grass valley

M-Series

INTELLIGENT VIDEO DIGITAL RECORDER

Upgrade Kit Installation Manual

071-8231-01
JULY 6, 2004

the most watched worldwide

A THOMSON BRAND

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Grass Valley Product Support

To get technical assistance, check on the status of problems, or report new problems, contact Grass Valley Product Support via e-mail, the Web, or by phone or fax.

Web Technical Support

To access support information on the Web, visit the product support Web page on the Grass Valley Web site. You can download software or find solutions to problems by searching our Frequently Asked Questions (FAQ) database.

World Wide Web: http://www.thomsongrassvalley.com/support/
Technical Support E-mail Address: gvgtechsupport@thomson.net.

Phone Support

Use the following information to contact product support by phone during business hours. Afterhours phone support is available for warranty and contract customers.

United States	(800) 547-8949 (Toll Free)	France	+33 (1) 34 20 77 77
Latin America	(800) 547-8949 (Toll Free)	Germany	+49 6155 870 606
Eastern Europe	+49 6155 870 606	Greece	+33 (1) 34 20 77 77
Southern Europe	+33 (1) 34 20 77 77	Hong Kong	+852 2531 3058
Middle East	+33 (1) 34 20 77 77	Italy	+39 06 8720351
Australia	+61 3 9721 3737	Netherlands	+31 35 6238421
Belgium	+32 2 3349031	Poland	+49 6155 870 606
Brazil	+55 11 5509 3440	Russia	+49 6155 870 606
Canada	(800) 547-8949 (Toll Free)	Singapore	+656379 1390
China	+86 106615 9450	Spain	+ 34 91 512 03 50
Denmark	+45 45968800	Sweden	+46 87680705
Dubai	+ 971 4 299 64 40	Switzerland	+41 (1) 487 80 02
Finland	+35 9 68284600	UK	+44 870 903 2022

Authorized Support Representative

A local authorized support representative may be available in your country. To locate the support representative for your country, visit the product support Web page on the Grass Valley Web site.

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.

Electrostatic Precautions

⚠ ***CAUTION: Some field kits contain components that must be protected from static discharge and physical shock. To protect these components from damage and to maintain product reliability, take the following precautions when handling static sensitive components:***

- Handle all circuit boards in a static-protected area capable of controlling static charge on conductive materials, people, and nonconductive materials. Static-protected areas include nonstatic table tops and nonstatic floor mats.
- While out of the chassis, place boards in the ESD static-shielded bags (provided with this kit) until you install them.
- Wear ESD grounding straps when handling boards outside of their ESD static-shielded bags.
- Handle the circuit boards only by the edges and avoid touching the printed wires on the back of the circuit board as much as possible.

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 may result in damage to equipment or other property, or which may cause equipment crucial to your business environment to become temporarily non-operational.***

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

WARNING: The service instructions in this manual are intended 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 serious injury from high currents, ensure that the power cord is disconnected prior to performing upgrades that require removing the top cover or direct contact with the internal components.

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

Chapter 1

Installing the Codec Upgrade

The following codec upgrades are available for the M-Series iVDR.

Upgrade Nomenclature	Description[a]
M-122A Codec Upgrade	Adds MPEG-2 compression (up to 25Mbs, 4:2:2, I Frame only).
M-222D Codec Upgrade	Adds DV50 compression and increases available MPEG-2 compression data rate up to 50Mbs, 4:2:2, I Frame only.

a. An upgrade must be purchased for each M-Series iVDR upgraded.

Tools and materials needed:

- *M-Series iVDR Codec Upgrade* CD (provided with the kit)

To install the Codec upgrade:

1. Shut down AppCenter using the following steps.
   a. In the AppCenter toolbar, select **System | Shut Down**.
   b. Select **Exit to Windows** in the Shut Down dialog, then click **Ok**.
2. Insert the *M-Series iVDR Codec Upgrade* CD in the CD-ROM drive.
3. In the Windows taskbar, select **Start | Windows Explorer**.
4. In Windows Explorer, select the CD-ROM drive.
5. Double-click `setup.exe`.
   The M-Series Option Wizard opens.
6. Click **Next**.
7. Click **Install**.
8. Click **Finish**.
9. Remove the CD-ROM from the drive.
10. Double-click the AppCenter shortcut on the Windows desktop.
    AppCenter starts and initializes.
11. For information on selecting and configuring the new compression settings using the Configuration tool, refer to the *M-Series User Manual* or online help.

NOTE: After installing the Codec upgrade and selecting the new compression type, all existing media of a different compression type displayed in the Clips pane are grayed. This indicates that the media cannot be loaded until you configure the iVDR back to the original compression type.

Chapter 2

Installing the 1000BaseT Network Adapter

Use this procedure to install the 1000BaseT network adapter upgrade to the M-Series iVDR.

Procedure summary:

- "Power-off the iVDR and remove the power cord"
- "Remove the top cover"
- "Install network adapter board in PCI slot 6"
- "Replace the top cover"
- "Connect cabling and apply label"
- "Power-on and test the hardware"
- "Configure site specific network settings"

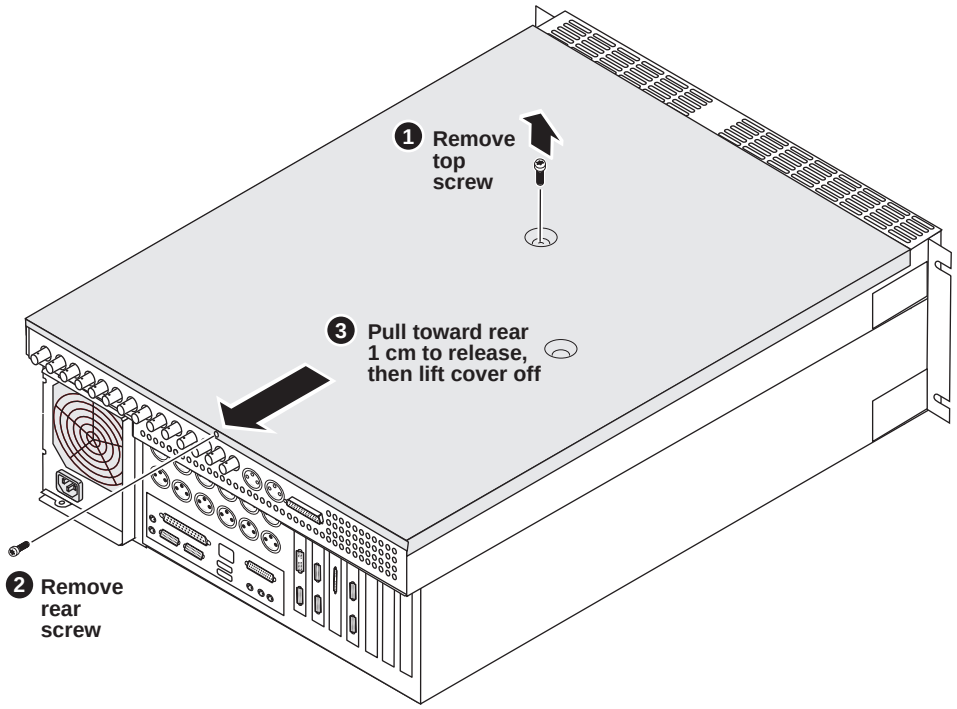
Tools needed:

- Torx tool with T15 tip

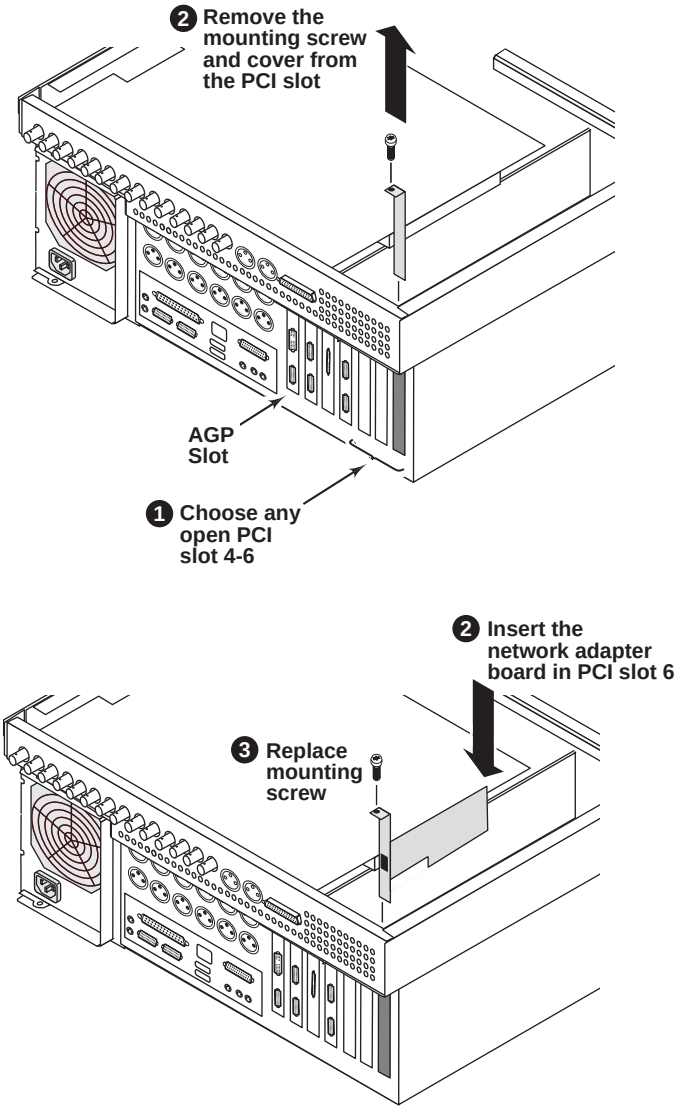
Power-off the iVDR and remove the power cord

1. Perform one of the following steps to power-off the iVDR:
   - **If AppCenter is running -** In the AppCenter toolbar, select **System | Shut Down**, and select **Shut Down** in the Shut Down dialog box**,** then click **OK**. Wait for the iVDR to shut down and power-off.
   - **If AppCenter is not running -** In the Windows taskbar, click **Start | Shut Down**, and select **Shut down**, then click **Ok**. Wait for the iVDR to shut down and power-off.
2. Remove the iVDR power cord.

