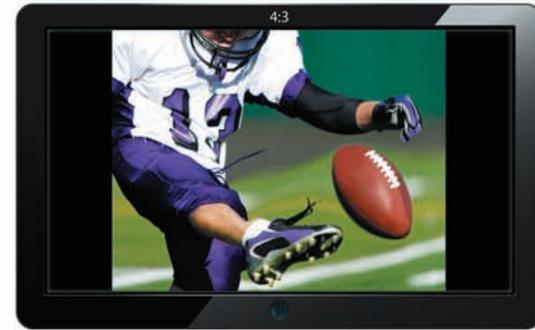


Converter Catalog

Spring 2012



Because it matters.



Product Breakout Chart

| | 8-Bit | 10-Bit | RGB Output | RGB Input | Component YpPp/RGB to SDI | Composite Y/C NTSC/PAL to SDI | SDI to YpPp/RGB Component | SDI to NTSC/PAL Component | SDI to SDI Loop | Frame Sync/FSG Option | HD-SDI to HD YpPp/RGB | HD YpPp/RGB to HD-SDI | HD-SDI to HD-SDI DA | SDI to HD-SDI | HD-SDI to SDYpPp/RGB/Y/C/ | Dual Rate | Audio Embed/Disembed | Audio Conversion | Passes Audio To Output(s) | +5 to +18Vdc | HDMI | 3G/HD/SD-SDI to Fibre | Fibre to 3G/HD/SD-SDI |
|--------|-------|--------|------------|-----------|---------------------------|-------------------------------|---------------------------|---------------------------|-----------------|-----------------------|-----------------------|-----------------------|---------------------|---------------|---------------------------|-----------|----------------------|------------------|---------------------------|--------------|------|-----------------------|-----------------------|
| D4E | • | | | | | | • | | | | | | | | | | | | | | | | |
| D5CE | • | | • | | | • | • | • | | | | | | | | | | | | | | | |
| D5D | • | | | | | • | | | | | | | | | | | | | | | | | |
| D5PSW | • | • | | | | | | | | | | | | | | | | | | | | | |
| D10AD | • | • | | • | • | • | | | | | | | | | | | | | | | | | |
| D10A | • | • | | • | • | | | | | | | | | | | | | | | | | | |
| D10C | • | • | • | | | | • | D2 | • | | | | | | | | | | | | | | |
| D10C2 | • | • | • | | | | • | • | • | | | | | | | | | | | | | | |
| D10CE | • | • | • | | | | • | • | • | | | | | | | | | | | | | | |
| D10CEA | • | • | • | | | | • | • | • | | | | | | | • | | | • | | | | |
| D5DA | • | • | | | | | | | • | | | | | | | | | • | | | | | |
| R44E | • | | | | | | | • | | | | | | | | | | | | | | | |
| R5CE | • | | • | | | | • | • | • | | | | | | | | | | | | | | |
| RD5CE | • | | • | | | | • | • | • | | | | | | | | | | | | | | |
| R10CE | • | • | • | | | | • | • | • | | | | | | | | | | | | | | |
| R20AD | • | • | | • | • | • | | | | • | | | | | | | | | | | | | |
| R20CE | • | • | • | | | | • | • | • | | | | | | | | | | | | | | |
| R20DA | • | • | | | | | | | | | | | | | | | | | | | | | |
| RD20DA | • | • | | | | | | | | | | | | | | | | | | | | | |
| RH10MD | • | • | • | | | | • | • | • | | | • | • | | • | • | | | | | | | |
| RD10MD | • | • | | | | | • | • | • | | | • | • | | • | • | | | | | | | |
| RH10UC | • | • | | | | | | | | | | • | | • | | | | | | | | | |
| FS1 | • | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | | | | | |
| FS2 | • | • | • | | • | • | • | • | • | • | • | • | • | • | • | • | • | • | | | • | • | • |
| UDC | | • | • | • | | | | | | | | | • | • | • | | | | • | | • | | |

Product Breakout Chart

| | 8-Bit | 10-Bit | RGB Output | RGB Input | Component YpBpR/RGB to SDI | Composite Y/C NTSC/PAL to SDI | SDI to YpBpR/RGB Component | SDI to NTSC/PAL Component | SDI to SDI Loop | Frame Sync/FSG Option | HD-SDI to HD YpBpR/RGB | HD-SDI to HD-SDI | HD-SDI to HD-SDI DA | SDI to HD-SDI | HD-SDI to SDYpBpR/RGB/Y/C/ | Dual Rate | Audio Embed/Disembed | Audio Conversion | Audio Reference Generator | Passes Audio To Output(s) | +5 to +18Vdc | HDMI | 3G/HD/SD-SDI to Fibre | Fibre to 3G/HD/SD-SDI |
|-----------|-------|--------|------------|-----------|----------------------------|-------------------------------|----------------------------|---------------------------|-----------------|-----------------------|------------------------|------------------|---------------------|---------------|----------------------------|-----------|----------------------|------------------|---------------------------|---------------------------|--------------|------|-----------------------|-----------------------|
| 3GM | • | • | | | | | | | | | | | | | | | | | | | | | | |
| 3GDA | • | • | | | | | | | | | | | | | | | | | | | | | | |
| ADA4 | | | | | | | | | | | | | | | | | | • | • | • | • | | | |
| HD10C2 | • | • | • | | | | • | • | • | | • | | | | | | | | | | | | | |
| HD10A | • | • | | • | • | | | | | | | • | | | | | | | | | | | | |
| HD10AVA | • | • | | • | • | • | | | | | | • | | | | | | | | | | | | |
| HD10AM | | | | | | | | | | | | | | | | | | | | | | | | |
| HD10AMA | | | | | | | | | | | | | | | | | | | | | | | | |
| HD10CEA | • | • | • | | | | • | • | • | | • | | | | | | | | | | | | | |
| HD10MD3 | • | • | • | | | | • | • | • | | | • | • | | • | | | | | | | | | |
| HD5DA | • | • | | | | | | | | | | • | | | | | | | | | | | | |
| HD10DA | • | • | | | | | | | | | | • | | | | | | | | | | | | |
| HDP2 | • | • | | | | | | | | | | | • | | | | | | | | | | | |
| Hi5 | • | | | | | | | | | | | | | | | | | | | | | | | |
| Hi5-3G | • | • | | | | | | | | | | | | | | | | | | | | | | |
| Hi5-3D | • | • | | • | | | | | | | | | | | | | | | | | | | | |
| HA5 | • | | | | | | | | | | | | | | | | | | | | | | | |
| Hi5-Fiber | • | | | | | | | | | | | | | | | | | | | | | | | |
| GEN10 | | | | | | | | | | | | | | | | | | | | | | | | |
| FIDO-R | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-2R | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-T | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-2T | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-TR | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-T-ST | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-R-ST | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-T-SC | • | • | | | | | | | | | | | | | | | | | | | | | • | |
| FIDO-R-SC | • | • | | | | | | | | | | | | | | | | | | | | | • | |

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FS

The power to convert.

With support of all broadcast video formats, the FS family make matching up disparate video and audio systems simple, with comprehensive analog and digital I/O, up/down/cross conversion and frame synchronization.

AJA's FS family brings the full power of our hardware conversion expertise within compact 1RU rack units that offer unrivalled flexibility.

Delivering AJA's industry standard up/down/cross converter technology for the highest quality images, FS units are ideal for high-density applications such as mobile trucks and packed machine rooms, able to replace multiple hardware units in a single rack slot. The widest range of conversion possibilities makes them perfect for converting disparate sources to a common format, or handling whatever formats the production environment might throw at them.

Easy to use and fully networkable via built in 10/100/1000MB Ethernet ports, FS1 and FS2 are easily integrated into a facility and can be rapidly configured by any computer on the network via a standard web browser. FS units also accept automation control from external GPI commands.

Supporting virtually any input, FS1 features a flexible I/O and can simultaneously work with SD and HD video - as well as converting between both. FS2 adds the ability to process two independent streams of 3G/HD/SD 10-bit broadcast-quality video and two independent groups of 16-channel AES audio, opening a new world of conversion possibilities.

Built to the exacting standards of all AJA hardware, FS frame synchronizers are backed by our world-class support network, 5-year international warranty and advanced exchange service.



FS1



FS2

FS

Family features

Digital and analog I/O flexibility

FS frame synchronizers are loaded with comprehensive I/O that lets them handle the widest range of analog and digital signals - and convert between them.

Perfect for use in broadcast and post production environments, FS units feature Dual HD/SD-SDI inputs and outputs, comprehensive multi-channel audio connections and I/O for analog video equipment, including HD and SD component.

FS2 also features HDMI I/O with support for 3D output, and a Fiber connectivity option.



AJA hardware conversion technology

AJA's powerful hardware conversion technology ensures the highest image quality for your productions. Key conversion features include:

- SD/HD up/down-conversion
- SD/SD aspect ratio conversion
- HD/HD cross-conversion (720p/1080i)
- Up/down/cross-conversion with both the input and converted formats on SD/HD SDI outputs (both synchronized)
- HD cross-conversion with simultaneous down-converted SDI output
- Closed Caption conversion (CEA-608/CEA-708 standards)
- AFD conversion or pass-through (user selectable)



Remote configuration and control

FS units are network ready and support SNMP monitoring and web-based remote control. Units can be connected to any Ethernet network via the built-in 10/100/1000MB Ethernet port, allowing control and configuration of multiple FS units from any web browser on a connected computer. Configurations can be saved and applied to multiple units, ensuring consistency and quick configuration in large installs.

To integrate smoothly with the existing automation of a facility, both FS1 and FS2 can also receive external GPI commands to trigger a variety of functions, from freezing an input source to switching between saved presets.



FS1

Universal Frame Synchronizer/Converter.

FS1 is a powerful and flexible frame synchronizer and high quality converter that helps you work with mismatched signal types to establish a consistent format for post production or broadcast.



Featuring a flexible input, output, and control architecture, the FS1 Universal HD/SD Audio/Video Frame Synchronizer and Converter can simultaneously work with both HD and SD video all in full 10-bit broadcast quality video and 24-bit audio.

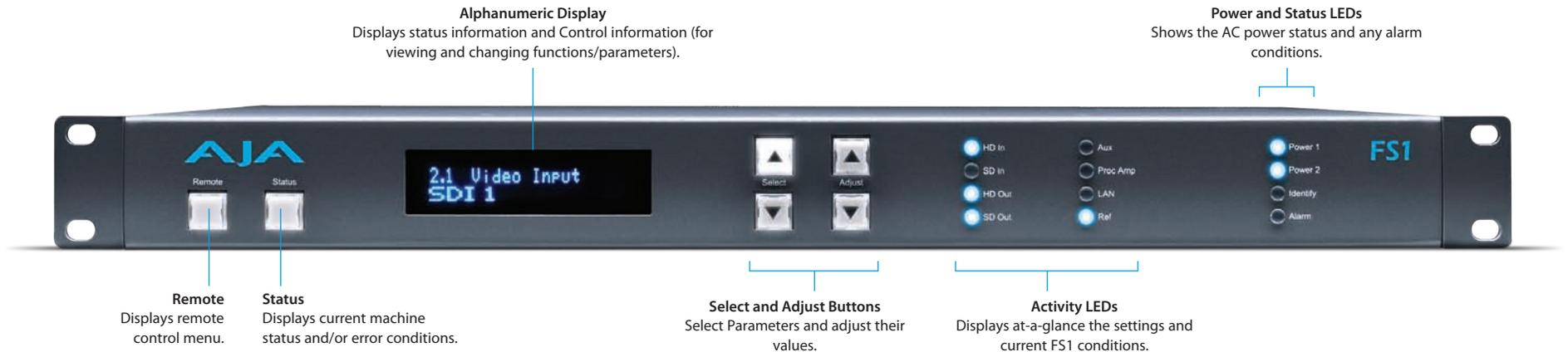
Supporting virtually any input or output, analog or digital, HD or SD, FS1 can up- or down-convert between SD and HD, and provide simultaneous HD and SD outputs. Up, down, cross conversion between HD formats are also supported, with simultaneous output of both formats.

For audio, FS1 supports 8-channel AES, balanced analog, or 16-channel embedded audio with full flexibility and audio processing controls. You can choose from any of the 4 groups of embedded audio for 8-channel output on the AES or analog audio.

FS1 also supports closed captioning and the conversion of closed captioning between SD and HD formats—including full conversion of CEA-608 captions to the CEA-708 standard.

FS1

Front and rear panels



Fully Redundant AC Power Supplies

Two independent AC power supplies with independent power connectors. The power supplies autosense from 100 to 240VAC, 50/60Hz. Only one has to be connected for operation; connect both for redundancy. Alarm monitoring alerts locally and remotely if a power supply fails.

HD/SD-SDI

- Dual HD/SD-SDI inputs and output, SMPTE 259/274/292/296

Reference Video with Loop-Through

- Synchronize FS1 outputs to house reference video signal (blackburst or composite sync for SD, or Tri level for HD).



Audio Connections

- 8-channel balanced analog, 25 pin D (Tascam pinout)
- 8-channel AES (BNC)
- 16-channel HD/SD-SDI embedded
- Audio A/D, D/A: 24 Bits, 48Khz
- Audio Levels: +12dBu, +15dBu, +18dBu, +24dBu, (Full Scale Digital)
- Channel mapping

LAN and GPI Connections

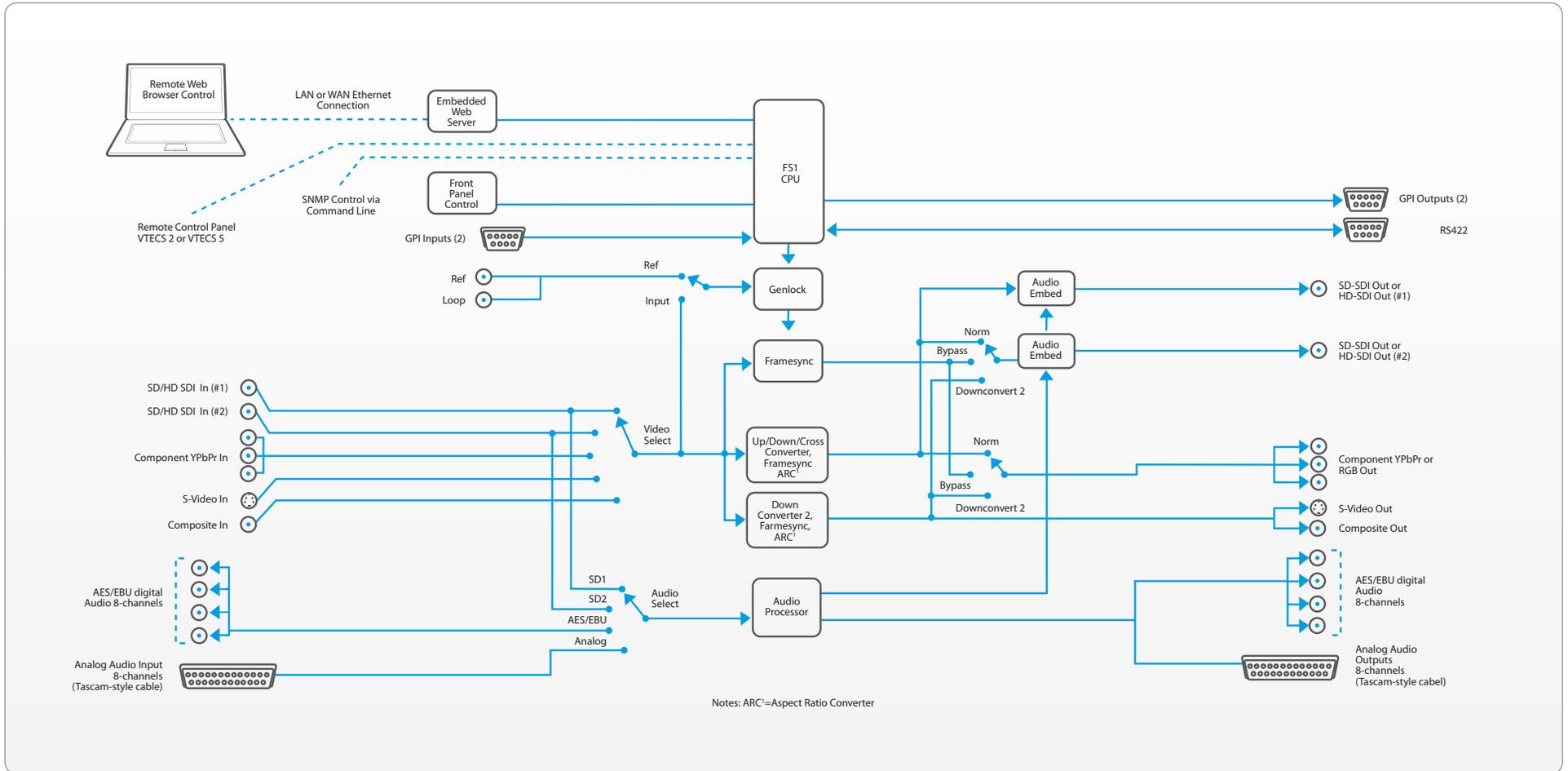
- 2x GPI inputs/outputs, TTL, isolated.
- RJ45 10/100 LAN connector-offers DHCP, SNMP and embedded Web Server Remote Control

