Field Engineering Bulletin
071828310   October 31, 2007

Trinix Broadlinx 2.4.2 Upgrade

CAUTION   Installation of this upgrade will interrupt video signals passing through the system. The length of this interruption will vary depending on system size and specific procedures used. Users of this equipment should consult with Grass Valley Technical Support personnel before proceeding.

Contents

Applicability

The primary purpose of this release is to correct several software problems. For more information, see page 3.

Note   Users with versions prior to 2.1.1 should *not* use the upgrade procedure described in this bulletin. They should load the Broadlinx 2.4.2 Compact-Flash[*] module but use the *procedure* in Field Engineering Bulletin 071828301, "Broadlinx 2.1.1 Upgrade."

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

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THOMSON
images & beyond

> **CAUTION** Grass Valley 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.

Interoperability Requirements

- Encore system with software version 1.7.3 or newer, or

- Any Jupiter system.

Related Documents

Trinix Planning and Installation Manual, part no. 0718276xx.

Engineering Change Order 098Q.

Materials Supplied

Qty	Description	Part number
1	TRX-BL-UPG Upgrade Kit	040651301
	2 ea. 64 MB CompactFlash Memory, Broadlinx 2.4.2 (1 per NR-33000)	163827913
	1 ea. Field Engineering Bulletin	071828310

Release Notes

Release 2.4.2

Enhancements

1. Compatibility with Encore 1.7.3

Problems corrected

1. NR-33000 crosspoint confirm lockup problem has been corrected.

2. A video glitch issue on the DM-33501/2 boards has been corrected.

This problem occurred if a system using 512 x 512 Trinix chassis had expanded inputs, meaning two or more chassis were connected with output combiners. The first output in each group of 128 outputs, i.e., 0, 128, 256, and 384, would sometimes have a disturbance in the video. The disturbance would occur when the matrix board received the switching command from the crosspoint bus, and would end when the next vertical interval take pulse occurred. Thus the disturbance would be one frame or less in duration. This disturbance would occur under the following set of circumstances: An odd numbered output (zero based numbering) within the same group of 128 outputs was switched from an input in another frame to an input in the frame currently feeding the output being observed. This problem showed up in version 15 of the DM-33501and DM-33502 FPGA code. It is not present in versions 12 and earlier. Versions 13 and 14 of the FPGA code were not officially released to customers, but would have the problem if a customer is using them.

3. The system was giving a false indication of analog video signals being present on the digital-only HI-33200 board. This has been corrected.

The false indication would cause the board to switch to the non-existent analog input and disable the digital input circuitry. If this problem occurred, it normally caused one or more of the first few inputs of the board to quit working.This was corrected by changing the FPGA code for the VI-33100 and HI-33200.

4. Encore CR 80121 - Encore controlling Apex through Trinix. Encore could not control Apex configured for mono mode. This has been corrected.

5. CR 80230 - Video amplitude was too high when the Trinix chassis number was set to "2." This has been corrected.

6. Encore CR 69098 and Encore CR 65702 - Encore control panel operating Trinix and Apex shows "Undef" on startup. This has been corrected.

7. CR 77311 - Apex was not controllable after reboot. This has been corrected.

8. When executing Encore Resync Comms request the system indicated it was adding and deleting matrix controllers continuously for a period of time. This has been corrected.

Known Issues

1. Trinix Planning and Installation manuals with part numbers 071827606 and below have incorrect descriptions of frame numbering in some of the block diagrams in Section 2 ("Planning Guide."):

   a. When setting the "Frame" switch on the rear panel, the installer should refer to Section 3, ("Installation") under the heading "Frame Number Settings - Setting the Chassis for Input/output Blocks." This section includes frame number tables for DV-33128 (128 x 128), DV-33256 (256 x 256), and DV-33512 (512 x 512) routers. The page numbers on which these tables appear vary according to the particular version of the manual. For manual version 071827606, dated September 12, 2006, the tables are on pages 141 and 142.

   b. The incorrect descriptions were shown in a series of block diagrams in Section 2, ("Planning Guide") under the heading "Duplication and Expansion - Expanded Systems." The errors are in the following four figures:

      "1024 x 1024 system"

      "1024 x 2048 system"

      "2048 x 1024 system"

      "2048 x 2048 system"

   Each of these figures illustrate a series of 512 x 512 chassis in expanded systems, but the frame numbers shown are out of sequence. For example, the figure showing a "1024 x 1024 system" shows frame numbers reading (from top to bottom) "Frame 0," "Frame 1," "Frame 2," and "Frame 3;" whereas the correct sequence is Frame 0, 2, 1, and 3.

   Corrected versions of these four figures are included with this document, starting on page 13.

Release 2.4.1

Enhancements - none

Problems corrected

1. CR 60101 - when switching PAL video on a Trinix 128 x 128 router, the switch occurred on line 6, then on line 319, then line 6, then line 319, and so on. The FPGA code has now been changed so that switches occur on line 6 only.

2. CR 69404 - Cooling fan alarm problem reported by customer. Matrix Fan ID and matrix Fan Name varbinds had an incorrect OID in the matrix frame fan trap; this should have contained index-sub OID. This has been fixed.

3. CR 71150 - Output-expanded systems. There was a problem in version 4 FPGA code for the VI-33100 and HI-33200 boards. The base board entered the input boost mode if the rear panel "OP Expand" switch was turned On and switch 3 of DIP S543 was turned On. However, the mezzanine board did not go into the boost mode. This has been fixed in version 5 of the FPGA code (which is included with this release).

4. CR 72948 - Encore/Apex system. Audio went to silence or to the wrong input after 5 seconds.

   When a Take on the audio level was executed, after about five seconds the audio went to silence in some cases and to the wrong audio in other cases. When refresh was turned off the symptom went away. This problem has been corrected.

