Installation Manual

Tektronix

Profile

PDR200 & PDR300

Video File Servers

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Manual Revision Status

PRODUCT: Profile PDR200 & PDR300 Video File Servers

REV DATE	DESCRIPTION
April, 1997	Initial release of Installation Manual 070-9676-00
May, 1997	Procedure change, roll Part Number to 070-9676-01
September, 1997	Add Analog Composite I/O and Monitor Boards, remove Fibre Channel user information, roll P/N to 070-9676-02
January, 1998	Change slot positions for systems above S/N B030000, roll P/N to 070-9676-03
June, 1998	Added PDR300 with MPEG, PDR200 slot positions change for systems above S/N B040000, roll P/N to 070-9676-04.

Tektronix 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 (800) 547-8949

Europe

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Austria	02236-8092-400	Netherlands	0513-656395
Belgium	02-715-89-92	Norway	22-07-07-15
Denmark	44-85-07-06	Spain	091-3726050
Finland	0947-834205	Sweden	08-6296597
France	01-69-86-83-45	Switzerland	041-72-93-625
Germany	0221-9477-444	United Kingdom	01628-405810
Italy	02-25086600	Other	44-1628-405817

Email: EuroProfile@tek.com

Asia and South America

Australia	61-2-888-7066	Korea	82-2-528-5299
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Hong Kong	852-2585-6688	Singapore	65-356-3900
Japan	81-3-3448-3111	Taiwan	886-2-765-6362

World Wide

24-hour Emergency Hotline (503) 685-2345 (Contract and warranty customers)

World Wide Web	http://www.tek.com/VND/support
FTP Site	ftp.tek.com
Email	ProfileSupport@tek.com

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Safety Summaries

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.

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

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.

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.

Canadian Certified AC Adapter

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

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

Chapter 1

Introduction

Scope

This is the Installation manual for Tektronix Profile Video File Server model 200 (PDR200) and model 300 (PDR300), see Figure 1-1. The Installation manual provides an overview of the Profile Video File Server and descriptions of the tasks listed below:

- Installing the video file server into an equipment rack.
- Connecting Video and Audio I/O.
- Connecting SCSI devices.
- Connecting Fibre Channel and LAN.
- Configuring LAN.
- Power On/Off procedures.

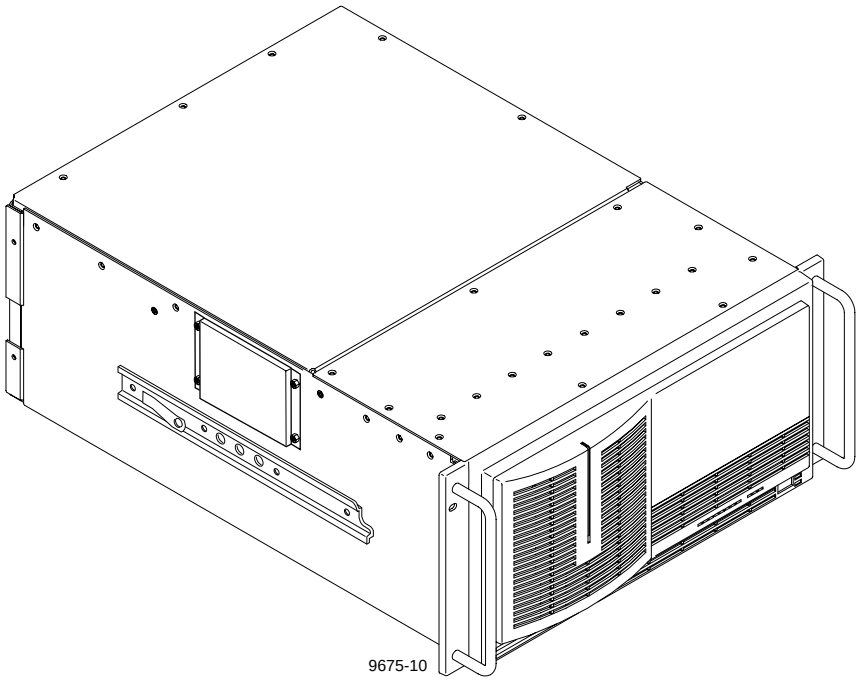


Figure 1-1. The Profile Video File Server

Related Documentation

Profile Family User Manual

PDR200 & PDR300 Service Manual

Profile Release Notes

PDX208 Disk Expansion Chassis Instruction Manual

Windows NT Instruction Manual

Organization of the Manual

The Installation manual is divided into the chapters identified and described below.

Chapter 1 - Introduction: This chapter describes the contents of the manual and provides a brief overview of the Profile Video File Server. It includes configuration and board location information.

Chapter 2 - Mechanical Installation: This chapter describes the physical installation of the system up to initial power-on.

Chapter 3 - Starting Your Profile System: This chapter consists of procedures to turn system power On and Off, to set up the system, and to verify correct installation of the Profile Video File Server.

Chapter 4 - Networking Your Profile System: This chapter describes the Ethernet and Fibre Channel networking used in the Profile Video File Server, including connections.

Appendix A - Specifications: This appendix consists of physical and electrical specifications and environmental criteria.

Appendix B - Connector Pin-outs: This appendix identifies certain connectors and the signals present and the pins of those connectors.

Product Description

The Profile Video File Server is a disk-based video file server with enhanced record and playback quality, and rapid storage/retrieval capabilities. In addition to the advantage of not having to load tape as with VTRs, the Profile Video File Server occupies less rack space and is fully computer controlled.

The PDR200 provides up to four Motion-JPEG encoders/decoders (CODECs) in a flexible system which starts with four base configurations: two are for 2-channel Profile systems and two are for 4-channel Profile systems. These base configurations can be ordered with analog or digital inputs and outputs. Each configuration is then tailored, through factory installed options, to meet your site-specific needs. Many options may be easily added to your PDR 200 as your needs change and expand. For information on adding options, contact your Tektronix representative.

A two-channel system (PDR202) is equipped with a single Master Enhanced Disk Recorder board, which provides two JPEG codecs, and two SCSI busses, SCSI A and SCSI B, although SCSI B may not be available on all models. A four-channel system (PDR204) adds a Slave Enhanced Disk Recorder, which provides two additional JPEG codecs and two more SCSI busses (SCSI C and SCSI D).

The PDR300 adds factory-installed MPEG encoders and decoders to the Profile Video File Server, while retaining all the capabilities and optional configurations of the PDR200. Two MPEG boards, one with one encoder and two decoders, the other with four decoders, provide many combinations of capabilities to meet your needs.

The Profile Video File Server is mounted on rack slides for installation in a standard electronic equipment rack. All connections to the Profile Video File Server are on the rear panel (see Chapter 2, “Mechanical Installation”). Also see Appendix A, “Specifications”, for physical and electrical specifications and environmental criteria

Product Features

Record/playback and storage/retrieval applications for the Profile Video File Server run in the Windows NT™ environment. The Windows NT operating software is loaded on the dedicated system hard disk, which is also used for application storage. Control is via an internal Pentium-based CPU board.

Other features include:

- An S-VGA circuit board to support an optional S-VGA monitor.
- Control interfaces for:
  - RS-232 (two rear panel ports)
  - RS-422 (eight ports through a single rear panel connector)
  - Keyboard and mouse
- Front panel controls and indicators.

Front Panel Controls and Indicators

The Profile Video File Server front panel, shown in Figure 1-2, consists of the controls and indicators keyed to Figure 1-2 and briefly described below.

❶ Floppy Disk Drive access for loading operating system software or specific application software. The drive accepts standard 3-1/2-inch double density (720KB) or high density (1.44MB) floppy diskettes.

❷ Green LED indicator lighted when both the power switch on the rear panel and the one on the front panel (see ❺ below) are On.

❸ Eight green LED indicators, labeled **DISK ACCESS,** show disk activity. They are mapped right to left to the physical location of each hard disk drive in the chassis and flash on when activity occurs on the associated disk. On a system with only four disk drives, every other LED beginning from the right will be enabled. An LED that never flashes on or remains on may indicate a problem with the associated disk. If you do not have any internal disk storage, which is an option, these LEDs remain off.

❹ Three red Trouble LED indicators. When lighted they provide warnings of (from the left):

SYS FAULT (system failure);
FAN FAULT (failure of one or more fans)
OVER TEMP (not used)

❺ The **STANDBY/ON** switch provides system On/Off control (the same as pressing the rear panel On/Off switch). Both must be On for operation of the Profile Video File Server.

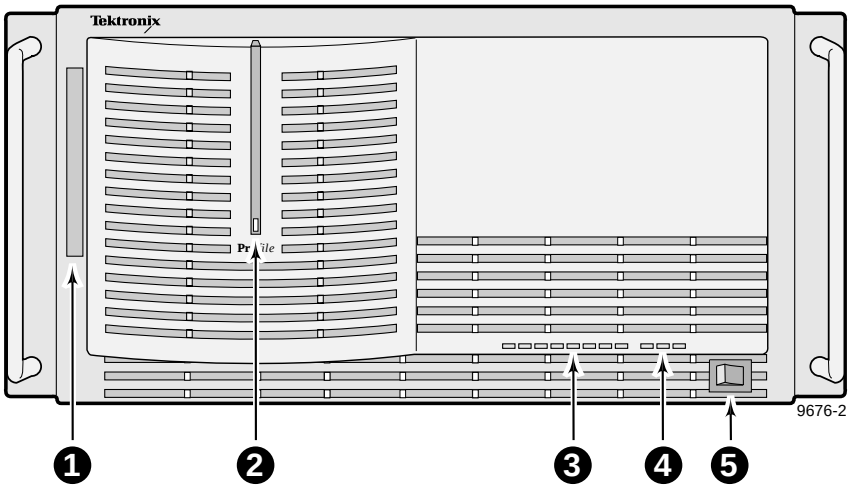


Figure 1-2. Profile Video File Server Front Panel

Accessories

There are two types of accessories for the Profile Video File Server: Standard and Optional. Standard Accessories are those items required to install and operate the Profile Video File Server. They are shipped with your Profile system. Optional accessories expand Profile Video File Server capabilities, simplify installation, or aid in servicing. Optional accessories are available through Tektronix.

Standard Accessories

A Profile Video File Server shipment includes the following items:

- 1 Manual, Profile Family User (Tektronix part number 071-0230-XX)
- 1 Manual, Installation (Tektronix part number 070-9676-XX)
- Release Notes (Tektronix part number 061-4150-XX)
- Software Package which includes the latest version of Profile System Software and an Emergency Repair diskette.
- Windows NT with instruction book
- 1 Keyboard (Tektronix part number 119-4899-XX)
- 1 Mouse (Tektronix part number 119-4330-XX)
- EMI Suppression Gaskets for BNC Connectors (Tektronix part number 016-1448-XX)
- Cable Assemblies, Power (161-0123-00 for US and Japan; 161-0066-09 for Europe; 161-0066-10 for the United Kingdom; or 161-0066-11 for Australia)
- 1 RS-422 Connector Panel and cable
- 1 Set of rack-mounting slides
- Ethernet cable

Optional Accessories

If ordered, Tektronix provides the optional accessories listed below. Contact your nearest field office or distributor for more information.

- Ethernet Hub (for Ethernet connections)
- Fibre Channel Hub (for Fibre Channel networking)
- Optical Media Interface Adapter, copper-to-fiber.
- S-VGA Monitor
- PAC208/216 Analog/Digital Profile Audio Chassis
- XLR216 Breakout Panel
- PDX208 Disk Drive Expansion Chassis
- 1 SCSI Terminator (011-0166-00)
- 1 XLR216/BNC216 Digital Breakout Panel
- Eight-connector DB25-XLR breakout cable for longitudinal time code I/O, 6 ft. (Tektronix part number 174-3249-XX)
- Eight-connector breakout cable, with DB25 connector, 24 ft.(Tektronix part number 174-3481-XX)
- External CD ROM drive (Tektronix part number 119-5514-XX)
- Service Manual (070-9675-XX)

Configurations

The Profile Video File Server is available in several factory installed configurations. Table 1-2 lists the available JPEG CODECs, MPEG encoders, and MPEG decoders that are available on each model. Table 1-2 on page 8, Table 1-3 on page 9, and Table 1-4 on page 10 list the various video I/O configurations, as well as the locations of all the boards in the system.

In the tables, note that factory installable option boards are shaded.

Table 1-1. Profile Video File Server Model Descriptions

Model Number	Number of JPEG CODECs	Number of MPEG Encoders	Number of MPEG Decoders	Video I/O Type
PDR202A	2	0	0	Analog
PDR204A	4	0	0	Analog
PDR202A	2	0	0	Digital
PDR202D	4	0	0	Digital
PDR308A	0	0	8	Analog
PDR308D	0	0	8	Digital
PDR312A	2[a]	1	2	Analog
PDR312D	2[a]	1	2	Digital
PDR316A	2[a]	1	6	Analog
PDR316D	2[a]	1	6	Digital
PDR324A	4	2	4	Analog
PDR324D	4	2	4	Digital

[a] 4 if optional Fibre Channel is installed

Table 1-2. PDR200 Factory Standard Configurations with Installable Options

Slot	PDR202A	PDR202D	PDR204A	PDR204D
J1	System CPU	System CPU	System CPU	System CPU
J2	System SVGA	System SVGA	System SVGA	System SVGA
J3	System LAN	System LAN	System LAN	System LAN
J4	System SCSI	System SCSI	System SCSI	System SCSI
J5	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU
J6	Video Mix Effects	Video Mix Effects	Video Mix Effects	Video Mix Effects
J7	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU
J8	Video I/O Serial Digital Component	Video I/O Analog Composite	Video I/O Serial Digital Component	Video I/O Analog Composite
J9	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel
J10	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master
J11			Disk Recorder Slave	Disk Recorder Slave
J12	Monitor Analog Composite *or* Video Out Analog Composite	Monitor Analog Composite *or* Video Out Analog Composite	Monitor Analog Composite *or* Video Out Analog Composite	Monitor Analog Composite *or* Video Out Analog Composite
J13	Video In Analog Component	Video In Analog Component	Video In Analog Component	Video In Analog Component
J14	Video I/O Analog Composite	Video I/O Serial Digital Component	Video I/O Analog Composite	Video I/O Serial Digital Component
J15			Video I/O Analog Composite	Video I/O Serial Digital Component
J16	Reference / Timecode	Reference / Timecode	Reference / Timecode	Reference / Timecode
J17	RS422	RS422	RS422	RS422

Table 1-3. PDR308 and PDR312 Factory Standard Configurations with Installable Options

Slot	PDR308A	PDR308D	PDR312A	PDR312D
J1	System CPU	System CPU	System CPU	System CPU
J2	System SVGA	System SVGA	System SVGA	System SVGA
J3	System LAN	System LAN	System LAN	System LAN
J4	System SCSI	System SCSI	System SCSI	System SCSI
J5	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU
J6	Video Out Analog Composite	Video I/O Serial Digital Component	Video Mix Effects *or* Monitor Analog Composite	Video Mix Effects *or* Monitor Analog Composite
J7	Audio I/O Digital AES/EBU *or* Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite
J8	MPEG Video Decoder	MPEG Video Decoder	MPEG Video Encoder/Decoder	MPEG Video Encoder/Decoder
J9	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel
J10	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master
J11			Disk Recorder Slave[a]	Disk Recorder Slave[a]
J12	MPEG Video Decoder	MPEG Video Decoder		
J13	Video I/O Serial Digital Component	Video I/O Serial Digital Component	Video I/O Serial Digital Component	
J14	Video I/O Analog Composite	Video I/O Serial Digital Component	Video I/O Analog Composite	Video I/O Serial Digital Component
J15	Video I/O Analog Composite	Video I/O Serial Digital Component		
J16	Reference / Timecode	Reference / Timecode	Reference / Timecode	Reference / Timecode
J17	RS422	RS422	RS422	RS422

[a.] Required if optional Fibre Channel is installed.

Table 1-4. PDR316 and PDR324 Factory Standard Configurations with Installable Options

Slot	PDR316A	PDR316D	PDR324A	PDR324D
J1	System CPU	System CPU	System CPU	System CPU
J2	System SVGA	System SVGA	System SVGA	System SVGA
J3	System LAN	System LAN	System LAN	System LAN
J4	System SCSI	System SCSI	System SCSI	System SCSI
J5	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU	Audio I/O Digital AES/EBU
J6	Video Out Analog Composite	Video Mix Effects *or* Monitor Analog Composite	Video Mix Effects *or* Monitor Analog Composite	Video Mix Effects *or* Monitor Analog Composite
J7	Audio I/O Digital AES/EBU or Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite	Audio I/O Digital AES/EBU or Monitor Analog Composite
J8	MPEG Video Encoder/Decoder	MPEG Video Encoder/Decoder	MPEG Video Encoder/Decoder	MPEG Video Encoder/Decoder
J9	Fibre Channel	Fibre Channel	Fibre Channel	Fibre Channel
J10	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master	Disk Recorder Master
J11	Disk Recorder Slave[a]	Disk Recorder Slave	Disk Recorder Slave	Disk Recorder Slave
J12	MPEG Video Decoder	MPEG Video Decoder	MPEG Video Encoder/Decoder	MPEG Video Encoder/Decoder
J13	Video I/O Serial Digital Component	Video I/O Serial Digital Component	Video I/O Serial Digital Component	
J14	Video I/O Analog Composite	Video I/O Serial Digital Component	Video I/O Analog Composite	Video I/O Serial Digital Component
J15		Video I/O Serial Digital Component	Video I/O Analog Composite	Video I/O Serial Digital Component
J16	Ref Gen	Ref Gen	Ref Gen	Ref Gen
J17	RS422	RS422	RS422	RS422

[a]. Required if optional Fibre Channel is installed.

Configuration Stickers

You may check/identify your configuration, including factory installed options, by looking at the bottom panel just below the rear panel board connectors. A configuration sticker, which identifies the board installed in the slot above the sticker, has been attached to assist you in making connections to your Profile system. Figure 1-3 shows the location of the configuration stickers.

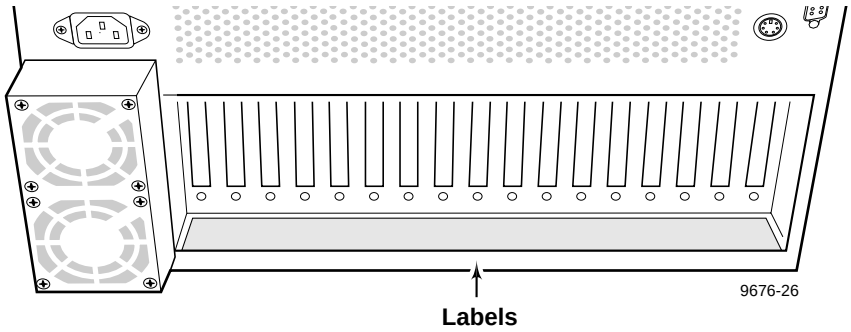


Figure 1-3. Configuration Stickers Locations

Chapter 2

Mechanical Installation

This chapter describes the mechanical installation of your Profile Video File Server into an equipment rack and the connection of cables to the rear panel. The chapter includes examples of connections to peripheral equipment such as the PDX208 storage expansion chassis, the PRS250 RAID Storage chassis. See the appropriate manuals for installation instructions for peripheral equipment. The information here covers:

- Mounting the Profile Video File Server and the Profile Audio Chassis (PAC208/216) in the rack.
- Mounting the RS-422 Connector Panel, the XLR216 panel (or the BN216 panel), and the PAC216 Audio Breakout panel.
- Making Profile Video File Server rear panel cable connections.
- Making other system connections.

