

# Switch Requirements and Administration for the Ericsson MD 110 Switch

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## Overview

This chapter provides information on requirements for the following:

- Switch software
- Hardware
- Administration for integration of the Ericsson MD110 switch with the Lucent™ INTUITY™ system.

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## Purpose

The purpose of this chapter is to help Lucent technicians administer the switch for successful integration with the Lucent INTUITY system.



### NOTE:

The switch administrator is responsible for performing the switch administration. However, Lucent technicians and the switch administrator must cooperate to ensure that the appropriate administration is completed.

# Lucent INTUITY System Features Supported by the Ericsson MD110 Switches

[Table 4-1](#) lists the Lucent INTUITY system features supported by the Ericsson MD110 switch.

 **NOTE:**  
Some features may not be supported on older releases of this switch.

**Table 4-1. Lucent INTUITY System Features**

| Feature           | Details  |
|-------------------|--|
| Call Coverage     | <ul style="list-style-type: none"><li>■ The distinction between busy and no answer is supported. Separate greetings for busy and no answer can be played.</li><li>■ Separate greetings can be activated for internal and external calls.</li></ul>   |
| Transfers         | <ul style="list-style-type: none"><li>■ Only blind analog transfers to valid extensions are supported.</li><li>■ The transfer time is in the range of 5–8 seconds.</li><li>■ To avoid a period of silence during the call transfer, turn on the music-on-hold switch.</li></ul>  |
| Disconnect        | <ul style="list-style-type: none"><li>■ There is a change on all three signals that are sent online.</li><li>■ Tone detection is used to detect if the call has been disconnected.</li></ul>   |
| Voice Mail Access | <ul style="list-style-type: none"><li>■ Direct voice mail access from dedicated sets is supported.</li><li>■ Stations equipped with voice mail button can be programmed to pass the calling party number so that subscribers calling from the station are not be required to dial their extension number to log in.</li><li>■ subscribers are required to dial # before they enter the password.</li></ul> |

Table 4-1. Lucent INTUITY System Features

| Feature                  | Details  |
|--------------------------|--|
| Auto Attendant           | <ul style="list-style-type: none"><li>■ Direct inward dialing (DID) calls may require proper switch translation and routing setup.</li><li>■ Implementation of the auto attendant feature may require the assignment of a dedicated phantom station port.</li><li>■ Call coverage may change depending on the version of the ICU being used.</li><li>■ Calls can be forwarded to the auto attendant in the night mode.</li></ul> |
| Networking               | <ul style="list-style-type: none"><li>■ Only TCP/IP, AMIS analog or low-speed digital networking can be supported when the Lucent INTUITY system is connected to the Ericsson MD110 switch.</li></ul>  |
| Leave Word Calling (LWC) | <ul style="list-style-type: none"><li>■ LWC is not supported by the Lucent INTUITY system behind the Ericsson MD110 switch.</li></ul>  |

# Hardware and Software Specifications

[Table 4-2](#) shows the hardware and software specifications for the Ericsson MD110 switch.

**Table 4-2. Hardware and Software Specifications**

| Units                            | Details   |
|----------------------------------|---|
| Interface type                   | Serial  |
| Integration type                 | Out-of-band   |
| Lucent INTUITY system protocol   | ICU   |
| Switch model/release             | Models <ul style="list-style-type: none"><li>■ 20</li><li>■ 40</li><li>■ 50</li><li>■ 90</li></ul> Software version BC 5.3 or later   |
| Required Switch Packages         | Programming units in LIM with the ICU: <ul style="list-style-type: none"><li>■ IHAH</li><li>■ IH</li><li>■ DIM</li><li>■ ILP</li></ul> Programming units in each LIM: <ul style="list-style-type: none"><li>■ DIR</li><li>■ MWP</li></ul> |
| Switch Hardware Options Required | <ul style="list-style-type: none"><li>■ ELU analog station line card (version R1A) for Lucent INTUITY voice port connection</li><li>■ ICU card (version R1A)</li><li>■ SFU card for serial interface</li></ul>                            |
| Lucent INTUITY Requirements      | <ul style="list-style-type: none"><li>■ Lucent INTUITY system Release 4.3 or later platform software</li><li>■ INTUITY AUDIX® Release 4.3 or later software</li><li>■ Serial inband integration software</li></ul>                        |

## Setting the Ericsson MD110 Switch

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To ensure the smooth integration with the Lucent INTUITY system, you must modify settings on the Ericsson MD110 switch.

The procedures covered in this section are:

- [Setting Up the ICU Port in the Ericsson MD110 Switch](#)
- [Programming for MWI Update](#)
- [Assign Voice Mail Ports](#)
- [Activating the Voice Mail Integration](#)
- [System Subscriber Administration](#)
- [Auto Attendant Set Up for External Calls through the Central Office Trunk](#)

The following are guidelines for completing the required procedures. Please consult the Ericsson MD110 documentation or the switch administrator for more information.

