

# HD/SD Audio Embedder

## Model 520AE4-HD



The 520AE4-HD Audio Embedder embeds 4 stereo AES channels into 2 specified groups as defined by SMPTE 299M in a 1.5 Gb/s serial HDTV or as defined by SMPTE 272M in a 270Mb/s serial SDTV video signal.

Several optional processing steps can be applied to the input audio before it is embedded. If needed, the 4 stereo AES input channels can be processed by 4 on-board sample rate converters (SRC's). The SRC's can be configured to automatically respect Dolby E & Dolby Digital adding to ease of use & flexibility. The 8 discrete audio channels can be re-arranged in any arbitrary manner with on-board 8 x 8 router. The audio channels may be optionally and independently delayed up to 3 seconds.

This device also handles the Dolby E Metadata. Metadata is optionally embedded in VANC for downstream devices.

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

- Fast locking AES receivers
- Configurable or automatic SRC's on AES inputs
- Headphone jack with monitoring stereo channel
- Card edge display for status & audio channel peak levels bargraphs
- Audio channel router (8 x 8)

### Controls:

- Audio group selection
- Audio channel selection

### Inputs:

- SMPTE 292M - (1.5Gb/s serial digital), or SMPTE 259M
- 4 Channel AES (unbalanced)
- 1 BNC for Dolby metadata (RS422/485)

### Outputs:

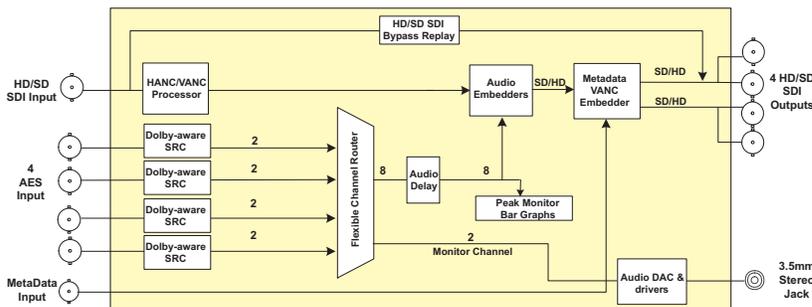
- 4 processed HD outputs
- Program output bypass relay protected

### Card Edge LED's:

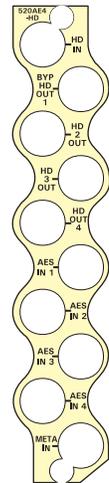
- Module Status
- Video Signal presence
- AES input presence/errors

- VistaLINK™ -enabled for remote monitoring via SNMP (using VistaLINK™ PRO) when installed in 500FR frame with 500FC VistaLINK™ Frame Controller

## Model 520AE4-HD Block Diagram



Numbers refer to discrete audio channels



## Specifications

### Serial Video Input:

**Standard:** SMPTE 292M, (1080i/60, 1080i/59.94, 1080i/50, 1080p/30(sF), 1080p/29.97(sF), 1080p/25(sF), 1080/24(sF), 1080/23.98(sF), 720p/60, 720p/59.94, 1035i/60, 1035i/59.94)

SMPTE 259M-C (270 Mb/s) 525 or 625 line component

**Connector:** BNC per IEC 60169-8 Amendment 2

**Equalization:** Automatic 100m @ 1.5Gb/s with Belden 1694A (or equivalent), 25m with bypass relay installed

### Processed Serial Video Output:

**Standard:** Same as input or user controlled

**Number of Outputs:** 4

**Connector:** BNC per IEC 60169-8 Amendment 2

**Signal Level:** 800mV nominal

**DC Offset:** 0V ±0.5V

**Rise and Fall Time:** Per standard

**Overshoot:** <10% of amplitude

**Wide Band Jitter:** <0.2 UI

### AES Input:

**Standard:** SMPTE 276M

**Number of Inputs:** 4

**Connector:** BNC per IEC 60169-8 Amendment 2

**Input Level:** 0.1 to 2.5 Vp-p

**Input Impedance:** 75Ω

**Return Loss:** >25dB 100kHz to 6MHz

**Equalization:** Automatic to 1000m with Belden 1694A (or equivalent) @ 48kHz AES signal

**Sample Rate:** 48kHz ± 100ppm

### Metadata Input:

**Type:** DOLBY E Metadata

**Connector:** 1 BNC per IEC 60169-8 Amendment 2

**Baud Rate:** 115,200 baud

### System Performance:

**Embedding Latency:** 600µs nominal

**Audio Delay Range:** 0 to 3 seconds

### Electrical:

**Voltage:** +12V DC

**Power:** 10 Watts

**EMI/RFI:** Complies with FCC Part 15 Class A, EU EMC Directive

### Physical:

**Number of Slots:** 1

### Ordering Information:

**520AE4-HD** HD/SD Audio Embedder with 4 unbalanced AES inputs (2 audio groups)

### Enclosures:

**500FR**

**S501FR**

### exponent

Compact High Density Distribution Frame  
Standalone enclosure