TABLE OF CONTENTS

Figures

Tables

REVISION HISTORY

REVISION	DESCRIPTION	DATE
0.1	Preliminary Version	Sep 05
0.2	Updated *Vista*LINK® description and fixed format	Nov 08

WARNING

Never look directly into an optical fiber. Non-reversible damage to the eye can occur in a matter of milliseconds.

Do not hook up the 7707CVT series DWDM cards and any 7707CVR series cards directly with a short fiber optic cable. The 7707CVT series DWDM card produces +7dBm of power which will damage the receiver if connected directly.

Do not hook up the 7707CVT series cards that output more than -7dBm of power (see 7707CVT series specifications for output power of various laser types) and 7707CVR series high sensitivity (-H versions) receiver cards directly with a short fiber optic cable. The 7707CVT series cards that produce more than -7dBm of power will damage the receiver if connected directly.

1. OVERVIEW

The 7707CVR-2-SV is a *Vista*LINK® enabled, S-Video and analog audio fiber receiver for broadcast video quality signals. This single card module accepts a fiber optic input, demultiplexes the signals, and performs D to A conversion and outputs NTSC or PAL analog video and up to four balanced analog audio signals. The companion 7707CVT-2-SV S-Video and Analog Audio fiber transmitter, digitizes and multiplexes the S-Video and up to four analog audio signals and converts them to an optical signal for transmission.

The 7707CVR-2-SV occupies one card slot and can be housed in either a 1RU frame, which will hold up to three modules, or a 3 RU frame, which will hold up to 15 modules.

Features:

- Single card fiber demultiplexer for S-Video and audio signals
- Supports both NTSC and PAL video signals
- Broadcast quality S-Video and audio performance
- Adjustable gain and DC offset, and pre-emphasis for up to 300m of Belden 1694 coaxial cable
- Minimal Audio to Video latency
- Comprehensive signal and status monitoring via four-digit card-edge display, or through SNMP and *Vista*LINK® enabled capability
- Fully hot-swappable from front of frame with no fiber disconnect/reconnect required
- Supports Single mode (8-10 μm) and Multi-mode (50/62.5 μm) fiber optic cable
- Accepts any wavelength in the 1270nm to 1610nm range

