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## Tables

# REVISION HISTORY

| REVISION | DESCRIPTION | DATE |
|---|---|---|
| 1.0 | Original Version | Mar 04 |
| 1.1 | Return loss specifications updated | Aug 04 |
| 1.2 | *Vista*LINK® section updated, added support for 720p/50 | Mar 05 |
| 1.3 | Added information on 7721AD-A4-2HD and 7721AD4-B-HD | Mar 09 |

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# 1. OVERVIEW

The 7721AD-HD series Audio De-Embedders extract embedded audio as specified by SMPTE 299M from a 1.5 Gb/s serial HDTV video signal or 270Mb/s serial SD video signal. The companion 7721AE4-HD Audio Embedder facilitates audio multiplexing at the source. The 7721AD-HD is available in 4 different versions.

| Model | Audio Outputs | | 1.5 Gb/s HDSDI Re-clocked Outputs |
|---|---|---|---|
| | AES | Analog | |
| 7721AD4-B-HD | 4 Balanced | --- | 2 HD |
| 7721AD4-HD | 4 unbalanced | --- | 2 HD |
| 7721AD-A4-HD | 2 unbalanced | 4 | --- |
| 7721AD-A4-2HD | --- | 4 | 2 HD or SD |

SMPTE 299M allows for up to four groups (4 channels/group) to be embedded within a serial digital signal. The 7721AD4-HD can de-embed two audio groups onto four unbalanced AES outputs. The 7721AD-A4-HD can de-embed one audio group onto two unbalanced AES outputs and 4 balanced analog audio outputs. The 7721AD4-B-HD can de-embed two audio groups onto four balanced AES outputs. The 7721AD-A4-2HD can de-embed one audio group onto four balanced analog audio outputs.

**Features:**

- Automatic detection of video input format
- Front panel LEDs indicating module status, video presence, and selected audio group data is present
- LED indication for the presence of each of the 4 audio groups within the input video
- Audio group selection via card edge DIP switches
- 7721AD-A4-HD and 7721AD-A4-2HD has independent volume controls for each of the audio channel outputs
- VistaLINK® enabled for remote monitoring and control via SNMP (using VistaLINK® Pro) when installed in the 7700FR-C frame with a 7700FC VistaLINK® Frame Controller module

