GRASS VALLEY GROUP

18GB DISK DRIVE UPGRADE

Installation Manual

071-0563-01

OCTOBER 2000

PROFILE FAMILY

VIDEO FILE SERVERS

Revision Status

Rev Date	Description
March 1999	Original issue. Manual Part Number 071-0563-00.
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Grass Valley Group Product Support

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

United States and Canada

Monday–Friday 5:30AM–5:00PM Pacific Time
(800) 547-8949

Europe

Monday–Friday 9:00AM–5:30PM

France	01 45 29 73 00	United Kingdom	01628 405830
Germany	49 221 1791 234	Other	+44 1753 218 777
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Australia	02-9888 0100	Japan	81-3-3448-3111
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World Wide

24-hour Emergency Hotline (530) 478-4148 (Contract and warranty customers)

World Wide Web	http://www.grassvalleygroup.com/support//
FTP Site	ftp.grassvalleygroup.com
E-mail	profile-users@grassvalleygroup.com

General Safety Summary

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

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

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

Injury Precautions

Do Not Service Alone

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

Disconnect Power

To avoid electric shock while servicing, disconnect the main power by means of the power cord.

Use Care When Servicing With Power On

Dangerous voltages or currents may exist in this product. Disconnect power and remove battery (if applicable) before removing protective panels, soldering, or replacing components.

Avoid Exposed Circuitry

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

Do Not Operate Without Product Covers in Place

To avoid electric shock or fire hazard, do not operate this product with covers or panels removed.

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.

Product Damage Precautions

Use the Proper Voltage Setting

Ensure that the line selector is in the proper position for the power source before applying power.

Provide Proper Ventilation

Prevent product overheating by providing proper ventilation.

Do Not Operate If You Suspect Product 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 you read the marking.

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

CAUTION indicates a hazard to property, including the product.

Symbols on the Product

The following symbols may appear on the product:

DANGER high voltage

Protective ground (earth) terminal

ATTENTION – refer to manual

Certifications and Compliances

FCC Emission Control

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

Canadian EMC Notice of Compliance

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

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

EN55022 Class A Warning

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

Certification

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

18GB Disk Drive Upgrade

Introduction

This upgrade adds three internal 18GB disk drives to the Profile system. You can use this upgrade to add additional disk drives to your existing complement of 18GB or 9GB disk drives.

When installing this upgrade in systems with 9GB disk drives, the 18GB disk drive capacity is limited to 9GB because the Profile system limits the usable disk space of the larger drives to the size of the smallest drives in the file system.

This manual assumes that you are adding three internal 18GB disk drives either to a Profile system with only a Master Enhanced Disk Recorder (EDR) board or a Profile system with both Master and Slave Enhanced Disk Recorder boards. If you are adding the Slave Enhanced Disk Recorder (EDR) board, you need to install it before you perform this upgrade.

If you ordered two 18GB upgrade kits, you can install all the drives you received using this manual.

NOTE: Before performing this upgrade, be sure to back up any material you want to save. Creating the disk file system destroys all material on the hard disk drives.

System Requirements

The 18GB disk drive upgrade requires 2.2.X Profile system software version 2.2.4 or above, or any Profile System software above version 2.4.4. To check the software version installed in your Profile system, open the VrdPanel application and choose **Help | About VdrPanel**. The software version is listed as the product version in the displayed window. If you do not have the correct version of software, contact your Grass Valley Group representative.

Installation Procedure Summary

This manual contains two upgrade procedures. The procedure you should follow depends on your existing disk drive configuration. Some disk drive configurations require adding a new internal SCSI cable and others do not. Table 1 contains a summary of Profile disk drive configurations and summaries of both procedures.

Use Table 1 to determine which procedure you should follow.

Table 1. Summary of Installation Procedures

Number of Disks Already In Your System	Is a Slave Disk Recorder Board Installed?[a]	Procedure To Use	Procedure Page Number
Any number of disks	Yes, a Slave Disk Recorder board is installed	Installing Disk Drives (SCSI Cable Pre-installed): 1. Install the new disks. 2. Create a new file system and test.	18
Five or more	No, a Slave Disk Recorder board is not installed	Installing Disk Drives (SCSI Cable Pre-installed): 1. Install the new disks. 2. Create a new file system and test.	18
Four or less	No, a Slave Disk Recorder board is not installed	Installing the SCSI Cable and Disk Drives: 1. Remove the existing SCSI B cable from the Master Disk Recorder board. 2. Install the new SCSI cable between the Master Disk Recorder board SCSI B connector and the SCSI Backplane board. 3. Install the new disks. 4. Create a new file system and test.	25

Table 1. Summary of Installation Procedures (Continued)

Number of Disks Already In Your System	Is a Slave Disk Recorder Board Installed?[a]	Procedure To Use	Procedure Page Number
Five or more	I am adding the Slave Disk Recorder board Upgrade	Installing Disk Drives (SCSI Cable Pre-installed): 1. Add the Slave Disk Recorder board[b]. 2. Install the new disks. 3. Create a new file system and test.	18
Four or less	I am adding the Slave Disk Recorder board Upgrade	Installing the SCSI Cable and Disk Drives: 1. Add the Slave Disk Recorder board[b]. 2. Install the new SCSI cable between the Slave Disk Recorder board SCSI C connector and the SCSI Backplane board. 3. Install the new disks. 4. Create a new file system and test.	25

a. Refer to rear panel labeling to determine if a Slave Disk Recorder board is installed.

b. Install the Slave Disk Recorder Board using the instructions in the Slave EDR Upgrade Installation manual.

