BrightEye NXT Frame Synchronizers

More Function. More Integration. More Performance.

Crop & Scale

Fiber

HDMI

HD-SDI

4 Channel

FrameSync

4K/UHD

HDCP

ENSEMBLE
D E S I G N S

BrightEye NXT 950
3G / HD / SD 4 Channel Frame Sync / UDC

Ch 1   Ch 2   Ch 3   Ch 4

CH2 - RoofCam   1080i/59

V: Live/Unity   A: a - - -   CC

Perfect Lip Sync

Format Conversion
Color Correction

12 Frame Syncs in 1RU
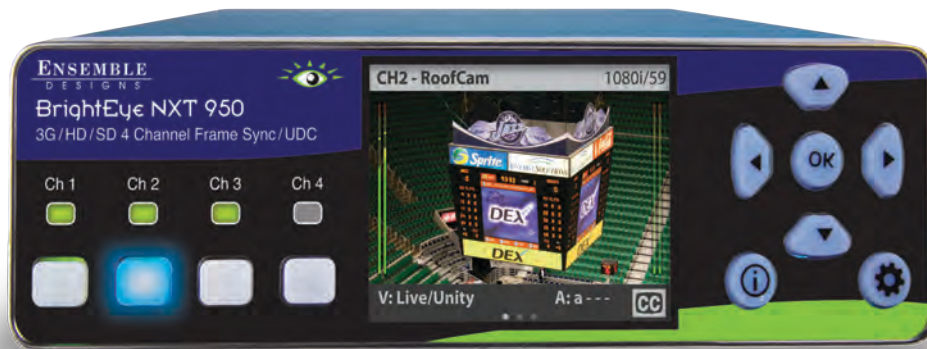
Designed and built in California

5 YEAR WARRANTY

ENSEMBLE
D E S I G N S

Amazing Features – And Amazingly Compact

The new BrightEye NXT 950 Frame Synchronizer packs a lot of features in a tiny package. Frame Synchronization and Format Conversion, with 16 channels of embedded Audio. The NXT 950 has four independent frame synchronizers. Each supports automatic input format detection and conversion to desired output format. Adjust video and chroma gains with the built-in Proc Amp. Color Correct to compensate for input material or to match projectors and monitors. Adjust levels and swap/mix channels in Embedded Audio. Even embedded surround sound (Dolby, AC-3) is synchronized from input to output.

Control the Frame Syncs and monitor each channel's input and output from the front panel, or through the interactive Web interface. Rackmount three NXT 950s in a single RU for the ultimate processing density.

For seamless support of HDMI sources check out the NXT 910 with HDMI inputs and SDI outputs.

Features

- **Web Interface with Video Proxies**
- **Automatic Format and Frame Rate Conversion**
- **From SD to 4K, and Everything In-between**
- **4K support as a quad cable frame sync**
- **Video Proc Amp and Color Correction**
- **Crop and Scale**
- **Audio Channel Swap and Level Adjust**
- **SFP ports for HDMI, Fiber, Composite, or additional SDI I/Os**
- **Front Panel Live Monitor**
- **Monitor Pre- and Post-Processed Signals**

Order Info

BENXT-910	BrightEye NXT 910 4 Channel HDMI/SDI Frame Sync with HDCP

    • BENXT-910K-UDC, license key for U/D/C on the 910
    • BENXT-910K-SC, license key for Crop & Scale on the 910

BENXT-950	BrightEye NXT 950 4 Channel SDI Frame Sync & U/D/C
BENXT-955	BrightEye NXT 955 2 Channel SDI Frame Sync & U/D/C

Connection Flexibility

Start with SDI or HDMI inputs, and SDI outputs; then use SFP modules to add Fiber, HDMI, Analog Composite, or encapsulated SDI (SMPTE 2020) connectivity. Configuration is flexible, SFP connections can serve as either Frame Sync inputs or outputs.

Color Correction

Adjust incoming feeds to correct for color balance and video levels, or use the Color Corrector to match monitors and projectors. On-set monitors will have perfect color and exposure when viewed through studio cameras.