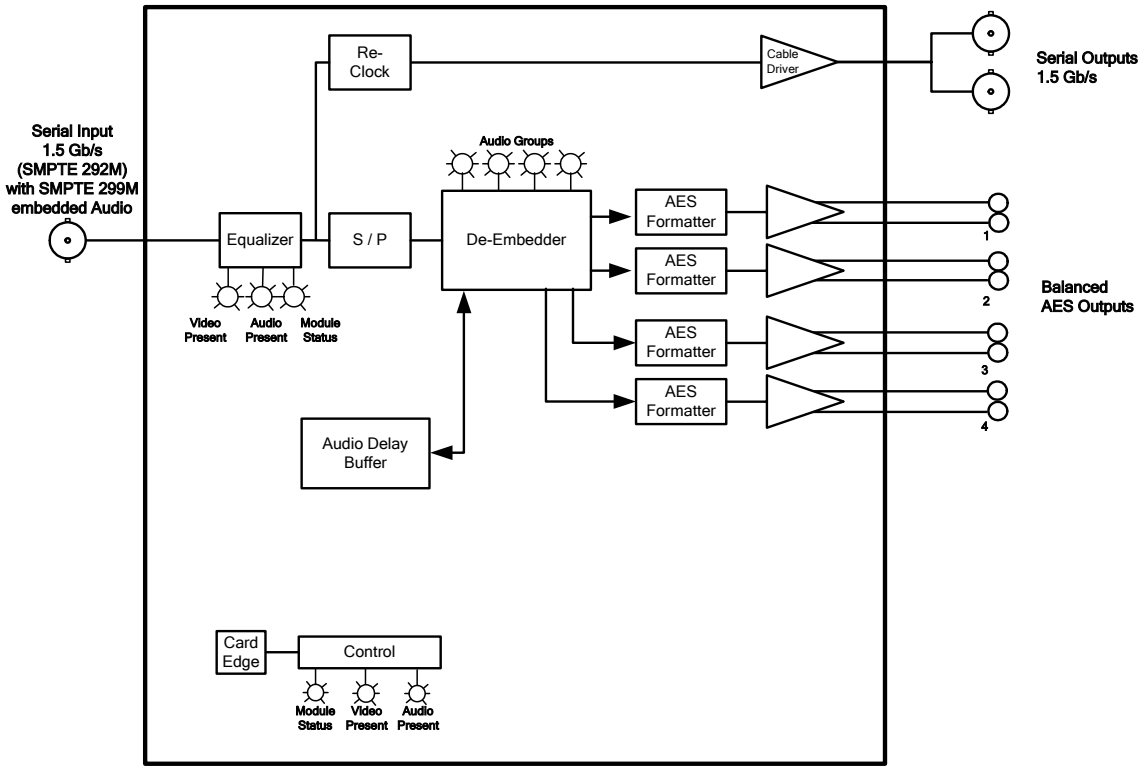


**Figure 1-1: 7721AD4-B-HD Block Diagram**

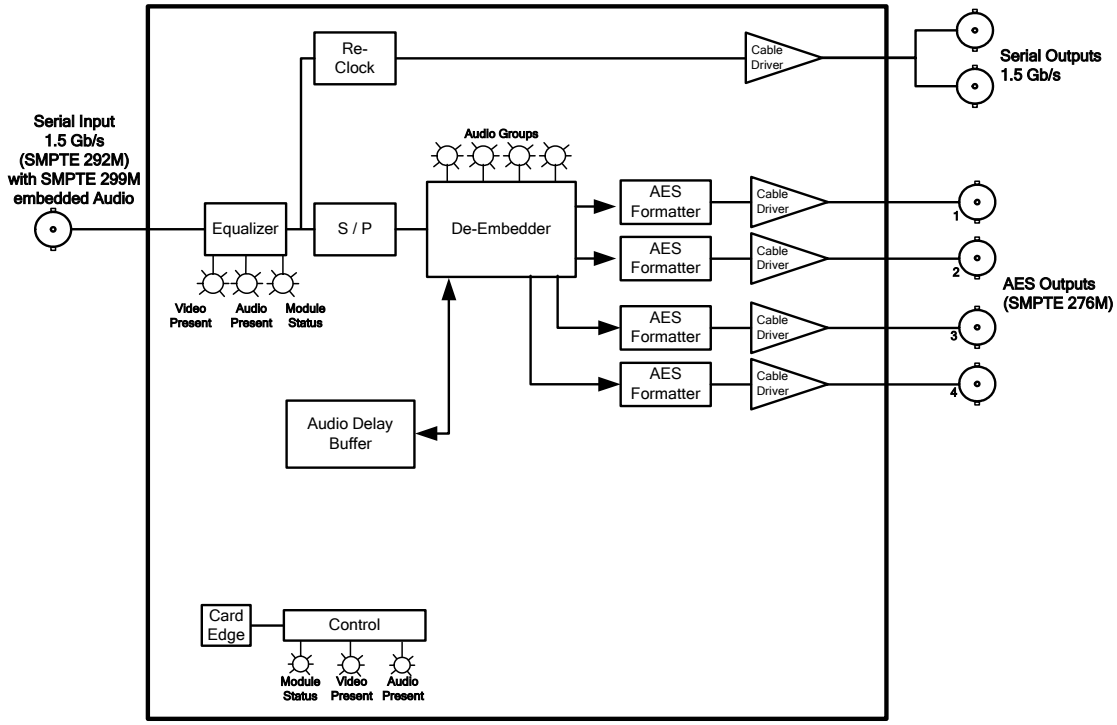


**Figure 1-2: 7721AD4-HD Block Diagram**

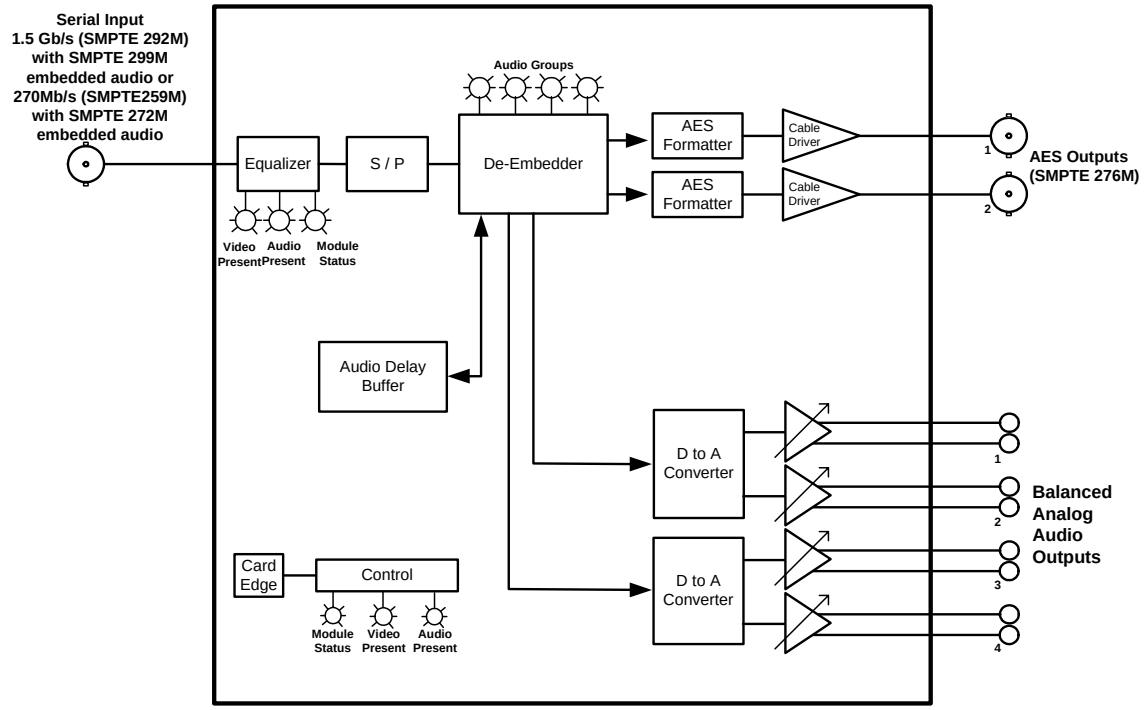


**Figure 1-3: 7721AD-A4-HD Block Diagram**

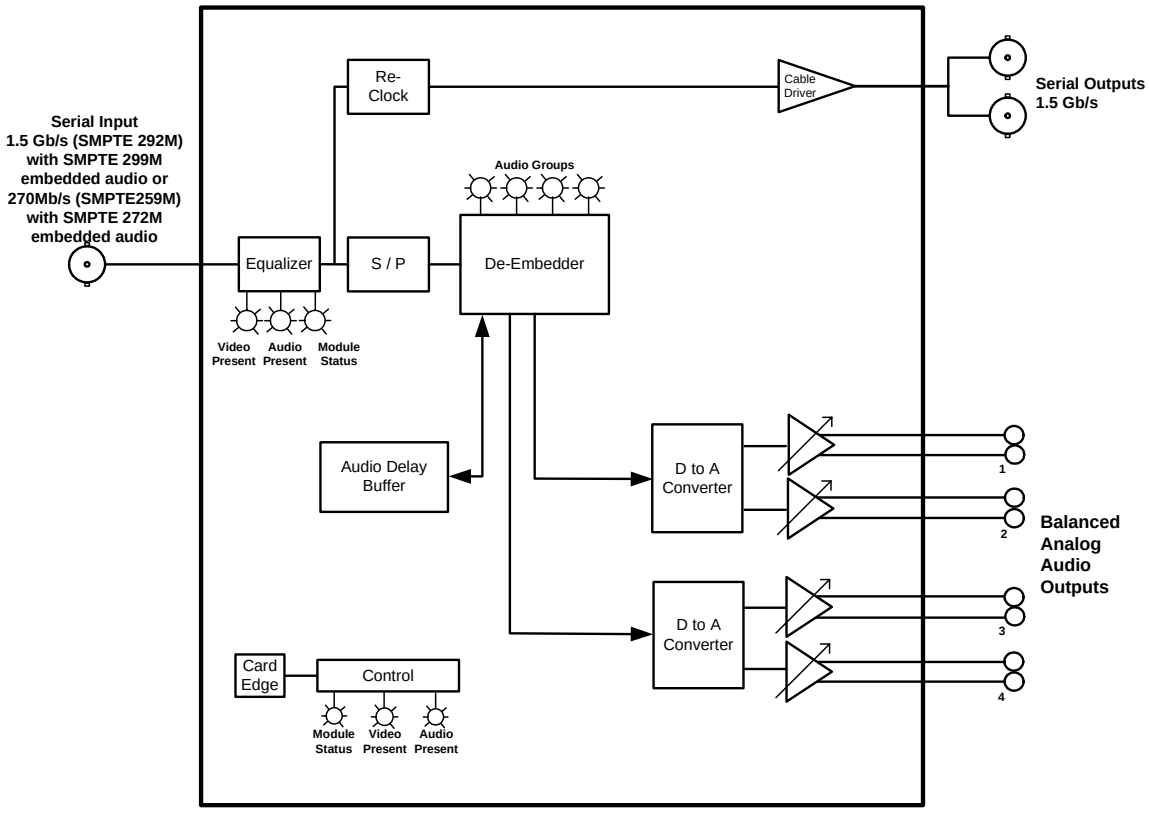


**Figure 1-4: 7721AD-A4-2HD Block Diagram**

# 2. INSTALLATION

The 7721AD4-HD module comes with a companion rear plate that has 7 BNC connectors. The 7721AD-A4-HD comes with a companion rear plate that has 3 BNC connectors and two 6 pin terminal strips. 7721AD4-B-HD and 721AD-A4-2HD come with a companion rear plate that has 3 BNC connectors and a 2x6 pin terminal block. For information on mounting the rear plate and inserting the module into the frame see section 3 of the 7700FR chapter.

