



Avaya™ Interchange

Release 5.4/Intuity™ Interchange R5.3
Adding a Serenade System That Uses Octel
Analog Networking

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Notice

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Preventing Toll Fraud

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

Avaya Fraud Intervention

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

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

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

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

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

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

Your Responsibility for Your Company's Telecommunications Security

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

- Installation documents
- System administration documents
- Security documents

- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

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

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

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Adding a Serenade System That Uses Octel Analog Networking

This document describes how to add to your Interchange network a new Serenade® system that uses the Octel® Analog Networking protocol.

Keep in mind the following aspects of the instructions:

- Examples are included to aid in understanding, but the actual configurations and data you enter can vary greatly.
- The instructions apply to both Intuity Interchange R5.3 and Avaya™ Interchange R5.4.
- In general, it is recommended that the dial plan of the Interchange maintain as much consistency as possible between the addresses to send messages and the phone numbers subscribers dial when simply calling other subscribers. The examples in this document are designed to show such consistency.

Checklist for Adding a Serenade Octel Analog Networking Endpoint

To add a new Serenade messaging system to an existing Avaya or Intuity™ Interchange network using Octel Analog Networking, do the following:

Task	Details of Task
Task 1: Ensure That the New System and Interchange Are Enabled for Octel Analog Networking (see page 3)	Design Assurance by Avaya Professional Services.

Task 2: Get Information About the System You Are Adding (see page 4)	Complete the Planning Worksheet included in this document. The data networking administrator for your Interchange system and the switch administrator and/or Serenade system administrator for the new system will need to give you the dial plan, exact phone numbers, system mailbox, and serial number.
Task 3: Determine How to Map the New System's Dial Plan (see page 13)	Complete the Dial Plan Mapping Worksheet in this document (Professional Services normally does this for you).
Task 4: Determine the Type of Subscriber Update for the New System (see page 23)	Understand how full, dynamic, and directory view updates work, and choose the best one for your system.
Task 5: Check the Interchange Serial Number, If Any (see page 25)	Check the General Parameters screen.
Task 6: Create an Interchange Profile on the New System (see page 26)	Enter the Interchange as a Serenade network node into the new system. This task includes: <ul style="list-style-type: none">▪ Look for or Add the Route or Routes the Serenade System Uses for Interchange▪ Add Interchange as a New Location on the Serenade System▪ Add a Numbering Plan for Interchange
Task 7: Identify the New System to the Interchange System (see page 36)	Complete the Octel Machine Administration screen for the new system.
Task 8: Administer Remote Machine Parameters (see page 38)	Complete the Remote Machine Parameters screen for the new system. Also complete the Octel Analog Machine Profile screen by using the Dial Plan Mapping Worksheet.
Task 9: Map the New System's Dial Plan for Interchange (see page 43)	Complete the Dial Plan Mapping screen for the new system by using the Dial Plan Mapping Worksheet.
Task 10 (Optional): Administer Directory Views (see page 46)	Complete the Directory Views screen.

Task 11: Verify That the Endpoint Has Been Administered (see page 49)	Check for a new system entry on the Remote Machine List and the Remote Machine Dial Plan List.
Task 12: Add Remote Subscribers to Interchange (see page 50)	Set up the self-registration phone number on the General Parameters screen and then tell remote subscribers on the new system to send a message. Also, upload a subscriber list with FTP.
Task 13: Test the Connection (see page 54)	Perform a remote update on Serenade. Also, send messages to and from the test mailbox on the new system.
Task 14: Verify the Subscriber Update (see page 57)	Run the Subscriber List by Machine Name on Interchange.
Task 15 (Optional): Manually Update the Serenade System (see page 57)	Run a Demand Remote Push to the Serenade system (not recommended due to the length of time required).
Task 16: Update Remote Systems for Subscribers on the New System (see page 59)	Add information to Directory Views, if appropriate. Run get remote_update from Intuity AUDIX® systems. Run Demand Update Push from Interchange to Aria®, Serenade, and Octel 100 systems.

Task 1: Ensure That the New System and Interchange Are Enabled for Octel Analog Networking



NOTE:

Avaya Professional Services normally does this for you as part of its Design Assurance service.

Avaya Professional Services checks that the new system have been configured for such requirements as:

- At least one analog port card
- Protocol 5 — OctelNet, NameNet, and fax features turned on in the Serenade system

Additionally, Professional Services checks that Interchange has an analog port board installed and the appropriate number of Octel Nodes turned on.

Task 2: Get Information About the System You Are Adding

Your Account Executive determines with you the needed information about the new system and completes a *Planning Worksheet for Serenade Octel Analog Networking*. Retrieve these items and enter them in the [Planning Worksheet](#) that follows.

To complete the worksheet, you or your Serenade administrator will need to get information while performing the following tasks:

1. [Get the Name, Dial String, and Serial Number of the New System \(see page 5\)](#).
2. [Check the Serenade Dial Plan \(see page 9\)](#).
3. [Get the System Mailbox Number \(see page 11\)](#).
4. [Determine the Test Mailboxes and Prefixes of the New System Mailboxes \(see page 12\)](#).

Additionally, you need to know how many digits are in the Interchange dial plan. Usually the dial plan consists of 7 or 10 digits, though the digits can be from 3 to 10.

Planning Worksheet

Serenade System Name _____ System Dial String _____

Serenade Serial Number _____ System Mailbox ID _____

End Node Test Mailbox(es)*: _____

*These mailboxes should be identified by the customer and must fall within the System dial plan and must be a unique network address.

Full Network Address Ranges for this End Node: excluding address ranges associated with those mailboxes which will never receive messages, such as Auto Attendant, Bulletin Board, etc. **Keep ranges as specific to the actual mailboxes as possible** and consider any potential growth. In an existing system, verify existing ranges (see Existing Point to Point Screen Information for mailbox list information. Interchange requires one network address length.

Area Code
and/or Local
Exchange Prefix
(if any)

Starting
Extension

Ending
Extension

- | | | | |
|----|-------|-------|-------|
| 1. | _____ | _____ | _____ |
| 2. | _____ | _____ | _____ |
| 3. | _____ | _____ | _____ |
| 4. | _____ | _____ | _____ |
| 5. | _____ | _____ | _____ |
| 6. | _____ | _____ | _____ |
| 7. | _____ | _____ | _____ |
| 8. | _____ | _____ | _____ |

9. _____

10. _____

Get the Name, Dial String, and Serial Number of the New System

Use the following steps to get the name, dial string, and serial number of the Serenade system. The administrator of the Serenade system can do this for you.

Complete the steps that follow on the Serenade system itself.

1. Log in to the Serenade system.

The system displays the @ prompt.

```
@
```

2. Type **u** and press **(ENTER)** to access the update program and dot prompt.

The system displays the . (dot) prompt.

```
@u
```

```
----- SYSTEM CONFIGURATION UPDATE -----  
SAT 11/20/1999 00:44:58 Englew ID:28005 S/N:13023 PBX:23  
At the dot (.), enter ? for HELP.  
.
```

3. Type **L LOC** and press **(ENTER)** to display the LST prompt.

The system displays the LST prompt.

```
@u
```

```
----- SYSTEM CONFIGURATION UPDATE -----  
SAT 11/20/1999 00:44:58 Englew ID:28005 S/N:13023 PBX:23  
At the dot (.), enter ? for HELP.  
.L LOC  
LST:
```

4. Type **SELF** and press **(ENTER)** to display the system's phone number and serial number.

The system displays information about the Serenade system ([Figure 1](#)).

```
@u
-----  SYSTEM CONFIGURATION UPDATE  -----
SAT 11/20/1999 00:44:58 Englew      ID:28005   S/N:13023   PBX:23

At the dot (.), enter ? for HELP.
.L LOC
  LST:SELF

Self public number :13035512345
Self private number:none

Self OCTELNET serial number: 13023
.
```

Figure 1. SELF Location Table

5. Check for the name, phone number, and serial number of the system. The phone number, or incoming dial string, of the new system is normally the "Welcome to" number that subscribers use to get messages. However, see [Considerations for the New System's Incoming Dial String \(see page 7\)](#), for this number might not be the actual number Interchange dials to connect to the new system. After verifying the correct number, enter it, with the name and serial number, in the [Planning Worksheet \(see page 5\)](#).

In the example, these are **Englew**, **13035512345**, and **13023**, respectively.

Considerations for the New System's Incoming Dial String

To verify the dial string that Interchange must use to call the new system, consult with your local switch administrator and the switch administrator for the new system. The main consideration is whether the phone number uses:

- The public network.
- A private network

Phone Number over Public Network

If you do *not* have a private phone network over which the Interchange calls the new messaging system, the phone number will be a public phone number and include some or all of the following (see also [Figure 2](#)):

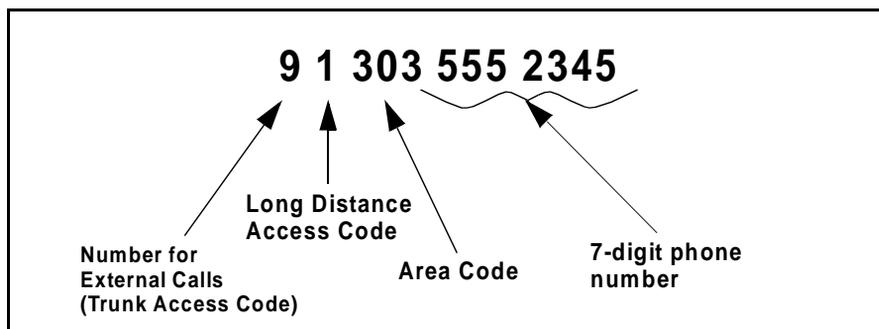


Figure 2. Dial String Example over Public Network



NOTE:

Be sure Interchange is allowed to make long distance calls. This capability is usually determined by Interchange's assigned Class of Restriction on your switch. The area code, which is always required for long distance calls, might also be required if local calls require 10-digit dialing.

Usually, the 7-digit number is the same number that subscribers use to get their messages.

Phone Number over Private Network

If Interchange calls the system over a private network, the phone number includes one of the following (see [Figure 3](#) or [Figure 4](#)):

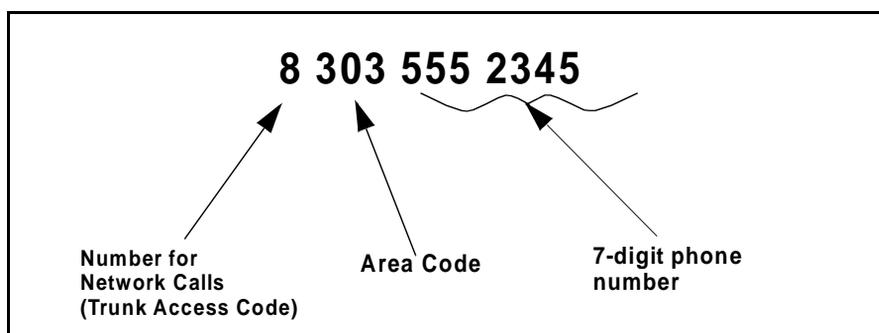


Figure 3. Dial String Example over Private Network (with Dial Access Code)



NOTE:

In this example, Interchange dials the private network access code, **8**, for toll-free calls to another company location. In addition, Interchange dials a 10-digit or a 7-digit phone number, as in the public network example. Again, check with the switch administrator for the new system. Notice, you do *not* dial a 1 for long distance.

