PROFESSIONAL VIDEO EQUIPMENT

2019 CATALOGUE

Roland

Welcome

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

Roland first entered the world of professional video in 1998 with the V-5 Video Canvas, which delivered unprecedented quality and functionality at an accessible price. In 2018, we celebrated our twentieth anniversary in video, and today have a varied and ever-growing product portfolio.

As the world of professional video evolves, we are inspired to develop products with increasingly sophisticated features, that can deal with ever-changing hardware and software, handle those last-minute changes and still deliver a seamless result. That's why Roland's professional video products are designed through consultation with the market and – most importantly – the end user, so that every requirement is met. The result is a comprehensive portfolio of compact, integrated products that provide the flexibility and connectivity demanded by video professionals.

From portable, full-HD studio gear that can mix, edit, record and distribute audio/video, to full-HD matrix switchers that connect and switch multiple sources, Roland video equipment has the features you need to achieve professional results. In addition to these all-important features, we've enhanced the user experience by incorporating intuitive user interfaces, touchscreen displays, preview monitors and clear workflows into the product design.

Saving space, set-up time and money, our range also includes features like automatic scaling for each input, memory recall and real-time adjustment – small things that make a big difference to busy professionals. These intelligent design features are ideal for those with variable technical skillsets, enabling professional results with the minimum of training or ongoing support.

Whether you're working in corporate, broadcast, live production, visual performance or house of worship, Roland professional video gear has all the features you are looking for – and more. And if your requirement is for video switchers, streaming switchers, matrix switchers, converters or equipment for recording and playback, our products are reliable, powerful and affordable.

For further information, visit the Roland Professional Video website for video tutorials, application guides, product brochures and case studies.

PROAV.ROLAND.COM

4K VIDEO SWITCHER


V-600UHD

VIDEO SWITCHERS


V-1200HD


V-40HD


V-800HD MK II


V-60HD


V-1HD


V-02HD


V-1SDI

STREAMING SWITCHERS


VR-1HD


VR-50HD MK II


VR-4HD

MATRIX SWITCHERS


XS-82H


XS-83H


XS-84H


XS-62S


XS-42H


XS-1HD

VIDEO PROCESSOR


VP-42H

CONVERTERS


VC-1 HS


VC-1 SH


VC-1 DL


VC-1 SC

ACCESSORIES


RRC-3 HDMI


RRC-3 SDI


HT-TX01


HT-RX01


CB-BV1


RRC-SP SERIES


RRC-V1200

V-600UHD | 4K MULTI-FORMAT VIDEO SWITCHER

AUDIO
Adjusts the volume level (digital gain) for AUDIO IN L/R and output/headphones.

USER
Execute the functions that are assigned by the menu settings.

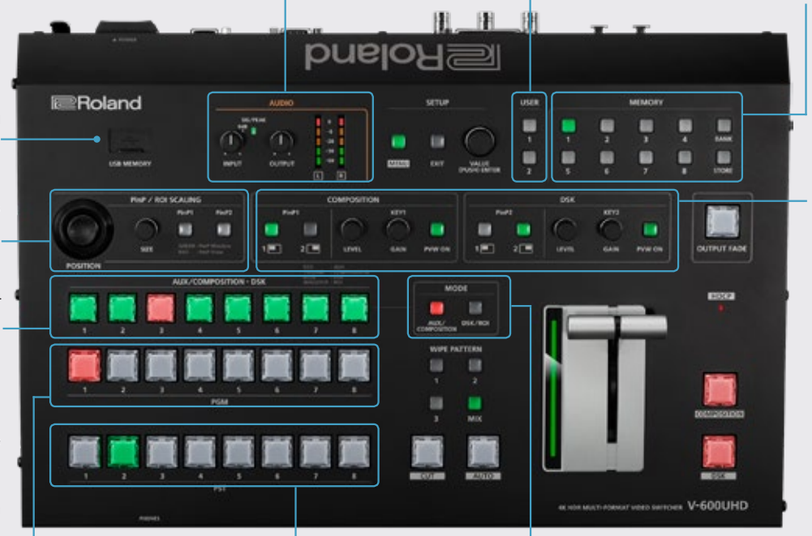
MEMORY
Save the current settings (such as video settings and operating panel status) to memory, or recall settings from memory.

USB MEMORY PORT
Use this when importing still images, or when saving or loading settings.

PinP/ROI SCALING
Adjusts, enlarges or reduces the display position and size of the input video or PinP inset screen.

AUX/ COMPOSITION - DSK
Indicates the status of video input to the crosspoints. Here you can also select the video that is sent to the destination specified by the MODE [AUX/ COMPOSITION] button and [DSK/ ROI] button.

COMPOSITION /DSK
Controls for the Composition and DSK section. You can combine 2 PinPs or Keyers (Upstream/ Downstream) in any combination.



