Lucent Technologies
Bell Labs Innovations

DEFINITY® System's Little Instruction Book

for basic administration

BY R.G. and C.B.

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Acknowledgment
This document was prepared by the Product Documentation Development group, Lucent Technologies, Denver, CO USA.

Easy reference

Pencil in your information below. (shows example only)

Cabinets (cabinet #3 is a remote cabinet in the downtown office)

Boards (TN754 = 4 wire digital, can be used with any digital)

Extension range (8000-8999=DID)

Coverage paths (Coverage path #1 = 3 rings, covers to AUDIX)

Hunt groups (h4=audix 84)

Trunk groups (group 1 = CO trunks for outside calls)

Feature access codes (*21=Abbrev dialing list 2)

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Welcome

Why this new book?

You've told us that you want step-by-step instructions on everyday administration tasks for your DEFINITY system, and we've been listening. This book contains the information you need for basic telephone system administration. Some steps may vary a bit between the different versions of the DEFINITYsystem, but the instructions provided will help you through the most basic operations.

If you are familiar with earlier versions of this book, you will notice some changes. The fields on some screens have changed, we've moved the area code instructions to a new section on routing, and have given troubleshooting its very own book, *DEFINITY System's Little Instruction Book for basic diagnostics*.

We wrote this book for you!

Use this book if you are a DEFINITY system administrator. Use it before you attend training, and take it with you to your class. Mark it up, make notes in it, and use it daily even after you complete training. If you are a new administrator taking over the position from someone else, or you are filling in for your company's regular administrator, or if you simply want to refresh your memory, this book is for you.

What information is in this book?

The *Little Instruction Book for basic administration* is divided into sections to guide you through your day-to-day operations.

Getting started provides an overview of the phone system and types of phones. It provides instructions for logging in, saving changes, and logging off.

Planning the DEFINITY system explains how to read and update your dial plan. It also explains how to change feature access codes.

Managing phones explains how to add, change, and remove phones from your system. It also explains how to alias phones and how to customize a phone for your system administrator.

Managing features explains how to administer useful features including abbreviated dialing, pickup groups, call forwarding, call coverage, and bridged appearances.

Routing outgoing calls explains how to add area codes and prefixes. It also includes instructions for setting up ARS partitioning and authorization codes.

Enhancing system security explains how to add and change user logins and passwords. It also provides an overview of security issues related to DEFINITY systems.

Keeping records provides guidelines for keeping records and explains how to print certain system reports. It also explains how to contact the DEFINITY helpline and lists what information you should gather before you call.

How to use this book

Become familiar with the following terms and conventions. They help you use this book with your DEFINITY system.

- To "move" to a certain field, you can use the TAB key, arrows, or the RETURN key.
- A "screen" is a screen form displayed on the terminal monitor.
- In this book we always use the term phone; other Lucent books may refer to phones as voice terminals.
- If you use terminal emulation software, you need to determine which keys correspond to ENTER, RETURN, CANCEL, HELP, NEXT PAGE, etc.
- Commands are printed in bold face as follows: **command**.
- Keys and buttons are printed as follows: KEY.
- Screen displays are printed in constant width as follows: `screen display`.
- Variables are printed in italics as follows: *variable*.
- We show complete commands in this book, but you can always use an abbreviated version of the command. For example, **list configuration station** can be entered as **list config sta**.
- We show commands and screens from the newest DEFINITY system and refer to the most current books. Please substitute the appropriate commands for your system and refer to the manuals you have available.

- If you need help constructing a command or completing a field entry, remember to use HELP.
  - — When you press HELP at any point on the command line, a list of available commands appears.
  - — When you press HELP with your cursor in a field on a screen, a list of valid entries for that field appears.
- The status line or message line can be found near the bottom of your monitor display. This is where the system displays messages for you. Check the message line to see how the system responds to your input. Write down the message if you need to call our helpline.
- When a procedure requires you to press ENTER to save your changes, the screen you were working on clears and the cursor returns to the command prompt. The message line shows "`command successfully completed`" to indicate that the system accepted your changes.

You may see the following icons in this book:

Tip:
Draws attention to information that you may find helpful.

NOTE:
Draws attention to information.

CAUTION:
Denotes possible harm to software, possible loss of data, or possible service interruptions.

SECURITY ALERT:
Indicates when system administration may leave your system open to toll fraud.

Security concerns

Toll fraud is the theft of long distance service. When toll fraud occurs, your company is responsible for charges. Refer to the *BCS Products Security Handbook* for information on how to prevent toll fraud. You can also call the Lucent Technologies Security Hotline at +1 800 643 2353 or contact your Lucent representative.

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Related books

The *Little Instruction Book for advanced administration* and the *Little Instruction Book for basic diagnostics* are companions to this book. We suggest you use them often.

The *DEFINITY ECS Administrator's Guide* explains system features and interactions in detail. It provides a reference for planning, operating, and administering your system, and we refer to it often. Please note that prior to April 1997, this same information was in two separate books: the *DEFINITY Implementation* and the *DEFINITY Feature Description* books.

We also refer to *DEFINITY ECS Overview* and *BCS Products Security Handbook.*

Tell us what you think!

Let us know what you like or don't like about this book. Although we can't respond personally to all your feedback, we promise we will read each response we receive.

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Getting started

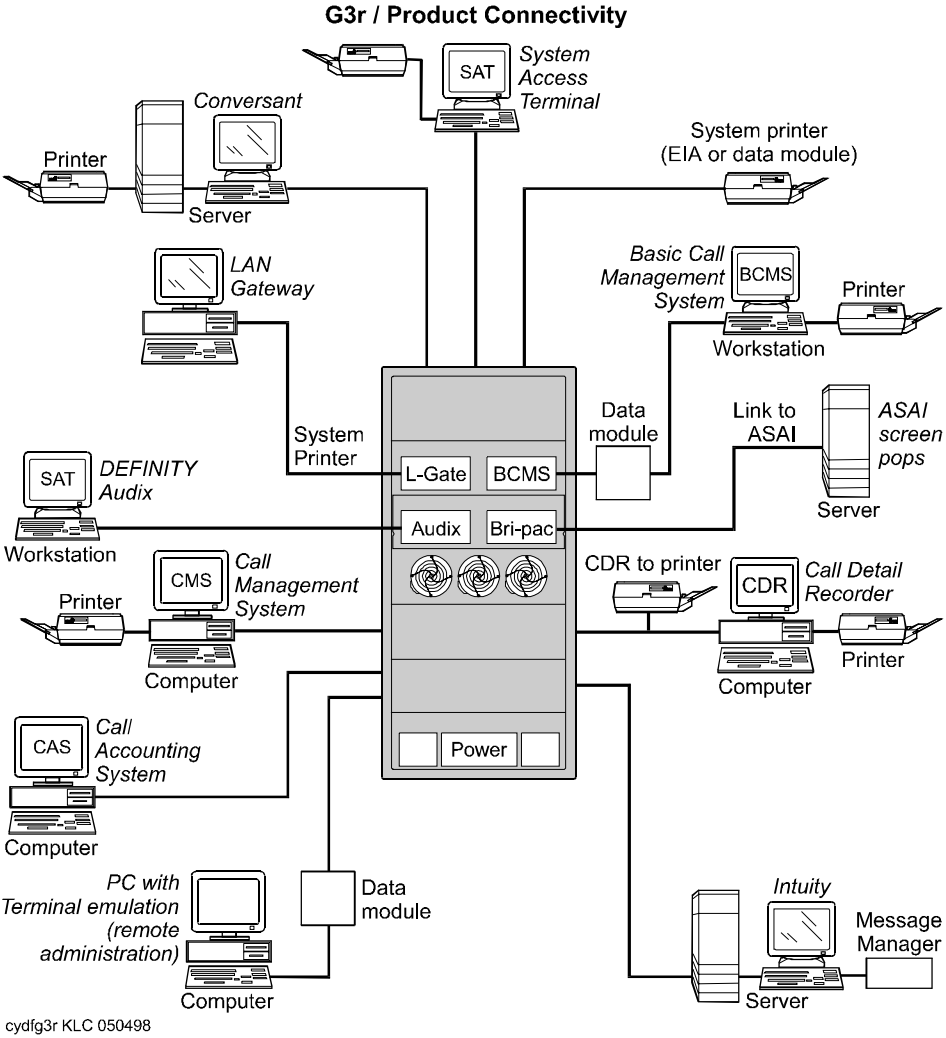
This section contains a brief overview of a DEFINITY system. It also explains how to log in to your telephone system, change the date and time, save changes to the system, and log off.

Overview of DEFINITY systems

Your DEFINITY telephone system organizes and routes voice, data, image, and video transmissions. Your system can be connected to communications paths that transmit voice and data signals between the phone system and a central office, and to other public and private networks. The following figure shows typical DEFINITY system connections, software packages, and additional hardware.

To find more detailed information and a comprehensive overview of your DEFINITY system, refer to your *DEFINITY ECS Overview.*

NOTE:
Your equipment may be different from the equipment shown in the figure.



Example DEFINITY system

Example DEFINITY system

Your DEFINITY system may include some or all of the following components:

- Conversant— provides response to spoken information
- System access terminal (SAT) — allows direct connection for administration and reports
- Basic Call Management System (BCMS) — collects information and prints reports on call-center performance
- Data module — provides digital information to the system
- ASAI — allows integration between adjunct computers and DEFINITY systems
- Call Detail Recorder (CDR) — collects, stores, filters, and prints records on calls handled by your system
- Intuity Message Manager — access to INTUITY AUDIX and DEFINITY AUDIX voice processing on a personal computer connected to a local area network
- PC with terminal emulation software— allows remote system administration from a personal computer
- Call Accounting System (CAS) — uses call records to create billing reports for the hospitality industry
- Call Management System (CMS) — collects information and generates reports on telemarketing centers
- DEFINITY AUDIX workstation — allows you to administer voice mail
- System printer/LAN Gateway — connects to the system printer and local area network server

Phone types

Your DEFINITY system may have any of the following phone types administered as user phones. As you make changes to your system, you'll need to know whether each phone is an analog, digital, hybrid, or ISDN phone.

Analog	Digital	Hybrid	ISDN
500	6402	7303S	7505D
2500	6408, 6408+, 6408D	7305S	7506D
10MET	6416D+	7309H	7507D
20MET	6424D+	7313H	8503D
30MET	7401D, 7401+	7314H	8510T
7101A	7403D	7315H	8520T
7103A	7404D	7316H	ASAI
7104A	7405D, 7405ND	7317H	
8110	7406D, 7406+		
DS1FD	7407D, 7407+		
K2500	7410D, 7410+		
	7434D, 7434ND		
	7444D		
	8403B		
	8405B, 8405B+		
	8405D, 8405D+		
	8410B, 8410D		
	8411B, 8411D		
	8434D		
	602A1		
	603A1, 603D1, 603E1		
	606A1		

Accessing your system

You need to log in before you can administer your telephone system. To log in, you need to know:

- your login and password
- the type of terminal or terminal emulation program that you are using

Change your password frequently, at least once a month, to help keep hackers out of your system. For instructions on how to change your password or add new logins, refer to ''Assigning and changing users'' on page 71.

Logging into the system

If your system requires Access Security Gateway procedures, refer to *DEFINITY ECS Administrator's Guide* for more information.

1. At the prompt, type your login and press RETURN.

   The system prompts you for your password.

2. Type your password and press RETURN.

   Your password does not display on the screen. Be sure to keep your password private.

   The system prompts you for your terminal type. The type in square brackets is the default.

```
Login:
Password:

System: XXXXXX        Software Version: xxxxxxxxxxxx

Terminal Type: (513, 715, 4410, 4425, VT220): [513]
```

Terminal screen for login

3. Press RETURN if you are using the default terminal. Otherwise, enter the terminal type and press RETURN.

Once you log in, "`Command`" appears. The system is ready to accept a new command.