5. CR 73170 - Broadlinx Controller went into infinite loop on startup. This has been fixed.

6. CR 71461 - Multi-chassis 512 x 512 systems. With reclocking ON, a disturbance in active video sometimes occurred when switching from one 512 x 512 chassis to another when they were connected through video combiners. Loss of signal occurred both at the WFM and the video monitor. This has been fixed. NOTE: this remains a problem for systems that include 256 x 256 or 128 x 128 chassis.

Known Issues

1. CR 69643 - The Broadlinx web page does not display exact version information when the version number includes letters and numbers in the same group. For example, version "2.4.0a4," (i.e., version 2.4.0, Alpha version 4) is reported on the web page simply as "2.4.0."

2. CR 71461 - Multi-chassis systems that include 256 x 256 or 128 x 128 chassis. With reclocking ON, a disturbance in active video sometimes occurs when switching from one chassis to another when they are connected through video combiners. Loss of signal occurs both at the WFM and the video monitor. NOTE: this problem has been fixed for multi-chassis 512 x 512 systems.

Release 2.4

Enhancements

1. Protected path operation is now supported.

Problems corrected

1. CR 55684 - with 256 x 256 systems, when controlled by Encore or SMS7000, switching between an input in the range 1-128 to a input in the range 129-256 occasionally caused the output to break up. This has been corrected.

2. CR 64421 - Excessive "TimeStamp count reset" messages were being received from Encore. This has been corrected.

3. CR 64744 - For each input board, signals fed to inputs 8 - 15 were displayed as being present on inputs 16 - 23. This has been corrected.

4. CR 65147 - Apex output monitoring now works properly with Encore and Trinix 128.

    Apex output monitoring did not work properly with Encore and Trinix 128 running Broadlinx 2.3 or earlier.

    Previously Apex (prior to 2.0) did NOT support output monitors at all - currently with version 2.0 and later, monitor outputs are only supported for the output in the same frame.

5. CR 65802 - For VI/HI-33120 boards, the CPLD software version is now shown on the Broadlinx web page used to monitor the board.

6. CR 66404 - Broadlinx boards were missing VRef interrupts. This was related to CR 64421.

7. CR 66568 - After adding a Trinix matrix to NetCentral, the IP address of the NetCentral PC is stored properly. After Trinix reboots this value was reversed in order of octets; because of this the trap was not sent after rebooting the Trinix Matrix.

8. CR 67206 - During a redundancy update between the primary and secondary NR control cards the IP address and target name were getting corrupted.

9. CR 67557 (Encore applications) - the Broadlinx controller sends "No-Xpt" status for initial status polls. It appears that the crosspoint bus has not received confirmation on all crosspoints for the first few seconds after the Broadlinx controller starts up. Therefore when connected to an Encore system it initially returns "No-Xpt" when polled for status until the refresh cycle establishes the cross-point confirmation. This has been corrected.

10. CR 68307 - When performing a GetNext on gvgTtCfgTable, no value is returned from Trinix SNMP. This has been corrected.

11. CR 69255 - The message "unknown message token 16" is printed on the Broadlinx console when a Trinix is controlled by Encore and a Concerto or Acappella router is also on the same network. This message is printed any time the status changes on the Concerto or Acappella as a result of a broadcast CPL ISSUE message. This message is now suppressed.

12. CR 69294 - The mirror Broadlinx card reports that the SNMP is enabled without activating the SNMP Agent. This has been corrected.

13. CR 69308 - When NetConfig discovers the Broadlinx card it now returns the software version.

14. CR 69404 - Trap var bind OID mismatch in Trinix Fan Error Trap Type. AS matrix Fan Id and matrix Fan Name varbinds have a bad OID in matrix frame fan Trap; this should contain index-sub OID.

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 CompactFlash 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.