PGM
Selects the final output video.

PST
Selects the preset video (the video to output next).

MODE
Selects the destination of the video. The video selected by the AUX/COMPOSITION - DSK cross-point [1]–[8] button is sent.

AUDIO IN
Inputs the audio signals. Connect an audio mixer, CD players, or other such audio equipment.

TALLY/GPI CONNECTOR
Connect devices provided with a tally-light feature or with control-signal output functionality to this connector.

LAN/RS-232 CONNECTOR
You can use a web browser / terminal software or connect a computer equipped with an RS-232 connector to control this unit remotely.

AUDIO OUT
Output the results of audio mixing. Connect an audio recorder, amplifier, speakers, or other such equipment.

MULTI-VIEW CONNECTOR

VIDEO OUTPUTS
Three independent HDMI 2.0 outputs + one 12G SDI output with scalers.

VIDEO INPUTS
Four independent HDMI 2.0 inputs + two 12G SDI inputs with scalers.

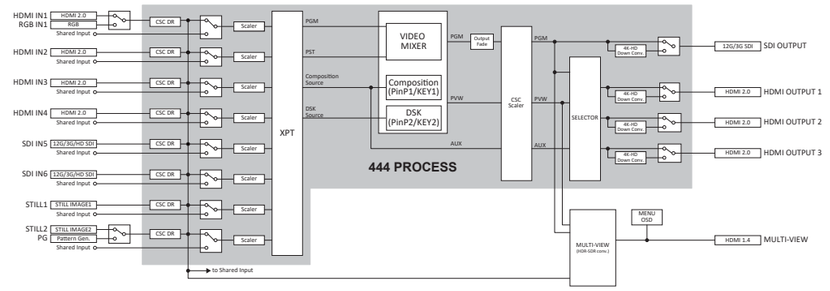
Upgrade your events to 4K HDR — one input at a time

- 4K without compromise
- High Dynamic Range [HDR]
- Full 50/60Hz frame rate
- A more vivid color space
- 10-bit 4:4:4 pixel-accurate color
- Support for DCI cinema 4K resolution
- The right I/O for your show
- Capture all the action with a single 4K camera
- Get creative with composition
- Audio system integration
- The best solution for working with LED displays

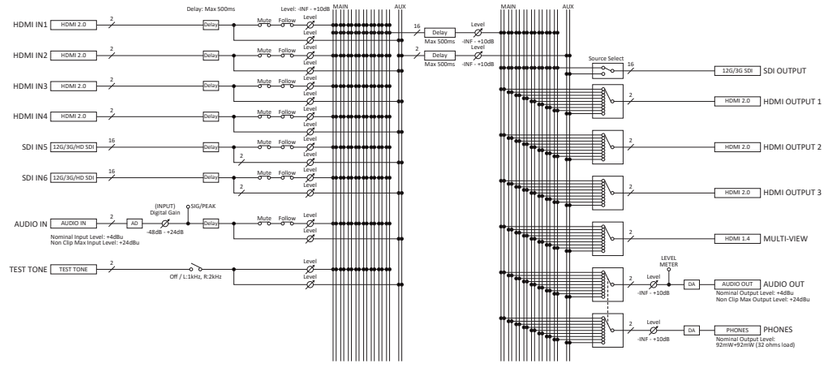
AUDIO EMBEDDING | HDCP | WUXGA 1080/60p | HDMI 2.0 | 12G bps SDI

BLOCK DIAGRAM

VIDEO



AUDIO



ULTRA SCALER

As clients and audiences start demanding 4K at events, your current HD sources and displays shouldn't become obsolete — and the V-600UHD lets you transition to 4K workflows as demand and budgets allow. With Roland's Ultra Scaler technology, scaling is provided on every input, so you can use Full HD and 4K sources simultaneously, and output at multiple resolutions. You can also leverage the high pixel density of 4K camera sources in Full HD workflows for problem-free, visually-impressive productions.

4K without compromise

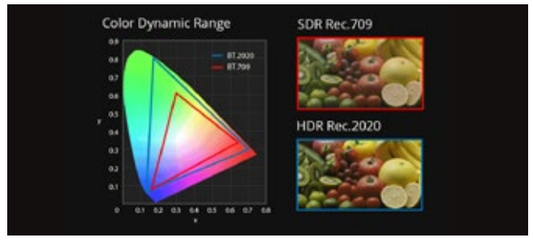
Upgrading to 4K greatly improves the image quality in your productions, so why compromise with switchers that may deliver more pixels but omit the true capabilities of 4K?

High Dynamic Range [HDR]

The V-600UHD uses High Dynamic Range [HDR] so your events look amazing. You don't just see more pixels, you see better, more dynamic-looking pixels that preserve the details in the darkest and brightest areas of an image. HDR provides well-balanced stage lighting without oversaturation for IMAG (and it's easier to achieve compared with using SDR.)

