

Kaleido-Solo



High quality video and loudness monitoring with 3Gbps/HD/SD SDI to HDMI conversion

Kaleido-Solo is a compact, standalone 3Gbps/HD/SD SDI video to HDMI converter, which allows low cost LCD displays to be used for video and loudness/dialnorm monitoring. It's ideal for many professional monitoring applications, including production, mobile truck, post-production and broadcast.

The converter allows operators to monitor loudness and dialnorm levels accurately over time, using a history graph overlay, without the cost and complexity of a traditional loudness monitoring device. Kaleido-Solo also provides overlays for markers, Time Code, dynamic UMD (Under Monitor

Display), AFD and ALM (Audio Level Meters). To simplify embedded audio monitoring, it provides two audio connectors to output S/PDIF and analog stereo of a 5.1 downmix, or any audio pair.

Kaleido-Solo provides automatic video input format detection, and supports a wide variety of video resolutions, including 525i, 625i, 720p, 1080i and 1080p.

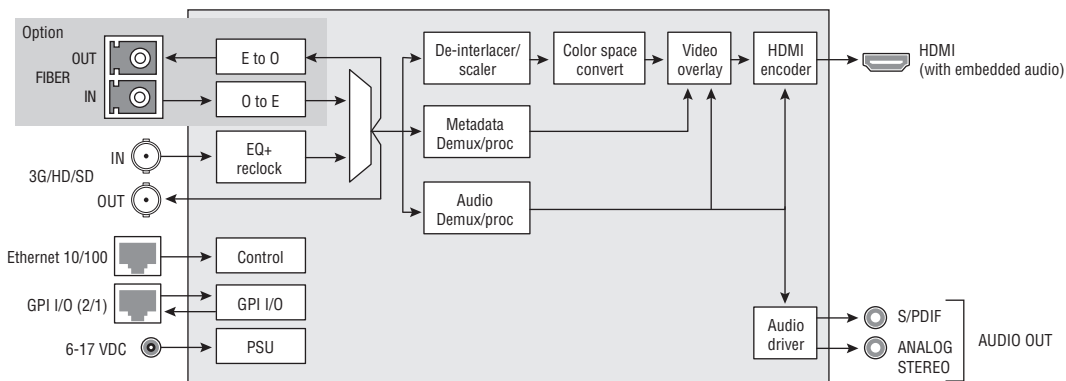
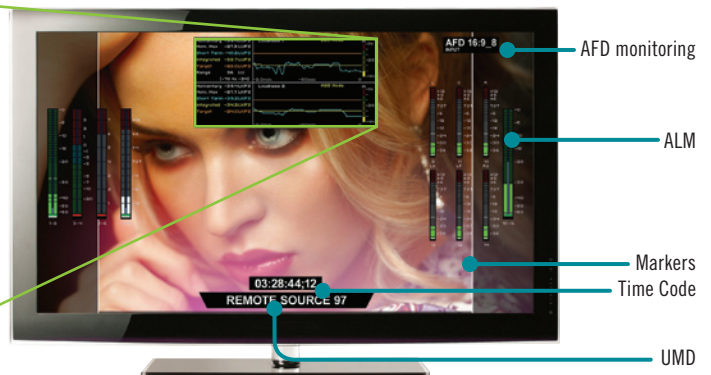
Kaleido-Solo is available in two versions: KS-900 and KS-910. These two versions are identical except that the KS-900 does not offer loudness and dialnorm monitoring.