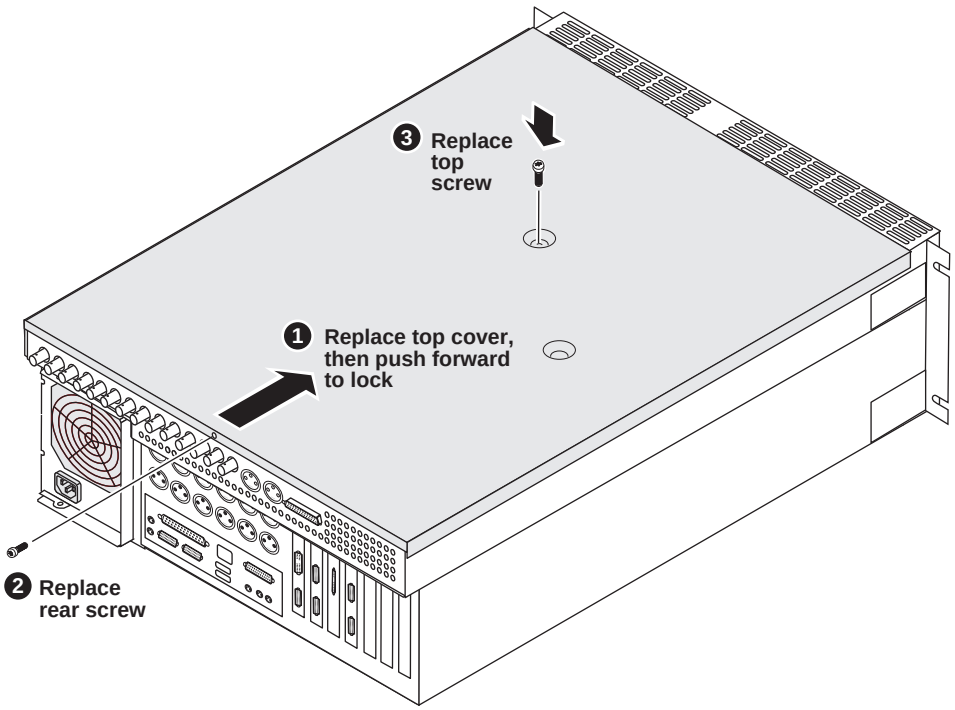
Remove the top cover



Install network adapter board in PCI slot 6

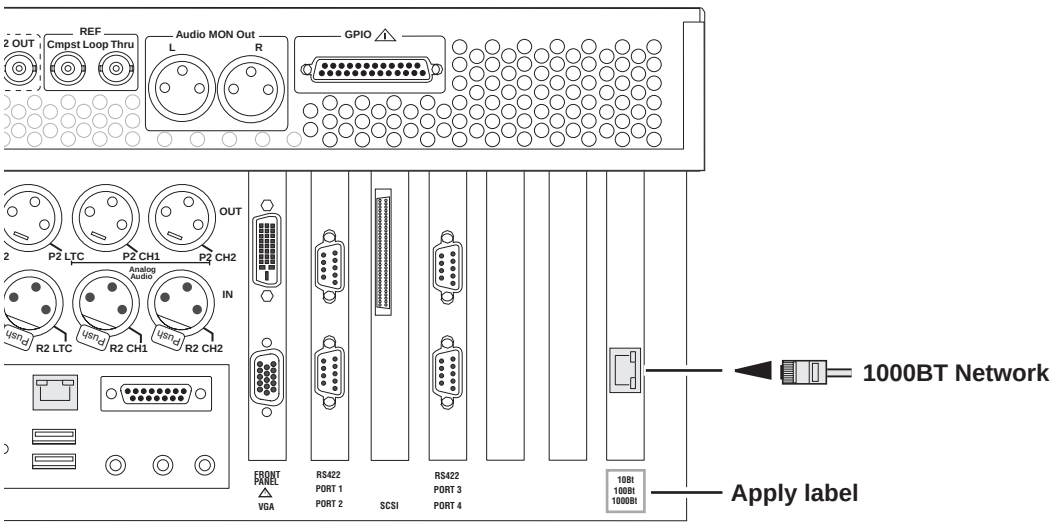


Replace the top cover



Connect cabling and apply label

1. Connect the M-Series iVDR power cord.
2. Connect the network cable.
3. Apply 1000BT rear panel label provided with the upgrade kit.



Power-on and test the hardware

The software required for the 1000BaseT network adapter is pre installed on the M-Series iVDR. This allows Windows to recognize and initialize the network adapter board immediately at boot time.

NOTE: At Windows startup, the default IP address is set to 192.168.0.10 with a subnet mask of 255.255.0.0.

1. Power-on the iVDR using the front standby switch.

   Wait for Windows to initialize and AppCenter to automatically start. Windows automatically recognizes the network adapter board.

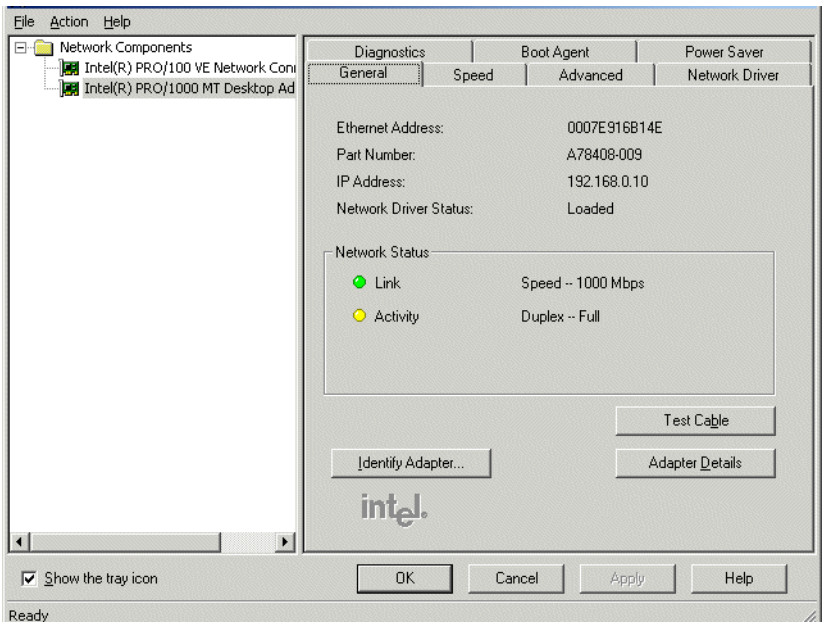
2. Test the network adapter hardware as follows:

   a. In the AppCenter toolbar, select **System | Minimize**.

   b. In the Windows System Tray, double-click the Intel Wired Network Adapter icon.

   The Intel PROSet dialog opens.

   c. Select the PRO/1000MT adapter in the network components tree.

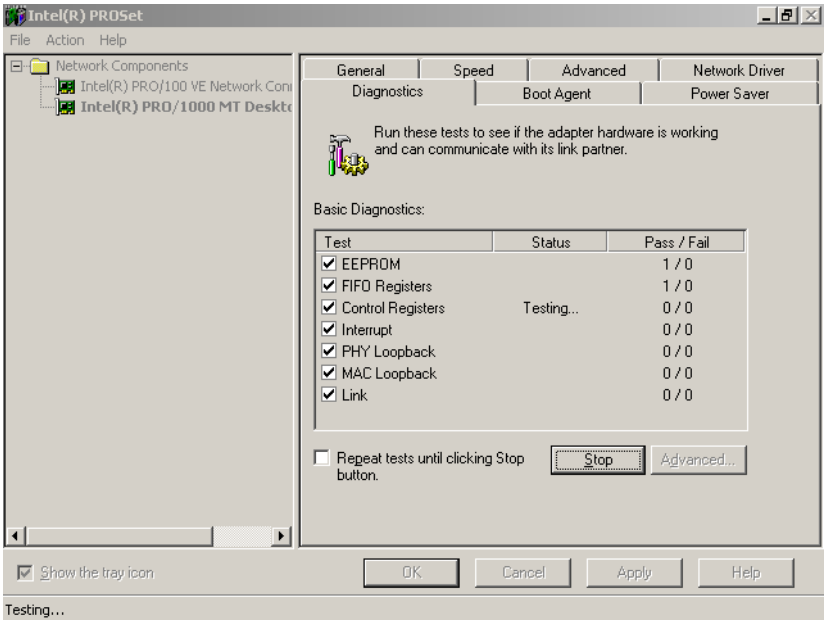


d. Check the Link and Activity status indicators.

If the network cable is connected to the network, the **Link** status indicator is on and the **Activity** indicator flashes intermittently. If not, verify your network cable and connection.

NOTE: The General Tab in the Intel PROSet dialog box includes a* Test Cable *button that can be used to test the cable.

e. (OPTIONAL) You can run Intel PROSet diagnostics to further test the hardware by selecting the **Diagnostics** tab, then selecting the **Run Tests** button.



f. In the Intel PROSet dialog, select **Ok** to close.

Configure site specific network settings

Refer to the installation chapter of the *M-Series User Manual* for information on configuring the network settings for various applications.

This concludes the 1000BaseT network adapter upgrade.

Chapter 3

Installing the IEEE 1394 Adapter

Use this procedure to install the IEEE 1394 adapter upgrade to the M-Series iVDR.

Procedure summary:

- "Update iVDR software if needed"
- "Power-off the iVDR and remove the power cord"
- "Remove the top cover"
- "Install IEEE 1394 adapter board"
- "Replace the top cover"
- "Connect cabling and apply label"
- "Power-on and test the hardware"

Tools needed:

- Torx tool with T15 tip

Update iVDR software if needed

The IEEE 1394 board requires iVDR system software version 2.0 or higher. Use the following procedure to check software versions, then update iVDR software if needed.

1. Power-on the iVDR, and wait for the iVDR to fully initialize.
2. In the AppCenter StatusBar, click the StatusPane button . The StatusPane opens.
3. Select the StatusPane menu button , then choose **Show Versions**.

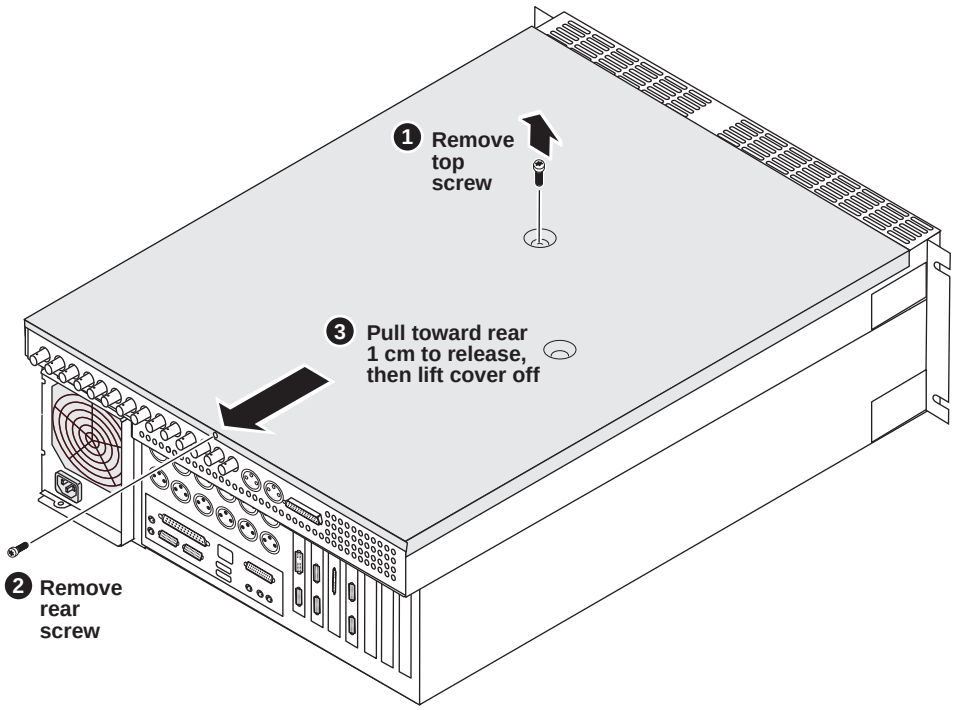
   Software versions are displayed.
4. Check that system software is version 2.0 or higher.
5. If needed, update iVDR software.

   Follow directions in the *Release Notes and Installation Instructions* that you receive with the iVDR software.

