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Trinix TRX-VI-33100 / TRX-HI-33200 Input Board Installation and Broadlinx 2.3 Upgrade

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Applicability

This upgrade applies to Trinix systems in the field, when a TRX-VI-33100 analog video input module or TRX-HI-33200 digital video input module is being installed. It also corrects several software problems (see page 5).

Note Users with versions prior to 2.1.1 should *not* use the upgrade procedure described in this bulletin. They should load the Broadlinx 2.3 compact flash module but use the *procedure* in Field Engineering Bulletin 071 8283 01, "Broadlinx 2.1.1 Upgrade."

The hardware and software required for this upgrade can be obtained through Grass Valley Technical Support.

CAUTION Thomson strongly recommends that users keep all software current. New boards are *not* guaranteed to be compatible with old versions of software. A system failure may occur if a new board is received as a replacement part and loaded with old software.

Related Documents

Trinix Planning and Installation Manual, part no. 071 8276 xx.

TRX-VI-33100 / TRX-HI-33200 Video Input Modules

TRX-VI-33100 Module

The TRX-VI-33100 video input module consists of a 16-input “universal” base board (VI-33100) and a 16-input digital-only mezzanine board (HI-33201).

- The VI-33100 universal base board auto-senses and accepts 16 composite analog SD, digital SD, or digital HD signals in any combination and passes them in digital SD or digital HD form (as appropriate) to the Trinix matrix board. When analog signals are received, an extensive set of gain, phase, filtering, and other adjustments are available for each signal. These adjustments are summarized below.
- The HI-33201 mezzanine board auto-senses and accepts a second set of 16 digital SD or digital HD signals in any combination and passes them in digital SD or digital HD form (as appropriate) to the Trinix matrix board.

Analog Processing Control

Adjustments for analog signals connected to the VI-33100 base board include the following:

- Save/recall settings
- Mono mode
- Setup on/off
- Chroma kill
- Comb/trap filter
- AGC on/off
- Manual gain control
- ACC on/off
- Manual chroma control
- Insert Error Detection and Handling (EDH) data
- Contrast / Y gain
- Saturation / chroma gain
- Brightness / Y offset
- Hue / chroma phase
- Notch decode on/off (VBI)
- Chroma kill (VBI)
- Blank video (per VBI line)
- Add setup (per VBI line)
- Reserve VBI line for data
- Horizontal timing
- Detail enhancement
- Display channel status

Details for these adjustments are described starting on page 18.

TRX-HI-33200 Module

The TRX-HI-33200 video input module consists of a 16 input base board (HI-33200) and a 16 input mezzanine board (HI-33201) providing a total of 32 inputs. Each board auto-senses and accepts 16 digital SD or digital HD signals in any combination and passes them in digital SD or digital HD form (as appropriate) to the Trinix matrix board.

Materials Supplied

<u>Qty</u>	<u>Description</u>	<u>Part number</u>
varies	TRX-VI-33100 Universal Video Input Module	672 5147 00
varies	TRX-HI-33200 Video Input Module	672 5148 00
1	TRX-BL-UPG 2.3 Upgrade Kit	040 6513 00
	2 ea. 64 MB Compact Flash Memory,	
	Broadlinx 2.3 (1 per NR-33000)	163 8279 10
	1 ea. Field Engineering Bulletin	071 8283 06

Equipment required

- Trinix router equipped with Broadlinx (NR-33000) board(s).
- Ethernet connection to Trinix/Broadlinx.
- A terminal-type serial connection between the VI-33100 base board and a PC is required to change the video processing values from the factory default settings. The VI-33100 serial connector is a 9-pin D female; PC serial connectors are typically 9-pin D male. The cable should be a “straight-through” (pin-for-pin) type.

Sync Source

When processing analog signals, the VI-33100 requires an analog video sync source on BNC connector no. 1 (or connector “0” for Jupiter-controlled routers). This is *not* a looping input. This reference must meet the following requirements:

- It must be isochronous with the other inputs to this board (frequency-locked but not necessarily phase-locked), and
- It must use same video standard as the other inputs, i.e, 525 NTSC, or 625 PAL, etc., and
- It must be stable and continuous (such as house black burst or color bars).

Release notes

Release 2.3

Enhancements

1. Broadlinx support for TRX-VI-33100 and TRX-HI-33100 input boards.

Problems corrected

1. CR 60072 - A customer using an SMS7000 to control a 256 x 256 Trinix (DV-33256) reported that sending configuration data to the MCPU caused the SMS to drop control of the router, and that communications could be reestablished by resetting the MCPU. This problem has been corrected.
2. CR 63790 - NR-33000 FPGA timing problem was causing interruptions in output monitoring signal. This has been fixed.
3. CR 63490 - Encore version 1.7.0 now supports Output expansion frames above 512 outputs.
4. CR 63532 - Setting the time on the Broadlinx web page now sets the system time as well.

Known Issues

1. Web tools such as NetConfig cannot be used to install Release 2.3. The new software can only be installed using a compact flash module.
2. Trinix Planning and Installation manuals with part numbers 071-8276-04 and below have incorrect descriptions as follows:
 - a. When setting the output monitor address in output-expanded systems, the correct procedure is to set the output monitor address rotary switch on *all* chassis to the highest output number for the *system*.
 - b. The specifications for the HI-33110 Input Board indicate an automatic equalization range of 300 meters. This should read “100 meters.”
 - c. The description of output reclocker dipswitch settings implies that these adjustments were not available for HO-33120 SD/HD Output Boards. In fact, the adjustments are available.

Release 2.2.2

Enhancements

None.

Problems corrected

1. This release provides FPGA code that matches the FPGA code now shipping on SR-33500 boards. (SR-33500 boards are used only on 512 x 512 routers).
2. Switches may be statused even though no switch took place, where a) the problem is solved by activating the secondary NR-33000 Broadlinx board, and b) the following error message is displayed on the console port:

```
0xalbcda44 (tFieldTake):xptTake (xtpLib.C line 533):  
errno=0x1f60003
```

This problem has been fixed. (CR 54470)

3. A continual debug message may appear on the Console port as follows:

```
"SetOutputMonitor(),  
Monitor 0,  
Output 301 ..."
```

This problem has been fixed. (CR 54937)

Release 2.2.1

Enhancements

1. Output boost control is now provided for individual HO-33120/33121 high-definition universal output boards.
2. Broadlinx can now be updated via NetConfig.

Problems corrected

1. Sync selection is now sent to HD-33120.
2. "NO XPT" status indication when interfacing Encore to Trinix. The problem appears when switching an input from 129-256 to an output from 1-128; in this case the Encore router status indicates "NO XPT" everywhere except the LRP (Local Router Panel), which shows the correct status. (CR 50177)
3. Incorrect router status was displayed on panels, LRP, and router controller status screen (Trinix/Apex issue). (CR 46803)
4. Breakaways were randomly displayed on control panels sometime after an all-level-task was executed.

