GRASS VALLEY GROUP

Release Notes

software release **8.1**

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SERIES 7000
SIGNAL MANAGEMENT SYSTEM

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Grass Valley Group Web Site

The www.grassvalleygroup.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 — Software updates, drivers, and patches can be downloaded.

Contents

SMS 7000 Release Notes

Release 8.1

October 2002

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Introduction

The information in this document addresses how to upgrade from systems fully operational with 7.*n* or 8.0 software to version 8.1 software. The Release Notes also cover the product enhancements and related procedures. Any last minute changes to the software release will be documented in a readme.txt file found on the Software CD-ROM.

The procedure for a new system software installation is in the *Series 7000 Installation Manual*.

To upgrade a system running on version 6.x software use the 7.0 Release Notes on the Documentation CD-ROM. Use the 7.0 software procedure with the 8.1 CD-ROM to upgrade the system to 8.1.

To upgrade a system running on version 5.*n* or earlier, software requires firmware and/or hardware changes. (To obtain the necessary firmware and/or hardware contact Customer Service using the information on the back of the title page.) The changes are documented in the 6.4 Release Notes on the Documentation CD-ROM. After the firmware and/or hardware changes are complete, then use the 7.0 Release Notes to upgrade the software.

The 7.0 Release Notes contain information on how to connect the PC-compatible to the MCPU, and how to install Xitami (the FTP Daemon). This information is not needed when upgrading a system running 7.*n* to 8.1 because the required items are already in use.

Enhancements

Concerto Support

Version 8.1 enables the SMS7000 Router Control System to control the Concerto Matrix Controller, a multi-format routing matrix. As with legacy matrices, the Concerto can be controlled by any control device attached to the SMS7000 control system.

At the time of its release, version 8.1 fully supports current Concerto capabilities including, but not necessarily limited to:

- Board and Signal types — Analog Video (AV); Digital Video (DV, also known as SDV); Analog Audio (AA); Digital Audio (DA, also known as AES)
- The ability to mix any or all of the above boards in the Concerto within the guidelines defined in Concerto's *Instruction Manual*
- Matrices to 128 x 128 in multiples of 32
- A mixture of AA and DA on the same level, that is AA sources can be on the same level as DA sources and vice versa
- Destination (output) monitoring
- Audio input attribute options as defined in Table 1 on page 17
- Audio input invert options as defined in Table 2 on page 18
- Mute (AES black) for audio input signals
- Soft Mute for audio output signals
- DV re-clocking

Remember that signal attributes can be changed only from within the Configuration Editor GUI.

Concerto support required changes in three areas:

- The Configuration Editor GUI application to offer Concerto-specific settings,
- MCPU software to support the Concerto Matrix Controller, and
- AES input/output attribute support. For general configuration instructions see the version 8.0 *Configuration Manual* for the Series 7000 Signal Management System.

Configuration Editor Graphical User Interface Enhancements

Concerto-specific dialog boxes and options have been added to the GUI. For general configuration instructions see the version 8.0 *Configuration Manual* for the Series 7000 Signal Management System.

Concerto Frame/Board Settings

For Concerto-specific frame board configuration details, see *Concerto-Specific Frame Board Configuration* *on page 12*.

AES Input/Output Attribute Settings

Some AES Input/Output attribute settings are Concerto-specific. For AES configuration details, see *AES Attributes* *on page 15*.

Monitor Output Expansion

Monitor output from the SMS 7500 NB or WB matrices with more than 256 outputs can now be configured and controlled. This capability enables the monitor output from one 7500 NB matrix frame to be connected to the monitor input of the next 7500 NB frame in larger physical matrix configurations. The result is that the monitor output from the last in a series of chained monitor connections can be used as the monitor output for all destinations in a combined large physical matrix configuration. The same capability is available for the 7500 WB.

Version 8.1 Software Overview

Series 7000 software is delivered on a CD-ROM. Release 8.1 software can upgrade systems currently running 7.*n* software. If the system to be upgraded is running software other than 7.*n*, firmware and/or hardware upgrades may be required. Refer to the *Introduction* (page 5) for information on upgrading systems not running software 7.*n*.

The CD-ROM contains installation files for the Configuration Editor Graphical User Interface (GUI), the Visual Status Display (VSD), the PrintConfig, third party software (FTP Daemon), and archive files of older software releases (7.0 to 7.3.3). The CD has an autostart feature. If autostart fails, select **Run** from the start menu and type `d:\setup.exe` (where `d` is the drive letter of the CD-ROM).

Installation/Upgrade Procedures

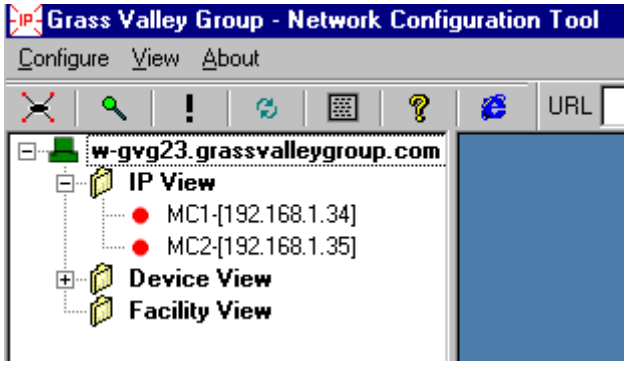
Installation or upgrade procedures are identical to those documented in the release 8.0 Series 7000 *Release Notes*. If you have a Concerto Matrix Controller, the exception is the subsequent preparation and configuration of your Concerto for control by an SMS7000. Concerto-specific instructions begin with *Preparing Your Concerto*.

