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REVISION HISTORY

REVISION	DESCRIPTION	DATE
1.0	First Revision	February 2005
1.1	Addition of card edge menus and VistaLINK parameters	September 2005

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Although every attempt has been made to accurately describe the features, installation and operation of this product in this manual, no warranty is granted nor liability assumed in relation to any errors or omissions unless specifically undertaken in the Evertz sales contract or order confirmation. Information contained in this manual is periodically updated and changes will be incorporated into subsequent editions. If you encounter an error, please notify Evertz Customer Service department. Evertz reserves the right, without notice or liability, to make changes in equipment design or specifications.

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1.   OVERVIEW

The 7771CS-HD, HDTV Compression Codec encodes one SMPTE 292M (1.485Gb/s) serial digital video signal with up to four stereo AES channels of embedded or separate audio, into one 270Mb/s SDTi (SMPTE305M) compliant output stream.   Automatic detection and support of 1080i/59.94, 1080i/50, 1080p/29.97sF, 1080p/25sF, 1080p/23.97sF and 1035i/59.94 video formats is provided.

The 7771CS-HD occupies two card slots and is housed in the standard Evertz 3RU frame that holds up to 15 modules.

Features:
- Industry proven HDCAM video compression for origination quality video
- Supports 1080i/59.94, 1080i/50, 1080p/29.97sF, 1080p/25sF 1080p/23.98sF and 1035i/59.94 formats
- Automatic detection of 1035/1080 active lines
- Accepts up to four channels of embedded or separate AES audio
- No compression applied to AES audio streams
- SMPTE 305M compliant 270Mb/s output stream
- Error correction and EDH insertion on SDTi output
- Fully hot swappable from front of frame
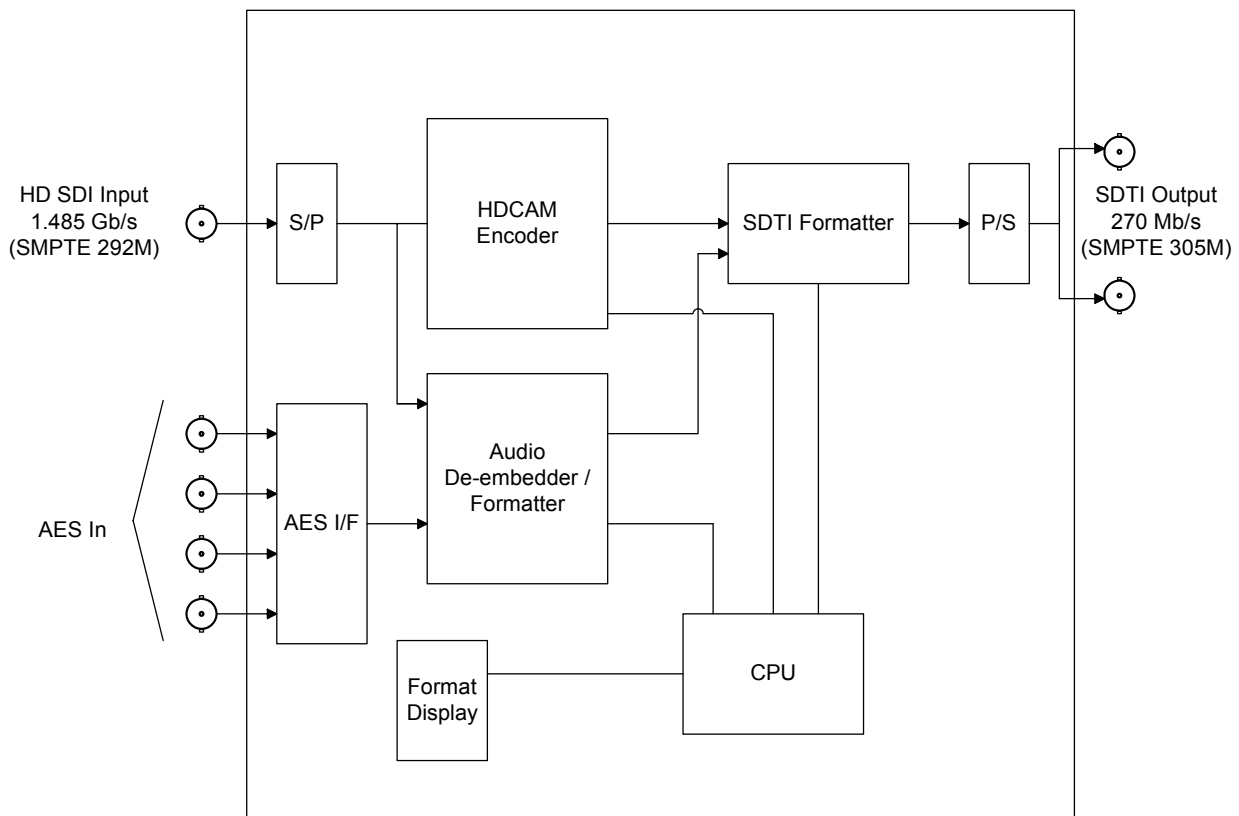
Figure 1: 7771CS-HD Block Diagram

