PROFESSIONAL VIDEO EQUIPMENT

2018 CATALOG

Roland

Welcome

Welcome to the Roland Professional Video Equipment Catalog

Roland offers a range of professional video solutions for multiple applications that combine superb product quality with award-winning design. As the product of choice for video professionals on a global scale, Roland video solutions are feature-rich, innovative and built on the groundbreaking digital technology that has made Roland a market leader.

The world of professional video is evolving, and we are continually challenged to provide products with more sophisticated features, that can deal with ever-changing hardware and software, that can handle those last-minute changes and still deliver a seamless result. That is why each Roland professional video solution has been designed and developed in consultation with the market and, importantly, the end user, to ensure that every requirement is met when it comes to form and features. The result is a comprehensive portfolio of compact, all-in-one solutions that provide the flexibility and connectivity that is necessary for video professionals today.

With a comprehensive line-up that ranges from portable full-HD studio solutions with the built-in ability to mix, edit, record and distribute audio and video - to full HD matrix switchers that connect and switch multiple sources, you can be sure that a Roland solution is packed with the features you need to achieve professional results. In addition to the all-important features, we've given equal consideration to enhancing the user experience by integrating intuitive user interfaces, touchscreen displays, preview monitors and clear workflows into the product design.

When it comes to setup, Roland offers straightforward compact and portable 'plug in and play' video solutions. Saving space, time and money, Roland video solutions also include features such as automatic scaling for each input, memory recall and real-time adjustment – small things that make a big difference to busy professionals. All these intelligent design features also mean that Roland video solutions are ideal for those with variable technical skillsets, enabling professional results with the minimum of training or ongoing support.

Whether you need a video solution for corporate, broadcast, live production, visual performance or house of worship, a Roland professional video solution has all the features you are looking for – and more. If your requirement is for video switchers, streaming switchers, matrix switchers, convertors or equipment for recording and playback, our professional video solutions have the reliability and quality that only a brand such as Roland can guarantee.

Need further information? Visit the Roland Professional Video website for video tutorials, application guides, product brochures and case studies.

VIDEO MIXERS

ALL-IN-ONE VIDEO-MIXERS

AV-MATRIX SWITCHERS

AV-CONVERTERS

ACCESSORIES

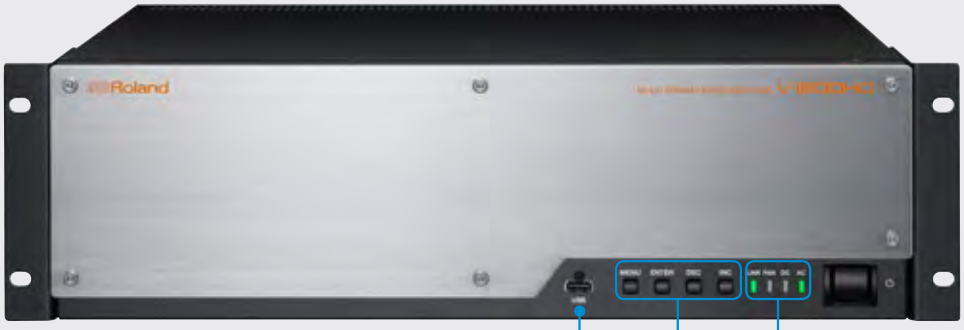
Contents

Roland Corporation

Since 1972, Roland Corporation has been at the forefront of innovative product design for the global music industry. Constantly evolving, we've gained an unrivalled strength in digital technology and electronics manufacturing that has enabled our product portfolio to expand successfully into new markets including professional audio and video. Today, Roland Professional A/V reaches a global audience as a provider of audio and video solutions for multiple applications including corporate, broadcast, education, live production, visual performance and worship. Founded in Japan but with offices worldwide, Roland continues to develop original products that excel both in performance and functionality.

V-1200HD/V-1200HDR

V-1200HD | MULTI-FORMAT VIDEO SWITCHER



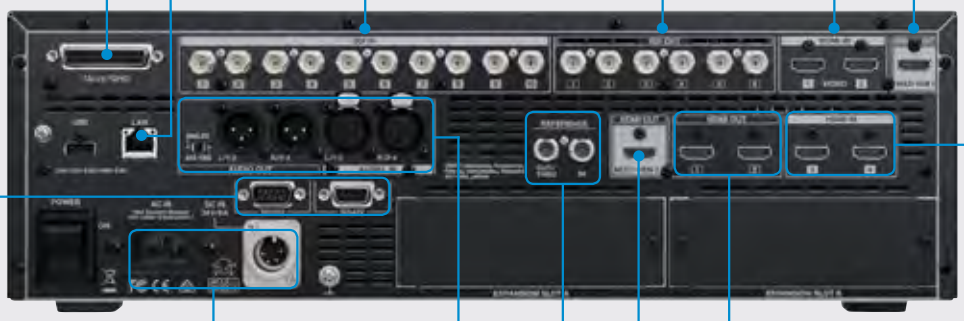
USB PORT
Along with importing still images for storage in internal memory, this is used for saving and loading settings for the V-1200HD as well as for updating the firmware.

LED STATUS INDICATORS
These monitor the status of the connection between the main unit and the control surface, the cooling fan and the power supply.

TALLY/GPIO CONNECTOR
This connects to a video monitor capable of tally input or a tally light system to illuminate the tally lamps. You can also use it to transmit and receive control signals between the unit and an external device.

LAN PORT
An Ethernet cable connects the console and the main-unit processors. Using an Ethernet hub lets you connect up to two controllers, V-1200HDR units or computers on which the dedicated remote control sofware V-1200HD RCS is installed, to the V-1200HD.

4:2:2 HDMI INPUT
Dedicated HDMI inputs for 4:2:2 process with color space selection and color correction.



MULTI-VIEW OUTPUT 1
Video in the 4:2:2 process can be monitored via MULTI-VIEW 1.

4:4:4 HDMI Input
These can be used for both 4:2:2 process and 4:4:4 process. The 4:4:4 process supports HDCP.

REMOTE CONNECTORS
The RS-422 connector allows you to connect and control VISCA compatible cameras. The RS-232 connector is used for remote control from an external device.

REDUNDANT POWER
The V-1200HD accommodates both AC and DC 24V power sources. Connecting both establishes a redundant power supply.

MULTI-VIEW OUTPUT 2
Video in the 4:4:4 processor can be monitored via MULTI-VIEW 2.

HDMI OUTPUT
These output the mixed video by the 4:4:4 process.

XLR AUDIO INPUT/OUTPUT
Either two analog channels or four AES/EBU channels are selectable for the XLR audio input/output connectors. (Input and output share a common format.)

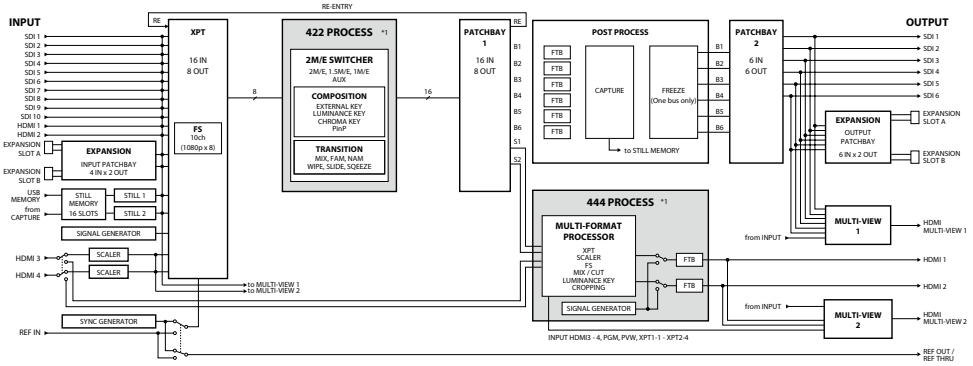
REFERENCE IN, OUT/THRU
Black burst, 2-value, and 3-value input are supported. In addition to loop-through, installing a generator for output is also supported.

Hybrid Engine 2 M/E Switcher and Processor for Broadcast and Live Event

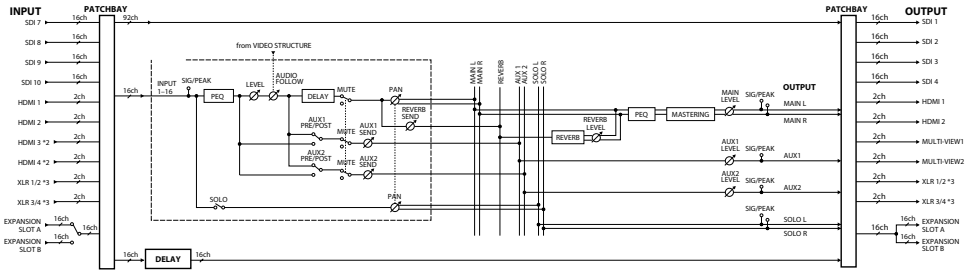
- 10 SDI and 4 HDMI inputs, and 6 SDI and 2 HDMI outputs
- 4:2:2/4:4:4 hybrid engine
- The 4:2:2 process functions as a 2 M/E switcher that is able to switch 2 M/E, 1.5 M/E, and 1 M/E
- The 4:4:4 process functions as a multi-format processor that supports live presentation, split-screen, and matrix output
- Up to 92 Inputs/Outputs 16-channel audio mixer
- Control of up to 7 remote cameras
- Optional control surface V-1200HDR with a T-fader and dual displays
- All switcher functions can be operated from a computer using remote control software, V-1200HD RCS (for Windows and Mac OSX, free download)
- Input/output expandable via expansion slots

BLOCK DIAGRAM

VIDEO



AUDIO



V-1200HDR | DEDICATED CONTROL SURFACE FOR THE V-1200HD

DUAL TOUCH MONITORS
These dual touch monitors let you display different GUIs on the left and right. Incoming video signals from the HDMI connectors on the rear panel can also be displayed.

PHONES JACK

VALUE KNOB
The large value knob and exit/enter buttons allow you to adjust value settings instantly.

AUDIO MASTER VOLUME
This adjusts the volume level of mixed audio.

POSITIONER
The positioner used for adjusting X, Y and Z parameters provides flexible control of the remote cameras.

LAYOUT BUTTONS
Save screens displayed on the monitors as presets, to be recalled when needed.

CROSS-POINT DISPLAY
Primary video inputs are freely assignable to any cross-point location. The name of the source appears at the bottom of the display, reducing operation errors.

M/E TRANSITION SELECTION
Although the control surface is designed in the style of one M/E, you can use these two buttons to switch between the two M/Es.

AUX BUS BUTTONS
These select video sources output to the AUX buses or video channels used for composition. They also access assigned user presets.

CROSS-POINT BUTTONS

DELEGATION BLOCK
These change the selection targets for the AUX bus buttons.

TRANSITION BLOCK
Transition buttons provide accurate, full control of operations for the next take.

REDUNDANT POWER
In addition to an AC adapter, the unit can be powered by a 12V battery. Connecting both at the same time provides redundant power.

LAN PORT
An Ethernet cable connects the V-1200HDR to the main unit. Using an Ethernet hub lets you connect up to two controllers, V-1200HDR units or computers on which the dedicated remote control sofware V-1200HD RCS is installed, to the V-1200HD.

HDMI INPUT
You can input video to the dual monitors. If you connect the main unit's multi-view outputs to the V-1200HDR's HDMI inputs, the multi-view content will display on the V-1200HDR's built-in screens.

EXPANSION CARDS

REAC Expansion Interface

XI-REAC

- REAC audio interface.
- Connect 16 input channels and 16 output

SDI Expansion Interface

XI-SDI

- Equipped with two input and two output SDI connectors
- Two built-in scalers
- Connect to 4:2:2 engine

DVI Expansion Interface

XI-DVI

- Equipped with two DVI-I connectors for switchable bidirectional input/output, with support for analog RGB, composite, DVI-D, and HDMI signals.
- Two built-in scalers
- Connect to 4:2:2 engine

DANTE Expansion Interface

XI-DANTE

- DANTE audio interface
- Connect 16 input channels and 16 output channels to the internal audio processor

SPECIFICATIONS V-1200HD

VIDEO

Processing	4:4:4 (Y/Pb/Pr/RGB), 10-bit/4:2:2 (Y/Pb/Pr), 10-bit
Input Connectors	3G/HD/SD-SDI: BNC type x 10 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C HDMI: type A x 2 (HDMI INPUT 1-2) * HDCP Not Supported HDMI: type A x 2 (HDMI INPUT 3-4) * HDCP Supported, Multi-format Supported
Output Connectors	3G/HD/SD-SDI: BNC type x 6 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C HDMI: type A x 2 (HDMI OUTPUT 1–2) * HDCP Supported HDMI: type A x 2 (HDMI OUTPUT MULTI-VIEW 1 * HDCP Not required, 1080/60p) (HDMI OUTPUT MULTI-VIEW 2 * HDCP Required, 1080/60p)
Formats	SDI: 480/59.94i *1, 576/50i *1, 720/59.94p *1, 720/50p *1, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p * Conforms to SMPTE 274M, SMPTE 296M, ITU-R BT.601-5 HDMI: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 1024 x 768/60 *2, 1280 x 720/60 *2, 1280 x 800/60 *2, 1366 x 768/60 *2, 1280 x 1024/60 *2, 1400 x 1050/60 *2, 1600 x 1200/60, 1920 x 1080/60, 1920 x 1200/60 RB * Conforms to CEA-861-E, VESA DMT Version 1.0 Revision 11 * The output format of HDMI 1-2 and SDI is always the same. * Frame rate is 59.94 (NTSC) or 50 (PAL). * MULTI-VIEW 1-2 output is 1080/60p always. *1: Features to be added by planned firmware update. *2: Output refresh rate is 75 Hz when frame rate is set to 50 Hz.
Effects (4:2:2 Processing)	M/E: 1M/E, 1.5M/E, 2M/E (9types) Transition: Mix, NAM *3, FAM *3, Cut, Wipe Composition (Keyer): 4 (PinP, Luminance Key, Chroma Key, External Key supported) AUX: 2 Others: Output Fade, Output Freeze, Output Capture, Composition Edit, SDI Output Patchbay * These effects depend on M/E type. *3: PGM/PST only
Effects (4:4:4 Processing)	M/E: 1M/E, Matrix, Scaler Input: 4 (4:2:2 Processing outputs x 2, HDMI INPUT 3, HDMI INPUT 4) Transition: Mix, Cut Composition (Keyer): 1 (PinP, Luminance Key) Others: HDCP Supported, Output Fade, Output Cropping, Signal Generator * These effects depend on M/E type.
Still Image	Input: 2 Internal Memory: 16 Maximum Size: 1920 x 1080 pixels Format: Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed Portable Network Graphic File (.png) * Alpha Channel Supported.
Multi-viewer	MULTI-VIEW 1 (4:2:2 Processing): 16/10 screens, Label, Tally * HDCP Not Supported MULTI-VIEW 2 (4:4:4 Processing): 4 screens, Label, Tally, OSD Setup Menu * HDCP Required

AUDIO

Processing	Sampling Rate: 24 bits/48 kHz
Input Connectors	3G/HD/SD-SDI: BNC type x 4 (Ch7-10), HDMI x 4, AUDIO IN (XLR) L (1/2), R (3/4) * Analog Audio or AES/EBU
Output Connectors	3G/HD/SD-SDI: BNC type x 4 (Ch1-4), HDMI x 4, AUDIO OUT (XLR) L (1/2), R (3/4) * Analog Audio or AES/EBU
Input Level and impedance	AUDIO IN: +4 dBu (Maximum: +22 dBu, 15 k ohms)
Output Level and impedance	AUDIO OUT: +4 dBu (Maximum: +22 dBu, 600 ohms)
Formats	SDI: Linear PCM, 24 bits, 48 kHz, 16ch * Conforms to SMPTE 299M, SMPTE 272M-C HDMI: Linear PCM, 24 bits, 48 kHz, 2ch AES/EBU: Linear PCM, 24 bits, 48 kHz, 4ch
Effects	Patchbay: 92 inputs x 92 outputs Delay: 16ch Mixer: 16ch (Channel Effects: 3-Band EQ, Delay/ Master Effects: Mastering, 3-Band EQ, Reverb)

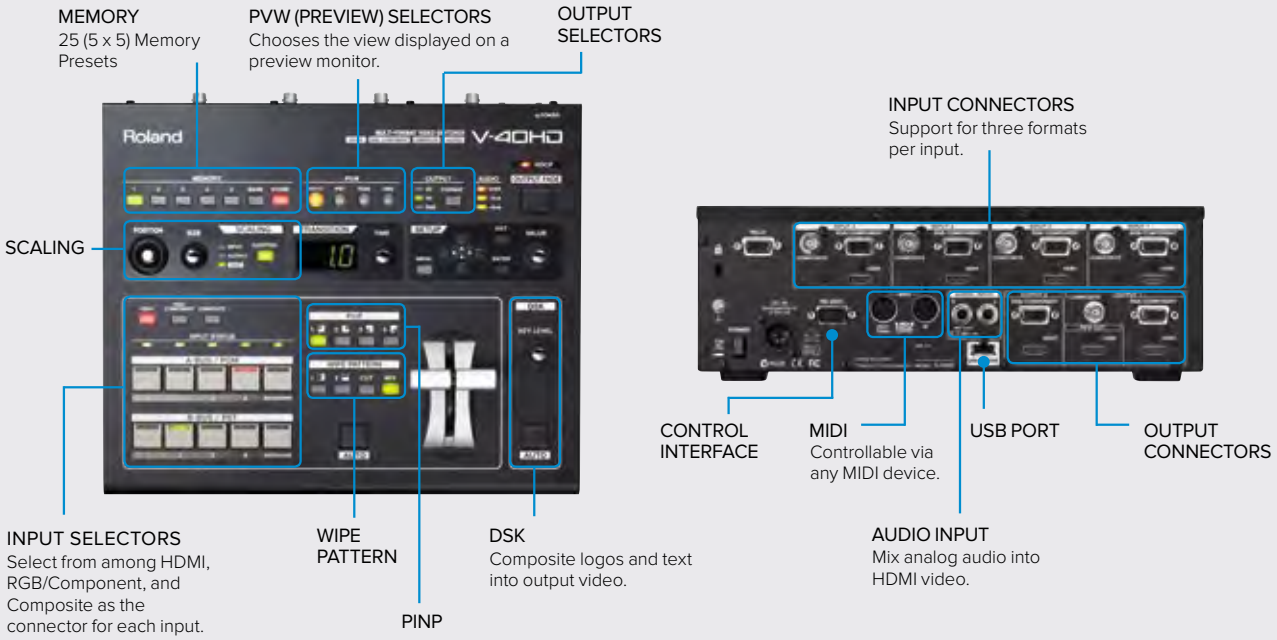
OTHERS

Expansion Slot	Slot: 2 * The maximum number of channels for the two slots in total is 2 inputs/2 outputs for video and 16 inputs/16 outputs for audio. * Features to be added by planned firmware update.
Reference	Input: BNC type x 1 * Black Burst (Sync to frames), Bi-Level, Tri-Level Output/Through: BNC type x 1 * Black Burst (Sync to frames)
External Connectors	RS-232: D-Sub 9-pin type (Male) x 1 * For Remote Control RS-422: D-Sub 9-pin type (Female) x 1 * For VISCA Control TALLY/GPIO: D-sub 25-pin type (Female) x 1 (Input: 8, Output/Tally: 16) LAN: RJ45 100Base-TX (Connect to V-1200HDR or Computer) USB: A type x 2 (USB Memory/Use for future expansion)
Preset Memory	8 * Last Memory Function
User Function	32 * 16 buttons x 2 banks
Remote Camera Control	Connector: RS-422 D-Sub 9-pin type (Female) x 1 Protocol: VISCA
Remote Controller	V-1200HDR Control Surface * Option V-1200HD RCS * Windows 7 SP1 or higher is supported.
Power Supply	AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz) DC 24 V (XLR-4-32 type) * Redundant Power Supply.
Power Consumption	90 W/0.8 A (117V), 90 W/0.5 A (220V, 230V, 240V), 90 W/3.75 A (DC 24V) * When expansion slot is void.
Accessories	482 (W) x 357 (D) x 133 (H) mm 19 (W) x 14-1/16 (D) x 5-1/4 (H) inches * EIA-3U rack mount size
Dimensions	9.0 kg, 19 lbs 14 oz
Weight	Power Cord, Rubber Feet × 4, Owner's Manual

* 0 dBu=0.775 Vrms * This product is a Class A digital device under FCC part 15. * In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

SPECIFICATIONS V-1200HDR

Display	7 inch 800 x 480 Graphic color LCD (touch screen) x 2
Video Input	HDMI (type A) x 2 * 1920 x 1080/60p, HDCP Supported
Video output	HDMI (type A) x 1 * Use for future expansion
Others	USB: type A x 1 * USB Memory, USB: type B x 1 * Use for future expansion LAN: RJ45 100Base-TX (Connect to V-1200HD) PHONES jack: Stereo 1/4-inch phone type x 1 (80 mW + 80 mW, 32 ohms) Internal speakers (stereo)
Power Supply	AC Adaptor, DC 9 V to 16 V (XLR-4-32 type) * Can not be used at the same time.
Power Consumption	36 W
Dimensions	520 (W) x 237 (D) x 111 (H) mm, 20-1/2 (W) x 9-3/8 (D) x 4-3/8 (H) inches * Protruding parts not included.



