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REVISION HISTORY

<u>REVISION</u>	<u>DESCRIPTION</u>	<u>DATE</u>
0.0	Initial Release	April 2008

1. OVERVIEW

The XRF6 contains three types of modular, active circuit cards that contain upgradeable firmware:

1. Frame controllers (XRF6S-FC or XRF6L-FC)
2. Input cards (XRF6-16IP)
3. Output cards (XRF6S-16OP or XRF6L-16OP)

The most straight-forward and recommended means of updating the firmware is over TCP/IP through Evertz VistaLINK[®] Pro software. Cards may also be individually updated through RS232 by using a serial cable and suitable terminal program.

2. FIRMWARE UPGRADES USING VistaLINK[®] Pro

For purposes of illustration in this procedure, there will be one XRF6 chassis connected to the network and it contains:

- One frame controller at IP 192.168.9.100
- Two input cards
- Two output cards



When both the frame controller cards and input or output cards are being upgraded with new firmware, the input (XRF6-16IP) and/or output (XRF6S-16OP or XRF6L-16OP) cards should always be done first, followed by the frame controller (XRF6S-FC or XRF6L-FC).

To perform the upgrade, a PC connected to the same network as the XRF6 is required. This PC must also have VistaLINK[®] Pro installed. VistaLINK[®] Pro is available in free (VLPRO-C), Plus and Graphics versions. Any of these clients may be used for the firmware upgrade.

2.1. CHECKING THE CURRENTLY INSTALLED FIRMWARE VERSION

1. Launch the VistaLINK[®] Pro client.
2. The XRF6 router(s) should appear in the hardware tree on the left. Expand the XRF6 entry to list all of the cards in the selected system.
3. To display the frame controller firmware version, right-click on the main entry for the XRF6 system (its IP address by default) and select *View Configuration*.
4. Click the *General* tab and the firmware version will be displayed.

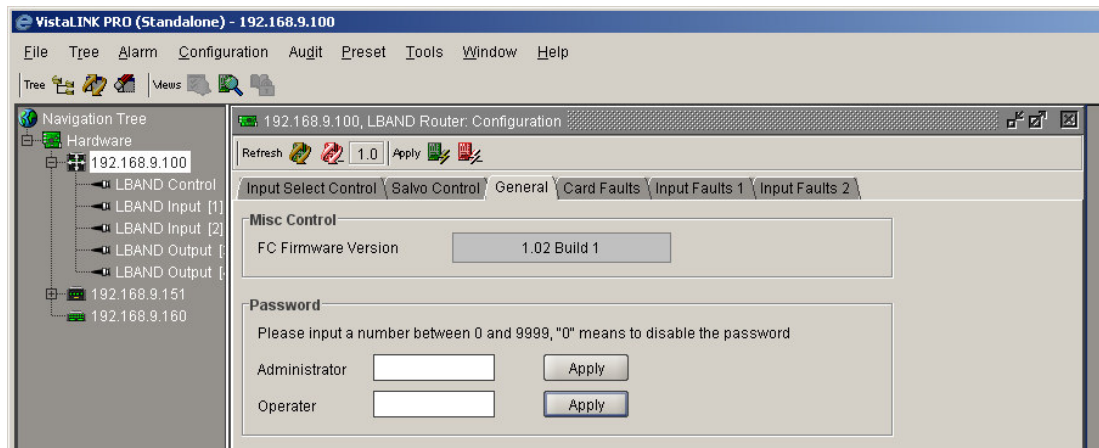


Figure 1 - Frame Controller Firmware Version

5. To display the firmware version of either an input or output card, right-click on a card from the list in the hardware tree and select *View Configuration*. The firmware version will be displayed in a window.