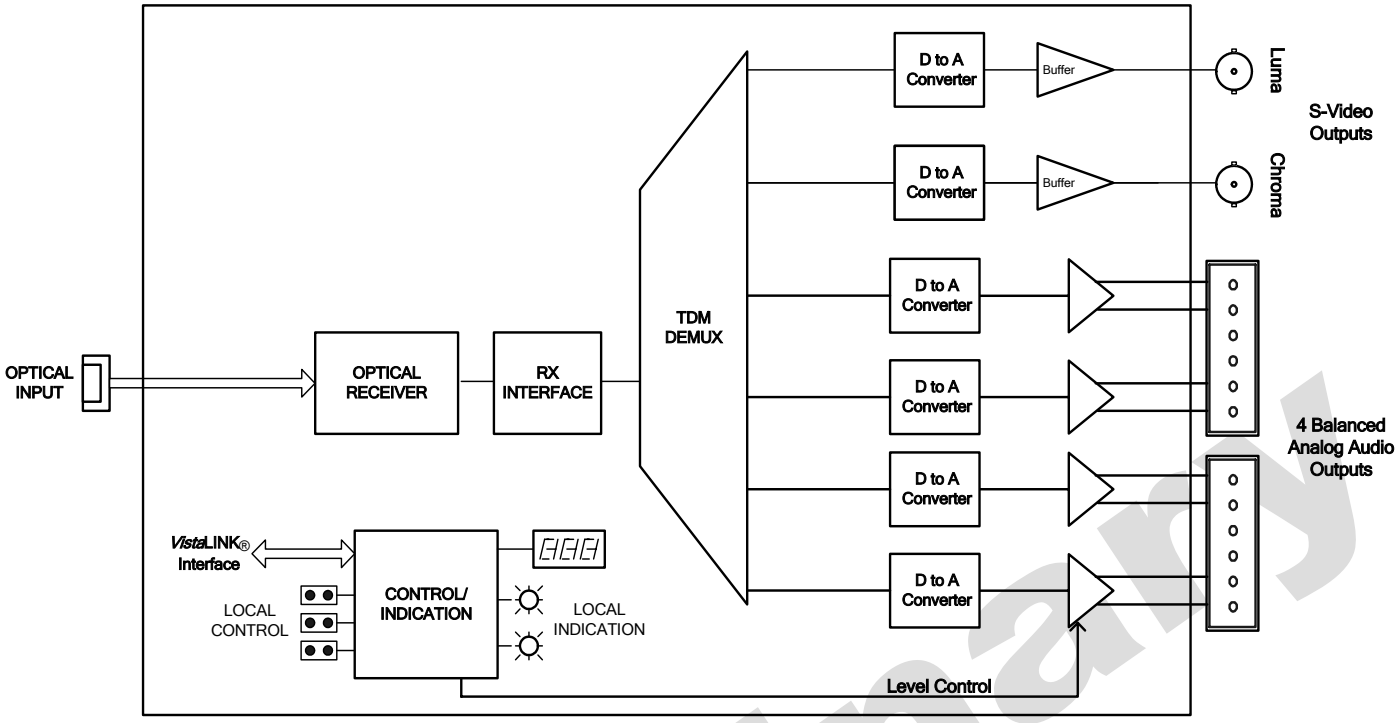

Figure 1-1: 7707CVR-2-SV Block Diagram

2. INSTALLATION

The 7707CVR-2-SV comes with a companion rear plate that has two BNC connectors, one twelve pin terminal header with removable terminal block and one SC/PC, SC/PC with cover flap, ST/PC or FC/PC optical connector. For information on mounting the rear plate and inserting the module into the frame see the 7700FR chapter section 3.

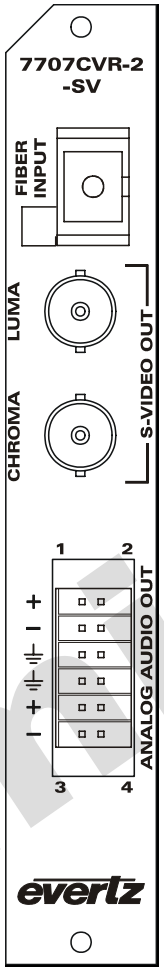

Figure 2-1: 7707CVR-2-SV Rear Panel

OPTICAL INPUT: SC/PC, SC/PC with cover flap, ST/PC or FC/PC female connector. This wide range input accepts optical wavelengths of 1310nm accommodating standard or 1270nm to 1610nm CWDM transmission schemes.

Do not hook up the 7707CVT series DWDM cards and any 7707CVR series cards directly with a short fiber optic cable. The 7707CVT series DWDM card produces +7dBm of power which will damage the receiver if connected directly.

Do not hook up the 7707CVT series cards that output more than -7dBm of power (see 7707CVT series specifications for output power of various laser types) and 7707CVR series high sensitivity (-H versions) receiver cards directly with a short fiber optic cable. The 7707CVT series cards that produce more than -7dBm of power will damage the receiver if connected directly.

S-VIDEO OUTPUTS: On the 7707CVR-2-SV there are two outputs, Luma and Chroma. Each output can have cable pre-emphasis applied independently. (Please refer to section 5.3.3 for information on setting the desired pre-emphasis).

NOTE: Video Gain, Offset, and Equalization set for Luma and Chroma must be configured to the same values. Levels applied to one channel must be applied to the second channel.

ANALOG AUDIO OUT: Balanced analog audio outputs for 4 channels. Each output (+, -, GND) is on three of twelve pins on the twelve pin terminal header.

2.1. CARE AND HANDLING OF OPTICAL FIBER

Never touch the end face of an optical fiber. Always keep dust caps on optical fiber connectors when not connected and always remember to properly clean the optical end face of a connector before making a connection.

The transmission characteristics of the fiber are dependent on the shape of the optical core and therefore care must be taken to prevent fiber damage due to heavy objects or abrupt fiber bending. Evertz recommends that the user maintains a minimum bending radius of 5 cm to avoid fiber-bending loss that will decrease the maximum attainable distance of the fiber cable. The Evertz fiber optic modules come with cable lockout devices, to prevent the user from damaging the fiber by installing a module into a slot in the frame that does not have a suitable I/O module. For further information about care and handling of fiber optic cable see section 3 of the Fiber Optics System Design chapter in the front of the binder.

