Installation

Tektronix

Profile

PLSDST3 and PLSDST4
Software Interface Kits

Revision Status

Rev Date	Description
June 1998	Original Issue; Manual Part Number 071-0197-00
July 1998	Added local processor memory requirement; 071-0197-01.

General Safety Summary

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

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

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

Injury Precautions

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

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

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

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

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

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

General Safety Summary

| **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

NOTE: These term and symbol definitions apply to their use on Tektronix products only. Terms and symbols used by other manufacturers may have different meanings. Consult the safety information published by those manufacturers for correct definitions of terms and symbols used on their products.

Service Safety Summary

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

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

DST 312/412 Interface Kit Installation

Introduction

NOTE: Profile system software version 2.4 must be installed and tested before you install any other part of the Interface Kit. For more information, see System Software Requirements beginning on page 2.

These instructions explain how to connect an Ampex DST 312 Tape Drive or DST 412 Automated Cartridge Library (ACL) to a Tektronix Profile PDR 204 Video File Server.

The DST 312 tape drive connects to the Profile video file server through a single SCSI cable. Tape cartridges are manually loaded into the drive for data storage or retrieval. If there are 64 MB of memory on both the Master and Slave EDR cards, two DST 312 tape drives can be connected to a single Profile video file server.

➤ **Important** *The Profile video file server supports connection of two DST 312 Tape Drives but only one DST 412 ACL.*

The DST 412 ACL consists of a tape drive and a robot system for loading and unloading tapes from the drive. Two SCSI cables are required to connect the DST 412: one for program data, the other for control information.

The following table outlines the tasks required to connect either tape system to the Profile video file server. Each of these tasks is described in detail later in this manual:

Connecting the DST 312	Connecting the DST 412
Install version 2.4 software in the Profile video file server.	Install version 2.4 software in the Profile video file server.
Check the amount of RAM on the EDR boards.	Check the amount of RAM on the EDR boards.
Prepare the Profile video file server.	Prepare the Profile video file server.
Install RAM as needed.	Install RAM as needed.
Install the connecting cable.	Install the SCSI adapter board.
Turn on, and verify the installation.	Install the connecting cables.
	Turn on, update CMOS, install SCSI driver, and verify the installation

System Software Requirements

Version 2.4 or higher Profile System Software **must** be installed in the Profile system to support the DST 312 Tape Drive or the DST 412 ACL. Version 2.4 software is included in this Software Interface field kit. Install version 2.4 software *before* continuing with this field kit installation. Follow the installation and testing instructions included with the software.

To check the software version installed in your Profile system, open the VdrPanel application and choose **Help | About VdrPanel**. The software version is listed in the displayed window.

NOTE: After you install 2.4 software, you must update the firmware of some Profile circuit boards with an in-system programming (ISP) procedure described in the **Profile 2.4 Software Release Notes** *and in the Profile Utilities chapter of the* **Profile Family User Manual***.*

Master and Slave EDR Memory Requirements

The Master Enhanced Disk Recorder (EDR) board or Slave EDR board must have 64 MB of I/O buffer memory installed to support the DST 312 or DST 412. Both EDR boards must be upgraded to 64 MB of memory if you intend to connect a second DST 312 to the Profile video file server. Also, the memory for the local processor on the Master EDR board must be upgraded to 32 MB. If you ordered your Profile video file server recently, the Master and Slave may already have these upgrades.

To see the amount of memory installed on the Master and Slave EDR boards, check the Profile log soon after a system start or reboot. Look for messages similar to these:

    HDIL: found 16M of RTS memory
    HDIL: Found JPEG memory at c4000000, size 16 Meg
    HDIL: Found JPEG memory at c6000000, size 16 Meg
    HDIL: Found JPEG memory at cc800000, size 8 Meg
    HDIL: Found JPEG memory at ce000000, size 16 Meg

The memory sizes listed in the Profile log example indicate that the memory needs to be upgraded. The local processor memory size (called RTS in the example) and at least the first two I/O buffer memory sizes (called JPEG in the example) should be 32 MB. If your system does not have the required local processor memory on the Master EDR and the required I/O buffer memory on the Master or Slave EDR,

you will need to install the 32-megabyte SIMMs included in this kit. Instructions for installing the memory are found on page 6. If you need additional 32 MB SIMMs, contact your Tektronix representative.