Analog Video

- HD component YPbPr/RGB (RGB is output only), SMPTE-274
- SD component/composite/YC (S-Video)
- Video A/D, D/A: 12 bits 2x oversampled (HD), 4x oversampled (SD)

FS1

Architecture



FS1

Features and tech specs

Features at a glance

- SD/HD up/down conversion
- SD/SD aspect ratio conversion
- HD/HD cross conversion (720p/1080i)
- Up/down/cross conversion with both the input and converted formats on SD/HD SDI outputs (both synchronized)
- HD cross conversion with simultaneous downconverted SDI output
- Closed caption support for up, down and cross-conversion
- AFD support (Active Format Description)
- Dual HD/SD SDI inputs and outputs
- Component analog HD/SD input and output (RGB)
- Composite/S-video input and output with TBC
- 8-channel AES and balanced analog audio inputs and outputs
- 16-channel embedded audio I/O
- Fully redundant power supplies standard
- 10/100 LAN with SNMP, and embedded web server for remote control
- Video Proc Amp
- Audio Channel Mapping
- Chassis styling optimized for machine room use with simple panel and remote web browser user interfaces
- Front panel alphanumeric and graphical display shows input/output settings and parameter viewing/editing choices
- LED status indicators for at-a-glance system monitoring
- Two GPI inputs and outputs, TTL, isolated
- Register Recall/Store
- Save/Restore to Computer
- Tone and Test Signal Generator
- Sidebar Keyer
- VTECS 2 and VTECS 5 Remote Control Panel Support
- Front panel lockout from web UI
- Password protect for web UI
- GPI control for Aspect Ratio Conversion
- 5-year international warranty

Tech specs

Video Inputs and Outputs:

- Dual HD/SD-SDI, SMPTE 259/274/292/296
- HD component YPbPr/RGB (RGB is output only), SMPTE-274
- SD component/composite/YC (S-Video)

Video A/D, D/A:

- 12-bit
- 2x oversampled (HD)
- 4x oversampled (SD)

Audio Inputs and Outputs:

- 8-channel balanced analog, 25 pin D (Tascam pinout)
- 8-channel AES (BNC)
- 16-channel HD/SD-SDI Embedded

Audio A/D, D/A:

- 24-Bit, 48KHz

Audio Levels:

- +12dBu, +15dBu, +18dBu, +24dBu, (Full Scale Digital)

LAN:

- 10/100 auto config., auto cable crossover
- Embedded Webserver, HTTP v1.1, SNMP

GPI:

- 2x GPI input, TTL, isolated
- 2x GPI output, TTL, isolated

Physical:

- 1 RU, 12 inches deep, fan-cooled

Power:

- 100-240 VAC, 25 watts
- Fully Redundant, diode isolated

| Input | Possible Output Formats | | |
|--------------------------------------|-------------------------------------|-------------------------------------|--|
| 525i59.94 720p59.94 1080i59.94 | 525i59.94 525i59.94 525i59.94 | 720p59.94 720p59.94 720p59.94 | 1080i59.94 1080i59.94 1080i59.94 |
| 1080pSF23.98 | 1080pSF23.98 | 1080i59.94 | 525i59.94 |
| 625i50 720p50 1080i50 | 625i50 625i50 625i50 | 1080i50 1080i50 1080i50 | 720p50 720p50 720p50 |
| 1080pSF24 1080i60 720p60 | 1080pSF24 1080i60 720p60 | 1080i60 720p60 1080i60 | |

Notes:

1. In the case of 1080pSF/23.98 input—and when 1080i59.94 (or 525) is selected as an output format, the FS1 automatically does 3:2 pulldown to get the correct frame rate. Similarly, in the case of 1080pSF/24 input, FS1 automatically does 3:2 pulldown to get the correct frame rate.
2. When passing 24 or 60 framerate video, output is high definition.

FS2

A world of conversion possibilities.

With dual-channel conversion and frame synchronizing in a slim 1RU space, FS2 can do the work of two separate devices or combine both processors together for maximum flexibility.



Offering huge flexibility and the power to adapt to meet the needs of rapidly changing environments, FS2 offers unprecedented conversion and frame synchronization power in a single 1RU space.

Capable of simultaneously working with two independent streams of 3G/HD/SD 10-bit broadcast-quality video and two independent groups of 16-channel AES audio, each FS2 video channel supports virtually any input or output: analog component or composite, 3G/HD/SD-SDI, Dual Link (1.485 Gb), Fiber and HDMI I/O. A Fiber I/O option allows fiber cable runs of up to 10 kilometers to be connected directly to the FS2 without the need for separate fiber to SDI conversion.

FS2 can be used as two separate Frame Synchronizers/Format Converters, or the two channels can be linked with the internal FS2 keyer to do the work of three or more devices - for example HD sidebar keying where both the video and background graphics are upconverted and combined.

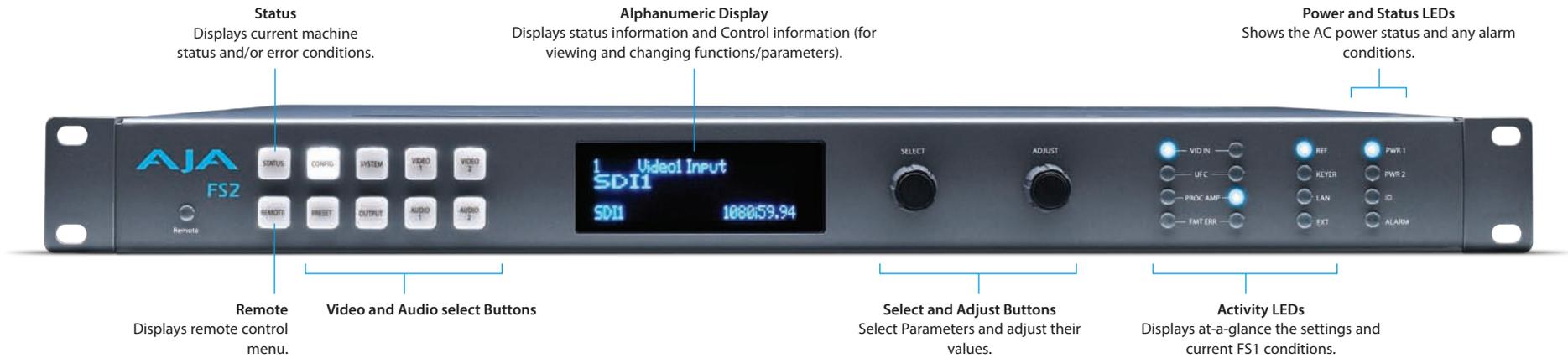
FS2 can up or down convert between SD, HD, and 3G HD (1080p50/60), and cross convert between HD formats including 3G HD. Additionally, FS2 has full input and output signal routing, allowing any I/O port to be assigned to either processing channel.

For audio, FS2 has two audio processors, each supporting 16-channel AES/EBU digital audio, 16-channel embedded audio, and 8-channel balanced analog audio with a variety of controls for maximum flexibility. The output of each processor can be embedded in its respective video processor output (SDI, Fiber, or HDMI), or sent to the AES or balanced outputs. For 3G and Dual Link inputs, the audio processors can have access to all 32 channels. A built-in Dolby decoding option adds the ability to handle encoded Dolby audio as part of the signal path without the need for specialized equipment.

The FS2 supports closed captioning and the conversion of closed captioning between SD and HD formats - including full conversion between CEA-608 and CEA-708 caption standards.

FS2

Front and rear panels



Fully Redundant AC Power

Two independent AC power supplies with independent power connectors. The power supplies autosense from 100 to 240VAC, 50/60Hz. Only one has to be connected for operation; connect both for redundancy. Alarm monitoring alerts locally and remotely if a power supply fails.

Digital Video Connections: Fiber, SDI, and HDMI

- 2x 3G/HD/SD SDI Inputs and Outputs with embedded audio
- 2x Fiber 3G/HD/SD SDI Inputs and Outputs with embedded audio (optional)
- 1 HDMI Input and 1 HDMI Output, with 3D output support

Reference

- Passive Reference Loop – Color Black or Tri-Level Sync



Audio Connections

- 8-channel balanced, 25 pin D
- 16-channel AES/EBU, 25 pin D
- 16-channel HD/SD-SDI embedded
- Audio A/D, D/A: 24 Bits, 48Khz
- Audio Levels: +12dBu, +15dBu, +18dBu, +24dBu, (Full Scale Digital)
- Optional Dolby® E Encoding
- Optional Dolby® E Decoding

LAN and Control Connections

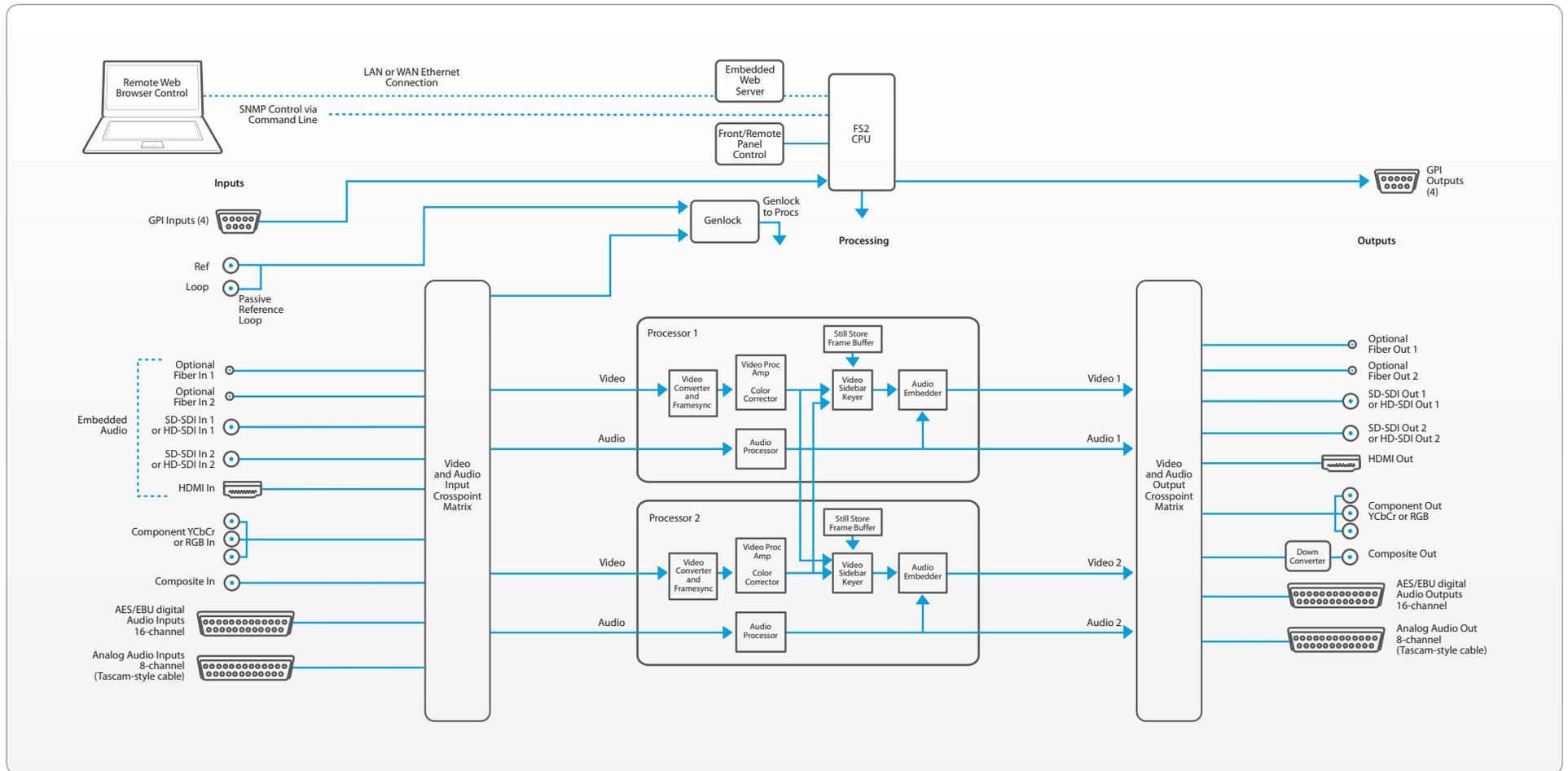
- 4x GPI inputs/outputs, TTL, isolated.
- RJ45 10/100/1000 LAN connector-offers DHCP, SNMP and embedded Web Server Remote Control
- RS-422 (future)

Analog Video Connections

- Component Analog Video Inputs and Outputs, YPbPr/RGB (RGB output only)
- Composite Analog Video Inputs and Outputs

FS2

Architecture



FS2

Features and tech specs

Features at a glance

Video

- Dual Video format converters each featuring SD/HD (up/down), SD-to-SD (aspect ratio), and HD-to-HD (720/1080 cross) conversions
- Dual Video processors supporting proc amp and color correction
- Dual Frame Synchronizers
- Dual video/key framestores downloadable from the local area network
- User-specified custom format conversion settings with variable crop, size, aspect, and position parameters
- Dual flexible Keyers for video/key overlays or sidebar keying from the two Video processors, the two internal video/key framestores, or internal matte generators.
- Closed captioning support featuring true conversion between EIA 608 and 708 (SD and HD) CC formats
- Active Format Description (AFD) support
- Scan convert computer formats via a DVI to HDMI cable (future firmware release)
- Dual 3G/HD/SD SDI I/O with embedded audio
- Mux two separate HD signals into one Dual Stream 3G SDI signal or demux a Dual Stream 3G SDI signal into two separate HD signals
- Dual 3G/HD/SD Optical Fiber I/O (optional)
- HDMI I/O supporting 3D HDMI output
- Component/Composite analog HD/SD video I/O, 12 bit
- Looping reference input with flexible genlock

Audio Features

- Dual audio processors each supporting 16-channel audio with full channel mapping
- 16-channel AES/EBU, 8-channel balanced analog I/O
- 16-channel embedded audio I/O with full mapping
- AFV (audio follows video) support
- Optional Dolby E encoding and decoding

Other

- Built-in front panel control via scrolling alphanumeric and graphical menu
- Front panel LED status indicators for at-a-glance system monitoring
- Web-based remote control over 10/100/1000 Ethernet via an internal web server
- Four isolated TTL GPI inputs and outputs for contact closure control.
- Two fully redundant power supplies standard
- Optional remote control panel
- 5-year international warranty with unlimited technical support

Tech specs

Video Inputs and Outputs:

- Dual SDI inputs and outputs: Dual Link 1080p60, 1080p59.94, 1080p50, YCbCr (4:2:2), 3G/Dual Stream 3G/HD/SD-SDI, SMPTE 259-C/274/292/372/425-A/425-B
- HDMI Input (RGB or YCbCr 4:2:2)
- HDMI Output (YCbCr 4:2:2)
- HD component YPbPr/RGB (RGB is output only), SMPTE-274
- SD component/composite
- Reference Input (color black or tri-level)
- Optional AJA Optical Fiber I/O modules:
 - Single Input, LC connector
 - Single Input SC connector
 - Single Output LC connector
 - Single Output SC connector
 - Dual Input, LC connectors
 - Dual Output, LC connectors

Video A/D, D/A:

- 12-bit
- 2x oversampled (HD)
- 4x oversampled (SD)

Audio Inputs and Outputs:

- 8-Channel Balanced, 25 pin D (Tascam pinout)
- 16-Channel AES/EBU 25 pin D
- 32-Input Channel Mapping

- 16-Channel 3G/HD/SD-SDI Embedded

Audio A/D, D/A:

- 24-bit, 48KHz

Audio levels:

- +12dBu, +15dBu, +18dBu, +24dBu (Full Scale Digital)

LAN:

- 10/100/1000 Ethernet
- Embedded Webserver
- HTTP v1.1

GPI:

- 4x GPI input, TTL, isolated
- 4x GPI output, TTL, isolated

Physical:

- 1 RU
- Depth: 16 inches (40.64 cm) (front panel to the back of the deepest connector)
- Fan cooled

Power:

- 100-240 VAC, 50/60Hz
- 55 watts nominal, 85 watts maximum
- Fully Redundant
- Diode isolated

Options:

- Dolby® E Encoding
- Dolby® E Decoding

Notes:

1. In the case of 1080pSF/23.98 input—and when 1080i59.94 (or 525) is selected as an output format, the FS1 automatically does 3:2 pulldown to get the correct frame rate. Similarly, in the case of 1080pSF/24 input, FS1 automatically does 3:2 pulldown to get the correct frame rate.
2. When passing 24 or 60 framerate video, output is high definition.

| Input | Possible Output Formats | | |
|--------------|-------------------------|------------|------------|
| 525i59.94 | 525i59.94 | 720p59.94 | 1080i59.94 |
| 720p59.94 | 525i59.94 | 720p59.94 | 1080i59.94 |
| 1080i59.94 | 525i59.94 | 720p59.94 | 1080i59.94 |
| 1080pSF23.98 | 1080pSF23.98 | 1080i59.94 | 525i59.94 |
| 625i50 | 625i50 | 1080i50 | 720p50 |
| 720p50 | 625i50 | 1080i50 | 720p50 |
| 1080i50 | 625i50 | 1080i50 | 720p50 |
| 1080pSF24 | 1080pSF24 | 1080i60 | |
| 1080i60 | 1080i60 | 720p60 | |
| 720p60 | 720p60 | 1080i60 | |

KUMO

Compact SDI routers.