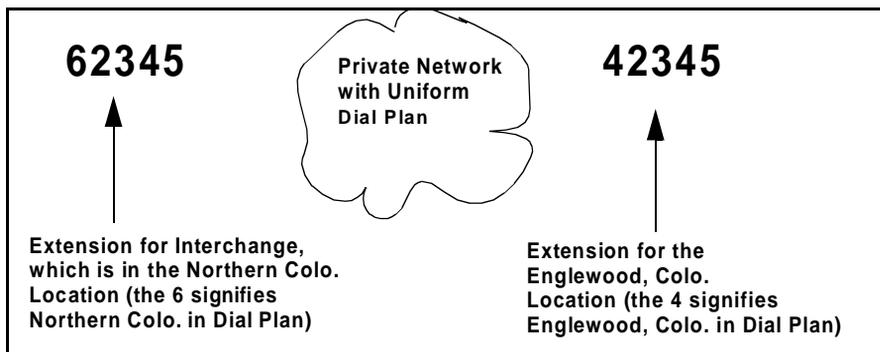


Figure 4. Dial String Example over Private Network (with Uniform Dial Plan)

⇒ NOTE:

In a private network with a uniform dial plan, extension numbers are usually 4 or 5 digits. The initial digit often signifies a specific location. In the example, 4 designates the Englewood location in the dial plan.

Dial Plan-Related Screens on DEFINITY Switches

On DEFINITY and IP600 switches, switch administrators use the following screens to determine which number the Interchange needs to and is allowed to dial:

- Dial Plan
- Uniform Dial Plan
- Class of Restriction (COR)
- AAR or ARS Digit Analysis¹
- AAR or ARS Digit Conversion
- Route Pattern

Check the Serenade Dial Plan

To check the Serenade dial plan and network update capabilities, do the following:

1. At the dot prompt in Serenade's update program, type **I firs** and press **ENTER**.

The system displays the First Digit Table ([Figure 5](#)).

1. Automatic Alternate Routing (AAR) is the feature for routing calls over a private network. Alternate Routing Selection (ARS) is the feature for routing calls over a public network.

```
.l firs
FIRST   MAILBOX
DIGIT   LENGTH
-----
0       3
1
2       4
3       4
4
5       4
6
7
8       4
9
.
```

Figure 5. First Digit Table

2. Note the numbers in the **FIRST DIGIT** column that are followed by an entry in the **MAILBOX LENGTH**. These are the potential mailbox ranges. For example, **FIRST DIGIT 2**, with **MAILBOX LENGTH 4**, defines a mailbox range of 2000 to 2999.
3. At the dot prompt in Serenade's update program, type **l user a** and press **(ENTER)** to list mailbox users according to a class of service attribute.

The system displays the **Enter COS ATTRIBUTE NUMBER** prompt.

```
.l user a
Enter COS ATTRIBUTE NUMBER
LST:
```

4. At the **LST** prompt, type a common mailbox attribute and press **(ENTER)**. The attribute is one that the system's users will have, typically attribute **17** (send network messages immediately) and/or attribute **18** (send network messages only at night). In the example, the attribute is **17**.

The system displays the users with the appropriate COS attribute ([Figure 6](#)).

```
.l user a
Enter COS ATTRIBUTE NUMBER
LST:17
USERS TABLE:
MAILBOX      EXTENSION    COS      SECURITY     NAME
2500         2500         0        Y           DANBERGER
2501         2501         0        Y           JACKYAMAGUCHI
2502         2502         0        N           JASONVENKATISH
2503         2503         0        Y           PATMCGRAW
2504         2504         0        Y           BARBARAKARP
```

Figure 6. Users Table

- Note which ranges the subscribers are listed in and match these ranges against the ranges from the First Digit Table. Enter these ranges (up to 10) in the **Starting** and **Ending Extensions** fields of your [Planning Worksheet](#) (see page 5).



CAUTION:

*Be sure that ranges do **not** include the extensions of automated attendants, bulletin boards, and other special mailboxes that are not intended to accept messages. If these mailboxes are included, then messages sent to Enterprise Lists defined by remote machine will fail and will show up in your delivery status reports. More importantly, messages might actually be sent to mailboxes that are not intended to receive E-list messages.*

The remote messaging system can have 3-digit, 4-digit, 5-digit, or up to 10-digit extensions in various ranges. For example, it can have 5-digit ranges of **20000** to **29999**, followed by **30000** to **39999**, and finally **50000** to **59999**.

Get the System Mailbox Number

To get the System Mailbox number for the Serenade system, do the following:

- At the dot prompt in Serenade's update program, type **l sys** and press **(ENTER)**.

The system displays the **LST:** prompt.

```
.l sys
Enter system parameter index.
LST:
```

- Type **248** and press **(ENTER)** to display the system mailbox number.

The system displays the system mailbox parameter ([Figure 7](#)).

```
.1 sys
Enter system parameter index.
LST:
248 8099 L/M OCTELNET: SYSTEM MAILBOX
```

Figure 7. System Parameters Table, System Mailbox

3. Note the extension number (**8099** in the preceding example) and write it in your [Planning Worksheet \(see page 5\)](#).

Determine the Test Mailboxes and Prefixes of the New System Mailboxes

To complete the remaining parts of the [Planning Worksheet \(see page 5\)](#), do the following:

1. Determine the **End Node Test Mailbox** on the new system. You use this mailbox to send and receive test messages through Interchange. Ask the administrator of the new system for a mailbox number. Enter the number in your [Planning Worksheet \(see page 5\)](#).
2. Determine the **Area Code and/or Local Exchange Prefix(es)** that Interchange must use to send messages to mailboxes on the new system. Enter the prefixes in your [Planning Worksheet \(see page 5\)](#).

Ask the switch administrator for the new system to get the correct digits. These digits are required because Interchange uses a specified address length (normally 7 or 10 digits for the US) to process all messages.

The prefix comprises the digits that normally precede the mailbox IDs when someone calls the mailbox from outside of the switch location. The prefix could actually replace digits in the mailbox IDs, as will be defined as a part of Dial Plan Mapping. Usually, prefixes are associated with Direct Inward Dial (DID) trunks that direct calls to the mailboxes. That is, the prefix combined with the mailbox ID is usually the phone number of a subscriber.

For example, mailboxes in the range **20000** to **29999** might normally be preceded by **303-55**. Therefore, if an outside caller wanted to leave a message for mailbox **20001**, that caller would actually dial **303-552-0001**. This example assumes the local area requires 10-digit dialing.

It is possible, however, in a 10-digit dialing area, that mailboxes on the new system could be preceded by *different* prefixes. Therefore, although some mailboxes are preceded by **303-55**, the extension range **50000** to **59999** might be preceded by **720-48**. In this case, an outside caller would dial **720-485-5460** to call mailbox **55460**.

Task 3: Determine How to Map the New System's Dial Plan

NOTE:

Avaya Professional Services normally determines how to map the dial plan for you and sends you a Dial Plan Mapping Worksheet. In this case, you can skip this task.

The Interchange network dial plan can use a uniform address length that consists of from 3 to 10 digits. However, it is strongly recommended that Interchange use a 7-digit or 10-digit dial plan. The new system, on the other hand, will likely have a different dial plan, one that usually uses 4 or 5 digits. In most cases, therefore, you will have to map the dial plan of the new system to the Interchange network address length.

NOTE:

If the mailbox IDs on the new system have exactly the same number of digits as the address length used in the Interchange network dial plan, then you might not need to perform dial plan mapping. For example, if the Interchange dial plan calls for 10-digit addresses, and the mailbox IDs on the new system always use 10 digits, you do not need to map the dial plans. As another example, if the Interchange dial plan uses the 5-digit uniform dial plan of a private network, and the new system's mailbox IDs also use the same 5-digit uniform dial plan within the same private network, you do not need to map the dial plans.

CAUTION:

Since every Interchange address must be unique, there might be circumstances in which the new system's mailbox ID length matches the Interchange dial plan, but because the new system is not part of the same switch private network, the mailbox IDs might not be unique within the Interchange network. This situation is quite common, which is why it is normally recommended to use a 10-digit Interchange dial plan and dial plan mapping.

Use the following instructions and the [Dial Plan Mapping Worksheet \(see page 21\)](#), to determine how to map the new system's dial plan. This worksheet is normally provided to you by Avaya Professional Services.

1. Note these two critical rules:

- The digit or digits you enter in the Map From column for each Mailbox ID range must be *unique*.
- If you have only one prefix that you are mapping to and you do not have to replace the initial digit or digits of the mailbox IDs², you can set the Map From Length to **0**.

 **CAUTION:**

If you change your dial plan later (for example, if you add more extensions that have a different DID prefix) and need to add Mailbox ID ranges for this system, you will have to remove the system from the Interchange network and add it again to the network with the new dial plan. This task could entail a significant amount of work.

Therefore, if you anticipate the need to change the dial plan for this endpoint in the future, you might want to use a Map From Length of 1 or more. See [Figure 11 on page 17](#), which illustrates the alternative to Map From Length 0 in anticipation of future changes.

2. Check your [Planning Worksheet \(see page 5\)](#) for the mailbox ID (extension) ranges of the new system. Review the examples that follow and fill out the [Dial Plan Mapping Worksheet \(see page 21\)](#), according to whether you have:
 - A broken or unbroken range of extensions
 - Ranges of extensions that have different prefixes and the first digit or digits in the `Start` field are unique
 - Ranges of extensions that have different prefixes and the first digit or digits in the `Start` field are shared
 - Initial digits in mailbox IDs that must be replaced with different digits

Sample Dial Plan Mapping (Single Unbroken Range of Mailbox IDs)

In [Figure 8](#), since there is a single unbroken MAILBOX ID range (**2000 to 5999**), you enter **0** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, you leave the **Map From** field for the range blank. Then, the **Map To** digits specify the area code and local exchange 3-digit prefix. You can get these numbers from your [Planning Worksheet \(see page 5\)](#).

When these digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.

-
2. If the new system's mailbox IDs must conform to a Uniform Dial Plan, the initial digit or digits of the mailbox IDs can overlap, **and differ from**, the ending digit or digits of the local exchange prefix. See [Sample Dial Plan Mapping \(When Prefixes Replace Initial Mailbox Digits\) \(see page 19\)](#).

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 0	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	5999		303555

Figure 8. Sample Dial Plan Map with a Single Range (0 Map From Length)

Keep in mind that Interchange allows you to use a **Map From Length** of up to **9**. In some circumstances with the previous example, you might choose to use a **Map From Length** of **1, 2, 3, or even 4** with the range **2000 to 5999**.

In a likely scenario with range **2000 to 5999**, you might anticipate the need to change the Dial Plan Mapping later, so you choose **1** for the **Map From Length**, *not 0*. In this case, the map would appear as follows ([Figure 9](#)).

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 1	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	5999	2	3035552
		3	3035553
		4	3035554
		5	3035555

Figure 9. Sample Dial Plan Map with a Single Range (1 Map From Length)

Sample Dial Plan Mapping (Broken Ranges of Mailbox IDs with Map From 0)

In [Figure 10](#), there are broken MAILBOX ID ranges. In this case, ranges 4000 to 4999 and 5500 to 5799 might be omitted for one of two reasons:

- The range contains auto-attendant mailboxes and other extensions for which mailboxes have not been assigned.
- Another messaging system, which uses the same prefix as this system, will use the mailbox ranges 4000 to 4999 and 5500 to 5799.

In this example, you can still enter **0** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, you leave the **Map From** field for the range blank. Then, for the **Map To** digits for the first range, specify the area code and local exchange 3-digit prefix. Then, leave the remaining **Map From** and **Map To** fields blank. Interchange will automatically apply the prefix to the remaining ranges.

When the prefix digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.

