback jack and the MUX.
2. Be aware that there are installations that use repeatered metallic lines between the MUX and the "dumb" block. These lines require DC power for the repeaters and this DC power is present at the "dumb" block interface to the CPE equipment. *A loopback jack is required in this configuration to properly isolate and terminate the DC power.*

To check for the presence of DC, make the following 4 measurements at the network interface jack:

1. From transmit tip (T, Pin 5) to receive tip (T1, Pin 2)
2. From transmit ring (R, Pin 4) to receive ring (R1, Pin 1)
3. From transmit tip (T, Pin 5) to transmit ring (R, Pin 4)
4. From receive tip (T1, Pin 2) to receive ring (R1, Pin 1)

All measurements should read 0 (zero) volts DC. For pin numbers and pin designations, refer to *Integrated Channel Service Unit (ICSU) Installation and Operation*.

.Install ISDN converters and adapters

This section provides information on ISDN converters and adapters that are sometimes necessary when connecting to coaxial facilities in either a multicarrier cabinet or a single carrier cabinet.

Connections include:

- Integated Services Data Network Primary Rate Interface (ISDN-PRI) to Direct Access Secondary Storage (DASS)
- PRI to Digital Private Network Signaling System (DPNSS)
- PRI to ISDN Basic Rate Interface (ISDN-BRI)

Converter circuit packs known as common channel signaling converter (CCSC), types 1 and 2.

Converters for single-carrier cabinets

PRI-to-DASS and PRI-to-DPNSS converters

Figure 320 shows typical connections from the CCSC-1 PRI-to-DASS converter or the CCSC-2 PRI-to-DPNSS converters to the coaxial facility.

Figure 320: Typical DASS or DPNSS converter cabling

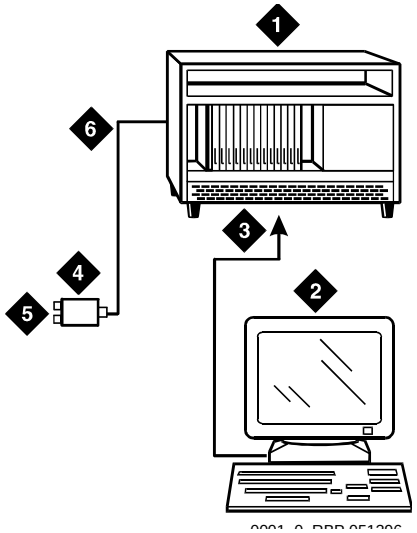


Figure notes

1 To TN464GP DS1 circuit pack and either a CSCC-1 PRI-to-DASS converter or a CSCC-2 PRI-to-DPNSS converter circuit pack

2 Communication Manager administration PC

3 RS-232 cable to front of PRI converter circuit pack

4 888B coaxial converter

5 Coaxial connection to 2-Mbps facility

6 Coaxial cable from PRI converter circuit pack to coaxial converter

1. Plug the PC into the RS-232 connector on the front of the PRI converter circuit pack.
2. Connect the coaxial Y-cable from the TN464GP to the PRI converter circuit pack.
3. Connect the opposite end of the Y-cable to the 888B coaxial converter.

PRI-to-BRI converter

Figure 321 shows typical connections from the PRI-to-BRI converter to the coaxial facility.

Figure 321: Typical PRI to BRI converter cabling

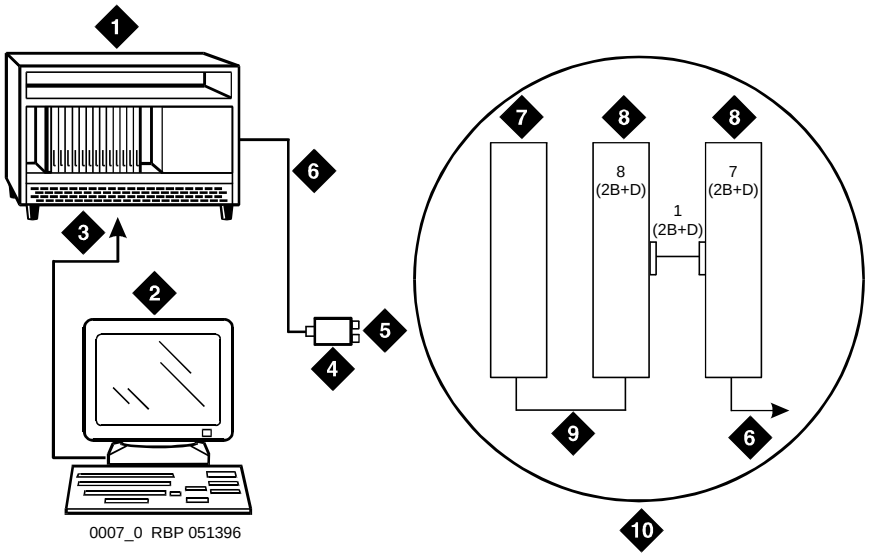


Figure notes

1	To TN464GP DS1 circuit pack and PRI-to-BRI converter circuit pack	**6**	Coaxial cable from PRI converter circuit pack to coaxial converter
2	Communication Manager administration PC	**7**	TN464GP circuit pack
3	RS-232 cable to front of converter circuit pack	**8**	PRI-to-BRI converter circuit pack
4	888B coaxial converter	**9**	Jumper coaxial cable
5	Coaxial connection to 2-Mbps facility	**10**	Inset showing connections on rear of carrier

NOTE:
The inset shows details of the cable connections between the circuit packs. Connect the Communication Manager administration PC to the RS-232 connector on the front of the PRI converter circuit pack.

Converters for multi-carrier cabinets

PRI-to-DASS and PRI-to-DPNSS converters

1 Connect the Communication Manager administration PC to the RS-232 connector on the front of the PRI converter circuit pack.

Figure 322 shows typical connections from the CCSC-1 PRI-to-DASS converter or the CCSC-2 PRI-to-DPNSS converters to the coaxial facility.

Figure 322: Typical DASS or DPNSS converter cabling

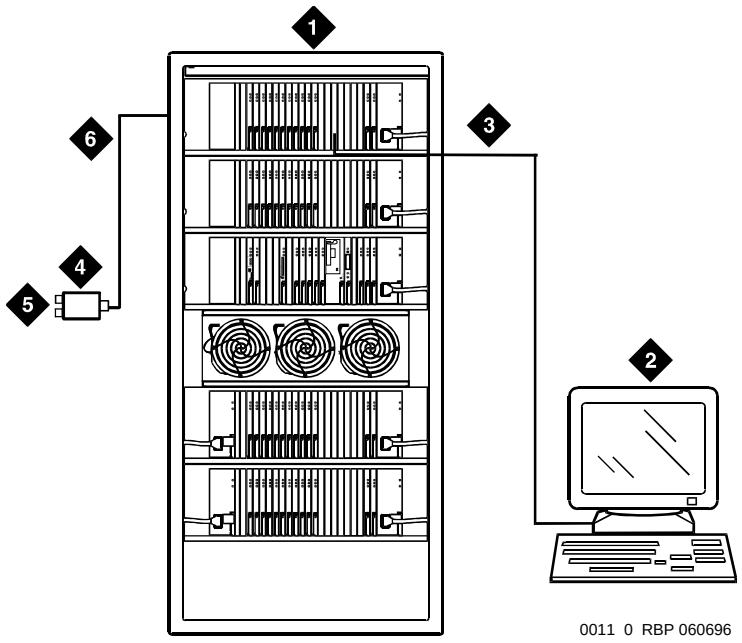


Figure notes

1. To TN464GP DS1 circuit pack and either a CSCC-1 PRI-to-DASS converter or a CSCC-2 PRI-to-DPNSS converter circuit pack
2. Communication Manager administration PC
3. RS-232 cable to front of PRI converter circuit pack
4. 888B coaxial converter
5. Coaxial connection to 2-Mbps facility
6. Coaxial cable from PRI converter circuit pack to coaxial converter

PRI-to-BRI converter

Figure 323 shows typical connections from the PRI-to-BRI converter to the coaxial facility. The Communication Manager administration PC is connected to the RS-232 connector on the front of the PRI converter circuit pack.

Figure 323: Typical PRI to BRI converter cabling

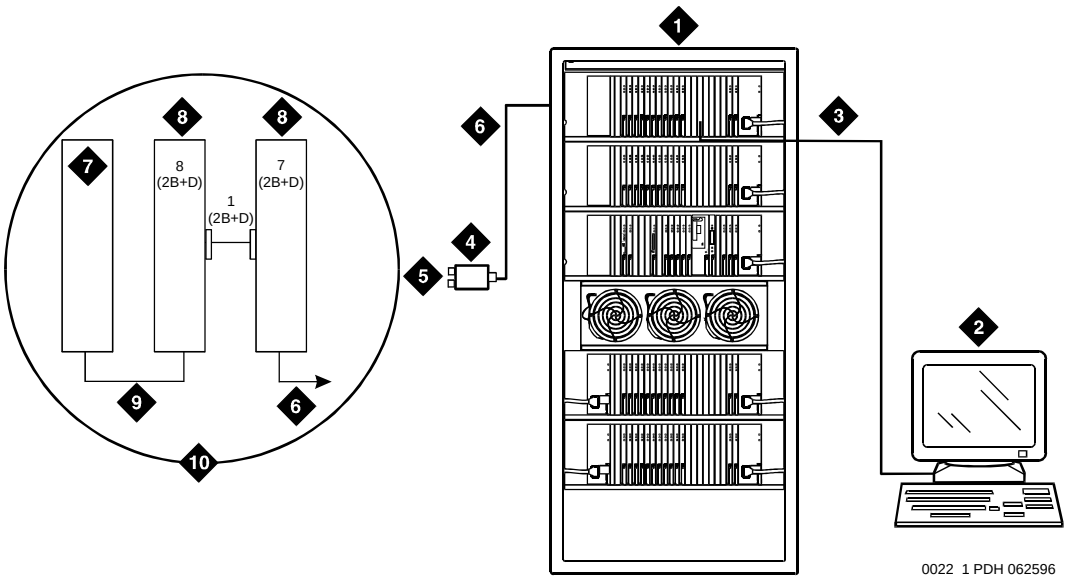


Figure notes

1	TN464GP DS1 circuit pack and PR-to-BRI converter circuit pack	**6**	Coaxial cable from PRI converter circuit pack to coaxial converter
2	Communication Manager administration PC	**7**	TN464GP circuit pack
3	RS-232 cable to front of converter circuit pack	**8**	PRI-to-BRI converter circuit pack
4	888B 75-ohm coaxial converter	**9**	Jumper coaxial cable
5	Coaxial connection to 2-Mbps facility	**10**	Inset showing connections on rear of carrier

NOTE:
The inset shows details of the cable connections between the circuit packs.

909A/B universal coupler

The 909A/B universal coupler is used with paging, malicious call trace, and music-on-hold equipment that is not approved for use with the public network.

Figure 324 shows a typical 909A/B universal coupler. For additional installation and switch setting information, refer to *909A/909B Universal Coupler Installation Instructions*, which is normally shipped with the 909A/909B Universal Coupler.

NOTE:
If the music source is registered by the FCC (in the USA) or an equivalent body, the 909A/B universal coupler is not required.

Figure 324: Typical 909A/B universal coupler

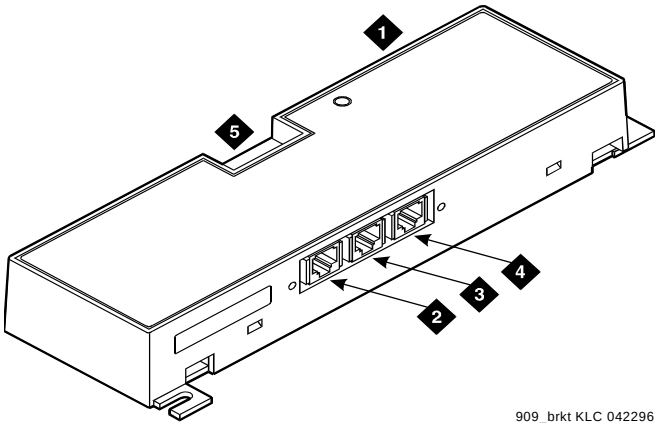


Figure notes

1	909A/B universal coupler	**4**	J3 7-pin modular jack
2	J1 8-pin modular jack	**5**	DIP switch location
3	J2 8-pin modular jack		

The 909A is the direct current (DC) version of the coupler, and cabinet power supplies -48 VDC power. The 909B is the alternating current (AC) version, and power is supplied from a separate power supply (such as the KS-22911L2).

The DIP switches on the unit set:

- Protection/Paging selection — For AUX trunk paging and malicious call trace, set to C2. Set the switch to C1 for all other applications.
- Output attenuation (-9 or -15 dBm) — Setting depends on output level of music source.
- Output impedance (8 ohms, 1.5 kΩ, and 50 kΩ) —This switch only requires setting if the Protection/Paging switch is set to C2 and the coupler is supplying background music to a customer-supplied paging amplifier.

The pinouts for J1, J2, and J3 are provided in Table 45, Table 46, and Table 47. Refer to these tables when connecting music or paging equipment.

Table 45: J1 Pin Assignments (System Connections) ***1 of 2***

Pin	Color	Designation	Description
1	White-Orange	—	Not Used
2	Orange	PG2/BZ2	Seizure control lead, connected to -48 VDC from the system or from the 909A/B when the protection paging switch is set to C2, or to -48 VDC on the 909A/B when protection/paging switch is set to C1

1 of 2

Table 45: J1 Pin Assignments (System Connections) ***2 of 2***

Pin	Color	Designation	Description
3	White-Green	PG1/BZ1	Seizure control lead, connected to SZ lead from the AUX trunk when the protection/paging switch is set to C2, or to -48 VDC on the 909A/B when the protection/paging switch is set to C1
4	Blue	R	Ring lead
5	White-Blue	T	Tip lead
7	Green	BSY2/BY2	Busy/busy-out lead, connected to S1 lead from the AUX trunk
7	White-Brown	BSY1/BY1	Busy/busy-out lead, connected to S lead from the AUX trunk
8	Brown	—	Not Used

2 of 2

Table 46: J2 Pin Assignments (Accessory Connections)

Pin	Color	Designation	Description
1	White-Orange	CMS1/M1	Customer-supplied music source
2	Orange	CMS2/M2	Customer-supplied music source
3	White-Green	COS1	Remote busy-out control contact closure from music source
4	Blue	CR	Customer ring lead
5	White-Blue	CT	Customer tip lead
7	Green	COS2	Remote busy-out control contact closure from music source
7	White-Brown	CBS1/C1	Seizure indication provided to music source
8	Brown	CBS2/C2	Seizure indication provided to music source

CAUTION:
Do not plug the cable into J3 before all cross-connects are completed. Damage to the 909A/B universal coupler may occur.

Table 47: J3 Pin Assignments (Power Connections)

Pin	Color	Designation	Description
1, 3, 4, & 7	—	—	Not used
2	Black	GRD	-48 RET or ground lead from system or from positive lead of power supply
5	Yellow	-48 VDC	-48 VDC from system or from negative lead of power supply

Figure 325 shows the physical locations of the pins for J1, J2, and J3.

Figure 325: Typical modular jack pinout

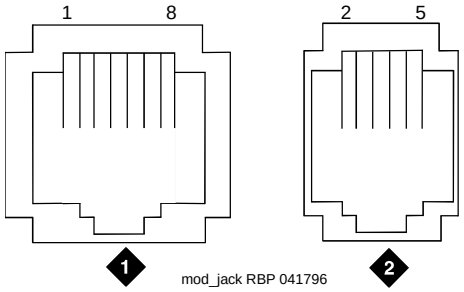


Figure notes

1 J1 and J2 8-pin modular jacks **2** J3 7-pin modular jack

Malicious call trace

The malicious call trace (MCT) voice recorder connects directly to the tip and ring connections of a TN763/D auxiliary trunk circuit pack. See Figure 326. The 909A/B universal coupler provides seizure control to the recorder.