2. INSTALLATION

The 7771CS-HD comes with a companion rear plate that has eight BNC connectors, occupying two slots in the 7700FR frame. For information on mounting the rear plate and inserting the module into the frame see the 7700FR chapter section 3.
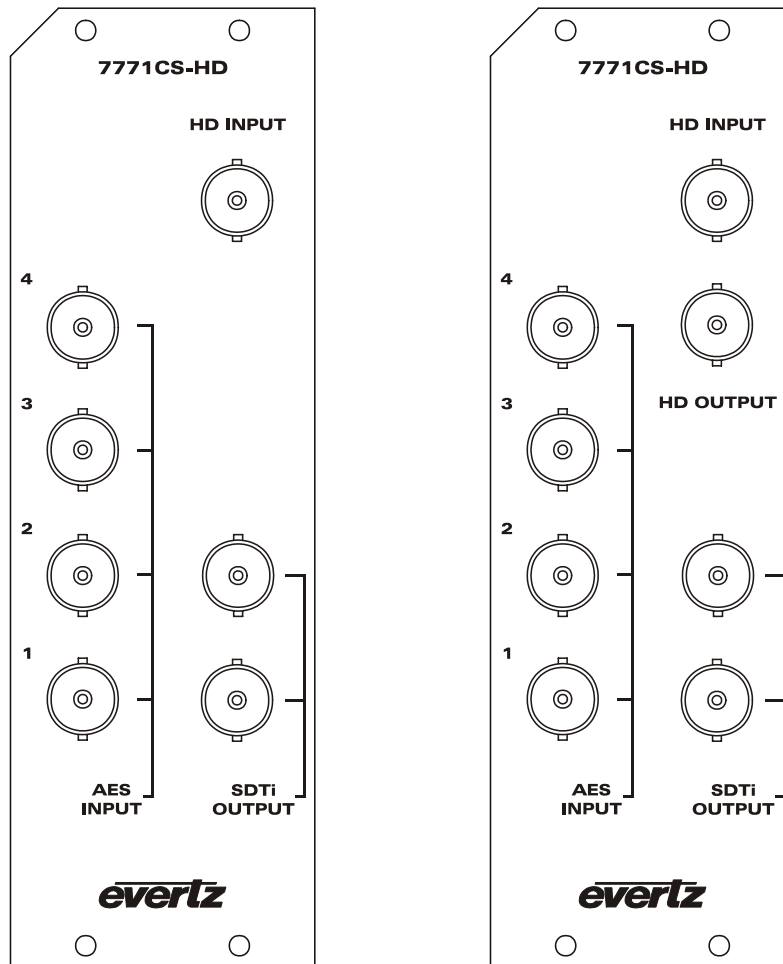
Figure 2: 7771CS-HD Rear Panels

2.1. VIDEO CONNECTIONS

Connect a source of HD serial component video, compatible with the SMPTE 292M standard, to the BNC labeled **HD INPUT**. See Table 1 for a list of the video formats supported. Compressed video output, compatible with the SMPTE 259M and SMPTE 305M standards, is available on the **SDTi OUTPUT** BNCs.

2.2. AUDIO CONNECTIONS

The 7771CS-HD has the ability to embed up to 4 AES audio streams (8 channels) into 2 groups on the compressed video output. No compression is applied to the AES audio streams. The audio source can be either embedded audio on the HD video input or AES audio connected to the 4 BNCs labeled **AES INPUT**. Selection of the audio source is done by DIP switch (see section 5.7.6).