⚠ CAUTION:

If it is possible that this system will add mailbox ranges at a later time, do not use Map From Length 0. Instead, use Map From Length 1, as in [Figure 11](#). If you use Map From Length 0, and then later must change the dial plan so that you must use a different Map From Length, you will have to remove the system from the Interchange network and then add it again.

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 0	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999		303555
3000	3999		
5000	5499		
5800	5999		

Figure 10. Sample Dial Plan Map with Multiple Ranges (0 Map From Length)

Sample Dial Plan Mapping (Broken Ranges of Mailbox IDs with Map From 1)

In [Figure 11](#), as in the previous example, there are also broken MAILBOX ID ranges.

However, say that in this example, you anticipate that you will need to change the dial plan for this system in the future, so you avoid entering a **0** Map From Length. If you were to enter **0**, you would have to remove the system and add it again to change its dial plan. So, instead, you can enter **1** in the **Map From Length** field on the Dial Mapping Worksheet. In this case, enter the first digit of the first Mailbox ID range in the **Map From** field. Then, for the **Map To** digits for the first range, specify the area code, local exchange 3-digit prefix, and the first digit of that same Mailbox ID range. Then, enter the first digit of the next range with a unique start digit, and so on.

When the prefix digits are added to the 4-digit mailbox IDs, Interchange has the necessary 10 digits.



NOTE:

Notice that the last Mailbox ID range, **5800** to **5899** does not have **Map From** and **Map To** digits entered next to it. This is because the **Map From 5** and **Map To 3035555** digits apply to any range that starts with **5**.

Dial Plan with 1 Map From Length

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 1	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5499	5	3035555
5800	5999		

Figure 11. Sample Dial Plan Map with Multiple Ranges (1 Map From Length)

Sample Dial Plan Mapping (Ranges That Require Different Prefixes)

In [Figure 12](#), there are broken MAILBOX ID ranges, and one range has a different **Map To** prefix. This situation requires a **Map From Length** of 1 or greater.

In this example, the range with a different prefix, 5000 to 5999 begins with a unique Start digit. Therefore, you can enter 1 in the **Map From Length** field on the Dial Mapping Worksheet. In this case, then, the **Map To** digits for the ranges consist of the first digit of each range, and the **Map From** digits specify the area codes and local exchange 3-digit prefixes for their respective Mailbox ID ranges.

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 1	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5999	5	7205515

Figure 12. Sample Dial Plan Map with Multiple Prefixes (1 Map From Length)

Sample Dial Plan Mapping (Ranges with Different Prefixes and Shared Start Digits)

In the following example, the new system had two MAILBOX ID ranges with the same initial digit **5** (**5000 to 5499** and **5500 to 5999**), but their DID prefixes were different and, therefore, must be differentiated in the Dial Plan Map. Also, because entries in the **Map From** column for each range must be unique, there must be **2** Map From digits. That is, you *cannot* set up dial plan mapping with one Map From digit as follows:

Remote Machine Name: Englew		Mailbox ID Length: 4	
		Map From Length: 1	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
2000	2999	2	3035552
3000	3999	3	3035553
5000	5499	5	3035555
5500	5999	5	7205515

You can't do this!!
See Figure 13 instead.

Instead, you must break out every MAILBOX ID range so that the first two digits in each range are unique (see [Figure 13](#)). This requirement includes ranges that have unique initial digits (**2000 to 2999** and **3000 to 3999** in the example). The **Map To** digits include 8 digits that specify area code, the

Uniform Dial Plan across two switches so that the initial digits of the mailbox IDs overlap the final digits of the phone number prefixes. In this case, the Dial Plan Map will replace the initial digit of the MAILBOX ID ranges with a different digit. This situation also requires a **Map From Length** of 1 or greater.

In this example, a mailbox in the first range might be **21333**, but its external phone number would be **303-555-1333**. In the Dial Plan Mapping screen, the initial mailbox digit **2** is replaced with the final digit of the prefix, in this case, **5**. A mailbox in the second range might be **54444**, but its external phone number would be **720-551-4444**. In the Dial Plan Mapping screen, the initial mailbox digit **5** is replaced with the final digit of the prefix, in this case, **1**.

Dial Plan v3.0.0 Map From Length

Remote Machine Name: Englew		Mailbox ID Length: 5	
		Map From Length: 1	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING	
Start	End	Map From	Map To
20000	29999	2	303555
50000	59999	5	720551

Figure 14. Sample Dial Plan Map When Prefixes Replace Initial Mailbox Digits (1 Map From Length)

4. In the **Map From Length** field, enter the number of digits that Interchange will replace with mapping digits to convert the current mailbox IDs to Interchange network address length and to ensure unique addresses across the Interchange network.

The **Map From Length** can be **0** to **9** digits, and how many digits you map can vary greatly depending on how readily the new system's mailbox ranges fit into the existing Interchange network. However, as in the preceding samples, this number will often be based on considerations such as the following:

- One range (for example, **0000** to **9999** — in this case, you might type **0**) (but see the Caution that follows).
- Broken ranges, each with unique prefixes (for example, **2000** to **2999** with prefix 303-555 and **4000** to **4999** with prefix 720-551 — in this case, you might type **1**).
- Multiple ranges that share start digits but have different prefixes (for example, **5000** to **5499** with prefix 303-555 and **5500** to **5999** with prefix 720-551, where **5** is a shared start digit — in this case, you might type **2**).
- Ranges whose initial digits must be replaced with different digits (for example, a uniform dial plan range of **50000** to **59999**, but a local exchange prefix that ends in **1** — in this case, you might type **1**).

 **CAUTION:**

*If you use Map From Length 0, you **cannot** change this value later. Instead, you must remove the remote system from the Interchange network and add it again.*

5. In the **Mailbox ID Start** and **End** fields, list the mailbox ID ranges of the new system. You get the ranges from your [Dial Plan Mapping Worksheet](#) (see page 21).
6. In the first **Map From** field, type the digit(s) that match the first digit(s) of the first **MAILBOX ID Start** and **End** range. This field can be blank if Interchange will add the same Map To digits for all ranges and no digits in the mailbox IDs must be replaced with different digits. However, the number of digits you enter must match the number of digits specified in the **Map From Length** field.

In the example in [Figure 13](#), the first field contains **20**, because the mailbox ID range starts with 20, and these first two digits will be replaced with the last two digits of the **Map To** digit string.

7. In the first **Map To** field, type the area code and DID prefix of the mailbox IDs. For these numbers, check your Planning Worksheet. The last digits in this field must match the digits in the **Map From** field.

In the example in [Figure 13](#), the first field contains **30355520**, with the last two digits, **20**, as substitutes for the first two digits **20** of the mailbox range, thereby creating mailbox IDs of 10 digits. For example, the first mailbox would have a network address of **303-555-2000**, and the last mailbox in this range would have an address of **303-555-2099**.

 **NOTE:**

If the **Map From** field is blank, the **Map To** digits will simply be added to the mailbox IDs to total 10 digits.

Task 4: Determine the Type of Subscriber Update for the New System

To keep the remote subscriber list for the new system up to date with subscribers within the Interchange network, you must select one of four options for the new system:

Full updates

 **NOTE:**

Full updates can require a great deal of time to complete since the communication is over an analog connection. As a result, full updates are generally not recommended for systems that use Octel Analog Networking.

Full updates include, in the new system's remote subscriber list, every subscriber on every system in the Interchange network. This option ensures that subscribers on the new system can address by name every subscriber in the network. However, this option can require a very long update time and a large amount of disk space on the new system. Also, remote subscribers who do not send or receive messages will be stored unnecessarily.

If you select this option, Interchange performs a full update when you first administer the new system and run a Demand Remote Push to the new system. Subsequent updates include changes to subscriber lists of remote systems, where subscribers have been added or removed. Subsequent updates occur in either of the following circumstances:

- When you perform a Demand Remote Push for the Serenade system
- When Interchange receives a subscriber change from a remote system

 **CAUTION:**

If you begin with full updates and later change to dynamic subscriber updates, Interchange will remove all subscribers from the remote subscriber directory and begin to repopulate the directory with dynamic updates.

Dynamic updates

This update option is strongly recommended. With this option, each time a subscriber on the new system sends a message to a remote subscriber, that remote subscriber is added to the Dynamic Directory List for the new system. Likewise, each time a remote subscriber sends a message to a subscriber on the new system, that remote subscriber is added to the list.

If, typically within the next 90 days (see Dynamic Sub Expiration Days on the Remote Machine Profile screen), no other messages are sent from the new system to that remote subscriber, or vice versa, that remote subscriber is removed from the list. This removal helps save storage space on the new system.

Directory View updates only

NOTE:

Directory View updates can require a great deal of time to complete since the communication is over an analog connection. As a result, Directory View updates are generally not recommended for systems using Octel Analog Networking.

With this option, the new system's remote subscriber list will include subscribers within ranges of extensions on systems you specify. A Directory View list for a system is static, and as with full updates, this option can use a lot of disk space. Additionally, with this option, subscribers who fall outside the ranges and systems you specify will not be addressable by name from the new system.

If you select this option, Interchange performs a directory view update when you first administer the new system and run a Demand Remote Push to the new system. Subsequent updates include changes to subscriber lists of remote systems, where subscribers have been added or removed. Subsequent updates occur in either of the following:

- When you perform a Demand Remote Push for this system
- When Interchange receives a subscriber change from a remote system

Combination of Dynamic and Directory View updates

You can use Dynamic Subscriber Updates and Directory Views in combination. In this case, dynamic updates occur as described above, but the Directory Views option also identifies specific ranges of extensions on specific remote systems to ensure that remote subscribers on those systems can be addressed by name on the new system.

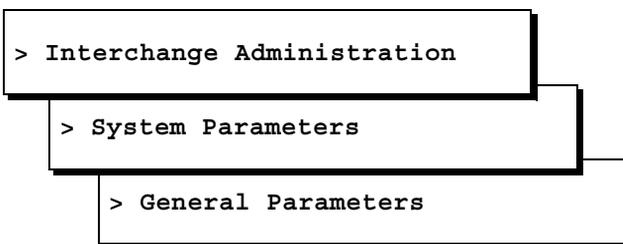
This type of setup is useful when you are converting high-traffic point-to-point systems to the Interchange network and/or when it is important that all or a subset of remote subscribers on a specific system is addressable by name for subscribers on the new system.

None With this option, Interchange will not update the subscriber names list for the new system. This might be a useful option during testing or early during the addition of the new system to discourage subscribers on the system from sending messages through Interchange.

Task 5: Check the Interchange Serial Number, If Any

Since Interchange needs an Octel Analog Networking serial number to communicate with the Serenade system, you need to determine the serial number to make sure it matches the serial number you enter for Interchange in the Serenade. To check the Interchange serial number, use the following steps:

1. Start at the Interchange main menu and select



The system displays the General Parameters screen ([Figure 15](#)).

```
General Parameters
Local Machine Name: central          Network Address Length: 10
Automatic Full Updates? y  UPDATES: In? y Out? y  Network Turnaround? y
System Prime Time: Start: 08:00  End: 17:00      CDR Retention: 7

MAXIMUM DELIVERY TIMES:
      Priority: 0 days 4 hrs 0 mins
      Non-Priority: 0 days 12 hrs 0 mins
STATUS MESSAGES TIMES:
      Expiration: 7 days 0 hrs 0 mins
      Poll Interval: 0 days 1 hrs 0 mins

Octel Analog Networking Serial Number:80003      UPIM Port:25
Self Registration Agent ID: 9991234527
Organization: central ops
Org Unit: 131222-a8      Country: usa
Domain Name: central.co.acme.com
DNS IP Addresses:
1: 146.9.1.39      2:
3:
Enter Domain Name
```

Figure 15. General Parameters Screen

2. In the **Octel Analog Networking Serial Number** field, check the number. If there is no number, type **80000**. This number must match the serial number you enter in Serenade when you identify the Interchange to Serenade. Also, this number, which must be between 80000 and 81000, has to be unique to any other Interchange systems in the Serenade network.
3. In the **Self Registration Agent ID** field, type a 10-digit phone number to which the new system's subscribers can send a message with a recording of the subscriber's voiced name only. This action is actually necessary to complete the self-registration described in [Task 12: Add Remote Subscribers to Interchange \(see page 50\)](#). However, other messaging systems (VPIM, AMIS and Aria Octel Analog Networking systems) in the Interchange network might also use this number.