Format and Frame Rate Conversion

Simply choose the desired output format and frame rate for each Frame Sync. Input standards are detected and the Up/Down/Cross Converter is automatically configured to conform to the output.

Audio Levels and Channel Swapping

Adjust the level of all 16 possible embedded audio channels, and map those channels to produce any combination of swaps and mixes on the output. These NXT Frame Synchronizers provide agile and complete audio control.

Web Control

An extensive web interface puts complete control and full signal status at the operator's fingertips – from any computer, tablet, or smartphone. Proxy thumbnails of both the input and output of each Frame Synchronizer give a direct view of what's happening. Configure and control from across the room, or across the globe.

4K / UHD Support

Select 4K/UHD mode in the NXT 950, and it's transformed into a unified, single Frame Sync. Supporting both Square Division (SQ) and Two Sample Interleave (2SI) formats with quad cable connectivity. Supports all features except Crop & Scale.
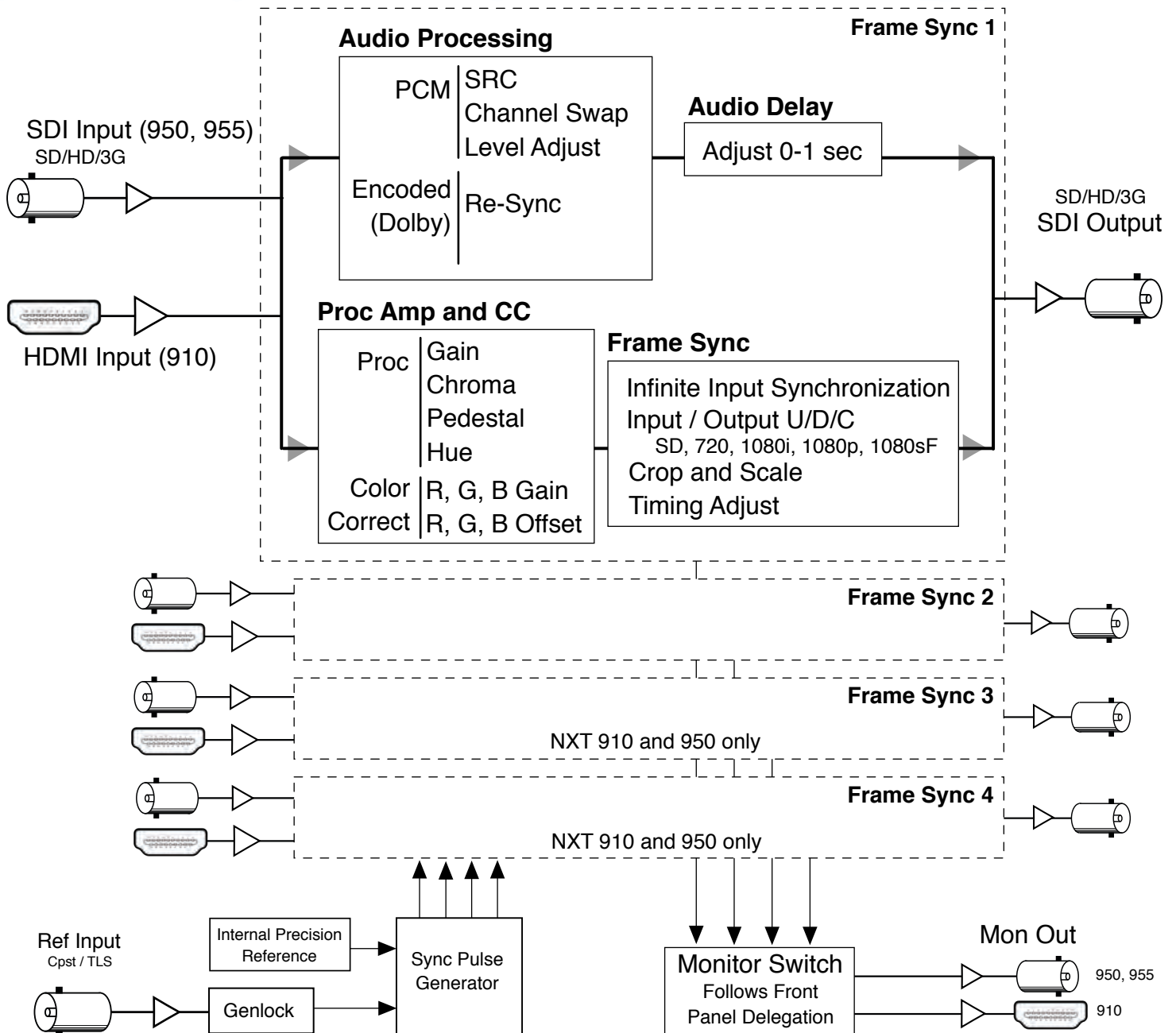
Monitor Output

