



## 8-Port E3/DS3 ATM Line Card Overview

This chapter describes the Cisco 10000 series 8-port E3/DS3 ATM line card (referred to as the 8-port E3/DS3 ATM line card) and contains the following sections:

- [Line Card Summary, page 2-1](#)
- [Software and Hardware Compatibility, page 2-2](#)
- [Line Card, Router, and Processor Compatibility, page 2-3](#)
- [LEDs, page 2-3](#)
- [Physical Specifications, page 2-4](#)
- [Slot Locations, page 2-5](#)
- [Cables and Connectors, page 2-6](#)

### Line Card Summary

**Table 2-1** 8-Port E3/DS3 ATM Line Card Summary

Product Number	Description	Minimum Cisco IOS Release
ESR-8E3DS3-ATM=	8-port E3/DS3 ATM line card	Initial Cisco IOS releases for PRE-2: 12.2(16)BX and later releases of Cisco IOS Release 12.2BX 12.2(28)SB and later releases of Cisco IOS Release 12.2(28)SB 12.3(7)XI and later releases of Cisco IOS Release 12.3XI For registered Cisco.com users, use <a href="#">Software Advisor</a> to determine the software releases for this line card.

The 8-port E3/DS3 ATM line card has eight E3 or DS3 (T3) copper interface terminations that provide Asynchronous Transfer Mode (ATM) serial interfaces and perform Layer 2 ATM functions.

Each E3/DS3 interface port on the 8-port E3/DS3 ATM line card provides a single high-speed data channel.

- Maximum E3 bandwidth—34.386 Mbps
- Maximum DS3 bandwidth—44.736 Mbps

The 8-port E3/DS3 ATM line card can be used to:

- Provide eight E3 or DS3 trunk uplinks that support throughput of up to 44.736 Mbps at each port of the line card
- Provide IP packet routing over ATM virtual circuit connections using copper-based E3 or DS3 connectors at each port
- Operate as a subscriber interface card

The ATM features of the 8-port E3/DS3 ATM line card include:

- Broadband aggregation support for up to 8,000 simultaneously active, independent ATM virtual circuits per E3 or DS3 port, with a total limit of 32,000 VCs per line card
- Uses ATM cell header 8-bit virtual path identifiers (VPIs) and 16-bit virtual channel identifiers (VCIs)
- Provides ATM QoS (quality of service) management

If you are a registered Cisco.com user, see [Feature Navigator](#) for supported features.

## Software and Hardware Compatibility

To check the minimum software requirements of Cisco IOS software with the hardware installed on your router, Cisco maintains the Software Advisor tool on Cisco.com. This tool does not verify whether line card within a system are compatible, but does provide the minimum Cisco IOS requirements for individual hardware line cards, modules, or options.



---

**Note**

Access to this tool is limited to users with Cisco.com login accounts.

---

To access [Software Advisor](#), click **Login** at Cisco.com, type “Software Advisor” in the SEARCH box, and click **Go**. Click the link for the Software Advisor tool.

Choose a product family or enter a specific product number to search for the minimum supported software release needed for your hardware.

# Line Card, Router, and Processor Compatibility

Table 2-2 provides information about the router model, line card, and processor compatibility.

**Table 2-2** Line Card, Router, and Processor Compatibility

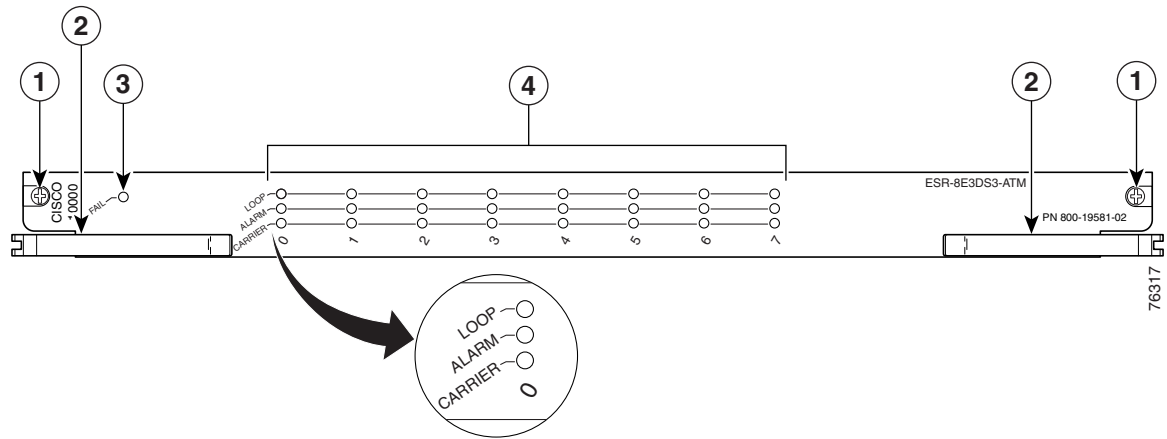
Line Card	Cisco 10008	Cisco 10005	PRE-2	PRE-1	PRE
8-port E3/DS3 ATM line card	Yes	No <sup>1</sup>	Yes	No	No

