GRASS VALLEY GROUP

FIBRE CHANNEL NETWORKING

Installation Manual

PROFILE PDR 100
PROFESSIONAL DISK RECORDERS

Revision Status

Rev Date	Description
February 1997	Initial Issue, Manual P/N 070-9674-00.
September 1997	Move user information, roll P/N to 070-9674-01.
November 2000	Revised Product Support contact information. Part Number 071-8072-00.

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Grass Valley Group Product Support

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

United States and Canada

Monday–Friday 5:30AM–5:00PM Pacific Time
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France	01 45 29 73 00	United Kingdom	01628 405830
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Australia	02-9888 0100	Japan	81-3-3448-3111
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Beijing	86-10-62351230	Mexico	52-5-666-6333
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24-hour Emergency Hotline (530) 478-4148 (Contract and warranty customers)

World Wide Web   http://www.grassvalleygroup.com/support//

FTP Site   ftp.grassvalleygroup.com

E-mail   profile-users@grassvalleygroup.com

General Safety Summary

⚠ *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.*

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

While using this product, you may need to access other parts of the system. Read the general safety summary in other system manuals for warnings and cautions related to operating the system.

Injury Precautions

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 while servicing, disconnect the main power by means of the power cord.

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.

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

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

<table>
<tr><td>**Do Not Operate in Wet/Damp Conditions**</td><td>To avoid electric shock, do not operate this product in wet or damp conditions.</td></tr>
<tr><td>**Do Not Operate in an Explosive Atmosphere**</td><td>To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.</td></tr>
</table>

Product Damage Precautions

<table>
<tr><td>**Use the Proper Voltage Setting**</td><td>Ensure that the line selector is in the proper position for the power source before applying power.</td></tr>
<tr><td>**Provide Proper Ventilation**</td><td>Prevent product overheating by providing proper ventilation.</td></tr>
<tr><td>**Do Not Operate If You Suspect Product Failures**</td><td>If you suspect there is damage to this product, have it inspected by qualified service personnel.</td></tr>
</table>

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 you read 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

Certifications and Compliances

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 this installation 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 or her own expense. Changes or modifications not expressly approved by Grass Valley Group 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 a 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.

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 (includes Appendix ZB)

PDR 100 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 100. The instructions include:

- Related documents.

- System Requirements.

- Receiving inspection of the Fibre Channel Kit.

- Kit Contents.

- Installation Procedure

- Configuring the system for Ethernet.

- Verifying that the Fibre Channel is correctly installed.

Once you have installed the Fibre Channel upgrade, your Profile system must be configured to use the Fibre Channel network. See the *Profile Family User Manual* for Fibre Channel configuration and use information.

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

Related Documents

Profile Release Notes

Profile Family User Guide

PDR 100 Installation Manual

PDR 100 Service Manual

System Requirements

The system requirements for installing and using the PDR 100 Fibre Channel upgrade are:

- Window NT operating system V3.51 or higher.

- Profile System Software V2.1 or higher.

- An Ethernet LAN board.

Tools Required

Tools required, but not supplied, to install the kit are:

- Torx screwdriver with T10 and T15 tips.

- Static discharge wrist strap.

Receiving Inspection of the Kit

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

Grass Valley Group 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 Grass Valley Group 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 Grass Valley Group representative immediately **and DO NOT proceed further unless instructed to do so.**

Fibre Channel Upgrade Kits

There are two Fibre Channel upgrade kits for the PDR 100: one for a 4-channel Profile system and the other for a 2-channel Profile system.

The Fibre Channel upgrade kit for a 4-channel Profile system consists of the items listed in Table 1 and shown in Figure 1.

Table 1. 4-Channel Profile Fibre Channel Upgrade Kit Contents

Name	Part Number
Fibre Channel Board	672-1462-XX
Master EDR Board	671-3795-XX
Slave EDR Board	671-3757-XX
10/100 BaseT Ethernet Board	118-9403-XX
PCI Interconnect Board	671-3794-XX
Front Panel Cable Assy w/Ferrite Bead	174-3459-XX
LED Cable Assy w/Ferrite Bead	174-3471-XX
Gasket, EMI Foam	348-1543-XX
5M Fibre Channel Copper Cable	174-3629-XX
5.49M Ethernet 10/100 BaseT Cable	174-3738-XX
Standard Sticker Set	334-8982-XX
Fibre Channel Sticker Set	334-9461-XX
Installation Manual	070-9674-XX

The 2-channel upgrade kit consists of all the items listed in Table 1 and shown in Figure 1 except the EDR Slave board.

Enhanced Disk Recorder Boards

5 meter Fibre Channel Cable

5.49 meter Ethernet Cable

LED Cable

PCI Board

Front Panel Cable

Fibre Channel Board

EMI Gasket

Label Sets

10/100 Base T Board

9674-1
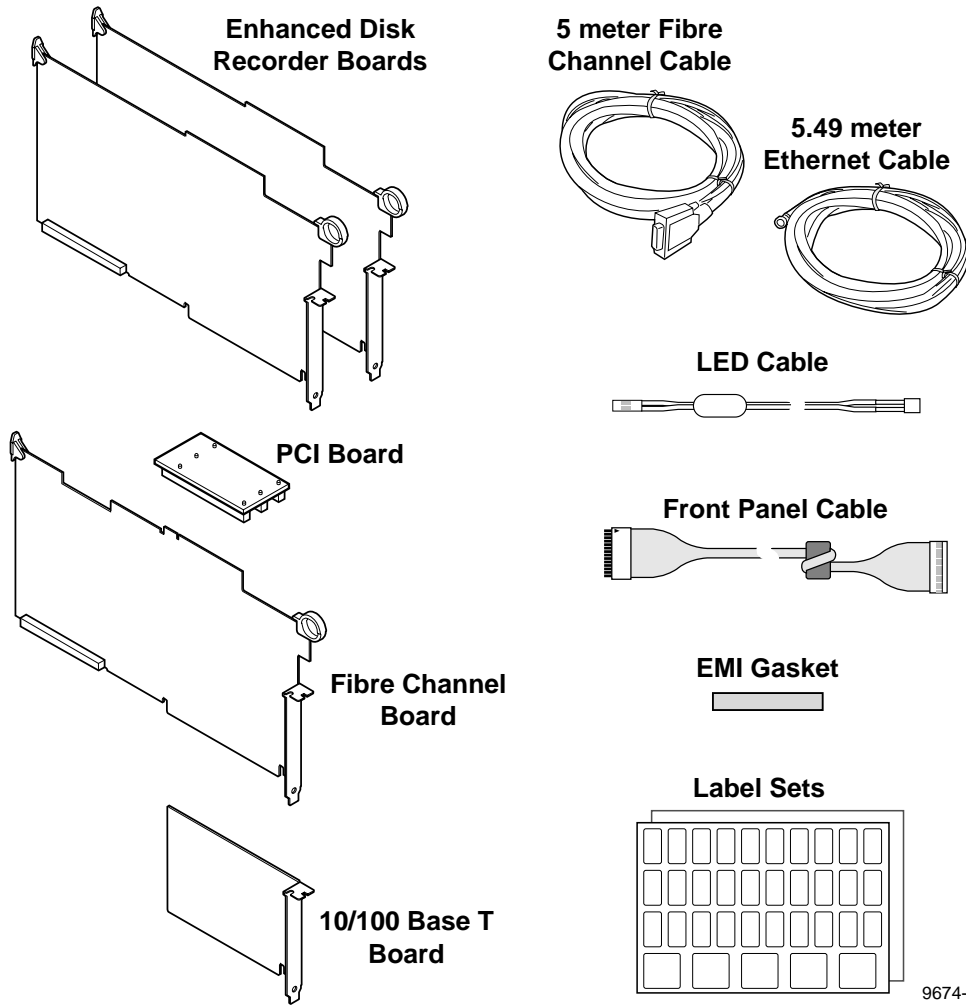
Figure 1. 4-Channel Fibre Channel Kit Contents

Fibre Channel Kit Description

The Fibre Channel upgrade provides for connectivity and high speed data transfers between Profile systems. A LAN network (or Ethernet hub) and a Fibre Channel hub are required to connect groups of greater than two Profile systems and, in general, one set of hubs is required for each group of Profile systems 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.

Master Enhanced Disk Recorder Board

The Master Enhanced Disk Recorder (MEDR) board provides high bandwidth data transfers from disk to and from video channels and the Fibre Channel board. Additionally the i960 enhancements include a Global PCI, a Local PCI (LPCI), and the i960 processor.

Slave Enhanced Disk Recorder Board

The Slave Enhanced Disk Recorder (SEDR) board is the same as the MEDR with the following exceptions:

• It does not have the i960 processor section.

• Arbitration, interrupt, and clock lines are from the MEDR.

10/100 BaseT Ethernet Board

This board provides the Ethernet connection for the Profile system.

PCI Interconnect Board

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

Front Panel Cable Assembly

This is a replacement cable with an attached ferrite bead to insure that your Profile system remains EMI compliant. **Replacement of this cable is only necessary on Profile systems with serial numbers lower than B041685.**

LED Cable

This is a replacement cable with an attached ferrite bead to insure that your Profile system remains EMI compliant. **Replacement of this cable is only necessary on Profile systems with serial numbers lower than B041685.**

EMI Foam Gasket

This is EMI foam gasket is installed to insure that your Profile system remains EMI compliant. **Installation of this gasket is only necessary on Profile systems with serial numbers lower than B041685.**

Fibre Channel Cable

The cable connecting the Profile system 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 Grass Valley Group representative. Also note that for distances greater than 25 meters, quality will begin to deteriorate and a fiber-optic cable with copper-to-fiber adapters is then recommended.

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

Ethernet Cable

The Ethernet cable is a 5.49 meter standard Ethernet cable with RJ-45 connectors on each end.

Sticker Sets

A standard set of stickers and a Fibre Channel set of stickers are 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, Grass Valley Group recommends Ethernet connection to a LAN hub or switch.

Similarly, connecting more than two Profile systems to a Fibre Channel Network requires the use of a Fibre Channel hub or switch. In addition, each Profile system more than 25 meters from the Fibre Channel hub, switch or another Profile system 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.
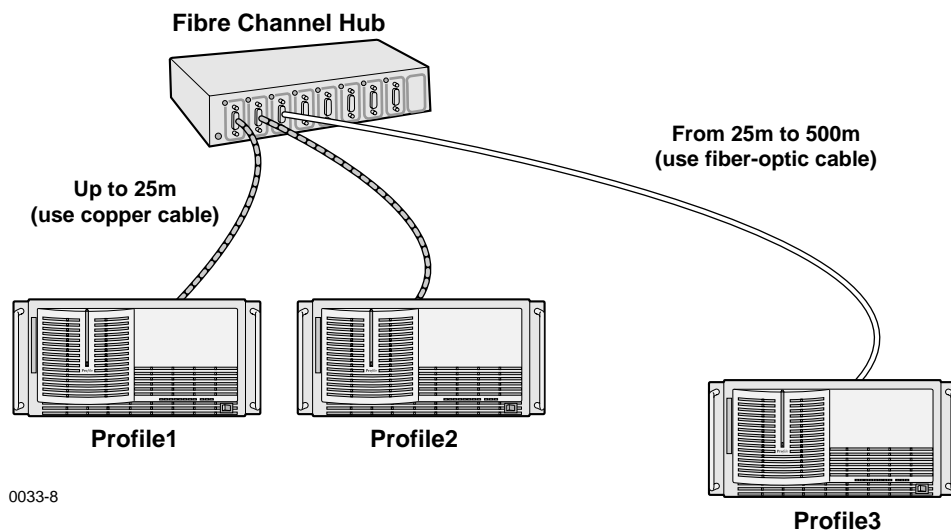
Figure 2. Example - Profile System Fibre Channel Connections

The hubs, switches, and the adapters are not part of this Fibre Channel kit, but may be purchased separately by contacting your Grass Valley Group representative. Figure 3 shows the two hubs and Figure 4 shows a copper-to-fiber cable adapter. Table 2 lists the Hub and Adapter part numbers.

