



MQAM Software Version 2.4.5

Release Notes and Installation Instructions

Overview

Introduction

Cisco announces the release of software version 2.4.5 for the Multiple Quadrature Amplitude Modulation modulator (MQAM). This software release contains an enhancement that disables the “ASI Loss of Input Signal” alarm for an ASI input that does not have any outstanding sessions. An outstanding session is any session that has been created without errors and has not been deleted. With the enhancement contained in this software release, the loss of input signal alarm will not be generated for an ASI input that is not being used.

Purpose

These release notes and installation instructions provide information about enhancements and known issues for MQAM software version 2.4.5. These release notes and installation instructions also provide procedures for verifying and backing up the current MQAM software, installing the version 2.4.5 software, verifying the installation, resetting the MQAM, and restoring the previous MQAM software version in the unlikely event that MQAM version 2.4.5 does not install properly.

Site Requirements

MQAM software version 2.4.5 is intended for sites operating System Release (SR) 2.2, SR 2.2 and SR 3.2 Service Pack 1, or SR 2.2 and SR 3.2 Service Pack 2.

Audience

These release notes and installation instructions are written for the following audiences:

- System administrators of the Digital Broadband Delivery System (DBDS)
- Operators of the Digital Network Control System (DNCS)
- Cisco’s on-site and field service engineers who assist at sites that support Cisco or other resident applications

Overview, Continued

Related Publications

Refer to the following publications for additional information:

- *MQAM Modulator Models D9477-1, D9477-2, D9477-3 Installation and Operation Guide*, part number 717866
- *System Release 2.2 Release Notes*, part number 4004065
- *System Release 3.2 Releases Notes*, part number 4004066
- *System Release 2.2 and System Release 3.2 Service Pack 1 Release Notes and Installation Instructions*, part number 4000917
- *System Release 2.2 and System Release 3.2 Service Pack 2 Release Notes and Installation Instructions*, part number 4001158
- *Troubleshooting and Resetting QAMS and MQAMs With auditQAM Instruction Sheet*, part number 4005744

Document Version

This is the second release of these release notes and installation instructions.

In These Release Notes

These release notes and installation instructions contain the following topics.

Topic	See Page
About This Version	3
Verify the Current MQAM Software Version	5
Compare and Verify Current Channels, Sources, and Sessions	6
Back Up the Current MQAM Software Version	15
Install the MQAM Software Onto the DNCS	16
Reset an MQAM From the Back Panel	21
Reset an MQAM From the DNCS	25
Restore Previous MQAM Software Version	30

About This Version

Implemented Change Requests

The following matrix lists the implemented change request (CR) addressed by MQAM software version 2.4.5. Additionally, this matrix lists the following attributes associated with the implemented CR:

- A high-level description of the issue addressed by the CR

Note: A brief description of the CR appears in the Subscriber column if the subscriber is most affected by the CR; a brief description of the CR appears in the Cable Service Provider column if the cable service provider is most affected by the CR.

- The process most affected by the CR

CR Number	Subscriber	Cable Service Provider	Process Affected
28104	No impact	Provide an enhancement to disable an unnecessary alarm that occurs when only one of the DVB ASI input ports on the MQAM is connected	MultiQAM Application

System Release Configuration

These release notes and installation instructions describe the MQAM software version 2.4.5. This version consists of the MQAM Application Code version 2.4.5 and the MQAM boot code version 1.2.2.

The MQAM software version 2.4.5 was tested and released as part of the following system releases:

- SR 2.2
- SR 2.2 and SR 3.2 Service Pack 1
- SR 2.2 and SR 3.2 Service Pack 2

The MQAM software version 2.4.5 can be installed on a DBDS with the following configuration:

- DNCS Application version 3.0.0.16, or later
- Application Server version 3.1.1.6, or later

Note: For a complete configuration listing for SR 2.2 Service Pack 1, SR 3.2 Service Pack 1, SR 2.2 Service Pack 2, and SR 3.2 Service Pack 2, please contact Cisco Services.

About This Version, Continued

The MQAM software version 2.4.5 is available for a DBDS upgrading to SR 2.2 Service Pack 1, SR 3.2 Service Pack 1, SR 2.2 Service Pack 2, or SR 3.2 Service Pack 2.

Note: Due to database and message format changes, MQAM software version 2.4.5 is not compatible with DNCS software version 1.x; and MQAM software version 1.x is not compatible with DNCS software version 2.x or 3.x. Therefore, any system upgrades to DNCS software version 2.x or later must upgrade to MQAM software version 2.4.5 at the same time.

Known Issue

The following matrix lists the CR for an issue that is known to exist in MQAM software version 2.4.5 and earlier.

CR Number	Subscriber	Cable Service Provider	Process Affected
44279	Unable to view VOD purchases	MQAMs are losing 256-byte buffers at customer sites. This buffer loss eventually results in the inability to create VOD sessions.	MultiQAM Application

Verify the Current MQAM Software Version

Introduction

Before you attempt to install MQAM software version 2.4.5, you should verify the current MQAM software version that is installed on your DNCS to make certain that you need to upgrade. This section provides instructions for verifying the version of MQAM code installed on the DNCS.

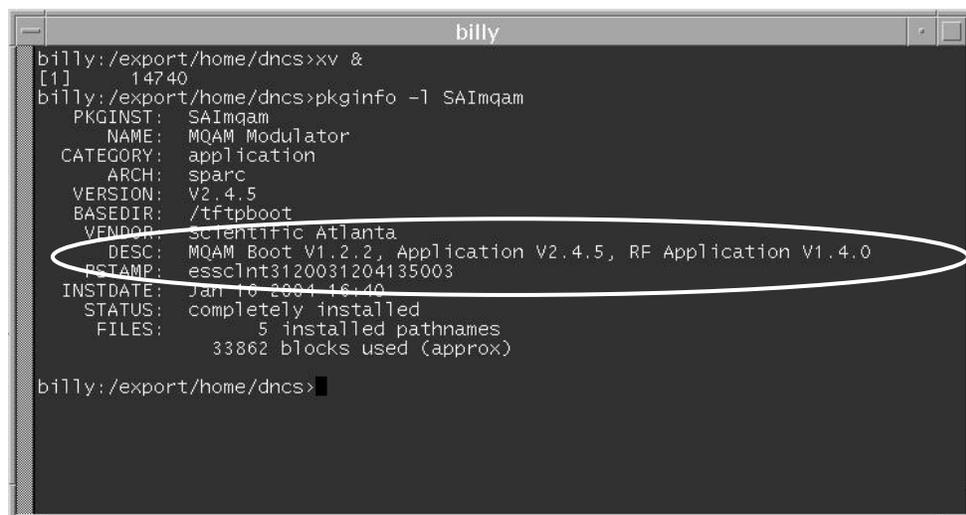
Verifying the Current MQAM Software Version

Follow these steps to verify the current MQAM software version installed on your DNCS.

1. Open an xterm window on the DNCS.
2. Log on as the **dncs** user.
3. Type **pkginfo -l SAImqam** and then press **Enter**.

Note: The **l** used in “-l” is the lowercase of the letter L.

