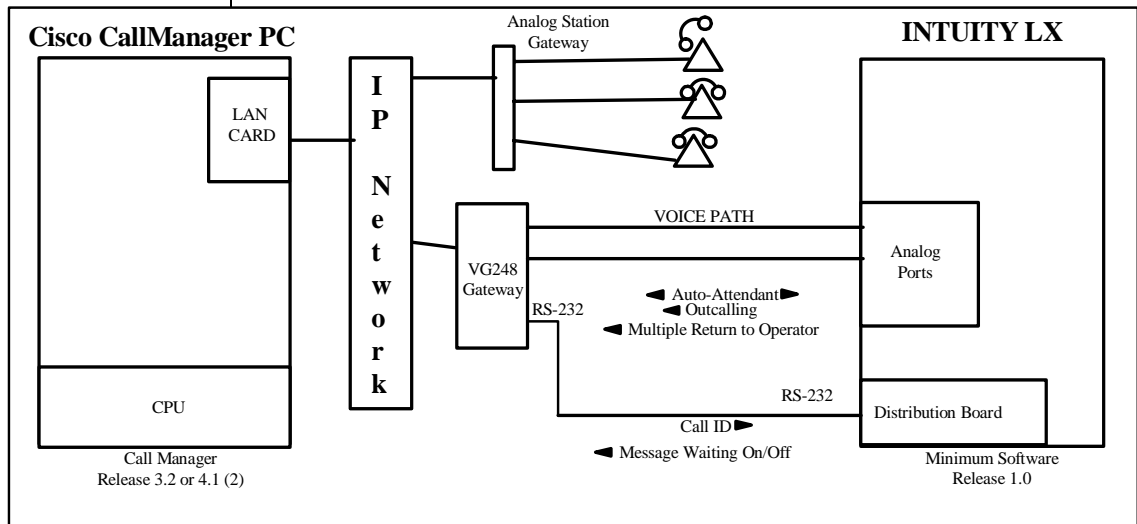


## Cisco CallManager & VG-248 Gateway



**IMPORTANT:**  
 This CN is for Support ONLY of Existing Integrations as originally installed.  
 No NEW Sales or Conversions to different Integrations are supported.

**How call information is sent from the Cisco CallManager to the INTUITY AUDIX LX™**

### 1.0 METHOD OF INTEGRATION

With RS-232 integration, call information is transmitted over a digital link between the Cisco CallManager and the INTUITY AUDIX LX™. 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 INTUITY AUDIX LX™. When the hunt group receives an incoming call, it is accompanied by a digital message in standard SMDI format from the Cisco CallManager that contains call information. The INTUITY AUDIX LX™ then answers the call on the specified port and plays the appropriate greeting. To set or cancel message-waiting notification, the INTUITY AUDIX LX™ sends a digital message over the RS-232 link to the Cisco CallManager.

**Avaya INTUITY AUDIX LX™ Requirements**

### 2.0 AVAYA INTUITY AUDIX LX™ ORDERING INFORMATION

- Dialogic D/41-JCT-LS Voice Port Cards, four analog connections per card, (three cards per system)
- Serial and Inband Integration Software
- INTUITY AUDIX LX™ Software R1.x; R2.0
- RS232 COM port for RS232 connection

Disclaimer: Configuration Notes are designed to be a general guide that reflects AVAYA Inc.'s experience configuring its systems. These notes cannot anticipate every configuration possibility given the inherent variations in all hardware and software products. Please understand that you could experience a problem not detailed in a Configuration Note. If so, please notify the TAC/TSO at (408) 922-1822, and if appropriate, we will include the problem in our next revision. AVAYA Inc. accepts no responsibility for errors or omissions contained herein.

**Hardware requirements****3.0 CISCO CALLMANAGER HARDWARE REQUIREMENTS**

- Cisco Call Manager PC with one available serial (com) port
- Analog station ports, one per INTUITY AUDIX LX™ port. Analog ports are provided via FXS ports on the following Cisco Analog Gateways: VG248 Gateways or WS-X6624-FXS Analog Interface Modules.