Rack Mounting

The equipment for the Profile Video File Server system installs in a standard 19-inch equipment rack. Rack slide tracks shipped with the Profile Video File Server and the Profile Audio Chassis allow them to slide in and out without having to remove them from the rack. However, if the rack does not already have rack slides installed, or if the slides are not correctly positioned, you will have to use those shipped with the Profile Video File Server.

When determining the location of the Profile Video File Server in the rack, bear in mind that the chassis with a full complement of disk drives weighs approximately 70 pounds. Observe the following warnings:

WARNING: To prevent injury, two people are required to lift the Profile Video File Server. The Profile Video File Server is too heavy for one person to install in the rack.

WARNING: To prevent serious injury, insure that the rack is anchored to the floor so that it cannot tip over when the Profile Video File Server is extended out of the rack.

Mounting the Slide Tracks in the Rack

Figure 2-1 shows the components of a right-hand rack slide set. Note that the chassis sections are already attached to the Profile Video File Server and PAC208/216. When mounting rack slides in the equipment rack, bear the following in mind:

- The Profile Video File Server occupies 5 rack units (RUs).
- The PAC208/216 occupies 2 RUs

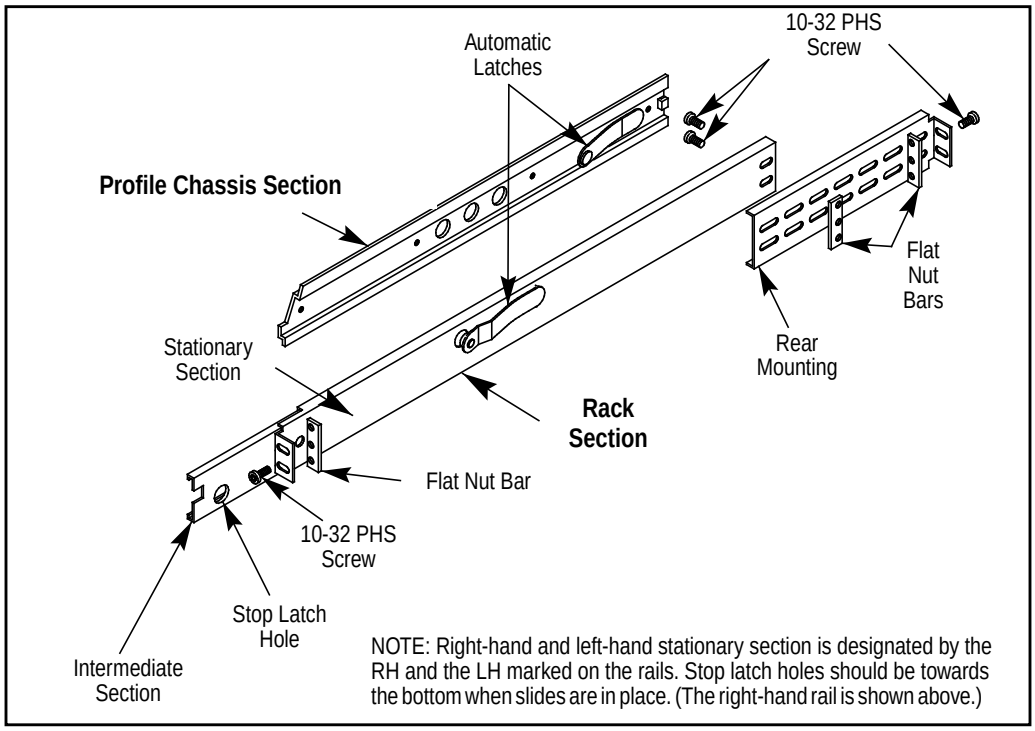


Figure 2-1. Rack Slide Set for Right Side of Profile Chassis and Rack

From Figure 2-2, choose the proper set of rail mounting holes on the rack. Notice that the hole spacing can vary with the rack type. When mounting the slides in racks with EIA spacing, make sure that the slides are attached to the 0.5-inch spaced holes.

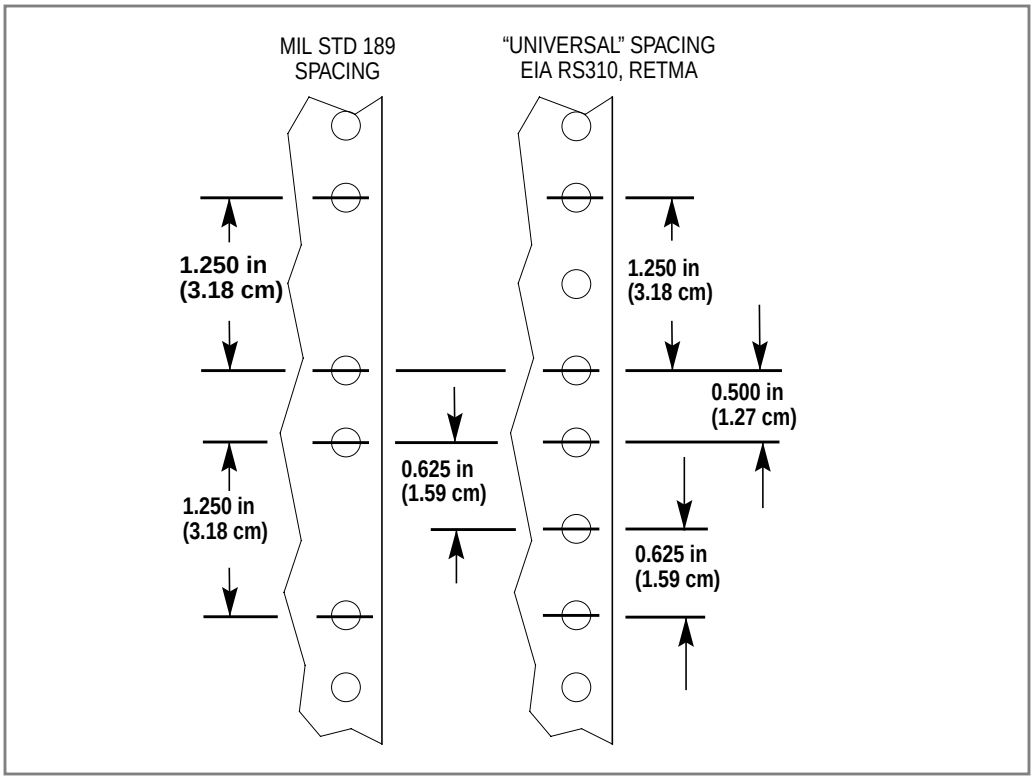


Figure 2-2. Spacing Specification for Mounting Holes in a Rack

Figure 2-3 and Figure 2-4 show front and rear rail mounting details for both deep and shallow racks. Mount the rails using the enclosed hardware. Make sure the stationary sections are horizontally aligned and are level, as well as parallel to each other.

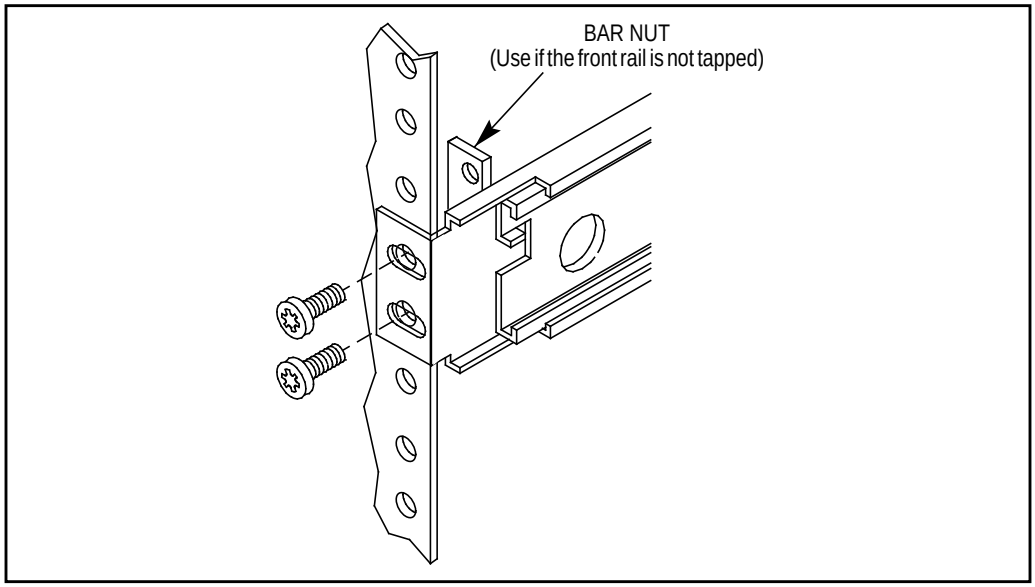


Figure 2-3. Front Rail Mounting Detail

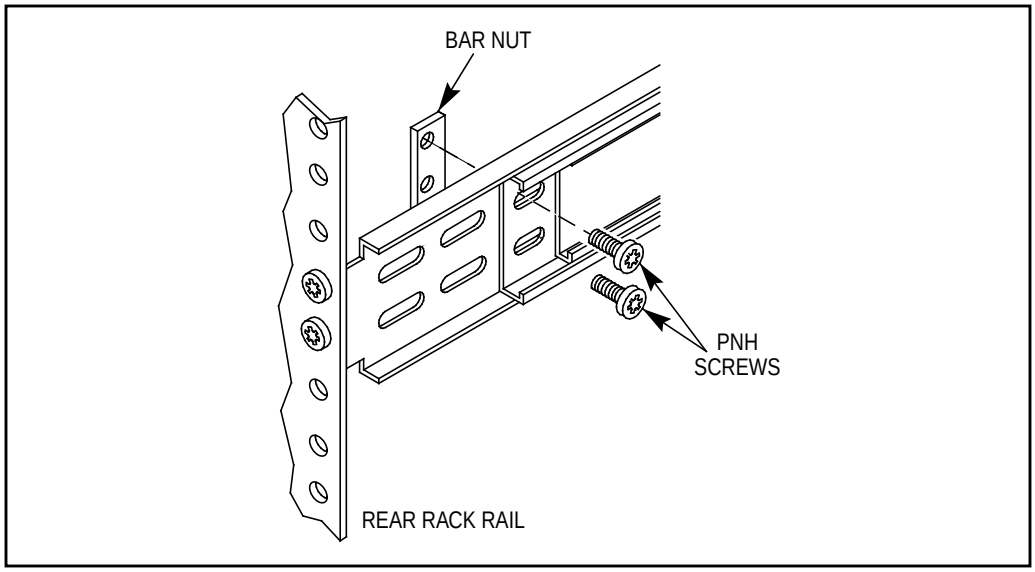


Figure 2-4. Rear Rail Mounting Detail

Mounting the Profile Video File Server

In addition to room to make cable connections, the Profile Video File Server requires six inches (15.25 cm) of clearance behind the rear panel for connectors and cable bends. Insure adequate air flow around the chassis to provide sufficient cooling. (Operating ambient temperature will affect the amount of air circulation required to keep the Profile Video File Server within its temperature limitations.)

1. Pull the slide-out track section to the fully extended position. See Figure 2-5.

⚠ ***WARNING: To prevent injury, two people are required to lift the Profile Video File Server. It is too heavy for one person to install in the rack.***

⚠ ***WARNING: To prevent serious injury, insure that the rack is anchored to the floor so that it cannot tip over when the Profile Video File Server is extended out of the rack.***

2. Insert the ends of the chassis sections into the slide-out sections.
3. Push the chassis toward the rack until the chassis sections lock into the intermediate sections.
4. Press the stop latches in the intermediate sections and push the chassis toward the rack until the latches snap into their holes.

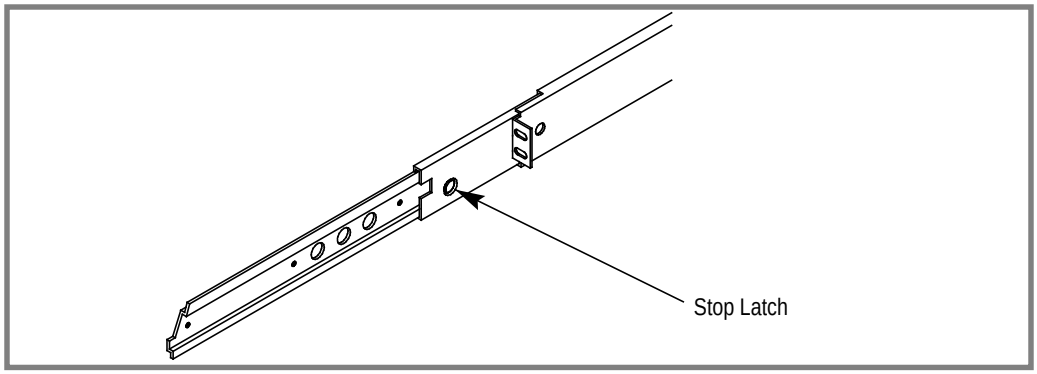


Figure 2-5. Rack Slide Stop Latch

5. Again, press the stop latches and push the cabinet fully into the rack.
6. Insert and tighten the front panel retaining screws.

Making Rack Slide Adjustments

After installation, binding may occur if the slide tracks are not properly adjusted. To adjust the tracks:

1. Slide the chassis out approximately 10 inches.
2. Slightly loosen the mounting screws holding the tracks to the front of the rails and allow the tracks to seek an unbound position.
3. Tighten the mounting screws and check the tracks for smooth operation by sliding the chassis in and out of the rack several times.
4. Tighten the front panel retaining screws once the cabinet is in place within the rack to complete the installation.

Mounting Panels

The panels listed below mount at the back of the rack with four pan head screws. Ensure that there is room to make cable connections and mount in any order which allows connection to the Profile Video File Server.

- The RS-422 Connector Panel is 1 RU high with the mounting holes spaced 1.250 inches (3.175 cm) apart.
- The XLR 216 is 2 RUs high with holes spaced 3.000 inches (7.62 cm) apart.
- The BNC 216 is 1 RU high with holes spaced 3.000 inches (7.62 cm) apart.
- The PAC 216 Audio Breakout panel is 2 RUs high with holes spaced 3.000 inches (7.62 cm) apart.

Making Rear Panel Connections

Because of the flexible configurations of the Profile Video File Server, not all of the rear panel connections described here may apply to your Profile system. The connections are described as though all factory installable options were in fact installed. As you go through these instructions, simply ignore a board you do not have installed. Note that any rear panel slot which does not have a board installed will have a blank cover over the rear panel slot.

NOTE: Insure that power switches of all equipment to be installed are in the Off (0) positions.

To insure compliance with EMI standards, all BNC cable connections require that an EMI suppression gasket be attached as shown in Figure 2-6. Your Profile system shipment included a set of gaskets.

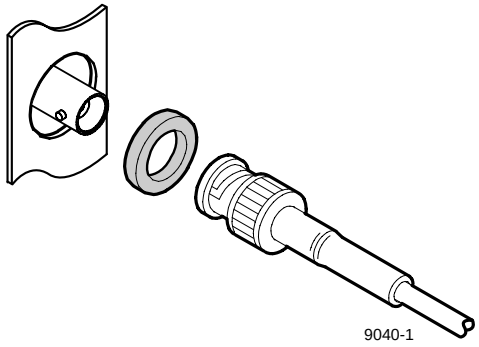


Figure 2-6. BNC Connection With EMI Gasket

Connecting the Mouse and Keyboard

The Profile Video File Server provides two sets of connectors for the mouse and keyboard (see Figure 2-7). One set, labelled **Keyboard** and **Mouse**, is on the upper right corner of the rear panel and the other set resides on the Pentium-based System CPU board in board Slot J1, which is standard on all Profile Video File Server configurations.

Tektronix recommends using the labelled connectors on the rear panel.

If using the set on the System CPU board, connect the Mouse cable to the bottom circular 6-pin connector and the Keyboard cable to the top circular 6-pin connector.

NOTE: Only one mouse and one keyboard can be connected to the Profile Video File Server at the same time.

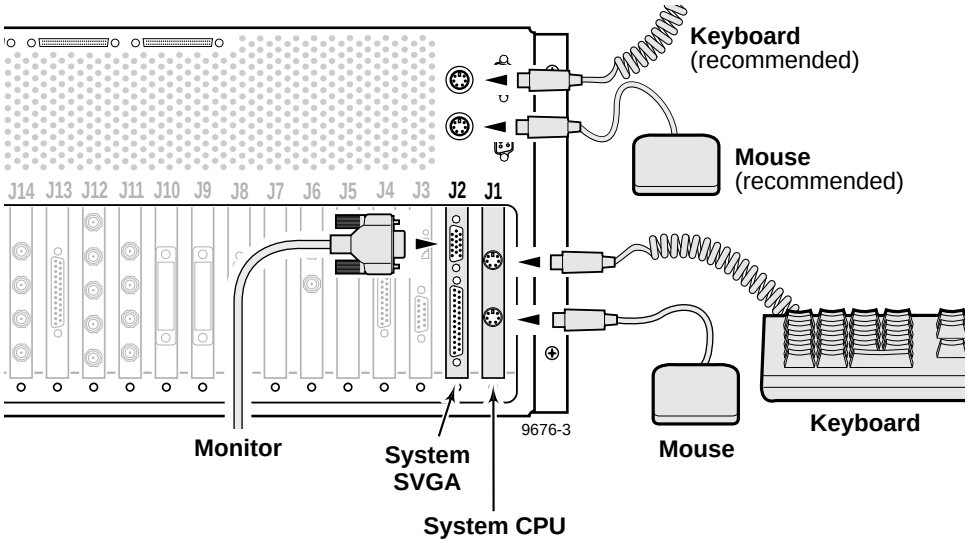


Figure 2-7. Mouse, Keyboard, and SVGA Monitor Connections

Connecting the Monitor

Slot J2 contains the VGA interface board. The board provides a monitor connector and a Parallel Port connector.

Connect the SVGA Monitor cable to the 15-pin connector (see Figure 2-7 for location).