Result: The following MQAM information appears.



```
billy:/export/home/dncs>xv &
[1] 14740
billy:/export/home/dncs>pkginfo -l SAImqam
  PKGINST: SAImqam
    NAME: MQAM Modulator
  CATEGORY: application
    ARCH: sparc
  VERSION: V2.4.5
  BASEDIR: /tftpboot
  VENDOR: SCIENTIFIC Atlanta
  DESC: MQAM Boot V1.2.2, Application V2.4.5, RF Application V1.4.0
  PSTAMP: esscInt3120031204135003
  INSTDATE: Jan 16 2004 16:40
  STATUS: completely installed
  FILES: 5 installed pathnames
         33862 blocks used (approx)

billy:/export/home/dncs>
```

Important: If MQAM information does not appear, go to **Install the MQAM Software Onto the DNCS**, later in these instructions.

4. Is the MQAM Application version 2.4.5 or later, and the MQAM Boot version 1.2.2 or later?
 - If **yes**, you do not need to install the MQAM software version 2.4.5, and you can ignore the remainder of these instructions.
 - If **no**, then your next step is to verify the current channels, sources, and sessions on the MQAM. Go to **Compare and Verify Current Channels, Sources, and Sessions**, next in these instructions.

Compare and Verify Current Channels, Sources, and Sessions

Introduction

This section describes the Channels, Sources and Sessions Report. Use this report to compare and verify that all current channels and sessions are restored after you load the MQAM software version 2.4.5 and reset the MQAM from the DNCS. This section also provides instructions to display, save, and print the Channels, Sources and Sessions Report.

Description

The Channels, Sources and Sessions Report lists each *display channel* in the system, along with all information about *carriage* (how the channel is transmitted on the DBDS) of that channel starting from the Service to the MQAM. The Channels, Sources and Sessions Report information is collected from the database of the DNCS and is a function of Cisco's Report Writer software.

Channels, Sources and Sessions Report Example

The following diagram shows an example of the Channel, Sources and Sessions Report.

Note: Additional MQAM information also appears in the QAM Name column of the Channels, Sources and Sessions Report.

Channel Name	LUG ID	Service ID	SAM Service Name	Short Desc	Long Desc	Application URL	Source ID	Source Name	Source Type	Session ID	Effective Date/Time	QAM Name	Bandwidth
3	0	271	PPV-01	ppv	Pay per view	ppv	1903	D303 GOLP	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
503	0	159	Golf Channel	GOLF	GOLF	watchtv	1903	D303 GOLP	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
703	0	274	IPPV03	VO03	IPPV Service 03	ppv	1703	D703 IPPV03	Digital	00 00 00 00 00 00 1703	01/25/01 14:05	HE1 qam2	2000000
113	0	263	TV Land	TVLND	TV Land	watchtv	1113	D113 TVLND	Digital	00 00 00 00 00 00 1113	04/23/01 15:35	HE1 qam4	2000000
116	0	264	Food TV	FOOD	Food TV	watchtv	1116	D116 FOOD	Digital	00 00 00 00 00 00 1116	04/23/01 15:35	HE1 qam4	2000000
117	0	265	Speed Vision	SPDVN	Speed Vision	watchtv	1117	D117 SPDVN	Digital	00 00 00 00 00 00 1117	04/23/01 15:39	HE1 qam4	2000000
120	0	114	CNNFN	CNNFN	CNNFN	watchtv	1120	D120 CNNFN	Digital	00 00 00 00 00 00 1120	04/23/01 16:19	HE1 qam4	2000000
127	0	245	Discovery Wings	DSCW	Discovery Wings	watchtv	1127	D127 DSCW	Digital	00 00 00 00 00 00 1127	04/23/01 16:23	HE1 qam4	2000000
128	0	266	Disney Toons	TOON	Disney Toons	watchtv	1128	D128 TOON	Digital	00 00 00 00 00 00 1128	04/23/01 16:24	HE1 qam4	2000000
103	0	261	Sci Fi	SCIFI	Science Fiction	watchtv	1103	D103 SCIFI	Digital	00 00 00 00 00 00 1103	04/23/01 15:10	HE1 qam4	2000000
104	0	207	ESPN2	ESPN2	ESPN2	watchtv	1104	D104 ESPN2	Digital	00 00 00 00 00 00 1104	04/23/01 16:13	HE1 qam4	2000000
109	0	238	Country Music TV	CMT	Country Music TV	watchtv	1109	D109 CMT	Digital	00 00 00 00 00 00 1109	04/23/01 16:15	HE1 qam4	2000000
105	0	262	ESPN2 Alternative	ESPN2a	ESPN2 Alternative	watchtv	1105	N/A	N/A	N/A	N/A	N/A	0
107	0	176	ESPN Classics	ESPNc	ESPN Classics	watchtv	1107	N/A	N/A	N/A	N/A	N/A	0
110	0	230	Comedy Channel	COM	Comedy Channel	watchtv	1110	N/A	N/A	N/A	N/A	N/A	0
118	0	248	Disney Channel East	DISN	Disney Channel East	watchtv	1118	N/A	N/A	N/A	N/A	N/A	0
119	0	247	Disney Channel West	DISNW	Disney Channel West	watchtv	1119	N/A	N/A	N/A	N/A	N/A	0
121	0	246	Discovery Eye People	DSCP	Discovery Eye in People	watchtv	1121	N/A	N/A	N/A	N/A	N/A	0

Continued on next page

Compare and Verify Current Channels, Sources, and Sessions, Continued

Referencing the Channel, Sources and Sessions Report

The following table defines the **Channel Num**, **Session ID**, and **QAM Name** columns of the Channels, Sources and Sessions Report. When you are ready to reset an MQAM from the DNCS, you must refer to these specific columns in the report to verify that the MQAM channels and sessions have been restored.

Channel Num	The Channel Num column lists the channels to which you can tune the DHCT to receive each service. If you can tune a DHCT downstream of a reset MQAM to all channels carried by the reset MQAM, you can be certain that the MQAM sessions have been restored.
Session ID	The Sessions ID column identifies the number of sessions carried or transmitted by an MQAM. Verify that the number of sessions generated on the Channels, Sources and Sessions Report are the same before and after you reset an MQAM.
QAM Name	The QAM Name column lists the names of the MQAMs associated with each channel or session. If you reset an MQAM, the corresponding channels listed in the Channel Num column will be unavailable to DHCTs downstream of the MQAM. The channels associated with the MQAM will be available after the MQAM has completed its upgrade and has successfully established sessions again with the DNCS.

Compare and Verify Current Channels, Sources, and Sessions, Continued

Displaying the Channels, Sources and Sessions Report

Follow these steps to display the Channels, Sources and Sessions Report.



CAUTION:

Before running Report Writer, you must exit all instances of Netscape associated with your UNIX user ID. When you try to run Report Writer with more than one instance of Netscape associated with your UNIX user ID, a message appears on the screen stating that Netscape has “detected a lock file.” Do not continue. If you attempt to continue, Report Writer may exhibit unpredictable behavior.

1. Start your Web browser and then type the following URL in the Address bar:

<http://<hostname>/sareports>

Notes:

- The <hostname> represents the host name of the DNCS server where Report Writer software is located.
- You may enter the host name or the IP address of the DNCS server.