KEY FEATURES AND BENEFITS

- > 3Gbps/HD/SD SDI to HDMI converter for video and audio monitoring
- > Offers high quality and rich monitoring using a low-cost LCD panel
- > Dual program loudness and dialnorm monitoring over time (KS-910 only)
- > ATSC A/85 and EBU R128 loudness measurement modes (KS-910 only)
- > Automatic input format detection
- > Supports 525i, 625i, 720p, 1080i and 1080p video resolutions
- > Multi frame rate support including 23.98p/PsF, 24p/PsF, 25p/PsF, 50i, 50p, 59.94i and 59.94p
- > Built-in scaler/de-interlacer
- > Optical SFP fiber input/output options
- > S/PDIF digital audio terminal that can output either:
 - a 5.1 Downmix
 - any PCM stereo pair
 - an incoming Dolby Digital stream
- > Analog audio terminal that can output either:
 - a 5.1 Downmix
 - any PCM stereo pair
- > Selectable burn-in and Metadata overlay:
 - ALM (Audio Level Meters)
 - Aspect ratio markers
 - Time Code
 - AFD/WSS/VLI
 - Dynamic UMD (Under Monitor Display)
 - History graph of audio loudness levels and dialnorm
- > Easy configuration using on-screen menus
- > Failsafe mechanism for unsupported monitor resolutions
- > Convenient mounting bracket included
- > CC 608/708 and Teletext/OP47 support
- > Remote control for configuration and preset recall



History graph with loudness and dialnorm



Kaleido-Solo Functional Block Diagram

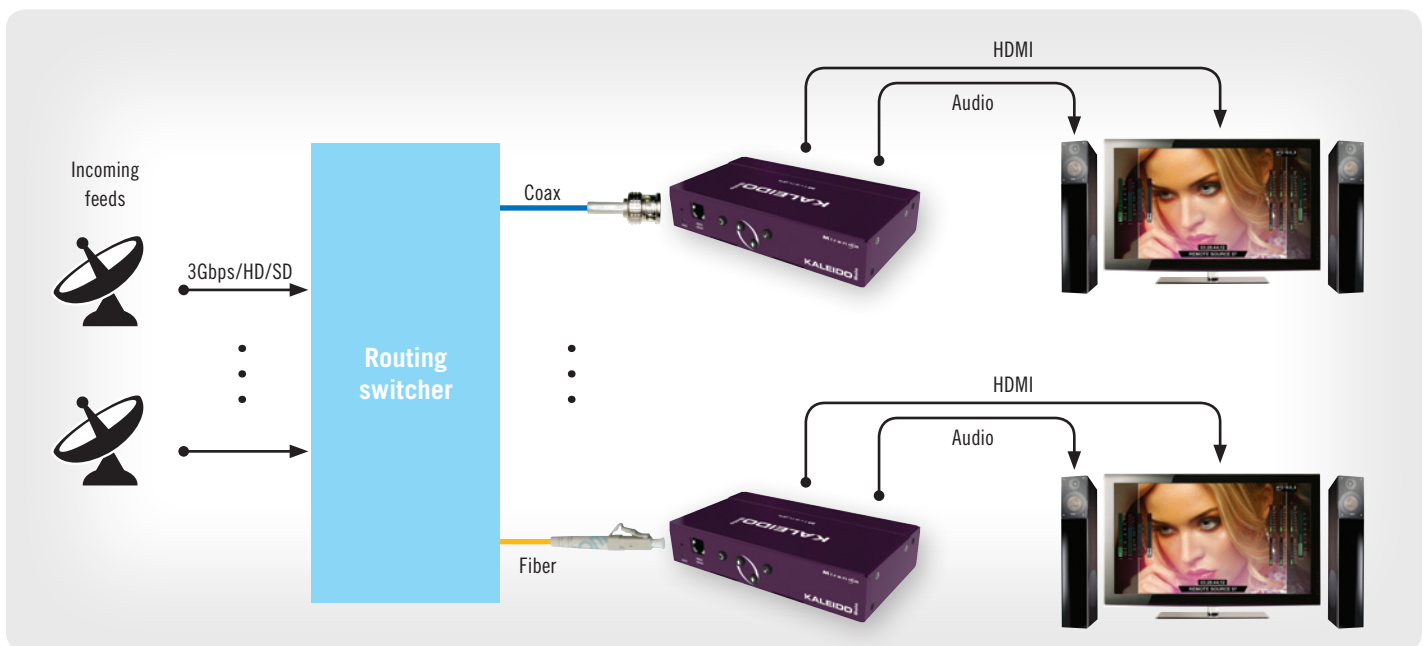
Broadcast application: loudness monitoring in master control

Kaleido-Solo can be used to monitor the video and loudness level at the output of a master control switcher.



