grass valley

MAESTRO
MULTI-FORMAT MASTER CONTROL

Release Notes
Software Version 2.2

KEMA

Affiliate with the N.V. KEMA in The Netherlands

CERTIFICATE

Certificate Number: 510040.001
The Quality System of:

Thomson Inc, and it's wordwide Grass Valley division affiliates DBA GRASS VALLEY

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Including its implementation, meets the requirements of the standard:

ISO 9001:2008

Scope:
The design, manufacture and support of video and audio hardware and software products and related systems.

This Certificate is valid until: June 14, 2012
This Certificate is valid as of: June 14, 2009
Certified for the first time: June 14, 2000

H. Pierre Sallé

H. Pierre Sallé
President
KEMA-Registered Quality

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Grass Valley Web Site

The www.grassvalley.com web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Download software updates, drivers, and patches.

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END-OF-LIFE PRODUCT RECYCLING NOTICE

Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive, the United States Environmental Protection Agency, and U.S. state and local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight. However, you are responsible for the removal of the equipment from your facility and packing the equipment to make it ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the U.S. and Canada please call 800-547-8949 or 530-478-4148, and ask to be connected to the EH&S Department. Additional information concerning the program can be found at: www.thomsongrassvalley.com/environment

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MAY 2010

Maestro Release Notes

Purpose

This document provides software installation instructions for the 2.2 software release of the Maestro Master Control System. This release is an upgrade to systems with either the Dual-Channel DVE option or **no** DVE option.

It is assumed that the Dual-Channel DVE option has been previously installed on the intended system. If you do not have a DVE option installed and you are intending to install the Dual-Channel DVE option, see the 2.0 version of the Maestro Release Notes (Part # 071-8506-09) or the 2.0 version of the Maestro Installation manual (Part # 071-8698-01), both of which can be found on the *Grass Valley Web site*.

Note   If you have the Single-Channel DVE option, see the 1.7 version of the Maestro Release Notes (part #071-8506-08). Do NOT install this version of the Maestro software.

The 2.2 release provides the ability to dynamically manage Channel Branding content files on a specific Maestro Channel and facilitate the use of this dynamic content on a branding layer; for a large scale multi-user facility with complex media management and playout needs.

The Release Notes Addendum provides a list of software corrections and known limitations that are associated with this release.

Available Materials

Table 1. MAE-HD-SW Bill of Materials

Maestro Software Upgrade		
Quantity	**Description**	**Part number**
1	CD-ROM, Maestro HD Software Program, v2.2 (1.600.3353.1054)	063825810
1	Maestro Documentation CD-ROM	071851709

Note   The Maestro software version number appears in two formats in this document. The abbreviated format, 2.2, indicates the major version "2" and minor version "2" When there is a third number, it will indicate a sub version. The long format expresses the release number as 2.200.xxxx.xxxx with the additional digits indicating engineering information. All of the 2.2 documentation is on the Maestro Documentation CD-ROM.

Maestro HD Licensing

In the 2.2 version of Maestro, the software for both the HD and SD channels is on the same CD-ROM. You will need to enter the activation key that is provided with the software to access the HD channels.

Note   Before installing the 2.2 and later versions of Maestro, and if you purchased the HD option, verify your HD licence key with Grass Valley's Customer Service department. See *Contacting Grass Valley on page 4* for the contact information for your area.

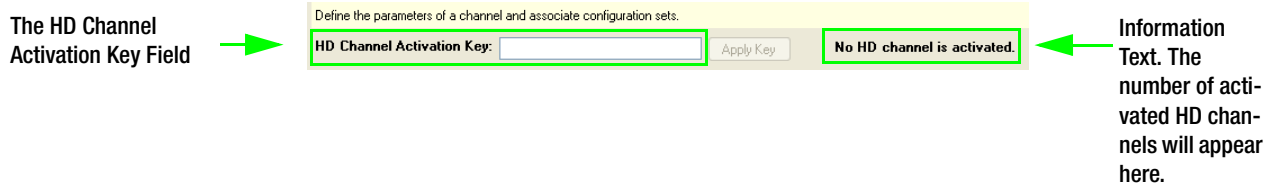Follow these steps to unlock the HD channels:

1. Open the Maestro Configuration Editor application.

2. Open the Channel Setup table from the Navigation panel (8th Step: Channel Sets> Channel Setup). The Channel Setup table will then appear. See Figure 1.

Figure 1. The Channel Setup Table

3. Enter the Activation key in the HD Channel Activation Key field. This field is located near the top of the dialog box (Figure 1 on page 8). The Activation Key can be found on the certificate that came with the system.

4. Click the **Apply Key** button. The HD channels will now be activated and the number of activated HD channels will appear in the information text (see Figure 1).

Figure 2. HD Channel Activation Key Field

The HD Channel Activation Key Field

Information Text. The number of activated HD channels will appear here.

Define the parameters of a channel and associate configuration sets.

HD Channel Activation Key: [   ]   Apply Key   No HD channel is activated.

New Features

The new features of the 2.2 version of the Maestro Master Control System are as follows:

Preservation of the Dolby-E Line Position

How Maestro processes audio has been modified to better support Dolby-E switch point alignment. The Maestro software now adjusts various audio delay elements for each of the six supported Maestro video standards. These adjustments preserve the Dolby-E switch position.

Preservation of HANC Data with Embedded Audio

The HANC data is now preserved when Maestro is embedding audio for output.

Preservation of Closed Captioning for Both VBI Fields

The #283 and #284 fields under the Field 2 Number column of the VBI Passthrough table of the Maestro Configuration Editor application can now be edited. This change ensures that Closed Captioning will bypass any DVE or other transition processing for both VBI fields. This improvement is specific for the 480I standard.

