

DEFINITY Mode Code Switch Integration

3

Overview



NOTE:

For Intuity AUDIX LX, some of the screens may have been updated to Web-based administration and were not updated in this information. For more information refer to the Help on the appropriate page. In addition, refer to the Configuration Note for your switch information.

Unlike other methods of switch integration, mode-code integration depends on the transmission of ordinary analog telephone signals between an INTUITY™ AUDIX® system and a DEFINITY R6 or later switch. (The ProLogix configuration uses only mode-code integration and C-LAN.)

Signals from the INTUITY AUDIX system to the switch consist of switch-hook signals and touch-tones signals. Signals from the switch consist of call-progress signals and touch-tones signals. Since the variety of data that can be exchanged in this way is limited, fewer features are available with mode-code integration than with other means of integration. (See [Table 1-1 on page 1-2](#) for details.)

Purpose

The following conditions must be met to enable mode-code integration:

- Mode codes are administered as a switch option. Use the standard mode codes delivered with the system.
- Analog ports connected to the voice messaging system are identified as voice messaging interfaces.

- The switch and messaging system must agree on the meaning of their signals.
- The switch must be running R6 or later software.

Use the following procedure to turn on mode-code integration.

DEFINITY Switch Administration

Feature Administration

Enable Mode-Code Integration

Use the switch's Customer Options form to enable mode code integration.

 **NOTE:**
You must be logged in as INIT in order to make this change.

Proceed as follows:

1. Enter the command: **change system-parameters customer-options** and make sure the G3 Version (on the first line) is set to V6 or later.
2. Change to page 2. ([Figure 3-1](#)).
3. Set the Mode Code Interface? field on this screen to **y**.

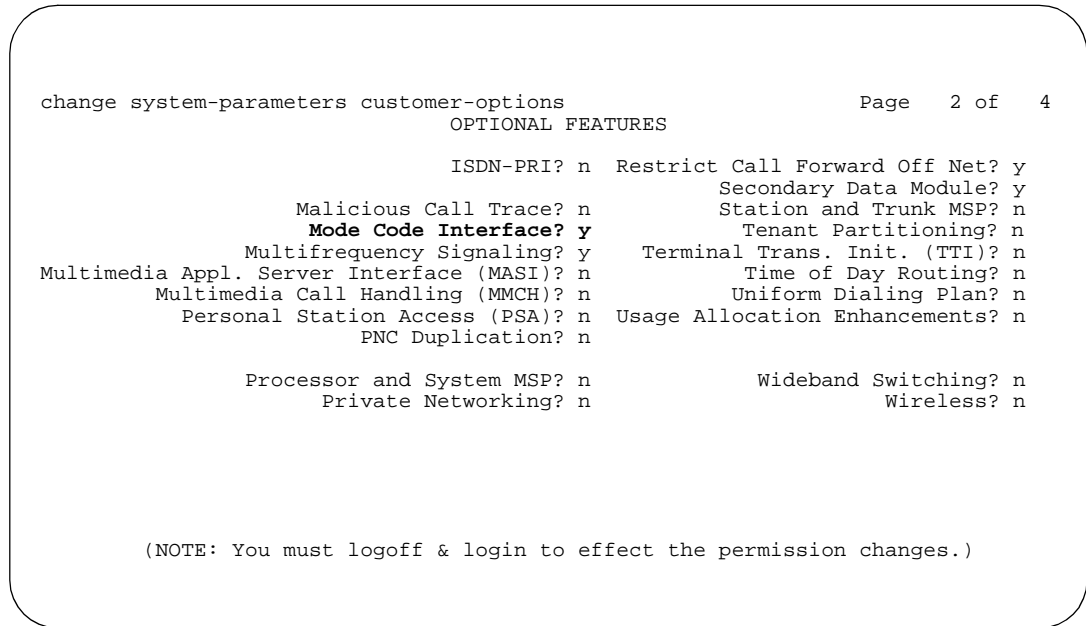


Figure 3-1. Mode Code Interface Enabled

Assign Circuit Cards

Make sure your INTUITY AUDIX system is connected to the switch before you continue. That is, an on-premises system must be connected as a number of on-premises stations.