Preparing Your Concerto

If you have a Concerto this procedure is required to set its subnet so that the Concerto can be detected on an SMS7000 LAN. You can also make other changes during this procedure using NetConfig, but we'll focus on the required subnet changes here.

Factory default IP settings in Concertos are optimized for Encore installations. They specify a different subnet than factory default settings for SMS7000 and possibly for your network installation. For that reason, it's unlikely that you'll be able to configure Concerto as you might expect when you first launch NetConfig and before Concerto's subnet is matched to yours (see Figure 1).

Figure 1. Concerto Matrix Controllers on a Different Subnet.

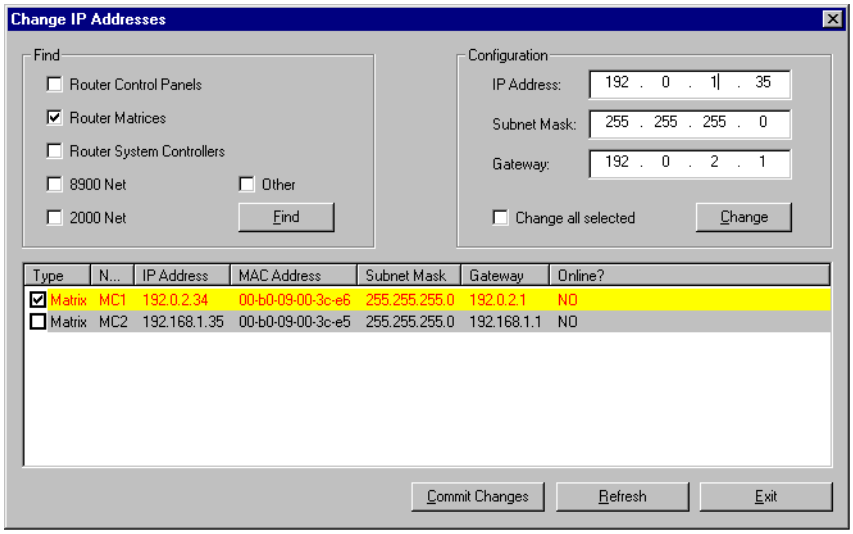


Before you begin this procedure, you must have the following information available:

- The IP address(es) you want for each Matrix Controller (and backup if you have one) so that they can be uniquely addressed on your network,
- The IP address of your gateway (if you have one), and
- The IP address of the MCPU (and backup MCPU if you have one).

After you've installed release 8.1 software on your system, use NetConfig's **Device IP Addresses** command on the Configure menu to change Concerto's Controller Module IP setting(s) to the same subnet as your MCPU (See Figure 2). For details on using NetConfig for these procedures, see "Device IP Addresses" in the *NetConfig Instruction Manual*.

Figure 2. Changing Concerto's Matrix Controller IP Settings. The IP Address and Gateway Changes Are Pending for MC1. The IP Address for MC2 is Still Being Changed.



After you've made these changes to Concerto IP settings you'll be able to communicate fully with the Concerto via Ethernet and to make additional setting changes via NetConfig and/or the SMS7000 Configuration GUI.

Updating the Software in Your Concerto

Once you've completed the initial settings so that your Concerto can communicate on your network, use NetConfig to update Concerto's software. But first you can review your Concerto settings or make any changes NetConfig supports by selecting your Concerto in NetConfig's IP or Device views and then using the pages in the Browser views illustrated in Figure 4 through Figure 6.