Setting the system time and date

Update the system time and date for events such as leap year or daylight savings time. The correct time and date ensure that records are correct.

Tip:
Changing the date and time may modify Call Detail Recording (CDR) data by 9 hours and 59 minutes. Therefore, you should change the date and time after normal business hours.

To set the system time and date:

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

   The Date and Time screen appears.

2. Complete the appropriate fields.

Use a 24-hour clock to set the hour. For example, for 2:00 p.m. (14:00) type 14. Do not try to update the Seconds field because it automatically resets to 0 when you press ENTER.

3. Press ENTER to save your changes.

```
                              DATE AND TIME
DATE
          Day of the Week: ___________   Month: _________
         Day of the Month: __             Year: ____
TIME
         Hour:__    Minute:__  Second: XX    Type:________

                Daylight Savings Rule: ___
```

Date and Time screen

4. Type **display time** and press RETURN to double check the new date and time.

Tip:
When you change the date or time, some display phones may not automatically refresh the display. If this happens, have each user press the date/time button on their phone and the display should update.

See *DEFINITY ECS Administrator's Guide* for more information about setting the date and time on your system.

Saving changes

There are two methods for saving changes to your system: temporary saves and permanent backups.

Temporary save

As you are working with the system, your changes to the system memory are considered temporary. These changes are lost if your system loses power before the next permanent save (or backup).

1. Press ENTER to save any changes you make on a screen.

   When you press ENTER, "`command successfully completed`" appears and the cursor returns to the command prompt.

Permanent backup

A permanent backup copies your changes from the system memory to a card (also called a flash ROM), disk, or tape. You can perform manual backups or your system may be administered to automatically backup every 24 hours.

Tip:
To determine if your system backs up automatically, type **display system-parameters maintenance** *and see if you have scheduled maintenance.*

When you make large changes, perform a manual backup in case your system loses power before the next backup. To create a backup:

1. Be sure that the backup card or tape is in place.
2. Check the alarms panel and clear any active alarms.
3. Type **save translation** and press RETURN.

   The save process may take up to 10 minutes. You cannot administer your system while the save process takes place.

If an error message appears in the Command Completion Status field, clear the error and repeat the save process.

```
                          SAVE TRANSLATION

Processor              Command Completion Status        Error Code
SPE_A                           Success                      0
```

Save Translation screen

It is a good idea to have at least two backups. You can run the backup again to a second card, or you can copy an automatic backup with the backup command (if your system allows). You may want to keep this second (or a third) backup off premises to ensure you could recover from a disaster or system failure.

See *DEFINITY ECS Administrator's Guide* for more information about performing backups of your system.

Saving announcements

You can save announcements only if your system has an integrated announcement board and you have administered announcements.

If you change your recorded announcements and you have a TN750C board, the system automatically saves your changes to the on-board FLASH memory.

If you have a TN750 or TN750B board, you need to manually save the recorded announcements on your system.

1. Type **save announcements** and press RETURN to save the changes.

This process can take up to 40 minutes. You cannot administer your system while the system is saving announcements.

NOTE:
If you have both TN750B and TN750C boards, save announcements to the TN750B slot.

See *DEFINITY ECS Administrator's Guide* for more information about saving announcements.

Logging off the system

For security reasons, you should log off every time you leave your terminal.

1. To log off the system, type **logoff** and press RETURN.

   You may see a security screen that indicates that you have Remote Access, Facility Test, or Busied Out administered. You may want to disable these features before you log off. For more information about these features, refer to the *Little Instruction Book for basic diagnostics*.

   This screen also indicates whether or not you have any active minor or major alarms that you should address before you end your session.

2. Type **y** and press RETURN to proceed with log off.

If you use terminal emulation software to administer the switch, you should log off the system and exit the emulation application before alternating or switching to another software package.

Planning the DEFINITY system

This section provides you with background on system-wide functions. It explains how to read and use your dial plan, and shows you how to make simple changes such as adding extension ranges. This section also explains how to assign feature access codes.

Understanding the dial plan

Your dial plan tells your system how to interpret dialed digits. For example, if you dial 9 on your system to access an outside line, it is actually the dial plan that tells the system to find an external trunk when a dialed string begins with a 9.

The dial plan also tells the system how many digits to expect for certain calls. For example, the dial plan may indicate that all internal extensions are 4-digit numbers that start with 1 or 2.

Tip:
In this book, we do not usually explain each form as thoroughly as we do the dial plan. However, this form serves as the basis for almost everything in the system, so we wanted to be sure you have a clear understanding of how to read and update your dial plan. If you need more information, refer to DEFINITY ECS Administrator's Guide.

Let's take a look at an example dial plan so you'll know how to read your system's dial plan. The following figure shows an example of a simple dial plan.

```
                                DIAL PLAN RECORD                    Page 1 of 1
                                                      Local Node Number:
                                                      ETA Node Number:
        Uniform Dialing Plan: 4-digit          ETA Routing Pattern:
  UDP Extension Search Order: local-extensions-first
FIRST DIGIT TABLE
First                                  Length
Digit    -1-          -2-          -3-          -4-          -5-          -6-
  1:  __________  __________  __________  extension_  __________  __________
  2:  __________  __________  __________  extension_  __________  __________
  3:  __________  __________  __________  __________  __________  __________
  4:  __________  __________  __________  __________  __________  __________
  5:  __________  __________  __________  extension_  __________  __________
  6:  __________  __________  dac_______  __________  __________  __________
  7:  __________  __________  __________  __________  __________  __________
  8:  __________  __________  __________  __________  __________  __________
  9:  fac_______  __________  __________  __________  __________  __________
  0:  attd______  __________  __________  __________  __________  __________
  *:  __________  __________  fac_______  __________
  #:  __________  __________  fac_______  __________
```

Dial Plan Record screen

If you look at the lower half of the Dial Plan Record screen, you see the First Digit Table. This table defines the dialing plan for your system.

The rows in the First Digit Table indicate what the system does when the row's first digit is dialed. The columns indicate how long the dialed string will be for each type of call. For example, this dial plan shows that when users dial a 4-digit number that starts with 2, they are dialing an extension.

The first digit table may have any of the following codes:

- Attendant (attd) — Defines how users call an attendant. Attd access numbers can be any number from 0 to 9 and contain 1 or more digits. In our example figure, the system calls an attendant when users dial 0.
- Dial access codes (dac) — Allows you to use trunk access codes (tac) and feature access codes (fac) in the same range. For example, you could define the group 300–399 for dacs, which would allow both facs and tacs in that range. Dial access codes can start with any number from 1 to 9 and contain up to 4 digits. In recent releases, * and # also can be the first digit. In our example figure, dial access codes begin with 6 and must be 3 digits long, so this company can have a feature access code set to 633 and a trunk access code assigned to 634.
- Extensions (ext) — Defines extension ranges that can be used on your system. In our figure, extensions must be in the ranges: 1000–1999, 2000–2999, and 5000–5999.
- Feature access codes (fac) only — facs can be any number from 1 to 9 and contain up to 4 digits. You can use * or #, but only as a first digit. In our example, this company can use *21 to activate a feature and use #21 to deactivate the same feature. Our example also shows that one fac can be set to 9 (first digit 9, only one digit long).
- Miscellaneous code (misc) — these codes are used if you want to have more than one kind of code start with the same digit and be the same length. Using a misc code requires that you also define a second digit table. Refer to *DEFINITY ECS Administrator's Guide* for information about the second digit table. Our example does not show this type of code.

Displaying your dial plan

You might want to take this opportunity to look at and interpret your own dial plan. To display your system's dial plan:

1. Type **display dialplan** and press RETURN.

Modifying your dial plan

It is easy to make changes to your dial plan. For example, let's add a new range of dial access codes to the dial plan. We want to be able to assign both facs and tacs in the 700–799 range.

1. Type **change dialplan** and press RETURN.

   The Dial Plan Record screen appears.

2. Move the cursor to the 7th row in the 3rd column.

   This field defines what the system does when users dial any number from 700 to 799.

3. Type **dac** in the selected field.

4. Press ENTER to save your changes.

Adding extension ranges

You may find that as your needs grow you want a new set of extensions. Before you can assign a station to an extension, the extension must belong to a range that is defined in the dial plan. Let's add a new set of extensions that start with 3 and are 4 digits long (3000–3999).

To add this set of extensions to the dial plan:

1. Type **change dialplan** and press RETURN.

   The Dial Plan Record screen appears.

2. Move the cursor to the 3rd row in the 4th column.
3. Type **extension** in the selected field.
4. Press ENTER to save your changes.

Adding feature access codes

As your needs change, you may want to add a new set of feature access codes for your system. Before you can assign a fac on the Feature Access Code screen, it must conform to your dial plan.

In our example, if you want to assign a feature access code of 33 to Last Number Dialed, first you need to add a new fac range to the dial plan.

To add a fac range from 30–39:

1. Type **change dialplan** and press RETURN.

   The Dial Plan Record screen appears.

2. Move the cursor to the 3rd row and the 2nd column.
3. Type **fac** in the selected field.
4. Press ENTER to save your changes.

Changing feature access codes

Feature access codes (FAC) allow users to activate and deactivate features from their phones. A user who knows the fac for a feature does not need a programmed button to use the feature. For example, if you tell your users that the fac for the Last Number Dialed is *33, then users can redial a phone number by entering the fac, rather than requiring a Last Number Dialed button.

Many features already have factory-set feature access codes. You can use these default codes or you can change them to codes that make more sense to you. However, every fac must conform to your dial plan and must be unique. For more information about the dial plan, refer to ''Understanding the dial plan'' on page 11.

Let's try an example. If you want to change the feature access code for Call Park to *72:

1. Type **change feature-access-codes** and press RETURN.

   The feature access code (fac) screen appears.

2. Move the cursor to the Call Park Access Code field.

3. Type ***72** in the access code field over the old code.

4. Press ENTER to save your changes.

   If you try to enter a code that is assigned to a feature, the system warns you of the duplicate code and does not allow you to proceed until you change one of them.

Tip:
To remove any feature access code, merely delete the existing fac and leave the field blank.

Managing phones

This section explains how to add, swap, or remove the phones on your system. This section also gives you tips for customizing your own phone so it has the feature buttons you need for many administration and troubleshooting tasks.

Note that this section does not tell you how to administer an attendant console. If you need to add or modify an attendant console, refer to *DEFINITY ECS Administrator's Guide*.

Adding new phones

When you are asked to add a new phone to the phone system, what do you do first? To connect a new phone you need to do three things:

- find an available port
- wire the port to the cross-connect field or termination closet
- tell the telephone system what you're doing

Before you can determine which port to use for the new phone, you need to determine what type of phone you are installing, what ports are available, and where you want to install the phone.

Gathering necessary information

1. Determine whether the phone is an analog, digital, ISDN, or hybrid set.

   You need this information to determine the type of port you need, because the port type and phone type must match. If you do not know what type of phone you have, refer to ''Phone types'' on page 4 for a list of phones by model number.

2. Record the room location, jack number, and wire number.

   You may find this information on the jack where you want to install the phone, recorded in your system records, or from the technician responsible for the physical installation.

3. Display the available boards (cards) and ports.

   To view a list of boards on your system, type **list configuration station** and press RETURN.

```
                              SYSTEM CONFIGURATION
Board                                                        Assigned Ports
Number      Board Type              Code      Vintage     u=unassigned t=tti p=psa

01A05       DIGITAL LINE             TN754B 000002      01 u  03 u  05 u  07 08
01A06       ANALOG LINE              TN742  000010      01 02 03 04 u  u  u  u
01B05       ANALOG LINE              TN746B 000008      u  u  u  u  u  u  u  u
                                                        u  u  u  u  u  u  u  u
01C04       ANALOG LINE              TN746B 000008      u  u  u  u  u  u  u  u
                                                        u  u  u  u  u  u  u  u
01C05       DIGITAL LINE             TN2224 000004      01 u  u  04 u  u  07 08
                                                        u  u  u  u  u  u  u  u
                                                        u  u  u  u  u  u  u  u
01C06       HYBRID LINE              TN762B 000004      01 02 u  u  u  u  u  u
01C09       MET LINE                 TN735  000005      01 u  u  u
01C10       DIGITAL LINE             TN754  000004      u  u  u  u  u  u  u  u
```

System Configuration screen

The System Configuration screen shows all the boards on your system that are available for connecting phones. You can see the board number, board type, circuit-pack type, and status of each board's ports.

