Instruction Manual

Tektronix

Profile

PDR 200

Fibre Channel Networking

Manual Revision Status

Product: PDR 200 Fibre Channel Networking

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Tektronix Product Support

You can get technical assistance, check on the status of problems, or report new problems by contacting our Product Support Group.

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World Wide Web   http://www.tek.com/Profile/Support

FTP Site   ftp.tek.com (IP address: 134.62.48.21)

Email   ProfileSupport@tek.com

Users Group   profile-users@tek.com

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Safety Summaries

⚠ *WARNING: These instructions are for use by qualified service personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries before performing service.*

General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

Only qualified personnel should perform service procedures.

Injury Precautions

Use Proper Power Cord
To avoid fire hazard, use only the power cord specified for this product.

Ground the Product
This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Do Not Operate Without Covers
To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

Use Proper Fuse
To avoid fire hazard, use only the fuse type and rating specified for this product.

Do Not operate in Wet/Damp Conditions
To avoid electric shock, do not operate this product in wet or damp conditions.

Do Not Operate in an Explosive Atmosphere
To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

| **Avoid Exposed Circuitry** | To avoid injury, remove jewelry such as rings, watches, and other metallic objects. Do not touch exposed connections and components when power is present. |

Product Damage Precautions

| **Use Proper Power Source** | Do not operate this product from a power source that applies more than the voltage specified. |

| **Provide Proper Ventilation** | To prevent product overheating, provide proper ventilation. |

| **Do Not Operate With Suspected Failures** | If you suspect there is damage to this product, have it inspected by qualified service personnel. |

Safety Terms and Symbols

| **Terms in This Manual** | These terms may appear in this manual: |

⚠️ *WARNING:* Warning statements identify conditions or practices that can result in personal injury or loss of life.

⚠️ *CAUTION:* Caution statements identify conditions or practices that can result in damage to the equipment or other property.

| **Terms on the Product** | These terms may appear on the product: |

⚠️ DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

⚠️ WARNING indicates a personal injury hazard not immediately accessible as you read the marking.

⚠️ CAUTION indicates a hazard to property including the product.

**Symbols on the
Product**   The following symbols may appear on the product:

⚡   DANGER high voltage

⏚   Protective ground (earth) terminal

⚠   ATTENTION – refer to manual

Service Safety Summary

**Do Not Service
Alone**   Do not perform internal service or adjustment of this product
unless another person capable of rendering first aid and
resuscitation is present.

Disconnect Power   To avoid electric shock, disconnect the main power by means of
the power cord or, if provided, the power switch.

**Use Care When
Servicing With
Power On**   Dangerous voltages or currents may exist in this product.
Disconnect power and remove battery (if applicable) before
removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections

Certifications and Compliances

Canadian Certified Power Cords

Canadian approval includes the products and power cords appropriate for use in the North America power network. All other power cords supplied are approved for the country of use.

FCC Emission Control

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by Tektronix can affect emission compliance and could void the user's authority to operate this equipment.

Canadian EMC Notice of Compliance

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A préscrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

EN55022 Class A Warning

For products that comply with Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Laser Compliance

Laser Safety Requirements

The device used in this product is a Class 1 certified laser product. Operating this product outside specifications or altering from its original design may result in hazardous radiation exposure, and may be considered an act of modifying or new manufacturing of a laser product under US regulations contained in 21CFR Chapter 1, subchapter J or CENELEC regulations in HD 482 S1. People performing such an act are required by law to recertify and reidentify this product in accordance with provisions of 21CFR subchapter J for distribution within the U.S.A., and in accordance with CENELEC HD 482 S1 for distribution within countries using the IEC 825 standard.

Laser Safety

Laser safety in the United States is regulated by the Center for Devices and Radiological Health (CDRH). The laser safety regulations are published in the "Laser Product Performance Standard," Code of Federal Regulation (CFR), Title 21, Subchapter J.

The International Electrotechnical Commission (IEC) Standard 825, "Radiation of Laser Products, Equipment Classification, Requirements and User's Guide," governs laser products outside the United States. Europe and member nations of the European Free Trade Association fall under the jurisdiction of the Comité Européen de Normalization Electrotechnique (CENELEC).

For the CDRH: the radiant power is detected through a 7 mm aperture at a distance of 200mm from the source focused through a lens with a focal length of 100 mm.

For IEC compliance: the radiant power is detected through a 7 mm aperture at a distance of 100mm from the source focused through a lens with a focal length of 100 mm.

FCC Emission Limits

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation. This device has been tested and found to comply with FCC Part 15 Class B limits for a digital device when tested with a representative laser-based fiber optical system that complies with ANSI X3T11 Fiber Channel Standard.

Certification

Category	Standard
Safety	*Designed/tested for compliance with:*
	UL1950 - Safety of Information Technology Equipment, including Electrical Business Equipment (Third Edition, 1995)
	IEC 950 - Safety of Information Technology Equipment, including Electrical Business Equipment (Second edition, 1991)
	CAN/CSA C22.2, No. 950-95 - Safety of Information Technology Equipment, including Electrical Business Equipment
	EN60950 - Safety of Information Technology Equipment, including Electrical Business Equipment

Fibre Channel Installation

Introduction

Fibre Channel adds high speed video networking capability to Profile Systems, allowing clips to be transferred between Profile systems. This manual contains instructions on how to install the Fibre Channel kit in your PDR 200. The instructions include:

- Related documents.

- System Requirements.

- Receiving inspection of the Fibre Channel Kit.

- Kit Contents.

- Installation Procedure

- Configuring the system.

- Verifying that the Fibre Channel upgrade is correctly installed.

NOTE: The Fibre Channel upgrade should only be installed by qualified personnel.

Related Documents

Profile Family User Manual

PDR 200 Installation Manual

PDR 200 Service Manual

Profile Family Local Area Network Installation Manual

System Requirements

The system requirements for installing and using the PDR 200 Fibre Channel upgrade are:

- Windows NT operating system V3.51 or higher.

- Profile System Software version 2.1 or higher.

- An Ethernet LAN board. See Chapter 4, "Networking Your Profile" in the PDR 200 Installation Manual or the Profile Family Local Area Network Installation Manual for detailed information.

Tools Required

Installation of this kit requires the items listed below.

- Torx screwdriver with T10 and T15 magnetic tips (not provided).

- Static discharge wrist strap (not provided).

Receiving Inspection of the Kit

When you receive your Fibre Channel kit, Tektronix recommends that you inspect both the container in which it was shipped and the contents of the container before proceeding.

Receiving Inspection

After receiving the Fibre Channel upgrade kit, carefully inspect the container. If any damage is noted, contact the shipping agent immediately.

Unpacking Inspection

Tektronix has made every effort to ensure that you receive a complete and intact kit. Carefully unpack the kit and check the contents against the invoice or shipping manifest. If any discrepancies are found, notify your Tektronix representative immediately.