The Maestro GUI Software Control Panel

The Maestro software GUI Control Panel now allows access to multiple User Systems. The software GUI Control Panel now allows delegation to four (4) User Systems or sub-Systems, each system will support up to 48-channels.

Note This ability to control multiple user systems is ONLY applicable to the Maestro GUI Control panels.

Additions to the Maestro Automation Interface and Protocol

The Maestro Automation Interface and Protocol has been expanded to allow media identification of Channel Branding Content with Still Images, Animation Sequences, Text Crawl and other text displays.

The Maestro Automation Interface and Protocol now includes the following commands that are listed in Table 2.

See the 2.2 version of the *Maestro Automation Interface Protocol Technical Reference Manual* (part # 071847208) for more information.

Table 2. New Maestro Automation Commands

Maestro Automation Command	Description
MAESTRO_CONTENT_FILENAME_ASSOCIATION	Associates a Content File with an Automation Input Set Channel Branding source name.
MAESTRO_CONTENT_FILENAME_ASSOCIATION_CLEAR_SOURCE	Reverts all Content Files that are associated with an Automation Input Set Channel Branding source to the default/configured filename.
MAESTRO_CONTENT_FILENAME_ASSOCIATION_CLEAR_ALL	Reverts all Content Files to the default/configured filename.
MAESTRO_CONTENT_PRESENCE	Checks for the presence of a Content file.
MAESTRO_CONTENT_REPLACE_TEXT_DATA	Replaces the contents of a Channel Branding text data with the text string that is contained in the automation command.
MAESTRO_TEXT_CRAWL_CONTENT_STATUS	Checks the content status of a text crawl on a keyer.

The Maestro Content Manager Service

The Maestro Content Manager Service allows transfer and management of Channel Branding Content on individual channel stores via automation control and FTP protocols.

The Exclusion of Internal Content for a Background Button

Internal content is now excluded from the list of sources that are available for default assignment in the Background Buttons table of the Maestro Configuration Editor for the following reasons:

- Internal content is an invalid source and cannot be assigned to a Background bus.

- The default assignment will fail on Keyers and Audio Mixers if the configured Content Definition file does not exist on the Frame Processor's hard disk drive.

If a failure happens on a "Fixed Assignment" button, the failure cannot be resolved later through a subsequent re-assignment. This failure will result in a Keyer or Audio Mixer (the one that is associated with the failed assignment) that is not usable.

Animation File Size

Animation files cannot be larger than 175 MB when converted to the Maestro internal file format (.mim). Due to variations in compression and other factors, such as the animation size on the screen and the video

standard, the final compiled version (.mim) may be 60 times larger or more than the original file.

Maestro does not currently have a method for reporting file size before loading the file. Manual intervention is required at the Deployment console to verify that the compiled version is within the size limitation.

See Appendix B in the 2.2 version of the *Maestro Master Control Users Guide* (Part # 071848204) for example information and formulas that will help determine the applicability of the Animation feature in your facility.

Loading an Animation File Larger Than 175 MB

Maestro will internally analyze the file size when a request is made to assign the animation file to a key from either the operator or automation. Maestro will not assign the animation to the key if the animation is larger than 175 MB, when compiled by Maestro (.mim).

When Maestro cannot assign a file because it exceeds the size limit, it will be indicated by the following actions:

- The animation name will not appear on the assigned Key position.

- An "invalid source" response will be returned for an automation query to validate the animation's assignment.

Using Dynamic Channel Branding

Those using the Dynamic Channel Branding feature will have an additional complication since the compiled version will not be created until Automation submits a request to deploy the animation. Grass Valley recommends that this creation step be completed well in advance of the assigned Play-to-Air time so the file size can be verified prior to Play-to-Air assignment.

See Appendix B in the 2.2 version of the *Maestro Master Control Users Guide* (Part # 071848204) for more information.

Spanning Tree Protocol

Using the Spanning Tree protocol or the Rapid Spanning Tree Protocol (RSTP) may inhibit communications between the Maestro processor and the Deployment PC during startup, especially if communication paths are not established within 15 seconds. This communications deterrence can result in startup and hot-swap issues and other Maestro network problems. All ports should be configured for the auto-negotiate mode.

The deployment of the Spanning Tree protocol within network switches may result in excessive delays before the required communication paths, which must be reliable and available, have been established. The Maestro

Frame Processors and Panel Servers will attempt to communicate with the Maestro Deployment PC approximately 15 seconds after a Power On or Reset operation. A stable and available communications link is required for the boards to function properly.

Maestro users that make use of the Spanning Tree protocol must assume all risk and liability including, without limitation, lost profits, business interruption, or lost information.

Utilizing the Maximum Amount of Hard Disk Space

The 2.2 version of Maestro uses a 48-bit Logical Block Address (LBA) system, which will fully utilize the space on hard disks that are larger than 137 GB. Software versions prior to the 2.2 version of Maestro employed a 28-bit LBA system. In other words, if you have a 500 GB hard disk, and you do not reformat the hard disk, you will only be able to use 137 GB of the available space.

Hard Disk Information

The following information is used to identify the hard disk when formatting. Disk numbers can be 0-3. See Table 3 below for more information. For more information see Figure 199, on page 294 of the 2.2 version of the *Maestro Installation manual* (part # 071869802)

Table 3. Hard Disk Information

Location	Device ID	Disk Number
Bottom left	device 0	drive ata0
Top left	device 1	drive ata1
Bottom right	device 2	drive ata2
Top right	device 3	drive ata3

Reformatting your Hard Disk

There are six steps that you must follow to use the 48-bit LBA system:

1. Install the 2.2 version of the software on to the Deployment PC.

2. Deploy the application's TAR files to the Frame processor.

3. Format and partition the hard disks.

4. Un-mount and then mount the formatted hard disk

5. Re-deploy the application's TAR files to the Frame processor.

6. Reactivate the preferred Configuration file.

Each of these steps is described in detail below.