Connecting the Reference Genlock

The Profile Video File Server provides a Reference Genlock board, standard on all configurations, with two BNC connectors and a 25-pin DIN connector. The BNC connectors form a bridging, high impedance loop-through for the house reference signal. This signal synchronizes the video clock and provides field reference. The 25-pin DIN provides Longitudinal Time Code interfaces, four in and four out. See Figure 2-8.

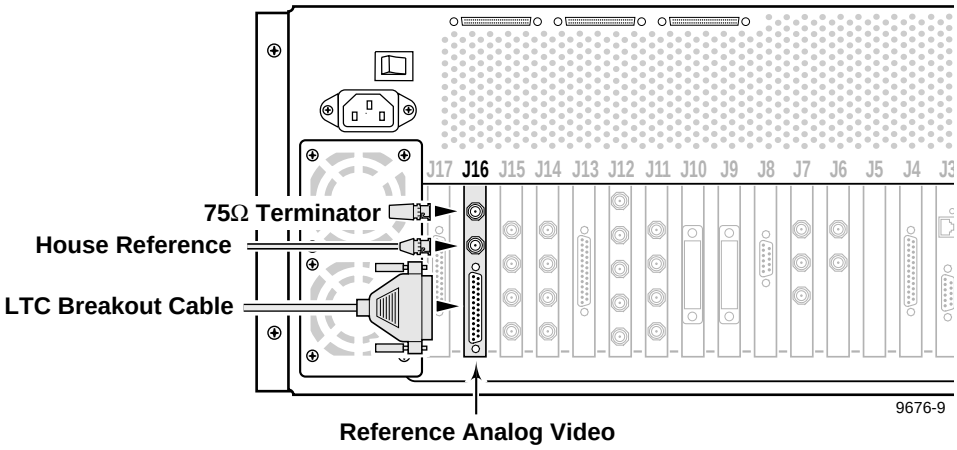


Figure 2-8. Reference Genlock Cable Connections

To make cable connections to the Reference Genlock board, refer to Figure 2-8 and:

1. Attach the optional Longitudinal Time Code breakout cable (Figure 2-9) to the 25-pin DIN connector.

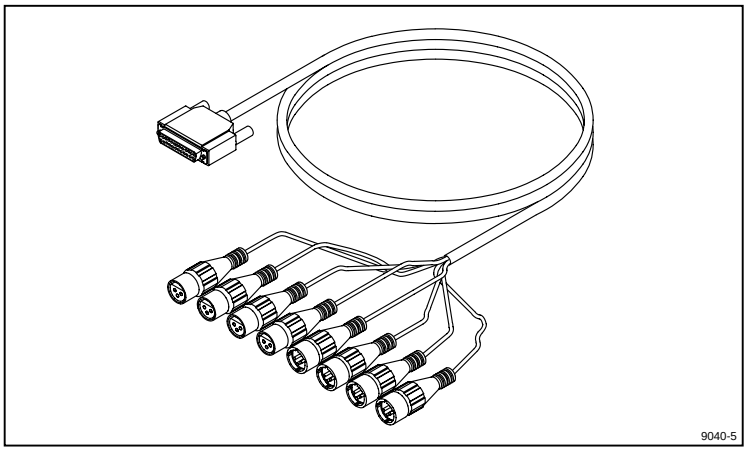


Figure 2-9. Breakout Cable

2. Place EMI gaskets on the BNC connectors as shown in Figure 2-6, page 1-7.
3. Attach the House Reference (Black Burst) BNC cable to the lower BNC connector.
4. Attach a 75Ω End-line Terminator to the upper BNC connector.

Connecting Video

The Profile Video File Server supports digital and analog composite and component video formats. The video connections you make depends on your Profile Video File Server configuration.

Connecting Serial Digital Video

The Profile Video File Server allows Serial Digital Video I/O board installations for two channels of serial digital input and output per board. Refer to Tables 1-2, 1-3, and 1-4 on pages 1-8, 1-9, and 1-10, to determine the slot location of this board in your system. Figure 2-10 shows serial digital cable connections for a typical location, slot J14.

1. Place EMI gaskets on the four BNC connectors as shown in Figure 2-6, page 1-7.
2. Attach two BNC cables from serial digital sources to the IN A and IN B connectors.
3. Attach two BNC cables to serial digital sources to the OUT A and OUT B connectors.

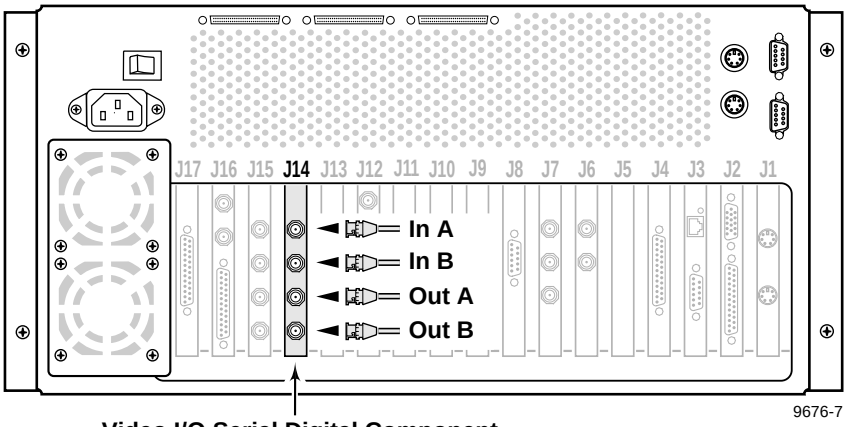


Figure 2-10. Serial Digital I/O Cable Connections Example

Connecting Analog Composite Video I/O

The Profile Video File Server may include one or more an Analog Composite Video In/Output boards. Refer to Tables 1-2, 1-3, and 1-4 on pages 1-8, 1-9, and 1-10, to determine the slot location of this board in your system. Figure 2-11 shows analog composite video cable connections for a typical location, slot J14.

The Analog Composite I/O board accepts two composite analog video inputs, and provides two composite analog video outputs. The board is also equipped with an S-Video connector, which allows video input to the Profile system directly from a source such as a video cassette recorder. However, the S-Video device takes the place of one of the inputs (either In A or In B). The board provides time base correction for any one input. If the Analog Composite Video I/O board is installed, refer to Figure 2-11 for an example and:

1. Place an EMI gasket on the BNC connectors being used as shown in Figure 2-6, page 1-7.
2. Connect analog composite input and output cables to the Analog Composite I/O board. See Figure 2-11 for an example.

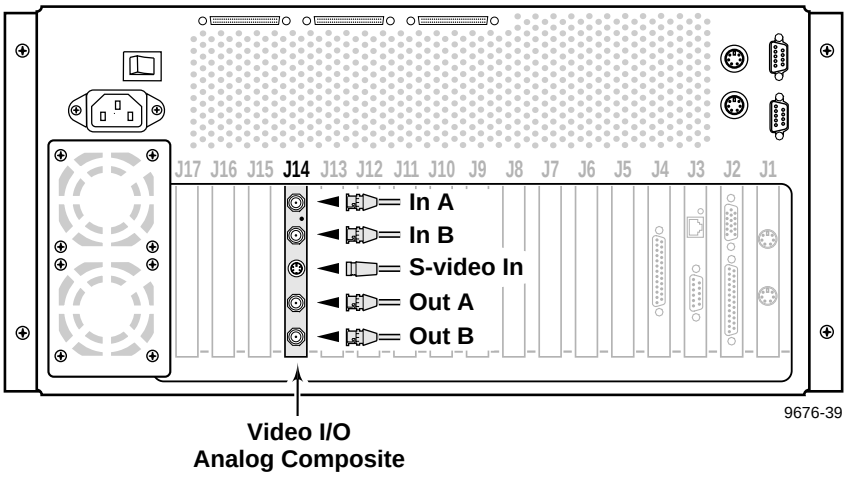


Figure 2-11. Analog Composite I/O Cable Connections Example

Connecting Analog Composite Monitor

The Profile Video File Server may include an Analog Composite Monitor board which provides four channels of analog composite video output with time code burn-in and text overlay. With this board you can simultaneously display independent time code of each playback channel on a picture monitor display. Each channel also provides text overlay for source identification.

Refer to Tables 1-2, 1-3, and 1-4 on pages 1-8, 1-9, and 1-10, to determine the slot location of this board in your system. Figure 2-12 shows composite monitor cable connections for a typical location, slot J12.

1. Place an EMI gasket on each BNC connector as shown in Figure 2-6, page 1-7.
2. Attach four BNC cables for composite video outputs to the OUT A, OUT B, OUT C, and OUT D connectors.

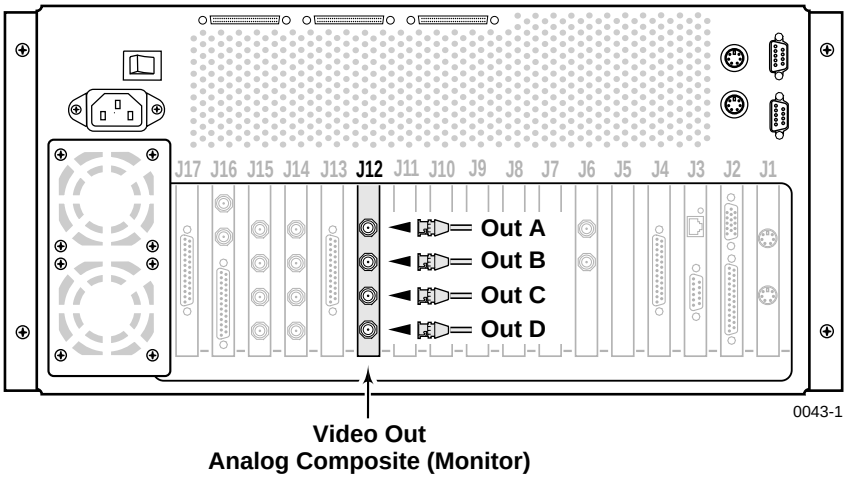


Figure 2-12. Analog Composite Monitor Cable Connections

Connecting Analog Composite Video Out

The Profile Video File Server may include an Analog Composite Video Out board which provides up to four channels of analog composite video output. The board also has a Monitor D connector which is the Out D video with time code burn-in available.

Refer to Tables 1-2, 1-3, and 1-4 on pages 1-8, 1-9, and 1-10, to determine the slot location of this board in your system. Figure 2-13 shows analog composite video out cable connections for a typical location, slot J6.

1. Place an EMI gasket on each BNC connector as shown in Figure 2-6, page 1-7.
2. Attach four BNC cables for composite video outputs to the OUT A, OUT B, OUT C, and OUT D connectors.
3. Attach a BNC cable for the Out D output with time code burned-in to the Monitor D connector (optional)

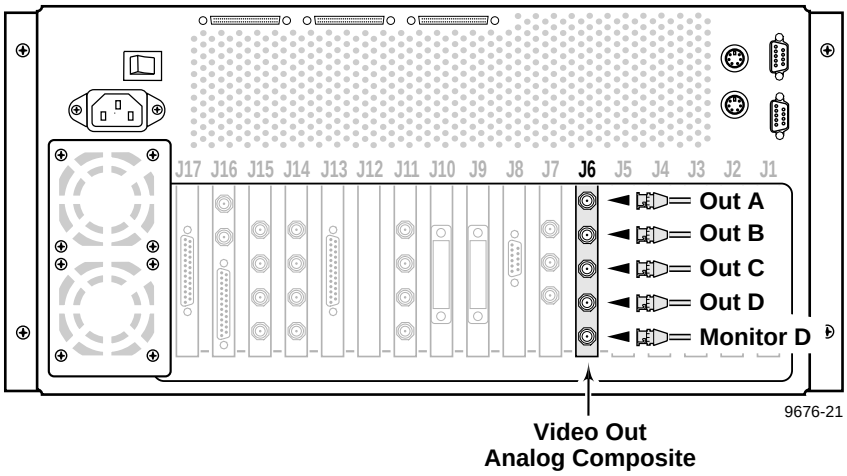


Figure 2-13. Analog Composite Out Cable Connections

Connecting Component Analog Video

The Profile Video File Server may include an Component Analog Video In board which accepts a single source of component analog video input.

Refer to Tables 1-2, 1-3, and 1-4 on pages 1-8, 1-9, and 1-10, to determine the slot location of this board in your system. Figure 2-14 shows component analog video in cable connections for a typical location, slot J13.

To make connections to the Analog Component Video In board, refer to the example in Figure 2-14 and:

1. Place an EMI gasket on the three BNC connectors as shown in Figure 2-6, page 1-7.
2. Attach three BNC cables from an appropriate component analog video source to the connectors.

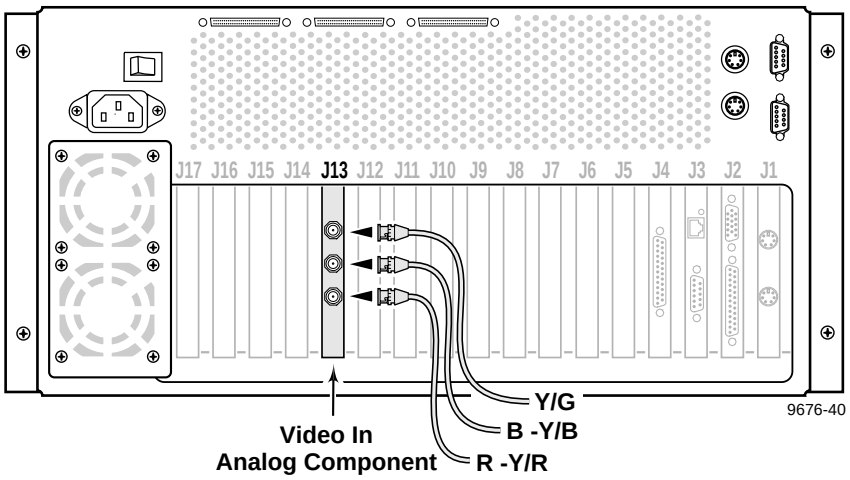


Figure 2-14. Analog Component Video In Cable Connections Example

Connecting Audio

The Profile Video File Server supports digital, analog, and embedded audio formats of up to 32 channels. A single Audio Signal Processing Board (ASPB) provides 16 audio channels, each of which can be in any of the three formats. The first ASPB, standard for all configurations, resides in Slot J5.

A second ASPB, which adds 16 more audio channels for a total of 32, may be installed in the Profile system. Audio channels are typically assigned by groups of four to each video channel. However, you can assign up to 16 audio channels per video channel, provided you select the appropriate clocks. See the Configuration Manager chapter of the *Profile Family User Manual* for more information about audio channel assignments.

.See Appendix A, Table A-11 and Table A-12, for audio specifications.

Depending on whether analog or digital audio and the number of audio channels, connections to the ASPB are:

- To either an XLR216 Audio Panel or a BNC216 Audio Panel for up to 16 channels (eight pairs) of AES/EBU Digital audio.
- To the PAC 208 Audio Chassis up to eight channels of analog and/or eight channels (four pairs) of digital audio.
- To the PAC216 Audio Chassis and the PACXLR Breakout Panel for up to 16 channels of analog and/or 16 channels (eight pairs) of digital audio.

The ASPB places the audio channels (with their associated connectors) in four banks with channels 1-4 in bank 1, channels 5-8 in bank 2, etc. Be sure to connect audio from one source to the same bank. For example, from one source, connect the associated audio to connectors 1-4 for bank 1, from another source, connect the associated audio to connectors 5-8 for bank 2, etc.

Connecting AES/EBU Digital Audio

Figure 2-15 shows ASPB connection to either an XLR216 audio panel or a BNC216 Audio panel for up to 16 channels (eight pairs) of AES/EBU digital only audio. AES/EBU digital audio sources are then connected to the XLR or BNC connectors on the panel.

Note the following on the XLR216 Audio Panel:

- Each pair of digital audio channels (1/2, 3/4 ... 15/16) has an In (top row on the panel) and an Out (bottom row).
- Connectors labelled “spares” are not available (not connected).
- The AES REF connector provides both a clock frequency and a framing alignment reference, generally from a master sync generator, to the incoming digital audio.
- The AES/EBU MONITOR connector allows monitoring of one of the eight pairs of digital audio channels selected through software (see the *Profile Family User Manual*).

Note the following on the BNC Audio Panel:

- Each pair of digital audio channels (1/2, 3/4, etc.) has an In and an Out, side by side across the panel.
- The AES REF connector provides both a clock frequency and a framing alignment reference, generally from a master sync generator, to the incoming digital audio.
- The MON OUT connector allows monitoring of one of the eight pairs of digital audio channels selected through software (see the *Profile Family User Manual*).

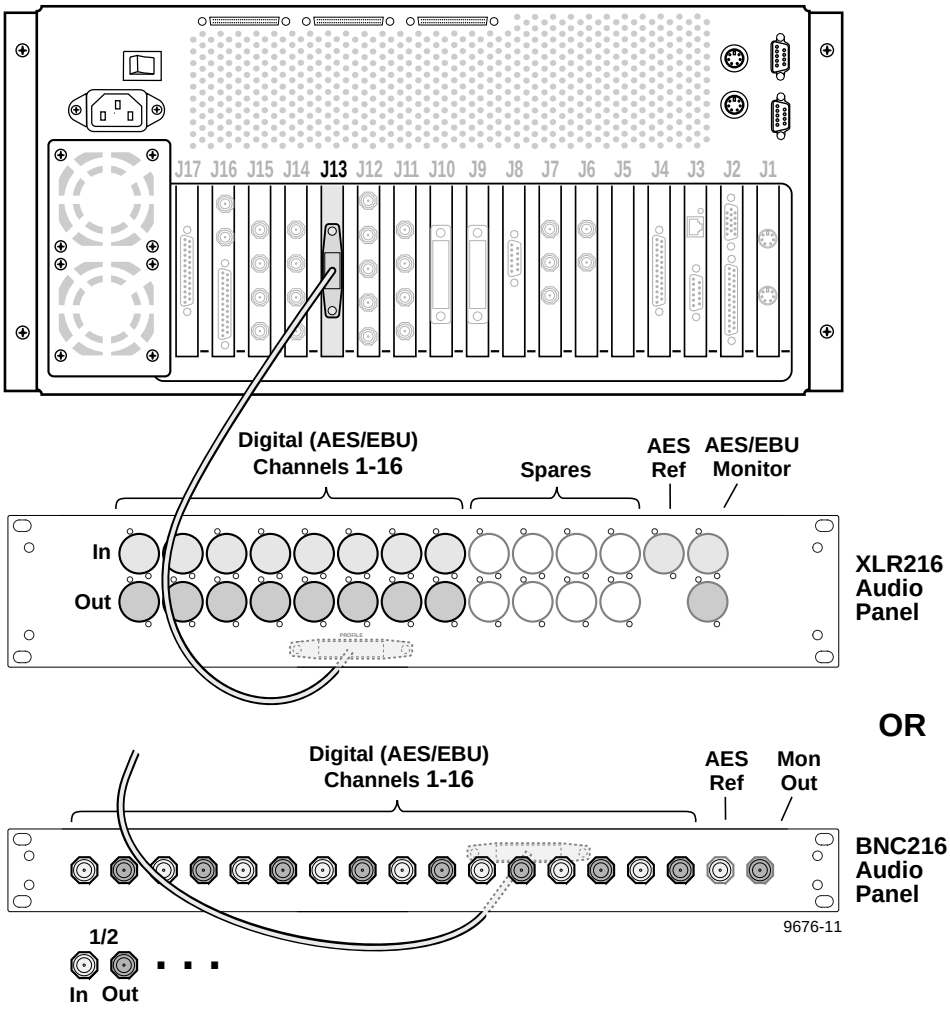


Figure 2-15. ASPB Connections With AES/EBU Digital Audio

Connecting Eight Analog and Digital Channels

Figure 2-16 shows ASPB connection to the PAC200 Profile Audio Chassis. This chassis allows you to connect analog audio channels to the Profile Video File Server. For eight channels of analog audio and eight channels (four pairs) of digital audio, the PAC 200 is used by itself and is labelled PAC 208 on the left side panel at the rear of the panel.

