



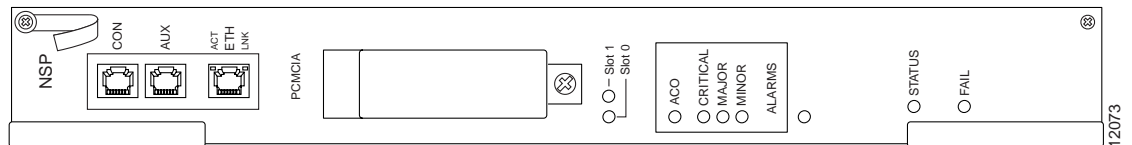
Cabling Specifications

This appendix shows the cards that can be inserted into appropriate slots in the front of the Cisco 6400 carrier-class broadband aggregator chassis and summarizes the pinouts for the associated ports and interface cables. It also shows other important connection facilities that are built into the backplane of the Cisco 6400.

Node Switch Processor

Figure B-1 shows the Cisco 6400 node switch processor (NSP).

Figure B-1 Cisco 6400 NSP Card



NSP Console Port

The NSP console (CON) port is a serial EIA/TIA-232 interface. Table B-1 lists the signals for this connector.

Table B-1 NSP CON Port Connector Signals

Pin	Signal	Direction	Description
1	(RTS)	—	Hard wired to pin 8
2	DTR	Output	Data Terminal Ready (for modem control)
3	TxD	Output	Transmit Data
4	GND	—	Signal Ground
5	GND	—	Signal Ground
6	RxD	Input	Receive Data
7	DSR	Input	Data Set Ready (for modem control)
8	(CTS)	—	Hard wired to pin 1

**Note**

The NSP console port does not support hardware flow control. To ensure proper operation, configure any terminal equipment connected to the console port for no hardware flow control or no flow control.

NSP Auxiliary Port

The NSP auxiliary (AUX) port supports hardware flow control and modem control. Table B-2 lists the signals for this connector.

Table B-2 NSP AUX Port Connector Signals

Pin	Signal	Direction	Description
1	RTS	Output	Request to send (hardware flow control)
2	DTR	Output	Data Terminal Ready (modem control)
3	TxD	Output	Transmit Data
4	GND	—	Signal Ground
5	GND	—	Signal Ground
6	RxD	Input	Receive Data
7	DSR	Input	Data Set Ready (modem control)
8	CTS	Input	Clear to Send (hardware flow control)

NSP Network Management Ethernet Port

The NSP network management Ethernet (ETH) port provides for out-of-band network management for the NSP. Table B-3 lists the signals for this connector.

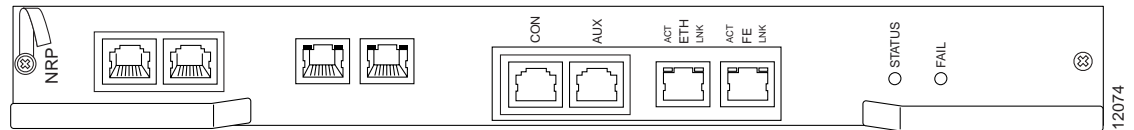
Table B-3 NSP ETH Port Connector Signals

Pin	Signal	Direction	Description
1	TxD+	Output	Transmit Data +
2	TxD-	Output	Transmit Data -
3	RxD+	Input	Receive Data +
4	NC	—	No connection
5	NC	—	No connection
6	RxD-	Input	Receive Data -
7	NC	—	No connection
8	NC	—	No connection

Node Route Processor

Figure B-2 shows the Cisco 6400 node route processor (NRP).

Figure B-2 Cisco 6400 NRP Card



NRP Console Port

The NRP console (CON) port is a serial EIA/TIA-232 interface. Table B-4 lists the signals for this connector.

Table B-4 NRP CON Port Connector Signals

Pin	Signal	Direction	Description
1	NC	—	No connection
2	DTR	Output	Data Terminal Ready (for modem control)
3	TxD	Output	Transmit Data
4	GND	—	Signal ground
5	GND	—	Signal ground
6	RxD	Input	Receive Data
7	DSR	Input	Data Set Ready
8	NC	—	No connection



Note

The NRP console port does not support hardware flow control. To ensure proper operation, configure any terminal equipment connected to the console port for no hardware flow control or no flow control.

NRP Auxiliary Port

The NRP auxiliary (AUX) port supports hardware flow control and modem control. Table B-5 lists the signals for this connector.

