grass valley

EdgeVision

Multichannel Quality of Experience Monitoring

Stay in control with customizable monitoring and interfaces.

EdgeVision from Grass Valley offers richly featured, Quality of Experience (QoE) monitoring across an entire network for satellite/cable/IPTV operators and broadcasters, using high-performance video/audio streaming and extensive signal probing. By remotely monitoring signals received at set-top boxes, it allows operators to accurately see and hear the quality of signals received in viewers' homes.

EdgeVision can provide both low-quality and high-quality audio/video streams, with fully selectable resolution and bitrates. This allows remote monitoring of signals over a LAN or WAN, without a negative impact on network capacity.

EdgeVision can operate as a standalone monitoring system, using the EdgeVision Player multiviewer, or it can operate as a high performance set-top box probe with the iControl and Kaleido-IP monitoring systems.

KEY FEATURES

High-quality audio/video streaming
- High-efficiency H.264 video streaming for remote viewing
- High-quality stereo or Dolby Digital audio streaming with acoustic monitoring and audio metering
- Full flexibility in streaming resolution, quality, frame rate and bit rate
- Each EdgeVision input features both a high-resolution and a low-resolution streaming encoder
- Streams to EdgeVision Player, iControl, Kaleido-IP multiviewer or generic players like VLC

Full compatibility with HD and SD Set-top boxes
- Features a full complement of connections for digital and analog audio/video signals, including high-definition video and 5.1 audio signals
- Optional Dolby Digital decoding for multichannel monitoring and Dolby Metadata extraction and analysis, including dialnorm

Advanced signal quality probing and alarming
- Performs detection and alarms on video faults, including freeze, black and macro-block detection
- Audio probing includes silence detection, overload, mono and out of phase
- Metadata probing includes closed captioning*, AC-3 metadata
- Optionally performs audio loudness monitoring
- Detected alarms can be logged by iControl, and channel performance can be assessed

STB remote control and multichannel cycling
- Infrared port for remote control and channel selection, including infrared learning capabilities
- Users can remotely control STBs to access interactive and VOD services
- Supports control of all leading models of STBs and DVRs from several manufacturers
- EdgeVision Player allows parallel infrared control of multiple STBs

Available with SDI outputs
- HD/SD-SDI outputs are available on single, dual and quad-input models
- Provides embedding of analog or Dolby Digital AC-3 digital audio into SDI
- SDI output signal follows input selection

Robust, compact design
- Available in dual and quad input configurations
- NEBS compliant for high reliability
- Compact unit 1 RU high, 330.2 mm (13 in.) deep
- Available with redundant power supply
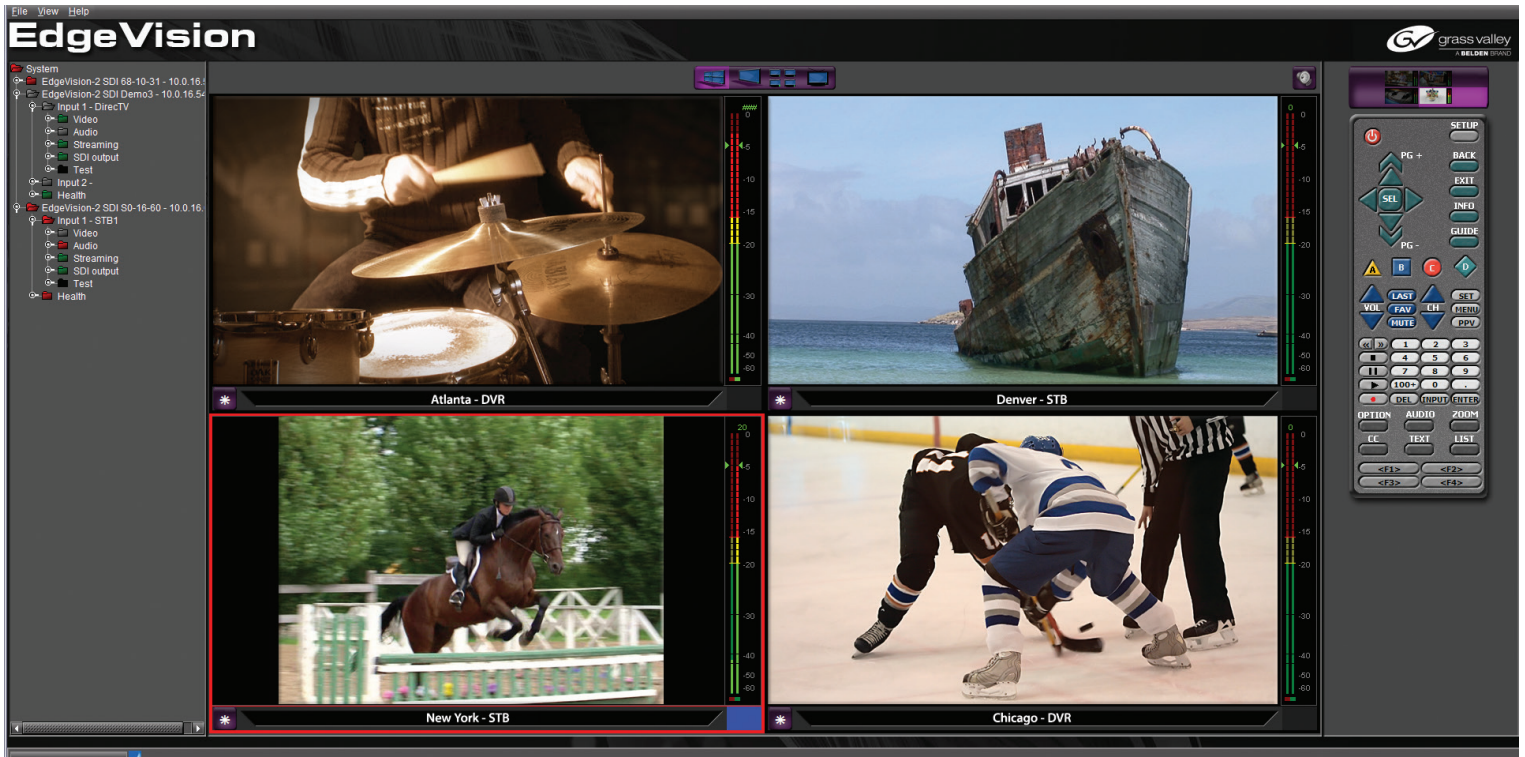
Easy and secured deployment
- User authentication to control access
- Dynamic IP allocation to accelerate commissioning