Administer each analog port as station type VMI but exactly as if it were a model 2500 station. Follow these steps:

- 1. Enter **change station port_number**
Where *port_number* is the extension number you assigned to this INTUITY port.
The screen of [Figure 3-2](#) appears.
- 2. Enter **VMI** in the **Type** field.
- 3. Enter in the **Port** field the DEFINITY location of the port to which you have connected this messaging system port.
- 4. Enter in the **Name** field the name by which this messaging port will be known. This name must match the name entered in the hunt group member assignments, and must include the word AUDIX.
- 5. Fill out the rest of the fields as shown in [Figure 3-2](#). Press **(ENTER)** to save the information. The **cor** and **cos** should be set to match the values determined in your worksheet A.

change station 30004

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STATION		
Extension: 30004	Lock Messages? n	BCC: 0
Type: VMI	Security Code:	TN: 1
Port: 01A0701		COR: 1
Name: AUDIX 1		COS: 5
		Tests? n

STATION OPTIONS

Off Premise Station? n

Figure 3-2. Change Station Screen 1

- 6. Press **(NEXTPAGE)** to move to the second page of the Station screen. The screen of [Figure 3-3](#) appears.
- 7. Fill in the fields exactly as illustrated in [Figure 3-3](#).
- 8. Press **(ENTER)** to save the information.

change station 30004

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FEATURE OPTIONS

STATION

LWC Reception: none
LWC Activation: y
CDR Privacy? n
Redirect Notification? n
Per Button Ring Control? n
Bridged Call Alerting? n
Switchhook Flash? y
Ignore Rotary Digits? n
H.320 Conversion? n

Coverage Msg Retrieval? n
Auto Answer: none
Data Restriction? n
Call Waiting Indication? n
Att. Call Waiting Indication? n
Distinctive Audible Alert? n
Adjunct Supervision? n

Audible Message Waiting? n

Figure 3-3. Change Station Screen 2

9. Press **NEXTPAGE** to move to the third page of the Station screen ([Figure 3-4](#)).

change station 30004

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SITE DATA

STATION

Room:
Jack:
Cable:
Floor:
Building:

Headset? n
Speaker? n
Mounting: d
Cord Length: 0
Set Color:

ABBREVIATED DIALING

List 1:List 2:List 3:

HOT LINE DESTINATION

Abbreviated Dialing List Number (From above 1, 2, or 3):
Dial Code:

Line Appearance: call-appr

Figure 3-4. Change Station Screen 3

10. Fill out this screen as instructed in the DEFINITY documents.
11. Press **ENTER** to save the information.

Assign the Hunt Group

You must identify each Intuity AUDIX system voice port as a member of one call distribution or switch group, also called a *hunt group*. This group is a set of analog ports on the switch that connects subscribers and callers to the Intuity AUDIX system by distributing new calls to idle ports. For example, when a caller dials the Intuity AUDIX system number to retrieve voice messages, the hunt group receives the call and sends it to the first available port. See the appropriate switch documentation for more information about call distribution groups.

Use the following procedure to place the voice ports into a hunt group starting with port 1:

- 1. Enter **add hunt-group hunt group number** at the `enter` command prompt on the SAT.

The system displays the Hunt Group screen ([Figure 3-5](#)).