CAUTION Grass Valley recommends that you have a back up of the data on the Deployment PC before you format your hard disks on the Maestro frame. You will also need to allow sufficient time to re-cache the media from the Deployment PC.

Installing the 2.2 Version of the Software on to the Deployment PC

Follow the steps and caveats listed in the *Installing the Maestro Master Control *.

Deploying the Application's TAR Files to the Frame Processor

The new application TAR files must be deployed to the Maestro Frame Processors using the **Update and Apply** button in the Maestro Deployment Center application. This deployment will send the new version, which supports 48 bit LBA, to the Frame Processors.

Follow these steps to deploy the application's TAR files to the Frame processor:

1. Start the Maestro Deployment Control Center application if it is not already started.

2. Verify that the Folder field has the correct path to the Maestro configuration directory. (The default location is: C:\MaestroEmbedded)

3. Select the new TAR file from the Frame Processor Tar File Name drop-down list.

- Select the MaestroMC_2.20.xxxx.yyy.LTC.tar if you are using Linear Time Code.

- Select the MaestroMC_2.20.xxxx.yyy.VITC.tar if you are using Vertical Interval Time Code.

4. Select the new TAR file from the Control Panel Tar File Name drop-down list.

Figure 3. The Software Application Section - Click Update & Apply
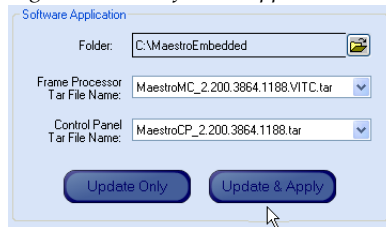
5. Click the **Update & Apply** button (Figure 3). The update process will then begin.

The TAR files that support the 48 bit LBA have been sent to the Frame Processors. The hard disk must now be formatted.

Formatting and Partitioning the Hard Disks

You will need to start a Telnet session to the IP address of the Maestro Processor board on which the hard disk that is to be formatted is mounted. The commands that you will use are:

- altaDiskPart
- dosFsVolFormat
- chkdsk (optional)

You will also need to un-mount and then mount the drive to complete the formatting process.

Note   It would be best practice to shut down the Maestro Deployment Center application and any Maestro Content Management servers to prevent any attempt to transfer content while the hard disk is being formatted.

Follow these steps to format and partition the hard disks:

1. Select the board with the hard disk that is to be formatted in the Information section, which is below the Software Application and Configuration sections. In the example shown below in Figure 4, the SWLabHD board was selected.

2. Click the Telnet button in the top right side of the interface (Figure 4). A command window with the Telnet prompt will then appear (Figure 5 on page 16).

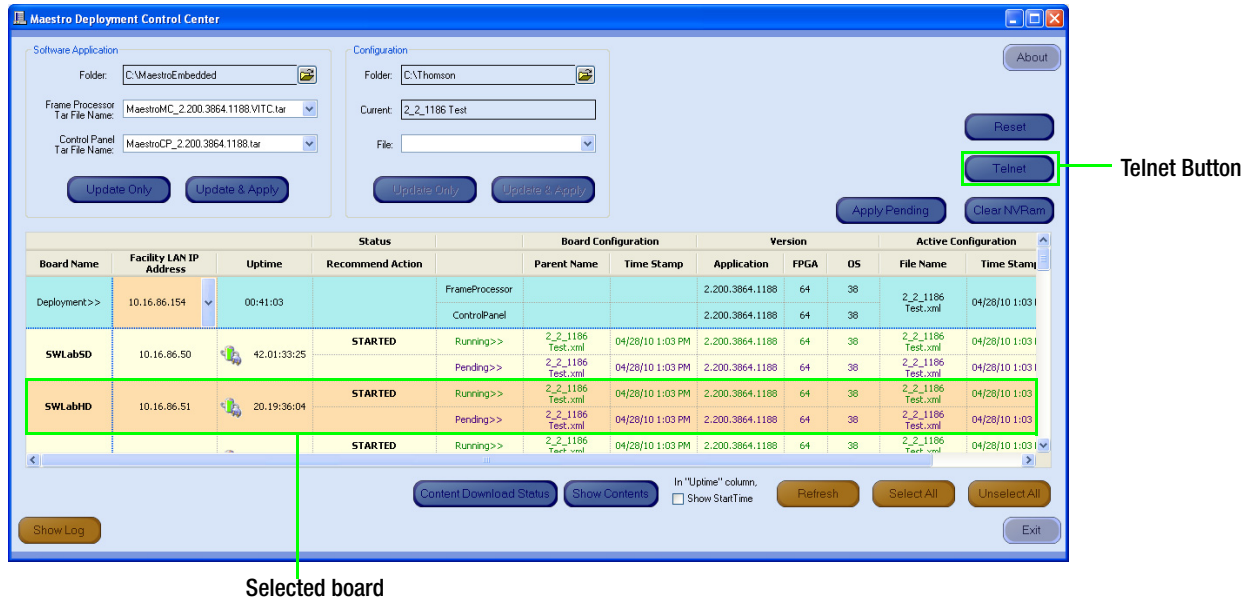*Figure 4. The Maestro Deployment Control Center Application*

Telnet Button

Selected board

Figure 5. The Telnet Session

3. Type devs at the prompt to display all devices. All mounted drives will then appear in the list as illustrated in Figure 5.