Figure 326: Malicious call trace

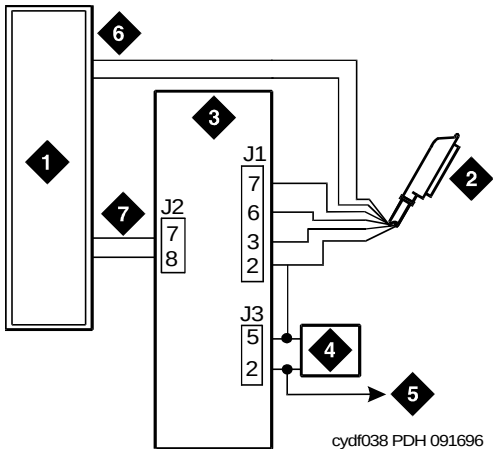


Figure notes

1 Malicious call trace voice recorder

2 25-pair cable (T, R, S, S1, Sz, SZ1) to TN763/D auxiliary trunk circuit pack

3 909A/B universal coupler

4 Power supply for universal coupler

5 To SZ1 on TN763/D connector

6 Tip and ring wires

7 CBS1/C1 and CBS2/C2

NOTE:
A wiring block must be locally engineered.

NOTE:
909A couplers ships with one DW4B-DE cable and two DW8B-SE cables. The 909B ships with one KS-22911L2 power supply, one DW4B-DE cable, and two DW8B-SE cables.

1 Determine the port assignment of the recorder from the malicious call tracing form.

2 Install the 909A/B universal coupler on a vertical surface.

3 Connect the SZ, SZ1, S, and S1 leads from the 909A/B to an auxiliary trunk circuit pack.

a Tip and ring connect from the voice recorder to the auxiliary trunk circuit pack (J1 on the 909A/B).

b CBS1/C1 and CBS2/C2 connect from the voice recorder to J2 on the 909A/B.

4. On the 909A/B universal coupler:
   a. Connect seizure control voltage of from -9 to -70 Volts to the PG2/BZ2 connection (pin 2 of J1). Switching voltage to the PG2/BZ2 connection can be from the 909A/B -48 VDC supply.
   b. Connect SZ1 to the ground lead of the DC power source used for PG2/BZ2.
   c. Set S1 to the “C2” position. Set S2 position 7 to “OPEN”.
   d. Connect an approved -48 VDC power source to the **-48** and **GRD** terminals (pins 5 and 2, respectively, of J3 on the 909A/B).
5. Administer the switch for the call trace device.

NOTE:
For additional installation information, refer to *909A/909B Universal Coupler Installation Instructions*, which is normally shipped with the 909A/909B Universal Coupler.

Music-on-hold

- The music-on-hold (MOH) feature allows a caller to hear music when that caller is placed on hold. Music-on-hold can be provided through a two-wire TN2183 analog line circuit pack (or equivalent) or auxiliary trunk circuit pack to a customer-supplied music source on a Media Gateway.

Figure 327 shows the connections for music-on-hold, dial dictation, or recorded announcement features when the music source is Federal Communications Commission (FCC) registered (or equivalent). Figure 328 shows the connections when the music source is not FCC-registered (or equivalent).

Local music-on-hold allows one music source. However, if you purchase the multiple music-on-hold (tenant partitioning) feature, you can have up to 100 music sources.

NOTE:
Use the following connection instructions when the music source is not located in the equipment room. If the music source is located in the equipment room, do not route the connections through the information outlet.

Figure 327: Typical registered equipment connections (auxiliary access) for an MCC1, SCC1, or CMC1Media Gateway

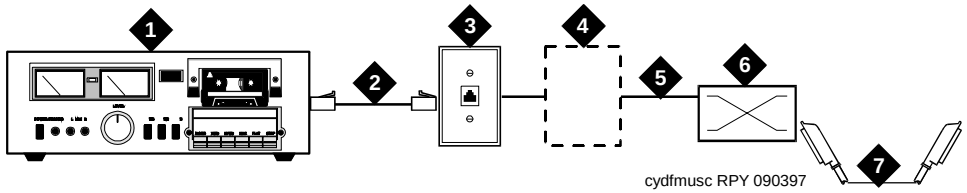


Figure notes

1	Music source	**5**	Tip (green) and ring (red)
2	4-pair modular cord	**6**	Part of main distribution frame
3	103A or modular wall jack	**7**	A25D 25 pair cable (male-to-male) to auxiliary trunk circuit pack
4	122A music adapter (if required—primarily required in France)		

1 If the music source is registered, the system side of the MDF connects directly to the system.

2 If the music source is not registered, the system side of the MDF connects to a 909A/B universal coupler (see 909A/B universal coupler on page 831).

Registered music source

Refer to Figure 327 to install a registered music source.

1 Determine feature port assignment from Feature-Related System Parameters form.

2 Install music source according to the manufacturer's instructions.

3 Install patch cord/jumper wires at the main distribution frame.

4 Administer the switch for the new equipment.

Nonregistered music source

Refer to Figure 328 and Figure 329 when installing a nonregistered music source.

1 Determine feature port assignment from Feature-Related System Parameters Form.

2 Install the music source according to the manufacturer's instructions.

3 Connect a cable from the assigned port carrier slot to J1 on the 909A/B universal coupler (see 909A/B universal coupler on page 831). A wiring block must be locally engineered.

- **a** Connect the T-lead at pin 5 and the R-lead at pin 4 of J1 on the 909A/B universal coupler to the corresponding leads from the TN2183.
- **b** Connect the CT-lead at pin 5 and the CR-lead at pin 4 of J2 on the 909A/B universal coupler to the MDF.

4 Install patch cord/jumper wires at the MDF to connect tip and ring to the information outlet at the music source.

5 Set the Protection/Paging switch to C1.

6 Connect a modular cord from the information outlet to the music source.

7 Connect -48V to pin 5 and -48V RET to pin 2 of J3 on the 909A/B. The power source may be an 1151A, 1151A2, or other approved power supply.

8 Administer the switch for the new equipment.

Figure 328: Typical nonregistered equipment connections (auxiliary access) for an MCC1, SCC1, or CMC1Media Gateway

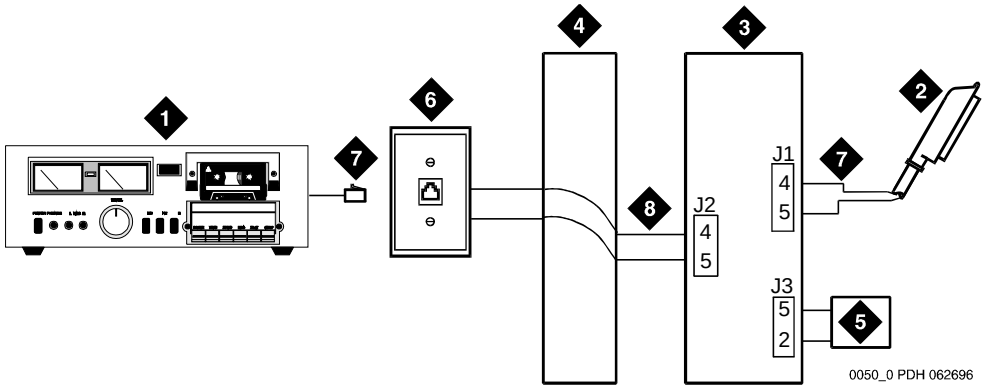


Figure notes

1 Customer-supplied music source

2 A25D 25-pair cable to auxiliary trunk circuit pack

3 909A/B universal coupler

4 Part of main distribution frame

5 Power supply for universal coupler

6 103A or modular wall jack

7 4-pair modular cord

8 Tip and ring wires

NOTE:
A wiring block must be locally engineered.

Figure 329: Connections to nonregistered music-on-hold using analog line for an MCC1, SCC1, or CMC1Media Gateway

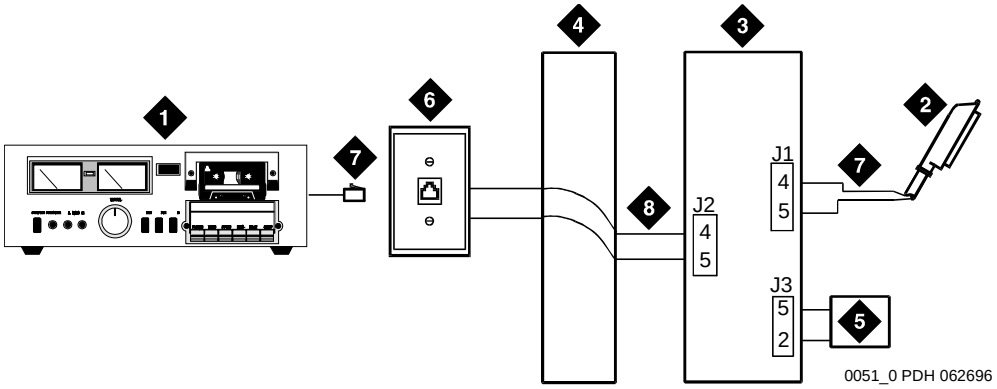


Figure notes

1	Customer-supplied music source	**5**	Power supply for universal coupler
2	25-pair cable to analog line circuit pack	**6**	103A or modular wall jack
3	909A/B universal coupler	**7**	4-pair modular cord
4	Part of main distribution frame	**8**	Tip and ring wires

NOTE:
A wiring block must be locally engineered.

NOTE:
For additional installation information, refer to *909A/909B Universal Coupler Installation Instructions*, which is normally shipped with the 909A/909B Universal Coupler.

Paging and announcement equipment

This section explains the most common system configurations for the paging feature of Avaya Communication Manager. This section provides information on the following features:

- Loudspeaker paging
- ESPA radio paging
- External ringing
- Queue warning indicator

Loudspeaker paging

In an MCC1, SCC1, or CMC1Media Gateway, the loudspeaker paging feature provides a connection from a TN763B/C/D auxiliary trunk circuit pack (or equivalent) to a customer-supplied paging amplifier.

Loudspeaker paging without paging adapter

Figure 330 shows the connections for the loudspeaker paging feature. These connections are used when the loudspeaker interface equipment is not located in the equipment room. If the equipment is located in the equipment room, the information outlet is not required. The connections shown are for one zone.

Figure 330 also shows connections from an optional customer-supplied music source to the loudspeaker system through a paging amplifier, as well as connections to the loudspeaker system through a 909A/B universal coupler (see 909A/B universal coupler on page 831).

NOTE:
If the loudspeaker paging system provides a talkback microphone at the speakers, the microphone must be FCC approved (or equivalent), or a 909A/B universal coupler is required.

Figure 330: Connections for loudspeaker paging without paging adapter for an MCC1, SCC1, or CMC1 Media Gateway

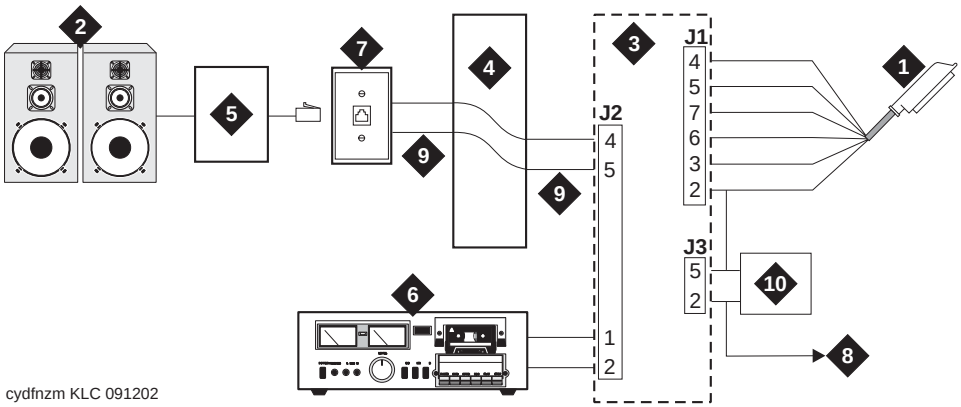


Figure notes

1	25-pair cable to TN763B/C/D auxiliary trunk circuit pack	**6**	Music source for background music over loudspeakers (optional)
2	Loudspeaker paging system	**7**	103A or modular wall jack
3	909A/B universal coupler (if required)	**8**	To SZ1 on TN763 connector
4	Part of main distribution frame (MDF) circuits 1-16	**9**	Tip and ring wires
5	Paging amplifier	**10**	-48 VDC power supply for 909B

NOTE:
On the 25-pair cable to TN763B/C/D auxiliary trunk circuit pack, SZ1 connects to GRD on key 10. The 50 points amphenol is connected to the back of a G600 or G650 Media Gateway.

Loudspeaker paging access without universal coupler

1. Determine port assignment of paging zone(s) from loudspeaker paging form.
2. At the main distribution frame, locate the connecting block and terminals assigned to the selected port.
3. On the locally engineered wiring block, place a strap between terminals S and SZ. Place a strap between terminals S1 and SZ1.
4. Install patch cord/jumper wires at the main distribution frame.
5. Connect a 2-pair line cord (modular plug at one end) from the information outlet to the paging amplifier (to the loudspeaker system).
6. Install loudspeaker equipment according to the manufacturer's instructions.
7. Administer the switch for the new equipment.

Loudspeaker paging with universal coupler

An information outlet provides access to loudspeaker paging. The system side of the main distribution frame connects to a 909A/B universal coupler. Make provisions for the DC power that the 909A/B universal coupler requires, such as a 1151A, 1151A2, or other approved -48VDC power supply.

Six leads (T, R, SZ, SZ1, S, and S1) connect the adapter to an auxiliary trunk circuit pack located in a port carrier.

1. Determine port assignment of paging zone(s) from loudspeaker Paging form.
2. Identify carrier slot and label both ends of an A25D (male to male) cable.
3. Connect a cable from the 909A/B to the system side of the main distribution frame. A wiring block must be locally engineered.
4. 909A/B universal coupler on page 831 provides details of the connections between the 909A/B universal coupler and the wiring blocks.

   CAUTION:
   Damage to the 909A/B may occur if the cable is plugged into J3 **before** all cross-connects are completed.

5. On the 909A/B universal coupler:
   - Connect seizure control voltage of from -9 to -70 volts to the PG2/BZ2 connection (pin 2 of J1). Switching voltage to the PG2/BZ2 connection can be from the 909's -48-volt supply.
   - Connect a -48 VDC power source to the -48 and GRD terminals on the 909A/B.
6. Install patch cord/jumper wires at the main distribution frame.
7. Connect a 2-pair line cord (modular plug at one end) from the information outlet to the loudspeaker system.
8. Install loudspeaker equipment according to the manufacturer's instructions.

9 Connect an approved -48 VDC power source to the **-48** and **GRD** terminals (pins 5 and 2, respectively, of J3).

10 Administer the switch for the new equipment.

NOTE:
For additional installation information, refer to *909A/909B Universal Coupler Installation Instructions*, which is normally shipped with the 909A/909B Universal Coupler.

ESPA radio paging

Figure 331 shows typical connections to European Standard Paging Access (ESPA) equipment. Connect the LINE jack on the PassageWay interface to a digital line 4-wire DCP circuit pack through the MDF.

