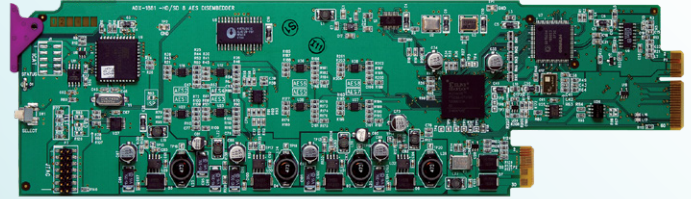


DATASHEET

# AMX-1842 HD/SD 4 AES Embedder



Space-saving, modular platform for advanced signal processing.

The AMX-1842 from Grass Valley® is a high-quality embedder which embeds up to four AES 24-bit 48 kHz digital audio signals into a single HD/SD serial digital video signal. It includes audio and video signal presence detection and reporting, and local or remote configuration and control.

A unique feature is its ability to embed timecode, a serial RS-422 data signal and two GPI status signals into the video signal.

The card has built-in audio tone, timecode and video color bar test signals.

## Key Features

- HD-SDI or SDI input
- Automatic EQ for up to 110/250m (360/820 ft.)
- Automatic detection of video input format
- Continuity of embedded audio on loss of video input
- 110Ω balanced or 75Ω unbalanced input
- Input SRC to handle asynchronous audio
- Audio channel gain selectable
- Audio group insertion/bypass/delete
- Selectable audio delay of up to 3 frames
- Automatic mute on AES error
- Selectable routing of AES signals
- Left/right channels swappable
- Dolby-E compatible
- 24-bit digital audio embedding
- Linear timecode (LTC) embedding
- RS-422 input for embedding as ANC data
- GPI inputs for embedding as ANC data

Resolutions	Formats
<b>HD-SDI formats</b>	
1920 x 1080	59.94i, 50i, 29.97p, 25p, 24p, 23.98p, 29.97psf, 25psf, 24psf, 23.98psf
1280 x 720	59.94p, 50p
<b>SD-SDI formats</b>	
525	59.94i
625	50i

## Specifications

### Video Input

**Video signal:** HD/SD-SDI SMPTE ST 292/SMPTE ST 259-C

**Cable length:** Up to 110/250m (360/820 ft.) of Belden 1694A

**Return loss:** >15 dB, 5 MHz to 1.485 GHz

### Audio AES-3id Input

**Signal:** AES-3id (SMPTE ST 276)

**Level:** 0.2 to 2.0 Vp-p

**Impedance:** 75Ω unbalanced

**Cable length:** >400m (1,312 ft.)

### Audio AES3 Input

**Signal:** AES3

**Level:** 0.2 to 7.0 Vp-p

**Impedance:** 110Ω balanced

**Cable length:** >200m (656 ft.)

### Audio AES Signals

**Sampling rate:** 48 kHz synchronous or asynchronous

**Dolby-E rate:** 48 kHz synchronous

**Bits:** 24-bit

### LTC Signal

**Signal:** LTC per SMPTE ST 12

**Impedance:** <10kΩ (bridging 600Ω) unbalanced

**Level:** 0.2 to 5 Vp-p

### Video Output

**Video signal:**

– HD/SD-SDI (SMPTE ST 292/SMPTE ST 259-C)

– Audio embedded per SMPTE ST 299/SMPTE ST 272

– LTC embedded as ATC/DVITC (SMPTE RP188/SMPTE ST 266)

– RS-422 and two GPIs embedded as ANC data per SMPTE ST 291 (Proprietary type 1 DID)

**Return loss:** >15 dB up to 1.485 GHz

**Wideband jitter:** as per SMPTE ST 259-C and SMPTE ST 292

### ANC Serial Data Input

**Signal:** RS-422

**Level:** 200 mVp-p (min)

**Rate:** 38,400 or 115,200 Bd

### ANC General Purpose Interface (GPI) Input

**Signal (2):** Contact closure (opto-isolated), common ground

**Level:**

– True = 0 to 0.8V (max.)