4. Choose an available port and record its port address.

   Each port that is available or unassigned is indicated by a 'u.' Choose an available port from a board type that matches your phone type (such as a port on an analog board for an analog phone).

   Every phone must have a valid port assignment, also called a port address. The combined board number and port number is the port address. So, if you want to attach a phone to the 3rd port on the 01C05 board, the port address is 01C0503 (01=cabinet, C=carrier, 05=slot, 03=port).

   Tip:

   If you add several phones at one time, you may want to print a paper copy of the System Configuration screen. To print the screen to a printer attached to the system terminal, type **list configuration station print** *and press* RETURN. *To print to the system printer that you use for scheduled reports, type* **list configuration station schedule immediate** *and press* RETURN.

5. Choose an extension number for the new phone.

   The extension you choose must not be assigned and must conform to your dial plan. You should also determine whether this user needs an extension that can be directly dialed (DID) or reached via a central phone number.

   Be sure to note your port and extension selections on your system's paper records.

Physically connecting the phone

Once you have collected all the information, you are ready to physically wire the port to the cross-connect field.

If you have a Lucent representative or on-site technician who completes the physical connections, you need to notify them that you are ready to add the phone to the system. To request that Lucent install the new connections, call your Lucent representative to place an order.

If you are responsible for making the connections yourself and if you have any questions about connecting the port to the cross-connect field, refer to your system installation guide.

Now you are ready to configure the system so that it recognizes the new phone.

Completing the station screens

The information that you enter on the station screen advises the system that the phone exists and indicates which features you want to enable on the phone.

To access the station screen for the new phone:

1. Type **add station *nnnn*** and press RETURN, where *nnnn* is the extension for the new phone.

   Make sure the extension conforms to your dial plan. You can also use the **add station next** command to add a phone to the next available extension.

   When the station screen appears, you see the extension number and some default field values. For example, the following screen is for a new phone at extension 2345.

```
                                STATION

Extension: 2345                          Lock Messages? _          BCC: _
     Type: 8411D                         Security Code: _________   TN: 1__
     Port: _________________        Coverage Path 1: ____        COR: 1
     Name: ______________________________ Coverage Path 2: ____   COS: 1


STATION OPTIONS
             Data Module? _____________    Personalized Ringing Pattern: 1
            Speakerphone: 2-way                 Message Lamp Ext: 2345
       Display Language: english___          Mute Button Enabled? y
             PassageWay? n
                                                MM Complex Data Ext:____
```

Station screen

2. Type the model number of the phone into the Type field.

   For example, to install a 8411D phone, type **8411D** in the Type field. Note that the displayed fields may change depending on the model you add.

3. Type the port address in the Port field.

4. Type a name to associate with this phone in the Name field.

   The name you enter displays on called phones that have display capabilities. Also, some messaging applications, such as INTUITY, recommend that you enter the user's name (last name first) and their extension to identify the phone.

5. Press ENTER to save your changes.

To make changes to this new phone, such as assigning coverage paths or feature buttons, type **change station *nnnn*** and press RETURN, where *nnnn* is the extension of the new phone.

Using station templates to add phones

A quick way to add phones is to copy the information from an existing phone and modify it for each new phone. For example, you can configure one phone as a template for an entire work group. Then, you merely duplicate the template station screen to add all the other extensions in the group.

Note that only phones of the same model can be duplicated. The duplicate command copies all the feature settings from the template phone to the new phones.

To duplicate an existing phone:

1. Type **display station *nnnn*** and press RETURN.

   nnnn is the extension of the station screen you want to duplicate to use as a template. Verify that this extension is the one you want to duplicate.

2. Press CANCEL to return to the command prompt.

3. Type **duplicate station *nnnn*** and press RETURN, where *nnnn* is the extension you want to duplicate.

   The system displays a blank Duplicate Station screen.

```
                                    STATION
                                             Security
Ext.     Port      Name                      Code       Room       Jack   Cable
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
_______  ________  ________________________  _________  _________  _____  _____
```

Duplicate Station screen

4. Type in the extension, port address, and phone name for each new phone you want to add.

   The rest of the fields are optional. You can complete them at any time.

5. Press ENTER to save your changes to system memory.

To make changes to these phones, such as assigning coverage paths or feature buttons, type **change station *nnnn*** and press ENTER, where *nnnn* is the extension of the phone that you want to modify.

Using an alias

Not every phone model has a unique station screen in the system. You might have to use an available model number as an "alias" for another. If you need to enter a phone type that the system does not recognize or support, use an alias.

For example, you may purchase a phone model that is newer than your system. In this case, you can use an available model type that best matches the features of your new phone. You can refer to your phone's manual to determine which alias to use. If your manual does not have this information, you can contact the DEFINITY helpline for an appropriate alias.

For example, let's use an alias to add a new 8403B phone to a DEFINITY G3V2 or earlier system.

1. Refer to your new phone's manual to find the correct alias.

   In our example, we find that the 8403B is administered on a G3V2 or earlier system as a 7405D phone.

2. Type **change alias station** and press RETURN.

   The Alias Station screen appears.

3. Enter **8403B** in the Alias Set Type field.

   Enter the model of the unsupported phone in this field.

4. Enter **7405D** in the Supported Set Type field.

   Enter the alias (supported model) in this field.

5. Press ENTER to save your changes.

```
                    ALIAS STATION
     Alias Set Type              Supported Set Type
        8403B                        7405D
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
        _____                        _____
  '#' indicates previously aliased set type is now native
```

Alias Station screen

Now follow the instructions for adding a new phone. Your switch now recognizes the new type you enter in the Type field.

Be sure to refer to your phone's manual for instructions on how to set feature buttons and call appearance buttons. Note that if you need to use an alias for a phone, you may not be able to take advantage of all the features of the new phone.

Adding or changing feature buttons

Once you add a phone to the system, you can use the station screen to change the settings for the phone, such as adding or changing feature button assignments. The system allows you to assign features or functionality to each programmable button. It is up to you to decide which features you want for each phone and which feature you want to assign to each button.

To assign feature buttons:

1. Type **change station *nnnn*** and press ENTER, where *nnnn* is the extension for the phone you want to modify.

   The station screen appears.

2. Press NEXT PAGE until you locate the Feature Button Assignment fields.

   Some phones have several feature button groups. Make sure that you are changing the correct button. If you do not know which button on the phone maps to which button-assignment field, refer to your phone's manual, or refer to *DEFINITY ECS Administrator's Guide*.

3. Move the cursor to the field you want to change.

4. Type the button name that corresponds to the feature you want to add.

   To determine feature button names, press HELP or refer to *DEFINITY ECS Administrator's Guide*.

5. Press ENTER to save your changes.

Some phones have default assignments for buttons. For example, the following figure shows that the 8411D includes defaults for 12 softkey buttons. It already has assignments for features like Leave Word Calling and Call Forwarding.

If you do not use an alias, you can easily assign different features to these buttons if you have different needs.

If you use an alias, you must leave the default softkey button assignments. The system will allow you to change the button assignments on the screen, but the features will not work on the alias phone.

```
                                    STATION
SOFTKEY BUTTON ASSIGNMENTS

 1: lwc-store
 2: lwc-cancel
 3: auto-cback
 4: timer
 5: call-fwd    Ext: _____
 6: call-park
 7: date-time
 8: priority
 9: abr-prog
10: abr-spchar  Char: ~p
11: abr-spchar  Char: ~m
12: abr-spchar  Char: ~w
```

Default softkey assignments for an 8411D phone

Customizing your phone

This section provides recommendations for setting up or enhancing your personal phone. You need a phone that is powerful enough to allow you to use all the features you may give to other employees. You may want to add feature buttons that allow you to monitor or test the system, so that you can troubleshoot the system from your phone.

It will be much easier to monitor and test your system if you have a phone with:

- a large multi-button display (such as 8434D or 8410D)
- a class of service (cos) that has console permissions
- the following feature buttons
  - — ACA and Security Violations (assign to lamp buttons)
  - — Busy verify
  - — Cover message retrieval button
  - — Major/minor alarm buttons
  - — Trunk ID buttons
  - — Verify button

Once you select a phone, you'll want to determine if you want to place this phone at your desk or in the switch room. If the phone is in the switch room (near the system administration terminal), you can quickly add or remove feature buttons to test features and facilities. You may decide that you want a phone at both your desk and in the switch room — it's up to you.

You may also find it handy to set up multiple phones for testing applications and features before you provide them to users. You may want to have a phone that mimics each type of user phone in your organization. For example, if you have four basic phone templates, one for executives, one for marketing, one for technicians, and one for other employees, you may want to have examples of each of these phones so you can test new features or options. Once you are satisfied that a change works on the test phone, you can make the change for all the users in that group.

Upgrading phones

If you want to change phone types for a user and do not need to change locations, you can just access the station screen for that extension and enter the new model number.

Tip:
This method can be used only if the new phone type matches the existing port type (such as digital phone with a digital port).

For example, if a user at extension 4556 currently has a 7410+ phone and you want to replace it with a new 8411D phone:

1. Type **change station 4556** and press RETURN.

   The station screen for 4556 appears.

2. Overwrite `7410+` with **8411D** in the Type field.

   Now you can access the functions and feature buttons that correspond to an 8411D phone.

Swapping phones

You will often find that you need to move or swap phones. For example, employees moving from one office to another may want to bring their phones.

In general, to swap one phone (phone A) with another phone (B), you change phone A's port assignment to **x**, change phone B's port assignment to A's old port, and, finally, change the **x** for phone A to B's old port. Note that these swapping instructions work only if the two phones are the same type (both digital or both analog, etc.).

For example, to swap phones for extension 4567 (port 01C0505) and extension 4575 (port 01C0516), complete the following steps:

1. Type **change station 4567** and press RETURN.
2. Record the current port address (`01C0505`) and type **x** in the Port field.
3. Press ENTER to save your changes.
4. Type **change station 4575** and press RETURN.
5. Record the current port address (`01C0516`).
6. Type **01C0505** in the Port field.
7. Update the Room and Jack fields.
8. Press ENTER to save your changes.
9. Type **change station 4567** again and press RETURN.
10. Type **01C0516** in the Port field.

    This is the port that used to be assigned to extension 4575.
11. Update the Room and Jack fields.
12. Press ENTER to save your changes.
13. Physically unplug the phones and move them to their new locations.

NOTE:
You can also use terminal translation initialization to merge an x-ported extension to a valid port. Refer to *DEFINITY ECS Administrator's Guide* for more information.

Removing phones

Before you physically remove a phone from your system, check the phone's status, remove it from any group or usage lists, and then delete it from the system's memory.

For example, to remove a phone at extension 1234:

1. Type **status station 1234** and press RETURN.

   The General Status screen appears.

2. Make sure that the phone:

   - is plugged into the jack
   - is idle (not making or receiving calls)
   - has no messages waiting
   - has no active buttons (such as Send All Calls or Call Forwarding)

3. Type **list groups-of-extension 1234** and press RETURN.

   The Extension Group Membership screen shows whether the extension is a member of any groups on the system.

4. Press CANCEL.

5. If the extension belongs to a group, access the group screen and delete the extension from that group.

   For example, if extension 1234 belongs to pickup group 2, type **change pickup group 2** and delete the extension from the list.

6. Type **list usage extension 1234** and press RETURN.

   The Usage screen shows whether the extension is used in any vectors, has any bridged appearances, or used as a controller.