3. SPECIFICATIONS

3.1. OPTICAL INPUT

Number of Inputs:	1
Connector:	Female SC/PC, SC/PC with cover flap, ST/PC or FC/PC
Operating Wavelength:	1270nm to 1610nm
Max. Input Power:	
Standard:	0dBm
High Sensitivity (-H):	-7dBm
Optical Sensitivity	
Standard:	-27dBm
High Sensitivity (-H):	-32dBm

3.2. S-VIDEO OUTPUTS

Standard:	NTSC, SMPTE 170M or PAL, ITU-R624-4
Number of Outputs:	2 (one Luma, one Chroma)
Connector:	BNC per IEC 61169-8 Annex A.
System bandwidth:	5.5 MHz
Output Level:	1 Vp-p nominal, 2 Vp-p maximum
Gain:	Unity Gain nominal, adjustable 50% to 150%
Output Impedance:	75 Ohms
Return Loss:	> 20 dB
SNR:	> 67dB
Differential Gain:	< 1.0%
Differential Phase:	< 0.7 Degrees
Pre-Emphasis:	Cable loss compensation for up to 250m of Belden 1694 (each output adjustable separately)
Passband Ripple:	
NTSC:	< +/- 0.1dB to 4.1 MHz < +/- 0.2dB to 5.5 MHz
PAL:	< +/- 0.1dB to 4.8 MHz < +/- 0.2dB to 5.8 MHz
Chroma/Luma Gain:	98% to 103%
Chroma/Luma Delay:	
NTSC:	< 5 ns
PAL:	< 12 ns
Line Time Distortion:	1.2%

3.3. ANALOG AUDIO OUTPUTS

Number of Outputs:	4
Type:	Balanced analog audio
Connector:	12 pin removal terminal block
Output impedance:	66Ω
Freq. Response:	+/-0.1 dB, 20Hz to 20 kHz
THD 20Hz–20Khz:	< 0.005%
Channel Phase Diff.	+/-1 degree
SNR (weighted):	> 85 dB
Output Level Adj:	-20 dB to +3 dB
Max Output Level:	+24 dBu into 10 kΩ loads

3.4. SYSTEM PERFORMANCE

Video Input to Video Output Delay:	< 10μs
Audio Input to Audio Output Delay:	< 1.9ms

3.5. ELECTRICAL

Voltage:	+12VDC
Power:	12 Watts
EMI/RFI:	Complies with FCC regulations for class A devices Complies with EU EMC directive

3.6. PHYSICAL

7700 or 7701 frame mounting:

Number of slots: 1

4. STATUS INDICATORS AND DISPLAYS

The 7707CVR has 6 LED Status indicators and a 4 digit alphanumeric display on the front card edge to show operational status of the card at a glance. The card edge pushbutton and toggle switch are used to select various displays on the alphanumeric display. Figure 7-1 shows the location of the LEDs and card edge controls.

4.1. STATUS INDICATOR LEDS

Two large LEDs on the front of the board indicate the general health of the module

LOCAL FAULT: This Red LED indicates poor module health and will be On during the absence of a valid optical link to a 7707CVT-2-SV module, or if a local input power fault exists (i.e. a blown fuse). The LOCAL FAULT indication can also be reported to the frame through the FRAME STATUS jumper.

MODULE OK: This Green LED indicates good module health. It will be On when a valid optical link to a 7707CVT-2-SV module is present, and board power is good.

There are four small LEDs on the back side of the board that indicate the presence of audio signals above the detection level (see section 5.4.3 for information about configuring the audio detection).

AUDIO 1 PRESENT: This Green LED indicates the presence of a valid signal on the Audio 1 input.

AUDIO 2 PRESENT: This Green LED indicates the presence of a valid signal on the Audio 2 input.

AUDIO 3 PRESENT: This Green LED indicates the presence of a valid signal on the Audio 3 input.

AUDIO 4 PRESENT: This Green LED indicates the presence of a valid signal on the Audio 4 input.

4.2. DOT-MATRIX DISPLAY

Additional signal and status monitoring and control over the card's parameters are provided via the 4-digit alphanumeric display located on the card edge. The card edge toggle switch is used to select whether the user is displaying status from the card (monitoring mode) or setting control parameters for the card (control mode). To select one of the display modes, press the pushbutton one or more times to exit the current display mode and return to the mode select display (The display will show **MON** or **SET**). Press the toggle switch to select monitor mode (**MON**) or control mode (**SET**). Once the desired mode is selected, press the pushbutton to enter that mode. For information about setting up the module in control mode see section 5.