A more vivid color space

The V-600UHD supports Rec.2020, the highest-specification Wide Color Gamut (WCG), as well as RGB and Rec.709 standards to display the widest range of visible colors. This provides an increased level of realism and improved color accuracy, especially for red and yellow color ranges.

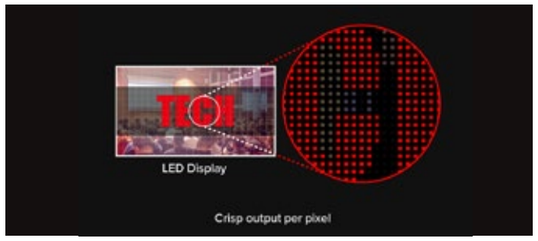


Full 60hz frame rate

With full 60Hz framerate support, the V-600UHD delivers a smooth, crisp video image without the blur that's common when fast motion is displayed at 30Hz refresh rates.

10-bit 4:4:4 pixel-accurate color

Internal 10-bit Color Depth processing reduces color banding and sharpens high-detail sources from computers. This makes it easier to read small fonts and other fine details, even when drastically scaled and magnified.

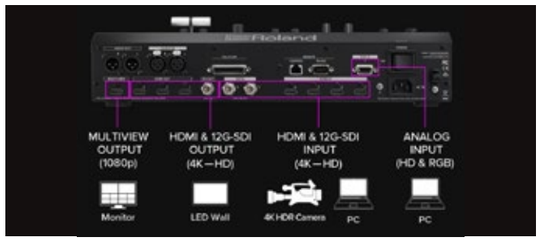


Support for DCI Cinema 4K resolution

Not all 4K content has the same aspect ratio. Although 4K content is always 2160 pixels high, DCI or "Cinema 4K" is 4096 pixels wide, which is 256 pixels wider than UHD. The V-600UHD lets you switch and display content at the originally intended aspect ratio, without cropping or letterboxing.

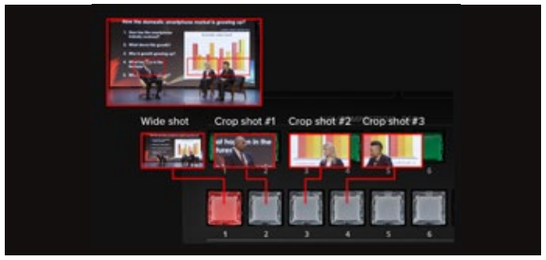
The right I/O for your show

The V-600UHD has four HMDI 2.0 and two 12G SDI inputs, perfect for events needing several computer and video playback sources complete with IMAG camera support. Each input independently supports input and scaling of HD, Full HD, UHD 4K, and DCI 4K, as well as PC resolutions from UXGA to DCI 4K — with no converters needed. AUX destination switching makes it easy to include down-stage confidence monitors, while the configurable multi-view monitor lets you see all your sources, programs and previews — at a glance. Each output also supports downscaling to Full HD for outputting to streaming encoders or other HD-equipped destination displays.



Capture the action with a single 4K camera

You don't need multiple cameras for multiple shots. If your production requires a wide shot of the stage, a medium shot of the speaking panel, and close-ups of each speaker, the V-600UHD has you covered with built-in Region of Interest [ROI]. This allows you to point a single 4K camera at the stage and use the V-600UHD's input sharing and scaling functions to crop out up to eight "camera shots" that you can assign to the V-600UHD's cross points. Increase your production value without increasing your camera count, complexity or costs.

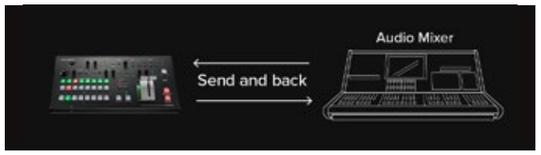


Get creative with composition

The V-600UHD supports two Picture-in-Picture windows (PnP) that offer so much more than simple fixed inset windows. You can accomplish results comparable to dedicated screen processors, with fully customizable aspect ratios, sizes and input source scaling — letting you display whatever you want, wherever you want it. Combine flexible PnP with the ultra-wide pixel count of DCI 4K to create engaging and impressive screen sets.

Audio system integration

Embedded audio from digital video signals can be tricky to incorporate into audio systems at an event or performance. Superior audio management lies at the heart of the V-600UHD, with flexible 24-bit 48kHz audio processing that lets you avoid problems before they occur. You can de-embed audio from the currently selected source and send to an external sound mixer using Audio Follows Video. Or program audio returning from the same console can also be embedded in one or all video outputs and then sent to the web, a recorder or overflow room.



The best solution for working with LED displays

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.