7. Press CANCEL.

8. If the extension appears on the Usage screen, access the appropriate feature screen and delete the extension.

   For example, if extension 1234 belongs to hunt group 2, type **change hunt group 2** and delete the extension from the list.

9. Type **change station 1234** and press RETURN.

10. Delete any bridged appearances or personal abbreviated dialing entries and press ENTER.

11. Type **remove station 1234** and press RETURN.

    The system displays the station screen for this phone so you can verify that you are removing the correct phone.

    Tip:
    Be sure to record the port assignment for this jack in case you want to use it again later.

12. If this is the correct phone, press ENTER.

    The system responds with `command successfully completed`.

    If the system responds with an error message, the phone is busy or still belongs to a group. Press CANCEL to stop the request, correct the problem, and enter **remove station 1234** again.

13. Remove the extension from voice mail service if the extension has a voice mailbox.

14. Type **save translations** and press RETURN to save your changes.

Note that you do not need to delete the extension from coverage paths. The system automatically adjusts coverage paths to eliminate the extension.

Now you can unplug the set from the jack and store it for future use. You do not need to disconnect the wiring at the cross-connect field. The extension and port address remain available for assignment at a later date.

Once you successfully remove a set, that set is permanently erased from system memory. If you want to reactivate the set, you have to add it again as though it were a new phone.

Managing features

This section explains how to administer some of the major DEFINITY features. It provides instructions for changing feature parameters, using abbreviated dialing, creating pickup groups, setting up call forwarding, defining coverage paths, and administering bridged call appearances.

Changing feature parameters

You can modify the system parameters that are associated with some of the system features. For example, you can use the system parameters to allow music to play if callers are on hold or to allow trunk-to-trunk transfers on the system.

NOTE:
You can find most of the system-wide parameters on the Feature-Related System Parameters screen. However, if you have DEFINITY ECS R6.3.1 or later, some parameters have moved to new screens, such as the System Parameters Call Coverage/Call Forwarding screen.

Generally, Lucent sets your system parameters when your system is installed. However, you can change these parameters as your organization's needs change. For example, let's say that your company uses call park, where a call can be put on hold and picked up from any other telephone within the system. You need to change the time limit for parked calls from 10 to 5 minutes.

To change the time limit for parked calls:

1. Type **change system-parameters features** and press RETURN.

   The Feature-Related System Parameters screen appears.

```
                    FEATURE-RELATED SYSTEM PARAMETERS
                              Trunk-to-Trunk Transfer? none
Automatic Callback - No Answer Timeout Interval (rings): 3
                 Call Park Timeout Interval (minutes): 5
    Off-Premises Tone Detect Timeout Interval (seconds): 20
                           AAR/ARS Dial Tone Required? y

          Music (or Silence) On Transferred Trunk Calls: no
                    DID/Tie/ISDN Intercept Treatment: attd
              Messaging Service Adjunct (MSA) Connected? n
 Internal Automatic Answer for Attendant Extended Calls? n
              Automatic Circuit Assurance (ACA) Enabled? n
                                  ACA Referral Calls:


        Abbreviated Dial Programming by Assigned Lists? n
               Auto Abbreviated/Delay Interval (rings): 2
```

Feature-Related System Parameters screen

2. Type **5** in the Call Park Timeout Interval field and press ENTER to save the change.

   If a parked call is not answered within 5 minutes, the call returns to an attendant or to the user who put the call in park.

Refer to *DEFINITY ECS Administrator's Guide* for details about changing other feature-related system parameters.

Setting up abbreviated dialing

Abbreviated dialing is sometimes called speed dialing. It allows you to dial a short code in place of an extension or phone number.

When you dial abbreviated-dialing codes or press abbreviated-dialing buttons, you access stored numbers from special lists. These lists can be personal (your list of numbers), group (a department-wide list), system (a system-wide list), or enhanced numbers (allows for a longer list of numbers). The version and type of your system determine which lists are available and how many entries you can have on each list.

As an example, let's define a new group list:

1. Type **add abbreviated-dialing group next** and press RETURN.

   The abbreviated-dialing list screen appears. In our example, the next available group list is group 3.

```
                        ABBREVIATED DIALING LIST

                             Group List: 3
    Size (multiple of 5): ___       Program Ext: _____       Privileged? _
DIAL CODE
      _11: _____________________________
      _12: _____________________________
      _13: _____________________________
      _14: _____________________________
      _15: _____________________________
```

Abbreviated Dialing List screen

2. Enter a number (in multiples of 5) in the Size field. This number defines the number of entries on your dialing list.

   For example, if you have 8 phone numbers you want to store in the list, type **10** in the Size field.

3. Enter the phone numbers you want to store, one for each dial code.

   Each phone number can be up to 24 digits long.

4. Press ENTER to save your changes.

You can display your new abbreviated-dialing list to verify that the information is correct or print a copy of the list for your paper records.

Once you define a group list, you need to define which stations can use the list. For example, let's set up station 4567 so it has access to the new group list.

To give station 4567 access to the group list:

1. Type **change station 4567** and press RETURN.

   The station screen for extension 4567 appears.

2. Press NEXT PAGE to get to the Abbreviated Dialing List fields.

```
                                    STATION
SITE DATA
     Room: _______                                    Headset? n
     Jack: _______                                    Speaker? n
    Cable: _______                                   Mounting? d
    Floor: _______                                Cord Length: 0
 Building: _______                                  Set Color: ______

 ABBREVIATED DIALING
      List1: group   3__       List2: _________         List3: _________

 BUTTON ASSIGNMENTS
   1: call-appr
   2: call-appr                              4: __________
   3: call-appr                              5: __________
```

Station screen (page 3)

3. Type **group** in any of the List fields and press RETURN.

   A blank list number field appears.

4. Type **3** in the list number field.

   When you assign a group or personal list, you must also specify the personal list number or group list number.

5. Press ENTER to save your changes.

The user at extension 4567 can now use this list by dialing the feature access code for the list and the dial code for the number they want to dial.

Creating pickup groups

A pickup group is a list of phones where each member of the group can answer another member's calls. For example, if you want everyone in the payroll department to be able to answer calls to any payroll extension (in case someone is away from their desk), create a pickup group that contains all of the payroll extensions. Members of a pickup group should be located in the same area so that they can hear when the other extensions in the group ring.

Note that each extension may belong to only one pickup group. Also, the maximum number of pickup groups may be limited by your system configuration.

To create a pickup group:

1. Type **add pickup-group next** and press RETURN.

   The Pickup Group screen appears. The system selects the next Group Number for the new pickup group.

2. Enter the extension of each group member.

   Up to 50 extensions can belong to one group.

3. Press ENTER to save your new group list.

   The system automatically completes the name field when you press ENTER to save your changes.

```
                              PICKUP GROUP

                          Group Number: _____

GROUP MEMBER ASSIGNMENTS

    Ext     Name                          Ext     Name
 1: _____                            14: _____
 2: _____                            15: _____
 3: _____                            16: _____
 4: _____                            17: _____
 5: _____                            18: _____
 6: _____                            19: _____
 7: _____                            20: _____
 8: _____                            21: _____
 9: _____                            22: _____
10: _____                            23: _____
11: _____                            24: _____
12: _____                            25: _____
13: _____
```

Pickup Group screen

Once you define a pickup group, you can assign call-pickup buttons for each phone in the group or you can give each member the call-pickup feature-access code. Use the Station screen to assign call-pickup buttons.

To allow users to answer calls that are not in their pickup group, you may be able to use Directed Call Pickup. For information, refer to *DEFINITY ECS Administrator's Guide.*

Setting up call forwarding

This section explains how to administer various types of automatic call forwarding. To provide call forwarding to your users, assign each extension a class of service (cos) that allows call forwarding. Then assign call-forwarding buttons to the user phones (or give them the feature access code for call forwarding) so that they can easily forward calls. You use the station screen to assign the cos and any call-forwarding buttons.

Within each class of service, you can determine whether the users in that cos have the following call forwarding features:

- Call Forwarding All Calls — allows users to redirect all incoming calls to an extension, attendant, or external phone number.
- Call Forwarding Busy/Don't Answer — allows users to redirect calls only if their extensions are busy or they do not answer.
- Call Fwd-Off Net — prevents users from forwarding calls to numbers that are outside your system network.

As the administrator, you can administer system-wide call-forwarding parameters to control when calls are forwarded. Use the System Parameters Call Coverage/Call Forwarding screen to set the number of times an extension rings before the system redirects the call because the user did not answer (CFWD No Answer Interval). For example, if you want calls to ring 4 times at an extension and then, if the call is not answered, redirect to the forwarding number, set this parameter to 4.

You also can use the System Parameters Call Coverage/Call Forwarding screen to determine whether the forwarded-to phone can override call forwarding to allow calls to the forwarded-from phone (Call Forward Override). For example, if an executive forwards incoming calls to an attendant and the attendant needs to call the executive, the call can be made only if Call Forward Override is set to yes.

To determine which extensions have call forwarding activated:

1. Type **list call-forwarding** and press RETURN.

   This command lists all the extensions that are forwarded along with each forwarding number.

   NOTE:
   If you have a V1, V2, or V3 system, you can see if a specific extension is forwarded only by typing **status station nnnn**, where nnnn is the specific extension.

Creating coverage paths

This section explains how to administer various types of call coverage. In general, call coverage refers to what happens to incoming calls. You can administer paths to cover all incoming calls, or define paths for certain types of calls, such as calls to busy phones. You can define where incoming calls go if they are not answered and in what order they reroute to other locations. For example, you can define coverage to ring the called phone, then move to a receptionist if the call is not answered, and finally access a voice mailbox if the receptionist is not available.

With call coverage, the system redirects a call to alternate answering extensions when no one answers at the first extension. An extension can have up to 6 alternate answering points. (If you have an older system, you may have only 3 answering positions.) The system checks each extension in sequence until the call connects. This sequence of alternate extensions is called a coverage path.

The system redirects calls based on certain criteria. For example, you can have a call redirect to coverage without ever ringing on the principal set, or after a certain number of rings, or when one or all call appearances (lines) are busy. You can set coverage differently for internal (inside) and external (outside) calls, and you can define coverage individually for different criteria. For example, you can decide that external calls to busy phones can use the same coverage as internal calls to phones with Do Not Disturb active.

To create a coverage path:

1. Type **add coverage path next** and press RETURN.

   The system displays the next undefined coverage path in the sequence of coverage paths. Our example shows coverage path number 2.

2. Type a coverage path number in the Next Path field.

   The next path is optional. It is the coverage path to which calls are redirected if the current path's coverage criteria does not match the call status. If the next path's criteria matches the call status, it is used to redirect the call; no other path is searched.

```
                          COVERAGE PATH
             Coverage Path Number: 2       Hunt after Coverage? n
                 Next Path Number: ____    Linkage:
COVERAGE CRITERIA

    Station/Group Status    Inside Call     Outside Call
              Active?            n               n
                Busy?            y               y
       Don't Answer?             y               y      Number of Rings: 2
                 All?            n               n
 DND/SAC/Goto Cover?             y               y

COVERAGE POINTS

    Terminate to Coverage Pts. with Bridged Appearance? __
      Point1: ____              Point2: ____              Point3: ____
      Point4: ____              Point5: ____              Point6: ____
```

Coverage Path screen

3. Fill in the Coverage Criteria fields.

   You can see that the default sets identical criteria for inside and outside calls. The system sets coverage to take place for a busy phone, if there is no answer after a certain number of rings, or if the DND (do not disturb), SAC (send all calls), or Go to Cover buttons are pressed or feature-access codes are dialed.

4. Fill in the Point fields with the extensions you want for coverage points.

   Each coverage point can be an extension, hunt group, coverage answer group, remote number, or attendant.

5. Press ENTER to save your changes.

Now assign the new coverage path to a user. For example, let's assign this new coverage path to extension 2054:

1. Type **change station 2054** and press RETURN.

   The station screen for extension 2054 appears.