Fibre Channel Hub   **Ethernet Hub**   9674-2
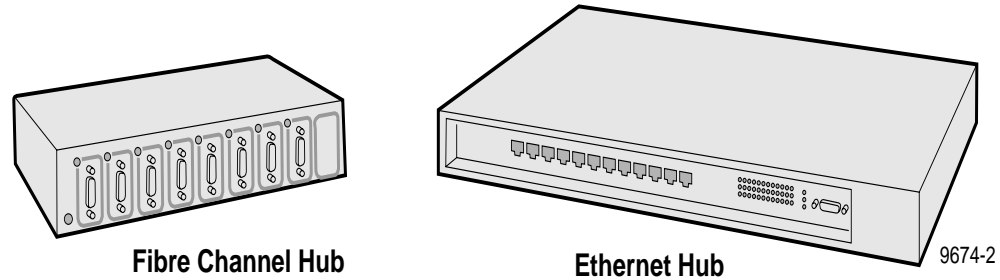
Figure 3. Fibre Channel and Ethernet Hubs

**Fiber-optic
Connector
Covers**

9674-21
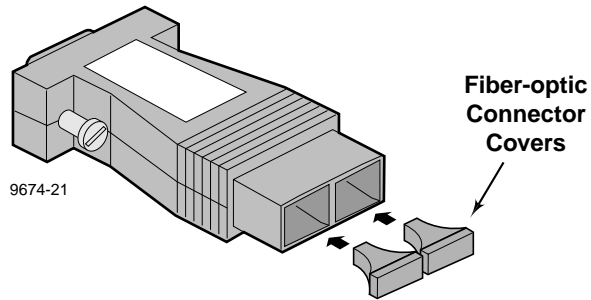
Figure 4. Copper-to-Fiber Cable Adapter

⚠️ *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 2. Fibre Channel Networking Accessories

Name	Part Number
Ethernet Hub	PNETHUB
Fibre Channel Hub	PNFCHUB
Cable Adapter, Copper-to-Fiber	PNF0MIA

Networking Overview

This section contains information about networking Profile systems and Ethernet.

Network Configurations

Ethernet and Fibre Channel provide two types of networking. Ethernet provides a path for command and status signals from one device to another. It also allows Windows NT file transfers between devices.

Fibre Channel provides connectivity for high speed media data transfers between Profile systems.

Using Fibre Channel to network groups of greater than two Profile systems requires an existing Ethernet network (LAN) or an Ethernet hub **and** a Fibre Channel hub.

Network Models

The following discusses two examples of Ethernet and Fibre Channel networking. The first example shows connection of several Profile systems with an Ethernet hub (or existing Ethernet network) and a Fibre Channel hub. The second example of Ethernet and Fibre Channel networking shows connection of several hubs.

Networking Several Profile Systems

Hubs provide an easy and efficient method for the connection and disconnection of machines without rewiring. If you want to connect more than two Profile systems together for video networking, you will need to connect each system to an Ethernet hub or an existing Ethernet network and a Fibre Channel Hub. Figure 5 shows an example of this networking.
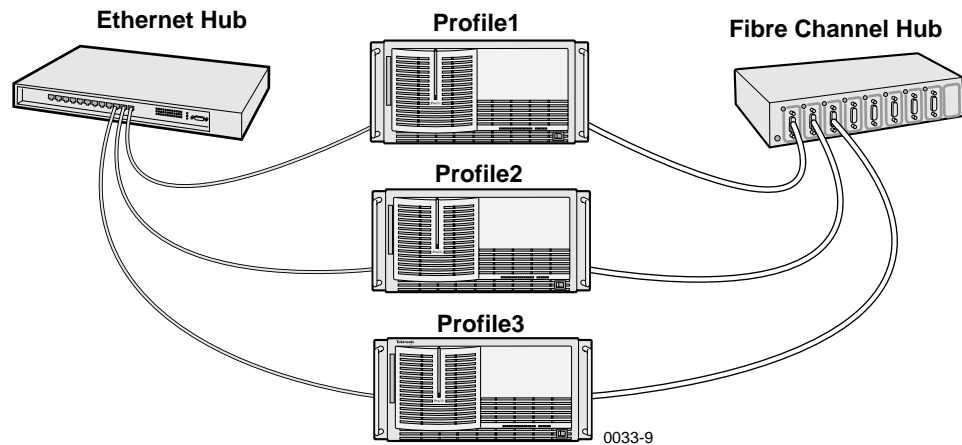
Figure 5. Basic Hub Connections

Networking Several Hubs

Connecting hubs together provides a way to add more and more systems to the network. Large Fibre Channel networks will probably not perform as well as smaller ones due to bandwidth limitations. Figure 6 shows a simple use of several hubs.
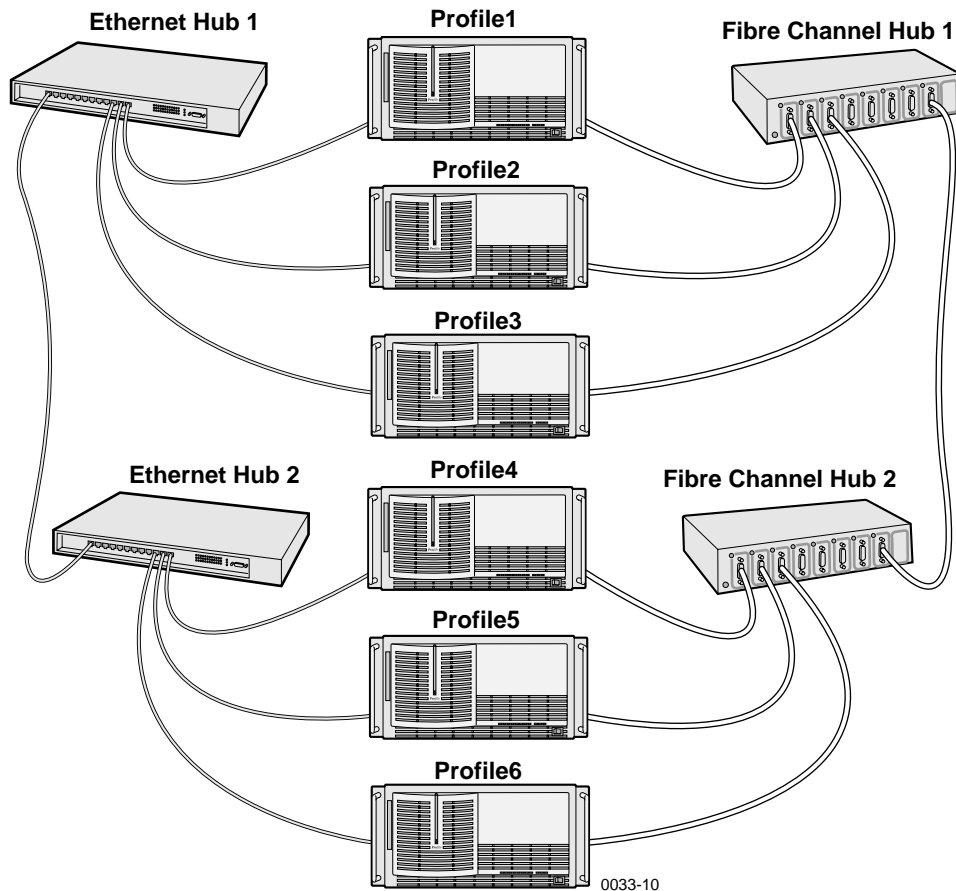
Figure 6. Using Several Hubs

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.

Building a Fibre Channel Network

The simplest network connection is the point-to-point connection shown in Figure 7. This method allows you to connect two Profile systems together, which is the ideal installation for initial setup to ensure that all components are working and correctly configured before adding additional Profile systems to your Fibre Channel network.
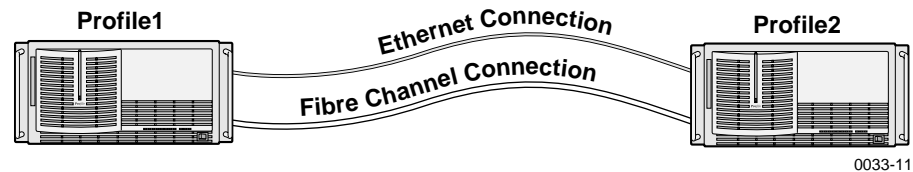
Figure 7. Point-to-point Fibre Channel Network Connection

The Ethernet connection shown in Figure 7 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 7 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 adapter up to 500 meters.

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

⚠️ **WARNING: These procedures should only be performed by qualified service personnel.**

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

- Preparing the Profile system for the upgrade.

- Installing the upgrade.

- Verifying post-installation operability.

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

Preparing the Profile System

Before you can install, test, and operate the Fibre Channel upgrade, Profile System Software version 2.1 or higher must be installed and tested for operability, and the tasks listed below. **In addition to these tasks, make sure that your video data is backed up.**

- Enable the network

- System shutdown.

- Power off.

- Power cord and External cables disconnect.

- Profile system removal from the rack.

- Covers removal.

- Board brackets removal.

- Removing the old Master Disk Recorder board and, if installed, the old Slave Disk Recorder board.

A board location guide and audio clock cabling information is included to assist you if you must move boards around in order to install the Fibre Channel upgrade.

Enable the Network

Network services must be running regardless of whether or not you currently have a LAN board installed. To enable the network, from a Command Prompt, type in: `netenabl` and then press Return.

System Shutdown

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

- Shut down the 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.

Disconnect the power cord, all cables, and any SCSI terminators from the Profile rear panel.

Profile Chassis Removal

To remove the Profile chassis from the equipment 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 rack is firmly anchored before extending the Profile chassis on the rack slides.*

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

2. Use the Profile chassis front panel handles to 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 Profile 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.

NOTE: If your PDR100 has been upgraded to 9GB disk drives, it will have more disk drive cover screws than shown in Figure 8.

1. Use the Torx tool with the T10 tip to remove the top screws and use the T15 tip to remove the side screws, if present, which secure the disk drive cover ❶ to the chassis and remove the cover.