Figure 331: Typical ESPA radio paging connections

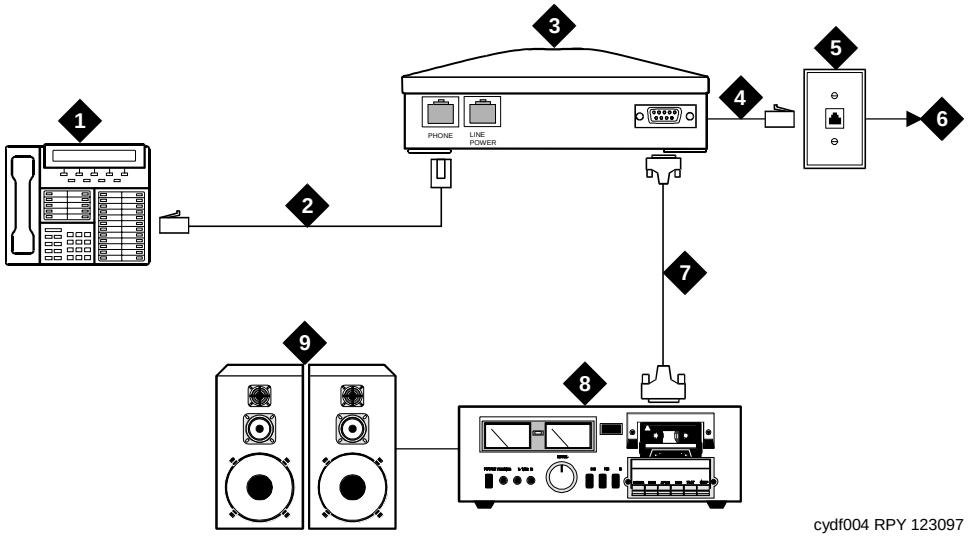


Figure notes

1	DCP telephone	**6**	To digital line circuit pack
2	4-pair modular cord	**7**	RS-232 connector
3	PassageWay interface	**8**	ESPA radio paging equipment
4	4-pair modular cord	**9**	Loudspeaker paging system
5	103A or modular wall jack		

External ringing

Connections for external ringing are at an information outlet. The system side of the main distribution frame (MDF) is connected to a TN2183 (or equivalent) analog line circuit pack in an MCC1, SCC1, or CMC1 Media Gateway.

NOTE:
Up to three devices can be connected to one analog line circuit pack port.

1. Wire the ringing device to the information outlet.
2. Administer the switch for the new equipment.

Queue warning indicator

The connections for the queue warning indicator are the same as external ringing. An AC indicator (light) such as a 21C49 can be used in a Uniform Call Distribution/Direct Departmental Calling (UCD/DDC) queue. The light is connected to an information outlet. The system side of the MDF is connected to an analog line circuit pack located in a port carrier.

1. Wire the queue warning indicator to the information outlet.
2. Administer the switch for the new equipment.

Adjunct Information Sources

This section lists documents you can use for installation of some of the key adjunct systems that you can connect.

Call Management System

For information on installing Call Management System R3V11, see the following:

- *Avaya Call Management System (CMS) R3V11 Software Installation, Maintenance, and Troubleshooting Guide (585-215-117)*
- *Avaya Call Management System (CMS) Sun® Enterprise™ 3000 and SPARCserver Computers Hardware Maintenance and Troubleshooting (585-214-016)*
- *Avaya Call Management System (CMS) Sun Enterprise 3500 Computer Hardware Installation, Maintenance, and Troubleshooting (585-215-873)*
- *Avaya Call Management System (CMS) Sun Ultra™ 5 Hardware Installation, Maintenance and Troubleshooting (585-215-871)*

INTUITY AUDIX Messaging Systems

For information on installing INTUITY™ AUDIX® Messaging systems, see one of the following:

- For INTUITY AUDIX Release 5.1 Messaging, see *INTUITY Messaging Solutions Release 5 Installation for New Systems* on the *INTUITY Messaging Solutions Release 5 Documentation CD-ROM (585-313-803*)
- For INTUITY AUDIX LX Messaging, see *INTUITY AUDIX LX Installation Checklist* on the *INTUITY AUDIX LX Release 1 Documentation CD-ROM (585-313-818)*
- http://avaya.com/support.

Avaya Modular Messaging System

For information on installing Avaya Modular Messaging systems, see *Modular Messaging Release 2.0 Documentation CD-ROM (11-300121)*.

ASAI and DEFINITY LAN Gateway

For information on installing ASAI systems and DEFINITY LAN Gateway, see *Avaya MultiVantage® ASAI Applications over MAPD (555-230-136)* and *Avaya Communication Manager Release 2.0 ASAI Technical Reference (555-230-220)* on the *Avaya Communication Manager Release 2.0 ASAI Documents CD-ROM (585-246-801)*.

Another document related to ASAI is *Avaya CVLAN Server 9.0 for Linux Installation and Basic Administration*, which is available at http://avaya.com/support. Click the following links: **Support>Technical Database>Contact Centers/CRM>CTI>CVLAN Server for Linux R9**.

Avaya Interactive Response

For information on installing Avaya Interactive Response systems, see *Avaya Interactive Response R1.2.1 Install and Troubleshooting Guide (07-300180)* on the *Avaya Interactive Response R1.2.1 Documentation CD (07-300181)*.

Avaya EC500 Extension to Cellular

For information on installing Avaya EC500 Extension to Cellular systems, see the *Avaya EC500 Extension to Cellular Installation and Administration Guide (210-100-500)*.

Call Accounting Systems

For information on installing Call Accounting Systems, see the following:

- The online help or documentation included with the eCAS software CD-ROM

Links and FAQs

Links

Public link (from the internet)

- Avaya Support Centre, the public Avaya support website. Technical support is available from the ONLINE SUPPORT option at this web site at any time, as often as customers need it. It provides online support for basic and intermediate troubleshooting and administrative tasks. It is self-paced with step-by-step instructions, and it meets the customer's need for quick resolution.
  - — Online documentation, including all MultiVantage documents

Technician links

NOTE:
For the following links to work, you must be connected to the Avaya intranet (behind the firewall) either through a modem or through a direct network connection.

- Minimum Usable Vintages and Stockable Vintages PDF file (COMPAS 42751).
- G3FS: DEFINITY G3 Field Support provides debugging tools, patch information, field trial status, and more, including
  - — Software Release Information, which allows you to see the release map, MRs, patches, translation compatibility, field trial status, and the Acrobat PDF version of the release letters for DEFINITY loads G3V4 and later.
- Avaya Technical Service Center provides TSC news, information, procedures, product documentation, product information, QPPCNs, and technical information.
- Technician Workbench Home Page provides a starting point for technicians' needs.
- Automatic Registration Tool (ART) performs product registrations and related procedures automatically.
- IntraWorks Technical & Competitive Info provides product and technical support links, including links to the TSO, QPPCNs, and the Connectivity Guide.
- IT Central provides employee connectivity and desktop support.

Frequently Asked Questions

This page contains links to frequently asked upgrade questions and other useful upgrade information. The "Date added" column lets you know how current the information is.

Questions	Date added
In what order do I power down and power up the cabinets in high and critical reliability systems? Does it really matter?	UME Issue 1 Feb 2000
How do I troubleshoot DS-1/T1 board tests?	UME Issue 1 Feb 2000
How do I set the DIP switch for duplicated systems?	UME Issue 1 Feb 2000
Which flash card do I use in the TN794 NETCON circuit pack when I power up the new R7si or R8si system?	UME Issue 1 Feb 2000
Can I reuse the TN756 tone clock when I upgrade a System 75XE?	UME Issue 1 Feb 2000
Do I always have to save and restore announcements?	UME Issue 1 Feb 2000
Why don't I have to readminister the ISDN links that were de-administered?	UME Issue 1 Feb 2000
What happened to the status Communciations Interface Link for the D-Channels? How do I see the D-Channel state?	UME Issue 1 Feb 2000
What are the R7si/R8si control carriers?	UME Issue 1 Feb 2000
How can I find out whether the upgrade software load is compatible with the current system?	UME Issue 1 Feb 2000
Is there an easy way to be sure I have the right TDM/LAN bus cables?	UME Issue 1 Feb 2000
Which AC power supplies are compatible with port carriers in upgrades?	UME Issue 1 Feb 2000
For duplicated G3 control carriers using minimum vintages, does any board have to be the same vintage on both carriers?	MadeEasy Issue 2 August 2000
When is the TN765 Processor Interface still necessary in R8? When should it be removed?	MadeEasy Issue 2 August 2000
The customer's INADS password now requires a response to a numeric challenge. What happened, and how do I fix it?	MadeEasy Issue 2 August 2000
Can I simplify the administration steps after an upgrade?	MadeEasy Issue 2 August 2000
How do I connect the fiber cable for a duplicated single carrier installation or upgrade?	MadeEasy Issue 2 August 2000
How do I know When to use the TN2401 versus the TN2401/TN2400 sandwich pack? (This includes a list of all the carriers and backplanes that use only the TN2401 circuit pack.)	DEFINITY ECS R9 library CD

Back to top of page

In what order do I power down and power up the cabinets in high and critical reliability systems? Does it really matter?

It is not necessary to power down the EPN to do an upgrade. (If the EPN is remote, you may not even know where it is.) The order doesn't matter for power-down, but it does for power-up. If you did power down the EPN cabinet, power up it first, then power up the PPN cabinet.

Always power up the control cabinet last.

Back to top of page

How do I troubleshoot DS-1/T1 board tests?

If you are connected to the Avaya intranet, you can check for newer information at the DS-1 web page.

Select **DS-1**, and then select **DS-1 Tests** from the list that appears at the lower left of the window.

Back to top of page

How do I set the DIP switch for duplicated systems?

NOTE:
Answer

For an R7/R8 upgrade, you replace the old TN772 duplication board with the new TN792 duplication board, which has a 3-position switch located on its face. Verify that the switch is in the AUTO (central) position on both boards so the 2 processors can talk to each other.

(To lock the A SPE on line, put the switches on both boards to the A position; to lock the B SPE on line, put the switches on both boards to the B position.)

Back to top of page

Which flash card do I use in the TN794 NETCON circuit pack when I power up the new R7si or R8si system?

That depends.... Check the load number on the TN790B circuit pack.

- If the load number is *not the current load number*, you must upgrade the Generics. Use the software memory card (the orange Generic card).
- If the load number is the current load number, use the customer's *original* translation card (the white card containing translations).

Back to top of page

Can I reuse the TN756 tone clock when I upgrade a System 75XE?

With the TN756, links and/or PRI may not come up. A newer tone clock (TN768 or TN2182) should have been provided.

Back to top of page

Do I always have to save and restore announcements?

If a TN750B loses power, you will have to restore announcements; with the TN2501AP and the TN750C circuit packs, you do not have to restore announcements.

If the customer is willing to re-record announcements, you can free up all the time it would take to save and restore announcements. Consider this option when there are only a few recorded announcements on the system.

Back to top of page

Why don't I have to readminister the ISDN links that were de-administered?

ISDN-PRI resides on the TN794 (NetCon) circuit pack in R7si and later releases. It is no longer on the processor interface circuit pack.

The translations are the same as those in pre-R7 when a Packet Control circuit pack was used and the System Parameters Customer Options form had the **PACCON** field translated to **yes**. That field is removed after the upgrade to R7.

Back to top of page

What happened to the status Communciations Interface Link for the D-Channels? How do I see the D-Channel state?

In pre-R7 systems, you could use either of two commands:

- **status communications interface link**
- **status signaling group *x***

to determine whether the ISDN-PRI D-Channels are in an in-service state. The upgrade to R7 takes the system to a new architecture, and you can no longer status a link to find out if the D-Channels are up.

In R7 and later systems, you can continue to use the **status signaling group *x*** command to determine if an ISDN-PRI D-Channel is up. In addition, **list sys-link** now shows you which links are up.

Back to top of page

What are the R7si/R8si control carriers?

These carriers can install in MCC1 cabinets:

- Figure 332, J58890AH control carrier, on page 849 (R7si PPN cabinets only)
- Figure 333, J58890AJ duplicated control carrier, on page 849 (R7si PPN cabinets only; optional)
- Figure 334, J58890BB port carrier, on page 850 (PPN and EPN cabinets)
- Figure 335, J58890AF expansion control carrier, on page 850 (EPN cabinets only)

These carriers can install in SCC1 cabinets:

- Figure 336, J58890L basic control cabinet, on page 851 (PPN only)
- Figure 337, J58890M duplicated control cabinet, on page 851 (PPN only)
- Figure 338, J58890N expansion control cabinet, on page 852 (EPN only)
- Figure 339, J58890H port cabinet, on page 852 (EPN and PPN)

The power units and circuit packs shown in the carriers are representative examples only. The actual installed hardware may vary from that shown in the illustrations.