3.   SPECIFICATIONS

3.1.   HD SERIAL VIDEO INPUT

Standard: 1.485 Gb/sec SMPTE 292M – standards supported are shown in Table 1.
Connector: 1 BNC per IEC 169-8
Equalization: Automatic to 125m @ 1.5Gb/s with Belden 1694 or equivalent cable

HD Input					SDTi Output	Genlock Type
Common Name	Pixels / Active Lines	Frame Rate	Progressive /Interlace	SMPTE Standard		
1080i/59.94	1920 x 1080	29.97	I	274M	525/29.97	NTSC
1080i/50	1920 x 1080	25	I	274M	625/25	PAL
1080p/29.97sF	1920 x 1080	29.97	P (sF)	274M	525/29.97	NTSC
1080p/25sF	1920 x 1080	25	P (sF)	274M	525/25	PAL
1080p/23.98sF	1920 x 1080	23.98	P (sF)	274M	525/23.98	---
1035i/59.94	1920 x 1035	29.97	I	260M	525/29.97	NTSC

Table 1: Video Input Formats

3.2.   SDTI VIDEO OUTPUT

Standard: SMPTE 259M-C – 270 Mb/s
                        Video compressed in accordance with SMPTE 305M
Number of Outputs: 2
Connector: BNC per IEC 169-8
Signal Level: 800mV nominal
DC Offset: 0V ±0.5V
Rise and Fall Time: 740ps nominal
Overshoot: <10% of amplitude
Return Loss: > 15 dB at 270 Mb/s
Wide Band Jitter: < 0.2UI
Embedded Audio: 2 groups, SMPTE 272M-A
                        Source selectable from embedded audio on HD input or external AES inputs

3.3.   AES AUDIO INPUTS

Number of Inputs: 4
Standard: SMPTE 276M, single ended synchronous AES
Signal Level: 1V p-p ±0.1V
Connectors: BNC per IEC 169-8
Resolution: 24 bits
Sampling Rate: 48 kHz
Impedance: 75 Ohms unbalanced

3.4. INPUT TO SDTI DELAY

Video: 3 frames
AES: < 2 msec
VANC: 9 fields

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 frame mounting: 2 slots
7701 frame mounting: 1 slots

4.   STATUS INDICATORS AND DISPLAYS

The 7771CS-HD has 12 LED Status indicators and a 4 digit alphanumeric display on the front card edge to show operational status of the card at a glance. Figure 3 shows the location of the LED's display and card edge DIP switches.

> **NOTE: Cards using code previous to 1.0 build 7 will have DIP switch control enabled. Cards using firmware version 1.0 build 7 or newer will have DIP switches disabled, and card edge menu enabled.**
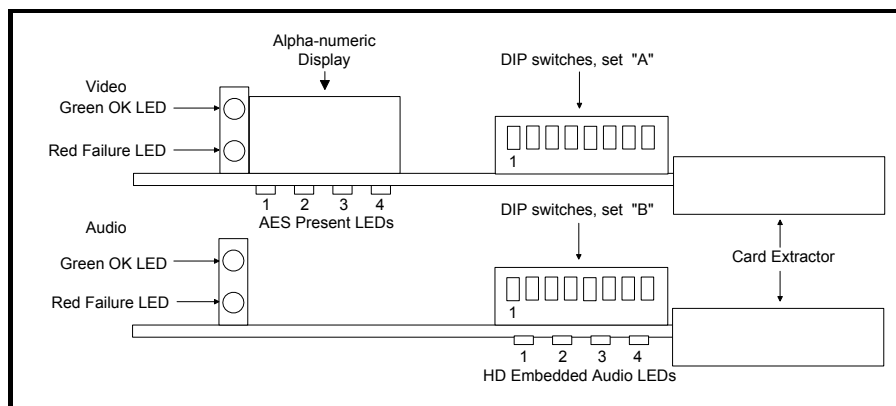

Figure 3: LED and Switch Locations

4.1. STATUS AND INDICATOR LEDS

4.1.1. Module Status LEDs

Two large LED's on the front of the bottom 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 valid audio input or if a local input power fault exists on the bottom board (i.e.: a blown fuse). The LOCAL FAULT indication can also be reported to the frame through the FRAME STATUS jumper on the bottom board.