NOTE: When using analog audio, you must use Configuration Manager to enable analog audio inputs and to unmute analog audio outputs. See the Profile Family User Manual for Configuration Manager information.

On the PAC200 (PAC 208):

- The AES REF IN connector provides both a clock frequency and a framing alignment reference, generally from a master sync generator, to the incoming digital audio.
- The MONITOR LEFT/RIGHT connectors allow monitoring of one of the eight analog audio channels selected through software (see the *Profile Family User Manual*).

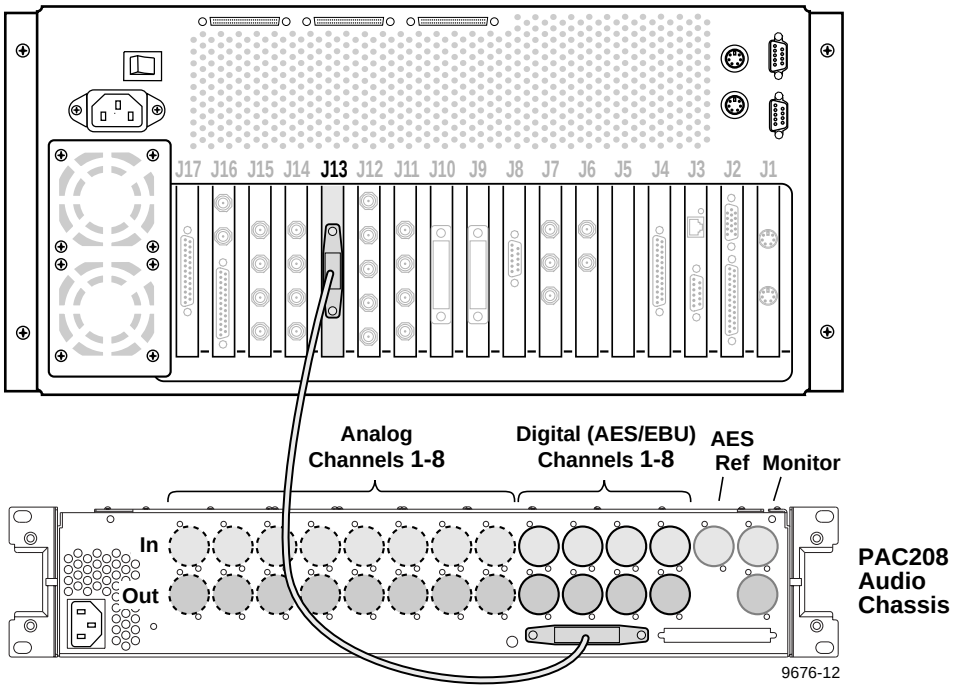


Figure 2-16. ASPB Connections With Eight Analog and Eight Digital Audio Channels

Connecting 16 Analog/Digital Channels

Figure 2-17 shows ASPB connection to the PAC200 Profile Audio Chassis and the PAC216 Audio Breakout Panel, which allow you to connect up to 16 channels of analog audio channels to the ASPB in addition to up to 16 digital audio channels. When used in this configuration, the PAC200 is labelled PAC216 on the left side panel at the rear of the panel.

NOTE: When using analog audio, you must use Configuration Manager to enable analog audio inputs and to unmute analog audio outputs. See the Profile Family User Manual for Configuration Manager information.

On the PAC 200 (PAC 216):

- Connections are for analog audio channels 1-8, each with an In and Out.
- Connections are for four pairs of digital audio channels: 9/10, 11/12, 13/14, and 15/16 where each pair has an In and Out.
- The AES REF IN connector provides both a clock frequency and a framing alignment reference, generally from a master sync generator, to the incoming digital audio.
- The MONITOR LEFT/RIGHT connectors allow monitoring of one of the 16 analog audio channels selected through software.

On the PAC216 Breakout Panel:

- Connections are for analog audio channels 9-16, each with an In and Out.
- Connections are for four pairs of digital audio channels: 1/2, 3/4, 5/6, and 7/8 where each pair has an In and Out.

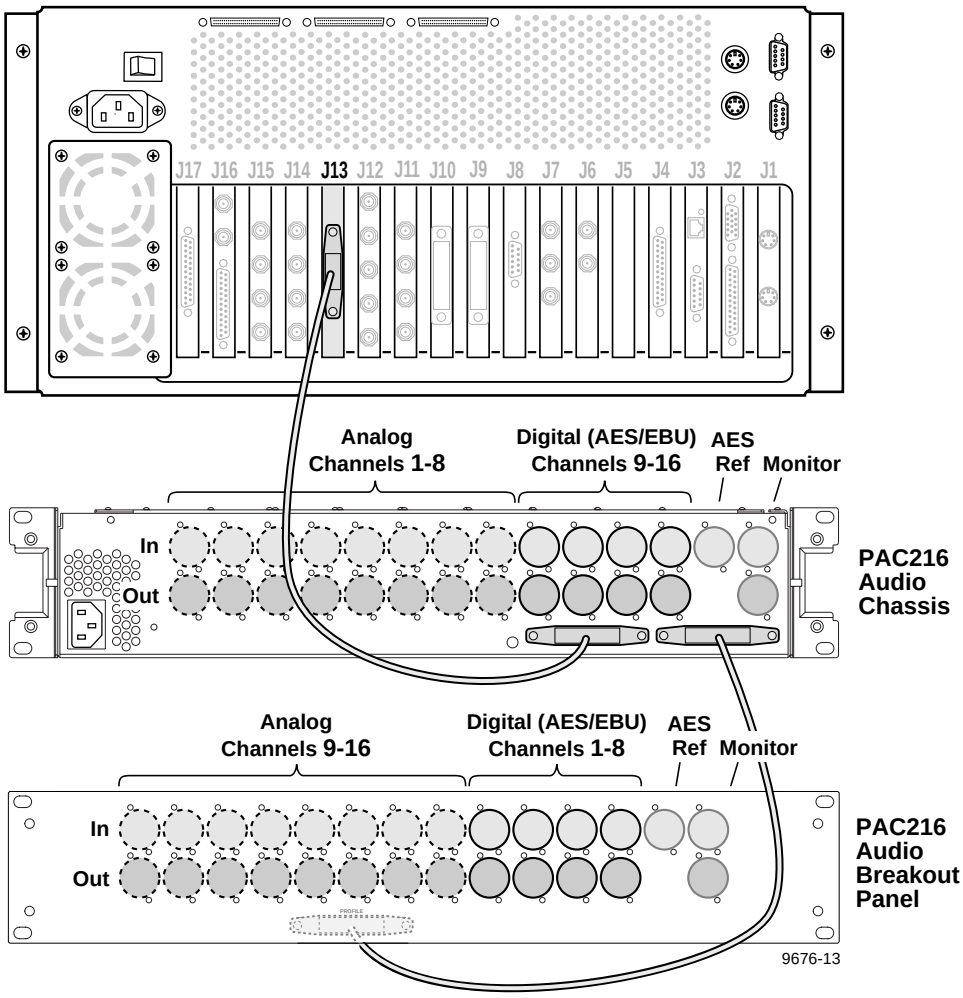


Figure 2-17. ASPB Connections With 16 Analog and 16 Digital Audio Channels

Connecting SCSI-2 Devices

The Profile Video File Server provides a number methods for connection to SCSI-2 devices. SCSI connectors reside on the Master and Slave Enhanced Disk Recorder boards, on the System SCSI board, and along the top of the rear panel (see Figure 2-18). Beyond the Master Enhanced Disk Recorder board, standard on all configurations, the number of SCSI connectors available depends on your configuration.

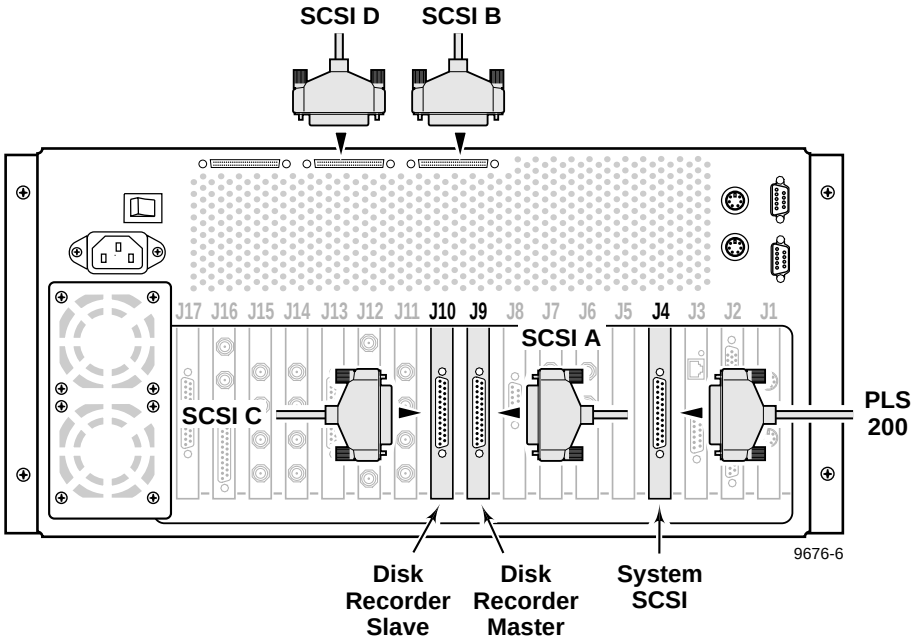


Figure 2-18. SCSI Cable Connections

Slot J10 always contains the Master Enhanced Disk Recorder board (see Figure 2-18). This board provides a SCSI A bus and a SCSI B bus. (The SCSI B bus is **not** present on Profile Video File Servers which have internal media disks, but do not have a Slave Enhanced disk recorder board.) Connect disk-based SCSI-2 devices such as the PDX208 Disk Expansion chassis to the SCSI A bus connector on the board at the rear panel. Connect tape-based SCSI-2 devices such as the PLS200 Profile Library System to the SCSI B bus connector at the top of the rear panel.

Slot J11 (see Figure 2-18) may contain the Slave Enhanced Disk Recorder board. The slot has a blank for all other configurations. This board provides a SCSI C bus and a SCSI D bus. Connect disk-based SCSI-2 devices to the SCSI C bus connector on the board connector at the rear panel. Connect tape-based SCSI-2 devices such as the PLS200 Profile Library System to the SCSI D bus connector at the top of the rear panel.

The Profile Video File Server reserves board Slot J4 for a System SCSI board (see Figure 2-18) which is part of the optional Profile Library System. If installed, connect the cable from the Profile Library System to this board. (See the *PLS 200 Installation* manual for details about installing the PLS 200.) Note that the System SCSI board is only used with the PLS 200 and the Ampex DST 412 at this time.

See Figure 2-19 through Figure 2-23 for examples of Tektronix SCSI-2 devices that can be connected to the SCSI-2 connectors on the Master and Slave EDR boards.

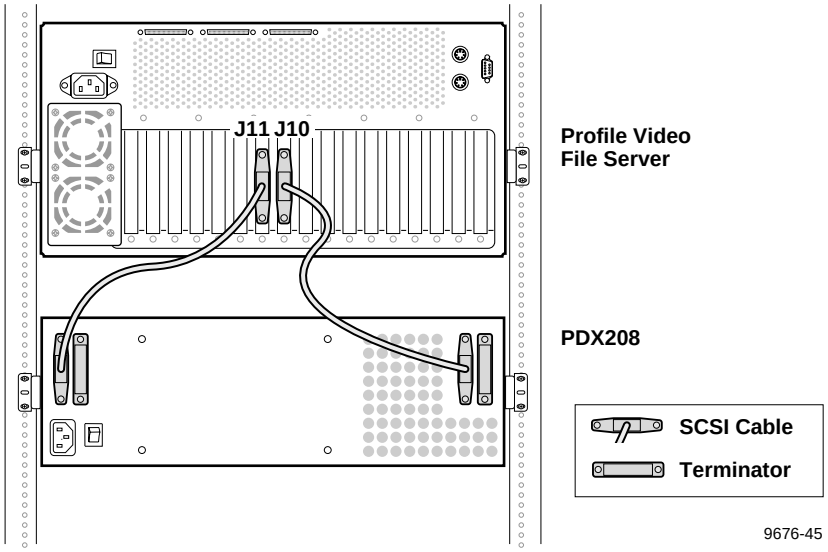


Figure 2-19. Example 1: Profile Video File Server to PDX 208 Disk Expansion Connections

Example 1 (Figure 2-19) shows disk expansion of a Profile system equipped with a Slave EDR. In this example, the PDX208 provides four 9GB drive expansion to the SCSI A bus of the Master EDR and four to the SCSI C bus of the Slave EDR. This expands each bus from 36 GB to 72 GB.

NOTE: This example requires attachment of SCSI Terminators to the unused SCSI connectors on the PDX 208 as shown in Figure 2-19.

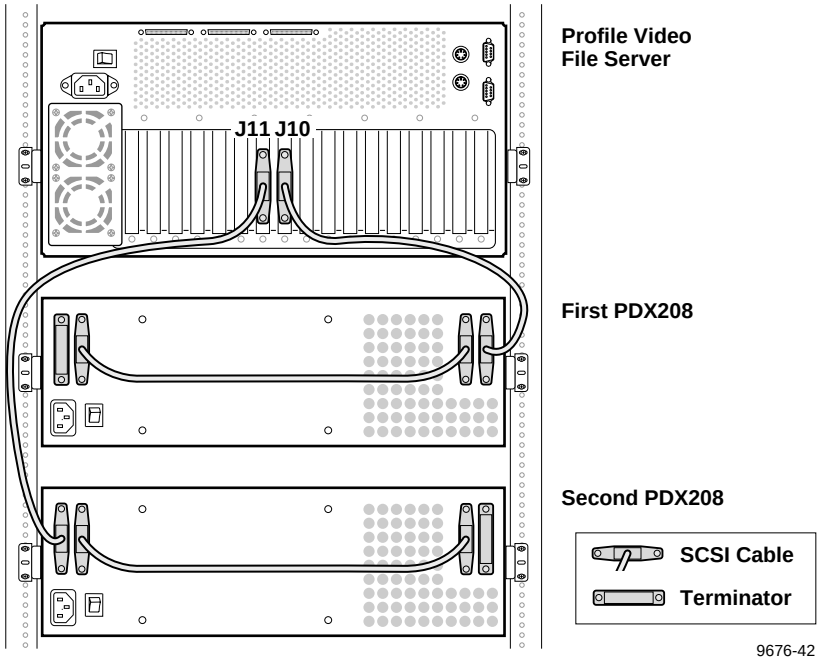


Figure 2-20. Example 2: Profile Video File Server to Two PDX 208 Disk Expansion Connections

Example 2 (Figure 2-20) shows disk expansion of a Profile system equipped with a Slave EDR. In this example, two PDX208 chassis provide eight 9GB drive expansion to the SCSI A bus of the Master EDR and eight to the SCSI C bus of the Slave EDR.This expands each bus from 36 GB to 108 GB.

NOTE: This example requires attachment of SCSI Terminators to the unused SCSI connectors on each PDX 208 as shown in Figure 2-20.

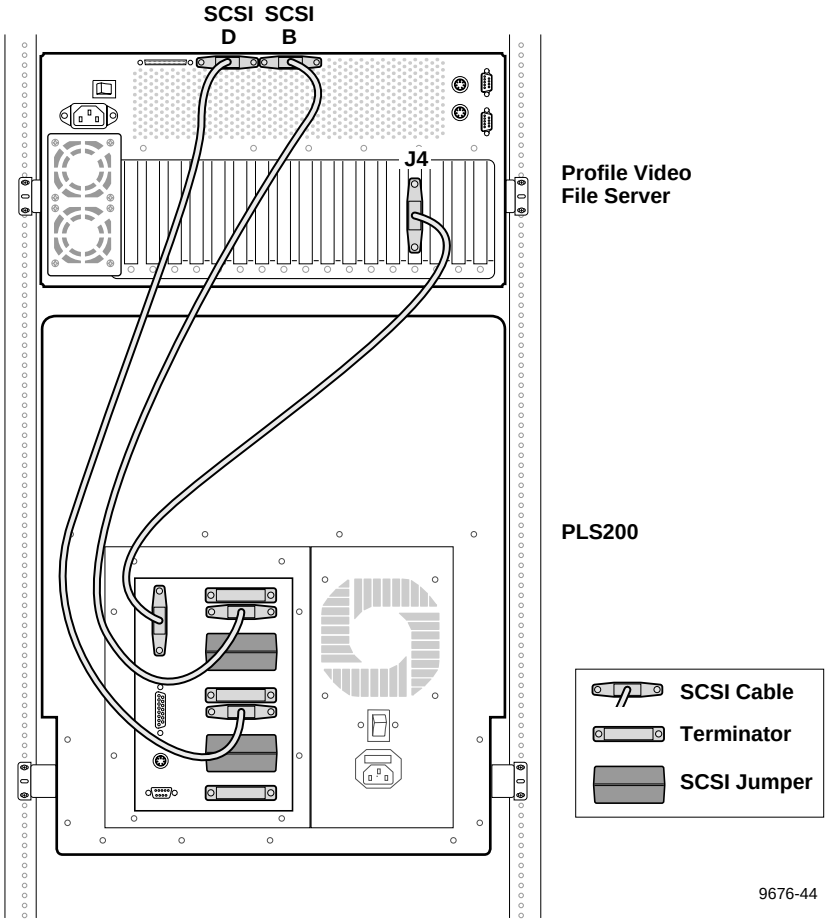


Figure 2-21. Example 3: Profile Video File Server to PLS 200 Connections

Example 3 (Figure 2-21) shows connection of a Profile Library System (PLS200) to a Profile Video File Server equipped with a Slave EDR. This example allows archiving material on the Profile Video File Server to the PLS200 through the SCSI F and SCSI D buses. The System SCSI board at Profile Video File Server Slot J4 provides control signals.