Inspect each component for any signs of damage. Especially note that cables are not kinked and that connector pins are not broken or bent. If any damage is found, notify your Tektronix representative immediately **and DO NOT proceed further unless instructed to do so.**

Fibre Channel Kit Contents

In addition to this manual, the Fibre Channel kit for the Profile PDR 200, shown in Figure 1, consists of:

• Fibre Channel board

• PCI board

• Cable

• Label set

PCI Board

5 meter Fibre Channel Cable

Fibre Channel Board

Label Set
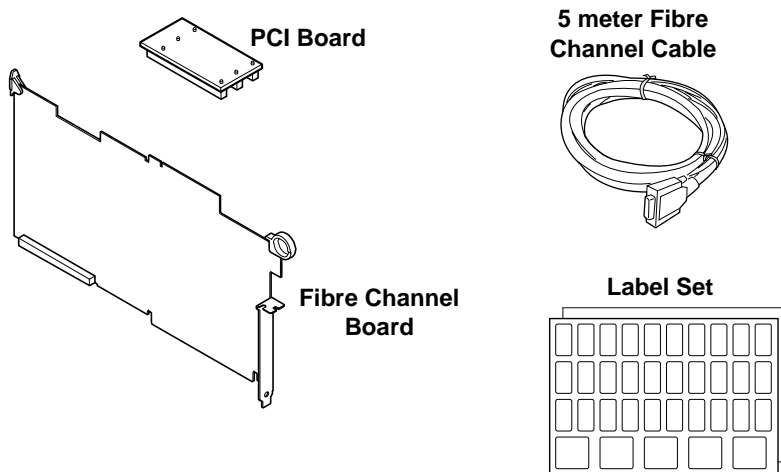
0033-2

Figure 1. Fibre Channel Kit Contents

Fibre Channel Kit Description

The Fibre Channel board provides for connectivity and high speed data transfers between Profile systems. A LAN hub and a Fibre Channel hub are required to connect groups of greater than two Profiles and, in general, one set of hubs is required for each group of Profiles to be connected.

Fibre Channel Board

The Fibre Channel (FC) board is a networking device which uses the Fibre Channel Arbitrated Loop (FCAL) protocol. The FC board is compatible with the Peripheral Component Interconnect (PCI) local bus. With the on-board Gigabaud Link Module (GLM), the FC board provides the functionality to network numerous Profile systems.

PCI Interconnect Board

This is a passive 3-connector board which provides a local bus connection between the Master EDR board, the Slave EDR (if present), and the FC board. It is attached to connectors on the top edges of these boards.

Fibre Channel Cable

The cable connecting the Profile to a Hub is a 5 meter, copper wire cable with a DB-9 connector on each end. Note that other lengths of cable are available from your Tektronix representative. Also note that distances greater than 25 meters require a fiber-optic cable with copper-to-fiber adapters.

NOTE: Minimum cable lengths should be used to reduce signal degradation and error rates.

Sticker Set

A standard set of stickers, including a Fibre Channel sticker, is provided so that your Profile board IDs at the back of the chassis can be updated after the installation of the Fibre Channel kit.

Accessories

A Profile Video Network requires an Ethernet Local Area Network (LAN) to communicate command and status information between systems. If your Profile systems are not connected to an existing LAN, Tektronix recommends Ethernet connection to a LAN Hub.

Similarly, connecting more than two Profile systems to a Fibre Channel Network requires the use of a Video Net Hub. In addition, each Profile system more than 25 meters from the Video Net Hub or each other, needs a fiber-optic cable and copper-to-fiber cable adapters. Figure 2 shows an example of connecting Profile Systems up to and more than 25 meters apart.
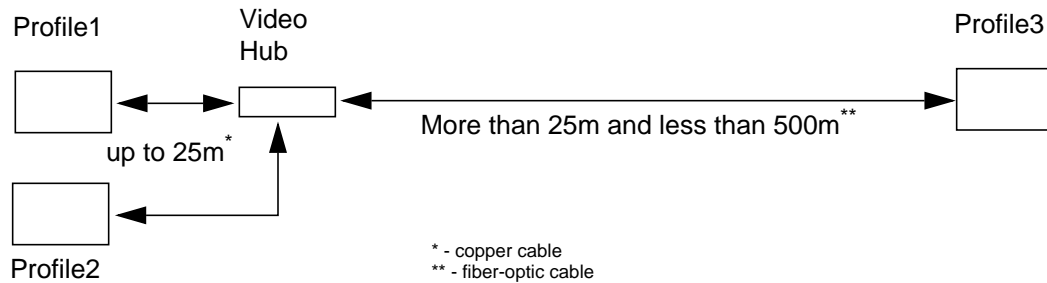
Profile1   Video Hub   Profile3

up to 25m* More than 25m and less than 500m**

Profile2

* - copper cable
** - fiber-optic cable

Figure 2. Example - Profile System Fibre Channel Connections

Neither of the hubs nor the adapters are part of this Fibre Channel kit, but may be purchased separately by contacting your Tektronix representative. Figure 3 shows the two hubs and Figure 4 shows a copper-to-fiber cable adapter. Table 3 lists the Hub and Adapter part numbers.
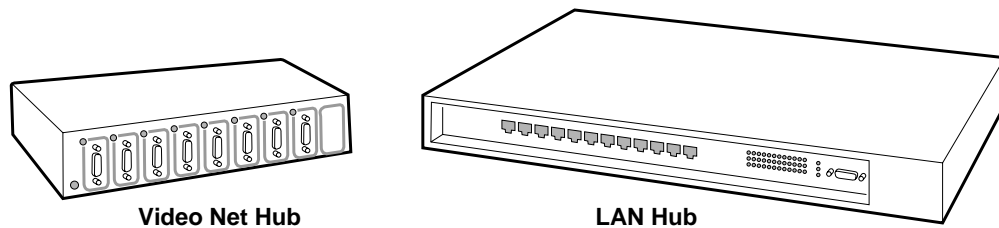
.

Video Net Hub   **LAN Hub**

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Figure 3. Video Net and LAN Hubs
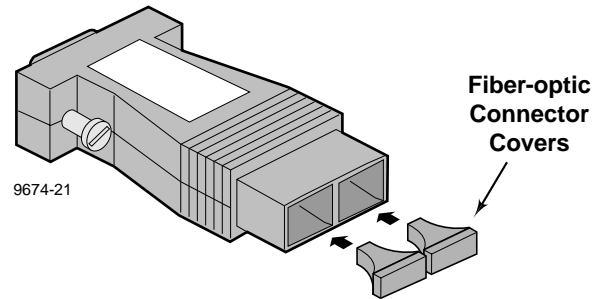
Figure 4. Copper-to-Fiber Cable Adapter

⚠ *CAUTION: The laser diode in the Copper-to-Fiber Cable Adapter is made from Gallium-Aluminum-Arsenide. Check with your local environmental authorities for proper disposal of a malfunctioning adapter.*

Table 1. LAN Hub, Video Hub, and Copper-to-Fiber Cable Adapter

Name	Part Number	Qty
Ethernet Hub	119-5613-00	1
Video Net Hub	119-5497-00	1
Cable Adapter, Copper-to-Fiber	131-6146-00	2

Connections Overview

The following sections show networking with just two Profile systems, with several systems between hubs, and with several systems between several hubs.