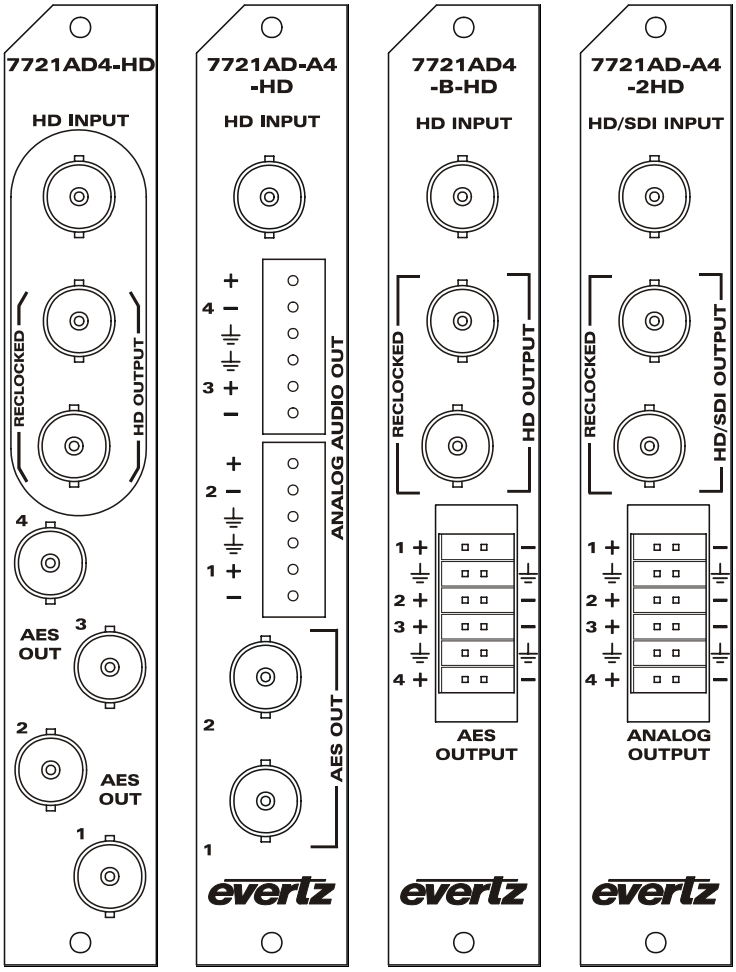


**Figure 2-1: 7721AD-HD Series Rear Panels**

## 2.1. VIDEO CONNECTIONS

**INPUT:** This input BNC connector is for 10-bit serial digital video signals with embedded audio, compatible with the SMPTE 292M standard on 7721AD4-HD and 7721AD4-B-HD; compatible with SMPTE292M and SMPTE259M on 7721AD-A4-HD and 7721AD-A4-2HD. The 7721AD-HD series modules automatically select the video standard. See Table 3-1 for a list of the video standards supported.

**OUTPUT:** On the 7721AD4-HD, 7721AD4-B-HD and 7721AD-A4-2HD there are two BNC connectors to output a reclocked copy of the input video.

## 2.2. AES AUDIO CONNECTIONS

On the 7721AD4-HD and 7721AD-A4-HD modules there are BNC connectors containing unbalanced AES that has been de-embedded from the video. On the 7721AD4-B-HD there is a 2 x 6 pin terminal strip containing balanced AES that has been de-embedded from the video.

**AES OUTPUT 1:** AES audio output from AES pair 1 (channels 1 and 2) of the audio group selected by DIP switches 1 and 2 for de-embedding.

**AES OUTPUT 2:** AES audio output from AES Pair 2 (channels 3 and 4) of the audio group selected by DIP switches 1 and 2 for de-embedding.

**AES OUTPUT 3:** (7721AD4-HD and 7721AD4-B-HD only) AES audio output from AES pair 1 (channels 1 and 2) of the audio group selected by DIP switches 5 and 6 for de-embedding.

**AES OUTPUT 4:** (7721AD4-HD and 7721AD4-B-HD only) AES audio output from AES pair 2 (channels 3 and 4) of the audio group selected by DIP switches 5 and 6 for de-embedding.

## 2.3. ANALOG AUDIO CONNECTIONS (7721AD-A4-HD and 7721AD-A4-2HD)

The 7721AD-A4-HD and 7721AD-A4-2HD have terminal blocks containing balanced analog audio that has been de-embedded from the video. The output audio cables can be secured into the removable portion of the terminal strips using a small screwdriver. The removable part of the terminal strip is then inserted into the rear panel.

**ANALOG OUTPUT 1 to 4:** Analog audio output from channels 1 to 4 of the audio group selected by DIP switches 1 and 2 for de-embedding.

# 3. SPECIFICATIONS

## 3.1. SERIAL VIDEO INPUT

**Standard:** 1.485 Gb/sec SMPTE 292M – standards supported are shown in Table 3-1.
SMPTE 259M (270 Mb/s) – supported on 7721AD-A4-HD and 7721AD-A4-2HD
**Connector:** BNC per IEC 61169-8 Annex A
**Equalization:** Automatic to 100m @ 1.5Gb/s with Belden 1694 or equivalent cable
**Return Loss:** > 10 dB up to 1.5 Gb/s

| Common Name | Pixels / Active Lines | Frame Rate | Progressive /Interlace | SMPTE Standard |
|---|---|---|---|---|
| 1080i/60 | 1920 x 1080 | 30 | I | 274M |
| 1080i/59.94 | 1920 x 1080 | 29.97 (30/1.001) | I | 274M |
| 1080i/50 | 1920 x 1080 | 25 | I | 274M |
| 1080p/30 | 1920 x 1080 | 30 | P | 274M |
| 1080p/30sF | 1920 x 1080 | 30 | P (sF) | 274M |
| 1080p/29.97 | 1920 x 1080 | 29.97 (30/1.001) | P | 274M |
| 1080p/29.97sF | 1920 x 1080 | 29.97 (30/1.001) | P (sF) | 274M |
| 1080p/25 | 1920 x 1080 | 25 | P | 274M |
| 1080p/25sF | 1920 x 1080 | 25 | P (sF) | 274M |
| 1080p/24 | 1920 x 1080 | 24 | P | 274M |
| 1080p/24sF | 1920 x 1080 | 24 | P (sF) | 274M |
| 1080p/23.98 | 1920 x 1080 | 23.98 (24/1.001) | P | 274M |
| 1080p/23.98sF | 1920 x 1080 | 23.98 (24/1.001) | P (sF) | 274M |
| 720p/60 | 1280 x 720 | 60 | P | 296M |
| 720p/59.94 | 1280 x 720 | 59.94 (60/1.001) | P | 296M |
| 720p/50 | 1280 x 720 | 50 | P | 296M |
| 1035i/60 | 1920 x 1035 | 30 | I | 260M |
| 1035i/59.94 | 1920 x 1035 | 29.97 (30/1.001) | I | 260M |
| 525i/59.94 *(7721AD-A4-HD & 7721AD-A4-2HD only)* | 1440 x 486 | 29.97 | I | 259M |
| 625i/50 *(7721AD-A4-HD & 7721AD-A4-2HD only)* | 1440 x 576 | 25 | I | 259M |