Kit Contents

In addition to these instructions, the 18GB Disk Drive Upgrade kit includes the following:

- Three 18GB disk drives in caddies
- One SCSI cable
- One SCSI cable clamp
- Three flat-head torx screws
- One chassis slot cover

Tools Required

Installation of the 18GB Disk Drive Upgrade kit requires the tools listed below, which are not provided:

- Torx tool with T10 and T15 tips.
- ESD wrist band and static protected work surface.

You may also need diagonal cutters to dress or redress cabling.

Related Documents

Related documents are:

- Profile Family User Manual
- Profile Installation Manual
- PDR 200 Service Manual

Handling Precautions

CAUTION: Observe the following precautions when handling the 18GB disk drives.

- ***Media disk drives are very sensitive to shock and vibration. To prevent damage, do not drop or bang a drive when handling. Do not stack drives upon each other.***
- ***Media disk drives are very sensitive to magnetic fields. Do not use magnetized tools when working with the media drives.***
- ***Media disk drives are also very sensitive to electrostatic discharge (ESD), particularly the SCSI connector. To prevent damage, take ESD precautions when handling the drives. Also, when returning a drive, it should only be transported and stored in the ESD bags in which the replacement drive was shipped.***

Installing Disk Drives (SCSI Cable Pre-installed)

The procedures in this section describe how to install the 18GB disk drive upgrade in Profile systems that do not require the SCSI cable installation. Refer to Table 1 on page 14 to determine if you need to install the SCSI cable in your system.

If you are also adding the Slave EDR Upgrade to your system, do that first before performing the procedures in this section.

The procedures in this section include:

- Removing the Top-Front Cover
- Installing Disk Drives
- Reassembling the Profile System
- Creating the Disk File System

You can perform this upgrade with the Profile chassis extended on the rack slides if the equipment rack is adequately mounted to prevent tipping, and if there is sufficient slack in the cables connected to the rear panel to allow the chassis to fully extend on the slides.

If it is necessary for you to remove the Profile chassis from the equipment rack to perform this installation, refer to the *Profile Installation Manual* for instructions on removing the Profile system from the rack. Observe the following warnings:

⚠ ***WARNING: To prevent injury, two people are required to lift the Profile system. The Profile system is too heavy for one person to remove from the rack.***

⚠ ***WARNING: To prevent 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.***

Once you have gained access to the Profile system chassis covers, proceed to the next procedure, “Removing the Top-Front Cover”.

Removing the Top-Front Cover

Use the following procedure to remove the top-front chassis cover:

1. Confirm that the Profile system power is switched off and the power cord is removed.
2. Use the Torx tool with the T10 tip to remove the top screws from the front chassis cover as shown in Figure 1, then use the T15 tip to remove the pan-headed screws from the side of the chassis. Remove the top-front cover.

NOTE: Take care not to lose the chassis screws—they are required to meet EMI specifications for the Profile system. Your system may contain more or less screws in the front panel than shown in Figure 1 depending on how many disk drives are installed.

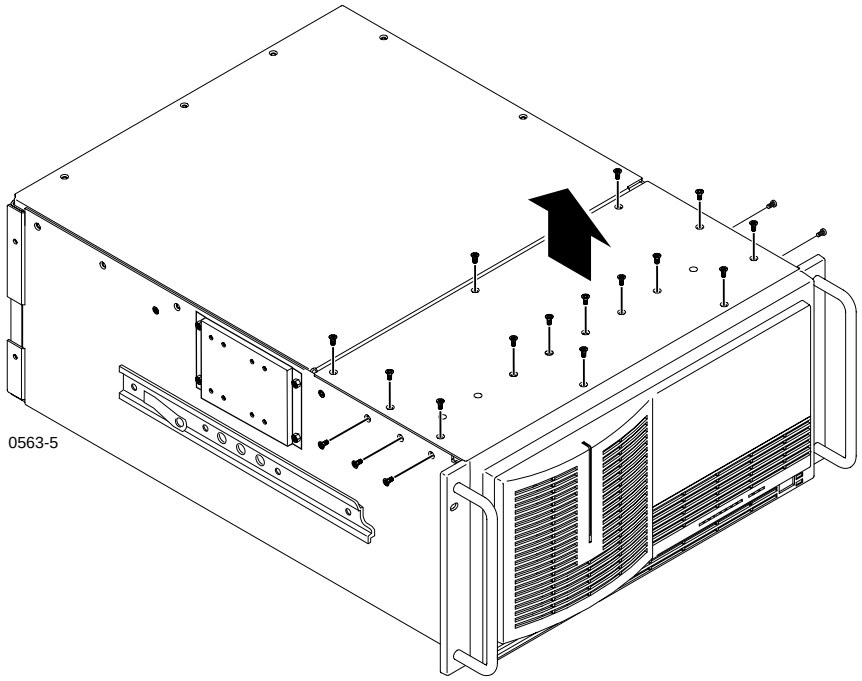

Figure 1. Removing the Top-Front Cover

Installing Disk Drives

To install the new disk drives:

1. Observe ESD cautions and shock warnings on page 17.
2. Being sure to observe the connector orientation, in turn, slide each new drive into an unused caddie slot in the drive tray as shown in Figure 2, and firmly press down to connect the drive connector to the SCSI Backplane. Refer to Figure 2 to determine disk locations for six and seven disk systems.