See [Worksheet C](#), in [Chapter 2, Switch Integration Planning](#) for the hunt group number. You also can enter **add hunt-group next** to add a hunt group with a number that is one higher than the previous hunt group

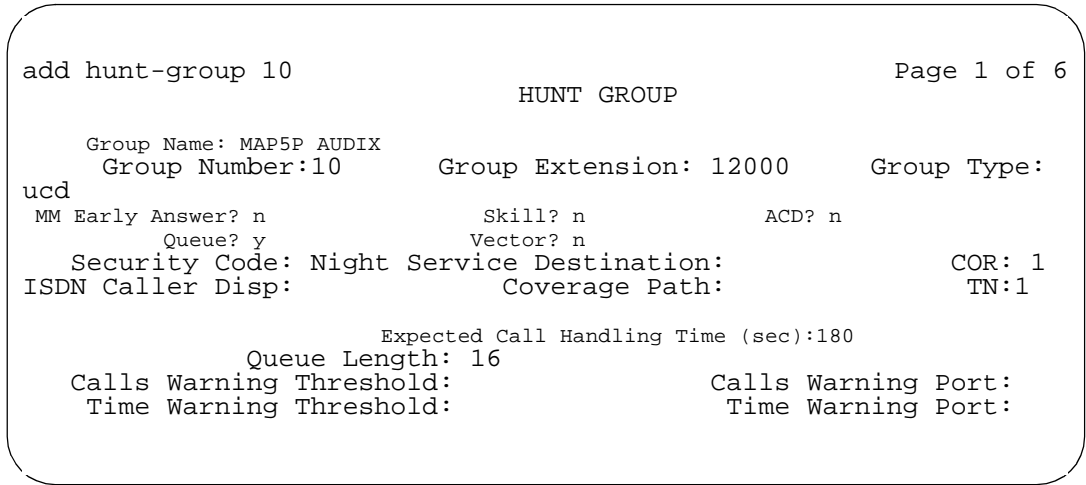




Figure 3-5. Sample Hunt Group Screen, Page 1

- 2. Use [Table 3-1](#) to enter the correct values in the fields on page 1 of the Hunt Group screen.

Table 3-1. Examples of Hunt Group Screen Entries, Page 1

Field	Description and Instructions
Group Name:	<p>Enter the name you want display set subscribers to see when they call the Intuity AUDIX system to access voice messaging features. This name may consist of up to 15 characters.</p> <p>The word "AUDIX" must be part of the name for the G3-MA administration tool to recognize the Intuity AUDIX system. Other characters may appear in the name as long as AUDIX is part of the name. If AUDIX is not part of the Group Name, G3-MA will not be able to extract names from the switch when provisioning the Intuity AUDIX system.</p>
Group Number:	<p>This field contains the hunt group number assigned to the hunt group after you entered the add hunt-group command. This should be the same number listed on Worksheet C, in Chapter 2, Switch Integration Planning.</p>
Group Extension:	<p>Enter an unused extension number of 3–5 digits to be assigned to the hunt group. This is the extension subscribers dial to access voice messaging features. See Worksheet C, in Chapter 2, Switch Integration Planning for the hunt group extension.</p>
Group Type:	Enter ucd
MM Early Answer?	Enter n
Security Code:	Leave this field blank.
Message Center:	Enter none .
ACD?	<p>Enter n</p> <p> NOTE: The Intuity AUDIX system voice ports do not operate in an ACD group.</p>
Queue?	Enter y
Night Service Destination>	<p>Enter the destination where calls to this hunt group redirect when the hunt group is in the night service mode. Allowable entries are an assigned extension number, the attendant, or blank. Leave the field blank for most applications unless the application requires calls to be redirected when the hunt group is in night service mode.</p>

