

TABLE OF CONTENTS

1.	INTRODUCTION TO UPGRADING THE FRAME CONTROLLER IMAGE VistaLINK®	1
1.1.	DETERMINING 7700FC IMAGE USING VISTALINK®	1
1.2.	DETERMINING FCBOOT VERSION	2
1.2.1.	Connecting the Computer to the Card Edge Serial Port	2
1.2.2.	Viewing Startup Information	3
2.	REMOTE UPGRADE PROCEDURE USING VistaLINK®	3
2.1.	DOWNLOADING THE 7700FC FRAME CONTROLLER IMAGE	3
2.2.	UPGRADING THE FRAME CONTROLLER IMAGE USING VistaLINK®	4
3.	SERIAL CARD EDGE UPGRADE PROCEDURE	5
3.1.	DOWNLOADING UPGRADE FILES	5
3.2.	LINKING THE FRAME CONTROLLER TO THE NETWORK ADAPTER	5
3.2.1.	Network Setup.....	5
3.3.	CONNECTING THE COMPUTER TO THE CARD EDGE SERIAL PORT	6
3.4.	SETTING THE 7700FC FRAME CONTROLLER TO UPGRADE MODE	6
3.5.	VIEWING STARTUP INFORMATION	6
3.6.	UPGRADING THE 7700FC BOOT LOADER	7
3.7.	UPGRADING THE 7700FC FRAME CONTROLLER	8

1. INTRODUCTION TO UPGRADING THE FRAME CONTROLLER IMAGE VistaLINK®

The 7700FC Frame Controller facilitates communication between the SNMP-enabled (VistaLINK®) cards, residing in a frame and the SNMP Manager (VistaLINK® PRO). Frequently, new cards or new features for existing cards are added to the VistaLINK® product family. In both cases, a new Management Information Base (“MIB”) exists. Subsequently, the 7700FC should also be upgraded with the latest information (“image”) to maintain the most up to date monitoring and control capabilities.

The 7700FC Frame Controller image can be upgraded by two different procedures, which are outlined in sections 2 and 3. Using the procedures outlined in sections 1.1 and 1.2 determine which procedure is needed based on the following criteria:

The two criteria are:

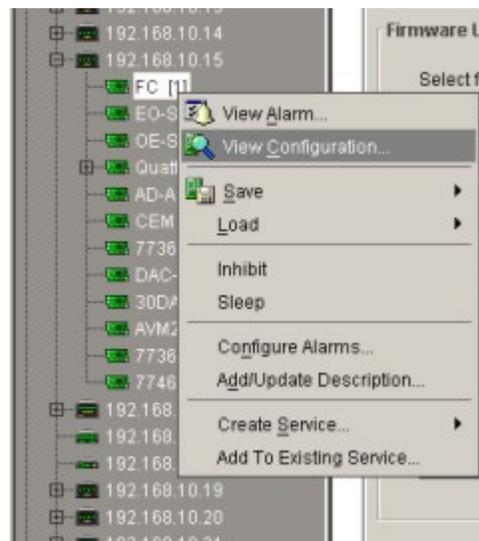
1. 7700FC Image is “fc_release-2-19-b1” or greater.
2. 7700FC Boot version is “Revision 2.0 Build 12”.

If both the criteria are met, then the 7700FC Frame Controller can be upgraded using the **Remote Upgrade** procedure outlined in section 2. If both of the criteria are not met then you will have to use the **Serial Card Edge Upgrade** procedure outlined in section 3.

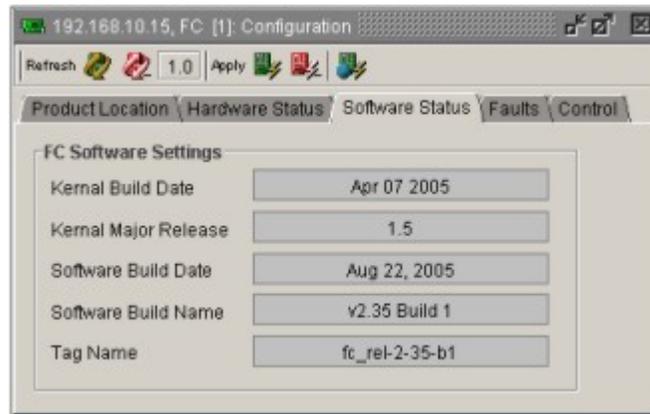
1.1. DETERMINING 7700FC IMAGE USING VISTALINK®

To determine the 7700FC Image version with VistaLINK®

1. Start a VistaLINK® Pro client and login using the Administrator user account (VLPRO-C does not use login accounts).
2. Expose the 7700FC in the hardware tree using ‘Add/Update Frame’ and collapsing the nodes in the tree appropriately.
3. Use the right-click mouse button on the ‘FC’ in the tree and select ‘View configuration’.
4. Select the ‘Software Status’ tab in the configuration view.
5. Compare the ‘Tag Name’ with criteria 1 in section 1.