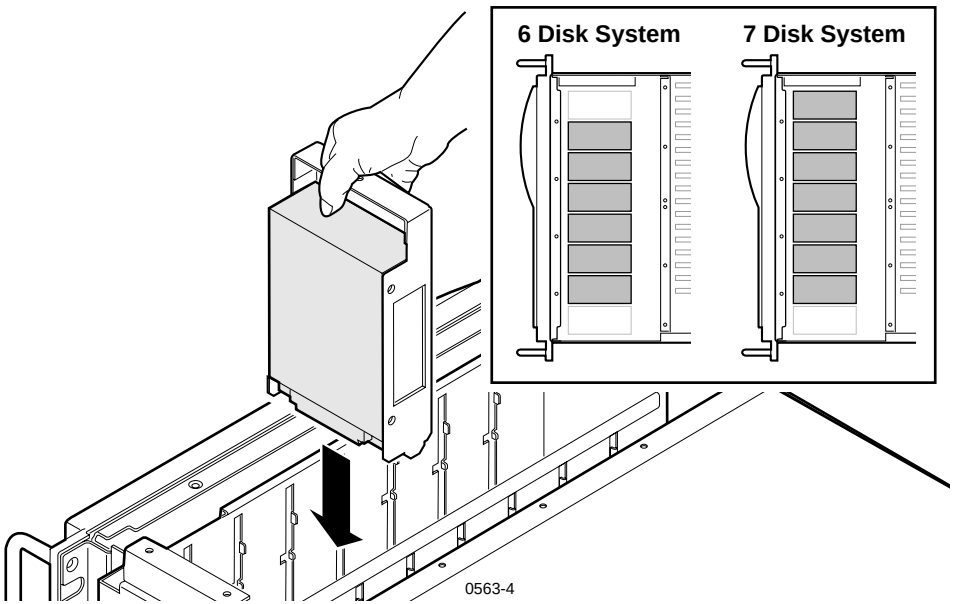

Figure 2. Disk Drive Caddie Orientation and Disk Drive Locations

Reassembling the Profile System

To reassemble the Profile system:

1. With a non-metallic, flat-bladed tool, pry the screw hole plugs out of the screw holes on the top-front cover leaving a hole for each new disk you installed.
2. Use the Torx tool with the T10 and T15 tips to reinstall the front chassis cover with the screws previously removed and the additional screws included with the kit.
3. You can reinstall the Profile system in the rack now or after the next procedure.

Creating the Disk File System

The VdrPanel normally starts automatically when you power up the Profile system, but you first need to create the disk file system to include the new disk drives. Perform the following to prevent the VdrPanel from starting and to create the disk file system.

1. Reconnect the power cord and all previously disconnected cables.
2. Turn on the Profile system and hold the Shift key down during the start up process until the login window appears.
3. Log in as administrator.

   For *Username,* enter: ***administrator***
   For *Password,* enter: ***triton***
4. Choose **Start | Programs | Profile Applications | Profile Disk Utility** to open the Profile Disk Utility. The Profile Disk Utility appears as shown in Figure 3.

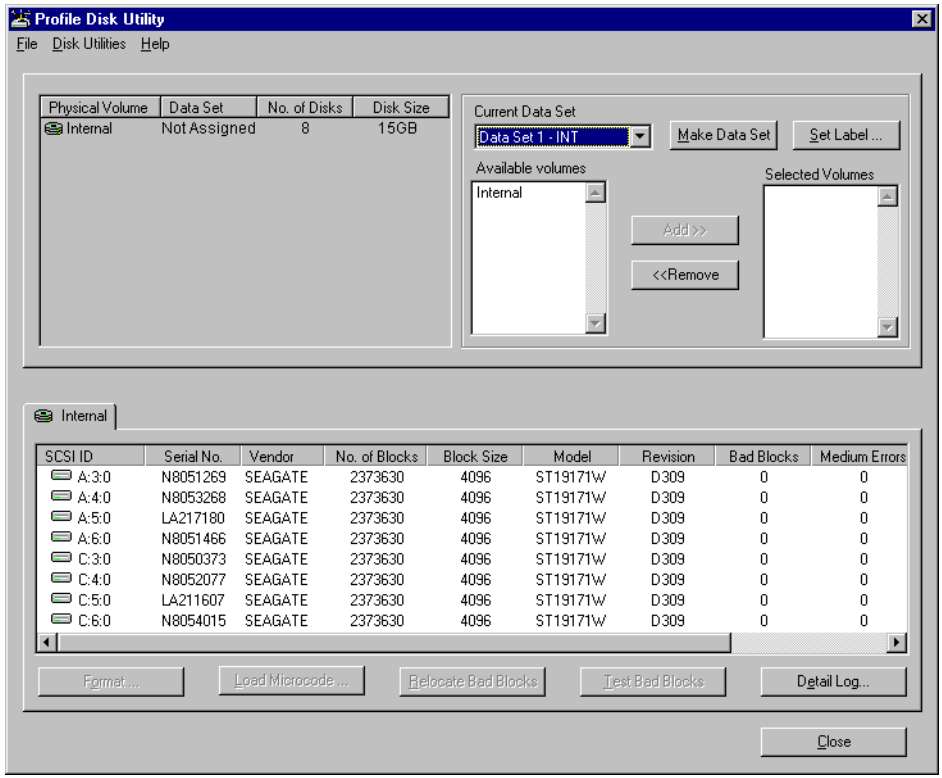

Figure 3. Profile Disk Utility

5. In the Profile Disk Utility, verify the Internal Physical Volume description includes the number of disks installed in the system. Also, check the SCSI IDs on the **Internal** tab, shown in Figure 3, for the following SCSI IDs:

   SCSI IDs for systems with both Master and Slave EDR boards installed:

   - 8-disk system = A:3:0-A:6:0 and C:3:0-C:6:0
   - 7-disk system =A:3:0-A:6:0 and C:3:0-C:5:0
   - 6-disk system = A:4:0-A:6:0 and C:3:0-C:5:0

SCSI IDs for systems with only the Master EDR Board installed:

- 8-disk system = A:3:0-A:6:0 and B:3:0-B:6:0
- 7-disk system =A:3:0-A:6:0 and B:3:0-B:5:0
- 6-disk system = A:4:0-A:6:0 and B:3:0-B:5:0

NOTE: The disk size is limited to less than 18GBytes for performance reasons.

