Real-Time HD Broadcast Video and HD Newsgathering

The next generation Streambox® SBT3-9100 system provides a unique set of features and capabilities which ensure the delivery of stunning full-motion, full frame 1080i/720p HD broadcast video and audio over satellite and IP-based networks. The system delivers exceptional quality, unmatched reliability, and cutting edge HD video technology in one integrated solution. The SBT3-9100 system utilizes Streambox's industry-leading ACT-L3™ Codec which provides unrivaled HD video quality at data rates ranging from 512 Kbps to 20 Mbps.

The SBT3-9100 system has been specifically developed to meet the rigid performance and quality requirements of broadcasters, government agencies, and enterprises. Its ability to deliver real-time HD broadcast video at very low data rates ensures accelerated bandwidth recovery and rapid return on investment.

New features of the SBT3-9100 system include: support for full 1080i video, simultaneous output of HD and down-converted SD broadcast video from a single HD source, and support for digital and analog HD input and output formats. It also includes an expanded set of resolutions and frame rates for enhanced compatibility with film production and post production systems.

Markets and Applications

- HD newsgathering
- HD/SD broadcast video
- Sports and event broadcasting
- Film production and post production
- Port and airport surveillance
- Video conferencing
- Multi-site video worship

Solution Package and Options

- ACT-L3™ Encoder(s) and Decoder(s)
- Streambox® Broadcast Server
- Streambox® Distribution Server
- Streambox® IFB Server
- ACT-L3™ Store and Forward and Playout

Product Overview

The SBT3-9100 HD video transport solution provides superior performance and reliability due to the unrivaled ACT-L3™ compression and networking features which include robust forward error correction, burst error protection, and bandwidth shaping technologies.

The system's ability to simultaneously output HD and down-converted SD broadcast video streams coupled with its support for both digital and analog HD input/output formats sets the SBT3-9100 apart from other HD transport solutions. In addition, Streambox's integrated approach to HD video transport enhances system flexibility and applicability to a variety of business-critical broadcast and enterprise purposes, while curbing cost and accelerating bandwidth recovery.

Each SBT3-9100 HD encoder/decoder comes with dual Gigabit Ethernet ports providing multiplex/demultiplex configurations for video stream redundancy. The second Ethernet port may be designated as a management port for instant access from anywhere. The HD system can use the transport layer of existing ASI networks to deliver ACT-L3™ compression more efficiently.

The integrated Streambox HD solution enables users to leverage the Streambox® Store and Forward option which provides enhanced storage, management, and transmission of HD video streams over IP-based networks.

The SBT3-9100 system also works seamlessly with other Streambox products such as the Streambox® Distribution Server and Streambox® IFB Server. The combination of these products enable customers to effectively launch their HD broadcast and newsgathering capabilities into the 21st century.

Streambox® ACT-L3™ Codec

The ACT-L3™ Codec features an advanced proprietary video compression technology optimized for interlaced and progressive video and display systems. ACT-L3™ provides higher HD video quality at much lower data rates than MPEG and H.264 compression. The ACT-L3™ Codec is adaptable to user selectable data rate requirements with constant bit rate and variable bit rate modes.

The robust family of ACT-L3™ Video Transport solutions features innovative error correction and bandwidth shaping technologies which manage, control, and recover packet loss and correct video delivery irregularities inherent in satellite, IP, and T1/E1 networks.

System Features

- Real-time HD 1080i/720p video
- Unrivaled HD video quality at low data rates
- Repurpose MPEG SD infrastructures to deliver HD video streams
- Support for data rates from 512 Kbps to 20 Mbps
- Support for digital and analog HD input/output formats
- Simultaneous output of HD and down-converted SD broadcast video from a single HD source
- Mitigate packet loss, network jitter, and buffering with robust forward error correction
- Adaptable to user defined data rate requirements
- Accelerated bandwidth recovery
- Cost effective 24/7 HD newsgathering and real-time HD broadcast video
- Superior performance and reliability with advanced networking features
- Simple local or remote system management
- User configurable presets for quick and flexible setup

Technical Specifications

Video Formats:	1080i/29.97, 1080i/25 720p/59.94, 720p/50 1080psf*/23.94
Audio In/Out:	Analog 1+2: XLR, balanced Analog +24dBu (24-bit A/D) AES 1+2: XLR, balanced AES 24-bit 48Khz 1,2,4,6 Channel embedded SDI audio, 24-bit
Audio Encoding:	6-ch*, 4-ch*, 2-ch, 1-ch. AAC, GSM or CELP 48 or 44.1 Khz
Video In:	SDI: BNC, HD-SDI SMPTE 292/296 SMPTE-259 Component: BNC, HD SMPTE (Y/Pr/Pb) (12-bit A/D) Genlock**: Analog color, HD-Tri-level
Video Out:	SDI 1: BNC, HD-SDI SMPTE 292/296 SDI 2: BNC: HD-SDI, SD-SDI (letterbox, crop, anamorphic) Component: BNC, HD SMPTE (Y/Pr/Pb), RGB, or XVGA (12-bit D/A)
Video Encoding:	Resolution: 1920x1080, 1440x1080, 1280x1080, 960x1080, 1280x720, 800x720, 640x720
Color Profile:	4:2:0, 4:2:2
Closed Captioning:	EIA-708
Video Post Filtering:	Advanced interlaced/progressive post filtering, including de-blocking, de-mosquito, and anti-aliasing
Encoding Latency:	Adjustable from 200 ms to 10 seconds
Bandwidth:	Adjustable from 512 Kbps to 20 Mbps
Network:	LAN 1+2: RJ-45 Ethernet 10/100/1000 Mbps ASI In/Out***: BNC
Network Protocol:	Multicast, Unicast UDP for IP, one-way broadcast and multiplex modes for dual-path
Forward Error Correction:	Adjustable, Off or On from 1% to 50% Reed-Solomon, Parity, Shuffle
Power:	110-220 V AC, 300 W
Console Interface:	VGA, LCD, USB, remote desktop
Utility:	VGA: D-SUB, VGA connection for GUI USB: Series A, USB 1.1/2.0
Dimensions:	2 RU 3.5"H x 16.75"W x 16.25"D + connections 8.9cm H x 42.5cm W x 41.3cm D
Weight:	30 lbs, 13.6 kg

*) Available for HD-SDI input only
**) Genlock input for decoding only, included on decoder
***) Optional ASI Interface

About Streambox, Inc.

Streambox manufactures a complete line of video transport and newsgathering solutions used by broadcasters, government agencies, and enterprises worldwide.

We provide best-of-class encoding, decoding, and transmission over IP and satellite networks for all real-time and store and forward applications.

Learn more about our products and solutions at www.streambox.com.

Customers Include:

AOL

American Red Cross

Bell Canada

BELO

British Sky Broadcasting

CBS

CNN

Comcast

Department of Homeland Security

DIRECTV

Gannett

Japan Leisure Channel

Media General

MBC Korea

NASA

NBC Universal

NOAA

PCCW

PBS

Time Warner

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