4. Enter the command: altaDiskPart X at the prompt, where X is the ata disk number. The command is case sensitive and must be entered as shown in the step above, with the correct disk number instead of the "X." (See Table 3 on page 13 for more information about hard disk information.)

A confirmation prompt will then appear. If this prompt does not appear, re-enter the command.

5. Enter "y" at the confirmation prompt to proceed with partitioning and formatting.

When partitioning and formatting is complete, the status information is then displayed. See Figure 6 on page 17.

Figure 6. Disk Partitioning Command and Status


```
Telnet 192.168.5.202
eMC2-> altaDiskPart 0
This will erase all data on the disk.
Create 0 partition on disk 0 (controller 0 drive 0)? (Y/N): y
Retrieved old volume params with %95 confidence:
Volume Parameters: FAT type: FAT32, sectors per cluster 128
  2 FAT copies, 0 clusters, 9540 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 19080
  Root dir entries 0, sysId (null)  , serial number 75fb0000
  Label:"          "  ...
Disk with 156301425 sectors of 512 bytes will be formatted with:
Volume Parameters: FAT type: FAT32, sectors per cluster 128
  2 FAT copies, 1220955 clusters, 9540 sectors per FAT
  Sectors reserved 32, hidden 0, FAT sectors 19080
  Root dir entries 0, sysId VX5DOS32, serial number 75fb0000
  Label:"          "  ...
value = 0 = 0x0
eMC2->
```

6. Type dosFsVolFormat X to format the drive.

The CHKDSK Command (optional)

7. Verify the partition and format by entering the following at the command prompt (This step is optional):

chkdsk "/ataX" where X is the ata disk number (0-3) of the disk.

Note The quotation marks around the ata disk designator are required.

Verifying the partition may take a while to complete. After verification, information, which is similar to that shown in Figure 7, will be displayed.

Figure 7. Partition Verification Information


```
Telnet 192.168.5.202
eMC2-> chkdsk "/ata0"
/ata0/  - Volume is OK

        total # of clusters:  1,220,957
        # of free clusters:  1,220,954
         # of bad clusters:  0
          total free space:  76,309 Mb
  max contiguous free space:  80,016,441,386 bytes
               # of files:  0
             # of folders:  0
        total bytes in files:  0
          # of lost chains:  0
   total bytes in lost chains:  0
value = 0 = 0x0

eMC2->
```

Note Disk verification may cause the Maestro Processor to temporarily lose communications with the Deployment Center. However, channel service is not interrupted during the loss of communications.

Repeat these steps for each drive as needed.

Un-Mounting and Mounting a Hard Disk

After formatting a hard disk drive, you will need to un-mount and then mount the hard disk to complete the formatting process. The hard disk will not work as expected if this step is ignored. See Figure 8 for LED location.

Follow these steps to un-mount and then mount a hard disk:

1. Press the **Mount** button on the Maestro Main board. The amber Drive Mounted LED will flash and then off.

The hard disk is now un-mounted.

2. Press the **Mount** Button again to mount the hard disk.

- The Drive Activity LED will quickly flash green and then the Drive Mounted LED will then turn amber.

Figure 8. Drive Mount and Activity LEDs
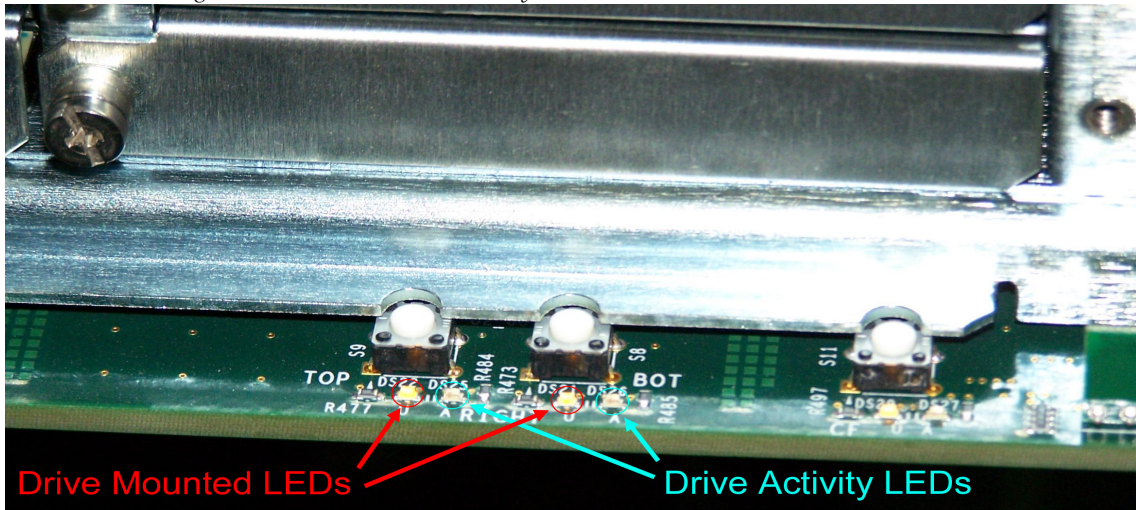
The drive is now mounted and will work as expected. You must re-deploy the TAR file.

Re-deploying the Application's TAR files to the Frame Processor

Now that the disks are formatted and contain nothing, the Application TAR file should be redeployed using the **Update Only** button in the Software Application section of the Maestro Deployment Center application.

Follow the steps listed in the *Deploying the Application's TAR Files to the Frame Processor* on page 14 to re-deploy the application's TAR files to the Frame processor.