6. If any of the disk drive IDs do not appear, shut down the Profile system and check:
   - The installation of the cables inside the chassis and the cable connectors for bent or broken pins.
   - Proper seating of the drives in the SCSI backplane.
   - The drive connectors for bent or broken pins.

   Refer to Figure 4 to determine the physical location for each SCSI ID.

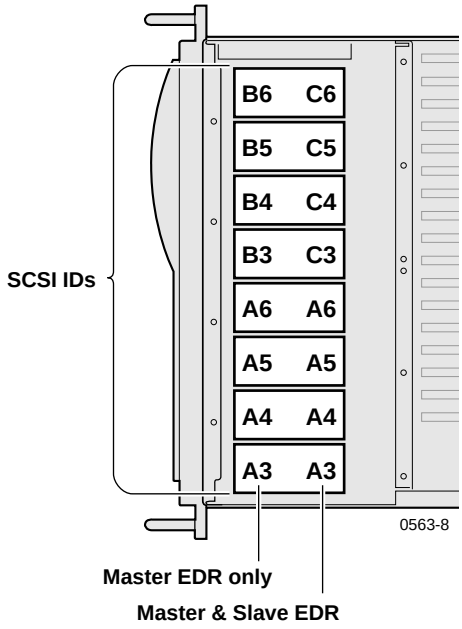

Figure 4. SCSI ID to Physical Location Map

7. Use Profile Disk Utility to create a new file system on the disk drives. Refer to “Using the Profile Disk Utility” in the *Profile Family User Manual* for information and instructions.
8. Test the File System by:
   - Exiting Profile Disk Utility
   - Opening VdrPanel
   - Recording and playing some clips
9. Log off and then back on as User: ***Profile***, Password: ***profile***.

This concludes the 18GB Disk Drive Upgrade procedure.

Installing the SCSI Cable and Disk Drives

The procedures in this section describe how to install the 18GB disk drive upgrade in Profile systems that require the SCSI cable installation. Refer to Table 1 on page 14 to determine if you need to install the SCSI cable in your system.

The procedures in this section include:

- Removing the Top Covers
- Removing Disk Drives To Access the SCSI Backplane
- Installing the SCSI Cable
- Installing Disk Drives
- Reassembling the Profile System
- Creating the Disk File System

Grass Valley Group recommends removing the Profile system from the rack to perform this upgrade. Refer to the *Profile Installation Manual* for instructions on removing the Profile system from the rack. Observe the following warnings:

⚠ ***To prevent injury, two people are required to lift the Profile system. The Profile system is too heavy for one person to remove from the rack.***

⚠ ***To prevent 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.***

Once you have gained access to the Profile system chassis covers, proceed to the next procedure, “Removing the Top Covers”.

Removing the Top Covers

Use the following procedure to remove both chassis covers:

1. Confirm that the Profile system power is switched off and the power cord is removed.
2. Use the Torx tool with the T10 tip to remove the top screws from the front chassis cover (❶ in Figure 5) and then use the T15 tip to remove the pan-headed screws from the side of the chassis. The front chassis cover must be removed first because it overlaps the rear chassis cover.
3. Use the Torx tool with the T10 tip to remove the rear chassis cover (❷ in Figure 5) which covers the circuit boards.

NOTE: Take care not to lose the chassis screws—they are required to meet EMI specifications for the Profile system. Your system may contain more or less screws in the front cover than shown in Figure 1 depending on how many disk drives are installed.

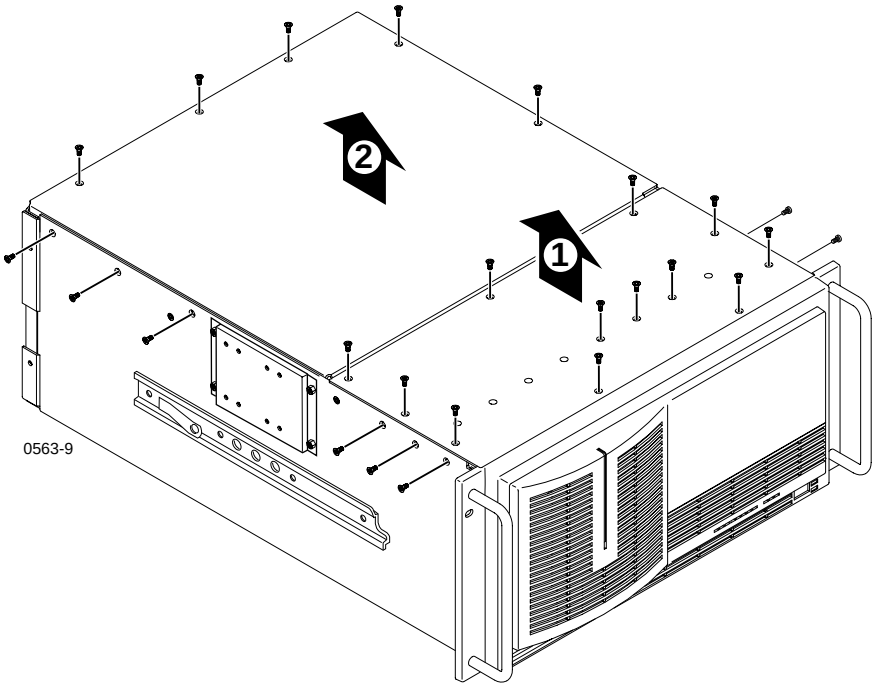

Figure 5. Removing the Top Covers

Removing Disk Drives To Access the SCSI Backplane

The right-hand disk drives (shown in Figure 6) must be removed from the drive tray to access the SCSI cable connectors on the SCSI backplane. In this procedure, you will remove as many drives as necessary to gain access to these connectors.

