KUMO

Compact SDI Routers

AJA VIDEO SYSTEMS

Because it matters.®

KUMO

Compact SDI Routers

Compact, robust and built for critical environments, KUMO SDI routers offer flexibility and quality that exceeds SMPTE specifications at an unprecedented price.

AJA's KUMO family of compact SDI routers provide high quality signal control that is ideal for small facilities or space-sensitive locations.

Cost-effective, without compromising power or flexibility, KUMO compact SDI routers provide powerful signal control and support full broadcast specifications over SDI, HD-SDI, and 3G SDI, with quality that exceeds SMPTE specifications. The super-compact 1RU and 2RU formats are just a few inches deep, making them a perfect fit for any broadcast, production, or post production environment, from mobile sports trucks and edit suites, through to corporate video installations or live event A/V rigs.

Running Embedded Linux, KUMO routers are network-ready and support full HTTP control and monitoring. KUMO's internal webserver allows immediate installation, configuration, and operation with standard web browsers - so there's no need to purchase or install any additional software. The optional 1RU networkable control panel (KUMO CP) can be used in standalone or networked configurations to enable comprehensive control without the need of a computer.

KUMO routers are easily integrated with existing infrastructure utilizing the industry-standard Grass Valley Native Protocol over RS-422 or even Ethernet. Ethernet network connectivity also allows you to control all KUMO routers from any web browser on a network-connected device, ensuring you have the control you need from any location.

As 4K workflows continue to gain ground, KUMO routers can grow as you do. With a simple setting change, KUMO routers can be configured for ganged dual and quad port routing, allowing users to group together multiple inputs and outputs for Dual Link, 4K and UltraHD workflows. This allows seamless routing of uncompressed or RAW 4K and UltraHD signals throughout a production or post facility. Then switch the router back to HD/SD operation as needed, giving you the flexibility to route virtually any format in your facility.

KUMO SDI routers are available in three configurations: KUMO 3232 supports 32 3G SDI inputs and outputs, KUMO 1616 supports 16 3G SDI inputs and outputs, and KUMO 1604 supporting 16 3G SDI inputs and 4 3G SDI outputs.

KUMO compact SDI routers offer AJA reliability, flexibility and uncompromising signal quality, all at an unprecedented price. Built to the exacting standards of all AJA hardware, KUMO products are backed by our world-class support network, 5-year international warranty and advanced exchange service.

KUMO

Compact routing

Just 1RU or 2RU high and less than 2" deep, KUMO fits in the most space-constrained locations, offering flexible routing with support for SD, HD and 3G SDI I/O that exceeds SMPTE specifications.

The powerful cross-point routing matrix allows the mapping of any input to any output. Signals can also be sent to multiple outputs without the need for additional patch panels or distribution amplifiers.

Designed for critical broadcast, production and post environments, KUMO hardware uses premium components coupled with dual redundant power supplies to ensure uptime in the unlikely event of a power supply failure.

Simple configuration

Running Embedded Linux, KUMO routers are network-ready and support powerful HTTP control and monitoring via a web browser without the need for any additional software.

KUMO's auto-detect Bonjour™/Zeroconf protocols mean that network configuration is automatic, just connect KUMO to your network and the system will self-configure, ready for use. Alternatively, standard network configuration allows access to each KUMO via its assigned IP address. Once connected to KUMO using a web browser, you can configure the full TCP/IP settings, select and name KUMO routers, name sources and destinations, and perform all operational functions.