*Only available with composite input.

Richly Featured Quality of Experience Monitoring

The EdgeVision Player multiviewer interface offers easy to use and highly effective Quality of Experience monitoring.

Quad-split view

Silence, overload, mono, out of phase, and loudness audio alarms

Freeze and black video alarms including macro-block detection

Audio loudness monitoring

Under monitor labeling clearly identifies the signal source

Quad or single window monitoring
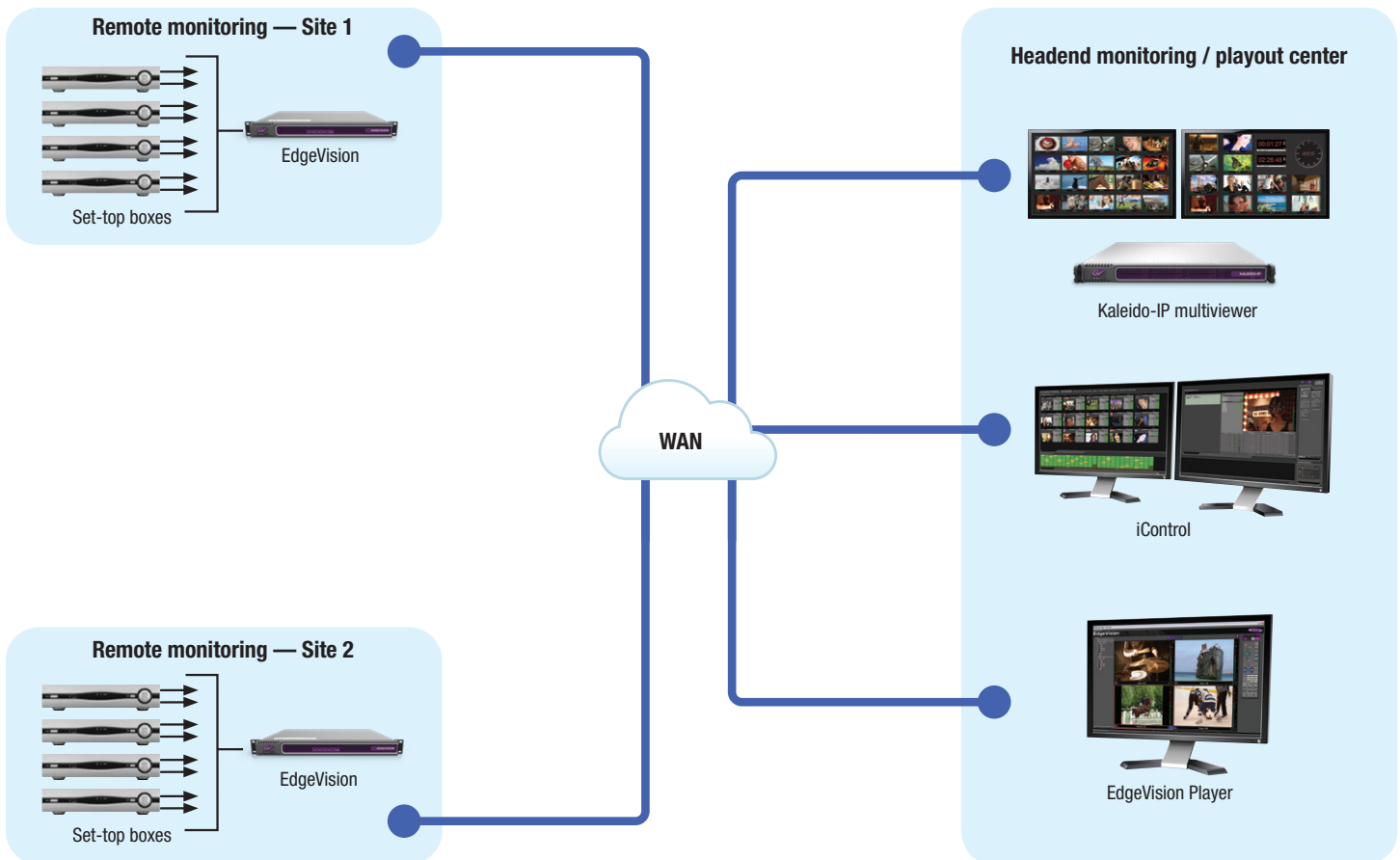
Multichannel audio metering