**Table 3-1: Video Input Formats**

## 3.2. RE-CLOCKED HD SERIAL VIDEO OUTPUTS (7721AD4-HD, 7721AD4-B-HD & 7721AD-A4-2HD)

**Number of Outputs:** 2
**Standard:** same as input
**Connector:** BNC per IEC 61169-8 Annex A
**Signal Level:** 800mV nominal
**DC Offset:** 0V ±0.5V
**Rise and Fall Time:** 200ps nominal
**Overshoot:** <10% of amplitude
**Return Loss:** > 10 dB up to 1.5 Gb/s
**Wide Band Jitter:** < 0.2 UI

### 3.3. AES AUDIO OUTPUTS

| | |
|---|---|
| **Number of Outputs:** | 2 on 7721AD-A4-HD<br>4 on 7721AD4-HD<br>4 on 7721AD4-B-HD |
| **Standard:** | SMPTE 276M, single ended synchronous or asynchronous AES |
| **Connectors:** | BNC per IEC 61169-8 Annex A |
| **Sampling Rate**: | 48 kHz |
| **Impedance:** | 75 Ohms unbalanced |
| **Delay:** | 9 samples to approx. 3 seconds (user adjustable) |
| **Resolution:** | 24 bit |

### 3.4. ANALOG AUDIO OUTPUT (7721AD-A4-HD and 7721AD-A4-2HD)

| | |
|---|---|
| **Number of Outputs:** | 4 |
| **Type:** | Balanced analog audio |
| **Connector:** | Two 6 pin terminal strips |
| **Output Impedance:** | 66Ω |
| **Signal Level:** | 0dB FS =>8 to 24dBu into 10 kΩ loads (user settable)<br>0dB FS =>8 to 22dBu into 600 Ω loads (user settable) |
| **Frequency Response:** | < ± 0.1dB (20Hz to 20kHz) |
| **THD+N:** | > 90dB RMS @ 1kHz, with 24dBu output |
| **Crosstalk isolation:** | > 90dB RMS (20Hz to 20kHz) |

### 3.5. SYSTEM PERFORMANCE

**De-embedding Latency:**

| | |
|---|---|
| **SDI to AES:** | 1.35 mSec (7721AD-A4-HD)<br>600 µSec (7721AD4-HD) |
| **SDI to Analog:** | 2.25 mSec (7721AD-A4-HD and 7721AD-A4-2HD) |

### 3.6. ELECTRICAL

| | |
|---|---|
| **Voltage:** | + 12VDC |
| **Power:** | 8 Watts |
| **EMI/RFI:** | Complies with FCC regulations for class A devices<br>Complies with EU EMC directive |

# 4. STATUS INDICATORS

## 4.1. MODULE STATUS LEDS

**MODULE OK** This Green LED will be On when the module is operating properly.

**LOCAL FAULT** This Red LED makes it easy to identify one module in a frame that is missing an essential input or has another fault.

The LED will blink on and off if the microprocessor is not running.

The LED will be on solid when input video is lost, the selected audio group is missing or has DBN errors, or there is a fault in the module power supply.

**VIDEO PRESENT:** This Green LED will be On when there is a valid video signal present at the module input.

**AUDIO PRESENT:** This Green LED will be On if the audio group selected is present and free from DBN errors.

(7721AD4-HD) This LED will flash if only 1 group is present. (See section 5.2)

## 4.2. AUDIO GROUP STATUS LEDS

Four LEDs located on the lower half (opposite the DIP switch) indicate the presence of the four audio groups as shown below. Audio Group LED 1 is located near the center of the printed circuit board.

| Audio Group LED | Colour | Audio Group Status |
|---|---|---|
| 1 | Off | Group 1 embedded audio is not present on the video input. |
| | Green | Group 1 embedded audio is present on the video input. |
| 2 | Off | Group 2 embedded audio is not present on the video input. |
| | Green | Group 2 embedded audio is present on the video input. |
| 3 | Off | Group 3 embedded audio is not present on the video input. |
| | Green | Group 3 embedded audio is present on the video input. |
| 4 | Off | Group 4 embedded audio is not present on the video input. |
| | Green | Group 4 embedded audio is present on the video input. |

**Table 4-1: Audio Group Status LEDs**

On the 7721AD-A4-HD and 7721AD-A4-2HD the audio group LEDs are also used in conjunction with the pushbutton and toggle switch to allow the user to adjust the volume level of each of the 4 analog outputs. See section 5.2 for information on adjusting the analog volume levels.