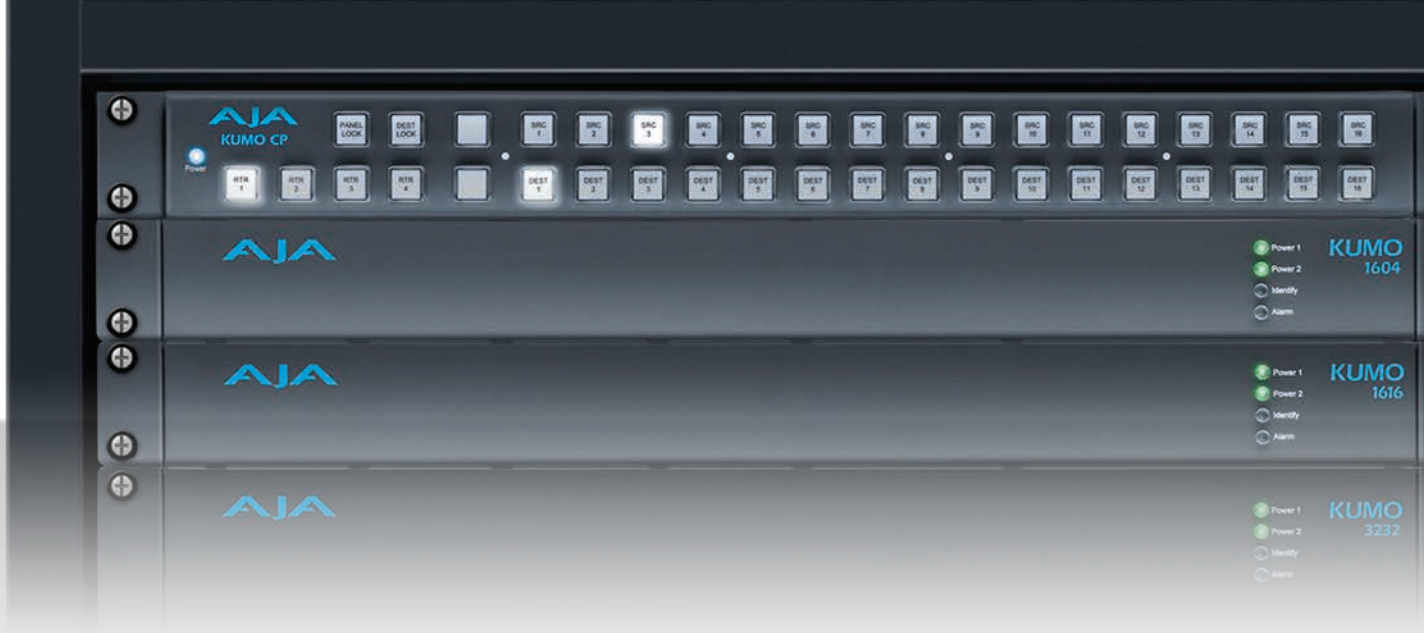
KUMO Control Panel

KUMO CP is an optional 1RU control panel that can be used in standalone or networked configurations.

Connecting via Ethernet to the same network as the KUMO routers, KUMO CP enables full control from any location without the need for a computer. Up to four KUMO routers can be controlled from a single control panel.

For standalone configurations with KUMO CP, all KUMO hardware units can be connected together directly using standard RJ45 cables or a switch, if required. KUMO software automatically assigns routers to control panel delegations so you're ready to use the system immediately.

KUMO



KUMO Control Panel

KUMO CP is an optional 1RU control panel that's compatible with all KUMO routers. Each KUMO CP enables full control of up to four KUMO routers from any location without the need for a computer.

Only **$595** US MSRP*

Find a Reseller

KUMO 1604

KUMO 1604 is the right size for typical AV setups or corporate meetings where several different cameras, computers or other video devices need to be routed to a few monitors or projectors.

Only **$1,395** US MSRP*

Find a Reseller

KUMO 1616

For medium-sized facilities and mobile trucks, KUMO 1616 is just the right size for combining multiple cameras, monitors, editing systems, tape decks and file-based recorders into a seamless workflow.

Only **$1,995** US MSRP*

Find a Reseller

KUMO 3232

As your routing needs grow, KUMO 3232 has the additional capacity you require, making it perfect for larger environments and high-density applications.