While in monitor mode, the toggle switch determines what data is being displayed on the alphanumeric display. Each time the toggle switch is pressed up/down, the display advances to the next/previous display. A message indicating what display mode is active is shown for one second. After one second without the toggle switch being pressed, the selected display data is shown. The card edge pushbutton is used to return to the mode select menu item. The following display messages indicate what is being displayed. The details of the each of the displays are described in the sections 4.2.1 to 4.2.3.

PWR	Input Optical Power
S/W	Software Version
AJCK	Set Headphone Jack Audio Channel
STD1	Video Standard in Use
STD2	Video Standard in Use (for CVR-2 only)

4.2.1. Setting the Headphone Jack Channel

The **AJCK** display allows the user to set a whether audio channels 1/2 or 3/4 will be monitored on the card edge headphone jack. After one second the display will show a message indicating the current audio channel being monitored at the headphone jack. When this message is showing, press the pushbutton to change the audio channel being monitored.

A1/2	Audio channels 1 and 2 will be monitored at the headphone jack.
A3/4	Audio channels 3 and 4 will be monitored at the headphone jack.

4.2.2. Displaying the Video Standard

The 7707CVR-2-SV detects the Video Standard of the input signal and displays this on the four-digit card edge display. The following list describes possible displays and their meaning:

NTSC	SMPTE 170M
PAL	ITU-R624-4
LSV	Indicates that no valid video signal is present on the input. This message overrides the normal video standard message.

4.2.3. Displaying the Optical Power

The 7707CVR-2-SV detects the input optical power and displays this on the four-digit card edge display. The following list describes possible displays and their meaning:

Standard Version:

OK	Indicates optical input power is within acceptable range (> -12 dB).
-13 to –28	Numerical value of optical input power.
<-28	For optical input power < -28dBm (*Vista*LINK® will display “LOW” at these values of input power).

“-H” version:

-7 to –40	Numerical value of optical input power for “–H” version.
OVR	For optical input power > -7dBm for “–H” version.
LOW	For optical input power < -40dBm (Link Error may display at slightly higher values. than –40dBm, *Vista*LINK® will still display “LOW”).

5. CARD EDGE MENU SYSTEM

5.1. NAVIGATING THE MENU SYSTEM

While in control mode, the toggle switch and pushbutton are used to navigate through a menu system to set various parameters for the module. To enter the menu system, press the pushbutton one or more times to exit the current display mode and return to the mode select menu item. The display will show MON or SET. Press the toggle switch to select control mode (SET) and then press the pushbutton to enter that control mode main setup menu. Use the toggle switch to move up and down the list of available sub menus. Once the desired submenu name is displayed, press the pushbutton to select the next menu level.

Once the user is in the sub menu, there will be a list of parameters to adjust. To adjust any parameter, use the toggle switch to move up or down to the desired parameter and press the pushbutton. Using the toggle switch, adjust the parameter to its desired value. If the parameter is a numerical value, the number will increase if the toggle switch is pressed up and the number will decrease if the toggle switch is pressed down. If the parameter contains a list of choices, the user can cycle through the list by pressing the toggle switch in either direction.

Depress the pushbutton once the desired value is reached. This will update the parameter to the selected value and return to the mode select menu item (the display shows SET). To change another parameter, press the pushbutton to enter the main menu system again and continue selecting and adjusting other parameters.

Throughout the descriptions of the Menu items, default values are shown in underlined text.

Each time the toggle switch is pressed up/down, the display advances to the next/previous display. A message indicating what display mode is active is shown for one second. After one second without the toggle switch being pressed, the selected display data is shown. The card edge pushbutton is used to select sub-items where applicable.

5.2. TOP LEVEL MENU STRUCTURE

The following is a brief description of the top level of the menu tree that appears when the user enters the On screen menu. Selecting one of these items will take the user down into the next menu level. The details of the each of the displays are described in the sections 5.3 to 5.5.