Note: When AUD 1 and AUD 2 are selected to be OFF, the LOCAL FAULT LED does not turn RED on loss of Audio

---

MODULE OK: This Green LED indicates good module health. It will be On when a valid audio signal is present, and board power is good.

Two large LED's on the front of the top board indicate the presence of video to the module. DIP switches 1 to 3 on the top board are used to select the video standard (see section 5.7.1). The alphanumeric display will show the video standard in use (see section 4.2).

VIDEO FAULT: This Red LED will be On during the absence of valid video input of the selected standard or if a local input power fault exists on the top board (i.e.: a blown fuse). This condition can also be reported to the frame through the FRAME STATUS jumper on the top board.

VIDEO OK: This Green LED will be On when a valid video signal of the selected standard is present.

4.1.2. AES Audio Present LEDs

There are four small LED's on the back side of the top board that indicate the presence of AES audio on the AES inputs.

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

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

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

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

4.1.3. HD Input Embedded Audio Present LEDs

There are four small LED's on the backside of the bottom board that indicate the presence of embedded audio on the incoming HD video.

GROUP 1 PRESENT: This Green LED indicates the presence of Group 1 embedded audio.

GROUP 2 PRESENT: This Green LED indicates the presence of Group 2 embedded audio

GROUP 3 PRESENT: This Green LED indicates the presence of Group 3 embedded audio

GROUP 4 PRESENT: This Green LED indicates the presence of Group 4 embedded audio

4.2. DOT-MATRIX DISPLAY

The 4-digit alphanumeric display located on the card edge of the top board is used to display the video standard in use. If manual video standard selection is set (DIP switch 1 On) then the display will always display the selected standard.   If auto standard selection is set (DIP switch 1 Off) the alphanumeric display will read AUTO until a valid input standard is detected. When valid input video is detected the detected standard will be displayed. The following messages will be displayed.

AUTO	Auto video standard selected, and no video present
59	1080i/59.94 or 1080p/29.97sF
50	1080i/50 or 1080p/25sF
35	1035i/59.94
23	1080p/23.98sF

5.   CARD EDGE CONTROLS

5.1.   CARD EDGE MENU CONTROL

Additional signal and status monitoring is provided via the 4-digit dot-matrix display located at the card-edge. The card-edge pushbutton and toggle-switch are used to navigate through the display menu. Refer to Figure 4: Card-edge Menu Quick Reference for menu quick reference.

Pressing the pushbutton advances the display to the next menu level. The toggle-switch may then be used to move up or down through selections of that menu level. Select BACK to return to previous menu level.

If a specific menu selection has a configuration value associated with it, then this may be changed using the toggle switch. Pressing the pushbutton will apply the displayed value and return you to the previous menu level.

The most recent user selection will be maintained in non-volatile memory in the event of power loss to the module.

NOTE: Cards using code previous to 1.0 build 7 will have DIP switch control enabled. Cards using firmware version 1.0 build 7 or newer will have DIP switches disabled, and card edge menu enabled.

	Menu Level 1	Menu Level 2	Menu Level 3	Menu Level 4
	Pushbutton⇨	Pushbutton⇨	Pushbutton⇨	Pushbutton⇨
	BACK			
	AUD	MODE	AUTO	
			MAN	
⇧		AUD1	OFF	
Toggle			GRP1-GRP4	
			EXT	
Switch		AUD2	OFF	
⇩			GRP1-GRP4	
			EXT	
		RES	20	
			24	
		SRC	AES1-AES4	ON
				OFF
	VID	VSTD	AUTO	
			35	
			23	
			50	
			59	
		VANC	ON	
			OFF	
	DISP	VERT		
		HORZ		
	VER	(displays scrolling Firmware version)		

Figure 4: Card-edge Menu Quick Reference

5.2.   CARD EDGE MENU DISPLAY

The Card Edge menu is arranged in a layered structure that groups similar configuration items together. The following section gives a brief description of the first level of menus that appear when you enter the Card Edge display. Selecting one of these items will take you to the next menu level

AUD	Configures Audio settings, Auto and Manual modes.
VID	Configures Video standard settings and VANC transport.
DISP	Configures card edge display .
VER	Allows user to view installed firmware version.