Cost-effective, robust and built for critical production environments, KUMO compact routers offer flexibility and signal quality at an unprecedented price.

KUMO compact SDI routers provide powerful signal control in a compact 1RU frame that is ideal for small facilities or space-sensitive locations. Cost-effective, without compromising power or flexibility, KUMO supports full broadcast specifications over SDI, HD-SDI, and 3G SDI, 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 theatrical 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 SDI routers are available in two configurations: the KUMO 1616 supporting sixteen channels in and out, and the KUMO 1604 supporting sixteen SDI inputs and four outputs.

KUMO compact SDI routers offer AJA reliability, flexibility and true state-of-the-art 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 1604



KUMO 1616



KUMO CP

KUMO

Features

Compact, powerful, reliable

Just 1RU 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 via BNC and SMPTE.

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 installation and 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 or a computer and the system will self-configure, ready for use. Alternatively, standard network configuration allows access to each 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.



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.

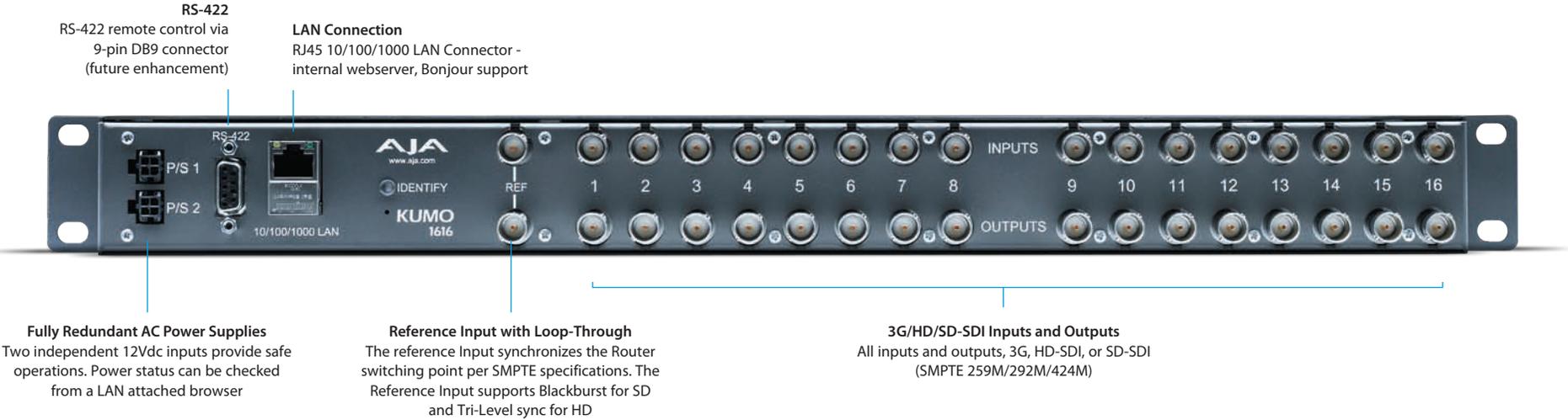
For standalone configurations with KUMO CP, all KUMO hardware units can be connected together directly using standard RJ45 cables or a switch, if required. KUMO software automatically assigns routers to control panel delegations so you're ready to use the system immediately.



KUMO

Connections

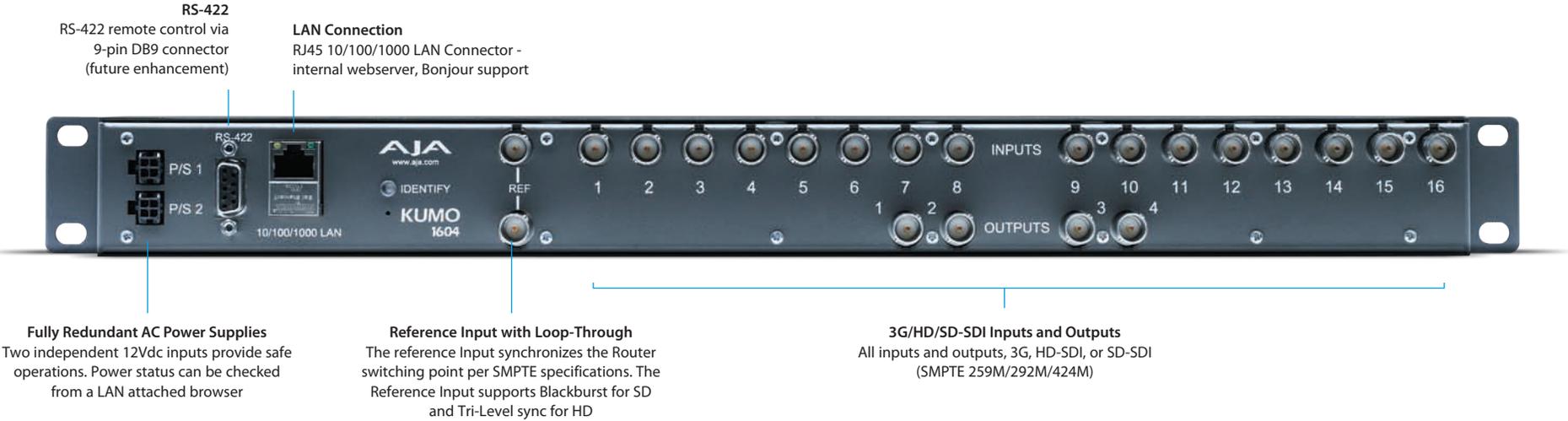
KUMO 1616 rear panel



KUMO

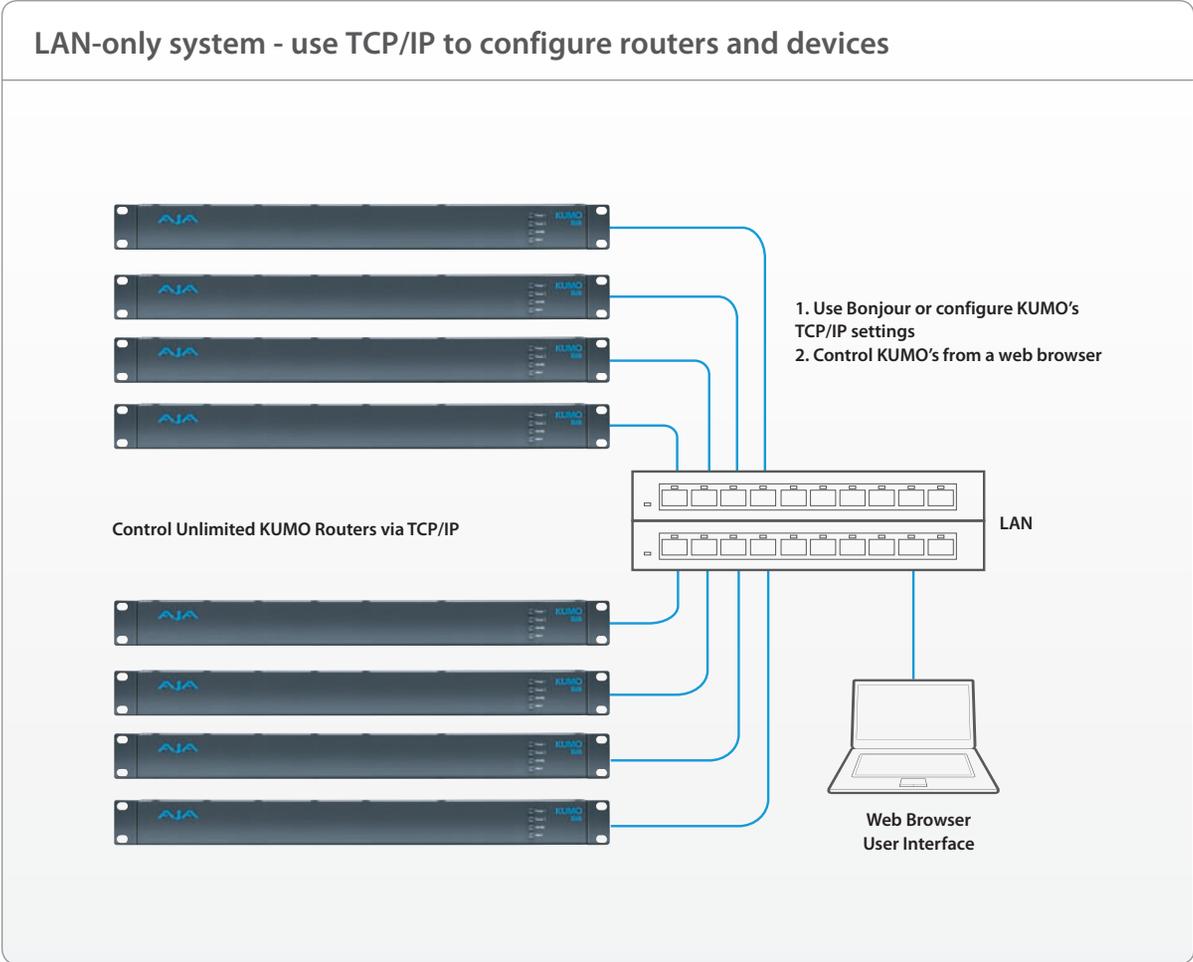
Connections

KUMO 1604 rear panel



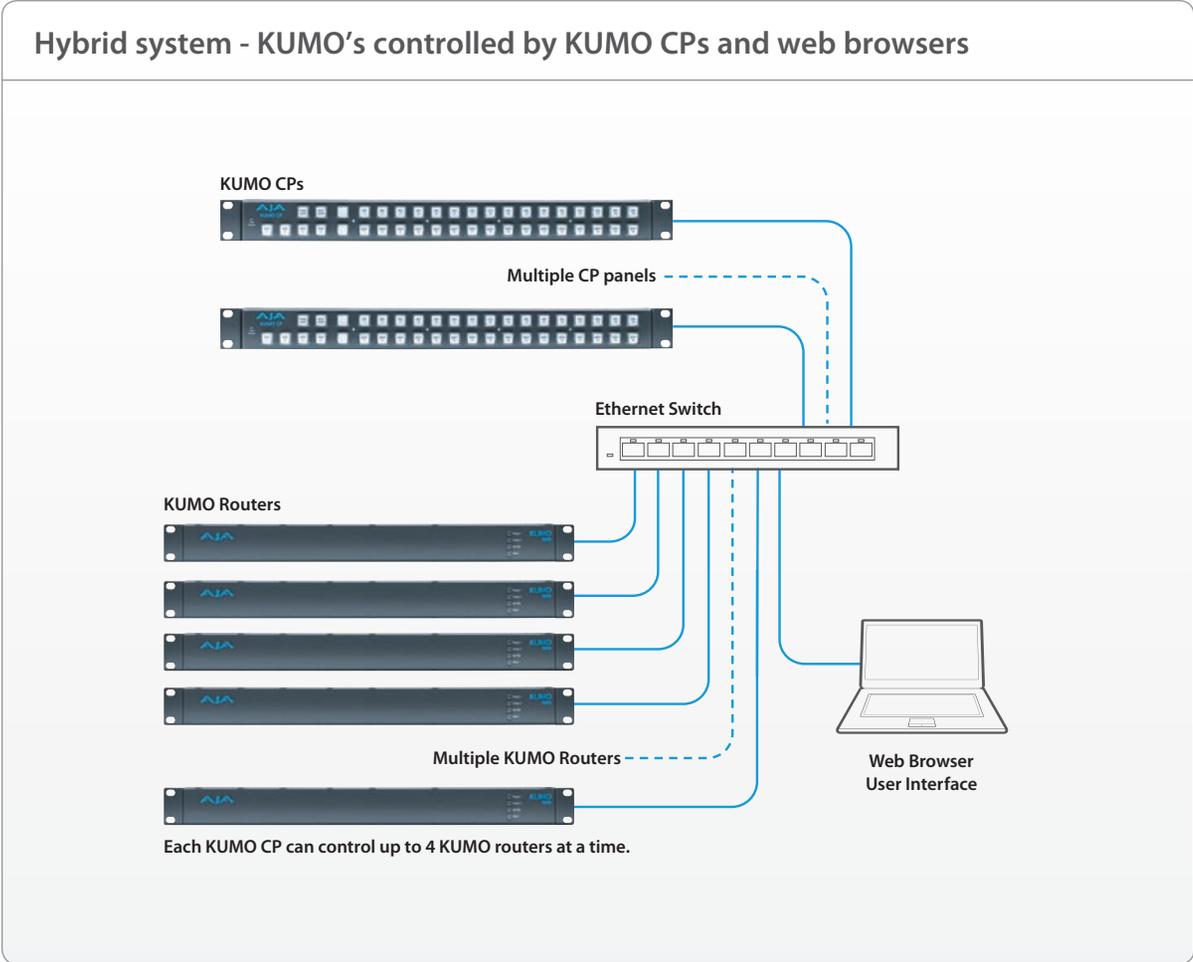
KUMO

Configurations



KUMO

Configurations



KUMO

Features and tech specs

Features at a glance

- 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 second power supply available
- AJA 5-year international warranty

Tech specs

Formats:

- 3Gb, 1.5Gb, 270Mb, ASI, Auto Select

Video Inputs and Outputs:

- SDI (SMPTE 259/292/296/424), BNC

Cable Equalization (BNC inputs, 694 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: 9 watts
- KUMO 1616: 20 watts
- KUMO CP: 5 watts

Physical:

- 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)

UDC - Up/Down/Cross Converter



The UDC is a broadcast quality Up/Down/Cross Mini-Converter which can convert between SD, HD, and 3G video formats. Borrowing from AJA's industry leading conversion technology used in our model FS2, the UDC provides very high quality conversions at a low price. The UDC also supports embedded audio, 8-channels via HDMI or 16-channels via SDI. I/O's include SD/HD/3G SDI Input and Output, HDMI output, and 2-channel RCA style audio output. The UDC can be controlled by local dipswitches with additional control available via USB and AJA's Mini-Config application. A Reference Input allows the video output to be timed to a local reference.

Features at a glance

- Converts between SD, HD, and 3G HD formats
- Supports 1080p50/60
- Very high quality conversions
- 8 channel embedded audio
- HDMI output with 8 channel audio
- 2 channel RCA analog audio output
- Reference Input
- Configure via Dipswitch or USB port and supplied Mini-Config software
- Uses 5-20V power (supply sold separately)
- 5 year warranty

Tech specs

SDI I/O:

SD/HD-SDI (auto-selected), SMPTE-292/296/424, 1x BNC SMPTE-292/296/424, 1x BNC525i, 625i

Formats:

- 525i59.94, 625i50
- 1080i 50/59.94
- 720p 23.98/24/25/29.97/30/50/59.94/60
- 1080p 23.98/24/25/29.97/30/59.94/60
- 1080psf 23.98/24/25/29.97/30

Reference Input:

- Color Black
- Tri-Level sync

HDMI Output:

- 10-bit HDMI v1.4a

Formats:

- 525i29.97, 625i50
- 1080i 50/59.94/60
- 720p 23.98/24/25/29.97/30/50/59.94/60
- 1080p 23.98/24/25/29.97/30/59.94/60

Note: HDMI monitors may not properly support all frame rates or "pSF" formats.

Audio I/O:

- 16-channel embedded SDI audio input
- 16-channel embedded SDI audio output
- 8-channel HDMI audio output
- 2 RCA-style analog outputs at -10dBV (nominal)

HDCP:

The UDC does not encode the HDMI output with HDCP encryption. By definition, HD-SDI inputs to the UDC are unencrypted. The HDMI specification requires HDMI monitors to support unencrypted inputs.

User Controls:

USB port used with supplied cable and MiniConfig software application to configure device via PC/Mac.

Physical:

5.8" x 3.1" x 1" (147mm x 79mm x 25mm)

Power:

+5 to +20 VDC regulated, 6 watts

Requires Power Supply

(AJA power supply model DWP or DWP-U recommended)

FiDO - SDI/Optical Fiber Converters

FiDO is a family of SDI/Optical Fiber converters. FiDO allows the transport of SDI, HD-SDI, and 3G SDI over distances up to 10km using standard single-mode fiber optic cable with LC connectors. FiDO converters meet all relevant SMPTE specifications and are rugged, versatile, and suitable for indoor or outdoor use.

With 5 models, FiDO offers unmatched flexibility and cost efficiency. FiDO dual channel models allow the conversion of 2 channels—perfect for 3D, dual-link SDI, or 2 completely independent SDI channels (for example, SD, HD, and 3G can be mixed in any combination). Also, FiDO converters offer electrical isolation useful for eliminating ground loop problems.

FiDO converters come in a compact, low-profile enclosure for use in tight spaces around and behind equipment racks, trucks and crowded facilities.