Connect the Monitor Output to an external waveform and picture monitor. This feed will follow the operator's channel selection on the front of the NXT. It can display either the input or output of each frame sync. This monitor switching is built-in to the regular operaton of the product.

Choose the perfect combination of features and price for your facility

	NXT 910	NXT 950	NXT 955
FrameSyncs	4	4	2
SDI Inputs	SFP	4	2
HDMI Inputs	4	SFP	SFP
HDCP	✦		
SDI Outputs	4	4	2
Analog I/O	SFP	SFP	SFP
Fiber I/O	SFP	SFP	SFP
Monitor Out	1	1	1
Live Display	✦	✦	✦
Web Interface	✦	✦	✦
Video Proc Amp	✦	✦	✦
Color Correction	✦	✦	✦
Embedded Audio	✦	✦	✦
Audio Level Adjust	✦	✦	✦
Audio Channel Swap	✦	✦	✦
Adjustable Audio Delay	✦	✦	✦
U/D/C Convert	Lic	✦	✦
Crop & Scale	Lic	✦	✦
4K/UHD Mode		✦	
SFP Ports	2	4	4

Lic - Requires optional license
SFP - Reqires SFP

Frame Sync 1

Audio Processing

PCM	SRC
	Channel Swap
	Level Adjust
Encoded (Dolby)	Re-Sync

Audio Delay

Adjust 0-1 sec

SDI Input (950, 955)
SD/HD/3G

HDMI Input (910)

SD/HD/3G
SDI Output

Proc Amp and CC

Proc	Gain
	Chroma
	Pedestal
	Hue
Color Correct	R, G, B Gain
	R, G, B Offset

Frame Sync

Infinite Input Synchronization
Input / Output U/D/C
    SD, 720, 1080i, 1080p, 1080sF
Crop and Scale
Timing Adjust

