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ATM T3/E3 PMC Module ***Supplement***

NORTEL
NETWORKS™

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EN 55 022 Statement

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The Nortel Networks* ATM T3/E3 PMC module provides an interface to support unchannelized T3 or E3 operation for ATM applications.

In this guide, the Passport* 5430 Multiservice Access Switch is referred to as the Passport 5430.

Before You Begin

This guide is intended for qualified service personnel who are installing or replacing the ATM T3/E3 PMC module into the Passport 5430. A qualified service person should have appropriate technical training and experience and be aware of the hazards involved in installing and replacing customer-replaceable units (CRUs).

Text Conventions

This guide uses the following text conventions:

italic text

Indicates new terms, book titles, and variables in command syntax descriptions.

Acronyms

This guide uses the following acronyms:

AC	alternating current
AIS	alarm indicator signal
ATM	asynchronous transfer mode
CRU	customer-replaceable unit
DC	direct current
OOF	out of frame
LED	light emitting diode
PCI	peripheral component interconnect
PMC	PCI mezzanine card
RAI	remote alarm indicator
WAN	wide area network

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Europe, Middle East, and Africa	(33) (4) 92-966-968
North America	(800) 4NORTEL or (800) 466-7835
Asia Pacific	(61) (2) 9927-8800
China	(800) 810-5000

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Chapter 1

Using the ATM T3/E3 PMC Module

This document supplements *Installing and Operating the Passport 5430 Multiservice Access Switch*. Follow the hardware installation steps in that manual, then refer to this document for information specific to the ATM T3/E3 PMC module.



Warning: The ATM T3/E3 PMC module is designed to operate in the Passport 5430 Multiservice Access Switch only. Attempting to use the ATM T3/E3 PMC module in any other product may be hazardous and invalidates the regulatory approval.

This supplement covers the following:

Section	Page
Verifying Shipment Contents	1-2
Preparing to Install the ATM T3/E3 PMC Module	1-3
Setting AC or DC Coupling	1-4
Installing the ATM T3/E3 PMC Module	1-6
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Verifying Shipment Contents

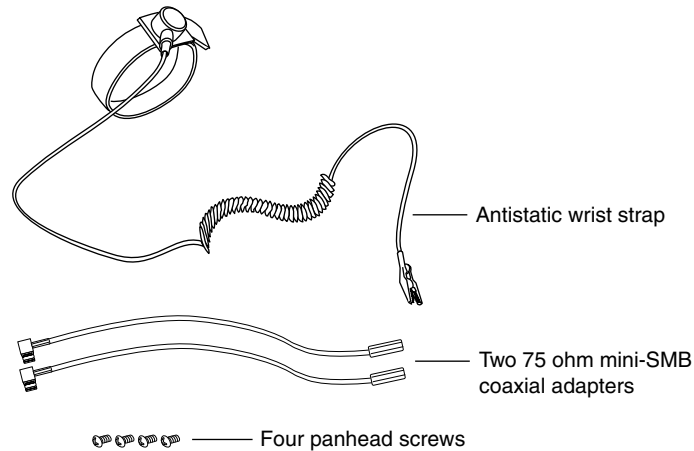
If you have just received the T3/E3 PMC module, make sure your shipment is complete and undamaged.

You should inspect all items for shipping damage. If you detect any damage, do not install this module into the Passport 5430. Call the Nortel Networks Technical Solutions Center in your area (see [“How to Get Help”](#) on [-xv](#)).

In addition to the ATM T3/E3 PMC module and this guide, your shipping container should contain other hardware accessories. Verify that the items in the shipping container match those on the packing list affixed to the shipping container or the accessories listed in [Table 1-1](#) and shown in [Figure 1-1 on page 1-3](#).