# 5. CARD EDGE CONTROLS

At the bottom edge of the module there is an 8 position DIP switch, giving the user control over the de-embedder. The ON position is closest to the PCB. Sections 5.1 to 5.4 show the assigned DIP switch functions. On the 7721AD-A4-HD and 7721AD-A4-2HD there is also a toggle switch and pushbutton that are used to set the volume level for the analog outputs.

| DIP Switch | Function |
|---|---|
| 1 | AES 1 and AES 2 Group Selection |
| 2 | |
| 3 | *Vista*LINK® Remote Control Enable |
| 4 | Not used |
| 5 | AES 3 and AES 4 Group Selection |
| 6 | |
| 7 | Z bit Free Run |
| 8 | AES Group Lock Mode Selection |

**Table 5-1: DIP Switch Functions (7721AD4-HD & 7721AD4-B-HD )**

| DIP Switch | Function |
|---|---|
| 1 | AES 1 and AES 2 Group Selection |
| 2 | |
| 3 | *Vista*LINK® Remote Control Enable |
| 4 | Not used |
| 5 | Not used |
| 6 | Not used |
| 7 | Z bit Free Run |
| 8 | Analog Audio Volume Adjust Enable |

**Table 5-2: DIP Switch Functions (7721AD-A4-HD)**

| DIP Switch | Function |
|---|---|
| 1 | Analog Audio Group Selection |
| 2 | |
| 3 | *Vista*LINK® Remote Control Enable |
| 4 | Not used |
| 5 | Not used |
| 6 | Not used |
| 7 | Not used |
| 8 | Analog Audio Volume Adjust Enable |

**Table 5-3: DIP Switch Functions (7721AD-A4-2HD)**

## 5.1. SELECTING THE AUDIO GROUP THAT WILL BE DE-EMBEDDED

The SMPTE 299M standard and SMPTE 272M permits up to 4 groups of 4 audio channels to be embedded into the video bitstream.

The model 7721AD-A4-HD will de-embed one group of audio (selected by switches 1 and 2) onto AES outputs 1 and 2. When DIP switch 3 is On, the de-embedder group is set using VistaLINK® control.

The model 7721AD4-HD and 7721AD4-B-HD will de-embed two groups of audio, the first group (selected by switches 1 and 2) on AES outputs 1 and 2, and the second group (selected by switches 5 and 6) on AES outputs 3 and 4. When DIP switch 3 is On, the de-embedder groups are set using VistaLINK® control. Switch settings are shown in Table 5-4.

The model 7721AD-A4-2HD will de-embed one group of audio (selected by switch 1 and 2) onto analog outputs 1 to 4. When DIP switch 3 is On, the de-embedder group is set using VistaLINK® control.

| DIP 1 | DIP 2 | Audio Group Output onAES 1 and AES 2 for 7721AD-A4-HDand Audio Group Output on 4 Analog Audio Channels for both 7721AD-A4-HD and 7721AD-A4-2HD |
|---|---|---|
| **Off** | **Off** | 1 |
| **Off** | **On** | 2 |
| **On** | **Off** | 3 |
| **On** | **On** | 4 |

| DIP 5 | DIP 6 | Audio Group Output on AES 3 and AES 4 (7721AD4-HD only and 7721AD4-B-HD) |
|---|---|---|
| **Off** | **Off** | 1 |
| **Off** | **On** | 2 |
| **On** | **Off** | 3 |
| **On** | **On** | 4 |

**Table 5-4: Audio Group Switch Settings**

## 5.2. ENABLING VISTALINK® CONTROL OF THE MODULE

The 7721AD4-HD, 7721AD4-B-HD, 7721AD-A4-HD and 7721AD-A4-2HD can be controlled using the card edge DIP switches and a toggle switch or remotely via SNMP (using VistaLINK® PRO or the model 9000NCP Network Control Panel). See section 8 for a full description of the parameters that can be monitored or controlled using VistaLINK®. VistaLINK® control is only available when the card is installed in the 3RU 7700FR-C frame and a 7700FC VistaLINK® Frame Controller card is installed in slot 1 of the frame.

DIP switch 3 is used to enable or disable VistaLINK® control.

| DIP 3 | CONTROL MODE |
|---|---|
| **Off** | Local control mode. The module will be controlled using the DIP switches and toggle switch functions described in sections 5.1 and 5.3 to 5.5. |
| **On** | VistaLINK® control mode. The module will be controlled remotely through SNMP. |

**Table 5-5: Control Mode Switch Settings**

### 5.3. SELECTING THE Z BIT ALIGNMENT MODE (AES Output Only)

In some cases, where the Z bit on the incoming audio has not been encoded correctly, it may be desirable to regenerate the Z bit on the outputs. Switch 7 selects if the Z bit on the AES outputs will be free-running or locked to the incoming embedded audio.

| DIP 7 | Z Bit Free Run Selection |
|---|---|
| **Off** | Z Bit from Embedded Audio |
| **On** | Regenerate Z bit |

**Table 5-6: Z Bit Alignment Switch Settings**

### 5.4. SELECTING AES LOCKED GROUP MODE (7721AD4-HD and 7721AD4-B-HD)

For audio that is synchronous to video there is exactly 8008 audio samples (48kHz sampling rate) in 5 frames of NTSC, 525 line video. Most audio embedders will spread these samples as evenly as possible throughout the 5 frames of video. Because the 8008 samples do not divide evenly into 5 frames of video, there is a sequence that only repeats every 5 frames. In order to transport 8 channels of audio (4 AES pairs) through an embedded link with exactly the same delay on each channel, both the embedder and the de-embedder must lock both groups of audio to this 5 frame sequence. Failing to do so will cause a phase difference between the audio from the two groups.