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

9496-1
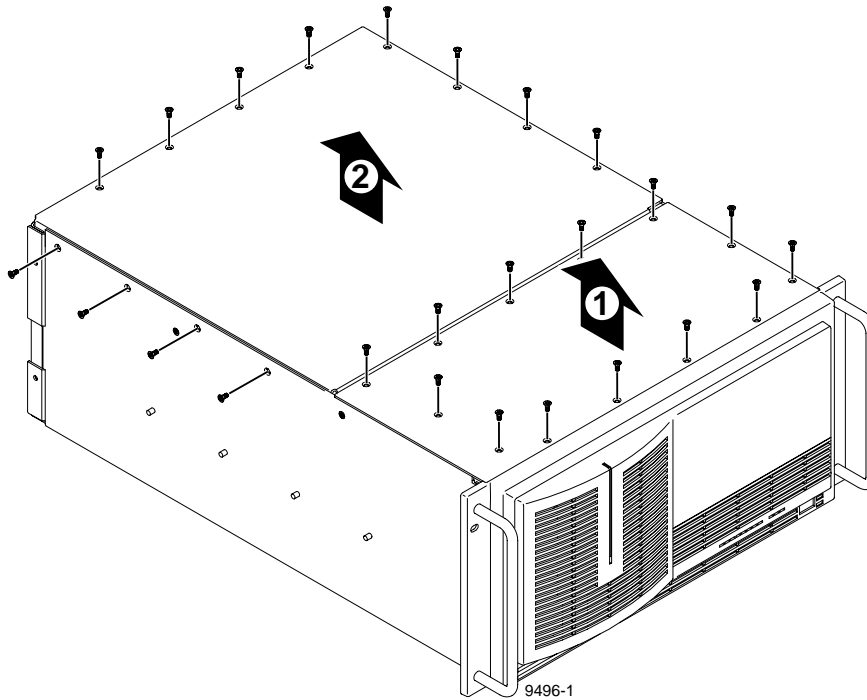
Figure 8. Profile Top Covers Removal

Board Retainer Brackets Removal

There are two retainer brackets located in the board area that must be removed in order to remove 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 remove 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.
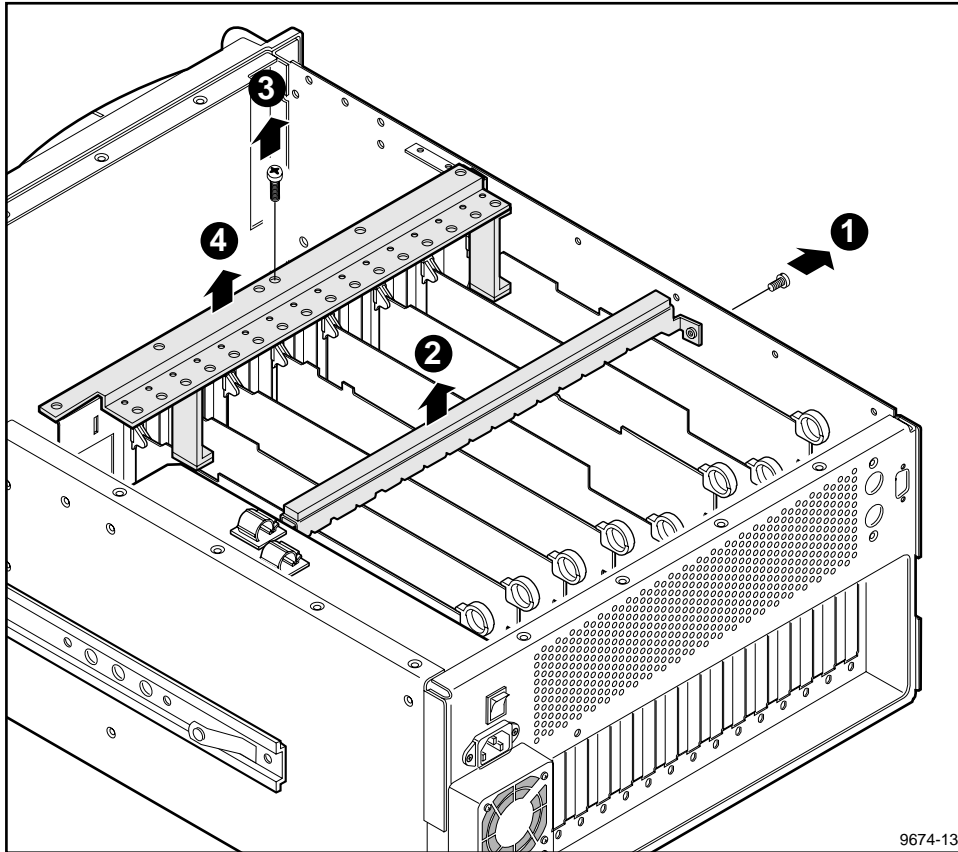
Figure 9. Board Retainer Brackets Removal

Removing Internal Cables

The internal cables you remove depends on whether you have 2-channel or a 4-channel PDR 100 (see Figure 10).

For a 2-channel PDR 100:

• Remove the SCSI A Cable connector ❶ from the Master Disk Recorder board.

For a 4-channel PDR 100:

• Remove the SCSI A cable connector ❶ from the Master Disk Recorder board.

• Remove the SCSI B cable connector ❷ from the Slave Disk Recorder board.

• Remove the short ribbon cable ❸ connected between the Master Disk Recorder board and the Slave Disk Recorder board.

It may be necessary to move boards around to accommodate the slot requirements for the Fibre Channel board and the new EDR boards. If moving boards around requires removal of any internal cables, Grass Valley Group recommends making a diagram of the internal cable connections prior to moving any boards to make it easier to reconnect internal cables. Refer to the "Board Location Guide" on page 38 and "Audio Clock Cabling" on page 48 for additional information.

9674-9
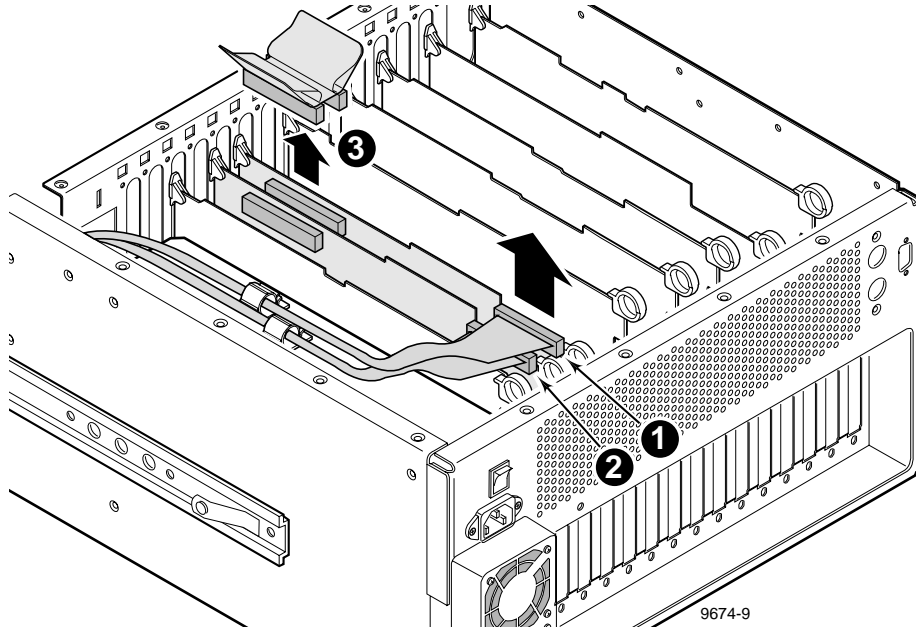
Figure 10. Internal SCSI Cables Removal

Removing Old Boards

If you currently have a 2-channel PDR 100 system, you must remove the Master Disk Recorder board. If you currently have a 4-channel system, you must remove the Master Disk Recorder and the Slave Disk Recorder boards. Also, for both 2-channel and 4-channel systems, if you currently have an Ethernet 10 BaseT board, you must remove that board.

To remove the old Master and, if installed, Slave Disk Recorder boards:

1. Use the Torx tool with the T15 tip to remove the screws which secure each board to the rear panel (see Figure 11 for an example).

2. Use the extraction lever on the front of each board and the extraction ring at the back of each board to lift the circuit board free of the connectors on the motherboard.

9040-13
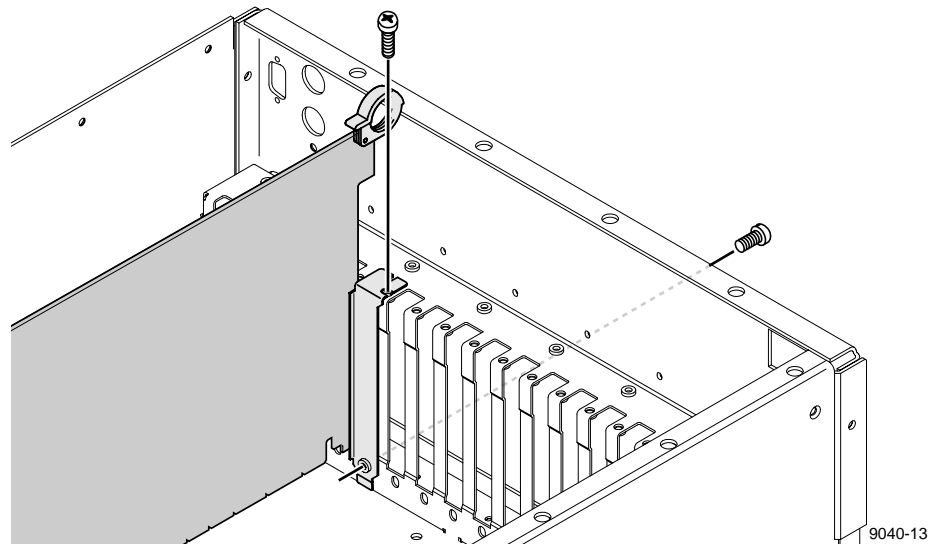
Figure 11. Typical Removal of a Full Size Board

If necessary to remove an Ethernet 10 BaseT board, which is a short board, see
Figure 12 for an example and:

1. Use the Torx tool with the T15 tip to remove the board bracket retaining
   screw from the inside of the rear panel.

2. Carefully but firmly grasp the board and lift it straight up and out of the
   chassis. Note that you may have to remove an adjacent full size board in order
   to safety grasp the Ethernet 10 BaseT board.

