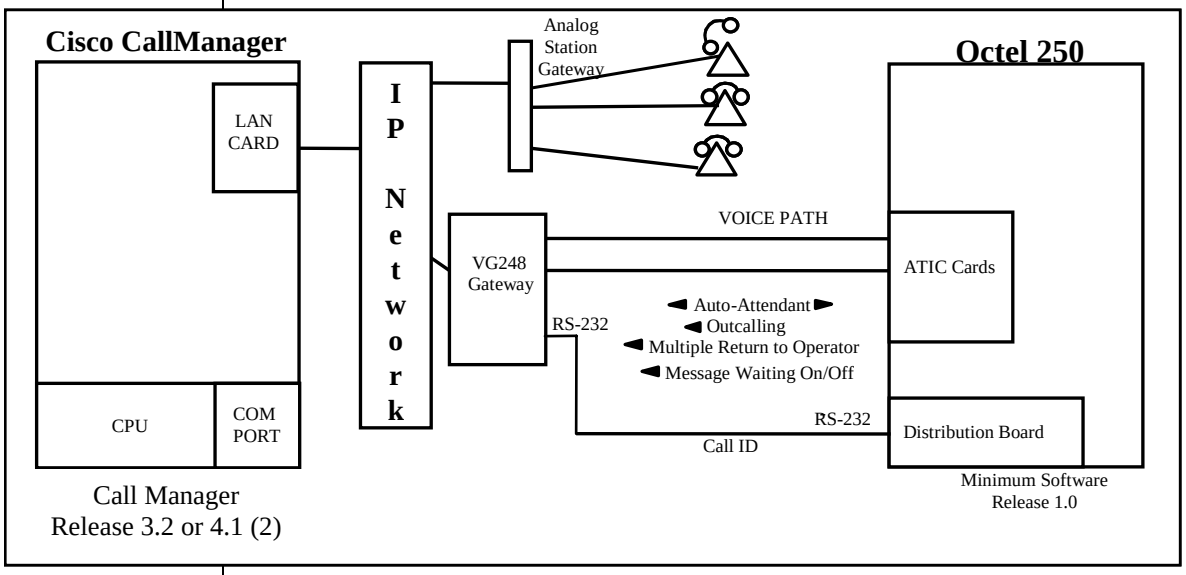
Octel 250

Message Server

Configuration Note 5405 - Ver. G (12/06)

Cisco CallManager & VG-248 Gateway



1.0 METHOD OF INTEGRATION

With RS-232 integration, call information is transmitted over a digital link between the PBX and the Octel 250

With RS-232 integration, call information is transmitted over a digital link between the Cisco CallManager and the OCTEL voice messaging system. Voice communications are provided by a separate path created by a hunt group of single-line stations on the Cisco CallManager that connect to voice port cards within the OCTEL. When an incoming call is received by the hunt group, it is accompanied by a digital message in standard SMDI format from the Cisco CallManager which contains call information. The OCTEL then answers the call on the specified port and plays the appropriate greeting. To set or cancel message-waiting notification, the OCTEL sends a digital message over the RS-232 link to the Cisco CallManager.

2.0 OCTEL 250 ORDERING INFORMATION

Octel 250 requirements

- Fax Line TICs (FLTs), 8 ports per board
- Disk drives
- RS-232 integration software

NOTE: Serial channels 1, 2, and 3 in the Octel 250 are configurable as either RS232 integration links or system management terminals (SMTs). When used to support an SMT these channels require a null modem. Channel 4 is reserved for SMT use and does not require a null modem.

The following table shows the allowable combinations of integration links and SMTs:

Combinations of Direct Integrations and Terminals.

No. of Integration Links	No. of System Management Terminals
1	Up to 3
2	Up to 2
3	1

PBX hardware requirements

3.0 CISCO CALL MANAGER HARDWARE REQUIREMENTS

- Cisco CallManager with one available serial (com) port
- Analog station ports, one per OCTEL port. Analog ports are provided via analog ports on Cisco Analog VG248 Gateway
- One analog station for remote service access
- DB-9M to RJ-45 F adapter (Cisco p/n 74-0495-01) and Cisco rollover cable (Cisco p/n 72-0876-01).