Figure 3. Matrix System Page

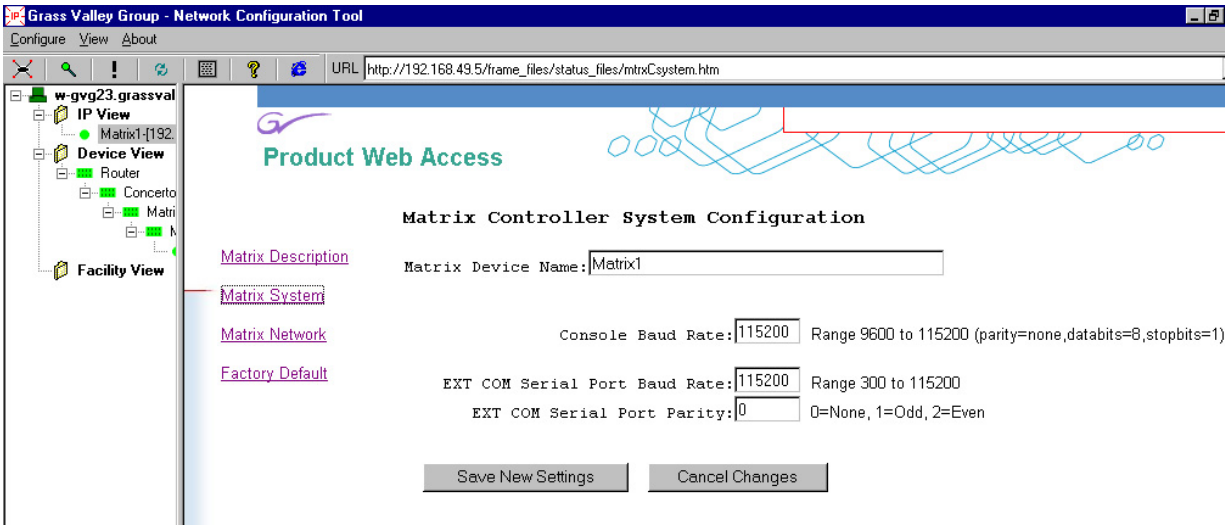


Figure 4. Matrix Description Page

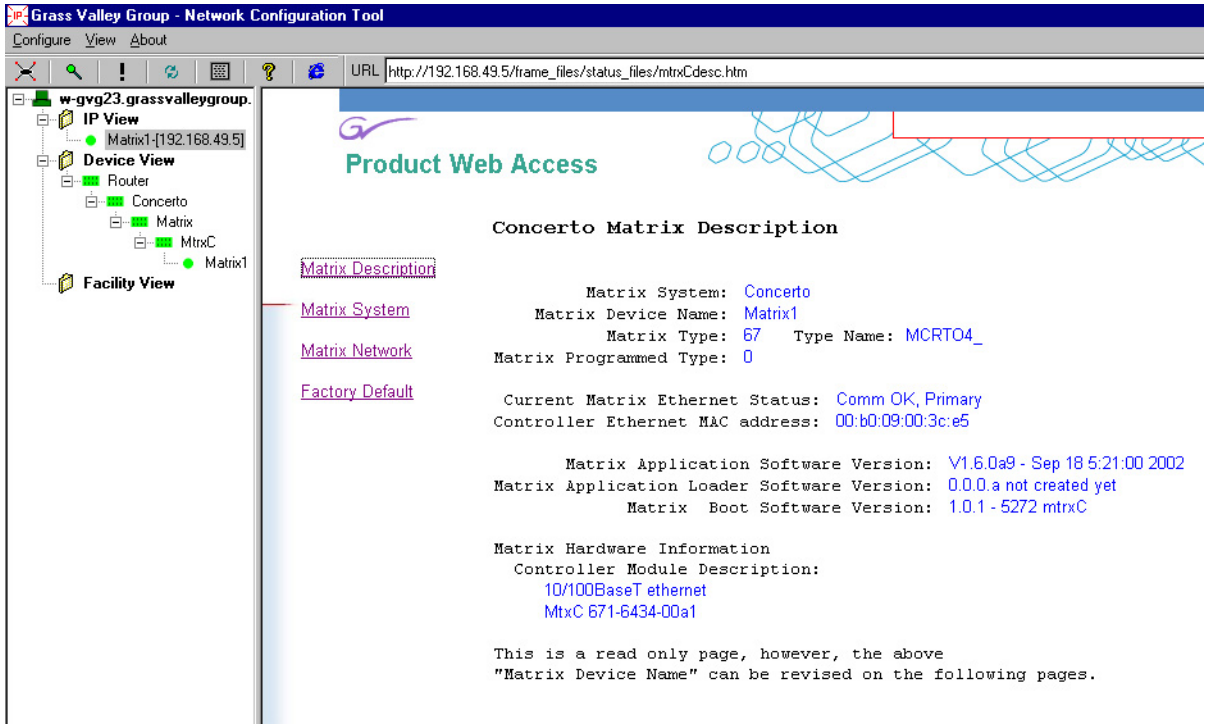


Figure 5. Matrix Network Page

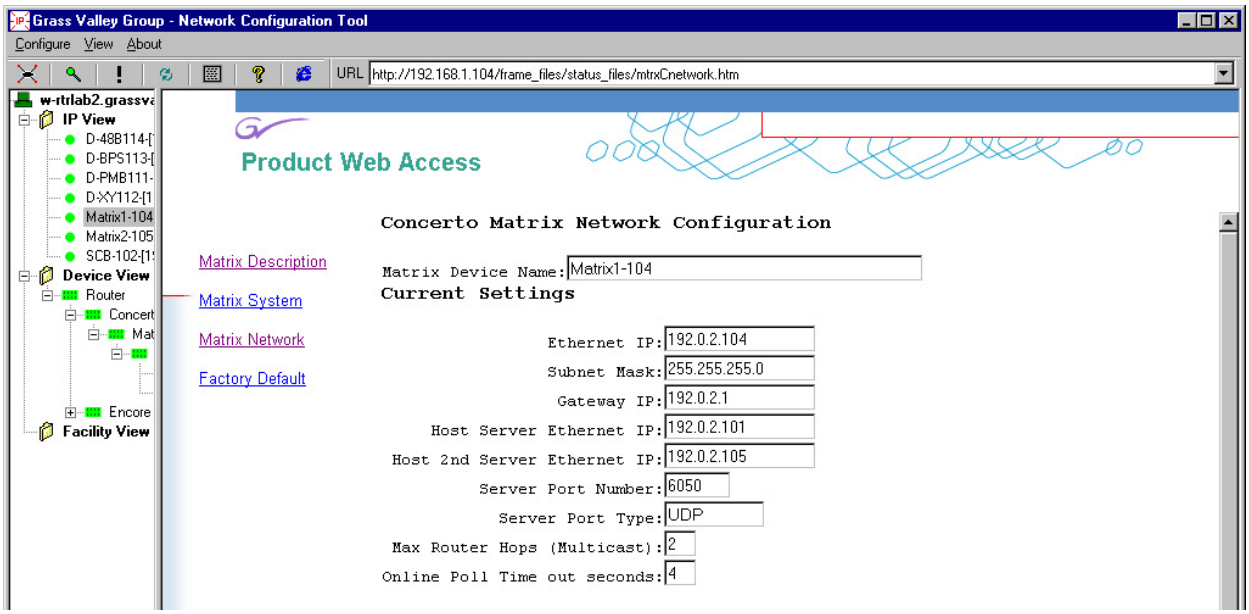