Table 1-1. Accessories in the Passport 5430 Shipping Container

Quantity	Item	Description
1	Antistatic wrist strap	Used to direct the discharge of static electricity from your body to the chassis, thereby avoiding discharge to, and possible damage of, sensitive electronic components.
2	75 ohm mini-SMB to BNC adapters	Used to connect to a 75 ohm coaxial cable.
4	M2.5 X 6mm panhead zinc screws	Used to secure the PMC module to the Passport 5430 chassis.



T3E3001

Figure 1-1. Shipping Contents

Preparing to Install the ATM T3/E3 PMC Module

Before beginning the installation, verify the following:

- You have the proper equipment and tools; see [“Tools and Cables” on page 1-4](#).
- You have the communications devices and the cabling that you need to attach to the PMC module; see [“Tools and Cables” on page 1-4](#).
- The PMC input and output cable interface is AC or DC coupled as appropriate; see [“Setting AC or DC Coupling” on page 1-4](#).

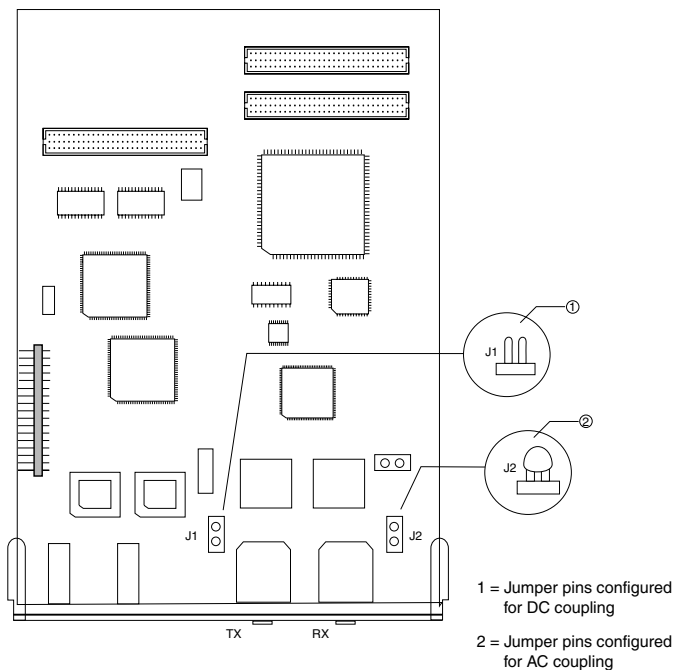
Tools and Cables

To install the ATM T3/D3 PMC module into the Passport 5430 you need a Phillips screwdriver and the following equipment:

- Two 75 ohm mini-SMB to BNC adapters (part of the shipping contents)
- Two 75 ohm coaxial cables

Setting AC or DC Coupling

If differences in ground potential exist throughout your cabling, you can designate AC or DC coupling for the transmitting and receiving interfaces. You do this by removing or installing a jumper head on the jumper pins associated with these interfaces ([Figure 1-2](#)).



T3E3010

Figure 1-2. Location of the Jumper Pins

[Table 1-2](#) shows the jumper pins that are associated with the receiving and transmitting interfaces.

Table 1-2. ATM T3 or E3 Interface Coupling

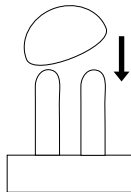
Interface	Jumper Pins
TX – Transmits data	J1
RX – Receives data	J2

To install a jumper head, go to the next section. To remove a jumper head, go to [“Removing a Jumper Head” on page 1-6](#).

Installing a Jumper Head

To DC couple an ATM T3 or E3 interface, install the jumper head as follows:

1. Locate the jumper pins ([Figure 1-2 on page 1-4](#)).
2. Push the jumper head over the pins ([Figure 1-3](#)).



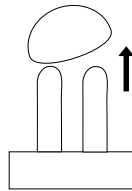
T3E3012

Figure 1-3. Installing a Jumper Head for DC Coupling

Removing a Jumper Head

An interface is AC coupled if there is no jumper head on the associated jumper pins. If you want to change an interface coupling from DC to AC, remove the jumper head as follows:

1. **Locate the jumper pins you want to configure** ([Figure 1-2 on page 1-4](#)).
2. **Grasp the jumper head with your fingers, then pull it up** ([Figure 1-4](#)).