Figure 332: J58890AH control carrier

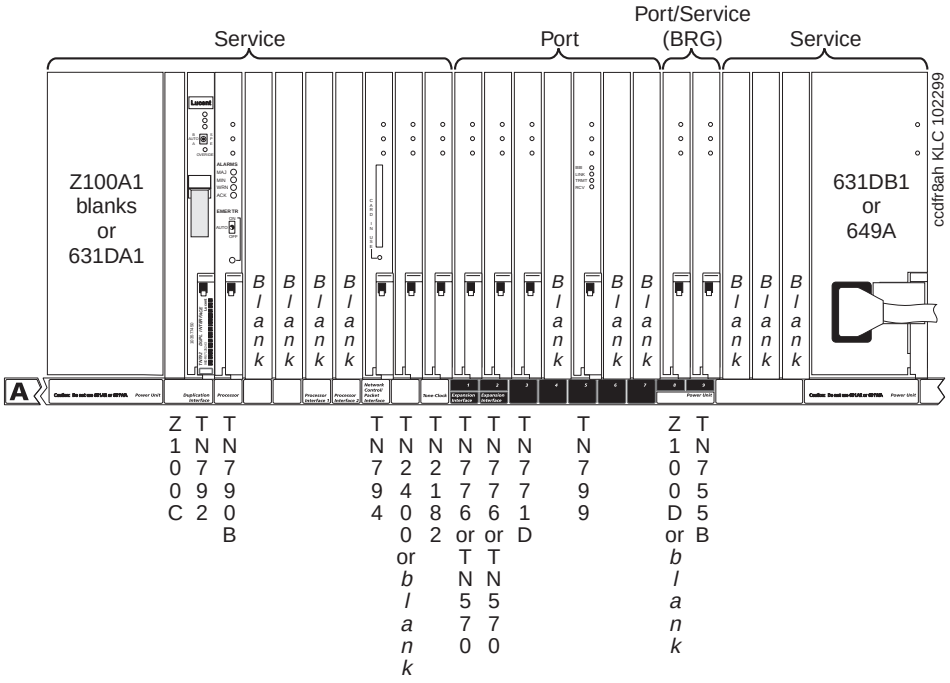


Figure 333: J58890AJ duplicated control carrier

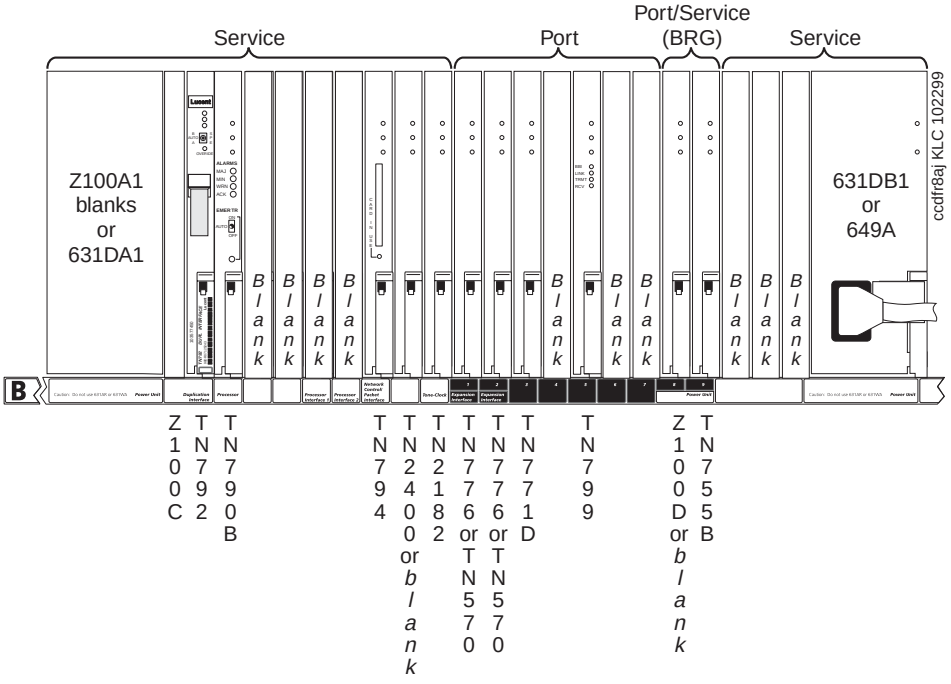


Figure 334: J58890BB port carrier

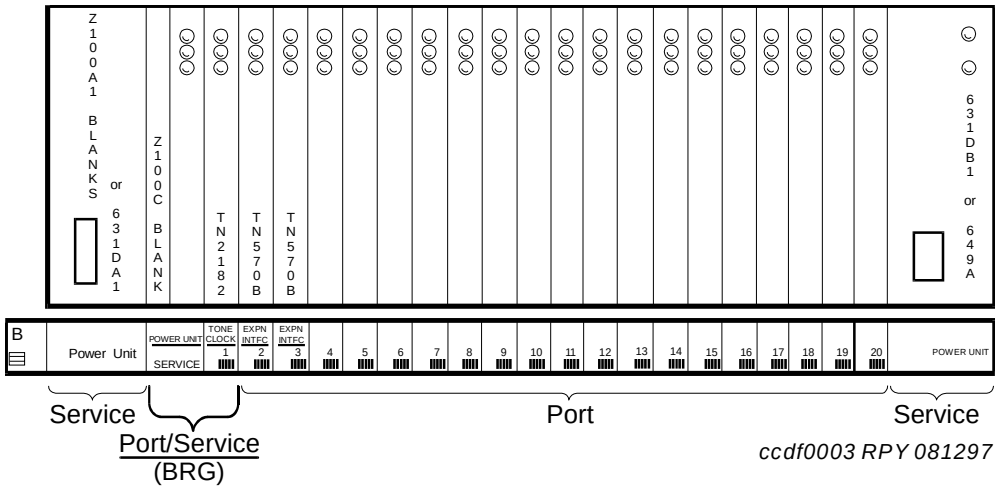


Figure 335: J58890AF expansion control carrier

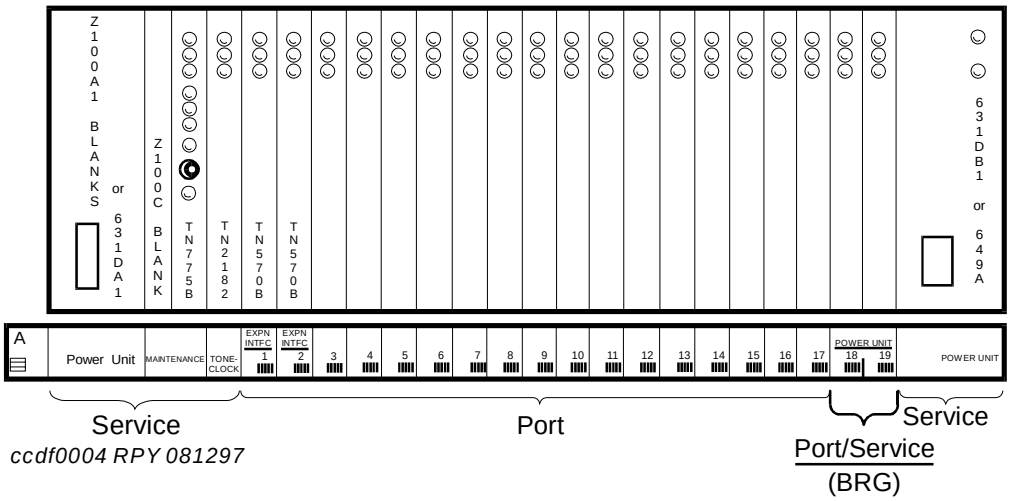


Figure 336: J58890L basic control cabinet

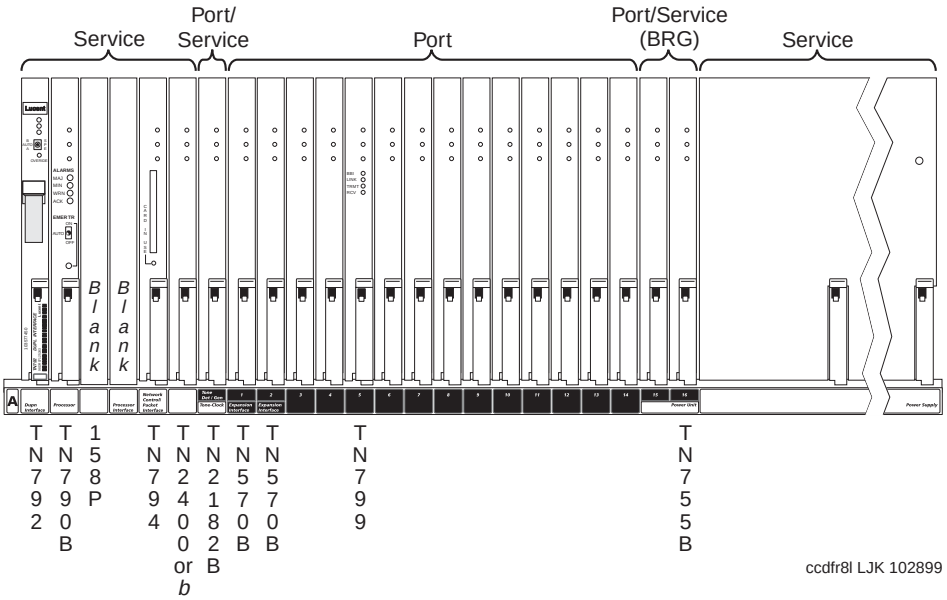


Figure 337: J58890M duplicated control cabinet

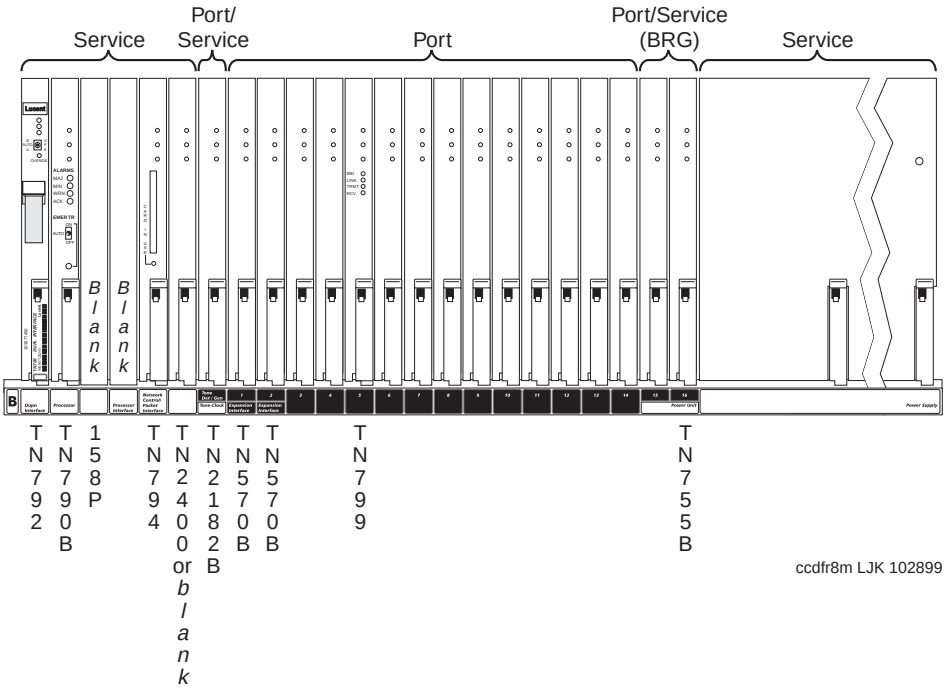


Figure 338: J58890N expansion control cabinet

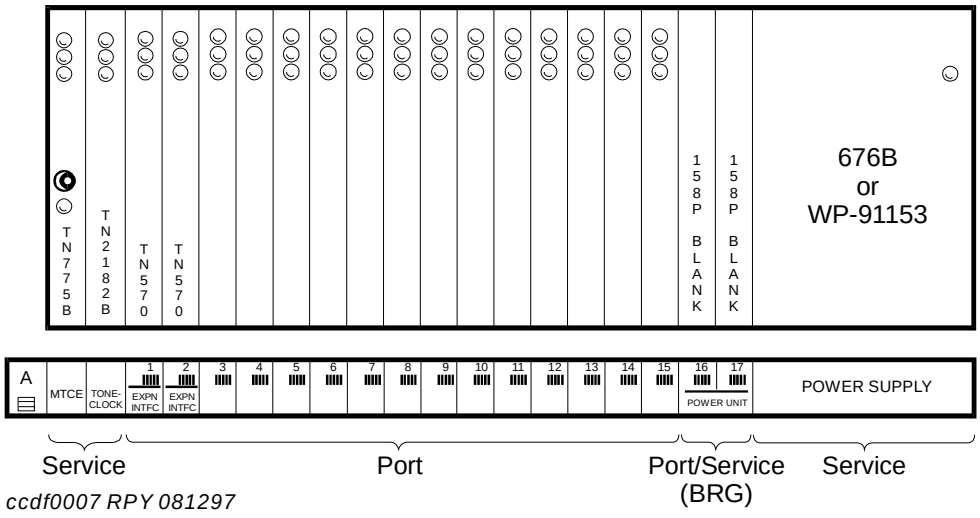
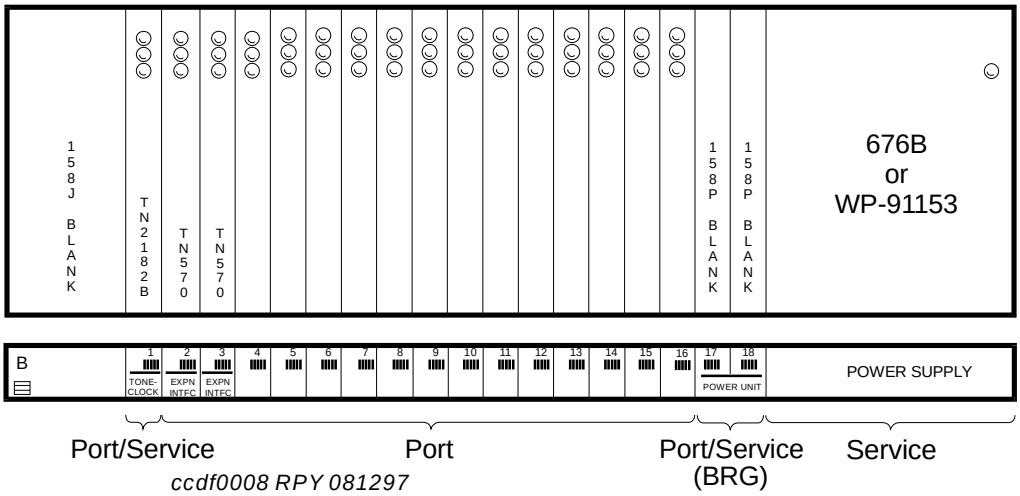


Figure 339: J58890H port cabinet



Back to top of page

How can I find out whether the upgrade software load is compatible with the current system?

1. Click on the link below or set your browser to:

   http://support.avaya.com
2. Select **Support**.
3. Select **Communication Systems**.
4. Select **Definity Systems**.

Back to top of page

Is there an easy way to be sure I have the right TDM/LAN bus cables?

For a multi-carrier cabinet, look for a *yellow* or a *blue* label on the cable. Older versions of the TDM/LAN Bus cables WP-91112 (L1 and L2) and WP-91716 (L1 and L2) had white labels. The correct cables WP-91716 (L6 and L7) originally had blue labels, and currently have yellow labels.

Back to top of page

Which AC power supplies are compatible with port carriers in upgrades?

Table 48: AC-powered cabinet port carrier power upgrade compatibility

AC-powered cabinet port carrier power upgrade information					
Port Carrier From Oldest To Newest & Product Used on	**Backplane & Assembly Comcode**	**SD/CD Drawings & Functional Difference From Previous Version**	**Left Hand Power Slot (POS 00) Choices**	**1.25" Wide Power Slot (POS 01) Choices**	**Right Hand Power Slot (POS 22) Choices**
J58890BB-2,L1 R1V1 - R1V3	PWJ58890BB-1,L2 104 325 410	SD-66982-01 CD-66982-01 -5V only from POS 01	631AR +5V 631WA +5V 631DA +5V	TN736 -5V TN752 -5V,-150V	631BR -48V 631WB -48V 631DB -48V, -5V Backplane doesn't wire -5V to this POS, so POS 01 supplies needed for -5V
J58890BB-2,L2 or J58890BB-3,L2 R1V3,G1 eff. 11/IV/88 week	PWJ58890BB-2,L3 105 450 514	SD-66982-02 CD-66982-02* -5V from POS 01 or POS 22 POS 01 now for service circuits	631AR +5V 631WA +5V 631DA +5V	TN736 -5V TN752 -5V,-150V	631BR -48V 631WB -48V
				Choices for use with 631DB only: TN755B -150V TN2036 Test V	631DB -48V, -5V
J58890BB-2,L3 or J58890BB-3,L3 G1 DC G2 AC&DC 3rd QTR 1989	PWJ58906BA-1,L1 105 519 623	SD-66982-03* CD-66982-03* Duplicated Power Ready No old supplies allowed.	See Do Not Use Note. 631DA +5V	TN755B -150V TN2036 Test V	631DB -48V, -5V
J58890BB-3,L3 or J58890BB-3,L3,WG1,G2,G3 10/II/90 week	PWJ58906BA-1,L2 106 048 150	SD-66982-04* CD-66982-04* 2nd Tone-Clock & EI slot for dup.EPN No old supplies allowed.	See Do Not Use Note. Slot 631DA +5V	TN755B -150V TN2036 Test V	631DB -48V, -5V

* Not completed drawing.

NOTE:
Do Not Use: Old power supplies (631AR, 631BR, 631WA, and 631WB) are not to be used in this carrier because if they are mixed and matched with new power supplies, (631DA and 631DB) in the this carrier the old power supply shorts out the new power supply that is installed at the other end of the carrier. In a hot plug-in situation this can cause arcing that damages backplane pins and power supply connector contacts.

Notes

- POS is an acronym for Board Position. This has also been referred to as the Equipment Location(EQL) and the Physical Slot Number in previous documentation.

  These numbers appear etched or silkscreened on the wiring side of the backplanes. *They are not the same as the slot numbers on the front carrier label!*

- The assembly comcode for the backplane has been included because backplane and carrier marking over the years has been inconsistent; the comcode appears etched or silkscreened on the wiring side of most backplanes.
- -150V is the voltage for TN769's & TN746's that are powering neon lamps in analog message waiting phones.
- Test V means Test Backplane/Carrier Voltages. Previously all the POS 01 power supplies provided test points for the different DC voltages on the backplane. The TN2036 provides that functionality.

Back to top of page

For duplicated G3 control carriers using minimum vintages, does any board have to be the same vintage on both carriers?

For G3r, the Packet Interface (TN1655) must be the same vintage on both carriers.

For G3i/G3s/G3vs/G3si, the Net Packet (TN794) must be the same vintage on both carriers.

Back to top of page

When is the TN765 Processor Interface still necessary in R8? When should it be removed?

BX.25 adjunct links to adjuncts (for example, CMS, AUDIX, INTUITY, or others) that are to be retained will still reside on the existing TN765 processor interface (P/I) in the designated P/I slot. Remove the TN765 Processor interface only if all adjunct connectivity is being migrated to a TN799 control LAN (CLAN) circuit pack.

Back to top of page

The customer's INADS password now requires a response to a numeric challenge. What happened, and how do I fix it?