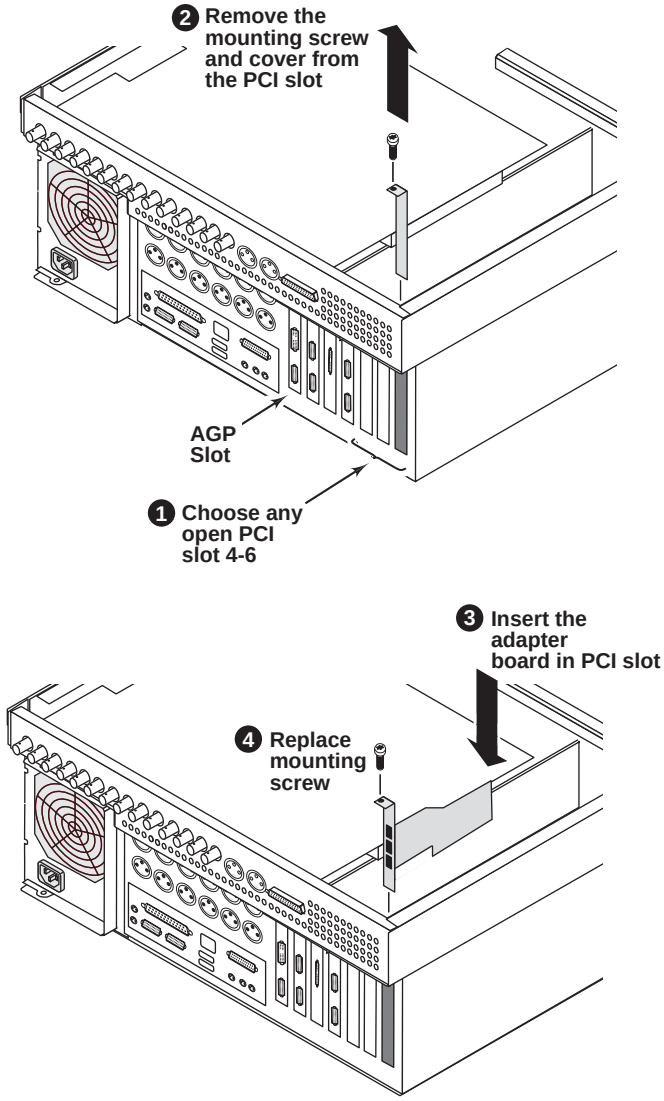
Power-off the iVDR and remove the power cord

1. Perform one of the following:
   - In the AppCenter toolbar, select **System | Shut Down**, and select **Shut Down** in the Shut Down dialog box, then click **OK**. Wait for the iVDR to shut down and power-off.
   - In the Windows taskbar, click **Start | Shut Down**, and select **Shut down**, then click **Ok**. Wait for the iVDR to shut down and power-off.
2. Remove the iVDR power cord.

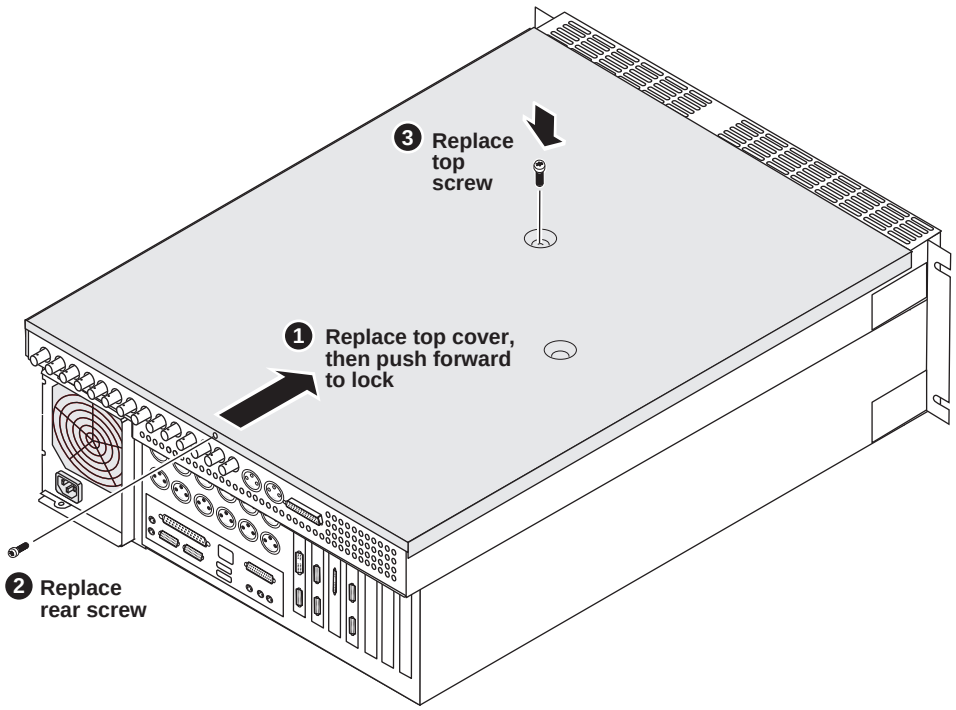
Remove the top cover



Install IEEE 1394 adapter board

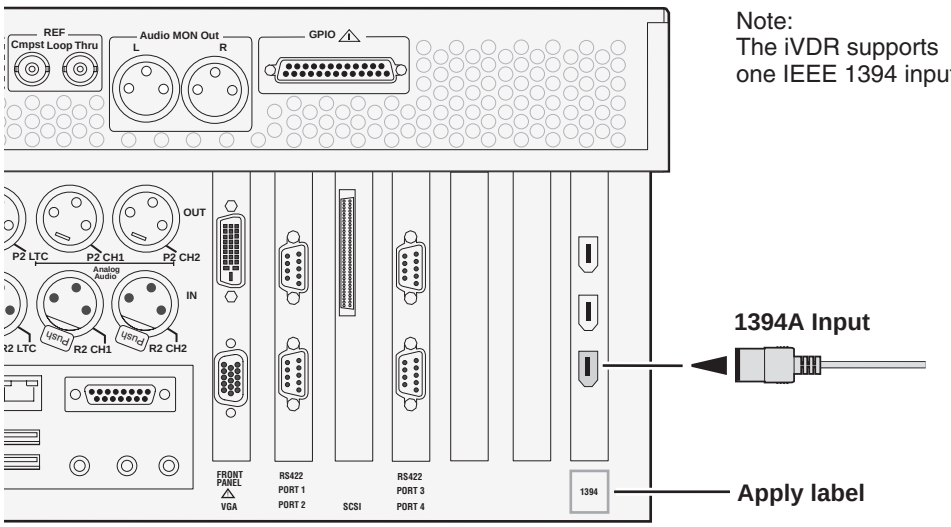


Replace the top cover



Connect cabling and apply label

1. Apply the rear panel 1394 label provided with the upgrade kit.
2. Connect the M-Series iVDR power cord.
3. Connect your IEEE 1394 device (cable not provided).



Note:
The iVDR supports one IEEE 1394 input.

Power-on and test the hardware

The driver software required for the IEEE 1394 adapter is provided by the Windows operating system. This allows Windows to recognize and initialize the adapter board immediately at boot time.

1. Power-on the iVDR using the front standby switch.

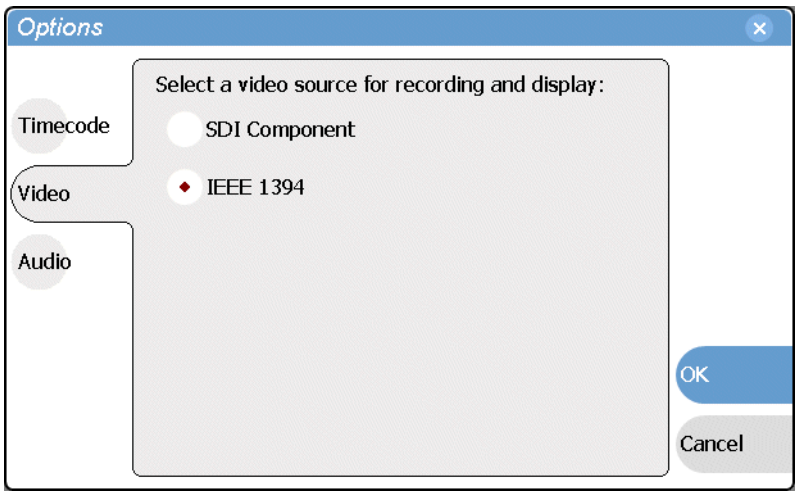
   Wait for Windows to initialize and AppCenter to automatically start. Windows automatically recognizes the IEEE 1394 adapter board.

2. Ensure the 1394 device is connected and powered on.

3. Test the IEEE 1394 adapter hardware as follows:

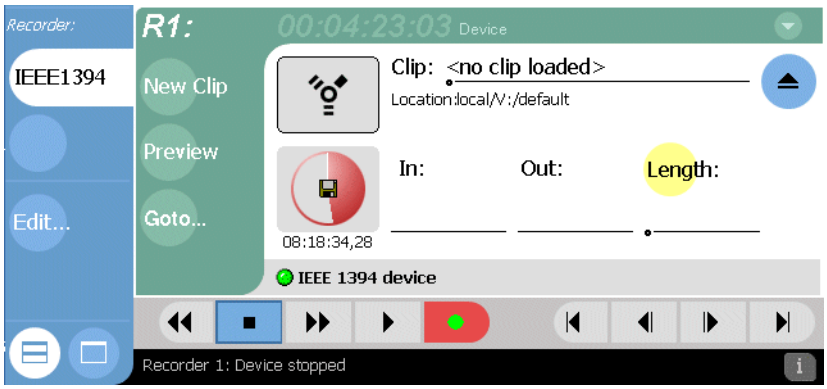
   a. In Recorder, select the menu button , then choose **Options**.

   The options dialog box opens.



   b. Select **Video**, and choose **IEEE 1394**, then select **OK**.

   IEEE 1394 view is displayed, and the record channel input switches to the 1394 input.



4. Refer to the *M-Series iVDR User Manual* or online help to use 1394 record mode.

Chapter 4

Installing the Media Disk Upgrade

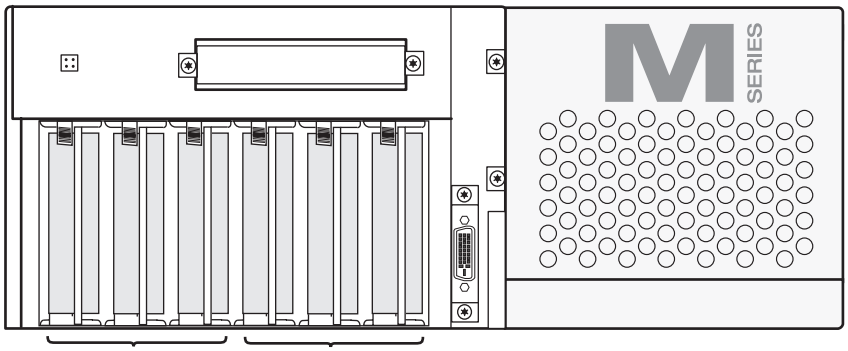
Choose the correct upgrade procedure

Installing the media disk upgrade increases the iVDR media storage capacity. Choose one of the following procedures to perform.

- **"Adding three disk modules" on page 26**
  If the iVDR has three disks installed, use this procedure to add three additional disk modules to increase the storage capacity.
- **"Replacing existing disk modules" on page 33**
  If the iVDR already has six disks installed, use this procedure to remove and replace 3 or 6 of the disk modules with disks of higher storage capacity.