  Note: These two Cisco accessories complete the physical connection of the SMDI circuit between the devices - the Async 1 port on the VG248 and the COM1 port on the OCTEL.
- Cables, 25-pair, male-amphenol, one per FLT

PBX hardware requirements

3.1 CISCO CALL MANAGER SOFTWARE REQUIREMENTS

- Software level – Version 3.2, 4.1
- Cisco VG248 Gateway – Version 1.1.2, 1.3

4.0 SUPPORTED FEATURES

Supported integration features

- Station forward to personal greeting
  - all calls
- System forward to personal greeting
  - Busy

  - no answer
- Message Waiting Indicator
  - stutter dial tone
  - lights (ISDN sets only)
- Automated Attendant
- Outcalling
- Multiple Return-to-operator
- Direct Call
- Personal greeting of original-called party on a multiple-call forward
- Reply to message left by subscriber in internal telephone-answering mode

5.0 CONFIGURING THE CISCO CALLMANAGER FOR INTEGRATION

The Voicemail system connects to the Cisco CallManager using a data connection between the Async port (marked *Async 1* – see below) of the VG248 to the serial I/O port of the OCTEL 250 voice mail system. This is an industry standard SMDI protocol that uses an RS-232 connection.

- *Async 1* - The primary serial port used for connecting to the voice mail system (any configuration) or voice mail source (chained or multiplexing configuration). If you are using a single VG248 device, connect the voice mail system to the Async 1 port on the VG248. With multiple VG248 devices, use the Async 1 port to connect to the previous VG248 device's Async 2 port.

- *Async 2* - Used for connecting multiple VG248 devices together. If there are multiple VG248 devices in use, connect the Async 2 port of the first VG248 device (which is connected directly to the voice mail system via the Async 1 port) to the next VG248 device's Async 1 port. Continue to connect all the VG248 devices in the chain similarly. If you are connecting a legacy PBX system to the voice mail chain, connect the Async 2 port of the last chained VG248 device to the voice mail port of the legacy PBX.

The characteristics of the physical link consist of setting the baud rate, data bits, parity, and stop bits. **These settings must match on both the Cisco VG248 and the OCTEL 250™**.

The voice path is configured as if it were a series of single line telephones. These single line telephones are referred to as analog ports. Each port requires an RJ11 connection into the OCTEL 250. These analog ports must be configured in a hunt group. The hunt group is created in the Cisco CallManager to allow the station to hunt to the next voice port. Call Information packet is passed from the Cisco CallManager / VG248 to the

OCTEL 250 over the data-connection via the SMDI protocol. The call information packet will contain a message desk number (MDN), a logical terminal number (LTN) and the called party ID (where the call was forwarded from) at the minimum.

For a better integration, the switch should pass the calling party ID & the reason code for why the call was forwarded.

In case MWI is to be supported, the switch protocol should support passing of MWI ON/OFF code and the switch is responsible for switching the MWI lamp ON/OFF on the user's telephone when the switch receives such a code from the OCTEL 250.

In addition, all users telephones must be programmed to forward to the Pilot Number of the voicemail system on a ring-no-answer and busy condition.

5.1 CONFIGURING CISCO VG248 PORTS

Note: Configuring the analog ports to associate them in a hunt group is different in Call Manager 4.x and newer releases. (see end of this section)

Configuring the Ports on the VG-248

☐ Add the Analog ports in CallManager Administration. Open **CallManager Administration**.

Select **Device**. Select Add a **New Device**. Click **Next**.

Select **Device Type**. Select **Gateway**. The Gateway – New screen is displayed. Click **Next**.

In the **Device Type** box, select VG248. Click Next.

In the **MAC Address** box, type the gateway's MAC address. The MAC address for the VG248 must be entered as the last 10-characters – each port then adds a 2 digit suffix to the 10 character address resulting in the 12 character MAC address.