⚠ ***CAUTION: Media disk drives are very sensitive to shock and vibration. To prevent damage, do not drop or bang a drive when handling. Do not stack drives upon each other.***

⚠ ***CAUTION: Media disk drives are also very sensitive to electrostatic discharge (ESD), particularly the SCSI connector. To prevent damage, take ESD precautions when handling the drives. Also, the drives should only be transported and stored in the ESD bags in which they were shipped.***

To remove the right-hand disk drives:

1. Pull up on the disk caddie, as shown in Figure 6, and lift it out of the chassis.
2. Place the disk drive on a static-free surface.
3. Remove as many disk drives as necessary (refer to Figure 6) to gain access to the SCSI connectors on the SCSI Backplane.

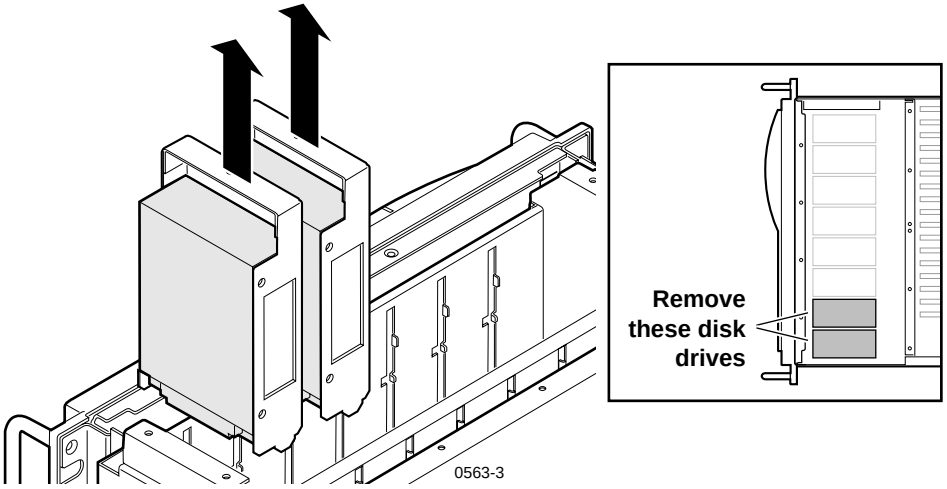

Figure 6. Removing Disk Drive Caddie

Installing the SCSI Cable

Installing the disk drive upgrade in some Profile systems requires installing a SCSI cable. The SCSI cable connections depend on whether or not you have added a Slave EDR board with this upgrade.

Choose one of the procedures that follow depending on whether or not you have added a Slave EDR:

- "Installing the SCSI Cable In Systems Without a Slave EDR"
- "Installing the SCSI Cable in Systems with a New Slave EDR"

Installing the SCSI Cable In Systems Without a Slave EDR

When upgrading a Profile system without a Slave EDR board, you must add a SCSI cable to connect the new disk drives you are installing to the second SCSI port (SCSI B) on the Master EDR board.

To install the SCSI cable:

1. Remove the existing SCSI B cable using these steps:
   a. Remove the jackscrews which secure the SCSI B connector to the rear panel (❶ in Figure 7) using the 3/16-inch nutdriver. Keep the jackscrews for step c.
   b. Disconnect the other end of the cable from the Master EDR (❷ in Figure 7) and remove the cable from the system.
   c. Install the chassis slot cover, included with this kit, to cover the SCSI B slot in the back panel. Use the 3/16-inch jackscrews removed earlier to secure the chassis slot cover.

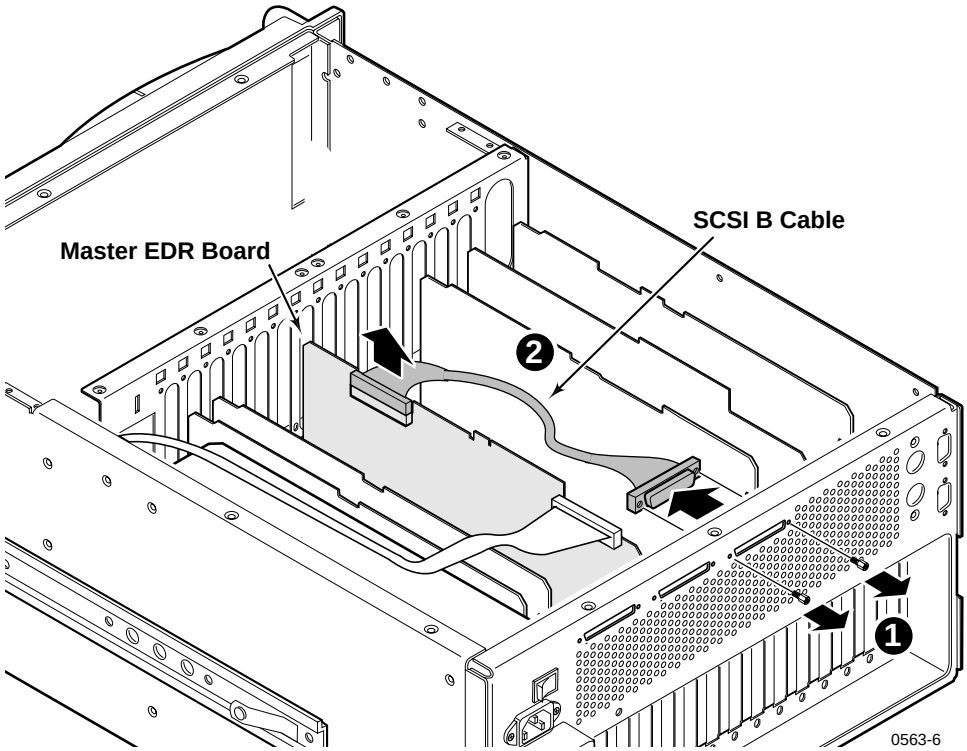

Figure 7. Removing the SCSI B Cable

2. Remove the adhesive backing on the cable clamp and attach it to the top of the power supply parallel to and adjacent to the existing clamp.
3. Connect one end of the SCSI cable to the unused connector on the SCSI backplane (❶ in Figure 8).