Switch 8 selects if the 7721AD4-HD will de-embed the two groups independently or locked together. When DIP switch 3 is On, the locked group selection is set using VistaLINK® control.

| DIP 8 | Locked Group Selection |
|---|---|
| **Off** | Independent groups |
| **On** | Locked groups |

**Table 5-7: Locked Group Switch Settings**

In *independent group* mode, the two selected groups will be de-multiplexed independently to each other as if two separate de-multiplexers were used. The output FIFO management will have different reset timing between the two groups creating different output phase relationships on the associated AES channels. Both groups do not necessarily need to be present.

In *locked group* mode, the resetting of the output FIFOs are locked together thus maintaining the phase relationship between all 4 AES channel pairs. Because the two groups are tightly tied together, both audio groups must be present to get any AES audio output.

**To maintain a guaranteed audio phase relationship through a complete SDI link, the audio embedder MUST also provide the same locked FIFO management functionality.**

## 5.5. ADJUSTING THE VOLUME LEVEL ON THE ANALOG OUTPUTS (7721AD-A4-HD and 7721AD-A4-2HD)

The toggle switch and pushbutton on the card edge of the 7721AD-A4-HD and 7721AD-A4-2HD are used to adjust the volume control of the analog outputs individually.

When DIP switch 8 is Off, volume level adjustments are disabled to prevent accidental changes. When DIP switch 8 is On the user can adjust the volume of each of the analog audio outputs. When DIP switch 3 is On, the volume is set using VistaLINK® control.

The three position, return to center toggle switch is used in conjunction with a momentary pushbutton to adjust the level of the outputs. The Audio Group LEDs, located on the lower end of the module (opposite the DIP switch) are used to indicate when the module is in volume level adjust mode and which output is being adjusted. When one of the LED's is flashing this indicates that you are adjusting the level of the respective channel as shown in Table 5-8.

| Audio Group LED | Colour | Audio Group Status |
|---|---|---|
| **1** | Flashing | Analog Output 1 level can be adjusted with toggle switch. |
| **2** | Flashing | Analog Output 2 level can be adjusted with toggle switch. |
| **3** | Flashing | Analog Output 3 level can be adjusted with toggle switch. |
| **4** | Flashing | Analog Output 4 level can be adjusted with toggle switch. |

**Table 5-8: Analog Audio Level Adjustment LEDs**

To enter the volume control mode, press the pushbutton. The Output 1 Volume level adjust LED will start flashing, indicating that the toggle switch can be used to adjust the volume level of analog output 1. Pressing the toggle switch up will increase the volume level and pressing the toggle switch down will decrease the volume level.

Continue adjusting the volume level of the other outputs by pressing the pushbutton to select the desired output and then using the toggle switch to adjust the level. Pressing the pushbutton a fourth time will exit volume adjust mode. None of the LEDs will be flashing. You can lock the volume levels by turning off DIP switch 8. If you stop pressing either the pushbutton or toggle switch for more than 30 seconds, the module will exit the volume adjust mode.

# 6. JUMPERS

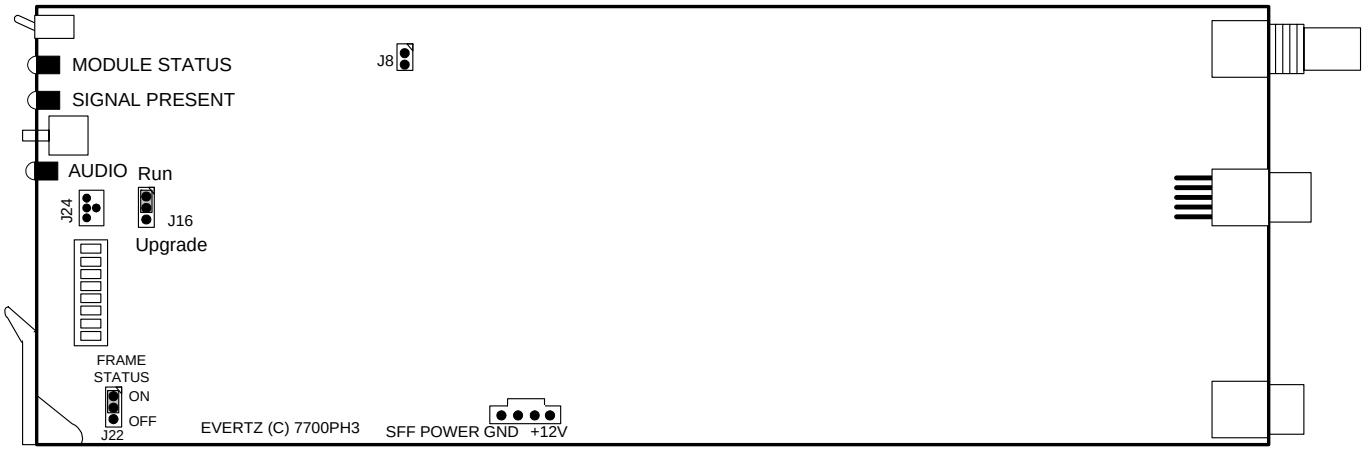


**Figure 6-1: Location of Jumpers**

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

**FRAME STATUS:** The FRAME STATUS jumper J22 located at the front of the module determines whether local faults (as shown by the Local Fault indicator) will be connected to the 7700FR frame's global status bus.