Four Multi-Format Channels at the Pinnacle of HD Picture Quality

- 4 Channels (12 Inputs - 4 x HDMI, RGB/Component, Composite),
- 3 Outputs (HDMI/RGB/Component/Composite+HDMI/RGB/Component + HDMI)
- 4:4:4/10-bit Internal Processing (*4:2:2/8-bit Output Processing)
- 1 M/E (PinP) + DSK
- Built-in frame synchronizers and scalers on all inputs
- Input status LEDs
- Full HDCP support
- Preview monitor output (Four-way split screen for Inputs, PST, PGM, or DSK)
- Audio embedding
- Audio delay to align the timing with video for perfect lip sync

SPECIFICATIONS V-40HD

VIDEO PROCESSING	
Sampling Rate	4:4:4 (Y/Pb/Pr), 10 bits * Output signal processing is 4:2:2/8-bit.
AUDIO PROCESSING	
Sampling Rate	24 bits/48 kHz, 2ch
INPUT FORMATS	
HDMI Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz * The video signal frame rate must match with the unit's frame rate setting. *1 *2
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2ch
RGB/Component	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz * The video signal frame rate must match with the unit's frame rate setting. *1 *2
Composite	NTSC, PAL
OUTPUT FORMATS	
HDMI Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz * The output refresh rates of 640 x 480 to 1400 x 1050 are 75 Hz when the unit's frame rate setting is 50 Hz. *1 *2
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2ch
RGB/Component	480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94p, 1080/50p 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz * The output refresh rates of 640 x 480 to 1400 x 1050 are 75 Hz when the unit's frame rate setting is 50 Hz. *1 *2
Composite	NTSC, PAL
Preview (HDMI)	Video: 1920 x 1080/60 Hz (fixed) * When INPUT is selected, the sources are displayed using a reduced frame rate. Audio: Linear PCM, 24 bits/48 kHz, 2ch
SIGNAL LEVEL/IMPEDANCE	
RGB/Component	Signal level: 0.7Vp-p (H, V: 5VTTL) Impedance: 75 ohms
Composite	Signal level: 1.0 Vp-p (luminance), 0.286 Vp-p (chroma [NTSC]), 0.3 Vp-p (chroma [PAL]) Impedance: 75 ohms
Analog Audio	Nominal input level: +4 dBu Maximum Input Level: +22 dBu Impedance: 15 k-ohms
VIDEO EFFECTS	
Transition	Mix, Cut, Wipe (9 patterns
Composition	Picture in Picture, DSK (Luminance Key, Chroma Key)
AUDIO EFFECTS	
Delay	0.0 to 12.0 frames
OTHERS	
Dimensions	317 (W) x 266 (D) x 108 (H) mm 12-1/2 (W) x 10-1/2 (D) x 4-1/4 (H) inches
Weight	3.4 kg, 7 lbs 8 oz (excluding AC Adaptor)
Weight (excl. AC adapt.)	1.2 kg, 2 lbs 10-2/5 oz

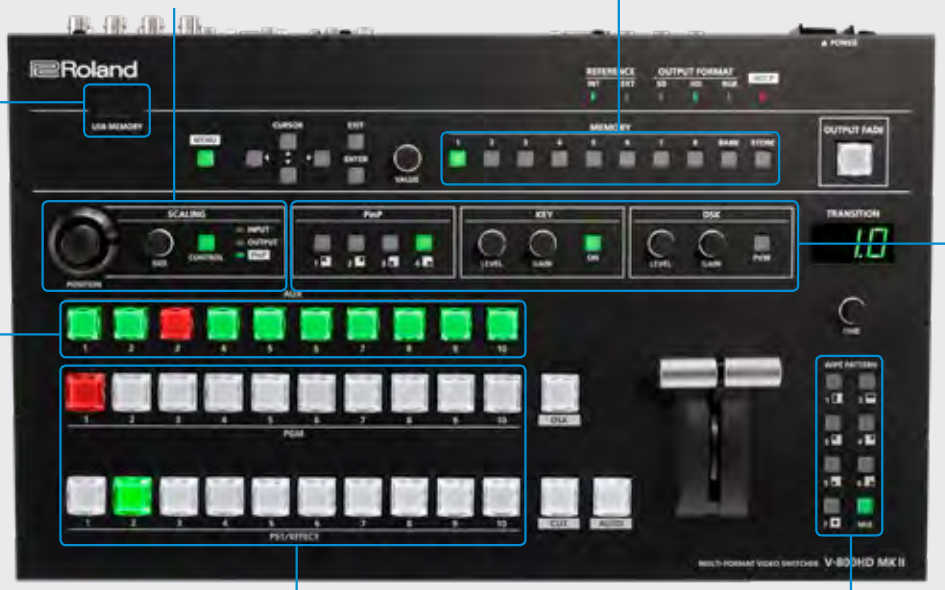
*1: Conforms to VESA DMT Version 1.0 Revision 11
*2: 1920 x 1200/60 Hz: Reduced blanking

V-800HD MKII | MULTI-FORMAT VIDEO SWITCHER

SCALING
The scalers let you make settings independently for every input source. With these, you can take input sources of different resolutions and adjust to any sizing and resolution including odd-sized LED walls. You can freely scale digital, analog RGB, and component sources.

MEMORY
You can save eight sets of panel settings in each of eight banks, for a total of 64 sets. Pre-saving complex settings in this way lets you call them up instantly when they're needed.

USB PORT
Store up to 16 still images imported from a USB memory device.



AUX BUS
New selector switch on AUX bus. It is possible to output a completely different image from the main bus switching image. You can send the image after the position adjustment by the scaler from the switch on the front panel in a cut change.

PINP/KEY/DSK
In addition to the newly designed Picture-in-Picture (PinP), Luminance Key, Chroma Key, and DSK for 4:4:4/10-bit input, you can also use an External Key.
* DSK cannot be used during External Key operations.

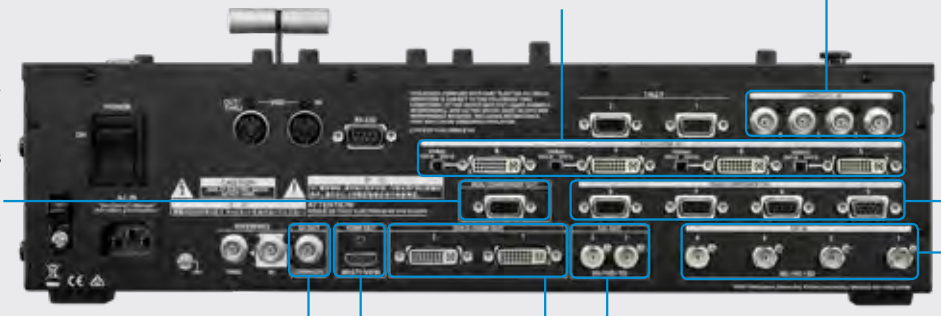
INPUT
You can assign video sources to cross-points in any order you like instead of having to use the numerical order of the connectors on the rear panel. This lets you reorder and shift video feeds when sudden changes in camera lines or differences in format create blanks between cross-points.

TRANSITION
The simple design makes selecting a transition pattern as easy as pressing an icon-marked button. You can also set the length of transition times precisely, using either seconds or frames.

DVI-I/HDMI INPUT
A slider switch selects either DVI-D or DVI-A. Support for HDMI is also possible through use of a simple HDMI/DVI adapter. Supports HDCP input.

COMPOSITE INPUT
The V-800HD MK II lets you use four analog composite inputs.

RGB/COMPONENT OUTPUT
Accommodate projectors and other video devices that accept only analog input. Built-in scalers let you specify resolutions that differ from the main output resolution.



RGB/COMPONENT INPUT
Using a conversion cable lets you input analog component signals in addition to VGA type output from a computer.

SDI INPUT
Supports three formats of digital video signals: 3G, HD, and SD.

SD OUTPUT
This provides a constant down-scaled composite signal regardless of the main output resolution.

MULTIVIEWER OUTPUT
Monitor your active input sources along with Program and Preview.

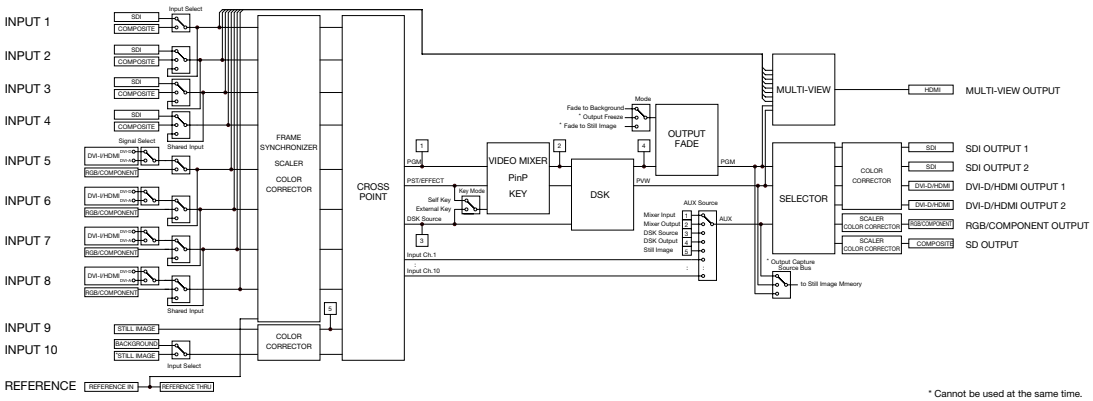
DVI-D/HDMI OUTPUT
The V-800HD MK II is equipped with two DVI-D/HDMI outputs for connecting displays/projectors and is HDCP-compatible.

SDI OUTPUT
Two SDI outputs are provided supporting 3G, HD, and SD signals.
* 3G-SDI Level A/Level B compatible

Updated Version of the Industry Standard Multi-Format Video Switcher

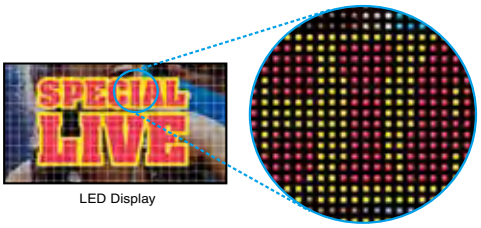
- Up to 16 inputs, 8 cross points (4 SDI/Composite + 4 DVI-I/HDMI)
- 6 Simultaneous output (2 SDI + 2 DVI + RGB + Composite)
- Dedicated multi-view monitor output
- High quality 4:4:4/10 bit processing
- 1080p/i, WUXGA processing
- Frame Sync & Scaler on all inputs and outputs
- 3G, HD, SD 3-mode SDI (3G-SDI Level A/B compatible)
- HDCP Compatible
- Two active still images from sixteen still memories
- AUX bus switch

BLOCK DIAGRAM



4:4:4/10-bit Internal Processing

The V-800HD MK II uses 4:4:4/10-bit internal signal processing. This lets you achieve compositing and output with no reduction in high-detail RGB signals driven from a computer. The result is a sharp, unblurred display of video and text, even on large screens and LED displays. The V-800HD MK II delivers high image quality for all uses, from live broadcasts to event displays.

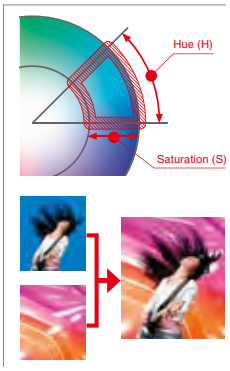


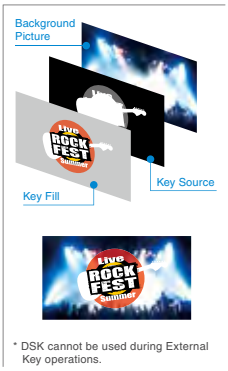
LED Display

Crisp output per pixel

Newly Developed Key-compositing Engine

Along with the upgraded internal signal processing, a newly developed keyer is included. Chroma Key lets you adjust phase range, amount of chroma, and other parameters based on HSV color space that is closely related to human chromatic saturation. This allows you to achieve high quality and tight chroma key compositing even when using 1080p video sources. What's more, the V-800HD MK II can accept an External Key. This attractively composites colorful CG titles and gradation/transparency clips, enabling you to achieve visual effects that are even more impressive.





* DSK cannot be used during External Key operations.

SPECIFICATIONS V-800HD MKII

VIDEO PROCESSING

Processing		4 : 4 : 4 (Y/Pb/Pr, RGB), 10-bit
Supported Formats	Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p *SDI and Composite input can input the same frame rate as a setup menu setting.
	PC	640×480/60Hz (*1), 800×600/60Hz (*1) (*3), 1024×768/60Hz (*1), 1280×768/60Hz (*1), 1280×1024/60Hz (*1), 1366×768/60Hz (*1), 1400×1050/60Hz (*1), 1600×1200/60Hz, 1920x1080/60Hz, 1920×1200/60Hz (*2), *Conforms to VESA DMT Version 1.0 Revision 10 *1 Output refresh rate is 75 Hz when frame rate is set to 50 Hz *2 Reduced blanking *3 When Reference is set to External, the resolution of 800 x 600 and refresh rate of 60 Hz are no longer compliant with the VESA standard. This means that display on some devices may not be possible in this situation.
	Still	Windows Bitmap File (.bmp) *Maximum 1900 x 1200 pixels, 24-bit per pixel, uncompressed

INPUT/OUTPUT LEVEL AND IMPEDANCE

Composite	1.0Vp-p 75Ω
Analog HD/RGB	0.7Vp-p 75Ω (H, V:5 VTTL)

INPUT CONNECTORS

3G/HD/SD-SDI		BNC type×4 *Conforms to SMPTE 424M (Level-A, Level-B), 292M, 259M-C
DVI-I/HDMI		DVI-I type×4 *Select DVI-A or DVI-D/HDMI using switch per channel
Analog Video	HD	Component (Mini D-sub 15-pin type) x 4 *Combined use with Analog RGB
	SD	Composite (BNC type) x 4 *Select Composite or SDI using menu per
Analog RGB		Mini D-sub 15-pin type x 4 *Combined use with Analog Video (HD) *Select DVI-D/HDMI or Analog RGB using menu per channel

OUTPUT CONNECTORS

3G/HD/SD-SDI		BNC type x 2 *Conforms to SMPTE 424M (Level-A, Level-B), 292M, 259M-C
DVI-I/HDMI		DVI-I type x 2, HDMI x 1 (for multi-view monitor)
Analog Video	HD	Component (Mini D-sub 15-pin type) x 1 *Combined use with Analog RGB
	SD	Composite (BNC type) x 1 *Combined use with Analog Video (HD) *Does not synchronize with Reference Input.
Analog RGB		Mini d-sub 15-pin type x 1 *Combined use with Analog Video (HD)

OTHER CONNECTORS

Tally	Mini D-sub 15-pin type x 2 *Input (max): 12 V, 200 mA Open collector Type
Reference	BNC type (IN, THRU) *Black Burst (Sync to frames), Bi-Level, Tri-Level
MIDI	5 pin DIN type (IN, OUT/THRU)
RS-232	D-sub 9 pin type x 1
USB port (host)	A type x 1 (for USB memory)

EFFECTS

Transition	Mix, Cut, Wipe (9 patterns)
Composition	PinP, DSK, Chrominance Key, Luminance Key, External Key
Others	Output Fade, Output Freeze

OTHERS

Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	75W
Dimensions	482 (W) x 275 (D) x 116 (H) mm 19 (W) x 10-7/8 (D) x 4-5/8 (H) inches * When rack mount angles are fitted.
Weight	5.5kg
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Accessories	Owner's Manual, Power cord, Rack-mount angle x 2

V-60HD | HD VIDEO SWITCHER

H/PGM-CTR
PinP: This adjusts the horizontal display position of the inset screen.
Split: This adjusts the vertical and horizontal position of the video displayed above or on the left.

V/PST-CTR
PinP: This adjusts the vertical display position of the inset screen.
Split: This adjusts the vertical and horizontal position of the video displayed below or on the right.

PINP 1, PINP 2 SPLIT
This switches PinP or split video composition on and off. When the feature is turned on, the button lights up.

AUDIO INPUT LEVEL
These adjust the volume level for AUDIO IN 1–5/6.

MASTER OUTPUT
This adjusts the volume level for master out.

MASTER OUTPUT LEVEL METER
This displays the volume level for master out.

MENU
This switches between displaying or hiding the menu. The menu appears on the unit's built-in display and on the multi-view monitor (p. 10) connected to the MULTI-VIEW connector.

VALUE
Turning: This selects a menu item or changes a setting value.
Pressing: This accepts the selected menu item or applies changes to a setting. It also executes operations.

MIX, WIPE 1 WIPE 2
These select video transition effects. The selected button lights up.

DSK
This switches DSK composition on or off. When on, the [DSK] button lights up.

AUX/MEMORY

CROSS-POINT
These select the video to output.

CUT/AUTO
These make the preset video (the video to output next) the final output.

AUDIO INPUT LEVEL
These adjust the volume level for AUDIO IN 1–5/6.

RS-232 CONNECTOR
A remote-control device (such as a computer that supports RS-232) can be connected here to remotely control the V-60HD.

SDI OUT 1 AND 2 CONNECTORS, HDMI OUT 1 AND 2 CONNECTORS
This outputs the results of video mixing (the final-output video), preview video (the video to be output next), or AUX-bus video. Connect them to devices such as projectors, video recorders, or external displays.

DC IN JACK
Connect the included AC adapter to this jack.

CONTROL PORT
You use "V-60HD RCS" dedicated software to operate the V-60HD remotely from a connected computer.

MULTI-VIEW CONNECTOR
This outputs the input/output video list, the audio level meter, and the OSD menu. You connect a multi-view monitor here.

HDMI IN 5 AND 6 CONNECTORS RGB/COMPONENT IN 6 CONNECTOR
These connectors input video signals from video cameras, video recorders, and other video equipment.

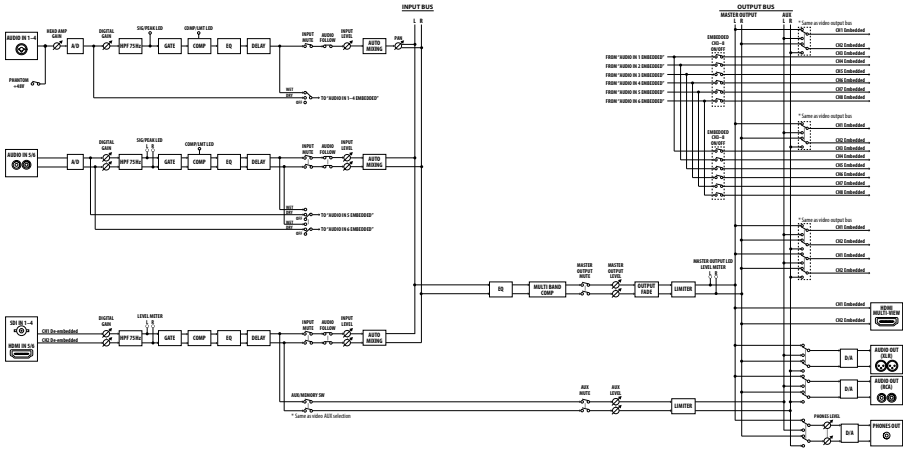
SDI IN CONNECTORS
These connectors input video signals from video cameras, video recorders, and other video equipment.