Table B-5 NRP AUX Port Connector Signals

Pin	Signal	Direction	Description
1	RTS	Output	Request To Send (for hardware flow control)
2	DTR	Output	Data Terminal Ready (for modem control)

Table B-5 NRP AUX Port Connector Signals

Pin	Signal	Direction	Description
3	TxD	Output	Transmit Data
4	GND	—	Signal ground
5	GND	—	Signal ground
6	RxD	Input	Receive Data
7	DSR	Input	Data Set Ready (for modem control)
8	CTS	Input	Clear To Send (for hardware flow control)

NRP Network Management Ethernet Port

The NRP network management Ethernet (ETH) port provides for out-of-band network management for the NRP. Table B-6 lists the signals for this connector.

Table B-6 NRP ETH Port Connector Signals

Pin	Signal	Direction	Description
1	TxD+	Output	Transmit Data +
2	TxD-	Output	Transmit Data -
3	RxD+	Input	Receive Data +
4	NC	—	No connection
5	NC	—	No connection
6	RxD-	Input	Receive Data -
7	NC	—	No connection
8	NC	—	No connection

NRP Fast Ethernet Port

The Fast Ethernet (FE) port can be used to connect the NRP to a 100BaseT LAN. Table B-7 lists the signals for this connector.

Table B-7 NRP FE Port Connector Signals

Pin	Signal	Direction	Description
1	TxD+	Output	Transmit Data +
2	TxD-	Output	Transmit Data -
3	RxD+	Input	Receive Data +
4	NC	—	No connection
5	NC	—	No connection
6	RxD-	Input	Receive Data -

Table B-7 NRP FE Port Connector Signals

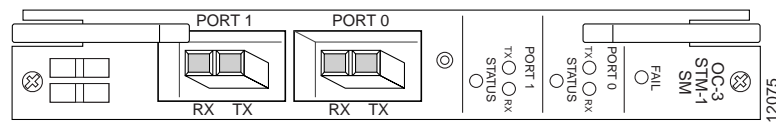
Pin	Signal	Direction	Description
7	NC	—	No connection
8	NC	—	No connection

**Note**

The 100BaseT (FE) port on the NRP does not meet the requirements of Bellcore GR 1089 Core, Section 4.5.9 (intrabuilding lightning surge) with unshielded twisted pair cabling attached. Therefore, if the Cisco 6400 is used in an environment where lightning-induced transients are likely to couple to the signal lines, the use of shielded interconnection cables for the 100BaseT port is required.

OC-3 Node Line Card

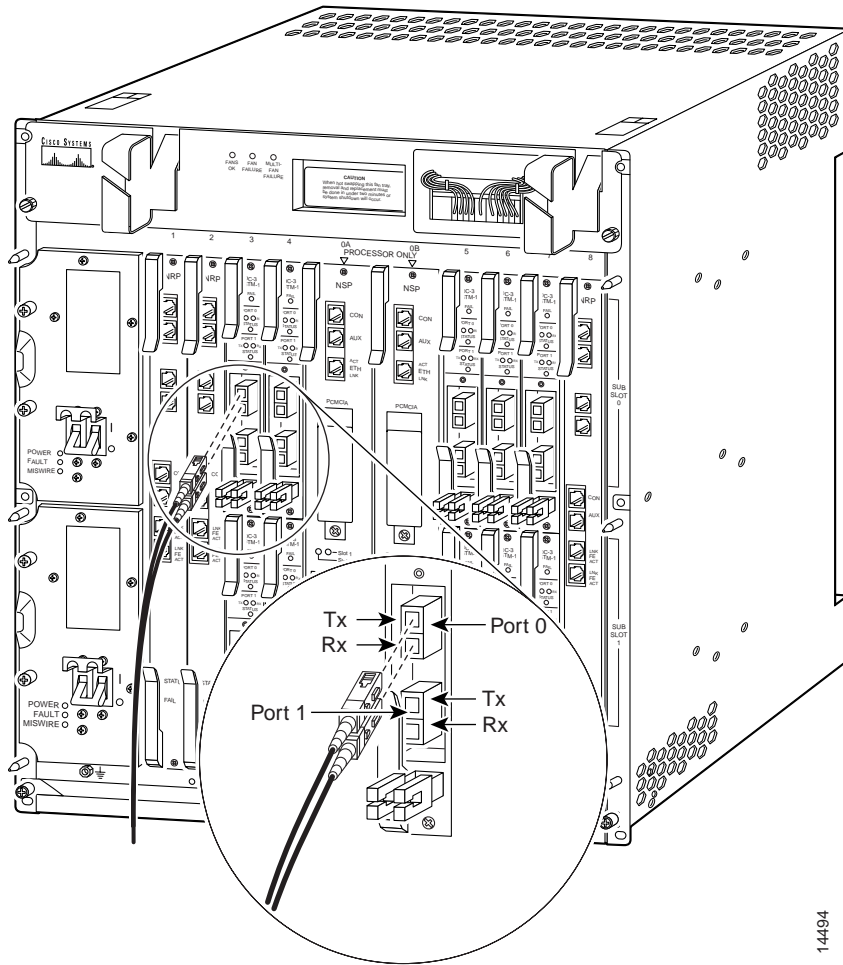
Figure B-3 shows the Cisco 6400 OC-3 node line card (NLC).

