Installing the Line Interface Module on the Cisco 8110 Broadband Network Termination Unit

This document contains the following sections:

- Unpacking the Line Interface Module, page 1
- Basic Hardware Features, page 2
- Cable Connections, page 2
- LIM Installation, page 3
- Obtaining Documentation, page 5
- Obtaining Technical Assistance, page 6

Unpacking the Line Interface Module

Upon receipt of, and before opening the line interface module (LIM), inspect the package for any damage that might have occurred during shipping. If the package shows any signs of external damage or rough handling, notify your carrier's representative.

When unpacking the LIM be sure to keep all original packing materials. They might be needed for storing, transporting, or returning the product.

Note   All products returned to Cisco, under warranty, must be packed in their original packing materials.

The LIM package should include the following:

- LIM unit
- LIM Installation Manual

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Caution   All modules are susceptible to electrostatic discharge (ESD) even while installed. Take the necessary precautions to minimize electrostatic damage while handling modules.

Basic Hardware Features

The LIM is designed to be installed into the CISCO 8110 LIM slots, and operates as the Line Interface for the different Line types supported by the CISCO 8110.

A standard CISCO 8110 configuration will include two LIMs. Each of these modules has handles for insertion or extraction from the unit. The third module, placed in the far-right-hand side slot is a hot standby module.

Cable Connections

To connect the cables, use the following procedures:

Connecting Optical Cables

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Warning   **When LIM LIM-155SM-I ,LIM-155SM-L, LIM-155SM-XL, , LIM-155SM-I-SH, LIM-155SM-L-SH or LIM-155SM-XL-SH are used the CISCO 8110 is a Class 1 Laser Product**

Take the necessary precautions to avoid dangerous radiation hazards if these modules are not handled properly.

To connect your CISCO 8110 unit optical interfaces:

Step 1   Prepare a pair of appropriate (multi-mode or single-mode) optical cables with appropriate (SC or ST) connectors on the CISCO 8110 side.

*   You may want to mark the ends of the cable so you can identify the wires.
*   Remove the optical connector protective cover.

Step 2   Snap the cables into the LIM ports on the front panel of your CISCO 8110 unit.

Step 3   Snap the other end of the cable into the ATM switch or other ATM equipment. Be sure that each cable connects to Tx on one end and Rx on the other.

Connecting Electrical Signal Cables

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Caution   Electrical cables should be 26 AWG or lower.

To connect your CISCO 8110 unit electrical BNC interfaces:

Step 1   Prepare a pair of appropriate cables with appropriate connectors on the CISCO 8110 side

You may want to mark the ends of the cable so you can identify the wires.

Step 2   Attach the cables into the LIM ports on the front panel of your CISCO 8110 unit.

Step 3   Attach the other end of the cable into the ATM switch or other ATM equipment. Be sure that each cable connects to Tx on one end and Rx on the other.

To connect your CISCO 8110 unit electrical RJ-45 interfaces:

Step 1   Prepare an appropriate cable with appropriate connector on the CISCO 8110 side

The RJ-45 pin out should be as follows:

T1/E1 Pinouts		UTP Pinouts	
Pin	**Signal**	**Pin**	**Signal**
1	Rx Tip	1	Tx+
2	Rx Ring	2	Tx-
4	Tx Tip	7	Rx+
5	Tx Ring	8	Rx-

Step 2   Attach the cables into the LIM ports on the front panel of your CISCO 8110 unit.

Step 3   Attach the other end of the cable into the ATM switch or other ATM equipment. Be sure that each cable connects to Tx on one end and Rx on the other.

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Note   Please make sure that the JMP1 pins are not shorted. This option (shorted JMP 1 pins) may be used only when using a coax cable.

LIM Installation

This section includes the following:

- Installing a Line Interface Module (LIM), page 4
- Removing a Line Interface Module (LIM), page 4

Installing a Line Interface Module (LIM)

To install a LIM in your CISCO 8110:

Step 1 Verify that the module state is OOS (Out of Service), using the console or the in-band management application.

Step 2 Place the module's card edges into the right and left module guides at the front of the CISCO 8110 Slide in the module until it makes contact with the backplane, then push firmly to mate the connectors solidly with the backplane.

Step 3 Secure the module's front panel to the CISCO 8110 chassis using the mounting screws on the right and left of the module's front panel.

Step 4 Securely install and fasten each module to facilitate the installation of the one next to it.

Step 5 Configure the module type to the actual LIM type, using the console or the in-band management application.

Step 6 Change the module state to active, using the console or the in-band management application.

Removing a Line Interface Module (LIM)

To remove a LIM in your CISCO 8110:

Step 1 Change the module state to OOS (Out Of Service) using the console, or the in band management application

Step 2 Unscrew the right and left mounting screws on the front panel of the module.

Step 3 Remove the module by pulling evenly its mounting screws.

Step 4 Use faceplate panels, supplied with the CISCO 8110 Unit to protect unused slots from dust and reduce electromagnetic radiation.

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Caution The CISCO 8110 ventilation mechanism is not effective if empty slots are not covered with faceplate panels.

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Caution If you store modules outside the CISCO 8110 for an extended period of time, place them in the original packaging (or equivalent packaging providing ESD protection).

Replacing Modules

When changing from one type of LIM to another (e.g. from STM-1 to E3) use the following procedure:

Step 1 Change the module state to OOS (Out of Service), using the console or the in-band management application.

Step 2 Remove the module

Step 3 Insert the new LIM

Step 4 Change the LIM module type by using the console or the in-band management application.

Step 5 Change the module state to active, using the console or the in-band management application

Table 1 Front Panel LIM LEDs

LEDIndicator	Status	Explanation
ALM	On	Alarm present in LIM.
	Off	No alarm in LIM.
Tx	Off	No cells transmitted in LIM port.
	On Weak	LIM transmitter enabled, no ATM cells transmitted.
	On Strong	User cells are being transmitted.
Rx	Off	No cells detected in LIM port.
	On Weak	LIM synchronized to received signal. No ATM cells detected. ATM cells detected.
	On Strong Flashing	Error during SelfTest

NOTES:

1. OUT of SERVICE - all LEDs are off

2. ACTIVE MODE - Tx and Rx active (for no alarm)

3. ACTIVE MODE - Tx +ALM active (with alarm)

4. STANDBY MODE - All LEDs off (including ALM)

Obtaining Documentation

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*   Telnet: cco.cisco.com
*   Modem using standard connection rates and the following terminal settings: VT100 emulation; 8 data bits; no parity; and 1 stop bit.
    –   From North America, call 408 526-8070
    –   From Europe, call 33 1 64 46 40 82

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In North America, TAC can be reached at 800 553-2447 or 408 526-7209. For other telephone numbers and TAC e-mail addresses worldwide, consult the following web site: http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml.

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