Plug-n-Play Production Switcher with Audio for Live Event and Streaming

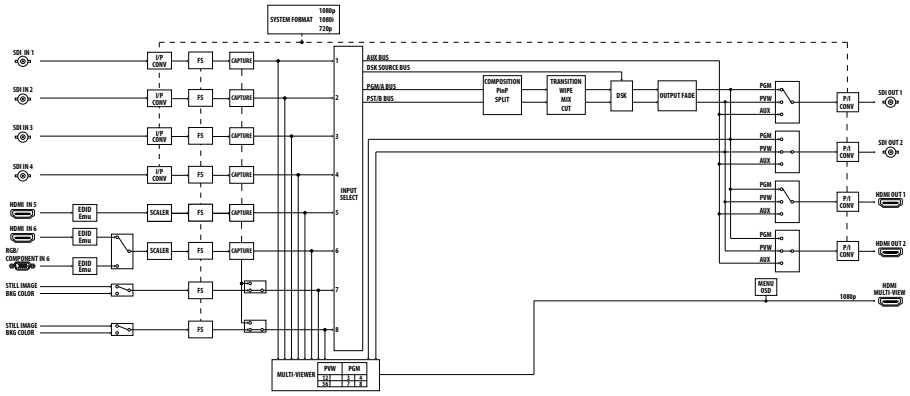
- 4 SDI Inputs (with de-interlacer)
- 2 HDMI Inputs (scaled)
- 1 RGB shared with HDMI input 6 (scaled)
- 2 SDI Outputs – Assignable to PGM, PVW, AUX
- 2 HDMI Outputs – Assignable to PGM, PVW, AUX
- 1 Multiview Outputs – Program, Preview, plus 8 video sources with Audio meters
- LAN – Remote control and Smart Tally
- RS-232 – Remote control
- USB Port – Still Image Upload, Saving Program Files

BLOCK DIAGRAM

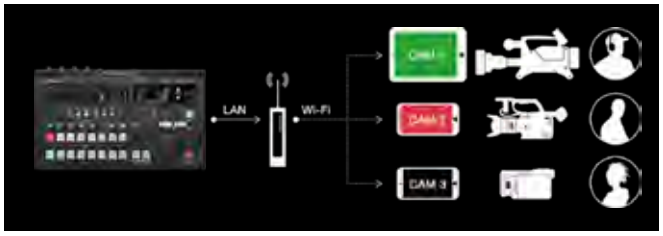
AUDIO



VIDEO



Smart Tally



Roland's unique and proprietary wireless tally system uses a wireless LAN router connected to the V-60HD to send tally information to iOS or Android devices on the network.

Remote Control

An easy-to-use software application V-60HD RCS for Mac or PC provides setup and control information for the Roland V-60HD through a network port. The V-60HD is equipped with an RS-232 port for control and operation remotely from a touch panel or other programmable interface device.

AUDIO

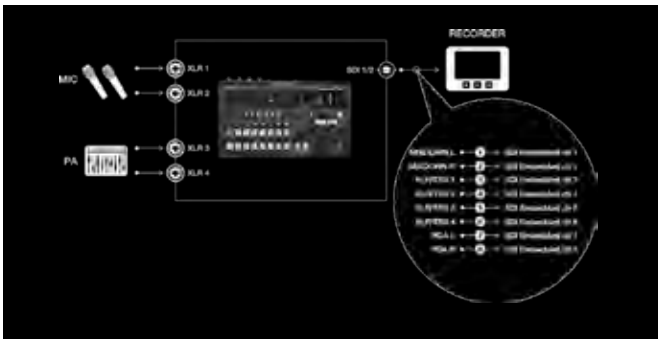
Audio Mixer with preamp and dynamics

The V-60HD powerful preamp and dynamics effects include a high-pass filter, gate, compressor, 3-band EQ, delay and ability to select audio follows video channel so audio passes through when a specific video source is selected. Dynamics can be adjusted from the onscreen menu or accessed through the powerful Remote-Control Software for Windows or Mac.

Auto mixing

The included Auto-Mixing function ensures the correct mix for multiple panel participants at conferences by automatically adjusting levels across multiple audio sources. A priority weighting assignment that is channel specific can be set giving the moderator or priority audio channel a higher volume level while using the Auto-Mixing function allowing the operator to focus on video switching and production.

Discrete Multi-Channel Audio Embedding



Assign up to eight analog audio inputs a separate audio embed channel on SDI 1 and 2 outputs, for a separate mix pre-effect (dry) or post-effect (wet) for correcting audio problems post live event.

VIDEO

The V-60HD simplifies your set-ups and combines the best of both worlds that includes SDI inputs for camera sources and scaled HDMI inputs for data, computer, tablet and other video sources. The combination of powerful audio features that include multi-channel embedded audio, XLR and RCA analog inputs, de-embedded audio from digital SDI or HDMI sources plus a variety of video connections with a Program and Aux Bus makes the V-60HD ideal for a variety of live event production and streaming applications.

Video composition

Professional broadcast cross-point buttons with PGM/PST LED color indicators. Rugged T-Bar, DSK quick-edit knobs for key level and gain. Two dedicated PinP and Split buttons with knobs for center framing of Split and PinP placement. Change transition type using either mix or two preset wipe buttons with dedicated transition dissolve time knob. Front panel 3-inch LCD display with quick access menu navigation to adjust switcher parameters.

AUX bus

A dedicated AUX bus can be assigned to any of the four discrete SDI or HDMI outputs providing seamless switching from the 8-input channels (4 SDI, 2 HDMI or 1 RGB and 2 Still Images). Dedicated AUX layer cross-point buttons ensures quick operation and seamless switching.

SDI Camera

HDMI Camera

PC / Mac

Smartphone / Tablet

Blu-ray Disc Player

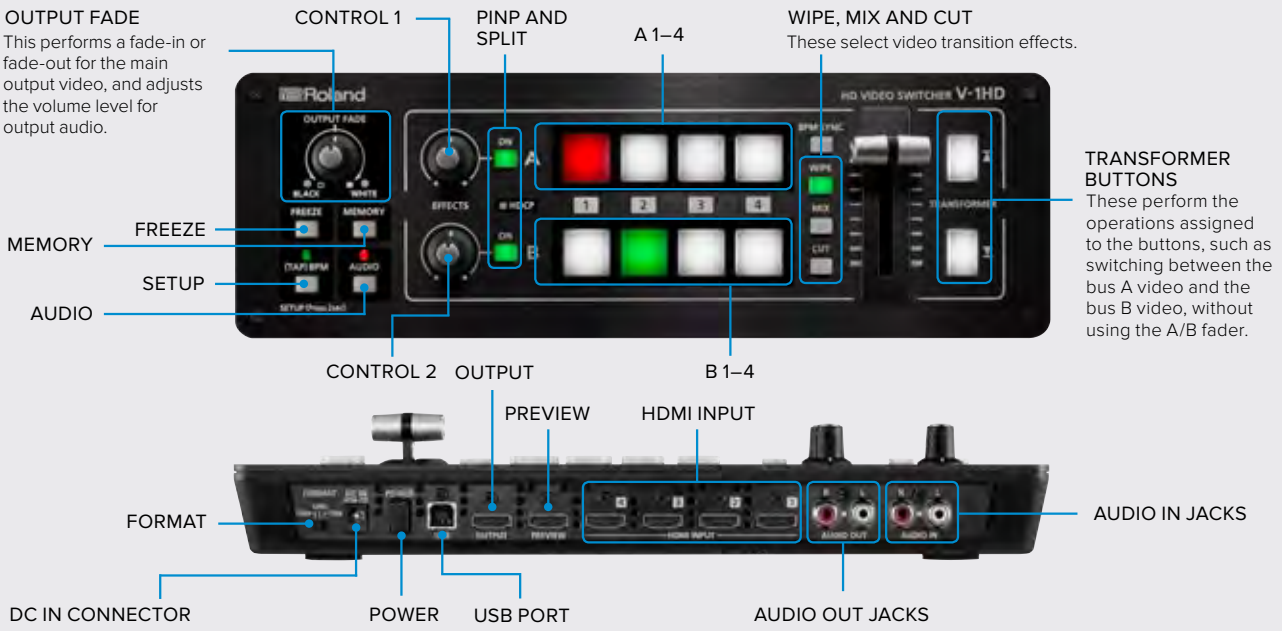
SPECIFICATIONS V-60HD

VIDEO	
Processing	4:2:2 (Y/Pb/Pr), 8-bit
Input Connectors	SDI IN 1--4: BNC type x 4 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M
	HDMI IN 5--6: HDMI type A x 2 * HDCP Supported * Multi-format Supported
	RGB/COMPONENT IN 6: HD DB-15 type x 1 * INPUT 6: HDMI or RGB/COMPONENT selected. * Multi-format Supported
Output Connectors	SDI OUT 1--2: BNC type x 2 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M
	HDMI OUT 1--2: HDMI type A x 2 HDMI MULTI-VIEW: HDMI type A x 1 * HDCP Supported
Input formats	SDI IN 1--4: Conforms to SMPTE 296M, SMPTE 274M 720/59.94p, 720/50p SMPTE 296M(FORMAT switch = 720p) 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p SMPTE 274M(FORMAT switch = 1080i or 1080p) * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SYSTEM menu (59.94 or 50).
	HDMI IN 5: HDMI/RGB/COMPONENT IN 6: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i 1080/59.94p, 1080/50p, VGA (640 x 480/60 Hz), SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz) WXGA (1280 x 768/60 Hz), SXGA (1280 x 1024/60 Hz), FWXGA (1366 x 768/60 Hz), SXGA+ (1400 x 1050/60 Hz) UXGA (1600 x 1200/60 Hz), WUXGA (1920 x 1200/60 Hz) * The refresh rate is the maximum value of each resolution. * Conforms to CEA-861-E,VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60 Hz: Reduced blanking * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SYSTEM menu (59.94 or 50).
Still Image	Windows(R) Bitmap File (.bmp) * Maximum 1920 x 1080 pixels, 24-bit color, uncompressed. * It can be stored up to 2 files in the internal memory.
Output formats	SDI OUT 1--2: Conforms to SMPTE 296M, 274M HDMI OUT 1--2: 720/59.94p, 720/50p (SYSTEM FORMAT = 720p) 1080/59.94i, 1080/50i (SYSTEM FORMAT = 1080i) 1080/59.94p, 1080/50p (SYSTEM FORMAT = 1080p) * The video signal frame rate can be selected at the SYSYTEM menu (59.94 or 50).
HDMI MULTI-VIEW	1080/59.94p, 1080/50p

AUDIO	
Audio Processing	Sampling rate: 24 bits/48 kHz
Audio formats	SDI IN: Linear PCM, 24 bits/48 kHz, 2ch (Conforms to SMPTE 299M) SDI OUT: Linear PCM, 24 bits/48 kHz, 8ch (Conforms to SMPTE 299M) HDMI IN/OUT: Linear PCM, 24 bits/48 kHz, 2ch
Input Connectors	Digital: SDI IN 1--4: BNC tyep x 4, HDMI IN 5--6 (HDMI Type A 19 pins) x 2
	Analog: AUDIO IN 1--4: Combo type (XLR, 1/4-inch TRS phone), phantom power AUDIO IN 5--6: RCA phono type
Phantom Power	DC 48 V (unloaded maximum), 10 mA (maximum load) * Current value per channel
Output Connectors	Digital: SDI OUT 1--2: BNC type x 2 HDMI OUT 1--2: HDMI type A x 2, HDMI MULTI-VIEW: HDMI type A x 1
	Analog: AUDIO OUT: XLR type AUDIO OUT: RCA phono type PHONES: Stereo 1/4-inch phone type
Input Level	AUDIO IN 1--4: -60--+4 dBu (Maximum: +22 dBu) AUDIO IN 5--6: -10 dBu (Maximum: +8 dBu)
Input Impedance	AUDIO IN 1--4: 10 k ohms (HEAD AMP GAIN 0--23 dB), 5 k ohms (HEAD AMP GAIN 24--+64 dBu) AUDIO IN 5--6: 15 k ohms
Output Level	AUDIO OUT (XLR): +4 dBu (Maximum: +22 dBu) AUDIO OUT (RCA): -10 dBu (Maximum: +8 dBu) PHONES: 92 mW + 92 mW (32 ohms)
Output Impedance	AUDIO OUT (XLR): 600 ohms AUDIO OUT (RCA): 1 k ohm PHONES: 10 ohms
Audio Effects	Auto Mixing, EQ, Delay, Compressor, HPF, Gate, Multi-Band Compressor, Limiter

OTHERS	
Other Connectors	USB: USB A type (for USB memory)
	TALLY/GPI: DB-25 type (Female)(Tally: 12, GPI: 8) RS-232: DB-9 type (Male) *for Remote Control LAN: RJ45 100BASE-TX *for Remote Control
Other Functions	MEMORY (8 types), Panel lock function, EDID Emulator, EDID Emulator
Display	Graphic LCD: 128 x 64 dots
Power Supply	AC Adaptor
Current Draw	3.1 A
Power Consumption	37.0 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	356 (W) x 221 (D) x 96 (H) mm, 14-1/16 (W) x 8-3/4 (D) x 3-13/16 (H) inches
Weight (excl. AC adapt.)	3.0 kg, 6 lbs 10 oz
Accessories	Owner's Manual, AC adaptor, Power cord

(0dBu=0,775Vrms)



Compact and portable entry model of full HD supported video switcher

- Support for video cameras, action cameras, smart phones, tablet computers and other HDMI devices
- 4 HDMI inputs
- Supports up to Full HD 1080p
- Easy to use Interface
- Picture-in-picture and split functions
- Two EFFECTS knobs deliver genuine visual performance
- Full 12-channel audio mixer Included
- Easy to operate with hardware controls
- Two HDMI outputs
- Remote control via USB or MIDI connection

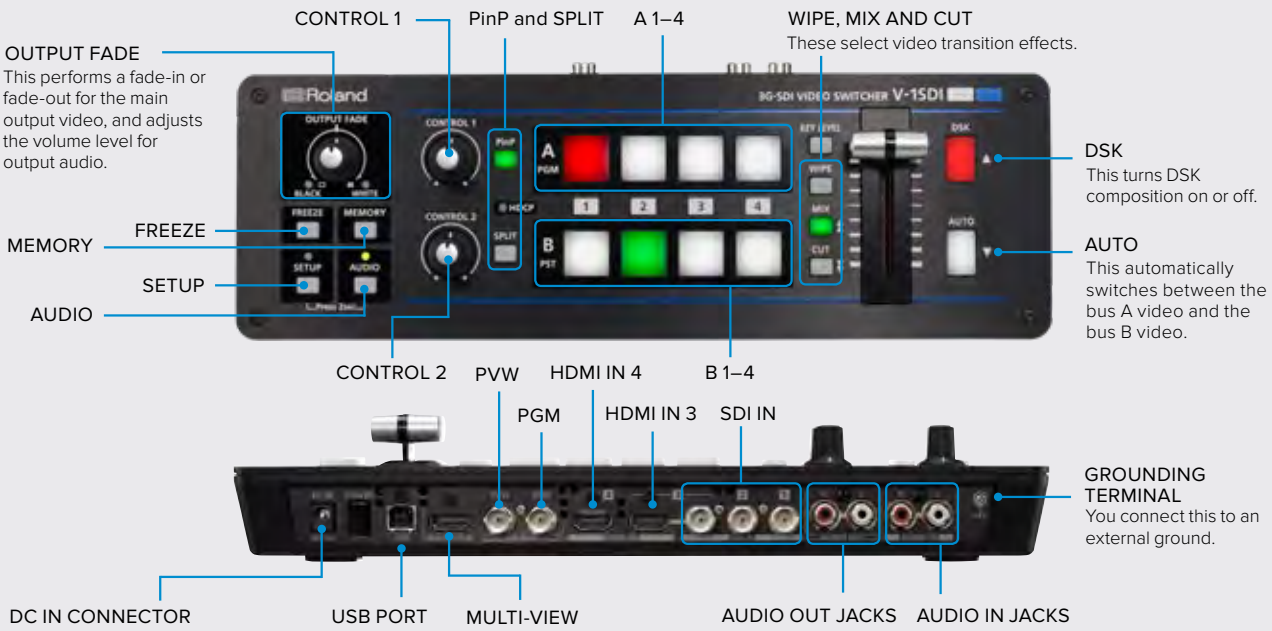
SPECIFICATIONS V-1HD

VIDEO	
Processing	4:2:2 (Y/Pb/Pr), 8-bit
Input Connectors	HDMI INPUT 1–4: Type A (19 pins) x 4 * HDCP Supported
Output Connectors	HDMI OUTPUT: Type A (19 pins) * HDCP Supported HDMI PREVIEW: Type A (19 pins) * HDCP Supported
Input formats	HDMI: 720/59.94p, 720/50p (FORMAT switch=720p) 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p (FORMAT switch=1080i or 1080p) * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate is selected by SETUP parameters (59.94 or 50).
OUTPUT formats	HDMI: 720/59.94p, 720/50p (FORMAT switch=720p) 1080/59.94i, 1080/50i (FORMAT switch=1080i) 1080/59.94p, 1080/50p (FORMAT switch=1080p) * The video signal frame rate is selected in SETUP parameters (59.94 or 50).
Effects	Transition: CUT, MIX (DISSOLVE/FAM/NAM/MOSAIC), WIPE (30 types), TRANSFORMER (11 types) Filter and Compositing: NEGATIVE, EMBOSS, COLORIZE, COLORPASS, POSTERIZE, SILHOUETTE, MONOCOLOR, FINDEDGE, FLIP, WH-LUMIKEY@, BK-LUMIKEY@, GR-CHROMAKEY@, BL-CHROMAKEY@, PinP (1/4)@, PinP (1/2)@, SPLIT (H-STRETCH)@, SPLIT (H-CENTER)@, SPLIT (V-STRETCH)@, SPLIT(V-CENTER)@ * @ marked Effects are effected common to A-BUS and B-BUS.