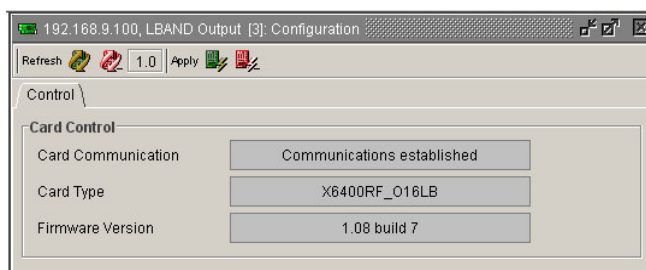


Figure 2 - Input or Output Card Firmware Version

2.2. UPGARDING INPUT CARD FIRMWARE

1. Launch the VistaLINK® Pro client
2. Select Help → Version Information from the VistaLINK® toolbar

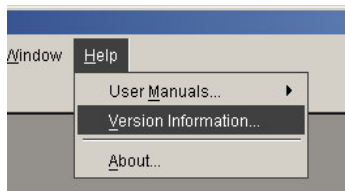


Figure 3 - Version Information Menu Item

3. Click the *Active* radio button

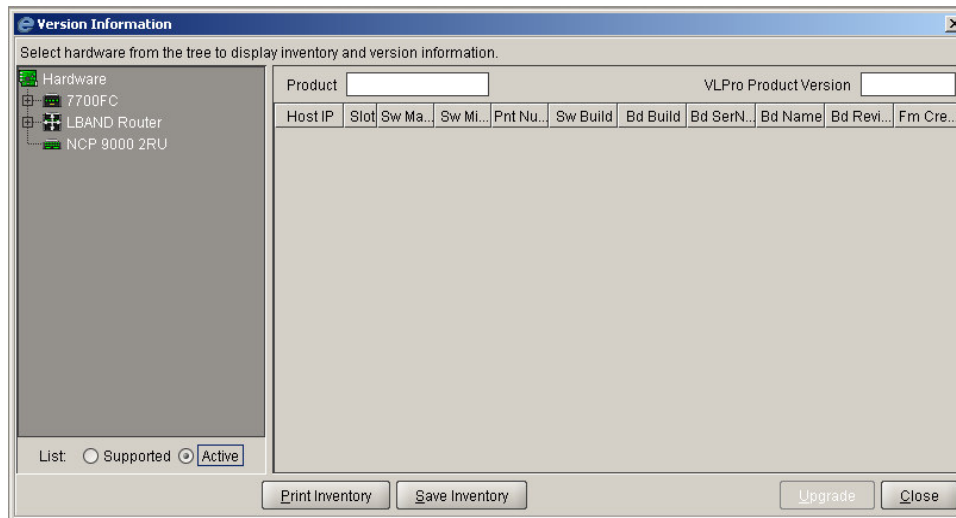


Figure 4 - Active Radio Button

4. Expand the entry for *LBAND Router* from the hardware tree at the left and select *LBAND Input*

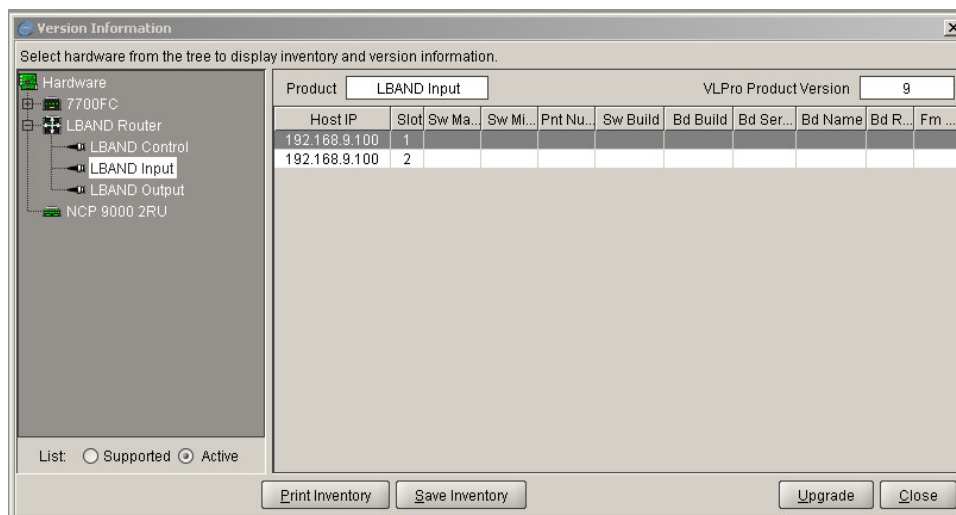


Figure 5 - XRF6 Hardware Tree Listing

5. Click on *Upgrade*. A popup window named *Upgrade Firmware* will appear. Listed will be all of the XRF6 input cards detected in XRF6 systems on your network.
6. Click *Browse* and select the appropriate firmware file from your system, e.g. xrf6-i16lb-1-05-0037.bin