Connecting Two Profile Systems

The simplest network connection is the point-to-point connection which allows you to connect two Profile systems together. This is the ideal installation for initial setup to ensure that all components are working and correctly configured.
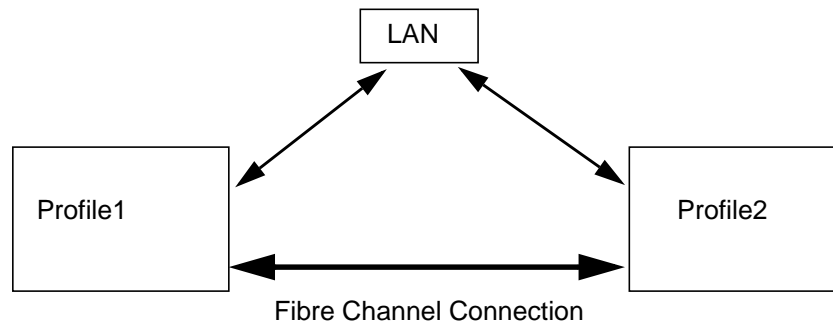
Figure 5. Point-to-point Fibre Channel Network Connection

The LAN connection shown in Figure 5 links the two LAN cards in each Profile system. These cables may be twisted pairs up to 30 meters in length

The Fibre Channel connection shown in Figure 5 links the two Fibre Channel cards in the two systems. This cable can be:

• Copper cable up to 25 meters.

• Multi-mode optical cable with a copper-to-fiber adaptor up to 500 meters.

Networking Several Profile Systems

If you want to connect more than two Profile systems together for video networking, you'll need to connect each system to an Ethernet hub (or an existing LAN) and a Fibre Channel hub. Figure 6 shows the basic use of hubs in a video network.
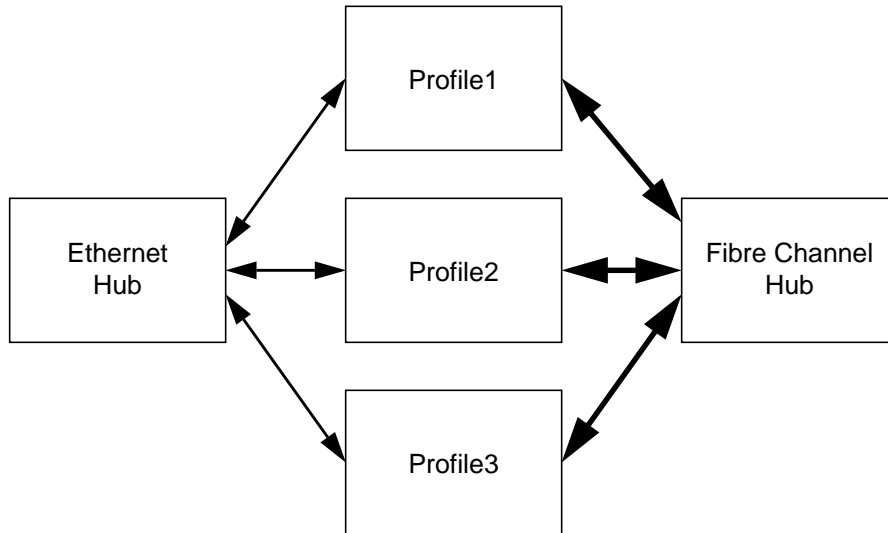
Figure 6. Basic Hub Connections

In larger networks, hubs can be connected together to add more and more systems to the network. Large Fibre Channel networks connected in this fashion will probably not perform as well as smaller ones because all the systems are on the same arbitrated loop.

A simple use of several hubs is shown in Figure 7.

Figure 7. Using Several Hubs

The number of hubs required depends on the number of connections supported by each hub. Remember that one of the connections is needed to connect to the next hub.

You must use appropriate cables for the distance between devices, just as with connections between two systems.

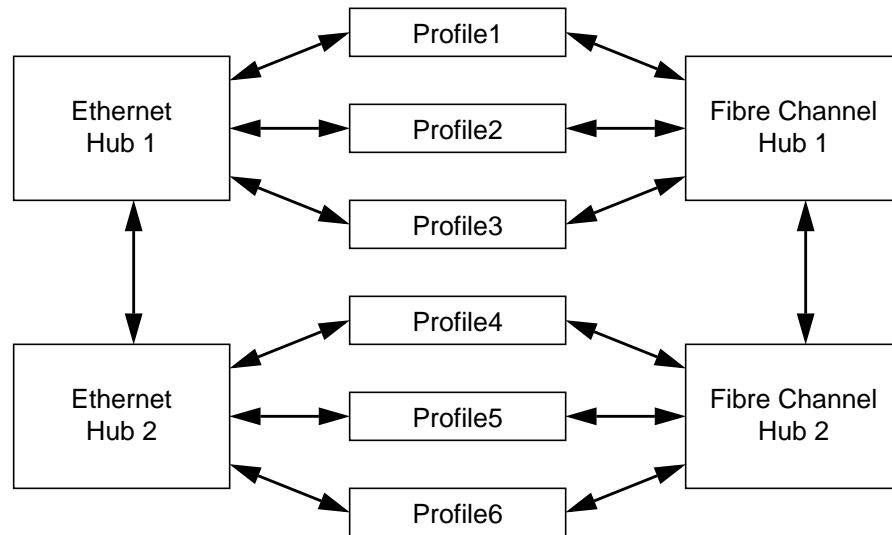# Electrostatic Precautions

⚠ *CAUTION: This product contains components that are highly sensitive to electrostatic discharge. To protect these components from damage and to maintain product reliability, take the following precautions when handling the circuit boards.*

- *Handle all circuit boards in a static-protected area capable of controlling static charge on conductive materials, people, and non-conductive materials. Static-protected areas include non-static table tops and non-static floor mats.*

- *Use a static discharge wrist strap when handling circuit boards.*

- *Handle the circuit boards only by the edges. Avoid touching the printed wires on the back of the circuit board as much as possible.*

- *Leave the board in its static-shielded bag until you are ready to install the board.*

Installation Procedures

The procedures listed below take you step-by-step through the installation of the Fibre Channel upgrade.

- Preparing the Profile system for the Fibre Channel kit installation.

- Installing the Fibre Channel kit.

- Verifying post-installation operability.

NOTE: Unless otherwise instructed, do not discard any items removed from the Profile chassis.

Preparing the Profile System

Before you can install, test, and operate the Fibre Channel board, Profile System Software version 2.1 or higher must be installed and tested for operability. The tasks listed below and discussed on the following pages must then be performed.

NOTE: Ensure that your video data is backed up.

- System shutdown and power off.

- Disconnect power cord and external cables.

- Profile chassis removal from the rack.

- Covers removal.

- Board brackets removal.

- PCI removal for Profile systems with both Master Enhanced Disk Recorder (MEDR) and Slave Enhanced Disk Recorder (SEDR) boards.

System Shutdown

To shut your Profile system down without loss of data, you will need to:

- Shut down all Profile application software.

- Close any other processes which may be running.

- Close Windows NT.

- Switch power off.

External Cables Disconnect

NOTE: Making a diagram or note of cable connections will make it easier to reconnect the cables correctly.

Disconnect the power cord and all cables from the chassis rear panel.