AUDIO	
Audio Processing	Sampling rate: 24 bits/48 kHz
Input Connectors	Digital: SDI INPUT 1--3 (BNC) x 3 SMPTE 299M HDMI INPUT 3--4 (HDMI Type A 19 pins) x 2 Analog: AUDIO IN (RCA phono type) MIC (Stereo mini type, plug-in power supported)
Output Connectors	Digital: HDMI OUTPUT (HDMI Type A 19 pins) HDMI PREVIEW (HDMI Type A 19 pins) Analog: AUDIO OUT (RCA pin type) PHONES (Stereo mini type)
Input Level	AUDIO IN: -10 dBu (Maximum: +8 dBu) MIC: -41--13 dBu (Maximum: -1 dBu)
Input Impedance	AUDIO IN: 15 k ohms, MIC: 10 k ohms
Output Level	AUDIO OUT: -10 dBu (Maximum: +8 dBu) PHONES: 72 mW + 72 mW (32 ohms)
Output Impedance	AUDIO OUT: 1 k ohms, PHONES: 10 ohms
Effects	EQ, Delay, Compressor, HPF, Gate, Reverb, Mastering effect
OTHER JACKS	
USB	B Type (for remote control from PC)
MIDI	IN, OUT/THRU
OTHERS	
Other Functions	MEMORY (8 types), FREEZE (input video captured), BPM SYNC (auto transition synchronized to tempo), OUTPUT FADE (WHITE/BLACK)
Power Supply	AC Adaptor
Current Draw	1.5 A
Power Consumption	18 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	313 (W) x 102 (D) x 59 (H) mm, 12-1/3 (W) x 4 (D) x 2-1/3 (H) inches
Weight	1.2 kg (excluding AC adaptor), 2 lbs 10-2/5 oz
Accessories	Owner's Manual, AC Adaptor, Power Cord, Cord Hook

(0dBu=0,775Vrms)

V-1SDI | 3G-SDI VIDEO SWITCHER



Professional SDI Video Switching that You Can Take Anywhere

- Support for SDI and HDMI cameras, smartphones, tablet computers and PCs etc.
- Easy to operate with hardware controls
- Compact size
- Supports up to Full HD 1080p
- 3 x 3G-SDI and 2 x HDMI*1 inputs
- 2 x 3G-SDI and 1 x HDMI*1 output
- Input 4's scaler now supports a wider range of video and VESA resolutions.*1 *2
- HDCP compliant
- Quad input multi-viewer with source labelling and audio metering
- Composition effects including DSK (Downstream Keyer), picture-in-picture etc.
- Capturing a still Image from Input Video on channel 4*3 [Ver.1.5]
- Full 14-channel audio mixer included
- Software control using V-1SDI RCS application for Mac and PC and remote control via RS-232 connection
- Send a still image to the V-1SDI by V-1SDI RCS*3 [Ver.1.5]

SPECIFICATIONS V-1SDI

VIDEO

Processing	4:2:2 (Y/Pb/Pr), 8-bit
Input Connectors	SDI INPUT 1--3: BNC x 3 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M HDMI INPUT 3--4: Type A (19 pins) x 2 * HDCP Supported * INPUT 3: SDI or HDMI selected.
Output Connectors	SDI OUT PGM: BNC x 1, SDI OUT PVW: BNC x 1 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, HDMI OUT MULTI-VIEW: Type A (19 pins) x 1 * HDCP Supported
Input formats	SDI INPUT 1-3 Conforms to SMPTE 296M, SMPTE 274M HDMI INPUT 3 720/59.94p, 720/50p SMPTE 296M(FORMAT switch = 720p) 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p SMPTE 274M (FORMAT switch = 1080i or 1080p) * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SETUP menu (59.94 or 50). HDMI INPUT 4 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p VGA (640 x 480/60 Hz), SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz) WXGA (1280 x 768/60 Hz), SXGA (1280 x 1024/60 Hz) FWXGA (1366 x 768/60 Hz), SXGA+ (1400 x 1050/60 Hz) UXGA (1600 x 1200/60 Hz), WUXGA (1920 x 1200/60 Hz) * The refresh rate is the maximum value of each resolution. * Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60 Hz: Reduced blanking. * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SETUP menu (59.94 or 50).
OUTPUT formats	SDI OUT(PGM/PVW) Conforms to SMPTE 296M, 274M HDMI OUT MULTI-VIEW 720/59.94p, 720/50p SMPTE 296M(FORMAT switch = 720p) 1080/59.94i, 1080/50i SMPTE 274M(FORMAT switch = 1080i) 1080/59.94p, 1080/50p SMPTE 274M(FORMAT switch = 1080p) * The video signal frame rate can be selected at the SETUP menu (59.94 or 50).
Video Effects	Transition: CUT, MIX (DISSOLVE/FAM/NAM/MOSAIC), WIPE (30 types) Composition: PinP, SPLIT, QUAD, DSK (Luminance Key, Chroma Key)

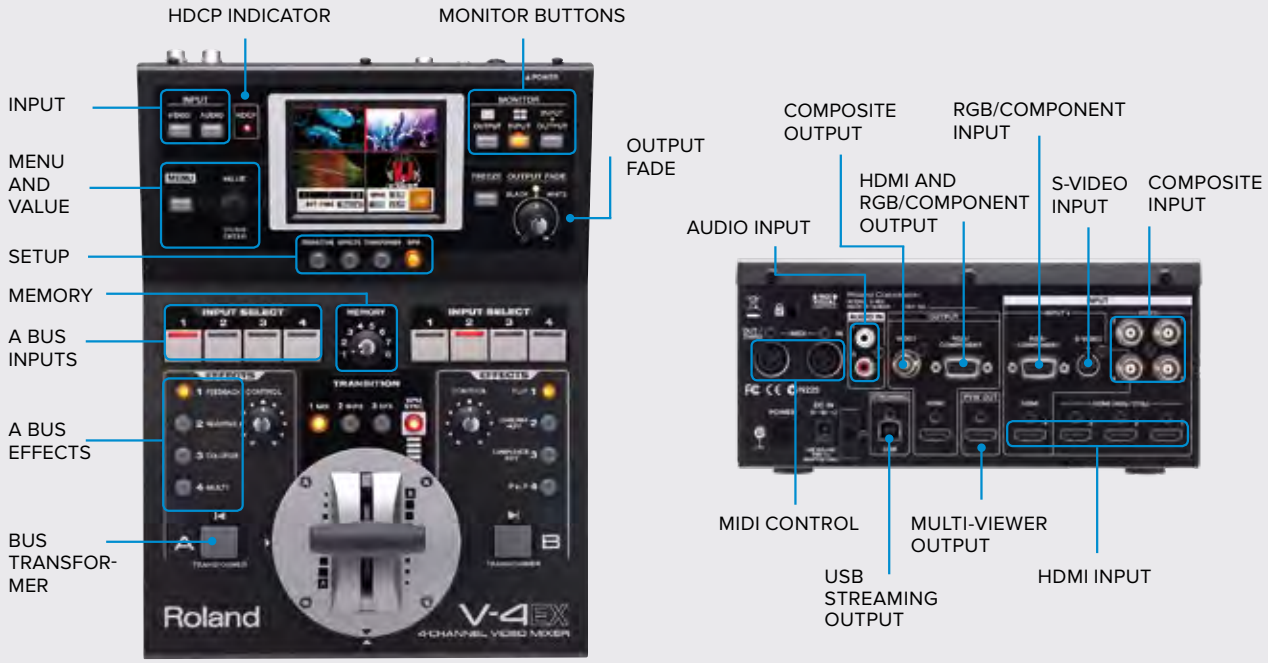
AUDIO

Audio Processing	Sampling rate: 24 bits/48 kHz
Audio formats	SDI: Linear PCM, 24 bits/48 kHz, 2ch Conforms to SMPTE 299M HDMI: Linear PCM, 24 bits/48 kHz, 2ch
Input Connectors	Digital: SDI INPUT 1--3 (BNC) x 3 SMPTE 299M HDMI INPUT 3--4 (HDMI Type A 19 pins) x 2 Analog: AUDIO IN (RCA phono type) MIC (Stereo mini type, plug-in power supported)
Output Connectors	Digital: SDI OUT PGM: BNC x 1 SMPTE 299M SDI OUT PVW: BNC x 1 SMPTE 299M HDMI OUT MULTI-VIEW: Type A (19 pins) x 1 Analog: AUDIO OUT (RCA phono type) PHONES (Stereo mini type)
Input Level	AUDIO IN: -10 dBu (Maximum: +8 dBu) MIC: -41-- -13 dBu (Maximum: -1 dBu)
Input Impedance	AUDIO IN: 15 k ohms, MIC: 10 k ohms
Output Level	AUDIO OUT: -10 dBu (Maximum: +8 dBu) PHONES: 92 mW + 92 mW (32 ohms)
Output Impedance	AUDIO OUT: 1 k ohm, PHONES: 10 ohms
Audio Effects	EQ, Delay, Compressor, HPF, Gate, Reverb, Mastering effect

OTHERS

Other Connectors	USB: B Type (for remote control from PC), RS-232: DB-9 type
Other Functions	MEMORY (8 types), FREEZE (input video captured), OUTPUT FADE (Audio, Video: WHITE or BLACK)
Power Supply	AC Adaptor
Current Draw	2.1 A
Power Consumption	25 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	313 (W) x 108 (D) x 59 (H) mm, 12-1/3 (W) x 4-1/4 (D) x 2-1/3 (H) inches
Weight (excl. AC adapt.)	1.2 kg, 2 lbs 10-2/5 oz
Accessories	Owner's manual, AC adaptor, Power cord, Cord hook

4-CHANNEL DIGITAL VIDEO MIXER WITH EFFECTS | V-4EX



All-in-one SD Video Mixer with HDMI IN/OUT, USB Streaming Out, and Built-in Multi-viewer with Touch Control

- 3 Input (SD HDMI/Composite) + 1 Input (Up to 1080p HDMI/ RGB/Component/Composite)
- PGM Output (Up to 1080p HDMI + RGB/Component + Composite) + PVW Output (PVW/Multi-viewer)
- 480p/576p Progressive internal processing
- Built-in multi-viewer with touch control
- Built-in frame synchronizers on all inputs
- Scalers on CH 4 and Output
- 259 Transitions 148 Effects
- HDCP compliant
- Audio Embedding
- Audio Mixer & Delay -up to 4 frames
- USB Streaming Out for webstreaming

SPECIFICATIONS V-4EX

PROCESSING	
Video Processing	4:2:2 (Y/Pb/Pr), 8 bits (Internal Processing: 480/59.94p when set to NTSC, 576/50p when set to PAL)
Audio Processing	Sampling Rate: 24 bits/48 kHz, 2 ch
INPUT FORMATS	
HDMI Video (INPUT 1 to 3)	480/59.94p (when set to NTSC) 576/50p (when set to PAL)
HDMI and Component Video (INPUT 4)	480/59.94i, 480/59.94p, 720/59.94p, 1080/59.94i, 1080/59.94p (when set to NTSC), 576/50i, 576/50p, 720/50p, 1080/50i, 1080/50p (when set to PAL)
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2 ch
RGB	640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1366 x 768/60Hz, 1400 x 1050/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz
Composite Video/S-Video	NTSC, PAL
OUTPUT FORMATS	
HDMI and RGB/Component Video (OUTPUT)	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, 1366 x 768, 1400 x 1050, 1600 x 1200, 1920 x 1200 * The output format of HDMI and RGB/Component is always the same. When an interlaced format is selected, component signal is output from the RGB/COMPONENT connector. When a non-interlaced format is selected, RGB signal is output from the RGB/COMPONENT connector.
HDMI Audio (OUTPUT)	Linear PCM, 24 bits/48 kHz, 2 ch
Composite video	NTSC, PAL
Preview Video (PVW OUT)	480/59.94p when set to NTSC, 576/50p when set to PAL
Preview Audio (PVW OUT)	Linear PCM, 24 bits/48kHz, 2 ch
USB Video	720 x 480 when set to NTSC, 720 x 576 when set to PAL, Motion JPEG
USB Audio	NTSC, PAL
OTHERS	
Display	Graphic Color LCD, 320 x 240 dots, touch panel
Power Supply	AC Adaptor
Current Draw	2.0 A
Accessories	AC adaptor, Power Cord, RCA - BNC conversion plug x 2, Owner's Manual
Dimensions	225 (W) x 296 (D) x 105 (H) mm 8-7/8 (W) x 11-11/16 (D) x 4-3/16 (H) inches
Weight	2.6 kg, 5 lbs. 12 oz.

(0dBu=0,775Vrms)

* RGB formats: Conforms to VESA DMT Version 1.0 Revision 11
* 1920 x 1200/60Hz: Reduced blanking

VR-50HD | MULTI-FORMAT AV MIXER

12-CHANNEL DIGITAL AUDIO MIXER
The VR-50HD features a 12-channel digital audio mixer that mixes audio from cameras in addition to sound from four microphones, computers, and DVD players. Capturing and mixing 3G/HD/SD-SDI/HDMI audio in the audio mixer is also possible.

BUILT-IN PREVIEW TOUCH MONITOR
The large 7-inch touch panel can be switched between seven-way multi-view, the quad view of inputs, still picture, and program out.

TRANSITION EFFECTS
You can choose to cut, mix, or wipe by pressing the corresponding transitionbutton. The Time dial lets you instantly apply an effect time of 0 to 4 seconds. Even without a T-bar, it's possible to achieve flexible switching.

12 INPUT, 4-CHANNEL MULTI-FORMAT VIDEO SWITCHER
A total of 12 HDMI, 3G/HD/SD-SDI/SDI, RGB/COMPONENT, and composite inputs are provided. In addition to professional HD cameras, you can connect equipment that ranges from computers and Blu-ray and DVD players to allow video cameras using composite output.

FOUR LAYER COMPOSITION

AUDIO OUTPUT
SDI, HDMI: Linear PCM, 24 bit, 48 kHz, 2 ch
USB: Linear PCM, 16 bit, 48 kHz, 2 ch Audio is mixed and re-embedded into the SDI, HDMI, and analog outputs as well as the USB output.

AUDIO INPUT
SDI, HDMI: Linear PCM, 24 bit, 48 kHz, 2 ch 12 analog inputs or from audio embedded in the 4 SDI or 4 HDMI inputs. The XLR jacks are provided with selectable phantom power.

USB STREAMING OUTPUT
Uncompressed up to 1080/59.94p (USB 3.0), up to 720/29.97p (USB 2.0)

RGB/COMPONENT INPUT/OUTPUT
Up to 1080p.

COMPOSITE INPUT
NTSC or PAL.

HDMI MULTI-VIEW OUTPUT
1080/59.94p with HDCP
Seven-way multi-viewer.

HDMI OUTPUT
Up to 1080p
HDCP support.

3G/HD/SD SDI INPUT/OUTPUT
Up to 1080p 3G SDI supports Level A and B. Each of the outputs are assignable from PGM, PVW, or AUX bus.

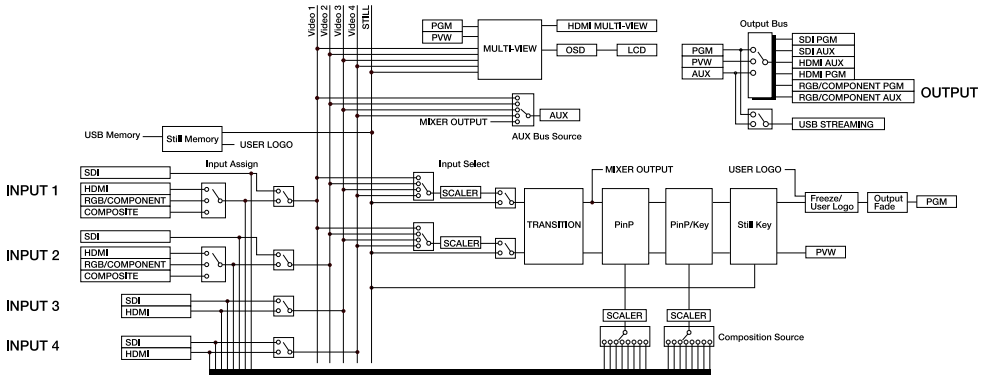
HDMI INPUT
Up to 1080p, HDCP support.

An All-In-One HD Multi-Format AV Mixer with Built-In USB 3.0 for Web Streaming and Recording

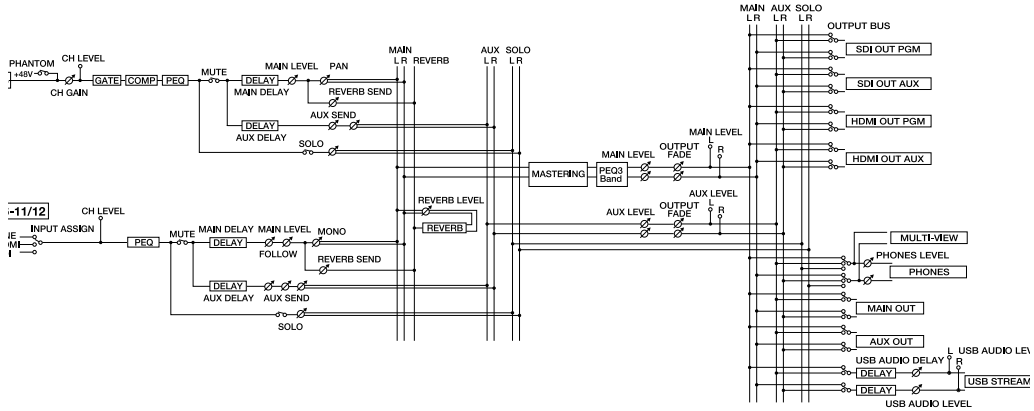
- 12 input, 4-channel Video plus still channel Multi-Format Switcher
- Supports 3G/HD/SD SDI, HDMI, RGB/Component, and Composite Video Inputs Up to 1080p (3G SDI)
- Embedding of audio with delay settings
- 12-channel Digital Audio Mixer with XLR, TRS, and RCA jacks along with audio from SDI and HDMI inputs
- 4 Layer, Compositing of PinP, PinP/KEY, and STILL
- Built-In Preview Touch Monitor (7 inch Graphic color LCD 800 x 480 dots)
- External Multi-View Output through HDMI
- HDCP Support
- USB3.0 Video/Audio Output for web streaming and recording up to 1080p (uncompressed)

BLOCK DIAGRAM

VIDEO



AUDIO



SPECIFICATIONS VR-50HD

VIDEO

Processing	4:4:4 (RGB), 10-bit, 4:2:2 (Y/Pb/Pr), 10-bit
Input Connectors	3G/HD/SD-SDI: BNC type x 4 (INPUT 1--4) * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C. HDMI(DVI-D): Type A(19pin) x 4 (INPUT 1--4 * HDCP Supported. Analog RGB/HD-Component: Mini D-sub 15-pin type x 2 (INPUT 1--2) Analog Video (SD): Composite (BNC type) x 2 (INPUT 1--2) * INPUT 1-2: Select SDI, HDMI or Analog RGB, Composite using menu. * INPUT 3-4: Select SDI, HDMI using menu.
Output Connectors	3G/HD/SD-SDI: BNC type x 2 (PGM OUT, AUX OUT * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C HDMI(DVI-D): Type A(19pin) x 3 (PGM OUT, AUX OUT, MULTI VIEW * HDCP Supported Analog RGB/HD-Component: Mini D-sub 15-pin type x 2 (PGM OUT, AUX OUT)
Input/Output Level and Impedance	Composite: 1.0 Vp-p 75 ohms Analog RGB: 0.7 Vp-p 75 ohms (H, V: 5 VTTL) Analog HD: 1.0 Vp-p 75 ohms (Sync-Signal: Bi-Level/Tri-Level)
Supported Video Formats	SDI: 480/59.94i, 576/50i, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p * Conforms to SMPTE 274M, SMPTE 296M, ITU-R BT.601-5.
	HDMI:(*2) 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p 1024×768/60Hz(*1), 1280×720/60Hz(*1), 1280×800/60Hz(*1), 1280×1024/60Hz(*1), 1400×1050/60Hz, 1920x1080/60Hz
	HDMI(MULTI-VIEW Output):(*2)1080/59.94p
	COMPONENT: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p
	RGB:(*2) 1024×768/60HZ(*1), 1280×720/60HZ(*1), 1280×800/60HZ(*1), 1280×1024/60HZ(*1), 1400×1050/60HZ, 1920X1080/60HZ
	COMPOSITE: NTSC, PAL
	*NOTE *1 Output refresh rate is 75 Hz when frame rate is set to 50 Hz. *2 Conforms to CEA-861-E or VESA DMT Version 1.0 Revision 11. * The video signal frame rate must match the unit's frame rate setting. * The output format of HDMI and RGB/Component is always the same. When a Video format is selected, component signal is output from the RGB/COMPONENT connector. When a RGB format is selected, RGB signal is output from the RGB/COMPONENT connector.
	USB-VIDEO: 480/29.97P, 576/25P, 480/59.94P, 576/50P, 720/29.97P, 720/25P, 720/59.94P, 720/50P, 1080/29.97P, 1080/25P, 1080/59.94P, 1080/50P
	STILL IMAGE: Windows(R) Bitmap File (.bmp) * Maximum 1920 x 1080 pixels, 24-bit per pixel, uncompressed.
	EffectsTransition: Mix, Cut, Wipe (9 patterns) Composition: PinP, Chrominance Key, Luminance Key Others: Output Fade, Output Freeze, User Logo

