Kaleido-Solo

3Gbps/HD/SD to HDMI converter for high quality video and loudness monitoring

Kaleido-Solo is a compact, stand-alone 3Gbps/HD/SD 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.
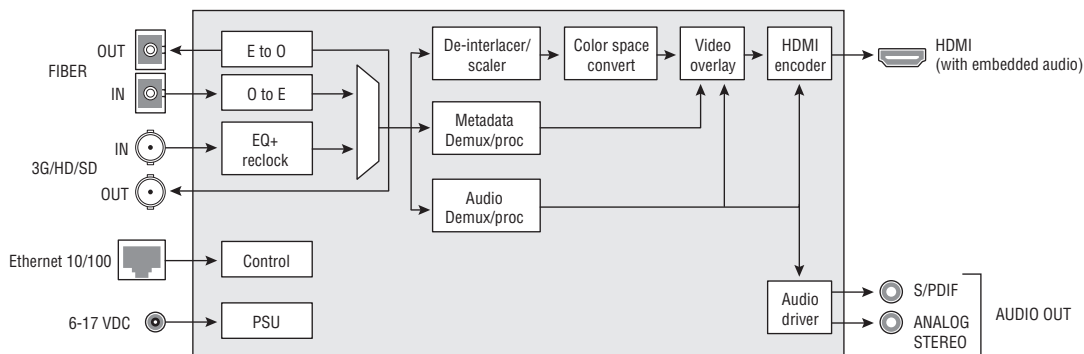
The converter allows operators to monitor loudness and Dialnorm levels accurately over time, using an histogram overlay, without the cost and complexity of a traditional loudness monitoring device. Kaleido-Solo also provides overlays for markers, time code, AFD and peak meters. To simplify embedded audio monitoring, it provides two audio connectors to output S/PDIF and analog stereo of a 5.1 downmix, or any audio pair.

To ensure the correct aspect ratio for high quality video monitoring, Kaleido-Solo fully supports AFD, WSS, and VLI Metadata. It also 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.
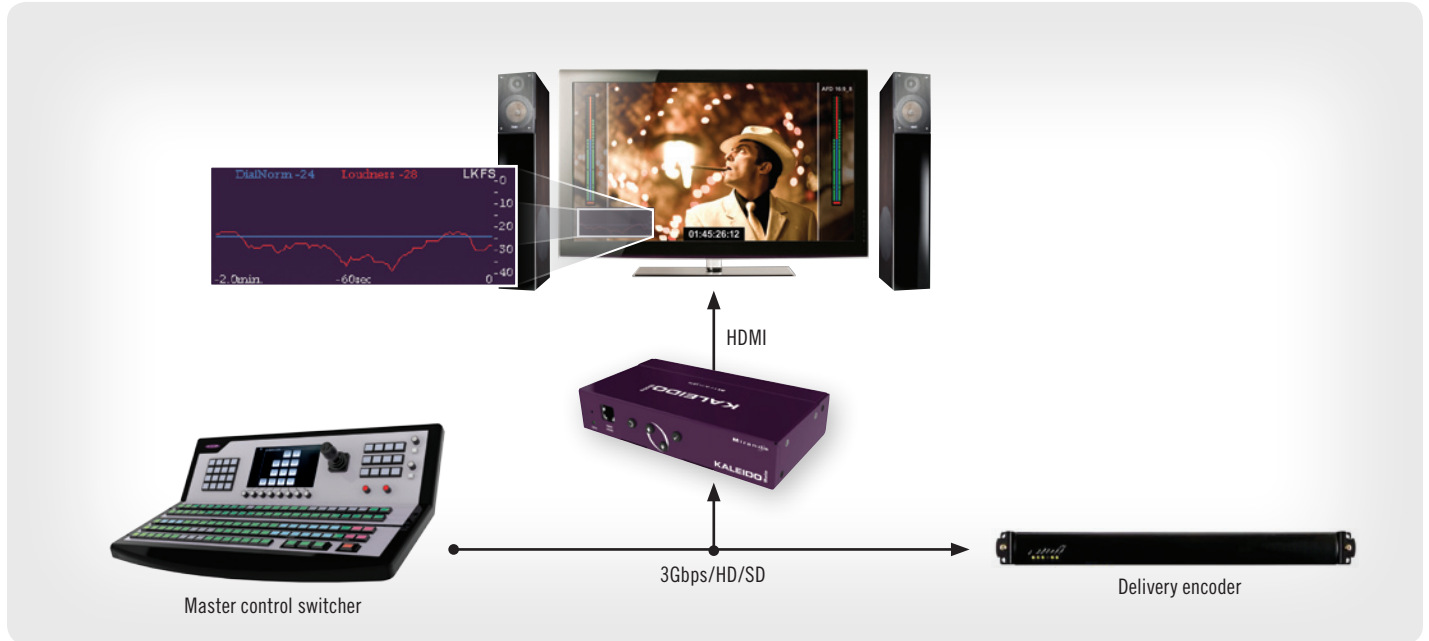
KEY FEATURES AND BENEFITS