Once the VG248 has been added the individual ports can then be configured. Start with port **(00)** – this is used only for MWI and will not be used for transporting voice. Port's **(01)** through **(48)** are used as voice-paths and must be configured depending on the amount of ports used for Integration. Select port **(01)** and set the **Device Pool** appropriately i.e. **Default**. Next click **Insert**. The screen now asks if you would like to configure a Directory Number – answer **OK**. Fill out the **Directory Number** box and as well as the **Forward Busy – Destination** field. The concept here is that port **(01)** is the pilot of the Voicemail hunt-group and then forwards-no-answer to port **(02)** and so on. Once these fields have been completed click **Add.** Repeat this process for all ports.

The VG248 ports must also be configured. Access the VG248 and select **Configure**. Ensure that **Network interface** is configured appropriately and that both the VG248 and Cisco CallManager can see each other i.e. the Cisco CallManager should be able to see the VG248 as being **Registered** under the **Gateway** screen.

Under the **Configure** menu select **Telephony** > **Port specific parameters** where all 48 ports are displayed. For each port that is **Disabled** select the port and set as **Enabled**. Once **Enabled** the port should now show the Directory Number previously assigned from the Cisco CallManager Gateway administration screen.

NOTE: If you are experiencing analog ports not dropping after callers leave a message: Under the **Configure** menu select **Telephony** > **Port specific parameters** and set the following:

Select the range of ports: R

Select a range (example): 1-16

Depress Enter key

Select: Call Supervision Method

Select: Drop Loop Current

Depress Esc key and get back to main menu

This will cause the analog port to use call supervision and send Octel 250 a disconnect that is can detect.

The next step is to configure the Voicemail pilot DN. (If you are doing this on a Cisco Call Manager 4.x, see NOTE below)

Configuring the Voice Mail Pilot

Select **Feature** > **Voice Mail** > **Voice Mail Pilot** and add the chosen Directory Number.

Next select **Feature** > **Voice Mail** > **Voice Mail Profile** and add the previously configured **Voice Mail Pilot** to this profile. Each subscriber will need to be modified to "point" to this new profile or an existing profile could be modified accordingly.

Configuring Message Waiting

Now Message Waiting must be Configured. From the Main Menu select **Configure** > **Voice Mail** > **Call Manager MWI on DN**. Enter the same number as configured on CallManager as the MWI DN.

Do the same for **Call Manager MWI off DN** and enter the value that matches the parameter on the Call Manager as the MWI DN.

Ensure that these numbers are the same as those configured on the VG248 under menu **Configure** > **Telephony** > **Voice mail**.

Next from the main menu select **Voice Mail** > **Async port serial settings** > **Async 1.** The **port speed**, **data bits**, **stop bits**, and **parity** must match those of Octel 250.

This menu is also used to configure SMDI parameters. Configure the Keep Alive number From the Main Menu Main Menu, select **Configure** > **Voice mail** > **SMDI settings** > **Keep alive number.** Enter the number used in Octel 250 to test the serial link (usually it is 5551212).

Connect the VG248 to the Octel 250 and test with calls – Octel 250 should answer appropriately.

Note: ***For Cisco Call Manager 4.x and higher*** ports have to be configured into a **Line Group** (a group of extensions you want to ultimately associate to a single pilot number). This is then configured into a **Hunt List** (a grouping of one or more Line Groups), which is then configured into a Hunt Pilot (basically the Pilot number of a hunt group, which allows you to define a **Pilot Number**, and where you define the Hunt List you want to reach when the Pilot Number extension you just defined is dialed).

In the example screens that follow two VG248 ports, extensions 5091 and 5092, are configured to be reachable via Hunt Pilot number 5100.