T3E3014

Figure 1-4. Removing a Jumper Head for AC Coupling

Installing the ATM T3/E3 PMC Module



Note: The ATM T3/E3 PMC module can be installed only on the system processor card.



Note: Before you install the ATM T3/E3 PMC module, be sure the transmitting and receiving interfaces are coupled appropriately; see [“Setting AC or DC Coupling” on page 1-4](#).

To install the PMC module on the system processor card:

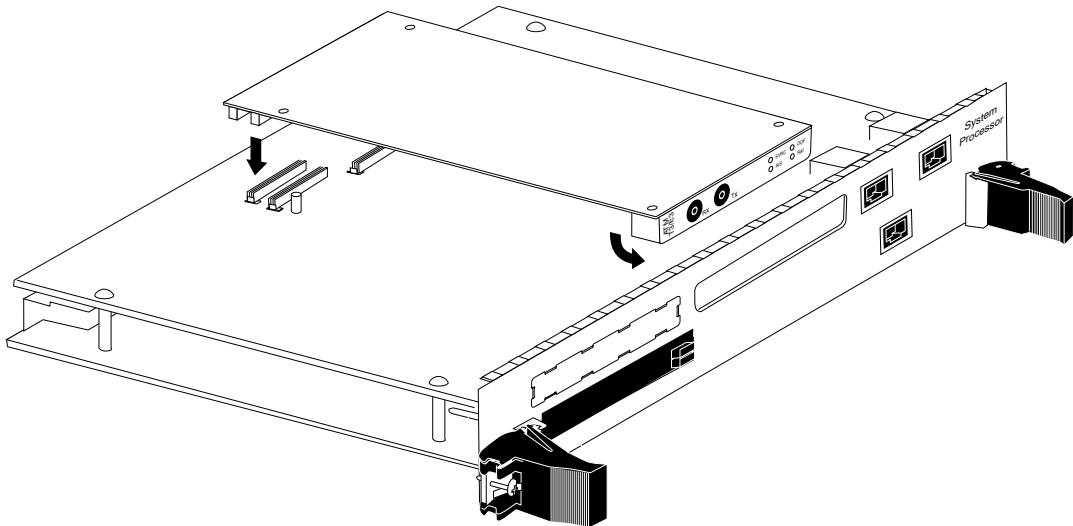
1. Attach an antistatic wrist strap.



Caution: Electrostatic discharge can damage hardware. You must wear the antistatic wrist strap whenever you handle printed circuit boards. Refer to the instructions enclosed with your antistatic wrist strap to attach it.

2. Holding the PMC module with the connectors facing down, slide it into the opening on the system processor card ([Figure 1-5](#)).

