

# BrightEye 70

## HD/SD AES Embedder/Disembedder

The BrightEye 70 is a dual rate eight channel audio embedder or disembedder for 1.5 Gb/s high definition video signals or for 270 Mb/s standard definition signals. Four AES ports automatically configure as inputs or outputs depending if the module is configured as mux or demux.

When configured as a multiplexer, the BrightEye 70 has 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 a digital stream that contains the original video signal and four AES pairs.

When configured as a demultiplexer, audio signals present in the incoming video signal are extracted and delivered as standard AES digital audio streams.

The BrightEye 70 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 embedding or disembedding of Dolby E or AC-3 signals.

### Features

- Use with servers, workstations and satellite receivers
- HD/SD audio embedder or disembedder
- 8 channel audio mixing
- Adjustable delay
- Data mode for Dolby E and AC-3
- Passes embedded audio



# BrightEye 70

## HD/SD AES Embedder/Disembedder

### 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
Impedance	75 $\Omega$
Return Loss	>15 dB
Max Cable Length	100 meters for HD 300 meters for SD (Belden 1694A)

### 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

### Serial Digital Output

Number	One
Type	Follows input
Delay	< 1 $\mu$ Sec Audio is adjustable to 1 second
Impedance	75 $\Omega$
Return Loss	>15 dB
Output DC	None (AC coupled)

### AES/EBU Digital Inputs

Number	Four (total of eight channels)
Type	AES3id
Connector	Coaxial, 75 $\Omega$
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

### Embedded Inputs

Number	Four AES Streams (from video input) Eight channels from any two of four groups
Channels	Eight
Bit Depth	20 and 24 Bit

### AES/EBU Digital Outputs

Number	Four (total of 8 channels)
Type	AES3id
Connector	Coaxial, 75 $\Omega$
Bit Depth	24 Bit
Sample Rate	48 KHz, synchronous to video output
Reference Level	-18 or -20 dBFS (selectable)

### Embedded Output (In SDI Outputs)

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

### General Specifications

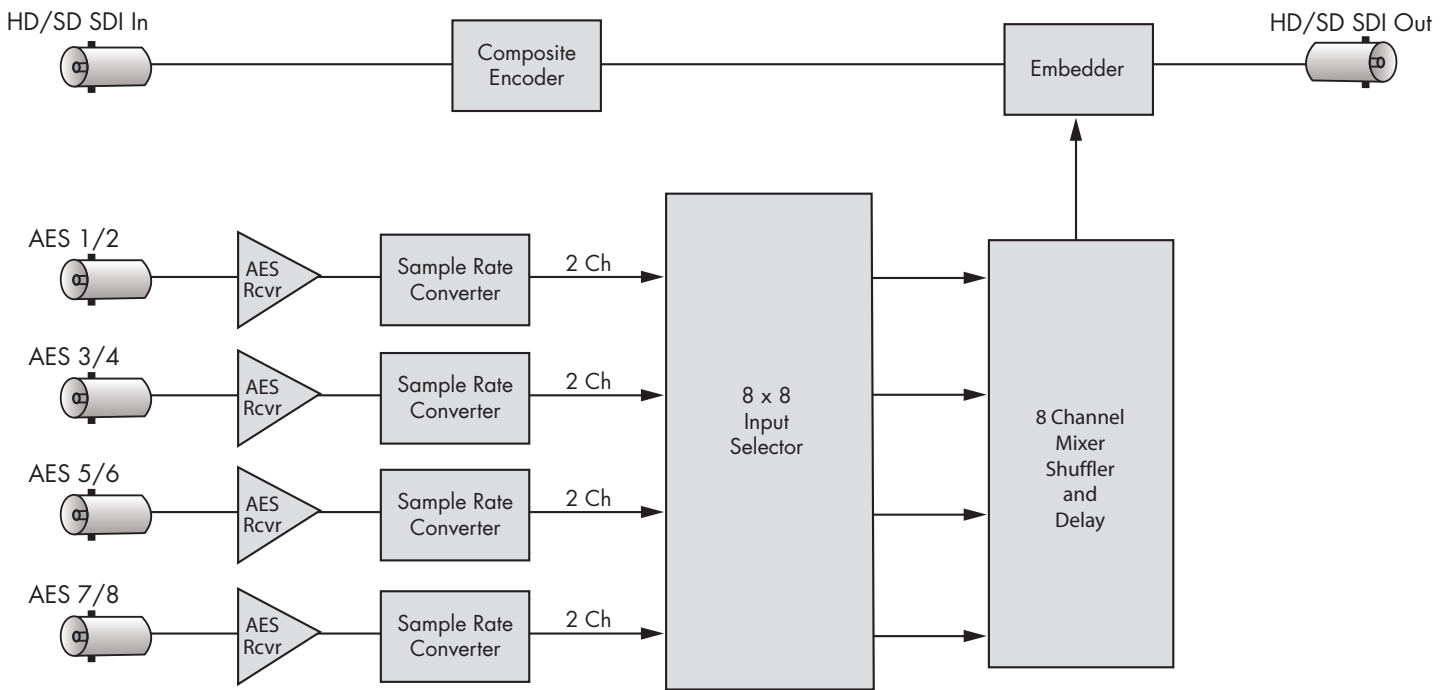
Size	5.63" W x 0.8" H x 5.98" D (143 mm x 21 mm x 152 mm) including connectors and flange
Weight	15 oz
Power	12 volts, 3 watts (100-230 VAC modular power supply)
Power Consumption	12 volts, 8 watts
Temperature Range	0 to 40° C ambient (all specs met)
Relative Humidity	0 to 95% non-condensing
Altitude	0 to 10,000 ft.

*BrightEye 70 Block Diagrams on following pages*

# BrightEye 70

## HD/SD AES Embedder/Disembedder

### Mux Mode



### Demux Mode