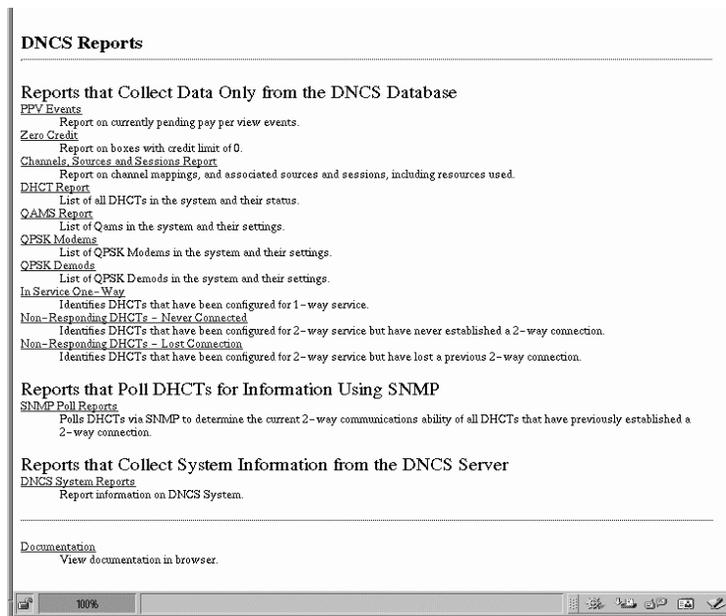
Result: The user name and password window appears.

Compare and Verify Current Channels, Sources, and Sessions, Continued

2. Type your user name and password and then click **OK**.

Note: The default user name is **sareports** and the default password is **report**.

Result: The Web browser displays the following page.



Compare and Verify Current Channels, Sources, and Sessions, Continued

3. Click the **Channels, Sources and Sessions Report** link.

Result: The following screen appears.



4. To regenerate the report click **Refresh Data**.

Results:

- If the report was not previously accessed, a message appears on the screen indicating the report has not yet been generated.
- If the report was previously accessed, the most current data appears on the Channels, Sources and Sessions Report.

Compare and Verify Current Channels, Sources, and Sessions, Continued

- Click the **QAM Name** column heading.

Result: The system sorts the list according to each QAM and MQAM on your system.

Channel Name	LUG ID	Service ID	SAM Service Name	Short Desc	Long Desc	Application URL	Source ID	Source Name	Source Type	Session ID	Effective Date/Time	QAM Name	Bandwidth
2	0	271	PPV-01	ppv	Pay per view	ppv	1503	D503 GOLF	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
503	0	159	Golf Channel	GOLF	GOLF	watchtv	1503	D503 GOLF	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
703	0	274	IPPV03	Y003	IPPV Service 03	ppv	1703	D703 IPPV03	Digital	00 00 00 00 00 00 1703	01/25/01 14:05	HE1 qam2	2000000
113	0	263	TV Land	TVLND	TV Land	watchtv	1113	D113 TVLND	Digital	00 00 00 00 00 00 1113	04/23/01 15:35	HE1 qam4	2000000
116	0	264	Food TV	FOOD	Food TV	watchtv	1116	D116 FOOD	Digital	00 00 00 00 00 00 1116	04/23/01 15:35	HE1 qam4	2000000
117	0	265	Speed Vision	SPDVN	Speed Vision	watchtv	1117	D117 SPDVN	Digital	00 00 00 00 00 00 1117	04/23/01 15:39	HE1 qam4	2000000
120	0	114	CHNFN	CHNFN	CHNFN	watchtv	1120	D120 CHNFN	Digital	00 00 00 00 00 00 1120	04/23/01 16:19	HE1 qam4	2000000
127	0	245	Discovery Wings	DSCW	Discovery Wings	watchtv	1127	D127 DSCW	Digital	00 00 00 00 00 00 1127	04/23/01 16:23	HE1 qam4	2000000
128	0	266	Disney Toons	TOON	Disney Toons	watchtv	1128	D128 TOON	Digital	00 00 00 00 00 00 1128	04/23/01 16:24	HE1 qam4	2000000
103	0	261	Sci Fi	SCIFI	Science Fiction	watchtv	1103	D103 SCIFI	Digital	00 00 00 00 00 00 1103	04/23/01 15:10	HE1 qam4	2000000
104	0	207	ESPN2	ESPN2	ESPN2	watchtv	1104	D104 ESPN2	Digital	00 00 00 00 00 00 1104	04/23/01 16:13	HE1 qam4	2000000
109	0	238	Country Music TV	CMT	Country Music TV	watchtv	1109	D109 CMT	Digital	00 00 00 00 00 00 1109	04/23/01 16:15	HE1 qam4	2000000
105	0	262	ESPN 2 Alternative	ESPN2a	ESPN 2 Alternative	watchtv	1105	N/A	N/A	N/A	N/A	N/A	0
107	0	176	ESPN Classics	ESPNc	ESPN Classics	watchtv	1107	N/A	N/A	N/A	N/A	N/A	0
110	0	250	Comedy Channel	COM	Comedy Channel	watchtv	1110	N/A	N/A	N/A	N/A	N/A	0
118	0	248	Disney Channel East	DISN	Disney Channel East	watchtv	1118	N/A	N/A	N/A	N/A	N/A	0
119	0	247	Disney Channel West	DISNW	Disney Channel West	watchtv	1119	N/A	N/A	N/A	N/A	N/A	0
121	0	246	Discovery Eye People	DSCP	Discovery Eye on People	watchtv	1121	N/A	N/A	N/A	N/A	N/A	0

- Go to **Saving the Channels, Sources and Sessions Report**, next in this section.

Compare and Verify Current Channels, Sources, and Sessions, Continued

Saving the Channels, Sources and Sessions Report

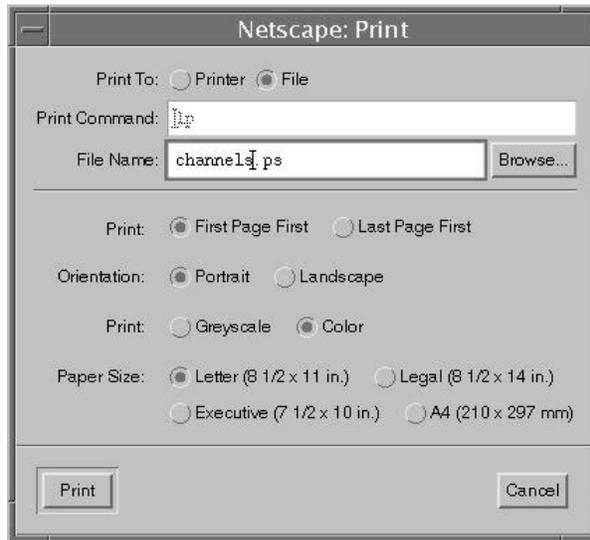
This section provides instructions to save the Channels, Sources and Sessions Report. This report can be used in **Reset an MQAM From the DNCS** section, later in these instructions.

Follow these steps to save the Channels, Sources and Sessions Report.

Note: You must save the Channels, Sources and Sessions Report to your hard drive.

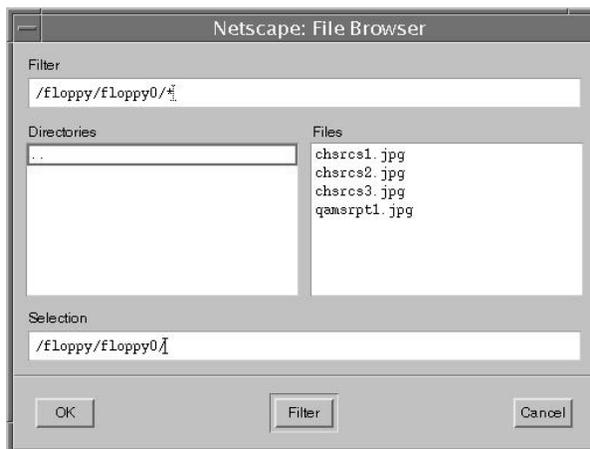
1. From your Web browser window click **File**, and then click **Print**.