Figure B-3 Cisco 6400 OC-3 NLC Card

OC-3 Node Line Card Interface Cable

Figure B-4 shows the fiber-optic interface cable for the OC-3/STM-1 NLC used with the Cisco 6400.

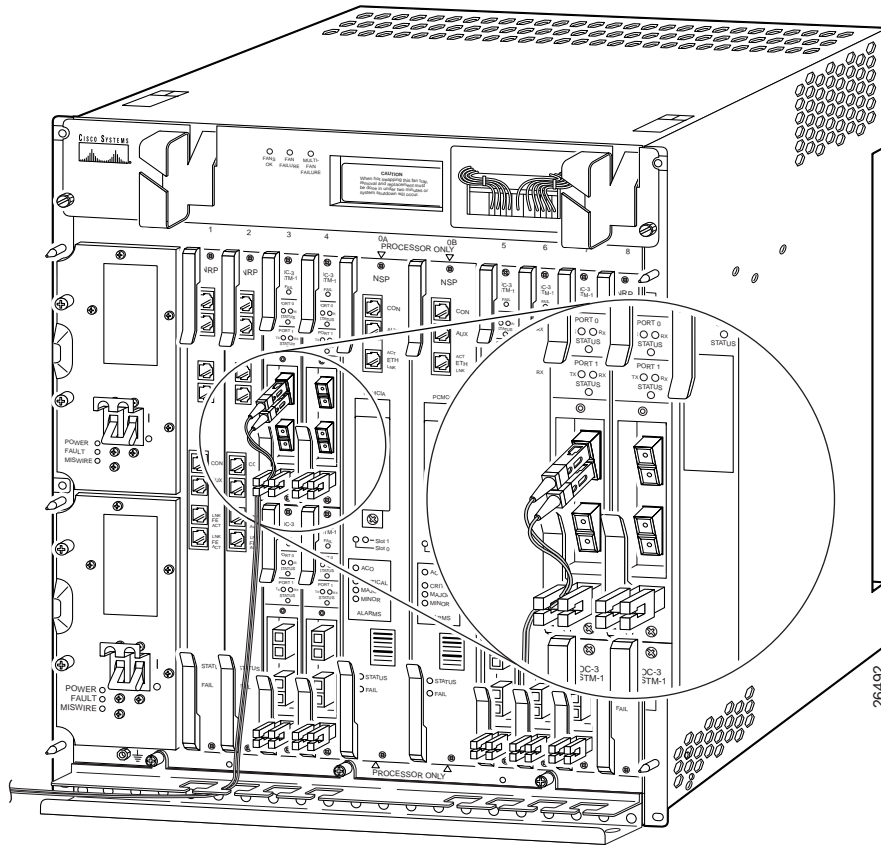
Figure B-4 Fiber-Optic Interface Cable for Cisco 6400 OC-3 NLC



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Figure B-5 shows suggested cable management for the OC-3/STM-1 fiber-optic cable.

Figure B-5 OC-3 Fiber-Optic Cable Management



DS3 Node Line Card

Figure B-6 shows the Cisco 6400 DS3 NLC (in a horizontal orientation).

