KUMO

Compact SDI Routers

KUMO 1604

KUMO 1616

KUMO CP

Because it matters.

AJA®
VIDEO SYSTEMS

KUMO

Compact SDI Routers

NEW

1616 Rear Panel

1604 Rear Panel

KUMO compact SDI routers are small and cost-effective, yet robust and reliable. KUMO supports full broadcast specifications over SDI, HD-SDI, and 3G SDI. KUMO routers are a perfect fit for any broadcast, production, or post production environment. Running Embedded Linux, KUMO routers are network ready and support powerful HTTP control and monitoring. KUMO's internal webserver allows immediate installation, configuration, and operation with standard web browsers - without any additional software to buy or install. An optional 1RU networkable control panel (KUMO CP) can be used in stand-alone or networked configurations.

KUMO SDI routers are available in two configurations: the KUMO 1604 supporting sixteen SDI inputs and four outputs, and the KUMO 1616 supporting sixteen channels in and out. Because of their compact 1RU size, KUMO SDI routers are ideal for space-sensitive applications such as mobile sports trucks, edit suites, corporate video installations, or live theatrical A/V rigs. KUMO compact SDI routers offer AJA-reliability, flexibility and state-of-the-art signal quality, while delivering it for an unprecedented price.

Optional KUMO Remote Control Panel (KUMO CP)

Remote Web Interface

— Tabbed screens make navigation a snap

— Source Selection

— Destination Selection

Connections

KUMO 1616

INPUTS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

OUTPUTS

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

KUMO 1604

INPUTS
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

OUTPUTS
1 2 3 4

REF

Reference Video with Loop-Through
• Synchronize outputs to house reference video signal
  (blackburst or composite sync for SD, or Tri level for HD)

LAN 10/100/1000

LAN Connection
• RJ45 10/100/1000 LAN connector—internal webserver,
  Bonjour support

RS-422

RS422
• RS422 remote control via 9-pin DB9 connector

PS1
PS2

Redundant Power Supply Inputs
• Two independent 12Vdc inputs provide safe operation.
  Power status can be checked from a LAN attached browser

Simple Installation and Configuration—and Easily Scalable

Installation of KUMO Compact routers is easy: with Bonjour, network configuration is automatic—just connect KUMO to your network or a computer. Alternatively, standard network configuration is also easy—just connect KUMO to your network, or a computer, and access KUMO via its default 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.

For stand-alone configurations of KUMO routers with KUMO CP control panels only, just connect the KUMO components together with standard RJ45 cables and an Ethernet switch (if needed).

KUMO and the Optional KUMO CP Both Support Bonjour

Features

• SD, HD, 3G SDI inputs and outputs via BNC, SMPTE 259M/292M/424M
• Automatic EQ and re-clocking
• Supports all ancillary data, including embedded audio
• Reference via BNC, passive loop, PAL/NTSC color black or HD tri-sync
• 10/100/1000 Ethernet LAN
• Auto-detect Bonjour™/Zeroconf protocol provides ease of installation
• Embedded Linux OS with internal webserver for web browser control
• Control from HTTP or Remote Control Panel (KUMO CP is optional)
• 1RU form factor
• Redundant power inputs (isolated)
• 1 power supply and line cord supplied
• Optional power supply available
• AJA 5-year international warranty

Specifications

Formats:
• 3Gb, 1.5Gb, 270Mb, ASI, Auto Select

Video Inputs and Outputs:
• SDI (SMPTE 259/292/296/424), BNC

Cable Equalization (BNC inputs, 1694 coax):
• 270Mb: 400m
• 1.5Gb: 200m
• 3Gb: 140m

Input/Output Return Loss (BNC):
• >15db, 270Mb – 1.5Gb
• >10db, 1.5Gb – 3Gb

Reference Input:
• Analog input, passive looping BNCs
• Format: NTSC, PAL, Tri-level sync

Control:
• 10/100/1000 Ethernet, RJ-45, internal Linux OS/web server
• RS-422 (future enhancement)

Environment:
• Operating Temperature: 0 to 40 Degrees C
• Relative Humidity: 0 to 90%, non-condensing

