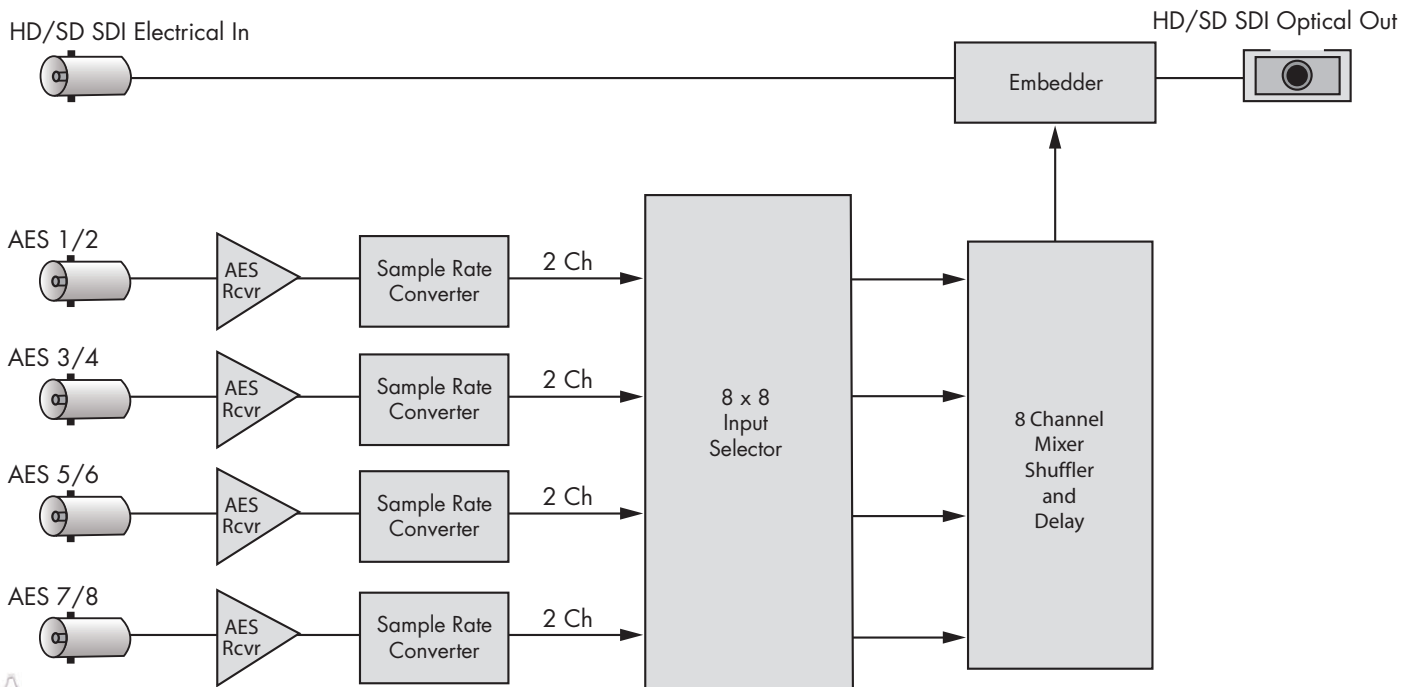# BrightEye 73
HD/SD AES Embedder with Optical Out

The BrightEye 73 is a dual rate eight channel audio embedder for 1.5 Gb/s high definition video signals or for 270 Mb/s standard definition signals.

There is one serial digital video input and four AES audio inputs. These four AES streams are embedded into the video stream. AES inputs are sample rate converted, allowing the use of asynchronous audio. The output of the module is an optical signal that contains the original video signal and four AES pairs.

The BrightEye 73 includes an eight channel audio mixer with channel swap and shuffle capability that allows you to completely re-arrange and re-mix audio channels. It provides precise control over audio level, with up to 12 dB of gain to compensate for low level sources. All audio processing is performed at full 24 bit resolution by a digital signal processor (DSP). Delay is adjustable up to one second. The Data mode operation allows Dolby E or AC-3 inputs.

Features

- **Optical transmitter**
- **Use with servers, workstations and routers**
- **8 channel audio embedder**
- **Adjustable delay**
- **HD/SD SDI electrical and AES inputs**
- **Optical embedded output**
- **Passes embedded audio**

HD/SD SDI Electrical In

HD/SD SDI Optical Out

Embedder

AES 1/2 — AES Rcvr — Sample Rate Converter — 2 Ch

AES 3/4 — AES Rcvr — Sample Rate Converter — 2 Ch

AES 5/6 — AES Rcvr — Sample Rate Converter — 2 Ch

AES 7/8 — AES Rcvr — Sample Rate Converter — 2 Ch

8 x 8 Input Selector

8 Channel Mixer Shuffler and Delay

Designed and built in California

5 YEAR WARRANTY

ENSEMBLE
D E S I G N S

Serial Digital Input

Number	One
Type	HD Serial Digital 1.485 Gb/s
	SMPTE 274M, 292M or 296M or
	SD Serial Digital 270 Mb/s SMPTE 259M
Delay	< 1 μSec Audio is adjustable to 1 second
Impedance	75 Ω
Return Loss	>15 dB
Max Cable Length	100 meters (Belden 1694A)
Automatic Input Cable Equalization	

HD Standards Supported

1080i (SMPTE 274M -4,5,6) 50, 59.94 or 60 Hz
720p (SMPTE 296M -1,2,3) 50, 59.94 or 60 Hz
1080p (SMPTE 274M -9,10,11) 23.98, 24, 25 Hz
1080sF (RP211 -14,15,16) 23.98, 24, 25 Hz

AES/EBU Digital Inputs

Number	Four (total of eight channels)
Type	AES3id
Connector	Coaxial, 75 Ω
Bit Depth	20 and 24 Bit
Sample Rate	30 KHz to 100 KHz (sample rate converted internally to 48 KHz)
Crosstalk	<144 dB
Dynamic Range	>144 dB
Reference Level	-18 or -20 dBFS (selectable)
AC-3, Dolby-E	Supported when inputs are synchronous

Optical Output

Number	One
Type	SD and ASI (SMPTE 297M, optical equivalent of 259M)
	HD (SMPTE 274M or 296M)
Wavelength	1310 nm (non-CWDM)
	(1550 non-CWDM by special order)
Power	-7 dBm
Max Cable Length	20 km (For greater distances, or higher power and larger loss budgets, please contact the factory)
Fiber Type	Single Mode
	Multi-mode compatible with attenuation at transmit end
Connector	SC

Embedded Output (In Optical Outputs)

Group Assign	Cascade or replace any two of four groups
Channels	Eight
Bit Depth	24 Bit

General Specifications

Size	5.63"W x 0.8" H x 5.98"D
	(143 mm x 21 mm x 152 mm) including connectors and flange
Weight	15 oz
Power	12 volts, 3 watts
	(100-230 VAC modular power supply)
Temperature Range	0 to 40° C ambient (all specs met)
Relative Humidity	0 to 95%, non-condensing
Altitude	0 to 10,000 ft.