G1	Configures the gain of video channel 1 (Luma).
G2	Configures the gain of video channel 2 (Chroma).
OFF1	Configures the DC offset level of video channel 1 (Luma).
OFF2	Configures the DC Offset level of video channel 2 (Chroma).
EQ1	Configures the Pre-emphasis on Video output 1 (Luma).
EQ2	Configures the Pre-emphasis on Video output 2 (Chroma).
VOL1	Configures the Volume of Audio channel 1.
VOL2	Configures the Volume of Audio channel 2.
VOL3	Configures the Volume of Audio channel 3.
VOL4	Configures the Volume of Audio channel 4.
MUT1	Mutes Audio channel 1.
MUT2	Mutes Audio channel 2.
MUT3	Mutes Audio channel 3.
MUT4	Mutes Audio channel 4.
ADET	Sub menu allows you to set parameters relating to the Audio detection.
DISP	Allows the user to set the orientation of the front panel display.
FRST	Resets the module to its factory reset values.

5.3. SETTING THE VIDEO CONTROLS

5.3.1. Setting the Video Gain

G1
100 *50 to 150*

The *G1* control is used to set the gain of the video output 1 (Luma). The display shows a range of gain values expressed as a percentage.

Note: values other than 100 are approximate only.

G2
100 *50 to 150*

The *G2* control is used to set the gain of the video output 2 (Chroma). The display shows a range of gain values expressed as a percentage.

Note: values other than 100 are approximate only.

NOTE: Video Gain, Offset, and Equalization set for Luma and Chroma must be configured to the same values. Levels applied to one channel must be applied to the second channel.

5.3.2. Setting the Video DC Offset

OFF1
0 *-100 to 100*

The *OFF1* control is used to set the DC offset level of the video output 1 on the 7707CVR-2-SV (Luma). The display shows a range of offset values from 0 Volts expressed in millivolts.

OFF2
0 *-100 to 100*

The *OFF2* control is used to set the DC offset level of the video output 2 on the 7707CVR-2-SV (Chroma). The display shows a range of offset values from 0 Volts expressed in millivolts.

NOTE: Video Gain, Offset, and Equalization set for Luma and Chroma must be configured to the same values. Levels applied to one channel must be applied to the second channel.

5.3.3. Setting the Video Output Pre-Emphasis

EQ1
0 *0 to 300*

The *EQ1* control is used to set the Pre-emphasis of video output 1 (Luma). When it is set to 0 the output frequency pre-emphasis will be flat. It can be adjusted to compensate for various output cable lengths to achieve a flat frequency curve at the end of the cable. The display shows a range of approximate cable length values expressed in meters for Belden 1694 cable or equivalent.

EQ2
0 *0 to 300*

The *EQ2* control is used to set the Pre-emphasis of video output 2 (Chroma). When it is set to 0 the output frequency pre-emphasis will be flat. It can be adjusted to compensate for various output cable lengths to achieve a flat frequency curve at the end of the cable. The display shows a range of approximate cable length values expressed in meters for Belden 1694 cable or equivalent.

5.4. SETTING THE AUDIO CONTROLS

The first group of menu items are used to configure the control items relating to the Audio. The menu items for each channel are identical so for the sake of simplicity, only the menu items for A1 channel are shown.

5.4.1. Setting the Audio Volume Level

VOL1	
0 *–20 to +3*	The *VOL* controls (1 to 4) set the audio volume of each channel level expressed in dB. The volume level can be adjusted in 0.5 dB increments.

5.4.2. Muting the Output Audio

MUT1	
OFF *ON*	The *MUTE* controls (1 to 4) allow the user to mute each channel.

5.4.3. Configuring Audio Presence Detection

The ADET sub menu contains 3 menu items (for each audio channel) relating to the Audio detection. The menu items for each channel are identical so for the sake of simplicity, only the menu items for A1 channel are shown.

DET1	
OFF *ON*	The *DET* controls (1 to 4) enable audio presence detection on each of the channels.

The *LVL* and *DUR* controls are used to detect when the audio is considered to be missing. The *LVL* control sets the audio level under which the audio is considered to be missing. The audio must be under the *LVL* level for the duration set by the *DUR* control before the audio is considered missing. When audio is missing, the audio must be over the *LVL* level for 1 sec. before the audio will be considered present.

LVL1	
–67 to 0 *-40*	The *LVL* controls (1 to 4) set the audio level under which audio is considered to be missing. This value is expressed in dBu

DUR1	
1 to 20 *10*	The *DUR* controls (1 to 4) set the amount of time (in seconds) the audio is below the level set by the *LVL* control before the audio is considered missing.