9674-18
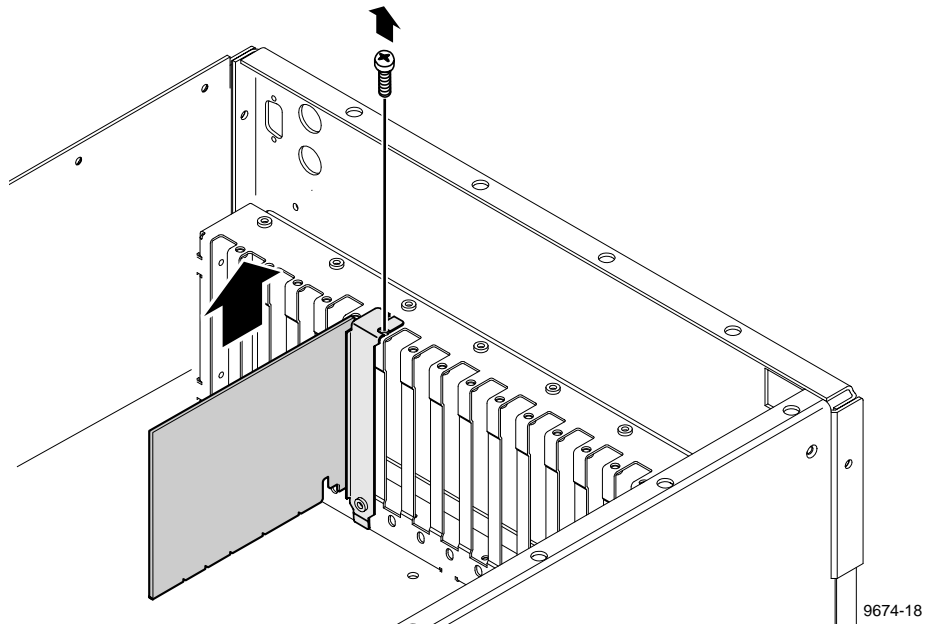
Figure 12. Typical Removal of a Short Board

Board Location Guide

This board location guide identifies the inputs and outputs of each Profile board currently available for a PDR 100, as well as the input and output connections on the Video Router connectors on the motherboard. Use this information when:

- you add a new circuit board to the Profile system and need to select a slot into which you can install it;

- you need to move boards around to meet requirements for new boards.

As you move boards around, remember that some circuit boards must occupy specific slots, while others can be installed in almost any slot as long as their I/O requirements are met.

This section provides a simple approach to board location. It explains the relationship between the motherboard and Video Router connectors and provides tables, charts and examples to assist you in installing boards.

Video Router to Motherboard Relationship

The Video Router provides and controls video data to twelve connectors on the motherboard. These video data connectors are aligned with the main motherboard connectors for slots J5 through J16. Since the Ref Gen board must occupy J16 to provide the necessary system clocks, this discussion excludes J16.

When choosing a slot for a board, the major constraint on a slot is how the board connects to the Video Router. Not all boards require the same number of video I/O connections, and not all video data connectors provide the same number of video I/O connections. Therefore, you must know how many input and output connections the board needs, and the slot available that meets those needs.

Board I/O Requirements and Restrictions

Table 3 lists each of the boards which may be installed in the Profile system and the recommended slots, possible alternatives, and restrictions for each board.

Note that if more than one slot is recommended or possible for a board, those slots are listed in the order of preference.

Table 3. Board I/O Requirements and Restrictions

Board	Video Router Connection Requirements		Recommended Slots	Other Possible Slots	Comments
	Inputs	**Outputs**			
CPU	n/a	n/a	J1	None	Reserved for PC card only
VGA	n/a	n/a	J2	None	ISA only
LAN	n/a	n/a	J3	None	EISA only
SCSI	n/a	n/a	J4	None	EISA only
RefGen	n/a	n/a	J16	None	Reference genlock
RS-422	n/a	n/a	J17	None	EISA only
Master Disk Recorder	2	2	J14	None	Must be adjacent to Slave Disk Recorder and Fibre Channel (if installed).
Slave Disk Recorder	2	2	J15	None	Must be adjacent to Master Disk Recorder.
Analog Composite In	None	1	any slot	J5-J15	Any open slot if board in adjacent slot does not use the same shared router points. Must be adjacent to the Analog Composite Decoder.
Analog Composite Decoder	None	None	any slot	J4-J15	Must be adjacent to Analog Composite In. May be installed in J4 since it does not require any router connections.
Four Channel Analog Out	4	None	J11,J12	J6,J7	Only J6, J7, J11, and J12 have 4 (or more) inputs. If in J11 or J12, board must be able to get a shared input (the 4th) from an adjacent slot (J10 or J13).
Analog Composite Monitor Out	4	None	J11,J12	J6,J7	Only J6, J7, J11, and J12 have 4 (or more) inputs. If in J11 or J12, board must be able to get a shared input (the 4th) from an adjacent slot (J10 or J13).
Analog Composite I/O	2	2	any slot	J5-J15	any open slot if board in adjacent slot does not use the same shared router points.
Serial Digital I/O	2	2	any slot	J5-J15	any open slot if board in adjacent slot does not use the same shared router points.
CAV In	None	1	any slot	J5-J15	any open slot if board in adjacent slot does not use the same shared router points.
Fibre Channel	None	None	J13	None	Must be adjacent to Master Disk Recorder. PCI Interconnect required.
Mix Effects	6	2	J6	J7	Only J6 and J7 have 5 dedicated inputs; board must be able to get a shared input (the 6th) from an adjacent slot (J5 or J8).
Audio Signal Processing Board (ASPB)	None	None	any slot	J5-J15	Cables must be able to reach video boards or additional ASPB. Second ASPB necessary for 32 channels of audio.

Video Router I/O Connections

Now let's look at the Video Router connections available at slots J5-J15. Table 4 is a board location chart with the Video Router input and output connections. In the table:

• The Slots column lists each slot on the motherboard connected to the Video Router.

• The Board column is where you enter the boards currently installed and the name of the board you want to install.

• The Inputs column identifies data input connections to the slots (boards) from the Video Router. The numbers in the blocks correspond to the order input connections are assigned at the Video Router connector.

• The Outputs column identifies data output connections from the slots (boards) to the Video Router. The numbers in the blocks correspond to the order output connections are assigned at the Video Router connector.

• The shaded blocks in the diagram indicate Video Router connections shared between slots. A shared connection is available to either slot, but not both at the same time.

For instance:

• The shaded blocks between slots J5 and J6, slots J7 and J8, slots J10 and J11, and slots J12 and J13 indicate shared input connections.

• The shaded blocks between slots J8 and J9, slots J10 and J11, and slots J12 and J13 indicate shared output connections.

Table 4. Board location chart

Slot	Board	Input	Output
J5			1
		1	2
		2	3
J6		6	2
		5	
		4	
		3	1
		2	
		1	
J7		1	1
		2	
		3	
		4	2
		5	
		6	
J8		2	1
		1	2
			3 4
J9		1	4 3
		2	2
			1
J10		1	1
			2
		2	3 4
J11		4	4 3
		3	2
		2	
		1	1
J12		1	1
		2	2
		3	
		4	3 4
J13		2	4 3
		1	2
			1
J14		1	1
			2
		2	3
J15		1	1
			2
		2	3

Selecting a Location

Here's how to use the tables to select a location for a board.

1. In the Board Location Chart, Table 4, enter the board name and, referring to Board I/O Requirements and Restrictions, Table 3, put a check mark in each input and output block used by each board currently installed in your Profile system. Start with the **1** block for each board.

2. Look in the Board I/O Requirements and Restrictions, Table 3, to see the input and output requirements and both the recommended slot and alternative slots for the board you want to install.

3. Look in the Board Location Chart, Table 4, for a slot with the required Video Router connections available. Starting with the **1** block, put an "X" in each block that corresponds to an input and output requirement for the board. If the recommended slot is occupied, or there are not enough input or output blocks available, look at the alternative slots.

4. If all input and output requirements for the board match the available ones for the slot, write the board name in the Board column for the slot and install the board.

NOTE: If you can't find an open slot with the I/O which meets the I/O requirements of the board you want to install, you will have to move boards around. You can use the Board I/O Requirements and Restrictions table and the Board Location Chart to experiment with various board locations before deciding on one.

The following examples demonstrate how to use the Board I/O Requirements and Restrictions, Table 3, and the Board Location Chart, Table 4.

Example 1

This example shows how to use the Board I/O Requirements and Restrictions, Table 3, and the Board Location Chart, Table 4, to install a Fibre Channel upgrade into a 4-channel PDR 100 with two Serial I/O boards and four Audio I/O boards.

In all likelihood, you will have to move boards before you can install the Fibre Channel upgrade. Move the boards before using the Board Location Chart. For this example:

1. Move the Serial I/O in slot J8 to slot J7.

2. Move the Audio I/O board in slot J9 to slot J8.

3. Move the Audio I/O board in slot J10 to slot J9.

4. Move the Serial I/O in slot J11 to slot J10.

5. Move the Audio I/O board in slot J12 to slot J11.

6. Move the Audio I/O board in slot J13 to slot J12.

7. Now fill in the Board Location Chart.

   a. For the Serial I/O in slot J7, which requires two inputs and two outputs:

      - Write Serial I/O in Slot 7.
      - Put check marks in the 1 and 2 Input blocks for J7.
      - Put check marks in the 1 and 2 Output blocks for J7.

   b. For the Audio I/O boards in slots J8 and J9, which require no Video Router connections:

      - Write Audio I/O in Slot J8 and Slot J9.

   c. For the Serial I/O in slot J10, which requires two inputs and two outputs:

      - Write Serial I/O in Slot 10.
      - Put check marks in the 1 and 2 Input blocks for J10.
      - Put check marks in the 1 and 2 Output blocks for J10.

   d. For the Audio I/O boards in slots J11 and J12, which require no Video Router connections:

      - Write Audio I/O in Slot J11 and Slot J12.

8. From the Board I/O Requirements and Restrictions, Table 3, note that:

   a. The Slave EDR board requires two inputs and two outputs **and** must be adjacent to the Master EDR board.

   b. The Master EDR board requires two inputs and two outputs **and** must be adjacent to both the Slave EDR and the Fibre Channel boards.

   c. The Fibre Channel board does not require inputs or outputs **but** must be adjacent to the Master EDR board.

9. Looking at your Board Location Chart reveals that slots J13, J14, and J15 meet requirements for all three boards.

10. For the Slave EDR board:

    - Put Xs in the 1 and 2 Input blocks for J13.
    - Put Xs in the 1 and 2 Output blocks for J13,
    - Write **Slave EDR** in the Boards column for Slot J13, and install the board.

11. For the Master EDR board:

    - Put Xs in the 1 and 2 Input blocks for J14.
    - Put Xs in the 1 and 2 Output blocks for J14.
    - Write **Master EDR** in the Boards column for Slot J14, and install the board.

12. Write **Fibre Channel** in the Boards column for slot J15 and install the board.

   • Your Board Location Chart would then look similar to Table 5, "Example 1 - Installing the Fibre Channel Upgrade," on page 45.

Table 5. Example 1 - Installing the Fibre Channel Upgrade

Slot	Board	Input	Output
J5			1
		1	2
		2	3
J6		6	2
		5	
		4	
		3	1
		2	
		1	
J7	Serial Digital I/O	1 ✓	1
		2 ✓	✓
		3	
		4	2
		5	✓
		6	
J8	Analog Audio I/O	2	1
		1	2
			3 4
J9	Analog Audio I/O	1	4 3
		2	2
			1
J10	Serial Digital I/O	1	1 ✓
		✓	2 ✓
		2 ✓	3 4
J11	Analog Audio I/O	4	4 3
		3	2
		2	
		1	1
J12	Analog Audio I/O	1	1
		2	2
		3	
		4	3 4
J13	Fibre Channel	2	4 3
		1	2
			1
J14	Master Enhanced Disk Recorder	1 X	1 X
			2 X
		2 X	3
J15	Slave Enhanced Disk Recorder	1 X	1 X
			2 X
		2 X	3

Example 2

If you next want to install a Mix Effects board:

1. From the Board I/O Requirements and Restrictions table, note that the Mix Effects board requires six inputs and two outputs and that the first recommended slot is J7 with slot J6 another possibility.