❯ 3Gbps/HD/SD to HDMI / DVI converter for video and loudness monitoring

❯ Offers high quality monitoring using a low cost LCD panel

❯ Loudness and Dialnorm monitoring over time (KS-910 only)

❯ Automatic input format detection

❯ Built-in scaler/de-interlacer

❯ Supports 525i, 625i, 720p, 1080i and 1080p

❯ Multi frame rate support including 23.98p/PsF, 24p/PsF, 25p/PsF, 50i, 50p, 59.94i and 59.94p

❯ Optical SFP fiber input option

❯ Automatic aspect ratio conversion using AFD/WSS/VLI

❯ Dual audio outputs for:
- S/PDIF
- 5.1 Downmix analog audio output
- Selected pair analog audio output

❯ Selectable burn-in and Metadata overlay:
- Peak meters
- Aspect ratio markers
- Time Code
- AFD/WSS/VLI
- Histogram with Audio Loudness Level and Dialnorm

❯ Easy configuration using on-screen menu

AFD monitoring

Peak meters

Markers

Time Code

Histogram w/ Loudness & Dialnorm
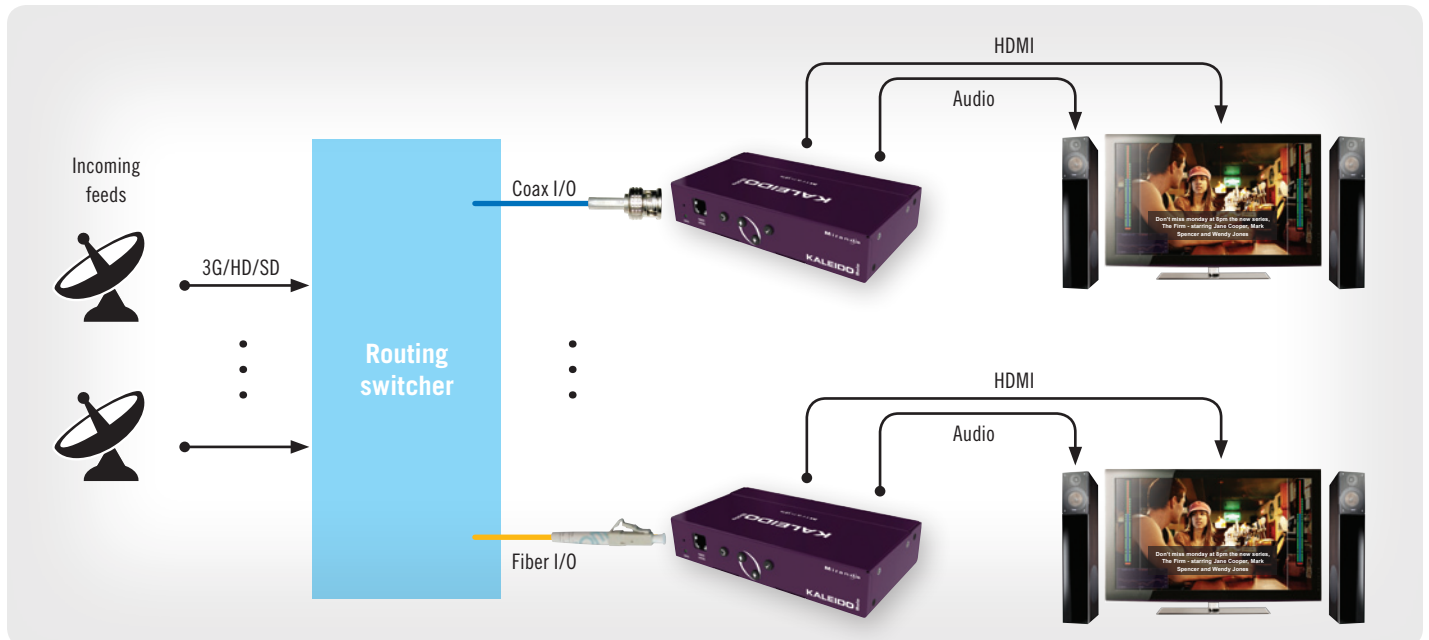
Kaleido-Solo Functional Block Diagram

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.