Another method for checking memory is to choose **Start | Programs | PDR Debug Tools | PDR Diagnostics** from the Windows NT 4.0 desktop, then select **Master EDR** from the left-hand side of the diagnostics screen.

Look in the GDB960 window that appears for a report of the different memory sizes on the EDR board along with the I/O buffer memory sizes on both the EDR Master and Slave. The messages appear as follows:

```
SRAM – base: fef80404 size: 00077b6c
PRAM – base: ee000494 size: 00077b6c
DRAM – base: fa0b36b0 size: 00e35ab0 (malloc'd)

Sizing Master JPEG Channel A Memory – Found 32 Mbytes.  Memory Base
Address is 0xc4000000

Sizing Master JPEG Channel B Memory – Found 32 Mbytes.  Memory Base
Addressis 0xXX000000

Sizing Slave JPEG Channel A Memory – Found 16 Mbytes.  Memory Base
Addressis 0xXX000000

Sizing Slave JPEG Channel B Memory – Found 16 Mbytes.  Memory Base
Addressis 0xXX000000
```

In this case, the Master EDR board has 490K of SRAM and PRAM memory available and 14 Mbytes of DRAM allocated, which indicates that you need to install a 32 MB SIMM.

If you do not need to install additional memory, skip to "Installing the SCSI Adapter" beginning on page 10 if you are connecting a DST 412, or to "Installing the Connecting Cables" beginning on page 10 if you are connecting a DST 312.

Terminology

In these instructions the term *tape drive* is used to refer to the DST 312 tape drive, *ACL* is used to refer to the DST 412 Automated Cartridge Library, and *tape system* is used to conveniently refer to either the DST 312 or DST 412.

⚠ *WARNING: Before performing any installation or maintenance procedures, be sure that:*

• *the rear-panel power switch is in the off position.*
• *the power cord is disconnected from the video disk recorder and the outlet.*

Preparing the Profile Video File Server

Installing RAM on the Master or Slave EDR board and installing a SCSI adapter board requires opening the Profile video file server and removing the circuit board hold-down brackets. Use the procedures that follow to prepare the Profile video file server for RAM and SCSI adapter installations.

1. Loosen the front panel retaining screw and pull the cabinet out until all three slide sections latch.

2. Remove the top covers in the order shown in Figure 1. The front cover must be removed first since it overlaps the rear cover. Use T-10 and T-15 TORX drivers to remove the screws.

