SDI over IP Analyzer

VB440 Appliance with Instruments View

The VB440-Appliance provides a breakthrough for the monitoring and analysis of high-bitrate broadcast media traffic as defined in SMPTE 2110 and 2022-6 for core broadcasting networks, production studios, master control centers and broadcast vehicles and venues. In addition, JPEG-XS light compression is supported for analysis with add on licenses and the product is fully certified to work with NMOS integration. The VB440-Appliance is the perfect blend of benchtop analyzer and 24/7 monitor that enables production and contribution teams to continuously survey all layers of media transportation on an IP network and facilitates quick rectification of potential problems.

Based around Sencore's VideoBRIDGE IP Probes and backed by years of deep IP knowledge, the VB440-Appliance provides dual-100Gb Ethernet connectivity with monitoring of up to 80Gbps of streams. Up to 8 users can simultaneously analyze dozens of streams in real-time and view results via the full motion, web-based HTML5 user interface on any modern browser.

On all monitored streams, the VB440-Appliance provides industry-leading analytics including network timing, video and HDR colorimetry, audio metering and ancillary data presentation. SMPTE2022-7 redundancy is monitored with an intuitive side-by-side path delay display when the VB440-Appliance is connected to both primary and backup networks. The ancillary data analysis provides engineering views of things like captions, subtitles, SCTE104 ad insertion messages and many other ANC types.

KEY FEATURES

- VB440-APPLIANCE includes a bundled 1RU server, dual-port network card, and software licenses

- Simultaneous analysis and monitoring of dozens of SMPTE2110 and SMPTE2022-6 streams

- Dual Ethernet 10, 25, 40, 50 and 100GbE links with 40Gbps (upgradable to 80Gbps) analysis bandwidth

- View uncompressed video content at SD, HD and UHD resolutions including full-motion display and colorimetry

- JPEG-XS light-compression in TR-08 supported with ad-on licenses

- Packet loss and jitter on both Primary and Secondary network circuits

- Unique analytics display of latency between redundant 2022-7 flows

- Audio timing analysis and metering with actual audio output

- Detailed ancillary data analysis including captions, subtitles, SCTE104 ad insertion and others

- PTP synchronization and timing analysis

WIDGLETS™ API

The VB440-Appliance includes a simple and powerful HTML5 API allowing users to pull live content for use in customized webpages, 3rd party devices and NOC video walls. Live decoded video from analyzed streams, audio analysis data and many other screens from the VB440-Appliance can immediately be used externally with just a few lines of HTML code.

STREAM GENERATOR

The VB440-Appliance has an optional stream generator feature that allows it to output up to 5 customizable SMPTE 2110 reference signals that can be used for testing during setup and validating reliability and security of circuits before production.

SPECIFICATIONS
SDI over IP Anlayzer
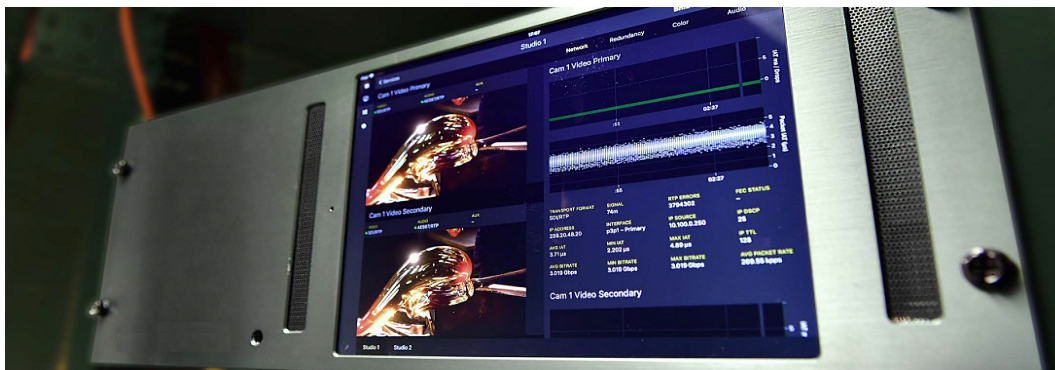
SUPPORTED STANDARDS

SMPTE 2022-6:	Encapsulated SDI over IP
SMPTE 2022-7	Parallel network redundancy
SMPTE 2110-10/20/30/40:	SMPTE suite of standards for uncompressed flows of video, audio and ancillary data
SMPTE 2110-22	Compressed video
SMPTE 2110-31	AES3 transport containing PCM or compressed Dolby audio
JPEG-XS in TR-08	Light-compression in ST2110
OP-47/RDD-8/CEA-608/708	Subtitles/Closed Captions
PTP:	IEEE 1588v2, SMPTE 2059-2 (Multicast, Mixed SMPTE w/o negotiation)

PHYSICAL SPECIFICATIONS

Size:	1RU Rackmount
Dimensions:	1.7"(H) x 17.2"(W) x 19.8"(D) (43mm x 437mm x 503mm)
Weight:	44lbs (20Kg)
Operating Temperature:	5 to 35 deg. C (41 to 95F)
Non-Operating Temperature:	-40 to 70 deg. C (-40 to 158F)
Operating Relative Humidity:	8% – 90% (non-condensing)
Non-Operating Humidity:	5% – 95% (non-condensing)
Power Supply:	400W Redundant, Hot-Swap
Power Usage:	250W max./200W typical at high load
Voltage:	100-240 Volt AC
Input Frequency:	50-60Hz

NMOS SPECIFICATIONS

IS-04(Discovery and Registration)
IS-05(Connection Management)
IS-07(Event and Tally)
IS-09(System API)
BCP-002-01(Natural Grouping)
BCP-003-01(API Security: Communications)

SUPPORTED VIDEO FORMATS

	FORMAT	COLOR SPACE	CHROMA	BITS	FRAME/FIELD RATE
SD - Standard Definition	480i, NTSC	YCbCr	4:2:2	8/10	59.94
	576i, PAL	YCbCr	4:2:2	8/10	25/50
HD - High Definition	720p	YCbCr	4:2:2	8/10	23.98/24/25/47.95/48/50/59.94/60
	1080i	YCbCr	4:2:2	8/10	25/50/59.94/60
	1080p	YCbCr	4:2:2	8/10	23.98/24/25/47.95/48/50/59.94/60
UHD - Ultra-High Definition	2160p	YCbCr	4:2:2	8/10	23.98/24/25/47.95/48/50/59.94/60
	4k	YCbCr	4:2:2	8/10	23.98/24/25/47.95/48/50/59.94/60

SUPPORTED AUDIO FORMATS

	SAMPLE RATE	BITS	CHANNEL ORDERING
SMPTE 2022-6	48 kHz	20	Mono, Stereo, Quad, 5.1 Surround, 7.1 Surround
	44.1, 48, 96 kHz	24	Mono, Stereo, Quad, 5.1 Surround, 7.1 Surround
	48 kHz	32-bit float	Mono, Stereo, 5.1 Surround, 7.1 Surround
SMPTE 2110-30 (AES67)	44.1, 48, 96 kHz	16/24	Mono, Stereo, Quad, 5.1 Surround, 7.1 Surround
	88.2, 192 kHz	16/24	Mono, Stereo, Quad, 5.1 Surround, 7.1 Surround
SMPTE 2110-31 (AES3)	44.1, 48, 96 kHz	16/20/24	Mono, Stereo, Quad, 5.1 Surround, 7.1 Surround
	48 kHz	32-bit float	Mono, Stereo, 5.1 Surround, 7.1 Surround