5. False Breakaway was indicated.
6. Corrected NR-33000 statistical error reporting (manufacturing/test issue).
7. Software modified to support write protect on/off for new flash part (manufacturing issue)

Release 2.2.0

Enhancements

1. Support is now provided for crosspoint bus connection and control of the Apex digital audio router.
2. Support is now provided for SNMP.
3. Support is now provided for Encore control system version 1.6.5.1.

Logged problems corrected

1. CR 47337 - inappropriate switchover from primary NR-33000 board to secondary board has been corrected.
2. CR 46092 - discovery of NR-33000 on LAN using NetConfig application is more reliable.

Release 2.1.1

Logged problems corrected (all Trinix routers)

1. For all types of Output Cards, corrected the problem where the last Take's action (within a group of Takes) was delayed an additional VIT period. This caused the output enable transition to occur one VIT after the switch in the DM-33512 Matrix Boards (for the last Take).

Logged problems corrected (DV-33512 routers)

1. In the DM-33512 Matrix board, fixed intermittent problem of detecting the presence of input cards within the frame. This was sporadically causing Takes to not be confirmed.
2. The RP-33500 would report a low 3.3 V supply when no cards were present (for example, frame number 2 in an input-expanded system).

Logged problems corrected (All Trinix routers with Encore control)

1. On rare occasions, when the NR-33000 card was activated, the NR's XPT bus controller would not become active. This has been corrected.

Logged problems corrected (HO-33120 boards only)

1. The monitor switch on the RP-33500 set the monitor output to 1536 when in the 1024 position, and 1024 when in the 1536 position.

Release 2.1

Enhancements (all Trinix routers)

1. Encore release 1.6.1 is supported, including NR-33000 redundancy.
2. The left hand Device pane in the NetConfig application now reports the target name of the router instead of the matrix size.
3. The Firmware Update status display has been improved.
4. The router can now be restarted after updates without cycling power or re-seating cards.
5. The new Trinix HO-33120 HD/SD Output Board with multi-rate reclocker is now supported.

Enhancements (DV-33512 routers)

1. The router no longer requires repowering when changing the frame number.
2. The system now reports the CPLD code versions running on the DM-33512 cards.

Logged problems corrected (all Trinix routers)

1. Fixed SMS 7000 board add messages for “SR types” and “Input types” – Extra messages were getting displayed when an SR-TYPE board was discovered.
2. The system update process would occasionally halt when 99% complete. This has been corrected.
3. The upgrade process has been modified so that the system makes up to two attempts to update a board.
4. The Ethernet Monitor task has been removed from externally switched router configurations. (Broadlinx with Jupiter).
5. SMS 7000 commanded NR-33000 switchover (active NR-33000 to inactive NR-33000) is disabled during a firmware upgrade.
6. The web firmware management page and device information page both show the revision levels in decimal.

7. SMS/Encore - The In Use LED now reports the correct status when the activate button is pressed.
8. Settings for the Reclock/Bypass switches on the HO-33110 are now consistent with those for the HO-33120.

Logged problems corrected (DV-33512 routers)

1. Invalid FPGA Overtemp alarms on the DM-33512 Matrix boards have been fixed.
2. Spurious +2.5 volt power supply alarms have been fixed.
3. The web page graphics for the DV-33512 have been corrected to show the “B” and “C” power supplies in the correct position.
4. Resolved an issue where upon power-up, some DM-33512 Matrix boards would not recognize frame properly causing the card to not function correctly.
5. Corrected a problem wherein input card presence detection would fail intermittently causing “no confirm” messages during Takes.

Known Issues

1. The Trinix web pages contain two representations of the Trinix frame, a tree view on the left and a graphical view on the right. The design of the web pages is such that a browser Refresh (via the menu Refresh, toolbar icon, or F5 key) returns the user to the Trinix home page. To facilitate refresh of only certain views a “Refresh” button has been added to many of the web pages. In some cases this results in the two views being out of sync. The most recently refreshed view should always be correct. The views can be re-synchronized with a browser Refresh (menu, toolbar, or F5). The user will then need to navigate back to the desired web page.

TRX-VI-33100 / TRX-HI-33200 Installation

Figure 1. VI-33100 base board (top). HI-33201 mezzanine not shown. HI-33200 is similar but not fully stuffed.

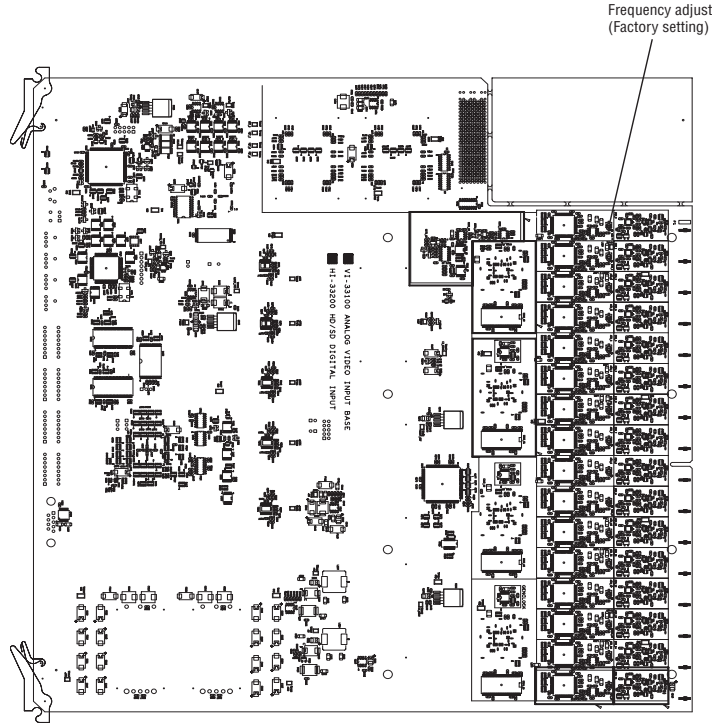
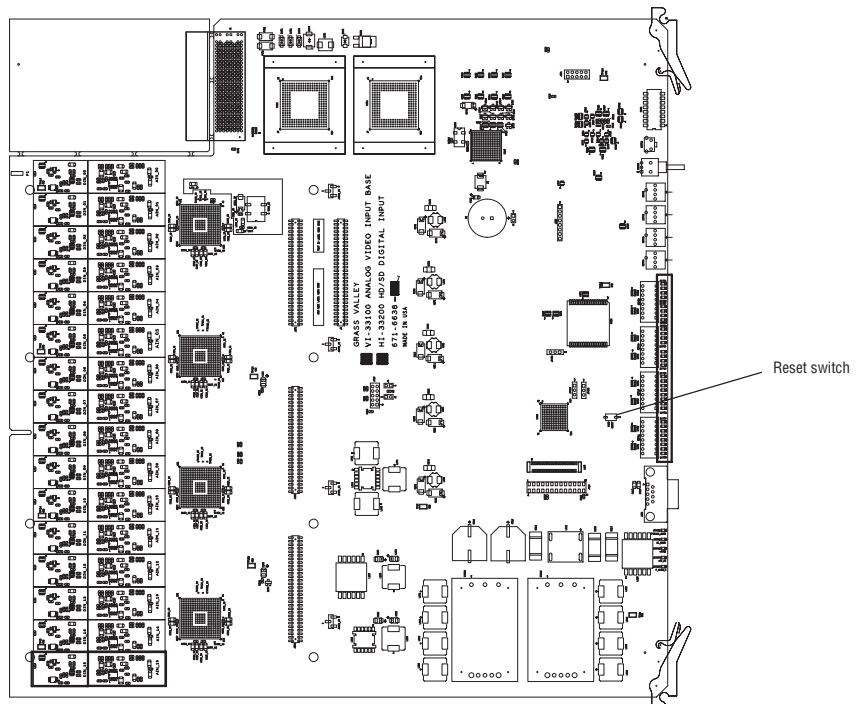