NOTE: Take care not to lose these cabinet screws. They are required to meet the EMI specifications for the Profile video file server.
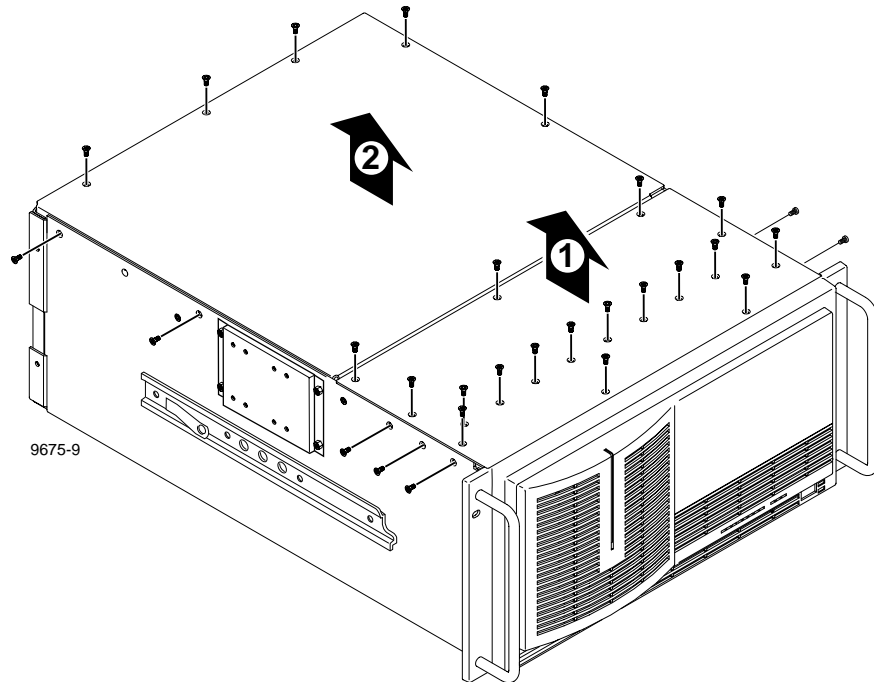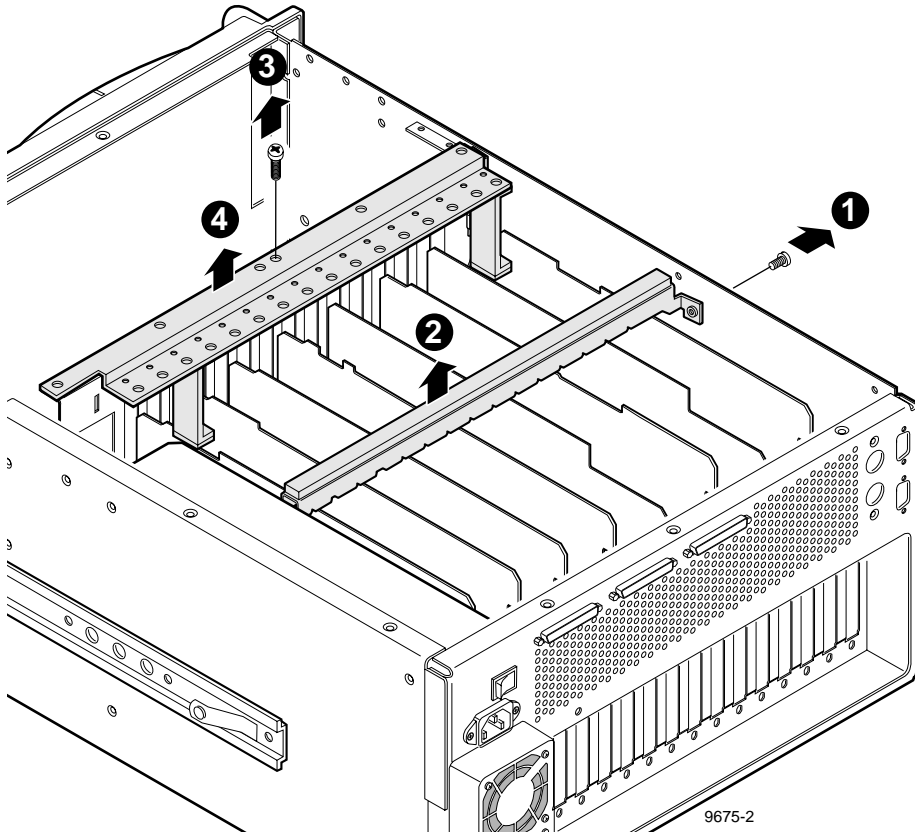

Figure 1. Removing the top covers

3. Remove the two circuit board hold-downs as shown in Figure 2. Both hold-downs are held in place by T-10 TORX head screws, and must be removed in order to remove or install any of the circuit boards.

9675-2

Figure 2. Removing the circuit board hold-downs

Installing the RAM

Install the RAM included in this kit if the memory checks described in "Master and Slave EDR Memory Requirements" beginning on page 2 indicate that there is less than 64 MB of I/O buffer RAM on the Master or Slave EDR board, and less than 32 MB of local processor RAM on the Master EDR board.