NOTE: This example requires attachment of SCSI Terminators on the PLS200 as shown in Figure 2-21.

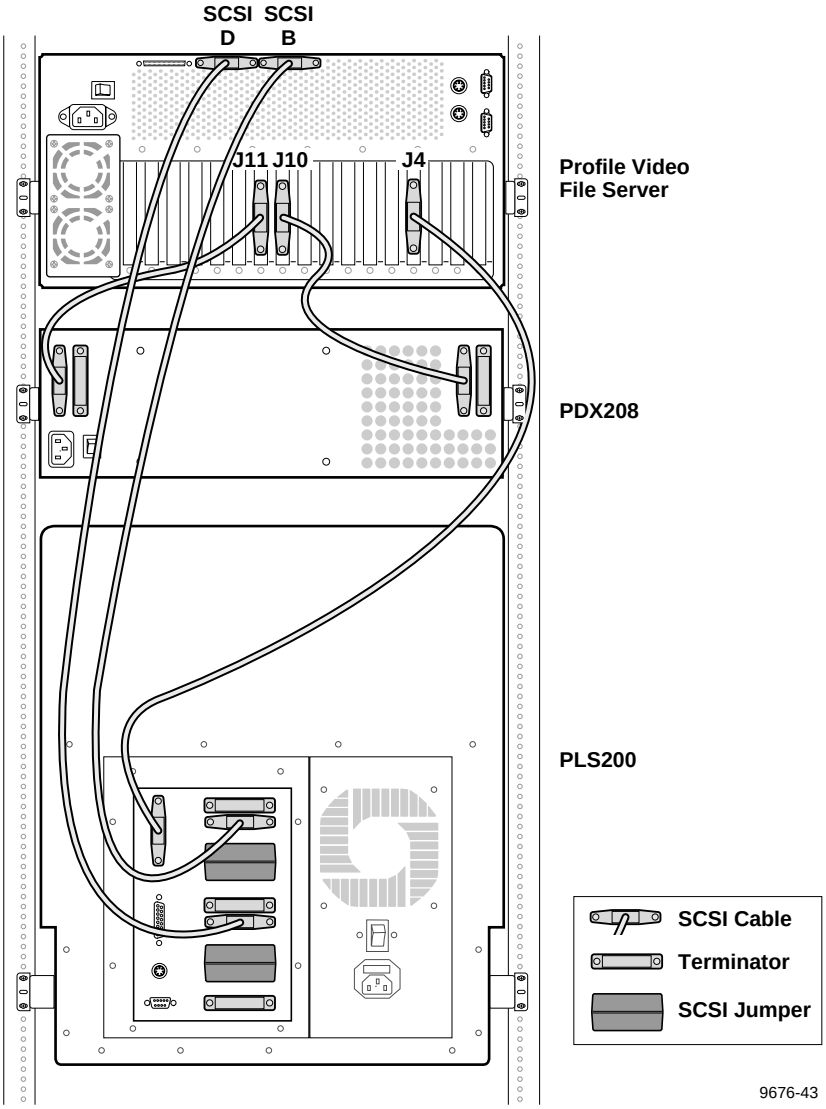


Figure 2-22. Example 4: Profile Video File Server to PDX 208 and PLS 200 Connections

Example 4 (Figure 2-22) shows disk expansion of a Slave EDR-equipped Profile system and connection to a Profile Library System (PLS 200). This example combines Examples 1 and 2. Note that cabling from the PLS 200 connects to the SCSI B and SCSI D buses on the Profile Video File Server, and the PDX 208 connects to the SCSI A and SCSI C buses on the Profile Video File Server.

NOTE: This example requires attachment of SCSI Terminators on the PLS 200 and the PDX 208 as shown in Figure 2-22.

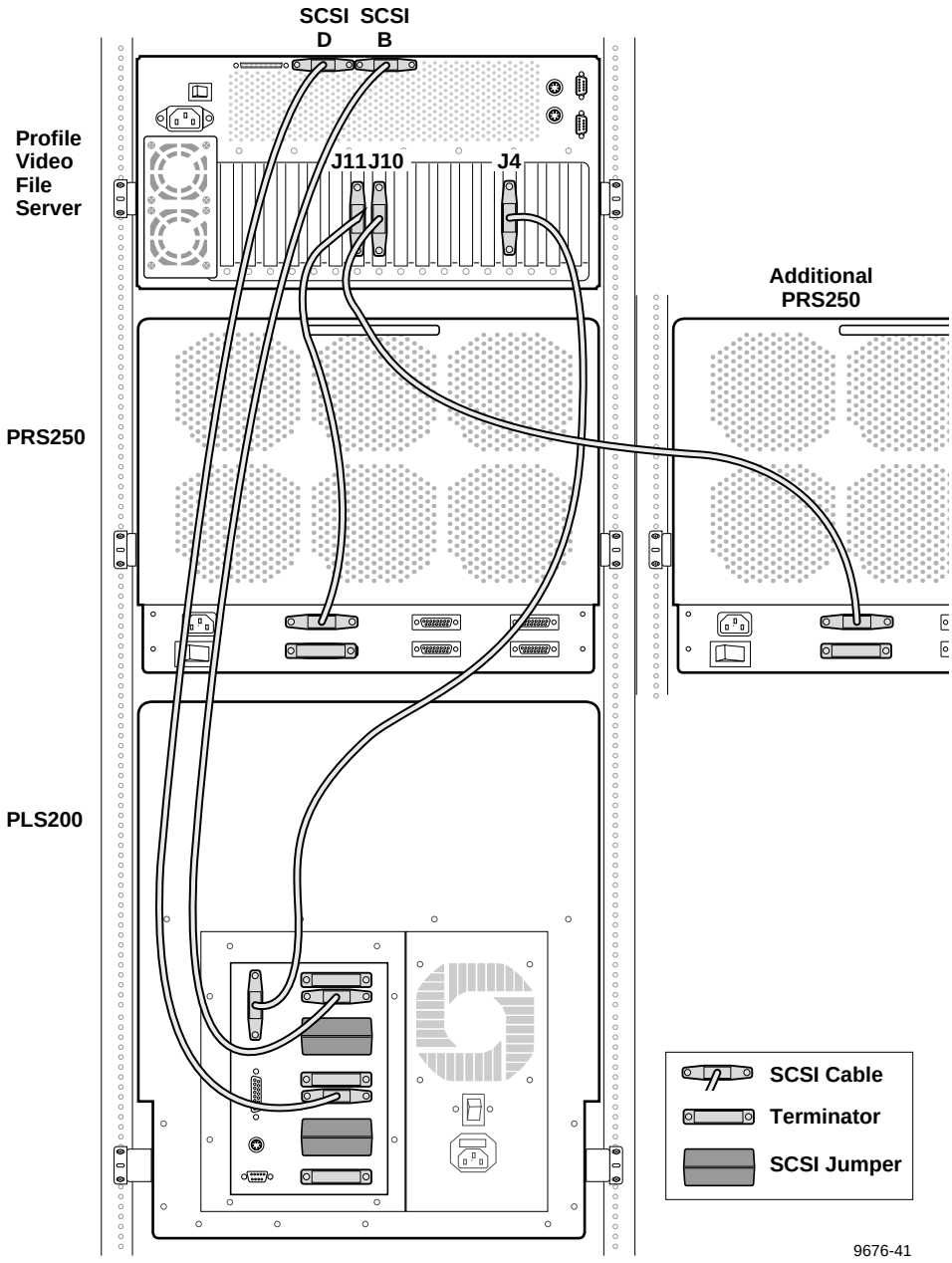


Figure 2-23. Example 5: Profile Video File Server to Multiple RAIDs and PLS 200 Connections

Example 5 (Figure 2-23) shows connection of the Profile Video File Server to two RAID Storage chassis (PRS250) and to a Profile Library System (PLS200). In this example, cabling connects the SCSI A bus to one PRS250 and the SCSI C bus to another PRS250. (You can connect PRS200/A units in a similar fashion.) The PLS200 is connected to the SCSI B and SCSI D buses on the Profile Video File Server.fd

NOTE: This example requires attachment of SCSI Terminators on the PLS200 and on the PRS250s, as shown in Figure 2-23.

Connecting RS-422 Devices

The Profile Video File Server provides eight RS-422 interface ports through a single connector on the RS-422 Interface board. This connector is then cabled to a RS-422 Connector Panel for connection of up to eight RS-422 devices. See Figure 2-24. Attach the cable from the RS-422 board to the 63-pin connector on the RS-422 Connector Panel.

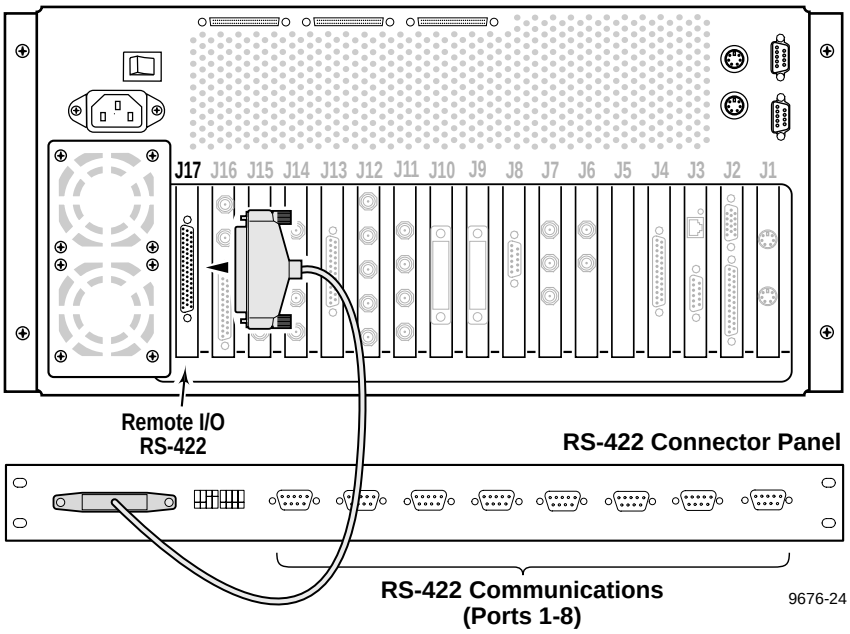


Figure 2-24. Profile Video File Server and RS-422 Connector Panel Cable Connection

Connecting Network Devices

The Profile Video File Server supports connection to Ethernet (LAN) and Fibre Channel boards for networking your Profile system.

Connecting Fibre Channel

If the Fibre Channel board is installed, there are a number of ways it may be connected for networking. Profile Video Networking requires both a Fibre Channel network and an Ethernet LAN. See Chapter 4, “Networking Your Profile System”, for Fibre Channel connection information.

Connecting to Ethernet

The Profile Video File Server provides a standard System LAN board in slot J3 for connection to Ethernet. See Chapter 4, “Networking Your Profile System”, for Ethernet connection information.

Making Power Connections

Power Source

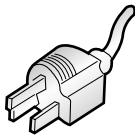
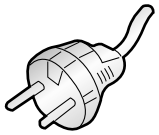
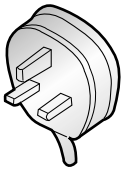
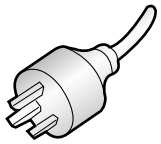
The Profile Video File Server and PAC208/216 operate from a single-phase power source having one of its current-carrying conductors at or near earth ground (the neutral conductor). Only the line conductor is fused for over-current protection. Tektronix does not recommend connection to systems that have both current carrying conductors live with respect to ground as power sources, such as phase-to-phase in multi-phase systems.

Source Power Frequency and Voltage Ranges

The Profile Video File Server and PAC 208 operate at line frequencies of 50 or 60 Hz at nominal voltages from 100 to 240 VAC. Table 2-1 lists the power cord options available. Figure 2-25 shows the location of the Profile Video File Server power cord connector (just below the main power switch).

Insure that the power switches of all equipment are set Off. Attach all power cords from the equipment to the appropriate power sources.

Table 2-1. Power Cords for the Profile Video File Server and PAC 208

Power Plug	Description
	Standard 120 V, 3-prong power plug on a 2.5 meter long power cord. For use with common ground systems in North America.
	Universal European 230V/10A power plug on a 2.5 meter long power cord.
	United Kingdom 230V/10A power plug on a 2.5 meter long power cord.
	Australian 230V/10A power plug on a 2.5 meter long power cord.

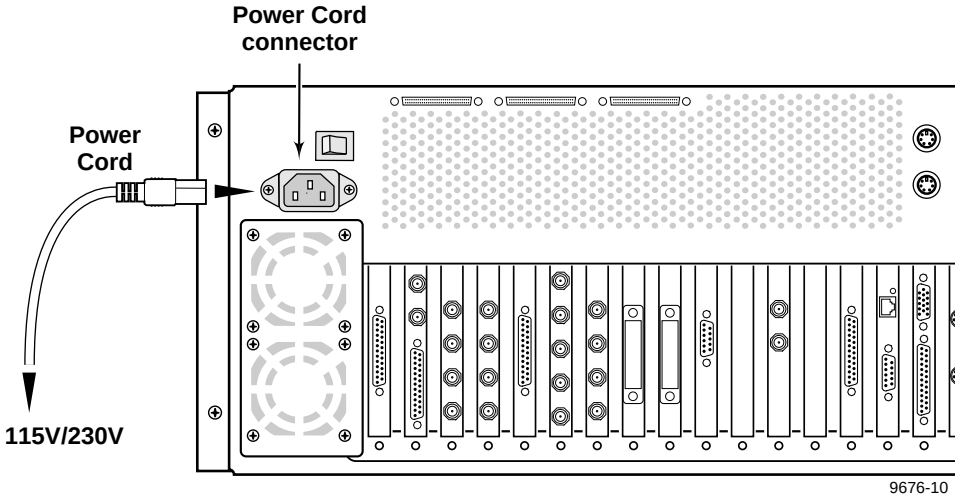


Figure 2-25. Power Cord Connector

This completes the mechanical installation of the Profile Video File Server. Continue with Chapter 3, “Starting Your Profile System”.

Chapter 3

Starting Your Profile System

This chapter contains information to get you up and running with your Profile Video File Server. The tasks you will perform are:

- Turning Profile system and peripheral equipment On.
- Logging in.
- Updating your Emergency Repair Disk.
- Configuring your Profile system.

This chapter also includes a brief verification test and troubleshooting information.

Power On/Off

When the Profile system power is initially turned on, you will immediately have two choices.

- One choice is to let the system go through an automatic login sequence, at the end of which the Profile VdrPanel appears. This is the normal procedure which occurs:
  - At initial power on. (The factory set user to ***profile*** prior to shipment.)
  - When ***profile*** was the user prior to the last time the Profile system was turned off.
- The second choice is to interrupt the automatic login by pressing and holding the SHIFT key for a few seconds as the system boots up. Interrupting the automatic login is usually done to manually login as Administrator. You will need to be logged in as Administrator for Windows NT administration and to:
  - Install new software applications or upgrades (see *Profile Release Notes* or the product manual)
  - Stop the vdrsvc utility (see the *Profile Family User Manual*)
  - Run the Profile Disk Utility (see the *Profile Family User Manual*)
  - Set IP addresses (see the *Profile Family User Manual*)
  - Configure Ethernet or Fibre Channel boards (see the *Profile Family User Manual*)

If you are connected to Ethernet and Fibre Channel, where IP addresses must be set and network configuration procedures need to be performed, you must manually log in as administrator (the second choice above).

If you are not connected to a network with Ethernet and Fibre Channel, where you are only concerned with usual system setup procedures, allow the automatic login sequence to run (the first choice above).

Turning Power On

See Figure 3-1 for the location of the main power switch on the rear panel and Figure 3-2 for the Profile Video File Server front panel switch. To turn Profile system power On:

1. Turn the power on to all system peripheral equipment.
2. If appropriate, turn PLS 200 power on.
3. If appropriate, turn PRS 250 power On and turn on the power to any other external SCSI devices.
4. As appropriate, turn PDX 208 and PAC 208/216 power On.
5. Wait approximately 1 to 2 minutes.
6. On the rear panel of the Profile Video File Server (see Figure 3-1), turn the main power switch to **1** (On).
7. On the front panel of the Profile Video File Server (see Figure 3-2), turn the power switch to On.

Turning Power Off

To turn your Profile system Off without loss of data, you will need to:

1. Quit or shut down all Profile System Software by selecting **Quit** or **Exit** from the File menu.
2. Exit or Quit any other processes which may be running in the same way.
3. Log off or shut down Windows NT by simultaneously pressing the Ctrl, Alt, and Delete keys and choosing **Shutdown**.
4. Turn both front and rear panel power switches off.

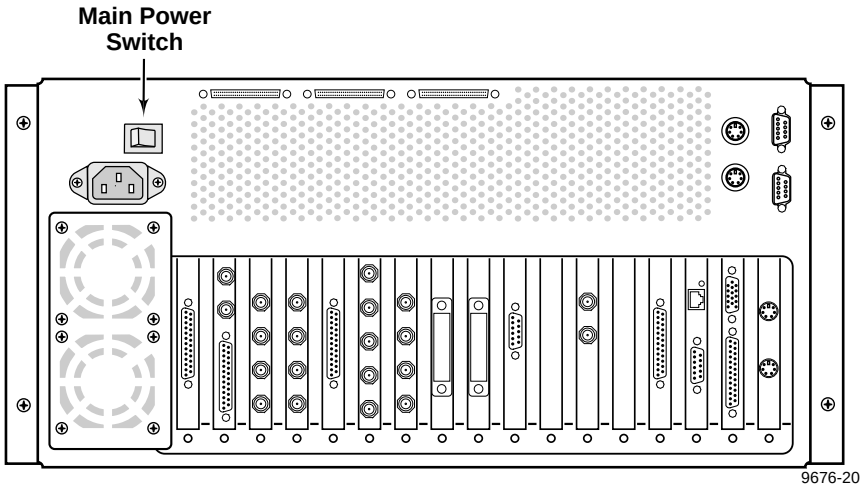


Figure 3-1. Rear Panel Main Power Switch

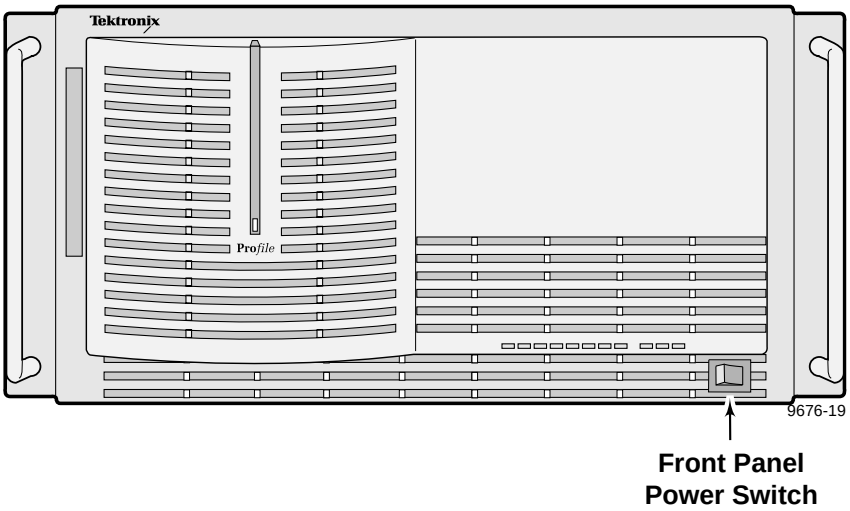


Figure 3-2. Front Panel Power Switch

System Set-up

If you have not interrupted the automatic login sequence, your Profile system will go through its normal self-check and initialization sequence. When completed, the VdrPanel, shown in Figure 3-3, appears on the monitor.