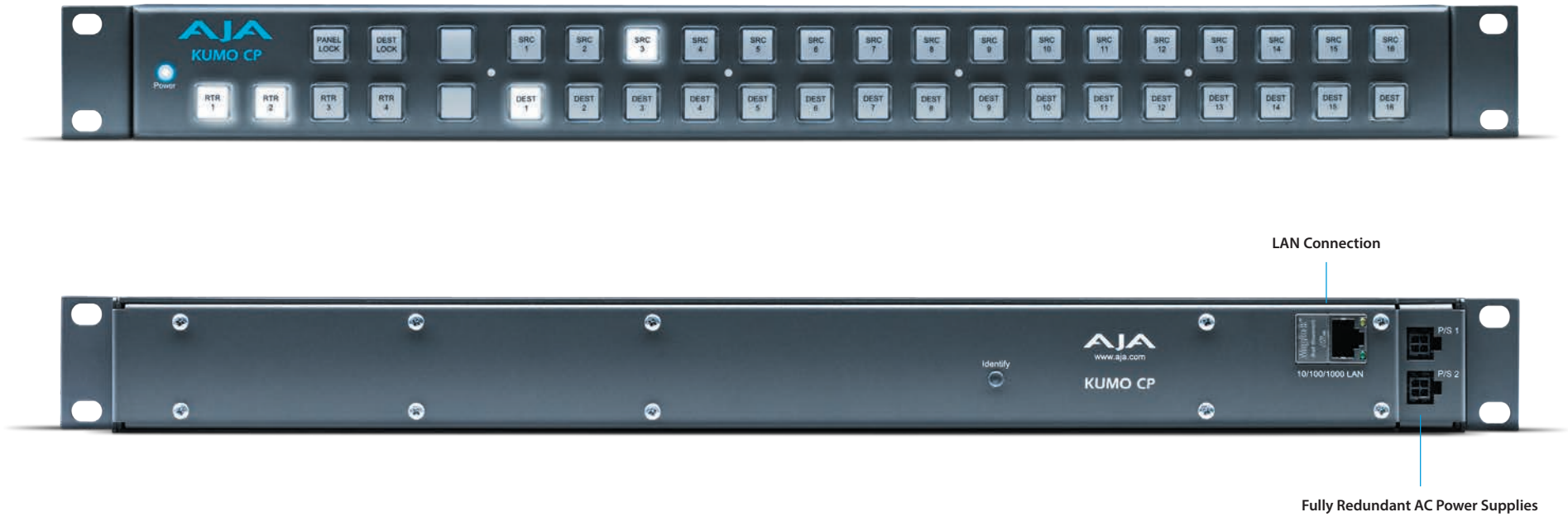
Only **$3,495** US MSRP*

Find a Reseller

** Pricing is for US only. International pricing will vary. Please contact a local AJA Reseller for pricing details.*

Connections

KUMO Control Panel



Click here For full product specifications visit www.aja.com/en/products/kumo-cp/#techspecs

Connections

KUMO 1604

RS-422
RS-422 remote control via 9-pin dB9 connector with Grass Valley Native Protocol support.

LAN Connection
RJ45 10/100/1000 LAN Connector - internal webserver, Bonjour support

Fully Redundant AC Power Supplies
Two independent 12Vdc inputs provide safe operations. Power status can be checked from a LAN attached browser.

Reference Input with Loop-Through
The reference Input synchronizes the Router switching point per SMPTE specifications. The Reference Input supports Blackburst for SD and Tri-Level sync for HD.

3G/HD/SD-SDI Inputs and Outputs
All inputs and outputs, 3G, HD-SDI, or SD-SDI (SMPTE 259M/292M/424M)

Click here For full product specifications visit www.aja.com/en/products/kumo-1604/#techspecs

Connections

KUMO 1616

RS-422
RS-422 remote control via 9-pin dB9 connector with Grass Valley Native Protocol support.

LAN Connection
RJ45 10/100/1000 LAN Connector - internal webserver, Bonjour support

Fully Redundant AC Power Supplies
Two independent 12Vdc inputs provide safe operations. Power status can be checked from a LAN attached browser.

Reference Input with Loop-Through
The reference Input synchronizes the Router switching point per SMPTE specifications. The Reference Input supports Blackburst for SD and Tri-Level sync for HD.