Expansion Drawings with Corrected Frame Numbers

As explained on page 4, the following four drawings are replacements for the corresponding drawings published in version 071827606 (and prior) of the Trinix Planning and Installation manual.
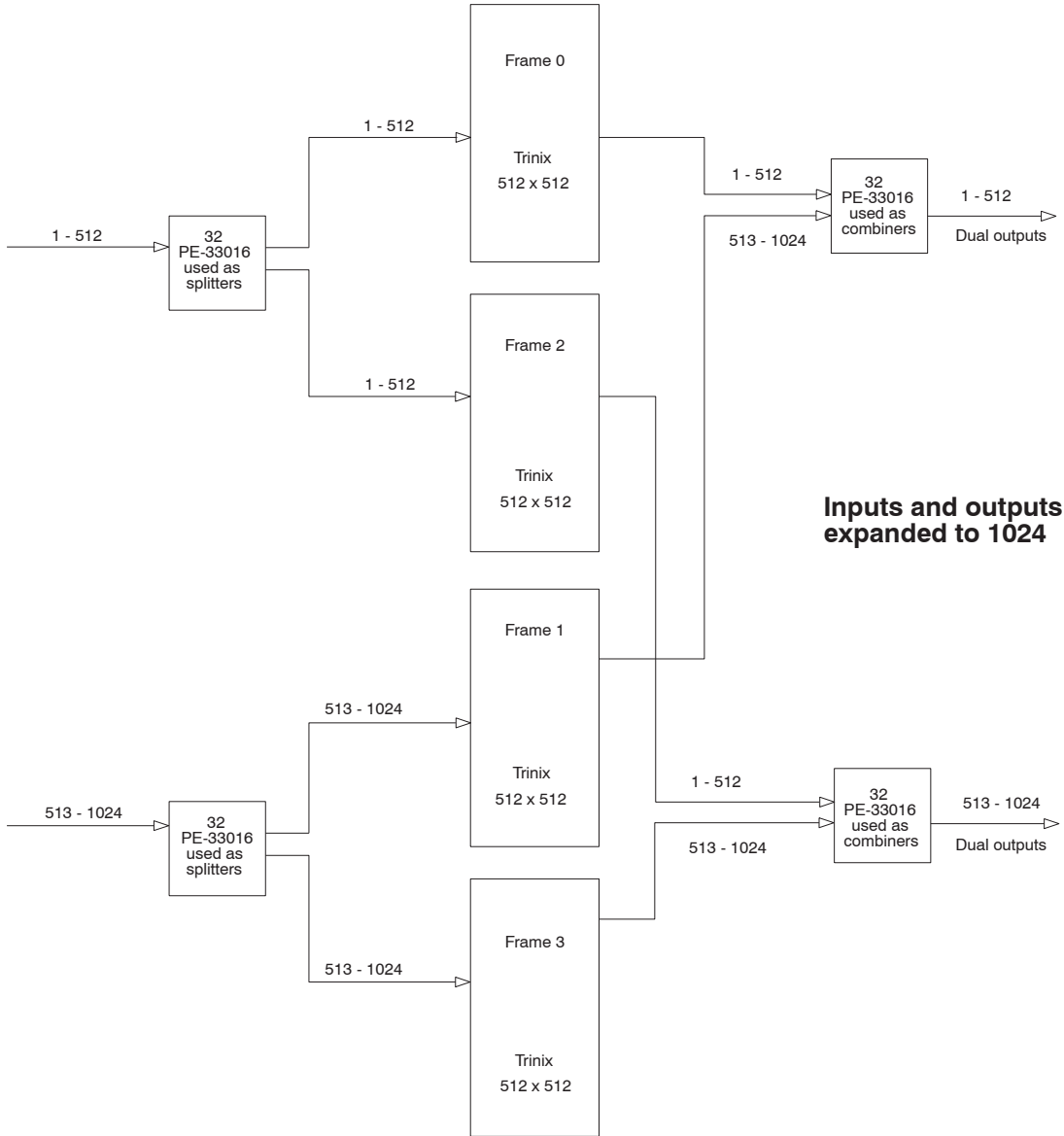
Figure 1. 1024 x 1024 system.
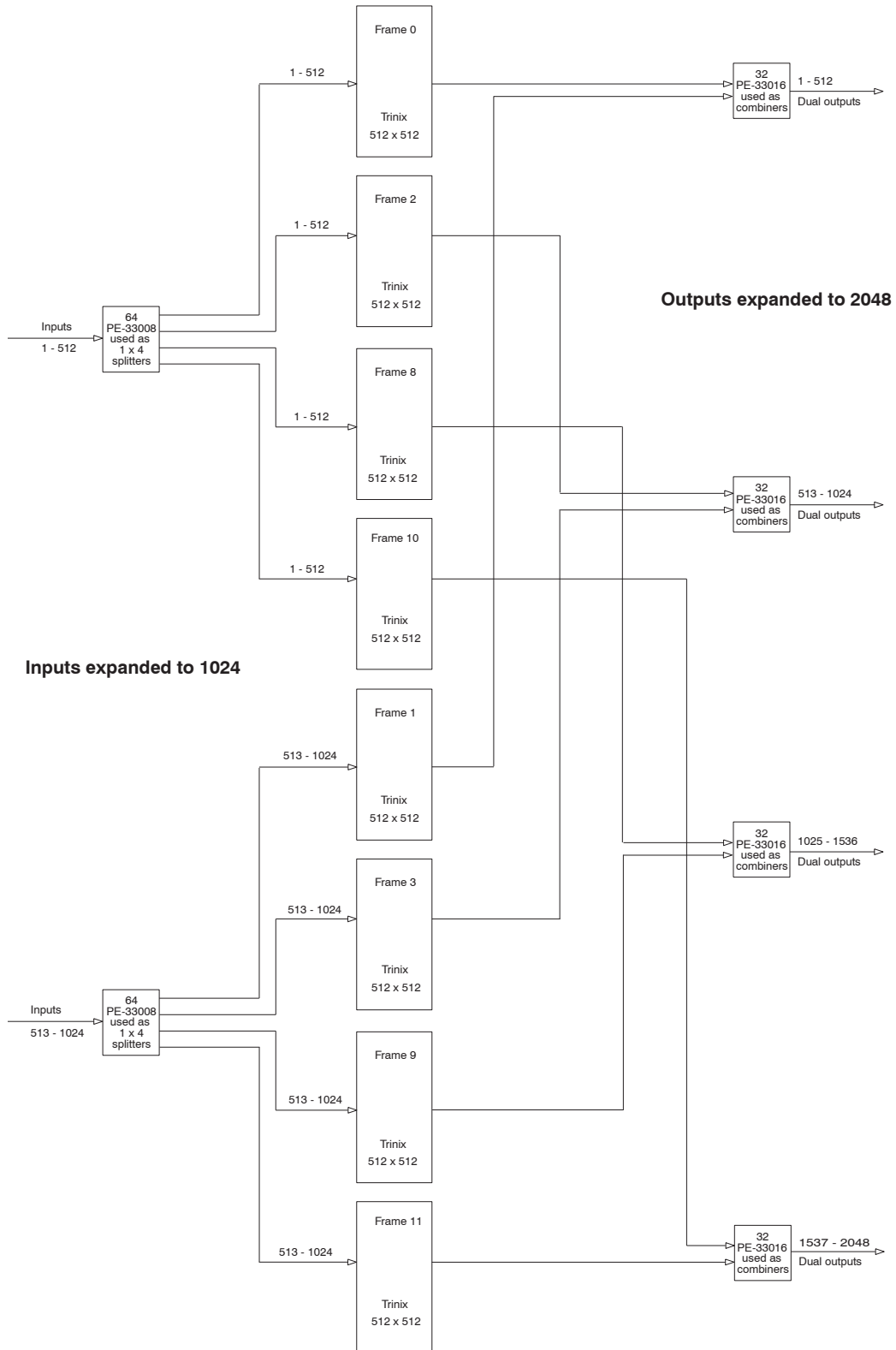
Figure 2. 1024 x 2048 system.
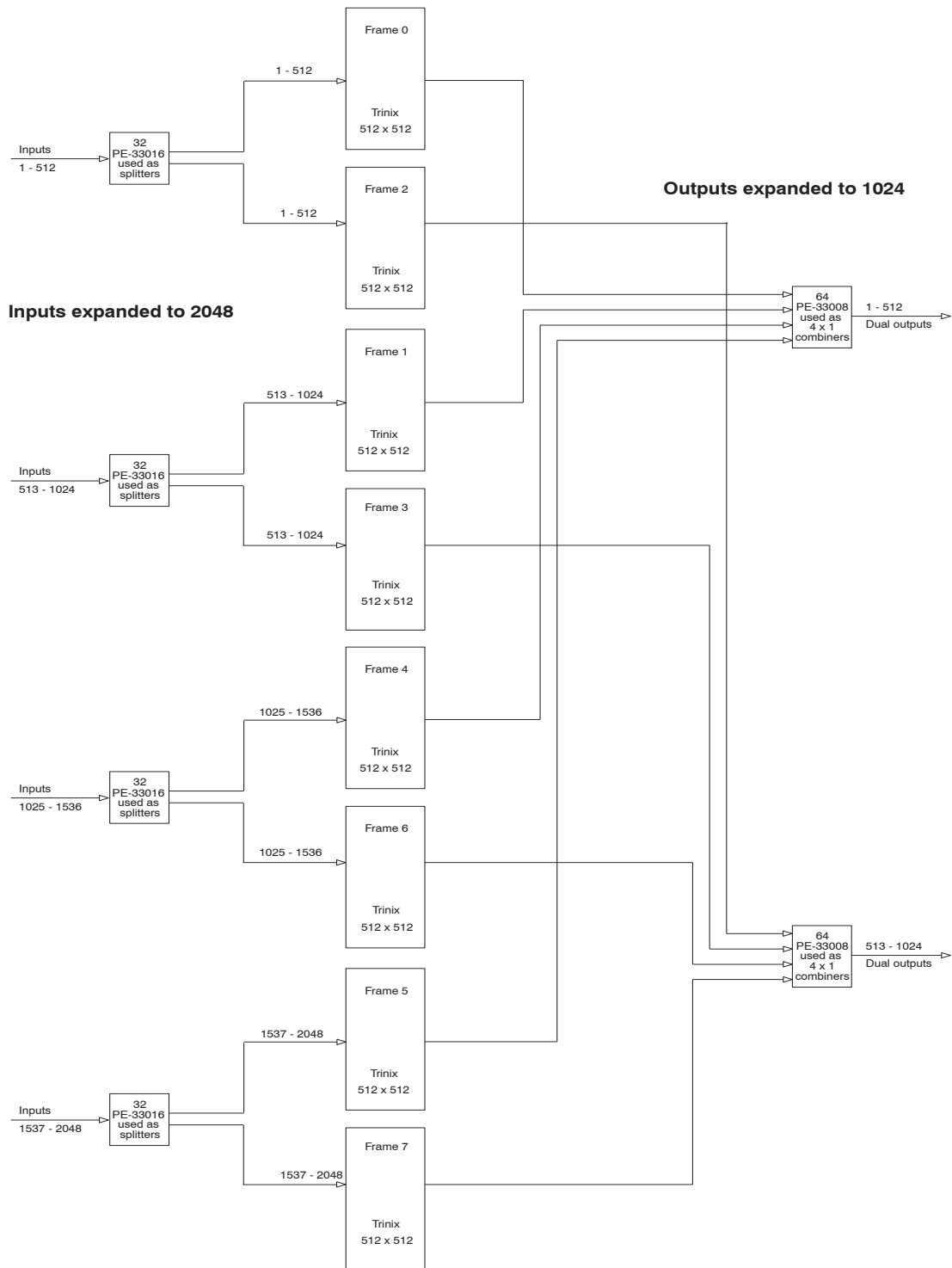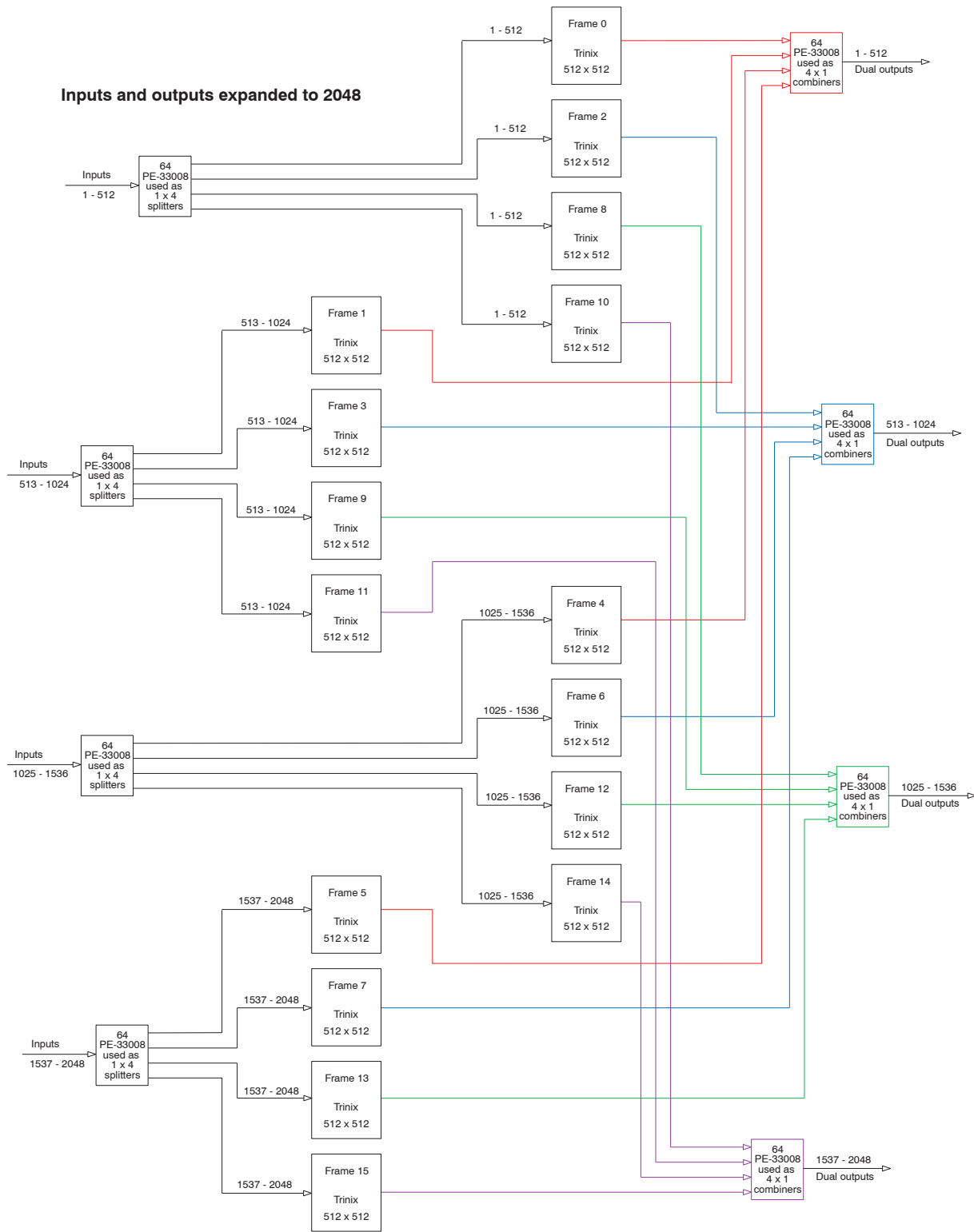
Figure 3. 2048 x 1024 system.