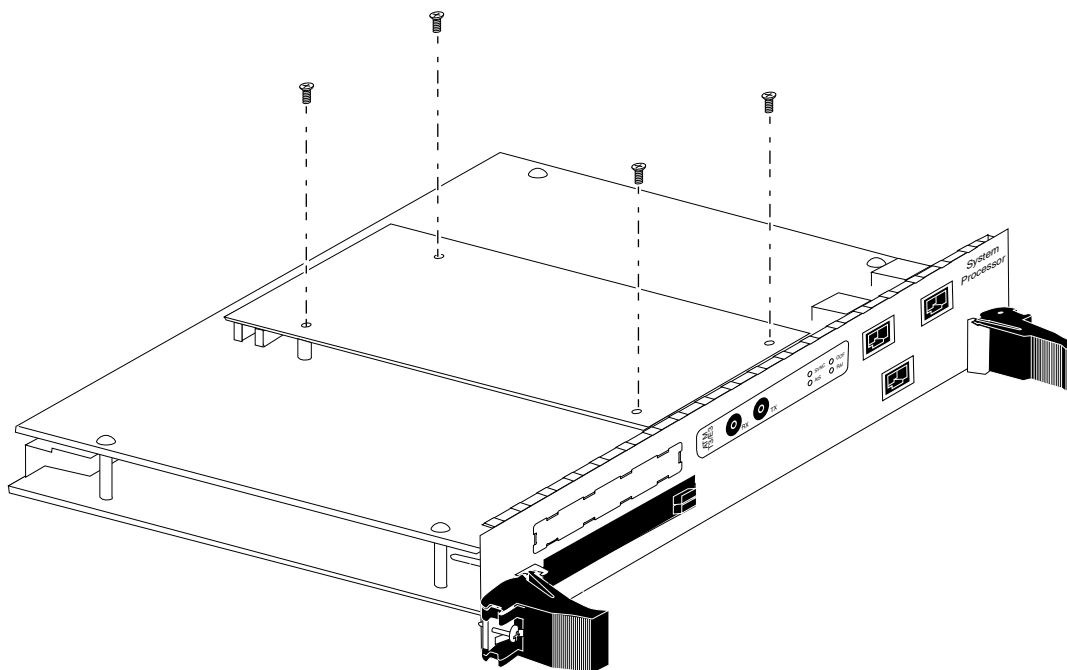
3. Press down to seat the PMC module firmly in the sockets ([Figure 1-5](#)).



T3E3002A

Figure 1-5. Installing the PMC Module

4. **Insert and tighten the four screws to secure the PMC module to the system processor card** [\(Figure 1-6\)](#).



T3E3003A

Figure 1-6. Securing the PMC Module to the System Processor Card

5. **Install the system processor card into the chassis.**

For instructions, see *Installing a System Processor Card in the Passport 5430 Multiservice Access Switch*.

Attaching Cables

The ATM T3/E3 PMC module provides two T3 or E3 interfaces, as described in [Table 1-3](#).

Table 1-3. ATM T3/E3 Interfaces

Interface	Function
TX	Transmits data
RX	Receives data

To connect to either interface, see [“Connecting to the ATM Interface” on page 1-9](#).

Connecting to the ATM Interface

The ATM T3/E3 PMC module has two interfaces, one that transmits data and one that receives data. You connect both interfaces to the T3/E3 communications device with the same types of cables.

To connect to the ATM T3 or E3 interface on an installed ATM T3/E3 PMC module, you attach the 75 ohm mini-SMB to BNC adapter, then the 75 ohm BNC cable as follows:

1. **Insert the SMB side of the 75 ohm mini-SMB to BNC adapter into the ATM T3/E3 interface ([Figure 1-7](#)).**

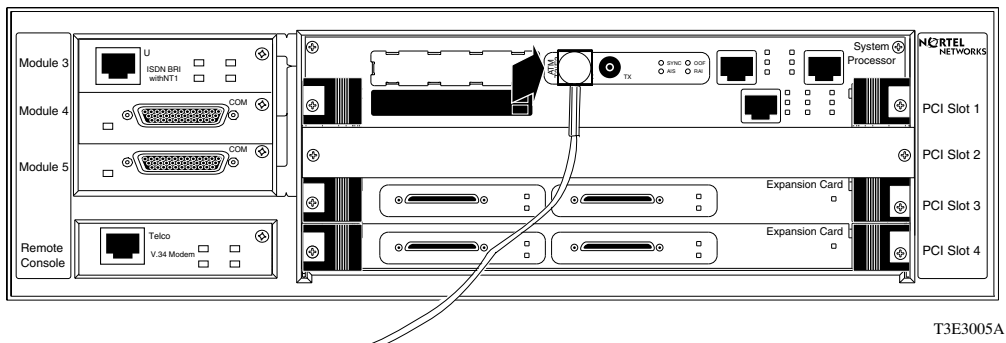


Figure 1-7. Connecting the ATM T3 Cable

2. Connect the other end of the adapter to the 75 ohm BNC cable.
3. Connect the BNC cable to the T3/E3 communications device.
4. Arrange the cable in the cable loom.