1. Unplug the PCI Interconnect board from the top of the EDR boards. The PCI Interconnect board is a three- or five-connector board that spans the circuit boards requiring PCI interconnection. The boards that plug into the PCI Interconnect board are the MPEG, Fibre Channel, Master EDR, and Slave EDR boards normally located in slots J8, J9, J10, J11, and J12 and arranged as shown in Figure 3.
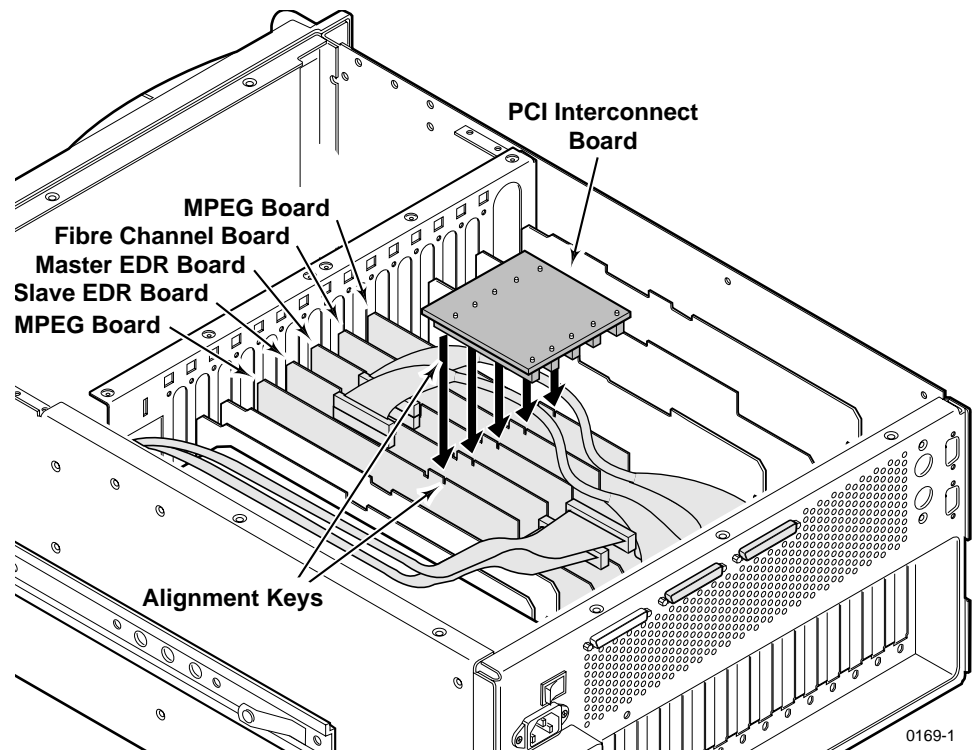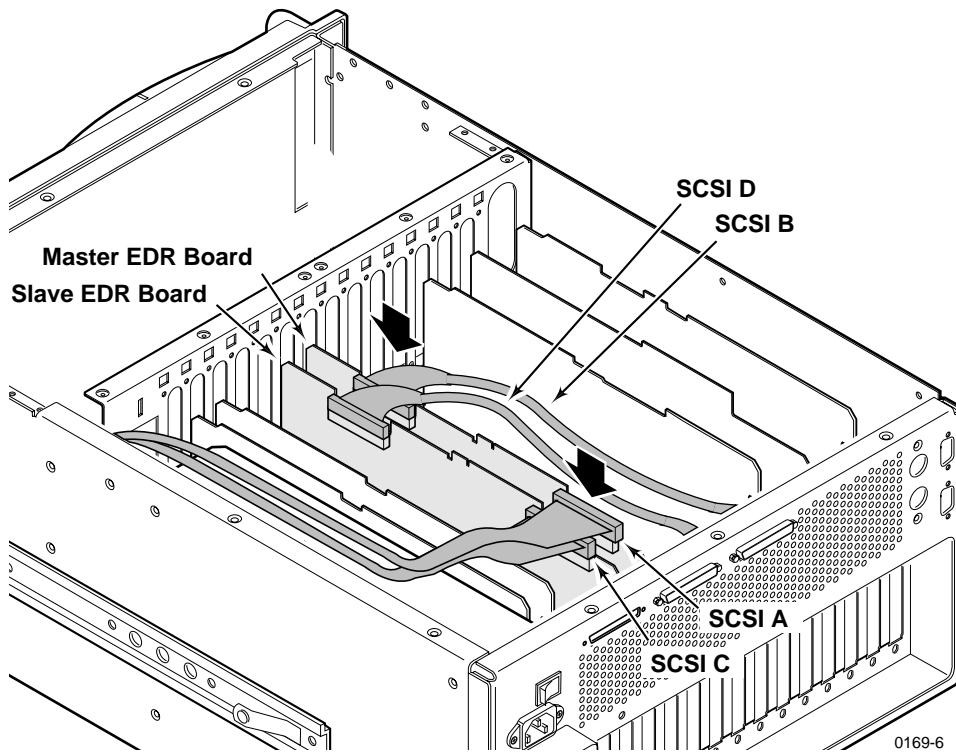