Reactivating the Preferred Configuration File

The reactivation of the preferred Configuration file must be completed using the **Update and Apply** button in the Configuration section of the Maestro Deployment Center application.

Follow these steps to reactivate the preferred Configuration file:

1. Start the Maestro Deployment Control Center application if is not already started.

2. Verify that the Folder field has the correct path entered. (The default location is: C:\Thomson)

3. Select the preferred configuration file from the File drop-down list.

Figure 9. The Software Application Section - Click Update & Apply
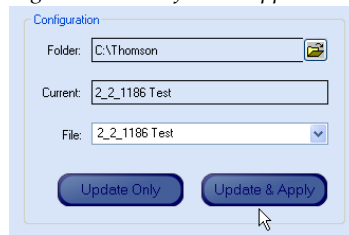
4. Click the **Update & Apply** button (Figure 9). The update process will then begin.

The maestro content will now be redeployed to the hard disks.

Installing the Maestro Master Control

Interoperability Requirements

- Encore router control system version 1.7 or newer, or

- Jupiter router control system version 4.2 or newer when using ES-Switch on a VM control system, or

- Jupiter router control system version 7.3 or newer when using ES-Switch on a CM control system, or

- Jupiter router control system 7.5.0 or newer when using ES-LAN on a CM control system

Upgrade Requirements

- A period of time where the Maestro system can be taken off-line (externally bypassed).

- Windows XP (English version-US Edition) with Service Pack 2 or greater.

- In order to upgrade the Maestro software, the Maestro configuration computer will need access to the Maestro installation CD or downloaded installation files.

- Verify the HD licence key with Grass Valley's Customer Service department. See *Contacting Grass Valley on page 4* for the contact information for your area.

- The configuration from the existing operational Maestro system will be used to complete the Maestro upgrade.

- It is recommended that the Maestro Configuration computer be upgraded to contain at least 2GB of RAM and have a Core 2 Duo processor.

Note   It is assumed that the Dual-Channel DVE option has been previously installed on the intended system or that no DVE option has been installed. If you have the Single-Channel DVE option, do NOT install this software version. For more information, see the 1.7 version Release Notes, which can be found on the Grass Valley Web site.

Caveats

- Network issues are the most common cause of problems at customer sites. Network installation and configuration must follow Grass Valley recommendations. Please refer to the "Network Configuration" section in the Maestro Installation and Service Manual (part number: 071842302).

- All Maestro processors connected to the same Maestro deployment PC and comprising a single system (all processors interconnected via the same facility and control LANs) must have the same software version and configuration deployed to them. Having different software versions/configurations deployed within a single system is not supported and may result in communication incompatibilities and system failure.

Software Upgrade Procedure

Note For the complete instructions, see the Maestro Installation manual (Part # 071869801)

Grass Valley recommends that you follow the Software Upgrade procedure steps exactly. The Upgrade procedure includes the following steps:

1. *Checking the Boot ROM Versions*.

2. *Making a Copy of the Maestro Configuration File*.

3. *Installing the Maestro Software Package*.

4. *Re-compiling the Configuration File*.

5. *Updating the System Configuration and Software*.

6. *Checking the GUI Control Panel for Proper LAN Settings*.

7. *Updating FPGAs/CPLDs*.

Checking the Boot ROM Versions

Before proceeding with the installation of the Maestro system, you must verify the boot ROM version that is installed on the Maestro processor board. The boot ROM must be updated to the current version or the processor board will not boot properly.

Maestro software versions 1.4 and higher require the Processor and hardware control panel boot ROMs to be current.

Note Most Maestro processor boards will have the current boot ROM installed. Only previous board shipments will have the older boot ROM installed.

Follow these steps to check the Boot ROM Version:

1. Open the Maestro Deployment Control Center window.

2. Select the Processor, in the Deployment column, that you wish to check the Boot ROM version. The row for the selected Processor will have a dark background.

3. Right-click on the FPGA version number in the "Running>>" row and in the FPGA column, of the selected Processor.

4. Verify that the date that appears in the "Loaded" column for the boot ROM is Dec 14 2006.

Note If you see an older date or no date at all, the Boot ROM should be updated (See the example in Figure 4). Stop the Installation process and then contact Grass Valley Technical Support if the Boot ROM is not current.

5. If there is another Processor (channel) in the system, repeat Step 1 above and following steps. If not, go to Step 6.

6. In the Maestro Deployment Control Center window, select the control panel for which you wish to check the Boot ROM version.

For a hardware control panel, this will be a CP Panel Server board. For a GUI control panel, this will be a PCI Panel Server board.

7. Right-click on the FPGA version number in the "Running>>" row of the selected Control Panel.

8. Verify that the date that appears in the "Loaded" column for the BOOTROM is Apr 19 2006.

Note If you see an older date or no date at all, the Boot ROM should be updated. Stop the Installation process and then contact Grass Valley Technical Support for update instructions.

- If the Boot ROM version is current, go to Step 9.

9. If there is another control panel in the system, repeat Step 6 above and the following steps. If all boot ROMs are current, proceed to *Installing the Maestro Software Package*.

Making a Copy of the Maestro Configuration File

Grass Valley recommends you make a copy of your Maestro Configuration file. This step will help with a rollback should something go wrong.

Follow these steps to make a copy of the current configuration set:

1. Launch the Maestro Configuration Editor by going to "Start > All Programs > Thomson > Maestro Configuration Editor."

2. Select "File > Open" from the Menu bar to open the current configuration set.

3. Select the current configuration file and then click the **Open button**.

4. Select "File > Save As" to create a copy of the set.

5. Add the current version to the name as a suggestion. For example, v17.

6. Select "File > Save As" again to create another copy of the set.

7. Add the current version to the name. For example, add "v20".

8. Close all Maestro applications.

> **Note** For more information about the Configuration file, refer to the Maestro Configuration Editor section of the Maestro Installation and Service Manual (part # 071869801).