5.3.   CONFIGURING THE AUDIO SETTINGS

5.3.1. Audio Detection Mode

AUD		
MODE		Setting the Audio Mode to Auto will automatically detect incoming audio (Embedded or External). To configure AUD1 and AUD2, set MODE to MAN for manual configuration.
	Auto	
	Man	

5.3.2. Selecting Upstream Audio Source 1

AUD		
AUD1		The AUD1 audio option allows the user to select the source of the First upstream Audio Group. If Audio is embedded, select the coresponding GRP1, GRP2, GRP3, or GRP4 upstream Audio Group. If AES audio is external, select the EXT option.
	GRP1	
	GRP2	
	GRP3	
	GRP4	
	EXT	

5.3.3. Selecting Upstream Audio Source 2

AUD		
AUD2		The AUD2 audio option allows the user to select the source of the second upstream Audio Group. If Audio is embedded, select the coresponding GRP1, GRP2, GRP3, or GRP4 upstream Audio Group. If AES audio is external, select the EXT option.
	GRP1	
	GRP2	
	GRP3	
	GRP4	
	EXT	

5.3.4. Audio Resolution

AUD		
RES		The 7771CS can be configured to pass either 20bit or 24bit resolution audio. Select the required resolution by selecting either 20 or 24. For Dolby Applications, set the resolution for 24bit audio.
	20	
	24	

5.3.5. Sample Rate Converters

```
AUD
    SRC
        AES1
        AES2
        AES3
        AES4
        ON
        OFF
```

The SRC menu option allows the user to Enable or Disable the audio sample rate converters for External Audio Select the AES channel to configure, and select ON to enable SRC or OFF to disable SRC.

NOTE: To pass Dolby Audio, Sample Rate Converters must be set to OFF.

5.4. CONFIGURING VIDEO SETTINGS

5.4.1. Selecting the Upstream Video Standard

```
VID
    VSTD
        AUTO
        35
        23
        50
        59
```

The Video Setting can be configured for Automatic detection or manual configuration. Setting the VSTD to AUTO will enable automatic standard detection of upstream video.
The following are the manual settings:
35 – 1035i/59.94
23 – 1080p/23.98sF
50 – 1080i/50 or 1080p/25sF
59 – 1080i/59.94 or 1080p/29.97sF

5.4.2. Enabling and Disabling VANC data transport

```
VID
    VANC
        ON
        OFF
```

The VANC data transport can be enabled or disabled using this option. Setting the VANC to ON passes all upstream VANC data. Setting it to OFF disables VANC data from passing thru.

5.5. CONFIGURING CARD EDGE DISPLAY

```
DISP
    VERT
    HORZ
```

Configures the display orientation of the card edge display. VERT configures the numerics Vertically. HORZ configures the numerics Horizontally.

5.6. FIRMWARE VERSION

```
VER
    Version display
```

Displays the Firmware version loaded on the card

5.7. CARD EDGE DIP SWITCH CONTROL

NOTE: Cards using code previous to 1.0 build 7 will have DIP switch control enabled. Cards using firmware version 1.0 build 7 or newer will have DIP switches disabled, and card edge menu enabled.

The 7771CS-HD is equipped with two 8 position DIP switches to allow the user to select various functions. The DIP switch on the bottom card is used control the embedding of audio on the SDTi output. The DIP switch on the top card is used to set the input video standard. All positions are assigned sequentially such that the first position is located at the top of the DIP switch (farthest from to the card ejector). The On (closed) position is down, or closest to the printed circuit board. The Off (open) position is up, or farthest from the printed circuit board.

Table 3 and Table 2 give an overview of the DIP switch functions. Sections 5.7.6 to 5.7.2 give detailed descriptions of each of the DIP switch functions.