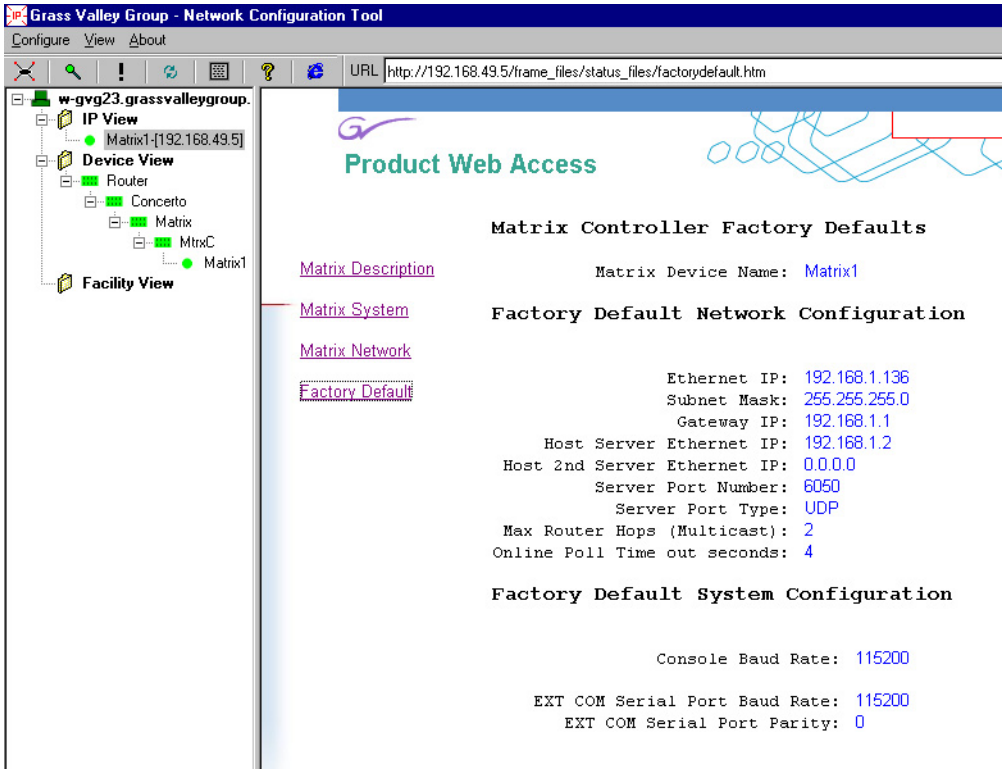


Figure 6. Matrix Factory Default Page

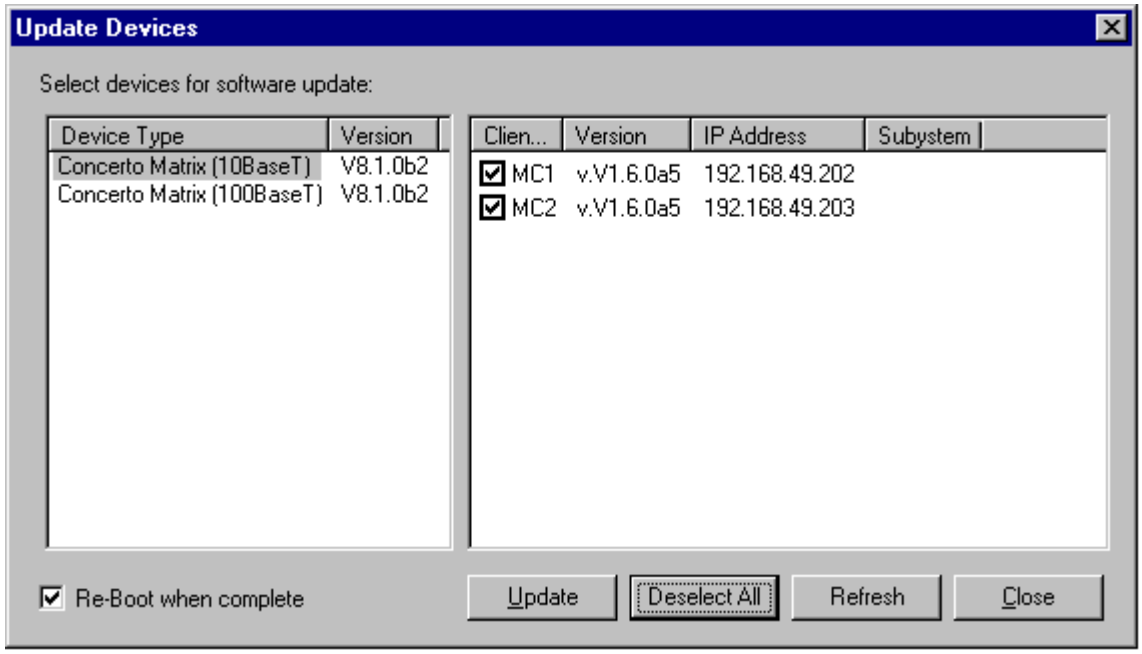


When you're ready to update Concerto's software, follow these steps.