Figure 2. VI-33100 base board (back).



Replacement of Existing Input Board

The following procedure applies when a new input module is being installed as a direct replacement of an existing digital input module.

This procedure will not disrupt normal operation of the router (except for the signals using the replaced board). Trinix boards are designed for hot-swapping.

1. If there are inputs associated with this procedure that cannot be interrupted, steps must be taken to patch them around the router.

2. On the new board, check the output expansion gain switch settings.

Briefly, if the router has expanded outputs, the gain must be increased on the input board. For more information, see “Output Expansion” in the Installation section of the Trinix manual.

Expansion gain is controlled by DIP switches SW543-3 and SW543-4. For the location of these switches, refer to Figure 3. Switch settings are shown in Table 1.

All other switches on SW543 should be set to OFF.

CAUTION The following step will cause a momentary interruption to the inputs feeding this board.

3. Remove the input board being replaced and install the new board.

Trinix boards are designed to be hot-swapped (swapped with power on).

When the board is first inserted, keep the ejector levers spread apart and slide the board in until the levers make contact. The levers are then folded toward each other to seat the board.

The board should automatically acquire the input block and level information previously set with the rear-panel switches.

4. Check for normal operation of the 32 inputs feeding the new board.

5. This completes the installation.

Figure 3. Front-edge switches on VI-33100 base board.

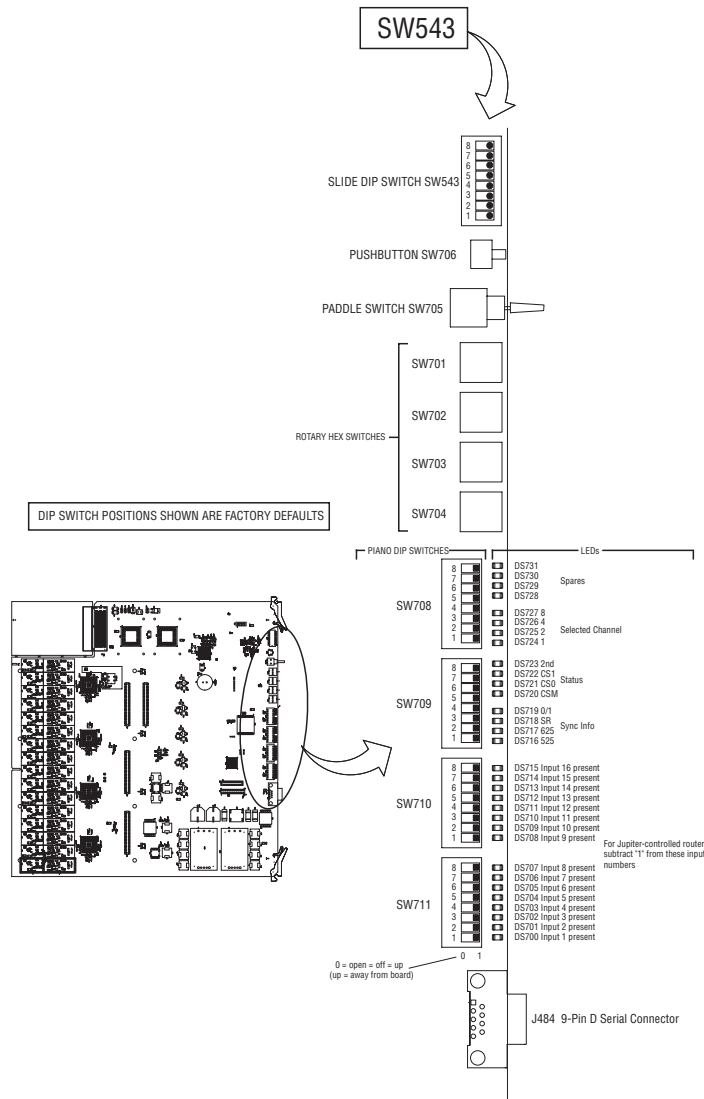


Table 1. Output expansion gain switches

	SW543-3 Affects Base board (lower numbered outputs)	SW543-4 Affects Mezzanine board (upper numbered outputs)
Expand Enable: Use rear-panel "Output Expand" boost switch setting for these 16 inputs	On (Closed)	On (Closed)
Force Normal: Hold gain at unity (do not boost) these 16 inputs. This setting overrides the rear panel switch.	Off (Open)	Off (Open)

Installing TRX-VI-33100 to Add Analog Inputs

1. Install a Trinix input connector panel on the rear of the chassis (if not installed already). Connect video sources.

Trinix frames are sometimes shipped with a full set of rear I/O panels installed regardless of “stuffed” (active) router size.

2. When processing analog signals, the VI-33100 requires an analog video sync source on BNC connector no. 1 (or connector “0” for Jupiter-controlled routers).

This is *not* a looping input. Any standard video signal can be used, but it must be a stable and continuous signal (such as house black burst or color bars). The other analog input signals feeding this board must be isochronous with this reference.

3. On the VI-33100 board, check the output expansion gain switch settings.

Briefly, if the router has expanded outputs, the gain must be increased on the input board. For more information, see “Output Expansion” in the Installation section of the Trinix manual.