About disk groups

Disk modules must be added or replaced in 3 disk groups as shown. The disks within a disk group must have the same storage capacity, however, disks groups can have different storage capacities. For example, you can add a disk group of 76GB disks to an iVDR with an existing disk group of 36GB disks.



Adding three disk modules

Perform this procedure if you are adding three disks to increase storage capacity. After installing the new disks in the empty disk slots, you'll update the media file system. Updating the media file system allows you to add the disks and retain the media stored on the existing disk drives.

Procedure summary:

- "Back up the iVDR media file system"
- "Power-off the iVDR and remove the power cord"
- "Remove the front panel or door"
- "Remove the fan module"
- "Install disk modules"
- "Replace components in reverse order"
- "Update the media file system"

Tools needed:

- Torx tool with T15 tip

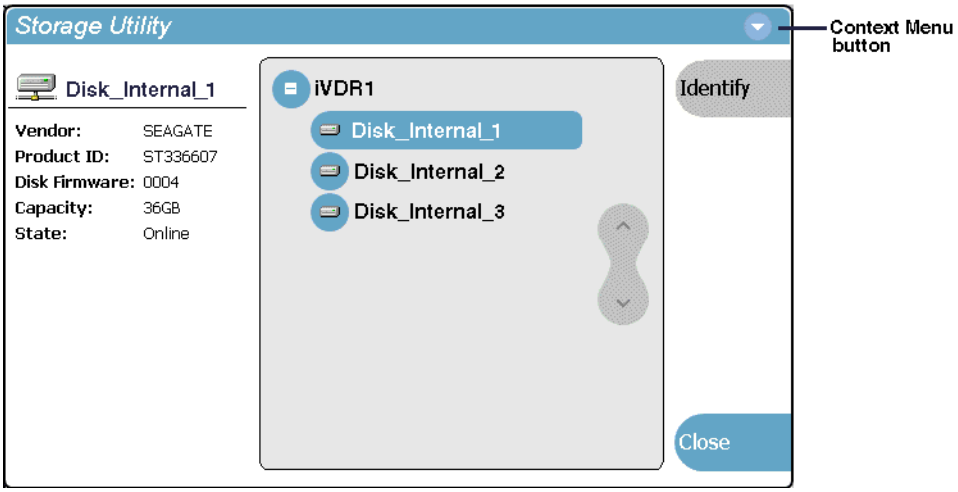
Back up the iVDR media file system

Use the following steps to power-on the iVDR and back up the media file system. Backing up the media file system captures a snapshot of the iVDR's media file system which contains ***references*** to the video stored on the media disks, but does not back up the video files themselves. The backup file can be used to restore the media file system if the media files are still on the existing media disks.

NOTE: This procedure does not backup the media files stored on the media disks.

1. Reboot the iVDR in Storage Maintenance mode as follows:
   a. Power-on the iVDR, and wait for AppCenter to initialize.
   b. In the AppCenter toolbar, select **System | Shut Down**.
   c. Select **Storage Maintenance Mode** in the Shut Down dialog, then select **OK**.

      The iVDR reboots in Storage Maintenance mode, and then the Storage Utility automatically starts.



2. Select the Storage Utility context menu button , then choose **Backup Media File System**.

   A message appears to confirm saving the backup file.

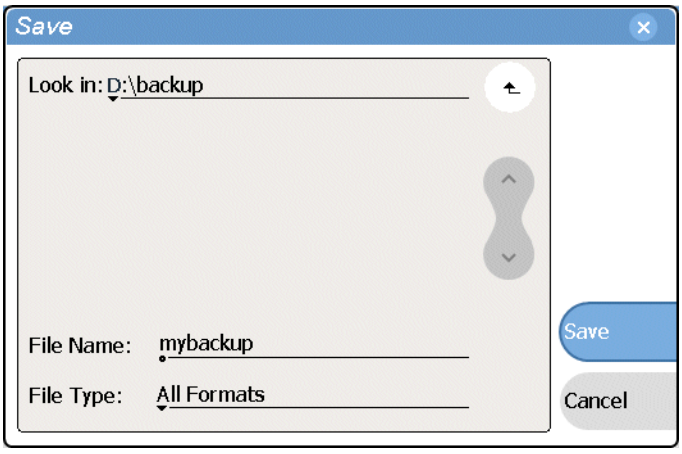
3. Select **Yes** to confirm the backup.

   A Save dialog box opens.

4. In the Save dialog box, browse to locate a destination folder.

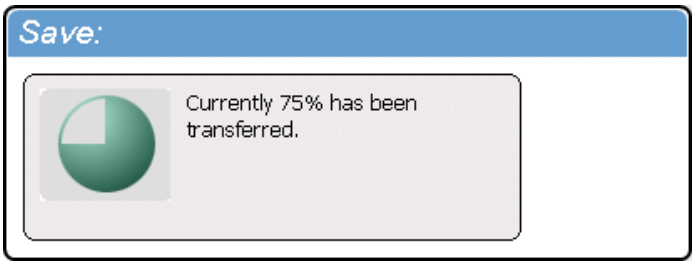
NOTE: Do not save to the default (V:) drive. You may save the backup file to Local Disk (D:), the CD-ROM drive, or an external drive. You must use Windows Explorer to create a destination folder, otherwise, you can save the file to an existing folder.

5. Select the **File Name** text entry control File Name: _____, and then use the onscreen or external keyboard to enter a file name.



6. Click **Save**.

   A progress indicator appears.



The backup complete message appears confirming the successful backup.

7. Select **OK**.

   The Media File System is backed up.

NOTE: If needed, refer to the** M-Series Service Manual **for information on restoring the media file system using the backup file.

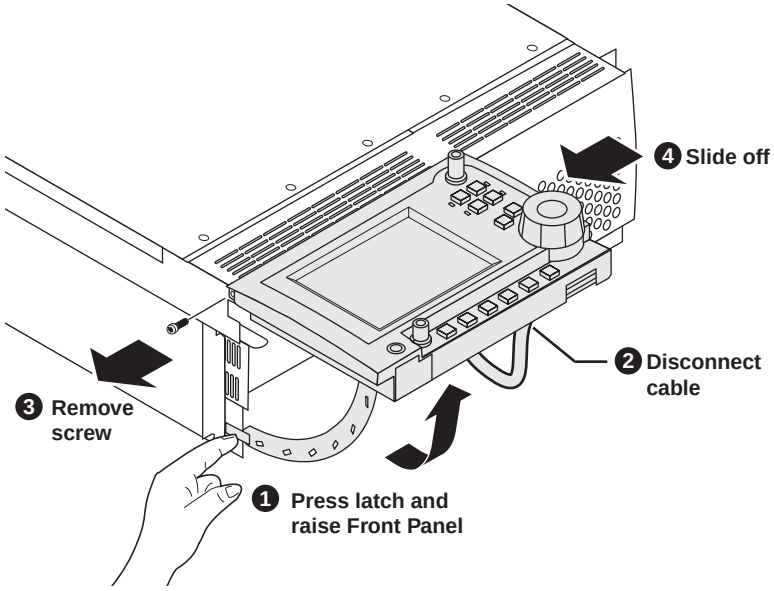
Power-off the iVDR and remove the power cord

1. In the Storage Utility, select **Close**, then select **No** to close without rebooting the iVDR.
2. Click **Ok** in the information message.
3. Use Windows to shut down and power off the iVDR as follows:
   a. In the Windows task bar, click **Shut Down**.
   b. Select **Shut down**, then click **OK**.
   c. Wait for the iVDR to automatically power-off.
4. Remove iVDR power cord.

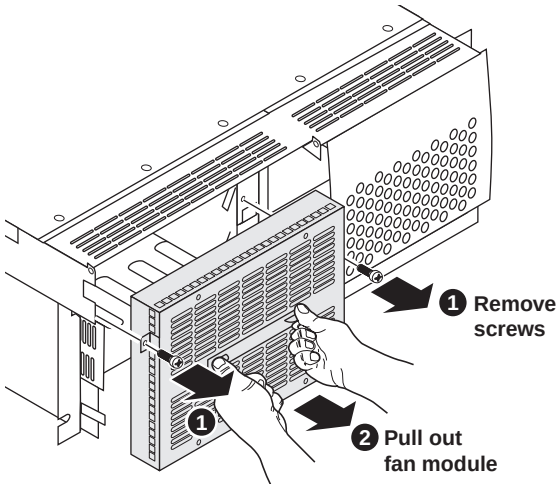
Remove the front panel or door

Do one of the following:

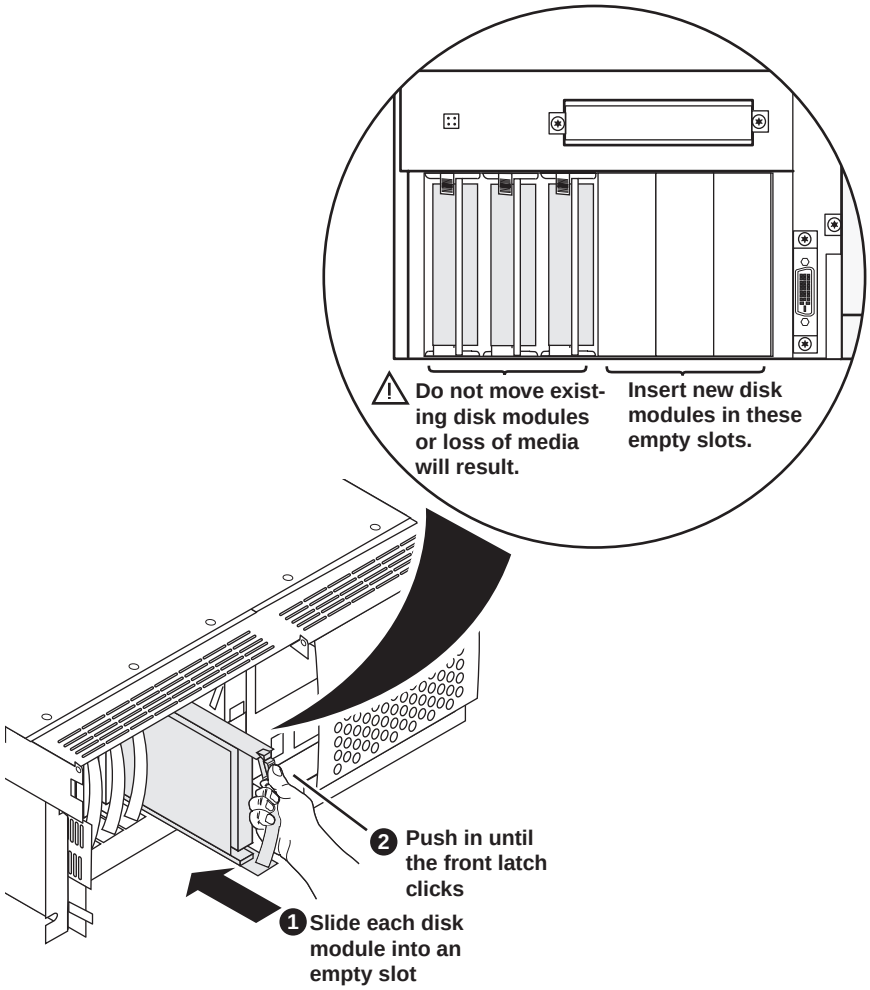
- If the optional Front Panel is installed on your iVDR, remove it as shown in the illustration.
- If the Media Drive Door is installed on your iVDR, remove it as shown in the illustration, however, disregard steps 1 and 2 since these do not apply to Media Drive door.