**Note:** If you are using a WS-X6624-FXS module you will not have the VG248 gateways as shown in the diagram on page 1. Instead the voice path will route back to this module directly.

- One analog station for remote service access
- If WS-X6624-FXS Module: use null cable DB9-to-DB9 connector
- If VG-248: use RJ45 to DB9 adapter (Cisco p/n 74-0495-01) and Cisco rollover cable (Cisco p/n number 72-0876-01).

**Note:** These two 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 Intuity Audix LX.

**Cisco software requirements****3.1 CISCO CALLMANAGER SOFTWARE REQUIREMENTS**

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

**Supported integration features****4.0 SUPPORTED INTEGRATION FEATURES**

- Station forward to personal greeting
  - all calls
- System forward to personal greeting
  - busy
  - no answer
- Message Waiting Indicator
  - stutter dial tone on analog extensions only
  - lights (79XX series 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 INTUITY AUDIX LX 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 INTUITY AUDIX LX™.**

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 INTUITY AUDIX LX. 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 INTUITY AUDIX LX 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 INTUITY AUDIX LX.

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

Configuring the Ports  
on the VG-248

**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)

- 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**

Configuring the Voice  
Mail Pilot #

- **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 Intuity AUDIX LX a disconnect that it 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)

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.

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 Intuity AUDIX LX.

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

Connect the VG248 to the Intuity AUDIX LX and test with calls – Intuity Audix LX 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).

Configuring Message  
Waiting

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

- continued on next page -

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

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions

CISCO SYSTEMS

## Line Group Configuration

[Add new Line Group](#)  
[Back to Find/List Line Groups](#)  
[Dependency Records](#)

Directory Numbers	Line Group: VG248 Ports
5091	Status: Ready
5092	<input type="button" value="Update"/> <input type="button" value="Delete"/>
<b>Line Group Information</b>	
	Line Group Name* <input type="text" value="VG248 Ports"/>
	RNA Reversion Timeout* <input type="text" value="10"/>
	Distribution Algorithm* <input type="text" value="Top Down"/>
<b>Hunt Options</b>	
No Answer*	<input type="text" value="Try next member; then, try next group in Hunt List"/>
Busy**	<input type="text" value="Try next member; then, try next group in Hunt List"/>
Not Available**	<input type="text" value="Try next member; then, try next group in Hunt List"/>
<b>Line Group Member Information</b>	
<b>Find Directory Numbers to add to Line Group</b>	
Route Partition	<input type="text" value="&lt; None &gt;"/>
Directory Numbers Contains	<input type="text" value=""/>
	<input type="button" value="Find"/>
Available DN/Route Partition	<input type="text" value="5003"/>
	<input type="text" value="5004"/>
	<input type="text" value="5005"/>
	<input type="text" value="5017"/>
	<input type="text" value="5090"/>
	<input type="button" value="Add to Line Group"/>
<b>Current Line Group Members</b>	
	<input type="button" value="Reverse Order of Selected DNs"/>
Selected DN/Route Partition*	<input type="text" value="5091"/>
	<input type="text" value="5092"/>
Removed DN/Route Partition	<input type="text" value=""/>
	(to be removed from Line Group when you click Update)
* indicates required item	
** These settings are required when the Distribution Algorithm is set to Top Down or Circular, and are not used when the Distribution Algorithm is set to Longest Idle or Broadcast. The No Answer setting is used for Longest Idle and Broadcast.	

- continued on next page -

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

The screenshot displays the Cisco CallManager Administration web interface. At the top, there is a navigation menu with links for System, Route Plan, Service, Feature, Device, User, Application, and Help. Below this is the Cisco CallManager Administration logo and the Cisco Systems logo. The main heading is "Hunt List Configuration". On the right side, there are three links: "Add a new Hunt List", "Back to Find/List Hunt Lists", and "Dependency Records".