FC shown in the hardware tree



Software Status tab for the FC Configuration view

1.2. DETERMINING FCBOOT VERSION

1.2.1. Connecting the Computer to the Card Edge Serial Port

You will need the following equipment in order to connect to the serial port on the 7700FC Frame Controller.

- PC with available communications port. The communication speed is 57600 baud, therefore a 486 PC or better with a 165500 UART based communications port is recommended.
- “Straight-thru” serial extension cable (DB9 female to DB9 male) or (DB25 female to DB9 male)
- Terminal program such as HyperTerminal
- Special upgrade cable supplied with the 7700FR frame. This cable is normally in the vinyl pouch at the front of the 7700FR manual binder. (Evertz part #WA S76).

Connect the 7700PB serial upgrade cable to the 2x3 header (J2) at the front edge of the 7700FC card. Note that pins 1 and 5 on the header should be removed and pins 1 and 5 on the cable connector should also be plugged. If the cable is not keyed, make sure that you install it so that the cable is away from front of the frame when the module is installed (i.e. so that it passes over the full length of the card). Pin 1 of the ribbon cable is brown and will be facing the edge of the module with the card ejector when the cable is correctly installed.

Start the terminal program and configure the port settings of the terminal program as follows:

Baud	57600
Data bits	8
Parity	No
Stop bits	2
Flow Control	No

1.2.2. Viewing Startup Information

1. Once HyperTerminal is connected, insert the 7700FC VistaLINK® Frame Controller in its slot.
2. 7700FC booting information will then be sent to the HyperTerminal window. Wait for the card to finish booting (it will stop at a login screen).
3. Scroll to the top to find the section like below.

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 9.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER ABSENT  
RUNNING 6C0000  
  