2. Type **2** in the Coverage Path 1 field.

   To give extension 2054 another coverage path, you can type a coverage path number in the Coverage Path 2 field.

3. Press ENTER to save your changes.

Tip:
If you want to see which extensions or groups use a specific coverage path, type **display coverage sender group *n***, *where n is the coverage path number. For example, you should determine which extensions use a coverage path before you make any changes to it.*

Defining time-of-day coverage

The Time of Day Coverage Table on your system lets you redirect calls to coverage paths according to the time of day and day of the week when the call arrives. You need to define the coverage paths you want to use before you define the time of day coverage plan.

For example, let's say you want to administer the system so that incoming calls to extension 2054 redirect to a coworker in the office from 8:00 a.m. to 5:30 p.m., and to a home office from 5:30 p.m. to 8:00 p.m. on weekdays. You want to redirect the calls to voice mail after 8:00 p.m. weekdays and on weekends.

To set up a time-of-day coverage plan that redirects calls for our example above:

1. Type **add coverage time-of-day next** and press RETURN.

   The system displays the Time of Day Coverage Table and selects the next undefined table number in the sequence of time-of-day table numbers. If this is the first time-of-day coverage plan in your system, the table number is 1.

   Record the table number so that you can assign it to extensions later.

2. To define your coverage plan, enter the time of day and path number for each day of the week and period of time.

```
                        TIME OF DAY COVERAGE TABLE

          Act   CVG      Act   CVG      Act   CVG      Act   CVG      Act   CVG
          Time  PATH     Time  PATH     Time  PATH     Time  PATH     Time  PATH
Sun        0:00 3           :              :              :              :
Mon       0:00 3         08:00 1        17:30 2        20:00 3        __:__ ____
Tue       0:00 3         08:00 1        17:30 2        20:00 3        __:__ ____
Wed       0:00 3         08:00 1        17:30 2        20:00 3        __:__ ____
Thu       0:00 3         08:00 1        17:30 2        20:00 3        __:__ ____
Fri       0:00 3         08:00 1        17:30 2        20:00 3        __:__ ____
Sat        0:00 3           :              :              :              :
```

Time of Day Coverage Table screen

Enter time in a 24-hour format from the earliest to the latest. For this example, assume that coverage path 1 goes to the coworker, path 2 to the home, and path 3 to voice mail.

Define your path for the full 24 hours in a day. If you do not list a coverage path for a period of time, the system does not provide coverage for that time.

3. Press ENTER to save your changes.

Now assign the time-of-day coverage to a user. For example, we use extension 2054:

1. Type **change station 2054** and press RETURN.

   The station screen for extension 2054 appears.

2. Move your cursor to Coverage Path 1 and type **t** plus the number of the Time of Day Coverage Table.

3. Press ENTER to save your changes.

Now calls to extension 2054 redirect to coverage depending on the day and time that each call arrives.

Creating coverage answer groups

You can create a coverage answer group so that up to eight phones simultaneously ring when calls cover to the group. Anyone in the answer group can answer the incoming call.

To add a coverage answer group:

1. Type **add coverage answer-group next** and press RETURN.

   The Coverage Answer Group screen appears.

```
                    COVERAGE ANSWER GROUP

                     Group Number: ____
                       Group Name: COVERAGE_GROUP_

GROUP MEMBER ASSIGNMENTS
   Ext  Name                        Ext   Name
1: ____                          5: ____
2: ____                          6: ____
3: ____                          7: ____
4: ____                          8: ____
```

Coverage Answer Group screen

2. In the Group Name field, enter a name to identify the coverage group.
3. In the Ext field, type the extensions of each group member.
4. Press ENTER to save you new group list.

   The system automatically completes the Name field when you press ENTER.

Defining coverage for calls redirected to external numbers

You can administer the system to allow calls in coverage to redirect to off-net (external) or public-network numbers.

Some systems allow you to send a call to an external phone, but do not monitor the call once it leaves your system. With this remote call coverage, make the external number the last coverage point in a path.

With newer systems you may have the option to use the Coverage of Calls Redirected Off-Net feature. If this feature is active and you use an external number in a coverage path, the system can monitor the call to determine whether the external number is busy or does not answer. If necessary, the system can redirect a call to coverage points that follow the external number. With this feature, you can have a call follow a coverage path that starts at the user's extension, redirects to the user's home phone, and if not answered at home, returns to redirect to their voice mail box.

The call will not return to the system if the external number is the last point in the coverage path.

To use a remote phone number as a coverage point, you need to define the number in the Remote Call Coverage Table and then use the remote code in the coverage path.

For example, to add an external number (303-538-1000) to coverage path 2, complete the following steps:

1. Type **change coverage remote** and press RETURN.

   The Remote Call Coverage Table appears.

2. Type **93035381000** in one of the remote code fields.

   If you use a digit to get outside of your network, you need to add the digit before the external number. In this example, the system requires a '9' to place outside calls.

```
                        REMOTE CALL COVERAGE TABLE
01: 93035381000_____     16: _________________     31: _________________
02: _________________    17: _________________     32: _________________
03: _________________    18: _________________     33: _________________
04: _________________    19: _________________     34: _________________
05: _________________    20: _________________     35: _________________
06: _________________    21: _________________     36: _________________
07: _________________    22: _________________     37: _________________
08: _________________    23: _________________     38: _________________
09: _________________    24: _________________     39: _________________
10: _________________    25: _________________     40: _________________
11: _________________    26: _________________     41: _________________
12: _________________    27: _________________     42: _________________
13: _________________    28: _________________     43: _________________
14: _________________    29: _________________     44: _________________
15: _________________    30: _________________     45: _________________
```

Remote Call Coverage Table screen

3. Be sure to record the remote code number you use for the external number.

   In this example, the remote code is r01.

4. Press ENTER to save your changes.

5. Type **change coverage path 2** and press RETURN.

   The Coverage Path screen appears.

Tip:
Before making changes, you can use ***display coverage sender group 2*** *to determine which extensions or groups use path 2.*

```
                         COVERAGE PATH
                  Coverage Path Number: 2
                                              Hunt after Coverage? n
                     Next Path Number: ____   Linkage:
COVERAGE CRITERIA
    Station/Group Status    Inside Call     Outside Call
              Active?            n               n
                Busy?            y               y
       Don't Answer?             y               y    Number of Rings: 2
                 All?            n               n
 DND/SAC/Goto Cover?             y               y

COVERAGE POINTS

 Terminate to Coverage Pts. with Bridged Appearance? __
   Point1: 4104              Point2: r01             Point3: h77
   Point4: ____              Point5: ____            Point6: ____
```

Coverage Path screen

6. Type **r01** in a coverage Point field.

   In this example, the coverage rings at extension 4101, then redirects to the external number. If you administer Coverage of Calls Redirected Off-Net and the external number is not answered or is busy, the call redirects to the next coverage point. In this example, the next point is Point3 (h77 or hunt group 77).

   If you do not have the Coverage of Calls Redirected Off-Net feature, the system cannot monitor the call once it leaves the network. The call ends at the remote coverage point.

7. Press ENTER to save your changes.

Defining telecommuting coverage

Telecommuting access allows users to change their lead-coverage path or call-forwarding destination no matter where they are. You need to set up coverage paths and assign security codes before telecommuting coverage will work.

To see if telecommuting coverage is enabled on your system, make sure the Feature Access Codes screen contains the correct codes.

1. Type **display feature-access codes** and press RETURN.

   The Feature Access Codes screen appears. Make sure codes are in these fields:

   - Change Coverage Access Code
   - Extended Call Fwd Activate Busy D/A, All, and Deactivation

   Telecommuters use these codes to dial into the system.

Your users can make remote changes to coverage when the Class of Restriction (cor) screen assigned to their phones has a **y** in the Can Change Coverage field. Users can make remote changes to call forwarding when the Class of Service (cos) assigned to their phones has a **y** in the Extended Forwarding All and Extended Forwarding B/DA fields. Display the cor and cos screens with the **display** command.

Make sure that Coverage Path 1 and Coverage Path 2 fields are completed on each station screen assigned to people using telecommuting access. The security code field on the station screen must also be completed.

Tip:
*If the security code has been assigned, a * appears in the Security Code field on the station screen.*

To allow users remote access to the system:

1. Type **change telecommuting-access** and press RETURN.
2. Enter the extension that you want remote users to use to access the system.

   All remote users dial this same extension.
3. Press ENTER to save your changes.

If the Telecommuting Access Extension is left blank, you disable the feature for all users.

SECURITY ALERT:
Invalid extensions and station security codes are logged as security violations. See DEFINITY ECS Administrator's Guide *for information on security violations.*

Setting up bridged call appearances

Think of a bridged call appearance as a phone (the primary set) with an extension (the bridged-to appearance). Both phones can be used to call in and out and both show when a line is in use. A call to the primary phone is bridged to a specific appearance, or button, on the secondary phone. The secondary phone retains all its functions, and a specific button is dedicated as the bridged-to appearance from the primary phone.

Bridged call appearances have to be assigned to phones with double-lamp buttons, or lights. The phone types do not need to match, but as much consistency as possible is recommended for all phones in a bridged group. When a call comes in on bridged phones, the buttons assigned to the bridged appearances flash. You can assign as many bridged appearances as there are line appearances on the primary phone, and you can assign ringing (alerting) to one or more of the phones.

To create a bridged call appearance:

1. Note the extension of the primary phone.

   A call to this phone lights the button and, if activated, rings at the bridged-to appearance on the secondary phone.

2. If you want to use a new phone for the bridged-to extension, duplicate a station (see ''Managing phones'' on page 17).

3. Type **change station** and the bridged-to extension and press RETURN.

   The station screen appears.

```
                                STATION
FEATURE OPTIONS
           LWC Reception? _______        Auto Select Any Idle Appearance? _
         LWC Activation? _                       Coverage Msg Retrieval? _
           CDR Privacy? _                                 Auto Answer? __
  Redirect Notification? _                             Data Restriction? _
Per Button Ring Control? _                   Idle Appearance Preference? _
  Bridged Call Alerting? _
 Active Station Ringing: ______                 Restrict Last Appearance? _
                                                        Data Module? _

                  XID? _     Fixed TEI? _    TEI: __
            MIM Support? _   Endpt Init? _  SPID: ____   MIM Mtce/Mgt? _
             AUDIX Name: _______
  Messaging Server Name: _______                Audible Message Waiting? _
                                                      Disp Client Redir? _
                                           Select Last Used Appearance? _
```

Station screen

4. Press NEXT PAGE until Per Button Ring Control appears (digital sets only).

   - If you want to assign ringing separately to each bridged appearance, type **y**.
   - If you want all bridged appearances to either ring or not ring, leave the default **n**.

5. Move to Bridge Call Alerting.

   If you want the bridged appearance to ring when a call arrives at the primary phone, type **y**. Otherwise, leave the default **n**.

6. Complete the appropriate field for your phone type.

If. . .	Then. . .
your primary phone is analog	move to the Line Appearance field and enter **abrdg-appr**
your primary phone is digital	move to the Button Assignments field and enter **brdg-appr**

7. Press RETURN.

   Btn and Ext fields appear. If Per Button Ring Control is set to **y** on the digital screen, Btn, Ext, and Ring fields appear.

```
                                   STATION
 SITE DATA
      Room: _______                                  Headset? n
      Jack: _______                                  Speaker? n
     Cable: _______                                 Mounting? d
     Floor: _______                             Cord Length: 0
  Building: _______                               Set Color: _____

ABBREVIATED DIALING
     List1: __________       List2: _________       List3: _________

HOT LINE DESTINATION

         Abbreviated Dialing List Number (From above 1, 2 or 3):
                                                   Dial Code:
      Line Appearance:  brdg-appr   Btn:     Ext:
```

Station screen (analog set)

```
                                STATION
 SITE DATA
       Room: _______                                Headset? n
       Jack: _____                                  Speaker? n
      Cable: _____                                 Mounting: d
      Floor: _______                          Cord Length: 0
   Building: _______                            Set Color: ______



ABBREVIATED DIALING
     List1: ________           List2: ________          List3: ________

BUTTON ASSIGNMENTS
  1: brdg-appr  Btn:   Ext:      Ring:
  1: brdg-appr  Btn:   Ext:      Ring:
```

Station screen (digital set)

8. Enter the primary phone's button number that you want to assign as the bridged call appearance.

   This button flashes when a call arrives at the primary phone.