FiDO Models

- | | |
|--------------|---|
| • FiDO-R: | Single channel LC Fiber to SDI converter, with dual SDI outputs |
| • FiDO-2R: | Dual channel LC Fiber to SDI converter |
| • FiDO-T: | Single channel SDI to LC Fiber converter, with looping SDI output |
| • FiDO-2T: | Dual channel SDI to LC Fiber converter |
| • FiDO-TR: | SDI/LC Fiber transceiver |
| • FiDO-T-ST: | Single channel SDI to ST Fiber converter, with looping SDI output |
| • FiDO-R-ST: | Single channel ST Fiber to SDI converter, with dual SDI outputs |
| • FiDO-T-SC: | Single channel SDI to SC Fiber converter, with looping SDI output |
| • FiDO-R-SC: | Single channel SC Fiber to SDI converter, with dual SDI outputs |

Accessories

- | | |
|----------|---|
| • DWP: | Universal power supply (North American connector) |
| • DWP-U: | Universal power supply (IEC-320 connector) |
| • RMB: | Rack mount bracket |

FiDO - SDI/Optical Fiber Converters

FiDO-T

Single Channel SDI to Fiber
with Looping SDI Output

simplex
connection
(LC connector)



SDI, HD-SDI or 3G Input

Reclocked loop-thru of
SDI input

FiDO-2T

Dual Channel SDI
to LC Fiber

2 simplex or
1 duplex
connection
(LC connector)



2 Independent Channels of
SDI, HD-SDI or 3G

FiDO-R

Single Channel LC
Fiber to SDI with
Dual SDI Outputs

simplex
connection
(LC connector)



SDI, HD-SDI or 3G OUTPUT

Second SDI output
(DA:same signal)

FiDO-2R

Dual Channel LC
Fiber to SDI

2 simplex or
1 duplex
connection
(LC connector)



2 Independent Channels of
SDI, HD-SDI or 3G

FiDO-TR

SDI/Fiber
Transceiver

2 simplex or
1 duplex
connection
(LC connector)



2 Independent Channels of
SDI, HD-SDI or 3G

FiDO - SDI/Optical Fiber Converters

FiDO-T-ST

Single Channel SDI to ST Fiber with Looping SDI Output



simplex connection (ST connector)

SDI, HD-SDI or 3G Input

Reclocked loop-thru of SDI input

FiDO-R-ST

Single Channel ST Fiber to SDI with Dual SDI Outputs



simplex connection (ST connector)

SDI, HD-SDI or 3G OUTPUT

Second SDI output (DA:same signal)

FiDO-T-SC

Single Channel SDI to SC Fiber with Looping SDI Output



simplex connection (SC connector)

SDI, HD-SDI or 3G Input

Reclocked loop-thru of SDI input

FiDO-R-SC

Single Channel SC Fiber to SDI with Dual SDI Outputs



2 simplex or 1 duplex connection (SC connector)

SDI, HD-SDI or 3G OUTPUT

Second SDI output (DA:same signal)

Features at a glance

- Transport of SDI, HD-SDI, and 3G HD-SDI over single mode optical fiber
- Auto-detection of video format
- All SDI Ancillary data including embedded audio is passed
- LC, ST OR SC fiber connectors
- Simplex or duplex models available
- All inputs, either SDI or fiber, are equalized and re-clocked
- ASI compatible
- Useful for eliminating ground loop problems
- 5-20VDC power supply (sold separately)
- 5 year warranty

Tech specs

Formats:

- 3Gb, 1.5Gb, 270Mb, Auto Select

Video Inputs/Outputs:

- SDI (SMPTE 259/292/296/424), 2x BNC
- 1x Single mode optical fiber, LC connector (FiDO-R, FiDO-T)
- 1x Single mode optical fiber, ST connector (FiDO-T-ST, FiDO-R-ST)
- 1x Single mode optical fiber, SC connector (FiDO-T-SC, FiDO-R-SC)
- 2x Single mode optical fiber, LC connectors (FiDO-2R, FiDO-2T, FiDO-2R)

Cable Equalization (BNC inputs, 1694 coax):

- 270mb, 400m
- 1.5Gb, 200m
- 3Gb, 140m

Input/Output Return Loss (BNC):

- >15db, 270Mb - 3Gb

Optical Outputs:

- Wavelength: 1310 nm
- Output Power: -2dBm typical

Physical:

- 4.6" x 1.71" x .85" (117 x 43.5 x 21.6mm)

Power:

- +5-20 VDC
- 1.5 watts (FiDO-T, FiDO-R, FiDO-T-ST, FiDO-R-ST, FiDO-T-SC, and FiDO-R-SC)
- 2.5 watts (FiDO-2R, FiDO-2T, FiDO-2R)
- Requires Power Supply (AJA power supply model DWP or DWP-U recommended)

3GM - 3G/1.5G HD-SDI Multiplexer



Features at a glance

- Compact 3G to/from 1.5G conversion
- SMPTE425M-AB inputs, 3G outputs configurable to A or B
- Converts SMPTE425M A to/from SMPTE425M B
- Provides SMPTE292 monitor output for dual 1.5G or 3G inputs
- Fully equalizing and re-clocking with jitter attenuation
- If SMPTE 292M is input, all outputs are 1.5G SMPTE 292M
- 5 Year Warranty

Tech specs

Formats:

- 3Gb, 1.5Gb, 270Mb Auto Select

Video Inputs:

- 2 HD-SDI, SDI (SMPTE 259/292/296/424), 2x BNC

Video Outputs:

- 3G HD-SDI, HD-SDI, SDI, 3x BNC

Return Loss:

- >15db to 3Gb

Physical:

- 4.6" x 2.4" x 1" (117 x 61 x 25mm)

Power:

- +5VDC Regulated, 4 Watts, Requires Power Supply

The 3GM is versatile and economical tool for interconnecting dual-link 1.5G SMPTE372M and 3G SMPTE425M. 3GM is bi-directional - allowing dual 1.5G to 3G or 3G to dual 1.5G conversion. Additionally, 3GM's 3G HD-SDI output is configurable for SMPTE425M type A or B. The 3GM can even convert 3G from/to type A or B. 3GM also provides a monitor output which is a single link SMPTE292M 1.5G HD-SDI. The 3GM is also compatible with SMPTE259M 270Mb SDI.

3GDA - 1x6 3G/HD/SD Reclocking Distribution Amplifier



The 3GDA is a miniature, low-cost 1x6 3G/HD/SD-SDI input, re-clocking distribution amplifier. Featuring six separately buffered SDI outputs, the 3GDA provides automatic input detection, re-clocking and cable equalization.

Features at a glance

- Compact SD/HD Distribution
- Six Separately Buffered Outputs
- Miniature Size
- 3G cable equalization (1694 coax)
- SD: 270mb, 350m, HD: 1.5Gb, 200m
- 3G/HD/SD-SDI input, auto sensing
- Passes all ancillary data
- +5-18V power supply
- 5 Year Warranty

Tech specs

Formats:

- 3Gb, 1.5Gb, 270Mb Auto Select

Video Inputs:

- 1 HD-SDI, SDI (SMPTE 259/292/296/424), 1x BNC

Video Outputs:

- 3G/HD/SD-SDI input, 6x BNC Equalizing and re-clocking

Return Loss:

>15db to 3Gb

Power:

- +5-18VDC Regulated, 4 Watts, Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (131 x 79 x 25mm)

GEN 10 - HD/SD Sync Generator



Features at a glance

- HD Bi-Level/Tri-level sync generation
- SD Color Black or Color Bars
- Two groups of independently switchable outputs allows simultaneous HD and SD sync generation
- AES-11 output switchable between silence and tone
- Multiple outputs can synchronize entire systems without requiring a Sync DA
- 5-18VDC Power
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Trilevel

- Color Black • 75% Color Bars
- AES-11, 48KHz, Silent or 1KHz Tone (-20dBFS for NTSC, -18dBFS for PAL)

3 ppm

- 525i, 625i
- 720p23.98/24/25/29.97/30/60
- 1080i50/59.94/60
- 1080psF23.98/24/25/29.97/30
- 1080p23.98/24/25/29.97/30

User Controls:

(External Dipswitch)

5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

+5-18VDC, 2 watts

Requires Power Supply

The GEN10 is a cost effective and flexible SD/HD/AES sync generator. The GEN10 features 7 outputs including 2 groups of independently controlled SD/HD sync outputs and 1 AES-11 output. The SD outputs can be switched between Color Black or Color Bars. HD tri-level sync can be switched between 19 different HD formats including all that are in use today. The AES-11 output can be switched between SILENCE and TONE. All outputs are in sync with each-other and are sourced from an accurate master time base.

HD10C2 - HD-SDI and SDI Digital

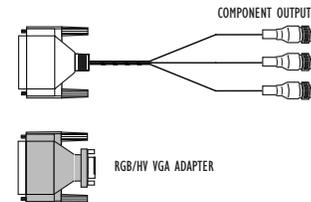


The HD10C2, AJA's second generation HD D/A converter, brings exciting new features. In addition to being a high-quality 10-bit HD converter, the HD10C2 is "dual-rate" and works with both HD-SDI and SDI inputs. For HD-SDI inputs, the HD10C2 outputs full bandwidth HD component or "VGA" style RGBHV video. For SDI inputs, component or composite SD outputs are supported. When connected to a multi-format monitor like the Sony 20L5, the HD10C2 will automatically provide an image from almost any HD or SD input format. The HD10C2 also features 2 equalized HD-SDI outputs. A 3BNC breakout cable and SVGA adapter are included. Optional 5 BNC cable available for separate H & V for HD only.

Features at a glance

- HD Tri-level sync generation
- SD Color Black or Color Bars
- Two groups of independently switchable outputs allows simultaneous HD and SD sync generation
- AES-11 output switchable between silence and tone
- Multiple outputs can synchronize entire systems without requiring a Sync DA
- 5-18VDC Power
- External Dip Switch Configuration
- 5 Year Warranty

Supplied Breakout Cable



Optional

Tech specs

Formats:

- HD: 1080i 50/59.94/60 Hz
1080psf 23.98/24/25/29.97/30 Hz
720p 59.94/60 Hz
- SD: 525 59.94Hz, 625 50Hz
(Automatic Configuration)

Input:

- HD/SD-SDI or SDI SMPTE 259/292/296, 10-bit, BNC

Input Equalization:

- Belden 1694 Cable. HD; 100 meters, SD: 100 meters

Outputs:

- HD: YPbPr • RGB (SMPTE-274) •SD: YPbPr (SMPTE/N10 • Beta® RGB • Y/C
- NTSC/PAL®) • 13W3 wideband analog output connector (cable supplied)

Sync:

- HD: Tri-level or Bi-level, H/V Drive
- SD: normal SD sync

Frequency Response:

- HD: Y +0, -.5db to 30 MHz, C +/- .25db to 13 MHz • SD: Y +/- .25db to 5.5 MHz, C +/- .25db to 2.5 MHz

User Controls:

- (External Dipswitch) •YPbPr/RGB
- Component/Composite (SD) •SD Pedestal •SD Blanking •HD 4:3 Graticule •SD NTSC/NTSC-J •Sync on Video on/off

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5-18VDC • 4 watts Requires Power Supply

HD10MD3 - HD/SD-SDI to SDI/Analog Downconverter



The HD10MD3 is a miniature digital downconverter for converting HD-SDI video to broadcast-quality standard definition SDI and analog component/composite video. The HD10MD3 uses a full 10-bit data path and multi-point interpolation to produce excellent quality down-converted video. In addition, the HD10MD3 converts 23.98/24Hz 1080psf/p to 59.94Hz output video using the standard 3:2 pulldown technique. If present, the HD10MD3 will use RP-188 timecode to set the 3:2 pulldown cadence. The output can be formatted for either 4:3 or 16:9 standard definition monitors. For 4:3 monitors both Letterbox and Crop modes are supported. 8 Ch embedded audio is passed to the SDI output. The HD10MD3 is also dual-rate in that SDI inputs will also pass to the SDI and analog outputs.

Features at a glance

Low-Cost Broadcast-Quality 10-bit HD to SD Downconverter
 Multi-Standard HD-SDI or SDI Input
 2 Equalized Loop-Thru HD/SD-SDI Outputs
 SDI and Component/Composite Analog Outputs
 3/2 Pulldown for 23.98/24 Hz p/psf inputs
 Full 10-bit Data Path, Multi-point Interpolation
 Configurable for 16:9 or 4:3 Monitors
 Letterbox and Crop Modes
 4:3 Safe-Zone Graticule
 Passes 8 Ch embedded Audio, 4 Ch on Downconvert
 5-18VDC power
 External Dip Switch Configuration
 5 Year Warranty

Tech specs

Formats:

- 1080i 50/59.94/60 Hz
- 1080p/psf 23.98/24/25/29.97/30 Hz
- 720p 50/59.94/60 Hz (Automatic Configuration)

Inputs:

- HD/SD-SDI SMPTE 259/292/296
- 10-bit • BNC

Outputs:

- SDI • SMPTE 259M • 10-bit • BNC
- YPbPr • SMPTE • EBU-N10 • Betacam
- RGB • NTSC • PAL • YC (S-Video) • 10-bit 3 x BNC

Downconversion:

- Multi-point interpolation, 10-bit processing 3:2 conversion for 23.98/24p/psf inputs

Frequency Response:

- Y +0, -.5db to 5.5MHz
- C +/- .25db to 2.5MHz

User Controls:

- (External Dipswitch) • Output Video Format • 4:3/16:9 Monitor Select
- Letterbox/Crop • Pedestal (Output)
- 4:3 Safe-Zone Graticule Overlay

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- 5-18VDC, 5 watts • Requires Power Supply

HD10A - HD Analog to HD-SDI Converter



Features at a glance

- High-Quality 10-bit HDTV A/D Conversion
- Full Bandwidth Component HD RGB or YPbPr Input
- 3 HD-SDI Outputs
- Multi-Standard
- Internal or External Sync
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Formats:

- 1080i 50/59.94/60 Hz
- 1080psf 23.98/24
- 1035i 50/59.94/60 Hz
- 720p 23.98/24/29.97/30/59.94/60 Hz

Inputs:

- HD-SDI, SMPTE-292/296 3 x BNC

Outputs:

- YPbPr, RGB (SMPTE-274)
- 3 x BNC External Sync, 1 x BNC

Frequency Response:

- Y +0, -.5db to 30 MHz
- C +/- .25db to 15 MHz

User Controls:

- (External Dipswitch) • RGB/YPbPr input • 1.00/1.001 clock • Internal/External Sync

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5 VDC, 4 watts • Requires Power Supply

The HD10A is a miniature, high-quality, 10-bit analog to digital converter for HDTV. A companion to the popular HD10C2 D/A converter, the HD10A can add an HD-SDI output to cameras, computers with HD RGB, VTRs, or other analog-only high definition equipment. The HD10A accepts RGB or YPbPr analog HD and outputs three duplicate HD-SDI signals. Works in 1080/1035i and 720p with internal or external sync (tri-level).

HD10CEA - HD/SD-SDI to Analog Audio/Video



Features at a glance

- Digital to Analog Audio and Video Converter
- HD/SD-SDI with Embedded Audio Input
- SD Component or Composite Video Outputs (SD Input)
- HD Component Video Outputs (HD Input)
- 4 Channel Balanced Audio Output
- 2 Equalized, Loop-Thru SD/HD-SDI Outputs
- Selectable Audio Channel Pair/Group
- 5 Year Warranty

Tech specs

Inputs:

- HD/SD-SDI w/Embedded Audio
- 1x BNC

Outputs:

- SD Video: YPbPr - SMPTE - EBU-N10
- Betacam - RGB - NTSC - PAL - YC (S-Video)
- YPbPr - 4 Channel Balanced/Unbalanced
- Video/Audio Outputs on 25 Pin D Connector - 2 SDI/HD-SDI Equalized Loop-Thru - 2x BNC

User Controls:

- External Dipswitch - Video Format
- Pedestal - H/V Blanking - Audio Group 1 - 4 - Audio Level (adjustable via switch selection): +24, +18, +15, +12 dBu - Full Scale Digital

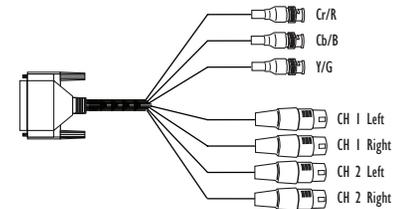
Physical:

5.8" x 3.1" x 1" (147 x 79 x 25mm)

Power:

- +5-18VDC, 4 watts - Requires Power Supply

Supplied Breakout Cable



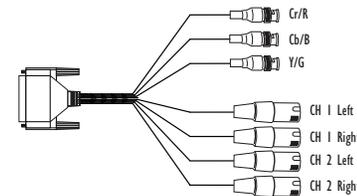
The HD10CEA converts HD/SD-SDI video with embedded audio to analog video and 4 channel balanced analog audio. SD video outputs can be configured as YPbPr (Betacam or SMPTE/EBU-N10), RGB, composite or YC (S-Video). HD video outputs can be configured as YPbPr or RGB. The analog audio outputs can be wired in a balanced or unbalanced configuration. The 4 audio channels can be selected from group 1-4. Audio and video output connections are available on a 25 pin "D" subminiature connector (3x BNC 4x XLR breakout cable supplied). All video/audio configuration is done by external dipswitch selection. This versatile, low-cost, miniature monitoring solution also outputs two loop-thru HD/SD-SDI outputs. Note: The HD10CEA does not up or down convert between HD and SD.