Figure 4. 2048 x 2048 system.

Inputs and outputs expanded to 2048

Input Equalization Settings (DV-33512 Models Only)

Recent versions of the DM-33512 Digital Matrix boards used in DV-33512 routers have additional input equalization for improved HD performance; these boards are identified with "Preemphasis Added" stickers on the J421 headers used to connect the two halves of the board. If these stickers are present, and you are upgrading to Broadlinx 2.4 or newer, DIP switches S401-7 and S401-8 (on both boards) should be set to "On;" if the stickers are not present, these switches should be set to "Off." The remaining six switches on S401 are always set to "Off." See Figure 5.

Figure 5. DM-33501 Digital Matrix board. DM--33502 is similar

S401
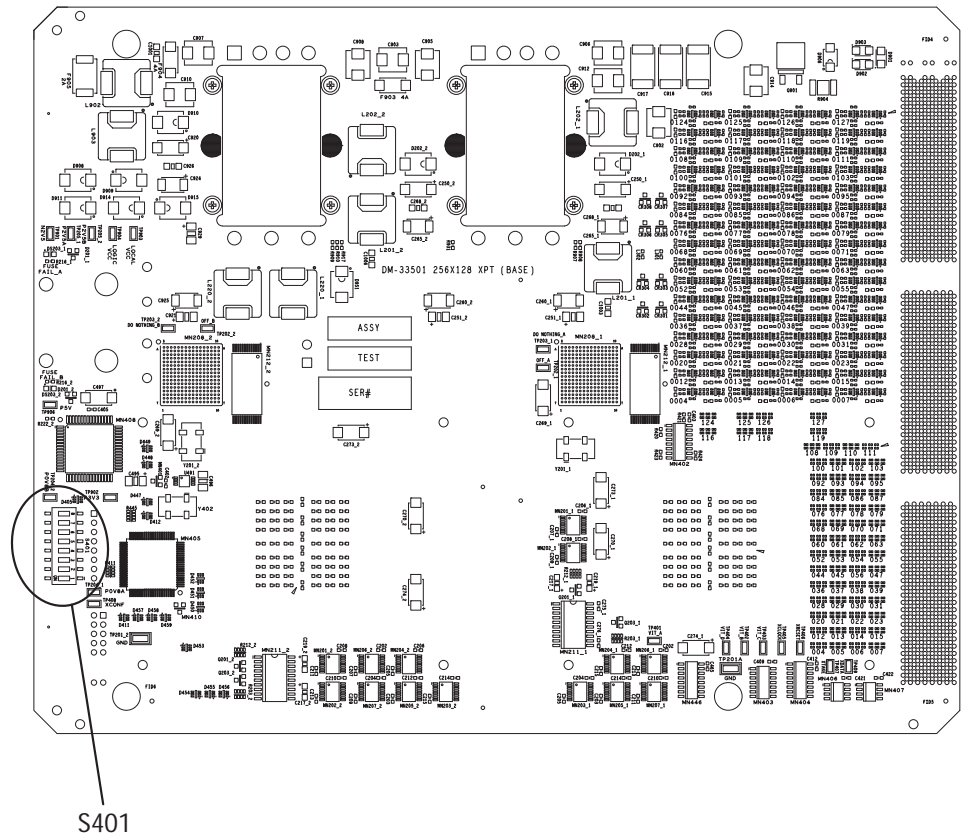
Firmware Update

Firmware is installed using a factory-programmed CompactFlash module such as the one described on page 2. If the programmed flash is not available, the installer must obtain the necessary files and copy them to a blank CompactFlash with available memory of 32 MB or more. For more information, contact Technical Support.

