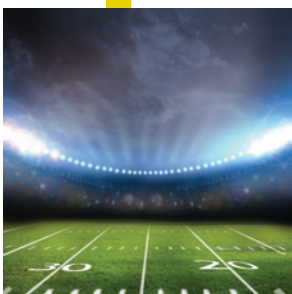


Broadcast



Stadiums & Arenas



Security

# HDb2920-NA

## HD-SDI Digital Encoder / Modulator

Headend Ready for High Density Distribution of HD Video and Digital Signage

### Superior Video Quality

- Full MPEG2 implementation
- I, P, and B Frames
- Low latency
- Full motion estimation with a wide search range

### High Reliability

- Low-stress power system
- Full system instrumentation and monitoring
- Official international regulatory approval
- Forced air cooling for effective thermal control

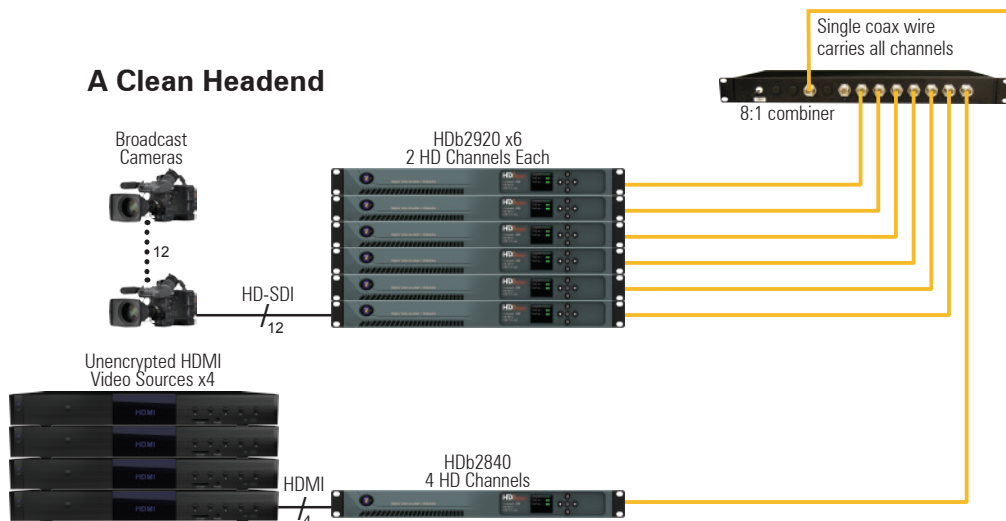
### Ease of Management

- Powerful, highly intuitive web interface
- On-site or remote management
- Web accessible instrumentation and management
- Single session configures and manages all connected units
- Front Panel Display for on-site status and management at a glance

### Extensible Architecture

- Easy downloadable firmware updates
- Future enhancements provided regularly
- Emergency Alert System (EAS)
- Bonus information channel for use with small video loops

### A Clean Headend



**HD**bridge2000  
SERIES

**Easy Setup**  
**Simple Installation**  
**Quick Rollout**  
**It's Done.**



BOSTON | DENVER | LONDON

**zeevee.com**

# HDb2920-NA

## HD-SDI 2-Channel Digital Encoder / Modulator



HDb2920 Rear Detail



HDb2920 Front Detail



### ZvSync

ZvSync is a digital cable tuner with HDMI, composite, and analog RF outputs. Available in both DVB-T and QAM.

It's small, affordable, and can be used for:

- Projectors
- TVs Without Tuners
- Monitors



**North America**  
+1.347.851.7364  
sales@zeevee.com

**EMEA**  
+44 1494 956677  
EMEAsales@zeevee.com

**International**  
+1.347.851.7364  
Intl-sales@zeevee.com



BOSTON | DENVER | LONDON

GENERAL	
<b>Model Name</b>	HDbridge Series 2000, HDb2920
<b>Part Number</b>	HDb2920-NA
<b>Power</b>	100-240 VAC 50/60 Hz, 60W max. 30W Typical IEC 60320-C14
<b>Cooling</b>	Dual internal cooling fans, Front inlet, Rear exhaust
<b>Temperature/Humidity</b>	Operating +32 F <sup>0</sup> to +113 F <sup>0</sup> (0 C <sup>0</sup> to +45 C <sup>0</sup> ) / 10% to 80%, non-condensing
<b>Vibration</b>	NSTA 1A in carton
<b>MTBF</b>	62,000 hours
<b>Compliance</b>	FCC Class A, IEC60065, EN61000 (see Manual #70-00045), CE, RoHS, RCM C-Tick
<b>Enclosure Type</b>	Metal
<b>Mounting</b>	Rack ears shipped attached, 1RU high
<b>Enclosure Dimensions</b>	1.72 in. (H) x 17.33 in. (W) (without rack mount ears) x 9.9 in. (D) 43.6 mm (H) x 440.2 mm (W) x 251.5 mm (D)
<b>Weights</b>	System: 6.5 lbs. (2.95 kg)   Shipping: 8.13 lbs. (3.69 kg)
<b>Carton Dimensions (individual)</b>	4.25 in. (H) 30.875 in. W 12.125 in (D) 108 mm (H) 785 (mm) W 308 (mm) (D)
<b>Warranty</b>	5 years
VIDEO INPUT	
<b>Serial Digital Interface</b>	Two ports of (HD/3G) Serial Digital Interface video (BNC, 75 ohm)
<b>Electrical Formats</b>	SDI (SMPTE 259M), HD-SDI (SMPTE 292M), 3G-SDI (SMPTE 424M)
<b>Supported Resolutions</b>	480i (SDI, HD-SDI, 3G-SDI) 720p @ 59.94/60 Hz (HD-SDI, 3G-SDI) 1080i @ 59.94/60 Hz (HD-SDI, 3G-SDI) 1080p @ 23.98/24/29.97/30/59.94/60 Hz (3G-SDI), Embedded AC3 or PCM audio supported (59.94/60 down-sampled for standard broadcast)
<b>Loop Through</b>	Each SDI port has relocked, amplified loop-through output
<b>Closed Caption</b>	EIA/CEA-608 captions accepted of CVBS composite port
<b>Extra Digital Channel</b>	MPEG2 Program stream file, up to 200 MB
AUDIO INPUT	
<b>Digital Audio and Stereo Analog</b>	Digital as element of SDI port or 3.5 mm stereo female, line level input per channel
<b>Encoder Audio Profile</b>	ATSC A/52, Dolby® Digital (AC-3)
VIDEO ENCODER	
<b>Encoder Video Profile</b>	MPEG2 HD: ISO13818-2 Main Profile @ High Level
<b>Traffic Shaping</b>	Variable Bit Rate
<b>Video Encoding Data Rates</b>	Variable, 10 Mbs - 24 Mbs per channel
<b>Average Encoding Data Rate</b>	18 Mbs per channel
<b>Encoding Latency</b>	Programmable 200 msec to 400 msec
<b>Color Profile</b>	4:2:0
<b>GOP Size</b>	15
<b>Video, Audio PID</b>	Programmable starting value
<b>Program Information</b>	Programmable program name, EIT
AUDIO ENCODER	
<b>Encoder Audio Profile</b>	ATSC A/52, Dolby® Digital (AC-3)
MODULATOR / UPCONVERTER	
<b>Modulation Types</b>	QAM 256 and 64 (ITU-T J83 Annex B) Interleaving modes: (64,2) only
<b>Cable Standard</b>	HRC, IRC or STD
<b>Frequency Range</b>	2 independent, frequency agile CATV Channels placeable on Channels 2-135 <ul style="list-style-type: none"> <li>• 2kHz resolution</li> <li>• +/- 30 ppm accuracy</li> <li>• +/- 35 ppm stability</li> </ul>
<b>Output Power</b>	+45 dBmV typical
<b>Output Level Adjust</b>	25 - 45 dBmV in 1dBmV steps
<b>MER</b>	> 38 dB typical
<b>I/Q Amplitude Imbalance</b>	< 1% typical
<b>Spectral Tilt</b>	< / = 1 dB over 6 MHz typical
CONTROL SET-UP	
<b>Network Interface</b>	10/100 Mb Ethernet via RJ45 connection IP address via DHCP or set by user HTML/Javascript served web interface for easy configuration Telnet connection for CLI scripting Easy firmware updates All settings saved in NV storage
<b>Front Panel Color Display</b>	Quickly obtain status at a glance, basic configurations, software revisions and updates