Field	Description and Instructions
COR?	Enter the Class of Restriction number listed on Worksheet C in Chapter 2, Switch Integration Planning .
Vector?	Enter n
ISDN Caller Disp:	Enter grp-name or mbr-name to specify whether the hunt group name or member name will be sent to the originating subscriber. Use the hunt group name for most applications. This field is required when the ISDN-PRI option on the switch System-Parameters Customer-Options screen is enabled. If ISDN-PRI is not enabled, leave the field blank. See Worksheet C in Chapter 2, Switch Integration Planning for the correct value.
Coverage Path:	Leave this field blank. If you enter a coverage path, the switch send a call the coverage point. This may interfere with the Intuity AUDIX system.
Queue Length:	<p>If you entered y in the Queue field, you must enter a queue length here.</p> <p> NOTE: Use a queue length equal to the number of voice ports configured for the Intuity AUDIX system.</p>
Calls Warning Threshold:	Leave this field blank.
Time Warning Threshold:	Leave this field blank.
Calls Warning Port:	Leave this field blank.
Time Warning Port:	Leave this field blank.

3. Press **NEXTPAGE** to move to page 2 of the Hunt Group screen ([Figure 3-7](#)).

HUNT GROUP

Message Center: none

LWC Reception: none

First Announcement Extension: First Announcement Delay (sec):

Figure 3-6. Sample Hunt Group Screen, Page 2

Fill out page 2 as shown. Enter **none** into the Message Center field, and again into the LWC Reception field. Leave the other fields blank.

4. Press **NEXTPAGE** to move to page 3 of the Hunt Group screen ([Figure 3-7](#)). ([Figure 3-7](#)) shows sample hunt group member assignments for the R6csi switch. You must assign the Intuity AUDIX voice port extensions as members of the hunt group.

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HUNT GROUP

Group Number: 10 Group Extension: 12000 Group Type: ucd

Group Member Assignments

Ext	Name	Ext	Name	Ext	Name
1: 12001	AUDIX 1	14: 12014	AUDIX 14	27: _____	
2: 12002	AUDIX 2	15: 12015	AUDIX 15	28: _____	
3: 12003	AUDIX 3	16: 12016	AUDIX 16	29: _____	
4: 12004	AUDIX 4	17: _____		30: _____	
5: 12005	AUDIX 5	18: _____		31: _____	
6: 12006	AUDIX 6	19: _____		32: _____	
7: 12007	AUDIX 7	20: _____		33: _____	
8: 12008	AUDIX 8	21: _____		34: _____	
9: 12009	AUDIX 9	22: _____		35: _____	
10: 12010	AUDIX 10	23: _____		36: _____	
11: 12011	AUDIX 11	24: _____		37: _____	
12: 12012	AUDIX 12	25: _____		38: _____	
13: 12013	AUDIX 13	26: _____		39: _____	
				40: _____	

Figure 3-7. Sample Hunt Group Screen, Page 3

5. Enter the Intuity AUDIX voice port extensions as group members. Use [Table 3-2](#) to complete the hunt group assignments.



NOTE:
Enter the ports you configured for the Intuity AUDIX system. Do not enter voice port extensions that belong to other systems.

The voice port names do not display while you are adding the hunt group members. The next time you access the Hunt Group screen, you see the names.

Table 3-2. Hunt Group Screen Group Member Assignments Entries

Field	Description
Group Number:	This is a display-only field that shows the group number assigned on page 1 of the Hunt Group screen (Figure 3-5).
Group Extension:	This is a display-only field that shows the group extension assigned on page 1 of the Hunt Group screen (Figure 3-5).
Group Type:	This is a display-only field that shows the group type assigned on page 1 of the Hunt Group screen (Figure 3-5).
Ext	Enter the extensions of each Intuity AUDIX voice ports. Enter the extensions in the same order the extensions were assigned to the voice ports. The order must match the order on the Intuity AUDIX system Voice Equipment Assignment screen. See Worksheet B , in Chapter 2, Switch Integration Planning for a list of voice port extensions.
Name	This is a display-only field. The voice port names display the next time you access the Hunt Group screen.

6. After you enter the Intuity AUDIX voice port extensions, press **ENTER** to save the information.

The system refreshes the screen.