9. Enter the primary phone extension.

10. If the Ring field appears:

    - If you want the bridged appearance to ring when a call arrives at the primary phone, type **y**.
    - If you do not want the bridged appearance to ring, leave the default **n**.

11. Press ENTER to save your changes.

To see if an extension has any bridged call appearances assigned, type **list bridge** and the extension, and press RETURN.

Routing outgoing calls

This section describes how the DEFINITY routes outbound calls and how you can modify call routing. It also provides instructions for creating partitions and setting authorization codes.

NOTE:
This information represents digit analysis information for DEFINITY ECS R7 or later. If you have an earlier version, you will notice somewhat different fields on your screeens.

World class routing

Your system uses world class routing to direct an outgoing call. There are two types of routing:

- Automatic Alternate Routing (AAR) is used for calls within your company over your own private network.
- Automatic Route Selection (ARS) is used for calls that go outside your company over public networks. ARS is also used to route calls to remote company locations if you do not have a private network.

This section describes only ARS call routing. If you do not use ARS routing, this information does not apply to your system.

Understanding ARS analysis

With ARS, the switch routes outgoing calls based on the dialed digits and the calling privileges of the caller. Your system uses an ARS Digit Analysis Table to determine how to handle the dialed digits and uses class of restriction (COR) and facility restriction level (FRL) to determine the calling privileges.

Let's look at a very simple ARS Digit Analysis Table. (Your system likely has more defined dialed strings than our example.)

```
                    ARS DIGIT ANALYSIS TABLE
                  Location: all                Percent Full:    6
      Dialed       Total    Route      Call     Node     ANI
      String       Mn Mx   Pattern     Type     Num      Rq
 1_______________  1  1     12         svcl     ___      n
 1_______________  11 11    30         fnpa     ___      n
 1_______________  12 23    17         intl     ___      n
 10xxx___________  5  5     deny       op       ___      n
 1800____________  11 11    30         fnpa     ___      n
 2_______________  7  7     2          hnpa     ___      n
 3_______________  7  7     2          hnpa     ___      n
 4_______________  7  7     2          hnpa     ___      n
 5_______________  7  7     2          hnpa     ___      n
 6_______________  7  7     2          hnpa     ___      n
 7_______________  7  7     2          hnpa     ___      n
 8_______________  7  7     2          hnpa     ___      n
 911_____________  3  3     1          emer     ___      n
 976_____________  11 11    deny       fnpa     ___      n
```

ARS Digit Analysis Table screen

This Digit Analysis Table is used for all locations in this system. The far-left column of the ARS Digit Analysis Table lists the first digits in the dialed string. When a user makes an outgoing call, the system analyzes the digits, looks for a match in the table, and uses the information in the matching row to determine how to route the call.

Let's say a caller places a call to +1 303 233 1000. The switch matches the dialed digits with those in the first column of the table. In this example, the dialed string matches the '1'. Then the systems matches the length of the entire dialed string (11 digits) to the minimum and maximum length columns. In our example, the 11-digit call that started with 1 follows route pattern 30 as an fnpa (long distance) call.

Tip:
The first dialed digit for an external call is often an access code. If '9' is defined as the ARS access code, the switch drops this digit and analyzes the remaining digits with the ARS Analysis Table.

Managing calling privileges

Each time you set up a phone, you use the station screen to assign a COR. You can create different CORs for different groups of users. For example, you may want executives in your company to have different calling privileges than receptionists.

When you set up a COR, you specify a facility restriction level (FRL) on the class of restriction screen. The FRL determines the calling privileges of the user. Facility restriction levels are ranked from 0–7, where 7 has the highest level of privileges.

You also assign an FRL to each route pattern preference in the route pattern screen. When a user makes a call, the system checks the user's COR. The call is allowed if the caller's FRL is higher than or equal to the route pattern preference's FRL.

Displaying ARS analysis information

You'll want to become familiar with how your system currently routes outgoing calls. To display the ARS Digit Analysis Table that controls how the system routes calls that begin with 1:

1. Type **display ars analysis 1** and press RETURN.

   The ARS Digit Analysis Table for dialed strings that begin with 1 appears. Note that the switch displays only as many dialed strings as can fit on one screen at a time.

To see all the dialed strings that are defined for your system, run an ARS Digit Analysis report:

1. Type **list ars analysis** and press RETURN.

   The ARS Digit Analysis Report appears. You may want to print this report to keep in your paper records.

Modifying call routing

If your system uses ARS Digit Analysis to analyze dialed strings and select the best route for a call, you must change the digit analysis table to modify call routing. For example, you'll need to update this table to add new area codes or to restrict users from calling specific areas or countries.

Adding a new area code or prefix

A common task for system administrators is to configure their system to recognize new area codes or prefixes.

Tip:
If your local area code is changing or splitting, call the DEFINITY helpline and have them walk you through all the changes needed to have your system recognize the new area code.

When you want to add a new area code or prefix, you look up the settings for the old area code or prefix and enter the same information for the new one.

Let's add a new area code. When the California area code, 415, splits and portions change to 650, you'll need to add this new area code to your system.

Tip:
If you do not need to use 1 for area code calls, omit the ***1*** *in steps 1, 3, and 5 in our example. Also, enter* ***10*** *in the Total Min and Total Max fields (instead of 11) in step 6.*

To add this non-local area code:

1. Type **list ars route-chosen 14152223333** and press RETURN.

   You can use any 7-digit number after 1 and the old area code (415). We used 222-3333.

   The ARS Route Chosen Report screen appears.

```
                    ARS ROUTE CHOSEN REPORT
Location: 1                Partitioned Group Number:  1

  Dialed        Total     Route    Call   Node        Location
  String    Min     Max   Pat      Type   Number

  141       11      11    30       fnpa                all
```

ARS Route Chosen Report screen

2. Write down the Total Min, Total Max, Route Pat, and Call Type values from this screen.

   In this example, the Total Min is `11`, Total Max is `11`, Route pattern is `30`, and the Call Type is fnpa.

3. Type **change ars analysis 1650** and press RETURN.

   Enter 1 and the new area code (650). The ARS Digit Analysis Table screen appears.

```
                    ARS DIGIT ANALYSIS TABLE
                  Location: all                    Percent Full:    6
     Dialed          Total    Route      Call     Node      ANI
     String          Mn Mx   Pattern     Type     Num       Rq
 1_______________    11 11      30       fnpa              ___ n
 167_____________    11 11      30       fnpa              ___ n
 1650____________    11 11      2        fnpa              ___ n
 1800____________    11 11      30       fnpa              ___ n
 2_______________    7  7       2        hnpa              ___ n
 3_______________    7  7       2        hnpa              ___ n
 4_______________    7  7       2        hnpa              ___ n
 5_______________    7  7       2        hnpa              ___ n
 7_______________    7  7       2        hnpa              ___ n
 8_______________    7  7       2        hnpa              ___ n
 911_____________    3  3       1        emer              ___ n
 976_____________    11 11     deny      hnpa              ___ n
```

ARS Digit Analysis Table

4. Use the arrow keys to move to a blank Dialed String field.

   If the dialed string is already defined in your system, the cursor appears in the appropriate Dialed String field, where you can make changes.

5. Enter **1650** in the Dialed String field.

6. Enter the minimum and maximum values from step 2 in the Total Mn and Total Mx fields.

   In our example, enter **11** in each field.

7. Enter the route pattern from step 2 in the Rte Pat field.

   In our example, enter **30**.

8. Enter **fnpa** in the Call Type field.
9. Enter the node number from step 2 in the Nd Num field.

   For our example, you would leave the node number blank.

10. Press ENTER to save your changes.

To add a new prefix, follow the same directions, except use a shorter dial string (such as **list ars route-chosen 2223333**, where **222** is the old prefix) and a dial type of **hnpa**.

Using ARS to restrict outgoing calls

ARS allows you to block outgoing calls to specific dialed strings. For example, administrators in the United States may want to restrict users from making calls to 900 and 976 pay-per-call numbers or making international calls to countries where they do not do business.

SECURITY ALERT:

To prevent toll fraud, deny calls to countries where you do not do business. The following countries are currently concerns for fraudulent calling.

country	code	country	code
Colombia	57	Pakistan	92
Ivory Coast	225	Peru	51
Mali	23	Senegal	221
Nigeria	234	Yemen	967

To prevent callers from placing calls to Colombia (57):

1. Type **change ars analysis 01157** and press RETURN.

   You enter 011 (international access) and the country code (57). The ARS Digit Analysis Table screen appears.

2. Use the arrow keys to move to a blank Dialed String field on the right of the screen.

   If the dialed string is already defined in your system, the cursor appears in the appropriate Dialed String field. Skip to step 5 to deny calls to this dialed string.

3. Enter **01157** in the Dialed String field.

4. Enter **10** in the Total Mn and **23** in Total Mx fields.

5. Enter **den** (denied) in the Rte Pat field.

6. Enter **intl** in the Call Type field.

7. Press ENTER to save your changes.

Overriding call restrictions

You can use authorization codes to enable callers to override a station's calling privileges. For example, you can give a supervisor an authorization code so they can makes calls from a phone that is usually restricted for these calls. Since each authorization code has its own COR, the system uses the COR assigned to the authorization code (and FRL assigned to the COR) to override the privileges associated with the employee's phone.

Note that authorization codes do not override route patterns that are denied. For example, if your ARS tables restrict users from placing calls to Columbia, a caller cannot override the restriction with an authorization code.

Tip:
Authorization codes are optional. To see if authorization codes are enabled on your system, use **display system-parameters customer-options**.

SECURITY ALERT:
You should make authorization codes as long as possible to increase the level of security. Set the length of authorization codes on the Feature-Related System Parameters screen.

Let's create an authorization code 4395721with a COR of 2.

1. Type **change authorization-code 4395721** and press RETURN.

   The Authorization Code - COR Mapping screen appears.

2. In the AC field, type **4395721**.
3. In the COR field, enter **2**.
4. Press ENTER to save your changes.

```
                    Authorization Code - COR Mapping
          NOTE: 2 codes administered. Use 'list' to display all codes.

AC       COR  AC       COR  AC       COR  AC       COR  AC       COR  AC       COR
9260839  3    ________ __   ________ __   ________ __   ________ __   ________ __
2754609  4    ________ __   ________ __   ________ __   ________ __   ________ __
________ __   ________ __   ________ __   ________ __   ________ __   ________ __
________ __   ________ __   ________ __   ________ __   ________ __   ________ __
________ __   ________ __   ________ __   ________ __   ________ __   ________ __
```

Authorization Code - COR Mapping screen

ARS Partitioning

Most companies want all their users to be able to make the same calls and follow the same route patterns. However, you may find it helpful to provide special calling permissions or restrictions to a group of users or to particular phones.

NOTE:
If you used partitioning on a release prior to R7 and you want to continue to use partitioning, please read this section carefully. The process for setting up partitioning has changed significantly.

Tip:
Partitioning is an optional feature. Use **display system-parameters customer-options** *to see if Partitioning is set to y and Time of Day Routing is set to n. If Time of Day Routing is* **y** *on System Parameters Customer Options, you specify the partition group number (PGN) on the Time of Day Routing Plan screen. Refer to* DEFINITY ECS Administrator's Guide *for more information.*

You can use ARS partitioning to change the call routing plan for up to 8 different user groups within a single DEFINITY ECS. You assign a partition group number (pgn) to each user group and identify different call routing treatments for each pgn.