To monitor faults on this module with the frame status indicators (on the PS 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.

## 6.2. CONFIGURING THE MODULE FOR FIRMWARE UPGRADES

**UPGRADE:** The UPGRADE jumper J16 located at the front of the module is used when firmware upgrades are being done to the module. For normal operation it should be installed in the *RUN* position. On Rev 1 versions of this board the upgrade jumper is located in another location. See the *Upgrading Firmware* chapter in the front of the manual binder for more information.

To upgrade the firmware in the module unit pull it out of the frame. Move Jumper J16 into the *UPGRADE* position. Install the Upgrade cable provided (located in the vinyl pouch in the front of the manual binder) onto header J24 at the card edge. Re-install the module into the frame. Run the upgrade as described in the *Upgrading Firmware* chapter in the front of the manual binder. Once the upgrade is complete, remove the module from the frame, move J16 into the *RUN* position, remove the upgrade cable and re-install the module. The module is now ready for normal operation.

# 7. SOFTWARE CONTROL

## 7.1. STATUS MONITORING

The audio de-embedder status messages can be monitored using the RS232 upgrade cable on the card edge. The serial port settings are 57600 baud, 8 bits, no parity. The status messages are output on power up and each time one of the DIP switches is changed.

## 7.2. SETTING THE AUDIO DELAY

The 7721AD-HD series modules are capable of adding delay between the embedded audio and the AES audio outputs. This audio delay can be set and retrieved using the RS232 upgrade cable on the card edge. The user set audio delay value in samples is written to the non-volatile memory after approximately 20 seconds and is recalled on bootup. The factory default delay is 9 samples.

When entering the audio delay commands there is no command prompt. Simply type on a new line to enter commands. The syntax for the command to *set* or *read* the audio delay is:

```
audio_delay [samples]
```

If you omit the optional *samples* parameter the 7721AD-HD will return the current setting of the audio delay register. If you supply the optional *samples* parameter, that will delay the AES audio on both AES1 and AES2 by the specified number of samples. The *samples* parameter must fall in the range from 9 to 131081 samples. The minimum delay through the product is 9 samples. Table 7-1 shows the number of samples per frame for various video frame rates.

| Video frame Rate | Samples Per Frame |
|---|---|
| **30** | 1600 |
| **29.97** | 1602 ‡ |
| **25** | 1920 |
| **24** | 2000 |
| **23.98** | 2002‡ |

**Table 7-1: Number of samples (48 kHz) per frame**

‡ Approximate number of samples per frame for non integer frame rates

Example 1: Read back the audio delay

```
audio_delay <enter>
Audio Delay is set to 33 samples.
```

Example 2: Set the audio delay to 48 samples

```
audio_delay 48 <enter>
Audio Delay = 48 samples
```

# 8. VISTALINK® REMOTE MONITORING/CONTROL

## 8.1. What is VistaLINK®?

VistaLINK® 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. VistaLINK® 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 VistaLINK® 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, VistaLINK® 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:

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 VistaLINK® Pro Manager graphical user interface (GUI), third party or custom manager software may be used to monitor and control Evertz VistaLINK® enabled products.

Managed devices (such as 7721AED-HD), 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.

A virtual database, known as the Management Information Base (MIB), lists all the variables being monitored, 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 VistaLINK® network, see the 7700FC Frame Controller chapter.

## 8.2. VistaLINK® MONITORED PARAMETERS

The following parameters can be remotely monitored through the VistaLINK® interface.

| Parameter | Description |
|---|---|
| **Input video Standard** | Indicates the input video standard |

**Table 8-1: VistaLINK® Monitored Parameters**

## 8.3. VistaLINK® CONTROLLED PARAMETERS

| Parameter | Description |
|---|---|
| **Audio De-Embedder 1 Group** | Sets group for de-embedder 1 (AES 1 and AES 2 Outputs) |
| **Audio De-Embedder 2 Group** | Sets group for de-embedder 2 (AES 3 and AES 4 Outputs) |
| **Z Bit Free Run (AES output only)** | Sets whether Z bit on the AES outputs will be free-running or locked to the incoming embedded audio. |
| **Volume Control** | Sets volume control (7721AD-A4 only) |

**Table 8-2: VistaLINK® Controlled Parameters**

## 8.4. VistaLINK® TRAPS

| Trap | Description |
|---|---|
| **Video Present Fault** | Triggers when video is missing |
| **Group 1 Present Fault** | Triggers when group 1 audio is missing |
| **Group 2 Present Fault** | Triggers when group 2 audio is missing |
| **Group 3 Present Fault** | Triggers when group 3 audio is missing |
| **Group 4 Present Fault** | Triggers when group 4 audio is missing |
| **Audio Present Fault** | Triggers when audio is missing |

**Table 8-3: VistaLINK® Traps**