You use the Group Number of the Intuity AUDIX hunt group when you assign a call coverage path for the system subscribers. The hunt group number serves as the coverage point for incoming Intuity AUDIX calls. You will complete the coverage path assignment procedure in [Chapter 4, Cut-to-Service Administration](#).

Set System Parameters

Seven system parameters determine how the system will send mode codes. These are the four mode codes themselves (in the form of touch-tones signals) and three time durations associated with their transmission.

These options must match the transmission qualities of your integrated voice messaging system. Furthermore, the default entries match the INTUITY AUDIX defaults. For these reasons, do not change the parameters from their defaults for your INTUITY AUDIX system unless absolutely necessary to meet pre-existing dial plan settings.

1. Enter **change system-parameters - mode codes**

The system displays the Default Mode Code Settings screen ([Figure 3-8](#)).

2. The `Direct Inside Access` field alerts the voice messaging system that it is about to get a call from a number that is administered on the switch. The default delimiter is # and the default code is 00. Set the mode code to match the one administered on your voice messaging system.
3. The `Direct Dial Access-Trunk` field alerts the voice messaging system that it is about to get a call from outside of the switching system. The default delimiter is # and the default code is 01. Set the mode code to match the one administered on your voice messaging system.
4. The `Internal Coverage` field alerts the voice messaging system that it is required to cover a call from a number that is administered on the switch. The default delimiter is # and the default code is 02. Set the mode code to match the one administered on your voice messaging system.
5. The `External Coverage` field alerts the voice messaging system that it is required to cover a call from outside of the switching system. The default delimiter is # and the default code is 03. Set the mode code to match the one administered on your voice messaging system.
6. `DTMF DURATION-ON` field sets the number of milliseconds a touch-tone digit will be left on when the switch signals the voice messaging system. The default duration is 100 ms. Set the duration to one that will be recognized as a single digit by your voice messaging system.
7. `DTMF DURATION-OFF` field sets the interval in milliseconds to be expected between touch-tones signals when the switch signals the voice messaging system. The default interval is 100 ms. Set the interval to one that will be recognized as such by your voice messaging system.
8. `Sending Delay` field is the interval that passes after switch information is sent. The default interval is 100 ms. Set the interval to one long enough to be recognized by your voice messaging system.

MODE CODE RELATED SYSTEM PARAMETERS

MODE CODES (FROM SWITCH TO VMS)

Direct Inside Access

#00

Direct Dial Access - Trunk

#01

Internal Coverage

#02

External Coverage

#03


OTHER RELATED PARAMETERS

DTMF DURATION ON(msec): 100 OFF(msec): 100 Sending Delay(msec): 100

Figure 3-8. Default Mode Code Settings

Intuity AUDIX Administration

Overview

 **NOTE:**
For Intuity AUDIX LX, some of the screens may have been updated to Web-based administration and were not updated in this information. For more information refer to the Help on the appropriate page. In addition, refer to the Configuration Note for your switch information.

Administering the Intuity AUDIX system for switch integration requires using Web-based administration pages in the telephony and call data interfaces to perform the procedures listed in [Table 3-3](#).

Complete the procedures in the order specified.

Table 3-3. Task Procedure Matrix

Order	Procedure	Page
1.	Configuring the Intuity AUDIX LX for initial setup procedures.	Refer to the Configuration Note. Section 6.0
2.	“Verifying the Country and Switch”	Switch Selection
3.	“Setting the MWI Device Assignments”	Device Assignment
4.	“Setting the Dial Plan Translations”	Dial Plan Translation

Permissions for Pages

The sa login can view all the pages used in these procedures but cannot change any values for parameters. The craft, remote maintenance (tsc), and root logins can set values for parameters in all pages.

Other Pages Used for Switch Integration

Some pages in the telephony and call data interfaces used for switch integration can be viewed by the sa and craft logins, but require tsc login permissions to change the values for parameters. These pages are used only in troubleshooting scenarios involving an Avaya, Inc. service representative and are therefore not described here.

