

Kaleido-Modular

Space saving, single and dual quad-split multiviewer (4 x 1 / 8 x 2)



DESCRIPTION

With the most dense quad-split multiviewer available, Kaleido-Modular is ideal for production applications. Space-saving, super-silent and energy-efficient, with up to 20 multiviewer outputs per 3RU frame, it consumes less than 300 watts total. Kaleido-Modular can be expanded up to 288 multiviewer outputs when connected to an upstream router.

KEY FEATURES AND BENEFITS

Unmatched space and energy efficiency

- 20 quad-splits, or ten 8-input multiviewers, per 3RU frame
- Fully loaded frame with 20 cards weighs only 8.6 kg (19 lb)
- Less than 300 W for fully loaded 3RU frame with 10 cards and up to 20 outputs (24 W per dual output card)
- Available cascading bridge connector for combining up to 3 cards, for a 24 x 2 multiviewer configuration

Fastest multiviewer

- Requires less than 1/2 frame of processing delay, eliminating audio to video lip sync issues

Super silent

- Ideal for installation within studios, control rooms and trucks

High quality, flexible monitoring

- Outstanding multiviewer picture quality, based on award-winning Kaleido-X technology, with all essential display elements for production
- Choice of single multiviewer output per card with up to 8 pictures, or dual quad-split displays
- DXF-200 optical DVI extension uses multi-mode fiber with SC connector to simplify long runs of up to 3280 ft (1 km)
- Easy layout editing with XEdit
- Rapid remote control with Kaleido-RCP2 and RCP-200
- Dual HDMI and HD/SD outputs for easy connection to monitors, or for feeding a router with multiviewer mosaics

Router integration

- Tight integration with NVISION and third-party routers allows expansion up to 1152 inputs and 288 multiviewer outputs
- Multiple multiviewer outputs can be controlled from a single remote panel

Mix-and-match card functions

- Kaleido-Modular multiviewer cards can be installed in a 3RU frame with other Densité Series cards, such as signal processors and DAs, for maximum space and cost-effectiveness

Ultra-resilient

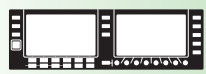
- Hot swappable cards with IP address recovery
- 3RU frame features dual hot swappable power supplies and fans plus redundant Ethernet

3Gbps/HD/SD performance with Stereoscopic 3D support

- Triple rate, future-proof performance
- Stereoscopic 3D support (dual link 1.5 Gbps, SMPTE-292M)

KALEIDO MULTIVIEWERS

CONTROL



RCP-200 advanced monitoring / interfacing / routing control panel



Kaleido-RCP2 remote panel



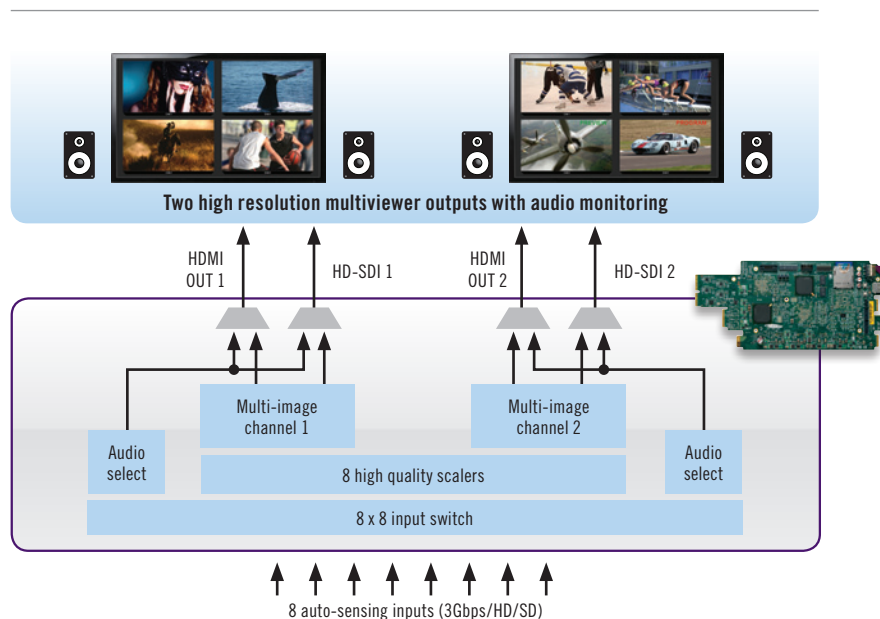
NVISION router control panel



XEDIT layout editor software

RS-422
Ethernet

OUTPUTS



TECHNICAL SPECIFICATIONS

VIDEO INPUTS (8)

