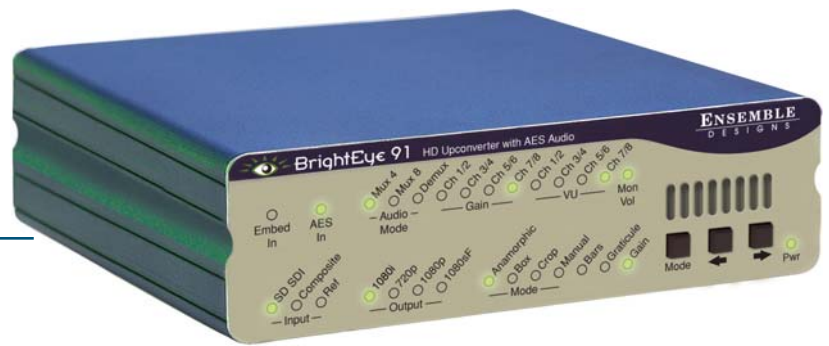# BrightEye™

# BrightEye 91

## HD Upconverter with AES Audio

### Easy To Use
BrightEye 91 is an upconverter with analog composite and SD SDI inputs. Feed the analog composite or SD SDI output of a camera to a BrightEye 91 and upconvert to HD. You can take the HD signal from the BrightEye 91 into a switcher or projection system. Upconverting existing SD equipment lets you leverage the equipment you already have and operate in the HD domain. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed.

### Upconvert Before Distribution
While some cameras may have firewire out, using the video output and upconverting before distribution is preferable since longer cable runs can be achieved and quality is superior. Additionally, the BrightEye 91's reference input allows you to time the upconverted video output for use with a production switcher.

### Audio Processing
BrightEye 91 handles both embedded audio and discreet AES digital audio inputs. Sixteen channels of embedded audio are supported in BrightEye 91. If the incoming video has embedded audio, the audio will be safely bypassed around the video processing and lipsync will be preserved. Audio mixing is available for two of the four embedded groups of audio.

### Audio Monitoring
Audio monitoring is easy with BrightEye 91's convenient 3.5mm mini jack. Just select the audio channels you want to monitor from the front panel and plug in a headset.

▶ Use with Cameras and Projection Systems

▶ Turn Analog Camera Into Digital HD Source

▶ SD Digital and Analog Composite Video Inputs

▶ AES Inputs

▶ Analog Audio Monitor Output

▶ HDMI Output for Monitoring

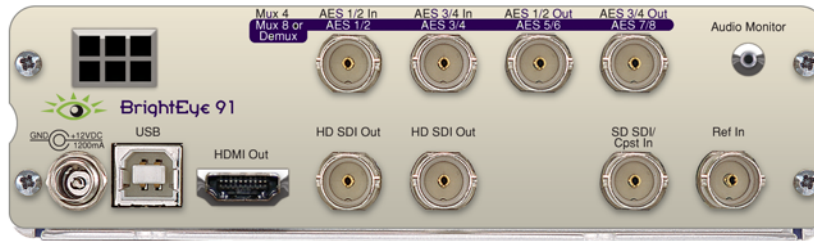▶ Frame Sync

▶ 12 and 16 bit processing

### Monitoring with HDMI
The HDMI connector on the rear of the unit provides a future proof monitoring interface. Plug it into most LCD monitors for confidence monitoring of your feed.

### Front Panel and Software Control
Input selection, gain control, and test pattern controls are provided through the front panel interface. Audio presence LEDs indicate which channels are detected. Controls for crop, letterbox and pillarbox are accessed from the front panel or BrightEye Mac or PC software. Video and audio levels and the audio mixer can be adjusted through BrightEye Mac or PC software.

## ENSEMBLE
### D E S I G N S

**BrightEye 91**

## ► Specifications

### Analog Video Input

| | |
|---|---|
| Number | One |
| Type | Analog Composite PAL or NTSC |
| Resolution | Digitized at 12 bits |
| Impedance | 75 Ω |
| Return Loss | >40 dB |
| Input DC | +/-1 volt DC |
| Input Hum | <100 mV |

### Serial Digital Input

| | |
|---|---|
| Number | One |
| Signal Type | 270Mb/s SD Serial Digital (SMPTE 259M) |
| Impedance | 75 Ω |
| Return Loss | >15dB |
| Max Cable Length | 300 meters for 270 Mb/s |

### Reference Input

| | |
|---|---|
| Number | One |
| Type | 1 V p-p Composite Video PAL or NTSC or Tri-Level Sync |
| Impedance | 75 Ω |
| Return Loss | >40 dB |

### Serial Digital Output

| | |
|---|---|
| Number | Two |
| Type | HD Serial Digital 1.485 Gb/s SMPTE 274M or 296M or 12 and 16 bit |
| Processing | 12 and 16 bit |
| Impedance | 75 Ω |
| Return Loss | >15 dB |
| Max Cable Length | 100 Meters for HD (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) 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, 25Hz

### AES/EBU Digital Inputs

| | |
|---|---|
| Number | Four (total of eight channels) (selectable as inputs or outputs) |
| Type | AES3id |
| Connectorization | Coaxial, 75 Ω |
| Bit Depth | 20 and 24 Bit |
| Sample Rate | 30KHz to 96KHz |
| (Sample Rate Converted | internally to 48KHz) |
| Reference Level | -18 or -20 dBFS (Selectable) |

### AES/EBU Digital Outputs

| | |
|---|---|
| Number | Four (total of eight channels) (selectable as inputs or outputs) |
| Type | AES3id |
| Connectorization | Coaxial, 75 Ω |
| Bit Depth | 24 Bit |
| Sample Rate | 48 KHz Synchronous to video output |
| Reference Level | -18 or -20 dBFS (selectable) |

### Embedded Output (In Serial Output)

| | |
|---|---|
| Group Assign | Two of four groups |
| Channels | Sixteen passed |
| Bit Depth | 24 Bit |

### Monitor Output

| | |
|---|---|
| Number | One |
| Connectorization | HDMI |

### Audio Monitoring Output

| | |
|---|---|
| Number | One |
| (Select from eight channels) | |
| Connectorization | 3.5mm stereo mini jack |

### General Specifications

| | |
|---|---|
| Size | 5.625" W x 1.7" H x 5.5" D (143 mm x 40 mm x 140 mm) including connectors |
| Power | 12 volts, 7 watts (100-230 VAC modular power supply not included) |
| Temperature Range | 0 to 40° C ambient |
| Relative Humidity | 0 to 95° non-condensing |

**ENSEMBLE**
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