Expansion gain is controlled by DIP switches SW543-3 and SW543-4. For the location of these switches, refer to Figure 3. Switch settings are shown in Table 1.

All other switches on SW543 should be set to OFF.

4. Install the new board.

This procedure will not disrupt normal operation of the router.

Trinix boards are designed to be hot-swapped (swapped with power on).

When the board is first inserted, keep the ejector levers spread apart and slide the board in until the levers make contact. The levers are then folded toward each other to seat the board.

The board should automatically acquire the input block and level information previously set with the rear-panel switches. For example, if the existing router has four input boards ($4 \times 32 = 128$ inputs total) and a single VI-33100 board is added, then the VI board will automatically be assigned input 129 to input 160 (128 to 159 for Jupiter).

5. The control system (Encore or Jupiter) must be updated to define the additional inputs.

For example, for Jupiter control the Switcher Description table must be changed to indicate the increased number of inputs.

6. If desired, the VI-33100 can now be used to switch video with the factory default processing values (as shown starting on page 18); or, the values can be changed as described immediately below.

Figure 4.

```
===== MAIN  Menu Options =====  
  
1.) Setup Composite Video.  
2.) Setup Video Processing.  
3.) Setup Vertical Blanking.  
4.) Setup Timing.  
5.) Setup Picture Enhancer.  
6.) Display Channel status.  
7.) Save or Recall a Configuration File.  
Select a menu option:
```

5. At this point you may want to change the display settings to get as many rows and columns, and as small a font, as practical.

For example, with Hyper terminal go to View > Font > and select a 6-point font. Then go to File > Properties > Settings > Emulation > ANSI > Terminal Setup and select 50 rows x 132 columns.

General notes about the setup application editor

Here are a few conventions about the setup application editor that may be helpful to know:

- Tables are edited using keyboard shortcut keys (not the mouse or cursor keys). The applicable shortcuts are listed on the bottom of the display.
- The first step is usually selection of one of the 16 inputs (channels).
- Channel numbers are hex-based. E.g., channel “a” on this table is labelled as input “11” on the rear panel of the router. A table of equivalent channel numbers is shown in Table 3.)
- For entries where ON or OFF is selected, 0 = OFF and 1 = ON.

Table 3. Channel number equivalents.

Input number as labelled on router rear panel	Corresponding input number as shown on table
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	a
12	b
13	c
14	d
15	e
16	f

Main Menu Options

This section assumes that the Terminal Setup procedure has been performed.

1.) Setup Composite Video

Composite video selections are summarized in Table 4.

These adjustments are made in the composite video path (before decoding to component digital format) and apply to all lines (active picture and VBI)

The actual menus are shown on page 19.

Table 4. Composite video selections.

Processing Function Type	Default	Range/Choices Resolution
Monochrome Input	0	Set to "0" for color input signal. May be set to "1" when a monochrome input signal is the source; this mode turns off luminance notch filters and chroma output.
Remove setup from video	1	Set to "0" when no setup is present (Japanese NTSC) Set to "1" when setup is present (US NTSC).
Chroma Kill	0	Set to "0" for color signal. Set to "1" to turn off chroma difference signals (but leave luminance notch filter on).
Video Decode Mode	2	1 = No filter 2 = Comb filter 3 = Trap filter 1.20 4 = Trap filter 0.87 5 = Trap filter 0.72 6 = Trap filter 0.50
Video Input AGC (before digitizing)	1	Set to "0" to enable manual video gain control. Set to "1" for Automatic Gain Control. Operation is based on sync tip and peak video.
Input Video Gain	100.0	50.0–200% (0.5% steps). 100% = 1 V p-p.
Enable ACC	1	Set to "0" to enable manual chroma gain control Set to "1" for Automatic Chroma Control
Input Chroma Gain	100.0	50.0–200% (0.5% steps)

Figure 5. Setup composite video menu for NTSC, showing setup for all 16 inputs. PAL display is similar. (Only Input 0 is connected in this example.)

```

Video Composite In -
-----
Reference - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Disable (Off) 0  Video Decode Mode:      Input Video Gain:
Enable (On) 1   No filter                50.0 to 200.0% (0.5% steps)
                Comb filter              1
                Trap filter 1.20          2
                Trap filter 0.87          3
                Trap filter 0.72          4
                Trap filter 0.50          5
                Trap filter 0.50          6
-----
Channel                Line Rate
-----
Monochrome Input (On/Off)
Remove Setup from Video (On/Off)
Chroma Kill (On/Off)
Video Decode Mode
Enable AGC (On/Off)
Input Video Gain (%)
Enable ACC (On/Off)
-----
0, 0, 0, 0, 2, 1, 100.0, 1 525
1, 0, 0, 0, 0, 1, 100.0, 1 N/A
2, 0, 0, 0, 0, 1, 100.0, 1 N/A
3, 0, 0, 0, 0, 1, 100.0, 1 N/A
4, 0, 0, 0, 0, 1, 100.0, 1 N/A
5, 0, 0, 0, 0, 1, 100.0, 1 N/A
6, 0, 0, 0, 0, 1, 100.0, 1 N/A
7, 0, 0, 0, 0, 1, 100.0, 1 N/A
8, 0, 0, 0, 0, 1, 100.0, 1 N/A
9, 0, 0, 0, 0, 1, 100.0, 1 N/A
A, 0, 0, 0, 0, 1, 100.0, 1 N/A
B, 0, 0, 0, 0, 1, 100.0, 1 N/A
C, 0, 0, 0, 0, 1, 100.0, 1 N/A
D, 0, 0, 0, 0, 1, 100.0, 1 N/A
E, 0, 0, 0, 0, 1, 100.0, 1 N/A
F, 0, 0, 0, 0, 1, 100.0, 1 N/A
-----
Press: '0 ~ 9' or 'A ~ F' to select channel to edit.
Press: 'M' to move/copy channel configuration.
Press: 'Z' to set ALL channels to factory defaults.
Press 'ESC' to return to Main Menu.
    
```

When an input (channel) is selected, the display will show the values for that particular channel. For example, selecting “0” will display the values for channel 0:

Figure 6. Composite video setup menu for one channel (NTSC shown).

```

Video Composite In -
-----
Reference - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Selected - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Disable (Off) 0  Video Decode Mode:      Input Video Gain:
Enable (On) 1   No filter                50.0 to 200.0% (0.5% steps)
                Comb filter              1
                Trap filter 1.20          2
                Trap filter 0.87          3
                Trap filter 0.72          4
                Trap filter 0.50          5
                Trap filter 0.50          6
-----
Channel                Line Rate
-----
Monochrome Input (On/Off)
Remove Setup from Video (On/Off)
Chroma Kill (On/Off)
Video Decode Mode
Enable AGC (On/Off)
Input Video Gain (%)
Enable ACC (On/Off)
-----
0, 0, 0, 0, 2, 1, 100.0, 1 525
-----
To Disable/Enable Monochrome Only Input; press: '0'.
To Remove/Insert Setup from Video; press: 'M'.
To Enable/Disable Chroma Kill; press: 'R'.
To Set Video Decode Mode; press: 'D'.
To Disable/Enable AGC; press: 'A'.
To Decrement/Increment Input Video Gain; press: 'F'/'G'.
To Disable/Enable ACC; press: 'C'.

Press: 'ESC' to ABORT changes and return to the previous Menu.
Press: 'Enter' to ACCEPT changes and select a different channel.
Press: 'Y' to revert back to last settings.
Press: 'Z' to set THIS channel to factory defaults.
    
```

2.) Setup Video Processing

These adjustments are made in the video path and apply to all lines (active picture and VBI)

Video processing selections are summarized in Table 5.