Installing the Maestro Software Package

The following instructions show the steps that are needed to install Maestro. The installation process will check if a previous version is installed on the computer. You must remove the previous version of Maestro to install the latest version. These steps are explained below.

Follow these steps to start the Maestro application installation process:

1. Insert the supplied software CD-ROM into the computer's CD Drive and follow the prompts.

   The CD should automatically start the installation process. If not, browse to the CD, using Window Explorer, and then click either the MaestroInstall.exe icon or the setup.exe icon.

> **Note** If this is an Initial installation, you may see a message asking if you want to install Microsoft .NET Framework. If so, select the **Yes** button. (The 3.5 SP1 version of .NET is located on the CD.)

Automatically Removing the Previous Version of Maestro

When the installation auto runs from the CD, or is started manually by running the MaestroInstall.exe file, the previously installed Maestro software is automatically detected. You will then be prompted to remove the older version of the software before proceeding with the installation of the new software.

1. Click the **OK** button to proceed with removal of the previous software version. A new popup will then appear that will show the progress of the removal status.

   The Maestro Welcome screen will then appear.

2. Click the **Next>** button to begin the installation process. The Destination Folder screen will then appear.

3. Click the **Next>** button to continue the installation process.

4. Follow the instructions on the following installation screens. Click the **Next** button as needed.

> **Note** It is recommended that all default values be used during the installation.

5. The InstallShield Wizard Completed screen will then appear when the installation process is finished.

6. Click the **Finish** button. The Installation application will then close.

Maestro Desktop Icon

Three Maestro shortcuts will be displayed on the PC's desktop as part of the installation process. These Icons are, Maestro Configuration Editor, Maestro Deployment Center, and Maestro GUI Control Panel. Clicking the program's shortcut will launch that program.

Note   If the installation fails to complete and you see the error message "Error 1001 -- the specified service already exists," you may need to manually remove the Maestro Jupiter Router Service software. Refer to *Manually Removing the Maestro Jupiter Router Service Software on page 35*.

Re-compiling the Configuration File

It is required that ALL configuration sets that are to be used with the 2.2 version of the Maestro application be recompiled with the 2.2 Configuration Editor. This requirement includes upgrading from ALL previous versions of Maestro. Changes have been made to the configuration tables to support the 2.2 version's functionality. Re-compiling the Configuration file will perform all necessary additions and modifications to the Maestro configuration file to support version 2.2.

1. Launch the Maestro Configuration Editor by going to "Start > All Programs > Thomson > Maestro Configuration Editor."

2. Select the Maestro configuration set to be re-compiled by going to "File > Open > Thomson" and selecting the set.

   This should be the configuration set that was created for v2.2 use (see Step 6 in the *Making a Copy of the Maestro Configuration File* section).

3. If the system displays a Validation Report, you must check the indicated table(s) and make corrections as indicated.

   You can use the links in the Description column to display the table(s).

4. Save the configuration file.

5. Compile the file by going to "File > Compile Channel Data."

6. Proceed to *Updating the System Configuration and Software* below.

Note   For more information about the Configuration file, refer to the Maestro Configuration Editor section of the Maestro Installation and Service Manual (part # 071869801).

Updating the System Configuration and Software

1. Launch the Maestro Deployment control center by selecting "Start > All Programs > Thomson > Maestro Deployment Center.

A Maestro Deployment Control Center window appears.

Other buttons may appear below the table if content has not been defined. For example, "Unmanaged Boards" will appear if a board has not been defined in the Configuration file.

Note   The presence of unmanaged boards indicates the potential of "rogue" boards in the system that could potentially cause a conflict and interfere with the configured Maestro processors due to disparate software versions or configurations. If this is the case, The Network Description table should be updated to include all boards in the system and the configuration recompiled and redeployed.

If the board hangs or does not come up in a few minutes, press the Reset button on the left side of the Serial port on the front edge of the Main board.

2. Click the **Show Log** button in the lower left-hand corner of the application, to provide detailed monitoring of the update process. This is an optional step.

3. In the Configuration box:

- Verify that the Folder field has the correct path to the Maestro configuration directory. (Default = C:\Thomson)

- Select the Maestro configuration set that is to be activated in the File: drop-down list.

  This file should be the configuration set that was updated and compiled for v2.2 (). The background of a compatible configuration file (that is, one that was compiled with the current version of the Configuration Editor) will be highlighted green in the drop-down list.

The Configuration box contains two buttons: **Update Only** and **Update & Apply.**

- **Update Only** - Downloads the selected configuration file to the boards, but, does not apply it as the running configuration.

Note   The selected configuration files appears in the "Pending>>" row. The currently active configuration appears in the "Running>>" rows.

- **Update & Apply** - Downloads the selected configuration file to the boards and applies it as the running configuration.

4. Click the **Update Only** button.

This action will update the contents of the "Pending>>" row in the Board Configuration and Active Configuration columns.

Note   When the **Update Only** button is clicked, the configuration file does not become the active configuration until the **Apply Pending** button is clicked to activate the "pending" configuration.

CAUTION   The following step **will interrupt** the video and audio signals passing through the system for approximately one minute.

5. In the Software Application box:

   a. The *Folder* field should indicate "C:\MaestroEmbedded."

   b. In the *Frame Processor Tar File Name* field:

   --For LTC systems (those using Linear Time Code) select the file that has .LTC in the name. For example, "MaestroMC_2.200.aabb.ccdd.LTC.tar." (When used, LTC is connected to pins 43 and 44 of the GPIO connector on the rear panel.)