Frame Sync 2

Frame Sync 3

NXT 910 and 950 only

Frame Sync 4

NXT 910 and 950 only

Ref Input
Cpst / TLS

Internal Precision Reference

Sync Pulse Generator

Genlock

Monitor Switch
Follows Front Panel Delegation

Mon Out

950, 955

910

Global SFP Resources

SFP Position 1
910, 950, 955

SFP Position 2
950, 955

SFP Positions can be:
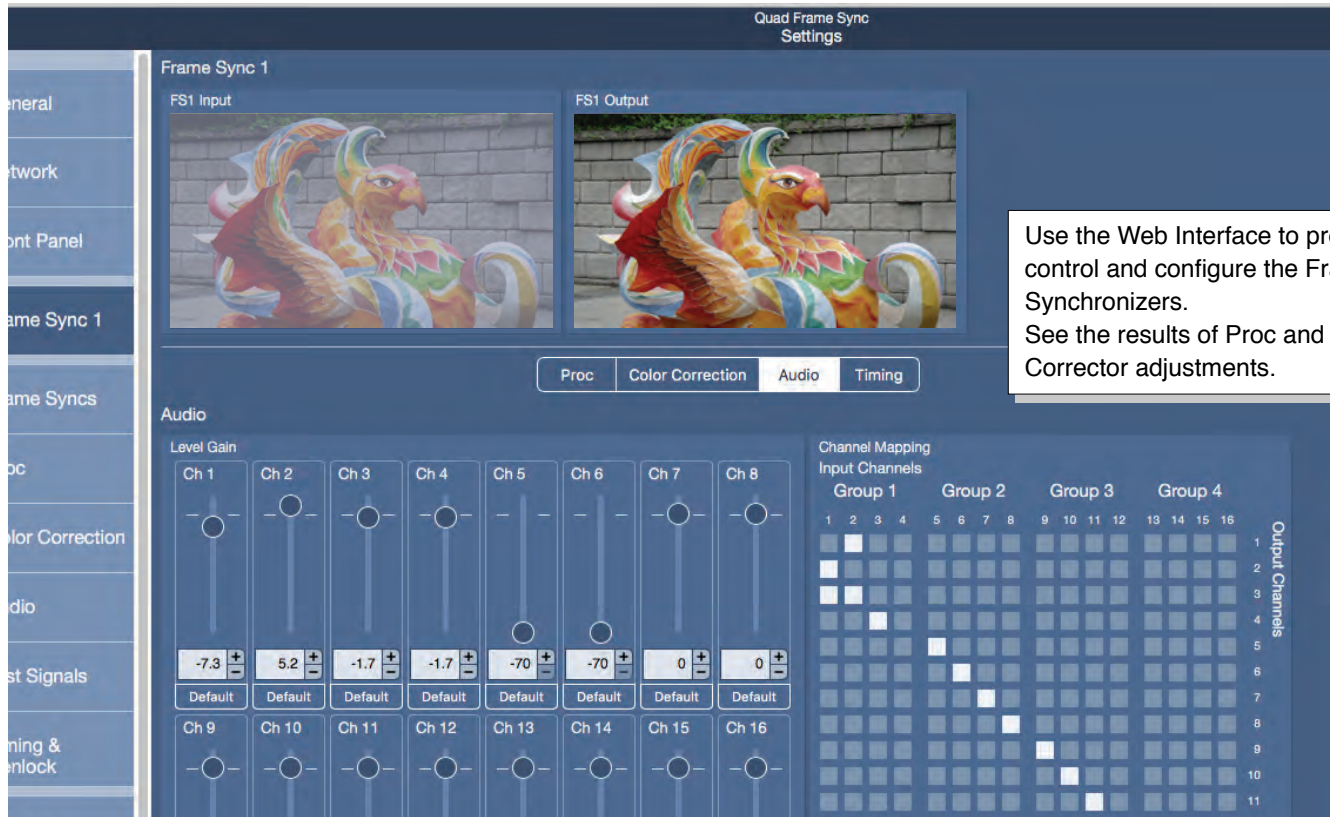   Assigned to any channel input
    or Driven in parallel with any channel SDI Output or Monitor Output
SFP Modules include:
    Fiber, SDI, HDMI, Analog, Encapsulated SDI (SMPTE 2022)

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5 YEAR WARRANTY

Use the Web Interface to precisely control and configure the Frame Synchronizers.
See the results of Proc and Color Corrector adjustments.

Applications

Feed Integration

Fiber Connected Remote Cameras at Racetrack

Fiber   Fiber

Synchronize, Crop, and Color Correct with NXT 955

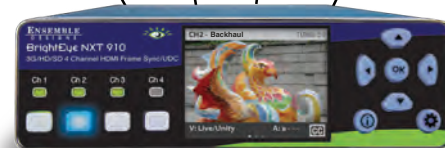Synchronized HD-SDI Connects Directly to Production Environment