Master control switcher

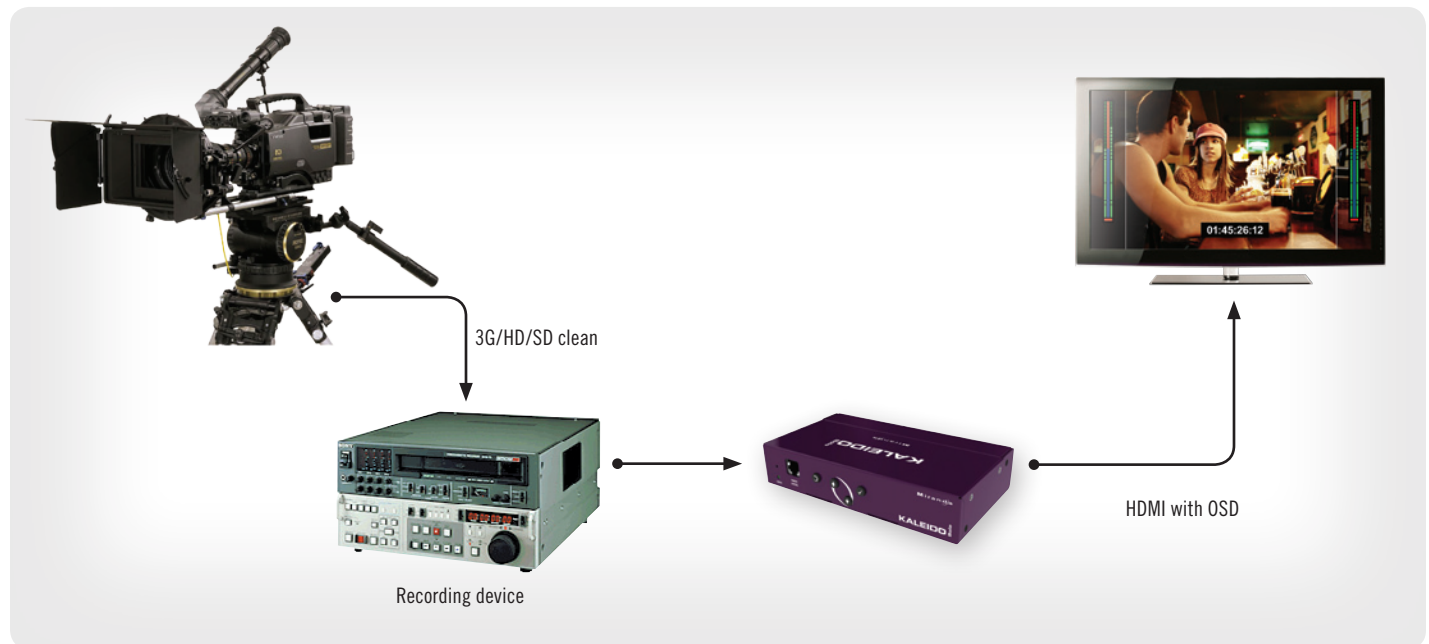3Gbps/HD/SD

HDMI

Delivery encoder

Broadcast application: incoming/outgoing feed monitoring

Monitoring the incoming feeds, or the feeds going on-air, including the AFD, Loudness, and Dialnorm Metadata.

Incoming feeds

3G/HD/SD

Routing switcher

Coax I/O

Fiber I/O

HDMI

Audio

HDMI

Audio

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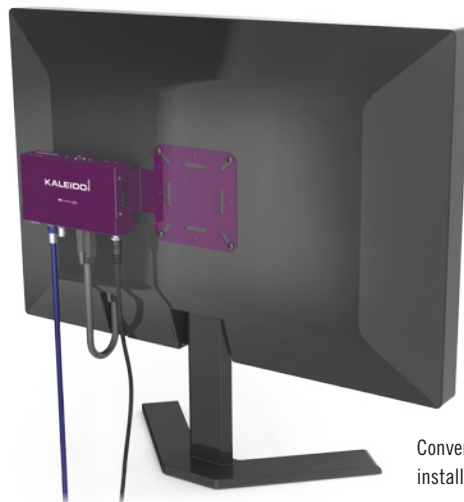
Kaleido-Solo is used to feed a low-cost display with HDMI input for full 3Gbps/HD monitoring, with all essential on-screen-display information.

3G/HD/SD clean

HDMI with OSD

Recording device

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.

Editing suite

Display with HDMI input and speakers

3G/HD/SD

HDMI (with embedded audio)

Convenient mounting bracket included for easy installation directly on the rear of a low cost display

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: 480i59.94, 576i50
	HD: SMPTE-274M: 1080i 50, 59.94, 1080p/PsF 23.98, 24, 25
	HD: SMPTE-296M: 720p 50, 59.94
	3G: 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 3 GHz
Jitter:	HD/SD: <0.2 UI
	3Gbps: <0.3 UI

FIBER I/O

	SMPTE 297M-2006 compliant
	For full specifications on SFP optical modules, please see www.miranda.com/SFP

HDMI OUTPUT

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

ANALOGIC AUDIO OUTPUT

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

SPDIF

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

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

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