   --For VITC systems (those using Vertical Interval Time Code) select the file that has .VITC in the name. For example, "MaestroMC_2.2.00.aabb.ccdd.VITC.tar."

   c. In the *Control Panel Tar File Name*, field, select the .TAR file. For example, "MaestroCP_2.200.aabb.ccdd.tar."

6. Click the **Select All** button (lower right corner of application).

   Alternatively, each board can be updated independently by clicking on the "Board Name" field or all at the same time by using the "Select All" button.

   The Software Application box contains two buttons: **Update Only** and **Update and Apply.**

   • **Update Only** - Downloads the selected application software to the boards, but, does not apply it as the running application. The selected application software files appears in the "Pending>>" row. The currently active application software appears in the "Running>>" rows.

   • **Update & Apply** - Downloads the selected application software to the boards and applies it as the running application software.

CAUTION   The following step **will interrupt** the video and audio signals passing through the system for approximately one minute.

7. Click the **Update & Apply** button.

   This action will update the contents of the "Running>>" rows in the Version columns and activate the application, FPGA and OS code.

Note   If the **Update Only** button is clicked, the software application file does not become the active software application until the **Apply Pending** button is clicked. The "pending" software application will then be the active software.

If the **Update Only** button was selected, instead of the **Update & Apply button,** you should:

    a. Click the **Apply Pending** button to activate software and any pending configuration files.

Note   Clicking the **Update & Apply** button in the respective section (as in step 7) will apply any pending updates for that section. Clicking the **Apply Pending** button will apply both the Software and Configuration updates.

8. Verify that the new Configuration and Application versions are "Running."

9. Proceed to *Checking the GUI Control Panel for Proper LAN Settings on page 29*.

Checking the GUI Control Panel for Proper LAN Settings

Beginning with Maestro software version 1.4, the "Panel Server IP" address and the "Local IP" address for the Maestro GUI must now use control LAN addresses only. In releases prior to 1.4, the GUI application would connect and run over the facility LAN; this is no longer possible in version 1.6.0 and later versions.

The following steps should be taken to ensure that the GUI application is set for the correct addresses:

1. With Maestro's GUI up and running, click the **Settings** button. This will open the Application Settings window.

2. Double-click (or select and click the **Alter** button) the **Panel Server IP** setting.

3. Specify the control LAN address of the Panel Server card associated with the GUI.

   This will switch the view back to the first Application Settings window.

   To look up the GUI control LAN address, go to "Maestro Configuration Editor > Network Description Table." Then check the Board Type "GUI" row and the "Control LAN IP Address" column.

4. Double-click (or select and press Alter) the **Local IP** setting.

5. Select the control LAN address of the PC associated with the GUI.

   This will switch the view back to the first Application Settings window.

   To look up the PC control LAN address, go to "Start > Control Panel > Network Connections." Double-click on the card used for the control LAN. Then go to Properties > Internet Protocol > Properties.

6. Close the Application Settings window. The GUI should then connect and work properly.

Note If you have difficulty making this change or if the GUI is not functioning properly after this change, please contact Grass Valley Technical Support (see *Contacting Grass Valley on page 4*).

7. Proceed to *Updating FPGAs/CPLDs*.

Updating FPGAs/CPLDs

This section will describe the steps needed to update the FPGAs/CPLDs on the Processor boards and on the hardware control panel. (FPGA = Field Programmable Gate Array. CPLD = Complex Programmable Logic Device.)

Updating FPGAs/CPLDs on the Processor Boards

Note   Some of the FPGAs on the Processor are updated using the Software Version **Update and Apply** procedure described above. The remaining FPGAs on the Processor are updated using the procedure below.

Follow these steps to update the FPGAs/CPLDs on the Processor boards: (see Figure 4 on page 16. for the following steps)

1. In the board Status section of the Maestro Deployment control center, select the Processor to update.

2. Right-click on the "Running" FPGA field for this Processor.

The FPGA/CPLD update menu will then appear.

> This menu shows the names of all of the FPGAs/CPLDs on the Processor and the version number of the gateware that is currently running (or is loaded) in each device. All of the CPLD-type components (and specific FPGA-type components) can be updated using the FPGA/CPLD update menu. The menu will indicate the new version number and will display a check box when a newer (or current) version of gateware is available for those components.

Note   A Current version may have a smaller number than the corresponding Loaded version. If FPGA/CPLD updates were performed with prior Maestro software versions, there may be no available FPGA/CPLD updates with the current version.

3. Check the "Select All" box if there are available updates.

Note   Do not check "Gennum A" or "Gennum B" if no DVE board is installed. Doing so will cause the update to fail.

4. Select **Update**.

> You will be asked to confirm the update.

CAUTION   The following step **will interrupt** the video and audio signals passing through the system.

5. Click the **Yes** button.

6. From this point there are two possibilities:

    - A popup will show that the Processor update was successful.

    - An error message may indicate that the "physical JTAG chain is broken." If this message appears, the FPGAs/CPLDs on the Processor cannot be updated. Stop the installation process and then contact Grass Valley Technical Support (see *Contacting Grass Valley on page 4*).

Updating FPGAs/CPLDs on the Hardware Control Panels

Follow these steps to update the FPGAs/CPLDs on the Hardware Control panels

1. In the board Status section of the screen, select the hardware control panel to update.

2. Right-click on the FPGA field for this control panel. The FPGA/CPLD update menu will then appear.

    This menu shows the names of all FPGAs/CPLDs on the control panel and the version number of the gateware now running ("loaded") in each device. Certain FPGA-type components and all of the CPLD-type components can be updated using this menu, and if a newer ("current") version of gateware is available for those components the menu will indicate the new version number and display a check box.