Stopping and Restarting the Voice System

If you change or enter parameters on any of the pages used for switch integration, you must stop and then restart the system for your changes to be incorporated into call processing.

Stopping the Voice System

Stop the voice system. See the procedures for stopping the voice system in [“Stopping and Starting the Voice System” on page 3-17](#).

Assigning Service to Voice Channels

Refer to the Configuration Note for these procedures and settings.

Verifying the Country and Switch

Use this procedure to check the country and switch for the system's switch integration. The selections in this page determine the defaults set in the system. If the system does not offer an exact match, contact your remote support center and ask them to select the country the matches the installation conditions as closely as possible.

1. Start at the Administration main menu and select:

Basic System Administration

Switch Selection

The Switch Selection page is displayed.

2. Verify that the Country-Switch parameters match your location. If they do not, contact your remote support center.
3. Click Return to Main to return to the Administration main menu.

Table 3-4. Switch Selection Page — Field Descriptions

Field	Description and Values
Country-Switch	<p>Specifies the country-switch for which the system sets country and switch specific default parameters. Normally the country is factory-preset for your integration.</p> <p>Verify that the country matches your location. If it does not, contact your remote support center.</p>

Setting the MWI Device Assignments

Complete this procedure to assign the channel group number(s) on which the system performs MWI updates. The procedure allows you to partition the channel or channels on which MWI updates are performed.

To assign a channel group here for MWI updates, you must have already administered the group using the Channels to Group option under the Voice Equipment menu. See the installation book for your platform for the procedure.

1. Start at the Administration main menu and select:

Switch Administration

Device Assignment

The Device Assignment page displays. If the parameters have been previously administered, the system displays the current values instead.

- 2. Enter **n** in the `Link Test (Y/N):` field (see [Table 3-5](#)).
- 3. Leave the default value in the `Link Test Interval:` field.
- 4. Enter a switch number in the `Switch Number` field (see [Table 3-5](#)).
- 5. Enter a channel group number in the `Device ID` field (see [Table 3-5](#)).
- 6. Click **Save**.

The system displays the following message:

You need to restart the Voice System to make these changes active.

- 7. Stop and restart the voice system.

Table 3-5. Device Assignment Page — Field Descriptions

Field	Description	Values
<switch> Integration	Displays the switch selected on the Switch Selection page.	Display only.
Link Test (Y/N):	This field is not used.	N/A
Link Test Interval (seconds):	This field is not used.	N/A
Switch Number	Number that uniquely identifies the switch and is used to address it. The Avaya INTUITY system uses this number to differentiate between subscribers on different switches.	Maximum of three digits, range 1 to 999. This number must match the one that identifies the switch in AUDIX administration.
Device ID	<p>The group number as administered using the Channels to Group option under the Voice Equipment menu. Valid range 1 through 32.</p> <p>By default, all channels are assigned to group 2 and outcalling is always done on group 2. If, however, channels have been assigned to another group for MWI updates, the functionality must be enabled here.</p>	Group numbers can be separated by commas (for example 1,3,4,5) or specified in ranges (for example 1, 3–5).
Link Test Number	This field is not used.	N/A

Setting MWI Feature Access Codes

Complete this procedure to set the feature access codes that the messaging system sends either to turn on a particular message waiting indicator or to turn it off. What you should accomplish here is to ensure that the code sent by the messaging system is the one expected by the switch.

1. Where a DEFINITY system is using mode-code integration, message-waiting indication is handled by the Leave Word Calling (LWC) feature. Discover from the switch administrator what feature access codes the switch expects to receive for:

LWC Send a Message

LWC Cancel a Message

The DEFINITY administrator can find these on the switch's *feature access code* form.

2. Start at the Administration main menu select:

Switch Administration

MWI Parameters

3. Set the *MWI On Prefix* to match the *LWC Send a Message* code set on the switch.
4. Set the *MWI Off Prefix* to match the *LWC Cancel a Message* code set on the switch.
5. Click **Save**.
6. Click **Return to Main** to return to the Administration main menu.