### NOTE:

The Lucent INTUITY voice mail access number is the hunt group number administered which contains all the Lucent INTUITY extensions.

## Setting Up the ICU Port in the Ericsson MD110 Switch

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The Lucent INTUITY system supports the use of XON/OFF. It is recommended that ICU should use XON/OFF.

### NOTE:

The ICU link settings must match those of the Lucent INTUITY system.

Enter the following commands to set up the ICU port when no flow control is used and the switch MWI update is not used (where <a> is the link index number and <b> is the equipment location number).

- ICFUI:ICUIND=<a>
- EQU=<b>
- UPDFCN=NO
- DFMT=<c>
- RATE=9600
- PARITY=NONE
- CCHECK=NO

- TXC=NO
- FILLER=40

[Table 4-3](#) shows the various field descriptions.

**Table 4-3. Field Descriptions**


| Field  | Description   |
|--------|---|
| ICUIND | An ICU index number in the range of 0–15. The Ericsson MD110 switch can support up to 16 ICU links.<br><br>Replace <a> with the link index number.<br><br>Enter the link index number here.   |
| EQU    | Consult your system administrator for equipment location.   |
| UPDFCN | If this field is set to YES, the switch requests an MWI update from the voice mail system at the time specified in the UPDTIM field.<br><br>If the field is set to NO, no updates are requested from the switch.<br><br> <b>NOTE:</b><br>Do not set the UPDFCN to NO. This feature is not supported by the Lucent INTUITY system. A background refresh should be used instead. |
| UPDTIM | This is the MWI refresh request time.<br><br>It is recommended that this be set at 2:00 a.m.  |
| DFMT   | This field must be set to the length of the extension number.<br><br>In the case of a networked configuration, the DFMT must be set to the largest extension length used in the network.<br><br>The Lucent INTUITY dial plan table must be modified to convert various switch extension ranges to a fixed INTUITY AUDIX number.   |
| RATE   | Baud for the ICU serial interface. The Lucent INTUITY system settings should match the ICU settings.  |
| PARITY | Parity settings. The Lucent INTUITY system settings should match the ICU settings.  |

Table 4-3. Field Descriptions

| Field  | Description   |
|--------|---|
| CCHECK | Must be set to YES if the TXC is set to YES. Enables detection of character overrun errors and reports them.  |
| TXC    | Flow control. The Lucent INTUITY system supports flow control.  |
| FILLER | Filler characters are used when a variable-length dial plan is used.<br><br>Must be set to 40 (blank).<br><br>The Lucent INTUITY system integration software is set to handle blanks. |

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To list and print the ICU settings

1. Enter **ICFUP:ICUIND=a**  
where *a* is the ICU index number.

**Programming for MWI Update**

To evaluate how the Ericsson MD110 switch is programmed for MWI updates use the following values:

- ICMWC:SID=<x>  
  
<x> is any value between 00 and 99 that denotes the messaging system number.  
  
A similar number on the Lucent INTUITY system side must be set through the MWI setup process.
- DTXT=<y>  
  
<y> is a voice mail hunt group pilot number.
- KFCN=MWC
- DIG=<y>

[Table 4-4](#) lists the field descriptions.

**Table 4-4. Field Descriptions**

| Field | Description   |
|-------|---|
| SID   | Messaging system number   |
| DTXT  | If MWI is turned on, a string used for digital station display.   |
| KFCN  | Message waiting key function at the station set.<br><br>If this is set to MWC, the MWI button acts as a speed dial to the number programmed in the DIG parameter. |
| DIG   | Used only when KFCN is set to MWC.  |

**Performing a Pling Interval Test**

Typically the highest value, 90 which indicates a 15-minute interval, is the most suitable for most installations.


To perform a pling interval test:

- 1. Enter `ASPAC:PARNUM=45;VAR=a`  
  
where **a** can be between 30 and 90 that represents the interval at which you want to pling the analog stations for MWI.

MWI updates can be turned on for either digital stations only or for all stations in the following manner:

- `MWF=ALL`  
Turns on MWI for all stations
- `MWF=PARTIAL`  
Turns on MWI for digital stations only

The Ericsson MD110 switch supports stutter dial tone as an MWI indication for analog stations. This approach may be more suitable over the use of pling.

 **NOTE:**  
Consult your switch administrator for specific set up instructions.



## **Assign Voice Mail Ports**

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The following procedure explains how to assign voice mail ports and create a Voice Mail Hunt Group.

### **Creating a Range of Voice Mail Ports**

To create a range of voice mail ports, use the following values:

- EXTEL:DIR=<m>&&<n>  
where <m> and <n> are starting and ending port numbers.
- TYPE=EL6
- EQU=<l>-<d>-<e>-<f>  
where <l> is the LIM number on which the Voice Mail ports reside; <d> is a magazine number in an ELU; <e> is slot number where the card is located in a magazine; and <f> is a port number
- TRAF=03151515
- SERV=00001000
- ICAT=0004

### **Assigning Ports One at a Time**



#### **NOTE:**

Voice mail ports should be assigned one at a time.