Profile Chassis Removal

⚠ *WARNING: Unless the equipment rack is adequately anchored, the rack could tip when the Profile chassis is extended on the rack slides. To avoid possible injury to personnel or damage to the equipment, make sure the rack is firmly anchored before extending the Profile chassis on the rack slides.*

To remove the Profile chassis from the equipment rack:

1. Loosen the retaining screw which secures the Profile chassis to the rack.

2. Slide the chassis out of the rack until the rack slide locks engage.

⚠ *WARNING: The Profile chassis is too heavy for one person to remove from an equipment rack. To avoid possible injury to personnel or damage to the equipment, get help when removing the Profile chassis from the rack.*

3. Being sure to fully support the chassis, depress the slide locks and slide the chassis out free of the rack and place on a flat level surface with enough room to work around it.

Covers Removal

There are two covers which need to be removed to gain access to the board area:
the disk drive top cover and the board area top cover. The disk drive cover acts
as a hold down for the board area cover and therefore must be removed first.
See Figure 8.

1. Use the Torx tool with the T10 bit to remove the screws which secure the
   disk drive cover ❶ to the chassis and remove the cover.

2. Use the Torx tool with the T10 bit to remove the screws which secure the
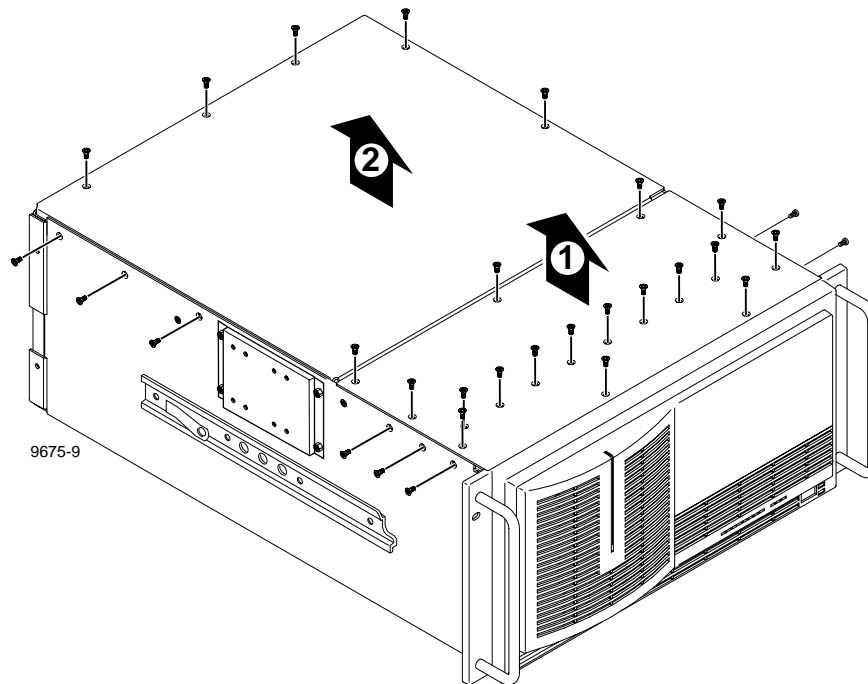   board area cover ❷.

Figure 8. Top Covers Removal

Board Retainer Brackets Removal

There are two retainer brackets located in the board area that must be removed in order to install circuit boards. One is slotted so that it holds full-size boards in place and helps maintain their alignment. Although the other bracket holds short boards in place, it must also be removed to install any full-size boards. This bracket has extenders which may be moved to adapt to the locations of any short boards. See Figure 9 for locations and removals of the two board retainer brackets.

To remove the board hold-down brackets, refer to Figure 9 and:

1. Use the Torx tool with the T10 bit to remove retaining screw ❶ for the top slotted bracket from the side of the Profile chassis.

2. Lift bracket ❷ up and out of the chassis.

3. Use the Torx tool with the T10 bit to remove retaining screw ❸ from the middle of the short board bracket.

4. Lift bracket ❹ up and out of the chassis.

9675-2

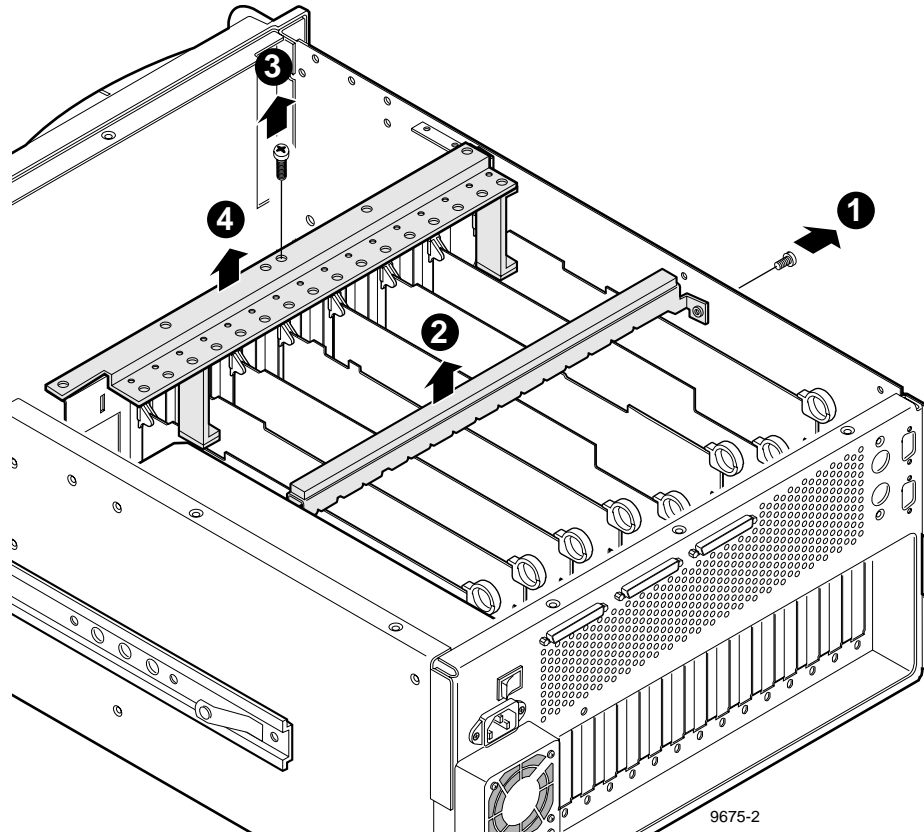**Figure 9. Board Retainer Brackets Removal**

PCI Board Removal

If you currently have a 4-channel PDR 200 (that is, one with both MEDR and SEDR boards), you will have to remove the PCI board from the top edge connectors on the MEDR and the SEDR boards. To remove the PCI board, grasp the board and pull straight up and off the connectors (Figure 10).