Set-top box control

Full screen view

Integration with Other Quality of Experience Monitoring Systems

EdgeVision can also operate as an advanced, multichannel video/audio signal probe with other Grass Valley systems. Signal alarms, Metadata and audio loudness levels as well as audio/video streams generated by EdgeVision can be remotely monitored by the EdgeVision Player, iControl Web as well as Kaleido-IP multiviewers.

Remote monitoring — Site 1

Set-top boxes

EdgeVision

Headend monitoring / playout center

Kaleido-IP multiviewer

iControl

WAN

Remote monitoring — Site 2

Set-top boxes

EdgeVision

EdgeVision Player

SPECIFICATIONS

Physical
Weight: Approx. 3.75 kg (8.27 lbs.)
Dimensions: 1 RU
Rackmountable in EIA 48.26 cm (19 in.) racks

Electrical
Power supply: single PSU, second redundant PSU available as an option
Power consumption: Maximum of 50W at 12V

Compliance
Telcordia-NEBS, CE, FCC and CSA

Ethernet
Dual Gigabit Ethernet IEEE 802.3 ports (RJ45)
External Set-top Box Control
Up to four infrared connectors
Both infrared and electrical 3.5 mm (0.13 in.) supported

HD-SDI/SD-SDI Output (up to 4)
Connector: BNC (75Ω)
Signal: 4:2:2 SMPTE ST 259-C (270 Mb/s), SMPTE ST 272-1994, 4:2:2 SMPTE ST 292-C (1.5 Gb/s)
Format: 525, 625, 480i, 576i, 720p, 1080i

Audio/Video Input (up to 4)
Video connectors: HDMI-IN*, RCA
Video input: HDMI, analog component, analog composite
Audio connectors: HDMI-IN, S/PDIF-IN, RCA
Audio input: 48 kHz analog, PCM audio or AC-3 Dolby Digital audio (optional)

IP Streaming
Streaming mode: RTSP/ES over UDP/RTP, RTSP/TS over UDP/RTP, Unicast TS over UDP/RTP, Multicast TS over UDP/RTP, RTSP/TS over TCP, Multicast TS over UDP
Signal path: 8 bits
Compression: H.264 high profile (level 4.1)
Frame rate: Full rate down to 5 fps

