7821AE8-3G-AESD-F
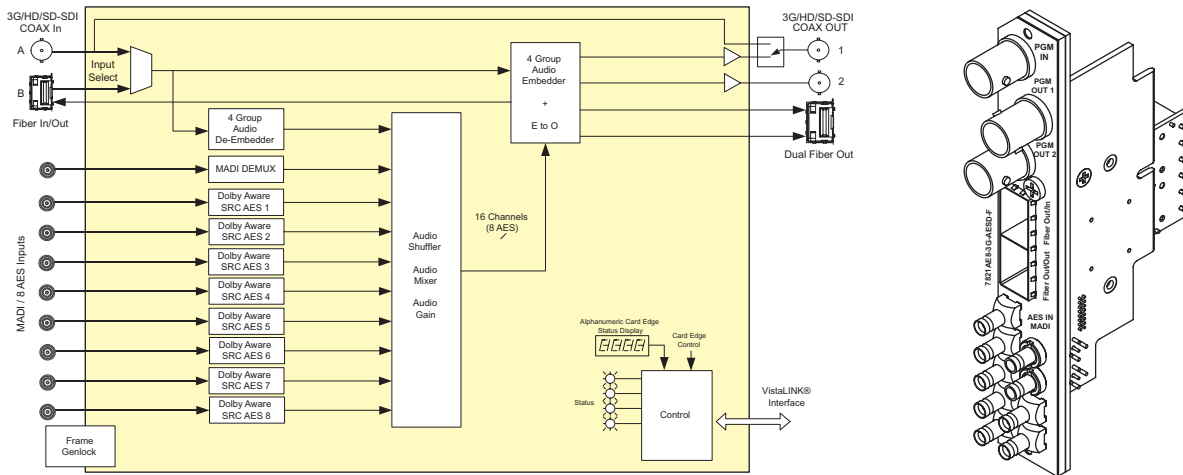## 3G/HD/SD-SDI 8 AES Audio Embedder with Fiber I/O

The 7821AE8-3G-AESD-F Audio Embedder inserts up to 8 AES audio signals, on up to 4 groups, into a SMPTE 424M (3Gb/s), SMPTE 292M (1.5 Gb/s HD-SDI) or SMPTE 259M (270Mb/s SD-SDI) video signal as specified in SMPTE 299M or 272M respectively. The companion 7821AD8-3G-AESD-F Audio De-embedder facilitates audio demultiplexing at the destination.

The 7821AE8-3G-AESD-F supports optical inputs and outputs via dual SFP modules that can be optionally installed directly on the rear plate.

The 7821AE8-3G-AESD-F supports 24-bit AES audio embedding for 3G/HD-SDI and 20-bit audio embedding into SD-SDI with fully compliant sample rate converters that automatically can be disabled when embedding Dolby streams.

Additionally, a full audio channel router is available for channel mixing and/or shuffling. The rear plate comes equipped with DIN connectors for direct AES connections, eliminating the use of a breakout cable. This module also supports a native MADI input which can facilitate up to 64 mono channels of which 16 channels can be selected for embedding. MADI support can be enabled with the +MADI option.

VistaLINK® enables control and configuration capabilities via Simple Network Management Protocol (SNMP). This offers the flexibility to manage the module status monitoring and configuration locally or remotely.

▶Features & Benefits

• Audio embedding into a 3G/HD/SD-SDI video signal
• Automatic detection of input video standard
• Optional dual SFP modules supporting an optical input and up to 3 optical outputs
• By-pass relay protection for main program output
• Supports 24-bit AES audio embedding for 3G/HD-SDI and 20-bit AES audio embedding for SD-SDI
• Flexible audio channel routing for channel shuffling and mixing

• Dolby compliant with automatic sample rate conversion disable on AES inputs to permit seamless Dolby embedding
• Dolby™ Metadata insertion via serial interface
• MADI input
• Card edge LEDs indicate video and audio signal presence and module fault
• VistaLINK® capable for remote monitoring and control via SNMP (using VistaLINK® PRO) when installed with 7700FC Frame Controller

▶Specifications

Serial Video Input:
Number of Inputs:	1
Standard:	SMPTE 424M (3Gb/s) 1080p
	SMPTE 292M (1.5Gb/s), 1080i, 1035i, 720p
	SMPTE 259M (270Mb/s) 525i, 625i
Connector:	BNC per IEC 61169-8 Annex A

Input Equalization:
3G:	Automatic to 80m @ 3Gb/s with Belden 1694A or equivalent cable
HD-SDI:	Automatic to 115m @ 1.5Gb/s with Belden 1694A or equivalent cable
SD-SDI:	Automatic to 300m @ 270Mb/s with Belden 1694A or equivalent cable

Return Loss:
3G:	> 10dB up to 3.0GHz
HD:	> 13dB up to 1.5GHz
SD:	> 15dB up to 270MHz

Optical Video Inputs:
Number of Inputs:	1 via upper SFP module
Connector:	Female LC/PC
Operating Wavelength:	1270nm to 1610nm

Maximum Input Power:
Standard:	-1dBm

Optical Sensitivity:
Standard:	-20dBm (with 3G pathalogical)
	-23dBm (with 3G color bars)

Optical Video Outputs:
Number of Outputs:	1 via upper SFP module
	2 via lower SFP module
Connector:	Female LC/PC

Wavelengths:
1310nm FP:	-1dBm ±1dBm

Serial Video Outputs:
Number of Outputs:	2 (1 output bypass relay protected)
Standard:	Same as input
Embedded Audio:	SMPTE 299M - 24-bit 48kHz synchronous
	SMPTE 272M - 20-bit
Connectors:	BNC per IEC 61169-8 Annex A
Wideband Jitter:	< 0.20 UI HD
	< 0.30 UI 3G

AES Audio Inputs:
Number of Inputs:	8 AES inputs
Standard:	SMPTE 276M, single-ended AES

Connector:
AES	8 mini DIN connectors
MADI	1 mini DIN connector
Resolution:	24 bits
Sampling Rate:	48kHz synchronous or asynchronous (48kHz synchronous AES required when sample rate converter is disabled)
Impedance:	75Ω unbalanced
Signal Level:	1V p-p ±0.1V @ termination load

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

Physical (Number of Slots per frame):
350FR:	2
7700FR-C:	2
7800FR:	1

▶Ordering Information

7821AE8-3G-AESD-F
   3G/HD/SD-SDI 8 AES Audio Embedder with Fiber I/O
   (SFP modules to be order accessories)

Ordering Options	Rear plate must be specified at time of order E.g. Model +3RU
+MADI	Support for serial multi-channel audio digital interface as per (AES10-2003)

Accessories:
SFPTR-13	SFP Transceiver, 1310nm, standard sensitivity receiver, supports rates to 3Gb/s

SFP3T13-2	Dual SFP Transmitter, supports rates to 3Gb/s

Rear Plate Suffix:
+3RU	3RU Rear Plate for use with 350FR, 7700FR-C or 7800FR Multiframe

Enclosures:
350FR	3RU Portable Multiframe which holds up to 7 single slot modules
7800FR	3RU Multiframe which holds up to 15 single slot modules
7700FR-C	3RU Multiframe which holds up to 15 single slot modules

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