1. The 8-port E3/DS3 ATM line card has been compliance tested to function in a Cisco 10005 chassis.

## LEDs

The 8-port E3/DS3 ATM line card LEDs are described in Figure 2-1.

**Figure 2-1** 8-Port E3/DS3 ATM Line Card Faceplate Description



<b>1</b>	Captive screw	<b>3</b>	Yellow Fail LED
<b>2</b>	Ejector lever	<b>4</b>	Ports 0 to 7 status LEDs:

Table 2-3 provides a description of the 8-port E3/DS3 ATM line card LEDs.

**Table 2-3 LED Description**

LED Label	Color	State	Meaning
FAIL	Yellow	Off	Off when line card is working properly. Turns on for a few seconds during line card power-on self test (POST), then turns off when the line card is working properly.
		On	On when the line card POST fails.
LOOP	Yellow	Off	Off when the line card is available for normal operation.
		On	On when some portion of the corresponding port data is in a loopback state and is not available for normal operations.
ALARM	Yellow	Off	Off when the line card is operating normally.
		On	On when an alarm condition exists at the corresponding port.
CARRIER (carrier detected)	Green	On	On when a carrier is detected at the corresponding port and the interface is operating properly.
		Off	Off when a loss of signal (LOS) is indicated.

## Physical Specifications

The 8-port E3/DS3 ATM line card physical specifications are shown in Table 2-4.

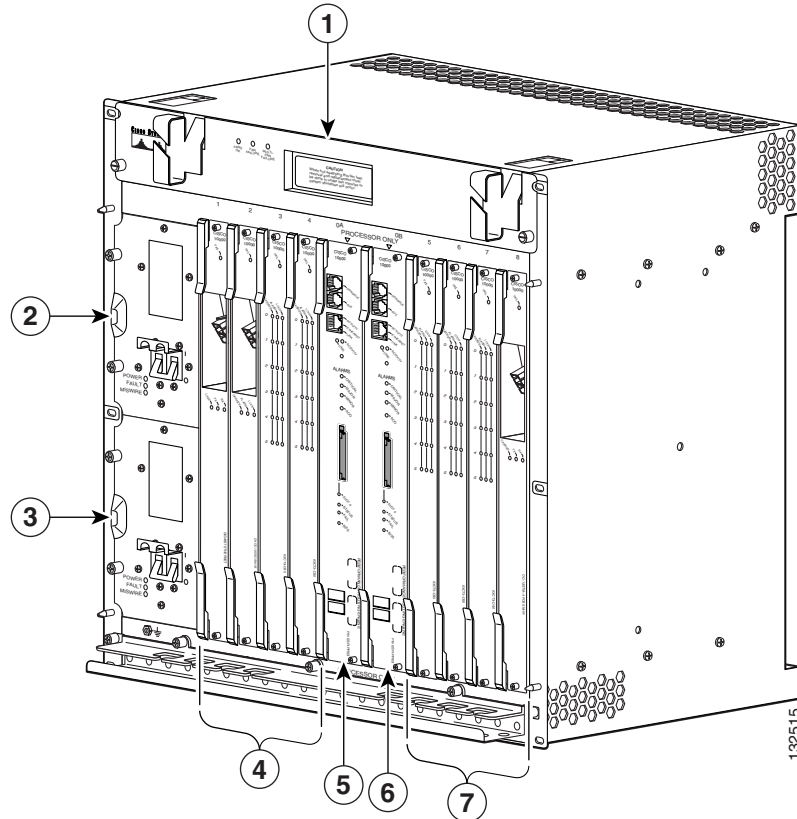
**Table 2-4 8-Port E3/DS3 ATM Line Card Physical Specifications**

Description	Specifications
Physical dimensions	Height: 16.0 in. (40.64 cm) Depth: 9.97 in. (25.32 cm) Width: 1.12 in. (2.83 cm)
Shipping weight	Approximately 4.75 lb (2.16 kg)
Operating temperature	41°F to 104°F (5°C to 40°C) Short-term operating temperature is limited to 131°F (55°C) in compliance with Bellcore GR
Relative humidity	Operating—nominal: 5% to 85% Operating—short term: 5% to 90% Storage: 5% to 95%
Storage temperature	−40°F to 158°F (−40°C to 70C °)

# Slot Locations

The line card slot designations are shown in this section. [Figure 2-2](#) shows line card slot designations for the Cisco 10008 router and [Figure 2-3](#) shows line card slot designations for the Cisco 10005 router.