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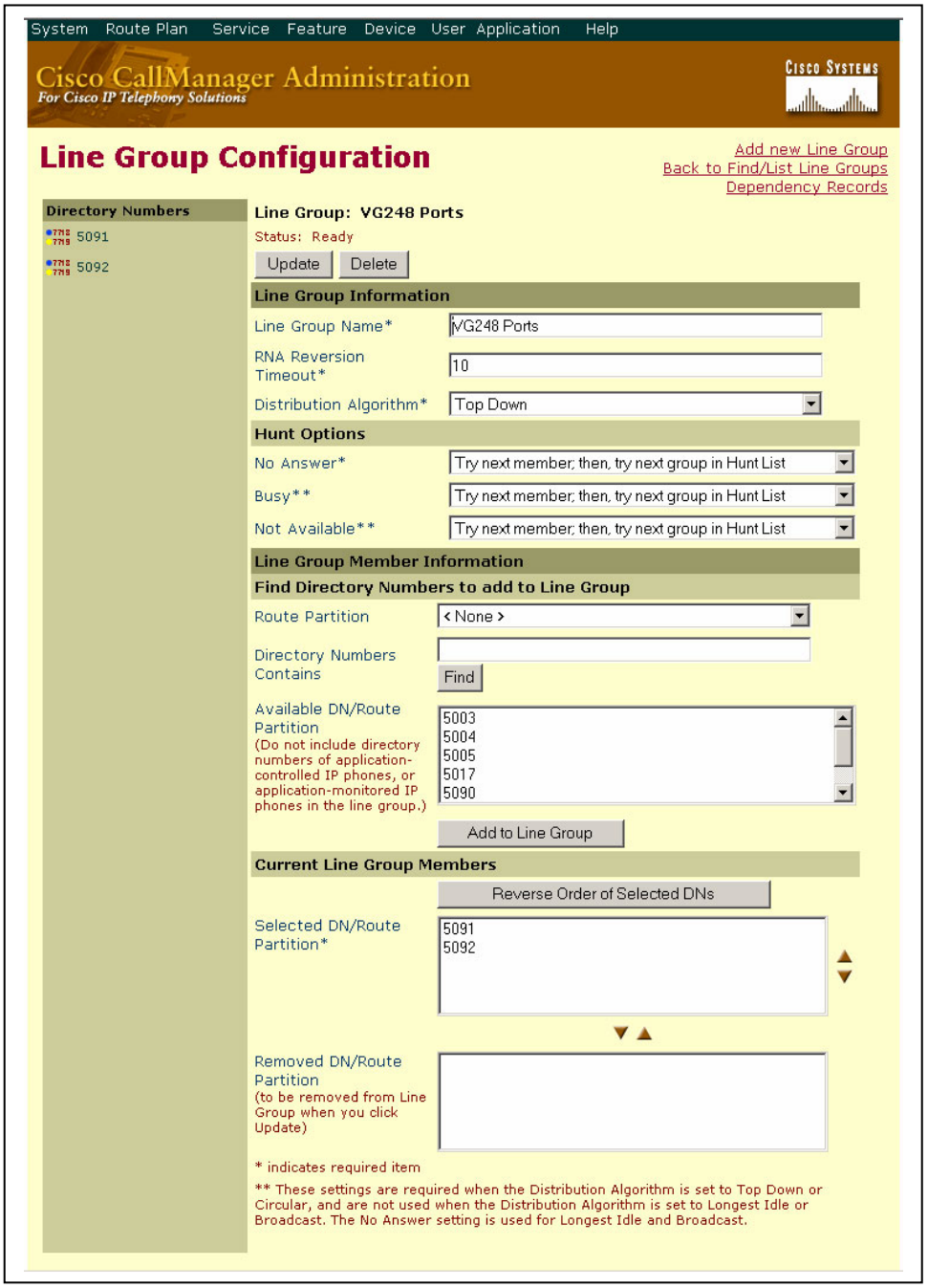
In these examples two VG248 ports, extensions *5091* and *5092*, are placed in a Line Group named ***VG248 Ports***.