Result: The Netscape: Print window appears.



2. Select **File** from the Print To section in the Netscape: Print window.
3. Click **Browse**.

Result: The Netscape: File Browser appears.



Compare and Verify Current Channels, Sources, and Sessions, Continued

4. Choose one of the following methods to navigate to the directory in which you want to save the file:
 - Double-click the .. (double-dot) symbol in the Directories panel to navigate to a higher-level directory.
 - Double-click the directory name to navigate to a subdirectory.

Note: You must save the Channels, Sources and Sessions Report to your hard drive.
5. Click **OK**.

Result: The Netscape: Print window reappears.
6. Type a file name in the File Name field.
7. Click **Print**.

Result: The system saves the Channels, Sources and Sessions Report to the specified file.

Note: You can refer to the report after you reset an MQAM from the DNCS. The instructions for resetting an MQAM appear in **Reset an MQAM From the DNCS**, later in these instructions.
8. Go to **Printing the Channels, Sources and Sessions Report**, next in this section.

Compare and Verify Current Channels, Sources, and Sessions, Continued

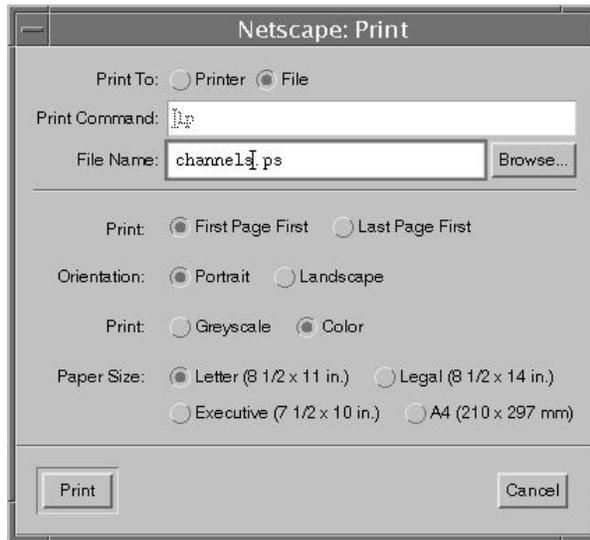
Printing the Channels, Sources and Sessions Report

This section provides instructions to print the Channels, Sources and Sessions Report. The Channels, Sources and Sessions Report can be used in **Reset an MQAM From the DNCS** section, later in these instructions.

Follow these steps to print the Channels, Sources and Sessions Report.

1. From your Web browser window click **File** and then select **Print**.

Result: The Netscape: Print window appears.



2. Select **Printer** in the Print To section of the Netscape: Print window.
3. Type the correct printer name in the Print Command field and then click **Print**.

Result: The report has been sent to your printer.

Note: You can refer to the report after you reset an MQAM modulator. The instructions for resetting the MQAM appear in **Reset an MQAM From the DNCS**, later in these instructions.

4. Go to **Back Up the Current MQAM Software Version**, next in these instructions.

Back Up the Current MQAM Software Version

Introduction

You must back up the current version of MQAM software before you install the MQAM software version 2.4.5. This section provides instructions to help you back up the current MQAM software version.

Important: If MQAM code was not found on your system when you performed the **Verifying the Current MQAM Software Version** procedure, earlier in these instructions, go to **Install the MQAM Software Onto the DNCS**, next in these instructions; then, return to this backup procedure.



CAUTION:

Do not proceed with installing the MQAM software version 2.4.5 until you have created a backup of the current version of MQAM software running on your system. In case of difficulty, you may need to contact Cisco Services and, if they recommend it, restore the original MQAM software running on your system.

Backing Up the Current MQAM Software Version

Follow these steps to back up the current version of MQAM software on your system.

1. Open an xterm window onto the DNCS and log on as the **root** user.
2. Type **cd /tftpboot** and then press **Enter**.
Result: The root prompt appears.
3. Type **pwd** and then press **Enter**.
Result: The /tftpboot directory name appears. This name indicates you are in the correct directory.
4. Type **cp -p mqam.config mqam.bakxxx** and then press **Enter**.
Result: A copy of the MQAM configuration is saved to a file named mqam.bakxxx.
Note: In this example, *xxx* represents your current MQAM software version.
Example: If your current MQAM software version is 2.4.3, name the file **mqam.bak243**.
5. Type **ls -l** and then press **Enter**.
Note: The **l** used in “ls” and “-l” is the lowercase of the letter L.
Result: A list of files appears with the mqam.bak file listed.
6. Type **exit** and then press **Enter**.
7. Go to **Install the MQAM Software Onto the DNCS**, next in these instructions.

Install the MQAM Software Onto the DNCS

Introduction

This section provides instructions for installing the MQAM software version 2.4.5 using the MQAM App v2.4.5 CD.

Use the procedures in this section to do the following tasks:

- Load the CD software onto the DNCS
- Save the log file

Important: Do not proceed with installing the MQAM software version 2.4.5 until you have created a backup of the current version of MQAM software running on your system. In case of difficulty, you may need to contact Cisco Services and, if they recommend it, restore the original MQAM software running on your system.

Installing the MQAM Software

Follow these steps to install the MQAM software onto the DNCS.

1. Open an xterm window on the DNCS and log in as **root** user.
2. Insert the **MQAM App v2.4.5 CD** into the CD-ROM drive of the DNCS.

Note: The label of the MQAM CD lists the following software versions:

- **MQAM APP v2.4.5**
- **MQAM BOOT v1.2.2**

3. Wait approximately 30 seconds for the system to mount the CD before continuing to step 4.
4. Type **df** and then press **Enter** to confirm that the system mounted the CD successfully.

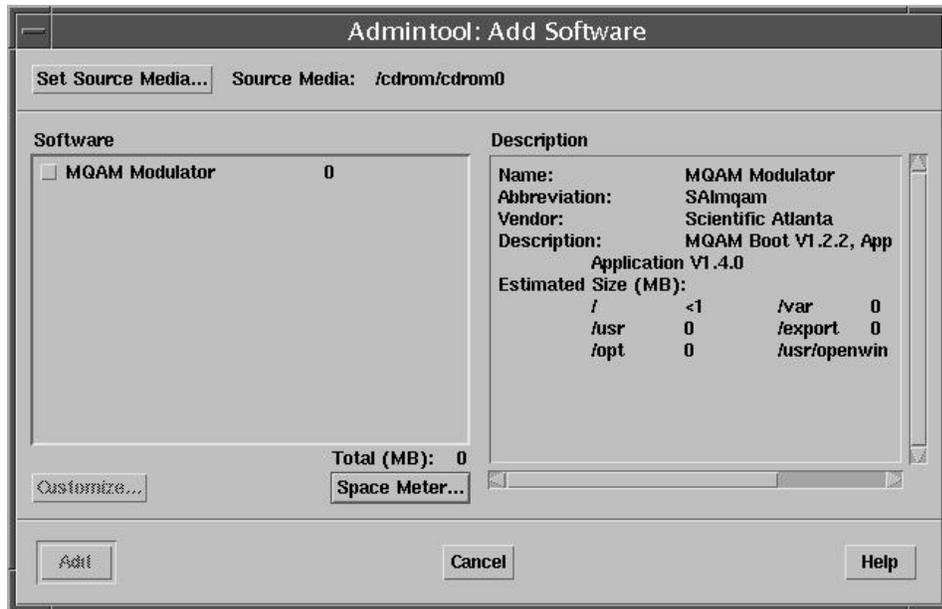
Result: The last line of the df command output lists the number of free disk blocks on the CD.