For this number, use a fictitious area code and prefix to ensure the messages do not go to a real phone number or mailbox, either within your Interchange network or in the public network. You might use an alphabetical code so that subscribers can easily remember the number. For example, the number 734 478 3763 spells REGISTER ME on the telephone dial pad.

In the example, the phone number for self-registration is **9991234527**.

4. Press **F3** (Save).
5. Press **F6** (Cancel) to return to the System Parameters menu.

Task 6: Create an Interchange Profile on the New System

To add a Serenade system to your Interchange network, you must identify the Interchange system to the Serenade networking software. To do this, you do the following steps *on the Serenade system*:

1. [Look for or Add the Route or Routes the Serenade System Uses for Interchange \(see page 27\)](#).
2. [Add Interchange as a New Location on the Serenade System \(see page 29\)](#).
3. [Add a Numbering Plan for Interchange \(see page 34\)](#).

The key information you need is:

- The Interchange name, phone number, and serial number. The new system uses this information to send messages to Interchange.

In the example in the previous tasks, the name would be **central**, the phone number would be **19705551111**, and the serial number would be **80003**. The Interchange phone number would be found at the AMIS Analog Parameters screen, which you access from the Interchange Administration and System Parameters menus.

- The Interchange network address length, usually 7 or 10 digits.

In the example, the Interchange address length is **10** digits and equals the area code and 7-digit local phone number. You can find this parameter on the General Parameters screen.

Look for or Add the Route or Routes the Serenade System Uses for Interchange

A route specifies how Serenade dials up a remote system in the Octel Analog Network. It can specify only a trunk access code, a combination of trunk access code and delays or pauses, the tag that precedes a public, and/or an actual phone number.

To determine if an appropriate route already exists, do the following:

1. At the dot prompt, type **l rou** and press **(ENTER)**.

The **LST** prompt appears.

```
.l rou  
LST:
```

2. Leave the field blank and press **(ENTER)** again.

All routes for the Serenade system appear ([Figure 16](#)).

```
.l rou  
LST:  
Route      Can      DIGITS  
NAME      DROP?    DIALED  
-----  
TIE       NO       8ET  
DDD       NO       9E1PD  
INTL      NO       9E011PDDDDD  
.
```

Figure 16. Route Table

3. Determine if Serenade can use any routes to call Interchange. Use of routes will depend on whether the phone number uses an internal phone network or the public network and on whether calls to Interchange are local, long distance, or international calls.

Letters that appear in the Dialed Digits column have the following meaning:

- D** Delay.
- E** Wait for dial tone.
- N** Wait for DIAL UP OCC DIAL TONE here.
- P** Public network number immediately follows.
- T** Tie network number immediately follows.

If no routes are appropriate, use the following steps to add a route:



NOTE:

Avaya recommends using a new route just for Interchange to ensure the route is always available for networking.

4. At the dot prompt, type **a rou** and press **(ENTER)**.

The **ADD :** prompt appears.

```
.a rou  
ADD:
```

5. Type the route name (no more than 6 characters), **n** for no dropped line capability, and the dialed digits of the route. Use the format indicated in the following example, with commas and no spaces between each part of the route. Press **(ENTER)**.

The **ADD :** prompt reappears.

```
.a rou  
ADD: INTCHG,n,9d1dp  
ADD:
```

In the example, **INTCHG**, of course, is intended for ease of recognition of the Interchange route in the Route Table. The Can Drop column is always **n** for Interchange. And finally, since we must use the public network for a long distance call, and a trunk access code, 9, to make the call, the route's dialed digits are **9d1dp**.

6. Press **(ENTER)** to redisplay the dot prompt. Then type **l rou** and press **(ENTER)**.
7. Leave the field blank and press **(ENTER)** again.

All routes for the Serenade system appear. In the example, the route **INTCHG** appears.

```
.l rou
LST:
ROUTE      CAN      DIGITS
NAME       DROP?    DIALED
-----
TIE        NO        8ET
DDD        NO        9E1PD
INTL       NO        9E011PDDDDD
INTCHG     NO        9D1DP
.
```

Add Interchange as a New Location on the Serenade System

To add Interchange as a new location (network node) on the Serenade system, do the following:

1. At the dot prompt, type **a loc** and press **(ENTER)**.

The system displays Location Name instructions with the **ADD:** prompt.

```
.a loc
Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:
```

2. Type the name of Interchange (6 digits or less) and press **(ENTER)**. In the example, **Centra** is the name.

The system displays System instructions with the **ADD:** prompt.

```
.a loc
Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
```

3. Type **y** and press **(ENTER)**.

The system displays Protocol instructions with the **ADD:** prompt.

```
.a loc
Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:
```

4. Type **5** and press **(ENTER)**.

The system displays Serial Number instructions with the **ADD:** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:
```

5. Type the Interchange serial number for Octel Analog Networking and press **(ENTER)**. This number is usually **80000** and must match the serial number entered on Interchange on the General Parameters screen (see [Task 5: Check the Interchange Serial Number, If Any \(see page 25\)](#)). In the example, the serial number is **80003**.

The system displays Sender's Name instructions with the **ADD:** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:
```

6. Type **n** and press **(ENTER)**. If you typed **y**, message recipients in the Interchange network would hear the Serenade sender's name twice, since Interchange automatically includes the sender's name as well.

The system displays Route Name instructions with the **thel:** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
1 :
```

7. Type the name of the route you identified or entered in [Look for or Add the Route or Routes the Serenade System Uses for Interchange \(see page 27\)](#). Press **(ENTER)**.

The system displays the 2 : prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
1 :INTCHG
2 :
```

8. Press **(ENTER)**.

The system displays Network Schedule instructions and the **ADD :** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
1 :INTCHG
2 :
  Enter the Network Schedule to be used for Centra
  (1-10 digits, N-NONE, empty line = NONE)
ADD:
```

9. Type **none** and press **(ENTER)** to have Serenade send messages to remote Interchange subscribers immediately after the senders send the messages. You can create a Network Schedule and assign it here, but generally the best practice is to send messages immediately.

The system displays Public Network Number instructions and the **ADD :** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
1  :INTCHG
2  :
  Enter the Network Schedule to be used for Centra
  (1-10 digits, N-NONE, empty line = NONE)
ADD:none
  Enter PUBLIC NETWORK NUMBER (PNN) to call Centra
  (May include: 0-9,*,#, D=DELAY, E=EXPECT DIAL TONE, or Cn.
  1-7 chars. empty line = NONE, N = NONE)
ADD:
```

10. Type the phone number of Interchange and press **(ENTER)**. In the example, the number is **9705551111**. But, when coupled with the route selected in [Step 7](#), Serenade dials **919705551111**, with a delay (D) after the first 9 and the first 1.



CAUTION:

If you entered a trunk access code or long distance code in the route, do not enter it again in this field. Also, if the Serenade system is to call Interchange over a tie trunk or private network, leave this field blank.

When Interchange dials the new system, the phone number you enter must work in sync with the route you selected in [Step 7](#). The number must also take into account whether the calls are to occur over a private or public network. This accounting, in turn, determines whether an outside access number (normally 9), a network access number (normally 8), or a private network extension (usually 4 or 5 digits) are to be used, and whether a long-distance number (1) has to be included. See [Considerations for the New System's Incoming Dial String \(see page 7\)](#).

The system displays Tie Network Number instructions and the ADD: prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
1  :INTCHG
2  :
  Enter the Network Schedule to be used for Centra
  (1-10 digits, N-NONE, empty line = NONE)
ADD:none
  Enter PUBLIC NETWORK NUMBER (PNN) to call Centra
  (May include: 0-9,*,#, D=DELAY, E=EXPECT DIAL TONE, or Cn.
  1-7 chars. empty line = NONE, N = NONE)
ADD:9705551111
  Enter TIE NETWORK NUMBER (TNN) to call Centra
  (May include: 0-9,*,#, D=DELAY, E=EXPECT DIAL TONE, or Cn.
  1-7 chars. empty line = NONE, N = NONE)
ADD:
```

11. Leave this field blank if you entered a public phone number and press **ENTER**. Otherwise, type the private network number for Interchange. See also the cautions and consideration for [Step 10](#).

The system displays Digital Network Access instructions and the **ADD:** prompt.