Note   Web tools such as NetConfig cannot be used to install Release 2.4.2.

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

Note   Protected paths are not monitored during firmware updates. If the primary path fails during a firmware update, no fail-over switch will occur.

Note   Certain DV-33512 systems will require DIP switch changes to operate properly with Release 2.4 or newer software. For more information, see page 17.

The following process is used to update firmware on any or all of the boards within a Trinix frame using a serial console port or Ethernet/Telnet connection.

The update is detailed in the following sections of this document:

A. Preliminary procedure.

B. Update Re-loader and Loader firmware on all boards within the frame.

C. Activate New Software and Restart Boards.

A. Preliminary Procedure

Note   The steps in this Preliminary Procedure will not affect on-air operations.

1. Connect to the Trinix NR-33000 (Broadlinx) board via a console session on a PC. This can be done using a serial connection or an Ethernet/Telnet connection:

    a. Serial connection method:

    The serial method has the advantage of not requiring a reconnect after an NR-33000 reset.

    On the back of the Trinix frame, there are two "Console" connections: one for the Primary NR slot (Console "A") and one for the Secondary NR slot ("Console B"). An RS-232 cable is used to connect to these ports as required during the following procedure.

    COM 1 of the PC should be connected to Console A of the router.

    If there are two NRs, a second cable should be used to connect COM 2 with Console B. (It is possible to use only one serial cable, but this requires moving the Trinix end of the cable back and forth between the Console A and Console B connectors during the upgrade.)

    The COM ports should be configured as follows:

    > 9600 baud
    >
    > No Parity
    >
    > 8-Data Bits
    >
    > 1-Stop Bit

    A Windows terminal program such as HyperTerminal should be used to interact with the NR-33000(s). If there are two NRs, two copies of HyperTerminal should be running: one for COM 1 / Console A/ Primary, the other for COM 2 / Console B / Secondary.

    b. Ethernet/Telnet connection method:

    You must know the current IP address of the Broadlinx board(s) to use this method.

    Using a PC that is on the Trinix network, open a Windows Command Prompt screen. At the prompt, enter:

    ```
    telnet [IP address of the Broadlinx board]
    ```

    .If you don't know the IP address of the board, and assuming the board has already been set up for access via a web browser, you should be able to use the browser to obtain this information. If for some reason the address isn't available from the browser, the Grass Valley NetConfig application can be used to discover the address.

    For convenience, two copies of Telnet should be running: one for the Primary NR-33000 and one for the secondary.

2. If there are two NR-33000 boards present, you must be able to identify which is active. (The firmware update process MUST be performed through the **ACTIVE** NR-33000 card, because it has control of the Trinix "Com" bus.) This can be done either by checking the "Active" LED on the NR or by using the "boardShow" console command.

    a. The Active LED indicator, which is amber, is located next to the Activate push button. See Figure 6.

Figure 6. NR-33000 Broadlinx board (as positioned in DV-33512 chassis)

Activate button
and "Active" LED
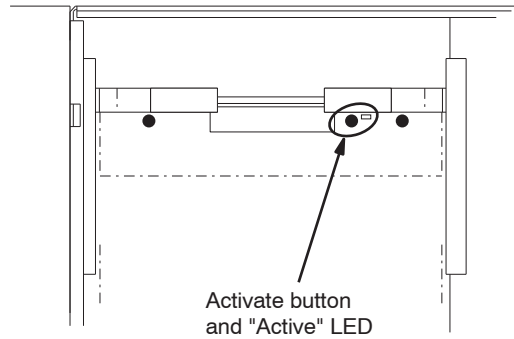
b. To use the boardShow console command, go to a console window and type:

```
boardShow
```

Typically the system will respond as follows:

```
Broadlinx NR33000 board:
    Frame Type: 0x1 128 X 128
    Frame No   : 0x0
    Level      : 0x01

Power Supplies : OK
    XPT Control : Internal
    XPT Drivers : Active
    COM Drivers:Active
```

["Active COM Drivers" confirms that this NR-33000 is active.]

Primary card slot.

["Primary" indicates where this NR-33000 board is located.]

```
      Board Revision: B2 -
   CPU FPGA Revision: 02 B
 Backplane detected:  00 No
     Switch S3 (RS):  12 2
 Battery present and Charged 0B
 value = 0 = 0x0
```

3. Install the provided CompactFlash 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 7 and Figure 8.

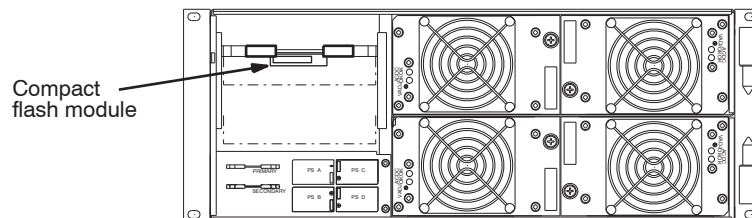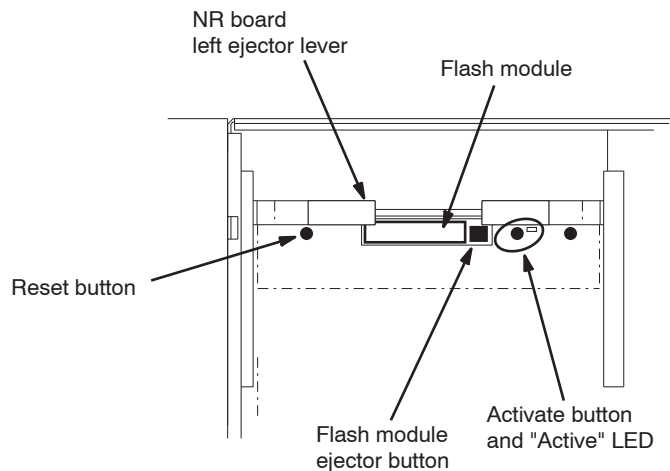*Figure 7. Primary Broadlinx location (DV-33512 installation shown).*

