

# BrightEye 70

## HD/SD AES Embedder/Disembedder

The BrightEye 70 is a dual rate eight channel audio embedder or disembedder for 1.5Gb/s high definition video signals or for 270Mb/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 AC3 signals.

## ► Specifications

### Serial Digital Input

|                  |   |
|------------------|---|
| Number           | One   |
| Type             | HD Serial Digital 1.485 Gb/s SMPTE 274M or 296M or SD Serial Digital 270Mb/s SMPTE 259M-C |
| Impedance        | 75 Ω  |
| Return Loss      | >15 dB  |
| Max Cable Length | 100 Meters for HD<br>300 Meters for SD<br>(Belden 1694A or equiv.)                        |

### HD Standards Supported:

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

### Serial Digital Output

|             |                   |
|-------------|-------------------|
| Number      | One               |
| Type        | Follows input     |
| Impedance   | 75 Ω              |
| Return Loss | >15 dB            |
| Output DC   | None (AC coupled) |



- 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 AC3

### AES/EBU Digital Inputs

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

### Embedded Inputs

|           |   |
|-----------|---|
| Number    | Four AES Streams (from video input)<br>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  |
| Connectorization | Coaxial, 75 Ω   |
| Bit Depth        | 24 Bit  |
| Sample Rate      | 48 KHz  |
| Reference Level  | Synchronous to Video output<br>-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              | 5.625" W x 0.8" H x 5.5" D<br>(143 mm x 20 mm x 140 mm) including connectors |
| Power             | 12 volts, 7 watts<br>(100-230 VAC modular power supply)<br>10 watts          |
| Power Consumption | 10 watts   |
| Temperature Range | 0 to 40° C ambient   |
| Relative Humidity | 0 to 95% non-condensing  |
| Altitude          | 0 to 10,000 ft.  |