Signal Monitoring

Set top boxes and IRDs, monitoring off air signals

HDMI

Convert and Synchronize 4 HDMI sources with NXT 910
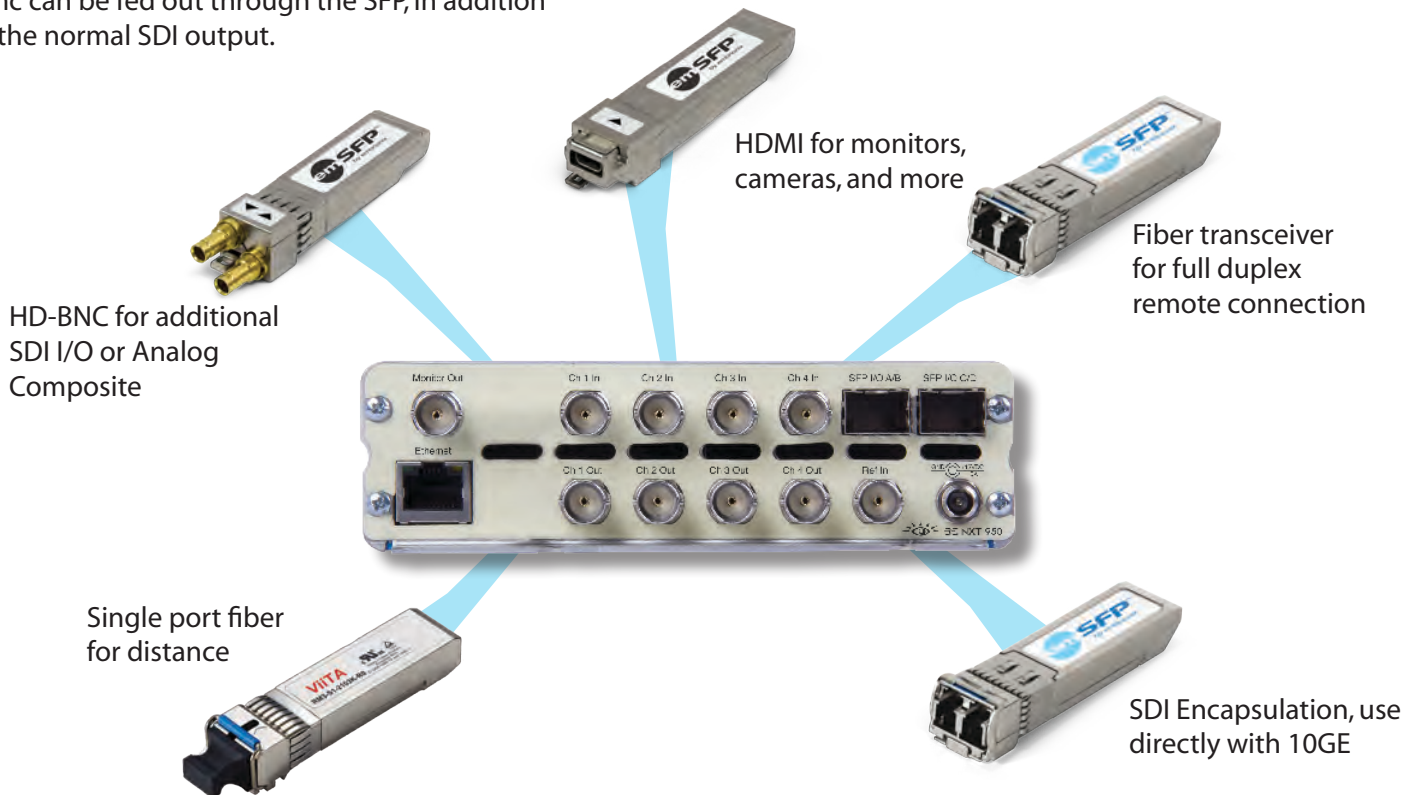
HD-SDI Monitoring and QC

SFPs
For Fiber, HDMI, Analog, and Additional SDI I/Os

Add the I/O Interface You Need

Add an SFP (Small Format Plugable) module to provide connections to Fiber, HDMI, Analog Composite, additional SDI, or IP Encapsulated SDI interfaces. The SFP ports can be used in place of the standard BNC (or HDMI) input connector. Alternately, the output of a Frame Sync can be fed out through the SFP, in addition to the normal SDI output.

All SFPs have a standard interface connector allowing a direct connection as Frame Sync input or output.

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HDMI for monitors, cameras, and more

Fiber transceiver for full duplex remote connection

HD-BNC for additional SDI I/O or Analog Composite

Single port fiber for distance

SDI Encapsulation, use directly with 10GE

MSA or Non-MSA?

The MSA standard was developed for Datacom SFPs. In the video world Non-MSA SFPs are recommended. They address requirements that are unique to video and don't apply to the Datacom world. Talk with us if you need help buying these SMPTE compliant SFPs.