The configuration page is divided into several sections:

- Hunt List Details:** Shows "Hunt List: VG248" with a status of "Ready". It includes buttons for "Copy", "Update", "Delete", and "Reset".
- Hunt List Information:** Contains fields for "Hunt List Name\*" (VG248), "Description" (VG248 ports), and "Cisco CallManager Group\*" (Default). There is a checked checkbox for "Enable this Hunt List (change effective on Update; no reset required)".
- Hunt List Member Information:** Features an "Add Line Group" button. Below it, a list of "Selected Groups\*" (ordered by highest priority) includes "VG248 Ports". There are up and down arrow icons for reordering. Below this is a section for "Removed Groups (to be removed from Hunt List when you click Update)".

A note at the bottom states: "\* indicates required item".


- continued on next page -



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

System Route Plan Service Feature Device User Application Help

**Cisco CallManager Administration**  
For Cisco IP Telephony Solutions



## Hunt Pilot Configuration

[Add a New Hunt Pilot](#)  
[Back to Find/List Hunt Pilots](#)

**Hunt Pilot:**  
 Status: Ready  
 Note: Any update to this Hunt Pilot automatically resets the associated Hunt List

### Pattern Definition

Hunt Pilot*	<input type="text" value="5100"/>	
Partition	<input type="text" value=" &lt; None &gt;"/>	
Description	<input type="text" value=" Hunt Pilot for VG248 voicemail ports"/>	
Numbering Plan*	<input type="text" value=" North American Numbering Plan"/>	
Route Filter	<input type="text" value=" &lt; None &gt;"/>	
MLPP Precedence	<input type="text" value=" Default"/>	
Hunt List*	<input type="text" value=" VG248"/>	<a href="#">(Edit)</a>
Route Option	<input checked="" type="radio"/> Route this pattern <input type="radio"/> Block this pattern <input type="text" value=" - Not Selected -"/>	
<input type="checkbox"/> Provide Outside Dial Tone		<input type="checkbox"/> Urgent Priority

### Hunt Forward Settings

	Use Personal Preferences	Destination	Calling Search Space
Forward Hunt No Answer	<input type="checkbox"/>	<input type="text"/>	<input type="text" value=" &lt; None &gt;"/>
Forward Hunt Busy	<input type="checkbox"/>	<input type="text"/>	<input type="text" value=" &lt; None &gt;"/>
Maximum Hunt Timer	<input type="text" value=" 10"/>	(Seconds)	

### Calling Party Transformations

Use Calling Party's External Phone Number Mask

Calling Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>
Calling Line ID Presentation	<input type="text" value=" Allowed"/>
Calling Name Presentation	<input type="text" value=" Allowed"/>

### Connected Party Transformations

Connected Line ID Presentation	<input type="text" value=" Allowed"/>
Connected Name Presentation	<input type="text" value=" Allowed"/>

### Called Party Transformations

Discard Digits	<input type="text" value=" &lt; None &gt;"/>
Called Party Transform Mask	<input type="text"/>
Prefix Digits (Outgoing Calls)	<input type="text"/>

### AAR Group Settings

AAR Group	<input type="text" value=" &lt; None &gt;"/>
-----------	--

AAR can only be enabled on this hunt pilot if all members of the line group are in the same location.

External Number Mask

\* indicates required item.

- continued on next page -

## Configuring the INTUITY AUDIX LX™

### 6.0 CONFIGURING THE INTUITY AUDIX LX

□ For more information on configuring the INTUITY AUDIX LX, click Help on the appropriate page, or refer to the INTUITY AUDIX LX CD ROM and refer to the Switch Integration chapters for detailed information.

□ The following are the steps required for an INTUITY AUDIX LX™ R2.x. INTUITY AUDIX LX 2.x uses a simpler GUI as shown in our example screen below. All you need do is open the category you will administer (shown in yellow text next to the small white triangles in the left column). You can expand these by click on the white triangle to left of it. Once this is done the category will expand providing choices below it. In our example we have opened Switch Administration. The triangle points down to indicate it is open.

Here we selected Interface Parameters. This is noted by the white rectangle around the text Interface Parameters in blue.