```
.a loc
  Enter new LOCATION NAME. (1-6 chars)  Enter empty line when done.
ADD:Centra
  Does Centra have a SYSTEM? (Y/N, empty line = Y)
ADD:y
  Enter the PROTOCOL to use with Centra: (1, 2, 3, 5, empty line = 3)
ADD:5
  Enter the OCTELNET SERIAL NUMBER for Centra
  (empty line = NONE)
ADD:80003
  Should the SENDER'S NAME be EMBEDDED in messages when sending
  to Centra? (U/N, empty line = Y)
ADD:n
  Enter ROUTE NAMES for up to three ROUTE CHOICES to Centra.
  1 :INTCHG
  2 :
  Enter the Network Schedule to be used for Centra
  (1-10 digits, N-NONE, empty line = NONE)
ADD:none
  Enter PUBLIC NETWORK NUMBER (PNN) to call Centra
  (May include: 0-9,*,#, D=DELAY, E=EXPECT DIAL TONE, or Cn.
  1-7 chars. empty line = NONE, N = NONE)
ADD:9705551111
  Enter TIE NETWORK NUMBER (TNN) to call Centra
  (May include: 0-9,*,#, D=DELAY, E=EXPECT DIAL TONE, or Cn.
  1-7 chars. empty line = NONE, N = NONE)
ADD:
  Is Centra accessible over the DIGIAL NETWORK? (Y/N, empty line = N)
ADD:
```

12. Type **n** and press **(ENTER)**. This is an Octel Analog Network connection.

The system displays the message *location-name saved* and the **ADD:** prompt.

13. Press **(ENTER)** to return to the dot prompt.

Add a Numbering Plan for Interchange

The numbering plan defines addresses that Serenade uses to send messages to Interchange and the mailbox IDs that Serenade actually passes on to Interchange.

To define the Numbering Plan for Interchange, do the following:

1. At the dot prompt, type **l num** and press **(ENTER)**.

The system displays the **LST** prompt.

2. Leave the field blank and press **(ENTER)**.

The Numbering Plan Table ([Figure 17](#)) appears for Serenade and all other systems that are networked to Serenade. Displaying the table at this point is not necessary, but the displayed table creates a good reference for the addition of a numbering plan.

.l num				
LST:				
NETWORK	INITIAL	NETWORK	NUMBER	NUMBER OF
LOCATION	DIGITS	MAILBOX	OF DIGITS	DIGITS TO STRIP
NAME	EXPECTED	LENGTH	TO STRIP	FROM SELF
-----		-----		-----
SELF	303551	4	6	0
.				

Figure 17. Numbering Plan Table

- At the dot prompt, type a **num** and press **(ENTER)**.
 The system displays the **ADD:** field.
- Type the Interchange data for all the columns as a single character string, with commas interspersed, as illustrated in [Figure 18](#). Press **(ENTER)**.

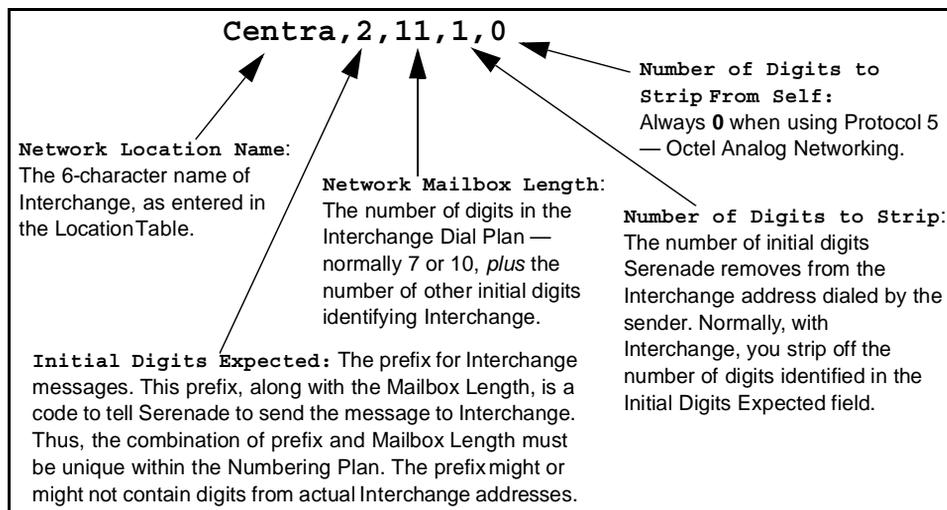


Figure 18. Add Numbering Plan Description

The system displays the **ADD:** prompt again.

Note in [Figure 18](#) that Serenade subscribers will send messages over Interchange by first dialing **2** to tell Serenade that the messages go to Interchange and then by dialing the 10-digit Interchange address.

Serenade then strips off the first digit **2**, as specified in the Number of Digits to Strip column.

- Press **(ENTER)** to redisplay the dot prompt.
- At the dot prompt, type **l num** and press **(ENTER)**.
 The system displays the **LST** prompt.
- Type Interchange name and press **(ENTER)**.

The Numbering Plan Table ([Figure 19](#)) appears for Interchange.

.1 num					
LST:					
NETWORK	INITIAL	NETWORK	NUMBER	NUMBER OF	
LOCATION	DIGITS	MAILBOX	OF DIGITS	DIGITS TO STRIP	
NAME	EXPECTED	LENGTH	TO STRIP	FROM SELF	
-----	-----	-----	-----	-----	
CENTRA	2	11	1	0	
ADD:					

Figure 19. Sample Numbering Table for Interchange

8. Check that the data appears in the columns correctly.

Task 7: Identify the New System to the Interchange System

1. Start at the Avaya Interchange main menu and select

> Networking Administration

> Remote Machine Administration

> Octel Machine Administration

The system displays the Octel Machine Administration screen ([Figure 20](#)).

Octel Machine Administration	
Machine Name: <u>Englew</u>	Connection Type: <u>OCTEL ANALOG</u>
Dial Str: <u>913035512345</u>	
Machine Type: <u>SERENADE ANALOG</u>	Send FAX Messages ? : <u>Y</u>

Figure 20. Octel Machine Administration Screen

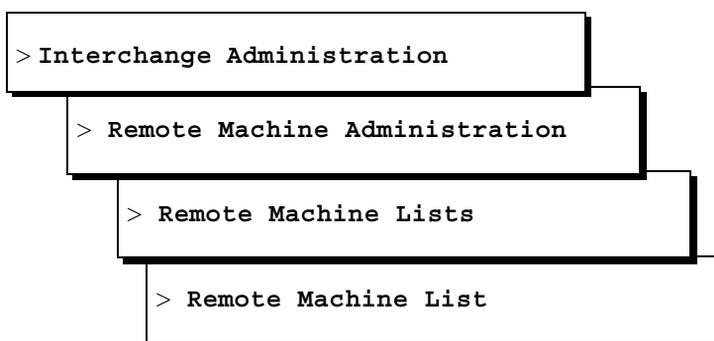
2. In the **Machine Name** field, enter a name for the new system. Check with the administrator of the new system for the exact name. In the example, the name is **Englew**, since the location of the system is Englewood, but you are limited to 6-character names on Serenade.

The name must be unique within your Interchange network.

Use **F2** (Choices) to view the existing Octel Analog system names to make sure that you enter a unique name.

CAUTION:

The name must be unique on both the local Interchange and any other Interchange systems, if you have them, in your network. To make sure that you are using a unique name, you can check the Remote Machine List on all Interchange systems in your network. This screen lists all machine names, including AUDIX systems and those systems that use Serenade Digital, Aria Digital, and VPIM protocols. The path to access this screen is as follows:



3. In the **Dial Str** field, enter the main phone number (the lead or “Welcome to” number) the Interchange system will use to call the new system. Get this number from your Planning Worksheet. This number could be:
 - A 4-digit or 5-digit number in a private phone network
 - An **8** (or another trunk access number) followed by a 7-digit or 10-digit number in a private network
 - A public phone number preceded by a **9**

In the example, the number **913035512345** indicates the Interchange must call over the public network (requires **9** for outside access) and the call is long distance (requires **1**).

You can also enter a “**P**” (including quotes) to make the Interchange pause. One pause equals 1.5 seconds. For example, if you were to enter the dial string as **9”P”13035512345**, the effect would be a 1.5-second pause after the Interchange system dialed **9**.

4. In the **Machine Type** field, type **SERENADE ANALOG**.
5. In the **Send Fax Messages** field, type **y** if the system is enabled for fax. If the system is not enabled for fax, type **n**.

6. When you finish entering information for the new system, press **F8** (Chg-Keys).
7. Press **F2** (Add).

After you press this key, the system adds the information and returns you to the **Machine Name** field. You see the following message on your screen:

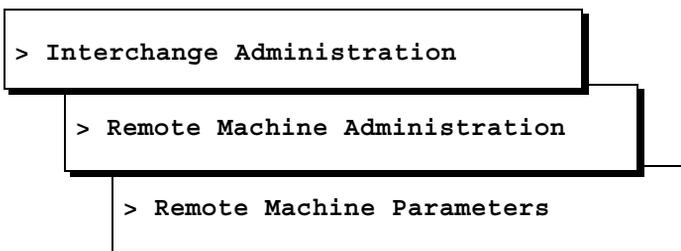
```
Machine Added, Enter Machine Name, use <CHOICES> for  
list
```

Task 8: Administer Remote Machine Parameters

Perform this task to define other characteristics of the new system, most importantly, the dial plan of the mailboxes on the new system. Use the Dial Plan Mapping Worksheet from Avaya Professional Services or your [Dial Plan Mapping Worksheet \(see page 21\)](#) to complete this task.

To set remote machine parameters, do the following:

1. Start at the Interchange main menu and select



The system displays the Remote Machine Parameters screen ([Figure 21](#)).

Remote Machine Parameters

Remote Machine Name: Englew Machine Type: SERENADE ANALOG
 AVAYA Interchange? n Mailbox ID Length: 4 Default Language: us-eng
 Failed Msg. Notification Priority? n Msg ID? n Send Message for Warning? y
 Default NameNet Type: u Organization: _____
 Org Unit: _____ Node ID: 3389
 Comments: _____

ADDRESS RANGE: (Mailbox ID)	Start	End
2000	2000	2999
3000	3000	3999
5000	5000	5499
5500	5500	5999

NOTE

Press <DETAILS> to
 administer additional
 machine parameters

Figure 21. Remote Machine Parameters Screen

2. In the **Remote Machine Name** field, type the name of the new system you added in [Task 7: Identify the New System to the Interchange System \(see page 36\)](#), and press (ENTER). If you do not remember the exact name, press (F2) (Choices) to display a list of valid remote machines. In the example, you would type **Englew**.

The system automatically fills in the **Machine Type** field with **SERENADE ANALOG**.

3. In the **Avaya** or **Intuity Interchange?** field, leave the default of **n** (no). The new remote system is not an Interchange.
4. In the **Mailbox ID Length** field, type the length of the mailbox IDs of the new system. If a sample mailbox ID (or extension) is **2345**, the length is **4**.

In most cases, this number will be **4** or **5**, but the number can be up to 10 digits if, for example, mailboxes have their own incoming trunk group. In the example, the mailbox IDs will be **4** digits long.

5. Leave the defaults in the following fields:
 - **Default Language: us-eng**
 There are no other languages currently supported.
 - **Failed Msg. Notification Priority? n**
 y means that a subscriber on this system who sends a message to a subscriber on another system will receive a priority notification if the message is not delivered to that subscriber.
 - **Msg ID? n**
 y means that failed message notification, if turned on, will include the original message ID.

- **Send Message for Warning?** n

y indicates that the **original** message is sent back to a subscriber after he or she has sent a message from the Serenade system to a subscriber on a remote system that has the Extended Absence Greeting (EAG) warning activated. The return of this message is in addition to the message indicating the actual EAG warning condition.

- **Default NameNet Type:** U

U means “usage-based” and indicates that directory entries are temporarily available based on the network traffic of a particular remote system. This field is used when subscribers associated with this new system are stored on a legacy Octel system as NameNet entries.

- **Organization:** Leave blank.

This field is for your information. It can be a record of the name of the organization this system supports, the name of the organization that maintains the system, or any other name you choose.

- **Org Unit:** Leave blank.

This field is for your information. It can be a record of the department number this system supports, the department number that maintains the system, or any other name or number you choose.

- **Node ID:** Display-only, created by Interchange.

- **Comments:** Leave none.

This field is for your information. You might want to enter the name and phone number of the contact person for the new system.

6. In the **ADDRESS RANGE (Mailbox ID)** fields, type the address ranges (up to 10) of the new system. While the screen allows you to enter more than 10 ranges, Interchange recognizes only the first 10 ranges you enter. Check your Dial Plan Mapping Worksheet for these ranges.



CAUTION:

*Do **not** simply use the ranges from your Planning Worksheet or the ranges given to you by the switch administrator for the new system. Also use the Dial Plan Mapping Worksheet that you received from Professional Services or the worksheet you completed yourself. The ranges you enter here will reappear on the Dial Plan Mapping screen, which you will complete in [Task 9: Map the New System's Dial Plan for Interchange \(see page 43\)](#).*

*In the example ([Figure 21](#)), the mailbox ranges reflect the ranges entered on the Planning Worksheet as **2000 to 2999**, **3000 to 3999**, **5000 to 5499**, and **5500 to 5999**. The 5000 to 5999 range was broken*

out into two ranges to simply illustrate and emphasize the fact that the latter half of the range, **5500 to 5999**, has a different area code and local exchange prefix from that of **5000 to 5499**. You could actually enter the 5000 to 5999 range as a single range on the Remote Parameters screen and then later break down the range on the Dial Plan Mapping screen to deal with the differing prefixes within the range.

⚠ CAUTION:

Be sure that ranges do **not** include the extensions of automated attendants, bulletin boards, and other special mailboxes that are not intended to accept messages. If these mailboxes are included, then messages sent to Enterprise Lists defined by remote machine will fail and will show up in your delivery status reports. More importantly, messages might actually be sent to mailboxes that are not intended to receive E-list messages.

7. Press **(ENTER)** or **(TAB)** if you need to add more ranges than those that are available on the initial screen.
8. After you have entered all appropriate address ranges, press **(F5)** (Details).

The system displays the Machine Profile screen ([Figure 22](#)). It contains a display-only name for the **Remote Machine Name** field.

