

# 7720AD8-DD-HD

## HD/SD-SDI Audio De-embedder & Dolby-E®/AC-3 Decoder & Re-embedder



The 7720AD8-DD-HD Audio De-embedder and Dolby® Decoder & Re-embedder extracts embedded audio from four specified groups as defined by ST 299-1 from a 1.5Gb/s serial HDTV or as defined by SMPTE ST 272 from a 270Mb/s serial SDTV video signal.

One selected channel is processed by the on-card Dolby® Decoder. If the channel contains Dolby-E® or Dolby® Digital (AC-3), it will yield up to eight additional discrete audio channels, two channels of stereo downmix and the associated Dolby-E® Metadata. Up to 16 selected channels may be optionally delayed up to 1.2 seconds and re-embedded into the output video and/or directed to AES outputs. Video output may be optionally delayed to help with lip sync. If PCM audio is embedded, the device acts as a simple four group audio de-embedder.

This device also handles the Dolby-E® Metadata. Metadata is optionally embedded in VANC and can be provided as an output for downstream devices (i.e. Dolby Encoders, Multichannel Audio Tool, etc.). Metadata can be monitored using VistaLINK® and dial norm parameters can be modified.

For lip sync cohesion and ease of editing, Dolby-E® data is organized in blocks with lengths matching the associated video frame. The decoder will match the beginning of each output block with the start of video, as provided with the genlock input. Additional delay can be dialed up by the user, up to 1.2 secs. The eight AES inputs can be configured as a backup, in the event the primary is lost, or as a voice-over source.

### IntelliGain® Audio and Loudness Processor

- Consistent audio loudness levels within a channel and/or program
- Automatic detection and level adjust for loud commercials
- Gain control within a program interval to preserve audio dynamic range
- Artifact-free transitions between program and commercials
- Elimination of drastic volume changes during commercials and interstitials

VistaLINK® enables control and configuration capabilities via Simple Network Management Protocol (SNMP). This offers the flexibility to manage the module status monitoring and configuration from SNMP - enabled control systems such as Evertz® VistaLINK® PRO locally or remotely.

### Features & Benefits

- Audio de-embedder and re-embedder for four groups of audio
- Dolby E/AC-3™ decoding for selected audio source
- Dolby Metadata is embedded in HD VANC for downstream device decoding
- Eight AES inputs for backup, voice-over or Dolby E/AC-3™ content
- Adjustable video delay to match Dolby® decoder audio delay
- Automatic switchover to backup audio source on loss of selected Dolby stream
- Headphone jack for monitoring stereo down-mix or any input source
- Two full audio mixers with 16 output channels
- Card edge display
- VistaLINK® capable for remote monitoring, control and configuration capabilities via SNMP; using VistaLINK® PRO, CP-2116E or CP-2232E Control Panels. VistaLINK® is available when modules are used with the 3RU 7800FR frame and a 7700FC VistaLINK® Frame Controller module in slot 1 of the frame

### Inputs

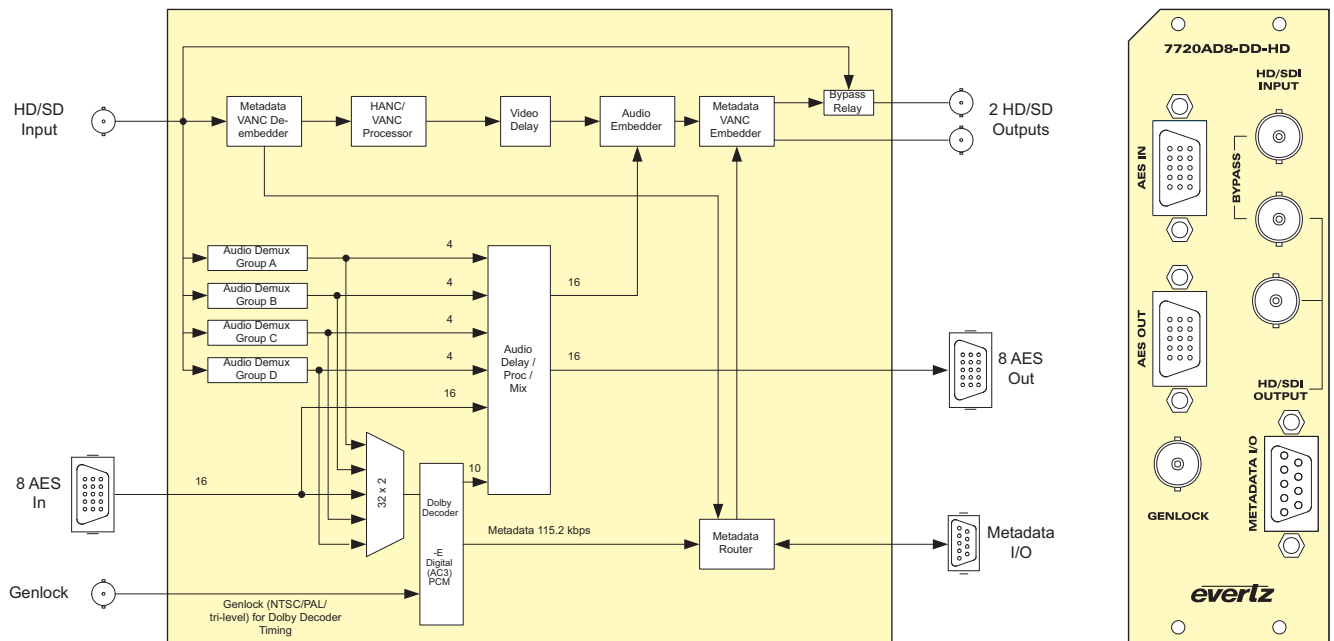
- Program input supporting both HD (1.5Gb/s) and SD (270Mb/s)
- Reference input supporting NTSCM, PAL-B and tri-level for meta data phasing
- Eight AES inputs for backup/voice-over source
- Metadata input