Figure 3. PCI board location

2. Unplug the SCSI cables from the top edge connectors on the Master EDR board. The SCSI cable locations are shown in Figure 4.

NOTE: If the tape system is to be connected to SCSI D, the Slave EDR board must have 64 MB of RAM installed. In cases where a tape drive is to be connected to SCSI B and another to SCSI D, both EDR boards must have 64 MB of RAM.
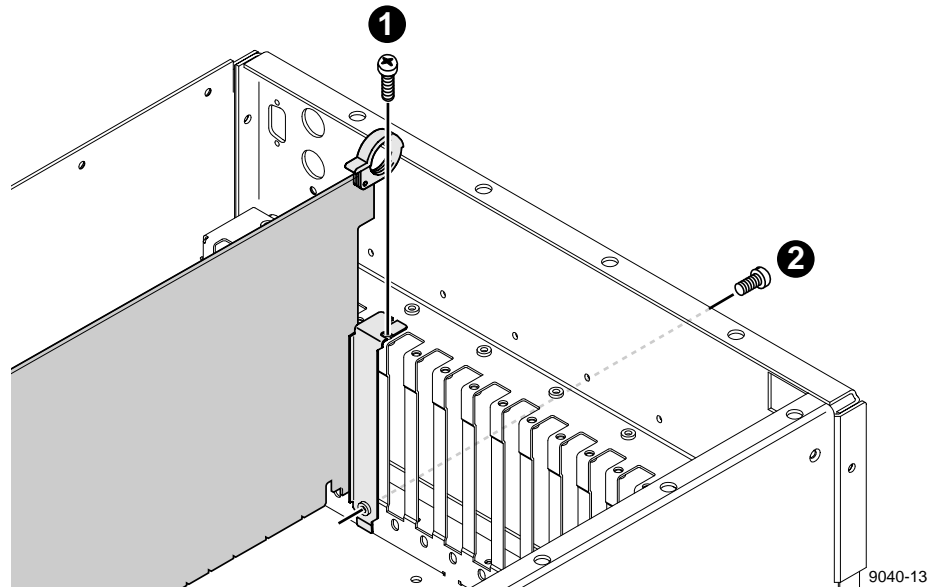