0033-1
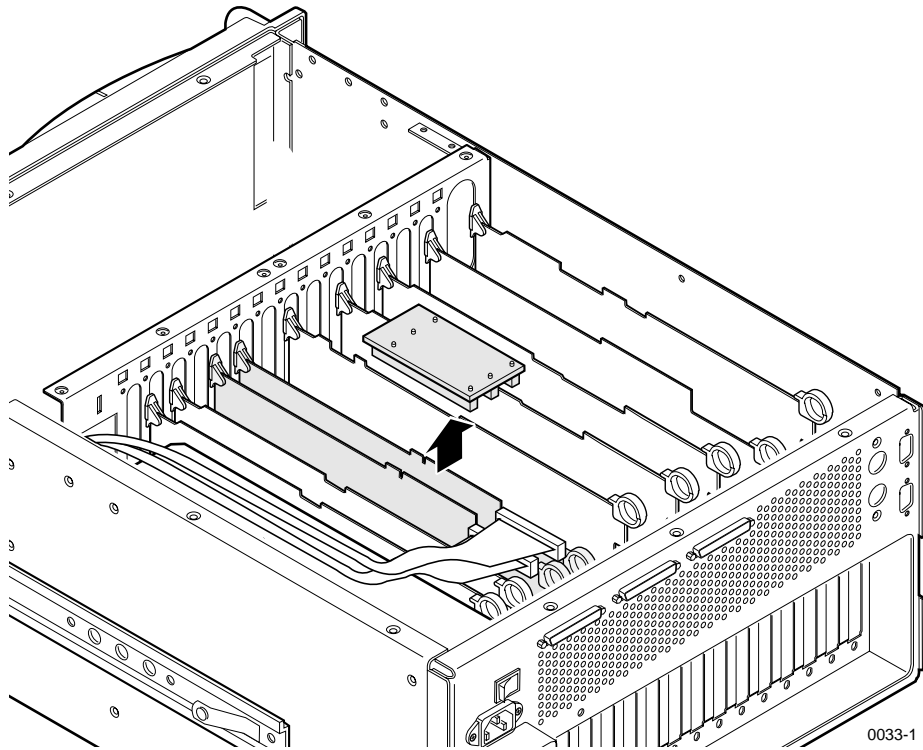
Figure 10. PCI Board Removal

Installing the Fibre Channel Board

Installing the Fibre Channel board consists of the tasks listed below.

- Installation.

- Reinstalling board hold-down brackets.

- Installing the PCI Interconnect board.

- Replacing the Profile covers.

- Replacing the Profile chassis into the rack.

- Connecting/reconnecting external cables and power cord.

NOTE: The Fibre Channel board must be installed in board slot J8, adjacent to the MEDR board in board slot J9. See Figure 11 for board slot IDs.

0033-3

Figure 11. Board Slot IDs (Rear Panel)

Installation

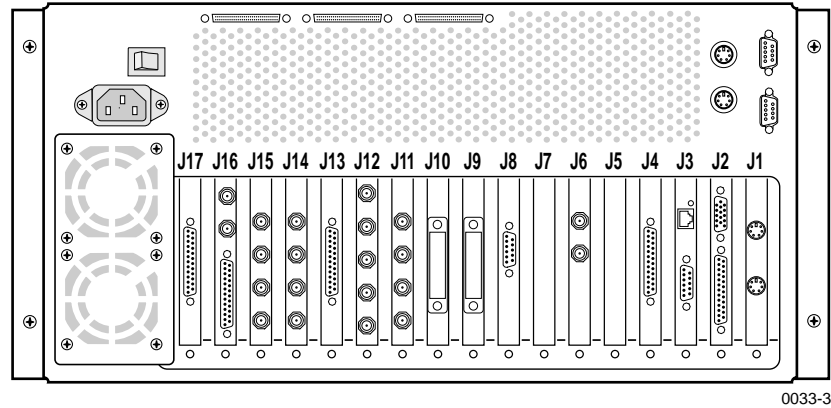See Figures 12 and 13 for installation of the Fibre Channel board. The Fibre Channel board must be installed in slot J8, adjacent to the Master board. At the rear panel, a blank panel covering the J8 cutout must be removed. To install the Fibre Channel board, proceed as follows:

1. Use the Torx tool with the T15 tip to remove the screws which secure the blank panel at the J8 cutout and lift the panel up and out of the chassis.

2. Slide the Fibre Channel board into the board slide for slot J8, aligning it with the edge-board connectors on the motherboard at the bottom panel and the rear panel cutout for J8.

3. Ensure that the board contacts are correctly aligned with the motherboard connectors and firmly press down on the board until it is fully seated. Screw holes in the board bracket should align with the two bracket mounting screw holes, one on the inside and one on the outside of the rear panel.

4. Use the Torx tool with the T15 bit to secure the Fibre Channel board bracket to the rear panel with the two screws removed with the blank panel, but **do not** fully tighten until after the PCI Interconnect board has been installed.
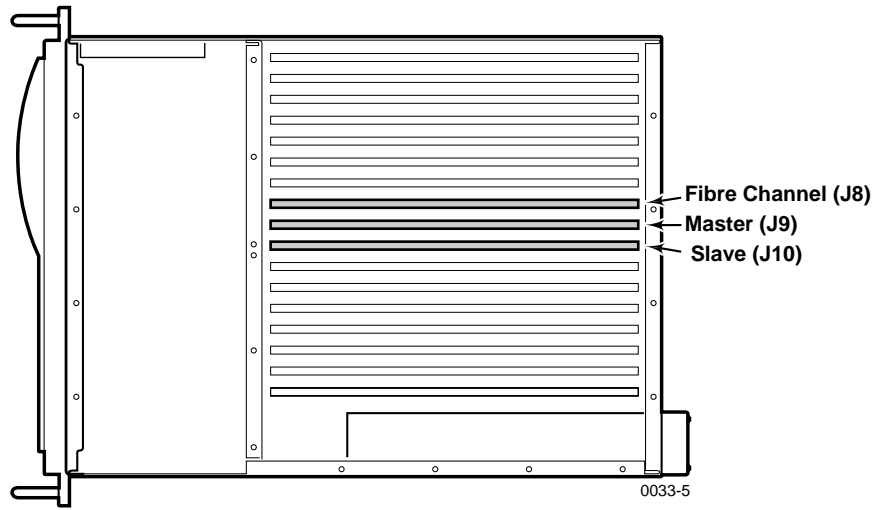
0033-5

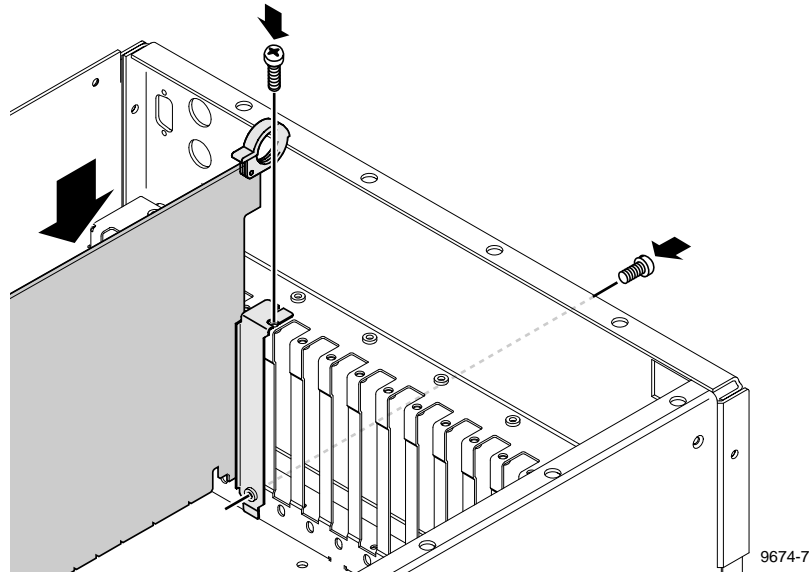**Figure 12. Fibre Channel Board Installation (Top View)**

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Figure 13. Full-Size Board Installation Example

Installing the PCI Interconnect Board

The PCI Interconnect board has three connectors which attach to edge-board contacts on the SEDR (if present), the MEDR, and the Fibre Channel boards. See Figure 14.