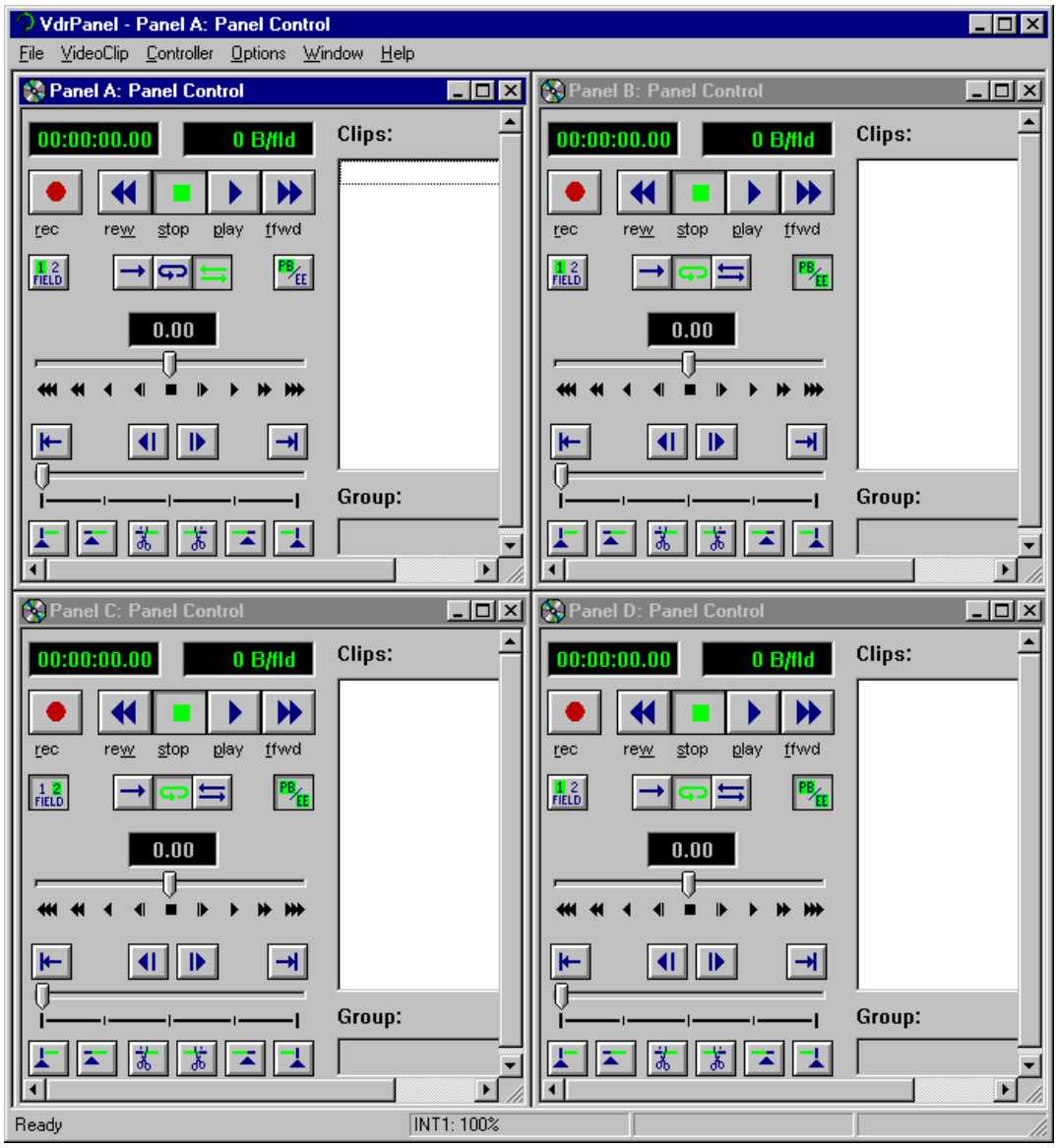


Figure 3-3. Profile VdrPanel

System setup for the most part depends on the configuration of your Profile Video File Server. However, one of the first things you will want to do is make an emergency repair disk so that in the event of a minor problem, you will not have to completely reload software.

Configuring Your Profile System

Before you can use your Profile system to record and playback clips, you must configure it to use the inputs and outputs that you connected in Chapter 2. Perform the tasks listed below.

- Configure Video I/O, Audio I/O, Reference Genlock, and Time Code (see the Configuration Manager discussion in the *Profile Family User Manual*).

NOTE: If you have Analog Audio I/O, use Configuration Manager to ensure that analog audio inputs are enabled and that analog audio outputs are unmuted.

- In addition, if your system includes one or more external storage devices, you will have to use the disk utility to set up an external dataset. (See the PDR Disk Utility discussion in the *Profile Family User Manual*.)
- Configure your system for a LAN board (see “Configuring Ethernet for TCP/IP”, page 4-5).
- Configure your system for Fibre Channel (see the *Profile Family User Manual*).

Updating an Emergency Repair Disk

Whenever you upgrade your software and whenever you make or change your system configuration, Tektronix strongly recommends that you update the emergency repair disk shipped with your Profile system. This minimizes the chances that you will need to completely re-load the software for a minor problem.

To update your emergency repair disk, you need the 3.5" Repair Disk included with your Profile system

NOTE: The emergency repair disk is Profile system specific. Make sure that the emergency repair disk is clearly marked with the unit’s serial number.

1. From the Start menu, choose the Run command.
2. Enter **rdisk /s** in the Run dialog box.
3. Select the **Update Repair Disk** button.
4. Insert the floppy disk in the **A** drive and select **OK**. The utility then formats the disk and loads all of the information from the registry.
5. When the operation is complete, select the **Exit** button to leave the Repair Disk Utility.
6. Remove the Emergency Repair Disk from the Profile system and store in a convenient location.

Installation Verification

To verify that your Profile system has been correctly installed, perform the following:

1. From the VdrPanel, record a clip which contains both audio and video (not Black).
2. Play back the clip.

If you get any errors, check the following:

- If you have Black with the audio, recheck your Video I/O set up through Configuration Manager. Make any necessary changes and repeat Steps 1 and 2 above.
- If you have the video without audio, recheck your Audio I/O configuration through Configuration Manager. Make any necessary changes and repeat Steps 1 and 2 above.
- For other errors, see Initial Power On Checks.
- If errors persist, check the Profile Error Log and contact your Tektronix representative. (See the *Profile Family User Manual*, “Using Profile Utilities” to access the Profile Error Log.)

Initial Power On Checks

Tektronix has made every effort to insure that your Profile system was in perfect operating condition before it left the factory. However, unforeseeable problems can occur. The discussion below applies to initial installation only. See the Profile Video File Server Service Manual for any post-installation problems.

NOTE: Please take notes of trouble indications and what you do in attempting to correct any problem. Doing so will assist Customer Support and Field Service personnel in the event addition action is required.

If you have a problem with the initial Profile system power On:

- First check all connections and power switches.
- Check the status of the Profile front panel LED indicators.

  If the large green LED just to the left of center is not lit, replace the power cord and try again. If this problem still exists, contact your Tektronix representative.

  If one or more of the eight green Disk Activity LEDs remains lit or stays lit for a long time, power the Profile system Off and then back On again. If this problem still exists, power the Profile system Off and contact your Tektronix representative.

  If the **SYS FAULT** and/or the **FAN FAULT** red LED is On, immediately power the Profile system Off and contact your Tektronix representative.

- At the Profile rear panel, check the status of the LEDs on the boards listed in Table 3-1, not all of which may be installed on your Profile system. Refer to Table 1-2, Table 1-3, and Table 1-4 on page 1-8, page 1-9, and page 1-10 for the locations of these boards in your system.

Table 3-1. Rear Panel Board Indicators

Board	Status/Description
SYSTEM LAN	Green LED should be On to indicate there is an active connection between the board and the network hub. Amber LED flashes when there is network activity.
AUDIO I/O Digital AES/EBU	Red LED should be Off. (On momentarily at power up and then Off.)
VIDEO IN Analog Component	Red LED should be Off. (On momentarily at power up and then Off.)
VIDEO OUT Analog Composite	Red LED should be Off. (On momentarily at power up and then Off.)
FIBRE CHANNEL	Red LED should be On.
DISK RECORDER Master/Slave	Red LED(s) should be Off. (On momentarily at power up and then Off.)
MPEG Encoder/Decoder	Red LED(s) should be Off. (On momentarily at power up and then Off.)
MPEG Decoder	Red LED(s) should be Off. (On momentarily at power up and then Off.)
VIDEO I/O Serial Digital Component	Red LED should be Off. (On momentarily at power up and then Off.)
VIDEO I/O Analog Composite	Red LED should be Off. (On momentarily at power up and then Off.)
REFERENCE Analog Video	Red LED should be Off. (Goes On at power up and after a few seconds goes Off.)

If all LEDs are as indicated in Table 3-1., run the diagnostics below. If board LEDs are not as indicated, contact your Tektronix representative.

System Board Diagnostics

Run system board diagnostics if you have a problem and the rear panel LEDs are as indicated in Table 3-1. To run system board diagnostics:

1. Open the **PDR Debug Tools** folder.
2. Choose the **PDR Diagnostics** icon. The **Main Diagnostics** window appears.

This window is comprised of three panels. The panel on the left contains buttons which identify the boards installed in each of the slots, J1 - J17. Selecting a button brings up the test control buttons for that board's diagnostics in the upper right panel of the window and loads the i960 diagnostics program for that board. Selecting one of the tests executes that test and test results are then shown in the lower right panel of the diagnostics window.

When the diagnostics window is first opened, you may get a message

Checking availability of VDR Services. Please wait

Wait approximately a minute for this message to clear from the screen before proceeding.

3. Select the **Master EDR** button in the board slot ID region on the **Main Diagnostics** window. Test control buttons for the Master EDR board appear.

Another window, called **DRSTART** momentarily appears and is then replaced by a **GDB960** window and i960 diagnostics is loaded into EDR memory. Test results will appear in this window which remains open until you exit the Master EDR board menu.

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 you have a Slave EDR, repeat Steps 3 through 6 for the **Slave EDR** button.
8. From the Diagnostics menu bar, select **Tests**/**All Board Tests**.

This executes diagnostics for all installed boards and, for a fully loaded system, takes between 10 and 15 minutes. Once initiated, you cannot cancel this diagnostics operation.

9. Select **Quit** to exit the Main Diagnostics window.

Once you have checked all the boards, re-run Installation Verification described previously.

If you have any board failures or any other unresolved installation problems, contact your Tektronix representative. See “Tektronix Product Support” at the front of this manual.

Chapter 4

Networking Your Profile System

This chapter contains information about Profile system and Ethernet configurations, and how to connect your Profile Video File Server for Ethernet and Fibre Channel networking.

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. If you are only connecting Ethernet to your Profile system, see “Configuring Ethernet for TCP/IP” on page 4-5.

Fibre Channel provides connectivity for high speed media data transfers between two or more Profile systems. It requires an installed Ethernet LAN board for command and status signals between systems.

Using Fibre Channel to network groups of greater than two Profile systems requires a LAN (Ethernet) hub or network **and** a Fibre Channel hub. See “Configuring Ethernet for TCP/IP”, page 4-5 and “Building a Fibre Channel Network”, page 4-3.

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 in a stand-alone network, that is, a network that does not have a path to another network. 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 Video Hub. Figure 4-1 shows an example of this networking.

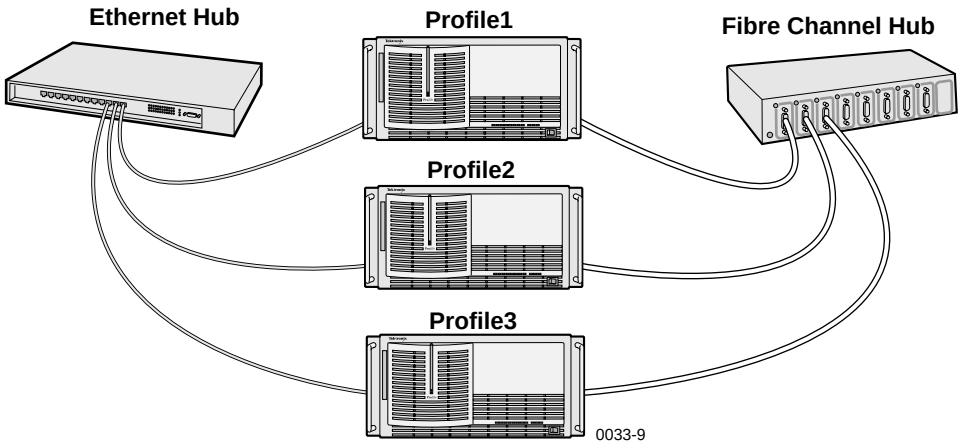


Figure 4-1. Basic Hub Connections

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 4-2 shows a simple use of several hubs.

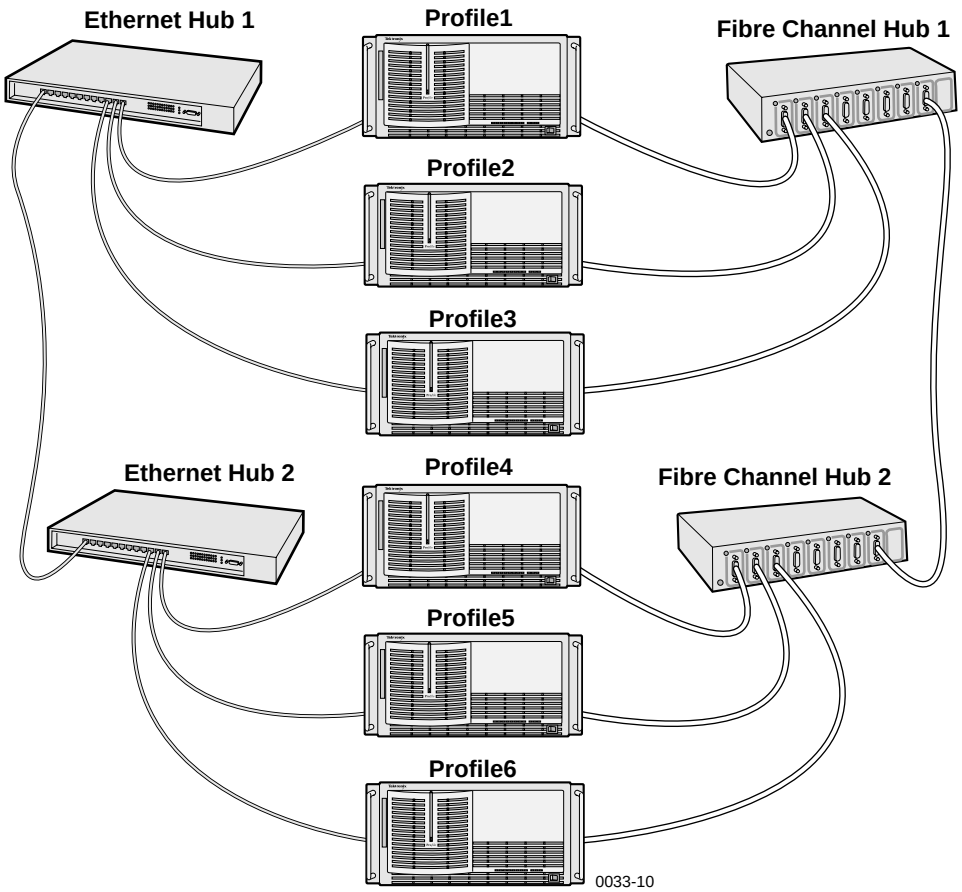


Figure 4-2. Using Several Hubs

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 4-3. 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.

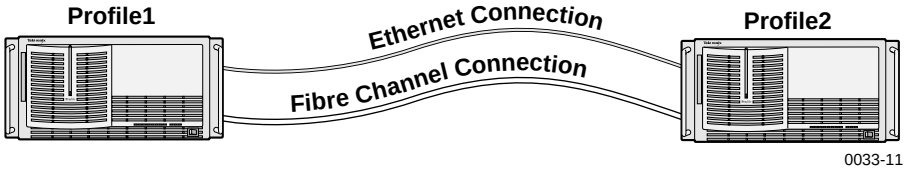


Figure 4-3. Point-to-point Fibre Channel Network Connection

Connecting Ethernet

Figure 4-4 shows the location of the System LAN board for connection of the Ethernet cable. See Appendix B for connector pin-out information. To connect your Profile system to Ethernet:

NOTE: See page 3-2 for power on/off procedures.

1. Turn Profile system power Off.
2. Connect the Ethernet cable to the appropriate Ethernet connector on the LAN board (Figure 4-4).
3. Power on your Profile system and configure your the LAN as described in "Configuring Ethernet for TCP/IP", page 4-5.
4. If you are also connecting Fibre Channel, proceed to "Connecting Fibre Channel", page 4-5.

If a problem occurs, see "Initial Power On Checks", page 3-6.

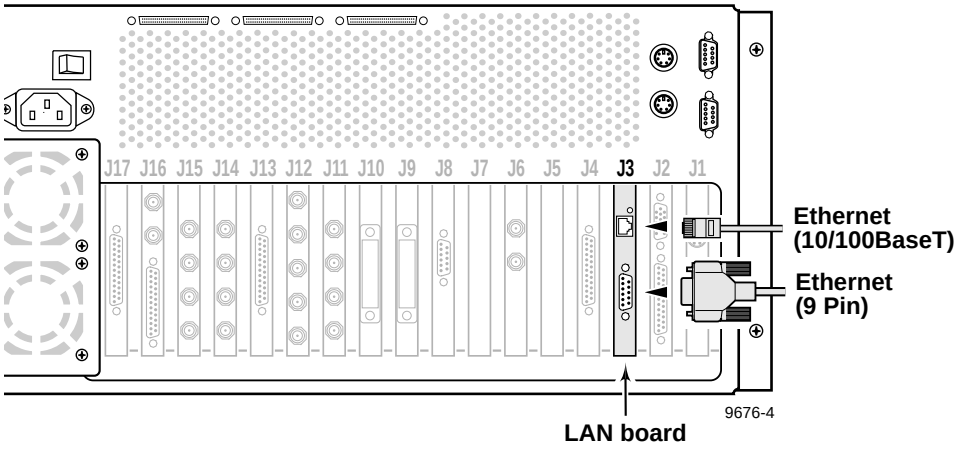


Figure 4-4. System LAN Board

Configuring Ethernet 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 with your network administrator before performing it.