Beginning with R7.1, ASG challenges the **craft**, **inads**, and **init** login IDs. Customers must use the **cust** login to perform tasks that they previously did with any of these logins. If the **cust** permissions are incorrect, the Avaya project manager can change them.

Back to top of page

Can I simplify the administration steps after an upgrade?

Yes. Use the Automatic Registration Tool (ART) to automate the completion and verification of many of the required forms. Contact INADS with any questions not answered on the Automatic Registration Tool home page.

Back to top of page

How do I connect the fiber cable for a duplicated single carrier installation or upgrade?

1. Remove both back panels from the A and B cabinets. See Figure 340, Illustration 1, on page 855.
2. Insert the pass-through tool from the front to the back of either the A cabinet or the B cabinet. See Figure 341, Illustration 2, on page 856.
3. Pull the cable through from the back to the front of the cabinet. See Figure 342, Illustration 3, on page 856.
4. It is critical to pass the fiber-optic cable through the opening in the A cabinet. See Figure 343, Illustration 4, on page 857.

   Repeat steps 2 and 3 for the other cabinet.
5. Dress the fiber-optic cable through the openings at the right side of the back panels, to the right of the duplication interface ribbon cables. See Figure 344, Illustration 5, on page 858.

   Dress the TDM-LAN cable (not illustrated) through the opening at the left side of the back panels.
6. Connect the fiber-optic cable to the duplication interface circuit pack in each cabinet. Verify that the circuit pack is the first (left-most) circuit pack in each cabinet. See Figure 345, Illustration 6, on page 859.

Figure 340: Illustration 1

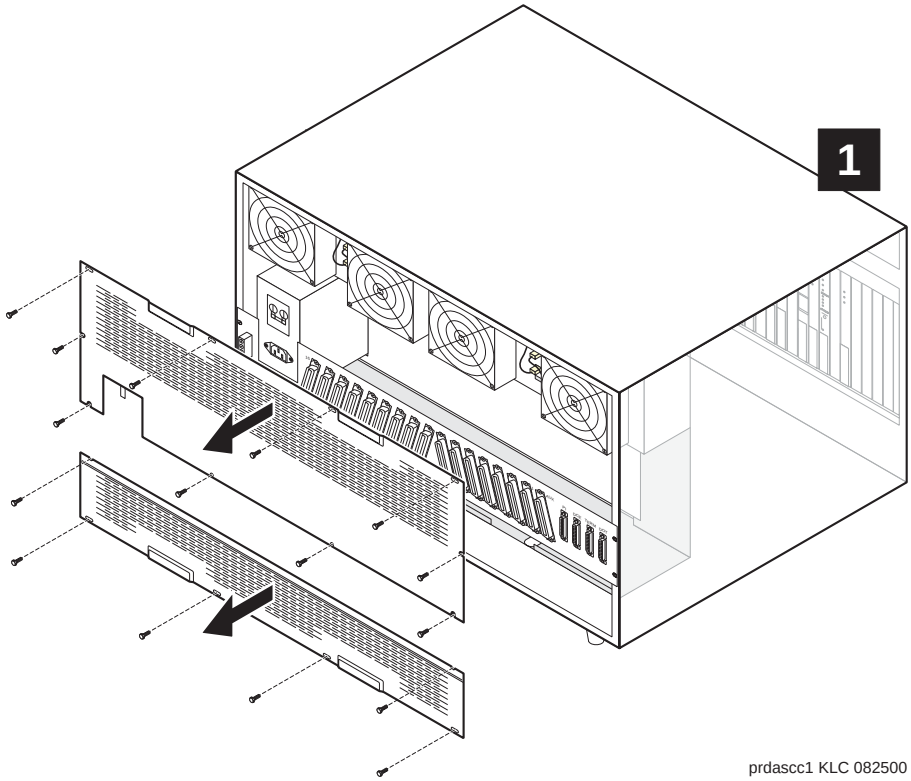


Figure 341: Illustration 2

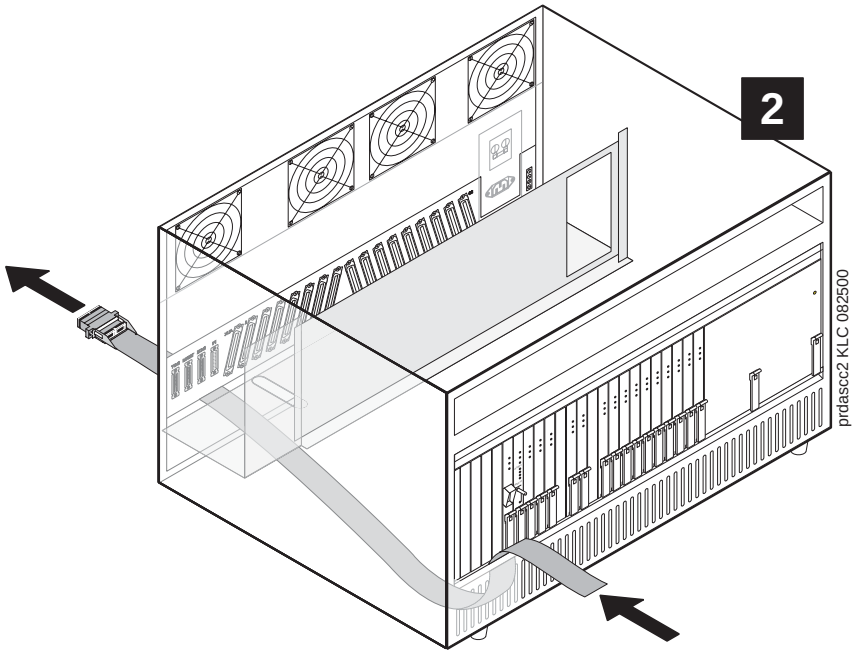


Figure 342: Illustration 3

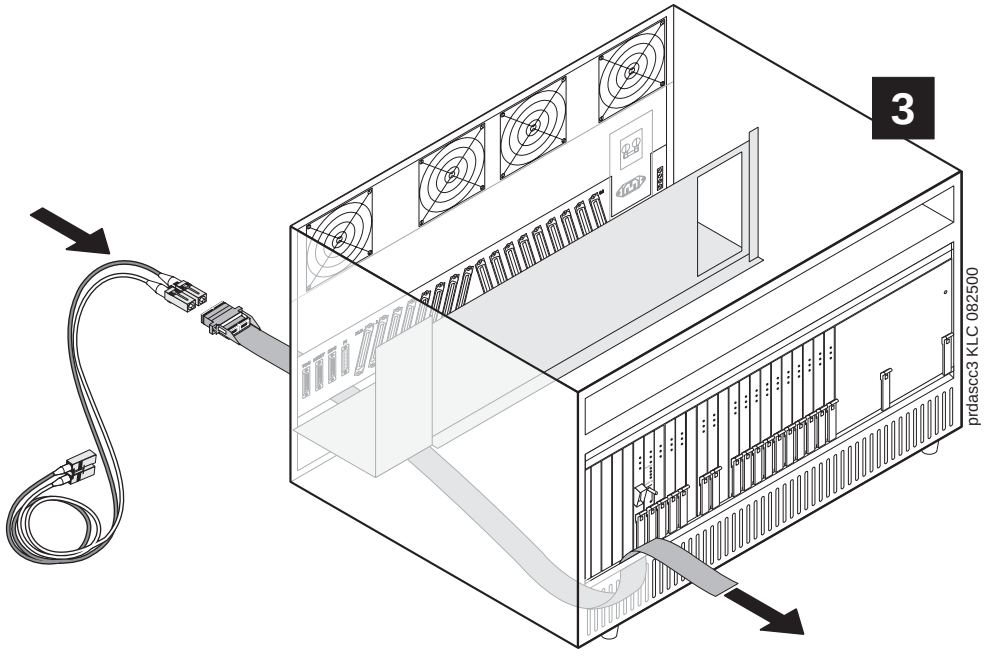


Figure 343: Illustration 4

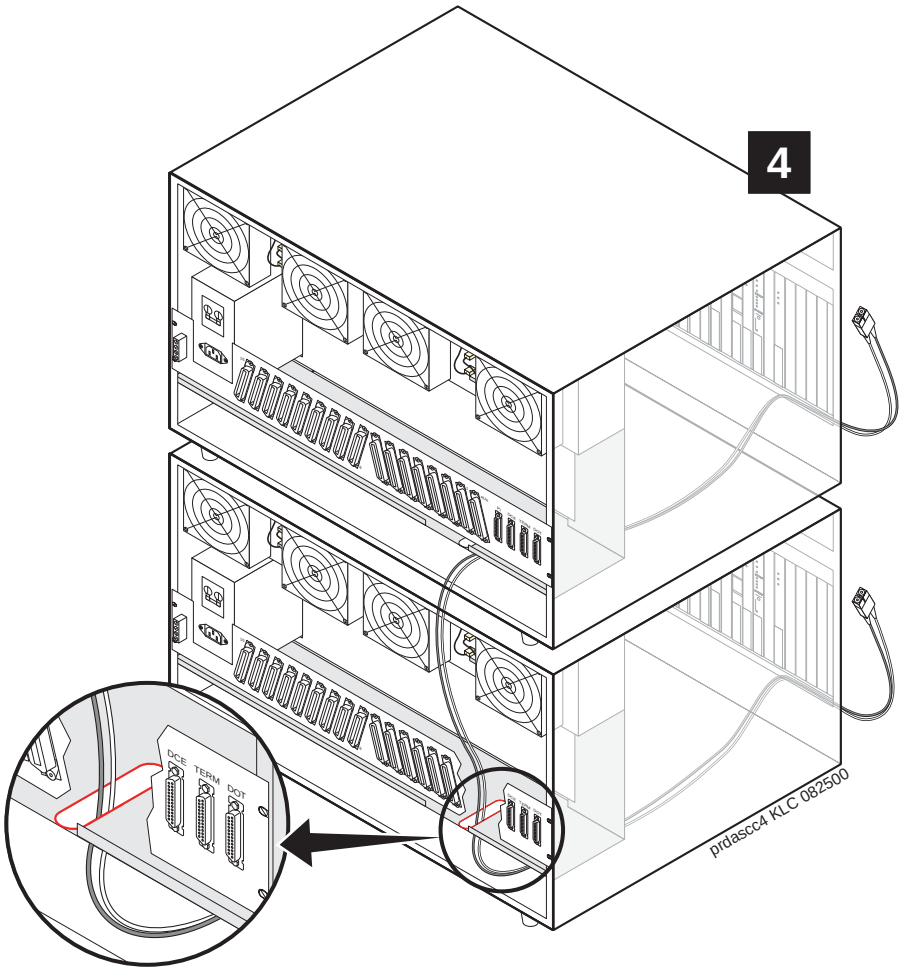


Figure 344: Illustration 5

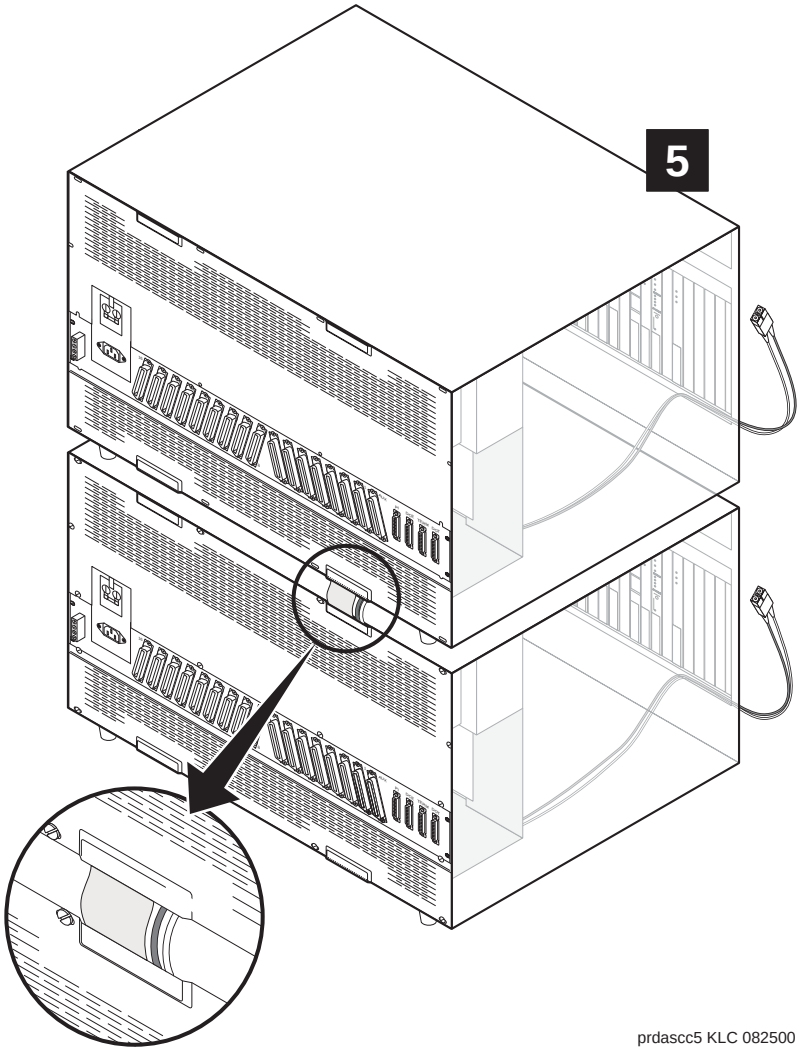
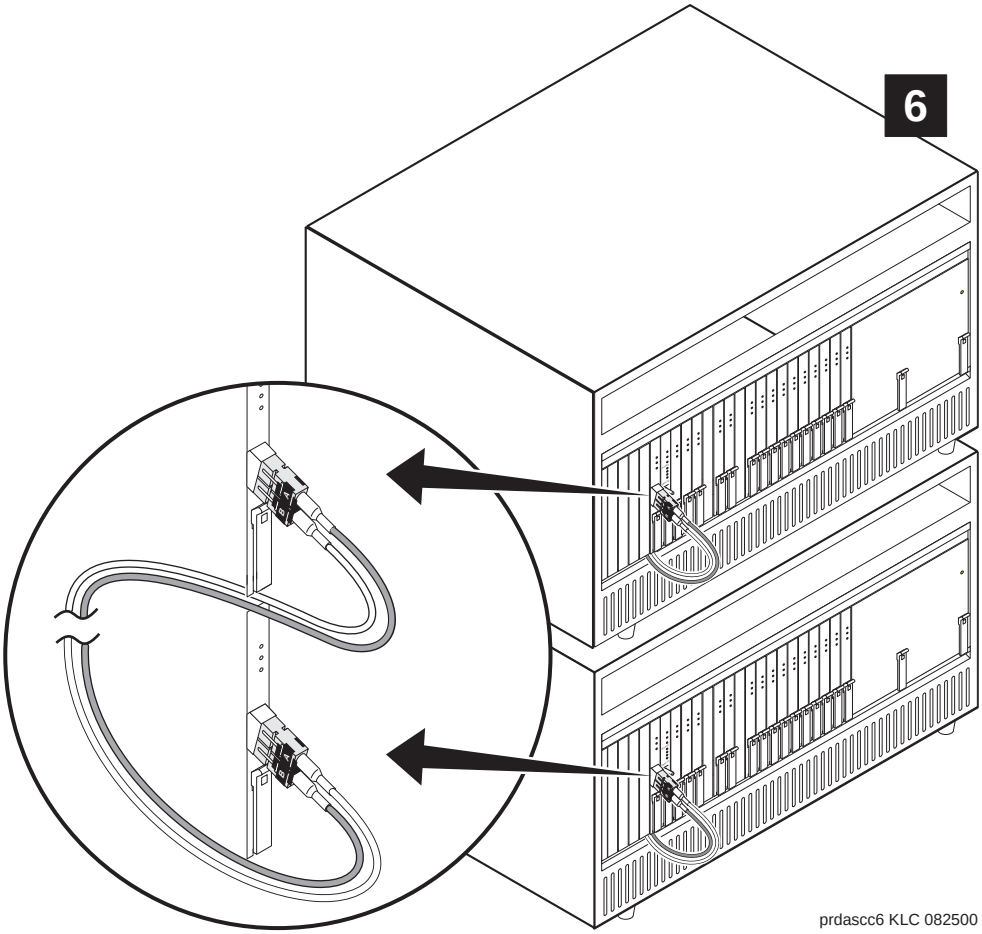


Figure 345: Illustration 6



Back to top of page

When to use the TN2401 versus the TN2401/TN2400 sandwich pack

Field upgrades normally require the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809, but there are exceptions to this rule!