```
Octel Analog Machine Profile
Remote Machine Name: Englew          Default Community ID: 1
Subscriber Updates Type: dynamic    UPDATES In? y    UPDATES Out? y
Voiced Names for Dynamic? y    ASCII Name Confirmation? y    Admin Mode? n
Octel Analog Serial Number: 13023   Dynamic Sub Expiration Days: 90
Record Delay (Sec): 3             Maximum Simultaneous Connections: 1
Voiced Name Delay (Sec):          System Mailbox ID: 000000
```

Figure 22. Serenade Machine Profile Screen

9. In the **Default Community ID** field, leave the default of **1**.
Additional communities might exist on AUDIX systems in the network. If you want to give permissions to subscribers on this system for specific AUDIX community IDs, use the Subscriber Parameter Administration screen.

10. In the **Subscriber Updates Type** field, type the type of update you want for the new system:

dynamic This is the *recommended* ongoing setting because this setting helps save storage space on the Serenade system.

For the dynamic updates type, each time a subscriber on this system sends a message to a remote subscriber, that remote subscriber is added to the Dynamic Directory List for the Serenade system. Likewise, each time a remote subscriber sends a message to a subscriber on the Serenade system, that remote subscriber is added to the list.

If, typically within the next 90 days (see Dynamic Sub Expiration Days), no other messages are sent from the Serenade system to that remote subscriber, or vice versa, that remote subscriber is removed from the list.

 **NOTE:**

If you choose dynamic, you can still use the Directory Views screen to create directory views of specific systems and mailbox ranges on those systems.

full Type **full** if you want to perform an initial demand push of all remote subscribers to this new system. A full demand push to the Serenade system downloads all registered Interchange subscribers from all networked systems.

By selecting this option, you automatically create, for the new system, a directory view (see the definition that follows) for all subscribers on every node in the Interchange network. When you access the Directory View screen ([Figure 24](#)), you will see every system in your Interchange network listed.

 **CAUTION:**

Be sure the new system has enough storage space before using this option. Serenade can store a maximum of 20,000 remote subscribers. Additionally, full updates can require a great deal of time to run since the communication is over an analog connection.

directory view Use this setting to point to the Directory View screen to update the subscriber directory for specific systems and ranges. Since this selection is a static list, the subscriber directory includes only those subscribers included in the Directory view.

none With this option, Interchange will not update the subscriber names list for the new system.

11. In the **UPDATES: In?** field, type **y** to allow Interchange to accept updates from the new system.

12. In the **UPDATES: Out?** field, type **y** to allow Interchange to send updates to the new system.
13. In the **Voiced Names for Dynamic?** field, type **y** to allow Interchange to send recorded voice names to the new system during dynamic updates, if any. Type **n** if the subscriber update type is *not* dynamic.
14. In the **ASCII Name Confirmation?** field, type **y** because Serenade's NameSend capability is not available with analog connections. **y** allows Interchange to verify subscriber names on the new system by using connections that the new system has already established when it sends messages and updates to Interchange. This capability helps reduce total time on, and cost of, network communications between systems.
15. In the **Admin Mode?** field, type **n**. This field is normally used for testing.
16. In the **Octel Serial Number** field, type the serial number of the new system. Get this number from your [Planning Worksheet \(see page 5\)](#) or while performing [Get the Name, Dial String, and Serial Number of the New System \(see page 5\)](#).
17. In the **Dynamic Sub Expiration Days** field, leave the default **90**.

This number is the number of days a dynamically added remote subscriber stays in the new system's Dynamic Directory List without anyone sending messages from the new system to that remote subscriber or without that remote subscriber sending messages to the new system.

18. In the **System Mailbox ID** field, type the mailbox ID of the new system's system mailbox. The system mailbox allows the Serenade system to accept messages in circumstances under which it normally would not. For example, the system mailbox allows the Serenade system to accept a message addressed to more than 10 subscribers.

You get the number when you perform the task, [Get the System Mailbox Number \(see page 11\)](#). Check your Planning Worksheet. If you do not have the mailbox ID, leave the default **0000**.

19. Press **F3** (Save).

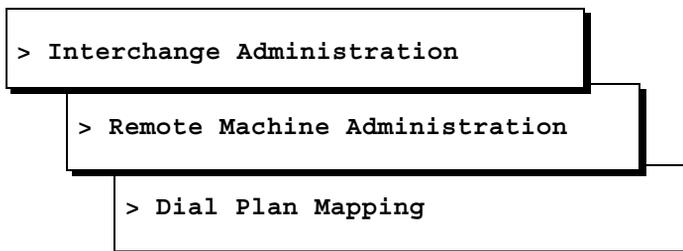
Task 9: Map the New System's Dial Plan for Interchange

Interchange uses a single-length dial plan for its network. You will have to map the dial plan of the new system to the Interchange network address length.

To do this mapping, you need the Dial Plan Mapping Worksheet from Professional Services or a worksheet that you completed on your own. These worksheets list the area codes and central office prefixes that can be used in conjunction with the new system's dial plan to create Interchange network addresses, usually addresses that match external direct dialing of the new system's mailboxes.

To administer the remote machine dial plan, do the following:

1. Start at the Interchange main menu and select



The system displays the Dial Plan Mapping screen ([Figure 23](#)).

Dial Plan Mapping			
Remote Machine Name: Englewood		Mailbox ID Length: 4	
		Map From Length: 2	
MAILBOX ID:		NETWORK ADDRESS DIAL PLAN MAPPING:	
Start	End	Map From	Map To
2000	2999	20_____	30355520__
3000	3999	21_____	30355521__
5000	5499	22_____	30355522__
5500	5999	23_____	30355523__
		24_____	30355524__
		25_____	30355525__
		26_____	30355526__
		27_____	30355527__
		28_____	30355528__
		29_____	30355529__

Figure 23. Dial Plan Mapping Screen

2. In the **Remote Machine Name** field, type the name of the new system and press **(ENTER)**. If you do not remember the exact name, press **(F2)** (Choices) to display a list of valid remote machines. In the example, you would type **Englewood**.

After you press **(ENTER)**, the system displays information in the Mailbox ID Length and MAILBOX ID Start and End fields. You had entered this information previously in the Remote Machine Parameters screen.

3. In the **Map From Length** field, type the number of digits, within each mailbox ID, for which Interchange will substitute digits. Check the list of **MAILBOX IDs**. If you have a single range (for example, **30000 to 60000**) or multiple ranges that use the same prefix, enter **0** in the Map From Length field. In this case, you can leave the Map From column for the range blank.

If you have more than one range (usually to accommodate different area codes or DID prefixes), and the first digit of the `Start` and `End` fields for each range are unique, enter **1** in the `Map From Length` field. Also enter **1** if the last digit of the `Map From` prefix has to replace the first digit of the `MAILBOX IDS`.

If any ranges share first digits but have different prefixes, then you might need to enter **2** or higher in the `Map From Length` field.

 **CAUTION:**

*Be careful about using **0** in the `Map From Length` field. If you change your dial plan later (for example, if you add more extensions that have a different DID prefix) and need to add Mailbox ID ranges for this system, you will have to remove the system from the Interchange network and add it again with the new dial plan. This task could entail a significant amount of work.*

*Therefore, if you anticipate the need to change the dial plan for this endpoint in the future, you might want to use a `Map From Length` of **1** or more. See [Figure 11 on page 17](#), which illustrates the alternative to `Map From Length 0` in anticipation of future changes.*

4. In the first `Map From` field, type the digit (or digits) that match the first digit (or digits) of the first `MAILBOX ID Start` and `End` range. This field must be blank if the `Map From Length` field is **0**. Otherwise, the number of digits you enter must match the number of digits specified in the `Map From Length` field.

In the example, the first field contains **20**, because the mailbox ID range starts with 20, and these first two digits will be replaced with the last two digits of the `Map To` digit string.

5. In the first `Map To` field, type the area code and DID prefix of the mailbox IDs. Check your Planning Worksheet for these numbers. The last digits in this field must match the digits in the `Map From` field.

In the example, the field contains **30355520**, with the last two digits, **20**, as substitutes for the first two digits **20** of the mailbox range, thereby creating mailbox IDs of 10 digits. For example, the first mailbox would have an Interchange network address of **303-555-2000**, and the last mailbox in this range would have an address of **303-555-2099**.

 **NOTE:**

If the `Map From` field is blank, the `Map To` digits will simply be added to the mailbox IDs to total 10 digits.

6. Repeat [Step 4](#) and [Step 5](#) for each `MAILBOX ID` range.

⇒ NOTE:

There can be more than one DID prefix for the new system. Again, check your Planning Worksheet or consult with your switch administrator for the new system.

In the example (see [Figure 13 on page 19](#) for a full illustration), the range **5500 to 5999** has the area code **720** and the local exchange prefix of **551**, which is different than the prefix for the range **5000 to 5499**.

7. Press **F3** (Save).

▲ CAUTION:

Use **F7** (Options) only as described later in this document. Do not use **F7** to delete or replace subscribers without first contacting your service support representatives, as the options can cause unexpected negative results.

Task 10 (Optional): Administer Directory Views

The Directory View screen allows you to define, for the new system, the other remote systems for which Interchange will provide updates to the new system. You can specify a range of mailbox IDs from which to accept update information.

⇒ NOTE:

If you selected **full** as the Subscriber Update Type on the Machine Profile screen ([Figure 22 on page 41](#)), you do not need to administer Directory Views. Interchange will automatically include *all* remote systems in the Interchange network in the new system's Directory Views. If you selected **directory views** as the Subscriber Update Type, you must administer Directory Views. If you selected **dynamic** as the Subscriber Update Type, you do not need to administer Directory Views.

To administer directory views, do the following:

1. Start at the Avaya Interchange main menu and select