HD10AVA - HD/SD Analog Composite or Component Video and 4 Ch Analog Audio to SD/HD-SDI w/Embedded Audio



Features at a glance

- High-Quality HD/SD Audio/Video A/D Converter
- SD Component, Composite or Y/C Video Input
- HD Analog Component Video Input
- Four Channel Balanced Analog Audio Input
- 3 SDI/HD-SDI w/embedded Audio Outputs
- 12 Bit Video, 24 Bit Audio A/Ds
- Automatic Multi-Standard
- External Dip Switch Configuration
- 5-18V Power
- 5 Year Warranty



Tech specs

Formats:

525i/625i, 1080i 50/59.94/60 Hz
1080psf 23.98/24/25 Hz
1035i 50/59.94/60 Hz
720p 50/59.94/60 Hz

Inputs:

HD component YPbPr, (SMPTE-274), BNC • SD component/composite/YC (S Video), BNC
4 Channel Balanced, XLR

Outputs:

SDI, HD-SDI, SMPTE-259/292/296

• 3 x BNC

12 bits

24 Bits, 48Khz

+24, +18, +15, +12 dBu • Full Scale Digital

User Controls:

(External Dipswitch) • Component/Composite (SD) • Composite/YC (SD) • Pedestal Present (on/off) (SD) • Audio Input Level • Embed Audio on/off

Physical:

5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

+5-18VDC, 5 watts • Requires Power Supply

The HD10AVA is a miniature, high-quality, audio/video, HD/SD A/D converter. The HD10AVA automatically detects the video input format and embeds the audio inputs in the HD/SD-SDI outputs. The HD10AVA is useful for adding an HD/SD-SDI audio/video output to tape decks or any professional video equipment with analog outputs. The HD10AVA is especially useful for adding HD-SDI outputs to most HDV cameras or decks by using the component outputs of such devices. The HD10AVA uses a 3x BNC, 4x XLR breakout cable (included) for audio/video inputs and provides 3 HD/SD-SDI on BNCs. Note: The HD10AVA does not up or down convert between HD and SD.

HD10DA - 1x6 HD/SD-SDI Distribution Amplifier



Features at a glance

- Compact HD/SD-SDI Distribution
- Six Separately Buffered Outputs
- Miniature Size
- Cable equalization (1694 coax).
HD 125m, SD 300m
- HD-SDI or SDI input, auto sensing
- Bi-color LED indication of input lock and rate
- Passes all ancillary data
- +5-18VDC
- No dip switches or configuration required
- 5 Year Warranty

Tech specs

Formats:

- 1.5Gb, 143, 177, 270, 360 Mb
- Auto Select

Inputs:

- 1 HD/SD-SDI • SDI (SMPTE 259/292/296)
- 1x BNC

Outputs:

- HD/SD-SDI • 6x BNC Equalizing and re-clocking

Power:

- 5 to 18VDC Regulated • 2.5 Watts
- Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The HD10DA is a miniature, low-cost 1x6 HD/SD-SDI (dual-rate) re-clocking distribution amplifier. Featuring six separately buffered HD/SD-SDI outputs, the HD10DA provides automatic input HD cable EQ to 125 meters.

HD5DA - 1x4 HD/SD-SDI Distribution Amplifier/Repeater



Features at a glance

- Compact HD-SDI/SDI Distribution
- Four Separately Buffered HD-SDI/SDI Outputs
- Auto Equalization
- Belden 1694 cable. HD 125m, SD 300m
- Acts As Low-Cost Repeater
- Automatic Multi-Standard 143/177/270 Mb, 1.5Gb
- Miniature Size
- 5 Year Warranty

Tech specs

Formats:

- 1.5Gb, 143, 177, 270, 360 Mb
- auto select

Inputs:

- 1 HD-SDI, SDI (SMPTE 259/292/296)
- 1 x BNC

Outputs:

- 4 HD-SDI • SDI • 4 x BNC Equalizing

Physical:

- 5.1" x 2.4" x 1" (131 x 61 x 25 mm)

Power:

- +5VDC Regulated • 2.5 Watts
- Requires Power Supply

The HD5DA is a miniature, low-cost 1x4 HD/SD-SDI distribution amplifier/repeater. Featuring four separately buffered HD/SD-SDI outputs, the HD5DA provides automatic HD cable equalization to 125 meters and automatically adapts to 143, 177, 270, 360 Mb, and 1.5Gb SDI.

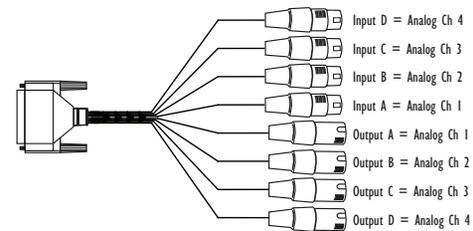
HD10AMA - HD/SD-SDI 4 Channel Analog Audio Embedder/Disembedder



Features at a glance

- Dual rate HD/SD-SDI Embedder/Disembedder
- 4 Channel Balanced Analog Audio I/O
- Supplied XLR breakout cable
- HD-SDI/SDI input, 2 HD-SDI/SDI outputs
- Dipswitch configuration
- 5-18VDC Power
- 5 Year Warranty

Supplied Breakout Cable



Tech specs

Formats:

- HD SMPTE 292/296M • SD SMPTE 259M • (Automatic Configuration)

Video Input:

- HD/SD-SDI BNC

Video Outputs:

- Follows input, 2 x BNC

Audio Inputs:

- 4 x Balanced Analog Audio • XLR
- Outputs: 4 x Balanced Analog Audio
- XLR • Audio Levels (Full Scale Digital): +24dBu, +18dBu, +12dBu, +6dBu
- Audio Converters: 24 bit

Embedded Audio:

- SMPTE 272M/299M, 24 bit, 48KHz synchronous

User Controls:

- (External Dipswitch) • Embedder on/off • Ch pairs 1/2 - 3/4 • Input group select 1-4
- Output Group Select 1-4 • Audio Level: Pro/Consumer

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5-18VDC • 5 watts • Requires Power Supply

The HD10AMA is a dual rate 4 channel analog audio Embedder/Disembedder. The Disembedder is always functional providing 4 outputs. The Embedder is user selectable, on a channel pair basis, to either "pass" input audio or embed input audio from the breakout cable. Analog audio levels are selectable. The HD10AMA automatically detects and configures to the input video standard. 8 x XLR breakout cable included.

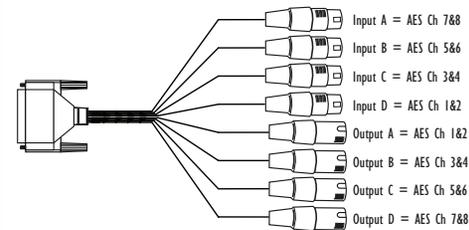
HD10AM - HD/SD-SDI 8 Channel AES Embedder/Disembedder



Features at a glance

- Dual rate HD/SD-SDI Embedder/Disembedder
- 8 Channel AES I/O
- Supplied breakout cable for balanced AES - XLR connectors
- HD-SDI/SDI input, 2 HD-SDI/SDI outputs
- Dipswitch configuration
- 5-18VDC Power
- 5 Year Warranty

Supplied Breakout Cable



Tech specs

Formats:

- HD SMPTE 292/296M • SD SMPTE 259M • (Automatic Configuration)

Video Inputs:

- HD/SD-SDI BNC

Video Outputs:

- follows input, 2 x HD/SD-SDI BNC

Audio Inputs:

- 4 x AES 110 ohm XLR

Audio Outputs:

- 4 x AES 110 ohm XLR

AES audio:

- SMPTE 272M/299M, 24 bit, 48KHz synchronous

User Controls:

- (External Dipswitch) • Embedder on/off, Ch pairs 1/2 - 7/8 • Input group select, 1/2, 3/4 • Output Group Select, 1/2, 3/4 • SRC Bypass

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5-18VDC, 5 watts • Requires Power Supply

The HD10AM is a dual rate 8 channel AES audio Embedder/Disembedder. The Disembedder is always functional providing 4 AES outputs. The Embedder is user selectable, on a channel pair basis, to either "pass" SDI input audio or embed input AES audio from the breakout cable. AES inputs are sample rate converted to a 48KHz rate synchronous to the video input. The HD10AM automatically detects and configures to the input video standard. 8 x XLR breakout cable included.

ADA4 - 4-Channel Bi-directional Audio A/D and D/A Converter



Features at a glance

- 4 Simultaneous A/D and D/A, or AES Synchronizer
- Full-time AES11 low jitter reference output
- Up to 4 channels of balanced analog to AES/EBU audio
- Up to 4 channels of AES/EBU to balanced analog audio
- Supplied XLR breakout cable
- AES11/Wordclock/Tri-level Sync/Color Black Reference Loop
- Adjustable Audio Levels
- Sample Rate Conversion Between 96KHz and 48KHz Dipswitch configuration
- 5-18VDC Power
- 5 Year Warranty

Tech specs

Analog Audio I/O:

- Balanced, XLR, one channel per XLR connector

AES Audio I/O:

- Balanced 110 ohm, XLR, two channels per XLR connector

Analog Audio Levels:

- +24dBu (SMPTE RP155) • +18dBu (EBU R68) • +15dBu • +12dBu (consumer +10dBv)

Audio Converters:

- 24 bit, 48/96 KHz

User Controls:

- (External Dipswitch) • Channel 1/2: A/D, D/A • Channel 3/4: A/D, D/A • Audio Level 1 • Audio Level 2

Reference Loop:

- 75 Ohm (unterminated). HD/SD Sync, AES-11, or Wordclock (48/96 KHz)

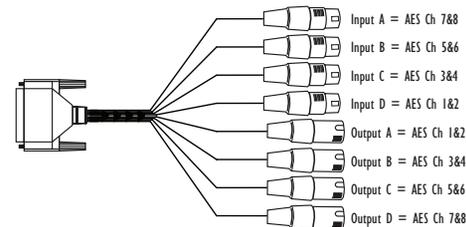
Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5-18VDC, 3 watts • Requires Power Supply

Supplied Breakout Cable



The ADA4 is a 4 channel bi-directional converter which can be configured as a 4 channel A/D, a 4 channel D/A, 2 channel A/D and 2 channel D/A, or an AES synchronizer. The ADA4 can accept a AES11, wordclock, or video sync/color black reference input for synchronization. Reference input and synchronization is automatic. Audio levels are configurable via dipswitch control.

HDP2 - HD-SDI/SDI to DVI-D and Audio Converter



Features at glance

- HD-SDI/SDI to DVI-D
- HDMI 1.3a support (via DVI-D connector), including:
 - Deep Color 30-bit video (24-bit also supported)
 - 2 or 8 channels of embedded audio
- Automatically adapts to popular LCD/DLP/Plasma monitors (and projectors) up to 1920x1200 and 1080p
- High quality scaling engine for proper display of 4:3 or 16:9 content—even better quality than original HDP
- 1 to 1 scaling for appropriate monitor configurations
- 2 channel RCA analog audio output (user-assignable channels)
- HD-SDI/SDI looping output
- Setup via PC/Mac using USB port and supplied USB cable (USB configuration software application supplied on CD)
- 5 year warranty

Tech specs

Inputs:

- 525i, 625i, 720p 50/59.94/60, 1080i 50/59.94/60, 1080p 23.98/24/25/29.9/30 1080psF 23.98/24/25, YCbCr 10-bit

Video Inputs:

- HD, and SD-SDI (auto-selected), SMPTE-259/274/292/296, BNC connector

Video Outputs:

- DVI v1.0 / HDMI v1.3a, 4:2:2 YCbCr, 4:4:4 YCbCr/RGB 24/30-bit, DVI-D standard male connector

Audio Outputs:

- RCA-style analog outputs at -10dBV (nominal), 2 channels embedded audio (HDMI mode only), 24 bit, 2 or 8 channels, User assignable channels

Power:

- +5-18 VDC regulated, 5 watts

Physical:

- 5.8" x 3.1" x 1" (147mm x 79mm x 25mm)

The HDP2 is a miniature HD-SDI/SDI to DVI-D converter for digital display devices, such as LCD, DLP, and Plasma monitors or projectors. Using a very high quality scaling engine and de-interlacer, the HDP2 will automatically size 4:3 or 16:9 inputs to many DVI-D monitors. For appropriate monitor configurations, scaling is automatically 1 to 1—for example, displaying 1920x1080 video on a WUXGA (1920x1200) monitor. The HDP2 will also automatically adapt the input frame rate for monitor compatibility. In addition, the HDP2 provides 2 channel audio monitoring and a looping output of the SDI input.

The HDP2 is designed for general monitoring, perfect for use in applications such as: General post-production reference monitoring, Client monitoring, Presentation, Projection, Corporate displays, Kiosk applications ...and much more

The HDP2 also supports HDMI v1.3a Deep Color (with a DVI to HDMI cable). In the HDMI mode, Deep Color is supported at 30 bits per pixel with 8 channel audio. USB connectivity allows for easy PC/Mac setup and field upgrades.

HA5 - HDMI to HD/SD-SDI Video and Audio Converter



Features at a glance

- HDMI to HD/SD-SDI
- Full HDMI support including embedded audio
- Equalized HDMI input supports long HDMI cables up to 30m, 24 gauge
- PLL clock filtering for low jitter HD/SD-SDI outputs
- Lock LED shows type of input source, SD (green) or HD (red)
- HDMI V1.2 standard
- 1m HDMI cable included
- 5 year warranty

Tech specs

Input:

- HDMI with embedded audio

Input Formats:

- 525i • 625i • 720p 50/59.94/60 • 1080i 50/59.94/60 • 1080p23.98 • 1080p24, 1080p25 • 1080p29.97 • 1080p30

Outputs:

- SMPTE-259/292/296 SDI/HD-SDI
- 2 x BNC

Power:

- +5VDC Regulated • 4 watts
- Requires Power Supply

Physical:

- 4.6" x 2.4" x 1" (117 x 61 x 25mm)

Note: HDCP content not supported

The HA5 converts HDMI to SDI or HD-SDI. Two channels of HDMI audio are embedded into the HD/SD-SDI output allowing a convenient single cable audio/video connection. The HA5 provides two SDI/HD-SDI outputs and supports long HDMI cables on the input. The HA5 is useful for connecting HDMI cameras to HD/SD-SDI equipment.

Hi5 - HD/SD-SDI to HDMI Video and Audio Converter



Features at a glance

- HD/SD-SDI to HDMI
- Full HDMI support including embedded audio
- Additional 2 Channel RCA jack audio output
- Equalized looping HD/SD-SDI output
- No configuration necessary
- HDMI V1.2 standard
- 1m HDMI cable included
- 5 year warranty

Tech specs

Inputs:

- SMPTE-259/292/296 HD/SD-SDI

Input Formats:

- 525i • 625i • 720p 50/59.94/60 • 1080i 50/59.94/60 • 1080p23.98 • 1080p24 • 1080p25 • 1080p29.97 • 1080p30

Outputs:

- HDMI with embedded audio • Audio (2 channel RCA-style outputs) • 1 equalized looping SDI/HD-SDI output

Power:

- +5VDC, 3 watts, Requires Power Supply

Physical:

- 4.6" x 2.4" x 1" (117 x 61 x 25mm)

Note: HDCP content not supported.

The Hi5 converts HD/SD-SDI to HDMI for driving HDMI monitors. Embedded 8-channel HD/SD-SDI audio is supported in the HDMI output allowing a convenient single cable audio/video connection. The Hi5 provides 2 Channel RCA style audio outputs for separate audio monitoring if needed. The Hi5 also provides a looping HD/SD-SDI output useful for connecting additional equipment, or for "daisy chaining" multiple monitors to the same HD/SD-SDI source.

Hi5-3D - 3G/HD-SDI Multiplexer To HDMI 1.4a and SDI Video and Audio Converter



The Hi5-3D is a 3D video multiplexer that combines two 3G or HD-SDI Inputs into various multiplexed 3D formats for output on HDMI 1.4a and HD-SDI. The HDMI 1.4a output supports EDID transactions that allow automatic 2D/3D configuration per the HDMI monitor's capabilities. Input SDI 2 will be frame synchronized to input SDI 1 in 3D Modes. Embedded SDI input audio is embedded in both the HDMI and SDI outputs. 2 channel RCA audio output is also supported with user control of channel selection. The Hi5-3D supports AJA's Mini-Config application for user configuration and firmware download.

3D Modes Supported

The Hi5-3D supports, depending on the video format, "side-by-side", "top-bottom", and "frame-packing" 3D modes. The "side-by-side" and "top-bottom" modes involve compressing, either horizontally or vertically, each input for combining into a single video stream at the same rate of the inputs. The "frame-packing" mode stacks two full resolution inputs into a "tall" frame (at twice the clock and line rates). When selected, "frame-packing" can only be used with 23.98/24Hz input frame rates. Each input, in addition to 3D processing, can be flipped either horizontally, vertically, or both. This control is provided by 4 switches that can be engaged in any combination.

Format support

The Hi5-3D works with both 2D and 3D inputs. When in the 2D mode, the input is simply passed to the output unmodified. In the 3D mode, the Hi5-3D supports the minimum required 3D modes as defined by the CEA for HDMI 1.4a televisions.

CEA Required 3D modes:

| | | | |
|-------|-------|-----------------|---------|
| 2xSDI | 1.5gb | 720p50/59.94/60 | T/B |
| 2xSDI | 1.5gb | 1080p23.98/24 | T/B, FP |
| 2xSDI | 1.5gb | 1080psf23.98/24 | T/B, FP |
| 2xSDI | 1.5gb | 1080i50/59.94 | S/S |

Notes:

"psf" inputs are converted to "p" for HDMI output. The SDI output can support S/S and T/B formats only. Future software versions may add other frame rates.