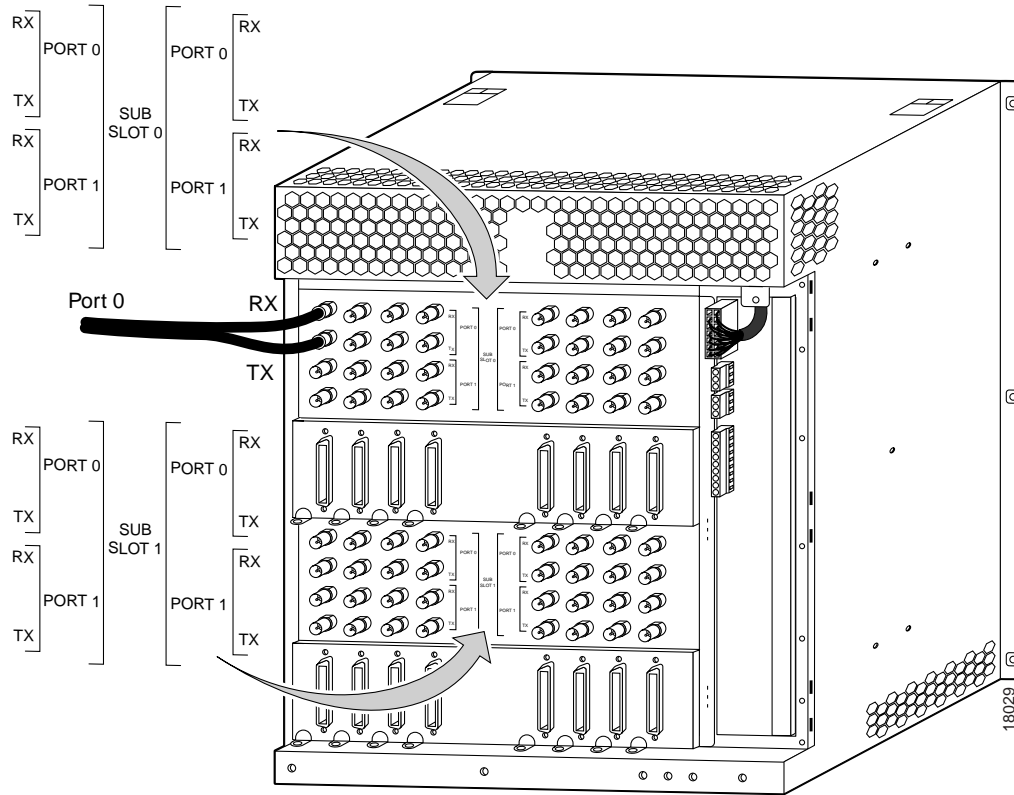
Figure B-6 Cisco 6400 DS3 NLC Card



DS3 Node Line Card Interface Cable

Figure B-7 shows the coaxial interface cable for the DS3 NLC used with the Cisco 6400.

Figure B-7 Coaxial Interface Cable for Cisco 6400 DS3 NLC



OC-12 Node Line Card

Figure B-8 shows the Cisco 6400 OC-12 NLC (in a horizontal orientation).