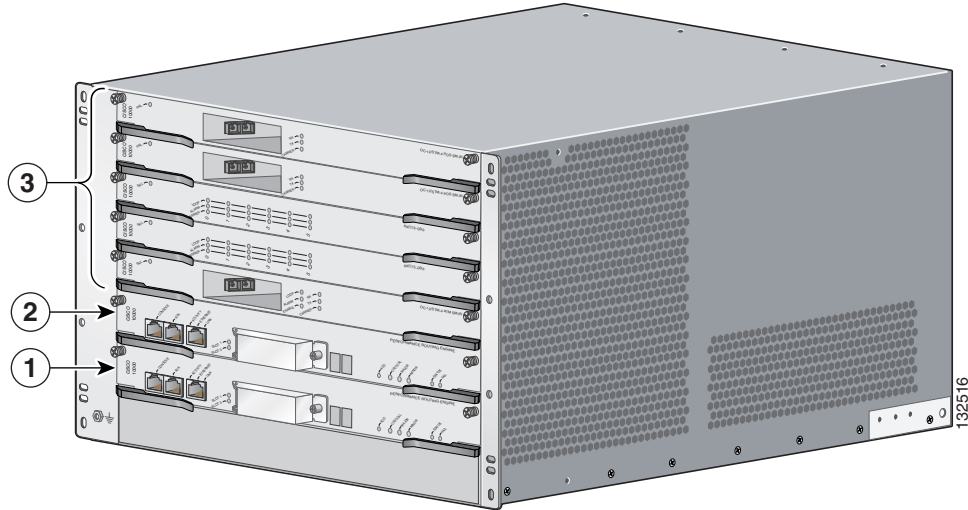
**Figure 2-2** Line Card Slot Designations for the Cisco 10008 Router



<b>1</b>	Blower module	<b>5</b>	PRE slot 0A
<b>2</b>	Primary PEM	<b>6</b>	PRE slot 0B
<b>3</b>	Redundant PEM	<b>7</b>	Line card slots 5 to 8
<b>4</b>	Line card slots 1 to 4		

The 8-port E3/DS3 ATM line card can be installed in slot 1 through slot 8.

**Figure 2-3** Line Card Slot Designations for the Cisco 10005 Router



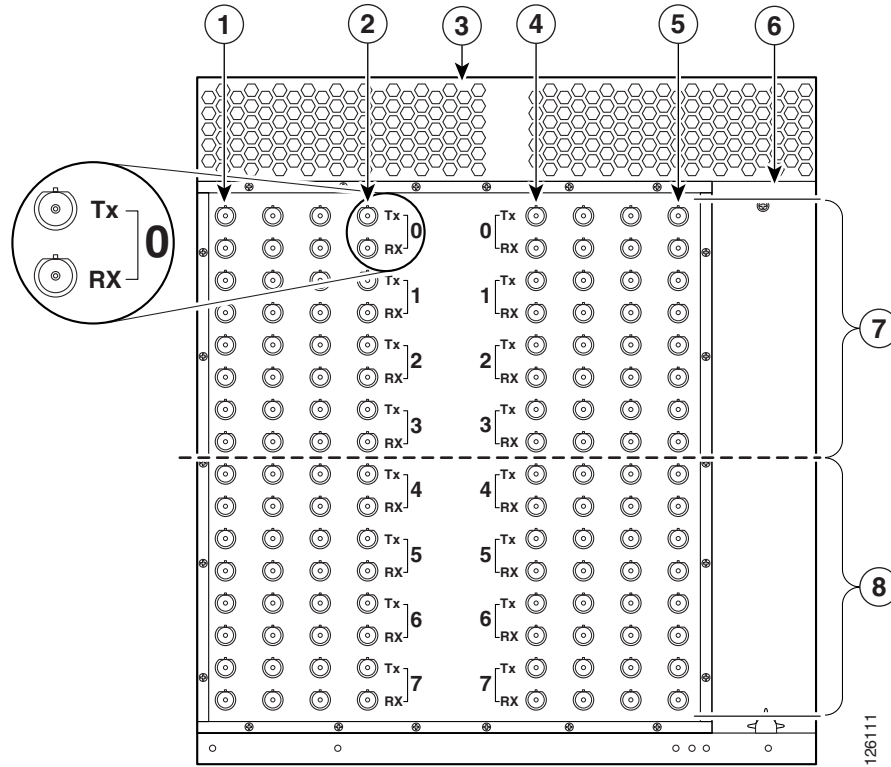
<b>1</b>	PRE slot A	<b>3</b>	Line card slots 1 (top) to 5 (bottom)
<b>2</b>	PRE slot B		