How to Choose the Right SFP – We Can Help

SFP's make it simple to add different types of connectors to your NXT. Ensemble resells fiber, HDMI and HD-BNC SFPs so you can get everything you need with one order. Ensemble does not manufacture SFPs and we do not provide service or warranty on the SFPs we resell. You can also purchase SFPs directly from the manufacturers, be sure to specify Non-MSA.

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Serial Digital Inputs (950, 955)

Number	Two (955) Four (950)
Type	270 Mb/s SD SDI, SMPTE 259M 1.485 Gb/s HD SDI, SMPTE 274M, 292M, 296M 2.97 Gb/s HD (3G) SDI, SMPTE 424M, 425M
Impedance	75 Ohms
Return Loss	> 15 dB
Cable Length	300 meters for 270 Mb/s 100 meters for 1.485 Gb/s 70 meters for 2.97 Gb/s
Cable EQ	Automatic

4K Input (950)

Number	One

Serial Digital Outputs (all models)

Number	Two (955) Four (910, 950)

4K Output (950)

Number	One

Monitor Output (950, 955)

Number	One
Type	270 Mb/s SD SDI SMPTE 259M 1.485 Gb/s HD SDI, SMPTE 274M, 292M, 296M 2.97 Gb/s HD (3G) SDI, SMPTE 424M, 425M
Impedance	75 Ohms
Return Loss	> 15 dB
Cable Length	300 meters for 270 Mb/s 100 meters for 1.485 Gb/s 70 meters for 2.97 Gb/s

SDI Standards Supported – for both Input and Output

1080i 50, 59.94 or 60 Hz, SMPTE 274M -4,5,6

720p 50, 59.94 or 60 Hz, SMPTE 296M -1,2,3

1080p 23.98, 24 or 25 Hz, SMPTE 274M -9,10,11

1080p 50, 59.94, 60 Hz, SMPTE 424M, 425M, Level A

1080sF 23.98, 24 or 25 Hz, RP211 -14,15,16

625i 50

525i 59.94

HDMI Inputs (910)

Number:	Four
Type:	HDMI 1.3
Audio	Up to 8 Channels
HDCP	Supported

HDMI Monitor Output (910)

Number	One
Type	HDMI 1.3
Audio	8 Channels
Format	Follows channel configuration

SFP (Small Format Pluggable) Interfaces

Number	One (910) Two (950, 955)
Ports	HDMI: One per SFP SDI, Fiber: Two per SFP IP Encapsulate (SMPTE 2022, and more): One per SFP
Usage	Assignable to Channel Input or Output As Input: in place of SDI or HDMI As Output: in addition to SDI

Analog Composite I/O

Available with use of SFP Module

Frame Synchronizers

Number	Four (910, 950) Two (955)
Range	Infinitely adjustable in H and V

Format Conversion*

Integrated with Frame Synchronizer

Automatic conversion from any input to configured output format

*In NXT 910 Requires License

Audio Synchronization

Sample Rate Conversion of Embedded PCM Audio

SDI Inputs	Supports 16 channels
HDMI Inputs	Supports 8 channels

Re-Synchronization of encoded Surround Sound

Dolby-E, Dolby-D, AC-3 Automatically detected

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

Ethernet Control

Type	RJ-45
Speed	10/100 Mb/s
Protocols	HTTP, TCP/IP

General Specifications

Size	5.63" W x 1.65" H x 6.75" D (143 mm x 42 mm x 172 mm) including connectors and flange
Weight	1 lb 12oz
Power	12 volts, 35 watts (100-230 VAC modular power supply)
Temperature Range	0 to 40° C ambient (all specs met)
Relative Humidity	0 to 95%, non-condensing
Altitude	0 to 10,000 ft.

Due to ongoing development, prices and specifications subject to change without notice.

BrightEye NXT Family of Frame Synchronizers

NXT 910 4 Channel HDMI/SDI Frame Sync with HDCP

NXT 950 4 Channel SDI Frame Sync & U/D/C

NXT 955 2 Channel SDI Frame Sync & U/D/C

Redundant power options are available
for all BrightEye NXT Frame Syncs

Take your show on the road
BrightPak gives you ultimate portability