AVAYA

Intuity™ Audix@ LX  
Messaging Administration  
This server: hplataulx.dr.avaya.com

Help Log Off

- ▶ Messaging Administration
- ▶ Server Administration
- ▶ INAP/SMTP Administration
- ▶ Server Information
- ▶ Utilities
- ▶ Logs
- ▶ Reports
- ▶ Diagnostics
- ▶ Software Management
- ▶ Security
- ▶ Alarming
- ▶ Call Transfer Administration
- ▶ Backup/Restore
- ▶ Voice System Admin
- ▶ Voice Equipment Diagnostics
- ▶ Switch Administration
  - Switch Selection
  - Inband Interface Admin
  - Device Assignment
  - MWI Parameters
  - Dial Plan Translation
  - Trunk Translation
  - Transfer Parameters
  - Call Info Parameters
  - Interface Parameters**
  - Tones Administration

Interface Parameters

Country: UNITED STATES Switch: DEFINITY MODE CODE

	Default	Current	Range	Unit
Answer Delay	0	0	0 - 50	rings
Post Onhook Delay	2500	2500	0 - 30000	msec
Post Offhook Delay	1500	1500	0 - 30000	msec
Switch Hook Flash Duration	600	600	100 - 3000	msec
Wink Duration	50	50	50 - 800	msec
DTMF On-time	100	100	40 - 2500	msec
DTMF Off-time	50	50	40 - 2500	msec
CPT Detect Minimum	-40	-40	-48 - 3	dBm
Energy Detect Minimum	-44	-44	-44 - 3	dBm
Input Volume	-20	-20	-57 - 0	dBm
Output Volume	-3	-3	-57 - 0	dBm
Number of Rings To Wait For DNIS	0	0	0 - 99	rings
Hunt Group Method	ascending	descending	-	-

Save Help

**Important:** This is an example screen of IALX R2.x Administration. The values shown here are not necessarily the ones you need to enter. Please read the CN for more detailed information.

**HINT:** When changes to the Switch Interface Administration are completed, the voice system must then be stopped and started.

- Start at the Administration main menu
- Select Basic System Administration.
- Select **Switch Selection**.

Once a selection is made the appropriate screen will open allowing you to enter the parameters as noted in the CN.

**NOTE:** The Definity Mode Code software may have to be loaded from the software CD that came with the Intuity LX.

**Note:**

Leave these settings blank if you are using ONE Hunt Group / Pilot Number (aka Message Desk).

Entries only need to be made if you are using more than one Hunt Group / Pilot Number (aka Message Desk).

- Under **Switch Administration**:
  - Click on *Switch Selection*
  - Select *UNITED STATES – 5ESS or SMDI*
  - Click **Save**
- Under **Voice System Admin**
  - Click on *Assign Chans to Groups*
  - If you are setting up different channels to different groups, complete these fields as follows:
    - Channels: *Enter a number or range* (for example, **0,1,2** or **0 1 2** or **2-4** or **all**).
    - Groups: *Enter a number or range* (for example, **0,1,2** or **0 1 2** or **2-4** or **all**).
  - NOTE:** By default all channels are assigned to group 2.
  - Click **Save**
  - Click on *Assign PBX Ext/Chans*
    - Starting PBX Extension: *Enter a phone number (the pilot number)* for the first channel (up to 7 digits).
    - Starting Channel Number: *Enter a number* (start at channel 0).
    - Ending Channel Number: *Enter the last channel number.*  
(Example: If 12 port system the last port is 11)
  - Click **Save**
  - Click on *Assign Services/Chans*
    - Channel: Enter the channel number and/or a range of numbers.
    - Service: (You have the option to select \*DNIS\_SVC, AUDIX, Chan Tran, chandip, or init\_xfer). Choose **\*DNIS\_SVC**.
  - Click **Save**
- Under **Voice Equipment Diagnostics**

Click on *Display* and verify that the information you entered was entered correctly and that the voice card is INSERT state.
- Under **Voice System Admin**
  - Click on *Assign Number Services*
    - Called Numbers: *any* (the field after the “to” is blank).
    - Calling Numbers: *any* (the field after the “to” is blank).
    - Service Name: **AUDIX**.
  - Click **Save**

- Click on *Display Number Services* and verify that the information was correctly entered.