The actual menus are shown on page 21.

Table 5. Video processing selections

Processing Function Type	Default	Range/Choices Resolution
Insert EDH	0	1 = Allows EDH to be inserted
Contrast / Y Gain	100%	50–200% (0.5% steps)
Saturation / Chroma Gain	100%	50–200% (0.5% steps)
Brightness / Y Offset	0 Mv	±400 mV (3 mV steps)
Hue / Chroma Phase	0 degrees	±180 degrees (1.4 degree steps)

Figure 7. Video processing menu for NTSC, showing setup for all 16 inputs. PAL display is similar. (Only Input 0 is connected in this example.)

```

Video Processor -
-----
Reference - Input 0:   Line Rate: 525 Line Type: NTSC (M, J)
-----
Disable (Off) 0
Enable (On) 1

Contrast/Y Gain:          Brightness/Y Offset:
 50.0% to 200.0% (0.5% steps)  -100.1 to +100.1Deg (0.7mV steps)
Saturation/Chroma Gain:    Hue/Chroma Phase:
 50.0% to 200.0% (0.5% steps)  -180.0 to +180.0Deg (1.0Deg steps)
-----
Channel      Line Rate
-----
Insert EDH (On/Off)
Contrast / Y Gain (%)
Saturation / Chroma Gain (%)
Brightness / Y Offset (mV)
Hue / Chroma Phase (Deg)
-----
0, 0, 100.0, 100.0, +000.0, +000.0 525
1, 0, 100.0, 100.0, +000.0, +000.0 N/A
2, 0, 100.0, 100.0, +000.0, +000.0 N/A
3, 0, 100.0, 100.0, +000.0, +000.0 N/A
4, 0, 100.0, 100.0, +000.0, +000.0 N/A
5, 0, 100.0, 100.0, +000.0, +000.0 N/A
6, 0, 100.0, 100.0, +000.0, +000.0 N/A
7, 0, 100.0, 100.0, +000.0, +000.0 N/A
8, 0, 100.0, 100.0, +000.0, +000.0 N/A
9, 0, 100.0, 100.0, +000.0, +000.0 N/A
10, 0, 100.0, 100.0, +000.0, +000.0 N/A
11, 0, 100.0, 100.0, +000.0, +000.0 N/A
12, 0, 100.0, 100.0, +000.0, +000.0 N/A
13, 0, 100.0, 100.0, +000.0, +000.0 N/A
14, 0, 100.0, 100.0, +000.0, +000.0 N/A
15, 0, 100.0, 100.0, +000.0, +000.0 N/A
16, 0, 100.0, 100.0, +000.0, +000.0 N/A
-----
Press: '0 ~ 9' or 'A ~ F' to select channel to edit.
Press: 'M' to move/copy channel configuration.
Press: 'Z' to set ALL channels to factory defaults.
Press 'ESC' to return to Main Menu.
    
```

When an input (channel) is selected, the display will show the values for that particular channel:

Figure 8. Video processing setup menu for one channel (NTSC shown).

```

Video Processor -
-----
Reference - Input 0:   Line Rate: 525 Line Type: NTSC (M, J)
-----
Selected - Input 0:   Line Rate: 525 Line Type: NTSC (M, J)
-----
Disable (Off) 0
Enable (On) 1

Contrast/Y Gain:          Brightness/Y Offset:
 50.0% to 200.0% (0.5% steps)  -100.1 to +100.1Deg (0.7mV steps)
Saturation/Chroma Gain:    Hue/Chroma Phase:
 50.0% to 200.0% (0.5% steps)  -180.0 to +180.0Deg (1.0Deg steps)
-----
Channel      Line Rate
-----
Insert EDH (On/Off)
Contrast / Y Gain (%)
Saturation / Chroma Gain (%)
Brightness / Y Offset (mV)
Hue / Chroma Phase (Deg)
-----
0, 0, 100.0, 100.0, +000.0, +000.0 525
-----
To Disable/Enable Insert EDH press:      'W'/'G'.
To Decrement/Increment Contrast/Y Gain press:  'F'/'B'.
To Decrement/Increment Saturation/Chroma Gain press:  'V'/'J'.
To Decrement/Increment Brightness/Y Offset press:    'H'/'N'.
To Decrement/Increment Hue/Chroma Phase press:      'M'/'L'.

Press: 'ESC' to ABORT changes and return to the previous Menu.
Press: 'Enter' to ACCEPT changes and select a different channel.
Press: 'Y' to revert back to last settings.
Press: 'Z' to set THIS channel to factory defaults.
    
```

3.) Setup Vertical Blanking

The Notch Decode Mode and the Chroma Kill selections apply to all lines in the VBI.

Each line pair in the VBI can be set to pass or blank the incoming signal. In NTSC systems, each of these line pairs can also be set to add Setup if desired.

The number of line pairs that can carry data can be extended if desired. For example:

- In NTSC line pairs 10/273 through line pairs 20/283 are normally available for data. By using this menu, up to four additional line pairs can be reserved for data use.
- In PAL systems, up to five additional line pairs can be reserved.

Vertical blanking selections are summarized in Table 6.

The actual menus are shown on page 23.

Table 6. Vertical blanking selections.