The following steps assume that you **are not** connecting to an **existing** TCP/IP network. You must be logged in as Administrator to perform the following tasks.

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, we recommend the following numbering convention. Note that each Profile system **must** have a unique IP address.

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

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

Testing Your Ethernet Connection

To test your Ethernet connection:

1. Power off (see “Turning Power Off”, page 3-2) and then reboot the Profile system.
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 system.
3. Repeat step 2 for at least one other Profile system in the network.

Connecting Fibre Channel

Figure 4-6 shows the location of the Fibre Channel board for connection of the Fibre Channel cable to the Fibre Channel Hub. See Appendix B for connector pin-out information. Referring to Figure 4-5 for an example, the Fibre Channel cable can be:

- Up to 25 meters: Copper cable.
- Up to 500 meters: Multi-mode optical cable with optional copper-to-fiber adaptor (between Fibre Channel hubs).

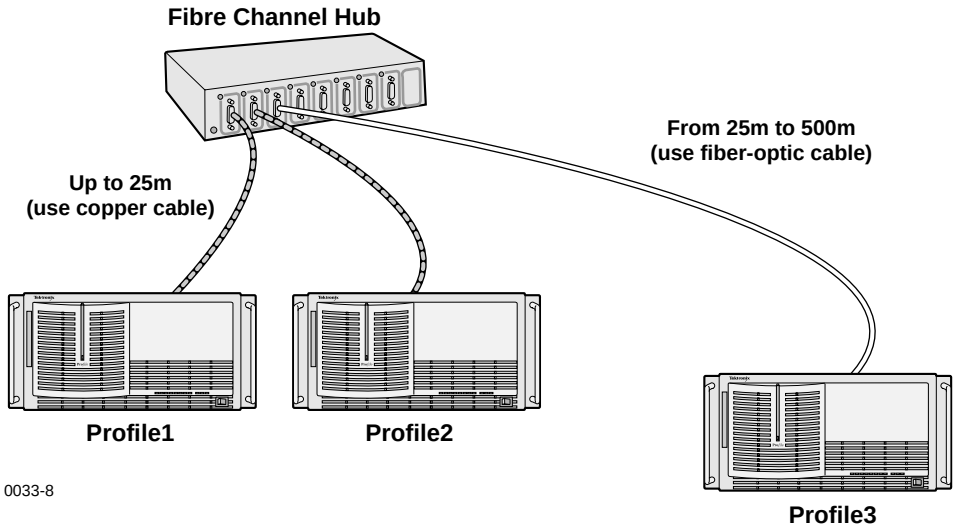


Figure 4-5. Example of Profile System and Fibre Channel Connections

NOTE: The Fibre Channel Hub may be supplied with caps over the connectors. To maintain EMI compliance, only remove caps as necessary. If you disconnect a Profile system from the hub, place a cap on the vacant connector.

To connect your Profile system to a Fibre Channel network:

NOTE: See page 3-2 for power on/off procedures.

1. Turn Profile system power Off.
2. Connect the Fibre Channel cable from the board to the Fibre Channel hub (Figure 4-6).
3. Turn Profile power On.

4. 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.

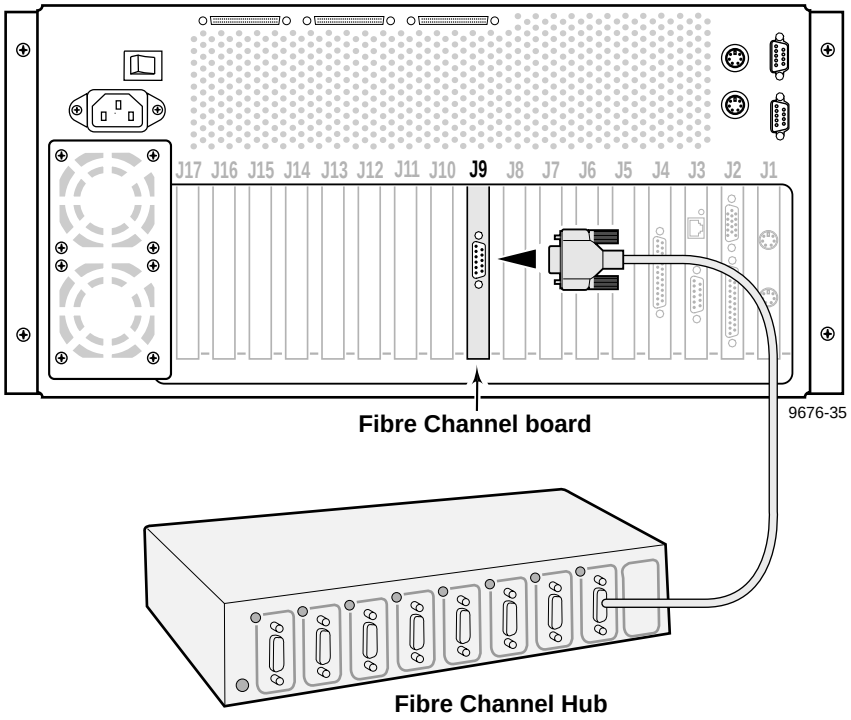


Figure 4-6. Fibre Channel Board and Video Hub Connection

If a problem occurs, see “Initial Power On Checks”, page 3-6, and “System Board Diagnostics”, page 3-7.

Chapter A

Specifications

General Information

This appendix provides tables of electrical specifications for the video and audio characteristics, as well as environmental criteria and power and mechanical characteristics. The tables in this appendix make it easier to present the specifications in numerical values. The following terms apply to the Profile Video File Server Characteristics and Descriptions in the tables.

Specification: A document or a section of a document that lists and describes characteristics and performance requirements of equipment and certain program material**.**

Requirement (Performance Requirement): A statement that defines a characteristic, usually in limit form.

Supplemental Data: Statements that explain performance requirements or provide performance information. These are not considered to be statements of guaranteed performance and are not ordinarily supported by a performance check procedure.

Test Equipment

Tektronix uses the following test equipment to verify the performance requirements listed in this chapter.

- VM700A
- Signal Source (Video and Audio)
- Signal Generator
- Monitor

Electrical Specifications

The Performance Requirements listed in the Electrical Specifications apply over an ambient temperature range of +20.5 C to +30.5 C. The Performance Requirement tolerances listed in the Electrical Specification are doubled over the temperature range of 0 to +40.5 C, unless there is a specific exception.

Table A-1. Serial Digital Video Input/Output

Characteristics	Description
Number of Inputs	*Supplemental Data:* Two component serial digital
Input Type	*Supplemental Data:* 75Ω terminated
Number of Outputs	*Supplemental Data:* Two component serial digital
Output Timing Range	*Requirement:* -21/2 H to +148 H *Supplemental Data:* Independent for each output *Supplemental Data:* Resolution; 74 ns
Digital Format	*Supplemental Data:* CCIR 601 Component 525/625 8 bit data, Scrambled NRZI; complies with SMPTE 259M and CCIR 656
Bit Rate	*Supplemental Data:* 270 Mb/s
Source Impedance	*Supplemental Data:* 75Ω
Return Loss	*Supplemental Data:* ≥15 dB from 5 MHz to 270 MHz
DC Offset	*Requirement:* 0 ±0.5V
Rise and Fall Times	*Requirement:* 400 - 1000ps; 20% to 80% amplitude slew rate
Jitter	*Requirement:* ≤±360 ps
Input Level	*Supplemental Data:* 800 mV p-p ±10% *Supplemental Data:* Input voltages outside this range may cause reduced receiver performance
Serial Receiver Equalization Range	*Requirement:* Proper operation with up to 17 dB loss at 135 MHz using coaxial cable having $1/\sqrt{}_F$ loss characteristics. 800 mV launch amplitude
Output Level	*Requirement:* 800 mV p-p ±10% *Supplemental Data:* Can be adjusted for 740 mV p-to-p ±10%

Table A-2. Analog Composite Video Output

Characteristics	Description
Program Gain	*Requirement:* 1 ±1%
Frequency Response	*Requirement:* 500 kHz to 5.8 MHz ±2% *Supplemental Data:*-3 dB Nominally 6.25 MHz
Signal-to-Noise Ratio	*Requirement:* > 50 dB
Chrominance-to-Luminance Delay Error	*Requirement:* ≤10 ns NTSC ≤15 ns PAL
Differential Gain	*Requirement:* ≤1% NTSC ≤1.5% PAL
Differential Phase	*Requirement:* ≤1°
K-Factor	*Requirement:* ≤1%
2T Pulse-to-Bar Ratio	*Requirement:* ≤1%
Output Timing Range	*Requirement:* -21/2H to +148H *Supplemental Data:*Independent for each output *Supplemental Data:*Resolution; ≈0.3° of 3.58 MHz *Supplemental Data:*Timing Stability: 1°
Sync and Burst Insertion	*Requirement:* Meets RS-170A, and CCIR RPT 624-3; always on
Insertion Phase Error	*Requirement:* ≤1°
Chrominance Phase Error with Reference Burst Frequency Change	*Requirement:* ≤1° with an input burst frequency change of ±10 Hz
Chrominance Phase Error with Reference Signal Amplitude Change	*Requirement:* ≤1° with a ±3 dB amplitude change
DC Offset	*Requirement:* ≤±50 mV
Inserted Sync and Burst Amplitude Accuracy	*Requirement:* Sync NTSC 40 IRE ±1 IRE PAL 300 mV ±7 mV Burst NTSC 40 IRE ±1 IRE PAL 300 mV ±7 mV
Inserted Sync and Burst SCH Phase Accuracy	*Requirement:* 0° ±5°
Black Level Error	*Requirement:* ±3.5 mV

Table A-3. Analog Composite Video I/O

Characteristics	Description
Inputs (without TBC)	
Return Loss	≥40 dB to 5MHz
Genlock	Locks to (and remain locked) to incoming Black Burst -3 dB to +6 dB from nominal. PAL nominal - Sync @ 300mV; Burst @ 300mV NTSC nominal - Sync @ 40 IRE; Burst @ 40 IRE White noise immunity - Remains locked with signal-to-noise ratio >20dB. Hum rejection - Remains locked with 60Hz hum <1V p-p.
Decoding modes	Notch and Adaptive Comb modes operational.
Outputs	
Inserted Sync and Burst	PAL 300 mV ±21 mV NTSC 40 IRE ±3 IRE
Inserted Sync and Burst SCH Phase	0° ±5°
Signal-to-Noise Ratio	>58dB
K-factor	≤2%
Supported video formats	PAL and NTSC
Return Loss	≥40 dB to 5MHz
Analog Video Quality E-E (Direct Input-Output)	
Gain	1 ±1%
Program Input Gain Range	±3dB
Black Level Error	±5mV from inserted Sync and Burst blanking level.
Frequency Response	PAL - ≤0.2dB from 500kHz to 4.8MHz. NTSC - ≤0.2dB from 500kHz to 4.2MHz.
Chrominance to Luminance Delay	≤20nS
Differential Gain	≤2%
Differential Phase	±2°
Signal-to-Noise Ratio	>50dB
K-factor	≤2%
2T Pulse-to-Bar Ratio	≤2%
Insertion Timing Error	≤5nS

Note: Analog Composite I/O specifications are applicable when TBC is not enabled. The image quality of any channel with TBC enabled is comparable to professional Super VHS recorder/playback quality. For optimal image quality, and if not required, TBC should be disabled.

Table A-4. Component Analog Video Input

Characteristic	Specification
Input connectors:	BNCx (3) terminating
Impedance:	75 ohms
Return loss:	≤ -40dB to 5.0MHz
Input formats supported (525/60):	Betacam Betacam without setup Betacam (non-EBU) MII MII without setup (SMPTE/EBU-N10) GBR (700mv no setup)
Input formats supported (625/50):	SMPTE/EBU-N 10 Betacam (non-EBU) GBR (700mv no setup)
Reference:	Sync on Y/G video input

Table A-5. Component Analog Video Performance

Characteristic	Specification	
A to D conversion:	*Supplemental Data:*	10 bits at 27 MSPS on all 3 inputs
Output video data:	*Supplemental Data:*	Dynamically rounded (dithered) to 8 bits
Input gain controls:	*Requirement:*	Each CAV input is software adjustable ±3dB except MII, which is software adjustable +2.5/-3dB.
Input Setup Controls	*Requirement:* *Supplemental Data:*	±20 mV Software adjustable
Frequency response:	*Requirement:*	(Y) ±0.25 dB 0-5.8MHz (Cb/Cr) ±0.25 dB 0-2.75 MHz
Signal-to-Noise Ratio	*Requirement:*	> +50dB
Relative timing error:	*Engineering Note:*	Y to Cb/Cr, <5ns by design Cb to Cr, <5ns by design Measurement accuracy ±5ns
Internal Sync (Y/G input) timing:	*Requirement:* *Engineering Note:*	Digital video output H position error <25ns w.r.t. input sync CAV auto-timing ON. Input signal timed to Genlock Black Burst.
Standards selection:	Software selectable 525/625	
Gain Accuracy	*Requirement:* *Supplemental Data:*	All supported input formats translated to ±1% of SMPTE/EBU-N10 levels given in Tables 2-9 and 2-10. 75% bars with 100% flag
K Factor K-2T (Y) K-4T (B-Y) K-4T (R-Y)	*Requirement:* *Supplemental Data:*	≤1% Component K factor measurement @ VM700
K Pulse-to-Bar	*Requirement:* *Supplemental Data:*	±1% K factor Component K factor measurement @ VM700

Table A-6. Format Voltage Level Definitions for CAVmtrxN Colorbar Matrix Test Clip

Format	White	Yellow	Cyan	Green	Magenta	Red	Blue	Black
SMPTE/EBU-N10 (MII w/o setup)								
Y	700	465.2	368	308.2	216.8	157.0	59.9	0
B-Y	0	-262.5	88.6	-173.9	173.9	-88.6	262.5	0
R-Y	0	42.7	-262.5	-219.8	219.8	262.5	-42.7	0
MII								
Y	700	482.8	392.9	337.6	253.1	197.7	107.9	52.5
B-Y	0	-242.8	81.9	-160.9	160.9	-81.9	242.8	0
R-Y	0	39.5	-242.8	-203.3	203.3	242.8	-39.5	0
Betacam								
Y	714.3	492.6	400.9	344.4	258.2	201.7	110.1	53.6
B-Y	0	-350	118.1	-231.9	231.9	-118.1	350	0
R-Y	0	56.9	-350	-293.1	293.1	350	-56.9	0
Betacam w/o setup								
Y	714.3	474.6	375.5	314.5	221.2	160.2	61.1	0
B-Y	0	-378.4	127.7	-250.7	250.7	-127.7	378.4	0
R-Y	0	61.5	-378.4	-316.8	316.8	378.4	-61.5	0
Betacam w/o setup (non-EBU)								
Y	700	465.2	368	308.2	216.8	157.0	59.9	0
B-Y	0	-350	118.1	-231. 9	231. 9	-118.1	350	0
R-Y	0	56.9	-350	-293.1	293.1	350	-56.9	0
GBR								
G	700	525	525	525	0	0	0	0
B	700	0	525	0	525	0	525	0
R	700	525	0	0	525	525	0	0

Table A-7. Format Voltage Level Definitions for CAVmtrxP Colorbar Matrix Test Clip

Format	White	Yellow	Cyan	Green	Magenta	Red	Blue	Black
SMPTE/EBU-N10 (MII w/o setup)								
Y	700	465.2	368	308.2	216.8	157.0	59.9	0
B-Y	0	-262.5	88.6	-173.9	173.9	-88.6	262.5	0
R-Y	0	42.7	-262.5	-219.8	219.8	262.5	-42.7	0
Betacam w/o setup (non-EBU)								
Y	700	465.2	368	308.2	216.8	157.0	59.9	0
B-Y	0	-350	118.1	-231. 9	231. 9	-118.1	350	0
R-Y	0	56.9	-350	-293.1	293.1	350	-56.9	0
GBR								
G	700	525	525	525	0	0	0	0
B	700	0	525	0	525	0	525	0
R	700	525	0	0	525	525	0	0

Table A-8. Program Input Genlock

Characteristics	Description
Burst Frequency Lock Range	*Requirement:* ±50 Hz at subcarrier *Supplemental Data:* Remains locked or initial lock
Signal Amplitude Lock Range	*Requirement:* Stays locked to +6 dB and -3 dB
Phase Jitter (Analog Input and Analog Output)	*Requirement:* ≤1°
Phase Jitter (Analog Output Only)	*Requirement:* ≤0.5°
Hum Rejection	*Requirement:* ≥32 dB
Recovery Time	*Requirement:* Fast - Within 35.7 mV in 2 to 3 lines Medium - Within 35.7 mV in 10 to 30 lines Slow - Within 35.7 mV in > 30 lines
Switch Points	*Requirement:* Fast - Medium 30 to 40 dB signal-to-noise *Supplemental Data:* Medium - Slow 20 to 30 dB signal-to-noise

Table A-9. Reference Genlock

Characteristics	Description
Color Field Detection, Based on SCH Phase	*Requirement:* Correct color framing for signals having an average SCH phase ±40°; Lockup ±10° *Supplemental Data:* Once locked to color field, it will stay locked over a range of 0° to ±90°
Burst Frequency Lock Range	*Requirement:* PAL,±10 Hz at subcarrier NTSC, ±20 Hz at subcarrier
Signal Amplitude Lock Range	*Requirement:* Stays locked to +6 dB and -3 dB
Reference Genlock Input Return Loss	*Requirement:* ≥40 dB to 5 MHz

Table A-10. Time Code

Characteristics	Description
Input	*Supplemental Data:* Longitudinal Time Code. AC coupled, differential input
Input Impedance	*Supplemental Data:* 20 kΩ. Switch selectable 600 Ω input.
Input Amplitude	*Supplemental Data:* 0.1 V p-p, differential, minimum
Maximum Input Voltage	*Supplemental Data:* 2.5 V p-p, differential, maximum

Table A-11. Analog Audio

Characteristics	Description
Through Gain	*Requirement:* 1 ±1 dB *Supplemental Data:* Non-mix mode each of four channels
Frequency Response	*Requirement:* 20 Hz to 20 kHz, with between +0.5 dB, -2 dB maximum deviation from flatness at 48 kHz sample rate
Input Impedance	*Supplemental Data:* 600 Ω or 20 kΩ each channel
Input/Output Signal Levels	*Supplemental Data:* Nominal Line Level: 0 dBu Nominal Peak Line Level: +9 dBu Digital Clipping: +18 dBu (16-bit quantization)
THD+N at 1020 Hz and 60 Hz	*Requirement:* -70 dBm (0.031%) at +9dBu input

Table A-12. Digital Audio

Characteristics	Description
Bit Rate	*Supplemental Data:* 270 Mb/S
Return Loss	*Supplemental Data:* 15 dB from 5 MHz to 270 MHz
Input Impedance	*Supplemental Data:* 75 Ω
Output Amplitude	*Requirement:* 800 mV p-p, ±80 mV.
Output DC Level	*Requirement:* 0 V, ±0.5 V
Output Rise and Fall Time	*Requirement:* 400 pS to 1000 pS between 20% and 80%
Jitter	*Requirement:* ≤ either 0.2ui or 720 pS p-p

Table A-13. Profile Video File Server Power Source

Characteristics	Description
Electrical Rating	*Requirement:* 100 -240V, 50/60 Hz, 10A maximum
Supply Type	*Supplemental Data:* Single Phase
Supply Connection	*Supplemental Data:* Detachable cord set
Power Consumption	*Supplemental Data:* <600 VA

Table A-14. Profile Video File Server Power Supply Specifications (from Manufacturer)

Characteristics	Description
Output voltages	*Supplemental Data:* +5Vdc @ 70 A max. -5Vdc @ 5 A max. +12Vdc$_1$ @ 10 A max. +12Vdc$_2$ @ 6 A max. -12Vdc @ 6A max.
Total wattage	*Supplemental Data:* 1000 W maximum
Ripple	*Supplemental Data:* 200 mV p-p on + 5V supply 50 mV p-p on -5V supply 120 mV p-p on +12V supplies 225 mV p-p on -12V supply
Regulation	*Supplemental Data:* ±3% on +5, -5, and -12 V supplies ±5% on +12 V supplies

Environmental Criteria

Table A-15 lists the environmental criteria for the Profile Video File Server and the PAC208/216.

