

BrightEye 90-FA

HD Up/Down Cross Converter and ARC with Analog Audio and Optical Output

Easy To Use

BrightEye 90-FA is a versatile up/down/cross converter or aspect ratio converter for use with analog and digital video signals with the addition of an optical output. Optical connectivity allows for long cable runs between buildings or in mobile applications. Simply set the BrightEye 90-FA to output your facility's preferred HD or SD standard. The BrightEye 90-FA will accommodate whatever input you connect - analog composite, SD SDI or HD SDI. After setting the output standard, BrightEye 90-FA automatically converts the selected input to the correct standard for your facility. BrightEye 90-FA will upconvert, downconvert, cross convert, or act as an ARC, as needed. The built-in Frame Synchronizer allows you to feed asynchronous signals to the BrightEye 90-FA. An external reference input allows genlock to a house reference. All vertical interval data and closed captioning is faithfully passed.

Upconverting to High Definition

Feed the analog composite or SD SDI output of a camera to a BrightEye 90-FA and upconvert to HD. You can take the HD signal from the BrightEye 90-FA into a switcher or projection system. Upconverting existing SD equipment lets you leverage the equipment you already have and operate in the HD domain.

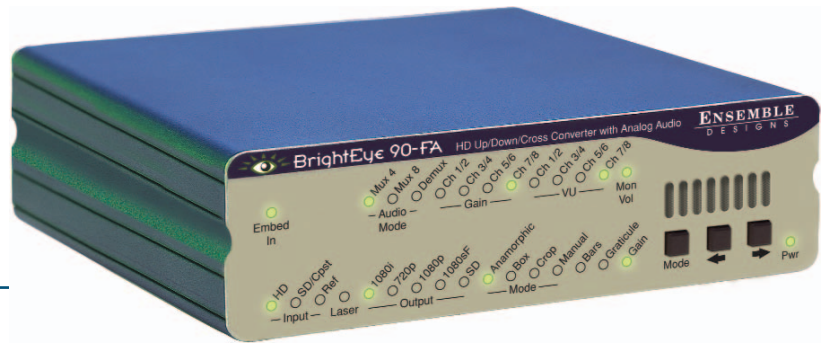
While some cameras may have firewire out, using the video output and upconverting before distribution is preferable since longer cable runs can be achieved and quality is superior. Additionally, the BrightEye 90-FA's reference input allows you to time the upconverted video output for use with a production switcher.

Downconverting to Standard Definition

BrightEye 90-FA will downconvert any type of HD signal and provides both an SD SDI and an analog composite output suitable for broadcast or monitoring.

Cross Conversion

It's easy to convert between various HD standards, whether 720p or 1080i. Simply select the output standard you need and connect the input, that's all there is to it.



- ▶ Use with Cameras and Projection Systems
- ▶ Turn Analog Camera Into Digital HD Source
- ▶ HD and SD Digital and Analog Composite Video I/O
- ▶ Analog Audio I/O
- ▶ Analog Audio Monitor Output
- ▶ HDMI Output for Monitoring
- ▶ Optical Output for long cable runs

Aspect Ratio Conversion

For converting between SD 4:3 and HD 16:9, BrightEye 90-FA has you covered. Just select the output standard you need and connect the input.

Audio Processing Made Simple

BrightEye 90-FA handles both embedded audio and eight channels of analog audio. Sixteen channels of embedded audio are supported in BrightEye 90-FA. 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. The analog audio I/O ports can be configured for eight channels of incoming audio or for eight channels of audio output. The audio mixer can be used for analog audio as well. Mixer controls are accessed through BrightEye Mac or PC software.

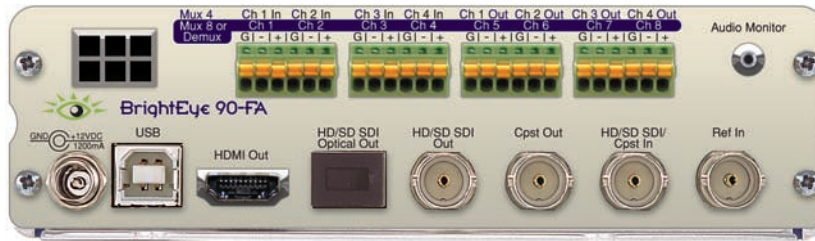
Monitoring for Video and Audio

Audio monitoring is easy with BrightEye 90-FA's convenient 3.5mm mini jack. Select the audio channels you want to monitor from the front panel and plug in a headset.

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

Front Panel and Software Control

Input selection, gain control, and test patterns control 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.



BrightEye 90-FA

► 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] or 1.485Gb/s HD Serial Digital [SMPTE 274M or 296M] |
| Impedance | 75 Ω |
| Return Loss | >15dB |
| Max Cable Length | 300 meters for 270 Mb/s 100 meters for 1.485 Gb/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 |

Analog Video Output

| | |
|-------------|-----------------------|
| Number | One |
| Type | Composite PAL or NTSC |
| Return Loss | >40 dB |
| Output | DC <100 mV |

Serial Digital Output

| | |
|------------------|---|
| 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 300 Meters for SD [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 |

Analog Audio Inputs

| | |
|-----------------|---|
| Number | Eight (selectable as inputs or outputs) |
| Type | Balanced |
| Impedance | >15K Ω |
| Max Input Level | 24 dBu |

| | |
|--------------------|---------------------------|
| CMRR | >60dB, 20Hz to 10KHz |
| Quantization | 24 bits, 128x Oversampled |
| Sample Rate | 48 KHz |
| Reference Level | -10 dBu or +4 dBu |
| Frequency Response | ±0.1dB, 20Hz to 20KHz |
| Crosstalk | <106 dB |
| Dynamic Range | >106 dB |

Analog Audio Outputs

| | |
|----------------------|---|
| Number | Eight (selectable as inputs or outputs) |
| Type | Balanced, transformerless |
| Impedance | 30 Ω |
| Maximum Output Level | 24 dBu |
| Resolution | 24 bits, 128x Oversampled |
| Reference Level | -10 dBu or +4 dBu |
| Frequency Response | ± 0.1dB, 20Hz to 20KHz |
| Crosstalk | <106 dB |
| Dynamic Range | >106 dB |

Embedded Output (In Serial Output)

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

Optical Output

| | |
|------------------|--|
| Number | One |
| Type | SD [SMPTE 297M, optical equivalent of 259M] HD [SMPTE 274M or 296M] |
| Wavelength | 1310 nm |
| Power | -7 dBm |
| Max Cable Length | 20 km |
| Fiber Type | Single Mode Multi-mode compatible with 8 dB attenuation at transmit end |

Connector

Monitor Output

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

Audio Monitoring Output

| | |
|------------------|--|
| Number | One |
| Connectorization | [Select from eight channels] 3.5mm mono 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] |
| Temperature Range | 0 to 40° C ambient |
| Relative Humidity | 0 to 95° non-condensing |