Note: The number of free disk blocks existing on the CD does not matter. The fact that the CD is listed in the df command output indicates that the system successfully mounted the CD.

Install the MQAM Software Onto the DNCS, Continued

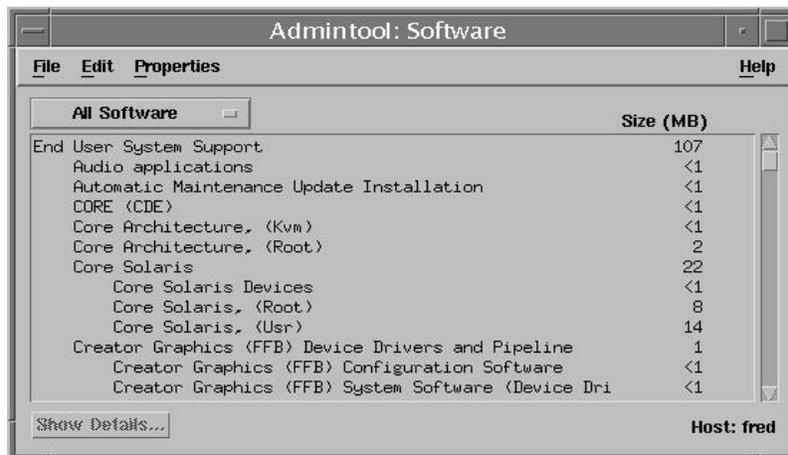
5. Type `swmtool -d /cdrom/cdrom0` and then press **Enter**.

Result: The Admintool: Add Software window appears.



6. Click **Cancel** on the Admintool: Add Software window.

Result: The Admintool: Software window appears.



7. Select **Properties** and then choose **Package Administration**.

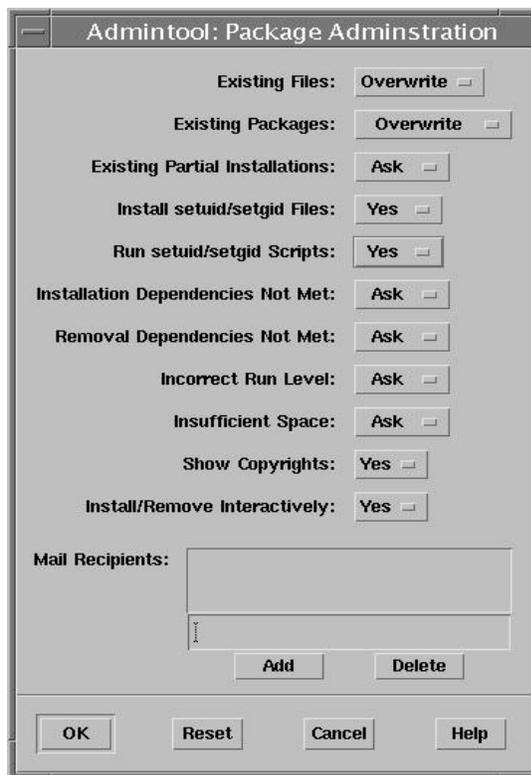
Result: The Admintool: Package Administration window appears.

Install the MQAM Software Onto the DNCS, Continued

8. Set the fields on the Admintool: Package Administration window to the following values:
 - Existing Files – **Overwrite**
 - Existing Packages – **Overwrite**
 - Existing Partial Installations – **Ask**
 - Install setuid/setgid Files – **Yes**
 - Run setuid/setgid Scripts – **Yes**

Note: Leave the remaining fields at their default values.

Example: The following diagram shows an example of the Admintool: Package Administration window.



9. Select **OK** on the Admintool: Package Administration window.

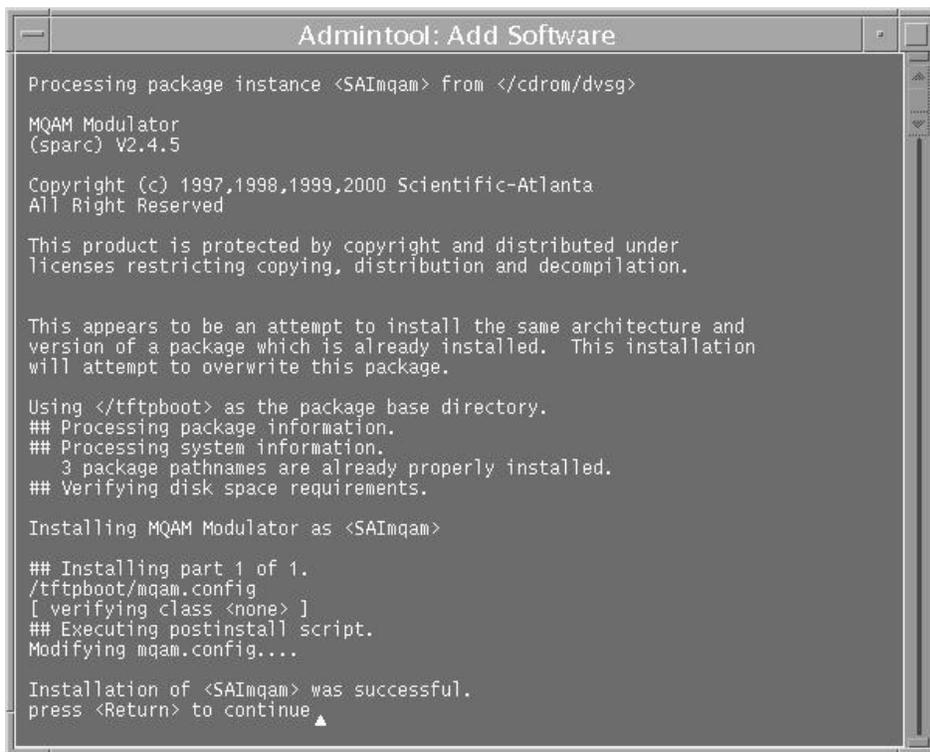
Result: The system saves the values and the Admintool: Software window appears.

10. From the Admintool: Software window, select **Edit** and then choose **Add** from the menu.

Result: The Admintool: Add Software window appears.

Install the MQAM Software Onto the DNCS, Continued

11. Click the **MQAM Modulator** option.
Result: A check mark appears next to the MQAM Modulator.
12. Click **Add** on the Admintool: Add Software window.
Results:
 - A copyright message appears.
 - The MQAM software installation begins.
13. Wait for the MQAM software installation to complete.
Result: The **Installation of <SAImqam> was successful** message appears when installation is complete.



```
Admintool: Add Software
Processing package instance <SAImqam> from </cdrom/dvsg>
MQAM Modulator
(sparc) V2.4.5
Copyright (c) 1997,1998,1999,2000 Scientific-Atlanta
All Right Reserved
This product is protected by copyright and distributed under
licenses restricting copying, distribution and decompilation.
This appears to be an attempt to install the same architecture and
version of a package which is already installed. This installation
will attempt to overwrite this package.
Using </tftpboot> as the package base directory.
## Processing package information.
## Processing system information.
  3 package pathnames are already properly installed.
## Verifying disk space requirements.
Installing MQAM Modulator as <SAImqam>
## Installing part 1 of 1.
/tftpboot/mqam.config
[ verifying class <none> ]
## Executing postinstall script.
Modifying mqam.config...
Installation of <SAImqam> was successful.
press <Return> to continue ▲
```



CAUTION:

Do not press Return or Enter at this time, or you will not be able to save the log file.