SD-SDI

Signal:	SMPTE-259M-C (270 Mbps), SMPTE 272M-1994
Formats:	480i59.94 and 576i50
Return loss:	>15 dB up to 270 MHz
Jitter:	<0.2 UI
Cable length:	250 m (Belden 1694A)
Connector:	BNC

HD-SDI

Signal:	SMPTE 292M-C (1.485, 1.485/1.001 Gbps) SMPTE 272M-1994
Formats :	720p59.94, 1080p23.98, 1080p23.98SF, 1080p24, 1080p24SF, 1080p25SF, 1080p 29.97, 1080i50, 1080i59.94
Return loss:	>15 dB up to 1.5 GHz
Jitter:	<0.2 UI
Cable length:	100 m (325 ft) (Belden 1694A)

3GBPS-SDI

Signal:	SMPTE 424M-2006 (2.97, 2.97/1.001 Gbps) Level A
Formats :	1920x1080p60, 1920x1080p59.94, 1920x1080p50
Return loss:	>10 dB from 1.5 GHz to 3 GHz
Jitter (wideband):	<0.3 UI
Cable length:	85 m (276 ft) (Belden 1694A)

GRAPHIC CONVERTED TO HD-SDI FROM KXI-DVI-BRIDGE

Signal:	SMPTE 292M-C (1.485, 1.485/1.001 Gbps)
Resolutions:	Mode A: 1024x768, 1366x768, 1280x1024, 1680x1050, 1600x1200 at 60 Hz Mode B: 1280x720 and 1920x1080 at 50/60 Hz
Cable length:	100 m (325 ft) (Belden 1694A)

MOSAIC OUTPUTS (VIDEO AND GRAPHIC)

HDMI (2)

Signal :	HDMI V1.3
Format:	1280x1024 up to 1920x1200p configurable Refresh rate supported (50 Hz and 59.94 Hz)
Cable length:	15 ft
Connector:	HDMI
Signal path:	8 bits output

HD-SDI (2)

Signal:	3Gbps/HD-SDI SMPTE 424M and 292M compliant Supports data rates of 1483.5, 1485, 2967, 2970 Mbps
Return loss:	>15 dB up to 1.5 GHz >10 dB from 1.5 GHz to 3 GHz
Jitter (wideband):	HD: <0.2 UI 3 Gbps: <0.3 UI

REFERENCE

Internal	Universal reference from the Densité frame
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GPI INPUTS (8)

Contact closure:	GND
Protection:	up to 24 V
Connector:	Terminal block interface PCB via DB-26

GPI OUTPUTS (2)

Maximum voltage:	24 V
Maximum current at 12 V:	20 mA (through 200 ohm series resistor)
Pulse minimum duration:	10 µs
Connector:	Terminal block interface PCB via DB-26

COMMUNICATION

ETHERNET (1)

Signal:	10/100 BASE-T
Connector:	RJ45

SERIAL PORT (1)

Signal:	RS-422 (SMPTE 207M, EBU-3245)
Connector:	Terminal block interface PCB via DB-26

VIDEO PROCESSING PERFORMANCE

Signal path:	8-bit YCbCr to 24-bit RGB
Processing delay:	-1 field in genlock mode, 1-2 fields in non-genlock mode

AUDIO PROCESSING PERFORMANCE

Quantization:	20-24 bits
Sampling:	48 kHz
THD+N:	80 dB
SNR:	98 dB

ELECTRICAL

Power consumption:	24 W max
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ORDERING INFORMATION

KALEIDO-MODULAR CARDS

KMV-3911-4X1	Kaleido-Modular HD/SD-SDI 4x1 multiviewer with HD-SDI outputs
KMV-3911-4X2	Kaleido-Modular HD/SD-SDI 4x2 multiviewer with HD-SDI outputs
KMV-3911-8X1	Kaleido-Modular HD/SD-SDI 8x1 multiviewer with HD-SDI outputs
KMV-3911-8X2	Kaleido-Modular HD/SD-SDI 8x2 multiviewer with HD-SDI outputs
KMV-39N1-NX1-OPT-OP2	Output two enabled license
KMV-3911-8X2-3DRP	Double rear connector panel

Note: Can be used with either Densité 3 or Densité 3 mini but frame must be equipped with ETH2 controller in order to insure proper functionality.