Processing Function Type	Default	Range/Choices Resolution
Notch Decode Mode	1	With Notch Decode set to "1" and Chroma Kill set to "0," chroma is passed.
Chroma Kill	0	With Notch Decode set to "2" and Chroma Kill set to "1," chroma is blanked and luminance is passed.
Blank / Setup	0	0 = Pass this line pair as is 1 = Blank this line pair 2 = (NTSC only) Add Setup to this line pair 3 = (NTSC) Add Setup and blank this line pair
Reserve Line for Data Mode	0	NTSC-Reserve additional lines for data: 0 = No additional lines reserved 1 = Reserve lines 21 and 284 2 = Reserve lines 22 and 285 3 = Reserve lines 23 and 286 4 = Reserve lines 24 and 287 PALx-Reserve additional lines for data: 0 = No additional lines reserved 1 = Reserve lines 24 and 337 2 = Reserve lines 25 and 338 3 = Reserve lines 26 and 339 4 = Reserve lines 27 and 340 5 = Reserve lines 28 and 341

4.) Setup Timing

The following adjustments are made after conversion to digital format and apply to all lines (active picture and VBI).

Vertical blanking selections are summarized in Table 7.

The actual menus are shown on page 25.

Table 7. Timing selections.

Processing Function Type	Default	Range/Choices Resolution
Horizontal Timing	000.0	525 signal: 0.0 - 857.5 pixels (0.5 steps) 625 signal: 0.0 - 863.5 pixels (0.5 steps)

Figure 11. Summary of timing setup for NTSC, showing setup for all 16 inputs. PAL display is similar. (Only Input 0 is connected in this example)..

```

Timing -
-----
Reference - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Horizontal Timing:
  0.0 to 857.5 pixels (0.5 steps) for 525
  0.0 to 863.5 pixels (0.5 steps) for 625
-----
+-----+-----+-----+-----+-----+-----+-----+-----+
| Channel | Line Rate | Horizontal (pixels) |
+-----+-----+-----+-----+-----+-----+-----+
0,      000.0 | 525
1,      000.0 | N/A
2,      000.0 | N/A
3,      000.0 | N/A
4,      000.0 | N/A
5,      000.0 | N/A
6,      000.0 | N/A
7,      000.0 | N/A
8,      000.0 | N/A
9,      000.0 | N/A
a,      000.0 | N/A
b,      000.0 | N/A
c,      000.0 | N/A
d,      000.0 | N/A
e,      000.0 | N/A
f,      000.0 | N/A
-----
Press: '0 ~ 9' or 'A ~ F' to select channel to edit.
Press: 'M' to move/copy channel configuration.
Press: 'Z' to set ALL channels to factory defaults.
Press 'ESC' to return to Main Menu.

```

When an input (channel) is selected, the display will show the values for that particular channel:

Figure 12. Timing setup menu for one channel (NTSC shown).

```

Timing -
-----
Reference - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Selected - Input 0:      Line Rate: 525  Line Type: NTSC (M, J)
-----
Horizontal Timing:
  0.0 to 857.5 pixels (0.5 steps) for 525
  0.0 to 863.5 pixels (0.5 steps) for 625
-----
+-----+-----+-----+-----+-----+-----+-----+
| Channel | Line Rate | Horizontal (pixels) |
+-----+-----+-----+-----+-----+-----+
0,      000.0 | 525
-----
To Decrement/Increment Horizontal position press: 'F'/'G'.
Press: 'ESC' to ABORT changes and return to the previous Menu.
Press: 'Enter' to ACCEPT changes and select a different channel.
Press: 'Y' to revert back to last settings.
Press: 'Z' to set THIS channel to factory defaults.

```

5.) Setup Picture Enhancer

Picture enhancement selections are summarized in Table 8.

The actual menus are shown on page 27.

Table 8. Picture enhancement selections.

Processing Function Type	Default	Range/Choices Resolution
Detail Enhancer Level	0	0 = Disabled 1 = Low 2 = Medium 3 = High

6.) Display Channel status

These menus are shown below.

Figure 15.

```
===== Channel(s) Status Menu Options =====
1.) Display status of channels:      0 thru 3.
2.) Display status of channels:      4 thru 7.
3.) Display status of channels:      8 thru 11.
4.) Display status of channels:     12 thru 15.
5.) Display status of All channels:   0 thru 15.

      Note:      For option '5', The terminal application must be setup
                  to display a width of at least 160 characters.  Otherwise
                  the data may be unreadable!

Press 'ESC' to return to Main Menu.
Select a menu option:
```

When a group of inputs (channels) is selected, the display will show the values for those channels:

Figure 16. Channel Status display for four channels.

Channels:	0	1	2	3

Video Composite In:				
Monochrome Input (On/Off) :	0	0	0	0
Remove Setup (On/Off) :	0	0	0	0
Chroma Kill (On/Off) :	0	0	0	0
Video Decode Mode :	2	2	2	2
AGC Enable (On/Off) :	1	1	1	1
Input Video Gain (%) :	100.0	100.0	100.0	100.0
ACC Enable (On/Off) :	1	1	1	1
Input Chroma Gain (%) :	100.0	100.0	100.0	100.0
Video Processor:				
Insert EDH (On/Off) :	0	0	0	0
Contrast/Y Gain (%) :	100.0	100.0	100.0	100.0
Saturation/Chroma Gain (%) :	100.0	100.0	100.0	100.0
Brightness/Y Offset (mV) :	+000.0	+000.0	+000.0	+000.0
Hue/Chroma Phase (Deg) :	+000.0	+000.0	+000.0	+000.0
Vertical Blanking NTSC:				
Notch Decode Mode :	1	1	1	1
Chroma Kill (On/Off) :	0	0	0	0
Reserve for Data Mode :	0	0	0	0
VBI Line Pair: 10/273 :	0	0	0	0
VBI Line Pair: 11/274 :	0	0	0	0
VBI Line Pair: 12/275 :	0	0	0	0
VBI Line Pair: 13/276 :	0	0	0	0
VBI Line Pair: 14/277 :	0	0	0	0
VBI Line Pair: 15/278 :	0	0	0	0
VBI Line Pair: 16/279 :	0	0	0	0
VBI Line Pair: 17/280 :	0	0	0	0
VBI Line Pair: 18/281 :	0	0	0	0
VBI Line Pair: 19/282 :	0	0	0	0
VBI Line Pair: 20/283 :	0	0	0	0
VBI Line Pair: 21/284 :	0	0	0	0
VBI Line Pair: 22/285 :	0	0	0	0
VBI Line Pair: 23/286 :	0	0	0	0
Vertical Blanking PALx:				
Notch Decode Mode :	1	1	1	1
Chroma Kill (On/Off) :	0	0	0	0
Reserve for Data Mode :	0	0	0	0
VBI Line Pair: 06/319 :	0	0	0	0
VBI Line Pair: 07/320 :	0	0	0	0
VBI Line Pair: 08/321 :	0	0	0	0
VBI Line Pair: 09/322 :	0	0	0	0
VBI Line Pair: 10/323 :	0	0	0	0
VBI Line Pair: 11/324 :	0	0	0	0
VBI Line Pair: 12/325 :	0	0	0	0
VBI Line Pair: 13/326 :	0	0	0	0
VBI Line Pair: 14/327 :	0	0	0	0
VBI Line Pair: 15/328 :	0	0	0	0
VBI Line Pair: 16/329 :	0	0	0	0
VBI Line Pair: 17/330 :	0	0	0	0
VBI Line Pair: 18/331 :	0	0	0	0
VBI Line Pair: 19/332 :	0	0	0	0
VBI Line Pair: 20/333 :	0	0	0	0
VBI Line Pair: 21/334 :	0	0	0	0
VBI Line Pair: 22/335 :	0	0	0	0
VBI Line Pair: 23/336 :	0	0	0	0
VBI Line Pair: 24/337 :	0	0	0	0
VBI Line Pair: 25/338 :	0	0	0	0
VBI Line Pair: 26/339 :	0	0	0	0
Timing NTSC:				
Horizontal (pixels) :	000.0	000.0	000.0	000.0
Vertical (lines) :	000	000	000	000
Freeze Mode :	0	0	0	0
Timing PALx:				
Horizontal (pixels) :	000.0	000.0	000.0	000.0
Vertical (lines) :	000	000	000	000
Freeze Mode :	0	0	0	0
Picture Enhancement:				
Detail Level :	0	0	0	0
Press any key to return to the "Status Menu"				