DIP Switch	Function
1	Auto/Manual video format selection
2	Video standard selection
3	
4	20/24 Bit audio transport select
5	VANC transport enable/disable
6	AES Input 1 and 2 sample rate converter enable/disable
7	AES Input 3 and 4 sample rate converter enable/disable
8	Audio transport enable/disable

Table 2: Top Board DIP Switch Functions

DIP Switch	Function
1	Group 1 source select
2	Group 1 mapping from input embedded groups
3	
4	Group 2 source select
5	Group 2 mapping from input embedded groups
6	
7	Group 2 enable/disable
8	Auto/manual audio selection

Table 3: Bottom Board DIP Switch Functions

5.7.1. SELECTING THE INPUT VIDEO STANDARD (Top Board)

DIP switches 1 to 3 on the top card control the selection of the input video format. DIP switch 1 selects whether the input video format will be automatically detected or set using DIP switches 2 and 3. When set to the manual mode, the 7771CS-HS compressor will lock on faster to the input video.

DIP 1	DIP 2	DIP 3	Video Standard
Off	---	---	Auto
On	Off	Off	1080p/23.98sF
On	Off	On	1035i/59.95
On	On	Off	1080i/50 or 1080p/25sF

On	On	On	1080i/59.94 or 1080p/29.97sF

Table 4: Video Standard Switch Settings

5.7.2. 20/24 BIT AUDIO SELECTION (Top Board)

DIP switch 4 on the top card selects whether the 7771CS embeds 20 bit or 24 bit audio into the SDTi bitstream. When 24 bit audio is beind embedded the Extended data packets are used and this will comsume more of the available HANC data space (see section 6).

DIP 4	20/24 Bit Audio Resolution
Off	20 Bit Audio
On	24 Bit Audio

Table 5: Audio Resolution Select Switch Settings

5.7.3. VANC TRANSPORT ENABLE/DISABLE (Top Board)

DIP switch 5 on the top card enables or disables embedding of any VANC packets found in the input HD video to audio group 3 of the output SDTi stream.

DIP 5	VANC transport
Off	Disabled
On	Enabled

Table 6: VANC Transport Switch Settings

5.7.4. AES INPUT SAMPLE RATE CONVERTER ENABLE/DISABLE (Top Board)

DIP switch 6 and 7 on the top card disable the sample rate converters on the AES inputs.

DIP 6	DIP 7	AES input sample rate converter
Off	Off	AES inputs 1, 2, 3 and 4 enabled
On	Off	AES input 1 and 2 disabled AES inputs 3 and 4 enabled
Off	On	AES input 1 and 2 enabled AES inputs 3 and 4 disabled
On	On	AES inputs 1, 2, 3 and 4 disabled

Table 7: AES Input Sample Rate Converter Enable/Disable Switch Settings

5.7.5. AUDIO TRANSPORT ENABLE/DISABLE (Top Board)

DIP switch 8 on the top card enables or disables embedding of any Audio packets found in the input HD video to the output SDTi stream.

DIP 8	Audio Transport
Off	Disabled
On	Enabled

Table 8: Audio Transport Switch Settings

5.7.6. SELECTING THE AUDIO GROUP THAT WILL BE EMBEDDED (Bottom Board)

The SMPTE 276M standard permits up to 4 groups of 4 audio channels to be embedded into the 270 Mb/s video bit stream. DIP switch 1 on the bottom board controls whether the source for audio group 1 will be the AES inputs or the audio embedded on the HD input. When DIP switch 1 is set for the HD embedded audio source, DIP switches 2 and 3 are used to select which group on the HD input will be placed into group 1 on the output according to Table 9.

DIP 1	DIP 2	DIP 3	Audio Group 1 Source
Off	---	---	AES inputs 1 and 2
On	Off	Off	HD Input group 1
On	Off	On	HD Input group 2
On	On	Off	HD Input group 3
On	On	On	HD Input group 4

Table 9: Audio Group 1 Source Selection Switch Settings

DIP switch 4 on the bottom board controls whether the source for audio group 2 will be the AES inputs or the audio embedded on the HD input. When DIP switch 4 is set for the HD embedded audio source, DIP switches 5 and 6 are used to select which group on the HD input will be placed into group 1 on the output according to Table 10.

DIP 4	DIP 5	DIP 6	Audio Group 2 Source
Off	---	---	AES inputs 3 and 4
On	Off	Off	HD Input group 1
On	Off	On	HD Input group 2
On	On	Off	HD Input group 3
On	On	On	HD Input group 4

Table 10: Audio Group 2 Source Selection Switch Settings

5.7.7. ENABLING/DISABLING TRANSPORT OF THE SECOND AUDIO GROUP (BOTTOM BOARD)

DIP switch 7 on the bottom board controls whether the second audio group is embedded in the output SDTi stream. If the switch is On the second group is embedded. When DIP switch 7 is Off only the first audio group is embedded in the SDTi output.

