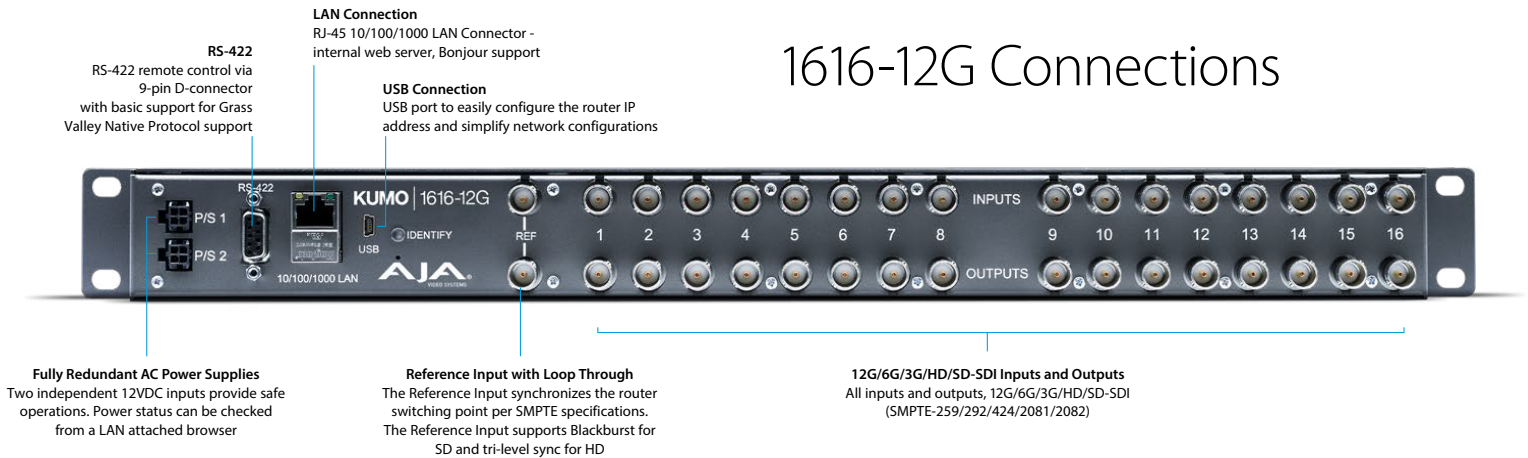


# KUMO 1616-12G

## Compact 16 x 16 12G-SDI Router

### 1616-12G Connections



KUMO 1616-12G offers increased capacity for larger configurations while maintaining a compact 1RU profile with support for 12G-SDI/6G-SDI/3G-SDI/1.5G-SDI with 16x 12G-SDI inputs and 16x 12G-SDI outputs.

KUMO 12G-SDI routers support large format resolutions, high frame rate (HFR) and deep color formats, while reducing cable runs when transporting 4K/UltraHD over SDI. The routers offer network-based and/or physical control, and mirror the physical form of AJA's production-proven KUMO 3232 and KUMO 1616 routers, with a new USB port for configuring IP addresses via AJA's eMini-Setup software. Built to the same quality standards as all AJA KUMO products, KUMO 1616-12G is the ideal choice for any situation where a balance of size and capacity are critical such as mid-sized post facilities and mobile trucks.



#### Compact Routing

Just 1RU, 2RU or 4RU high and less than 2" deep, KUMO fits in the most space constrained locations, offering flexible routing with support for 12G-SDI or 3G-SDI I/O that exceeds SMPTE specifications.

The powerful crosspoint 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

KUMO's USB ports easily configure the router's IP address and simplify the initial setup of network configurations.

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<sup>®</sup>/Zeroconf protocols mean that network configuration is automatic, 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 Panels

KUMO CP control panels offer up to 32 source and 32 destination buttons for direct access to all KUMO inputs and outputs. Salvos support simplifies switching operations by recalling multiple sources to specific destinations. Salvos are stored in the KUMO router and can be recalled via the KUMO router's Web UI, Grass Valley Native Protocol over Ethernet, RS-232, and/or directly on the KUMO CP/CP2 Salvos buttons.

Connecting via Ethernet to the same network as KUMO routers, KUMO CPs enable full control from any location and up to four KUMO routers can be controlled from a single control panel. For stand-alone configurations, KUMO hardware can be connected directly via RJ-45 cables and KUMO software will automatically assign routers to control panel delegations.

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### Tech Specs

#### Video Format

- 270 Mbps, 1.5 Gbps, 3 Gbps, 6 Gbps, 12 Gbps SDI
- 270 Mbps DVB-ASI
- Format agnostic, 125 Mbps - 12 Gbps

#### Video Input Digital

- 12G-SDI Inputs
- 16x 12G-SDI BNC, SMPTE-259/292/424/2081/2082

#### Video Output Digital

- 12G-SDI Outputs
- Noninverting
- 16x 12G-SDI BNC, SMPTE-259/292/424/2081/2082

#### Ancillary Data

- Passes all SDI embedded ancillary data including audio

#### Salvo

- Up to 8 Salvos can be configured and saved in each KUMO router

#### Cable Equalization

##### (Belden 1694A)

- 12 Gbps, up to 60m
- 6 Gbps, up to 120m
- 3 Gbps, up to 190m
- 1.5 Gbps, up to 195m
- 270 Mbps, up to 405m
- Automatic operation

#### Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.967 Gbps, 2.970 Gbps, 5.934 Gbps, 5.940 Gbps, 11.868 Gbps, 11.880 Gbps - Auto Select
- All other rates are passed through and not reclocked

#### Switching Modes

- Single, Dual, and Quad Link modes
- Switches in vertical blanking per SMPTE RP-168

#### Control Panel Compatibility

- AJA KUMO CP – 1RU X-Y Ethernet control panel
- AJA KUMO CP2 – 2RU X-Y Ethernet control panel

#### Reference Input

- External, 2x BNC
- Looping, nonterminating
- Blackburst or tri-level sync

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- External, 2x BNC
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#### Network Interface

- 1x RJ-45, 10/100/1000 Ethernet
- Supports AJA KUMO Ethernet control panels, direct connect or networked
- Grass Valley Native Protocol
- Embedded web server for remote control

#### USB Interface

- 1x Mini-USB for IP configuration

#### Machine Interface

- 1x DB-9 Female, RS-422
- Grass Valley Native Protocol
- 9-pin D-connector pinout is as follows:

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

#### Size (w x d x h)

- 1RU - 17.4" x 1.54" x 1.75" (441.96 x 39.12 x 44.45 mm)

#### Weight

- 1.4 lb (0.7 kg)

#### Power

- 10-14VDC regulated, 18 W typ, 43.2W max, power supply required, included with purchase
- AC Adapter: 100-240VAC, 50/60 Hz, universal input