Important:
MCC1 SI Processor Carrier J58890AH-2 List 12 (which replaces List 5) *does require* the TN2401/TN2400 Network Control sandwich pack, Comcode 848486809. This carrier has been identified in older DEFINITY documentation as not requiring the sandwich pack!

Only the carriers and backplanes listed in this table use the TN2401 NetCon circuit pack, Comcode 108516675:

DEFINITY Carrier / Backplane	Equipment	Notes
SCC1 Processor Cabinet	J58890L-2 List 25	This replaces List 10
SCC1 Processor Cabinet (Survivable Remote)	J58890L-2 List 31	This replaces List 30
SCC1 Processor Cabinet (Knock Down)	J58890L-2 List 52	This replaces List 51
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3	This backplane replaces List 2
Backplane for the J58890L-2 List 25, List 31, and List 52 Cabinets	PWJ58890AL-1 List 3 with a label on the left-rear of the SCC1 identifying the quick-fix backplane.	This backplane, a List 2 with a CRW1, Series 2, bridge card installed, is electrically equivalent to the PWJ58890AL-1,L3 backplane. This backplane replaces List 2.
SCC1 Duplication Processor Cabinet	J58890M-2 List 15	This replaces List 7
SCC1 Duplication Processor Cabinet (Knock Down)	J58890M-2 List 52	This replaces List 51
Backplane for the J58890M-2 List 15 and List 52 Cabinets	PWJ58890AM-1 List 3	This backplane replaces List 2
MCC1 SI Processor Carrier	J58890AH-2 List 13	This replaces List 10
MCC1 SI Processor Carrier (Knock Down)	J58890AH-2 List 55	This replaces List 54
Backplane for the J58890AH-2 List 13 and List 55 Cabinets	PWJ58906AA-1 List 4	This backplane replaces List 3
MCC1 SI Duplication Processor Carrier	J58890AJ-2 List 12	This replaces List 9
MCC1 SI Duplication Processor Carrier (Knock Down)	J58890AJ-2 List 55	This replaces List 54
Material required in addition to L55 (Knock Down)	J58890AJ-2 List 56	This replaces List 53
Backplane for the J58890AJ-2 List 12 and List 55 Cabinets	PWJ58906AB-1 List 3	This backplane replaces List 2
Fiber Optic Cable: MCC1 Dup-Int	848204434	14” cable
Fiber Optic Cable: SCC1 Dup-Int	LL2SC-SC-10 107122640	10’ cable

Back to top of page

Index

Numerics

100A LIU, 765
10A LIU, 766
110A-type terminal blocks (SCC), 408
110P-type terminal blocks (MCC), 409
110P-type terminal blocks, frame-mounting, 439
110RA1-12 terminating resistor block, 571
110-type hardware, 404, 416
110-type hardware, SCP-110 sneak current protection, 411
110-type terminal blocks, 408
110-type terminal blocks, wall-mounting, 437
1110A2 apparatus mounting frame, 439
1110C1 cable support, 439
1145B power supply, 549, 553, 554
1146B power distribution unit, 555, 559
1151A1 and 1151A2 power supply, 563
1151A1 power supply, 561
1151A2 power supply, 561
120 CSU, 652
120A ICSU, 818
120A2 ICSU, 816
1217A power supply, 384
127A BALUN coaxial adapter, 677, 689
258A adapter, 418
26B1 selector console, 518, 519
2-wire digital station wiring, 504
3150/3170 CSU, 654
356A adapter, 418
367A adapter, 573
3-pair and 4-pair modularity, 514
3-pair modularity, 433
3-pair to 4-pair station circuits, 421
3-pair trunks, cabling, 413
4 port DIOD pinouts, 774
440A4 terminating resistor adapter, 571
451A extension adapter, 419
4C3S-75 enhanced protector, 529
4C3S-75 enhanced protector, installing, 530
4-pair station circuits, 421
572 printer, 749
631-Type Power Unit
  R1V3 Small, 304
700A8 plug for UPS, 786
7400A data module, 713, 745
7400A/7400B+ data module, 458, 459
7400B data module, 713
7400B+ data module, 460
7400D data module, 743
808A emergency transfer panel, 532, 533, 535
8400B+ data module, 458, 459
888B converter, 829
909A coupler, DC version, 832
909A/B universal coupler, 831, 837, 840, 841
  DIP switch settings, 832
909B coupler, AC version, 832
  KS-22911 power supply for, 832
982LS Current Limiter (CURL), 251, 289

A

AC power, 384, 694
  checking voltage, 354
  connecting, 343
  connecting to DC power cabinet, 349
  ground wiring, 336, 337, 382
  grounding, 334, 382, 761
  single phase, 335
  three-phase, 335
AC power supplies, 853
AC power, receptacle location, 365, 366
AC/DC mixed power and ground, 351
AC/DC powered cabinet, connecting, 351
acceptance testing, telephones, 731
accessing the DEFINITY system, 448
accessing the system, 452
AC-Powered Expansion Control Carrier, 302
AC-powered system
  power up, 462
activating the system, 447, 460
adapter
  258A, 356A, BR2580A, ZD8AJ, 418
  451A extender, 419
add translation, 478
adding
  CallVisor ASAI, 584
  circuit packs, 567
  CO trunk, 669
  code calling access, 584
  CSU, 651
  DCS interface, 593, 594, 595, 598
  DID trunk, 669
  DID trunks, 669
  DS1 tie trunks, 670
  external modem to EPN, 704
  external modem to PPN, 705
  external modem to TN1648B, 706
  FX trunk, 669
  ISDN PRI, 666, 667, 668
  OPS trunks, 670
  packet bus support (R9si), 588, 589, 590, 592, 593
  PCOL trunk, 669
  pooled modem, 712
  speech synthesis, 584
  tie trunk, 669
  tie trunks, 669
  TN750/B/C, 580
  TN750C, 583
  TTC Japanese 2-Mbit trunks, 677
  WATS trunk, 669
adding CSU, 654
adding data module to switch, 458

additional hardware
installing, 565
Address Plugs
Single-Carrier, 247
address plugs, cabinet, 390
adjunct power, 502, 503, 515
administation terminals, connectable, 500
administering circuit packs, 449
administering fiber links, 212
administering fiber optic cable, 210
administering IP trunk mode, 633
administering MCCs, 467, 469
administering patch cords and jumpers, 429
administering PNC duplication, 212
administering the attendant console, 477
administering the system, 447, 463
administering TN464GP and TN2464BP, 599
administration commands, 449
administration commands, introduction, 448
administration terminals, connectable, 427
AHF110 TDM/LAN bus terminator, 150
Alarm Connections, 175
alarm connections, 519
alarm wiring, 504
alarms, 479, 484, 739
terminal alarm notification, 484
A-Law companding, 635
amphenol pins, 776
analog line circuit protectors, 528
analog station wiring, 504
analog telephones, 526
analog tie trunk wiring, 506
Angle, Front Mounting
System 75 XE, 148, 243, 306
announcement, 581, 582
playback procedure, 734
announcements
deleting, 734
recording, 733
testing, 733
announcements, moving, 584
announcements, moving from TN750B to TN750C, 583
announcements, saving and restoring, 848
APP connector information, 771
approved grounds, 761
Argentina, country code, 471
ART, 854
asynchronous links, 815
AT control modem, 745
attendant console, 516
maximum cabling distance, 502
attendant console LEDs, 484
attendant console, administering, 477
attendant console, cabling distances, 516
attendant console, installing, 518
attendant console,testing, 732
AUDIX
connections through processor interface, 756
AUDIX sytem power procedures, 451
AUDIX, powering, 447
Australia, country code, 471
Automatic Registration Tool, 854
Automatic Registration Tool (ART), 57, 89, 127, 167, 479
AUX trunk pinouts, 771
auxiliary cabinet equipment, 330
auxiliary cabinet, cabling to MDF, 436
auxiliary cabinets
cabinet location, 330
auxiliary connector outputs, 108, 233, 291, 510
auxiliary equipment
classification, 567
auxiliary equipment pin designations, 771
auxiliary equipment pinouts, 771, 774
auxiliary power
alarms, 519
attendant console, 516
Avaya R300 Remote Office Communicator, 601

B

backplane pins, 776
back-up battery, 554, 555, 557
basic rate interface. See BRI
Battery
System 75 XE, 269
battery
connecting, 381
mounting, 557
battery cabinet, connecting to DC power cabinet, 351
battery charger, optional, 342
battery holdover assembly, 339
battery holdover, connecting, 340, 341
battery interface module, installing, 345
battery leads, connecting, 339
battery, connecting DC, 348
Belgium, country code, 471
bit rate
setting, 760
Blowback tape, 33, 68, 100, 139, 226, 284
bonding conductor, coupled, 445
BR2580A adapter, 418
BR851-B adapter, 573
Brazil, country code, 471
BRI, 570
fanout of multipoint installations, 573
multipoint cabling, 576
terminating resistor, 570
BRI, installing, 576, 577
BRI, testing, 735
bringing the system online, 447
building steel ground, 761
BX.25 adjunct links and TN765 P/I, 854

C

cabinet
cable clamps, 416
Cabinet Address Plugs
Single-Carrier, 247
cabinet address plugs, 390
cabinet clip, 395
Cabinet Clips
System 75 XE, 269

cabinet ground, 370
cabinet grounds, 334, 382
cabinet grounds, connecting, 346
cabinet location
  auxiliary cabinet, 330
  EPN cabinet, 329
  EPN cabinets, 365, 366
  PPN cabinet, 329, 365, 366
cabinet, cabling to MDF, 435
cabinets
  attaching to floor, 332
  connecting DC pewer, 350
cabinets, stabilizing for earthquake protection, 391, 393
cable
  diagrams, 771
  fiber optic, 193, 198, 205, 209, 210, 396
    single mode, 767
  fiber optic, cleaning, 768
  fiber optic, labels, 768
  fiber optic, multimode, 767
Cable Clamps
  System 75 XE, 272, 313
cable clamps, 441
cable clamps, for cable slack manager, 416
cable installation,control carrier outputs, 413
cable routing guidelines, 412
cable routing, MDF, 412
cable slack manager, installing, 441
cable slack manager, space requirements, 416
cable tests, 483
cable, attendant console cabling distances, 516
cable, inter-cabinet, 385
cable, TDM bus, 385, 386, 388, 389
Cables
  Labeling R1V3 Single-Carrier, 238
cables
  25-pair I/O, 416, 441
  DCS, 594
  fiber optic, 356
  installing, 577
  inter-cabinet, 396
  IP interface, 629
  IP Media Processor, 611, 615
  labeling, 113, 149, 295
  outputs for control carrier, 108, 233, 291, 510
cables, installing, 411, 605, 618
cables, installing between auxiliary cabinet and MDF, 436
cables, installing between cabinet and MDF, 435
cabling
  installing trunk cables, 413
  provisioning plan, 404
cabling labels, 412
cabling layout, 427
call detail recording. See CDR.
calling queue, 545, 843
CallVisor ASAI, adding, 584
CallVisor ASAI, installing, 585, 587, 588
CAMA/E911 trunks, 657, 659, 660, 661, 662, 663, 665
carbon block protectors
  off-premises connections, 528
CDR
  option settings, 752
  printer, 749
Cellular Business System, 566
channel service unit. See CSU.
check commercial power, 354
checking circuit pack configuration, 489, 497
checking system status, 487
China, country code, 471
circuit pack configuration, testing, 489, 497
circuit pack damage or discrepancies, 329, 364
circuit pack LEDs, 484
circuit pack pinouts, 771, 774
Circuit Packs
  G3i V2 Control Carrier, 308
circuit packs
  adding, 567
  classification, 567
  configuration testing, 497
  digital line, 455
  DS1 converter LEDs, 485
  duplication interface LEDs, 485
  installing, 569
  LEDs, 485
  pin designations, 771
  TN2183 analog line, 842
  TNCCSC-1 PRI-to-DASS converter, 828, 830
  TNCCSC-2 PRI-to-DPNSS converter, 828, 830
  TNPRI/BRI converter, 829, 830
Circuit Packs form
  administration commands, 449
  circuit pack cabinet layouts, 450
  implementation notes, 451
  instructions, 450
circuit packs, administering, 449
C-LAN, 593, 607, 610, 623
  test external connection to LAN, 595, 610
C-LAN connection, testing, 737
C-LAN, installing, 606
C-LAN-distributed firmware download
  procedure, 716
cleaning
  fiber optic cables, 768
closets
  site locations, 417
CO trunk, 760
CO trunk pinouts, 771
CO trunk wiring, 504
CO trunk3-wire pinouts, 774
CO trunks, 669
coaxial converter, 888B, 829
code calling access, 584
collocated DS1 tie trunks, wiring, 508
commands, introduction, 448
COMSPHERE modem, 746
concentrator cables, connecting trunk pairs, 432
concrete encased ground, 761
Concrete Floor
  Front Mounting Angle, 148, 243, 306
concrete floor mounting, 331, 367
conductor, coupled bonding, 415
connect AC power, 384
connect power and grounding, 158
connectable administration terminals, 427
connectable terminals, 500
connectable voice and data terminals, 425
connecting AC power, 343, 349

connecting AC power to DC power cabinet, 349, 379
connecting battery leads, 339
connecting cabinet grounds, 346
connecting control carrier outputs cable, 432
connecting DC battery and power cabinet grounds, 348
connecting DC power, 374
connecting DC power to cabinets, 350
connecting external alarm cable, 354
connecting external alarm indicators, 519
connecting fiber optic cable, 356, 763
  critical-reliability CSS system, 359
  high-reliability CSS system, 358
  standard-reliability CSS system, 357
connecting ground wires, DC systems, 349
connecting large battery holdover, 341
connecting mixed AC/DC power and ground, 351
connecting remote power off cable, 352
connecting small battery holdover, 340
connecting TDM bus cables, 385, 386, 388, 389
connecting TN1654 through CSU, 685
connecting to the DEFINITY ECS, 454, 455, 456
connection diagrams, station cables, 421
Connections
  Intercabinet Cable R1V3 Single-Carrier, 251
connections
  ITS to network, 605
connections, music-on-hold
  FCC-registered equipment, 837
  non-FCC-registered equipment, 837
connectors
  data communications equipment, 752
console
  attendant, testing, 732
  selector, testing, 732
control carrier cable labels, 431
control carrier outputs cable, 108, 233, 291, 432, 510
control carrier outputs cable, installing, 413
control carriers, MCC, 848
country codes, 470
country options, setting, 470
coupled bonding conductor, 336, 382, 445
coupled bonding conductor wires, installing, 347
coupled bonding connector, 415
craft login, 464
craft password problem, 854
craft password, changing, 472
Critical Reliability
  G3i V2 with Two Port Networks, 263
  System 75 XE, 262
critical reliability
  testing systems, 495
critical reliability PPN
  connecting TDM bus cables, 386, 388
critical reliability systems, enabling duplication, 477
critical-reliability systems, cabling, 396
CSU
  120A, adding, 652
  3150/3170, adding, 654
  cabling to DS1 converter, 685
  connecting TN1654 through, 685
CSU, adding, 651
cust password problem, 854
Czechoslovakia, country code, 471