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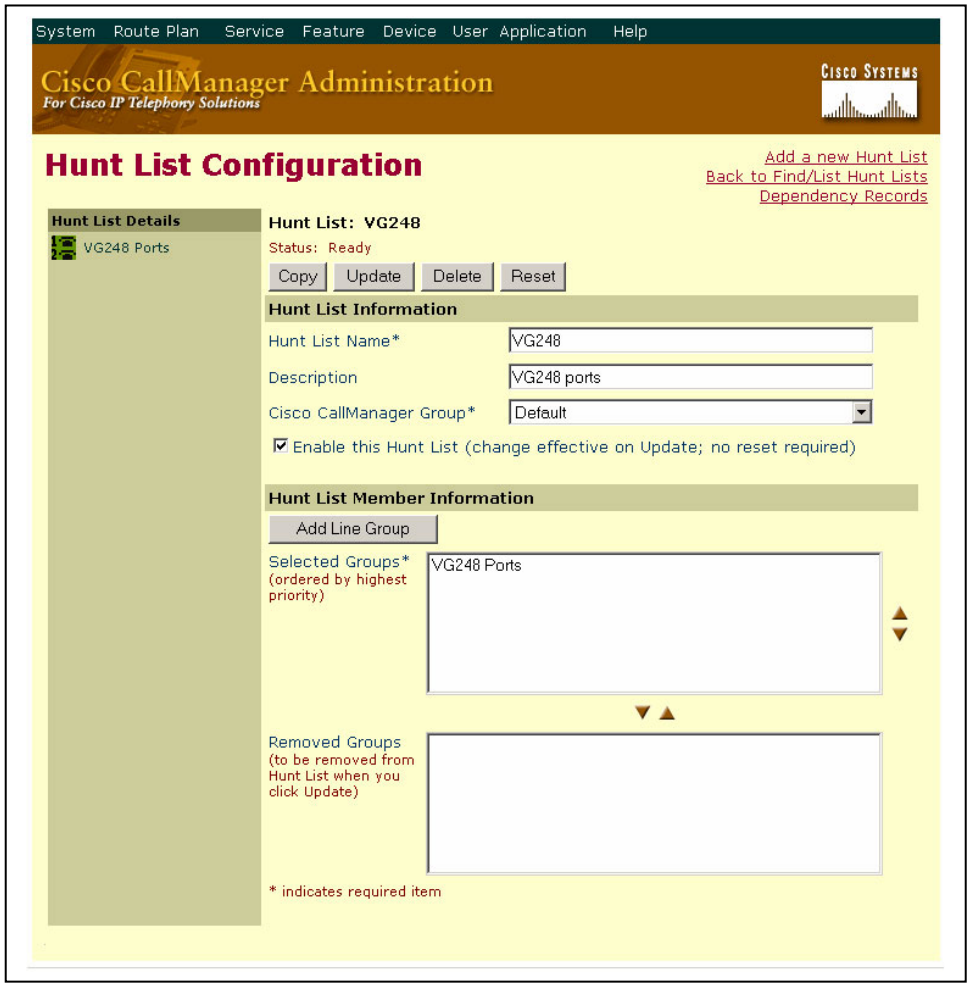
Here the line group ***VG248 Ports*** is added to a Hunt List named ***VG248***.