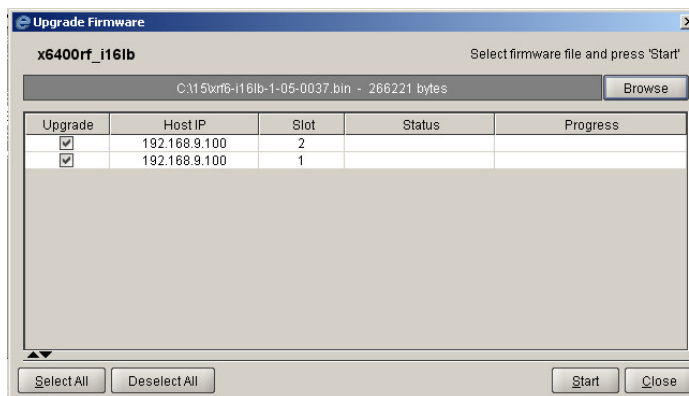


Figure 6 - Firmware File Selection

- The check boxes under the *Upgrade* column may be used to select or deselect cards for upgrade (all selected by default). Click *Start* to upgrade selected cards, and click *Yes* when prompted to begin the upgrade
- A window will appear requesting whether or not you would like to upgrade the sub-processors. Select *No sub-proc upgrade* (default). Upgrading of the-subprocessors is not normally required and **will result in interruption of the RF signal while they are upgraded.**

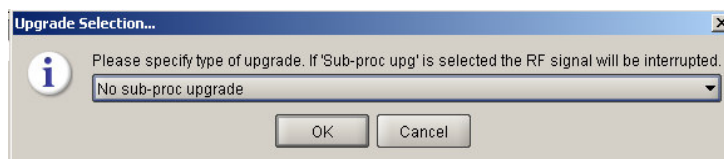


Figure 7 - Sub-Processor Upgrade Selection

- The upgrade process is finished when *Completed* is listed under Status for each card selected for upgrade.

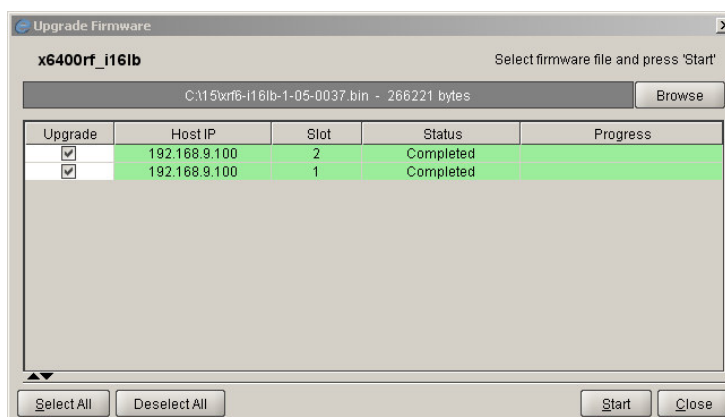
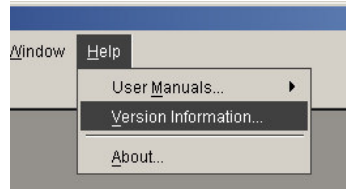