D

damage, reporting, 328, 364
data communications equipment connector, 752
data link protector, installing, 530
data module, 458, 459
  7400A, 713, 741, 745
  7400B, 713, 741
  7400D, 741, 745
  answer only interface, 743
  modem setting, 713
  switch settings, 741
data module connection to DEFINITY ECS, 455
data module DIP switch locations, 742
data module settings, 452
data module, setting to DCE mode, 458
data terminals, connectable, 500
date, set procedure, 474
daylight savings rules, 473
DC distribution unit, connecting to DC power cabinet, 372
DC power, 343, 347, 694, 695
  battery interface module, installing, 345
  connecting battery and power cabinet grounds, 348
  connecting battery cabinet to power cabinet, 351
  connecting cabinets, 350
  connecting distribution unit to power cabinet, 372
  connecting ground wires, 349
  rectifier module, installing, 345
  signaling leads, 757
DC power cabinet, 349
  approved ground, 348
  connecting AC power, 349, 379
  connecting SCC ground, 373
DC power connections, 374
DC power, connecting cabinet grounds, 370
DC power, receptacle location, 365, 366
DC/AC mixed ground and power, 351
DCE mode, setting data module, 458
D-Channels, status, 848
DC-powered system
  power up, 462
DCS
  switch settings, 741
DCS interface, adding, 593, 594, 595, 598
DCS switches, setting, 744
DEFINITY Carrier, P1 and P2 Connectors, 302
DEFINITY ECS, connecting the PC, 454, 455, 456
DEFINITY ECS, connecting through a data module, 455
DEFINITY ECS, connecting through a modem, 456
DEFINITY ECS, system testing, 739
DID trunk wiring, 504
DID trunk, adding, 669
DID trunks, 669
DID/DIOD pinouts, 774
digital line circuit pack, 455
digital line circuit protectors, 529
digital tie trunk wiring, 507
DIP switch locations, data module, 742
DIP switch settings, 7400B+ data module, 460
DIP switch settings, U S Robotics modem, 456

direct connect systems, 356
direct department calling
  testing queue warning indicator, 733
direct PC connection to DEFINITY ECS, 454
Disconnecting Cables, 241
Disconnecting Cables, R1V3 Single-Carrier, 241
distributed communications system. See DCS.
D-lead modem, 745
domain name, assigning, 636
DS1 converter, 219, 220, 221, 222
  cabling, 677
  circuit pack LEDs, 485
  duplicated, 218
  E1, 681, 682, 683, 684, 689, 690
  option switches, 677
  T1, 681, 682, 683, 684, 689, 690
  Y cable, 685
DS1 H600-307 cable pinouts, 783
DS1 interface, 760
DS1 loopback jack, 816
DS1 pinouts, 774
DS1 span, 817
  T1, 816
DS1 tie trunks, 670, 671, 672, 673, 674, 675
DS1 tie trunks, wiring, 508
DS1C converter, 214
duplicated control carriers
  minimum vintages, 854
duplicated SCC systems
  fiber optic connections, 855
duplicated SCC1 system
  installing fiber optic cable, 205
duplicated SPE interchange, testing, 492
duplicated systems, 477
  dip switch settings, 847
  locking a SPE on line, 847
duplication interface cabling, MCC, 355

E

E1 interface, 760
earthquake protection, 391, 393
earthquake protection, MCC, 331, 332
earthquake protection, SCC, 367
echo cancellation, 599
  TN2464BP, 598
  TN464GP, 598
EIA, 752
EIA port, 752
electromagnetic shielding, 393
Electronic Industries Association, 752
emergency transfer panel, installing, 535
emergency transfer telephones, 541, 542
emergency transfer units, 532
emergency transfer, testing, 734
endpoints, 811
EPN
  connecting TDM bus cables, 389
  expansion interface exchange, testing, 495
  TDM, testing, 494
  tone clock interchange, testing, 495
  tone-clock, testing, 495
EPN cabinets
  cabinet location, 329, 365, 366
EPN tests, 483
EPN, connect external modem, 704
equipment room cabling labels, 412
equipment room, cable routing, 412
equipment room, station circuit distribution from, 421
European Standard Paging Access (ESPA) radio paging equipment, 842
expanded power distribution unit, 557
expansion interface circuit packs, testing, 493
expansion interface exchange, testing, 495
expansion links, service state, 487
expansion services module (ESM), 813
external alarm cable, connecting, 354
external alarm indicators, connecting, 519
external alarm wiring, 504, 520
external modem
  COMSPHERE, 746
external ringing, 544, 842
external ringing, testing, 733

F

Feature Access Code form, 661
Features Extraction Tool (FET), 43, 44, 72, 73, 104, 105, 144
Fiber Link Administration form, 210
  basic fields, 212
  DS1 converter instructions, 219, 220, 221, 222
  DS1C converter instructions, 214
  duplication administration fields, 213
  PNC duplication, 212
fiber optic
  multimode transceiver, 767
fiber optic cable, 210
  connecting duplictated SCC systems, 855
  critical-reliability CSS system, 359
  direct connect systems, 356
  Fiber Link Administration form, 210
  high-reliability CSS system, 358
  installing, 356
  labels, 768
  MCC1, 177, 191
  multimode, 767
  SCC1, 193, 209
  single mode, 767
  standard-reliability CSS system, 357
fiber optic cable pass-thru kit
  MCC1, 177
  SCC1, 193
fiber optic cable, connecting, 396, 763
fiber optic cable, handling, 763
fiber optic duplication interface cabling, MCC, 355
fiber optic pass-thru kit
  MCC1, 182
  SCC1, 198, 205
Fiber-Optic Connections, 259, 261
firmware
  downloads
    uploading image files from Web, 720

Firmware download, 715
firmware download
  aborting a download, 727
  backing out of, 728
  disabling file system, 727
  preparing to download, 717
  removing files, 727
  reverting to an older vintage, 728
  scheduling, 721, 725
  testing a C-LAN-distributed download, 727
  testing a self download, 727
  troubleshooting downloads, 727
  uploading image files from Web, 720
  uploading image files using FTP, 720
firmware download procedure
  C-LAN-distributed, 716
  self download, 716
firmware downloads
  circuit pack roles, 715
  high-level procedure, 715
flash card, installing, 461
floor grounds, 761
floor plans, 427
Forum
  Personal Communications Manager, 566
frame ground, 371
France, country code, 471
front ground plate, 393
Front Mounting Angle, Concrete Floor, 148, 243, 306
FTP
  setting up circuit pack to receive files, 719
FX trunks, 669

G

G3i V2
  Control Carrier Circuit-Pack Locations, 308
G3i V2 E, 254
G3i V2 P, 304
G3i V2 with Two Port Networks
  Critical-Reliability, 263
  Standard-Reliability, 259
gateway, assigning, 638
Germany, country code, 471
Greece, country code, 471
ground
  coupled bonding conductor, 336, 382
  coupled bonding connector, 415
  DC power distribution unit, 372
  frame ground, 371
Ground Plate
  System 75 XE, 269, 272, 313
ground plate, 391, 393
ground ring, 761
ground wiring
  DC, 343
ground, cabinets, 346
grounding
  planning, 370
grounding DC cabinet, 370
Grounding Jumpers
  R1V3 Small, 301
grounds
  approved, 761
  connecting AC, 334, 382

H

handling fiber optic cable, 763
Hardware
  Prerequisite, 228, 286, 287
  Required, 229, 286, 288
hardware, MDF, 404
high reliability PPN
  connecting TDM bus cables, 386, 388
high-reliability systems, cabling, 396
Hong Kong, country code, 471
hybrid line pinouts, 771

I

I/O cables, 441
ICSU, 651
  cable guidelines, 651
  required components, 651
impedance, setting, 760
INADS, 523
  register system, 479
  testing, 734
INADS password problem, 854
inads password problem, 854
information outlets, wiring design, 417
init password problem, 854
Initialization and Administration System. See INADS.
installation
  additional port circuit packs, 565
  modems, 701
installing auxiliary cabinet, 330
installing auxiliary cabinet equipment, 330
Installing Cable Clamps, 272
installing cable slack manager, 441
installing cables, 411
installing cables between auxiliary cabinet and MDF, 436
installing cables between cabinet and MDF, 435
installing coupled bonding conductor wires, 347
installing earthquake protection, MCC, 331, 332
installing earthquake protection, SCC, 367
installing EPN cabinet, 329, 365, 366
installing fiber optic cable, 356
  critical-reliability CSS system, 359
  duplicated SCC1, 205
  high-reliability CSS system, 358
  MCC1, 177
  SCC1, 193
  standard-reliability CSS system, 357
installing fiber-optic cable
  MCC1, 182
  SCC1, 198
installing patch cords and jumpers, 429
installing PPN cabinet, 329, 365, 366
installing sneak fuse panels, 443

installing system access software, 447, 452
installing the MDF, 408
installing trunk cables, 413
integrated announcement
  testing, 733
integrated channel service unit, 651
integrated channel service unit (ICSU), 816
integration process
  connecting ITS components, 619, 629
  connecting ITS to the network, 605
Intercabinet Cable Connections
  System 75 XE, 251
inter-cabinet cables, 385, 396
internet telephony server. See ITS.
IOLAN+ 104 terminal server, 793
  installation and administration, 794
IP address, assigning, 636
IP connections, testing, 642
IP gateway, assigning, 638
IP interface
  administering Media Processor mode, 623
  connect modem, 619, 629
  IP Trunk mode/MedPro mode, 601
  required hardware, 617, 627
IP interface (TN802B), installing in IP trunk mode, 627, 629, 630, 631, 633, 634, 635, 636, 638, 641, 642
IP interface (TN802B), installing in MedPro mode, 616, 618, 619, 620, 621, 623, 625
IP interface (TN802B), upgrading to TN2302AP IP Media Processor, 613, 614, 615
IP interface assembly, 601
  IP Trunk mode, 626
  test external connection to LAN, 642
  test onboard LAN connections, 642
IP interface LAN connections, 642
IP Media Processor, 601, 607
  installing, 602, 604
    software limits, 602
  test external connection to LAN, 610
IP Media Processor, connecting, 610
IP Media Processor, installing, 606
IP Media Processor, upgrading from IP interface assembly, 613, 614, 615
IP Media Processor, upgrading to, 611, 612
IP network connection, testing, 737
IP services, 803
IP Solutions, 601
  Avaya R300 Remote Office Communicator, 601
  onsite prerequisites, 603
  TN2302AP, 601
  TN802/B, 601
IP Solutions, inspecting, 603
IP Trunk mode, 601, 626
  assign IP address, 636
  change Mu-Law to A-Law, 635
IP trunk mode, administering, 633
IP trunk mode, installing, 627, 629, 630, 631, 633, 634, 635, 636, 638, 641, 642
ISDN, 760
  BRI testing, 735
  PRI interface, 760
ISDN adapters, 828
ISDN BRI, 570
  fanout of multipoint installations, 573, 576
  terminating resistor, 570
ISDN BRI pinouts, 774
ISDN BRI, installing, 576, 577
ISDN converters, 828
  for multi-carrier cabinets, 830
  for single-carrier cabinets, 828
  PRI-to-BRI, 829, 830
  PRI-to-DASS, 828, 830
  PRI-to-DPNSS, 828, 830
ISDN PRI trunks, 666, 667, 668
ISDN-PRI, 848
ISDN-PRI D-Channels, status, 848
Italy, country code, 471
ITS
  changing network services, 641
  connecting components, 619, 629
ITW Linx enhanced protector, 529
ITW Linx enhanced protector, installing, 530

J

J58890CE-2 power distribution unit, 342
J58890CG DC power distribution unit, 374
J58890H port cabinet, 365, 366
J58890L control cabinet, 365, 366, 367
J58890L-1 L5 Enhanced Control Cabinet, 310
J58890M control cabinet, 366
J58890N expansion control cabinet, 365, 366, 367
J58890R DC power cabinet, 370, 374, 382
Japan, country code, 471
jumper fields, port cabinet, 390
jumper wires, connecting trunk pairs, 433
jumpers, installing and administering, 429

K

KS-22911 power supply, 832
KS-22911L2 power supply, 835

L

label cables, 113, 149, 295
Labeling Cables
  System 75 XE, 238
labels
  fiber optic cable, 768
  on power supply, warning, 364
labels, control carrier cable, 431
labels, equipment room cabling, 412
labels, MDF, 409
LAN
  testing external connection, 625
LAN connections, testing, 642
large battery holdover, 341

LASER, Class 1
parameters, 763
lead and color designations, pinouts, 776
lead designations
port circuit packs and telephones, 505, 513, 523
LED indicators
Stratum 3 clock, 737, 738
LEDs
alarms, 484
attendant consoles, 484
circuit packs, 485
DS1 converter circuit packs, 485
standby components, 485
T1/E1 status, 485
LEDs, power distribution unit, 560
License File, 43, 44, 53, 72, 73, 84, 105, 124, 143, 144, 162, 466, 586, 592, 597, 677
no-license emergency numbers, 124, 162
License Installation Tool (LIT), 53, 84, 104, 124, 143, 162, 466, 587, 592, 597, 677
light emitting diodes. See LEDs.
lightguide connector panel, 766
lightguide interconnect unit. See LIU.
lightguide troughs, 767
lightwave transceivers, 763
LIU, 763
LIU, 100A, 765
LIU,10A, 766
locating the MDF, 408
logging in to the system, 464
loopback jack, 816
administration, 818
installation, 816

M

Macedonia, country code, 471
main circuit breaker, 349
main distribution frame (MDF), 842
Main Distribution Frame. See MDF
Making blowback tape, 33, 68, 100, 139, 226, 284
Making source tape, 33, 68, 100, 139, 226, 284
malicious call trace (MCT), 835
MCC
changing cabinet 1, 467
changing cabinets, 469
changing site data, 467
earthquake protection, 331, 332
reboot high reliability system, 476
MCC control carriers for si, 848
MCC fiber optic duplication interface cabling, 355
MCC1
fiber optic pass-thru kit, 182
install fiber optic cable, 177
test fiber optic cable installation, 191
MDF
alarm connections, 520
emergency transfer connections, 535
emergency transfer unit, 532
off-premises connections, 525, 526
MDF cabling, 411
MDF connections, multicarrier cabinet, 406
MDF connections, single-carrier cabinet, 405
MDF cross-connect fields, 406
MDF hardware, 404
MDF labels, 409
MDF location, 408
MDF, cabling to auxiliary cabinet, 436
MDF, cabling to cabinet, 435
MedPro mode, 601
MedPro mode, installing, 616, 618, 619, 620, 621, 623, 625
message URL http
//www.avayanetwork.com, 44, 73, 106, 145
MET line pinouts, 771
Mexico, country code, 471
minimum vintages
TN1655 in duplicated control carriers, 854
TN794 in duplicated control carriers, 854
mixed AC/DC powered cabinet, connecting, 351
modem
AT control, 745
COMSPHERE, 746
connect to telephone network, 701
connected to data module, 713
connected to DTE, 713
D-lead, 745
network jack
pinout, 701
pass-thru kit, 706
modem connection to DEFINITY ECS, 456
modem, AT control, 713
modem, connect to EPN, 704
modem, connect to PPN, 705
modem, connect to TN1648B, 706
modem, D-lead options, 713
modem, external, 746
modem, external, switch settings, 702
modem, pooled, 712
modems, installing and connecting, 701
modularity
3-pair and 4-pair, 514
mounting terminal blocks, 437, 439
MSSNET serial number, 42
multimedia call handling (MMCH), 811
multimedia endpoint, 811
multimode fiber optic transceiver, 767
multiple announcements, adding, 580, 583
multipoint adapters, 573
multipoint installations, 576
music-on-hold (MOH), 836
connecting FCC-registered equipment, 837
connecting non-FCC-registered equipment, 837
music-on-hold, testing, 734

N

National Electrical Code
grounding rules, 334, 370, 382, 761
Netcon sandwich pack, 859
Netherlands, country code, 471
network
connecting ITS, 605

network configuration
changing network services, 641
network interface, 818
network jack, on modem, 701
night ringing, testing, 733
node names, 803
Nordic, country code, 471