For instructions, see *Installing and Operating the Passport 5430 Multiservice Access Switch*.

Interpreting LEDs

The ATM T3/E3 PMC module has four LEDs ([Figure 1-8](#)).

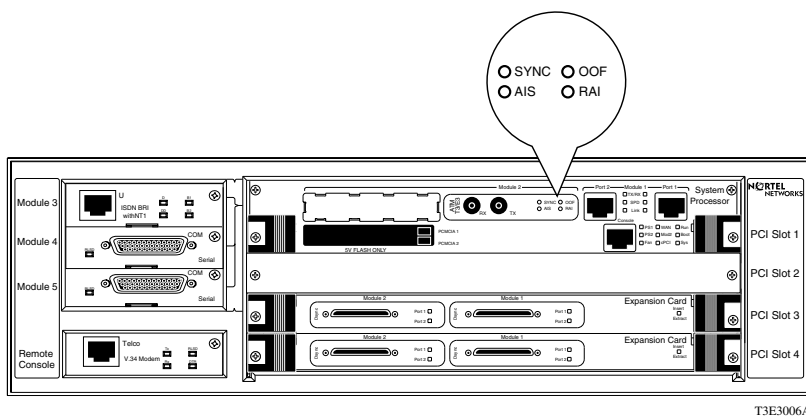


Figure 1-8. ATM T3/E3 PMC Module LEDs

[Table 1-4](#) describes the function of the ATM T3/E3 PMC module's LEDs.

Table 1-4. ATM T3/E3 PMC LEDs

LED	State	Meaning
Sync	Off	Port is not synchronized to the network.
	On (green)	Port is synchronized to the network.
AIS	Off	Framer has not detected an alarm indication signal.
	On (yellow)	Framer has not detected an alarm indication signal.

(continued)

Table 1-4. ATM T3/E3 PMC LEDs *(continued)*

LED	State	Meaning
OOF	Off	Port has not received an out of frame occurrence.
	On (yellow)	Port has received an out of frame occurrence.
RAI	Off	Framer has not detected a remote alarm indication signal.
	On (yellow)	Framer has detected a remote alarm indication signal.

Completing the Software Configuration

Once you have successfully installed the ATM T3/E3 PMC module, complete the following software configuration tasks using instructions found in the documentation:

Configuration Task	Location of Instructions
If this is a first-time installation, you must quick-start your Passport 5430.	<i>Installing and Operating the Passport 5430 Multiservice Access Switch</i>
Modify the Passport 5430 configuration file to <ul style="list-style-type: none"> • Add the ATM T3/E3 PMC module. • Enable default ATM T3/E3 PMC module software services. 	<ul style="list-style-type: none"> • <i>Configuring and Managing Routers with Site Manager</i> • <i>Configuring ATM Services</i>

For the latest information, be sure to review the release notes and documentation change notice for your version of BayRS* software.

Appendix A

Cables and Interface Specifications

Ports

The T3/E3 interface consists of two 75 ohm mini-SMB connectors for a separate input and output communication port. With the appropriate cabling, each port can operate in either a T3 or an E3 configuration.

Cabling

The following cables are needed to attach the Passport 5430 to the T3/E3 communications device:

- Two 75 ohm mini-SMB to BNC adapter cables
- Two standard 75 ohm coaxial cables

Physical Specifications

The physical specifications are as follows:

- Height: 0.4 in. (1.0 cm)
- Width: 2.7 in. (6.9 cm)
- Depth: 5.9 in. (15.0 cm)

Environmental Specifications

The environmental requirements for the ATM T3/E3 PMC module are as follows:

- Altitude: 0 to 8000 ft. (0 to 2438.4 m)
- Humidity: 40% to 90%, noncondensing
- Temperature: 32° to 104°F (0° to 40°C)