Note Vertical timing and Freeze modes are not implemented.

7.) Save or Recall a Configuration File

This selection allows a setup to be saved on the PC and recalled. For example, if a particular source requires a video level correction, a file named "VTR3_in7_vid_gain" could be downloaded when needed.

To Save a File On PC

This procedure assumes that video adjustment(s) have been made (as described above) and need to be saved for future use.

- a. Select "Save or Recall a configuration file."
- b. Select "Save a configuration file to the PC."

Response:

Prepare your terminal emulator to receive (upload) data now...

- c. For Hyper terminal, select "Transfer > Receive File."
- d. Create or browse to a directory on the PC where the file will be stored.

Suggestion: "c:\Program Files\Thomson\Trinix\VI-33100."

- e. Select **Xmodem** for the protocol. Then select "Receive."
- f. Enter a filename where the data will be saved on the PC.

Suggestion: "config1."

Note If you enter the name of an existing file the software will automatically append a number suffix and save the file under the new name.

- g. Select "OK."

To Recall a File From PC to VI Board

- a. Select "Save or Recall a configuration file."
- b. Select "Recall and LOAD a configuration file from PC."

Response:

Prepare your terminal emulator to send (download) data now...

- c. For Hyper terminal, select "Transfer > Send File."
- d. Browse to the desired configuration file on the PC.
- e. Select "Xmodem" for the protocol. Then select "Send."

Firmware Update

Note Certain steps of the following procedure will momentarily interrupt switcher operations. These steps are preceded by Caution statements.

Part A: Compact Flash Installation

Note Web tools such as NetConfig cannot be used to install Release 2.3. The new software can only be installed using a compact flash module.

Note The Compact Flash Installation procedure has been modified. It is now recommended that the compact flash be swapped out without pulling out the NR board.

1. Install the provided compact flash memory module(s) in the NR-33000 memory slot(s) as follows:
 - a. If there are two NR-33000 boards, locate the inactive board. See Figure 17 and Figure 18.

Figure 17. Primary Broadlinx location (DV-33512 installation shown).

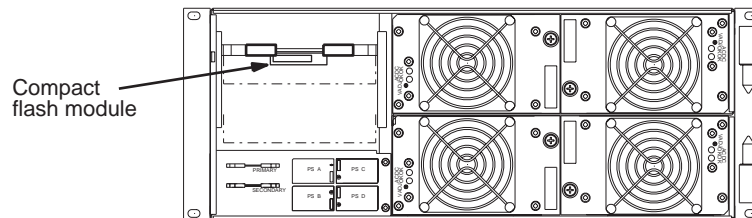
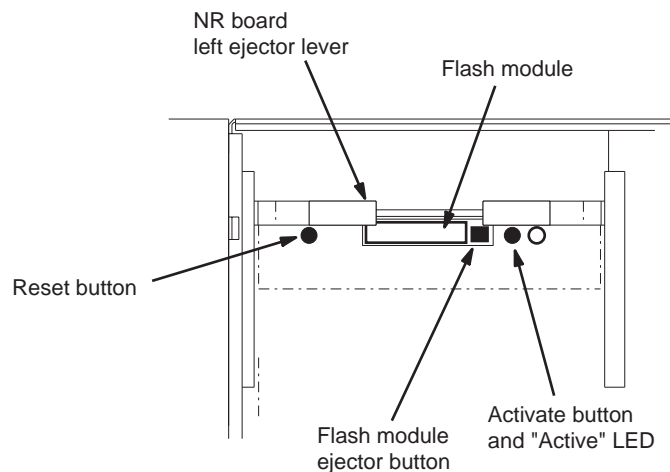


Figure 18. NR-33000 reset/activation controls.



Part B: Activating New Software and Restarting Boards

This procedure will download new software to the various boards in the system and reboot boards as needed.

1. Log in to the Broadlinx web page for the NR board (if there are two NR boards, log in to the **active** board).

If you have just reset the board, you may have to wait a moment for the web server software to start before you can log in.

Note If you are unfamiliar with procedures for displaying the Firmware Management menu, refer to Section 4 of the Trinix manual. If Adobe Acrobat Reader is installed on the PC, the Trinix manual can be displayed on line by clicking the “Help” command in the Broadlinx title bar.

The Broadlinx Firmware Management table displays the types of possible PC boards, the version of sub-level software that is presently associated with each type that is installed, the versions of top-level software packages present in the Broadlinx board, and the compatibility Status of these software elements. An example of this table is shown in Figure 20.

Figure 20.

Firmware Management					
Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	Status
HI-33110			5	6	●
SI-33110			5	6	●
HO-33110	13	13	7	8	●
SO-33110	13	13	7	8	●
DM-33100		6		8	●
NR-33000	12	12	7	8	●
SR-33000		10		8	●
RP-33500			4	5	●
SR-33500	5	6	5	6	●
DM-33501	8	9	5	6	●
DM-33502	8	9	5	6	●
HI-33120					●
HO-33120	4	4	1	2	●
VI-33100	1	1	1	1	●
HI-33200	0	1	1	1	●
VxWorks			20051028	20051028	●
Web Interface			20051028	20051028	●

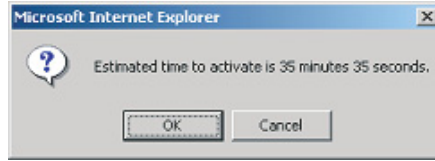
2.3.0

Activate Upload Cancel

Following Compact Flash Installation, some of the Status lights will most likely be red. This means that the software currently running in the module is different (older) than software just installed and that the new software should be activated as described below.