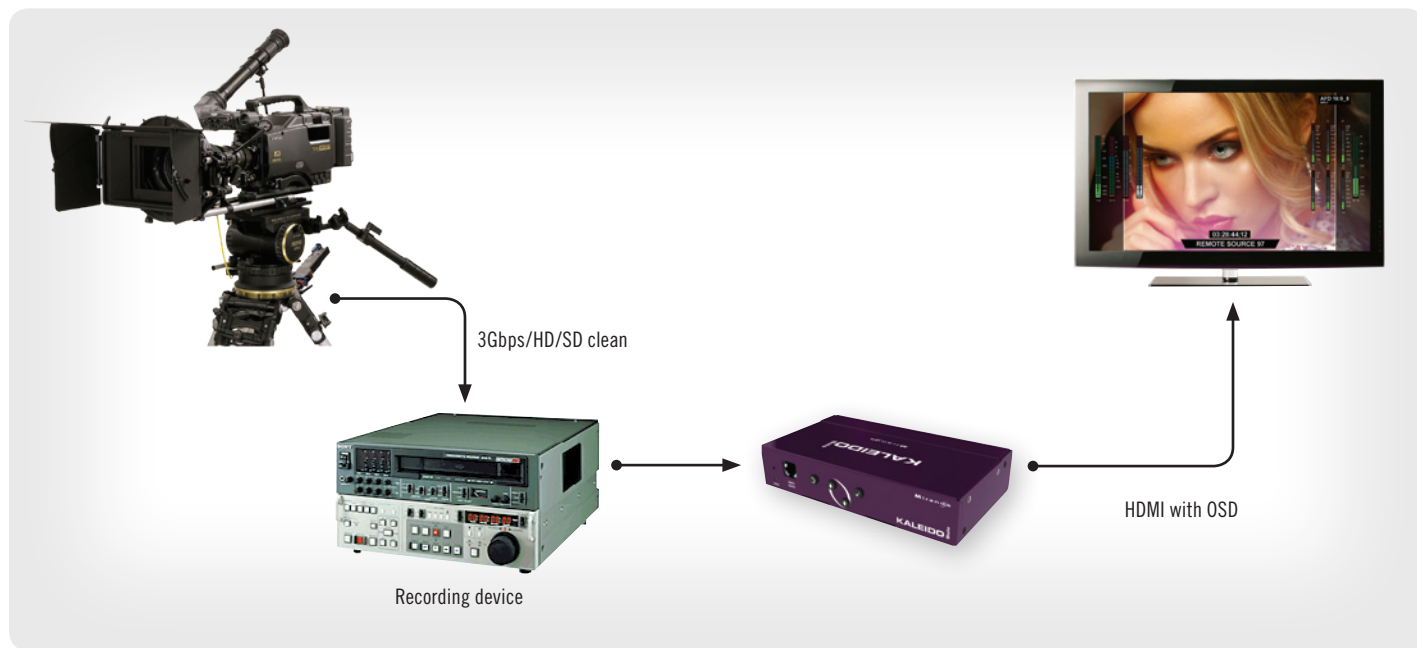
Broadcast application: incoming/outgoing feed monitoring

Monitoring the incoming feeds, or the feeds going on-air, including the AFD, loudness, and dialnorm Metadata.