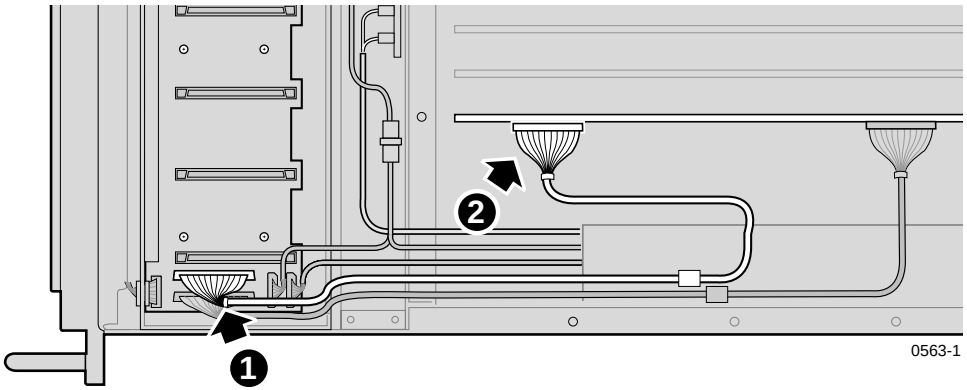

Figure 8. SCSI Cable Installation in a Profile System Without a Slave EDR Board

4. Position the cable in the clamp so that both SCSI cables are parallel.
5. Connect the free end of the cable to the top-front SCSI header connector of the Master EDR board (❷ in Figure 8).
6. Dress the SCSI cables through the channel at the right of the fan carrier tray.
7. Now that you have installed the SCSI cable, proceed to “Installing Disk Drives” on page 36.

Installing the SCSI Cable in Systems with a New Slave EDR

The following assumes that you have upgraded a Profile system by adding a Slave EDR board. In this procedure you will connect a SCSI cable between the SCSI Backplane board and the SCSI C connector on the new Slave EDR board.

The PCI Interconnect board, which connects over the top of the Master and Slave EDR boards, must be removed to install the SCSI cable on the Slave EDR board.

Table 2 lists all the SCSI cable connections for a Profile system with a Master EDR and a Slave EDR installed.

Table 2. SCSI Cables Connections

Connect This SCSI Cable:	From:	To:
A	SCSI Backplane Board Bank A	Master EDR top-rear SCSI connector
B	Master EDR top-front SCSI connector	Rear panel External B slot
C	SCSI Backplane Board Bank C	Slave EDR top-rear SCSI connector
D	Slave EDR top-front SCSI connector	Rear panel External D slot

NOTE: The Master and Slave EDR boards in your system may not be installed in the same board slots as those shown in this procedure, however, your SCSI cable connections must be the same as shown in Table 2.

To install the SCSI cable in a Profile system with a new Slave EDR installed:

1. Remove the adhesive backing on the cable clamp and attach it to the top of the power supply parallel to and adjacent to the existing clamp.
2. Connect one end of the SCSI cable to the unused connector on the SCSI backplane (❶ in Figure 9).

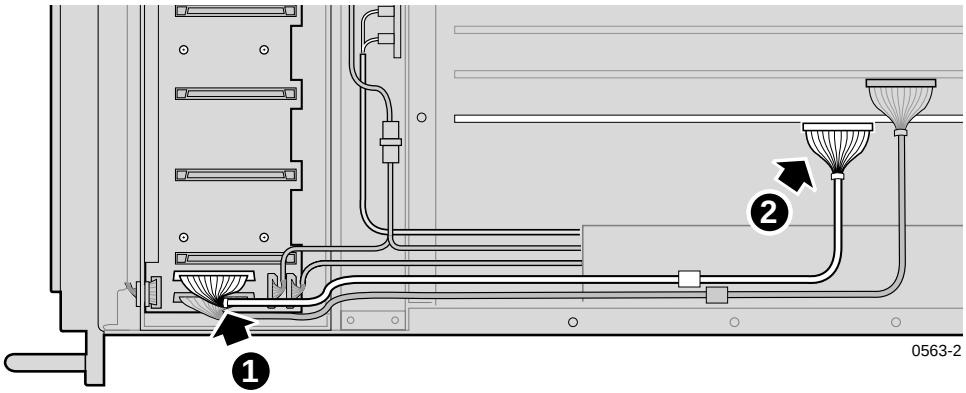

Figure 9. Installing the SCSI Cable In a Profile System With a Slave EDR Board

3. Position the cable in the clamp so that both SCSI cables are parallel.
4. Remove PCI Interconnect board, if installed, by pulling it straight up and off the boards. Refer to Figure 10 to help identify the PCI Interconnect board. Your system may use a 5-slot PCI Interconnect.
5. Connect the free end of the cable to the top-rear SCSI header connector of the Slave EDR board (❷ in Figure 9).
6. Noting the connector keying, reinstall the PCI board so that the ***MASTER*** connector on the PCI board is connected to the Master EDR board. (Refer to Figure 10.)