OPTIONS

KMV-3901-8XN-BRIDGE	Cascading bridge for KMV-3901-8XN modules
Note: One bridge per pair of cards, can cascade up to 3 KMV-3901-8x2 modules	
KMV-39N1-8XN-OPT-3GBPS	3 Gbps signal decoding option (8 inputs)
KMV-39NN-8x1-OPT-3DLA	Stereoscopic display license (line alternate mode) for KMV-3911-8x1
KMV-39NN-8x2-OPT-3DLA	Stereoscopic display license (line alternate mode) for KMV-3911-8x2
DXF-200-C	Optical extension system w/HDMI+L- HDMI cable
DXF-200-PSU	DXF-200 power supply (1x sub-module)
KALEIDO-RCP2	Ethernet remote control panel and KM Gateway
KRCP-RK2	Kaleido-RCP2 rack mount bracket
RCP-200	Advanced remote control panel for models and accessories
NSH26M	Terminal block adaptor for HD-26 connections (for audio I/O connections)
KXC-HDMI-DVI	HDMI to DVI female cable (1 ft)

THIRD-PARTY INTERFACE OPTIONS

KMV-39N1-8XN-OPT-RT-NVISION	Control and UMD support for NVISION routers
KMV-39N1-8XN-OPT-RT-DATATEK	Control and UMD support for Datatek routers
KMV-39N1-8XN-OPT-RT-ENCORE	Control and UMD support for Encore controllers
KMV-39N1-8XN-OPT-RT-EVERTZ	Control and UMD support for Evertz routers
KMV-39N1-8XN-OPT-RT-GVG7000	Control and UMD support for GVG7000 routers
KMV-39N1-8XN-OPT-RT-JUPITER	Control and UMD support for Jupiter routers
KMV-39N1-8XN-OPT-RT-HARRIS	Control and UMD support for Harris routers
KMV-39N1-8XN-OPT-RT-NETWORK	Control and UMD support for Nevision routers
KMV-39N1-8XN-OPT-RT-SNELL	Control and UMD support for Snell routers
KMV-39N1-8XN-OPT-RT-PESA	Control and UMD support for PESA routers
KMV-39N1-8XN-OPT-RT-UTAH	Control and UMD support for Utah routers
KMV-39N1-8XN-OPT-TLY-KAHUNA	Tally interface for Snell and Wilcox Kahuna switchers
KMV-39N1-8XN-OPT-TLY-KALYPSO	Tally interface for Thomson Kalypso switchers
KMV-39N1-8XN-OPT-TLY-KAYAK	Tally interface for Thomson Kayak switchers
KMV-39N1-8XN-OPT-TLY-SONY	Tally interface for Sony switchers (serial protocol)
KMV-39N1-8XN-OPT-TLY-SYNERGY	Tally interface for Ross Synergy and Vision switchers
KMV-39N1-8XN-OPT-TLY-ZODIAC	Tally interface for Thomson Zodiac switchers

HOUSING FRAMES AND OPTIONS

Densité 3	Housing frame with (1) PSU (AC-IN), (1) Ethernet controller with front control panel, blank rear
Densité 3-PSU-AC	Redundant PSU for Densité 3
Densité 3-CPU-ETH2-OPT-LNK	Full link redundancy using channel bounding on Densité-CPU-ETH2
REF-1801-3RU	Reference card for Densité 3 frame (including 3RU adapter)
REF-1801-SRP-3RU	Single rear connector panel for REF-1801 (including 3RU adapter)
Densité 3 mini	Housing frame with (1) PSU (AC-IN), (1) basic controller with front control panel, (1) blank rear panels SRP
Densité 3 mini PSU	Redundant external PSU for Densité 3 mini
Densité 3 mini-Tray	1RU tray for two Densité 3 mini frames
Densité 3 mini-CPU-ETH2	Controller card with redundant Ethernet ports
Densité 3-CPU-ETH2-OPT-LNK	Full link redundancy using channel bounding on Densité 3 mini-CPU-ETH2

Note: The KMV-3911 can only be used with Densité 3 or Densité 3 mini frames with ETH2 controllers.