Index Notch

9674-15
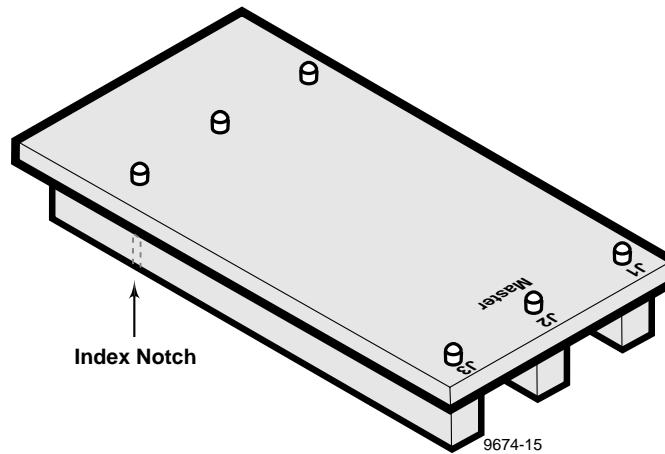
Figure 14. PCI Interconnect Board

The PCI board connectors are keyed to ensure correct orientation and the connectors are identified as J1, J2, and J3. J2 is further identified as **MASTER**. To install the PCI board, refer to Figures 14 and 15 and proceed as follows:

1. Hold the PCI with the connectors pointing down and the connector identifications towards the rear of the Profile chassis.

2. Align the PCI connectors so that **J1** is over the Fibre Channel board contacts, **Master J2** over the Master board contacts, and **J3** over the Slave EDR (if present) board contacts, and the connector keys are over the key slots on the contacts.
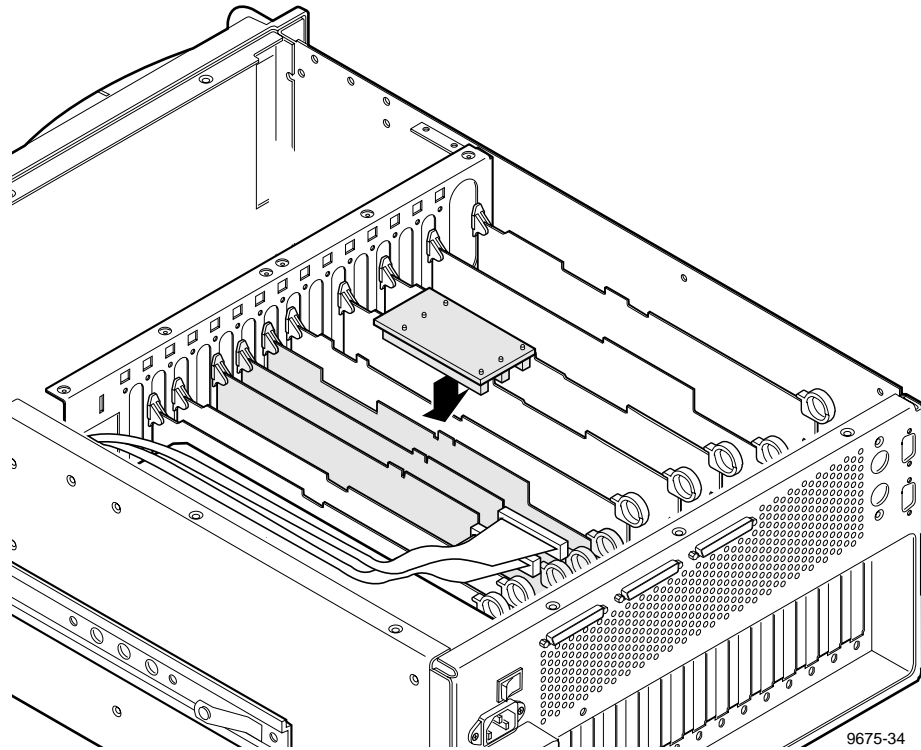
Figure 15. PCI Interconnect Board Installation

3. Attach the PCI board by gently but firmly pressing down until the PCI board is fully seated on all the boards.

4. Tighten the screws which secure the Fibre Channel board to the chassis.

Reinstalling Board Retainer Brackets

To reinstall the board retainer brackets, refer to Figure 16 and:

1. Insert the bracket ❶ into the board area and ensure that the extender(s) are on the top edge of all short boards.

CAUTION: Do not have an extender in the position occupied by the 4-channel Analog Composite Monitor board. The extender could damage the board.

2. Use the Torx tool with the T10 bit to replace bracket retaining screw ❷.
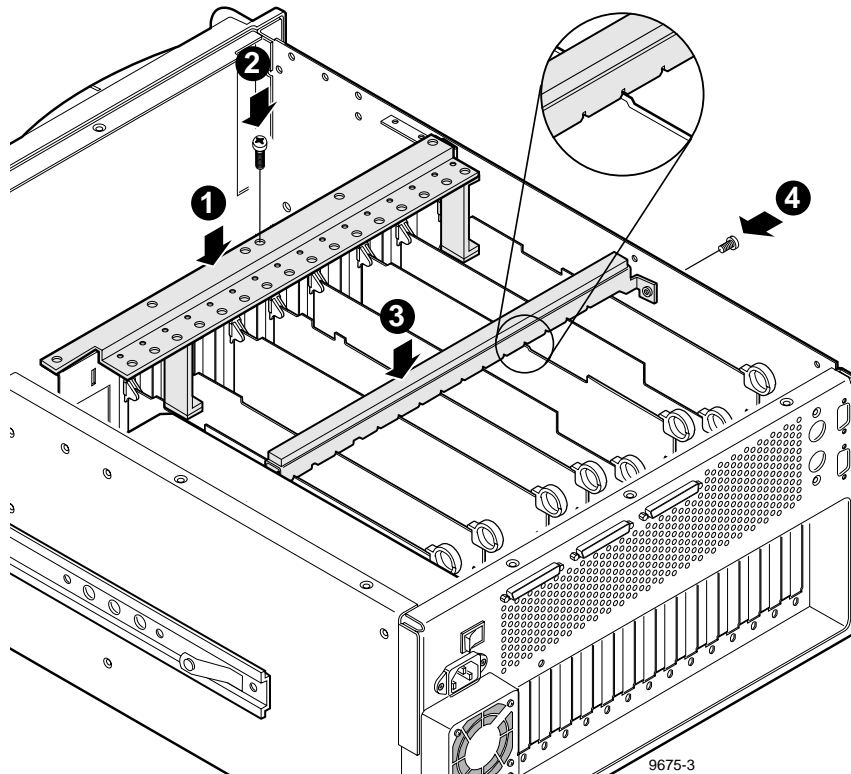
Figure 16. Board Retainer Brackets installation

3. Place the bracket ❸ over the boards and, aligning the full size boards to the correct bracket slots, carefully seat the bracket onto the boards.