2. Looking at your Board Location Chart, you see that slot J7 is occupied but that slot J6 is open and although it only has five Inputs, the 6th Input can be the input shared with J5, which is open.

3. On your Board Location Chart for the Mix Effects board:

   - Put Xs in the 1-5 Input blocks for J6.
   - Put an X in the shared Input block for J5.
   - Put Xs in the 1 and 2 Output blocks for J6.

4. Write Mix Effects in the Board column for slot J6 and install the board.

• Your Board Location Chart would then look similar to Table 6, "Example 2 - Installing a Mix Effects Board," on page 47.

Table 6. Example 2 - Installing a Mix Effects Board

Slot	Board	Input	Output
J5			1
		1	2
		2	3
J6	Mix Effects	**X** 6	**X** 2
		X 5	
		X 4	
		X 3	**X** 1
		X 2	
		X 1	
J7	Serial Digital I/O	1 ✓	1
		2 ✓	✓
		3	
		4	2
		5	✓
		6	
J8	Analog Audio I/O	2	1
		1	2
			3 4
J9	Analog Audio I/O	1	4 3
		2	2
			1
J10	Serial Digital I/O	1	1 ✓
		✓	2 ✓
		2 ✓	3 4
J11	Analog Audio I/O	4	4 3
		3	2
		2	
		1	1
J12	Analog Audio I/O	1	1
		2	2
		3	
		4	3 4
J13	Fibre Channel	2	4 3
		1	2
			1
J14	Master Enhanced Disk Recorder	1 **X**	1 **X**
			2 **X**
		2 **X**	3
J15	Slave Enhanced Disk Recorder	1 **X**	1 **X**
			2 **X**
		2 **X**	3

Audio Clock Cabling

This section provides some general rules about audio clock cabling. Audio clock signals from the appropriate video board synchronize the audio to the video during Record. Internal cabling between connectors on the top of the video boards and connectors on the top of the audio boards provide the clock signals to the audio boards.

In general, the video board in the lowest numbered slot provides the audio clock signal to an Audio I/O board, the video board in the next lowest numbered slot provides the audio clock signal to another Audio I/O board, etc.

Figure 13 shows an example of internal audio clock cabling. In Figure 13, Serial I/O boards, installed in slots J7 and J10, are the only video boards. The audio clock cable connections are:

* Channel 1 of the Serial I/O board in slot J7 to Audio 1 (PLAY) on the Audio I/O in slot J8

* Channel 2 of the Serial I/O board in slot J7 to Audio 2 (PLAY) on the Audio I/O in slot J9

* Channel 1 of the Serial I/O board in slot J10 to Audio 3 (RECORD) on the Audio I/O in slot J11

* Channel 2 of the Serial I/O board in slot J10 to Audio 4 (RECORD) on the Audio I/O in slot J12

* PLAY from all four Audio I/O boards to the system clocks on the RefGen board.

Note that Figure 13 is an example with video boards only in slots J7 and J10. If you have other video boards in lower numbered slots, you will have to determine how you want to set your system up. You will have to remove any unused clock cables and you may have to move boards around to accommodate your setup.

Also note that you must be sure to connect audio sources associated with a video board to the correct XLR connectors on the audio breakout box.
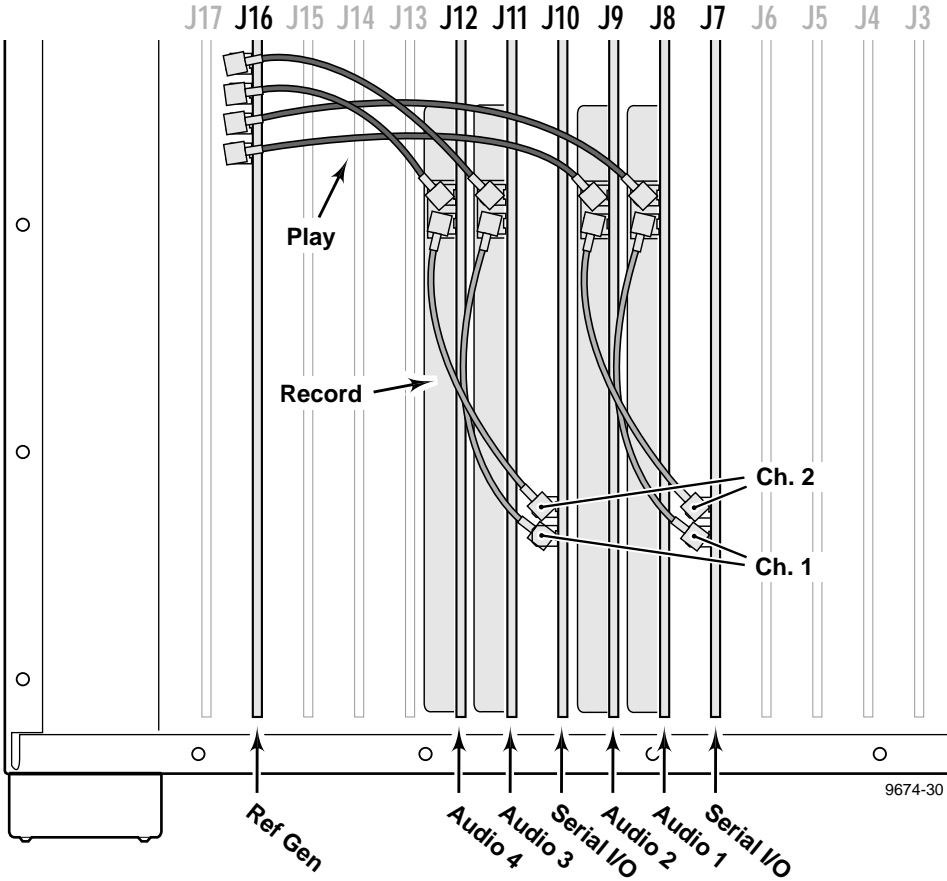
Figure 13. Example of Audio Clock Cabling

Installing the Fibre Channel Upgrade

Figure 14 identifies the board slot IDs and Figure 15 shows the locations and slot IDs for the Slave EDR, Master EDR, and Fibre Channel boards. Installing the Fibre Channel upgrade consists of the tasks listed below.

- Installing the 10/100 BaseT board, the Slave and Master EDR boards, and the Fibre Channel board.

- Reinstalling board hold-down brackets.

- Reconnecting internal cables.

- Installing the PCI Interconnect board.

- Installing EMI compliance components, if necessary.

- Replacing the Profile covers.

- Replacing the Profile chassis into the rack.

- Connecting/reconnecting external cables and power cord.

NOTE: After board relocations, the slot ID stickers on the bottom rear panel will no longer be valid. If you need new ID stickers, contact your Grass Valley Group representative.
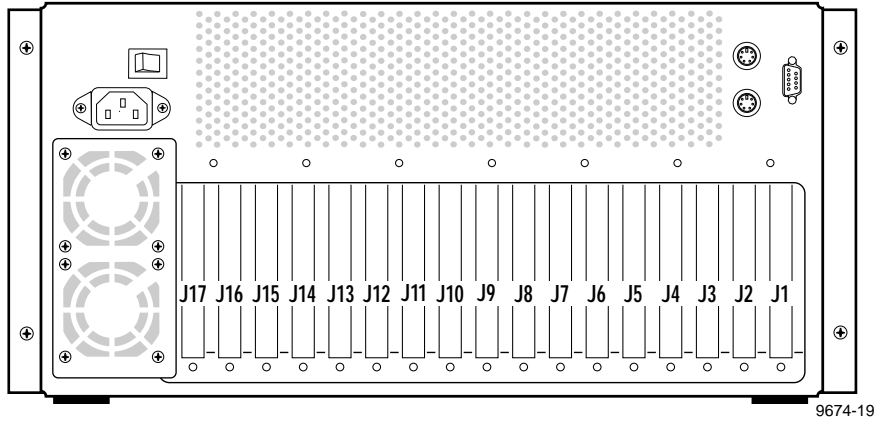
9674-19

Figure 14. Board Slot IDs (Rear Panel)

Slave (J13)
Master (J14)
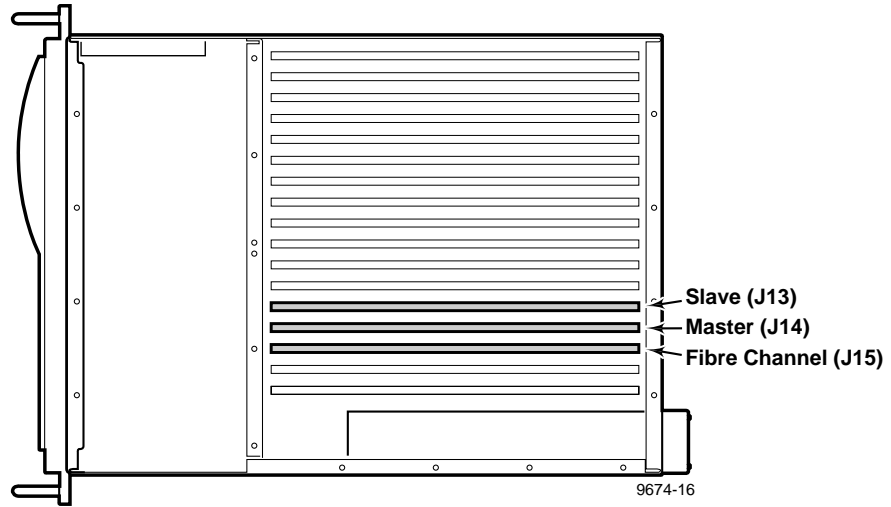Fibre Channel (J15)

9674-16

Figure 15. Slave EDR, Master EDR, and Fibre Channel Board Locations

Installing the Ethernet 10/100 BaseT Board

The Ethernet 10/100 BaseT board is a short board, which must be installed in slot J3. See Figure 16 for an installation example and install the 10/100 baseT board as follows:

1. If you did not have an Ethernet board, use the Torx tool with the T15 tip remove the slot blank from J3.

2. Slip the 10/100 BaseT board into the board area aligning it with the connectors in the motherboard at the bottom panel and the rear panel cutout for J3.