Remove the fan module



Install disk modules



Replace components in reverse order

Replace the following components:

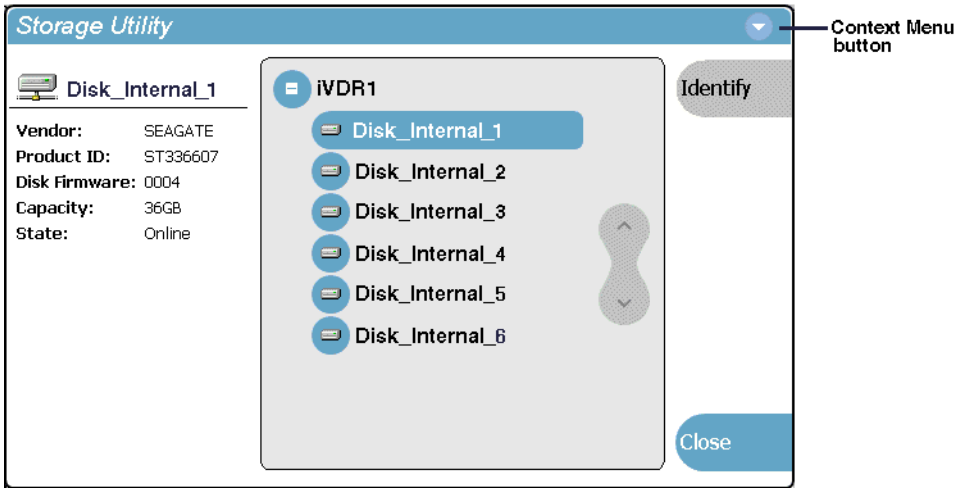
- Fan Module
- Front Panel or Media Drive Door

Update the media file system

In this procedure you will use the iVDR Storage Utility to update the media file system to make use of the new drives.

1. Reconnect the power cord and power-on the iVDR using the front standby switch.

   The iVDR boots in Storage Maintenance mode, and the Storage Utility starts automatically.



2. Select the Storage Utility context menu button and select **Update Media File System**.

   A progress indicator appears. A restart message appears when the update is complete.

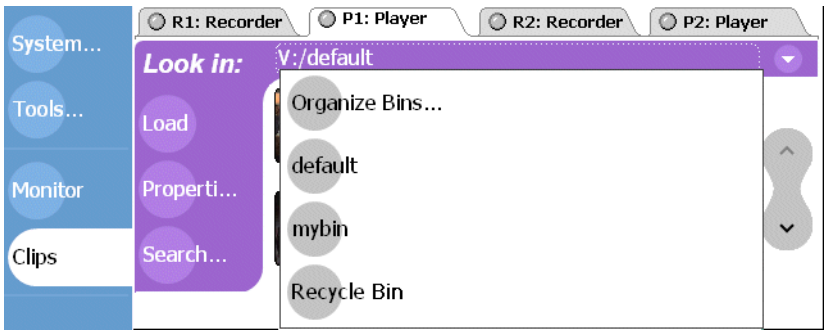
3. Select **Yes** to restart.

4. Click **No** to restart in normal mode.

   The iVDR reboots in normal mode, and AppCenter starts automatically.

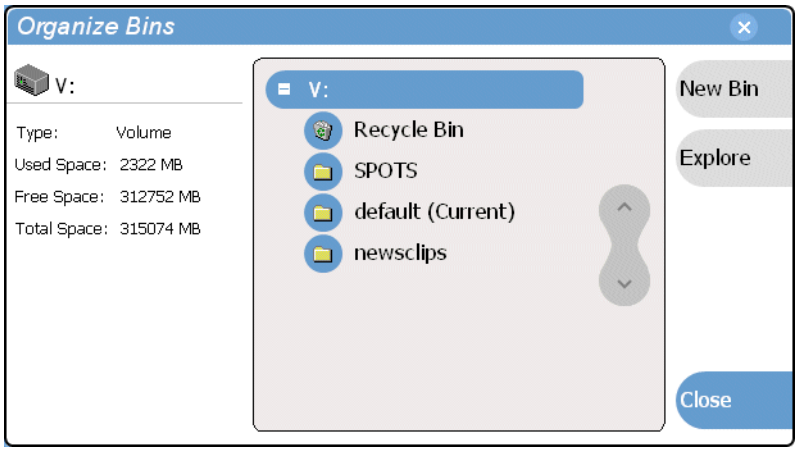
5. Verify access to the additional storage as follows:

   a. In the AppCenter Clips pane, select the Current Bin label Look in: V:/default, then select the **Organize Bins**.



   b. In the Organize Bins dialog box, select disk volume "V:".

   Volume properties are displayed in the Organize Bins dialog box.



This concludes the media disk upgrade procedure.

Replacing existing disk modules

Perform this procedure if you are replacing the existing disk modules in your iVDR with the disks in this kit to increase storage capacity. Disks must be replaced in groups of three. Refer to "About disk groups" on page 25.

> ⚠ ***CAUTION: If you are replacing existing disk modules with larger capacity drives, all existing media will be lost. You must backup the media you do not want to lose.***

Procedure summary:

- "Back up existing media"
- "Reboot the iVDR in Storage Maintenance mode"
- "Remove the front panel or door"
- "Remove the fan module"
- "Remove existing disk modules"
- "Insert new disk modules"
- "Replace components in reverse order"
- "Make a new media file system"

Tools needed:

- Torx tool with T15 tip

Back up existing media

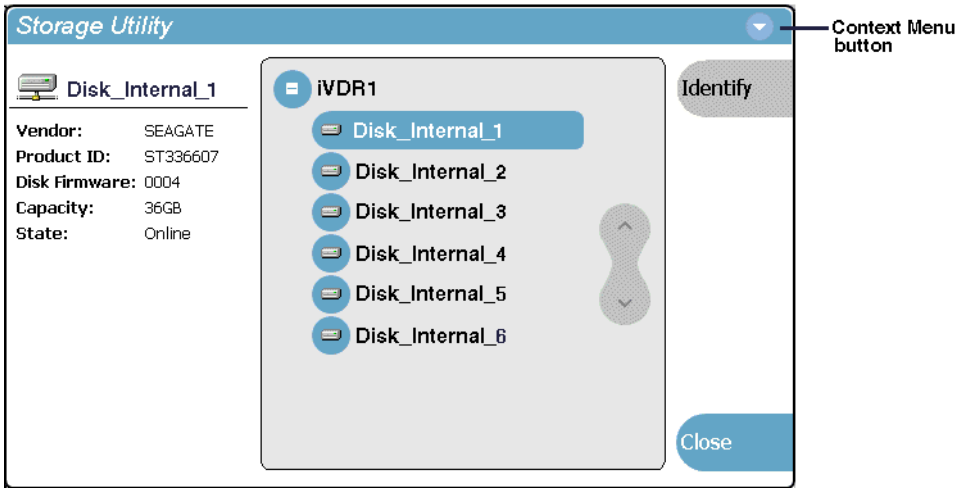
Performing this upgrade will destroy all existing media on the media disks. Back up the media you do not want to lose by transferring it to another device using the video network or removable media, such as CD or DVD.

Reboot the iVDR in Storage Maintenance mode

Use the following steps to power-on the iVDR and reboot in the Storage Maintenance mode.

1. Power-on the iVDR using the front standby switch, then wait for AppCenter to initialize.
2. In the AppCenter toolbar, select **System | Shut Down**.
3. Select **Storage Maintenance Mode** in the Shut Down dialog, then select **OK**.

   The iVDR reboots in Storage Maintenance mode, and then the Storage Utility automatically starts.

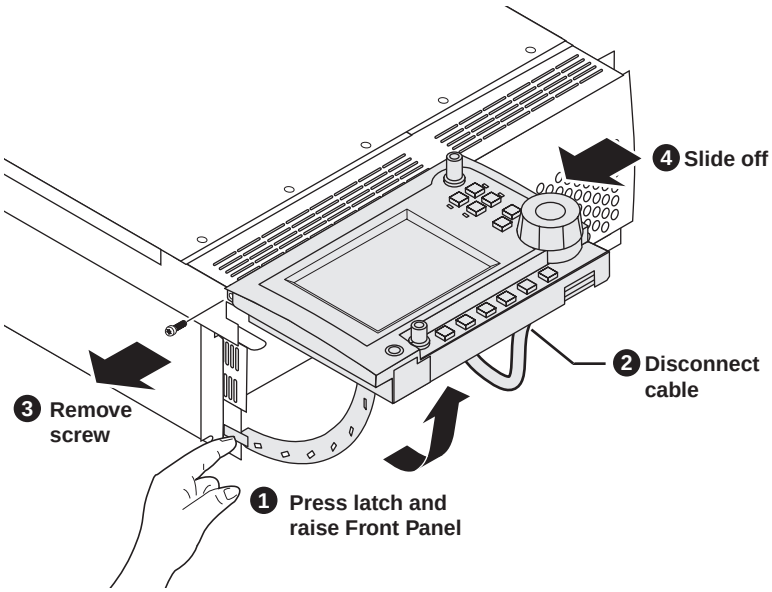


4. In the Storage Utility, select **Close**, then select **No** to close without rebooting the iVDR.
5. Click **Ok** in the information message.
6. Use Windows to shut down and power off the iVDR as follows:
   a. In the Windows task bar, click **Shut Down**.
   b. Select **Shut down**, then click **OK**.
   c. Wait for the iVDR to automatically power-off.
7. Remove iVDR power cord.