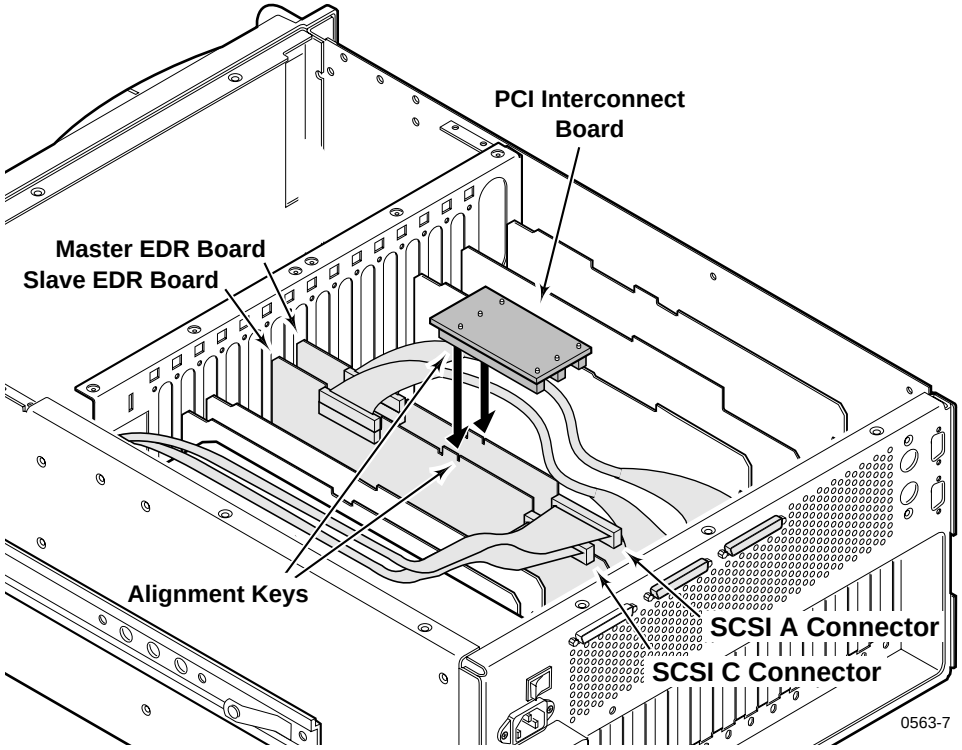

Figure 10. PCI Interconnect Board Removal

7. Dress the SCSI cables through the channel to the right of the Fan Carrier Tray.
8. Now that you have installed the SCSI cable, proceed to “Installing Disk Drives” on page 36.

Installing Disk Drives

To install the new disk drives:

1. Observe ESD cautions and shock warnings on page 6.
2. Observing correct connector orientation (see Figure 11), reinstall the disk drives previously removed by sliding the drive caddie into the drive tray and firmly pressing down to connect the drive connector to the SCSI Backplane.
3. Observing correct connector orientation, in turn, slide each new drive into an unused caddie slot in the drive tray as shown in Figure 11 and firmly press down to connect the drive connector to the SCSI Backplane. Refer to Figure 11 to determine disk locations for six and seven disk systems.

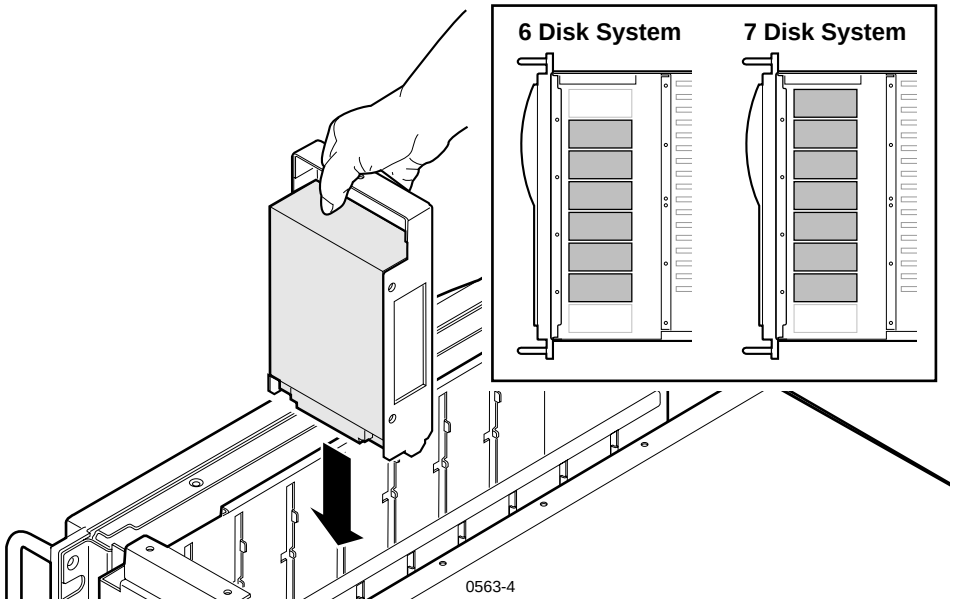

Figure 11. Disk Drive Caddie Orientation and Disk Drive Locations

Reassembling the Profile System

To reassemble the Profile system:

1. If you removed the circuit board retainer brackets to add the Slave EDR board, replace them now.
2. Use the Torx tool with the T10 tip to replace the top rear cover with the screws previously removed.
3. With a non-metallic, flat-bladed tool, pry the screw hole plugs out of the screw holes on the top front cover leaving a hole for each disk you installed.
4. Use the Torx tool with the T10 and T15 tips to replace the top front cover with the screws previously removed and the additional screws included with the kit.
5. You may wish to reinstall the Profile system in the rack now or after the next procedure.