3G/HD/SD-SDI Inputs and Outputs
All inputs and outputs, 3G, HD-SDI, or SD-SDI (SMPTE 259M/292M/424M)

Click here For full product specifications visit www.aja.com/en/products/kumo-1616/#techspecs

Connections

KUMO 3232

RS-422
RS-422 remote control via 9-pin dB9 connector with Grass Valley Native Protocol support.

LAN Connection
RJ45 10/100/1000 LAN Connector - internal webserver, Bonjour support

Fully Redundant AC Power Supplies
Two independent 12Vdc inputs provide safe operations. Power status can be checked from a LAN attached browser.

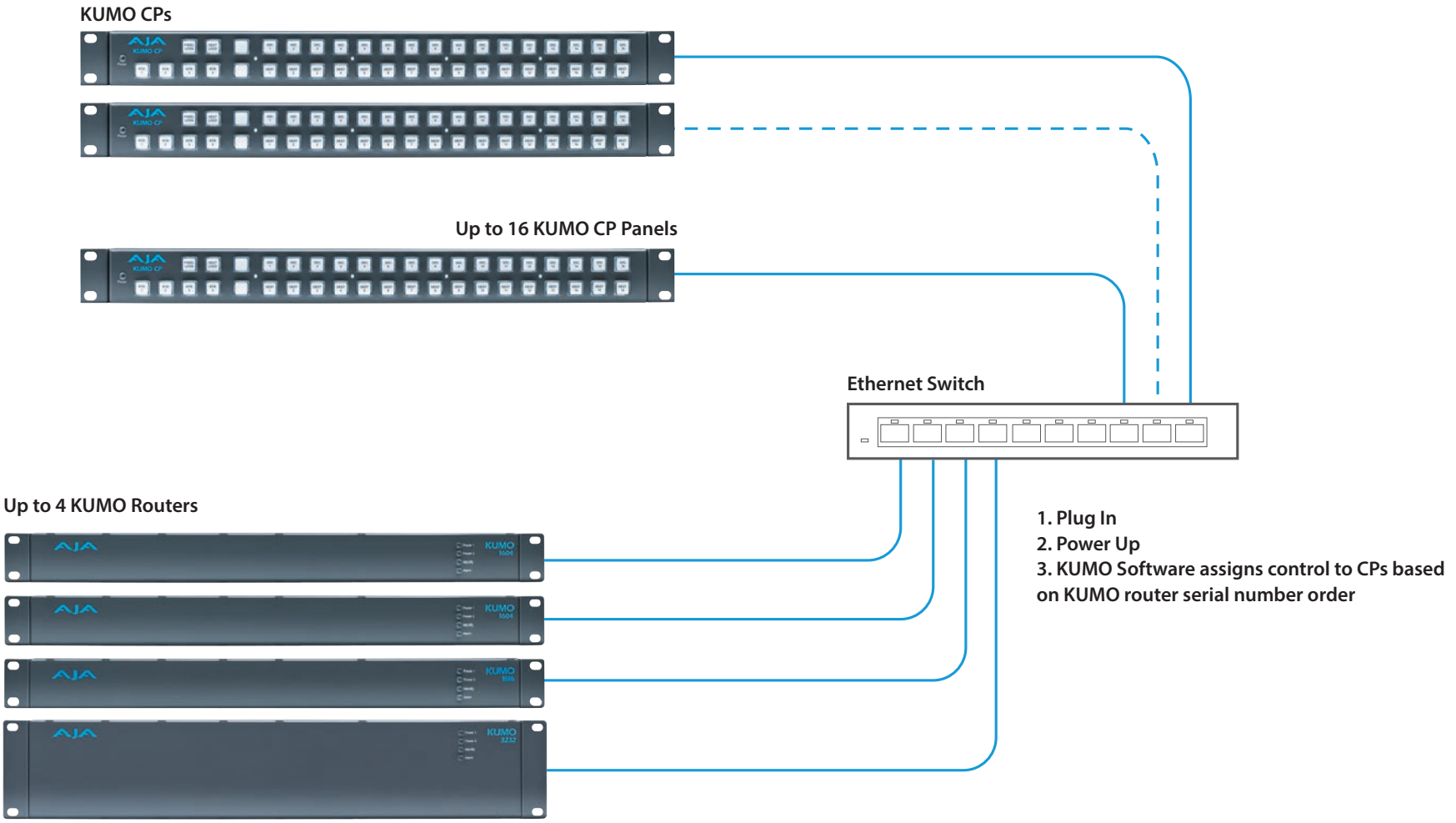
Reference Input with Loop-Through
The reference Input synchronizes the Router switching point per SMPTE specifications. The Reference Input supports Blackburst for SD and Tri-Level sync for HD.