4. Use the Torx tool with the T10 bit to replace bracket retaining screw ❹ at the side of the chassis.

Replacing the Covers

See Figure 17 and replace covers as follows:

1. Set the board area cover ❶ in place and use the Torx tool with the T10 bit to secure the cover to the chassis with the screws previously removed.

2. Set the disk drive cover ❷ in place and use the Torx tool with the T10 bit to secure the cover to the chassis with the screws previously removed.

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Figure 17. PDR 200 Cover Replacement

Attaching Slot ID Stickers

The Fibre Channel kit includes a set of self-adhesive stickers. One of these stickers allows you to identify slot J8 as the Fibre Channel board. Figure 18 shows the location for the new sticker.

**Fibre Channel
slot ID label**

0033-7
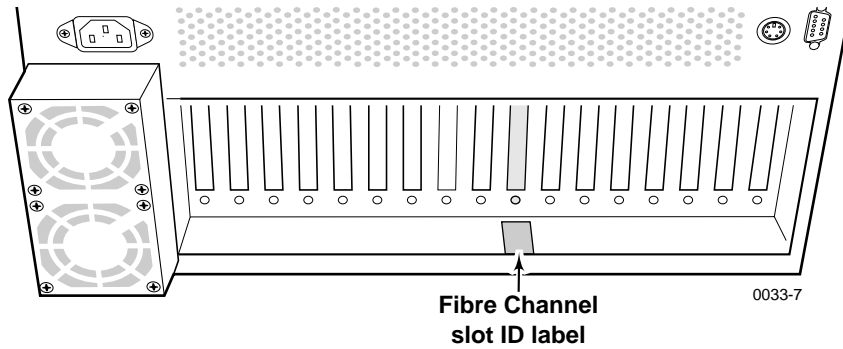
Figure 18. Sticker Slot ID for Fibre Channel Board

Re-installing the Profile Chassis into the Rack

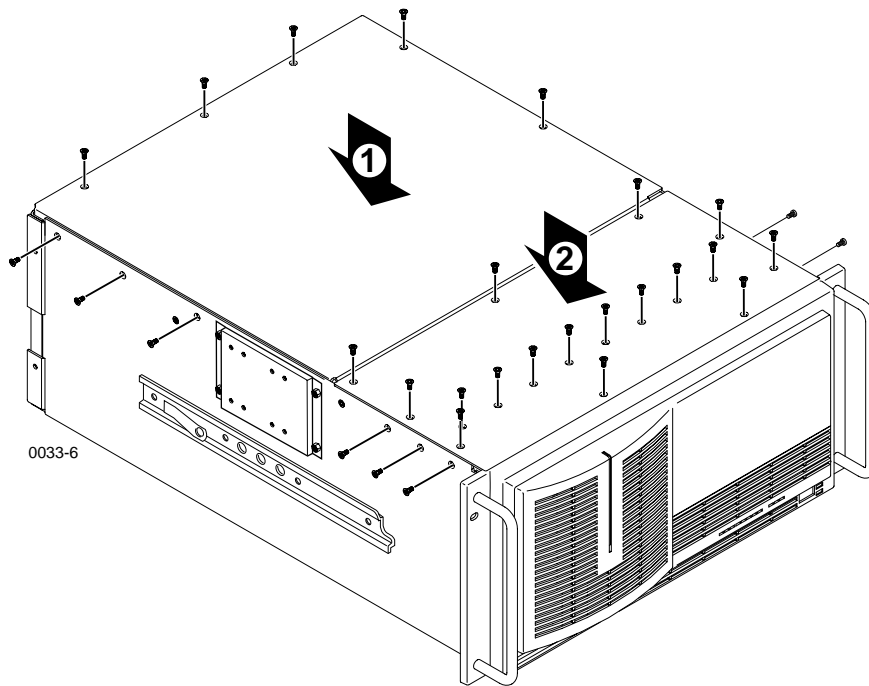⚠ *WARNING: Unless the equipment rack is adequately anchored, the rack could tip when the Profile chassis is extended on the rack slides. To avoid possible injury to personnel or damage to the equipment, make sure the equipment rack is firmly anchored before extending the Profile chassis on the rack slides.*

⚠ *WARNING: The Profile chassis is too heavy for one person to install in an equipment rack. To avoid possible injury to personnel or damage to the equipment, get help when re-installing the Profile chassis into the equipment rack.*

To re-install the Profile chassis into the equipment rack:

1. Being sure to fully support the chassis, slide it into the rack slides until the slide locks engage.

2. Depress the slide locks and slide the chassis completely into the rack.

3. Use the retaining screw to secure the chassis to the rack.

Cable Connections

To make cable connections:

1. Refer to 'Connections Overview' for cabling to the Fibre Channel board.

2. Re-connect all other previously removed cables.

3. Re-connect the power cord.

4. On the rear panel, press the power switch to **1** (On).

5. On the front panel, press the **STANDBY** switch to **ON**.

Configuring the System

Note that configuring your system for the Fibre Channel upgrade requires that you first configure your Ethernet LAN. See *PDR200 Installation Manual* or *Profile Family Local Area Network Installation Manual* for details on installing and configuring the LAN.

Configuring the system involves completion of the tasks listed below.

• Configuring the Fibre Channel Board Hardware Address.

• Configuring the Fibre Channel Board for TCP/IP.

Configuring the Fibre Channel Board Hardware Address

Every Fibre Channel node (board) on a network must have a unique hardware address between 1 and 120. A command line utility is provided to allow you to retrieve, set, and change the hardware address of the Fibre Channel board.

To retrieve the current hardware address, type:

```
fcconfig
```

To set or change the hardware address, type:

```
fcconfig -a hardware_address
```

For example, to set a hardware address to 26, type the following on the command line:

```
fcconfig -a 26
```

When initially installing a video network, you must assign unique hardware addresses at the onset. When installing additional nodes to an existing video network, verify all current hardware addresses with `fcconfig` (as shown above), then assign and set hardware addresses for any new nodes.

Configuring the Fibre Channel Board for TCP/IP

NOTE: Please read the following carefully, even if you are an experienced administrator of TCP/IP networks.

If you have connected your Profile system to an existing TCP/IP network, see 'Configuring Fibre Channel for an Existing Net' on page 30.

If you **have not** connected your Profile system to an existing network, proceed with the following.

Configuring Fibre Channel for Isolated Network Operation

NOTE: Ensure that you have correctly installed each Profile system before performing the following procedure. If you add another node to this Fibre Channel network at a later date, you will need to repeat this procedure for all nodes on the net.