5.4.3.1. Procedure to Calibrate Audio Presence Detection

1. Supply the 7707CVT-2-SV module that is connected to the 7707CVR-2-SV module being calibrated with the plant's noisiest audio feed without any audio program material present. This will be a baseline noise level to calibrate the audio-missing detector.
2. Set the *DUR* control to 0.5 sec in order to see the results of adjusting the *LVL* parameter without getting confused with the detection time.

3. Adjust the audio *LVL* control upward from its minimum value until the corresponding *AUDIO PRESENT* LED on the card edge goes Off. This will be the noise floor level. Raise the *LVL* a few dB to make the detector insensitive to this noise level.
4. Set the *DUR* control to a time appropriate to the application. This should be set to a value longer than the worst case acceptable quiet period.

5.5. CHANGING THE ORIENTATION OF THE TEXT ON THE DISPLAY

DISP
VERT
HOR

The *DISP* control allows the user to select a horizontal or vertical orientation for the displays to accommodate mounting the module in the 3RU or 1RU frames.

5.6. RESTORING THE FACTORY SETTINGS

FRST
NO
YES

The *FRST* control allows the user to restore the factory values (those underlined) for the module's parameters described in sections 5.3 and 5.5.

6. CARD EDGE CONTROLS

The 7707CVT-2-SV is equipped with a three position, return to center toggle switch which is used to select the various card-edge displays and menu items and is also used in conjunction with a momentary pushbutton to select some sub-items of the menu system. See sections 4.2 and 5 for information about the card edge displays and menu system.

6.1. MONITORING THE AUDIO

A stereo headphone jack located at the front of the module is used to monitor the individual audio channel pairs. The *AJCK* menu item is used to select the audio channels currently being monitored (please refer to section 4.2.1). The monitoring volume level can be adjusted but turning the level potentiometer located beside the headphone jack.

7. JUMPERS

Several jumpers, located at the front of the module are used to preset various operating modes. Figure 7-1 shows the location of the card edge controls, status indicators and jumpers.