AUDIO

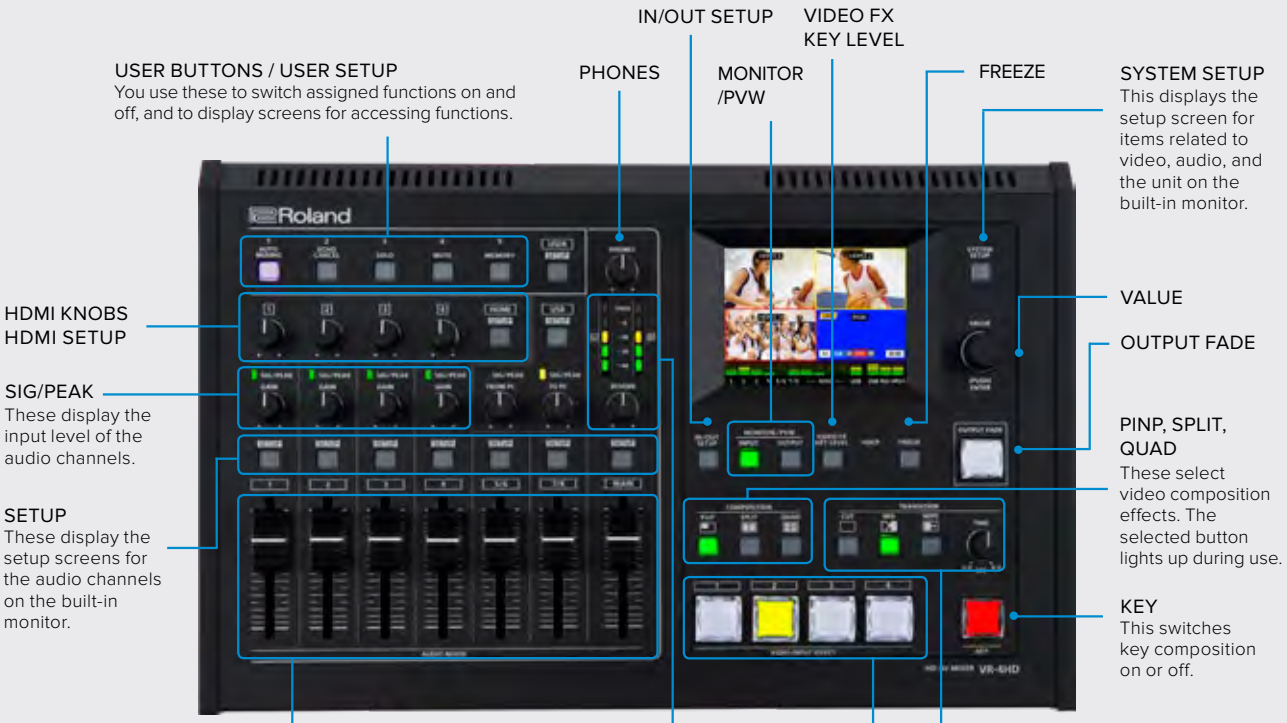
Audio Processing	Sampling Rate: 24-bit/48 kHz
Audio formats	SDI: Linear PCM, 24bit, 48kHz, 2ch * SMPTE 299M, SMPTE 272M-C HDMI: Linear PCM, 24bit, 48kHz, 2ch USB-AUDIO: Linear PCM, 16bit, 48kHz, 2ch
Input Connectors	AUDIO IN (1 to 4) jacks (XLR/TRS combo type) * XLR type: 1 GND, 2 HOT, 3 COLD * Phantom Power: DC 48 V (unloaded maximum), 5 mA (maximum load) (Current value per channel). AUDIO IN (5 to 8) jacks (RCA phono type) AUDIO IN (9 to 12) jacks (TRS type)
Output Connectors	AUDIO OUT L,R jacks (XLR-3-32 type) * XLR type: 1 GND, 2 HOT, 3 COLD AUDIO OUT L,R jacks (RCA phono type) PHONES jack (Stereo 1/4-inch phone type) (headphones) PHONES jack (Stereo miniature type) (headphones)
Input Level and Impedance	XLR/TRS: -68 to +4 dBu (Maximum: +22 dBu, 4 k ohms) RCA phono: -10 dBu (Maximum: +8 dBu, 11 k ohms) TRS: +4 dBu (Maximum: +22 dBu, 98 k ohms)
Output Level and Impedance	XLR: +22 dBu (Maximum: +22 dBu, 600 ohms) RCA phono: -10 dBu (Maximum: +8 dBu, 1 k ohms) Headphones: 25 mW + 25 mW, 20 ohms
Audio Effects	Channel Effects: Compressor, Noise Gate, 3-Band EQ, Delay Master Effects: Mastering, 3-Band EQ, Reverb

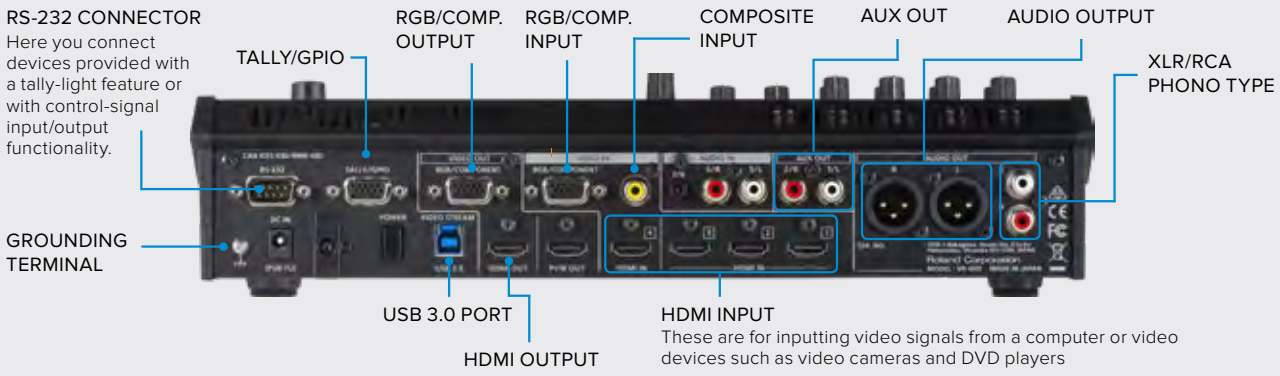
OTHERS

Remote	Remote MIDI: 5 pin DIN type (IN, OUT/THRU) RS-232C: D-sub 9 pin type x 1
USB Interface	USB2.0 port(host): Hi-Speed USB: Type A (for USB memory) USB3.0 port(device): Type B for USB-VIDEO (Super-Speed/Hi-Speed), USB-AUDIO (Full-Speed) - Uncompressed Video 4:2:2 (Y/Pb/Pr), 8-bit - Bit-rate: max 2Gbit/s (1080/59.94p only active pixels) - UVC (USB Video Class) supported uncompressed Video - Certified USB3.0 cable is required when running at super-speed (anything at 720p or higher)
Display	7 inch Graphic color LCD 800 x 480 dots (touch screen)
Power Supply	AC Adaptor DC 24V Secondary AC Adaptor DC 9 V to 16 V (XLR-4-32 type)
Current Draw	2.5 A (DC 24V)
Operating Temp.	+0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit
Dimensions	434 (W) x 306 (D) x 149 (H) mm, 17-1/8 (W) x 12-1/16 (D) x 5-7/8 (H) inches
Weight	5.3 kg, 11 lbs. 11 oz.
Accessories	AC Adaptor, Power Cord, Owner's Manual

0 dBu=0.775 Vrms

VR-4HD | HD AV MIXER



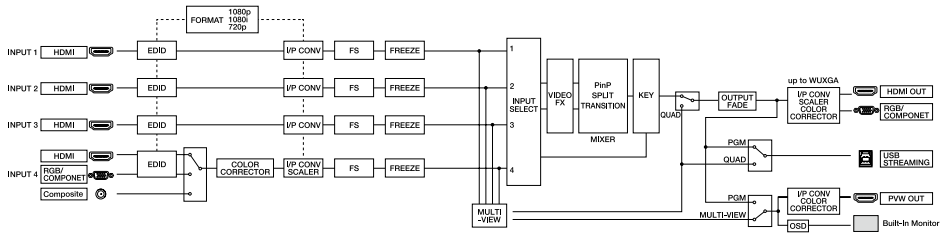


All-in-one HD AV mixer with built-in USB 3.0 for web streaming and recording

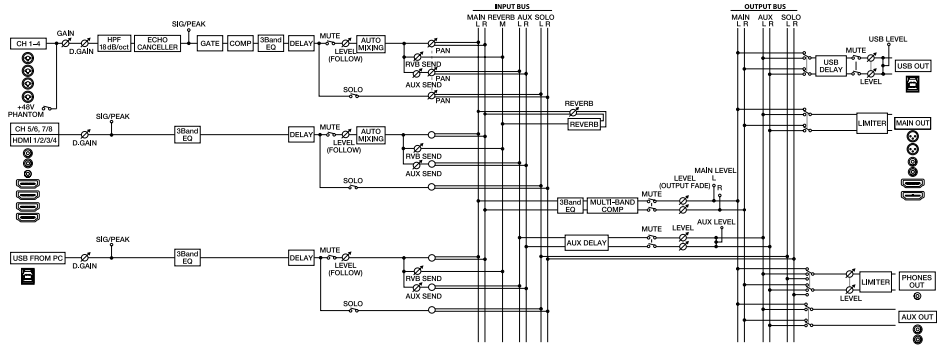
- All-in-one portable production solution
- Easy to use with dedicated hardware controls and audio faders and integrated touch screen preview monitor
- 6 input, 4-channel video switcher
- Supports HDMI, RGB/Component, and Composite Video Inputs Up to 1080p
- Input 4's scaler now supports a wider range of video and VESA resolutions
- Built-in Scaler via CH4
- 18-channel digital audio mixer with XLR, TRS, and RCA jacks along with audio from HDMI inputs
- Embedding and de-embedding of audio with delay settings
- Auto mixing and Echo Canceling function
- Composition effects including DSK, picture-in-picture etc.
- Capturing a still Image from Input Video on channel 4
- Built-in touch quad-input multi-viewer with audio metering
- External Multi-View Output through HDMI
- HDCP Support
- USB3.0 Video/Audio Output up to 1080/30p (uncompressed) and Audio Loopback feature
- Software control using VR-4HD RCS application for Mac and PC and remote control via USB connection
- Sending a still image to the VR-4HD by VR-4HD RCS
- Tally, GPIO connections

BLOCK DIAGRAM

VIDEO



AUDIO



Easy Operation for Pro Results

The VR-4HD features professional quality broadcast controls and switches ensuring more accurate and faster operation than interfaces based on a computer style mouse and keyboard. The ability to simultaneously switch video with the push of a button and adjust audio with the push of a fader is invaluable and puts all of the essential features at the operator's fingertips.

EVENTS AND MEETINGS

VIDEO CONFERENCES

SPECIFICATIONS VR-4HD

VIDEO

Processing	4:2:2 (Y/Pb/Pr), 8-bit
Input Connectors	INPUT 1-3: HDMI Type A (19 pins) x 3 * HDCP Supported INPUT 4: HDMI Type A (19 pins) x 1 * HDCP Supported RGB/COMPONENT (Mini D-sub 15-pin type) x 1 COMPOSITE (RCA phono type) x 1 * INPUT 4: HDMI , RGB/COMPONENT or COMPOSITE selected.
Output Connectors	MAIN OUT: HDMI Type A (19 pins) x 1 * HDCP Supported RGB/COMPONENT (Mini D-sub 15-pin type) x 1 PREVIEW OUT: HDMI Type A (19 pins) x 1 * HDCP Supported USB3.0: USB B type x 1
Input formats	HDMI INPUT 1-3: 720/59.94p, 720/50p (SYSTEM FORMAT: 720p) 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p (SYSTEM FORMAT: 1080i, 1080p) INPUT 4: HDMI, RGB/COMPONENT: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p VGA (640 x 480/60 Hz), SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz) WXGA (1280 x 768/60 Hz), SXGA (1280 x 1024/60 Hz) FWXGA (1366 x 768/60 Hz), SXGA+ (1400 x 1050/60 Hz) UXGA (1600 x 1200/60 Hz) , WUXGA (1920 x 1200/60 Hz) COMPOSITE: 480/59.94i, 576/50i * The refresh rate is the maximum value of each resolution. * Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60 Hz: Reduced blanking * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).
Output formats	MAIN OUT (HDMI, RGB/COMPONENT): 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i 1080/59.94p, 1080/50p VGA (640 x 480/60 Hz), SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz) WXGA (1280 x 768/60 Hz), SXGA (1280 x 1024/60 Hz) FWXGA (1366 x 768/60 Hz), SXGA+ (1400 x 1050/60 Hz) UXGA (1600 x 1200/60 Hz) , WUXGA (1920 x 1200/60 Hz) PREVIEW OUT: 720/59.94p, 720/50p (SYSTEM FORMAT: 720p) 1080/59.94i, 1080/50i (SYSTEM FORMAT: 1080i) 1080/59.94p, 1080/50p (SYSTEM FORMAT: 1080p) USB3.0: 720/29.97p, 720/25p (SYSTEM FORMAT: 720p) 1080/29.97p, 1080/25p (SYSTEM FORMAT: 1080i, 1080p) * The MAIN OUTPUT format of HDMI and RGB/COMPONENT is always the same. When an interlaced format is selected, component signal is output from the RGB/COMPONENT connector. When a non-interlaced format is selected, RGB signal is output from the RGB/COMPONENT connector. * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).
Video Effects	Transition: CUT, MIX (DISSOLVE/FAM/NAM/MOSAIC), WIPE (30 types) Effects: NEGATIVE, EMBOSS, COLORIZE, COLORPASS, POSTERIZE, SILHOUETTE, MONOCOLOR, FINDEDGE (8 types) Composition: PinP, SPLIT, QUAD, KEY (Luminance Key, Chroma Key)

AUDIO

Audio Processing	Sampling rate: 24 bits/48 kHz
Audio formats	HDMI: Linear PCM, 24 bits/48 kHz, 2 ch USB: Linear PCM, 16 bits/48 kHz, 2 ch
Input Connectors	AUDIO IN 1-4 (XLR/TRS combo type, phantom power) AUDIO IN 5-6 (RCA phono type) AUDIO IN 7/8 (Stereo miniature type) USB B type (stereo)
Phantom Power	DC 48 V (unloaded maximum), 10 mA (maximum load) * Current value per channel
Output Connectors	AUDIO OUT: L, R (XLR type) L, R (RCA phono type) AUX OUT: L, R (RCA phono type) USB: USB B type (stereo) PHONES: Stereo miniature type
Signal Level and Impedance	XLR/TRS combo type Input Signal Level: -60--+4 dBu (Maximum: +22 dBu) Input Impedance: 10 k ohms (GAIN 0--23 dB), 5 k ohms (GAIN 24--64 dB) RCA phono type: Input Signal Level: -10 dBu (Maximum: +8 dBu) Input Impedance: 15 k ohms Output Signal Level: -10 dBu (Maximum: +8 dBu) Output Impedance: 1 k ohm XLR type: Output Signal Level: +4 dBu (Maximum: +22 dBu) Output Impedance: 600 ohms Miniature type: Input Signal Level: -15 dBu (Maximum: +3 dBu) Input Impedance: 15 k ohms Headphones: Output Signal Level: 75 mW + 75 mW Output Impedance: 32 ohms
Audio Effects	Auto Mixing, Echo Cancel, EQ, Delay, Compressor, HPF, Gate, Reverb, Multi-Band Compressor, Limiter

OTHERS

Other Connectors	RS-232: D-sub 9-pin type Tally/GPIO: Mini D-sub 15-pin type USB 3.0/2.0 (device): USB B type, USB-VIDEO (Super-Speed), USB-AUDIO 2 IN/2 OUT (Full-Speed), remote control from PC
Display	Graphic Color LCD, 320 x 240 dots, touch panel
Other Functions	MEMORY (8 types), FREEZE (input video captured) OUTPUT FADE (Audio, Video: WHITE or BLACK)
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Current Draw	3 A
Power Consumption	36 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	339 (W) x 217 (D) x 87 (H) mm, 13-3/8 (W) x 8-9/16 (D) x 3-7/16 (H) inches
Weight (excl. AC adapt.)	2.4 kg, 5 lbs 5 oz
Accessories	Owner's manual, AC adaptor, Power cord

0 dBu=0.775 Vrms

VR-3EX | AV MIXER

INTUITIVE PANEL LAYOUT
Gain, EQ (LO/MID/HI) controls and faders permit intuitive control of channel levels. Pressing the SETUP button for a channel enables more in-depth tuning via the touch screen display.

HDMI
This adjusts the volume level of HDMI audio (embedded audio).

INTERNAL MICROPHONES

USB LEVEL

MONITOR

HDCP

MENU

VALUE
This selects menu items and changes setting values. Pressing the [VALUE] knob selects a menu item or applies changes made to a setting value.

SETUP
These display the setup screens for the audio channels on the monitor.

CHANNEL FADERS
These adjust the volume levels of the audio channels.

OUTPUT

TRANSITION

VIDEO FX

KEY/KEY LEVEL

COMPOSITION
You use the [PinP], [SPLIT], and [QUAD] buttons to select video composition effects.

TRANSITION
You use the [CUT], [MIX], and [WIPE] buttons to select video transition effects.

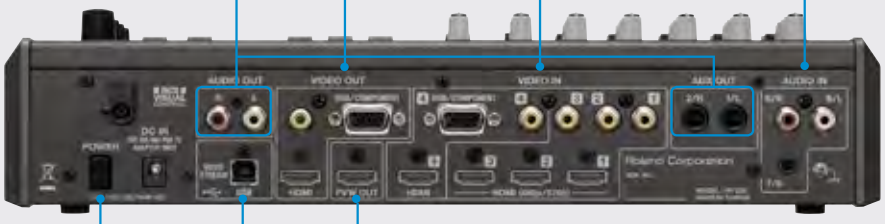
VIDEO SELECT
You use these buttons to switch the video.

AUDIO OUTPUT
These output the results of audio mixing. Here you connect a video recorder or other recording equipment, or an amplifier or speakers.

VIDEO OUTPUT

VIDEO INPUT
These are for inputting video signals from a computer or video devices such as video cameras and DVD players.

AUDIO INPUT
These are for inputting audio signals from video decks, microphones, audio mixers, and other such audio equipment.
You can connect video decks, CD players, microphones, and other devices.



POWER

USB VIDEO STREAMING

PREVIEW OUTPUT
This outputs the incoming video on video channels 1 through 4 as a four-way split screen. You can connect a preview monitor equipped with an HDMI input connector.

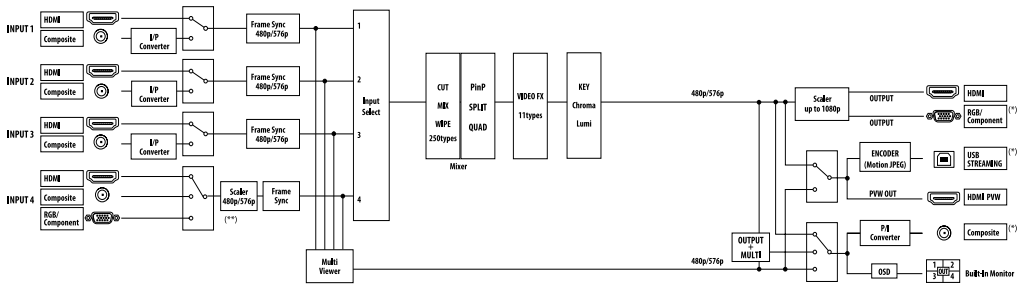
An All-In-One AV Mixer with Built-In USB Port for Web Streaming and Recording

- HDMI & Composite inputs
- Standard definition 16:9 mixing engine
- Scaled output up to 1080p
- Advanced 18-channel audio mixer
- USB 2.0 for 480i streaming
- 2.5” Multi-view touchscreen monitor
- Picture-in-Picture, Keyer and Video Effects

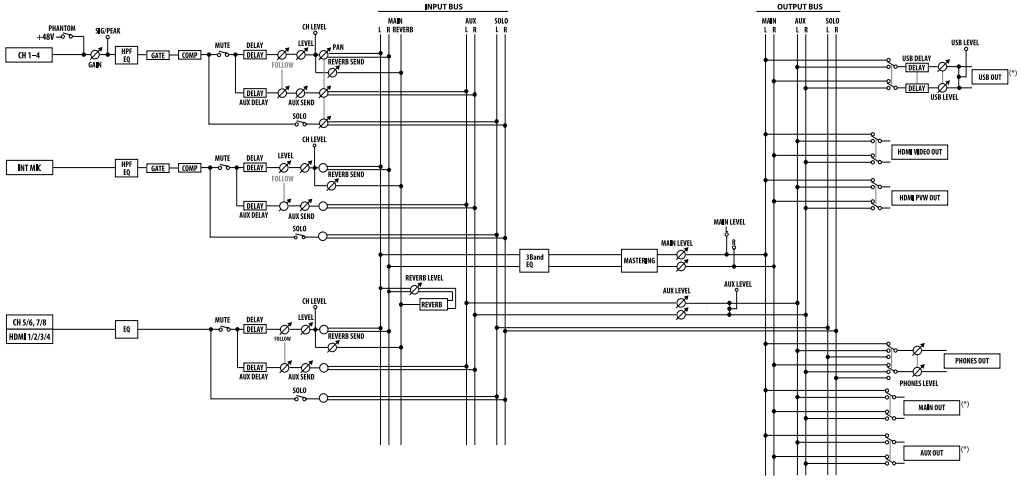
480p/576p AUDIO EMBEDDING HDCP USB 2.0 V-LINK midi VISUAL

BLOCK DIAGRAM

VIDEO



AUDIO



SPECIFICATIONS VR-3EX

VIDEO PROCESSING

Sampling Rate	4:2:2 (Y/Pb/Pr), 8 bits (Internal Processing: 480/59.94p when set to NTSC, 576/50p when set to PAL)