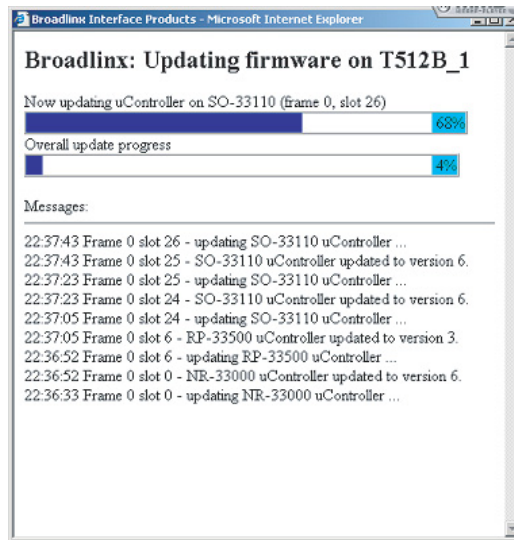
2. Select “Activate.” An “Estimated Time” display will appear:

Figure 21.



3. Select “OK.” A status window will appear:

Figure 22.



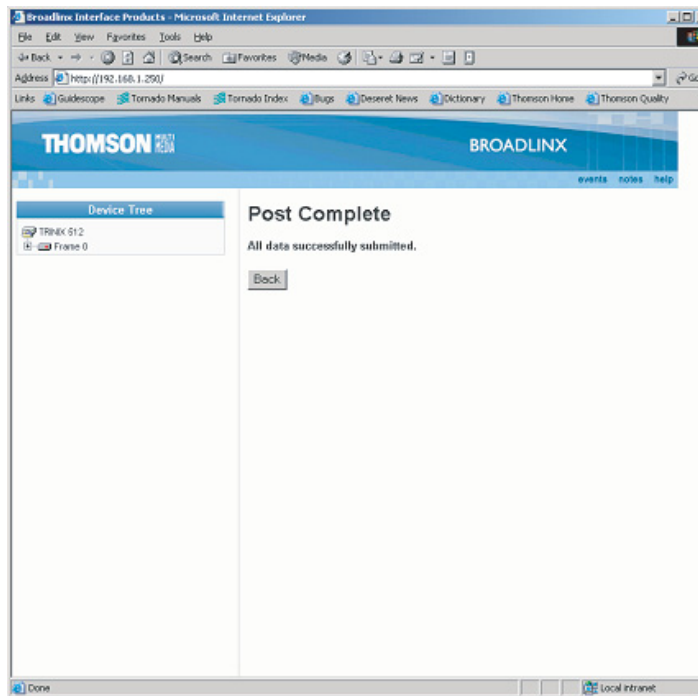
The new software will be copied from the NR-33000 to each board that requires update.* This process can take from several minutes to a half hour or more. Progress will be shown by the progress bars and by alarm LEDs on the boards themselves.

If the window is accidentally closed you can return by navigating to the home page of the Broadlink card. The rest of the Broadlink pages are not available while the update is in progress.

*Except for systems with two NRs; in these systems the NR performing the update will not install software on itself, as described below.

4. When the copy process is finished, a Post Complete window will appear:

Figure 23.



5. Select “Back” to return to the Firmware Management menu. A “Restart” button will now appear near the bottom of the display. (The display may vary from that shown.)

Figure 24.

Firmware Management

Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	*Status
HI-33110			5	6	●
SI-33110			5	6	●
HO-33110	13	13	7	8	●
SO-33110	13	13	7	8	●
DM-33100		6		8	●
NR-33000	12	12	7	8	●
SR-33000		10		8	●
RP-33500			4	5	●
SR-33500	5	6	5	6	●
DM-33501	8	9	5	6	●
DM-33502	8	9	5	6	●
HI-33120					●
HO-33120	4	4	1	2	●
VI-33100	1	1	1	1	●
HI-33200	0	1	1	1	●
VxWorks			20051028	20051028	●
Web Interface			20051028	20051028	●

Restart * Cards must be restarted to start using the new firmware.

2.3.0

6. Select Restart.

The following popup will appear:

Figure 25.



CAUTION The following step will cause a momentary interruption to video passing through the router.

7. Select OK. The Post Complete popup will reappear.

8. If this is a **single** NR-33000 system go to Step 9. If this is a redundant NR system, go to Step 10.

9. Activating and Restarting the NR in a single NR system:

Note The Firmware Management page cannot be used to Restart an active NR.

CAUTION The following step will briefly interrupt sync to the router. If there is only one NR in the system, and a switch command is received while the NR board is unseated, the switch will not be synchronous.

CAUTION Encore-controlled systems: if for some reason there is only one NR board, switch commands cannot be executed while the NR board is unseated or rebooting.

- a. Un-seat and re-seat the NR board.
 - b. After the NR has rebooted, go to the Firmware Management window. All Status lights should be green.
 - c. This completes the update procedure for a single NR system.
10. Updating the second NR in a **redundant** NR-33000 system:
- a. Use the hardware button (shown on page 31) to switch the inactive NR-33000 to active mode.
 - b. Log in to the newly activated board and go to the Firmware Management window.

You may have to wait a moment for the web server software to start before you can log in.

Figure 26.

Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	Status
HI-33110			6	6	●
SI-33110			6	6	●
HO-33110	13	13	8	8	●
SO-33110	13	13	8	8	●
DM-33100		6	8	8	●
NR-33000	12...	12	8	8	●
SR-33000		10		8	●
RP-33500			5	5	●
SR-33500	6	6	6	6	●
DM-33501	8	9	6	6	●
DM-33502	8	9	6	6	●
HI-33120					●
HO-33120	4	4	2	2	●
VI-33100	1	1	1	1	●
HI-33200	0	1	1	1	●
VxWorks			20051028	20051028	●
Web Interface			20051028	20051028	●

2.3.0

Activate Upload Cancel

In the NR-33000 status line, the “dots” and the red light will indicate that the opposite (inactive) NR requires update.

- c. Select Activate. The estimated time popup will appear.
- d. Select OK.

The new NR software will be copied from the active NR to the inactive NR. When the copy process is finished, the Post Complete window will reappear.

- e. Return to the Firmware Management menu and select “Restart.” The following popup will appear:

Figure 27.



CAUTION The following step will cause a momentary interruption to video passing through the router.

- f. Select OK.
- g. The Post Complete window will reappear.
- h. Select Back > Firmware Management. All Status lights should be Green.
- i. (Optional) Switch the primary NR to active mode.
- j. This completes the installation.