The 8-port E3/DS3 ATM line card can be installed in slot 1 through slot 5.

## Cables and Connectors

External network connections to the 8-port E3/DS3 ATM line card are made through the BNC connectors mounted on the rear of the Cisco 10000 chassis, using 75-ohm coaxial cable. The approved cables for use with the 8-port E3/DS3 ATM line card are cables conforming to WECO standards 728A, 734A, or 734D. Use cable lengths up to 450 ft (137.16 m). 735A cables can be used with lengths up to 225 ft (68.58 m).

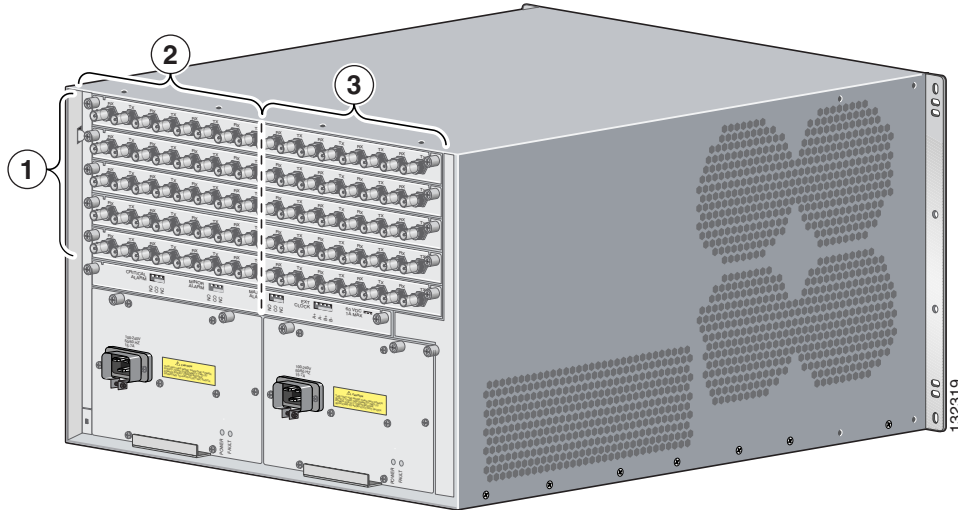
Figure 2-4 Cisco 10000 Chassis Rear—BNC Connectors



<b>1</b>	Line card slot 8	<b>5</b>	Line card slot 1
<b>2</b>	Line card slot 5	<b>6</b>	Power supply
<b>3</b>	Blower module	<b>7</b>	Half-height line card subslot 0
<b>4</b>	Line card slot 4	<b>8</b>	Half-height line card subslot 1

The BNC connectors on the rear of the chassis, which use coaxial cable, are used with the 8-port E3/DS3 ATM line card.

Figure 2-5 Cisco 10005 Chassis Rear—BNC Connectors



<b>1</b>	Line card slots 1 (top) to 5 (bottom)	<b>3</b>	Subslots 1/1 (top) to 5/1 (bottom)
<b>2</b>	Subslot 1/0 (top) to 5/0 (bottom)		

Also see [Appendix A, “Cisco 10005 Extender Card Information”](#) for information about the extender card which must be used with the 8-port Unchannelized E3/T3 line card in the Cisco 10005 chassis.

All Cisco 10005 ESR cards connect to a backplane in the center of the chassis, and require extender cards to deliver the alarm, BITS clock, and DS3 signals to the rear of the chassis to make them accessible. The Cisco 10005 ESR alarm extender card and T3/E3 extender card extend and terminate these signals.

Go to [Chapter 16, “Preparing for Installation”](#) to begin the installation or replacement of the line card.

For troubleshooting information, see [Chapter 18, “Troubleshooting the Installation.”](#)