Power:
• +12 VDC nominal, 9-18VDC range, optional redundant power
• KUMO 1604: 8 watts
• KUMO 1616: 17 watts
• KUMO CP: 5 watts

Size:
• KUMO 1604, 1616: 19" width x 1.75" height, x 1.5" depth (483 x 44.5 x 38.1 mm)
• KUMO RCP: 19" width x 1.75" height, x 1.3" depth (483 x 44.5 x 33 mm)

Weight:
• KUMO 1616: 1.4 lb (.64 kg)
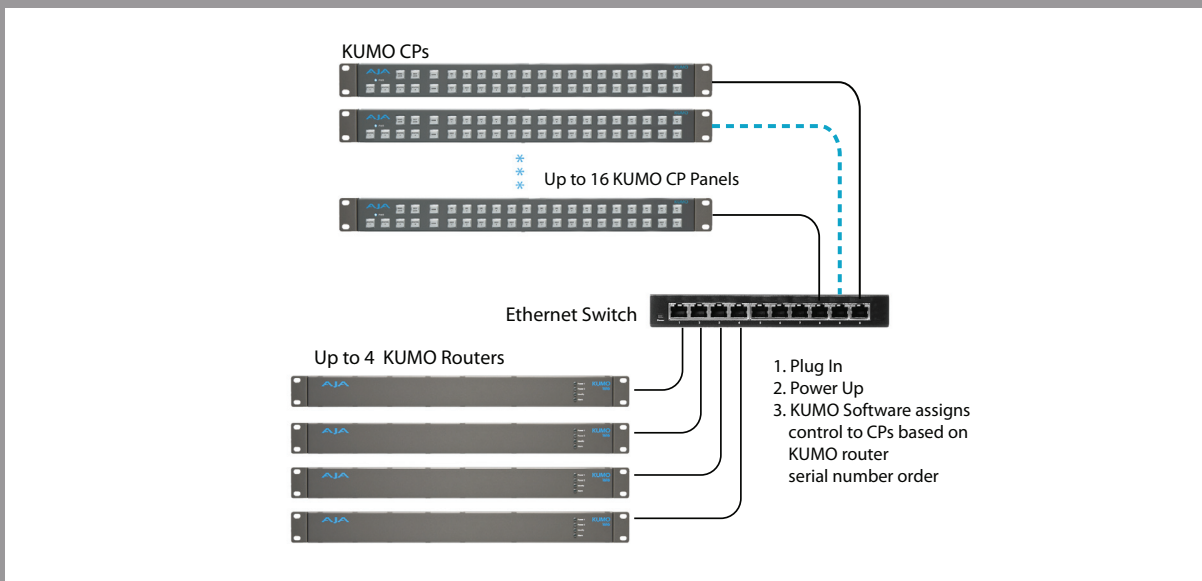• KUMO 1604: 1.2 lb (.55 kg)
• KUMO CP: 1.2 lb (.55 kg)

KUMO

Compact SDI Routers
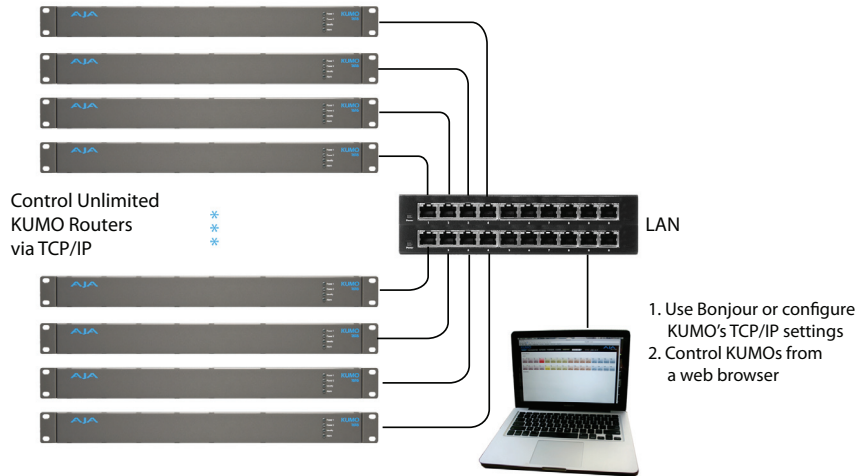
Configuration Options