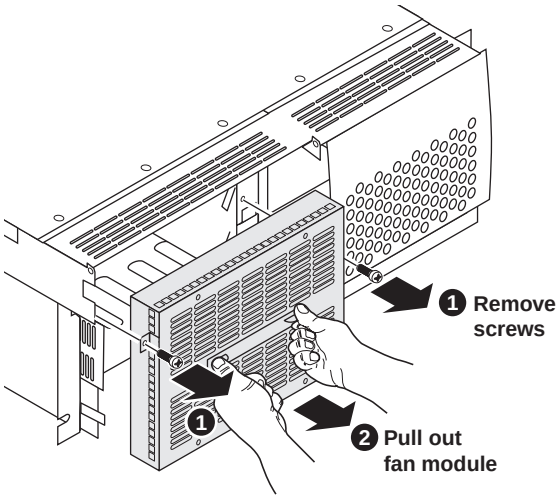
Remove the front panel or door

Do one of the following:

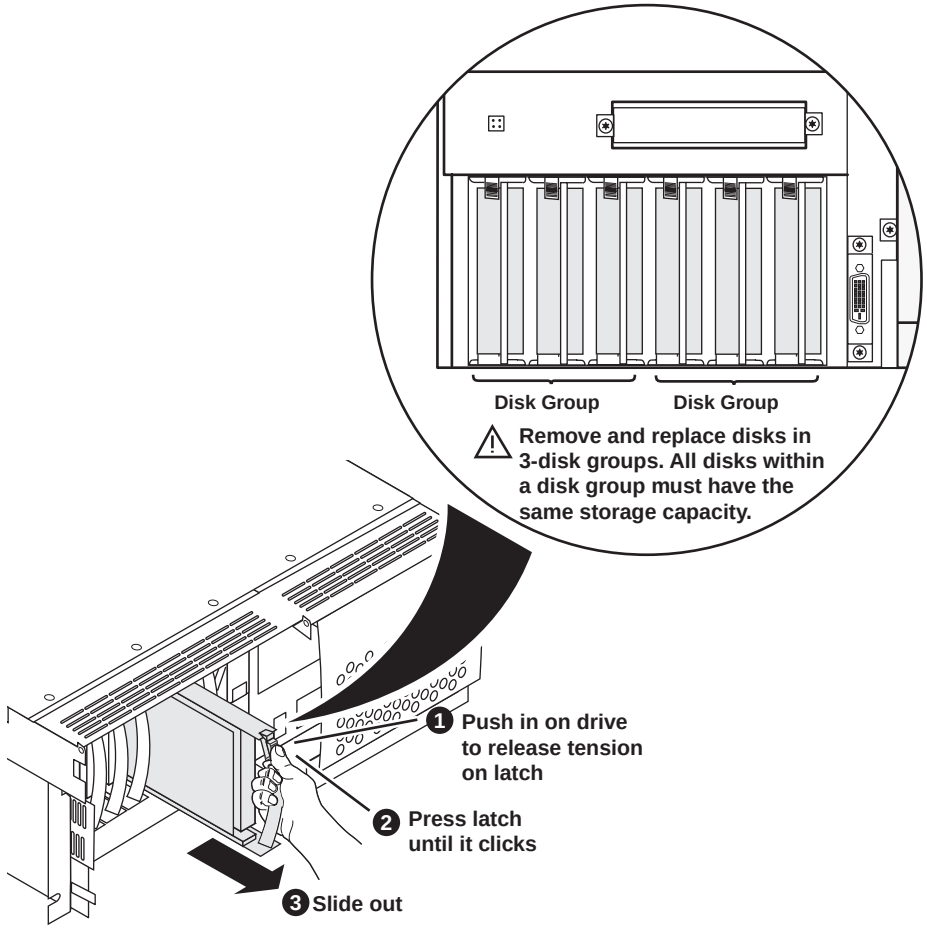
- If the optional Front Panel is installed on your iVDR, remove it as shown in the illustration.
- If the Media Drive Door is installed on your iVDR, remove it as shown in the illustration, however, disregard steps 1 and 2 since these do not apply to Media Drive door.



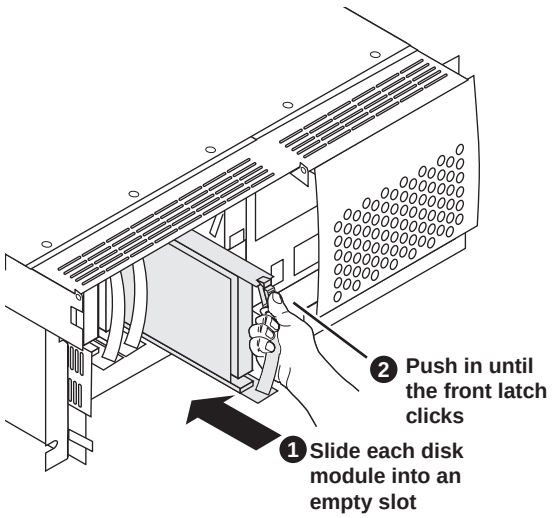
Remove the fan module



Remove existing disk modules



Insert new disk modules



Replace components in reverse order

Replace the following components:

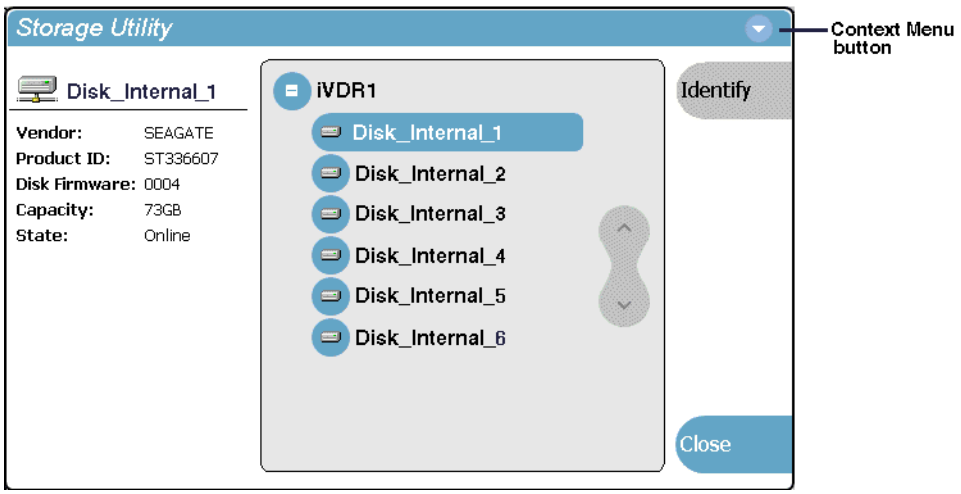
- Fan Module
- Front Panel or Media Drive door

Make a new media file system

In this procedure you will use the iVDR Storage Utility to make a new media file system to make use of the new drives you've added.

1. Reconnect the power cord and power-on the iVDR using the front standby switch.

   The iVDR boots in Storage Maintenance mode, and the Storage Utility starts automatically.



2. Select the Storage Utility context menu button and select **Make Media File System**.

3. Select **Yes** to confirm making the file system.

   A progress indicator appears. When the process is complete, a message appears to confirm success and to prompt you to reboot.

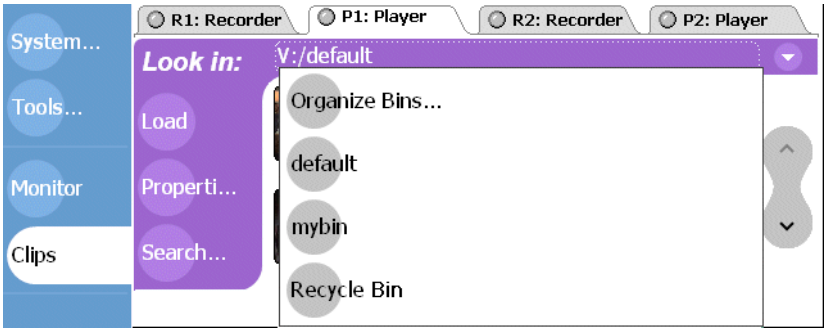
4. Select **Yes** to reboot.

5. Click **No** to reboot in normal mode.

   The iVDR reboots in normal mode, and AppCenter starts automatically.

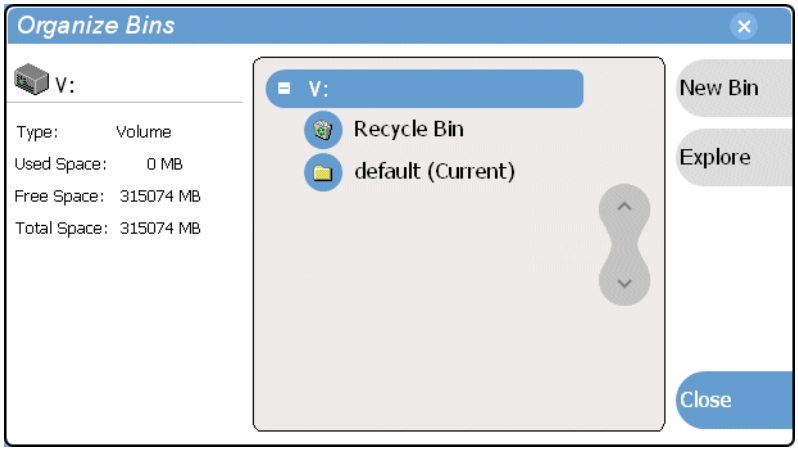
6. Verify access to the file system as follows:

   a. In the AppCenter Clips pane, select the Current Bin label Look in: V:/default, then select the **Organize Bins**.



b. In the Organize Bins dialog box, select disk volume "V:".

Volume properties are displayed in the Organize Bins dialog box.



This concludes the media disk upgrade procedure.

Chapter 5

Installing the Front Panel

Use this procedure to install the front panel upgrade on the M-Series iVDR.

Procedure summary:

- "Modify VGA display setting"
- "Power-off and remove left access door"
- "Mount bracket to the front panel module"
- "Connect cable to front DVI connector"
- "Install the front panel"
- "Power-on and adjust display brightness"
- "Calibrate the touch panel"

Tools needed:

- Torx tool with a T15 tip and a T9 tip (or 5/64 allen wrench)
- 1/4 inch flat blade screw driver

NOTE: If you ordered the optional front panel cradle kit, do not perform this procedure. Refer the *Front Panel Cradle Installation Instructions* ***you received with the optional cradle kit.***

Modify VGA display setting

Perform this procedure to configure the iVDR display settings for 640 by 480 display area which is required for front panel operation.

1. Power-on the iVDR.

   Wait for Windows to initialize and AppCenter to start automatically.

2. Exit AppCenter as follows:

   a. In the AppCenter toolbar, click **System | Shutdown**

   b. Select **Exit To Windows**.

   c. Click **OK**.

   The Windows desktop appears.

3. Right-click on the Windows desktop, then choose **Properties**.

4. Select the **Settings Tab**, then set the Screen Area to **640 x 480** pixels.

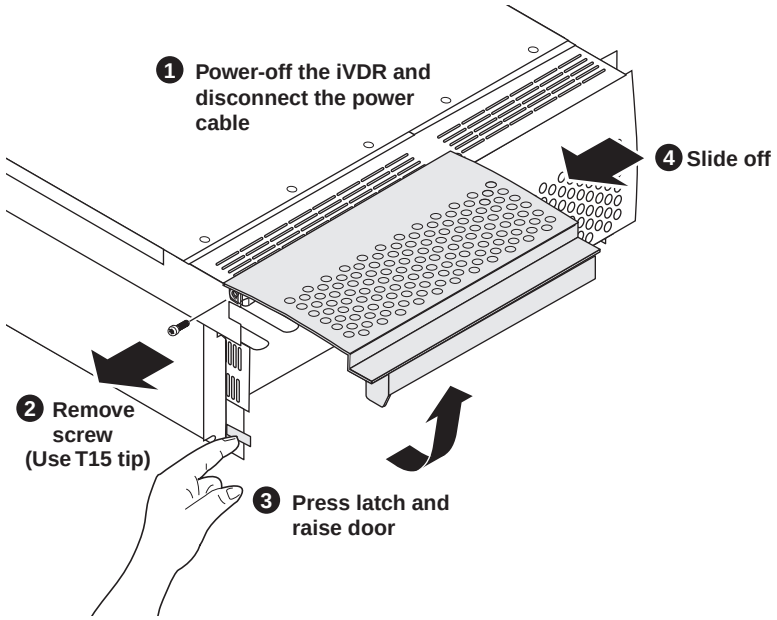
5. Click **Apply**.

6. Select **OK** at the warning dialog.

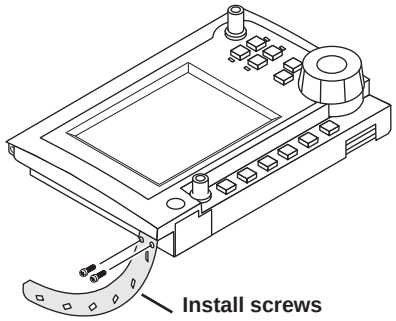
7. Select **Yes** to keep the new settings.