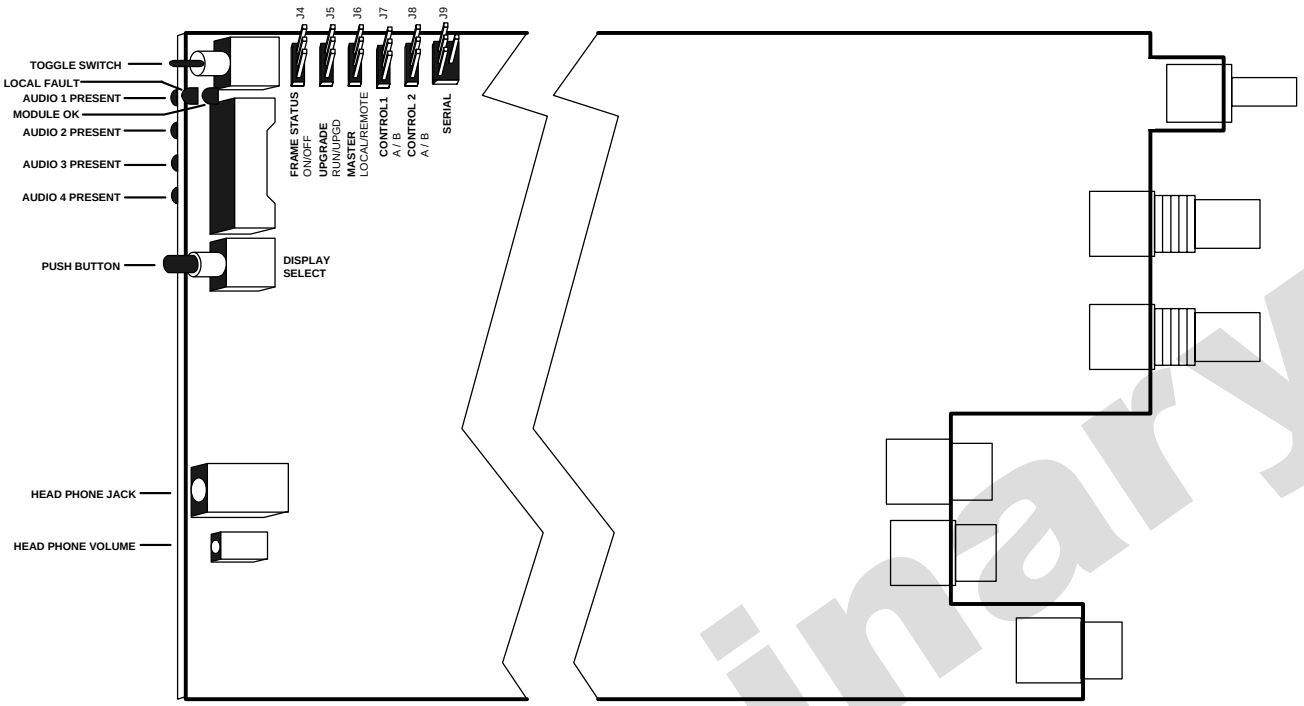

Figure 7-1: Location of Jumpers and Card Edge Controls

7.1. SELECTING WHETHER LOCAL FAULTS WILL BE MONITORED BY THE GLOBAL FRAME STATUS

The FRAME STATUS jumper J4 determines whether local faults (as shown by the Local Fault indicator) will be connected to the 7700FR frame's global status bus.

FRAME STATUS: To monitor faults on this module with the frame status indicators (on the Power Supply FRAME STATUS LED's and on the Frame's Fault Tally output) install this jumper in the On position. (Default)

When this jumper is installed in the Off position local faults on this module will not be monitored.

7.2. SELECTING WHETHER MODULE WILL BE CONTROLLED FROM THE LOCAL CONTROLS OR THROUGH THE *VISTA*LINK® INTERFACE

The MASTER jumper J6 selects whether the module will be controlled from the local user controls or through the *Vista*LINK® interface.

MASTER: When this jumper is installed in the LOCAL position, the card functions are controlled through the local jumpers.

When this jumper is installed in the REMOTE position, the card functions are controlled through the *Vista*LINK® interface.

7.3. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

UPGRADE: The UPGRADE jumper J5 is used when firmware upgrades are being done to the module. For normal operation it should be installed in the *RUN* position. See the *Upgrading Firmware* chapter of this manual for more information.

To upgrade the firmware in the module unit pull it out of the frame. Move the UPGRADE jumper into the *UPGD* position. Install the Upgrade cable provided (located in the vinyl pouch in the front of this manual) onto the SERIAL header at the card edge. Re-install the module into the frame. Run the upgrade as described in the *Upgrading Firmware* section of this manual. Once the upgrade is completed, remove the module from the frame, move the UPGRADE jumper into the *RUN* position, remove the upgrade cable and re-install the module. The module is now ready for normal operation.

8. *VISTA*LINK® REMOTE MONITORING/CONTROL

8.1. WHAT IS *VISTA*LINK®?

*Vista*LINK® is Evertz's remote monitoring and configuration platform which operates over an Ethernet network using Simple Network Management Protocol (SNMP). SNMP is a standard computer network protocol that enables different devices sharing the same network to communicate with each other. *Vista*LINK® provides centralized alarm management, which monitors, reports, and logs all incoming alarm events and dispatches alerts to all the VLPro Clients connected to the server. Card configuration through *Vista*LINK® PRO can be performed on an individual or multi-card basis using simple copy and paste routines, which reduces the time to configure each module separately. Finally, *Vista*LINK® enables the user to configure devices in the network from a central station and receive feedback that the configuration has been carried out.

There are 3 components of SNMP:

1. An SNMP manager, also known as a Network Management System (NMS), is a computer running special software that communicates with the devices in the network. Evertz VL-Fiber demo Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz *Vista*LINK® enabled fiber optic products.

2. Managed devices, (such as 7707EO and 7707OE cards), each with a unique address (OID), communicate with the NMS through an SNMP Agent. Evertz *Vista*LINK® enabled 7700 series modules reside in the 3RU 7700FR-C MultiFrame and communicate with the manager via the 7700FC *Vista*LINK® frame controller module, which serves as the Agent.

3. A virtual database, known as the Management information Base (MIB), lists all the variables being monitored and which both the Manager and Agent understand. Please contact Evertz for further information about obtaining a copy of the MIB for interfacing to a third party Manager/NMS.

For more information on connecting and configuring the *Vista*LINK® network, see the 7700FC Frame Controller chapter.