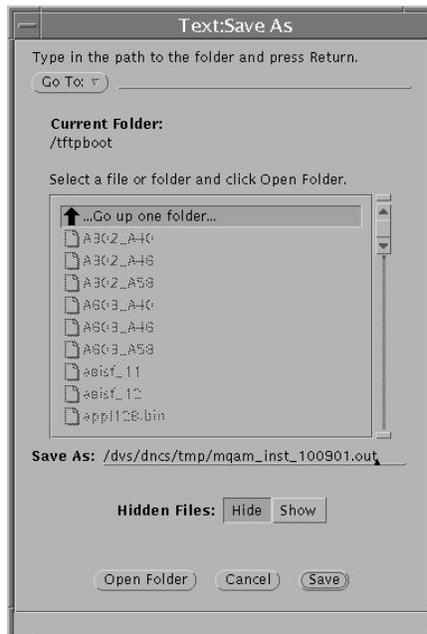
14. Place the pointer within the Admintool: Add Software window and then press the right mouse button.
Result: The Term Pane window appears.
15. Place the pointer within the Term Pane window and then click the right mouse button.

Install the MQAM Software Onto the DNCS, Continued

16. Select **History** from the menu.

17. Select **Store log as new file**.

Result: The Text: Save As window appears.



18. Save the file as **/dvs/dnCS/tmp/mqam_inst_<Date>.out**.

Note: Replace **<Date>** with today's date in mmddyy format.

19. Click **Save** or press **Enter** to exit the Text: Save As window.

Result: The Admintool: Software window appears.

20. Select **File** and then choose **Exit**.

Result: The Admintool: Software window closes.

21. Type **eject** and then press **Enter**.

Result: The MQAM App v2.4.5 CD ejects.

22. Your next step is to reset the MQAM. Go to **Reset an MQAM From the Back Panel**, next in these instructions, or go to **Reset an MQAM From the DNCS**, later in these instructions.

Reset an MQAM From the Back Panel

Introduction

To enable each MQAM to receive the new MQAM software version 2.4.5, you can reset the MQAM by rebooting the MQAM from the back panel or from the DNCS. This section provides instructions for determining the current number of sessions and programs and for resetting local MQAMs from the back panel.

Important: You can also reset an MQAM and verify sessions on the MQAM using the `auditQAM` command. Refer to the *Troubleshooting and Resetting QAMs and MQAMs With auditQAM Instruction Sheet* for detailed instructions on using the `auditQAM` command.

Note: To reset MQAMs in remote hubs or other distant locations, refer to **Reset an MQAM From the DNCS**, next in these instructions.



CAUTION:

All active sessions on the MQAMs will be interrupted when the MQAMs are reset. DHCTs downstream of these MQAMs will lose their ability to display services until sessions are reestablished.

Determining the Current Number of Sessions and Program Counts

You can confirm a successful upgrade by comparing the number of sessions and programs running on the MQAM before and after downloading the MQAM software version 2.4.5. Follow these steps to determine the number of sessions and program IDs that are running on the MQAM.

Important: Cisco strongly recommends that someone be onsite with the MQAMs in order to examine the MQAMs and verify the program count on each unit.

1. Press the **OPTIONS** button on the front panel of the MQAM to cycle through the MQAM menu screens until you see the RF1 Session Count screen.

RF1 Session Count 7

2. Press the **RF SEL** button to scroll through the outputs, and write the number of sessions for each of the four RF outputs in the spaces provided.

RF OUT 1 Sessions: _____
RF OUT 2 Sessions: _____
RF OUT 3 Sessions: _____
RF OUT 4 Sessions: _____

Note: You may need to record this information on separate pieces of paper clearly identifying each MQAM.

Reset an MQAM From the Back Panel, Continued

3. Press the **OPTIONS** button again to view the RF1 Program Count screen.
Note: The Program Count reflects the number of encrypted sessions on each RF output

RF1 Program Count 6

4. Press the **RF SEL** button to scroll through the outputs, and write the number of programs for each of the four RF outputs in the spaces provided.

RF OUT 1 Programs: _____

RF OUT 2 Programs: _____

RF OUT 3 Programs: _____

RF OUT 4 Programs: _____

Note: You may need to record this information on separate pieces of paper clearly identifying each MQAM.

5. Go to **Resetting the MQAM From the Back Panel**, next in this section.

Resetting the MQAM From the Back Panel

The order in which you reset the MQAM to download software allows you to verify if an upgrade is successful for each modulator before proceeding to the next MQAM in your system.



CAUTION:

All active sessions on the MQAMs will be interrupted when the MQAMs are reset. DHCTs downstream of these MQAMs will lose their ability to display services until sessions are reestablished.

If your system uses a Broadband Integrated Gateway (BIG) MQAM, reboot a regular content MQAM and confirm a successful upgrade before you attempt to reset the BIG MQAM. If the BIG MQAM is unable to reset and reestablish MQAM sessions successfully, you will encounter staging failures, DHCTs will not receive future IPG data (beyond 2 days), and DHCTs will not boot.

Follow these steps to reset the MQAM from the back panel.

1. Does your system have spare MQAMs?
 - If **yes**, upgrade the spare MQAMs with the MQAM software version 2.4.5.
 - If **no**, go to step 2.
2. Locate the MQAM carrying the least number of services or least watched services.
3. On the back panel of the MQAM, press the On/Off switch to the **Off** position, wait 5 seconds, and then press the switch to the **On** position.

Result: The MQAM resets.

Reset an MQAM From the Back Panel, Continued

4. Wait for the **Downloading** message to appear on the MQAM front panel LCD, and for the major and minor alarms to end.

Result: The Downloading message appears.

Note: It may take up to 5 minutes for the message to appear and the alarms to end.

5. Press the **OPTIONS** button eight times.

Result: The Input/Output (I/O) Software Revision screen appears. The software versions display for the current MQAM application code and boot code.

I/O Software Revision App: 2.4.5 Boot: 1.2.2
--

6. Does the App: field display 2.4.5 *and* the Boot: field display 1.2.2?
 - If **yes**, go to step 7.
 - If **no**, contact Cisco Services.
7. Press the **OPTIONS** button 10 more times to cycle through the MQAM menu screens until you see the RF1 Session Count screen.
8. Press the **RF SEL** button to scroll through the outputs, and write the number of sessions for each of the four RF outputs in the spaces provided.

RF OUT 1 Sessions: _____
RF OUT 2 Sessions: _____
RF OUT 3 Sessions: _____
RF OUT 4 Sessions: _____

Note: You may need to record this information on separate pieces of paper clearly identifying each MQAM.

9. Press the **OPTIONS** button again to view the RF1 Program Count screen.

Reset an MQAM From the Back Panel, Continued

10. Press the **RF SEL** button to scroll through the outputs, and write the number of programs for each of the four RF outputs in the spaces provided.

RF OUT 1 Programs: _____

RF OUT 2 Programs: _____

RF OUT 3 Programs: _____

RF OUT 4 Programs: _____

Note: You may need to record this information on separate pieces of paper clearly identifying each MQAM.