3G/HD/SD-SDI Inputs and Outputs
All inputs and outputs, 3G, HD-SDI, or SD-SDI (SMPTE 259M/292M/424M)

Click here For full product specifications visit www.aja.com/en/products/kumo-3232/#techspecs

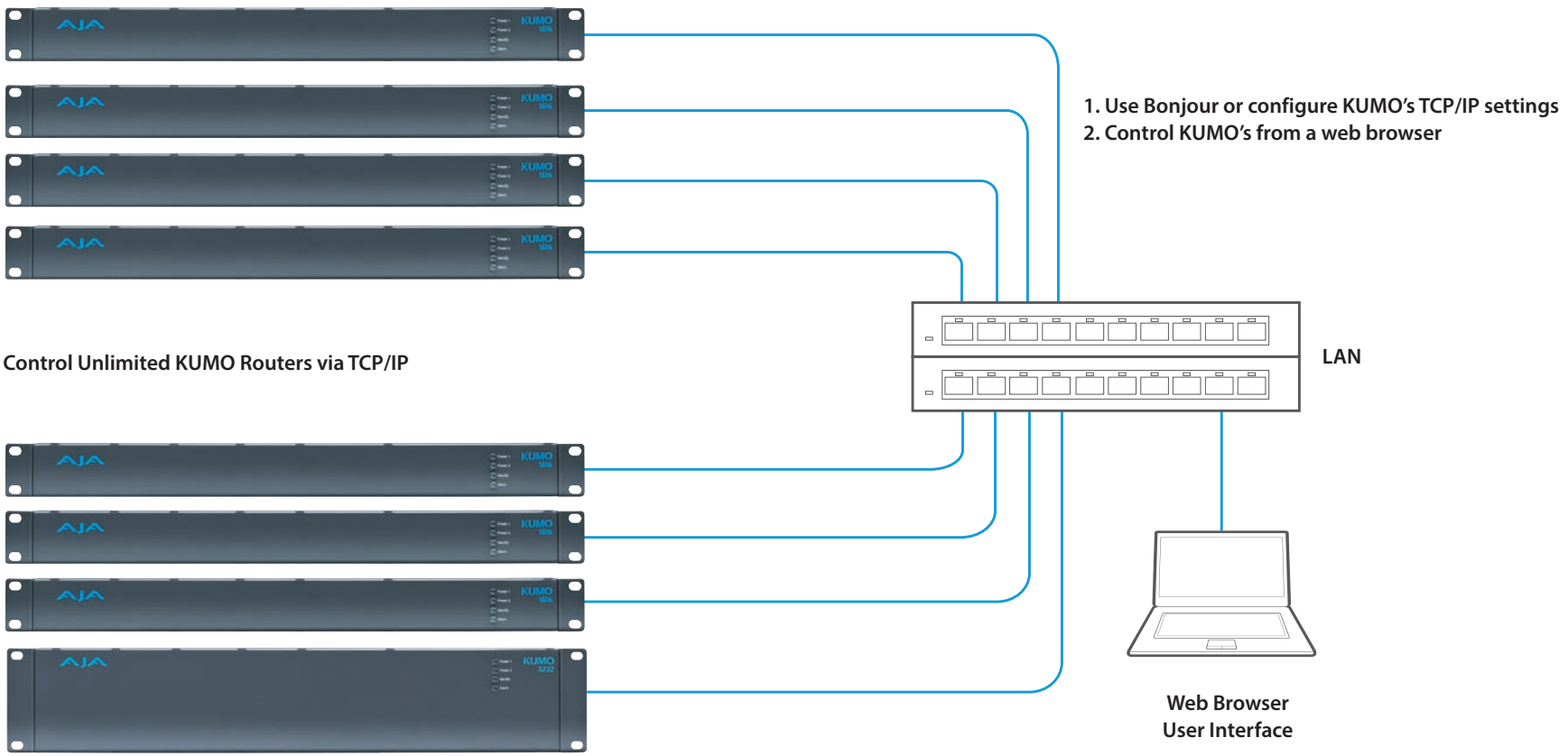
Configurations

Standalone routing system - zero configuration, just plug, power, and play



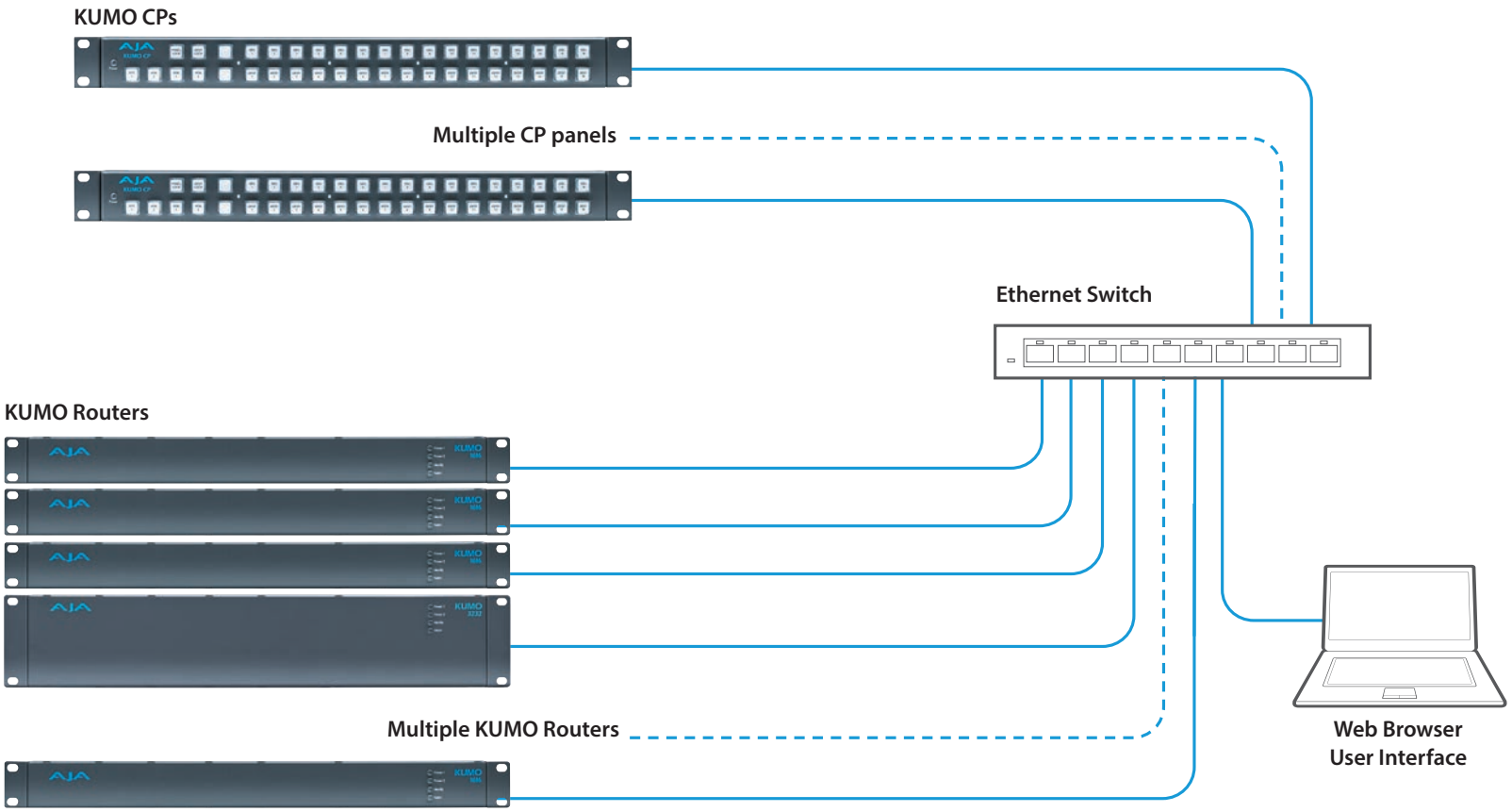
Configurations

LAN-only system - use TCP/IP to configure routers and devices



Configurations

Hybrid system - KUMO's controlled by KUMO CPs and web browsers



Each KUMO CP can control up to 4 KUMO routers at a time

Tech Specs

Video Formats

- 525i 29.97
- 625i 25
- 720p 50, 59.94, 60
- 1080i 25, 29.97, 30
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60

  * Note: Dual and Quad modes support grouping of multiple inputs and outputs for additional resolutions and bit depths.

Video Input Digital

- SD/HD/3G SDI, SMPTE-259/292/296, 8- or 10-bits
- Single Link 4:2:2 (1 x BNC per input)

Video Output Digital

- SD/HD/3G SDI, SMPTE-259/292/296, 8- or 10-bits
- Single Link 4:2:2 (1 x BNC per output)