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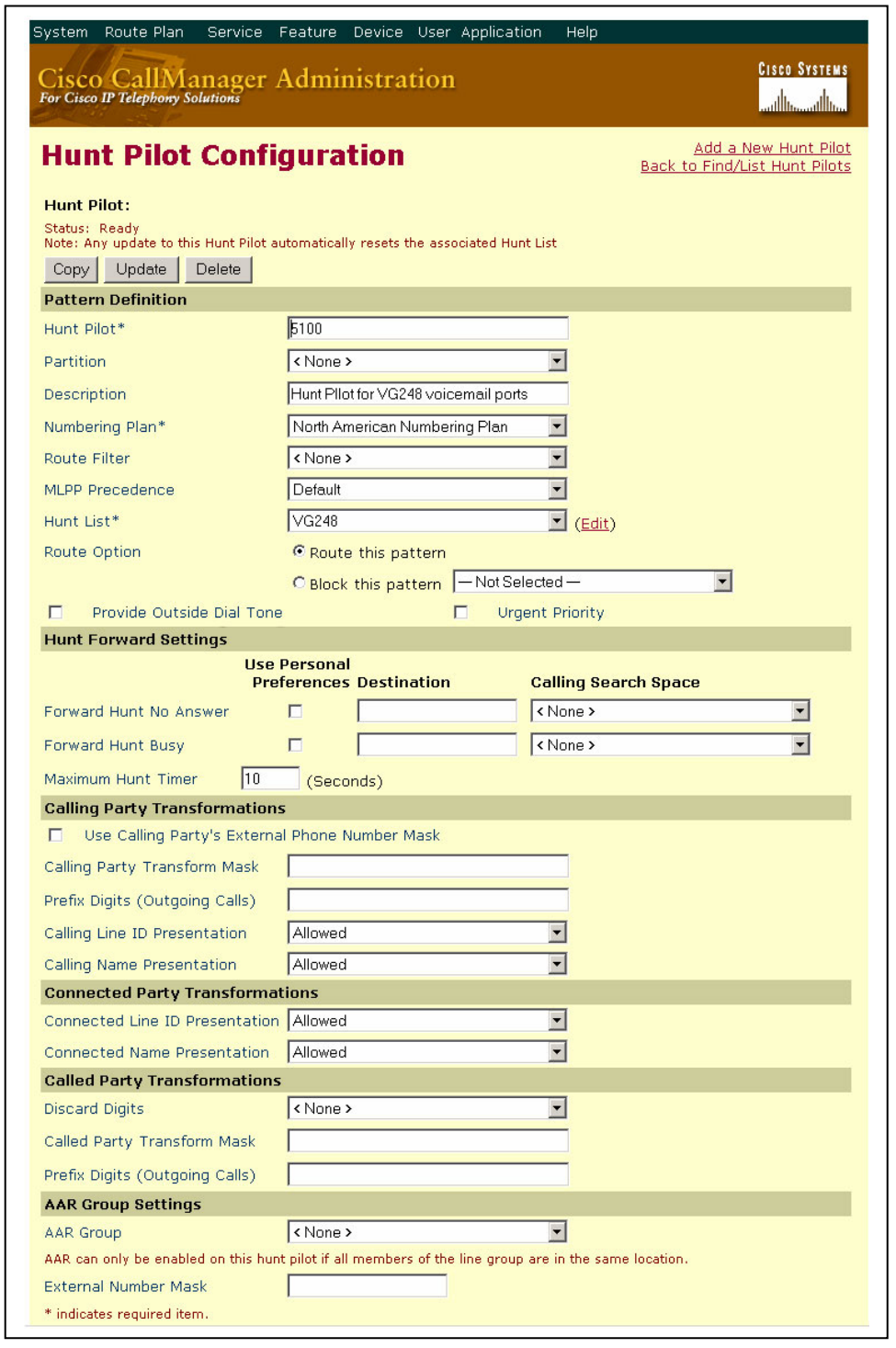
Hunt Pilot number 5100 is created and points to Hunt List ***VG248***.



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6.0 CONFIGURING THE OCTEL SYSTEM

Configuring the Octel system

Menu 1.1:

- PBX type: 3 - Centrex #1AESS full duplex
- Number of Digits in Extension (used for Outcalling and ECP): set to mailbox length
- Number of Digits in Extension (used for Message Waiting): 10

NOTE: Cisco CallManager requires 10-digit extensions for MWI

Menu 4.1:

- Extension/Phone No.: Enter the two-digit link number (see following Table) followed by the Message Desk number , followed by the LTN (Logical Terminal Number) of each analog line that is plugged into each particular port. This field must contain a 9-digit number, with the following format:

LLGGGMMMM

LL = Physical Link Number

GGG = Message Desk (DCC) number (always 000)

MMMM = Logical Terminal Number (0001 - 0128)

- Line Type: 35 Loop start
- M column: N for all ports

Menu 4.3:

Special RS-232 Message Waiting: Y

CF Serial Port Connector Designations for Integrations

Physical Link Number	Connector Designation
01	Async 1
02	Async 2
03	Async 3

Menu 6.1:

- Flash On-hook time: 850 milliseconds
- Pause Time: 1000 milliseconds

- Dialing Sequence to Transfer a Call: FPN
- Dialing Sequence to Reconnect a Call:
  Ring No Answer: F
  Busy: F

NOTE: Verify these dialing sequences for your PBX.