11. Do the numbers of sessions and programs recorded in steps 8 and 10 of this section match the numbers you recorded in steps 2 and 4 of **Determining the Current Number of Sessions and Program Counts**, earlier in this section?
 - If **yes**, repeat the procedures in this section until you have upgraded every local MQAM.
 - If **no**, do not attempt to upgrade any additional MQAMs, contact Cisco Services.

Important: Wait until you have verified that all other MQAMs have been upgraded successfully, with sessions reestablished, before you reset the BIG MQAM.



CAUTION:

If the BIG MQAM is unable to reset and reestablish MQAM sessions successfully, you will encounter staging failures, DHCTs will not receive future IPG data (beyond 2 days), and DHCTs will not boot.

12. Go to the **Verifying Restored MQAM Channels and Sessions** procedure in the **Reset an MQAM from the DNCS** section, later in this guide.

Reset an MQAM From the DNCS

Introduction

You can reset an MQAM from the DNCS to upgrade and reboot MQAMs in remote locations. This section provides instructions for resetting an MQAM from the DNCS and for verifying that the MQAM channels and sessions have been restored.

Important: You can also reset an MQAM and verify MQAM channels and sessions using the `auditQAM` command. Refer to the *Troubleshooting and Resetting QAMs and MQAMs With auditQAM Instruction Sheet* for detailed instructions on using the `auditQAM` command.

Notes:

- Before you reset an MQAM, you should verify the number of sessions and programs running on the MQAM. Doing so will help you confirm that all of the sessions and programs were recovered after the MQAM resets. Go back to the **Determining the Current Number of Sessions and Program Counts** procedure in the **Reset an MQAM from the Back Panel** section, earlier in this guide, for procedures that verify the number of sessions and programs that are running.
- After you reset the MQAMs, you should tune to each session or channel from a DHCT to make sure that the MQAM recovered after the software upgrade.



CAUTION:

All active sessions on the MQAMs will be interrupted when the MQAMs are reset. DHCTs downstream of these MQAMs will lose their ability to display services until sessions are reestablished.

If your system uses a BIG MQAM, reboot a regular content MQAM and confirm a successful upgrade before you attempt to reset the BIG MQAM. If the BIG MQAM is unable to reset and reestablish MQAM sessions successfully, you will encounter staging failures, DHCTs will not receive future IPG data (beyond 2 days), and DHCTs will not boot.

Reset an MQAM From the DNCS, Continued

Resetting the MQAM From the DNCS

Follow these steps to reset the MQAM from the DNCS.

1. Does your system have spare MQAMs?
 - If **yes**, upgrade the spare MQAMs with the MQAM software version 2.4.5.
 - If **no**, go to step 2.
2. Locate the MQAM carrying the least number of services or least watched services.
3. From the DNCS Administrative Console, click the **DNCS** tab, the **Element Provisioning** tab, and then click **QAM**.

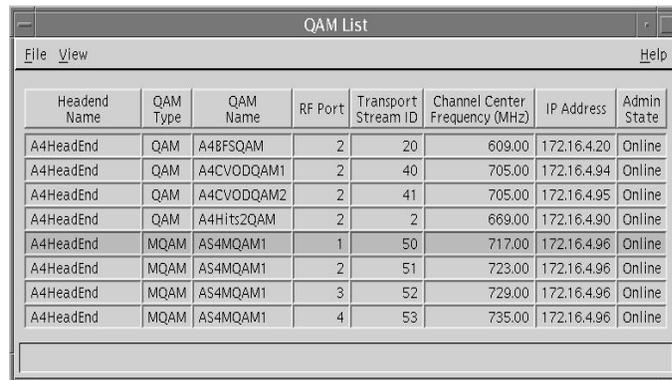
Result: The QAM List window appears.

4. Select the MQAM you want to reset within the QAM List.

Notes:

- Refer to the QAM Type column to differentiate between QAM and MQAM modulators.
- Each MQAM is listed four times on the QAM List window, but select only the first occurrence.

Example: The following diagram shows an example of an MQAM with the first occurrence selected in the QAM List window.



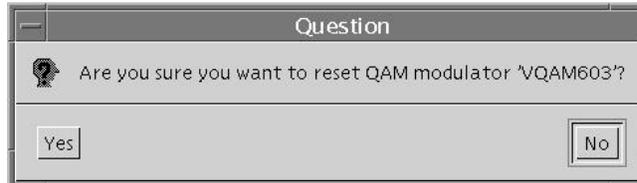
Headend Name	QAM Type	QAM Name	RF Port	Transport Stream ID	Channel Center Frequency (MHz)	IP Address	Admin State
A4HeadEnd	QAM	A4BFSQAM	2	20	609.00	172.16.4.20	Online
A4HeadEnd	QAM	A4CVODQAM1	2	40	705.00	172.16.4.94	Online
A4HeadEnd	QAM	A4CVODQAM2	2	41	705.00	172.16.4.95	Online
A4HeadEnd	QAM	A4Hits2QAM	2	2	669.00	172.16.4.90	Online
A4HeadEnd	MQAM	AS4MQAM1	1	50	717.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	2	51	723.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	3	52	729.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	4	53	735.00	172.16.4.96	Online

Reset an MQAM From the DNCS, Continued

5. Click **File** and then select **Reset**.

Result: The Question window appears with the name of the selected MQAM inside the '...' quotation marks.

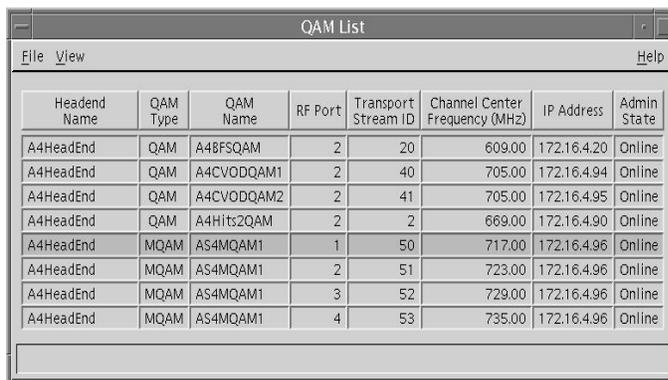
Example: The following diagram shows an example of the Question window.



6. Click **Yes**.

Result: The QAM List window displays the following message:
The reset request has been received by QAM modulator '<Name of MQAM>'.

Note: The <Name of MQAM> represents the name of the modulator you just reset.

A screenshot of the 'QAM List' window. It has a menu bar with 'File', 'View', and 'Help'. Below the menu bar is a table with the following columns: Headend Name, QAM Type, QAM Name, RF Port, Transport Stream ID, Channel Center Frequency (MHz), IP Address, and Admin State. The table contains 10 rows of data.

Headend Name	QAM Type	QAM Name	RF Port	Transport Stream ID	Channel Center Frequency (MHz)	IP Address	Admin State
A4HeadEnd	QAM	A48FSQAM	2	20	609.00	172.16.4.20	Online
A4HeadEnd	QAM	A4CVODQAM1	2	40	705.00	172.16.4.94	Online
A4HeadEnd	QAM	A4CVODQAM2	2	41	705.00	172.16.4.95	Online
A4HeadEnd	QAM	A4Hits2QAM	2	2	669.00	172.16.4.90	Online
A4HeadEnd	MQAM	AS4MQAM1	1	50	717.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	2	51	723.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	3	52	729.00	172.16.4.96	Online
A4HeadEnd	MQAM	AS4MQAM1	4	53	735.00	172.16.4.96	Online

7. Repeat steps 4 through 6 for up to three additional modulators, and then go to step 8.

Important: Never reset more than seven modulators at once, or you may overload the DNCS.

