

# BrightEye 91

## HD Upconverter with AES Audio

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### 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.

A special Mirror Output Mode can be enabled, causing the output image to be flipped left to right for use with on-camera talent. 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 discrete 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

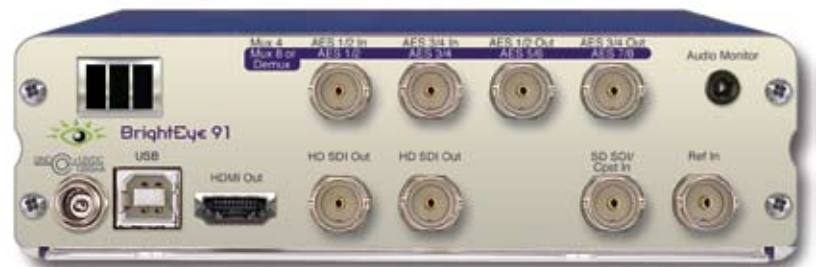
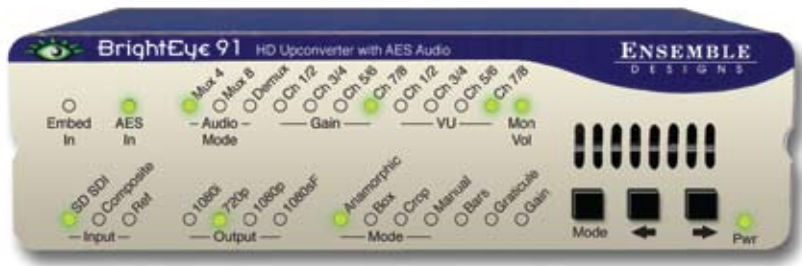
Audio monitoring is easy with BrightEye 91's convenient 3.5 mm mini jack. Just select the audio channels you want to monitor from the front panel and plug in a headset.

### 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.



- 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
- Mirror Output Mode for On-Camera Talent
- Graticule and Safe Generator
- HDMI Output for Monitoring
- Frame Sync
- 12 and 16 Bit Processing
- Passes Embedded Audio

**Analog Video Input**

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

**Serial Digital Input**

Number	One
Signal Type	270 Mb/s SD Serial Digital (SMPTE 259M)
Impedance	75 $\Omega$
Return Loss	>15 dB
Max Cable Length	300 meters for 270 Mb/s
Automatic Input Cable Equalization	

**Reference Input**

Number	One
Type	1 V P-P Composite Video PAL or NTSC or Tri-Level Sync
Impedance	75 $\Omega$
Return Loss	>40 dB

**Serial Digital Output**

Number	Two
Type	HD Serial Digital 1.485 Gb/s SMPTE 274M, 292M or 296M
Processing	12 and 16 bit
Impedance	75 $\Omega$
Return Loss	>15 dB
Max Cable Length	100 meters for HD (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

**AES/EBU Digital Inputs**

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

**AES/EBU Digital Outputs**

Number	Four (total of eight channels) (selectable as inputs or outputs)
Type	AES3id
Connector	Coaxial, 75 $\Omega$
Bit Depth	24 Bit
Sample Rate	48 KHz
Reference Level	Synchronous to video output -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**

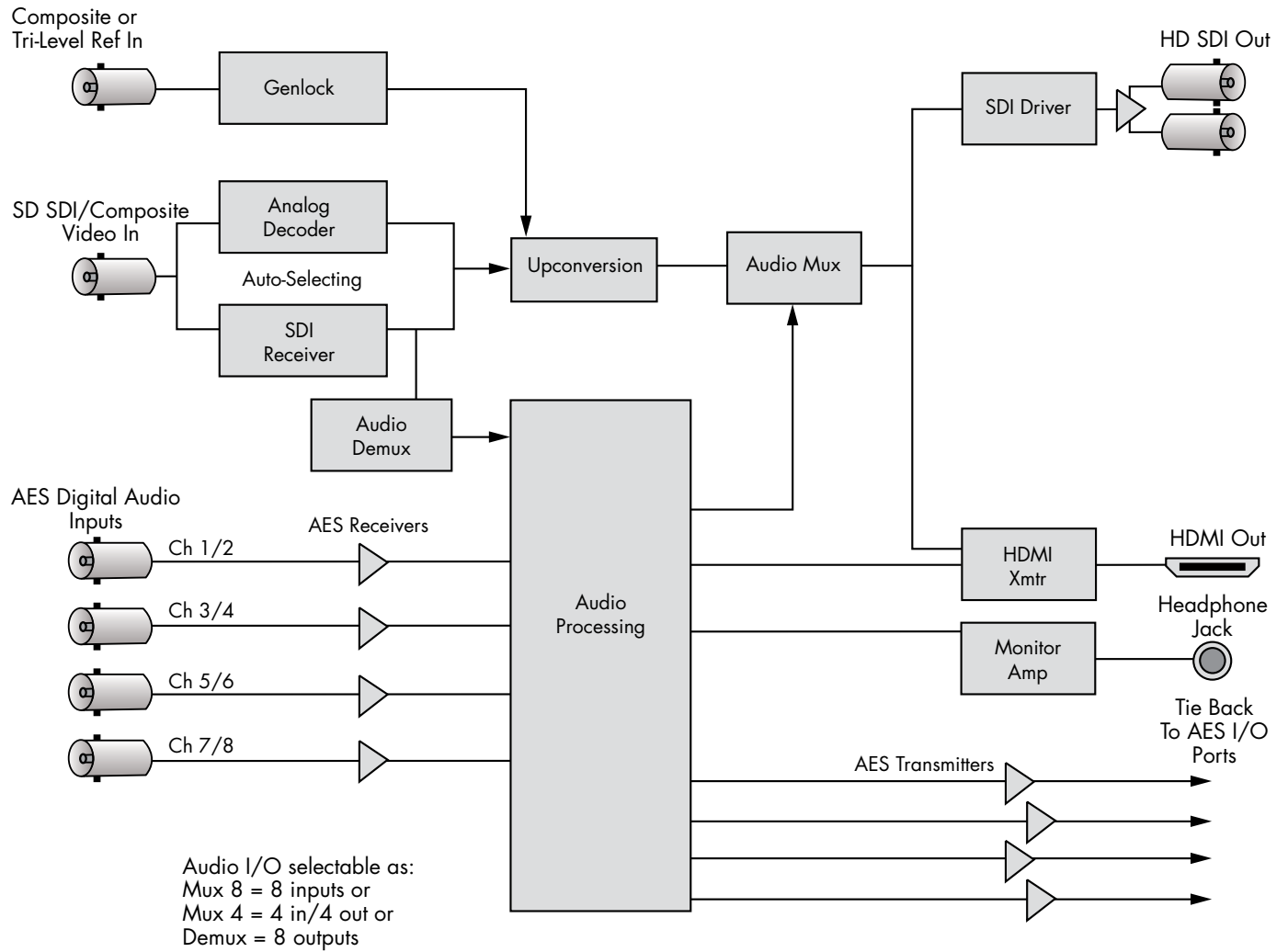
Number	One
Connector	HDMI
Type	Follows SDI out

**Audio Monitoring Output**

Number	One (select from eight channels)
Connector	3.5 mm 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
Weight	1 lb 8 oz
Power	12 volts, 11 watts (100-230 VAC modular power supply not included)
Temperature Range	0 to 40° C ambient
Relative Humidity	0 to 95%, non-condensing



Provides embedded pass through of all 16 audio channels