KUMO compact SDI routers not only offer innovative architectures, they excel at providing configuration and control flexibility. Because all KUMO products are networkable, they are easy to set up in a networked environment or in stand-alone configurations. For control you can use either a web browser or the optional KUMO Control Panel. KUMO Control Panels can be connected directly to KUMO routers or to the network. Easily scalable, KUMO systems can always expand as your needs do. Here are just some possible control scenarios:

• Stand-alone: up to 4 routers and 16 control panels can be set-up without ever connecting a computer. Just plug all the pieces into an Ethernet switch and power them up. KUMO auto-discovery software automatically assign routers to control panel delegations in a deterministic way, so you're ready to use the system immediately.

• Network - compliuter control only: an unlimited number of KUMOs can be configured, networked, and controlled by web browser(s) using industry standard TCP/IP networking.

• Hybrid Network – computer(s) and KUMO Control Panel(s): hybrid systems can be created where there are both KUMO Control Panels and computer web browsers providing router control.
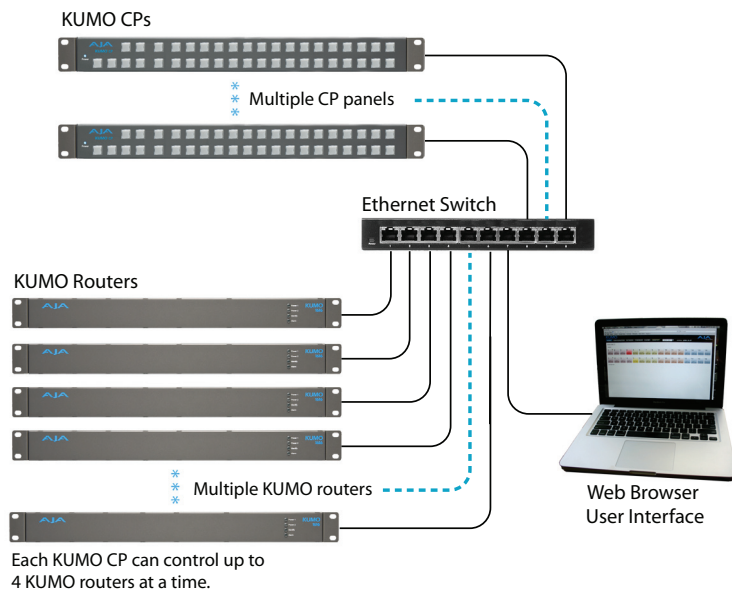
Basic KUMO stand-alone routing systems—zero configuration, just plug, power, and play

KUMO CPs

Up to 16 KUMO CP Panels

Ethernet Switch

Up to 4 KUMO Routers

1. Plug In
2. Power Up
3. KUMO Software assigns control to CPs based on KUMO router serial number order

KUMO LAN-only System—use TCP/IP to configure routers and devices

Control Unlimited
KUMO Routers
via TCP/IP

LAN

1. Use Bonjour or configure
   KUMO's TCP/IP settings
2. Control KUMOs from
   a web browser

Hybrid System—KUMOs Controlled by KUMO CPs and Web Browsers

KUMO CPs

Multiple CP panels

Ethernet Switch

KUMO Routers

Multiple KUMO routers

Web Browser
User Interface

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

Because it matters.

Incredible 5 Year Warranty

All AJA Video Converters carry a 5-year warranty from the date of purchase against defects in material and workmanship. AJA Video, at its option, will repair or replace each defective product with a similar or better product. This warranty shall be limited to defects which were not caused by misuse, abuse, improper handling, tampering or attempts to repair by any unauthorized repair service. This warranty is limited solely to the above and only for the period set forth. The manufacturer will not be liable for any loss or damage incidental or consequential of any kind, whether based on warranty, contract or negligence arising in connection with the sale, use or repair of the product. The manufacturer's maximum liability shall not in any case exceed the sale price.

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 offers the Io, KONA and XENA desktop video products, miniature stand-alone converters, and a complete line of rack mount interface and conversion cards and frames. With a headquarters and design center located in Grass Valley, California, AJA Video offers its products through an extensive sales channel of dealers and systems integrators around the world. For further information, please see our website at **www.aja.com**

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