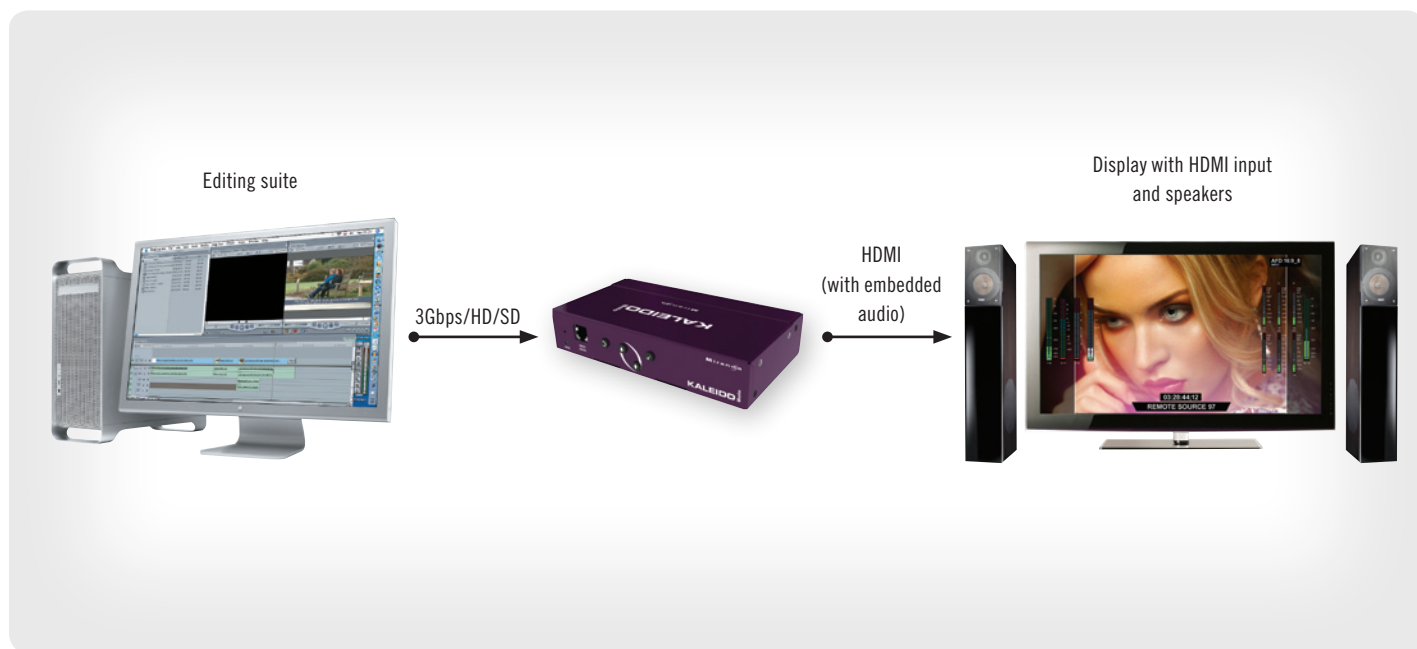
Production application: on-set monitoring

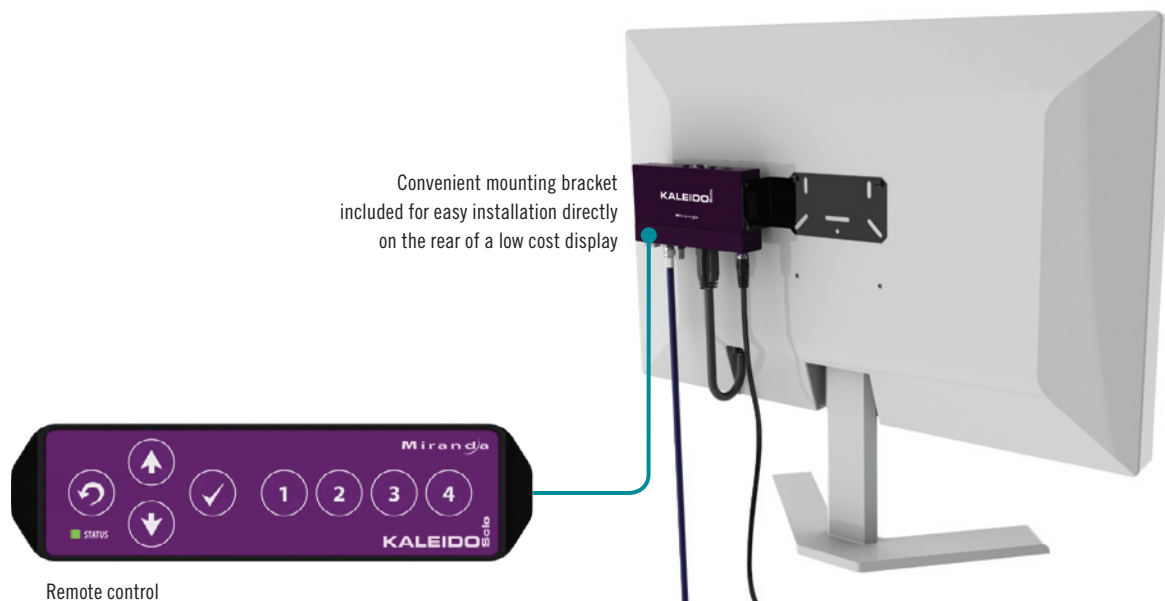
Kaleido-Solo is used to feed a low-cost display with HDMI input for full 3Gbps/HD monitoring, with all essential on-screen-display information.