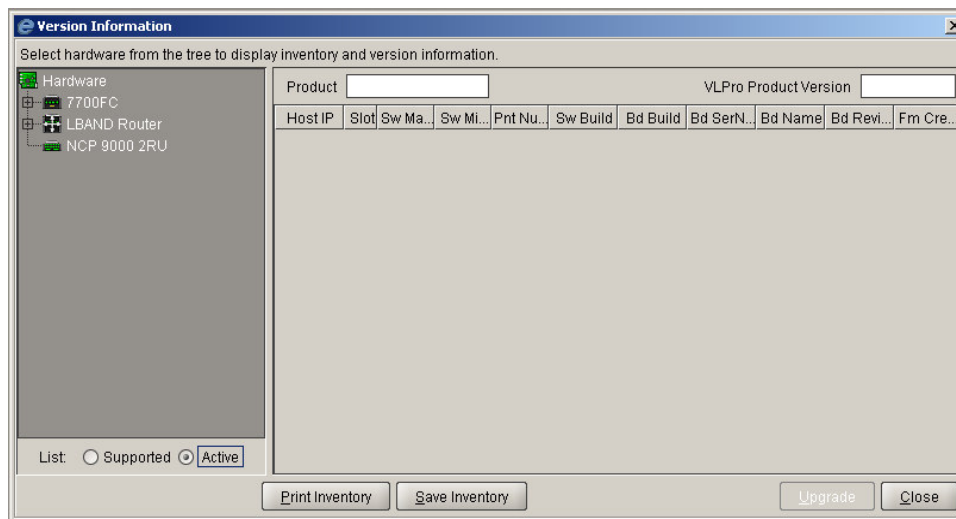
Figure 8 - Upgrade Process Completed

2.3. UPGRADING OUTPUT CARD FIRMWARE

1. Launch the VistaLINK[®] Pro client.
2. Select *Help* → *Version Information* from the VistaLINK[®] toolbar

**Figure 9 - Version Information Menu Item**

3. Click the Active radio button

**Figure 10 - Active Radio Button**

4. Expand the entry for *LBAND Router* from the hardware tree at the left and select *LBAND Output*

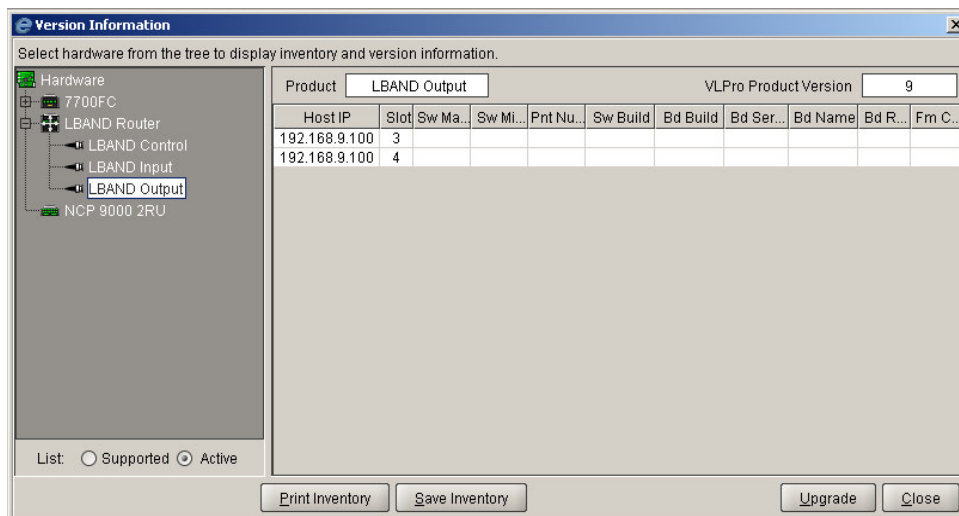


Figure 11 - XRF6 Hardware Tree Listing

- Click on *Upgrade*. A popup window named *Upgrade Firmware* will appear. Listed will be all of the XRF6 output cards detected in XRF6 systems on your network.
- Click *Browse* and select the appropriate firmware file from your system, e.g. xrf6-o16lb-1-08-007.bin

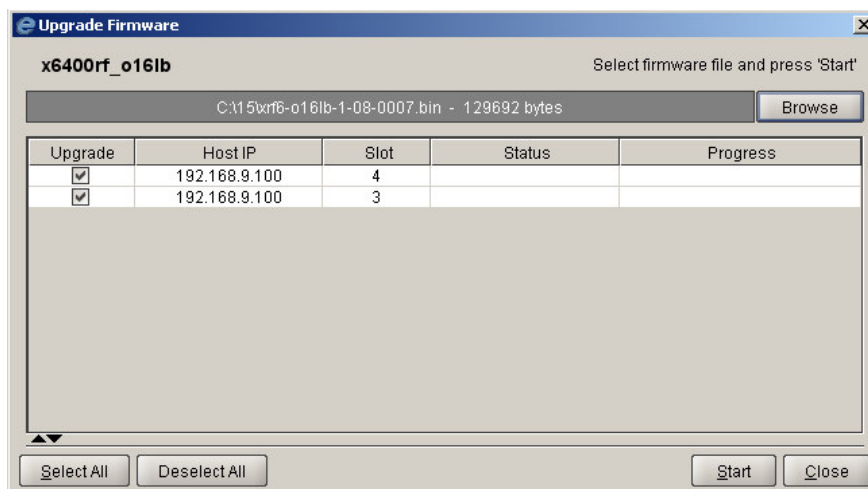


Figure 12 - Firmware File Selection

- The check boxes under the *Upgrade* column may be used to select or deselect cards for upgrade. Click *Start* to upgrade selected cards, and click *Yes* when prompted to begin the upgrade
- The upgrade process is completed when Completed is listed under Status for each card selected for upgrade.