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 10/100 BaseT board bracket to the rear panel with the screw removed either when the old Ethernet board was removed or when the slot blank was removed (step 1).
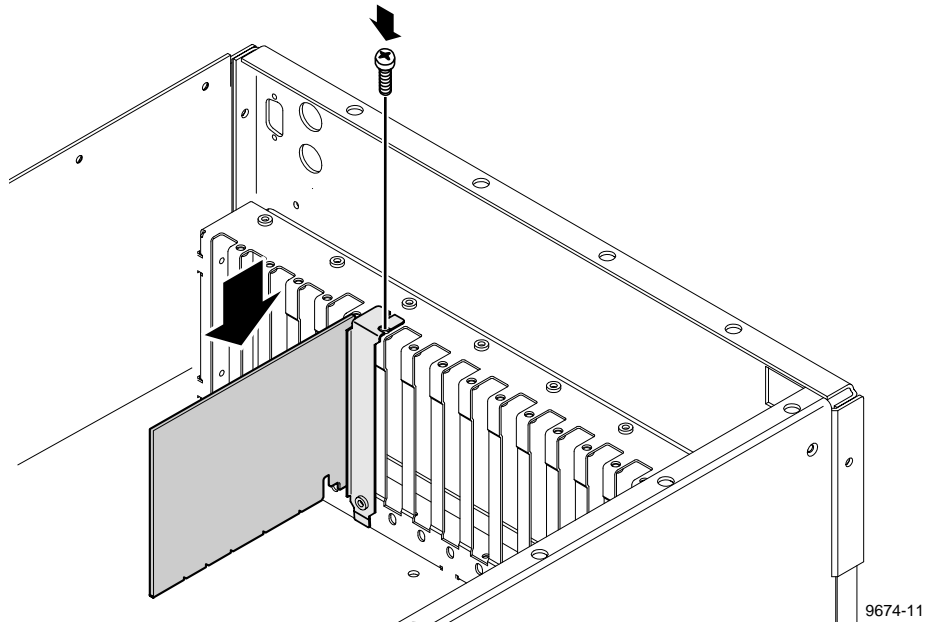
9674-11

Figure 16. Short Board Installation Example (Top View)

Installing the EDR Boards

See Figure 17 to distinguish between the Master EDR board and the Slave EDR board, where the Master EDR contains the i960 Controller. See Figure 14 for slot IDs and Figure 18 for an example of installing a full size board. To install the EDR boards, proceed as follows:

1. If you have a 2-channel PDR 100, start at step 5, otherwise continue to step 2.

2. Slip the Slave EDR board into the board slide at the front of the board area for slot J13 aligning it with the edge-board connectors in the motherboard at the bottom panel and the rear panel cutout for J13.

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 Slave EDR board bracket to the rear panel with the two screws previously removed, but **do not** fully tighten until after the PCI Interconnect board has been installed.

5. Slip the Master EDR board into the board slide at the front of the board area for slot J14 aligning it with the edge-board connectors in the motherboard at the bottom panel and the rear panel cutout for J14.
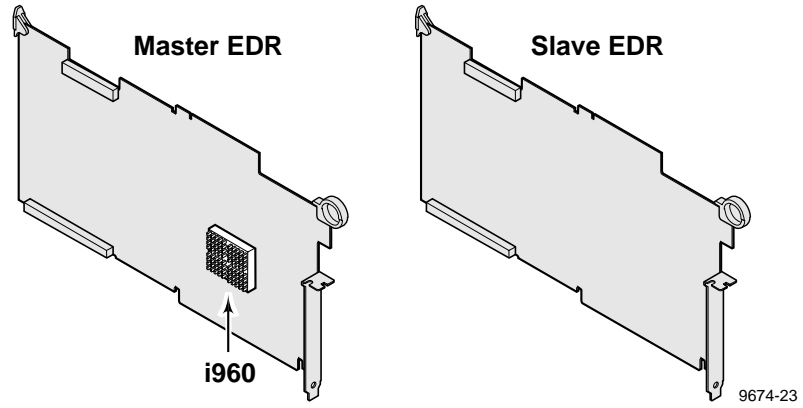
6. Repeat step 3 and 4.

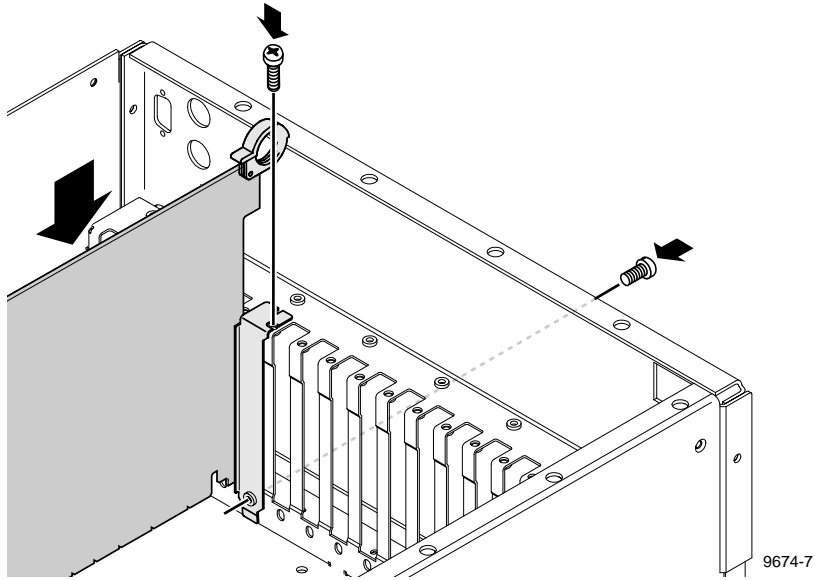**Figure 17. Distinguishing Between Master and Slave EDRs**

9674-7

Figure 18. Installing a Full Size Board Example

Installing the Fibre Channel Board

The Fibre Channel board must be installed in slot J15, adjacent to the Master EDR board. To install the Fibre Channel board, refer to Figure 14 and Figure 15 (page 52) for location, and Figure 18 (page 57) for installation information and proceed as follows:

1. Slip the Fibre Channel board into the board slide at the front of the board area for slot J15 aligning it with the edge-board connectors in the motherboard at the bottom panel and the rear panel cutout for J15.

2. 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.

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

Reinstalling Internal Cables

Figure 19 shows installation of the SCSI cable connectors. Refer to Figure 19 and:

1. Connect the cable labelled **SCSI A** (❶ in Figure 19) to the header connector on the Master EDR board.

2. For a 4-channel PDR 100, connect the cable labelled SCSI B (❷ in Figure 19) to the header connector on the Slave EDR.

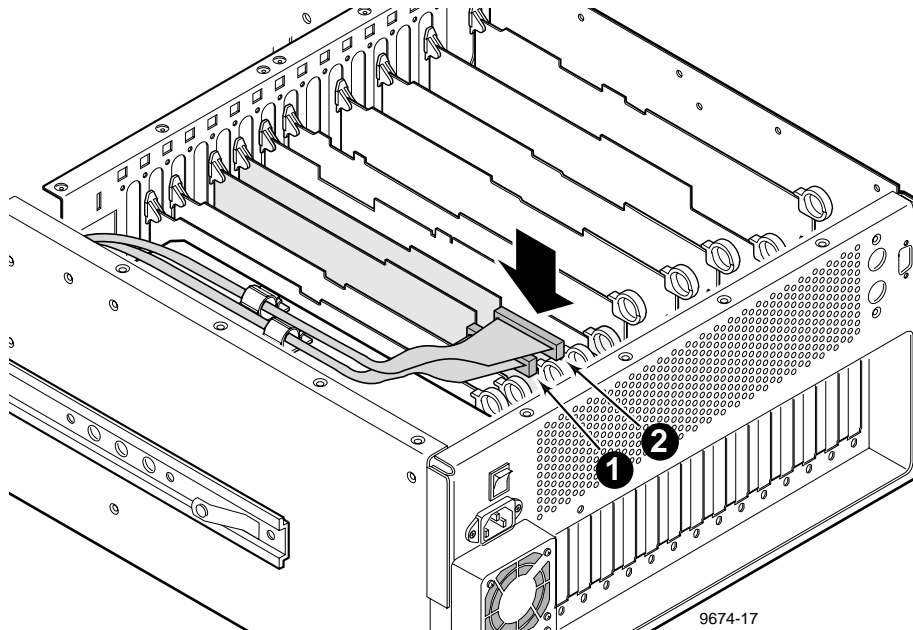3. From your diagram, reconnect all other previously removed internal cables.

9674-17

Figure 19. SCSI Cable Connections

Installing the PCI Interconnect Board

The PCI Interconnect board has three connectors which attach to edge-board contacts on the Slave EDR, the Master EDR, and the Fibre Channel boards. See Figure 20.
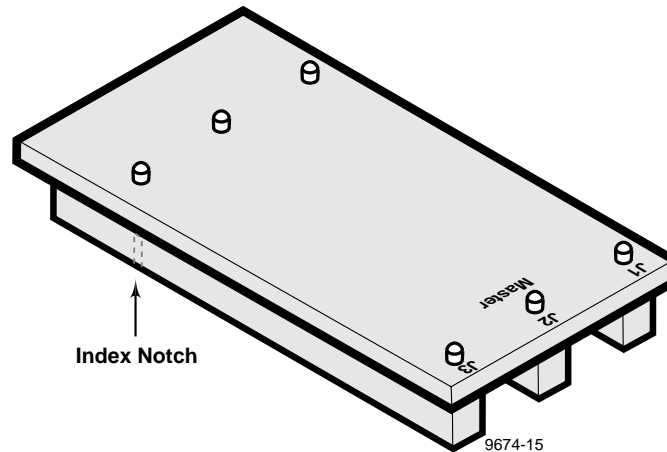

Figure 20. PCI Interconnection Board

The PCI board connectors are keyed to ensure correct orientation and the bottom of the board identifies the connectors as J1, J2, and J3. J2 is further identified as **MASTER**. To install the PCI board, refer to Figure 21 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 Slave EDR header connector, **Master J2** over the Master EDR header connector, and **J3** over the Fibre Channel header connector, and the connector keys are over the index notches on the boards.
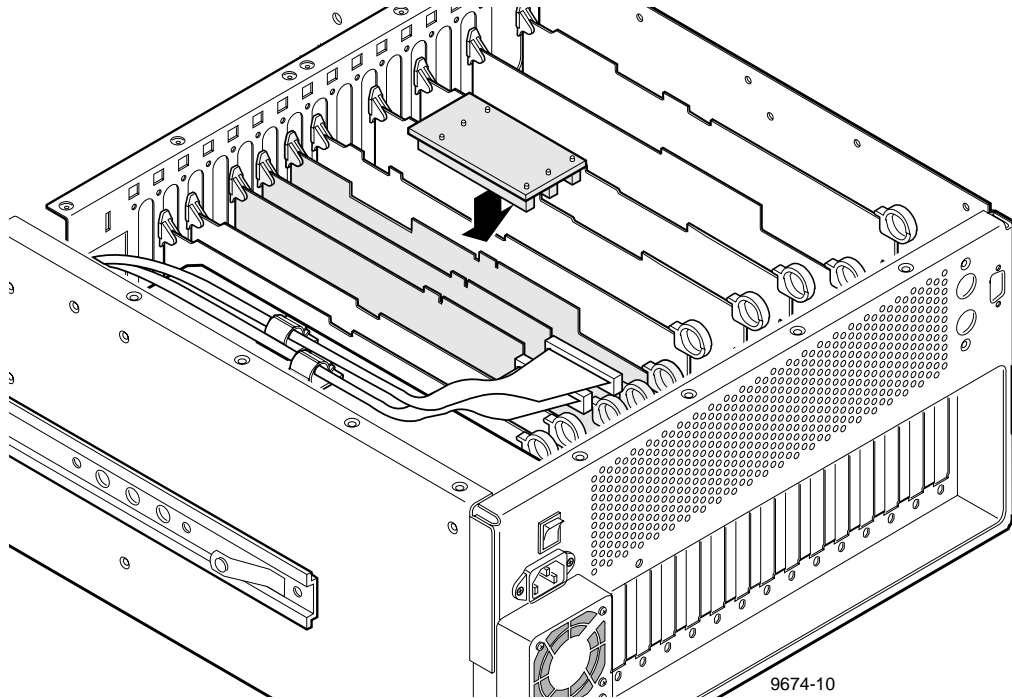
Figure 21. PCI Interconnect Board Installation

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

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

Reinstalling Board Retainer Brackets

Before re-installing the short board retainer bracket, check it against the lay-out of the boards. Ensure that an extender is in every location where a short board is installed and that none are in locations where full sized boards are installed.