8. Go to **Verifying Restored MQAM Channels and Sessions**, next in this section.

Reset an MQAM From the DNCS, Continued

Verifying Restored MQAM Channels and Sessions

Follow these steps to verify that the MQAM sessions are restored and that a DHCT downstream of a reset MQAM can tune to authorized channels.

1. Access a DHCT that is connected downstream of the MQAM.
2. Refer to the Channels, Sources and Sessions Report that you printed in the **Compare and Verify Current Channels, Sources, and Sessions** section, earlier in these instructions, to verify restored MQAM channels and sessions.

Example: The following diagram is an example of the Channels, Sources and Sessions Report.

Channel Num	V.LUG ID	Service ID	SAM Service Name	Short Desc	Long Desc	Application URL	Source ID	Source Name	Source Type	Session ID	Effective Date/Time	QAM Name	Bandwidth
0	0	271	PPV-01	ppv	Paul per view	ppv	1503	D503 GOLF	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
503	0	159	Golf Channel	GOLF	GOLF	watchtv	1503	D503 GOLF	Digital	00 00 00 00 00 00 1503	03/21/01 09:23	HE1 qam1	3000000
703	0	274	IPPV03	V003	IPPV Service 03	ppv	1703	D703 IPPV03	Digital	00 00 00 00 00 00 1703	01/25/01 14:05	HE1 qam2	3000000
113	0	263	TVLand	TVLND	TV Land	watchtv	1113	D113 TVLND	Digital	00 00 00 00 00 00 1113	04/23/01 15:35	HE1 qam4	2000000
116	0	264	Food TV	FOOD	Food TV	watchtv	1116	D116 FOOD	Digital	00 00 00 00 00 00 1116	04/23/01 15:35	HE1 qam4	2000000
117	0	265	Speed Vision	SPDVN	Speed Vision	watchtv	1117	D117 SPDVN	Digital	00 00 00 00 00 00 1117	04/23/01 15:39	HE1 qam4	2000000
120	0	114	CNNFN	CNNFN	CNNFN	watchtv	1120	D120 CNNFN	Digital	00 00 00 00 00 00 1120	04/23/01 16:19	HE1 qam4	2000000
127	0	245	Discovery Wings	DSCW	Discovery Wings	watchtv	1127	D127 DSCW	Digital	00 00 00 00 00 00 1127	04/23/01 16:23	HE1 qam4	2000000
128	0	266	Disney Toons	TOON	Disney Toons	watchtv	1128	D128 TOON	Digital	00 00 00 00 00 00 1128	04/23/01 16:24	HE1 qam4	2000000
103	0	261	Sci Fi	SCIFI	Science Fiction	watchtv	1103	D103 SCIFI	Digital	00 00 00 00 00 00 1103	04/23/01 15:10	HE1 qam4	2000000
104	0	207	ESPN2	ESPN2	ESPN2	watchtv	1104	D104 ESPN2	Digital	00 00 00 00 00 00 1104	04/23/01 16:13	HE1 qam4	2000000
109	0	238	Country Music TV	CMT	Country Music TV	watchtv	1109	D109 CMT	Digital	00 00 00 00 00 00 1109	04/23/01 16:15	HE1 qam4	2000000
105	0	262	ESPN2 Alternative	ESPN2a	ESPN 2 Alternative	watchtv	1105	N/A	N/A	N/A	N/A	N/A	0
107	0	176	ESPN Classics	ESPNc	ESPN Classics	watchtv	1107	N/A	N/A	N/A	N/A	N/A	0
110	0	230	Comedy Channel	COM	Comedy Channel	watchtv	1110	N/A	N/A	N/A	N/A	N/A	0
118	0	248	Disney Channel East	DSSN	Disney Channel East	watchtv	1118	N/A	N/A	N/A	N/A	N/A	0
119	0	247	Disney Channel West	DSSW	Disney Channel West	watchtv	1119	N/A	N/A	N/A	N/A	N/A	0
121	0	246	Discovery Eye People	DSCP	Discovery Eye on People	watchtv	1121	N/A	N/A	N/A	N/A	N/A	0

3. Tune the DHCT to each channel listed in the report for each MQAM you reset.
4. Are all channels listed for the reset MQAM accessible from the DHCT?
 - If **yes**, go to step 5.
 - If **no**, do not attempt to upgrade any additional MQAMs, contact Cisco Services.

Reset an MQAM From the DNCS, Continued

5. For each subsequent MQAM in your system, complete the instructions in **Resetting the MQAM From the DNCS**, earlier in this section, for the next MQAM you plan to upgrade.

Important: It is best to make sure you have successfully upgraded and verified functionality for one MQAM at a time. In the unlikely event of a failure, you can better isolate that failure without interrupting service for the remaining MQAMs and their associated DHCTs.

6. On the QAM List window, click **File** and then select **Close** to close the QAM List window.

Restore Previous MQAM Software Version

Introduction

You must contact Cisco Services if you notice that the system is reacting adversely after installing MQAM software version 2.4.5. If Cisco Services recommends that you restore the previous MQAM software version, follow the instructions in this section to restore the previous MQAM software version.

Important: Do not forget that MQAM software version 1.x is not compatible with DNCS software version 2.x or 3.x, and MQAM software version 2.x is not compatible with DNCS software version 1.x. Therefore, if you restore a previous MQAM software version, you may also need to restore a previous DNCS version. You must contact Cisco Services before attempting to complete this section.

Restoring the Previous Version of MQAM Software

To restore the original MQAM executable files, you must load the previous version of MQAM software onto the DNCS using the configuration back-up file saved in **Back Up the Current MQAM Software Version**, earlier in these installation instructions.

Follow these steps to restore the previous MQAM software version.

1. Open an xterm window on the DNCS and log on as the **root** user.
2. Type **cd /tftpboot** and then press **Enter**.
Result: The root prompt appears.
3. Type **pwd** and then press **Enter**.
Result: The text /tftpboot appears at the prompt. This text indicates you are in the correct directory.
4. Type **cp -p mqam.config mqam.245** and then press **Enter**.
Result: A copy of the MQAM configuration is saved to a file named mqam.245
5. Type **cp -p mqam.bakxxx mqam.config** and then press **Enter**.
Result: The file named mqam.bakxxx, which contains the original list of MQAM configuration files, is copied to the MQAM configuration file named mqam.config.
Note: The xxx represents the original MQAM software version number.
6. Type **ls -l** and then press **Enter**.
Note: The l used in “ls” and “-l” is the lowercase of the letter L.
Result: A list of files display with mqam.config, mqam.243, and mqam.bakxxx listed.

Restore Previous MQAM Software Version, Continued

7. Confirm that the date and size of **mqam.config** matches **mqam.bakxxx**.
8. Type **exit** and then press **Enter**.
9. Choose one of the following options to reset the MQAMs and download the original MQAM software:
 - For instructions on how to reset an MQAM from the back panel, see **Reset an MQAM From the Back Panel**, earlier in these instructions.
 - For instructions on how to reset an MQAM from the DNCS, see **Reset an MQAM From the DNCS**, earlier in these instructions.

For Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.



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