Bit rate: 125 kb/s to 4 Mb/s
Resolution: 128x96 to 1920x1080
TS Mux mode: VBR or CBR
Audio encoding: AAC, MPEG-1 Layer II or AC-3 (forwarded from input)
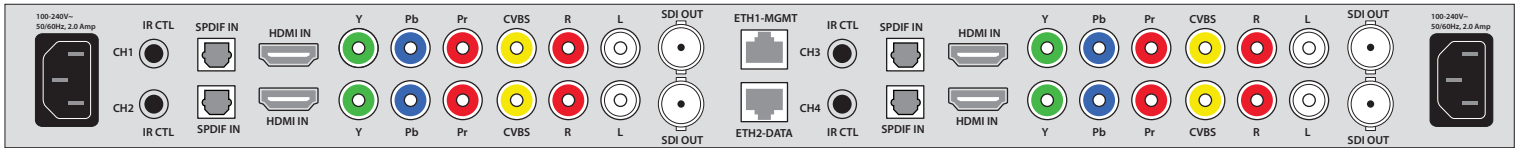
Probing
Video: Loss, black, freeze, macroblock, luma too high
Audio: Silence, overload, out of phase, mono error, loudness error
Loudness measurement: EBU R128, ATSC A/85, ARIB TR B-32
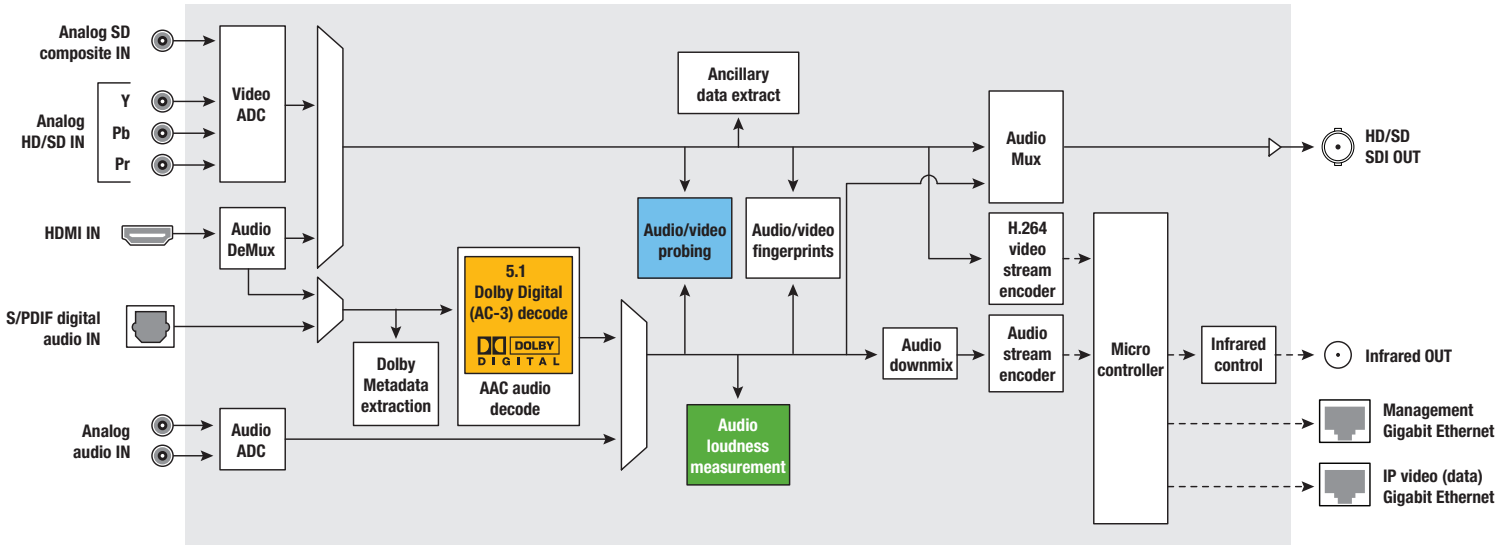Audio-video Fingerprints

END-TO-END
LOUDNESS
MONITORING

Metadata
Video: Format, rate
Audio: Type, AC3 metadata, channel allocation
608: CC loss, V-Chip loss, TSID loss, station ID loss

* HDMI signal must not be subjected to HDCP copy protection.

Rear view of the quad-input EdgeVision

EdgeVision Channel Functional Block Diagram

Options	■ EDGE-VISION-OPT-AV-PROBE	■ EDGE-VISION-OPT-DOLBY	■ EDGE-VISION-OPT-LOUD

ORDERING

EDGEVISION-2
Edge signal monitoring device — dual channel

EDGEVISION-2-SDI
Edge signal monitoring device — dual channel with SDI outputs

EDGEVISION-4
Edge signal monitoring device — quad channel

EDGEVISION-4-SDI
Edge signal monitoring device — quad channel with SDI outputs

General Options

EDGEVISION-OPT-AV-PROBE
Audio/video signal probing option (1 per channel)

EDGEVISION-OPT-CABLE-KIT
Optional cable kit for EdgeVision, includes the following cables (1 per input):
– One 2 meter / 6 foot HDMI
– One 2 meter / 6 foot S/PDIF audio
– One 2 meter / 6 foot infrared

EDGEVISION-OPT-IR-LEARNING
Optional infrared remote control learning kit

EDGEVISION-OPT-LOUD
Audio loudness monitoring option (1 per channel)

EDGEVISION-2-OPT-DOLBY
Dolby digital (AC-3) audio monitoring option for dual input device

EDGEVISION-4-OPT-DOLBY
Dolby digital (AC-3) audio monitoring option for quad input device

EDGEVISION-PSU
Redundant power supply module for single or dual input device

EDGEVISION-4-PSU
Redundant power supply module for quad input device

Related Products

KIP-X330
Kaleido-IP X330 multi-image IP processor

KIP-X130
Kaleido-IP X130 multi-image IP processor

DS-PUB-2-0219A-EN

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