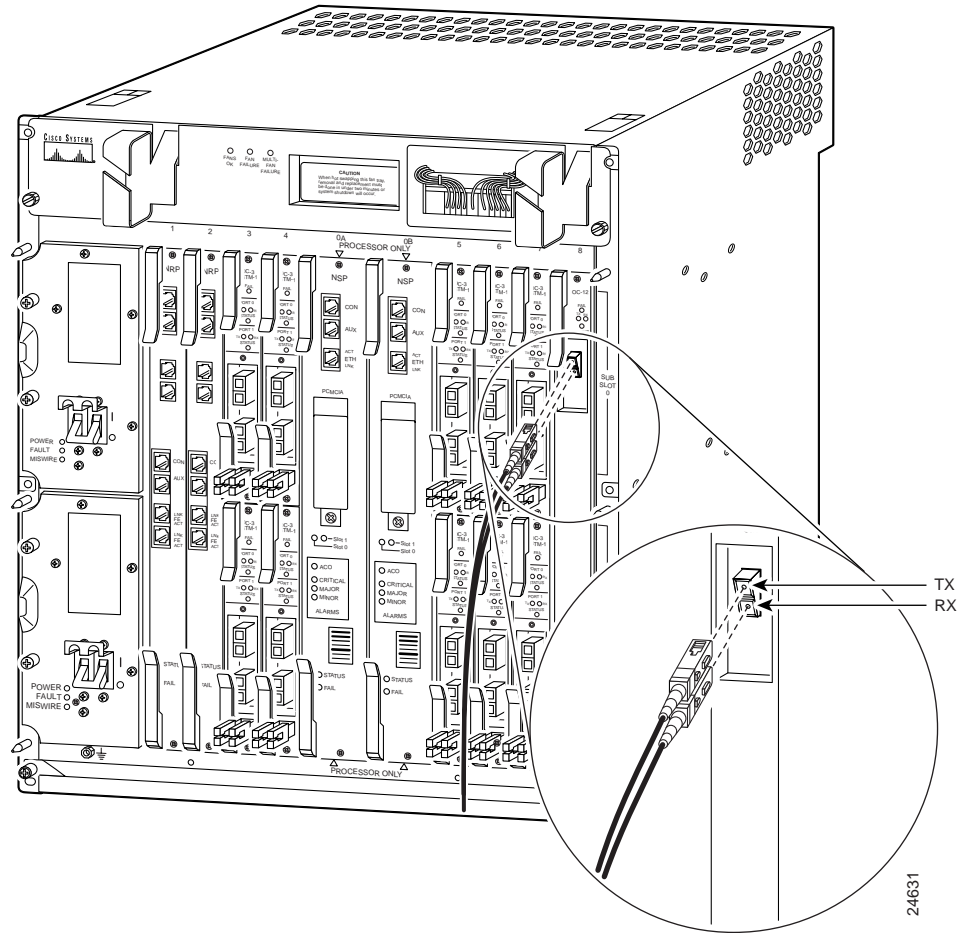
Figure B-8 Cisco 6400 OC-12 NLC Card



OC-12 Node Line Card Interface Cable

Figure B-9 shows the fiber-optic interface cable for the OC-12/STM-4 NLC used with the Cisco 6400.

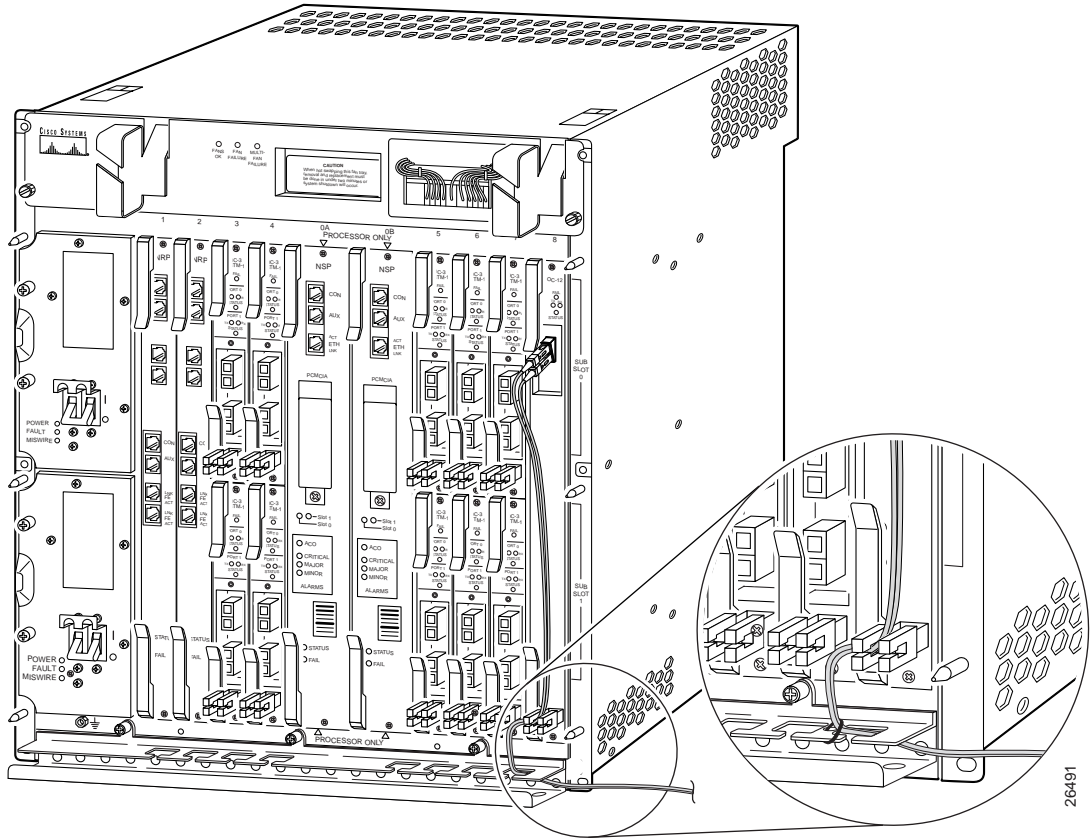
Figure B-9 Fiber-Optic Interface Cable for Cisco 6400 OC-12 NLC



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Figure B-10 shows suggested cable management for the OC-12/STM-4 fiber-optic cable.