Post-production application: editing suite monitoring

Kaleido-Solo is used for client monitoring in the editing suite, and for video confidence monitoring during dubs in the machine room. This solution supports 3Gbps, HD and SD, and thereby removes the need for a set-up change when switching back and forth between HD and SD sessions.





Rear view

TECHNICAL SPECIFICATIONS

VIDEO INPUT

Signal:	SMPTE-259M-C (270 Mbps) SMPTE-272M-C (270 Mbps with embedded audio) SMPTE-292M, SMPTE-299M (HD: 1.485, 1.485/1.001 Gbps) SMPTE-425 (2.970, 2.970/1.001 Gbps)
Supported formats:	SD: 480i/59.94, 576i/50 HD: SMPTE-274M: 1080i 50, 59.94, 1080p/PsF 23.98, 24, 25 HD: SMPTE-296M: 720p 50, 59.94
	3Gbps: SMPTE-425 level A (mapping 1): 1080p 50, 59.94
Cable length:	240 m Belden 1694A at 270 Mbps 150 m Belden 1694A at 1.485 Gbps 120 m Belden 1694A at 2.97 Gbps
Return loss:	>15 dB up to 1.5 GHz >10 dB up to 3 GHz
Jitter:	HD/SD: <0.2 UI 3Gbps: <0.3 UI

FIBER I/O

SMPTE 297M-2006 compliant
Single receive or transmit or receive/transmit SFP module
For full specifications on SFP optical modules, please see page 239 or www.miranda.com/SFP

HDMI OUTPUT

Connector: HDMI Type A
Standard: HDMI 1.3a
Format: Compliant to EIA/CEA-861-D

ANALOG AUDIO OUTPUT

Connector: 3.5 mm stereo Jack
Signal: 2 channels unbalanced analog audio
Level: +6.5 dBu
Impedance: 50 ohm

S/PDIF

Connector: 3.5 mm stereo Jack
Signal: IEC 60958
Level: 0.5 Vp-p ±20%
Impedance: 75 ohm unbalanced
Sampling rate: 48 kHz

ETHERNET

Connector: RJ-45

PROCESSING

Signal path: 8 bits
Processing delay: 1 frame

ELECTRICAL

Voltage range: 6 to 17 VDC
Power: 10 W

ORDERING INFORMATION

KS-900	3Gbps/HD/SD to HDMI converter with audio
KS-910	3Gbps/HD/SD to HDMI converter with audio and loudness meter
KS-REMOTE	Kaleido-Solo remote control

Options (hardware)

SFP-R-LC	Single fiber Rx (input) cartridge with LC/PC connector
SFP-RT-S13-LC	Dual fiber Rx/Tx (input/output) cartridge 1310 nm with LC/PC connector
SFP-T-S13-LC	Single fiber Tx (output) cartridge at 1310 nm with LC/PC connector

Other types of SFP Optical Plug-In Cartridges may be available for this product. Please visit www.miranda.com/SFP for more information.