Setting the Dial Plan Translations

Complete this procedure to set up the translations to be done on the calling party identification (CLI) and called party identification (CP ID) for incoming and outgoing calls to interface the Intuity AUDIX system and the switch.

1. Start at the Administration main menu and select:

Switch Administration

Dial Plan Translation

The Dial Plan Translation page displays with defaults for your integration. If the parameters have been previously administered, the system displays the current values instead.

2. Use [Table 3-6](#) to modify the page.
3. Click **Save**.

The system displays the following message:

You need to restart the Voice System to make these changes active.

- 4. Stop and restart the voice system.

Table 3-6. Dial Plan Translation Page— Field Descriptions

Field	Description	Values
<switch> Integration	Displays the switch selected on the Switch Selection page.	Display only.
INTUITY Extension Length	Specifies the number of digits in the dial plan.	3 to 10 integers. The number must be the same as the number of digits administered for the INTUITY prefix combined with the number of digits for the (start or end) extension number.
Switch Network Access Code	Specifies the code dialed to reach the network. For example, you might dial 9 first to reach an outside line.	Not used in mode-code integration. Leave this field blank.
Switch Prefix	Specifies the initial part of the code sent by the switch as part of the call information.	Not used in mode-code integration. Leave this field blank.
Switch Start Ext.	Specifies the first extension number in the range of allowed extension numbers.	The number of digits specified for the start and end extension numbers must be identical. For example, to specify the range 200–3999, enter: <ul style="list-style-type: none">■ Start extension 0200■ End extension 3900
Switch End Ext.	Specifies the last extension number in the range of allowed extension numbers.	

Continued on next page

Table 3-6. Dial Plan Translation Page— Field Descriptions — *Continued*

Field	Description	Values
INTUITY Prefix	Specifies the digits that prefix the INTUITY mailbox numbers.	Not used in mode-code integration. Leave this field blank.
Switch Number	Number that uniquely identifies the switch and is used to address it. The Intuity AUDIX system uses this number to differentiate between subscribers on different switches.	Maximum of three digits, range 1–999. This number must match the one that identifies the switch in AUDIX administration.
Remote [Y/N]	Specifies whether the administered switch named in the Switch Number field is a remote switch on the network or a local switch.	Enter n for mode-code integration.

Example


The following example illustrates entries used for the common scenario where there is a single switch connection and fixed-length switch subscriber extensions.

Table 3-7.

INTUITY extension length = 4					
Switch Prefix	Switch Start Ext.	Switch End Ext.	INTUITY Prefix	Switch ID	Remote [Y/N]
	2000	9999		1	N

Stopping and Starting the Voice System

To execute any changes you have made to the switch integration administration pages in the procedures in this chapter, you must stop and then restart the voice system.

 **CAUTION:**
Only stop the voice system when it is absolutely necessary. All calls in progress will be disconnected. Subscribers calling the AUDIX system will hear a fast busy signal. Callers sent to AUDIX coverage will hear ringing with no answer.

Complete this procedure to stop and restart the voice system.

1. Start at the Administration main menu and select:

Utilities

Stop Messaging Software



NOTE:

Be sure to select `Stop Voice System`. Do not select `Shutdown Voice System`.

2. Enter a time between 0 and 600 seconds as the time to wait for calls in
Click **Save**.

The system displays the following message:

```
The voice System has stopped  
Press ENTER to continue...
```



NOTE:

The system waits until all calls in progress disconnect before stopping the voice system.

3. Click `Return to Main` to return to the main menu.

Utilities

Start Messaging Software

The system displays the following message:

```
Startup of the Voice System is complete  
Hit Acknowledge key to continue...
```

4. Click **OK** (Acknowledge Message).
5. Click **Return to Main** to return to the main menu.