User Control

The Hi5-3D supports both dipswitch control and host control via the Mini-Config application. One of the dipswitches is a "Local/Remote" switch. When in the "Local" mode, the remaining dipswitches support a subset of the user controls. When in the "Remote" mode, AJA's Mini-Config application controls the unit (or control as last set).

Features at a glance

- 3G/HD-SDI to HDMI 1.4a with additional SDI output
- 10-bit HDMI 1.4a support including 3D and embedded audio
- Additional 2 Channel RCA jack audio output
- Setup via Dipswitch or PC/Mac using USB port and supplied USB cable (USB configuration software application supplied on CD)
- Uses 5-20V power (supply sold separately)
- 5 year warranty

Tech specs

Input Formats:

- 720p 50/59.94/60 • 1080i 50/59.94/60 • 1080p23.98 • 1080p24 • 1080p25

Video Inputs:

- Dual 3G and HD-SDI (auto-selected), SMPTE-292/296/424, 2x BNC
- 1 SDI for left eye input (10-bit)
- 1 SDI for right eye input (10-bit)

Video output:

- 10-bit HDMI v1.4a
- 1 3G/HD-SDI output, 10-bit

Audio Outputs:

- HDMI embedded audio, 2 or 8 channels
- 2 RCA-style analog outputs at -10dBV (nominal), User assignable channels

Physical:

- 5.8" x 3.1" x 1 (147mm x 79mm x 25mm)

Power:

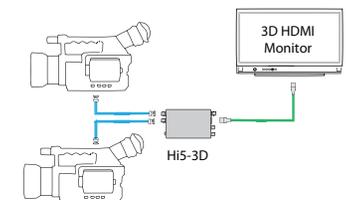
- +5-20 VDC regulated, 5 watts (AJA power supply model DWP or DWP-U recommended)

NOTE:

The Hi5-3D does not encode the HDMI output with HDCP encryption. By definition, SDI inputs to the Hi5-3D are unencrypted.

Application Example

3D-Camera Rig Into Left/Right inputs Driving HDMI 3D Monitor



Hi5-Fiber - HD/SD-SDI over Fiber To HDMI Video and Audio Converter



Features at a glance

- Fiber optic HD/SD-SDI to HDMI
- Supports single mode 1310 nm fiber optic cable with ST receiver
- Full HDMI support including embedded audio
- Additional 2 Channel RCA jack audio output
- No configuration necessary
- HDMI V1.2 standard
- 1m HDMI cable included
- 5 year warranty

Tech specs

Inputs:

- Fiber optic ST connector supporting SMPTE-259/292/296 HD/SD-SDI

Input Formats:

- 525i • 625i • 720p 50/59.94/60 • 1080i 50/59.94/60 • 1080p23.98 • 1080p24 • 1080p25 • 1080p29.97 • 1080p30

Outputs:

- HDMI with embedded audio • Audio (2 channel RCA-style outputs)

Power:

- +5VDC, 3 watts, Requires Power Supply

Physical:

- 4.6" x 2.4" x 1" (117 x 61 x 25mm)

Note: HDCP content not supported.

The Hi5 Fiber converts HD/SD-SDI over single mode 1310 nm Fiber optic cable (ST-style Fiber connector) to HDMI for driving HDMI monitors. Embedded 8-channel HD/SD-SDI audio is supported in the HDMI output allowing a convenient single cable audio/video connection. The Hi5 provides 2 Channel RCA style audio outputs for separate audio monitoring if needed.

Hi5-3G - 3G/Dual-link/HD/SD-SDI To HDMI 1.3a Video and Audio Converter



The Hi5-3G converts 3G-SDI, dual or single link HD-SDI, or SD-SDI to HDMI v1.3a for driving HDMI monitors. HDMI v1.3a capability at 30 bits per pixel allows full support of the latest 10 bit monitors. Audio is supported in the HDMI output allowing a convenient single cable audio/video connection. The Hi5-3G provides 2 Channel RCA style audio outputs for separate audio monitoring if needed. USB connectivity allows for easy PC/Mac setup and field upgrades.

Features at a glance

- 3G/HD/SD-SDI to HDMI
- SMPTE425M-AB input
- Full HDMI 1.3a support including:
 - Deep Color 30- and 36-bit video per pixel (24-bit also supported)
 - 2 or 8 channels of embedded audio
- Additional 2 channel RCA analog audio output (User assignable channels)
- Setup via PC/Mac using USB port and supplied USB cable (USB configuration software application supplied on CD)
- 1m HDMI cable supplied
- Uses 5V power (supply sold separately)
- 5 year warranty

Tech specs

Input Formats:

- 525i, 625i, 720p 50/59.94/60, 1080i 50/59.94/60, 1080p 23.98/24/25/29.9/30/50/59.94/60 1080psF 23.98/24/25/29.97/30 YCbCr/RGB/XYZ 10/12-bit

Video Inputs:

- 3G, HD, and SD-SDI (auto-selected), SMPTE-259/274/292/296/372/424/425, 2x BNC

Video output:

- HDMI v1.3a, 30/36 bits per pixel, RGB or YUV, 2.25Gbs, SD, HD, 1080p50/60, HDMI Standard Type A connector

Audio Outputs:

- HDMI embedded audio, 24 bit, 2 or 8 channels RCA-style analog outputs at -10dBV (nominal), User assignable channels

Physical:

- 5.8" x 3.1" x 1" (147mm x 79mm x 25mm)

Power:

- +5 VDC regulated, 5 watts (AJA power supply model DWP or DWP-U recommended)

NOTE:

The Hi5-3G does not encode the HDMI output with HDCP encryption. By definition, SDI/HD-SDI inputs to the Hi5-3G are unencrypted.

D10CE - SD-SDI to Component and Composite Analog Converter, 10-bit



Features at a glance

- Excellent-Quality 10-bit Universal D/A Conversion
- Full 10-bit Data path, 4x Oversampling
- SD-SDI Input, 2 Re-clocked, Loop-Thru SDI Outputs
- Simultaneous Component and Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- Precision PLL Jitter Filter for Stable Composite Outputs
- Digital Noise Reduction
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

- Input:**
- SD-SDI (SMPTE 259M) • 1 x BNC
- Outputs:**
- (Simultaneous Component and Composite output) • YPbPr - SMPTE, EBU-N10, Betacam • RGB • NTSC • PAL
 - YC (S-Video) 3 x BNC • NTSC/PAL or Sync
 - 1 x BNC • Re-clocked loop-thru SD • 2 x BNC
- D/A Converters:**
- 10-bits, 4x oversampling • Clock Jitter Filtering to 2.5Hz
- Frequency Response:**
- Y +/- .15dB to 5.5MHz • C +/- .15dB to 2.5MHz (Component) • C +/- .15dB to 1.3MHz (Composite) • Less than .5% K Factor (2T)
- User Controls:**
- (External Dip Switch) • Output Video Format • Pedestal On/Off • Narrow/ Wide Blanking • Digital Noise Reduction
- Power:**
- +5VDC Regulated, 4 watts • Requires Power Supply
- Physical:**
- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The D10CE SDI to Analog Video Converter provides excellent-quality 10-bit conversion of SD-SDI to both component and composite video formats simultaneously. The component outputs are user configurable to YPbPr (SMPTE, EBU-N10), Betacam, or RGB (or composite and Y/C). The composite output is configurable to composite video or sync. The component and composite outputs are completely independent including optimum chroma filtering for each and independent pedestal configuration. The D10CE also features an exclusive PLL jitter filter/memory to reduce the effects of SDI jitter on the output analog video. This feature, along with the precision 4x oversampled D/A filters, provides the highest quality analog outputs - including very low phase noise in composite outputs. The D10CE also provides two re-clocked, loop-thru SDI outputs. All functions are user configurable via dip switches.

D10C2 - SD-SDI to Component or Composite Analog Converter, 10-bit



Features at a glance

- Excellent-Quality 10-bit Universal D/A Conversion
- Full 10-bit Data path, 4x Oversampling
- SD-SDI Input, 2 Re-clocked, Loop-Thru SDI Outputs
- Component or Composite Analog Output
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- Digital Noise Reduction
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Input:

- SD-SDI (SMPTE 259M) • 1 x BNC

Outputs:

- Component Mode: YPbPr - SMPTE
- EBU-N10, Betacam • RGB, 3 x BNC
- Sync • 1 x BNC
- Composite Mode: NTSC/PAL 2 x BNC
- YC (S Video) 2 x BNC • Re-clocked loop-thru SDI, 2 x BNC

D/A Converters:

- 10-bits, 4x oversampling

Frequency Response:

- Y +/- .15dB to 5.5MHz • C +/- .15dB to 2.5MHz (Component) • C +/- .15dB to 1.3MHz (Composite) • Less than .5% K Factor (2T)

User Controls:

- (External Dip Switch) • Output Video Format • Pedestal On/Off • Narrow/Wide Blanking • Digital Noise Reduction

Power:

- +5VDC Regulated • 4 watts • Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The D10C2 SD-SDI to Analog Video Converter provides excellent-quality 10-bit conversion of SD-SDI to analog component or composite video at low cost. In the Component mode the D10C2 outputs are user configurable to YPbPr (SMPTE, EBU-N10), Betacam, or RGB. In the Composite mode, the D10C2 provides 2 composite outputs and a Y/C (S-Video) output. The D10C2 also provides two re-clocked, loop-thru SDI outputs and a composite sync output (Component mode). All functions are user configurable via dip switches.

D10CEA - SD-SDI to Analog Audio and Video Converter, 10-bit



Features at a glance

- SD-SDI to Analog Audio and Video Converter
- SDI with Embedded Audio Input
- 2 Re-clocked, Loop-Thru SDI Outputs
- 10-bit Component or Composite Analog Video Outputs
- 4 ch Balanced Analog Audio Output
- Selectable Audio level
- Selectable Audio Channel Group
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Input:

- SD-SDI (SMPTE 259M) w/embedded audio • 1 x BNC

Outputs:

- Video: YPbPr - SMPTE • Betacam
- RGB • NTSC • PAL • YC (S-Video) • 10-bits
- Audio: 4 Channel Balanced/Unbalanced
- Video/Audio outputs on 25-pin D connector 2 SDI Re-clocked loop-thru
- 2 x BNC
- Video, +/- .25db to 5.5 Mhz Y
- Audio, +/- .5db to 20Khz

User Controls:

- (External Dip Switch) • Video format Pedestal • H&V blanking • Audio group 1,2,3,4 • Audio Level, adjustable via switch selection: +24, +18, +15, +12 dBu • Full Scale Digital

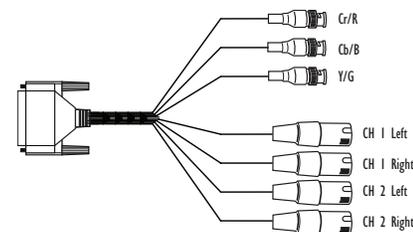
Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

Power:

- +5VDC Regulated, 4 watts
- Requires Power Supply

Supplied Breakout Cable



The D10CEA converts SD-SDI video with embedded audio to 10-bit component or composite analog video and 4 channel balanced analog audio. The video outputs can be configured as YPbPr (Betacam or SMPTE/EBU N10), RGB, 1 composite or 1 Y/C (S-Video). The 4 ch analog audio outputs can be wired in a balanced or unbalanced configuration. The 4 audio output channels can be selected as group 1-4 from SMPTE embedded audio. Audio level has 4 settings. Audio and video output connections are available on a 25 pin "D" subminiature connector – a break-out cable is supplied. All video/audio configuration is done by external dipswitch selection. This versatile, low-cost, miniature monitoring solution also outputs two re-clocked loop-thru SDI outputs.

D10C - Composite Serial Digital (D2, D3) to Composite Analog, or SD-SDI to YPbPr or RGB Converter, 10-bit



Features at a glance

- Excellent Quality 10-bit D/A Conversion
- SD-SDI Input, 2 Re-clocked, Loop-Thru SDI Outputs
- Accepts Component or Composite SDI Inputs (D1, D2, D3)
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats (with D2/3 input)
- 5 Year Warranty

Tech specs

Input:

- SD-SDI (SMPTE 259M), 1 x BNC

Outputs:

- For Component Input Only (270Mb): YPbPr - SMPTE • EBU-N10 • Betacam
- RGB, 3 x BNC • Sync • 1 x BNC • For Composite Input Only (143/177Mb):
- NTSC/PAL 1 x BNC • Re-clocked loop-thru SDI • 2 x BNC

D/A Converters:

- 10-bits

Frequency Response:

- Y +/- .25dB to 5.2MHz • C +/- .25dB to 2.5MHz • Less than 1% K Factor (2T)

Power:

- +5VDC Regulated • 5 watts
- Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The D10C SDI to Analog Converter provides excellent quality 10-bit digital to analog conversion at low cost. The D10C is useful for D/A conversion, high-quality monitoring, or adding an SDI input to VTRs, workstations, or other analog video equipment. The D10C automatically works with component or composite SDI inputs in 625 or 525 line formats. Featuring one SDI input with two re-clocked, loop-thru SDI outputs, the D10C also acts as a distribution amplifier/repeater. The D10C provides a component analog output for component SDI inputs (D1), a NTSC output for 525 line composite SDI inputs (D2, D3), and a PAL output for 625 line composite inputs SDI (D2, D3). Note: the D10C is set to the proper format at the factory.

D10AD - Component or Composite Analog to SD-SDI Converter, 10-bit



Features at a glance

- Excellent-Quality 10-bit Universal A/D Conversion
- Component, Composite or Y/C Analog Input
- 4 Line Adaptive Comb Filter
- Full 10-bit Data path, 2x Oversampling
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- AGC Mode
- 4 SDI Outputs with EDH
- Color Bar Generator
- 5 Year Warranty

Tech specs

Inputs:

- YPbPr - SMPTE - EBU-N10 • Betacam
- RGB • NTSC • PAL • Y/C (S-Video) 3 x BNC

Outputs:

- SDI (SMPTE 259M) w/EDH 4 x BNC

A/D Converters:

- 10-bits • 2x oversampling

Frequency Response:

- Y +/- .15dB to 5.5MHz • C +/- .15dB to 2.5MHz • Less than .5% K Factor (2T)

User Controls:

- (External Dip Switch) • Input Video Format • Pedestal Present/Not Present
- AGC On/Off • EDH On/Off • Test Pattern

Power:

- +5VDC Regulated • 4 watts • Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The D10AD provides excellent-quality 10-bit conversion of component or composite analog video to SDI with EDH. The D10AD accepts YPbPr (SMPTE, EBU-N10), Betacam, or RGB component inputs or NTSC/PAL or Y/C (S-Video) composite inputs. The D10AD features a 4 Line Adaptive Comb Filter for high-quality decoding of composite sources. The comb filter can be switched to 2 line or notch modes for minimum delay requirements. NTSC/PAL configuration is automatic. Video format, AGC, and pedestal are all user configurable via dip switches.

D10A - Component to SD-SDI Converter (with Separate Sync Input)



Features at a glance

- Excellent-Quality 10-bit A/D Conversion
- Component Analog to SDI
- Full 10-bit signal path
- 3 serial outputs
- Multi-Format
- Normal/Wide V-blanking
- 2 loop-through serial outputs
- 5 Year Warranty

Tech specs

Inputs:

- YPbPr (SMPTE • EBU/N10) • Betacam • or RGB • 3 x BNC • External Sync, 1 x BNC

Outputs:

- 3 SDI, 3 x BNC

A/D Converters:

- 10-bits

Frequency Response:

- Y +/- .25dB to 5.5MHz • C +/- .25dB to 2.5 MHz

Power:

- +5VDC Regulated • 3 watts • Requires Power Supply

Physical:

- 5.8" x 3.1" x 1" (147 x 79 x 25 mm)

The D10A provides exceptional quality component-only analog to 10-bit SD-SDI. The superior quality of this 10-bit A/D converter has made it a favorite of the professional video engineer. The D10A is pre-set at the factory to accept either YPbPr (SMPTE, EBU/N10), Betacam, or RGB in 525 or 625 line formats, converting the analog component signal to 10-bit SDI. The D10A has three BNC's for one component input, one external sync input, and three SDI outputs. Input formats can be reset by internal jumpers and level/gain controls.

D5D - Composite and S-Video Analog to SD-SDI Converter



Features at a glance

- Analog Composite-Y/C to SDI Conversion
- Selectable 2 or 3 Line Adaptive Comb Filter
- Three SD-SDI Outputs
- Crystal PLL Jitter Filter
- Automatically Configures to NTSC/PAL
- Selectable Pedestal
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Inputs:

- NTSC/PAL • Y/C (S-Video) • 2 x BNC

Outputs:

- SD-SDI (SMPTE 259M) • 3 x BNC

Frequency Response:

- +/- 0.25dB to 5MHz • <1% 2t K Factor (Y)
- < 1.5% Differential Gain • < 1.5 Degree Differential Phase

User Controls:

- (External Dip switch) • Composite/YC
- Pedestal in NTSC Mode • Narrow/Wide Blanking • 2 or 3 Line Comb

Power:

- +5VDC regulated • 5 watts
- Requires Power Supply

Physical:

- 5.1" x 2.4" x 1" (131 x 61 x 25 mm)

The D5D Decoder provides low-cost, all digital decoding of analog NTSC/PAL or Y/C (S-Video) to SDI. The D5D is useful for bringing video from time-base corrected analog composite equipment into a serial digital environment. The D5D features a crystal PLL jitter filter/memory to reduce jitter in the SDI outputs. The D5D decodes the full dynamic range of input video - values below black and above white are not clipped. In the NTSC mode, the removal of the 7.5 IRE pedestal can be enabled by external dip switch selection.