AUDIO PROCESSING

Sampling Rate	24 bits/48 kHz

INPUT FORMATS

HDMI Video (VIDEO IN 1–3)	480/59.94p (when set to NTSC) 576/50p (when set to PAL)
HDMI Video (VIDEO IN 4)	480/59.94i, 480/59.94p, 720/59.94p, 1080/59.94i, 1080/59.94p (when set to NTSC) 576/50i, 576/50p, 720/50p, 1080/50i, 1080/50p (when set to PAL)
HDMI Audio (VIDEO IN 1–4)	Linear PCM, 24 bits/48 kHz, 2 ch
RGB/Component (VIDEO IN 4)	640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz * The refresh rate is the maximum value of each resolution. * Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60 Hz: Reduced blanking
Composite Video (VIDEO IN 1-4)	NTSC, PAL

OUTPUT FORMATS

HDMI and RGB/Component Video (VIDEO OUT)	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, 1366 x 768, 1400 x 1050, 1600 x 1200, 1920 x 1200 * The output format of HDMI and RGB/Component is always the same. When an inter laced format is selected, component signal is output from the RGB/COMPONENT connector. When a non-interlaced format is selected, RGB signal is output from the RGB/COMPONENT connector. * The refresh rates of RGB format is 60 Hz when set to NTSC, 75 Hz when set to PAL (excluding 1600 x 1200 and 1920 x 1200. The refresh rate of these 2 is 75 Hz when set to PAL.) * RGB formats: Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60 Hz: Reduced blanking
HDMI Audio (VIDEO OUT)	Linear PCM, 24 bits/48 kHz, 2 ch
Composite Video (VIDEO OUT)	NTSC, PAL
Preview Video (PVW OUT)	480/59.94p when set to NTSC 576/50p when set to PAL
Preview Audio (PVW OUT)	Linear PCM, 24 bits/48 kHz, 2 ch
USB Video	720 x 480 when set to NTSC, 720 x 576 when set to PAL, Motion JPEG
USB Audio	Linear PCM, 16 bits/48 kHz, 2 ch

INPUT CONNECTORS

Video	VIDEO IN 1–4 (HDMI: Type A 19 pins) VIDEO IN 4 (RGB/Component: HD DB-15 type) VIDEO IN 1–4 (Composite: RCA phono Type)
Audio	AUDIO IN 1–4 (XLR/TRS combo type, phantom power) AUDIO IN 5--6 (Stereo RCA phono type) AUDIO IN 7/8 (Stereo miniature type) MIC (Internal stereo microphones)
Phantom Power	DC 48 V (unloaded maximum), 10 mA (maximum load) * Current value per channel

OUTPUT CONNECTORS

Video	VIDEO OUT (HDMI: Type A 19 pins) VIDEO OUT (RGB/Component: HD DB-15 type) VIDEO OUT (Composite: RCA phono type) PVW OUT (HDMI: Type A 19 pins)
Audio	AUDIO OUT L, R (Stereo RCA phono type) AUX OUT L, R (Stereo 1/4-inch phone type) PHONES (1/4-inch phone type) (headphones) PHONES (Stereo miniature type) (headphones)

OTHER CONNECTORS

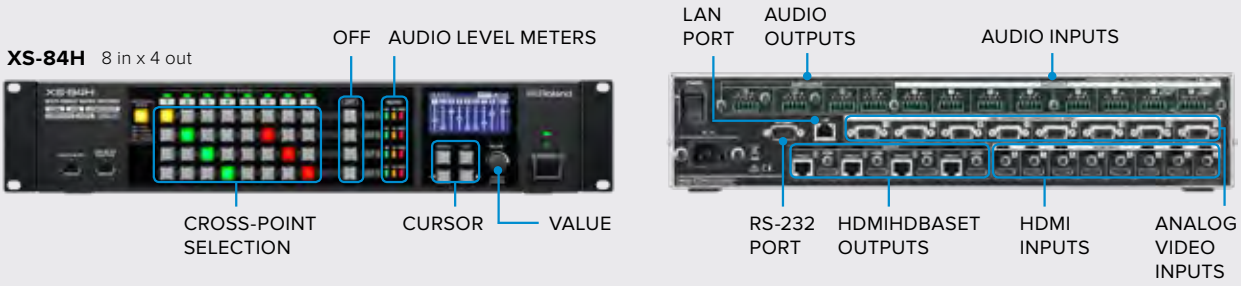
MIDI	5 pins DIN type x 2 (IN, OUT/THRU)
USB	B type x 1 (for streaming and remote control)

OTHERS

Display	Graphic Color LCD, 320 x 240 dots, touch panel
Video Effects	Transition: Cut, Mix (3 patterns), Wipe (250 patterns) VIDEO FX: Strobe, Negative, Colorize, Findedge, Silhouette, Monochrome, Sepia, Emboss, Posterize, Color pass, Multi (11 types) Composition: Picture in Picture, Split, Quad, Luminance Key, Chroma Key Others: Output Fade, Freeze
Power Supply	AC Adaptor
Current Draw	2.3 A
Dimensions	345 (W) x 203 (D) x 80 (H) mm, 13-5/8 (W) x 8 (D) x 3-1/8 (H) inches
Weight (excl. AC adapt.)	2.3 kg, 5 lbs 2 oz
Accessories	AC Adaptor, Power Cord, Owner's Manual

0 dBu=0.775 Vrms

XS-84H/83H/82H | MULTI-FORMAT MATRIX SWITCHERS



All-in-one Matrix Switcher featuring Multi-screen Output and Compositing Functions with Direct Control of Audio and Video from Hardware, Connected Computer or Wirelessly from Tablet Computer

- Support for maximum resolution of WUXGA and 1080p. 8 digital inputs and 8 analog inputs. 2, 3 or 4 outputs according to the application
- Supports HDMI/HD component/RGB/composite/S-video and audio inputs
- 4 built–in scalers and video processor enable split-picture and compositing functions
- 16ch stereo digital audio mixer with 8 HDMI inputs and 8 analog inputs
- Remote control of an external device via HDBaseT
- Bezel compensation function that improves the precision of displaying one picture across multiple screens
- Remote Control via the dedicated computer software XS-80H RCS and iPad application XS-80H Remote

PC Remote Control Software

By connecting the XS series to a computer via a LAN cable or through RS-232C, you can use the dedicated software XS-80H RCS to remotely control the unit. You can also make all the settings off-line and later upload to the unit via USB flash drive

Wireless Control from an iPad

Using a wireless USB adapter or connecting a Wi-Fi router to the LAN port lets you operate the unit remotely from an iPad insalled with the XS-80H Remote application.

HDMI/HDBaseT Outputs

The XS series includes both HDMI and HDBaseT outputs. When using a LAN cable, up to WUXGA/1080p video signal, digital audio signal and RS-232 command can be transmitted over 100 meters

Output mode

MATRIX MODE

SPAN MODE

3 Splits

2 Splits

ROTATION MODE

90 degrees rotation and across screens

MULTI MODE (4 WINDOWS)

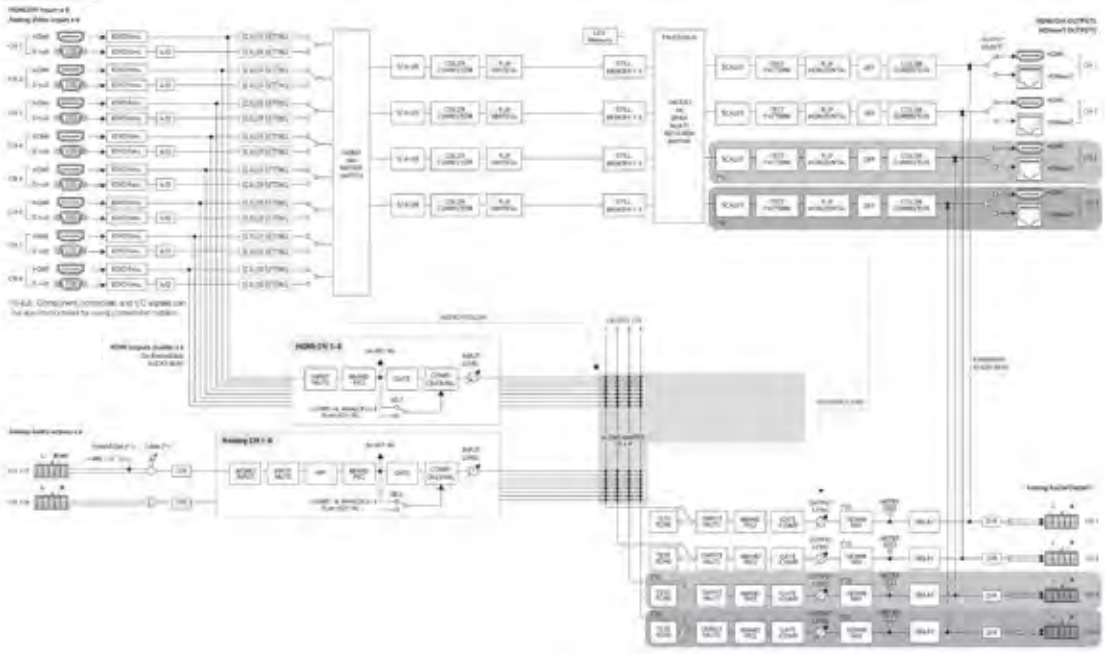
When changing the layout

4K MODE

BLOCK DIAGRAM

VIDEO

AUDIO



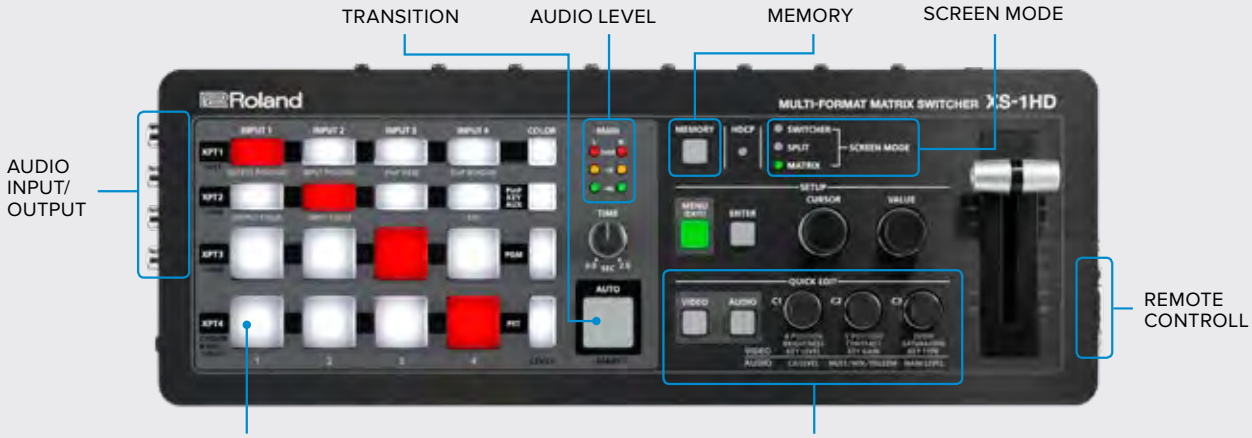
SPECIFICATIONS XS-84H/83H/82H

VIDEO	
Processing	4:4:4 (Y/Pb/Pr), 10-bit
Input Connectors	HDMI: Type A (19 pins) x 8 (INPUT 1–8) * HDCP Supported RGB/Component/Composite/S-Video: HD DB-15 type x 8 (INPUT 1–8)
Output Connectors	<XS-82H> HDMI: Type A (19 pins) x 2 (OUTPUT 1–2) HDBaseT: RJ-45 x 2 (OUTPUT 1–2) * HDCP Supported <XS-83H>HDMI: Type A (19 pins) x 3 (OUTPUT 1–3) HDBaseT: RJ-45 x 3 (OUTPUT 1–3) * HDCP Supported <XS-84H>HDMI: Type A (19 pins) x 4 (OUTPUT 1–4) HDBaseT: RJ-45 x 4 (OUTPUT 1–4) * HDCP Supported
Input Level and Impedance	<RGB/Component> Signal Level: 1.0 Vp-p (Luminance), 0.7Vp-p (Chroma), Impedance: 75 ohms <Composite/S-Video> Signal Level: 1.0 Vp-p (Luminance), 0.286 Vp-p (Chroma, NTSC), 0.3 Vp-p (Chroma, PAL), Impedance: 75 ohms
Input Formats	HDMI: up to 1080p/59.94, up to 1920 x 1200/60 Component: up to 1080p/59.94 RGB: up to 1920 x 1200/60 * Reduced Blanking Composite: 480i/59.94, 576i/50 S-Video: 480i/59.94, 576i/50 Still Image: Windows Bitmap File (.bmp) * Maximum 1920 x 1200 pixels, 24-bit per pixel, uncompressed. It can be stored up to 4 files in the internal memory.
Output Formats	HDMI: up to 1080p/59.94, up to 1920 × 1200/60 HDBaseT: up to 1080p/59.94, up to 1920 × 1200/60
Video Effects	Transition: Quasi-seamless switching, Seamless switching (Dissolve mode, PGM/PST mode) Mode: Matrix, Multi (Up to 4 Windows), Span, Left and right 90 degrees rotation, 4K, Dissolve (2 types), PGM/PST (3 types) Others: Flip vertically, Flip horizontally, Output fade, Test pattern output (Colorbar, Hatch,etc)

* 0 dBu=0.775 Vrms
* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

VIDEO	
Processing	Sampling Rate: 24 bits/48 kHz, 8ch
Input Connectors	Digital: HDMI Type A (19 pins) x 8, Analog: 5-pin euroblock type x 8
Output Connectors	<XS-82H> Digital: HDMI Type A (19 pins) x 2 Analog: 5-pin euroblock type x 2 <XS-83H> Digital: HDMI Type A (19 pins) x 3 Analog: 5-pin euroblock type x 3 <XS-84H> Digital: HDMI Type A (19 pins) x 4 Analog: 5-pin euroblock type x 4
Input Level and Impedance	<Ch1–2> Signal Level: -60 to +4 dBu (Maximum: +22 dBu) Impedance: Gain 0 to 23 = 10 k ohms, Gain 24 to 60 = 5 k ohms <Ch3–8> Signal Level: +4 dB (Maximum: +22 dBu) Impedance: 8.5 k ohms
Input Level and Impedance	<Ch1–4> Signal Level: +4 dBu (Maximum: +22 dBu) Impedance: 600 ohms
Audio Formats	HDMI: Linear PCM, 24 bit, 48 kHz, 8 ch
Audio Effects	16 stereo inputs and 4 outputs digital audio mixer Input: High-pass filter, Mono, 4-band parametric equalizer, Compressor/Ducking, Gate Output: 4-band parametric equalizer, Compressor/Gate, Down mix, Lip-sync Delay (1 msec units, max 170 msec) Others: Test tone output, Synchronized/unsynchronized audio and video function
OTHER JACKS	
RS-232C	9 pins D-sub type x 1
LAN	RJ-45 x 1
USB	A type x 2 (for USB memories, for WNA1100-RL/ONKYO UWF-1)
OTHERS	
Display	Graphic LCD 128 x 64 dots
Power Supply	AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	XS-82H: 55 W/0.5 A (117 V), 55 W/0.4 A (220 V, 230 V, 240 V) XS-83H: 60 W/0.6 A (117 V), 60 W/0.4 A (220 V, 230 V, 240 V) XS-84H: 70 W/0.6 A (117 V), 70 W/0.5 A (220 V, 230 V, 240 V)
Operating Temperature	Operation Temperature: +0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit Storage Temperature: -20 to +80 degrees Celsius -4 to 176 degrees Fahrenheit
Operation Humidity/ Storage Humidity	20% to 90% (non-condensing)
Dimensions	481 (W) x 353 (D) x 88 (H) mm 18-15/16 (W) x 13-15/16 (D) x 3-1/2 (H) inches * EIA-2U rack mountable
Weight	6.0 kg, 13 lbs 4 oz
Accessories	Power Cord, Euroblock Plug x 12, Rubber Foot x 5, Owner's Manual

XS-1HD | MULTI-FORMAT MATRIX SWITCHER



CROSS-POINT BUTTONS
These buttons select the input channel for each output. The vertical columns correspond to the input, and the horizontal rows correspond to the output. Buttons turn white when a video signal is present.

QUICK EDIT BUTTONS
This function lets you adjust the video or audio from the operation panel without need to access the menu. You can control settings such as the position and scaling of the image, the location of the PinP inset windows, and the audio volume.

HDMI INPUT/OUTPUT
HDMI connectors allow video and audio (stereo) to be input and output. A scaler and EDID emulator are built-in for each input, and HDCP is also supported, allowing for even rights-protected content to be switched.

USB MEMORY
Settings can be backed up on a USB flash drive. Still images can also be loaded, and instantly displayed when needed.

A Versatile and Compact Switcher with Multi-screen Output and Video Compositing

- A table-top matrix switcher that's the width of a 13” laptop, equipped with four HDMI inputs and outputs
- High-quality 4:4:4/10-bit processing at up to WUXGA/1080p
- Frame synchronizer and scaler on all inputs
- Three operation modes Matrix Mode allow switching of 4 sources to any of 4 outputs
- Switcher Mode allows PinP, key-compositing, and dissolve transitions
- Split Mode allows PinP of up to three inset windows
- Built-in eight-channel digital audio mixer handles audio from four HDMI signals and stereo analog input
- Built-in EDID emulator, and HDCP-compliant
- Still images can be loaded from a USB flash drive

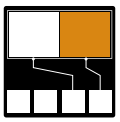
MATRIX MODE

Four input video signals can be individually switched to one of four outputs. Since a scaler is provided for each of the four inputs, you can connect a mix of video devices such as cameras, PCs, media players, Blu-ray discs, or smartphones. You can switch between videos by fading-in/out and can adjust desired transition time using the TIME knob.

SWITCHER MODE

This mode lets you use a cross-dissolve to seamlessly transition between sources, or use PinP or key-compositing. A multi-view input preview can be output from HDMI OUT 4 for confirming input sources while operating the unit.*[1] If you're not using PinP or key-compositing, you can use an AUX bus to output a separate video signal to a confidence monitor or other destination. *[1] Skip-frame display

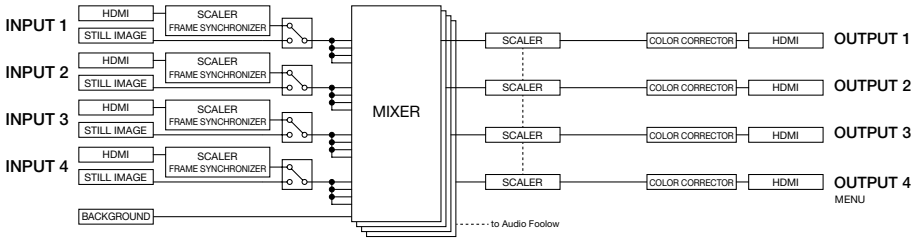
SPLIT MODE



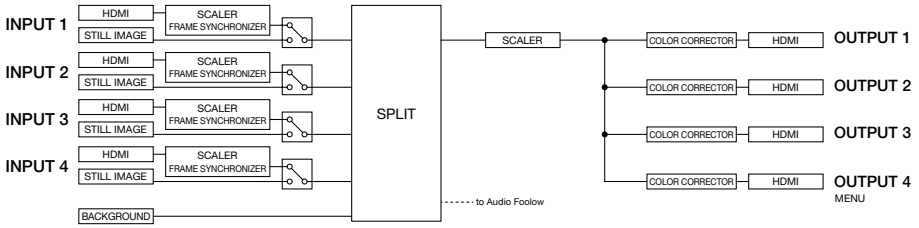
This mode composites multiple videos into a single screen for output. Up to three small screens can be composited into a background video. The position, size and layering order of the inset screens can be individually set. This is useful when it is required show multiple videos simultaneously, such as when recording e-learning content or presentations.