8.2. *VISTA*LINK® MONITORED PARAMETERS

The following parameters can be remotely monitored through the *Vista*LINK® interface:

Parameter	Description
Video A Standard	A range of values describing the detected video signal.
Video B Standard	A range of values describing the detected video signal.
Video A Signal Valid	Indicates valid video signal.
Video B Signal Valid	Indicates valid video signal.
Master Jumper	Indicates if card is in Local or Remote mode (position of Master Jumper).
Optical Power	A range of values describing optical power at the fiber input.
Module OK	Indicates presence of a valid optical link with a 7707CVT-2-SV module.
Card Type	Indicates 7707CVT-2-SV card type.
Audio Signal 1	Indicates the presence of audio signal.
Audio Signal 2	Indicates the presence of audio signal.
Audio Signal 3	Indicates the presence of audio signal.
Audio Signal 4	Indicates the presence of audio signal.
Carrier Weak	Indicates a weak signal carrier (2dBm before the state of Carrier Fault LED).

Table 8-1: *Vista*LINK® Monitored Parameters

8.3. *VISTA*LINK® TRAPS

The following traps can be remotely monitored through the VistaLINK interface:

Trap	Description
Audio 1 Silence	Indicates the silence of an Audio 1 input signal.
Audio 2 Silence	Indicates the silence of an Audio 2 input signal.
Audio 3 Silence	Indicates the silence of an Audio 3 input signal.
Audio 4 Silence	Indicates the silence of an Audio 4 input signal.
Carrier Weak	Indicates a weak signal carrier (2dBm before the state of Carrier Fault LED).
Module Not OK	Indicates that module does not operate properly (status of of Local Fault LED).
Signal A Invalid	Indicates valid video signal on Channel A.
Signal B Invalid	Indicates valid video signal on Channel B.

Table 8-2: *Vista*LINK® Traps

8.4. *VISTA*LINK® CONTROLLED PARAMETERS

When the MASTER jumper is set to the REMOTE position, the following parameters can be remotely controlled through the *Vista*LINK® interface. When the MASTER jumper is set to the LOCAL position the local jumper settings will override the settings configured through the *Vista*LINK® interface.

NOTE: Video Gain, Offset, and Equalization set for Luma and Chroma must be configured to the same values. Levels applied to one channel must be applied to the second channel.

Parameter	Description
Video A Offset	A range of values describing DC Offset at the Video 1 ouput (Luma)
Video B Offset (CVR-2 only)	A range of values describing DC Offset at the Video 2 output (Chroma)
Video A Gain	A range of values describing Gain of Video 1 (Luma) output as a percentage (100 % = unity gain).
Video B Gain (CVR-2 only)	A range of values describing Gain of Video 2 (Chroma) output as a percentage (100 % = unity gain).
Video A Pre-EQ	A range of values describing pre-emphasis being applied to the Video 1 output (Luma)
Video B Pre-EQ (CVR-2 only)	A range of values describing pre-emphasis being applied to the Video 2 output (Chroma)
Audio 1 Output Volume	Sets the Audio 1 Volume Level
Audio 2 Output Volume	Sets the Audio 2 Volume Level
Audio 3 Output Volume	Sets the Audio 3 Volume Level
Audio 4 Output Volume	Sets the Audio 4 Volume Level
Audio 1 Silence Level	Sets the Audio 1 Silence Detect Level
Audio 2 Silence Level	Sets the Audio 2 Silence Detect Level
Audio 3 Silence Level	Sets the Audio 3 Silence Detect Level
Audio 4 Silence Level	Sets the Audio 4 Silence Detect Level
Audio 1 Silence Duration	Sets the Audio 1 Silence Detect Duration
Audio 2 Silence Duration	Sets the Audio 2 Silence Detect Duration
Audio 3 Silence Duration	Sets the Audio 3 Silence Detect Duration
Audio 4 Silence Duration	Sets the Audio 4 Silence Detect Duration
Audio 1 Output Mute Enable	Sets the Audio 1 Mute Mode
Audio 2 Output Mute Enable	Sets the Audio 2 Mute Mode
Audio 3 Output Mute Enable	Sets the Audio 3 Mute Mode
Audio 4 Output Mute Enable	Sets the Audio 4 Mute Mode
Audio 1 Silence Detect Enable	Sets the Audio 1 Silence Detect Mode
Audio 2 Silence Detect Enable	Sets the Audio 2 Silence Detect Mode
Audio 3 Silence Detect Enable	Sets the Audio 3 Silence Detect Mode
Audio 4 Silence Detect Enable	Sets the Audio 4 Silence Detect Mode

Table 8-3: *Vista*LINK® Controlled Parameters