Menu 6.5 - Integration Link Management

- Link Number: (1-3)
- Link Name:
  Type of Switch to which the System is Integrated: 3 - 1A ESS/SMDI, Full Duplex
  Baud Rate: 3 - 9600 Baud
  Number of Data Bits: 0 - 7 Data Bits
  Number of Stop Bits: 0 - 1 Stop Bits
  Parity (None/Odd/Even): 2 - Even Parity
  XON/XOFF: 1 - Ignore XON/XOFF
  Carrier Detect: 1 - Carrier Detect Not Used
  Extension to Check SMDI Message Waiting: Leave Blank
  Max. Msg. Waiting Operations per second: 1
  Switch Number to which this Link is Associated: 1
  SMDI link down alarm threshold counter: 1

NOTE: After configuring the above menus, select Menu 6.5.5 to reset the integration link(s).

Menu 8:

- Subscriber's Extension Number:

NOTE: The "Subscriber's Extension" number should be configured with leading zeros plus the mailbox number. For example, mailbox 5001 will have a subscriber's station number of 0000005001. The number must equal ten digits.

- Int. Link Number: Enter the physical link number which is associated with the subscriber's CallManager PC.

7.0 INSTALLING THE DATA LINK

Install the RS-232 data link

☐ Octel Communications provides a cable to connect from the COM port on the Cisco CallManager PC to the Octel 250. Use Cable Part Number 057-1323-000 along with a DB25-to-DB9 connector. Connect the cable to the appropriate serial port on the CF board of the Octel 250. *See Figure 1*.

7.1 INSTALLING THE FLT CABLE

- ☐ Each FLT board supports up to eight analog voice ports. One 25-pair, amphenol cable is required for each FLT. *Figure 2* shows the proper cable pin-out for each of the eight voice ports.