Figure 8. NR-33000 reset/activation controls.

  b. Remove the old flash module by pressing on the adjacent small square ejector button. You will need to move the left ejector lever slightly to allow the module to be removed.

  c. If the on-board red Alarm LED comes on, wait until it goes off. Then insert the new flash module and seat it firmly.

  d. Press the Reset button.

   The boot process will take about 45 seconds, after which you will see a "spinning" pattern of the LEDs on the front edge of the board. See Figure 9.

Figure 9. Broadlinx board LEDs.

The "spinning pattern" LED display will appear when the Broadlinx board is booted up.
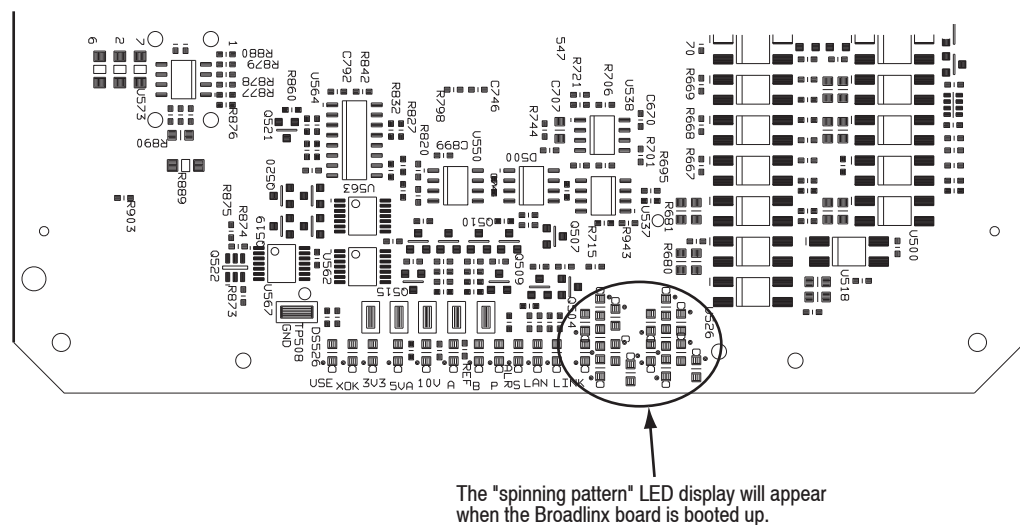
  If the board does not reboot, pull out and re-seat the NR-33000 board. As the board is re-seated, keep the ejector levers spread apart and slide the board in until the levers make contact. The levers are then folded toward each other to seat the board.

e. If there are two NR boards, make the inactive NR-33000 active:

--Jupiter- and **Encore**-controlled systems - press the "Activate" button (see Figure 8). The "Active" LED indication will switch to this board. Note that a Secondary (amber) alarm will be asserted when the Secondary NR is active.

--SMS 7000-controlled system - use the SMS console command:

```
switchanc "name of configured anc"
```

...entering the quotation marks as shown. Or, press the "Reset" button on the **active** NR-33000 (see Figure 8). The "Active" LED indication will switch to the opposite board.

Note   You may see error messages in console/telnet windows at this time because the router hardware is not yet fully updated. These messages can be ignored.

f. Return to Step 3 a above and install the memory module on the remaining NR-33000.

B. Re-loader and Loader Update

Note The Re-loader and Loader Update procedure will not affect on-air operations.

1. To update all the boards within the frame (except an active NR-33000 card):

a. Go to the console window associated with the **active** NR-33000.

If the window shows a "Connection to host lost" message, repeat the connection procedure described in *A. Preliminary Procedure* above.

b. Type:

```
sendLoader -1
```

Note If the window shows a continuous list of "Bad FPGA data" etc., messages, enter the task suspend command ts tLogger to halt the logger process. Then re-enter the sendLoader command.

Typically the system will respond with the following console message; separate progress messages will be displayed for each board in the frame:

```
Suspend Health Check
Frame 00, Slot 08
Send reloader to frame 0 slot 8 (class 2, type 4)
  100% done
Send succeeded for frame 0 slot 8
Send loader to frame 0 slot 8 (class 2, type 4)
  100% done
Send succeeded for frame 0 slot 8
  100% done...
```

...etc. Progress will also be indicated by red LEDs illuminating on the boards as they are updated.

2. After the frame boards have been updated, update the inactive NR-33000 board:

a. If the **inactive** NR is in the **Primary** slot, type:

```
sendLoader 10,0,0
```

b. If the **inactive** NR is in the **Secondary** slot, type:

```
sendLoader 10,0,1
```

Typically the system will respond with the following console message:

```
Suspend Health Check
Frame 00, Slot 01
Send reloader to frame 0 slot 1 (class 2, type 10)
  100% done
Send succeeded for frame 0 slot 1
Send loader to frame 0 slot 1 (class 2, type 10)
  100% done
```

```
Send succeeded for frame 0 slot 1
100% done
Frame 00, Slot 08 Release tributary bus
Resume Health Check
value = 0 = 0x0
```

...etc. After a "Firmware Update Succeeded" message you may need to press [Enter] to restore the command line prompt.