O

off-premises connections, 526
off-premises digital line circuit protectors, 529
off-premises protection, 528, 529
off-premises station wiring, 525
off-premises stations, 526
off-premises stations, wiring, 690
onboard LAN connections, testing, 642
OPS trunks, 670, 671, 672, 673, 674, 675
optical connector couplings, 766
optical cross-connects, 763
option settings
7400A and 7400B data modules, 713
7400A data module, 745
7400D data module, 745
data module, 741
AUDIX, 756
option switch settings, 741
order checking, 328, 364
out-of-building connections, 526
out-of-building stations, 526
outputs cable for control carrier, 108, 233, 291, 510

P

P1 and P2 Connectors
Location on DEFINITY Carrier, 302
Location on System 75 Carrier, 301
packet bus support, 668
packet bus support, adding, 588, 589, 590, 592, 593
packet data line pinouts, 774
paging equipment, 839
ESPA radio paging, 842
external ringing, 842
loudspeaker paging for MCC1, SCC1, CMC1, G600. or G650 media gateways, 839
queue warning indicator, 843
pass-thru kit
MCC1, 177
SCC1, 193
password
craft, changing, 472
password challenge and response, 854
patch cords, installing and administering, 429
PCOL trunks, 669
pin designations
auxiliary equipment, 771
circuit packs, 771
port circuit packs and telephones, 505, 523
pinout charts, 771
pinout information
port circuit packs and telephones, 513
pinouts, 771, 774
auxiliary, 771
circuit packs, 771
DS1 H600-307 cable, 783
lead and color designations, 776
TN2185B circuit pack, 778
TN2198 circuit pack, 780
TN793B circuit pack, 781
playback announcement, testing, 734
PNC duplication, 212
PNC duplication administration fields, 213
Poland, country code, 471
pooled modem, adding, 712
Port Assignment Record form, 429
port cabinet jumper fields, 390
port carrier power upgrades
AC power supplies, 853
port circuit pack pin designations, 505, 513, 523
port circuit packs
installing, 565
Port Circuits
System 75 XE, 278
Port Network Connectivity. See PNC.
Port Networks
Standard-Reliability G3i V2, 259
port-network configurations, 175
positioning, 693
power
single-phase 240VAC, 335
power and grounding, connecting, 158
power cabinet ground, connecting approved DC ground, 348
power cabinet grounds, connecting DC, 348
power distribution unit, 520, 560
power down
AUDIX, 451
power receptacles, 365, 366
power supply, 559
1151A1 -48V, 561
1151A2 -48V, 561
power supply compatibility
AC-powered port cabinets, 853
power supply, inspecting, 364
Power Unit
631-Type, 304
R1V3 Small, 302
Power Unit Pairs
631DA1 and 631DB1, 302
power up
AC-powered system, 462
AUDIX, 451
DC-powered system, 462
powering AUDIX, 447
Powering Down
System 75 XE, 239
PPN
TDM, testing, 490
PPN cabinets
cabinet location, 329, 365, 366
PPN tests, 483
PPN, connect external modem, 705

Prerequisite Hardware
R1V3 Small, 286, 287
System 75 XE, 228
PRI trunks, 666, 667, 668
primary protectors
off-premises connections, 528, 529
printer
572 option settings, 749
option settings, 749
printers
TCP/IP connections, 815
procedures
unpack and inspect cabinet, 146
processing element interchange, testing, 736
Processor serial number, 142
protection, electromagnetic, 393
provisioning plan, 404

Q

queue warning indicator, 545, 843
queue warning indicator, testing, 733

R

R1V3 Small
Power-Failure Stations, 321
R1V3 to G3i V2
Small-Cabinet, 281
rebooting critical reliability systems, 477
recorded announcement, testing, 734
rectifier module, installing, 345
registering system with INADS, 479
remote access, testing, 734
Remote Feature Activation (RFA), 104, 142, 143
remote network interface, 523, 524
remote PC connection to DEFINITY ECS, 455, 456
remote power off cable, connecting, 352
remote system access, testing, 735
removable media, installing, 461
reporting circuit pack damage or discrepancies, 329, 364
reporting damage, 328, 364
Required Hardware
R1V3 Small, 286, 288
System 75 XE, 229
Required Tools
System 75 XE, 230
reseating
TN2501AP (VAL board), 726
restoring and saving announcements, 848
Retranslating Port Circuits
System 75 XE, 278
returning equipment, 329, 365
RF shielding, 393
ringer frequency settings, 384
ringing, testing, 733
routing cables to MDF, 412
Russia, country code, 471

S

safety instructions
1145B power supply, 553
1151A1 and 1151A2 power supply, 563
sandwich pack, 859
Saudi Arabia, country code, 471
save translation, 477, 478, 577, 588, 589, 593, 598, 668, 672, 674
saving and restoring announcements, 848
SCC
connecting battery, 381
earthquake protection, 367
fiber optic connections for duplicated systems, 855
SCC control cabinet, connecting to DC power cabinet, 373
SCC1
fiber optic pass-thru kit, 198, 205
installing fiber optic cable, 193
test fiber optic cable installation, 209
schedule
for firmware download, 721, 725
screens
administration, introduction, 448
selector console, 519
selector console, testing, 732
self download
procedure, 716
server name, assigning, 636
service states, checking, 487
setting
bit rate, 760
line impedance, 760
setting 7400B+ data module options, 460
setting data module operating mode, 459
setting data module to DCE mode, 458
setting date and time, 474
setting daylight savings rules, 473
shadowing link, testing, 492
shielding, electromagnetic, 393
shipping errors, 329, 365
shipping packing lists, 328, 364
SHOCKWATCH indicators, 328
shorting cable, 342
si control carriers, MCC, 848
signaling leads, DC power, 757
Singapore, country code, 471
Single Carrier
Cabinet Ground Plate and Cable Clamps, 272, 313
Single Sign-On (SSO), 43, 72, 104, 105, 142, 143
single-phase 240VAC, 335
site locations, adapters, 417
Small-Cabinet R1V3 to G3i V2, 281
sneak current protection, 411
sneak current protection, installing, 443
sneak current protectors
off-premises connections, 528, 529
sneak fuse panel, space requirements, 416
sneak fuse panels, 411, 416
sneak fuse panels, installing, 443
Source Tape
System 75 XE, 33, 68, 100, 139, 226, 284

South Africa, country code, 471
space requirements
  110-type hardware, 416
  cable slack manager, 416
  sneak fuse panels, 416
Spain, country code, 471
SPAN LEDs, 485
SPE duplication memory shadowing, testing, 492
SPE interchange, testing, 492
speech synthesis, adding, 584
stabilizing cabinets for earthquake protection, 391, 393
Standard Reliability
  G3i V2 with Two Port Networks, 259
  System 75 XE, 258
standard reliability PPN
  connecting TDM bus cables, 385
standard-reliability systems, cabling, 396
standby components
  LEDs, 485
start-up messages, 463
station cables, sizing, 427
station cables, wiring design, 417
station circuit distribution, 421
storage media
  removable media, 461
  translation card, 461
Stratum 3 clock, 693
  cabling, 696
  checking AC power, 694
  connecting to DC power, 694, 695
  cross-connects
    high or critical reliability, 698
    standard reliability, 698
  grounding cabinet, 694
  installing, 693
  LED indicators, 737
  maximum cabling distance, 698
  setting options, 695
  testing LED indicators, 738
  wiring, 698
Stratum 3 clock, administering, 739
Stratum 3 clock, connecting AC power, 694
Stratum 3 clock, inspecting, 693
Stratum 3 clock, testing, 737
Stratum 3 clock, timing, 739
Switch Configuration File, 43, 44, 72, 73, 105, 144
switch settings, 741
  572 printer, 749
  7400A and 7400B data modules, 713
  7400A data module, 745
  7400D data module, 745
  CDR, 752
  data module, 741
    AUDIX, 756
  DCS, 741
  external modem, 702, 746
  TN2464 circuit pack, 760
  TN464 circuit pack, 760
  TN760 tie trunk, 757
switch-to-call accounting link, testing, 806, 816
System 75 Carrier, P1 and P2 Connectors, 301
System 75XE and TN756 tone clock, 847
system access, 448
system access testing, 735
System Identification (SID) number, 104, 143
system printer, 749
system start-up messages, 463
system status, checking, 487
system test alarms, 739
system testing, 739
sytem tests, 483

T

T1 CSU, and DS1 tie trunk, 508
T1 DS1 span, 816
T1/E1 status LEDs, 485
TCP/IP connections, 815
TDM bus, 760
  service state, 487
TDM bus cables, 385
TDM bus cables, connecting, 385, 386, 388, 389
TDM bus terminator, 385, 386, 388, 389
TDM, testing, 490, 494
TDM/LAN bus cables (MCC)
  MCC TDM/LAN bus cables, 853
TDM/LAN Connections
  G3i V2 E, 254
telephone calls
  making test calls, 731
telephone pin designations, 505, 513, 523
telephones
  emergency transfer, 541, 542
telephones, connecting, 502
telephones, testing, 731
terminal alarm notification
  alarms, 484
terminal blocks, frame-mounting, 439
terminal blocks, wall-mounting, 437
terminal server, 793
  administering IP node names, 803
  administering IP services, 803
  IOLAN+ 104, 793
terminals,connecting, 421
terminating resistor, 570
terminating trunk transmission test types, 736
terminator, TDM bus, 385, 386, 388, 389
test
  other equipment, 731
  telephones, 731
test circuit packs
  LEDs, 485
test external connection to LAN
  C-LAN, 595, 610
  IP Media Processor, 610
  TN802B, 642
  TN802B circuit pack, 626
test inads-link command, 735
test types, terminating trunk transmission, 736
testing data module hardware connections, 459
testing fiber optic cable
  MCC1, 191
  SCC1, 209
testing the system, 483
testing, switch-to-call accounting link, 806, 816
Thailand, country code, 471

three-phase VAC power, 335
tie trunk
  analog wiring, 506
  circuit pack option settings, 757
  digital wiring, 507
tie trunk pinouts, 774
tie trunk, adding, 669
tie trunks, 669
TILTWATCH indicators, 328
time division multiplexor. See TDM.
time, set procedure, 474
TN1648B, 706
TN1654 circuit pack, 677
TN1654 DS1 converter circuit packs, 219, 221, 222
TN1654 DS1 converter circuit packs, duplicated, 220
TN1655 P/I in duplicated systems, 854
TN2183 analog line circuit pack, 842
TN2185B circuit pack pinouts, 778
TN2198 circuit pack pinouts, 780
TN2214CP, upgrading firmware on, 715
TN2224CP, upgrading firmware on, 715
TN2302AP, 601
  installing, 602, 604
    software limits, 602
  required hardware, 603
TN2302AP circuit pack, 606, 607
TN2302AP circuit pack, upgrading to, 611
TN2302AP, upgrading firmware on, 715
TN2302AP, upgrading from TN802B IP interface assembly, 613, 614, 615
TN2302AP, upgrading to, 612
TN2401/TN2400 sandwich pack, 859
TN2464 circuit pack, 760
TN2464BP, 598, 599
TN2464BP, upgrading firmware on, 715
TN2501AP
  reseating and resetting, 726
TN2501AP (integrated announcements)
  faceplate LEDs and interpretation, 578
TN2501AP, upgrading firmware on, 715
TN429 circuit pack, 659
TN464 circuit pack, 760
TN464GP, 598, 599
TN464GP, upgrading firmware on, 715
TN574 DS1 converter circuit packs, 214
TN574 DS1 converter complex circuit packs, 218
TN750 circuit pack, 581, 582, 584
TN750/B/C, adding, 580
TN750C circuit pack, 583
TN750Ccircuit pack, 583
TN760 circuit pack
  option settings, 757
TN765 P/I and TN799 CLAN, 854
TN765 P/I in R8, 854
TN771DP, upgrading firmware on, 715
TN792 duplication board, 847
TN793B circuit pack pinouts, 781
TN794 Netpacket in duplicated systems, 854
TN799B, 593
TN799B circuit pack, 737
TN799B C-LAN, 605, 618
TN799B/C circuit pack, 606, 607
TN799CLAN and TN765 P/I, 854
TN799DP, upgrading firmware on, 715
TN802/B, 601
TN802B
  external cable assembly, 617, 627
  test external connection to LAN, 642
  test onboard LAN connections, 642
TN802B circuit pack
  change Mu-Law to A-Law, 635
  test external connection to LAN, 626
TN802B circuit pack, testing external LAN connection, 625
TN802B IP interface, upgrading to, 643, 644, 647, 648
TN802B, installing in IP trunk mode, 627, 629, 630, 631, 633, 634, 635, 636, 638, 641, 642
TN802B, installing in MedPro mode, 616, 618, 619, 620, 621, 623, 625
TNCCSC-1 PRI-to-DASS converter, 828, 830
TNCCSC-2 PRI-to-DPNSS converter, 828, 830
TNPRI/BRI converter, 829, 830
tone clock boards, testing, 491
tone clock interchange, testing, 495
tone clocks
  service state, 487
tone-clock circuit packs
  LEDs, 485
tone-clock, testing, 495
Tools, Required, 230
Transaction ID number, 43, 44, 72, 73, 105, 144
Transaction Record number, 104, 143
transfer, emergency, testing, 734
translations, CDR parameters, 806, 815
trunk cables, installing, 413
trunk pairs, connecting with concentrator cables, 432
trunk pairs, connecting with jumper wires, 433
trunk transmission testing, 736
trunks
  CAMA/E911, 657, 659, 660, 661, 662, 663, 665
  CO, 669
  DID, 669
  DS1, 670, 671, 672, 673, 674, 675
  FX, 669
  ISDN PRI, 666, 667, 668
  OPS, 670, 671, 672, 673, 674, 675
  PCOL, 669
  tie, 669
  TTC Japanese 2-Mbit, 677
  WATS, 669
TTC Japanese 2-Mbit trunks, 677

U

U S Robotics modem DIP switch settings, 456
U. S. Robotics modem, 704, 705
uniform call distribution
  testing queue warning indicator, 733
Uniform Call Distribution/Direct Departmental Calling (UCD/DDC) queue, 843
uninterrupted power supply. See UPS.
United Kingdom, country code, 471
unpack cabinet, 146

upgrade
IP interface assembly to IP Media Processor, 613
IP Trunking to IP Media Processor, 610
IP trunks to H.323 trunks, 645
TN722 to TN767C, 671
TN802 V3 to TN802B, 643, 647
upgrade firmware
programmable circuit packs, 715
TN2214CP, 715
TN2224CP, 715
TN2302AP, 715
TN2464BP, 715
TN2501AP, 715
TN464GP, 715
TN771DP, 715
TN799DP, 715
Upgrade Process
R1V3 Small, 281
UPS, 785, 790, 791
DS1-remoted SCC EPN, 785
fiber-remoted SCC EPN, 785
installing for SCC EPN cabinet, 785
parts list, 785
UPS wiring, 786
cross-connect field for AUX connector, 787
DS1-remoted, 787
fiber-remoted, 787
USA, country code, 471
USR 33.6 EXT external modem, 704, 705

V

verifying system start-up messages, 463
voice and data terminals, connectable, 425
voice terminals, connectable, 500
voice terminals, exposed environments, 529

W

wall-mounting plates, 554
water pipe ground, 761
WATS trunks, 669
wideband endpoints
non-signaling, 808
remote port module, 810
signaling, 809
Wireless Business System, 566
wiring
1146B power distribution unit, 559
2-wire digital station, 504
alarm, 504
analog station, 504
analog tie trunk, 506
battery, 557
CO trunk, 504
DID trunk, 504
digital tie trunk, 507
DS1 tie trunks, 508
off-premises stations, 525, 690
pin designations, 771
procedures, 499, 549
telephone connection, 502
WP-91716 L6, 302

Z

ZD8AJ adapter, 418