```
> Interchange Administration
```

```
> Remote Machine Administration
```

```
> Directory Views
```

The system displays the Directory View screen ([Figure 24](#)).

7. Press **F3** (Save).
8. Press **F4** (Reselect) to enter another remote machine and repeat this procedure, or press **F6** (Cancel) to exit the screen and return to the Remote Machine Administration menu.

Adding All Machines

If you have many systems in the Interchange network, and you want to add most or almost all remote systems to the new system's directory view, you can add all machines and then delete those that you do not want to be included.

NOTE:

Adding all machines to Directory Views is the equivalent of defining a full subscriber update type for the new system.

To add all machines listed in a directory view, do the following:

1. From the Directory View screen, press **F7** (Options).

The system displays the Options menu ([Figure 25](#)).

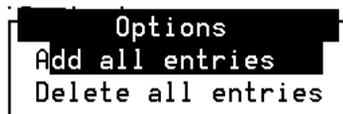


Figure 25. Options Menu

2. Select **Add all entries**.

The system displays the Confirm window ([Figure 26](#)).

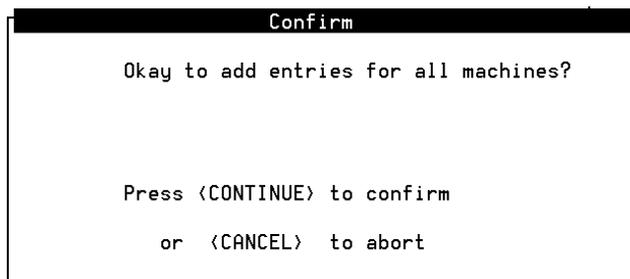


Figure 26. Confirm Window

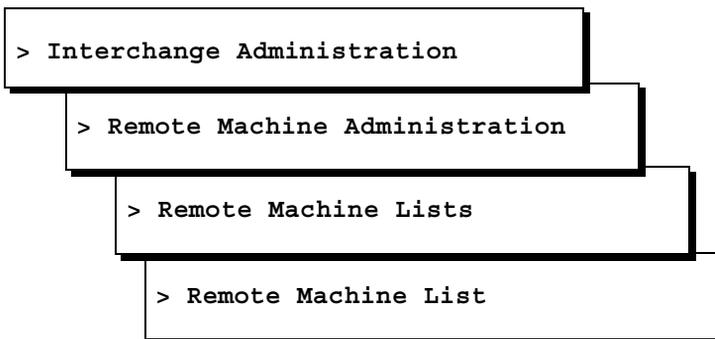
3. Press **F3** (Continue) to add all machines or **F6** (Cancel) to return to the Directory View screen.
4. Press **F6** (Cancel) until you return to the Avaya Interchange main menu.

Task 11: Verify That the Endpoint Has Been Administered

Use the Remote Machine List and Remote Machine Dial Plan List to verify that you have appropriately added the new messaging system.

To access the Remote Machine List, do the following:

1. Start at the Interchange Administration menu and select



The system displays the Remote Machines List ([Figure 27](#)).

Remote Machine List				
Machine Name	Connection	Rate	Chan	Subscribers
A1	AMIS			1
A10	AMIS			1
A11	AMIS			1
A12	AMIS			1
A13	AMIS			1
A14	AMIS			1
A2	AMIS			1
A3	AMIS			1
A4	OCTEL ANALOG			1
A5	AMIS			1
A6	AMIS			1
A7	AMIS			1
A8	TCP/IP			1
Englew	OCTEL ANALOG			147

Figure 27. Remote Machine List

2. In the **Machine Name** column, look for the name of the new system. The name would be **Englew** in the example.
3. Verify that the **Connection** column for your new system says **OCTEL ANALOG**.
4. Press **(F6)** (Cancel) to return to the Remote Machine List menu

- From the Remote Machine List menu, select

```
> Remote Machine Dial Plan List
```

The system displays the Remote Machine Dial Plan List ([Figure 28](#)).

Remote Machine Dial Plan List						
Machine Name	Type	Mailbox ID		Extension Mapping		
		Start	End	From	To	
A1	AMIS	6148682778	6148682778			
A10	AMIS	6148682787	6148682787			
A11	AMIS	6148682788	6148682788			
A12	AMIS	6148682789	6148682789			
A13	AMIS	6148682790	6148682790			
Englew	SERENADE ANAL	2000	2999	20		30355520
Englew	SERENADE ANAL	3000	3999	21		30355521

Figure 28. Remote Machine Dial Plan List Screen

- In the **Machine Name** column, locate the name of the new system.
- Verify that the data in every column is correct.
- Press **F6** (Cancel) to exit the Remote Machine Dial Plan List.

Task 12: Add Remote Subscribers to Interchange

Add remote subscribers to Interchange so that Interchange can pass on messages to those subscribers.

The following options for adding subscribers are available:

- Bulk Subscriber Administration by FTP File (recommended)
- Universal Self-Registration Agent (recommended)
- Sending Messages Through Interchange
- Adding Subscribers Through the Subscriber Parameters Administration screen
- Bulk Subscriber Administration by Range

Use the Demand Remote Update option only if the number of subscribers on the new system is small (usually fewer than 40). Otherwise, with a large number of subscribers, using this option can take a long time.

Avaya does *not* recommend the use of bulk administration by range to add subscribers because this method reserves disk space for every extension or mailbox ID included in the range, even if no subscribers have been administered within the range. Use this option only as a last resort.

Adding Subscribers Through Self-Registration

Avaya recommends subscriber self-registration for Octel Analog Networking systems. For self-registration, you notify each subscriber to send his or her voiced name to Interchange, which registers the subscribers' mailboxes and captures the voice recordings of their names so that the names can be sent across the network with Serenade messages.

For self-registration, do the following:

1. Enter the self-registration phone number in the **Self-Registration Agent ID** field on the [General Parameters Screen \(see page 25\)](#), as indicated in the task [Task 5: Check the Interchange Serial Number, If Any \(see page 25\)](#).
2. Use a broadcast message, recorded by the administrator of the new messaging system, to notify subscribers of self-registration.

Instructions might tell each subscriber to:

- a. Log in to the messaging system.
- b. Record only his or her name in a message.
- c. Send the message to the self-registration phone number.

If subscribers fail to self-register, they will fail to receive messages from other messaging systems. However, if subscribers on the new system later send messages through the Interchange network, Interchange can identify them and register those subscribers for the new system. In this latter case, Interchange will not send the voiced names.

Adding Subscribers Through FTP

Avaya also recommends the use of FTP to upload the names of subscribers on the new system so that other subscribers within the network can address messages by using the names of the new subscribers.

To use FTP to load subscriber lists to Interchange, do the following:

1. Create an ASCII file with a text-only tool such as NotePad.

2. Give the file a name in the format **name.add** (in the example, the file name would be **Englew.add**).
3. Using the following format, type subscriber names into the file:

```
machine_name/mailbox_ID/lastname,firstname/community_ID||
```

mailbox ID is the actual mailbox ID as it appears on the new messaging system. **community_ID** can be blank or **1**, unless the new messaging system uses more than one community ID. The “pipe” symbol (|) is used to separate units of data and normally appears on your keyboard on the same key as the backslash (\).

Our example might have an entry such as:

```
Englew|22444|jones,bob|1||
```

or leave the community ID field blank as in:

```
Englew|22444|jones,bob|||
```



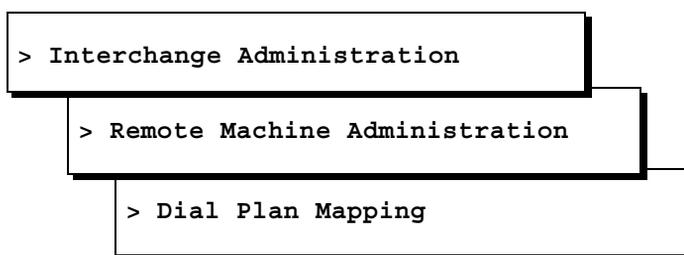
CAUTION:

Be sure there are no blank spaces after the comma, pipe symbols, or at the beginning or end of each entry. Also, the names are case sensitive.

4. Press **(ENTER)** or the equivalent of a carriage return on your keyboard.
5. Repeat [Step 3](#) for every subscriber currently administered on the new messaging system.
6. Save the file.
7. Upload the file to Interchange by using the following steps. You can use an FTP tool you are familiar with. However, be sure to transfer the file as an *ASCII* file, *not* as a binary file.
 - a. In the tool, enter the IP address of the Interchange.
 - b. Enter the user ID *icftp* and password for the Interchange *iclog/icftp* directory.
 - c. Select the *amis_sub* subdirectory and move the FTP file, as an *ASCII file*, to the directory.

When the file is uploaded, exit from your FTP tool and continue with [Step 8](#).

8. Start at the Interchange main menu and select



The system displays the Dial Plan Mapping screen ([Figure 23](#)).

9. Press **F7** (Options).

The system displays the Options menu.



10. Select **Add subscribers from file**, and press **ENTER**.

The system displays the Confirm window ([Figure 29](#)).

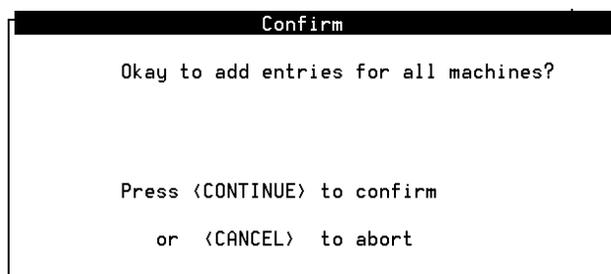


Figure 29. Confirm Window

11. Press **F3** (Continue).

The system will add all subscriber names. Additionally, Interchange changes the name of file *filename.add* to *filename.add.done* and adds a file called *filename.add.log*. In the example, the files would be called **Englew.add.done** and **Englew.add.log**.

12. Press **F6** (Cancel) to return to the Interchange Administration menu.
13. Access the Interchange FTP directory with your FTP tool again.
14. Download to your computer from Interchange the file *filename.add.log*.

15. Open the *filename.add.log* file in an ASCII text editor such as NotePad to see if there were any problems with adding subscribers.

Adding Subscribers to Interchange with a Demand Remote Update

You can add remote subscribers to Interchange by using the Remote Update capability of Interchange instead of the FTP file upload. See [Testing with a Demand Remote Pull \(see page 54\)](#).

Task 13: Test the Connection

There are two tests you can run:

- [Testing with a Demand Remote Pull \(see page 54\)](#)
- [Sending Test Messages \(see page 56\)](#)

Testing with a Demand Remote Pull

To test the connection between Interchange and the Serenade system, you can add remote subscribers to Interchange by using the Remote Update capability of Interchange. This procedure is also an alternative to updating Interchange with the FTP file upload. However, see the following Caution.



CAUTION:

Since the demand pull uses an analog connection, this update can take a long time, approximately 14 to 21 seconds per subscriber.

To run a remote update, do the following:

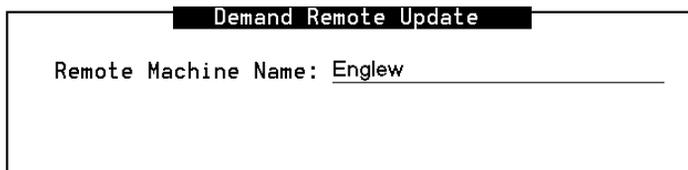
1. Start at the Interchange main menu and select

```
> Interchange Administration
```

```
> Remote Machine Administration
```

```
> Demand Remote Updates
```

The system displays the Demand Remote Update screen ([Figure 30](#)).

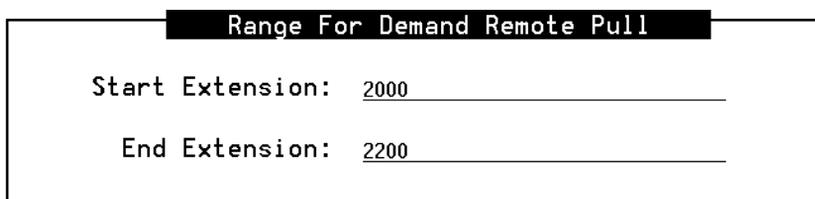


```
Demand Remote Update
Remote Machine Name: Englew
```

Figure 30. Demand Remote Update Screen

2. Type the name of the new system and press **(ENTER)**.

The system displays the Range for Demand Remote Pull screen ([Figure 31](#)).

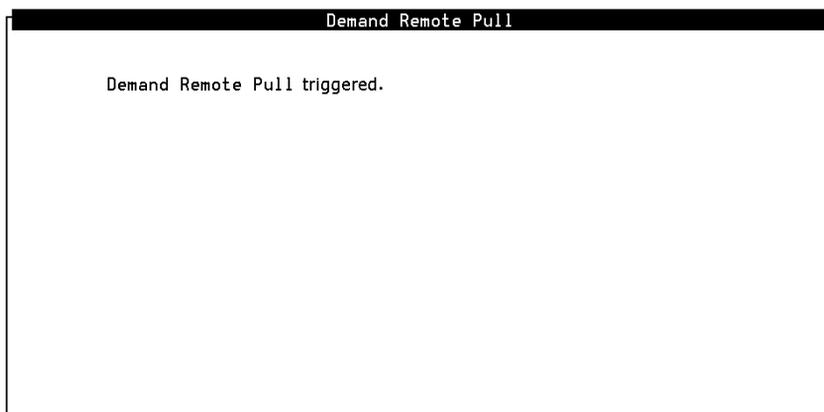


```
Range For Demand Remote Pull
Start Extension: 2000
End Extension: 2200
```

Figure 31. Range for Demand Remote Pull Screen

3. Enter the starting and ending extensions for a range of addresses for which the update is to be executed. Since the update requires approximately 14 to 21 seconds per subscriber, select a small range for the test.
4. Press **(F3)** (Continue).

The system displays the following Demand Remote Pull screen ([Figure 32](#)).