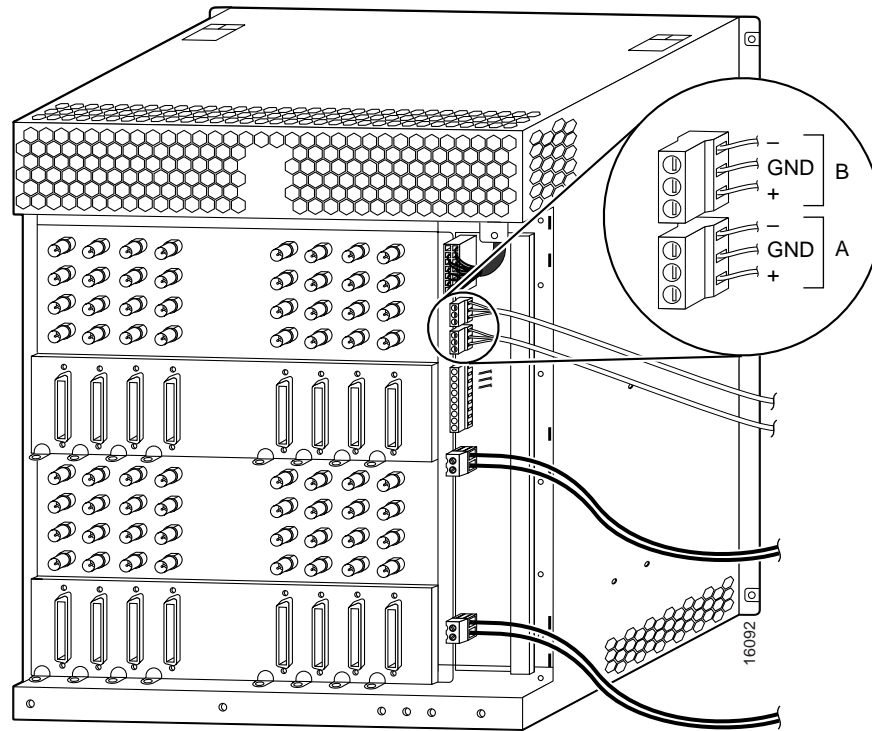
Figure B-10 OC-12 Fiber-Optic Cable Management



BITS Terminal Blocks on the Cisco 6400 Chassis

Figure B-11 shows the Building Integrated Timing Supply (BITS) terminal blocks on the Cisco 6400 chassis. The bottom BITS terminal block (labeled A) is associated with the NSP-S3B in slot 0A of the Cisco 6400 chassis (see Figure 1-1); the top BITS terminal block (labeled B) is associated with the NSP-S3B in slot 0B of the chassis.