BLOCK DIAGRAM

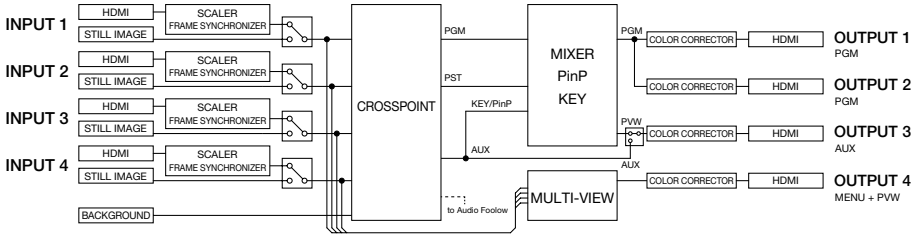
VIDEO



MATRIX MODE

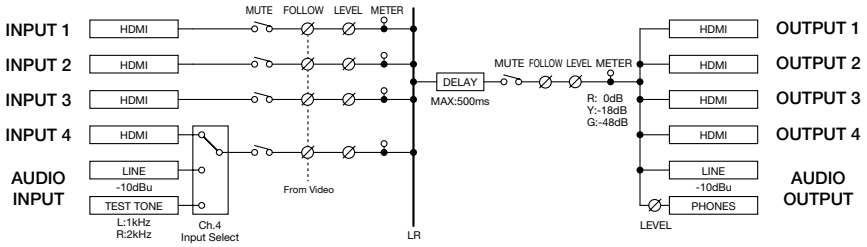


SPLIT MODE



SWITCHER MODE

AUDIO



SPECIFICATIONS XS-1HD

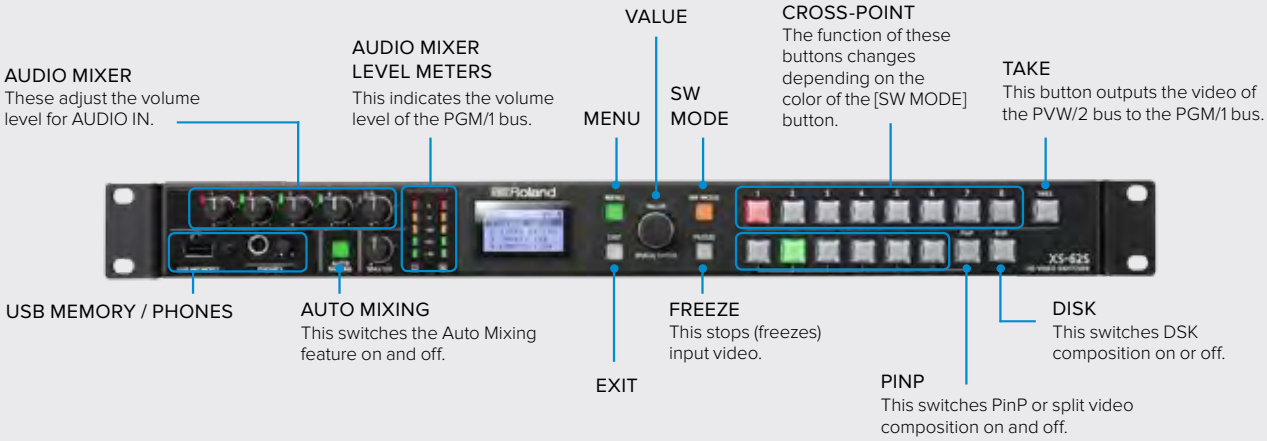
VIDEO		
Processing		4:4:4 (Y/Pb/Pr, RGB), 10 bits / 4:2:2 (Y/Pb/Pr), 10 bits
Input Connectors		HDMI: HDMI type A x 4 (HDMI INPUT 1--4) *HDCP Supported
Output Connectors		HDMI: HDMI type A x 4 (HDMI OUTPUT 1--4) *HDCP Supported
Formats		480/59.94i (*1), 576/50i (*1), 480/59.94p (*1), 576/50p (*1), 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 800×600/60 (*1), (*2), 1024×768/60 (*2), 1280×720/60 (*2), 1280×800/60 (*2), 1366×768/60 (*2), 1280×1024/60 (*2), 1400×1050/60 (*2), 1600×1200/60, 1920×1080/60, 1920×1200/60 RB *Conforms to CEA-861-E,VESA DMT Version 1.0 Revision 11 *Frame rate is 59.94 Hz (NTSC) or 50 Hz (PAL).
Effects	Output Mode	Switcher, Split, Matrix
	Transition	Mix, Cut (*3)
	Composition (Keyer)	1 (*3)
	Others	HDCP Supported, Test Pattern Generator
Still Image	Internal Memory	1
	Maximum Size	1920×1200
	Format	Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed

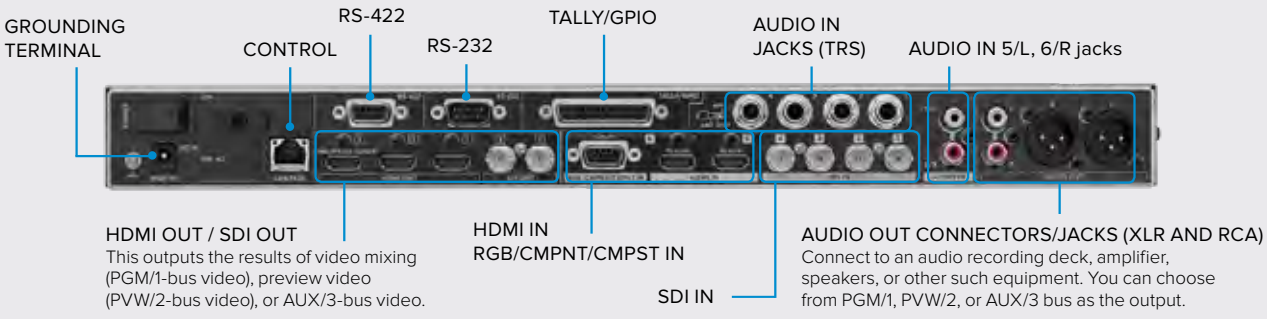
(*1) Input only.
(*2) Output refresh rate is 75 Hz when frame rate is set to 50 Hz.
(*3) These effects depends on Output Mode.

AUDIO		
Processing	Sampling Rate	24 bits/48kHz
Input Connectors	HDMI	HDMI type A x 4
	AUDIO IN	RCA pin type
Output Connectors	HDMI	HDMI type A x 4
	AUDIO OUT	RCA pin type
	PHONES	Stereo mini type
Input Level	AUDIO IN	–10dBu (Maximum: +8dBu)
Input Impedance	AUDIO IN	15kΩ
Output Level	AUDIO OUT	–10dBu (Maximum: +8dBu)
	PHONES	72mW + 72mW (32Ω)
Output Impedance	AUDIO OUT	1kΩ
	PHONES	10Ω
Formats		HDMI: Linear PCM, 24 bits, 48 kHz, 2 ch
Others	Mixer	4 ch (Delay : Maximum 500 ms, Audio Follow)
	Test Tone Generator	

OTHERS		
External Connectors	REMOTE	RS-232 DB-9 type (Male) x 1 *for Remote Control
	USB MEMORY	USB A type x 1 (USB Memory)
Preset Memory		16 *Auto Memory Function
Power Supply		AC Adaptor
Current Draw		2.1A
Power Consumption		25W
Dimensions		328 (W) x 117 (D) x 57 (H) mm
Weight		1.2kg
Accessories		Owner's Manual, AC adaptor, Power cord

XS-62S | HD VIDEO SWITCHER



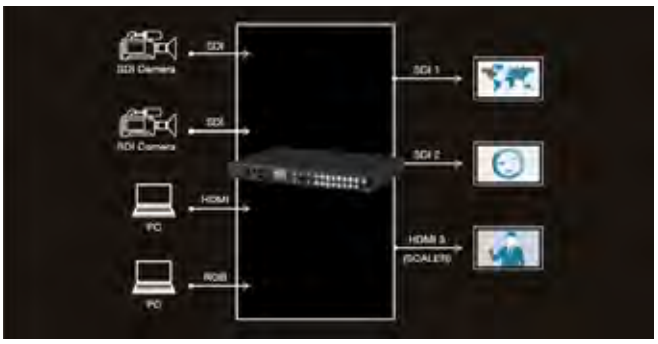


Rackmount Switcher for Live Production and Fixed Installations with PTZ Camera Control

- 4 SDI Inputs (with de-interlacer)
- 2 HDMI Inputs (scaled)
- RGB/COMPONENT/COMPOSITE input (scaled) – shared with HDMI input 6
- 2 SDI Outputs – assignable to PGM, PVW, AUX
- 2 HDMI Outputs – assignable to PGM, PVW, AUX
- 1 HDMI Output (scaled / multi-view) – multi-view or scaled output
- TALLY/GPIO
- RS-232 – Remote control
- RS-422 – PTZ Control (VISCA)
- LAN – Remote control and Smart Tally (PTZ Control (VISCA)

MATRIX Mode

Individual video input signals can be output to three different destinations on three buses. This mode is effective for routing signals and is ideal for events and using multiple screens. A black background is displayed when switching feeds.



PGM / PST Mode

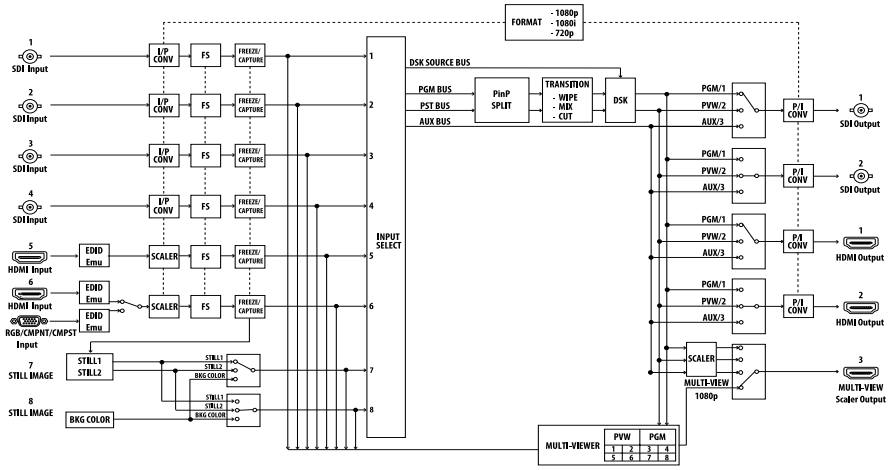
PGM/PST Mode operates as a traditional video switcher complete with video compositions that enable grouping multiple images on one screen. You can create compositions by combining DSK for layering titles and graphics as well PinP inset of video. Compositions can be previewed before sending to Program on the Preview output and can be sent to Program by pressing the TAKE button.

DISSOLVE Mode

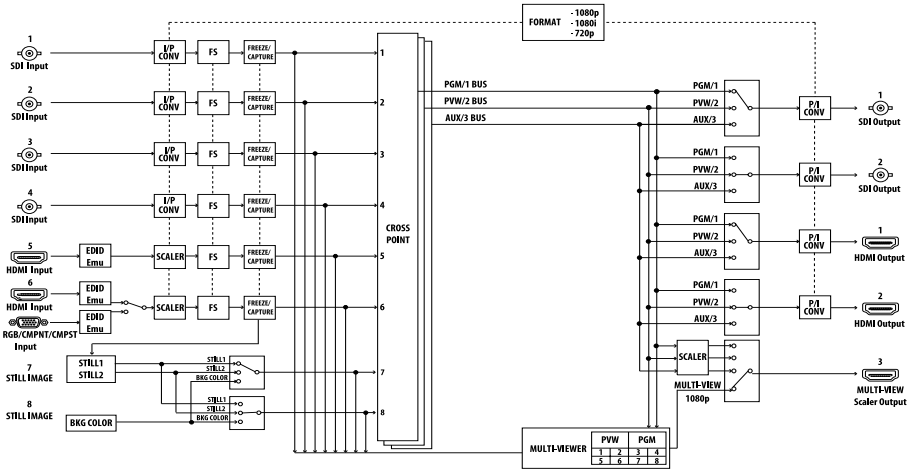
Video switching and composition with cross dissolve to the PGM bus are possible in Dissolve Mode. Dissolve Mode is easily operated from the front panel and is suitable for a system where the user directly operates the main unit in a meeting space or event.

BLOCK DIAGRAM

VIDEO

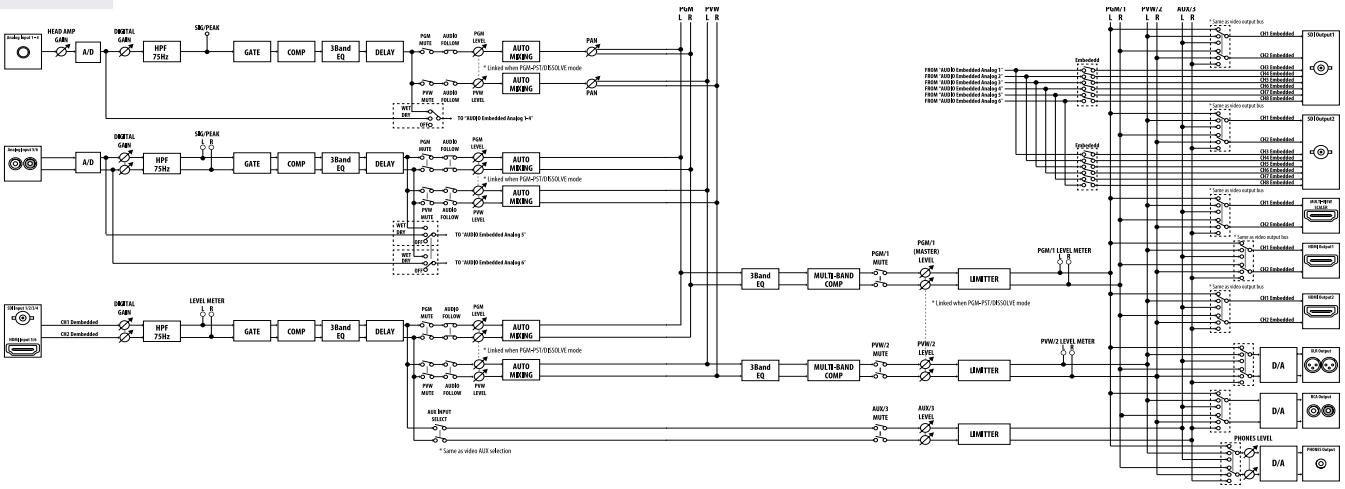


DISSOLVE MODE



MATRIX MODE

AUDIO

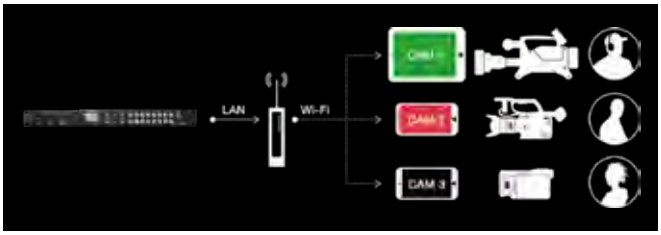


FEATURES

PTZ Control

Achieve multiple camera angles for fixed installations by controlling up to six PTZ cameras using VISCA protocol. Save and recall seven position settings for each camera.

Smart Tally



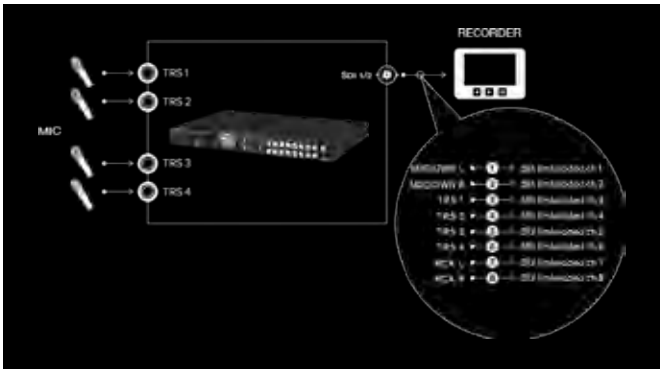
Roland's unique and proprietary wireless tally system uses a wireless LAN router connected to the XS-62S to send tally information to iOS or Android devices on the network.

Remote Control

An easy-to-use software application XS-62S RCS for Mac or PC provides setup and control information for the Roland XS-62S through a network port. Copy, store and recall memory (backup) and preset settings. The XS-62S is equipped with an RS-232 and LAN port for control and operation remotely from a touch panel or other programmable interface device.

Discrete Multi-channel Audio Embedding

Assign up to eight analog audio inputs a separate audio embed channel on SDI 1 and 2 outputs to ensure a separate mix pre-effect (dry) or post-effect (wet) for correcting audio problems post live event. This feature is also useful for multi-language events to record the voice-over or language translation on its own audio channel to a separate master.



SPECIFICATIONS XS-62S

VIDEO

Processing	4:2:2 (Y/Pb/Pr), 8-bit
Input Connectors	SDI IN 1--4: BNC type x 4 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M
	HDMI IN 5--6: HDMI type A x 2 * HDCP Supported * Multi-format Supported
	RGB/COMPONENT/COMPOSITE IN 6: HD DB-15 type x 1 * Select either HDMI or RGB/COMPONENT or COMPOSITE for the INPUT 6 connector. * Multi-format Supported
Output Connectors	SDI OUT 1--2: BNC type x 2 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M
	HDMI OUT 1--3: HDMI type A x 3 * HDCP Supported
Analog Input Level, Impedance	RGB: 0.7Vp-p, 75ohms (H, V:5VTTL) COMPONENT: 1.0Vp-p, 75ohms(Bi-level sync/Tri-level sync) COMPOSITE: 1.0Vp-p (Y), 0.286Vp-p (C: NTSC), 0.3Vp-p (C: PAL), 75ohms
Input formats	SDI IN 1--4: Conforms to SMPTE 296M, SMPTE 274M, 720/59.94p, 720/50p(SYSTEM FORMAT = 720p) 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p (SYSTEM FORMAT = 1080i or 1080p) * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).
	HDMI IN 5--6, RGB/COMPONENT/COMPOSITE IN 6: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, VGA (640 x 480, 60 Hz), SVGA (800 x 600, 60 Hz), XGA (1024 x 768, 60 Hz), WXGA (1280 x 800, 60 Hz), SXGA (1280 x 1024, 60 Hz), FWXGA (1366 x 768, 60 Hz), SXGA+ (1400 x 1050, 60 Hz), UXGA (1600 x 1200, 60 Hz), WUXGA (1920 x 1200, 60 Hz) * The refresh rate is the maximum value of each resolution. * Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200, 60 Hz: Reduced blanking * The input interlaced video signal is converted to progressive video signal by internal processing. * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).
Still Image	Bitmap File (.bmp) * Maximum 1920 x 1080 pixels, 24-bit color, uncompressed. * It can be stored up to 2 files in the internal memory.
Output formats	SDI OUT 1--2: Conforms to SMPTE 296M, 274M HDMI OUT 1--2: 720/59.94p, 720/50p (System Format = 720p) 1080/59.94i, 1080/50i (System Format = 1080i), 1080/59.94p, 1080/50p (System Format = 1080p) * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz).
	HDMI OUT 3 (MULTI-VIEW): 1080/59.94p, 1080/50p HDMI OUT 3 (SCALER): 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94p, 1080/50p, SVGA (800 x 600, 60 Hz)(*1), XGA (1024 x 768, 60 Hz)(*1), WXGA (1280 x 800, 60 Hz)(*1), SXGA (1280 x 1024, 60 Hz)(*1), FWXGA (1366 x 768, 60 Hz)(*1), SXGA+ (1400 x 1050, 60 Hz)(*1), UXGA (1600 x 1200, 60 Hz), WUXGA (1920 x 1200, 60 Hz) * Select either MULTI-VIEW or SCALER for the HDMI OUT 3 connector. * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz). * 1920 x 1200, 60 Hz: Reduced blanking (*1) Output refresh rate is 75 Hz when frame rate is set to 50Hz.
Video Effects	Output Mode: PGM-PST, DISSOLVE, MATRIX Transition: CUT, MIX (DISSOLVE/FAM/NAM)(*1), WIPE (30 types)(*1) Composition: PinP (SQUARE, CIRCLE, HEART, DIAMOND)(*1), SPLIT (4 types) (*1), DSK (Luminance Key, Chroma Key)(*1) Other: Flip horizontal, Still Image Capture, Still Image Playback, Test pattern output, Input Freeze (*1) These effects depend on Output Mode

AUDIO

Audio Processing	Sampling rate: 24 bits/48 kHz
Audio formats	SDI IN: Linear PCM, 24 bits/48 kHz, 2 ch (Conforms to SMPTE 299M) SDI OUT: Linear PCM, 24 bits/48 kHz, 8 ch (Conforms to SMPTE 299M) HDMI IN, HDMI OUT: Linear PCM, 24 bits/48 kHz, 2 ch
Input Connectors	SDI IN 1--4: BNC type x 4 HDMI IN 5--6: HDMI Type A x 2 AUDIO IN 1--4: 1/4-inch TRS phone type AUDIO IN 5--6: RCA phono type
Output Connectors	SDI OUT 1--2: BNC type x 2 HDMI OUT 1--3: HDMI type A x 3 AUDIO OUT: XLR type, RCA phono type PHONES: Stereo 1/4-inch phone type
Input Level	AUDIO IN 1--4: -60--+4 dBu (Maximum input level: +22 dBu) AUDIO IN 5--6: -10 dBu (Maximum input level: +8 dBu)
Input Impedance	AUDIO IN 1--4: 10 k ohms (HEAD AMP GAIN: 0--+23 dBu), 5 k ohms (HEAD AMP GAIN: +24--+64 dBu) AUDIO IN 5--6: 15 k ohms
Output Level	AUDIO OUT: +4 dBu (XLR type, Maximum input level: +22 dBu), -10 dBu (RCA phono type, Maximum input level: +8 dBu) PHONES: 92 mW + 92 mW (32 ohms)
Output Impedance	AUDIO OUT: 600 ohms (XLR type), 1 k ohm (RCA phono type) PHONES: 10 ohms
Audio Effects	Auto Mixing, EQ, Delay, Compressor, HPF, Gate, Reverb, Multi-Band Compressor, Limiter

OTHERS

Other Connectors	USB MEMORY port (for USB flash drive): USB A type TALLY/GPIO: DB-25 type (Female) RS-232: DB-9 type (Male, for remote control) RS-422: DB-9 type (Female, for VISCA control) CONTROL: RJ45, 100BASE-TX (For remote control)
Other Functions	Preset Memory (8 types), Panel Lock Function, EDID Emulator, Smart Tally Remote Camera Control
Display	Graphic LCD 128 x 64 dots
Power Supply	AC Adaptor
Current Draw	2.6 A
Power Consumption	31.0 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	481 (W) x 333 (D) x 44 (H) mm, 118-15/16 (W) x 13-1/8 (D) x 1-3/4 (H) inches
Weight (excl. AC adapt.)	3.6 kg, 7 lbs 15 oz
Accessories	Owner's Manual, AC adaptor, Power cord, Rubber Foot x 4

(0dBu=0,775Vrms)

CONFERENCE ROOMS

The XS series can perform switching for up to eight computers and video devices. Systems comprising mixed digital and analog sources can be configured. In addition to audio from the HDMI input, eight analog audio sources can be mixed. With built-in audio following video function, PEQ and Compressor, you don't need an additional audio mixer.