### Outputs

- Two processed HD outputs (one protected with bypass relay)
- Eight AES de-embedded and processed outputs
- One DB-9 Dolby metadata (RS-422/485) on same connector as input

### Card Edge LEDs

- Module Status
- Video Signal presence
- Selected audio group presence
- Dolby decoder processing status
- Genlock health/compatibility
- AES signal presence



\*DB15 to 8 channel unbalanced AES adapter provided

The Complete Solution Provider



## ► Specifications

**Serial Video Input:**

Standard:	ST 292-1, (1080i/60, 1080i/59.94, 1080i/50, 1080p/30 (sF), 1080p/29.97 (sF), 1080p/25 (sF), 1080p/24 (sF), 1080p/23.98 (sF), 720p/50, 720p/60, 720p/59.94, 1035i/60, 1035i/59.94) SMPTE ST 259-C (270Mb/s) 525 or 625 line component
Connector:	BNC per IEC 61169-8 Annex A
Equalization:	
HD:	15m @ 1.5Gb/s with Belden 1694A
SD:	300m @ 270Mb/s with Belden 1694A

**Processed Serial Video Output:**

Standard:	Same as input or user controlled
Number of Outputs:	2
Connector:	BNC per IEC 61169-8 Annex A
Signal Level:	800mV nominal
DC Offset:	0V ±0.5V
Rise and Fall Time:	Per standard
Overshoot:	< 10% of amplitude
Wide Band Jitter:	
HD:	< 0.16 UI
SD:	< 0.10 UI

**Metadata I/O:**

Type:	Dolby-E® Metadata, SMPTE RDD6
Connector:	Femaled B-9
Baud Rate:	115,200 baud
Vanc Embedding:	SMPTE 2020

**AES Audio Input:**

Standard:	SMPTE 276M
Number of Inputs:	8 unbalanced
Connector:	Female High Density dB-15 (breakout cable to BNC provided)
Input Level:	0.1 to 2.5V p-p (5V p-p tolerant)
Input Impedance:	75Ω
Return Loss:	> 25dB 100kHz to 6MHz
Equalization:	Automatic to 1000m with Belden 1694A (or equivalent) @ 48kHz AES signal
Sample Rate:	32kHz to 48kHz

**AES Audio Output:**

Standard:	SMPTE 276M, single-ended AES
Number of Outputs:	8 unbalanced
Connector:	Female High Density dB-15 (breakout cable to BNC provided)
Sample Rate:	48kHz
Impedance:	75Ω
Resolution:	Up to 24-bit

**Genlock Input:**

Type:	NTSC, PAL, black or any tri-level, all autodetect
Connector:	1 BNC per IEC 61169-8 Annex A
Impedance:	Hi-Z or 75Ω (jumper configurable)
Return Loss:	> 40dB to 10MHz

**Electrical:**

Voltage:	+12V DC
Power:	21W
EMI/RFI:	Complies with FCC Part 15 Class A, EU EMC Directive

**Physical (number of slots):**

350FR:	2
7700FR-C:	2
7800FR:	2

## ► Ordering Information

**7720AD8-DD-HD** HD/SD-SDI Audio De-embedder & Dolby-E®/AC-3 Decoder & Re-embedder (Requires 7700FC for full module control)

**Ordering Options** Rear Plate must be specified at time of order (Eg: Model +3RU)

**+IG** IntelliGain Loudness Processor

**Rear Plate Suffix**

**+3RU** 3RU Rear Plate for use with 7700FR-C Multiframe  
**+SA** Standalone Enclosure Rear Plate

**Accessories**

**7700FC** VistaLINK® Frame Controller  
**CP-2116E-H** Remote Control Panel  
**CP-2232E** Remote Control Panel  
**WPAES8-BNCM-6F** Cable (included)

**Enclosures**

**350FR** 3RU Portable Multiframe which holds up to 7 single slot modules  
**7700FR-C** 3RU Multiframe which holds up to 15 single slot modules  
**7800FR** 3RU Multiframe which holds up to 15 single slot modules  
**7801FR** 1RU Multiframe which holds up to 4 single or 2 dual slot modules  
**S7701FR** Standalone enclosure