D5CE - SD-SDI to Component or Composite Analog Converter



Features at a glance

- Low Cost SD-SDI to Component or Composite Analog
- User Selectable Component or Composite/YC Outputs
- YPbPr, Betacam, or RGB Component Formats
- Re-clocked Loop-Thru SDI Output
- Automatic NTSC/PAL Selection
- User Selectable Vertical/Horizontal Blanking
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Inputs:

- SD-SDI (SMPTE 259M) • 1 x BNC

Outputs:

- YPbPr - SMPTE, EBU-N10 • Betacam
- RGB • 3 x BNC Or NTSC • PAL • 3 x BNC
- Or NTSC/PAL and Y/C • 3 x BNC • Loop-thru SDI • re-clocking • 1x BNC

User Controls:

- (External Dip switch) • Video Format
- Vertical/Horizontal Blanking • Pedestal

Physical:

- 5.1" x 2.4" x 1" (131 x 61 x 25 mm)

Power:

- +5V DC regulated power • 2 watts
- Requires Power Supply

The D5CE provides low cost, all digital conversion of SDI to either composite or component analog video. Three analog BNC outputs are user configurable to cover a wide range of format combinations including 3 composite, 1 composite and Y/C, YPbPr (SMPTE, EBU-N10), Betacam, or RGB. The D5CE also features a re-clocked, loop-thru SDI output. The D5CE automatically adapts to NTSC or PAL video standards. Pedestal and narrow/wide H/V blanking are user configurable via dipswitches.

D4E - SD-SDI to Composite Analog Converter



Features at a glance

- Lowest-Cost SD-SDI to NTSC/PAL Available
- 1 SDI Input, 2 Composite-Y/C Analog Outputs
- Automatic NTSC/PAL Selection
- Built-In Test Pattern
- Ultra-Miniature Size Mounts Anywhere
- External Dip Switch Configuration
- 5 Year Warranty

Tech specs

Inputs:

- SD-SDI (SMPTE 259M), 1 x BNC

Outputs:

- NTSC, PAL, 2 x BNC Or NTSC/PAL Y/C • 2 x BNC

User Controls:

- (External Dip switch) • Video Format
- Vertical/Horizontal Blanking • Pedestal • Test Pattern (requires valid SDI input)

Physical:

- 5.1" x 1.8" x 1" (131 x 44 x 25 mm)

Power:

- +5V DC regulated power • 2 watts
- Requires Power Supply

The D4E SD-SDI Encoder provides the lowest cost all-digital conversion of SDI to analog NTSC or PAL. The D4E is useful for monitoring, level and phase checking, dubbing, etc. The D4E automatically adapts to NTSC or PAL video standards and outputs analog NTSC (525 line input) or PAL (625 line input). Pedestal and narrow/wide H/V blanking are user configurable via dipswitches. The D4E encodes the full dynamic range of input video: levels below black and above white are not clipped.

D5DA - 1x4 SD-SDI Distribution Amplifier, Multi-format



Features at a glance

- Compact 1x4 Equalizing SDI Distribution Amplifier
- Low Cost
- Automatic Multi-Standard, 143/177/270 Mb
- Cable EQ to 300 Meters
- Useful as a repeater
- 5 Year Warranty

Tech specs

Formats:

- 143 • 177 • 270 • 360 Mb • auto select

Input:

- 1 SDI (SMPTE 259M) • 1xBNC

Outputs:

- 4 SDI (SMPTE 259M) • 4x BNC
- Equalizing

Return Loss:

- >15 dB-270 MHz (Input and Output)

Physical:

- 5.1" x 2.4" x 1" (131 x 61 x 25 mm)

Power:

- +5V DC regulated power • 2 watt
- Requires Power Supply.

The D5DA is a multi-format, 1x4, SD-SDI Distribution Amplifier. The D5DA can be used as a low-cost SDI DA or repeater. The SDI input is equalized for up to 300 meters of cable. In addition, the multi-standard feature allows the D5DA to automatically adapt to 143, 177, 270, or 360 Mb SDI inputs automatically.

D5PSW - SD-SDI Protection Switch



Features at a glance

- Dual SD-SDI input protection switch
- 3 SDI outputs
- Low Cost
- Cable EQ to 300 Meters
- Useful as a repeater and/or DA
- Multi color LED status
- 5 Year Warranty

Tech specs

- Formats:**
- 143 • 177 • 270 • 360 Mb SMPTE 259
 - auto select
- Inputs:**
- 2 SDI (SMPTE 259M) • 2xBNC
- Outputs:**
- 3 SDI (SMPTE 259M) • 3x BNC Equalizing • Re-Clocking
- Physical:**
- 5.1" x 2.4" x 1" (131 x 61 x 25 mm)
- Power:**
- +5V DC regulated power • 4 watts
 - Requires Power Supply

The D5PSW accepts 2 SD-SDI inputs, Primary and Secondary, and automatically switches to the Secondary input if the Primary input is not present or is not a valid SDI signal. An SDI input is considered valid if a proper SMPTE 259 stream is present. A LED indicator is Green if both Primary and Secondary are present, flashing green if the Primary is present but the Secondary is not present, and Orange if the Secondary is present but the Primary is not. The D5PSW has 3 SDI outputs.

Power Supplies for D- and H-Series Converters



Tech specs

- 100-240v, 50/60Hz Universal input
- 5 volt regulated output
- 10 watt capacity
- Circular, latching output connector with gold-plated pins

DWP

A new more robust design for 2005, the DWP is a miniature high quality power supply for all of AJA's stand-alone products. Custom manufactured for AJA, the DWP is so small it does not cover the adjacent socket in power strips. With a 2x power over-rating and a molded, latching, circular connector with gold-plated pins, the DWP meets the high reliability requirements of the professional video industry.



Tech specs

- 100-240v, 50/60Hz Universal input
- 5 volt regulated output

DWP-U

The DWP-U is an in-line universal input version which can accept a power cord anywhere in the world.

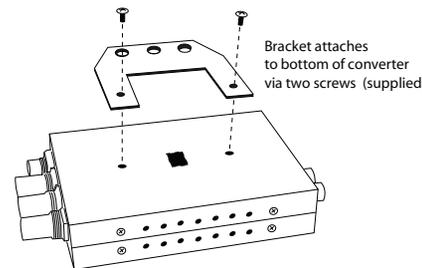
RMB and RMB-10 Rack Mounting Brackets for D- and H-series Converters

RMB

One Bracket with Mounting screws

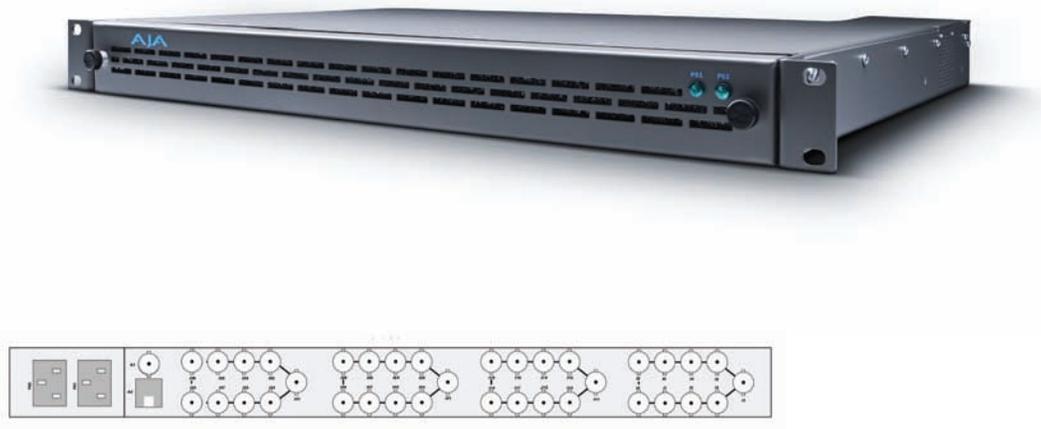
RMB-10

Package of Ten Brackets with Mounting Screw



The FR1 and FR2 mounting frames provide high density rack-mount solutions for AJA's R series modules. The FR1 is a 1 RU frame with 4 slots; the FR2 is a 2 RU frame with 10 slots. Both frames feature high capacity power supplies with no power restrictions for any module combination. Also, both frames feature multiple fan forced air cooling which provides ample cooling capacity without the need for empty rack space above or below the units. Both frames feature optional redundant power supplies - the FR2's power supplies are easily changed from the front of the unit. The FR2 features a reference Distribution amplifier which distributes a color black reference to all slots from one input BNC. The FR1 also features a frame reference input with a passive distribution to all 4 slots.

FR1 - One RU Rack Mount Frame & Power Supply, 4 Slot



Features at a glance

- 1 Rack Unit Mounting Frame
- 4 Module Capacity
- Multiple Fan Forced Air Cooling
- Optional Redundant Power Supplies
- Power Supply Monitoring
- Frame Reference Input BNC
- UL, CSE, CE Certification
- Universal Input 90-240 VAC 50 Watt Power Supply
- 5 Year Warranty

Tech specs

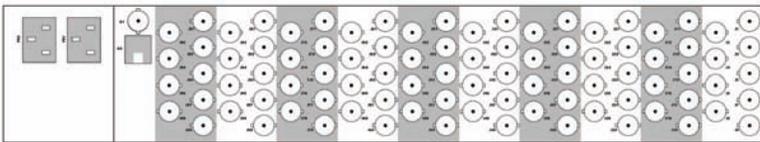
- Capacity:**
- 4 Slots • 1 Rack Unit
- Inputs:**
- Power Supply Monitoring • Reference Input • BNC
- Power:**
- 40 Watt Capacity • Universal Input 90-240 VAC Power Supply • Optional Redundant Power Supply
 - Diode Isolated
- Cooling:**
- Multiple Fan Forced Air
- Physical:**
- 19" x 1.75" x 14.75", (1RU)
 - *Leitch™ 6800 Series Compatible*

FR1 FR1 Frame with One FR1-PS Power Supply

FR1-D FR1 Frame with Dual FR1-PS (Redundant) Power Supplies Installed

FR1-PS Power Supply Module for FR1 Frame

FR2 - Two RU Rack Mount Frame & Power Supply, 10 Slot



FR2 FR2 Frame with One FR2-PS Power Supply Installed

FR2-D FR2 Frame with Dual FR2-PS (Redundant) Power Supplies Installed

FR2-PS Power Supply Module for FR2 Frame

Features at a glance

- 2 Rack Unit Mounting Frame
- 10 Module Capacity
- Multiple Fan Forced Air Cooling
- Optional Redundant Power Supplies
- Reference DA sends color black to all slots
- Power Supply Monitoring
- UL, CSE, CE Certification
- Universal Input 90-240 VAC 100 Watt Power Supply
- 5 Year Warranty

Tech specs

Capacity:

10 Slots, 2 Rack Unit

Inputs:

Power Supply Monitoring • Reference Input • BNC – Active DA to all slots

Power:

100 Watt Capacity • Universal Input 90-240 VAC Power Supply • Optional Redundant Power Supply • Diode Isolated

Cooling:

Multiple Fan Forced Air

Physical:

19" x 3.5" x 13", (2RU)

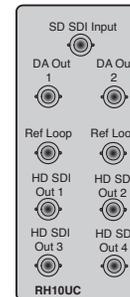
Leitch™ 6800 Series Compatible

RH10UC - SD-SDI to HD-SDI Upconverter or HD Frame Synchronizer



Features at a glance

- Broadcast-Quality 10-bit SD to HD Upconverter
- Motion-adaptive de-interlacing
- Frame Synchronizer function with Genlock input
- Selectable aspect ratio conversion
- Selectable HD output format
- HD-SDI stand-alone Frame synchronizer mode
- Passed embedded audio from SD-SDI to HD-SDI
- 5 Year Warranty



Tech specs

Input Formats:

- 525/59.94 • 625/50 • SMPTE 259M
- 292M

Output Formats:

- 1080i 50/59.94 • 720p 59.94 Hz • (50Hz input requires 50 Hz output)

Upconversion:

- Motion adaptive • Multi-point interpolation • 10-bit processing

Inputs:

- HD/SD SDI • BNC

Reference:

- 2 x BNC • looping

Outputs:

- Input Loop • 2 x BNC • Equalized HD-SDI
- 4 x BNC

User Controls:

- Mode: Upconvert • HD Frame Synchronizer • Output Format • Aspect Ratio Convert Select • Output Timing

Physical:

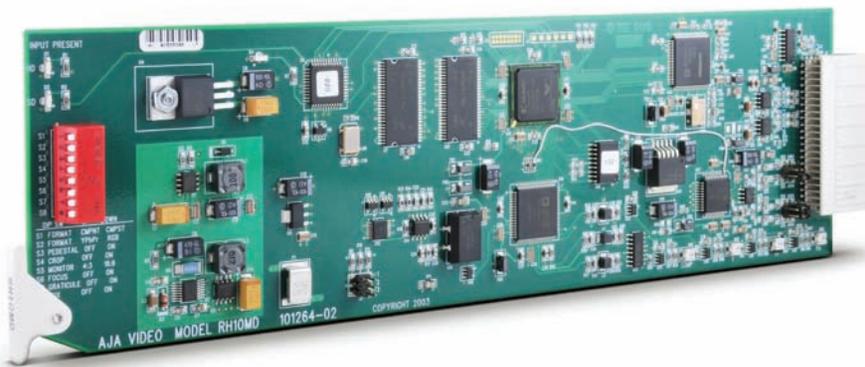
- Fits AJA R-Series Frames

Power:

- 6 watts

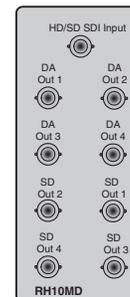
The RH10UC is a 10-bit SD to HD up-converter or HD Frame Synchronizer. Using motion-adaptive de-interlacing and high quality digital scalars, the RH10UC provides excellent Broadcast quality HD video from SD sources. Output HD video is selectable between 720p and 1080i formats. 4:3 to 16:9 aspect ratio conversion is selectable between 4:3 pillarbox, 14:9 crop, 16:9 anamorphic, and 16:9 zoom. Input SD ITU Rec. 601 color space is converted to ITU Rec. 709. Additionally, the RH10UC can operate as a standalone HD-SDI Frame Synchronizer. The RH10UC is compatible with AJA's FR1 or FR2 frames.

RH10MD - High Definition Downconverter and DA



Features at a glance

- Broadcast-Quality 10-bit HD Downconverter
- Re-clocking 1x4 HD/SD-SDI DA
- Multi-Standard HD-SDI or SDI Input
- SDI and Component/Composite Analog Outputs
- 3/2 Pull-down for 23.98/24 Hz p/psf inputs
- Full 10-bit Data Path, Multi-point Interpolation
- Configurable for 16:9 or 4:3 Monitors
- Letterbox and Crop Modes
- 4:3 Safe-Zone Graticule
- Passes embedded audio from HD-SDI to SD-SDI
- 5 Year Warranty



Tech specs

Formats:

- HD: 1080i 50/59.94/60 Hz • 1080p/psf 23.98/24/25/29.97/30 Hz • 720p 23.98/24/25/29.97/30/50/60 Hz

Inputs:

- HD-SDI or SDI SMPTE 259/292/296
- 10-bit • BNC

Outputs:

- SDI • SMPTE 259M • 10-bit • BNC
- YPbPr - SMPTE • EBU-N10 • Betacam RGB • NTSC • PAL • Y/C (S-Video) • 10-bit • 3 x BNC

Downconversion:

- Multi-point interpolation • 10-bit processing • 3:2 conversion for 23.98/24p/psf inputs

User Controls:

- (External Dipswitch) • Output Video Format • 4:3/16:9 Monitor Select
- Letterbox/Crop • Pedestal (Output)
- 4:3 Safe-Zone Graticule Overlay

Physical:

- Fits AJA R-Series Frames

Power:

- 5 watts

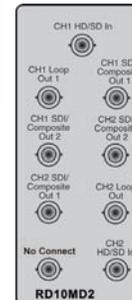
The RH10MD is a 10-bit broadcast-quality HD downconverter and HD/SD-SDI distribution amplifier. There are 4 re-clocked HD/SD-SDI outputs and four down-converted SD outputs. The SD outputs can be individually configured as analog or SDI - analog can be component or composite. All HD formats are supported including 24p/psf with 3:2 pull-down. The SD output can be formatted for either 4:3 or 16:9 monitors. For 4:3 monitors both Letterbox and Crop modes are supported. The RH10MD is also dual-rate (HD/SD) and will support SDI inputs. 4 Ch AES embedded audio is passed through to the SDI outputs. The RH10MD is compatible with AJA's FR1 or FR2 frames.