DIP 7	Group 2 Embedder Enable
Off	Disabled

On	Enabled

Table 11: Group 2 Enable/Disable Switch Settings

5.7.8. AUTO/MANUAL AUDIO TRANSPORT SELECTION (BOTTOM BOARD)

DIP switch 8 on the bottom board controls the determination of the audio groups that will be embedded in the SDTi output. When DIP switch 8 is On the audio group embedded is manually determined by DIP switches 1 to 7 on the bottom board.

When DIP switch 8 on the bottom board is Off the audio groups embedded are automatically determined in the following manner.

- If there is audio embedded in the incoming HD video the first two groups found will be transported (starting at group 1 searching up to group 4).
- If there is only one group present in the incoming HD video stream then only one group will be transported.
- If there is no embedded audio in the incoming HD video stream then the external AES inputs will be used as the audio source.
- If there is also no input signal to the AES inputs and no embedded audio in the incoming HD video stream there will not be any audio groups embedded in the SDTi stream.

DIP 8	Manual/Auto Audio Selection
Off	Manual audio transport selection
On	Automatic audio transport selection

Table 12: Manual/Auto Audio Transport Selection Switch Settings

6. HANC SPACE IN THE SDTI STREAM

The HANC space in the SDTi output of the 7771CS is almost entirely used when all features of the card are enabled. This section details that usage so that coupled with the controls detailed in section 5 the user can configure the card for best utilization for their needs. With all features turned on the following list details the mapping of data into HANC space of the SDTi stream.

SDTi header	53 words
Group 1 audio 20 bit packet	55 words
Group 1 audio extended packet	15 words
Group 2 audio 20 bit packet	55 words
Group 2 audio extended packet	15 words
Group 3 audio 20 bit packet (VANC data)	55 words

For a total of 248 words. This is true for all lines except for the EDH line, the switch line and the protect lines. The EDH line, switch lines and protect lines contain no audio data. It is possible to turn off audio group 2 (see section 5.7.7) and VANC transport in audio group 3 (see section 5.7.3). Whether group 2 is enabled or not the extended audio packets can also be disabled (see section 5.7.2. This gives the user flexibility for to turn off features that are not needed to free up HANC space for embedding other data to the output of this card.

7. VANC TRANSPORT OPERATION

The 7771CS card is capable of transporting VANC data in a form that can be used by the 7771DS card. Since VANC is not normally transported on HDCAM this feature is only available when the 7771CS is used with the 7771DS. The VANC data is transported over the SDTi stream as a 20 bit audio group. Data is formatted into two AES streams as per SMPTE337. These two AES streams are then embedded as group three audio in the SDTi stream. It is possible to disable this feature to free up room in the HANC space of the SDTi stream. See section 6 for a description of how the HANC space is utilized in the SDTi stream and Section 5 for DIP switch settings to enable/disable this feature.

VANC data is transported on a field by field basis. The 7771CS accumulates data over the vertical interval of a field. The vertical interval starts when the V bit changes to a one to the point where the V bit changes to a zero. The 7771CS will store all ANC data packets it finds in this interval that have a data ID of 61, 62, 40-5f, and c0-df up to the limit of it's field buffer. The VANC data field buffer is 4K words deep. Once this much data has been buffered any remaining ANC data in the field will be dropped. At the end of each vertical interval period the VANC data buffer is processed into AES data to be embedded into the SDTi output. VANC data buffers are delayed in the 7771CS to compensate for the video processing delays in both the 7771CS card and the 7771DS card. The result is that the data appears in the same field in the output after decompression as it did on the input before compression.