CAUTION This procedure will take your Concerto(s) off line during the final step.

1. Ensure that the PC you're using is connected to the same network as your Concerto.
2. Launch NetConfig and select your Concerto in either the IP or Device view in the left pane of NetConfig's main window.
3. Choose **Update Device Software** on the **Configure** menu.
4. When the Update Devices dialog box (Figure 7) appears, select the appropriate Ethernet speed for your network and devices.

Figure 7. The Update Devices Dialog Box



5. When your Concerto(s) appear in the right pane, click the **Select All** button.

Note Unpredictable system behavior is likely if different versions of the software are running in your installation.

6. Ensure that the **Re-Boot when complete** checkbox is checked and click the **Update** button.

7. Exit NetConfig. Your Concerto changes are complete.

Concerto-Specific Frame Board Configuration

Most of the Concerto configuration procedures are the same as for earlier Grass Valley matrices. This section covers only those procedures which are unique to, or required by Concerto. Concerto-specific procedures are covered here in the order you would create a configuration. See the version 8.0 *Series 7000 Configuration Manual* for details about the other configuration steps and procedures.

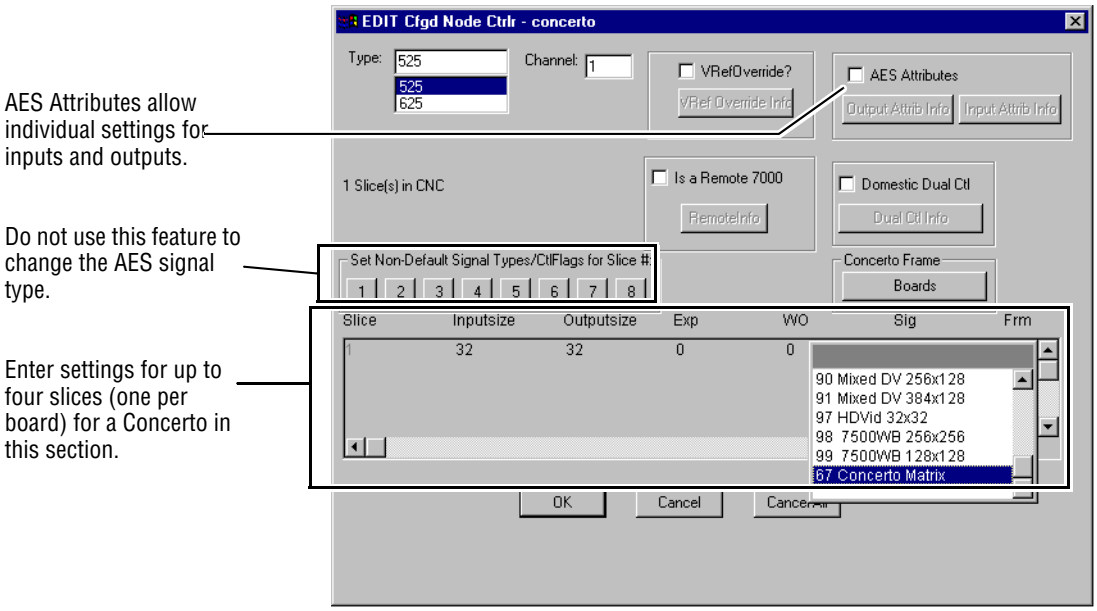
After setting Enables and Limits, begin configuring a Node Controller by choosing **Node Controllers** on the **Setup** menu. Step through the various settings documented in the "Node Controller Configuration" section of the version 8.0 *Series 7000 Configuration Manual*.

Note Only one configured node controller is used per frame, regardless of the number of signal types in that frame.

Remember that for the Concerto, **Inputsize** and **Outputsize** must be in multiples of 32 and can not exceed 128, **Exp** must always be set to 0 (no expansion), and **W/O** must always be set to 0 (outputs 1-128). Ensure that you specify a **Sig**(nal) type appropriate for the Concerto board(s) in the slice you're configuring.