To create individual voice mail ports, use the following values:

- EXTEL:DIR=<m>  
where <m> is the port number
- TYPE=EL6
- EQU=<l>-<d>-<e>-<f>
- TRAF=03151515
- SERV=00001000
- ICAT=0004

### **Verifying Directory Category and Data**

To verify the directory category and data enter, use the following values:

- EXCAP:DIR=<m>&&<n>
- EXDDP:Dir=<m>&&<n>

## **Setting Up a Linear Hunt Group Pilot Number (for Software Release BC5 and Later)**

To set up a linear hunt group pilot number, use the following values:

- GHGRI:GRP=<k>  
where <k> is the hunt group pilot number
- LIM=<l>  
where <l> is the LIM number where the voice mail ports reside
- SERV=1
- TRAF=15
- SEL=1
- QUE=0

## **Assigning the Hunt Group Number to Voice Mail Extensions**

To assign the hunt group number to voice mail extensions, use the following values:

- GHGMI:GRP=<k>
- DIR=<m>&&<n>

## **Verifying the Hunt Group Assignment**

To verify the hunt group assignment, use the following values:

- GHDAP:GRP=<k>  
where <k> is the hunt group number

## **Activating the Voice Mail Integration**

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To activate the voice mail integration, use the following values:

- VMFUI:ICUIND=<a>  
where <a> is the ICU index number
- VMF=EXTND  
VMF (voice mail functionality) is set to EXTND for the standard message format.  
  
The Lucent INTUITY system supports both the STD and the EXTND mail formats. The EXTND format provides better integration.

- POFMT=<p>

where <p> is the voice mail port ID field length



**NOTE:**

For the Lucent INTUITY system POFMT should be set to "2" digits.

To verify the above settings, use the following values:

1. Assign the voice mail port to the ICU link  
VMFUP:ICUIND=<a>
2. Execute the following commands for all the voice mail ports
  - VMPOI:ICUIND=<a>
  - DIR=<voice mail port directory number>
  - PORT=<voice mail port Index>
3. Assign the hunt group number to the ICU link
  - VMPOI:ICUIND=<a>
  - GRP=<k>
4. Verify the settings with the following:
  - VMPOP:ICUIND=<a>

## **System Subscriber Administration**

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The following sections describe:

- [Call Redirection](#)
- [MWI Key](#)
- [Call Diversion](#)

### **Call Redirection**

To set up call redirection to voice mail, use the following values:

- CDCNI:DIR=<subscriber directory number>
- DIV=<hunt group pilot number>

### **MWI Key**

To set up an MWI key for a station, use the following values:

- KSFKC:DIR=<subscriber directory number>
- KEY=<station key number for MWI>
- FCN=MEW

Call Diversion


[Table 4-5](#) explains what action to take for a given condition.

**Table 4-5. Call Diversion Table**

| Call Diversion | Condition         | Action                      |
|----------------|-------------------|-----------------------------|
| Activate       | Ring No Answer    | Press *21# from the station |
| Deactivate     | Ring No Answer    | Press #21# from the station |
| Activate       | Forward All Calls | Press *2# from the station  |
| Deactivate     | Forward All Calls | Press #2# from the station  |
| Activate       | Busy Calls        | Press *22# from the station |
| Deactivate     | Busy Calls        | Press *22# from the station |

**Auto Attendant Set Up for External Calls  
through the Central Office Trunk**


The Ericsson MD110 switch does not pass any call information for external calls coming through the central office trunk (lines).

 **NOTE:**  
The central office calls can only be directed to the INTUITY AUDIX Auto Attendant application.

The following procedure explains how to set up the auto attendant for external calls through the central office trunk:

To reach the INTUITY AUDIX auto attendant,

1. Set up a directory number on the Ericsson MD110 switch.

 **NOTE:**  
One analog port is required for this.  
Do not connect the telephone to this port.

2. Route all central office calls to this directory number.
3. Forward all calls from this directory number to the voice mail hunt group number.
4. Use the same directory number on the Lucent INTUITY system for the auto attendant setup.

5. Assign the following values to the fields:

- RODNI:ROU=<r>  
where <r> is a route number
- TRU=<t>  
where <t> is a trunk number
- NIG=<directory number>

6. Forward all calls from the directory number to the voice mail hunt group using the following values:

- CDINI:DIR<directory number>
- DIV=<k>  
where <k> is the voice mail hunt group pilot number

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|----------|---|
| <b>4</b> | Switch Requirements and Administration for the Ericsson MD 110 Switch |
|          | <i>Setting the Ericsson MD110 Switch</i>                              |

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