1. Start all the systems on the Fibre Channel Network.

2. From a command prompt, type **makehost** and press Return.

3. After you have run *makehost* on all systems, reboot all systems.

4. Proceed to 'Installation Verification' on page 31.

Configuring Fibre Channel for an Existing Net

All Profile system name resolution is performed by Windows NT. Therefore, all node names will need to be managed in local host files or through a DNS server. Profile System Software version 2.1 requires that:

• Fibre Channel TCP/IP names must be the Ethernet TCP/IP names with a **_fc0** suffix. For example, if a Profile system name is **Profile1**, the Fibre Channel TCP/IP name for that Profile system must be **Profile1_fc0**.

• All Fibre Channel IP addresses use a hard-coded netmask of 255.255.255.0.

• Each Fibre Channel node must be assigned a unique IP address.

After configuring all machines, verify name resolution using ping by typing, for example:

```
ping Profile1_fc0<RETURN>
```

If this returns:

```
Pinging Profile1_fc0 [128.181.1.1]
```

you have successfully resolved the name **Profile1_fc0** to the IP address **128.181.1.1]**

Keep in mind that although this verifies name resolution, it **does not** test Fibre Channel connectivity.

If the above ping returns:

```
Bad IP Address Profile1_fc0
```

the Fibre Channel IP address is not resolved. (You may want to reboot to ensure changes take effect, or check your spelling, etc.)

Installation Verification

Verification of installation of the Fibre Channel board consists of:

- Ensuring that the system recognizes the board.

- Ensuring that the Profile system with the newly installed Fibre Channel board communicates with other Profile systems in the Fibre Channel network.

Checking For Board Recognition

Use the Diagnostics window, which lists all installed and recognized boards, to see if the system recognizes the Fibre Channel board.

To check for Fibre Channel board recognition:

1. Open the Diagnostics window by selecting the PDR Diagnostics icon in the PDR Debug Tools group.

2. On the left side of the window, ensure that Fibrechannel I/F appears at Slot J8 (see Figure 19 for an example).

.

Slot J1	**Pentium CPU**
Slot J2	**Non-EISA slot**
Slot J3	**SMCA010**
Slot J4	**BUS4202**
Slot J5	
Slot J6	
Slot J7	
Slot J8	**Fibrechannel I/F (Rev 0)**
Slot J9	**Master EDR (Rev 0)**
Slot J10	**Slave EDR (Rev 0)**
Slot J11	
Slot J12	
Slot J13	**ASPB (Rev 1)**
Slot J14	**Serial UA (Rev 1)**
Slot J15	**Serial UA (Rev 1)**
Slot J16	**Ref Gen (4 LTC) (Rev 0)**
Slot J17	**RS422, if installed**
Mother Bd	**Mother Board (Rev 0)**
	Quit

Figure 19. Diagnostics Window Board Recognition Example

Checking Profile Communication

After all Profile systems have been rebooted and logged in, ensure that the PortServer program is running on all Profile systems within the Fibre Channel network. Tektronix recommends that this icon be copied to the Startup group so that it will be started automatically.

Basic Fibre Channel communication can be verified with the **fcping** command. Start a command prompt window and type: **fcping profilex_fc0** where **profilex** is the name of the remote Profile system. For example, to verify Fibre Channel connectivity to Profile3 you would type: **fcping profile3_fc0**. This command should return a positive result. If it doesn't, see 'If a Problem Occurs' on page 33.

If a Problem Occurs

The data path for the Fibre Channel board is the high-speed PCI bus located on edge-top connectors on the Fibre Channel board and the MEDR board, and, with a 4-channel Profile system, the SEDR board. The MEDR board controls the transfer of data across the high-speed PCI bus and controls access to the SCSI bus and disk drives.

If you have a problem, first check all connections and power switches. If connections are correct and switches are On, run the following diagnostics:

1. Open the **PDR Debug Tools** group.

2. Choose the **PDR Diagnostics** icon. The **Diagnostics** window appears.

   Note that when the Diagnostics window opens, the following message may appear:

   Checking availability of VDR Services. Please wait. . .

   After approximately one minute, this message goes away and you may proceed. If it does not go away, restart the Profile system and the Diagnostics program. If the message still does not go away, contact Tektronix Product Support (see front of manual).

3. Select the **Master EDR** button. Test control buttons for the Master EDR board appear.

4. When a READY prompt appears in the GDB960 window, select the **All Tests** button on the Master EDR board menu.

5. Observe the messages which appear in the GDB960 window. If any ****FAILED**** message appears, the EDR Master board is bad and needs to be replaced.

6. If no failures are noted, at the end of the tests, when **READY** re-appears, select Done in the Master EDR board menu.

7. If present, repeat Steps 3 through 6 for the Slave EDR board.

8. Repeat Steps 3 through 6 for the Fibre Channel board.

    Note that one of the Fibre Channel board tests is a DMA test, which checks the ability of the Fibre Channel board to access the memory on the EDR board(s). The DMA test waits for completion of the Fibre Channel board initialization before proceeding and, therefore, it may take a minute or more to complete the DMA test.

    Once you have checked the Master (and Slave) EDR and Fibre Channel boards, run a system level confidence check.

9. Choose **Diagnostics**/**Tests**, then select **All Board Tests**. This executes diagnostics for all installed boards and, for a system with several optional boards, takes between 10 and 15 minutes. Once initiated, you cannot cancel this diagnostics operation.

10. Select **Quit** at the bottom of the Board Configuration panel to exit the Diagnostics window.

Using Fibre Channel

The Listnames and Copymovie commands allow you to view the names of clips on a remote Profile system and to copy clips between Profile systems. Use the commands at the MS-DOS prompt with the syntax described in the following sections.

listnames

The **listnames** command provides enumeration of PdrMovies on a remote Profile system. This command will list components of PdrMovies, based on a a starting argument parameter, which specifies a valid PdrMovie component. Valid components are datasets, groups or movies as defined in the Profile API programming guide.

The listnames usage is:

> **listnames [-l start_arg] [-r remote_machine]**
>   **-l start_arg**
>   **-r remote_machine** (local if not specified)

Examples:

> **listnames -r Profile5**

> This will list all valid datasets on Profile5.

> **listnames -r Profile5 -l INT:**

> This will list all groups in the INT: dataset on Profile5.

> **listnames -r Profile5 -l INT:/default/**

> This will list all clips and masters in the INT:/default group on Profile5.

NOTE: If the -r parameter is not specified, the utility will run on the local Profile system. If the -l parameter is not specified, the utility will list all valid datasets. Dataset names are case sensitive. INT: and int: would be considered different datasets.

copymovie

The **copymovie** command copies a PdrMovie between two Profile systems using the Fibre Channel network.

NOTE: The parameters for this command are position sensitive and must be entered in the order shown.

The copymovie usage is:

copymovie srcMachine srcName destMachine destName

(the local machine can be referred to as *)

Examples:

copymovie Profile3 INT:/default/movie1 Profile4 INT:/default/movie2

This will copy a movie called **INT:/default/movie1** from Profile3 to Profile4, where it will be named INT:/default/movie2.

copymovie Profile1 INT:/default/movie1 * INT:/default/movie7

This will copy a movie called **INT:/default/movie1** from Profile1 to the local Profile system where the command was run, where it will be named INT:/default/movie7.