RD10MD2 - Dual HD To SD Downconverter



Features at a glance

- Dual Independent channel HD to SD down conversion
- Re-clocking HD/SD-SDI input loop outputs
- Multi-Standard HD-SDI or SDI Input
- SDI and Composite Analog Outputs
- 3/2 Pulldown for 23.98/24 Hz p/psf inputs
- Full 10-bit Data Path, Multi-point Interpolation
- Configurable for 16:9 or 4:3 Monitors
- Letterbox and Crop Modes
- 4:3 Safe-Zone Graticule
- 5 Year Warranty



Tech specs

Formats:

- HD: 1080i 50/59.94/60 Hz • 1080p/psf 23.98/24/25/29.97/30 Hz • 720p
- 23.98/24/25/29.97/30/50/60 Hz

Inputs:

- HD-SDI or SDI SMPTE 259/292/296
- 10-bit • BNC

Outputs:

- Each Channel has two outputs configurable for either SDI (SMPTE 259M
- (10-bit) or analog composite NTSC/PAL
- 2x BNC Channel 1 has two relocked loop-through outputs • 2x BNC • Channel 2 has one relocked loop-through output
- 1 BNC

Downconversion:

- Multi-point interpolation • 10-bit processing 3:2 conversion for 23.98/24p/psf inputs

User Controls:

- External Dipswitch • Output Video Format
- 4:3/16:9 Monitor Select • Letterbox/Crop
- Pedestal (Output)
- 4:3 Safe-Zone Graticule Overlay

Physical:

- Fits AJA R-Series Frames

Power:

- 7 watts

The RD10MD2 is a 10-bit broadcast-quality Dual HD down converter. Channels 1 and 2 are fully independent. Channel 1 has 2 re-clocked HD/SD SDI outputs and channel 2 has 1. Both Channel 1 and 2 have 2 down converted outputs, which can be independently configured as SDI or composite analog. All HD formats are supported including 24p/psf with 3:2 pull-down. The SD output can be formatted for either 4:3 or 16:9 monitors. For 4:3 monitors both Letterbox and Crop modes are supported. The RD10MD2 is also dual-rate (HD/SD) and will support SDI inputs. The RD10MD2 is compatible with AJA's FR1 or FR2 frames.

R20DA - 1x8 SD-SDI Distribution Amplifier, Multi-format



Features at a glance

- Re-clocking, Equalizing SDI Distribution Amplifier
- SD-SDI Input
- 8 SDI Outputs
- Multi-Standard: 143/177/270/360 Mb
- Passes embedded audio
- 5 Year Warranty

Tech specs

Input:

- SD-SDI (SMPTE 259M) • BNC 143 • 177
- 270 • 360 Mb, auto select

Outputs:

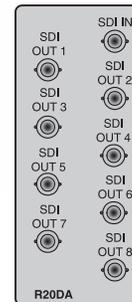
- SD-SDI (SMPTE 259M) • 8 x BNC
- Re-Clocked • Equalized

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

- 3 watts



The R20DA is a multi-standard, 1x8 SD-SDI Distribution Amplifier. The SDI input is re-clocked and equalized to 300 meters of cable. In addition, the multi-standard feature allows the R20DA to automatically adapt to 143, 177, 270, or 360 Mb SDI inputs.

R20AD - Component or Composite Analog to SD-SDI Converter, 10-bit



Features at a glance

- Excellent-Quality 10-bit Universal A/D Conversion
- Component, Composite or Y/C Analog Input
- 4 Line Adaptive Comb Filter
- Full 10-bit Data path, 2x Oversampling
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- AGC Mode
- 4 SDI Outputs with EDH
- Color Bar Generator
- Optional Frame Synchronizer
- 5 Year Warranty

Tech specs

Inputs:

- YPbPr • SMPTE • EBU-N10 • Betacam • RGB
- NTSC • PAL • Y/C (S-Video) • 3 x BNC

Reference:

- Passive Loop • 2 x BNC

Outputs:

- SD-SDI (SMPTE 259M) w/EDH • 4 x BNC

A/D Converters:

10-bits • 2x oversampling

Frequency Response:

Y +/- .15dB to 5.5MHz • C +/- .15dB to 2.5MHz • Less than .5% K Factor (2T)

User Controls:

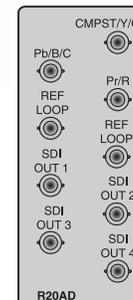
Input Video Format • Pedestal Present/Not Present • Narrow/Wide Blanking • AGC On/Off • EDH On/Off
• Test Pattern • Output Timing adj. (w/ Frame Sync option)

Physical:

Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

7 watts (8 watts w/Frame Sync option)



The R20AD provides excellent-quality 10-bit conversion of component or composite analog video to SD-SDI with EDH. The R20AD accepts YPbPr (SMPTE, EBU-N10), Betacam, or RGB component inputs and NTSC/PAL or Y/C (S-Video) composite inputs. The R20AD features a 4 Line Adaptive Comb Filter for high quality decoding of composite sources. The comb filter can be switched to 2 line, or notch modes for minimum delay requirements. The R20AD also accommodates the optional FSG card (Frame Sync) for synchronizing the output video relative to an external reference. NTSC/PAL configuration is automatic. Video format, AGC, H/V blanking, and pedestal are all user configurable.

R20CE - SD-SDI to Component and Composite Analog Converter, 10-bit



Features at a glance

- Excellent-Quality 10-bit Universal D/A Conversion
- Full 10-bit Data path, 4x Oversampling
- SD-SDI Input, 2 Re-clocked, Loop-Thru SDI Outputs
- Simultaneous Component and Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- Digital Noise Reduction
- Optional Frame Synchronizer Allows Genlock to Reference, Full Timing Adjustment

Tech specs

Input:

- SD-SDI (SMPTE 259M), 1 x BNC

Reference:

- Passive loop, 2 x BNC

Outputs:

- (Simultaneous Component and Composite output) • YPbPr - SMPTE • EBU-N10 • Betacam • RGB • NTSC • PAL • Y/C (S-Video) • 3 x BNC • NTSC/PAL or Sync • 1 x BNC • Re-clocked loop-thru SDI • 2 x BNC

D/A Converters:

- 10-bits • 4x oversampling • Clock Jitter Filtering to 2.5Hz

Frequency Response:

- Y +/- .15dB to 5.5MHz • C +/- .15dB to 2.5MHz (Component) • C +/- .15dB to 1.3MHz (Composite) • Less than .5% K Factor (2T)

User Controls:

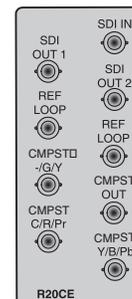
- Output Video Format • Pedestal On/Off • Narrow/Wide Blanking • Digital Noise Reduction • Output Timing Adj. • (w/Frame Sync option)

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

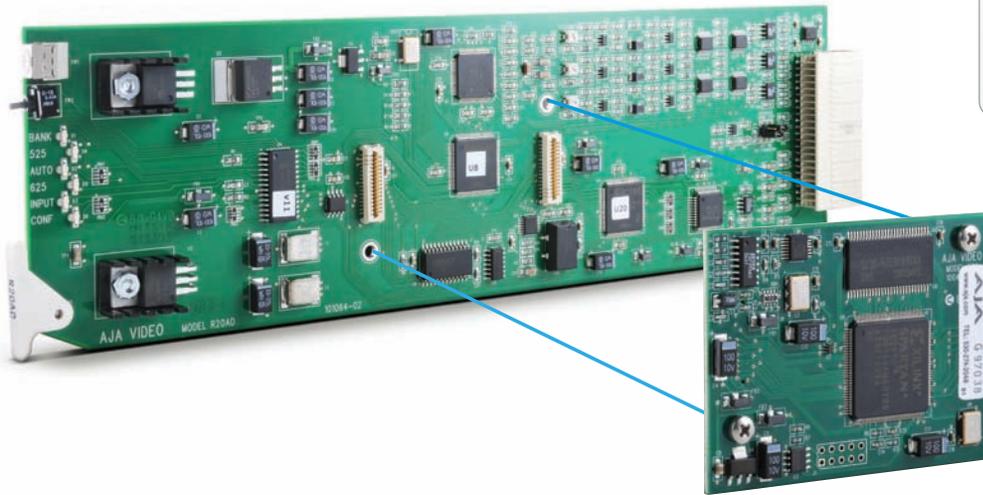
Power:

- 7 watts (8 watts w/Frame Sync option)



The R20CE SD-SDI to Analog Video Converter provides excellent-quality 10-bit conversion of SD-SDI to both component and composite video formats simultaneously. The 4 analog outputs are user configurable to NTSC/PAL, Y/C (S-Video), YPbPr (SMPTE, EBU-N10), Betacam, or RGB. The component and composite outputs are completely independent including optimum chroma filtering for each and independent pedestal configuration. The R20CE also features an exclusive PLL jitter filter/memory to reduce the effects of SDI jitter on the output analog video. This feature, along with the precision 4x oversampled D/A filters, provides the highest-quality analog outputs - including very low phase noise in composite outputs. The optional FSG (Frame Sync/Genlock) Module allows genlock to an external reference with full timing adjustment. Without the FSG Module, the reference input provides color frame timing.

FSG Frame Sync/Genlock Module



Features at a glance

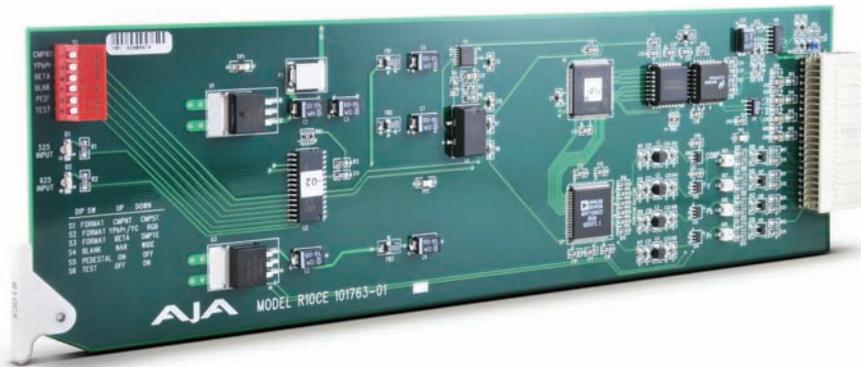
- Optional Frame Sync R20CE, R20D, and R20AD
- External or Input Timing Reference
- Full Output Timing Adjustment
- Passes Vertical Interval Data
- 10-bit Data Path

Tech specs

- Formats:**
- 525/625 Line Component Digital
- Data Path:**
- 10-bits
- Power:**
- 2 watts

The FSG Frame Sync/Genlock Module is an optional upgrade to AJA's R20 series encoders and decoders. The FSG Module provides user adjustable output timing relative to an external sync reference. Also, a delay mode provides adjustable delay with respect to the video input. In addition to the frame sync and delay functions, when installed on AJA R20 series encoders, the FSG Module allows the encoder to genlock to an external reference.

R10CE - 1x4 SD-SDI DA and 10-bit Component/Composite Analog Converter



Features at a glance

- Universal Monitoring SDI DA
- SD-SDI Input
- 4 Re-Clocked SD-SDI Outputs
- 4 10-bit Component/Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- PLL Jitter Filter
- Built-In Test Pattern

Tech specs

Inputs:

- SD-SDI (SMPTE 259M) • 1x BNC

Outputs:

- YPbPr • SMPTE • EBU-N10 • Betacam
- RGB • 3x BNC • Or NTSC • PAL • 3x BNC
- Or NTSC/PAL and YC • 3x BNC • SDI
- Re-Clocking • 4x BNC

User Controls:

- External Dipswitch • Video Format
- Pedestal • Vertical/Horizontal Blanking

Power:

- 4 watts



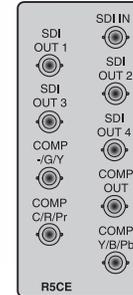
The R10CE is a SD-SDI distribution amplifier and universal monitoring D/A converter. The R10CE provides four equalized and re-clocked SDI outputs along with four analog monitoring outputs. The four analog outputs can be configured to a wide variety of formats including NTSC/PAL, YC (S-Video), YPbPr (SMPTE, EBU-N10), Betacam or RGB. A PLL jitter filter/memory reduces the effects of SD jitter on the analog outputs. The R10CE fits the AJA R-Series Rack Mount Frames, and is compatible with other standard racks.

R5CE - 1x4 SD-SDI DA and Component/Composite Analog Converter



Features at a glance

- Universal Monitoring SD-SDI DA
- SD-SDI Input
- 4 Re-clocked SD-SDI Outputs
- 4 Component/Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- 10-bit to 8-bit Dithering
- PLL Jitter Filter
- Built-in Test Pattern



Tech specs

Input:

- SD-SDI (SMPTE 259M) • BNC

Outputs:

- SD-SDI (SMPTE 259M) • 4 x BNC
- Re-Clocked • Equalized • NTSC/PAL
- Analog • 1 x BNC • YPbPr – SMPTE • EBU-N10
- Betacam • RGB • or 3 x NTSC/PAL • or 1 NTSC/PAL and Y/C (S Video) 3 x BNC
- Jitter Filtering to 2.5 Hz

User Controls:

- (External Dipswitch) • Video Format
- Pedestal • H/V Blanking •

Frequency Response:

- +/- .25 dB to 5 MHz

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

- 6 watts

The R5CE is a SD-SDI distribution amplifier and universal monitoring D/A converter. The R5CE provides four equalized and re-clocked SDI outputs along with four analog monitoring outputs. The four analog outputs can be configured to a wide variety of formats including NTSC/PAL, Y/C (S-Video), YPbPr (SMPTE, EBU-N10), Betacam or RGB. A PLL jitter filter/memory reduces the effects of SDI jitter on the analog outputs. An exclusive feature of the R5CE is a 10- to 8-bit dithering circuit which removes contouring in the analog outputs. Additionally, the R5CE features user selectable pedestal and H&V blanking.

RD5CE - Two Channel SD-SDI to Component/Composite Analog Converter



Features at a glance

- Low-Cost Universal D/A Conversion
- Two Separate Channels
- SD-SDI Inputs, Re-clocked Loop-thru SDI outputs
- CH 1 outputs Component or Composite
- CH 2 outputs Composite or Y



Tech specs

Inputs:

- 2 Channels SD-SDI (SMPTE 259M) • 2 x BNC

Outputs:

- CH 1 Output: YPbPr-SMPTE • EBU-N10 • Betacam • RGB • NTSC/PAL • Y/C (S-Video) • 3 x BNC • CH 2 Output: NTSC/PAL • Y • 1xBNC • SDI Looping Output • 2 x BNC

User Controls:

- Dipswitch (Separate control for each channel) • Video Format • Pedestal • H/V Blanking

Frequency Response:

- +/- .25dB to 5 Mhz Y • +/- .25dB to 2.5 Mhz C (component) • +/- .25dB to 1.3 Mhz C (composite) • <1.5% Differential Gain • <1.5 Degree Differential Phase

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

- 7.5 watts

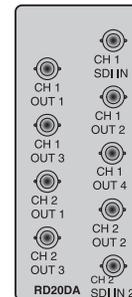
The RD5CE is a low-cost, dual-channel, universal video D/A converter. The RD5CE supports 2 completely separate channels of SD-SDI to analog conversion. Channel 1 can output component or composite analog video including YPbPr (SMPTE, EBU-N10), Betacam, RGB, composite or YC (S-Video). Channel 2 can output composite or Y. Both SDI inputs have a re-clocked SDI loop-thru output.

RD20DA - Dual Channel SD-SDI Distribution Amplifier



Features at a glance

- 2 Channel Re-Clocking, Equalizing SDI Distribution Amplifier
- 2 Separate SDI Inputs,
- 1x3, 1x4 SDI Outputs
- Multi-Standard: 143/177/270/360 M2



Tech specs

Input:

- 2 Separate SD-SDI (SMPTE 259M) • BNC • 143 • 177 • 270 • 360 Mb • auto select

Outputs:

- Ch 1: 4 SDI (SMPTE 259M) • Ch 2: 3 SDI (SMPTE 259M) • Re-Clocked • Equalized

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

- 3 watts

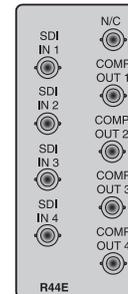
The RD20DA is a multi-standard, 2-channel, 1x4 and 1x3 SD-SDI Distribution Amplifier. The SDI input is re-clocked and equalized to 300 meters of cable. In addition, the multi-standard feature allows the RD20DA to automatically adapt to 143, 177, 270, or 360 Mb SDI inputs.

R44E - Four Channel SD-SDI to Composite Analog Converter



Features at a glance

- 4 Channel SD-SDI to NTSC/PAL Converter
- 4 Separate SD-SDI Inputs
- 4 Separate Composite Analog Outputs
- Built In Test Pattern
- Configurable Pedestal
- R44E allows 40 Channels of Conversion in 2 RU



Tech specs

Inputs:

- 4 CH SD-SDI (SMPTE 259M) Inputs • 4 x BNC

Outputs:

- 4 NTSC/PAL, 4 x BNC

User Controls:

- Dipswitch (Separate control for each channel)
- Composite/Y • Pedestal • H/V Blanking

Frequency Response:

- +/- .25 dB to 5 MHz

Physical:

- Fits AJA R-Series Frames • Compatible with Leitch 6800 Series Frames

Power:

- 8 watts

The AJA Video R44E provides four composite analog monitoring outputs from four separate SD-SDI inputs. Each channel has a separate D/A converter with a 10-bit DAC and 8-bit broadcast encoding. Values below black and above white are not clipped. Each channel has a test pattern generator with separate user selectable blanking controls. The R44E also features automatic NTSC or PAL configuration.

Incredible 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 offers the Io and KONA desktop video products, Ki Pro family of recorders, miniature standalone 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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B e c a u s e i t m a t t e r s .