Creating the Disk File System

The VdrPanel normally starts automatically when you power up the Profile system, but you first need to create the disk file system to include the new disk drives. Perform the following to prevent the VdrPanel from starting and to create the disk file system.

1. Reconnect the power cord and all previously disconnected cables.
2. Turn on the Profile system and hold the Shift key down during the start up process until the login window appears.
3. Log in as administrator.

   For *Username,* enter: ***administrator***
   For *Password,* enter: ***triton***
4. Choose **Start | Programs | Profile Applications | Profile Disk Utility** to open the Profile Disk Utility. The Profile Disk Utility appears as shown in Figure 12.

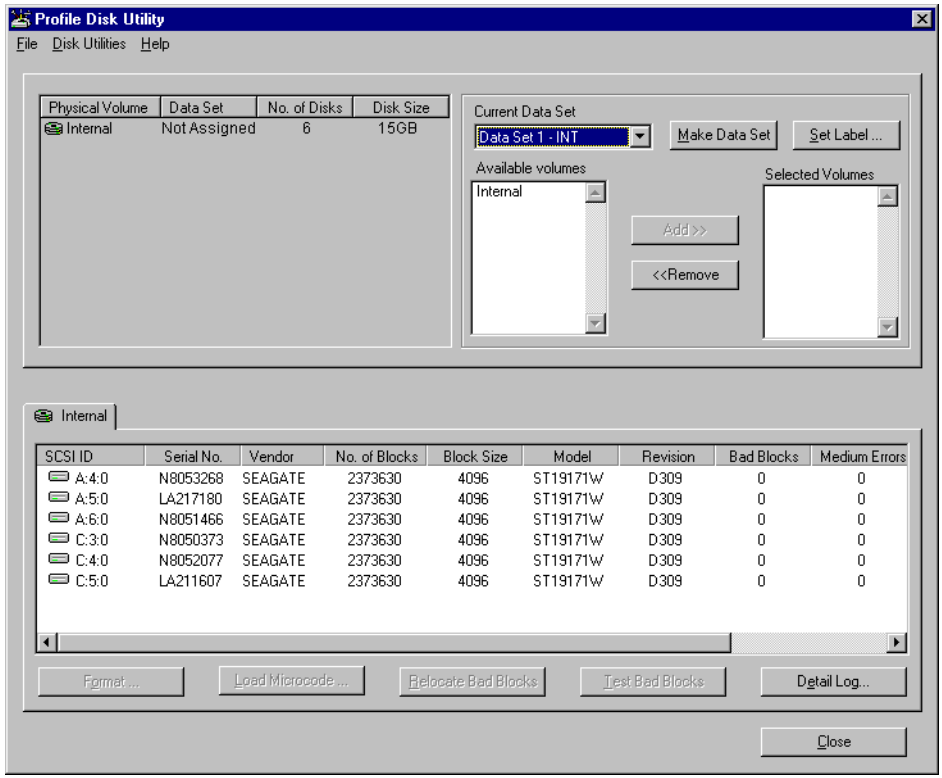

Figure 12. Profile Disk Utility

5. In the Profile Disk Utility, verify that the Internal Physical Volume description includes the number of disks installed in the system. Also, check the SCSI IDs on the **Internal** tab, shown in Figure 12, for the following SCSI IDs:

   SCSI IDs for systems with both Master and Slave EDR boards installed:

   - 8-disk system = A:3:0-A:6:0 and C:3:0-C:6:0
   - 7-disk system = A:3:0-A:6:0 and C:3:0-C:5:0
   - 6-disk system = A:4:0-A:6:0 and C:3:0-C:5:0

SCSI IDs for systems with only the Master EDR Board installed:

- 8-disk system = A:3:0-A:6:0 and B:3:0-B:6:0
- 7-disk system = A:3:0-A:6:0 and B:3:0-B:5:0
- 6-disk system = A:4:0-A:6:0 and B:3:0-B:5:0

NOTE: The disk size is limited to less than 18GBytes for performance reasons.

6. If any of the disk drive IDs do not appear, shut down the Profile system and check:
   - The installation of the cables inside the chassis and the cable connectors for bent or broken pins.
   - Proper seating of the drives in the SCSI backplane.
   - The drive connectors for bent or broken pins.

   Refer to Figure 13 to determine the physical location for each SCSI ID.

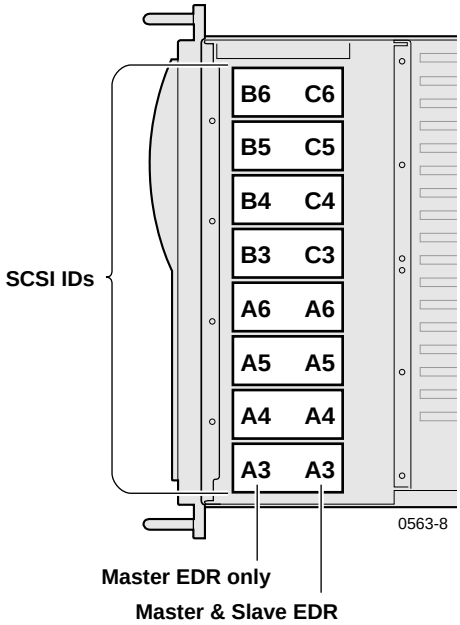

Figure 13. SCSI ID to Physical Location Map

7. Use Profile Disk Utility to create a new file system on the disk drives. Refer to “Using the Profile Disk Utility” in the *Profile Family User Manual* for information and instructions.
8. Test the File System by:
   - Exiting Profile Disk Utility
   - Opening VdrPanel
   - Recording and playing some clips
9. Log off and then back on as User: ***Profile***, Password: ***profile***.

This concludes the 18GB Disk Drive Upgrade procedure.