Figure 4. Locating the SCSI cables
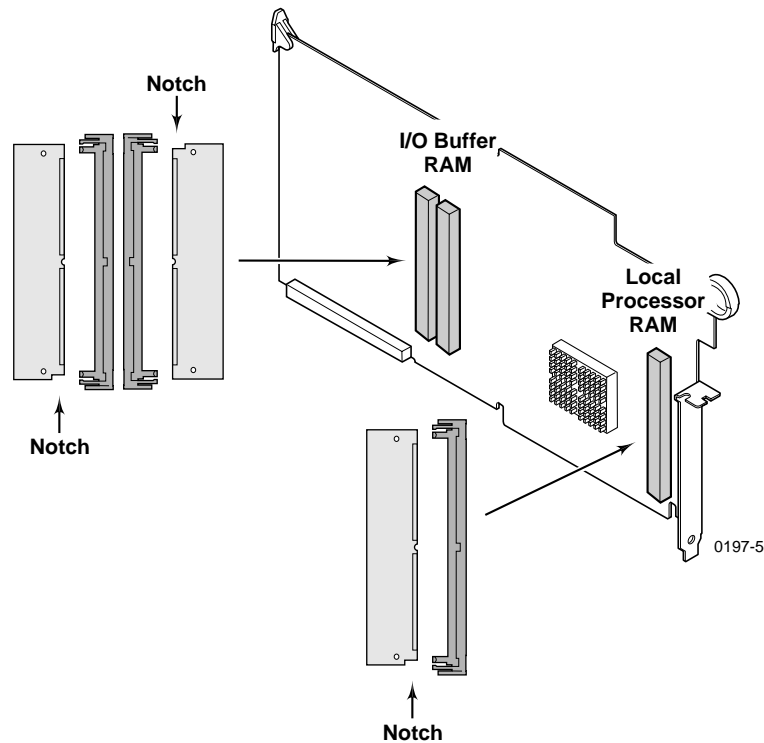
3. Remove the two screws that hold the Master EDR board's mounting bracket. The screw locations are shown in Figure 5.

4. Extract the Master EDR board from its slot.

Figure 5. Screw locations for board mounting bracket

5. Install the new RAM as shown in Figure 6. Sockets for I/O buffer RAM are located in the same place on the Slave EDR board.

6. Re-install the EDR board, the PCI Interconnect board, and the SCSI cables. Refer to Figure 4 for SCSI cable locations.

7. Install the retainer brackets, and the cabinet covers **unless** you have a SCSI adapter board to install. If you have a SCSI adapter board to install, go on to the next procedure, "Installing the SCSI Adapter".

Figure 6. Installing RAM on the Master EDR board

Installing the SCSI Adapter

The SCSI adapter board provides an EISA-to-SCSI interface that allows the Media Manager or similar software on the Profile video file server to control the ACL's cartridge handling mechanism. The procedures that follow take you step-by-step through the recommended sequence for installation of the SCSI adapter board.

1. Remove the slot cover plate for slot J4 in the Profile video file server rear panel.

➤ **Important** *Be sure to remove the jumper as described in the following step. If the jumper is left in place, the Profile video file server will display an error when initializing the SCSI adapter board.*

2. Unpack the SCSI adapter board and remove the jumper from W1 on the board. Refer to the manual packed with the board to locate the jumper.

3. Plug the SCSI adapter board into the J4 socket and press down till the board is fully plugged into the socket. The board is properly seated when the top of the rear mounting bracket is resting on the rear chassis wall shelf.

4. Install the mounting screw only in the top of the bracket inside the cabinet (as shown at ❶ in Figure 5).

5. Re-install the hold-downs. Align each hold-down over the circuit boards and replace the mounting screws.

6. Re-install the cabinet covers. Do not tighten any of the screws until all the screws are started.

7. Install the power cord, but *do not* turn on the Profile video file server.

Installing the Connecting Cables

In these procedures you install the cables that connect the Profile video file server to the tape system. Use the procedure that applies to your installation. Consult your tape system documentation for specific instructions before making any connections.