>> NetBSD/evertz 7700FC Boot, Revision 2.0 Build 12  
>> (rjalali@brain, Fri Nov 5 10:33:15 EST 2004)
```



If you do not see the boot up messages check to make sure you have the correct COM Port specified in HyperTerminal, and the status bar at the bottom of the HyperTerminal screen shows that it is connected.

4. Make note of the 7700FC Boot revision (as shown in **bold** above) and compare it with criteria 2 in section 1.

2. REMOTE UPGRADE PROCEDURE USING VistaLINK®

To do the remote upgrade for the 7700FC VistaLINK® Frame Controller you will need the following setup:

- A working install of a VistaLINK® Pro client or VLPRO-C that's version 10.0.7 or greater.
- A downloaded and unzipped FC image file from <http://www.evertz.com>



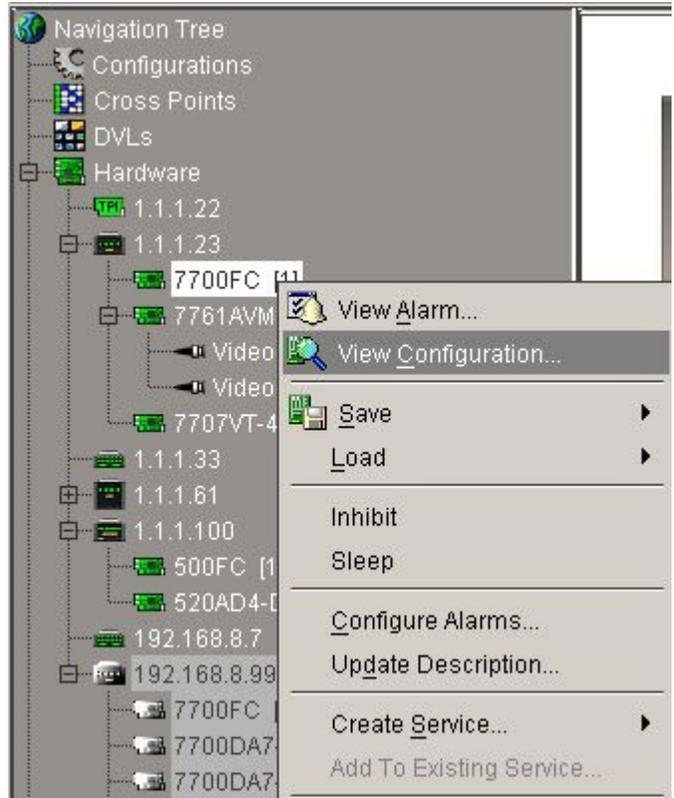
To disable your DHCP refer to section 3.2.1.

2.1. DOWNLOADING THE 7700FC FRAME CONTROLLER IMAGE

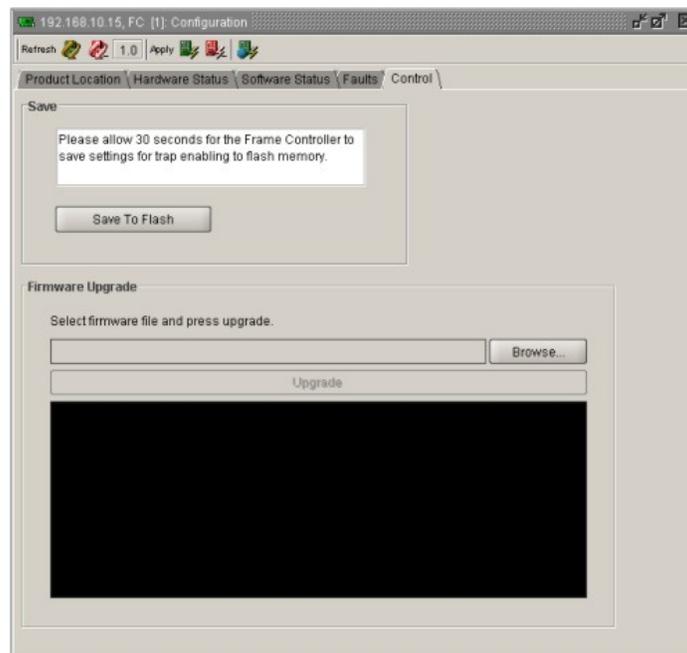
1. Download the image file "7700FC Image File" from the Evertz web site (www.evertz.com – Downloads link, Firmware Downloads link, Type "7700FC" in the Model search and press "Go"). Save the file to the hard drive.
2. Unzip the downloaded file and store it in a selected sub-directory. Record the location of the stored file.

2.2. UPGRADING THE FRAME CONTROLLER IMAGE USING VistaLINK®.

1. Start a VistaLINK® Pro client and login using the Administrator user account (VLPRO-C does not use login accounts).
2. Expose the 7700FC in the hardware tree using 'Add/Update Frame' and expanding the nodes in the tree appropriately.
3. Use the right-click mouse button on the 7700FC in the tree and select 'View configuration'.
4. Select the 'Control' tab in the configuration view.
5. Click the 'Browse' button to select the unzipped 7700FC Image file downloaded in section 2.1 above.
6. Click the Upgrade button and wait for the upload to complete. This will take approximately 5 to 10 minutes depending on network traffic.
7. Upon completion, the 7700FC module will reboot automatically and return online in normal "run" mode.



FC shown in the hardware tree



Control tab for the FC Configuration view



If for any reason the upload is interrupted, you must execute the procedures outlined in sections 3.4, 3.5 and 3.7, as you will be unable to complete the procedure outlined in section 2.

3. SERIAL CARD EDGE UPGRADE PROCEDURE

The 7700FC Frame Controller image is upgraded by following the procedure outlined in this section.



Throughout the upgrade instructions when you are prompted to type commands using HyperTerminal, the following conventions apply.

Do not type the quotation marks “”
<space> means to press the space bar
<Enter> means to press the “Enter” key
<Ctrl-x> means to press and hold the “Ctrl” key and press the “x” key

3.1. DOWNLOADING UPGRADE FILES

1. Download the boot loader “7700FC Boot Loader”, upgrade program “7700FC Upgrade” and the image file “7700FC Image File” from the web site (www.evertz.com – Downloads link, Firmware Downloads link, Type “7700FC” in the Model search and press “Go”). Save the files to the hard drive.
2. Unzip the downloaded files and store them in a selected sub-directory. Record the location of the stored files.

3.2. LINKING THE FRAME CONTROLLER TO THE NETWORK ADAPTER

Connect a “straight-thru” Cat5 Ethernet cable with RJ-45 connectors, between the PC’s network Ethernet card and a network hub; and a second “straight-thru” Cat5 Ethernet cable between the hub and the rear plate of the 7700FC VistaLINK® Frame Controller. A “cross-over” cable directly connecting the PC’s Ethernet adapter to the 7700FC Frame Controller’s rear plate can be substituted for the two straight-thru Ethernet cables and hub. (See section 2.1 in the 7700FC manual.)

3.2.1. Network Setup

The following screen displays the network settings on the 7700FC frame controller.