Figure B-11 BITS Terminal Blocks on the Cisco 6400

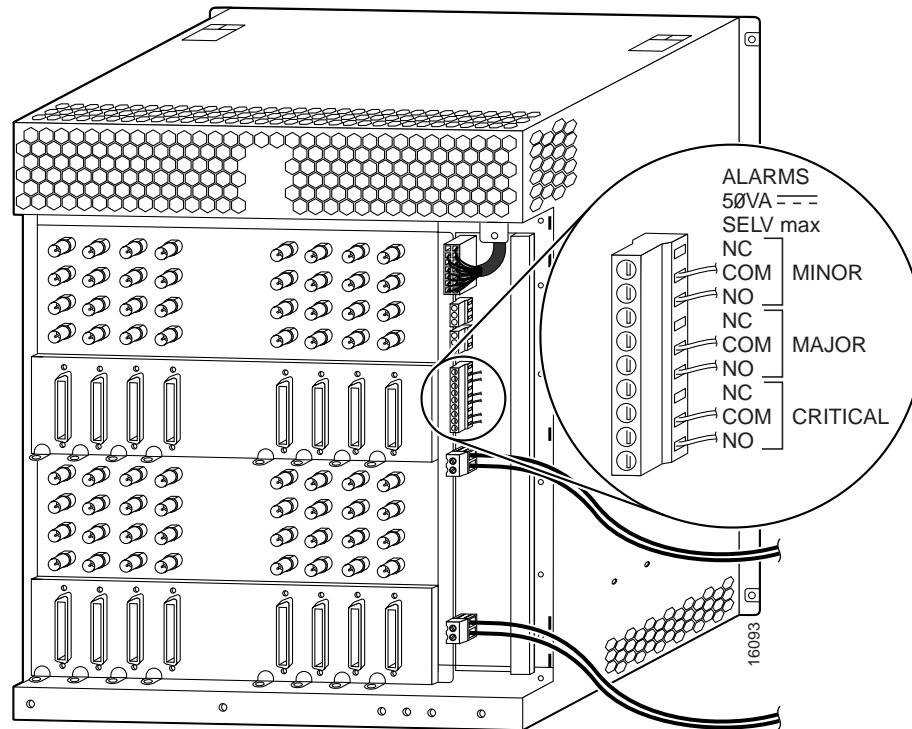


Note In North America, the positive connection is known as *tip*, and the negative connection is known as *ring*.

Alarm Terminal Block on the Cisco 6400

Figure B-12 shows the external alarm monitoring terminal block on the Cisco 6400. This facility accommodates the attachment of a customer-supplied external alarm monitoring facility to alert site personnel to the existence of an alarm condition in the Cisco 6400.

Figure B-12 Alarm Terminal Block on the Cisco 6400



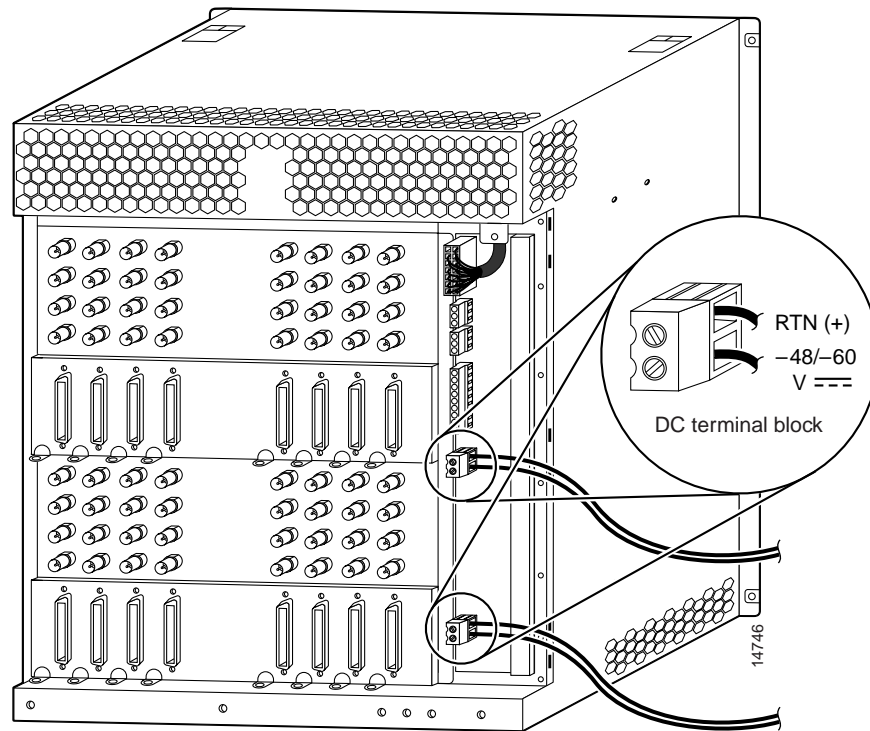
Note

Figure B-12 shows the wiring configuration for normally open (NO) alarm relays. If you wire the Cisco 6400 in series with other equipment for the alarm indicators, use the normally closed (NC) terminal. If you wire the Cisco 6400 in parallel with other equipment, use the NO terminal.

Cisco 6400 DC Power Terminal Blocks

Figure B-13 shows the location of two identical system power terminal blocks on the rear of the Cisco 6400 chassis. These terminal blocks are associated with the power entry module (PEM) bays in the front of the chassis (see Figure 1-1). The upper terminal block services the top PEM bay; the lower terminal block services the bottom PEM bay.