Connecting the DST 312

1. Turn off power on all equipment to which you are making connections.

2. On the Profile video file server, connect a SCSI cable to SCSI B on the rear panel. Refer to Figure 7.

3. Install the terminator and connect the SCSI data cable on the DST 312 as shown in Figure 7. You can connect to either Port A or Port B. Make sure that the toggle switch for the port you are using is set to the "ON LINE" position, and that the toggle switch for the unused port is set to the "OFF LINE" position.
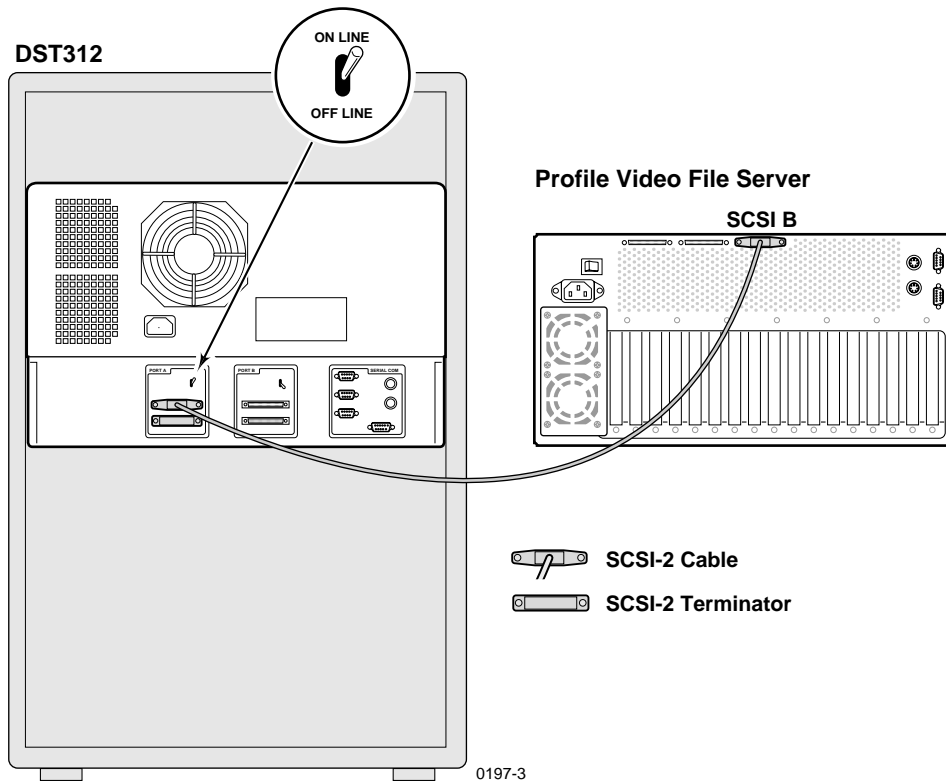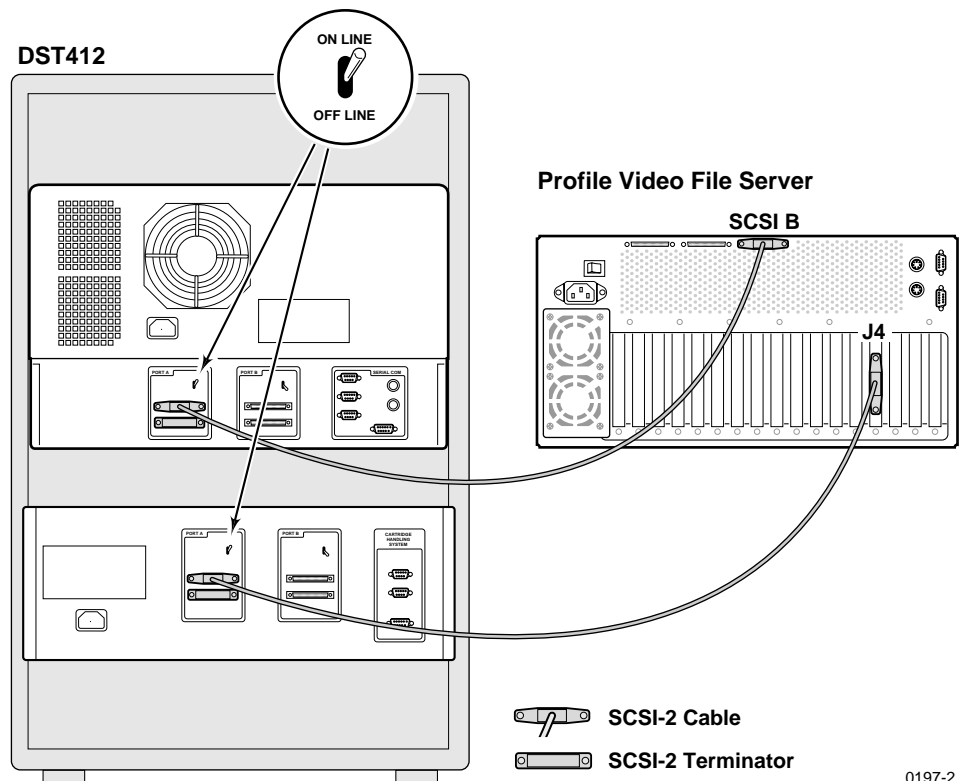