NOTE: To prevent damage to the Analog Composite Monitor board, if installed, ensure that an extender is not installed at the Analog Composite Monitor board location.

To move a short board bracket extender, refer to Figure 22 and proceed as follows:

1. Use the Torx tool with the T15 bit and remove extender retaining screw ❶ from the bracket.

2. Move the extender to the desired location on the bracket.

3. Ensure that the extender alignment nub is in the hole on the bracket and replace retaining screw ❷.
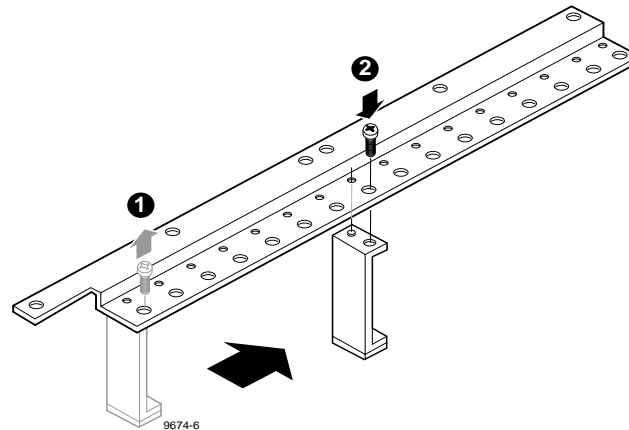

Figure 22. Short Board Retainer Bracket and Extender

To re-install the short board retainer bracket, refer to Figure 23 and proceed as follows:

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

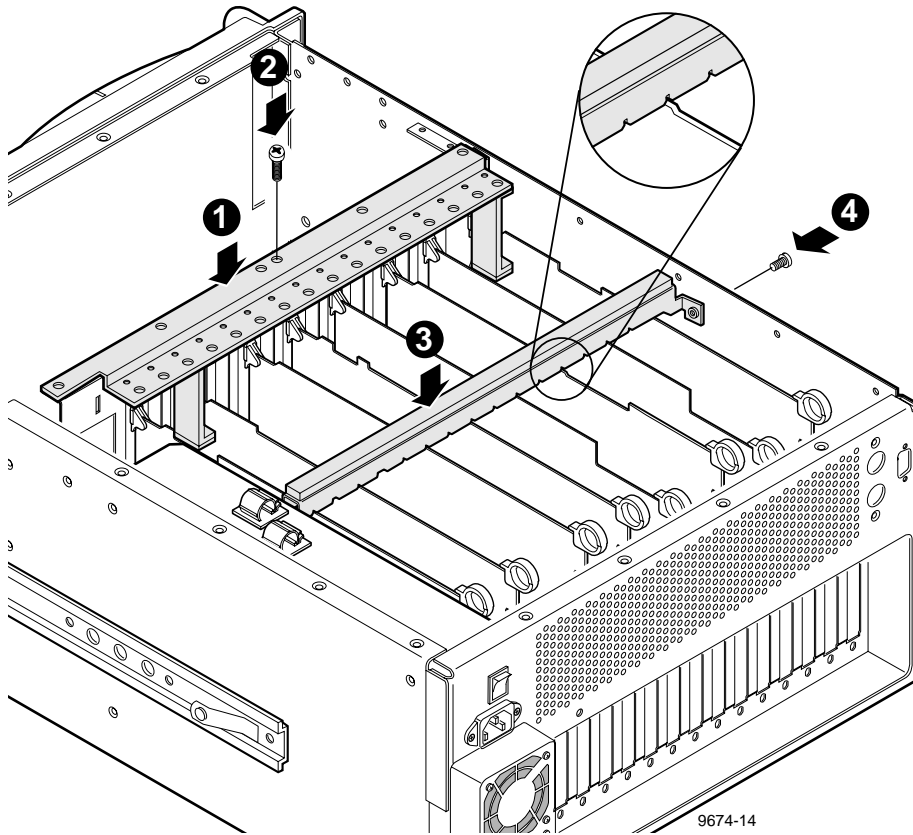2. Use the Torx tool with the T10 bit to replace bracket retaining screw ❷.

Figure 23. Board Retainer Bracket installation

To reinstall the full size board retainer bracket refer to Figure 23 and proceed as follows:

1. Place bracket ❸ over the boards.

2. Align the full size boards to the correct bracket slots (see insert in Figure 23) and carefully seat the bracket onto the boards.

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

Installing EMI Compliance Components

NOTE: This procedure is only necessary if your PDR 100 serial number is below B041650.

To ensure that your PDR 100 remains compliant with EMI standards with the Fibre Channel upgrade installed, you must:

1. Remove two cables behind the front panel and replace them with the cables included in this upgrade kit.

2. Install a gasket inside the rear panel behind the power supply.

The following procedures explain how to perform these modifications.

To replace the cables:

The front panel cable assembly, Figure 24, and the LED cable assembly, Figure 25, are on the bezel behind the front panel.

9674-25
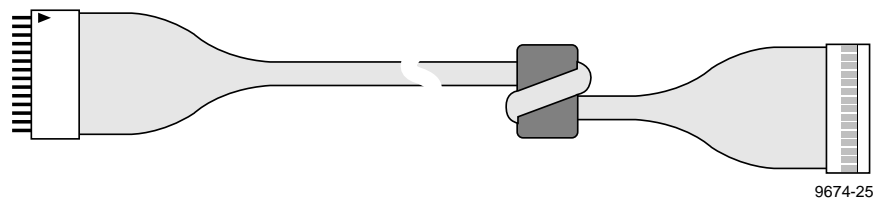
Figure 24. Front Panel Cable Assembly

9674-24

Figure 25. LED Cable Assembly

Figure 26 shows removal of the front panel and bezel.

1. Refer to Figure 26 and remove the PDR 100 handles (❶ in Figure 26) and
   front panel metal plate (❷ in Figure 26) to access the two cables on the bezel.

PDR 100 Fibre Channel Installation

Figure 26. Removing the Front Panel and Bezel

2. Refer to Figures 24, 25, and 27 and replace the front panel and LED cable assemblies.

3. Refer to Figure 26 and reinstall the front panel metal plate, bezel, and handles.

9674-28
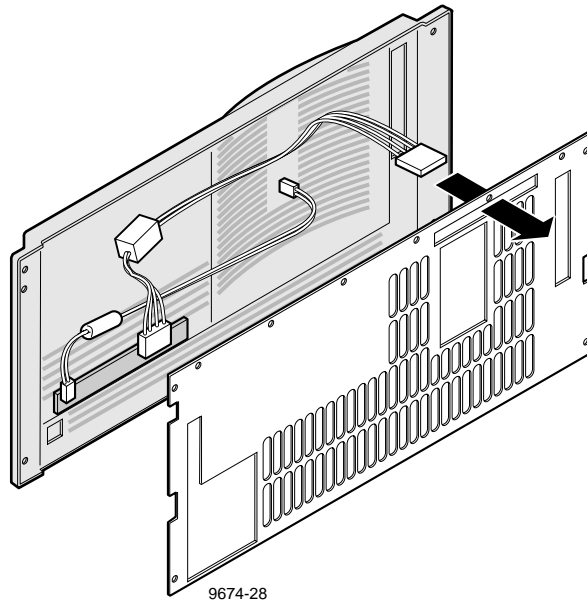
Figure 27. Installing the Front Panel and LED Cable Assemblies

To install the EMI foam gasket:

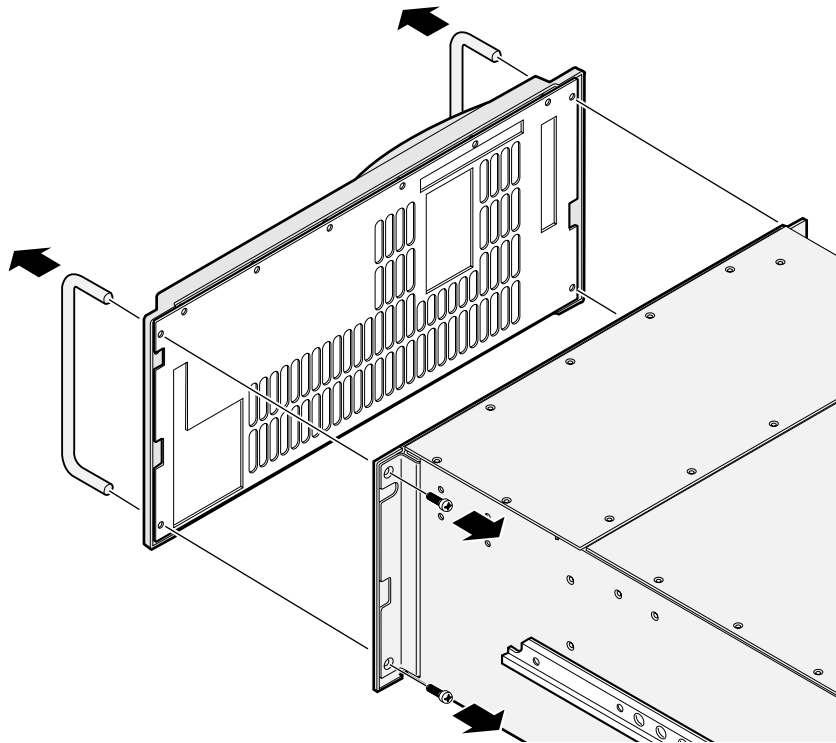1. Use the Torx tool with the T15 tip to remove the screws which secure the power supply to the side of the chassis.

2. Refer to ❶ in Figure 28 and slide the power supply toward the front of the chassis approximately 1 inch.

3. Remove the protective strip from the adhesive on the EMI gasket.

4. Carefully slip the gasket into the chassis between the power supply and the rear panel and attach it to the chassis just below the power cord connector cut-out as shown at ❷ in Figure 28.

5. Slide the power supply back into its original position and secure it to the chassis with the screws previously removed.