Figure B-13 DC Power Terminal Blocks on the Cisco 6400

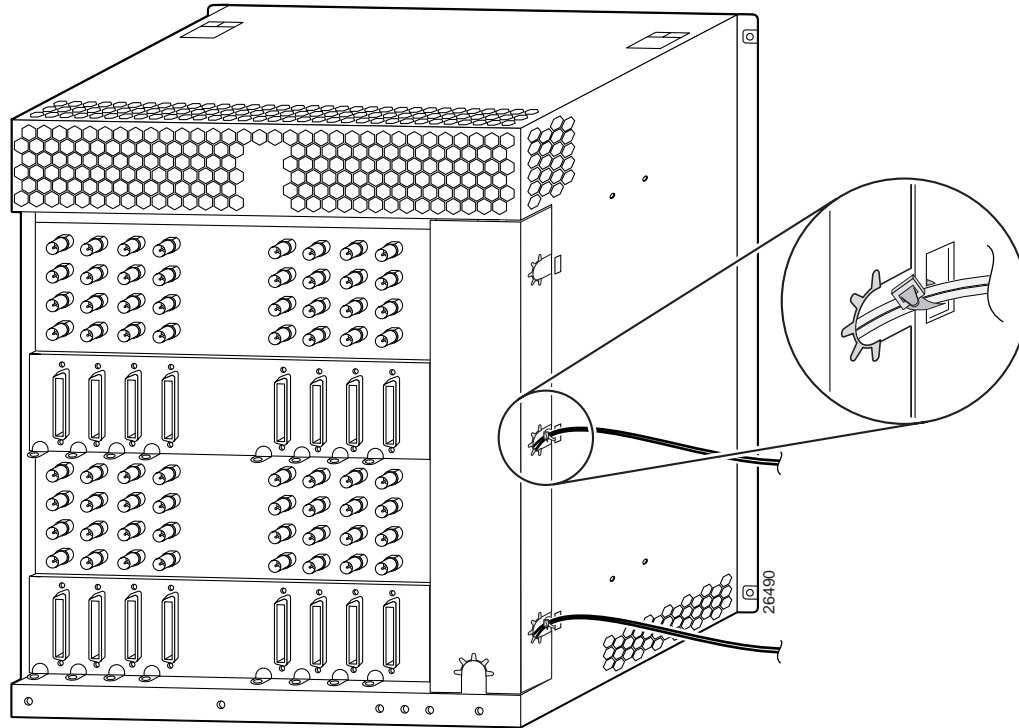


Note

Do not exceed the maximum torque of 10 inch-pounds on the DC connector.

Figure B-14 shows the DC power connections with the rear cover installed.

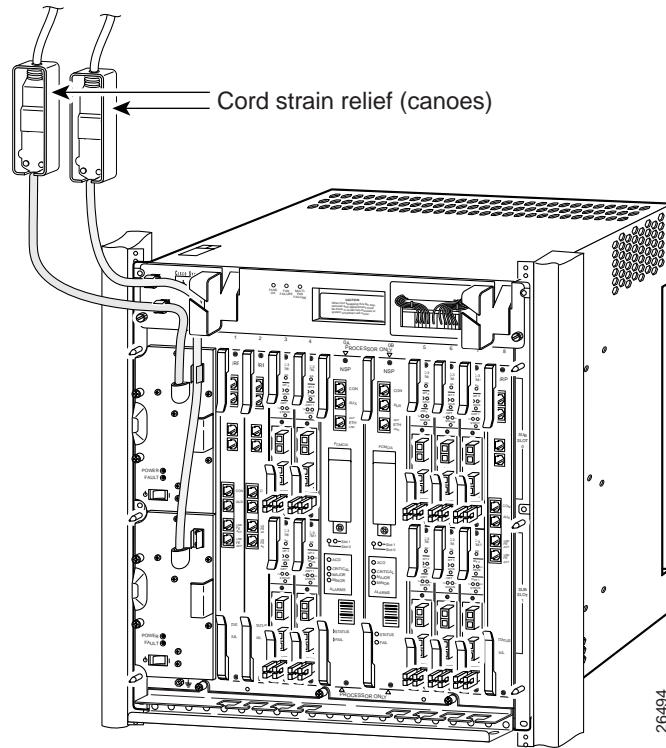
Figure B-14 DC Power Connections with Rear Cover



Cisco 6400 AC Power Connection on the AC PEM

Figure B-15 shows the location of the AC power cable connection on the AC PEM.

Figure B-15 AC Power Connection on the Cisco 6400



Cisco 6400 System Grounding Connection

Figure B-16 shows the system grounding connection for the Cisco 6400.

Figure B-16 System Grounding Connection for the Cisco 6400