```
**** Network Setup ****  
  
(1) Use DHCP [N]  
(2) Hostname [fc-default]  
(3) IP Address [192.168.1.187]  
(4) Netmask [255.255.255.0]  
(5) Gateway [192.168.1.1]  
(6) Broadcast [192.168.1.255]  
  
(X) Exit  
>
```



The DHCP mode should be disabled before proceeding with the 7700FC Frame Controller upgrade, which is outlined in section 3.7. In order to successfully upgrade the device, select No [N] when prompted for DHCP mode, as shown in the above network setup screen. If the DHCP is enabled you will be unable to proceed with the upgrade. See section 3.7 for instructions on upgrading the 7700FC Frame Controller.

For convenience and future reference, a chart is provided below to record IP **configuration** for this SNMP network. (Additional blank charts have also been added at the end of this manual.)

Frame Controller Parameters	IP Address
Hostname	
IP Address	
Netmask	
Gateway	
Broadcast	

Once the *Network Setup* parameters have been configured, exit *Network Setup* by pressing x then <Enter>.

3.3. CONNECTING THE COMPUTER TO THE CARD EDGE SERIAL PORT

Refer to section 1.2.1 for instructions on connecting the computer to the card edge serial port and configuring the terminal software.

3.4. SETTING THE 7700FC FRAME CONTROLLER TO UPGRADE MODE

The *UPGRADE* jumper J5 located at the front of the module is used when “image” upgrades are being done to the 7700FC Frame Controller module. For normal operation the jumper is set in the *RUN* position. To upgrade the firmware in the module unit pull it out of the frame. Move Jumper J5 into the *UPGRADE* position. See Figure 7 in the 7700FC manual for jumper locations on the 7700FC Frame Controller card.

3.5. VIEWING STARTUP INFORMATION

- Once HyperTerminal is connected, insert the 7700FC VistaLINK® Frame Controller into its slot.
- 7700FC booting information will then be sent to the HyperTerminal window. After the card powers up the “upload” message is displayed.

For example:

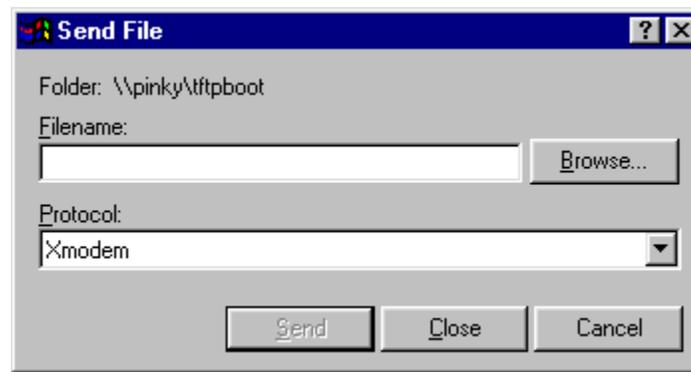
```
EVERTZ 7700FC BOOT MONITOR.
MON8240 1.1 BUILD 4.
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.
UPGRADE JUMPER PRESENT
UPLOAD MAIN PROGRAM
```



If you do not see the boot up messages check to make sure you have the correct COM Port specified in HyperTerminal, and the status bar at the bottom of the HyperTerminal screen shows that it is connected.

3.6. UPGRADING THE 7700FC BOOT LOADER

1. At the “Upload Main Program” prompt, send the boot loader program (fcboot_2v0_012.bin) that was downloaded in section 3.1 to the 7700FC using Xmodem protocol. This is done by selecting “Send file...” from the “Transfer” drop-down menu in the HyperTerminal window. Upon selecting this option, the following screen is displayed:



The “Folder” header describes the folder location of the previously downloaded Upgrade Program. To change the location/name of the file, use the “Browse...” button to locate and select the correct file. Make sure the Protocol is set to “Xmodem” and press the “Send” button to send the file.

Upon completion the card will reboot. After the card reboots you can scroll to the top of the HyperTerminal buffer and see the following information:

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 4.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER PRESENT  
UPLOAD MAIN PROGRAM  
  B B0 B B0  
UPLOAD OKAY  
RUNNING 6C0000  
  
>> NetBSD/evertz 7700FC Boot, Revision 2.0 Build 12  
>> (rjalali@brain, Fri Nov 5 10:33:15 EST 2004) >
```

3.7. UPGRADING THE 7700FC FRAME CONTROLLER

1. Pull the card out of the slot and then reinsert it back into the frame. After the card powers up and the "Upload Main Program" message is displayed, press <Ctrl-x> five (5) times. This action temporarily postpones the "upgrade" procedure. The following information is displayed on the screen:

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 4.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER PRESENT  
UPLOAD MAIN PROGRAM  
UPLOAD CANCELLED  
ENTERING COMMAND LOOP
```

2. At the prompt ">", type "upgrade<space>-u<Enter>" The following is displayed on the screen:

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 4.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER PRESENT  
UPLOAD MAIN PROGRAM  
  B B0 B B0  
UPLOAD CANCELLED  
ENTERING COMMAND LOOP  
> upgrade -u  
UPLOAD UPGRADE PROGRAM
```

3. Using the procedure outlined in section 3.6 send the Upgrade program to the 7700FC (upgrade_0v0_24.bin - that was downloaded in section 3.1). Upon completion of this step, the following information will be displayed on the screen:

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 4.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER PRESENT  
UPLOAD MAIN PROGRAM  
  B B0 B B0  
UPLOAD CANCELLED  
ENTERING COMMAND LOOP  
> upgrade -u  
UPLOAD UPGRADE PROGRAM  
  
UPLOAD OKAY  
>
```

4. At the prompt, type "boot<space>upgrade"<Enter>. The following information is displayed on the screen:

```
EVERTZ 7700FC BOOT MONITOR.  
MON8240 1.1 BUILD 4.  
COPYRIGHT 2000 EVERTZ MICROSYSTEMS LTD. ALL RIGHTS RESERVED.  
UPGRADE JUMPER PRESENT  
UPLOAD MAIN PROGRAM  
  B B0 B B0  
UPLOAD CANCELLED  
ENTERING COMMAND LOOP  
> upgrade -u  
UPLOAD UPGRADE PROGRAM  
  
UPLOAD OKAY  
> boot upgrade  
RUNNING 14B4  
  
7700FC BOOT SOFTWARE  
0.00 build 10 (2001 Nov 27 11:25:08)  
total memory = 33554432 bytes  
available memory = 32133120 bytes  
PCI: 33 MHz, bus: 100 MHz, core: 200 MHz, tb: 25 MHz  
PCI: 30000 ps, bus: 10000 ps, core: 5000 ps, tb: 40000 ps  
ip address: 192.168.1.187, netmask: 255.255.255.0, gateway: 192.168.1.1
```

The IP address, netmask and gateway information is extracted from the 7700FC configuration information as entered in the previous section. This IP address should be recorded as it is used for 7700FC Frame Controller image upgrading, as per the next instruction.



If the IP address, netmask and gateway are set to 0.0.0.0, this indicates that the 7700FC card is operating in DHCP mode. You will have to turn off DHCP mode and enter static IP address and netmask using the procedure shown in section 3.2.1.

5. Using the "Run..." command in the "Start" menu, or opening a Command Prompt (MS-DOS) window, type "ftp 192.168.1.187<Enter>" (or similar IP address from the previous instruction, as displayed). This will open an MS-DOS FTP window. Note that the PC, used for entering commands and storing the downloaded image file, and 7700FC must be configured to operate on the same LAN. For example the IP address of the PC and Frame Controller should be on 192.168.1.x with "x" being a unique address identifier for the PC and the 7700FC Frame Controller
- Do not enter a name for "User" when prompted (leave the field blank). Press <Enter>.
 - Do not enter a name for "Password" when prompted (leave the field blank). Press <Enter>.

6. At the "ftp>" prompt, type:

```
put<space>"[dir]\XvY_Z_7700FC.bin"<space>image<Enter>
```

Add the full path name (directory location) of the downloaded 7700FC Image file in place of [dir] in the above entry. If there are spaces in the path name they must be surrounded by quotations. Note that "X", "Y" and "Z" are FC image release version numbers as identified in the downloaded file name. The file will take approximately 5 to 10 minutes to upload.

- Upon successful command entry, the MS-DOS window will display “200 PORT command successful” and “150 Opening data connection” messages.
 - The top-most LED pair (1/2) on the 7700FC Frame Controller card edge will be RED during the “image” upload process.
 - After several minutes of “image” upload, the MS-DOS window will display “226 Transfer complete” and “ftp:... (adding statistics about the ftp procedure)”
 - The top-most LED pair (1/2) on the 7700FC Frame Controller card edge will be GREEN once the “image” upload process is complete.
7. Upon completion of the upload, the MS-DOS window/program should be terminated by closing the window. Remove the 7700FC from the frame, remove the 7700 upgrade cable and reposition the UPGRADE jumper to RUN mode. The 7700FC has been upgraded with the latest image and can now be reinserted into the frame to resume normal operation.