Setting up a partition group

Let's say you allow your employees to make local, long distance, and emergency calls. However, you have a lobby phone for visitors and you want to allow users to make only local, toll-free, and emergency calls from this phone.

To restrict the lobby phone, you modify the routing for a partition group to enable only specific calls, such as U.S.-based toll-free +1 800 calls, and then assign this partition group to the lobby phone.

To enable +1 800 calls for partition group 2:

1. Type **list ars route-chosen 18002221000** and press RETURN.

   You can use any 7-digit number following the 1800 to create an example of the dialed string. The ARS Route Chosen Report for partition group 1 appears.

```
                        ARS ROUTE CHOSEN REPORT

      Location :  1                    Partitioned Group Number: 1

          Dialed              Total     Route      Call      Node      Location
          String             Min  Max  Pattern    Type      Number

1800_____________________      11 11     p1___       fnpa      _____      all
```

2. Record the route pattern for the selected dialed string.

   In our example, the route pattern for 1800 is p1. This indicates that the system uses the Partition Routing Table to determine which route pattern to use for each partition.

   NOTE:
   If there is a number (with no p) under Route Pattern on the Route Chosen Report, then all partitions use the same route pattern. You need to use the Partition Routing Table only if you want to use different route patterns for different partition groups.

3. Press CANCEL to return to the command prompt.

4. Type **change partition-route-table index 1** and press RETURN.

   The Partition Route Table screen appears. In our example, partition group 1 can make 1800 calls and these calls use route pattern 30.

```
                    Partition Routing Table

                       Routing Patterns
Route
Index   PGN 1   PGN 2   PGN 3   PGN 4   PGN 5   PGN 6   PGN 7   PGN 8
-----   -----   -----   -----   -----   -----   -----   -----   -----
  1     __30    __30    ____    ____    ____    ____    ____    ____
  2     ____    ____    ____    ____    ____    ____    ____    ____
  3     ____    ____    ____    ____    ____    ____    ____    ____
  4     ____    ____    ____    ____    ____    ____    ____    ____
  5     ____    ____    ____    ____    ____    ____    ____    ____
  6     ____    ____    ____    ____    ____    ____    ____    ____
  7     ____    ____    ____    ____    ____    ____    ____    ____
```

5. In the PGN2 column that corresponds to Route Index 1, type **30** and press ENTER.

   This tells the system to use route pattern 30 for partition group 2 and allow partition group 2 members to make calls to 1800 numbers.

Assigning a phone to a partition group

To assign an extension to a partition group, you have to first assign the partition group to a class of restriction (COR) and then assign that COR to the extension.

To assign a class of restriction (COR) to partition group 2.

1. Type **list cor** and press RETURN.

   The Class of Restriction Information screen appears.

```
                    CLASS OF RESTRICTION INFORMATION

                  COR   COR Description
                0
                    1     supervisor
                    2     telecommuting
                3
```

Class of Restriction Information screen

2. Choose a COR that has not been used and press CANCEL.

   In our example, select **3**.

3. Type **change cor 3** and press RETURN.

   The Class of Restriction screen appears.

```
                      CLASS OF RESTRICTION
                COR Number: 3
          COR Description: lobby____________________

                     FRL: 0                                APLT? y
  Can Be Service Observed? n           Calling Party Restriction: none
Can Be A Service Observer? n            Called Party Restriction: none
   Partition Group Number: _       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
           MF ANI Prefix: _____        Automatic Charge Display? n
Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n
                       Can Be Picked Up By Directed Call Pickup? n
                                  Can Use Directed Call Pickup? n
```

Class of Restriction screen

4. Type a name for this COR in the COR Description field.

   In our example, type **lobby**.

5. Enter **2** in the Partition Group Number field.

   Tip:
   The Partition Group Number field appears only when Time of Day Routing is **n** *on the System Parameters Customer Options screen. Otherwise, you specify the partition group number (PGN) on the Time of Day Routing Plan screen. For information on Time of Day Routing, refer to* DEFINITY ECS Administrator's Guide.

6. Press ENTER to save your changes.

Now assign COR 3 to the lobby phone at extension 1234:

1. Type **change station 1234** and press RETURN.

   The station screen for 1234 appears.

2. In the COR field, enter **3**.

3. Press ENTER to save your changes.

Enhancing system security

This section explains how to add and modify user logins. It also provides an introduction to phone system security issues. It describes possible security problems you should be aware of and gives you instructions for detecting these problems.

Tip:
If your organization has not yet completed the Service Agreement Indemnity Enhancement Certification, we highly recommend that you call the Security Hotline at the World-class Customer Service Center (+1 800 643 2353) and ask how to become certified. When you complete this certification and administer your DEFINITY system according to Lucent's fraud prevention requirements, Lucent will indemnify your organization for charges associated with toll fraud.

Assigning and changing users

The system allows you to add or change user logins as needed. When you want to add or change a login, remember the following DEFINITY system security requirements:

- a login must be 3 to 6 alphanumeric characters in length
- a password must be from 4 to 11 alphanumeric characters in length and contain at least one non-alphabetic character

Note that to create or change logins for G3V3 and later releases, you must login as a superuser with administrative permissions.

Assigning new logins and passwords

As you work as an administrator, you may be fortunate enough to have help administering your switch or you may want to have an assistant make changes to the switch while you are out of the office. In these cases, you should set up a new user in the system and limit what this individual can do. As you'll see, adding logins is very easy.

Tip:
You increase system security when you choose the longest possible password with a mix of lowercase and uppercase numbers and letters.

The following example shows you how to add a new login called angi3 with a password of b3stm0m.

To add this user and password, log in with a superuser ID and complete the following steps:

1. Type **add login angi3** and press RETURN.

   Use the new login name as part of the add command.

   The Login Administration screen appears. The Login's Name field shows the name you typed in the add command; other fields contain defaults.

```
                    LOGIN ADMINISTRATION

       Password of Login Making Change:

       LOGIN BEING ADMINISTERED
                         Login's Name: angi3
                           Login Type: customer
                        Service Level: non-super-user
Disable Following a Security Violation? y         Access to INADS Port? n

        LOGIN'S PASSWORD INFORMATION
                     Login's Password:
              Reenter Login's Password:
    Password Aging Cycle Length (Days):

    LOGOFF NOTIFICATION
    Facility Test Call Notification? y     Acknowledgment Required? y
         Remote Access Notification? y     Acknowledgment Required? y
```

Login Administration screen

2. Complete the following fields:
   - Password of Login Making Change

     This is *your password*.
   - Login's Password

     Assign an initial password for the new login. We'll type in **b3stm0m** as part of our example. The password does not appear on the screen as you type.
   - Re-enter Login's Password
3. Press ENTER to save your changes.

Setting login permissions

Once you add the new user, you should review the user's command permissions and modify them, if necessary.

To review command permissions for our new example login:

1. Type **change permissions angi3** and press RETURN.

   Use the new login name as part of the add command. The Command Permission Categories screen appears.

```
                        COMMAND PERMISSION CATEGORIES
                          Login Name: angi3
COMMON COMMANDS
              Display Admin. and Maint. Data? n
                        System Measurements? n
              System Mgmt Data Transfer Only? n

ADMINISTRATION COMMANDS
         Administer Stations? n                 Administer Features? n
           Administer Trunks? n              Administer Permissions? n
     Additional Restrictions? n

MAINTENANCE COMMANDS
           Maintain Stations? n       Maintain Switch Circuit Packs? n
             Maintain Trunks? n      Maintain Process Circuit Packs? n
             Maintain System? n
```

Command Permission Categories screen

2. If you want the default permissions, press CANCEL.
3. If you want to change any permissions, enter **y** to give the user access or **n** to restrict access for each permission type.
4. Press ENTER to save your changes.

Changing passwords

You should change your passwords often.

Tip:
To force users to change passwords, set password aging in the Login Administration screen.

To change the password (b3stm0m) for angi3:

1. Type **change password angi3** and press RETURN.

   The Password Administration screen appears.

2. Complete the following fields:

   - Password of Login Making Change

     This is *your password* that you used to login to the session.

   - Login Name
   - Login's Password
   - Reenter Login's Password

3. Press ENTER to save your changes.

Changing logins

Occasionally you'll need to change permissions for a user's login. For example, you may want to change a login so that the user must change their password every 30 days (a good rule of thumb).

To change the password aging for our new login, angi3:

1. Type **change login angi3** and press RETURN.

   The Login Administration screen appears with the current information for angi3.

2. Type **30** in the Password Aging Cycle Length (Days) field.

3. Press ENTER to save your changes.

Preventing toll fraud

An important role for every administrator is to manage the security of their phone system. You need to make every effort to ensure that your phone system is not open to toll fraud. Toll fraud is the unauthorized use of telephone features and services and the theft of long distance service. When toll fraud occurs, your company is responsible for charges.

For more information on system security and preventing toll fraud, we recommend you obtain the *BCS Products Security Handbook* and use it often, or call your Center of Excellence.

SECURITY ALERT:
When you suspect toll fraud, call the Security Hotline immediately (+1 800 643 2353) or contact your Lucent representative.

Top 11 tips to help prevent toll fraud

You can reduce your company's risk of toll fraud by following a few important guidelines.

1. Protect system administration from unauthorized access.

   Make sure all system administration and maintenance logins are secure. Change your passwords frequently.

2. Deny unauthorized remote access.

   If you do not use remote access, disable all its related features. If you use remote access, require barrier codes and set your authorization codes, if applicable, at the maximum length. Also, change these codes frequently.

3. Restrict individual ability to make international calls.

   Set up class of restriction groups to allow only certain people to call international numbers required for your business.

4. Protect access to information stored in voice mail.

   Require passwords for access to voice mailboxes. Use complicated passwords and change the passwords regularly.

5. Deny any transfer from a voice mail system to a dial tone.

   Place restrictions on the ports that allow access to and from your voice mail system. Activate "secure transfer" features in voice mail systems.

6. Use system software to intelligently control call routing.

   Set up your system to control how each call is handled or routed. If possible, use time-of-day routing to limit the use of your system during off hours.

7. Place protection on systems that ask callers to dial digits.

   Restrict certain users' access to dial tone. Restrict the digit combinations dialed at prompts.

8. Monitor traffic and system activity for suspicious call patterns.

   Use your traffic reports and call detail records to monitor call activity. Activate features that deny access to your system when unauthorized attempts are detected.

9. Provide physical security for telecommunications assets.

   Restrict unauthorized access to equipment rooms and wire connection closets. Keep translation backups, system manuals, and reports in a safe place.

10. Educate system users to recognize toll fraud activity and react appropriately.

    Train your users how to protect themselves from inadvertent compromises to system security.

11. Monitor call traffic over vectors.

    Vector fraud is one of the most common types of toll fraud because vectors route calls based on the class of restriction (COR) assigned to the VDN. Refer to *BCS Products Security Handbook* or your Lucent representative for more information.

Using reports to detect problems

Call Detail Recording

Call Detail Recording (CDR) collects detailed information about calls handled by your system. This CDR information can be sent directly to a printer or into call accounting software. You can use the printed CDR output or call accounting reports to monitor calls on your system and look for possible toll fraud problems.

Review your call accounting reports or CDR output each day to help detect possible toll fraud. When reviewing these records, look for:

- unusual calling patterns
  - — numerous calls to the same number
  - — calls outside of normal business hours
  - — long calls
- calls to suspicious destinations, including international calls not typical for your business
- patterns of authorization code usage (same code used simultaneously or high activity)
- high numbers of "ineffective call attempts" indicating attempts at entering invalid codes
- undefined account codes

If you are unfamiliar with reading CDR printed output, you'll want to refer to the description of CDR in the *DEFINITY ECS Administrator's Guide*.

If your organization uses call accounting software to analyze your CDR output, you probably receive formatted reports that list the information you need to detect possible toll fraud. If you have questions about reading your call accounting reports, refer to your call accounting software manuals.