– Maximum input voltage = ±5.5V

**Rate:** DC to 250 Hz

### Processing Performance

**Signal path:** 10-bit video / 24-bit audio

**Audio latency:** 875 μs (combined embedding and extraction\*)

**Audio delay:** Up to 3 video frames (1/2 frame steps)

**ATC/DVITC delay:** None, 1, 2 or 3 frames before translation to LTC

**RS-422 latency:** 500 μs max. (combined embedding and extraction\*)

**GPI latency:** 4 video lines (combined embedding and extraction\*)

**Test signals:** Audio: 1 kHz tone (R steady, L pulsed) -18 dBFS (EBU R49, R68)

**LTC:** 10s loop starting at 23:59:00:00

### RS-422

**Latency:** max 500 μs\*

### GPI

**Latency:** 4 video lines\*

**Test signals:** Video – color bars 100%

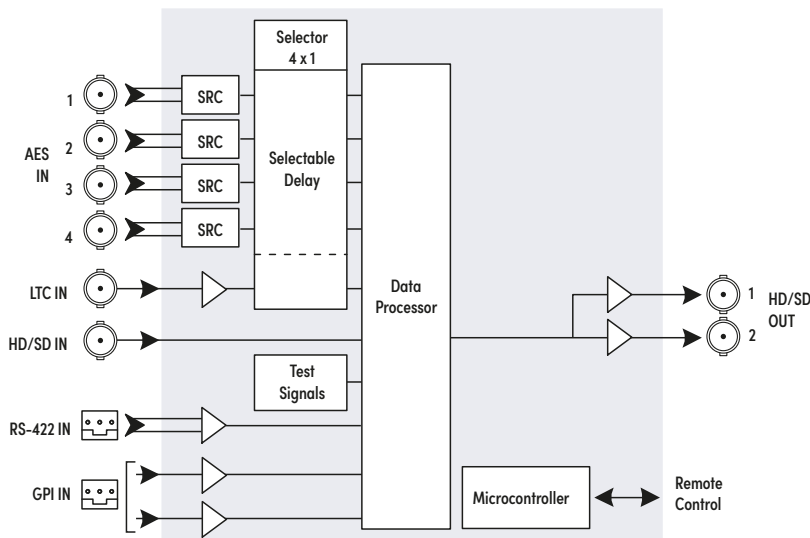
**Audio:** 1 kHz tone (R steady, L pulsed) -18 dBFS (EBU R49, R68)

**LTC:** 10s loop starting at 23:59:00:00

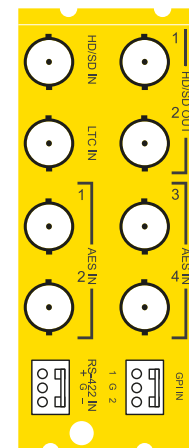
### Electrical

**Power:** 6W

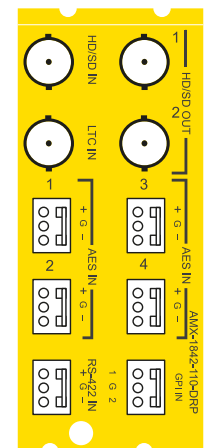
\* Applicable to combinations of this card and ADX-1842/1852.



AMX-1842 Functional Block Diagram



AMX-1842-75-DRP



AMX-1842-110-DRP

## Ordering

### Densité® 2 frame

AMX-1842

AMX-1842-75-DRP

AMX-1842-110-DRP

### Remote control

### Densité 3 frame

AMX-1842-3RU

AMX-1842-75-DRP-3RU

AMX-1842-110-DRP-3RU

### Description

HD/SD 4 AES Embedder

Double rear connector panel, 75Ω

Double rear connector panel, 110Ω

GV Orbit, iControl, iControl Solo

This product may be protected by one or more patents. For further information, please visit: [www.grassvalley.com/patents](http://www.grassvalley.com/patents)

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