- Under **Call Transfer Administration**. Customers have the option to select numbers to be allowed or denied when they are performing transfers. You can add, delete and display numbers here. Restrictions (denied numbers) can also be administered if any are to be used.

- If you click on *Allowed Number Display*, you will see the following for a four-digit dial plan:

From	To
0	9999

Click **Return to Main**.

Note: If 7 digit plan it would be 0 to 9999999

- Under **Switch Administration**

- Click **Switch Link Admin**

- o Assign parameter values that match the Cisco CM VG-248 serial port (*below are examples of parameters used.*):

Data bits: 7  
 Stop bits: 1  
 Start bits: 1  
 Baud rate: 9600  
 Parity: E  
 Flow control: N

Under **Serial Ports, Port 1** (pull-down menu): select `/dev/ttyS0`

- Click on **Device Assignment**

- o Link Test: **N** (If link test is set to 'Y' enter the values for the following fields:
  - Link Test Interval: 100 (specifies the heartbeat interval in seconds)
  - Heartbeat Timeout: 30
  - Switch Number: 1 (range can be 1-64)
  - Device ID: `/dev/ttyS0` (*see note below*)
  - Link Test Number: 9999999

**NOTE:** Before configuring the Device ID field, the Link parameters for the serial interface need to be configured. This should have been done in the previous step.

The serial port `/dev/ttyS0` and `/dev/ttyS1` are reserved for INTUITY AUDIX LX™ system use. Select `/dev/ttyS0`.

Click on **MWI Parameters**

**Note:** The MWI Prefix/Suffix are grayed out and cannot be administered. They are displayed for verification only.

- MWI On Prefix: OP:MWI,0x20
- MWI On Suffix: !,0x04
- MWI Off Prefix: RMV:MWI,0x20
- MWI Off Suffix: !,0x04
- MWI Update: **Y**
- Intuity Prefix: **N**
- Log MWI Update: **Y**
- Switch Prefix: **Y** (This appends a prefix to the extension number for MWI)
- Background Refresh: **N** (If set to '**Y**' set the following values)
  - Background Interval: **60**
  - Background Updates: **1**
  - Broadcast Interval: **10**
  - Broadcast Updates: **3**
- Click **Save**
- Click **Dial Plan Translation**
  - Add or Update INTUITY Extension Length
  - Max PBX Extension Length: 10
  - Define the Switch Network Access Code: <If required>
  - Add or update the "Switch Prefix" as 000.
  - Enter the valid extension ranges in Switch Start Ext. as **0000** and in Switch End Ext. as **9999**.
  - Leave the INTUITY Prefix field blank.
  - Enter Switch number. This is the same number that is used in the AUDIX subscriber database.
  - Enter **N** in the Remote [Y/N] field.
- Click **Update**
- Click **Trunk Translation**
  - Enter the Trunk Number <if required>
  - Define the INTUITY Subscriber Number.
- Click **Update**

**ADD**  
Subscriber Msg Admin  
Enter command:  
*cha ma*  
(means *change machine*)  
Then set:  
start ext: 0000000  
end ext: 9999999

In Switch Administration  
Intuity Subscriber Name  
should be left blank

- Click on **Attendant Translation**

- Attendant ID: (Specifies Attendant extension # on the switch)
- Intuity Subscriber Number: (the Mailbox that is substituted for the Attendant ID passed on by the switch)

- Click **Update**

- Click on **Hunt Group Translation**

**Note:** Administering Hunt Group Translations are typically used with multiple trunk groups and may not be required for implementations that use a single Hunt Group/Pilot #

- Message Desk Number: 2 (specifies the MDN being mapped to the specified INTUITY channel. Range is from 1 to 999.)
- Logical Terminal Number: 0-11 (*Note: 0-11 is for 12 ports*)

Click Return to Administration main menu

- After all the required administration is completed, stop and restart the INTUITY AUDIX LX .