8. Select **OK** to close the Display Properties dialog box.

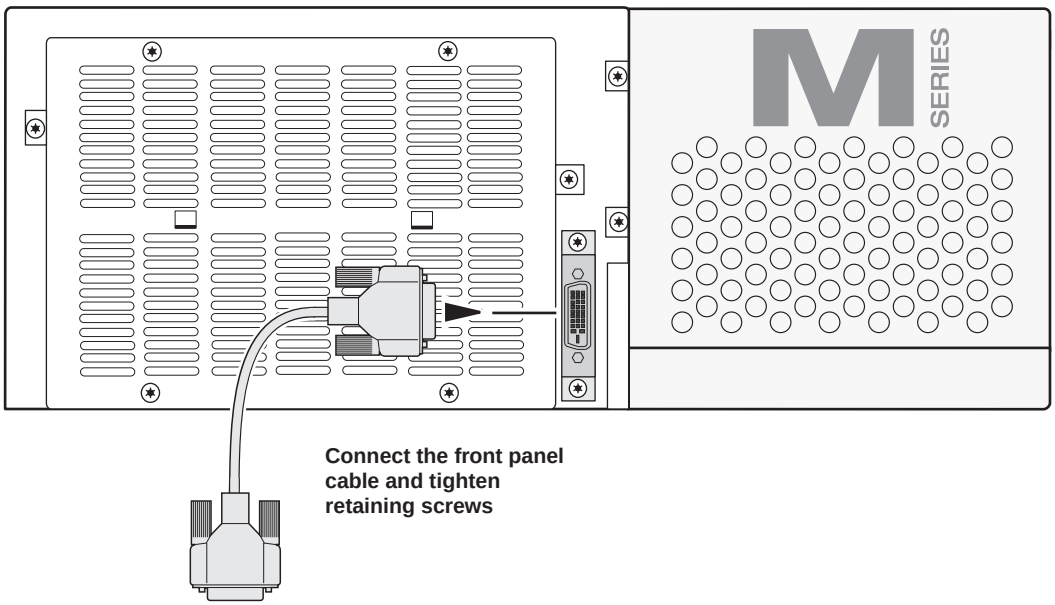
Power-off and remove left access door



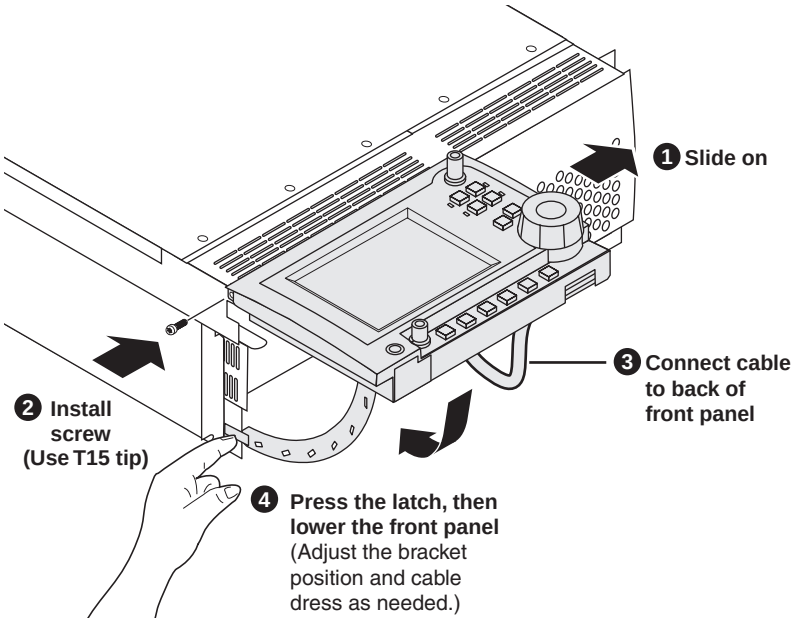
Mount bracket to the front panel module



Connect cable to front DVI connector



Install the front panel



NOTE: When lowering the front panel, you may have to adjust the bracket position slightly to guide it into its chassis slot.

Power-on and adjust display brightness

1. Connect the power cord, and power-on the iVDR using the front standby switch.

   Wait for Windows to initialize and AppCenter to start automatically.

2. Adjust the front panel display brightness for best display depending on ambient light conditions using the brightness control located on the back of the front panel assembly.

Calibrate the touch panel

Calibrate the front panel touch screen to optimize its performance. The front panel can be tilted to a convenient operating angle. Calibration may enhance operation after the angle of the touch panel is changed, or when the front panel has been removed and extended to operate as a desktop device using the optional 15 foot extension cable and front panel cradle.

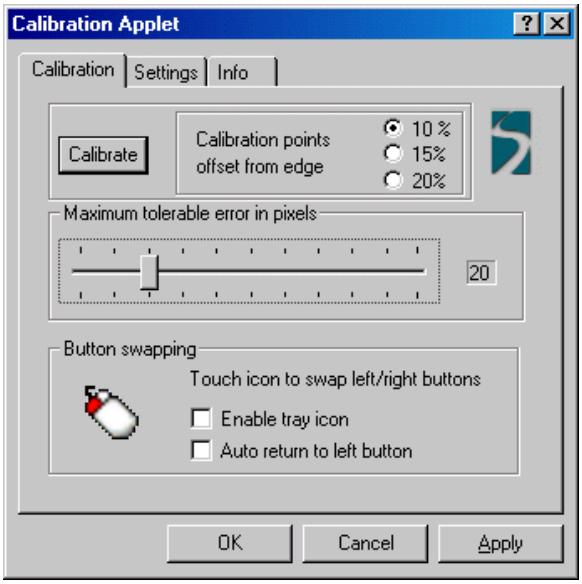
To calibrate the touch screen:

1. In the AppCenter toolbar, touch **System**, then choose **Minimize** in the pop-up menu.

   The Windows desktop appears.

2. On the Windows desktop, double-click the **Touch Screen Calibration** applet.

   The Calibration Applet window opens.



3. On the Calibration tab, touch **Calibrate**, then follow onscreen instructions to calibrate the touch panel.

   ⚠ ***CAUTION: Do not modify any other settings in the Calibration Applet. These are factory set for optimal performance.***

4. Touch **OK** in the Calibration Applet window to save and exit.
5. Click the maximize button in the AppCenter title bar and test the touch panel.

   This concludes the front panel upgrade procedure.

Chapter 6

Installing the DVD-RW Drive

Use this procedure to install the DVD-RW drive upgrade in the M-Series iVDR.

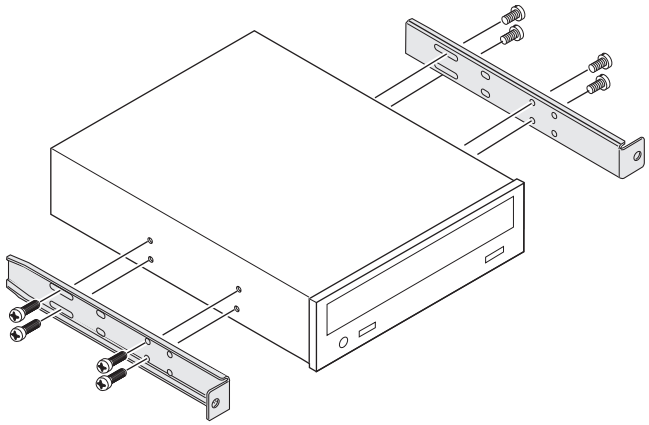
Procedure summary:

- "Attach DVD drive mounting brackets"
- "Set DVD drive jumper to "slave" mode"
- "Power-off the iVDR and remove the power cord"
- "Remove the iVDR top cover"
- "Remove the top drive bay EMI shield"
- "Install the DVD drive"
- "Replace the top cover"
- "Power-on the iVDR and test the DVD drive"
- "Using the DVD-RW drive"

Tools needed:

- Torx tool with T15 tip
- Phillips tip screw driver

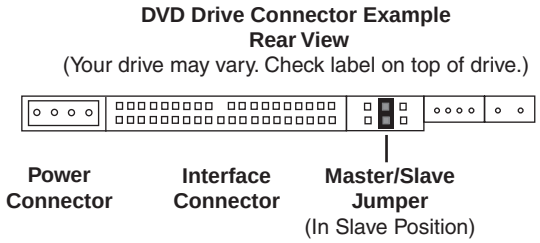
Attach DVD drive mounting brackets



Set DVD drive jumper to “slave” mode

Verify that the Master/Slave jumper on the rear of the drive is in the **Slave** position.

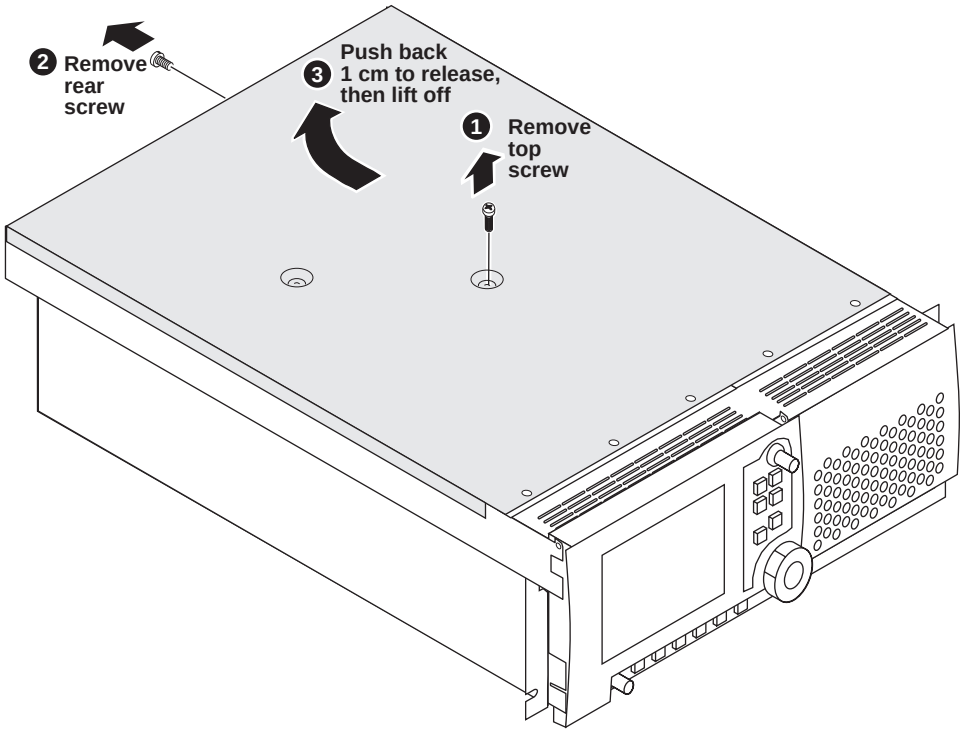
NOTE: Check the top of the DVD drive for a label describing jumper settings. The following illustration is given as an example.