CLASSROOMS

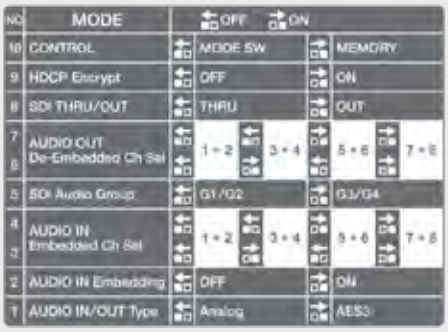
The XS series is equipped with a processor that enables compositing functions. The Multi Mode allows compositing video signals from cameras and computers, which is convenient for recording e-learning content as well as switching HDCP-protected HDMI signals from computers or Blu-ray players. Still images can be saved in internal memory which makes it possible to display a school logo while in standby, even with no inputs connected.

4K SWITCHING

The XS-84H is capable of switching four video lines as a group, which enables configuration of a 4K system. Switching a mixture of video feeds that includes 4K, HD, SD and XGA, as well as other computer video formats is also possible.

VC-1 Series | VIDEO CONVERTERS

VC-1-SH | SDI TO HDMI



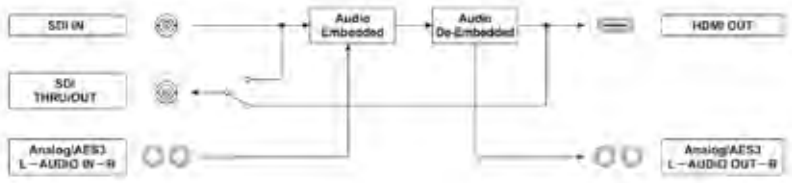
MODE DIP SW

Conversion of Video and Audio Signals from SDI Input to HDMI Output

- SDI to HDMI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable channel for Embedded/De-Embedded audio

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.

BLOCK DIAGRAM



VC-1-HS | HDMI TO SDI

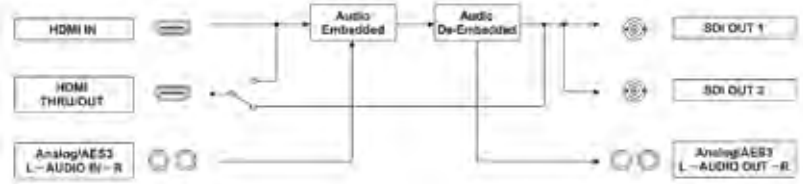
MODE DIP SW

Conversion of Video and Audio Signals from HDMI Input to SDI Output

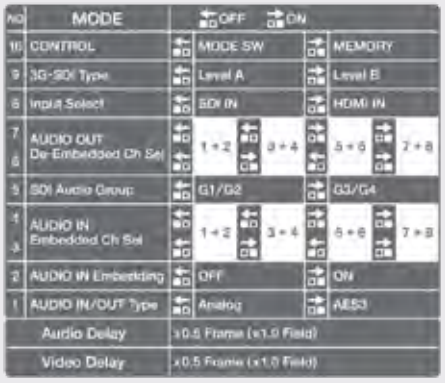
- HDMI to SDI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable channel for Embedded/De-Embedded audio

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.

BLOCK DIAGRAM



VC-1-DL | FS DELAY



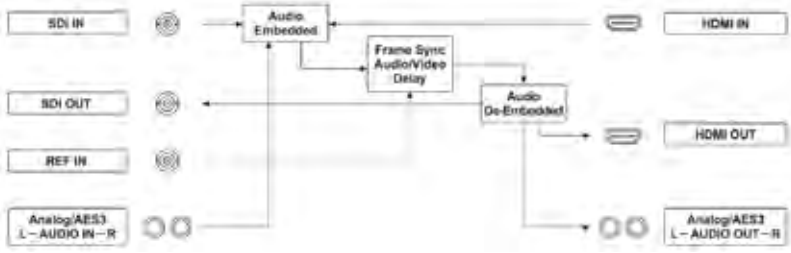
MODE DIP SW

Bi-directional Conversion of Video and Audio Signals from HDMI to SDI or SDI to HDMI with Frame Sync and Delay

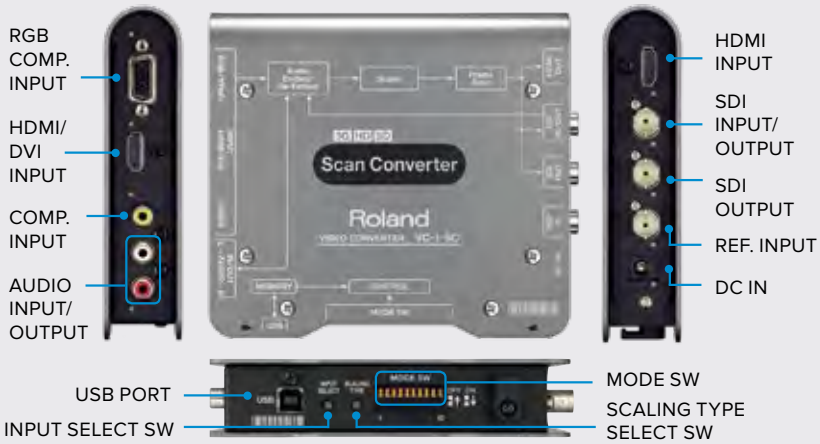
- HDMI to SDI/SDI to HDMI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable Channel for Embedded/De-Embedded Audio
- Audio/Video Delay - up to 9 fields (4.5 frames)

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.
* When frame synchronizer is working, CH 3-8 of HDMI and CH 3-16 of SDI audio output are not available.

BLOCK DIAGRAM



VC-1-SC | SCAN CONVERTER

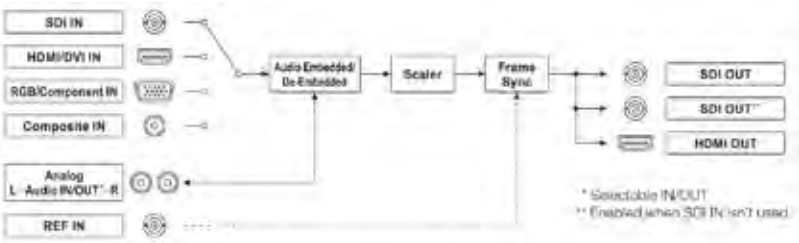


MODE DIP SW

Up/Down/Cross Scan Converter to SDI/HDMI with Frame Sync

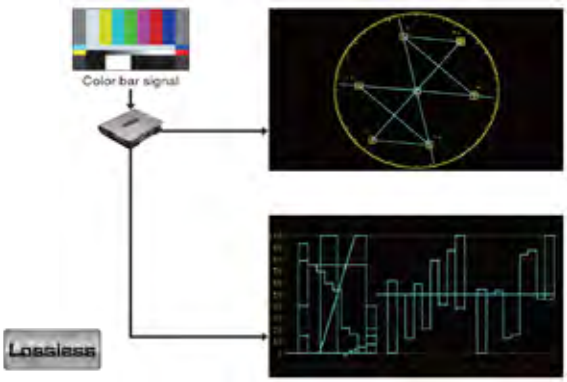
- 3G (Level A and B)/HD/SD SDI In/Out
- HDMI In/Out
- RGB/Component In
- Composite In
- HDCP support
- Built-in Frame Synchronizer and Scaler
- Up/Down/Cross, Frame Rate*, I/P, and Aspect Ratio conversion
- Audio embedding or De-embedding
- VC-1 RCS, dedicated PC/Mac Software App

BLOCK DIAGRAM



Uncompromising Commitment to Picture Quality

The VC-1 series faithfully converts the original source with no change in color or brightness. It supports super-blacks and super-whites, and converts video from cameras and other source devices maintaining all aspects of the original source.



Support for Workflow Combining Audio and Video

Audio embedding and de-embedding features are provided (channel-selectable) ithe VC-1 Series. The audio embedding feature lets you place audio signals from a different source into the video output. For example, when converting an SDI signal to HDMI, you can use the audio embedding feature to output high-quality audio from any of the SDI audio channels. Digital (AES/EBU) input and output are also supported, letting you exchange sound between professional audio equipment with no degradaton in signal. Analog input and output is supported to monitor and input audio to/from a wide variety of equipment such as an audio console.

AUDIO EMBEDDING

Support for HDCP HDMI Signals

The VC-1 series is compliant with HDCP. For example, the VC-1-DL can take HDCP-applied HDMI input signals, apply frame synchronization or delay, and produce HDCP-applied HDMI output. This allows the VC-1 series to be used in any HDCP-based system with no worries.

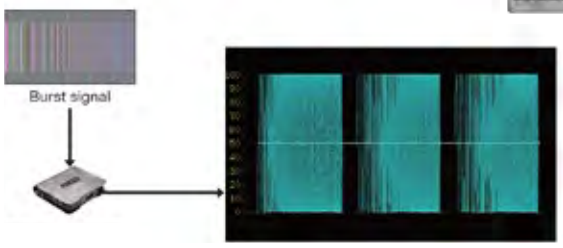
* HDCP-applied HDMI signals cannot be converted to SDI and recorded to HDMI recorders and editors.

HDCP

Faithful Reproduction of Video Characteristics

The VC-1 series reproduces the video characteristics of the original source with no interlace artefacts, pixel shifting, or other conversion problems or signal errors. Jitter and return loss are at absolute minimal levels.

Lossless



Support for 1080p 3G-SDI

3G bps 1080p

Video signals beyond 1080i can be input and output. The VC-1 series supports both level A and level B 3G-SDI, letting you connect a wide variety of 3G-SDI equipment. 1080i, 720p, and SD signals are automatically accommodated on connection.

Interlaced (1080/60i)

Progressive (1080/60i)

On-board reclocker

The VC-1 series features an on-board reclocker to compensate for attenuation of SDI signals carried over long distances. This makes it possible to receive camera-relay video while maintaining a high image quality.

Signal before reclocking

Reduction of jitter

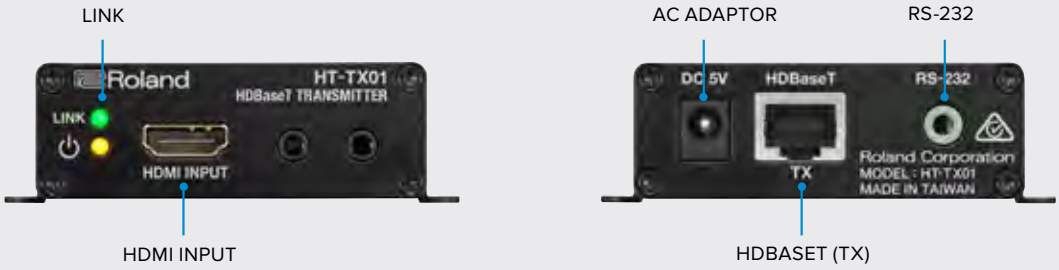
Easy Configuration with DIP Switches or Dedicated PC/Mac Software App

VC-1 RCS

DIP switches make it simple to accommodate on-site adjustments. Change the conversion direction or other settings by simply sliding a DIP switch on the side of the unit. Delay Dials (VC-1-DL only) set the amount of delay for video and audio. Set the amount of delay independently for video and audio in a range of 0 to 9 fields (0 to 4.5 frames). Connection to a computer via USB cable unlocks even greater versatility with advanced settings including a memory location to lock in a favorite configuration. Control and configure multiple VC-1 units at the same time using a USB hub.

Delay Dials (VC-1-DL only) and DIP switches on side panel

HT-TX01 | HDBaseT TRANSMITTER



HDBaseT-compatible Transmitter for Transmitting HDMI Signals up to 100 Meters over an Ethernet Cable

- Converts HDMI input to HDBaseT signals
- Maximum 1080/60p and WUXGA support for HDMI
- HDCP-compliant
- Capable of RS-232C transmission

HT-RX01 | HDBaseT RECEIVER

HDBaseT-compatible Receiver for Transmitting HDMI Signals up to 100 Meters over an Ethernet Cable

- Converts HDBaseT signals to HDMI output
- Maximum 1080/60p and WUXGA support for HDMI
- HDCP-compliant
- Capable of RS-232C transmission

SPECIFICATIONS HT-TX01/HT-RX01

Input Formats	800 × 600, 1024 × 768, 1280 × 1024, 1366 × 768, 1920 × 1200, 480i, 720p, 1080i, 1080p
Audio Formats	The maximum is PCM 8ch, Dolby Digital, True HD DTS-HD Master Audio
Input Connectors	<HT-TX01> HDMI x 1: Type A 19 pins, <HT-RX01> RJ45 x 1
Output Connectors	<HT-TX01> RJ45 x 1, <HT-RX01> HDMI x 1: Type A 19 pins
Other Connectors	RS-232 x 1
Transmission Distance	The maximum is 100 m (328 ft) * The available distance depends on the quality of the LAN cable. Optical MADI IN/OUT (SC duplex type)

Operating Temperature	0 to 40 degrees C, 32 to 104 degrees F
Operation Humidity	10 to 85 % (no condensation)
Storage Temperature	-20 to 60 degrees C, -4 to 140 degrees F
Storage Humidity	10 to 85 % (no condensation)
Power Supply	AC Adaptor
Current Draw	2 A
Dimensions	81 (W) x 93 (D) x 24 (H) mm, 3-3/16 (W) x 3-11/16 (D) x 1 (H) inches
Weight	300 g, 11 oz

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Accessories

CB-BV1 | CARRYING BAG

The Perfect Accessory for your Roland V-1HD or V-1SDI Video Switcher

- For Roland V-1HD or V-1SDI Video Switcher
- Durable exterior materials
- Fleece interior and foam padding
- Interior/exterior: black 600D polyester and ripstop nylon

RRC-V1200 | BLACK SERIES ROAD CASE

Heavy-Duty Combo Rack for the Roland V-1200H and V-1200HDR

- Heavy-duty grade recessed hardware
- Tongue and groove aluminum valances
- High-density foam lining
- Premium 3/8-inch plywood with rugged black vinyl laminate

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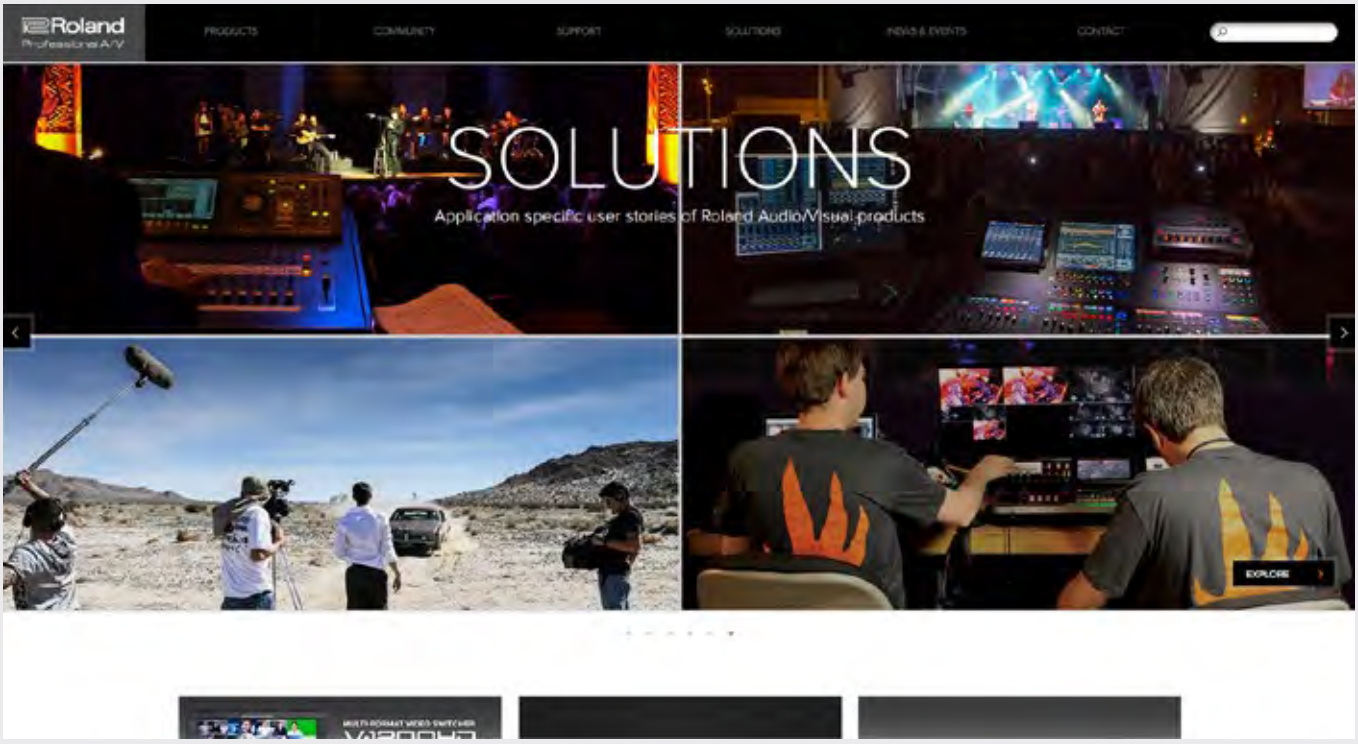

- Product Information
- Installation Cases
- Promotional Videos

https://proav.roland.com/

Ensuring high quality while protecting the environment: Roland is ISO9001 and ISO14001 certified
At Roland, several group companies have obtained ISO9001 certification. In addition, in January 1999, Roland also received ISO14001 international environmental management system certification. We're actively seeking ways to maintain harmony with the environment. (ISO=International Standardization Organization: an organization for the promotion of standardization of international units and terms. They provide different categories of certification: ISO9001 Series certification is a product quality certification for products that undergo a certain level of quality control from the design stage to the after service stage; ISO14001 Series certification is for environment-related standards. Each member of the Roland Group is striving to obtain certification.)