8. JUMPERS

Several jumpers, located at the front of the module are used to preset various operating modes. Figure 5 and Figure 6 show the location of the jumpers on the bottom and top boards respectively.
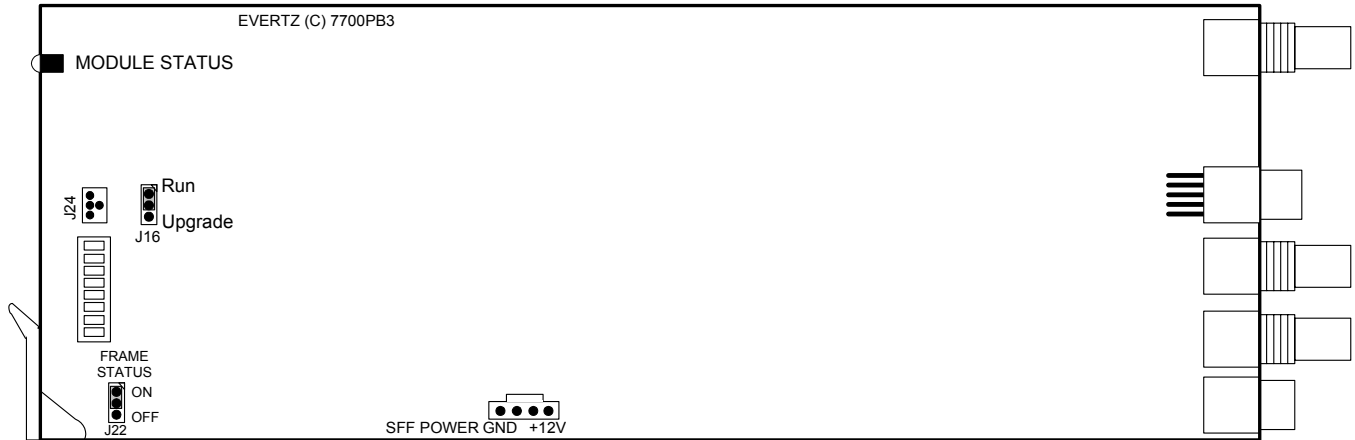

Figure 5: Location of Jumpers Bottom Board

Figure 6: Location of Jumpers Top Board

8.1. SELECTING WHETHER LOCAL FAULTS ON THE BOTTOM BOARD WILL BE MONITORED BY THE GLOBAL FRAME STATUS

The FRAME STATUS jumper J4 on the bottom board determines whether local faults (as shown by the Local Fault indicator) on the bottom board 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.

8.2. SELECTING WHETHER LOCAL FAULTS ON THE TOP BOARD WILL BE MONITORED BY THE GLOBAL FRAME STATUS

The FRAME STATUS jumper J4 on the top board determines whether local faults (as shown by the Local Fault indicator) on the top board 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.

8.3. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

✎ | **The UPGRADE jumper J16 is installed on the underside of the bottom board.**

UPGRADE   The UPGRADE jumper J16 on the bottom board 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* chapter in 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.

9.   *VISTA*LINK™ REMOTE MONITORING/CONTROL

9.1. WHAT IS *VISTA*LINK™?

*Vista*LINK™ is Evertz's remote monitoring and control capability 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. For monitoring there needs to be a detecting device that automatically reports all errors to a central alarm and error logging station. We also need to be able to interrogate individual detector devices from the central station to determine the status of individual channels. Finally, we need to be able to configure devices in the network from the 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 7771CS and 7771DS cards), each with a unique address (OID), communicate with the NMS through an SNMP Agent. Evertz VistaLINK™ enabled 7700 series modules reside in the 3RU 7700FR-C MultiFrame and communicate with the manager via the 7700FC VistaLINK™ 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.

9.2. *VISTA*LINK^{TM} MONITORED PARAMETERS

The following parameters can be remotely monitored through the *Vista*LINK™ interface.

Parameter	Description
Video Present	Video is present on Video Input BNC
Video Absent	Video is not detected on Video Input BNC
Audio 1 Source Present/ Absent	Detects presence of Embedded or External AES. Audio detection type is based on EMB or EXT menu settings
Audio 2 Source Present/ Absent	Detects presence of Embedded or External AES. Audio detection type is based on EMB or EXT menu settings

Table 13: *Vista*LINK™ Monitored Parameters

9.3. *VISTA*LINK^{TM} CONTROLLED PARAMETERS

When the CONTROL 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.

Parameter	Description

Table 14: *Vista*LINK™ Controlled Parameters

9.4. *VISTA*LINK^{TM} TRAPS

Table 15: *Vista*LINK™ Traps –All versions