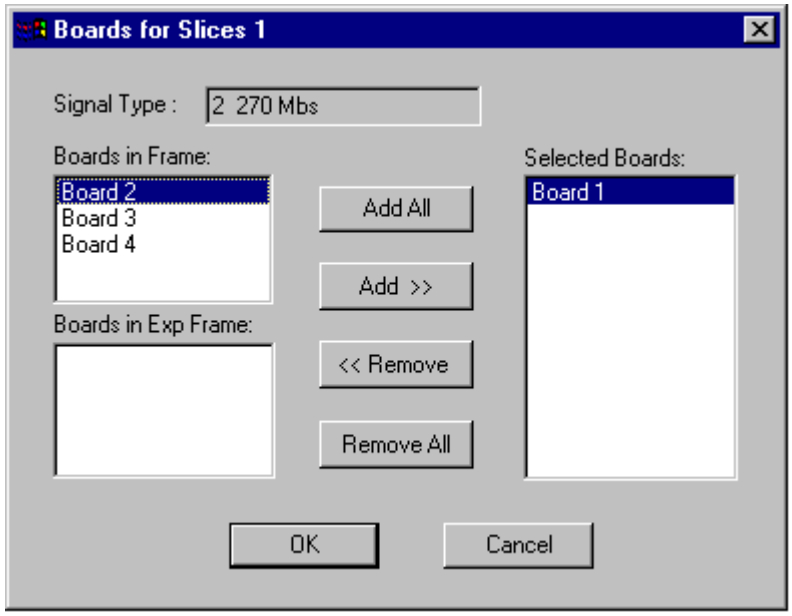
When choosing the Frame type for a Concerto, scroll to the bottom of the drop down list under the **Frm** column and double-click frame option **67 Concerto Matrix** (Figure 8).

Figure 8. Choosing the Concerto Frame



Specifying the Concerto Matrix frame type enables the **Concerto Frame Boards** button above the **Frm** column. Click the number in the **Slice** column to select the slice you're configuring. Then click the **Boards** button to open the **Boards for Slices** *n* dialog box (Figure 9).

Figure 9. Boards for Slices Dialog



In the **Boards in Frame** column on the left, select the board(s) you want in this slice — all of the boards in a slice must be contiguous and compatible, but not necessarily identical — and click the **Add >>** button or use the **Add All** button as appropriate. For more information on slices and the types of boards that can be included in a slice, see "System Physical Configuration" in the *Concerto FlexFrame Routing Matrix Instruction Manual*. Note that you can also use the Remove buttons to change your mind. The **Boards in Exp Frame** section of this dialog is reserved for future use. Click the **OK** button to finalize your choices.

Don't forget that a slice must be created for each signal type in the frame you're configuring. To create additional slices press the **A** key to add a new slice after, and copy the settings of, the selected slice. Or press the **Insert** key to add a new slice before the selected one.

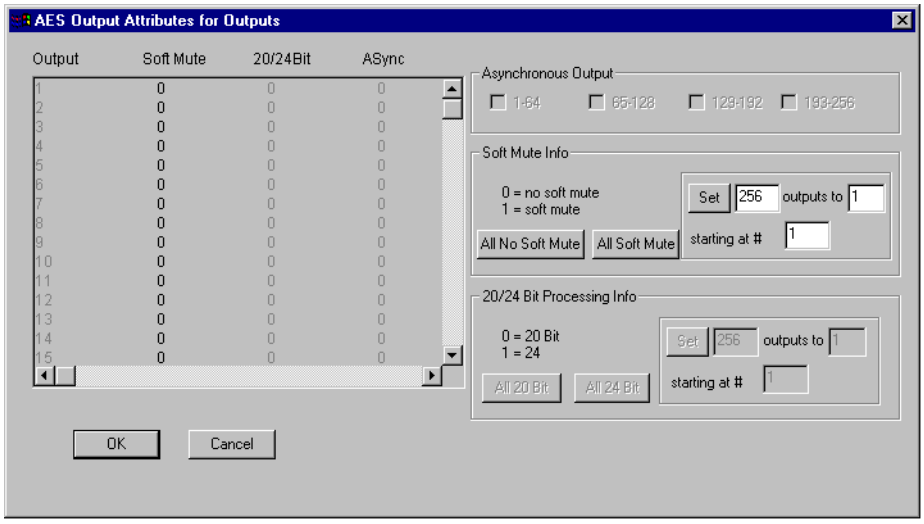
AES Attributes

The **Output Attrib Info** and **Input Attrib Info** buttons are enabled when there is a check in the **AES Attributes** box. Some of these attributes require Concerto-specific settings.

AES Output Attributes

1. Click the **Output Attrib Info** button to access the settings for output attributes.

Figure 10. AES Output Attributes Dialog



Use this dialog to set the outputs individually or in groups.

Asynchronous Output (or input) is not supported by Concerto.

If you're configuring an earlier matrix that contains Asynchronous Output modules then you can use the check boxes under Asynchronous Output to set groups of 64 outputs to Asynchronous. If you're configuring a system that has some Asynchronous Input modules (one or just a few) and want to assign a few Outputs on a Synchronous Output module to pass asynchronous signals, then use the individual settings under the **ASync** column.

Outputs can be assigned **Soft Mute/No Soft Mute** individually, in groups, or by using the **All** buttons. Except for Concerto, **20/24 Bit** Processing can also be applied individually, in groups, or by using the **All** buttons.

The **Soft Mute/No Soft Mute** attribute is a soft mute or alignment of one signal's amplitude to another signal's amplitude at switching. Some users call this audio dunking. Soft mute prevents a crack or pop at switching.