3. Check the "Select All" box.

4. Select **Update**. You will be asked to confirm the update.

CAUTION   The following step **will cause** the control panel to become inoperative while the update is in progress.

5. Select **Yes**. From this point there are several possibilities:

    - A popup will show that the control panel update was successful. Repeat the process for additional control panels. When all FPGAs/CPLDs have been updated, the upgrade is complete.

    - An error message may indicate that the "physical JTAG chain is broken." The CP Panel Server board, which is located within the control panel, may need to be replaced. Please contact Grass Valley Technical Support to arrange the replacement.

Configuration

Required Encore Configuration

CAUTION Portions of this procedure will interrupt video and audio signals passing through the system. Users of this equipment should consult with Grass Valley Technical Support personnel before proceeding.

For Encore-controlled Maestro systems, it is possible for Encore (prior to and including version 1.7.3.1) to run out of TCP/IP sockets. When this happens, Encore will refuse any additional Native Protocol client connection requests from Maestro processors. This issue usually occurs after the Maestro processor has been rebooted many times as part of the software update, hardware installation and troubleshooting processes.

Follow these steps to resolve this issue:

1. In the Encore OUI, select the Panel Server application

2. Select "RCL Server."

3. In the "Ethernet RCL Client" section, select a Maestro processor.

4. Select "Flags and Parameters."

5. For Encore versions prior to and including version 1.7.3.1, set the Refresh Rate setting to "60." For all later versions of Encore, set the Refresh Rate setting to "0."

6. Repeat steps 3-5 for any additional Maestro processors.

When finished setting the refresh rate on all Maestro processors, return to the Panel Server page and click on "Modify" to save changes.

Hardware Upgrade Procedure

Note For the Hardware Upgrade instructions, see the Maestro Installation and Service Manual (Part # 071869801)

Other Installation Steps

These steps are for Jupiter users and if you choose to install Maestro manually.

Installing the Maestro Jupiter-Router Service

The Maestro Jupiter-Router Service must be installed on the Jupiter PC if you are using the Jupiter Control system. This process is similar to installing the Maestro Software.

Follow these steps to start the Maestro Jupiter-Router Service installation process:

1. Insert the Maestro software CD-ROM into the computer's CD Drive and follow the prompts.

   The CD should automatically start the installation process. If not, browse to the CD, using Window Explorer, and then click the MaestroInstall.exe icon.

   The Maestro Welcome screen will then appear.

2. Click the **Next>** button to begin the installation process. The Destination Folder screen will then appear.

3. Click the **Next>** button to begin the installation process. The Setup Type screen will then appear.

4. Click the **Custom** radio button and then click the **Next>** button.

5. Click the drop-down arrow and then select the **This feature will not be available** option for all of the features except for the Jupiter Router Service. A red "x" will appear by the features.

6. Click the **Next>** button. The Ready to Install the Program screen will then appear.

7. Click the **Install** button. The installation process will then begin. The InstallShield Wizard Completed screen will appear when the installation process is finished.

8. Click the **Finish** button. The Installation application will then close.

Manually Removing the Previous Version of Maestro

The previous version of Maestro software must be uninstalled before a new version can be installed.

CAUTION If you are uninstalling v1.3, v1.4, v1.5, or v1.5.1 software, you must use the Administrator account (login). If you are uninstalling v1.2 or prior software, you must use the account (login) used when that software was installed.

Follow these steps to manually remove the previous version of Maestro:

1. Using the Windows Control Panel, select Add or Remove Programs.

2. Select the Maestro Software Package.

3. Click the **Remove button**. This step will not remove user data.

4. Close the Windows Control Panel.

    The previous version of Maestro software can also be automatically removed by starting a new software installation procedure.

Manually Installing Maestro

The installation process can be started manually if it does not start automatically. Follow these steps to manually install the Maestro Software Package:

1. Select the Run command from the start menu(Start> Run)**.**

2. Enter "E:\MaestroInstall.exe" where E: is the CD Drive.

Note If you enter E:\setup.exe (where "E" is the name of the PC's CD ROM) in the Run dialog box (instead of 'MaestroInstall.exe") the dialog will appear. Click the **OK** button. The prior Maestro software version must then be manually removed using the Add/Remove Programs in the Windows Control Panel.

3. Click the **OK** button. The installation as described in the *Installing the Maestro Software Package* section will then begin.

Manually Removing the Maestro Jupiter Router Service Software

Only perform this procedure if you see the error message "Error 1001 -- the specified service already exists" referred to in the Note on page 25.

1. Select the Services by navigating to Control Panel > Administrative Tools > Services.

2. Select the Maestro Jupiter Router Service option

3. Select **Stop the service** or right click the service and select **Stop** ().

4. Go to "Start > Run" and enter the phrase "regedit" in the text field (fig).

Figure 10. Regedit example
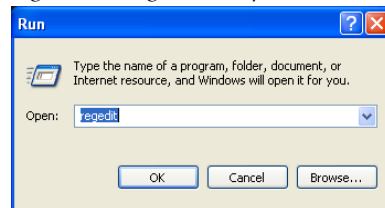
5. Go to "HKEY_LOCAL_MACHINE > SYSTEM > CurrentControlSet > Services."

6. Highlight the MaestroJRService and then right click and delete this item.

7. Close all windows and reboot. Repeat Step 1 above and confirm that the MaestroJupiterRouterService is not listed.

Proceed with the installation proceedure (see *Installing the Maestro Software Package on page 24*).