9674-29
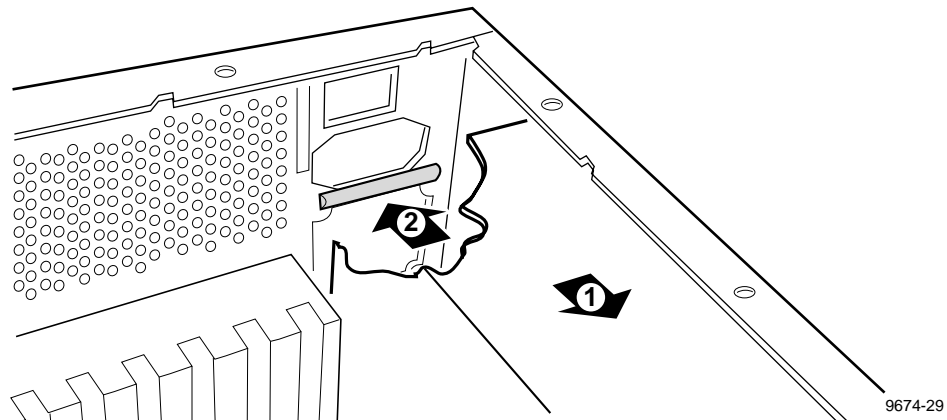
Figure 28. Installing the EMI Gasket

Attaching Slot ID Stickers

Two sets of self-adhesive stickers are included as part of the Fibre Channel kit. One set is for the new boards. The other set allows you to re-identify slots as a result of any board movement which was necessary due to installation of the Fibre Channel kit. Figure 29 shows the locations for the new stickers. If you need additional or different stickers, contact your Grass Valley Group representative.

Fibre Channel **EDR Master** **EDR Slave**   **10/100 Base T Ethernet**

9674-22
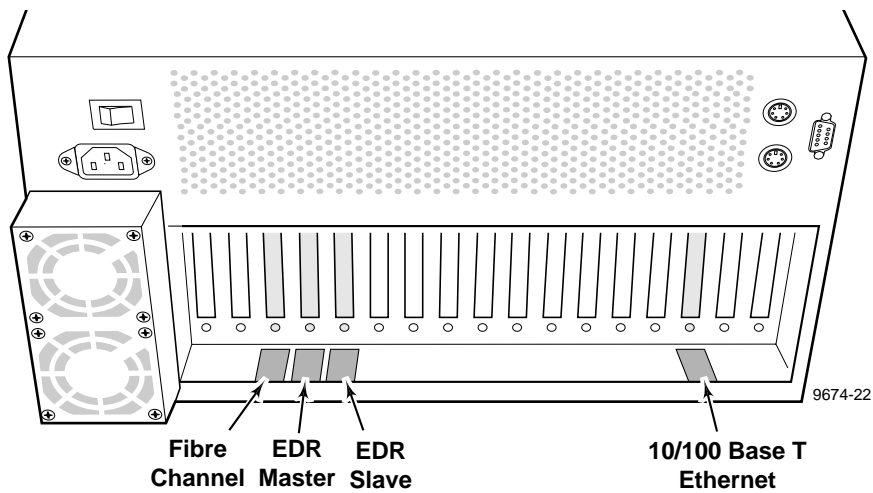
Figure 29. Sticker Slot IDs for New Boards

Replacing the Profile Covers

See Figure 30 and replace covers as follows:

1. Set board area cover ❶ in place and use the Torx tool with the T10 bit to replace the twelve cover screws; eight on top and four from the side.

2. Set disk drive cover ❷ in place and use the Torx tool with the T10 and T15 tips to replace the cover with the screws previously removed.

NOTE: Your PDR 100 may have more disk drive cover screws than shown in Figure 30.

Figure 30. Profile Cover Replacements

Reinstalling the Profile Chassis into the Rack

To reinstall the Profile chassis into the equipment rack:

WARNING: Unless the equipment rack is adequately anchored, it 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.

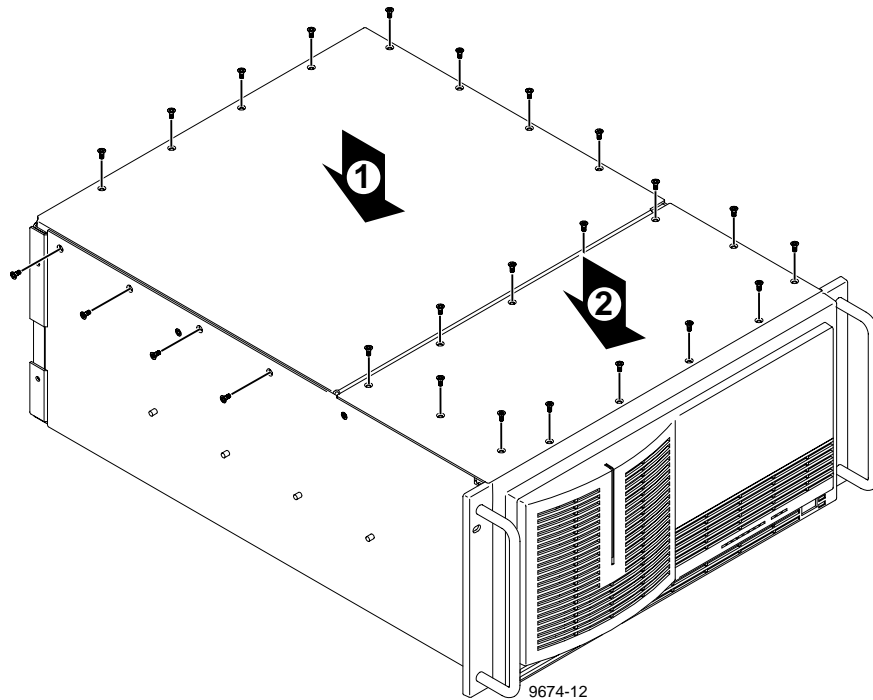*WARNING: The Profile chassis is too heavy for one person to install in an equipment rack. To avoid possible injury to personnel or damage to the equipment, get help when re-installing the Profile chassis into the rack.*

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

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

3. Tighten the retaining screw to secure the Profile chassis in the rack.

Cable Connections

1. If you are using more than two Profile systems, connect the 5 meter Fibre Channel cable from the Fibre Channel board connector on the rear panel to the Fibre Channel hub. See the Fibre Channel Hub manual for instructions on how to install the Fibre Channel Hub.

   Note that if connection to the Fibre Channel hub is farther than 25 meters from the Profile systems, you will need to use fiber-optic cable and the copper-to-fiber adapter shown in Figure 4, page 22.

   For two Profile systems, connect the Fibre Channel cable between the Fibre Channel board connectors on the rear panels of the Profile chassis.

2. Connect the 5.49 meter Ethernet cable from the LAN connector on the rear panel to the LAN hub. (See the Ethernet Hub manual for instructions on how to install the Ethernet Hub.)

3. Re-connect all other previously removed cables.

4. Re-connect the power cord.

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

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

Installation Verification

Verification of installation of the Fibre Channel upgrade consists of ensuring that the system recognizes the MEDR, SEDR, and Fibre Channel boards. Use the Diagnostics window, which lists all installed and recognized boards, to see if the system recognizes the boards. To check for board recognition:

1. Open the Diagnostics window by selecting **PDR Debug Tools | PDR Diagnostics**.

2. On the left side of the window, ensure that Fibrechannel I/F, Master EDR, and Slave EDR appear at the slots in which you installed them (see Figure 31 for an example).

3. You must now configure the Fibre Channel board for use in your video network environment. Refer to the *Profile Family User Manual* for information on how to do this.

.

Slot J1	**Pentium CPU**
Slot J2	**Non-EISA slot**
Slot J3	**SMCA010**
Slot J4	**BUS4202**
Slot J5	
Slot J6	
Slot J7	**Serial Cmpnt I/O (Rev 2)**
Slot J8	**Audio**
Slot J9	**Audio**
Slot J10	**Serial Cmpnt I/O (Rev 2)**
Slot J11	**Audio**
Slot J12	**Audio**
Slot J13	**Slave EDR (Rev 0)**
Slot J14	**Master EDR (Rev 0)**
Slot J15	**Fibrechannel I/F (Rev 0)**
Slot J16	**Ref Gen (4 LTC) (Rev 0)**
Slot J17	**RS422, if installed**
Mother Bd	**Mother Board (Rev 0)**
Quit	

Figure 31. Diagnostics Window Board Recognition Example

Configuring the System

Configuring the system involves completion of the tasks listed below.

- System Set-up for Ethernet

- Configuring the Ethernet Board for TCP/IP

- Configuring the Fibre Channel Board

System Set-up for Ethernet

If you are going to use an Intel Ether Express 16 10 BaseT Ethernet board, perform A below. If you have installed the SMC 10/100 BaseT Ethernet board supplied with this upgrade kit, perform B below.

A. For the Intel board:

    1. Reboot the Profile system and log in as administrator.

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

    3. Reboot the system.

    4. Proceed to "Configuring the Ethernet Board for TCP/IP" on page 75.

B. For the SMC board:

    1. Double click on the **Load CMOS** icon in the PDR Debug group.

    2. Reboot the Profile system and log in as administrator.

    3. Ensure that you are in the directory where the Profile software is installed (usually c:\profile).

    4. Open the Control Panel and double click on the **Network** icon.

    5. In the list of adapters, highlight the **Intel Ether Express Adapter** and click on the **Remove Adapter** button.

    6. Click on the **Add Adapter** button, select **Other** (at the end of the list), and then click **Continue**.

    7. When prompted for the directory, type **c:\profile\drivers\smc** and press Return.

    8. Select **OK** at the Select OEM Option prompt.

    9. When prompted, choose **10Mbps** and then select OK.

    10. Click OK in the Network dialog box.

    11. When prompted for the TCP/IP configuration, proceed to "Configuring the Ethernet Board for TCP/IP" below.

Configuring the Ethernet Board for TCP/IP

NOTE: If you are connecting to an existing TCP/IP network, you must contact your network administrator before proceeding with TCP/IP configuration. Please review this procedure and the Fibre Channel network information with your network administrator.

The following steps assume that you are not connecting to an existing TCP/IP network. If you are, see the note above.

1. From Control Panel/Networks, bring up the TCP/IP configuration dialog box.

2. You must fill in two fields in the TCP/IP dialog box; IP Network Address and Subnet Mask. For the IP Network Address, Grass Valley Group recommends the following numbering convention. Note that each Profile **must** have a unique IP address.

    For the first profile, use 128.181.1.1
    For the second profile, use 128.181.1.2
    For the third profile, use 128.181.1.3
    etc. …

3. For the Subnet mask, use the same value on all Profiles: 255.255.255.0 and then click **OK**.

Testing Your Ethernet Connection

To test your Ethernet connection:

1. Power off and then reboot the Profile.

2. Verify TCP/IP connectivity between Profiles by opening a command prompt window and typing **ping 128.181.1.n**, where n is the number for this Profile.

3. Repeat step 2 for at least one other Profile in the network.

Configuring Your Fibre Channel Network

Configuring your Fibre Channel network requires that you perform software setup tasks, such as:

- Setting the Fibre Channel hardware address.

- Setting the TCP/IP address for your Fibre Channel network.

See the *Profile Family User Manual* for information about how to perform the above tasks and how to use the Fibre Channel video network.

If a Problem Occurs

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 **PDR Diagnostics**. The **Diagnostics** window appears.

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

> `Checking availability of VDR Services. Please wait`

This message stays on screen for approximately one minute and you may then proceed. If the message remains on the screen, restart the Profile system and the Diagnostics program. If the message still remains, contact Grass Valley Group 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, choose **Done** in the Master EDR board menu.

7. 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 boards. Because the DMA test waits for completion of the Fibre Channel board initialization before proceeding, it may take a minute or more to complete the DMA test.

   Once you have checked the Master EDR, 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. On a system with several optional boards,

this may take 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.