The **20/24 Bit** attribute determines how the signal bits are processed. A signal has 24 bits with the last four bits designated as auxiliary (AUX) bits. In **20 bit** mode the four AUX bits pass through the router unaffected by any processing. If left and right channels are swapped, the four AUX bits stay in the same place. If the signal is muted, the four AUX bits are not muted. In **24 bit** mode the router will treat the four AUX bits as though they are part of the audio data. If left and right channels are swapped, the four AUX bits will swap locations. If the audio is muted, the four AUX bits will be muted.

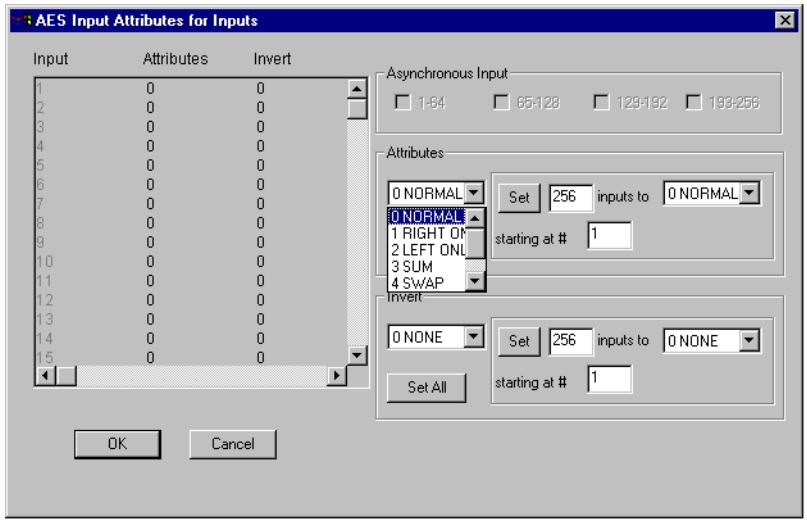
Note The 20/24 Bit attribute is not supported by Concertos controlled by SMS7000.

2. When you've finished assigning Output attributes click **Ok** to finalize your settings.

AES Input Attributes

3. Click the **Input Attrib Info** button to open the AES Input Attributes dialog.

Figure 11. AES Input Attributes



Use this dialog to assign Attribute and Invert options individually, in groups, or by using the **All** buttons. **Asynchronous Input** (or output) is not supported by Concerto. If you're configuring a matrix that contains Asynchronous Input modules then you can use the check boxes under **Asynchronous Input** to set groups of 64 inputs to Asynchronous.

Attributes affect the way signals are routed through a matrix. Table 1 defines how each setting affects the signals.

Table 1. AES Input Attribute Options

Attribute	Definition	100 Hz (Right)	1000 Hz (Left)
0 Normal	Defaults are assigned to all Inputs.	100 Hz	1000 Hz
1 Right Only	Right Channel Audio will be routed to the assigned Input.	100 Hz	100 Hz
2 Left Only	Left Channel Audio will be routed to the assigned Input.	1000 Hz	1000 Hz
3 Sum	Frequencies of the Right and left Channel are added together.	1000 Hz +100 Hz	1000 Hz +100 Hz
4 Swap	Left and Right Channels are swapped.	1000 Hz	100 Hz
5 Bypass	Not supported by Concerto configurations.		
6 Async	Available only for 7500 matrices.		
7 Mute	AES silent output. Available only for Concerto.		

Figure 12. AES Attributes

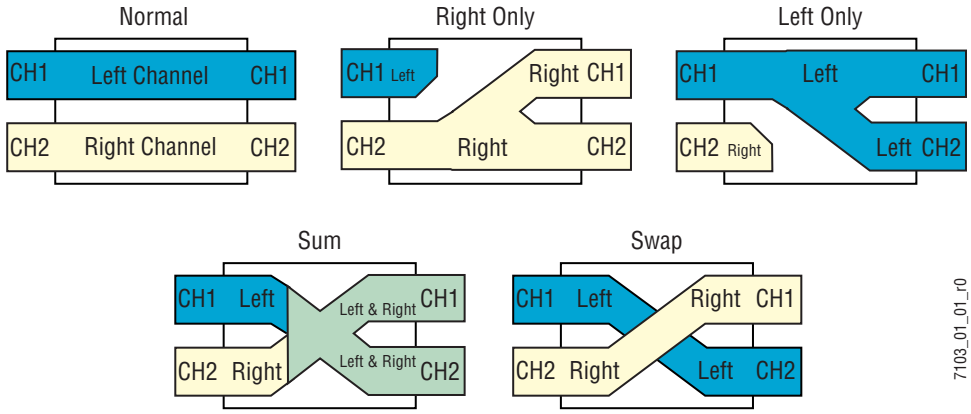
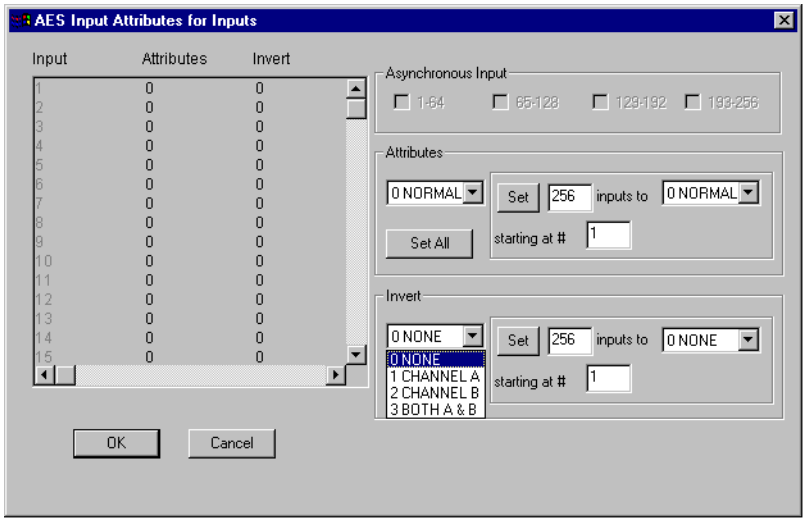