Figure 7. Connecting the DST 312 to the Profile video file server

Connecting the DST 412

1. Turn off power on all equipment to which you are making connections.

2. Connect one end of a SCSI cable to the jack on the SCSI adapter board in slot J4 of the Profile video file server. Connect the other end of the cable to either Port A or Port B on the lower panel. Install a terminator and set the toggle switch to the "ON LINE" position. Set the toggle switch for the unused port to the "OFF LINE" position. Refer to Figure 8.

3. Connect one end of a SCSI cable to SCSI B on the rear panel of the Profile video file server, and the other end to either Port A or Port B on the tape unit. Install a terminator and set the toggle switch to the "ON LINE" position. Set the toggle switch for the unused port to the "OFF LINE" position.

Figure 8. Connecting the DST 412 to the Profile video file server

Turn-on and Verification

When the connections are complete, follow this procedure to apply power to the tape system and the Profile video file server, and to verify the connections between them.

➤ **Important** *You must turn on the DST 312 or 412 before turning on the Profile video file server to insure that the Profile video file server can detect the presence of the tape system on the SCSI bus.*

1. Turn on the tape system. Allow a minute or two for the tape system to fully power up before turning on the Profile video file server.

2. Turn on the Profile video file server. If you installed a DST 312, log in and then skip to step 6. If you installed a DST 412, log in as *administrator* (factory-default password is *triton),* then go to the next step.

NOTE: When you turn on the Profile video file server after installing the SCSI adapter board, a warning will appear that EISA slot 2 needs to be configured. This is normal and is addressed when you update the SCSI adapter board software in the next 3 steps.

3. Click **Start** and point to **Programs | PDR Debug Tools**. Double click **Load CMOS** to rewrite a new image into CMOS. The console window indicates that the software has found the BT-757CD (the SCSI adapter board) and has used the correct *.cmo* file.

4. Restart the Profile video file server, and verify that the card in EISA slot two initializes correctly (no configuration warning). At this point the BusLogic BT-757CD SCSI card is initialized but can not be used by the DST 412 software until you install the driver for the SCSI adapter board.

5. Install the driver for the SCSI adapter board.

   a. In the Control Panel, double-click the **SCSI Adapters** icon, then click the **Drivers** tab.

   b. Click the **Add** button. When the list of drivers appears, click **BusLogic** in the list of manufacturers and click **Buslogic MultiMaster EISA SCSI Host Adaptor** in the list of drivers, then click **OK.** In the Files Needed dialog box, type c:\i386 and click **OK**.

   c. Click **OK** when asked if you want to restart the Profile video file server.

6. Start the Media Manager program and verify the presence of a Library System icon in the Media Manager tree pane.

7. Right-click the **Library** icon, then click **Properties** in the shortcut menu that appears. For a DST 312, the dialog box lists the tape drive but leaves the manufacturer and version blank. For a DST 412, the dialog box lists the manufacturer (Ampex) and a version number.

This concludes the installation procedures. Consult the documentation for your tape system and your automation system to further verify the operation of the tape system.