Table A-15. Environmental Criteria

Characteristics	Description
Operating Temperature	*Requirement:* 5° to 40°C (+41° to 122°F)
Storage Temperature	*Requirement:* -40° to 65°C (-40° to 149°F)
Operating Altitude	*Requirement:* To 15,000 feet (4572 meters) *Supplemental Data:* IEC 950 compliant to 2000 meters
Storage Altitude	*Requirement:* To 50,000 feet (15,240 meters)
Mechanical Shock	Mil Specification: Mil-T-28800D, Class 6 (Non-Operating Only)
Transportation	*Requirement:* Qualified under NSTA Test Procedure 1A, Category II (24 inch drop)
Equipment Type	*Supplemental Data:* Information Technology
Equipment Class	*Supplemental Data:* Class I
Installation Category	*Requirement:* Category II Local level, appliances, portable equipment, etc.
Pollution Degree	*Requirement:* Level 2 Normally only non-conductive pollution occurs. Occasionally a temporary conductivity caused by condensation must be expected.
Humidity	*Requirement:* Operating 20% - 80% Non-Operating 8% - 90% Transportation 5% - 95% Maximum Wet Bulb Temperature 26° *Supplemental Data:* Do not operate with visible moisture on the circuit boards

Mechanical Specifications

Table A-16 lists the dimensions for the Profile Video File Server chassis, the PAC 208/216 chassis, the XLR panels, and the BNC panel.

Table A-16. Profile Video File Server Mechanical Specifications

Item	Dimensions
PDR200/PDR300	Height: 8.720 inches (22.149 centimeters) Width: 19.000 inches (48.260 centimeters) Depth: 24.150 inches (61.341 centimeters)
PAC208/216	Height: 3.500 inches (8.89 centimeters) Width: 19.000 inches (48.260 centimeters) Depth: 19.000 inches (48.260 centimeters)
XLR Panel	Height: 3.500 inches (8.89 centimeters) Width: 19.000 inches (48.260 centimeters) Depth: 3.250 inches (8.255 centimeters)
BNC Panel	Height: 1.750 inches (4.445 centimeters) Width: 19.000 inches (48.260 centimeters) Depth: 3.250 inches (8.255 centimeters)

PAC 208/216 Power Requirements

Table A-17 lists the power requirements for the PAC 208/216.

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Table A-17. PAC208/216 Power Requirements

Characteristic	Specification
Voltages/current from power supply	+5V, 1.9 A maximum
Typical Total Power	9.0 Watts typical
Maximum Heat Dissipation	32.42 BTU/hour (9.5 watts)

Chapter **B**

Connector Pin-outs

This appendix contains the pin-outs for the connectors at the rear panel of the Profile Video File Server.

S-VGA Board Connectors

The S-VGA board has two rear panel connectors: one for the Monitor and one for a Parallel Port The SVGA board communicates over the ISA bus. The S-VGA board rear panel Monitor connector is a high density 15 female connector. Figure B-1 shows the SVGA Monitor connector and Table B-1 lists the pin-outs.

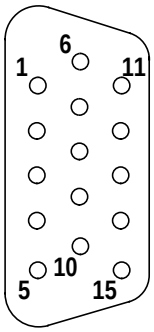

Figure B-1. SVGA Board Monitor Connector

Table B-1. S-VGA Board Monitor Connector Pin-outs

Pin #	Signal	Pin #	Signal	Pin #	Signal
1	Analog Red Output	6	Ground	11	not used
2	Analog Green Output	7	Ground	12	not used
3	Analog Blue Output	8	Ground	13	Horizontal Sync
4	not used	9	Ground	14	Vertical Sync
5	not used	10	not used	15	not used

Table B-2 lists the pin-outs for the Parallel Port connector on the S-VGA board

.

Table B-2. SVGA Board Parallel Port Connector Pin-outs

Pin	Signal	Pin	Signal
1	STROBE/	14	AUTO FEED
2	PD(0)	15	ERROR
3	PD(1)	16	INIT
4	PD(2)	17	LCTIN/
5	PD(3)	18	GND
6	PD(4)	19	GND
7	PD(5)	20	GND
8	PD(6)	21	GND
9	PD(7)	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PAPER ERROR	25	GND
13	SLCT		

Local Area Network (LAN) Board Connectors

The LAN board has two connectors for 10/100 BaseT format. The connector used with the Profile is the 8-pin RJ-45 snap-in telephone-type connector which supports Category 5 unshielded twisted pairs. Figure B-2 shows the RJ-45 connector and Table B-3 lists the pin-outs.

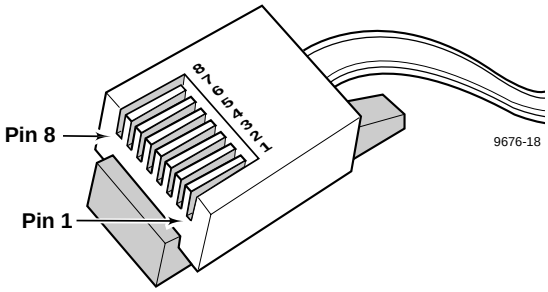

Figure B-2. LAN RJ-45 Connector

Table B-3. RJ-45 Connector Pin-outs

Pin #	Signal	Pin #	Signal
1	Transmit +	5	not used
2	Transmit -	6	Receive -
3	Receive +	7	not used
4	not used	8	not used

Table B-4 lists the pin-outs for the LAN board 9-pin connector

.

Table B-4. LAN 9-Pin Connector Pin-outs

Pin	Signal
1	Receive +
2	not used
3	not used
4	not used
5	Transmit +
6	Receive -
7	not used
8	not used
9	Transmit -

SCSI-2 Connector

The Profile Video File Server provides a number of SCSI-2 68-pin interface connectors at the rear panel, including the one on the SCSI board which is reserved for the PLS200 Library System.

For a 2-channel Profile, SCSI interfaces are identified as:

SCSI A - Master EDR board rear panel connector
SCSI B - Rear Panel connector

For a 4-channel Profile, SCSI interfaces are identified as:

SCSI A - Master EDR board rear panel connector
SCSI B - Rear Panel connector
SCSI C - Slave EDR board rear panel connector
SCSI D - Rear Panel connector

All SCSI-2 connectors have the same pin-outs. This includes an internal SCSI-2 interface that is used with the disk drives that are resident within the Profile Video File Server. Figure B-3 shows a SCSI connector and Table B-5 lists the pin-outs.

Note that in Table B-5, signals preceded by a dash (-) indicate signals that are true, asserted, and active when low.

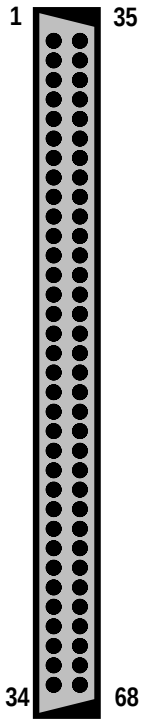

Figure B-3. SCSI 2 Connector

Table B-5. SCSI 2 Connector Pin-outs

Pin #	Mnemonic	Signal Description	Pin #	Mnemonic	Signal Description
1	DB12	Data Bus bit 12	35	-DB12	Data Bus bit 12
2	DB13	Data Bus bit 13	36	-DB13	Data Bus bit 13
3	DB14	Data Bus bit 14	37	-DB14	Data Bus bit 14
4	DB15	Data Bus bit 15	38	-DB15	Data Bus bit 15
5	DB P1	Data Bus Parity (8-15)	39	-DB P1	Data Bus Parity (8-15)
6	GND	Signal Ground	40	GND	Signal Ground
7	DB0	Data Bus bit 0	41	-DB0	Data Bus bit 0
8	DB1	Data Bus bit 1	42	-DB1	Data Bus bit 1
9	DB2	Data Bus bit 2	43	-DB2	Data Bus bit 2
10	DB3	Data Bus bit 3	44	-DB3	Data Bus bit 3
11	DB4	Data Bus bit 4	45	-DB4	Data Bus bit 4
12	DB5	Data Bus bit 5	46	-DB5	Data Bus bit 5
13	DB6	Data Bus bit 6	47	-DB6	Data Bus bit 6
14	DB7	Data Bus bit 7	48	-DB7	Data Bus bit 7
15	DB P	Data Bus Parity (0-7)	49	-DB P	Data Bus Parity (0-7)
16	DIFFSENS	Differential (Drive) Sensor	50	GND	Signal Ground
17	TERMPWR	Termination Power	51	TERMPWR	Termination Power
18	TERMPWR	Termination Power	52	TERMPWR	Termination Power
19	Reserved	n.a.	53	Reserved	n.a.
20	ATN	Attention	54	-ATN	Attention
21	GND	Signal Ground	55	GND	Signal Ground
22	BSY	SCSI Bus Busy	56	-BSY	SCSI Bus Busy
23	ACK	Data Xfer Acknowledge	57	-ACK	Data Xfer Acknowledge
24	RST	Reset	58	-RST	Reset
25	MSG	Message	59	-MSG	Message
26	SEL	Select	60	-SEL	Select
27	C/D	(Control)Data	61	-C/D	Control(Data)
28	REQ	Data Xfer Request	62	-REQ	Data Xfer Request
29	I/O	Input/Output	63	-I/O	Input/Output
30	GND	Signal Ground	64	GND	Signal Ground
31	DB8	Data Bus bit 8	65	-DB8	Data Bus bit 8
32	DB9	Data Bus bit 9	66	-DB9	Data Bus bit 9
33	DB10	Data Bus bit 10	67	-DB10	Data Bus bit 10
34	DB11	Data Bus bit 11	68	-DB11	Data Bus bit 11

Fibre Channel Connector

The Fibre Channel board uses a 9-pin subminiature D-type connector. Figure B-4 shows the connector and Table B-6 lists the pin-outs.

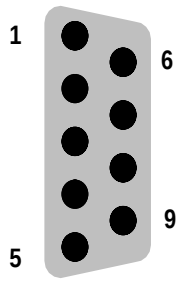

Figure B-4. Fibre Channel Connector

Table B-6. Fibre Channel Connector Pin-outs

Pin #	Mnemonic	Description
1	T_{x+}	Differential Transmit Data IN
2	V_{cc}	5VDC (nominal)
3	Fault	Module Fault Detect
4	KEY	Mechanical Key Position
5	R_{x+}	Differential Receive Data OUT
6	T_{x-}	Differential Transmit Data OUT
7	ODIS+	Optical Output Disable
8	GND	Signal Ground
9	R_{x-}	Differential Receive Data In

Fibre Channel Cable Specifications

Both copper wire and fiber cable specifications are given.

Copper wire:

Cable type: 150 ohm twinax copper wire
Maximum length: 30 meters (98 feet) (GLM dependent)
Connector type: DB9

Fiber:

Cable type: duplex zip cord, plenum grade
Fiber: 50/125
Maximum length: 1.2 kilometers (3,937 feet) (GLM dependent)
Connector type: SC Duplex Polish PC

Reference Genlock D-Connector

The 25-pin D connector on the Reference Genlock board provides eight Longitudinal Time Code (LTC) interfaces (four input channels and four output channels). The LTC Breakout cable with a DB25 connector on one end and eight XLR connectors on the other can then be connected to the Reference Genlock 25-pin D connector at the rear panel of the Profile. Figure B-5 shows the connector and Table B-7 lists the pin-outs.

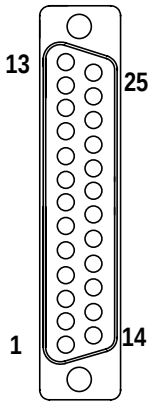

Figure B-5. Reference Genlock 25-pin Connector

Table B-7. Reference Genlock D-connector Pin-outs

Pin #	Description	Pin #	Description
1	Ch 0 Input +	14	Ch 0 Output Common
2	Ch 0 Input -	15	Ch 0 Output +
3	Ch 0 Input Common	16	Ch 0 Output -
4	Ch 1 Input +	17	Ch 1 Output Common
5	Ch 1 Input -	18	Ch 1 Output +
6	Ch 1 Input Common	19	Ch 1 Output -
7	Ch 2 Input +	20	Ch 2 Output Common
8	Ch 2 Input -	21	Ch 2 Output +
9	Ch 2 Input Common	22	Ch 2 Output -
10	Ch 3 Input +	23	Ch 3 Output Common
11	Ch 3 Input -	24	Ch 3 Output +
12	Ch 3 Input Common	25	Ch 3 Output -
13	Power On Indicator		

Audio Signal Processing Board Connector

The Audio digital Signal Processor board (ASPB) accepts 16 channels of digital audio input and provides 16 channels of digital audio output via a 80-pin connector on the rear panel. The cable to this connector is from the Profile Audio Chassis or from the XLR/BNC 216 Digital Breakout Box. Figure B-6 shows the ASPB rear panel connector and Table B-8 lists the pin-outs.

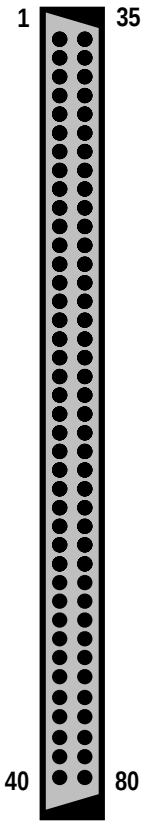

Figure B-6. ASPB Connector

Table B-8. ASPB Connector Pin-outs

Pin	Signal Description	Pin	Signal Description	Pin	Signal Description
1	Ch 1-2 AES Out (P)	28	nc	55	Ch 15-16 AES Out (P)
2	Ch 1-2 AES Out (N)	29	Ch 13-14 AES In (P)	56	Ch 15-16 AES Out (N)
3	Chassis Ground	30	Ch 13-14 AES In(N)	57	Ch 1-4 ADC Clock Out (P)
4	Chassis Ground	31	AES Reference In (P)	58	Ch 1-4 ADC Clock Out (N)
5	Ch 5-6 AES Out (P)	32	AES Reference In (N)	59	Ch 3-4 AES In (P)
6	Ch 5-6 AES Out (N)	33	AES Monitor Out (P)	60	Ch 3-4 AES In (N)
7	nc	34	AES Monitor Out (N)	61	Ch 5-8 ADC Clock Out (P)
8	nc	35	nc	62	Ch 5-8 ADC Clock Out (N)
9	Ch 9-10 AES Out (P)	36	nc	63	Ch 7-8 AES In (P)
10	Ch 9-10 AES Out (N)	37	UART Receive (P)	64	Ch 7-8 AES In (N)
11	nc	38	UART Receive (N)	65	Ch 9-12 ADC Clock Out (P)
12	nc	39	PAC Ready (P)	66	Ch 9-12 ADC Clock Out (N)
13	Ch 13-14 AES Out (P)	40	PAC Ready (N)	67	Ch 11-12 AES In (P)
14	Ch 13-14 AES Out (N)	41	nc	68	Ch 11-12 AES In (N)
15	nc	42	nc	69	Ch 13-16 ADC Clock Out (P)
16	nc	43	Ch 3-4 AES Out (P)	70	Ch 13-16 ADC Clock Out (N)
17	Ch 1-2 AES In (P)	44	Ch 3-4 AES Out (N)	71	Ch 15-16 AES In (P)
18	Ch 1-2 AES In (N)	45	nc	72	Ch 15-16 AES In (N)
19	nc	46	nc	73	Digital Ground
20	nc	47	Ch 7-8 AES Out (P)	74	Breakout Box Present Flag
21	Ch 5-6 AES In (P)	48	Ch 7-8 AES Out N)	75	UART Transmit (P)
22	Ch 5-6 AES In (N)	49	nc	76	UART Transmit (N)
23	nc	50	nc	77	Chassis Ground
24	nc	51	Ch 11-12 AES Out (P)	78	Chassis Ground
25	Ch 9-10 AES In (P)	52	Ch 11-12 AES Out (N)	79	PAC Reset (P)
26	Ch 9-10 AES In (N)	53	nc	80	PAC Reset (N)
27	nc	54	nc		

nc = no connection

RS-232 Connectors

The Profile Video File Server has two RS-232 interface connectors on the rear panel. Figure B-7 shows a 9-pin RS-232 rear panel connector (both are male) and Table B-9 lists the pin-outs.

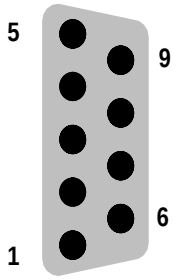

Figure B-7. RS-232 Connector Pin-outs

Table B-9. RS-232 Connector Pin-outs

Pin #	Signal	Description
1	DCD	Received line Signal Detector
2	RXD	Received Data
3	TXD	Transmitted Data
4	DTR	Data Terminal Ready
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	CE	Ring Detect

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