Figure 13. AES Input Inverts

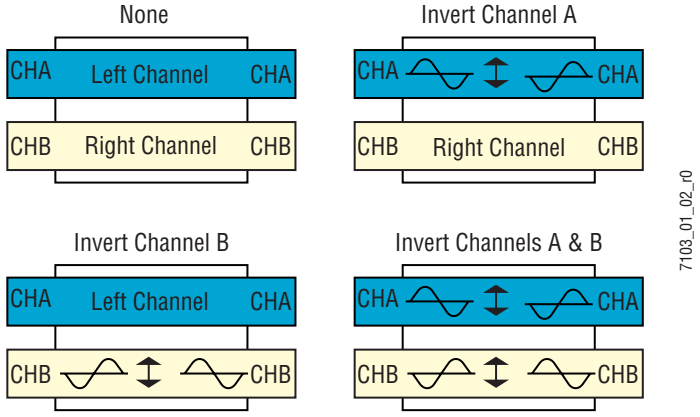


Invert options assign the invert (opposite logic state) of the signal to an Input using the settings in Table 2.

Table 2. AES Invert Options

Attribute	Definition
0 None	Signal is not changed.
1 Channel A	Channel A audio is inverted.
2 Channel B	Channel B audio is inverted.
3 Both A & B	Channel A and Channel B audio is inverted.
Async	Asynchronous signals are routed in 7500 matrices. Not supported by Concerto.

Figure 14. AES Inverts



4. After assigning the Input attributes, click **OK** to finalize your settings.

Routing Products Documentation CD

The Routing Products Documentation CD contains all current documentation and an archive of older documentation, all in PDF format. The CD has an autostart feature. If autostart fails, select **Run** from the start menu and type `d:\setup.exe` (where `d` is the drive letter of the CD-ROM).

The documentation has a cross-document index that requires the Acrobat Search plug-in. Acrobat Reader with the Search plug-in is on the CD. The documentation can be installed on a hard drive or viewed on the CD.

Naming Conventions

Naming conventions changed with version 8.0 software and are still in effect. Failure to abide by these requirements is likely to cause problems in your environment. To review these conventions, see "Naming Conventions" in the Series 7000 Signal Management System *Configuration Manual*.

Error Codes for Router Control Language (RCL) and Native Protocols

The following error codes remain the same as documented in the *Routing Products Protocol Manual*. For ease of use, we've added the hexidecimal equivalents to the decimal codes originally listed in the *Protocol Manual*.

Table 3. Level 4 Error Codes for Router Control Language and Native Protocols

Decimal	Hexadecimal	Meaning
1	1	Directed Response Error
2	2	Unknown Error Code
3	3	System Error
4	4	System Table Error
5	5	Not Implemented
6	6	Semaphore Create Error
7	7	Semaphore Give Error
8	8	Semaphore Take Error
66	42	Unknown Dest Name
67	43	Unknown Source Name
68	44	Unknown Salvo name
69	45	Bad Level Bit Map
70	46	Invalid Control Level
71	47	Panel Locked
72	48	Chop Lock
73	49	Salvo Lock
74	4A	No Monitor Control
75	4B	Send To MCPU Error
76	4C	Redirect CoProc Msgs Err
77	4D	Assignments Not Enabled
78	4E	New Net Detected, But Not Active
79	4F	Previously Detected Net Now Not Active
128	80	Unknown Command
129	81	CL-CMD Disabled
130	82	Bad CL-CMD Syntax
131	83	Bad Nbr of Sources
132	84	BadError Code
133	85	Parse EOT missing
134	86	Parse HT missing
135	87	Parse Bad Protect Flag
136	88	Parse Bad Dst Name
137	89	Parse Bad Src Name
138	8A	Too Many Sources
139	8B	Bad Parameter
140	8C	Bad Mask
141	8D	Unknown Tag For RCL[a]
142	8E	Chksum Lvl4 Err
143	8F	Lvl4 Embedded SOH Err
144	90	Lvl4 Embedded EOT Err
145	91	Bad Dst Index
146	92	Unknown Dst Index
147	93	Bad Src Index
148	94	Unknown Src Index
149	95	Bad Level Index
150	96	Invalid Ctl Lvl Index
151	97	Level Not In Destination
152	98	Rooms Not Enabled
153	99	Room Count Is Zero
154	9A	No Dest Status Exists
155	9B	Err Trying To Set Time in MCPU
156	9C	Date format error
157	9D	Time format error
158	9E	Parse Bad Salvo Name

[a] This code is valid only in RCL Protocol, it will not appear in Native Protocol.

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