- continued on next page -

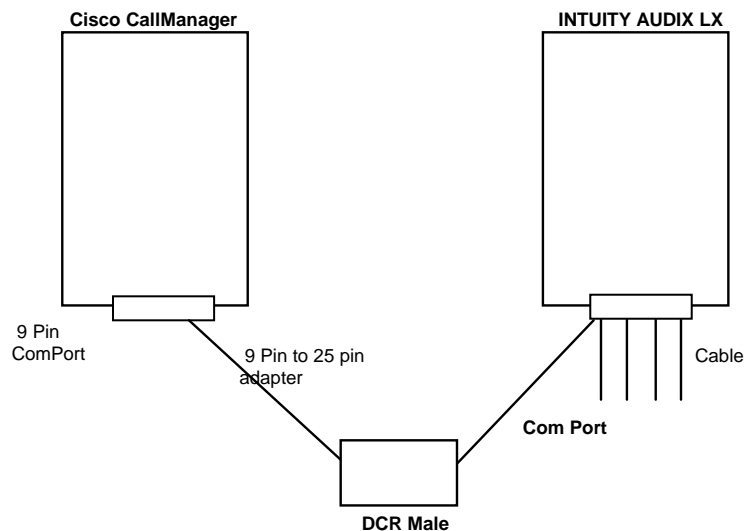
## Connecting the Voice Lines

## Connecting analog voice channels

### 7.0 INSTALLING THE VOICE LINES

- Each DIALOGIC VOICE CARD supports four analog (tip/ring) connections. The voice path between the Cisco Call Manager and the INTUITY AUDIX LX™ requires one pair into each RJ11 connection of the DIALOGIC VOICE CARD. Refer to the installation instructions for the hardware.
- To ensure the ports are physically connected correctly, ask the switch administrator to place calls to each individual INTUITY AUDIX LX™ voice channel one at a time. Use the “System Monitor” menu in the INTUITY AUDIX LX™ to monitor that the correct channel is dialed from the switch
- The Null Modem cable connects to the DB9 into COM1 of the INTUITY AUDIX LX , and the other side of the DB-9 connects into the Cisco CallManager I/O port. The pin strapping of the cable are as followed:

Pin 2 to 3  
 Pin 3 to 2  
 Pin 4 to 6  
 Pin 5 to 5  
 Pin 7 to 8  
 Pin 8 to 7



**Steps to verify our  
installation when  
complete**

## 7.1 TESTING THE INSTALLATION

- Refer to the AUDIX Administration manual for further details on testing the installation.
- Create two mailboxes associated with two test extensions. Record a name and personal greeting for each mailbox.
- Using one test extension, call the other test extension. You should hear the appropriate greeting (see test scenarios below).
- Leave a message. Verify that message waiting indication turns on.
- Test call coverage scenarios:
  - Forward all calls - When a subscriber forward all calls to the INTUITY AUDIX LX™ number, calls placed to the subscriber should follow the correct INTUITY AUDIX LX™ prompt should be played for that subscriber.
  - Busy - Place a call to a busy extension. This should follow the right coverage path and INTUITY AUDIX LX™ should play the NO ANSWER greeting.
  - Call no answer from INTUITY AUDIX LX™ scenario is the same as above.
- If calls are Non-Integrated, check the following:
  - Check the appropriate COS has been assigned to the tip/ring lines.
  - Check the PBX Extn to Channel mapping has been administered properly.
  - Check the Switch Integration log to make sure the RAW data is seen for every call and is appropriately parsed and translated.
  - Check the maintenance log to see if an error has been logged indicating “Bad data”. If yes, then check the switch setup to ensure that the correct serial integration information are being passed to INTUITY AUDIX LX™.
  - Check the Dial Plan Translation screen to see if the translation table has been administered correctly.
- Message waiting indicators - Listen to the message left for the mailboxes above, delete the message and verify message waiting is turned off.
- Verify that message waiting indication turns on. If Message Waiting failures occur check the following:
  - Check the appropriate COS has been administered on the switch or the subscriber telephone sets.