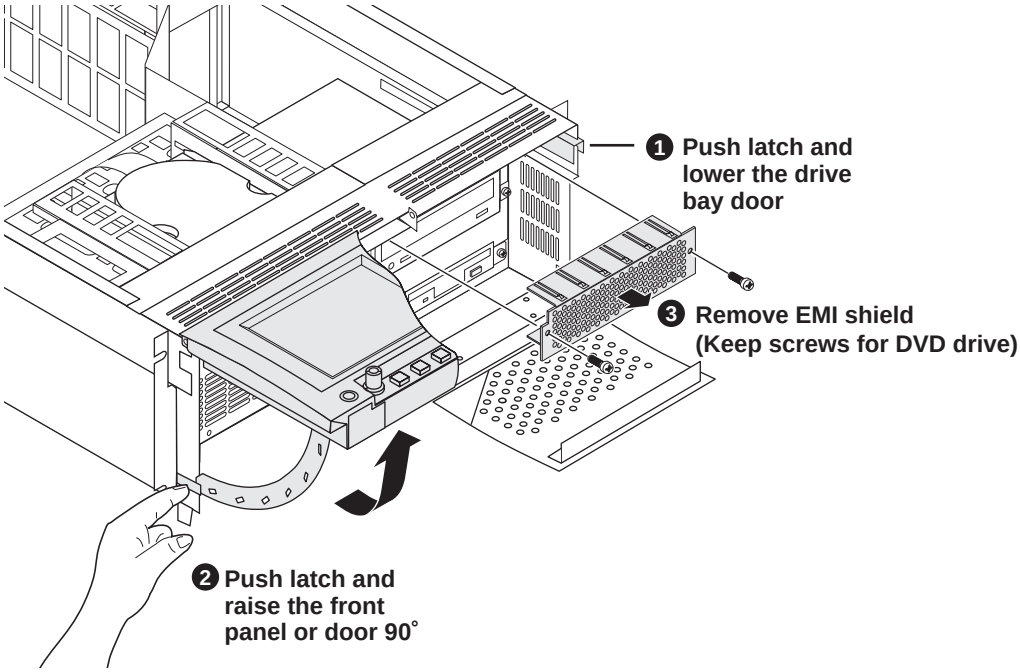
Power-off the iVDR and remove the power cord

1. Perform one of the following steps to power-off the iVDR:
   - **If AppCenter is running** - In the AppCenter toolbar, select **System | Shut Down**, and select **Shut Down** in the Shut Down dialog box, then click **OK**. Wait for the iVDR to shut down and power-off.
   - **If AppCenter is not running** - In the Windows taskbar, click **Start | Shut Down**, and select **Shut down**, then click **Ok**. Wait for the iVDR to shut down and power-off.
2. Remove the iVDR power cord.

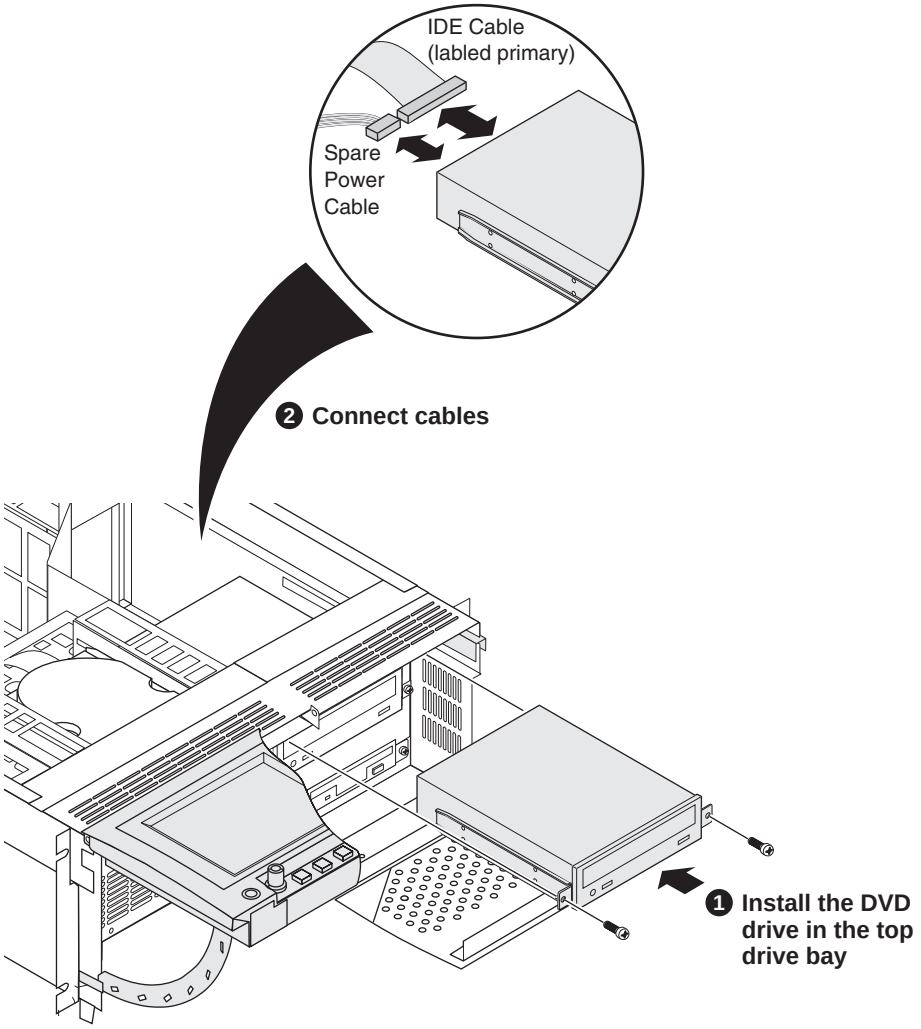
Remove the iVDR top cover



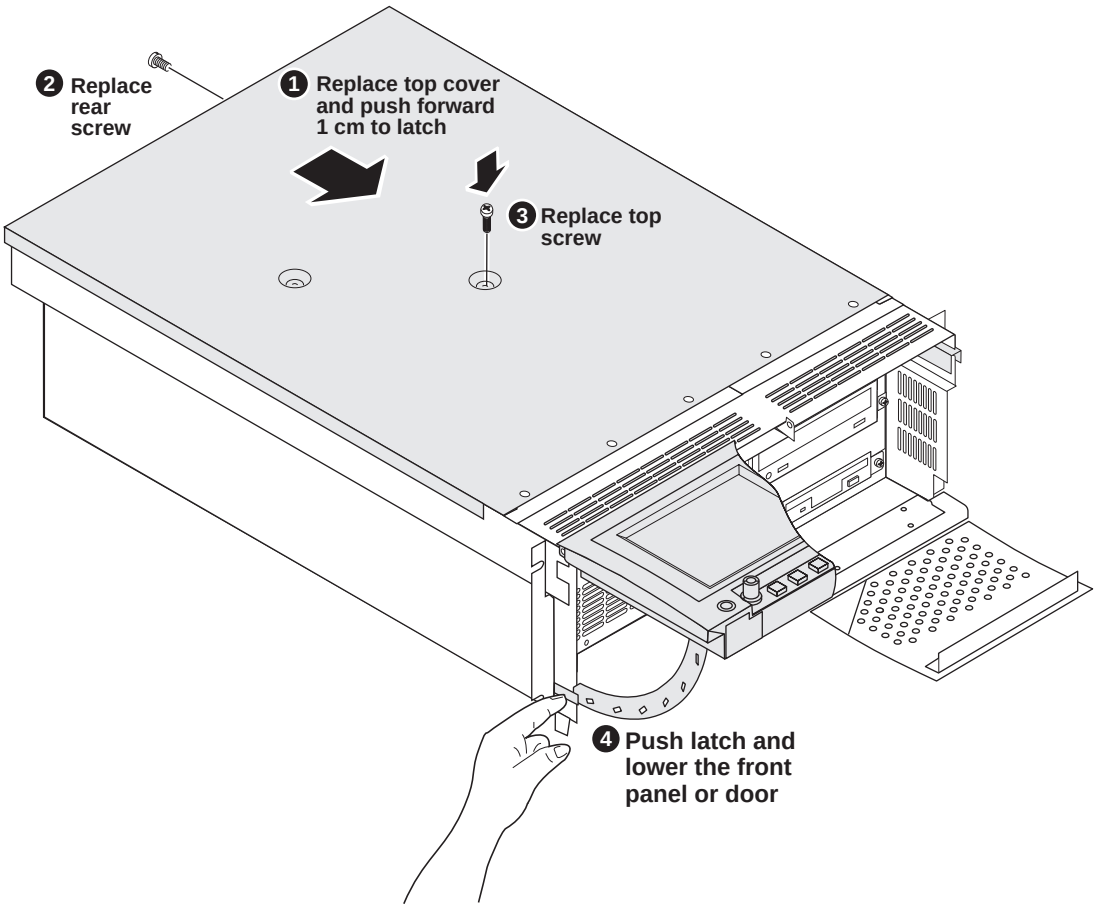
Remove the top drive bay EMI shield



Install the DVD drive



Replace the top cover



Power-on the iVDR and test the DVD drive

The software driver required for the DVD drive is pre installed on the M-Series iVDR. This allows Windows to immediately recognize the DVD drive at boot time. The DVD drive is assigned the drive letter “F”.

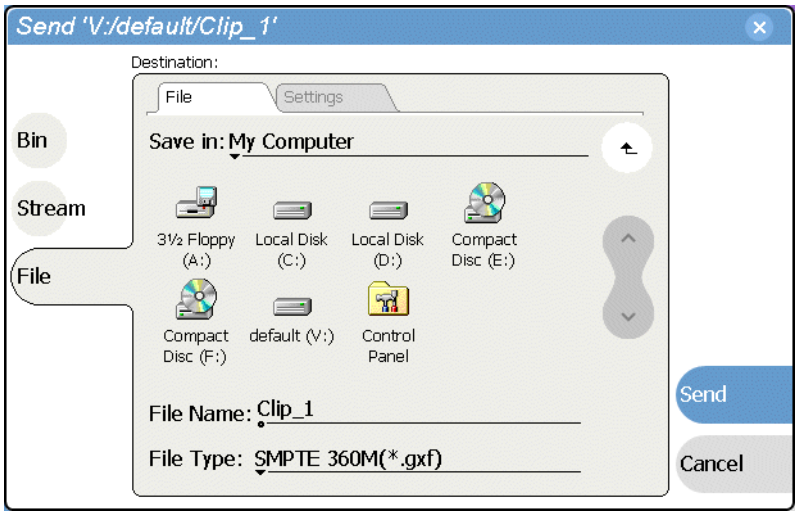
1. Connect the iVDR power-cord.
2. Power-on the iVDR using the front standby switch.

   Wait for Windows to initialize. AppCenter starts automatically. Windows automatically recognizes the DVD drive.
3. Test the DVD-drive as follows:

   a. In the AppCenter toolbar, select **Clips**.

   b. In the Clips pane, select the context menu button , then choose **Send to**.

   The Send to dialog box appears.



c. Select **File**.

The DVD drive appears in the Send dialog box as ***Compact Disc (F:)***.

Using the DVD-RW drive

Before using the DVD-RW drive note the following operational requirements.

- **DVD Media Must Be Formatted** - Before writing data to the DVD, you must format the disk media. The iVDR includes the software for doing this formatting. Refer to the *M-Series User Manual* for instructions on formatting disk media.
- **DVDs Must Be Made Compatible** - After writing data to the DVD, you must make the disk compatible so that you can remove it and use it in another computer or device. When you make the disk compatible, you effectively “close” the disk and it becomes read-only. Refer to the *M-Series User Manual* for instructions on making the DVD compatible.

This concludes the DVD drive upgrade procedure.