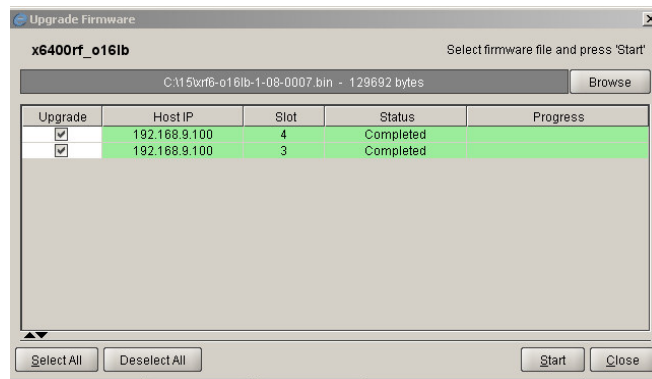


Figure 13 - Upgrade Process Completed

2.4. UPGRADING FRAME CONTROLLER FIRMWARE

1. Launch the VistaLINK® Pro client.
2. Select *Help* → *Version Information* from the VistaLINK® toolbar

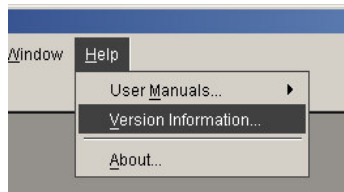


Figure 14 - Version Information Menu Item

3. Click the Active radio button

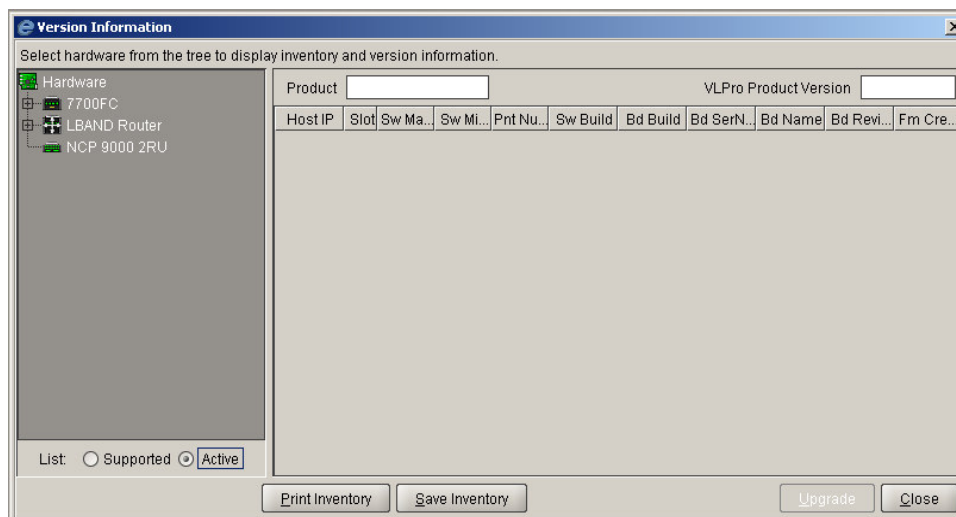


Figure 15 - Active Radio Button

4. Expand the entry for *LBAND Router* from the hardware tree at the left and select *LBAND Control*

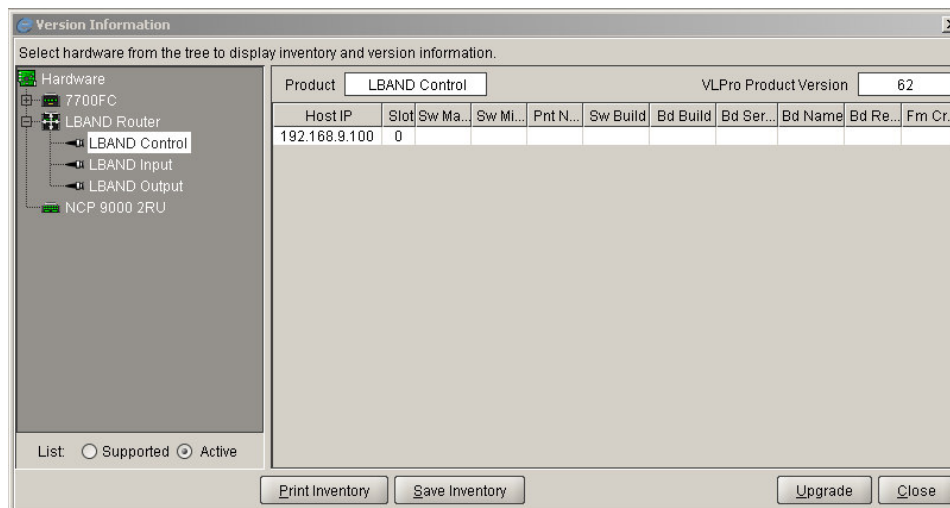


Figure 16 - XRF6 Hardware Tree Listing

- Click on *Upgrade*. A popup window named *Upgrade Firmware* will appear. Listed will be all of the XRF6 output cards detected in XRF6 systems on your network.