- Check the SWIN LOG to see if INTUITY AUDIX LX™ is dialing out the required sequence of digits. If not check the DIAL PLAN Translation and make sure that it is administered correctly.
- Check if the MWI sequence dialed out by INTUITY AUDIX LX™ is the same as set on the switch. Ask the switch administrator for the MWI sequence. If it is different than change the MWI ON Prefix and Suffix to reflect the correct value.
- Test Transfers using “\*T” option. From Audix mailbox. Transfer to another mailbox. Monitor the transfer time. Transfer to a station that is in a Do-Not-Disturb mode, busy mode, RNA mode.
  - The transfer time is approximately 5-8 seconds.
  - Test multiple transfers - set up phone A to transfer to Phone B and Phone B transfers to phone C. And phone C transfers to phone D. Determine how many transfers can be supported on the switch.
- If Transfer failures are encountered, then check the following:
  - Check if INTUITY AUDIX LX™ is detecting dial tone. If not, use the Tone Sniffer tool to configure the dial tone correctly.
  - Check if the flash duration set on INTUITY AUDIX LX™ is the same as that configured on the switch, if not then modify the flash duration.

**NOTE: If the caller is disconnected during transfers then the flash duration is too high and has to be reduced. If the caller hears INTUITY AUDIX LX™ dialing digits during transfer then the flash duration is too low and has to be increased.**

- Call Disconnect - Leave a message for test mailbox, retrieve it and listen for the sign of the call progress tones. Place an external call and document the time it takes the INTUITY AUDIX LX™ to disconnect after the caller hangs up.
  - If there is no progress tone in the message, disconnect is working fine.
  - Zero (“0”) Out - Verify that return-to-operator works properly.
  - Call the INTUITY AUDIX LX™ from a test extension leave a message for a station with a voice mail button.
  - If the subscriber stations are programmed to support a button, which will dial the voice mail access number and the mailbox number followed by the # sign, the INTUITY AUDIX LX™ will prompt for the password. Do you hear “Please enter your password.”
- Automated Attendant - Call the automated attendant mailboxes.

**Note:** If the correct Auto Attendant mailbox is not reached and all above tests passed, the most likely problem will be in the switch translations. Check with the system administrator to endure proper translation.

- Optional testing when setting up outcall notification in the test mailbox, leave a message to generate an outcall. Make sure ports are configured for Outcall
- INTUITY AUDIX LX™ should call the number administered for out calling after the administered time has passed.
- If Outcalling failures occur, check if INTUITY AUDIX LX™ is detecting dial tone. If not, use the Tone Sniffer tool to configure the dial tone correctly.

**NOTE:** If you encounter problems while performing these tasks, review the “switch log” before escalating problems to your local Technical Support Center.

## 8.0 CONSIDERATIONS

- 8.1 Analog Ports not dropping after callers leave a message** indicates INTUITY AUDIX LX™ 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.
- 8.2 Cisco Call Manager 4.1(2) MWI issues** (i.e., out of sync, etc.) may be resolved by turning off Intuity Audix LX’s MWI refresh.

Important notes regarding this integration

CHANGE HISTORY		
Revision	Issue Date	Reason for Change
Version A	3/23/05	Initial release
Version B	05/09/05	Added note and screens for Cisco Call Manager 4.1 (2) and creating Pilot Number in section 5.1; added Consideration 8.2 and 8.3. Removed older Consideration 8.2 concerning discontinued VG200.
Version C	07/20/06	Updated Cisco Call VG248 programming NOTE in section 5.1 for positive disconnection / detection.
Version D	12/22/2006	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.
Version E	03/08	Noted support for IALX 2.0 in section 2.0. Made changes to accommodate new administration screens in Section 6.0 for IALX 2.0
RIP	02/23/10	Made CN RIP

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### **AVAYA Inc.**

1033 Murphy Blvd.,  
Milpitas, CA 95035  
(408) 577-7000  
<http://www.avaya.com>