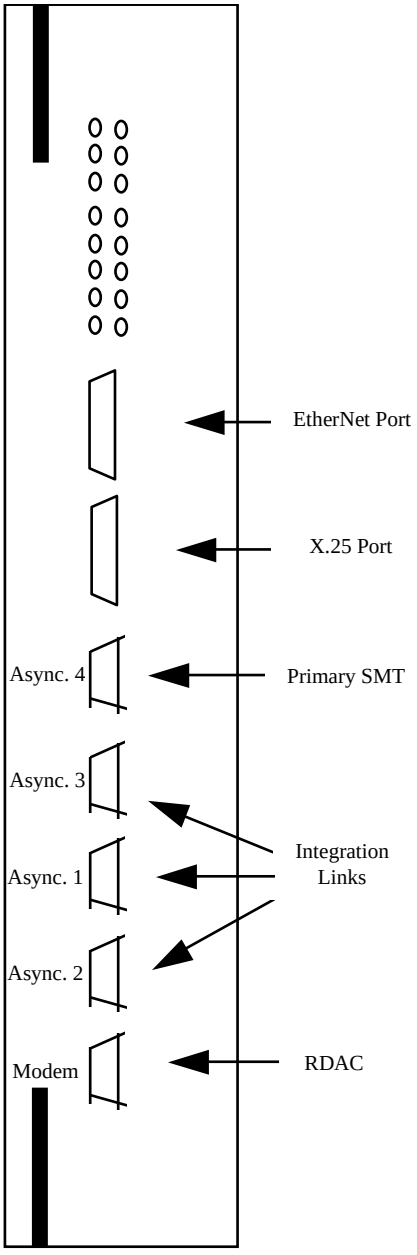


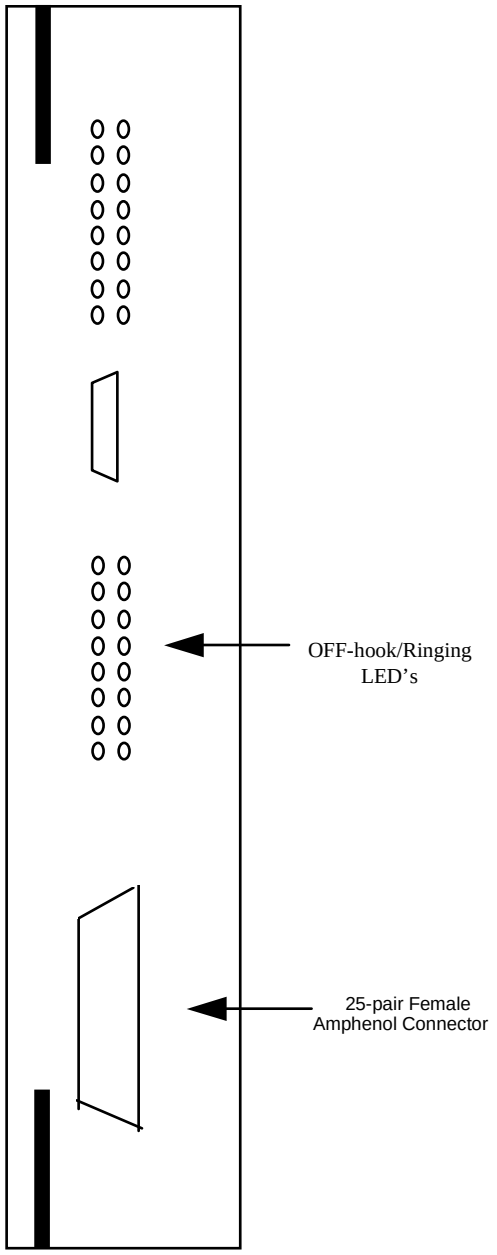
Figure - 1

7.2 TESTING THE INSTALLATION

Steps for testing the integration when installation is complete

- ☐ Create two mailboxes associated with two test extensions. Record a name and personal greeting for each mailbox.
- ☐ Call forward the test extensions to the Octel System Access Number.

- ☐ Using one test extension, call the other test extension. You should hear the personal greeting.
- ☐ Leave a message. Verify that the message waiting indicator turns on.



1	TA
26	RA
2	-
27	-
3	TB
28	RB
4	-
29	-
5	TC
30	RC
6	-
31	-
7	TD
32	RD
8	-
33	-
9	TE
34	RE
10	-
35	-
11	TF
36	RF
12	-
37	-
13	TG
38	RG
14	-
39	-
15	TH
40	RH

Remaining Pairs Not Used

FLT Cable Pin-Out

Figure - 2

- ☐ Verify that transfer to attendant works properly.
- ☐ Call the Octel 250 from a test extension. You should hear the recorded name and be asked to enter the password.

- ☐ Review the message in the mailbox. Verify that the direct reply feature works by pressing 8 at the end of the message.
- ☐ Delete the message. Verify that the message-waiting indicator turns off.

8.0 CONSIDERATIONS

Important notes regarding this integration

8.1 Analog Ports not dropping after callers leave a message indicates the Octel voice messaging system is not see a positive disconnect. To ensure users do not hear a few seconds of reorder tone at the end of their messages, you will need to set the Cisco Call Manager Call Supervision method as shown in the NOTE in Section 5.1.

CHANGE HISTORY		
Revision	Issue Date	Reason for Change
D	08/01	Released CN
E	07/23/04	Changed diagram Page 1 and PBX Programming Section 5.0
F	5/05/2005	Added note and screens for Cisco Call Manager 4.1 (2) and creating Pilot Number in section 5.1
G	12/22/06	Updated Section 5.0 and 5.1 to reflect changes need for VG248 integration. Also removed Consideration 8.1 as Cisco CM now supports Supervised Transfers. Also removed considerations on open look current and multiple greetings.

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