Security Violations Notification

You can administer Security Violations Notification so that the system notifies you and provides reports when users enter invalid information. You want to know about the following types of violations, which may indicate an attempt to breach your security:

- login violations
- remote access barrier code violations
- authorization code violations
- station security code violations

For example, let's have the system notify us at extension 8000 when someone tries to enter more than 3 invalid authorization codes within a 1-minute time span.

To set up Security Violations Notification for our example:

1. Type **change system-parameters security** and press RETURN.

   The Security-Related System Parameters screen appears.

```
                    SECURITY-RELATED SYSTEM PARAMETERS

SECURITY VIOLATION NOTIFICATION PARAMETERS

 SVN Login Violation Notification Enabled? n


 SVN Remote Access Violation Notification Enabled? n


SVN Authorization Code Violation Notification Enabled? y
       Originating Extension: _____     Referral Destination: 8000
Authorization Code Threshold: 3_              Time Interval: 0:01
      Announcement Extension: _____
```

Security-Related System Parameters screen

2. In the SVN Authorization Code Violation Notification Enabled field, type **y** and press RETURN.

   Additional fields now display on the screen.

3. In the Originating Extension field, type the extension you want the system to use to originate the call.

   Use the extension of an unused non-dial station.

4. Enter **8000** in the Referral Destination field.

   Use the extension you want the system to notify.

5. If the referral destination is on a different system or is a non-display phone, fill in the Announcement Extension field.

6. Enter **3** in the Authorization Code Threshold field.

   Enter the maximum number of invalid entry attempts you want to allow.

7. Enter **0:01** (1 minute) in the Time Interval field.

   Use an hour:minute format for the amount of time you want the system to use for the monitor interval.

8. Press ENTER to save your changes.

Viewing security reports

Your system generates two types of Security Violations reports:

- Security Violations Detail report — displays the number of successful and failed login attempts by login ID.
- Security Violations Summary report — displays valid and failed access attempts, as well as security violations for logins, authorization codes, barrier codes, and station security codes.

To display a Security Violations Detail report and see a list of login data:

1. Type **list measurements security-violations detail** and press RETURN.

To display a Security Violations Summary report:

1. Type **list measurements security-violations summary** and press RETURN.

Printing security reports

You may want to keep a paper copy of a Security Violations report to monitor security trends for a specific time period.

To print a Security Violations Summary report to the slave printer associated with the administration terminal:

1. Type **list measurements security-violations summary print** and press RETURN.

To print a Security Violations Summary report to the system printer:

1. Type **list measurements security-violations summary schedule** and press RETURN.

   The system prompts whether you want to print the report immediately or schedule to print it later.

2. Enter the appropriate Print Interval and press ENTER to send the report.

Clearing security reports

Once you review the security measurement reports, you may want to clear the current measurements and reset the Counted Since field.

To clear measurements for security violations and reset the counter:

1. Type **clear measurements security-violations** and press RETURN.

Keeping records

Record keeping plays a vital role in system administration. Your records should provide a current status of what hardware and features are installed on your system. Your records also help you determine which phone features are available for your users.

Whether you are the administrator of a new or existing switch, follow your own company policy concerning keeping records. We have included the information below only as a guide. Our list contains different types of information for you to consider, but you need to determine which method of record keeping works best for you and your organization.

Paper records

Your DEFINITY switch keeps an electronic record of your system configuration and any changes you make.

A common method for keeping paper records is to print copies of screens and reports so you have backup copies of the information stored on your system. If you use this method, be sure to keep the copies in a safe and easy-to-access location.

If you end a list or display command with the command **print**, the system prints a paper copy of the selected list or display screen to the slave printer associated with the administration terminal.

For example, to print a list of stations that are currently administered on your system, complete the following steps at the command prompt:

1. Type **list station print** and press RETURN.

Tip:
To print a screen or report to the system printer, end a list or display command with the word ***schedule****. The system then prompts you to select to print immediately or schedule printing,*

For more information about generating reports, refer to *Little Instruction Book for advanced administration* or to *System Monitoring and Reporting*.

System information

You should keep current copies of each of the following system lists in your records. If you ever need to replace information because of a system failure, these lists help Lucent rebuild your system.

Use the following commands to print general system lists, and save these lists as your paper records:

- **display dialplan print** — prints your dialing parameters
- **display system-parameters customer-options print** — prints the current software version and shows which features have been enabled on your system

- **display system-parameters features print** — prints the parameter settings for features on your system
- **display feature-access-codes print** — prints the current feature access codes by feature
- **list configuration all print** — prints your slot and port assignments
- **list extension-type print** — prints information for each extension on your system
- **list station print** — prints information for each station on your system
- **list data print** — prints information for each data module on your system
- **list *type* group print** — where *type* can be replaced with hunt, trunk, pickup, and so on. Prints parameters for the specified group.
- **list coverage path print** — prints each defined coverage path and each of the coverage points

In addition to the above reports, you may want to periodically print other lists, traffic reports, or security reports to monitor the use of your system.

Specific extension information

You'll probably want to keep both system and individual extension records. To keep extension records, print a copy of the station form for each extension.

For example, to print a station form for extension 4567:

1. Type **display station 4567 print** and press RETURN.

As another example, to print a station form for data module 5567:

1. Type **display data 5567 print** and press RETURN.

Other information

You may find that you want to keep track of information that is not stored on the system and is specific to your company, such as:

- switch locations and handles (names)
- groups of extensions you've reserved for certain departments or types of lines
- login names and privileges
- customized soft-key assignments

Basically, you can track whatever information is appropriate for your company. And you can decide whether you want to keep just paper copies or perhaps design a computer database to track all your system information. It is up to you.

Remember that the better records you keep, the better able you'll be to solve problems, reconstruct information, and make the best use of the features on your DEFINITY system.

Preparing to contact Lucent

Do you need to call Lucent for additional information or help in solving a problem?

If you do, please have the following information handy. This helps the person taking your call find the answer to your question.

- Your installation location ID (also called your IL)

  _____
  (Write your IL number here for easy reference)

- Your name
- Your phone number (in case we need to call you back)
- Your company's main listed phone number
- The task you want to accomplish, complete with all the numbers involved in the task (for example, extensions or phone numbers, trunk group numbers, phone types, or report types)

Once you gather the information you need, refer to ''How to get help'' on page xvi for a list of Lucent support organizations and their phone numbers.

Notes

Glossary

A

Abbreviated Dialing
: A feature that allows callers to place calls by dialing just one or two digits.

access code
: A dial code used to activate or cancel a feature or access an outgoing trunk.

analog phone
: A phone that receives acoustic voice signals and sends analog electrical signals along the phone line.

ARS partitioning
: A feature that allows you to route calls differently for different groups of users.

attendant
: A person at a console who provides personalized service for incoming callers and voice-services users by performing switching and signaling operations.

attendant console
: The workstation used by an attendant. The attendant console allows the attendant to originate a call, answer an incoming call, transfer a call to another extension or trunk, put a call on hold, and remove a call from hold. Attendants using the console can also manage and monitor some system operations.

Audio Information Exchange (AUDIX)
A fully-integrated voice-mail system. Can be used with a variety of communications systems to provide call-history data, such as subscriber identification and reason for redirection.

Automatic Alternate Routing (AAR)
A feature that routes calls to alternate routes when facilities are unavailable.

Automatic Call Distribution (ACD)
A feature that gives users more flexibility in routing calls to hunt group agents. ACD also allows external measurement systems such as BCMS and CentreVu® CMS to be used.

Automatic Circuit Assurance (ACA)
A feature that tracks calls of unusual duration to facilitate troubleshooting.

Automatic Route Selection (ARS)
A feature that allows the system to automatically choose the least-cost route for toll calls.

B

barrier code
A security code used with Remote Access to prevent unauthorized access.

bridge (bridging)
The appearance of a phone's extension at one or more other phones.

bridged appearance
A call appearance on a phone that matches a call appearance on another phone for the duration of a call.

C

call appearance
: For the phone or attendant console, a button labeled with an extension and used to place outgoing calls, receive incoming calls, or hold calls. Lights next to the button show the status of the call appearance.

Call Detail Recording (CDR)
: A feature that records call data.

Call Vectoring
: A feature that allows users to provide flexible, customized call handling by writing a series of instructions in a simple programming language.

carrier
: An enclosed shelf containing vertical slots that hold circuit packs.

centum call seconds (CCS)
: A CCS is a unit for measuring call traffic. One CCS equals 100 seconds. Call traffic for a facility, such as a hunt group or phone, is scanned every 100 seconds. If the facility is busy, it is assumed to have been busy for the entire scan interval. There are 3600 seconds per hour, so a facility that is busy for an entire hour will be measured as being busy for 36 CCS.

central office (CO)
: The location of phone switching equipment that provides local phone service and access to toll facilities for long-distance calling.

circuit
: A channel or transmission path between two or more points.

Class of Restriction (COR)
: A feature that defines call-origination and call-termination restrictions.

Class of Service (COS)
A feature that determines whether users can activate certain features.

coverage answer group
A group of phones that ring simultaneously when a call is redirected to it.

coverage path
The order in which calls are redirected to alternate phones.

coverage point
An extension designated as an alternate phone in a coverage path.

D

data module
A digital interface device between the switch and data equipment.

Direct Department Calling (DDC)
A method for distributing hunt group calls to agents. The switch searches through all the hunt group extensions in order, starting with the first extension. As soon as the switch finds an available extension, it connects the call. Compare to Uniform Call Distribution (UCD).

E

Expert Agent Selection (EAS)
A feature allowing incoming calls to be routed to specialized groups of agents within a larger pool of agents.

extension
A number by which calls are routed through a communications system.

external call
A connection between a communications system user and a party on the public network or on another communications system in a private network.

F

facility
A telecommunications transmission pathway and associated equipment.

feature access code (FAC)
A code users dial to access a system feature.

feature button
A button on a phone or attendant console used to access a specific feature.

H

hunt group
A group of extensions that can simultaneously answer multiple calls to a single phone number. When a call arrives at the group number, the switch searches ("hunts") for an available extension in the group and connects the call to that extension.

I

internal call
A connection between two users on the same phone system.

M

major alarm
An indication of a component failure that requires immediate attention.

minor alarm
An indication of a component failure that could affect customer service.

multiappearance phone
A phone equipped with several call-appearance buttons allowing the user to handle more than one call on that same extension at the same time.

P

pickup group
A group of individuals authorized to answer any call directed to an extension within the group.

port carrier
A carrier in a cabinet containing port circuit packs, power units, and service circuits. Also called a port cabinet.

primary extension
The main extension associated with the physical phone or data terminal.

principal
A phone that has its primary extension bridged on one or more other phones.

public network
The network that can be openly accessed by all customers for local and long-distance calling.

R

redirection criteria
: Information administered for each phone's coverage path that determines when an incoming call is redirected to coverage.

S

skill
: An attribute assigned to an agent in a system using Expert Agent Selection. An agent's skill indicates a specialty in which the agent is proficient.

split
: An ACD hunt group.

system administrator
: The person who maintains overall customer responsibility for system administration.

system printer
: An optional printer that may be used to print scheduled reports via the report scheduler.

system report
: A report that provides historical traffic information for internally measured splits.

T

trunk
A dedicated telecommunications channel between 2 phone systems or COs.

trunk group
Telecommunications channels assigned as a group for certain functions that can be used interchangeably between two communications systems or COs.

U

Uniform Call Distribution (UCD)
A method for distributing hunt group calls to agents by comparing agents' workloads. DEFINITY ECS can deliver each new call to the most idle agent (the available agent who has been idle the longest since their last hunt group call) or to the least occupied agent (the agent who has spent the least amount of time on hunt group calls in their current shift). Compare to Direct Department Calling (DDC).

Uniform Dial Plan (UDP)
A feature that allows a unique 4- or 5-digit number assignment for each point in a multiswitch system.

V

Vector
A set of call handling instructions for DEFINITY ECS, written in Lucent's call vectoring programming language.

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