- Click *Browse* and select the appropriate firmware file from your system, e.g. xrf6-o16lb-1-08-007.bin

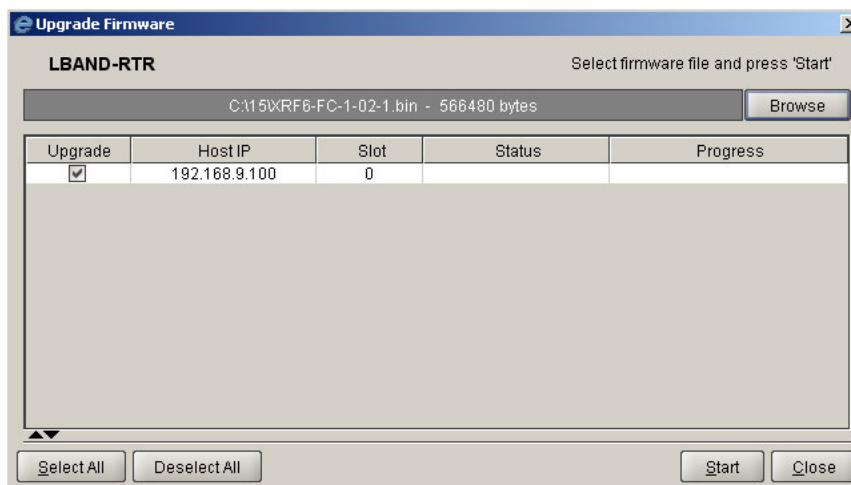


Figure 17 - Firmware File Selection

- The check boxes under the *Upgrade* column may be used to select or deselect cards for upgrade. Click *Start* to upgrade selected cards, and click *Yes* when prompted to begin the upgrade
- The upgrade process is completed when Completed is listed under Status for each card selected for upgrade.

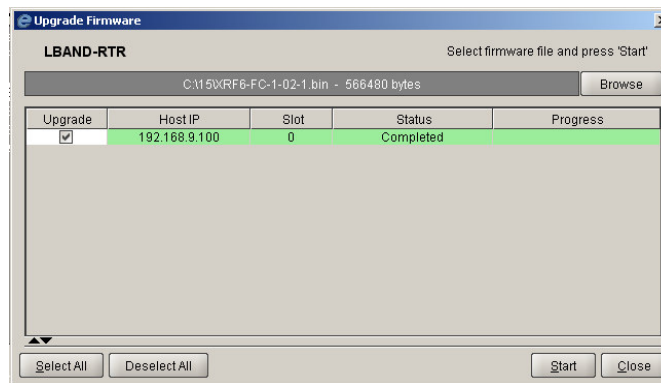


Figure 18 - Upgrade Process Completed

3. FIRMWARE UPGRADES VIA SERIAL PORT

To upgrade the cards in the XRF6 router via RS232 serial, the following are required:

- PC with available communications port. The communication speed is 115200 baud, therefore a 486 PC or better with a 16550 UART based communications port is recommended.
- Straight-through serial extension cable (DB9 female to DB9 male) or (DB25 female to DB9 male)
- Terminal program that is capable of Xmodem file transfer protocol (such as HyperTerminal)
- Special upgrade cable supplied with the XRF6 frame. This cable has a DB9 female connector at one end, and a 2-row pin header connector at the other, connected together with multi-colored ribbon cable. (Evertz part #WA S76)



When both the frame controller cards and input or output cards are being upgraded with new firmware, the input (XRF6-16IP) and/or output (XRF6-16OP) cards should always be done first, followed by the frame controller (XRF6-FC).

3.1. UPGRADING INPUT OR OUTPUT CARD FIRMWARE

1. Pull the selected card out of the frame, exposing the first ¼ of the card. Locate the J20 header and connect the ribbon cable.

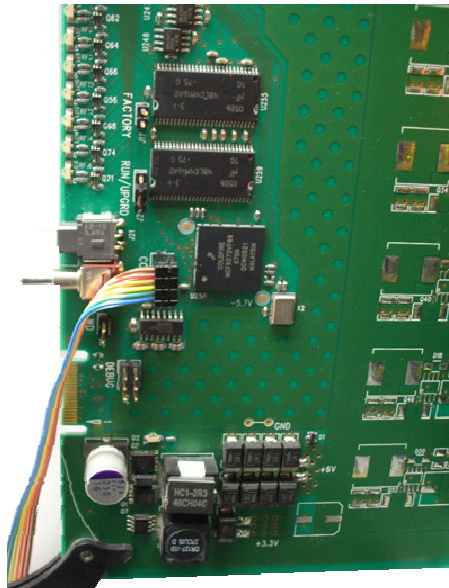


Figure 19 - Input Card Upgrade Header With Upgrade Cable Connected



Figure 20 - Output Card Upgrade Header With Upgrade Cable Connected

2. Connect the other end of the ribbon cable to the PC to be used for the upgrade.
3. Open a terminal session: 115200, 8, n, 2, no flow control.
4. Insert the card into the XRF6 frame and allow it to power up.
5. Press Enter to obtain a command prompt (>).
6. At the prompt, type *u* and press Enter.

7. Upload the appropriate file using the X-Modem protocol.
8. When the upload is complete, allow the card to reboot prior to removing the upgrade cable.
9. Repeat the above process for each card in the system requiring upgrade.

3.2. UPGRADING FRAME CONTROLLER FIRMWARE

1. Pull the frame controller out of the frame, exposing the first ¼ of the card. Locate the J20 header and connect the ribbon cable.

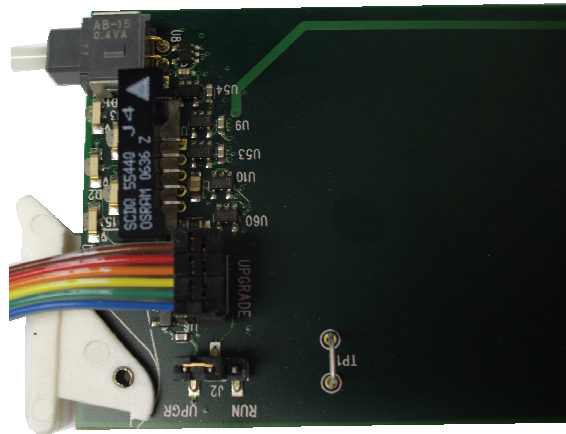


Figure 21 - Frame Controller Card Upgrade Header With Upgrade Cable Connected

2. Connect the other end of the ribbon cable to the PC to be used for the upgrade.
3. Locate the RUN/UPGRADE jumper, J2, and move the jumper to the *UPGR* position.
4. Open a terminal session: 115200, 8, n, 2, no flow control.
5. Insert the card into the XRF6 frame and allow it to power up.
6. Wait for the command prompt (PPCBOOT>) to appear.
7. At the prompt, type *upload* and press Enter.
8. Upload the appropriate file using the X-Modem protocol.
9. When the upload is complete, allow the card to reboot.
10. Pull the card from the frame far enough to access the upgrade cable and jumper. Remove the cable and put the jumper back into the RUN position.
11. Re-insert the card in the frame.