Audio Input Digital

- 8-channel, 24-bit SMPTE-259 SDI embedded audio, 48kHz sample rate, Synchronous

Audio Output Digital

- 8-channel, 24-bit SMPTE-259 SDI embedded audio, 48kHz sample rate, Synchronous

Timecode

- SDI RP188 preserved from inputs to outputs

Reference Input

- Analog Color Black (1V) or Composite Sync (2 or 4V)
- Looping, non-terminating.

Network Interface

- 10/100/1000 Ethernet (RJ-45)
- Embedded web server for remote control

Machine Control

- RS-422, Grass Valley Native Protocol
- 9-pin D-connector pinout is as follows:

1	GND
2	RX-
3	TX+
4	GND
5	No Connection
6	GND
7	RX+
8	TX-
9	GND
Shell	GND

Physical

Width: 19" (48.26cm)
Depth:
- KUMO 3232, 1616 & 1604: 1.5" (3.81cm)
- KUMO CP: 1.3" (3.3cm)

Height:
- KUMO 3232: 3.5" (8.90cm)
- KUMO 1616, 1604 & CP: 1.75" (4.45cm)

Weight:
- KUMO 1604: 1.2 lb. (.55 kg)
- KUMO 1616: 1.4 lb. (.64 kg)
- KUMO 3232: 4.58 lbs. (2.1 kg)
- KUMO CP: 1.2lb (.55 kg)

Environment:
- Operating temperature: 0 to 40 degrees C
- Relative humidity: 0 to 90%, non-condensing

Power:
- 100-240 VAC 50/60Hz , 9-17 VDC, 12 VDC nominal
  - KUMO 1604: 7.5 Watts, 0.8A at 12VDC
  - KUMO 1616: 20 Watts, 1.8A at 12VDC
  - KUMO 3232: 26.4 Watts, 2.2A at 12VDC
  - KUMO CP: 4 Watts, 1.5A at 12VDC
- Optional redundant power supply

Click here For full product specifications visit www.aja.com/en/products/kumo/#techspecs

5-year warranty

AJA Video warrants that Converter products will be free from defects in materials and workmanship for a period of five years from the date of purchase.

About AJA Video Systems, Inc.

Since 1993, AJA Video has been a leading manufacturer of video interface and conversion solutions, bringing high-quality, cost-effective digital video products to the professional, broadcast and post-production markets. AJA products are designed and manufactured at our facilities in Grass Valley, California, and sold through an extensive sales channel of resellers and systems integrators around the world. For further information, please see our website at **www.aja.com**

Because it matters.™

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