3. Update the active NR-33000 card:

    a. If the **active** card is in the **Primary** slot, type:

        ```
        sendLoader 10,0,0
        ```

    b. If the **active** card is in the **Secondary** slot:

        ```
        sendLoader 10,0,1
        ```

    Typically the system will respond with the following console message; separate progress messages will be displayed for the reloader, loader and firmware update.

    ```
    Suspend Health Check
    Frame 00, Slot 00
    Send reloader to frame 0 slot 0 (class 2, type 10)
      100% done
    Send succeeded for frame 0 slot 0
    Send loader to frame 0 slot 0 (class 2, type 10)
      100% done
    Send succeeded for frame 0 slot 0
    20000123.154540: Firmware update requested for frame
    0 slot 0 (class 2, type 10). (slaveDevice.cc:169)
      100% done
    Frame 00, Slot 01 Release tributary bus
    Resume Health Check
    value = 0 = 0x0
    ```

4. Proceed to *Part C: Activating New Software and Restarting Boards* on page 26.

Part C: 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). Go to the Firmware Management menu.

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.

Note The factory default login and password to reach the Firmware Management window are both "admin."

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 10.
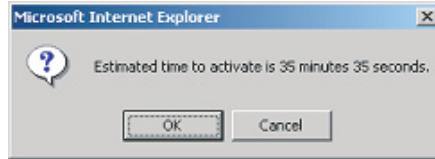
Figure 10.

Firmware Management

Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	Status
HI-33110				6	●
SI-33110			6	6	●
HO-33110		16		8	●
SO-33110	16	16	8	8	●
DM-33100		7		8	●
NR-33000	16	18	8	8	●
SR-33000		10		8	●
RP-33500			5	5	●
SR-33500	7	7	6	6	●
DM-33501	15	16	6	6	●
DM-33502	15	16	6	6	●
HI-33120					●
HO-33120	8	8	2	2	●
VI-33100		6		1	●
HI-33200	5	6	1	1	●
DM-128					●
DM-128R					●
VxWorks			20071023	20071023	●
Web Interface			20071023	20071023	●

⊙ 2.4.2

[Activate] [Upload] [Cancel]

Following CompactFlash 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.
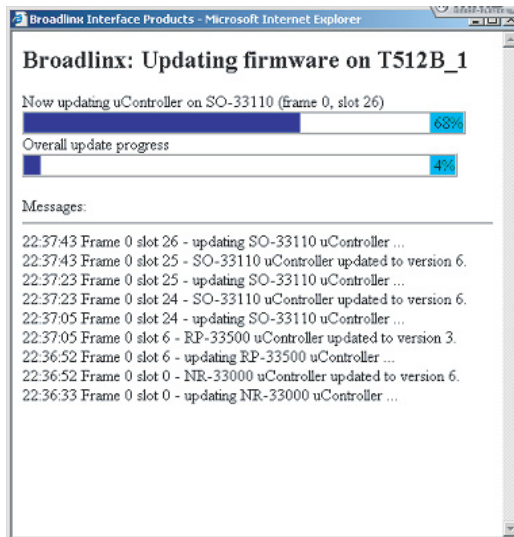
2. Select **Activate**. An "Estimated Time" display will appear:

Figure 11.

3. Select **OK**. A status window will appear:

Figure 12.

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 Broadlinx card. The rest of the Broadlinx 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 progress bars reach 100%, a "Finished firmware update" message will appear. Close the updating firmware window.

5. The Broadlinx web page will indicate "Post Complete." Select **Back** and navigate back 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 13.

Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	'Status
HI-33110				6	●
SI-33110			6	6	●
HO-33110		16		8	●
SO-33110	16	16	8	8	●
DM-33100		7		8	●
NR-33000	16	18	8	8	●
SR-33000		10		8	●
RP-33500			5	5	●
SR-33500	7	7	6	6	●
DM-33501	15	16	6	6	●
DM-33502	15	16	6	6	●
HI-33120					●
HO-33120	8	8	2	2	●
VI-33100		6		1	●
HI-33200	5	6	1	1	●
DM-128					●
DM-128R					●
VxWorks			20071023	20071023	●
Web Interface			20071023	20071023	●

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

◉ 2.4.2

Activate   Upload   Cancel

6. Select **Restart**.

    The following popup will appear:

Figure 14.

Microsoft Internet Explorer ✕

(?)   Restarting cards will interrupt router output momentarily, continue?

OK   Cancel

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. Go to the **inactive** NR-33000 and check to see that the board has finished booting up. Use the hardware button (shown on page 22) to switch the board 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 15.

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 progress bars reach 100%, a "finished firmware update" message will appear. Close the updating firmware window.

e. The Broadlinx web page will indicate "Post Complete." Return to the Firmware Management menu and select **Restart**. The following popup will appear:

Figure 16.

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** and **Firmware Management**. All Status lights should be Green. See Figure 17.

Figure 17.

Module	Fpga Active	Fpga Pending	uControl Active	uControl Pending	Status
HI-33110				6	●
SI-33110			6	6	●
HO-33110		16		8	●
SO-33110	16	16	8	8	●
DM-33100		7		8	●
NR-33000	18	18	8	8	●
SR-33000		10		8	●
RP-33500			5	5	●
SR-33500	7	7	6	6	●
DM-33501	16	16	6	6	●
DM-33502	16	16	6	6	●
HI-33120					●
HO-33120	8	8	2	2	●
VI-33100		6		1	●
HI-33200	6	6	1	1	●
DM-128					●
DM-128R					●
VxWorks			20071023	20071023	●
Web Interface			20071023	20071023	●

⊙ 2.4.2

[Activate] [Upload] [Cancel]

i. (Optional) Switch the primary NR to active mode.

j. This completes the installation.