```
Demand Remote Pull
Demand Remote Pull triggered.
```

Figure 32. Demand Remote Pull Screen

The system will now update the Interchange with any ASCII or voiced names which have been added, deleted, or changed for the range of extensions you selected.

⇒ NOTE:

You can press **F5** (Abort) to stop the demand remote update or **F6** (Cancel) to return to the previous screen and re-enter an extension range.

5. Press **F6** (Cancel) until you return to the Interchange Administration menu.
6. Verify that the demand remote pull of the new was successful (see [Task 14: Verify the Subscriber Update \(see page 57\)](#)).

Sending Test Messages

To test the connection between Interchange and the new messaging system, do the following:

1. Log in to a test voice mailbox of the new messaging system. Either you or the system administrator of the new messaging system can do this. For the test mailbox, check the **End Node Test Mailboxes** identified in your [Planning Worksheet \(see page 5\)](#).

2. Self-register the voice mailbox with Interchange by completing steps a and b:

⇒ NOTE:

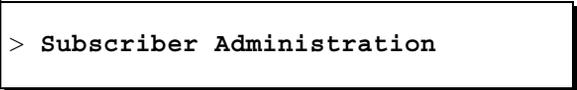
Self-registration is unnecessary if you performed a complete demand remote pull of the new system's subscribers. In this case, go to [Step 3](#).

- a. Create a test message that contains only the name of the mailbox.
 - b. Send the message to the Self-Registration address you created in [Task 12: Add Remote Subscribers to Interchange \(see page 50\)](#).
3. Log in to a voice mailbox on a *different* messaging system in the Interchange network.
 4. Create a test message (for example, "This is a test message from Bob. Please message me back.")
 5. Address and send the message to the test mailbox on the new messaging system. The address includes the whole Interchange network address, which includes the Map To digits, as defined in [Task 9: Map the New System's Dial Plan for Interchange \(see page 43\)](#), and the remaining digits of the specific mailbox.
 6. In the test mailbox on the new system, listen to the test message sent in [Step 5](#). Also, in the test mailbox, send a reply to the test message back to the mailbox on the other system.

7. Listen to the reply in the mailbox you logged in to in [Step 3](#).

Task 14: Verify the Subscriber Update

1. From the Interchange Administration menu, select



```
> Subscriber Administration
```



```
> Subscriber Lists
```

The system displays the Subscriber Lists menu ([Figure 33](#)).



Figure 33. Subscriber Lists Menu

2. Select **By Remote Machine Name**.

The system displays the Subscriber List By Remote Machine Name.

3. Check the number of subscribers to verify that it matches the number of subscribers administered on the Serenade system. If you ran a demand remote update, also check to see that voiced names appear for subscribers.
4. Press **F6** (Cancel) to return to the Interchange Administration menu.

Task 15 (Optional): Manually Update the Serenade System

⇒ NOTE:

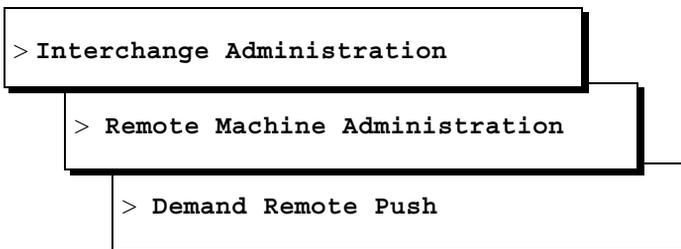
The following procedure can require a great deal of time to complete, since the communication is over an analog connection. As a result, full and Directory View updates are generally not recommended for systems that use Octel Analog Networking.

If you want to have all Interchange remote subscribers (if full updates are specified) or the subscribers you defined in Directory Views (if any), immediately

available on the new system for addressing by name, perform a demand remote push on the Serenade system by using the following steps.

To perform a demand remote push, do the following:

1. Start at the Interchange main menu and select



The system displays the Demand Remote Push screen ([Figure 34](#)).

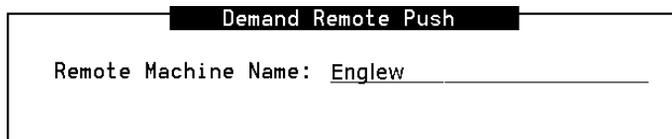


Figure 34. Demand Remote Push Screen

2. Type the system name, or press **(F2)** (Choices) to display a list of valid remote machines.
3. Press **(F3)** (Continue).

The system displays the following Demand Remote Push screen ([Figure 35](#)).

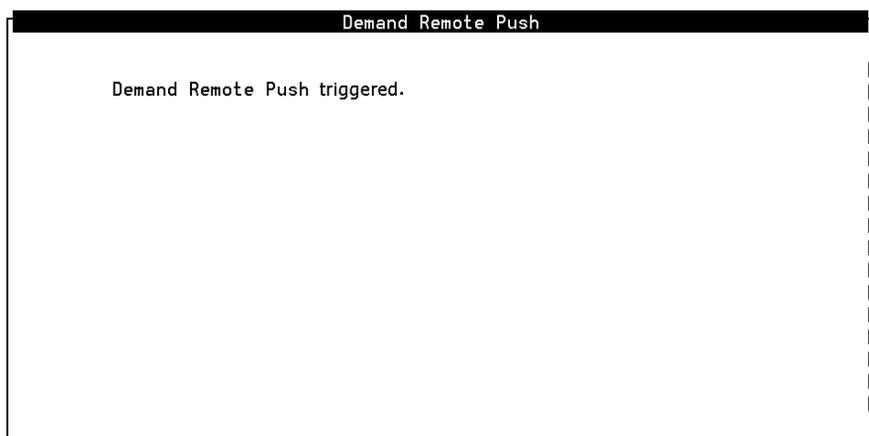


Figure 35. Demand Remote Push Screen

Interchange will now update the Serenade system with any ASCII or voiced names on the Interchange network.



NOTE:

You can press **F5** (Abort) to stop the demand remote push or **F6** (Cancel) to return to the previous and re-enter an extension range.

4. Press **F6** (Cancel) until you return to the Interchange Administration menu.

Task 16: Update Remote Systems for Subscribers on the New System

Once you have added the new system to the Interchange network, the other remote systems in the network need to recognize the subscribers on the new system for name addressing. The method you use to update a remote system for the new system's subscribers depends on what type of system the remote system is and how you have administered the Subscriber Update Type for that system (see [Table 1](#)).



NOTE:

If, over a short period of time, you are adding more than one system to your Interchange network, you might want to wait until all systems have been added before manually updating the existing systems in your network.

Table 1. Remote Node Update Options

Update Type	Remote System Type	Steps to Update a Remote System
Full	Intuity AUDIX TCP/IP, DCP, RS-232	If you have the full Subscriber Update Type turned on for an Intuity AUDIX remote system, perform for that remote system Manually Update an Intuity AUDIX System (see page 60) (do this during off hours for RS-232 systems).
	Aria, Serenade, and Octel 100	If you have the full Subscriber Update Type turned on for an Aria, Serenade, or Octel 100 remote system, perform for that remote system the same steps as in Task 15 (Optional): Manually Update the Serenade System (see page 57) . If the remote system uses Octel Analog Networking, complete this task during off hours.
	VPIM/AMIS	Full updates are not supported.

Table 1. Remote Node Update Options

Dynamic	All systems	<p>No action is required if the remote system already uses dynamic updates.</p> <p>Subscribers on the new system become known to subscribers on the existing remote system as subscribers from the new system send messages to subscribers on the remote system or vice versa. This method, of course, means that subscribers on the remote system cannot address a subscriber by name on the new system until a message has been sent to or from that subscriber.</p>
Directory Views	Intuity AUDIX TCP/IP, DCP, RS-232	<p>If you have directory views turned on for an Intuity AUDIX remote system, add the new system to the Directory Views screen for the Intuity AUDIX. Then, perform for that remote system the same steps as in Manually Update an Intuity AUDIX System (see page 60) (do this during off hours for RS-232 systems).</p>
	Aria, Serenade, and Octel 100	<p>If you have directory views turned on for an Aria, Serenade, or Octel 100 remote system, add the new system to the Directory Views screen for the remote system. Then, perform for that remote system the same steps as in Task 15 (Optional): Manually Update the Serenade System (see page 57). These steps are identical for all Aria, Serenade, and Octel 100 systems. If the remote system uses Octel Analog Networking, complete this task during off hours.</p>
	VPIM/AMIS	Directory Views are not supported.

Manually Update an Intuity AUDIX System

 **NOTE:**

You perform this task on the Intuity AUDIX endpoint itself, not on Interchange. This task applies only to Intuity AUDIX systems that have full or directory views for their subscriber update types. For Aria, Serenade, and Octel 100 remote nodes that use full or directory view updates, see [Task 15 \(Optional\): Manually Update the Serenade System \(see page 57\)](#) for instructions.

To update an Intuity AUDIX system in the network with subscribers in the system you just added, use the following steps:

1. Starting from the Intuity AUDIX main menu, select

```
>AUDIX Administration
```

The system displays a blank AUDIX screen.

2. Enter **list measurements feature day** at the `enter command:` prompt.

The system displays the Feature Daily Traffic screen.

3. Write down the current number of remote users.

4. Press **F6** (Cancel).

The cursor returns to the command line.

5. Enter **get remote_updates remote_machine_name** at the `enter command:` prompt, where **remote_machine_name** is the name of Interchange.

In the example, the name for Interchange is **central**.

The system displays the Remote Update Request screen ([Figure 2](#)).

```
fort collins      Active      Alarms: mWA      Logins: 4
get remote_updates central      Page 1 of 1
```

REMOTE UPDATE REQUEST

Request Full Update from Machine: central

Status of Last Update: completed

Last Completed Update: 01/10/01 19:54

Press [Enter] for Full Update Request

[Cancel] to Abort

```
enter command: get remote_updates central
```

Figure 2. Intuity AUDIX Remote Update Request Screen

6. Press **ENTER** to begin the remote update or press **F6** (Cancel).

The system begins the remote update.

 **NOTE:**

The update might take some time, possibly hours, depending on the number of users on the remote system.

7. When the remote update is complete, enter **list remote extensions *remote_machine_name*** at the **enter command:** prompt, where ***remote_machine_name*** is the name for Interchange.

The system displays the List Remote Extensions screen.

8. Check that the remote users of Interchange's new system are listed.
9. Enter **list measurements feature day** at the **enter command:** prompt.

The system displays the Feature Daily Traffic screen.

10. Verify the new number of remote users.
11. Enter **display administration-log** at the **enter command:** prompt.

The system displays the Administration Log screen.

12. Verify that no conflicts or problems occurred with the remote update.
13. Press **(F1)** (Cancel).

The cursor returns to the command line, and the system displays the message `Command Successfully Completed`.

14. Enter **exit** at the **enter command:** prompt to leave AUDIX Administration.