LED display technology has quickly become a versatile creative tool for event designers, whether serving as the background for a stage or a huge backdrop at a music festival. The challenge is that when using IMAG cameras with a bright LED background and an SDR switcher, it's difficult to light a presenter or performer when standing in front of the LED — they just appear as a shadowy outline. But now you can easily work with low light stages and bright backgrounds; just use an HDR camera with the V-600UHD and the subject appears properly lit.

Corporate events and festivals use pixel widths that exceed the HD format's 1920 pixels. With the V-600UHD's support for DCI Cinema 4K Resolution, you can switch content to display images up to 4096 pixels wide, fulfilling the creative vision of ambitious event designers. The V-600UHD offers incredibly high-quality "dot-by-dot" output scaling that allows you to directly connect to an LED display controller at the exact pixel dimensions, without the extra expense and increased latency of a dedicated scaling processor.

SPECIFICATIONS V-600UHD

VIDEO	
Video Processing	4:4:4 (Y/Pb/Pr), 10-bit
Supported Video Input Formats	Video: 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 2160/59.94p (UHD 4K), 2160/50p (UHD 4K), 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) PC: 1600 x 1200/60 Hz (UXGA), 1920 x 1080/60 Hz (FHD), 1920 x 1200/60 Hz (WUXGA, Reduced blanking), 3840 x 2160/30 Hz (UHD 4K), 3840 x 2160/60 Hz (UHD 4K), 4096 x 2160/30 Hz (DCI 4K), 4096 x 2160/60 Hz (DCI 4K) Still Image: Windows Bitmap File (.bmp), Maximum 4096 x 2160 pixels, 24-bit per pixel, uncompressed
Supported Video Output Formats	Video: 1080/59.94p, 1080/50p, 2160/59.94p (UHD 4K), 2160/50p (UHD 4K), 2160/59.94p (DCI 4K), 2160/50p (DCI 4K) PC: 1920 x 1080/60 Hz (FHD), 3840 x 2160/60 Hz (UHD 4K), 4096 x 2160/60 Hz (DCI 4K) MULTI-VIEW: 1080/60p * Conforms to VESA DMT, VESA CVT, CEA-861-F * Color Gamut: BT.709, BT.2020 * Dynamic Range: SDR, HDR PQ (HDR10)§HDR HLG
Input Connectors	HDMI IN 1--4 connectors: HDMI type A (HDMI 2.0) SDI IN 5--6 connectors: BNC type (12G/3G/HD-SDI, Conforms to SMPTE 2082, 424M (Level-A, Level-B), 292M) RGB IN 1 connector: HD DB-15 type (Analog RGB, Select HDMI IN 1 or RGB IN 1 using menu) AUDIO IN L/R connectors: XLR-3-31 type (balanced)
Output Connectors	SDI OUTPUT connector: BNC type (12G/3G-SDI, Conforms to SMPTE 2082, 424M (Level-A, Level-B)) HDMI OUT 1--3 connectors: HDMI type A (HDMI 2.0) MULTI-VIEW connector: HDMI type A (HDMI 1.4) AUDIO OUT L/R connectors: XLR-3-32 type (balanced) PHONES jack: Stereo miniature phone type
Video Effects	Transition: Mix, Cut, Wipe (9 patterns) Composition: PinP, Key (*1), PinP + Key (*1) DSK: PinP, Key (*1), PinP + Key (*1) Others: Output Fade, Output Freeze *1 Luminance Key, Chroma Key

AUDIO	
Audio Processing	24 bits/48 kHz
Audio formats	SDI IN/OUT: Linear PCM, 24 bits/48 kHz, 16 ch (Conforms to SMPTE 299M) HDMI IN/OUT: Linear PCM, 24 bits/48 kHz, 2 ch
Audio Effects	Matrix mixer Delay (1 ms units, max 500 ms) Test tone output
Input Level	AUDIO IN L/R: +4 dBu (Maximum: +24 dBu)
Input Impedance	AUDIO IN L/R: 15 k ohms
Output Level	AUDIO OUT L/R: +4 dBu (Maximum: +24 dBu) PHONES: 92 mW + 92 mW (32 ohms)
Output Impedance	AUDIO OUT L/R: 600 ohms PHONES: 10 ohms

OTHERS	
Other Connectors	USB MEMORY port: USB A type (for USB flash drive) RS-232 connector: DB-9 type (Male) (for Remote Control) CONTROL port: RJ45 type, 100BASE-TX (for Remote Control) TALLY/GPI port: DB-25 type (Female) (Tally: 16, GPI: 8) * XLR type: 1 GND, 2 HOT, 3 COLD
Power Consumption	75 W
Operating Temp.	+5 to +40 degrees Celsius +41 to +104 degrees Fahrenheit
Dimensions	482 (W) x 300 (D) x 109 (H) mm 19 (W) x 11-13/16 (D) x 4-5/16 (H) inches * When rack mount angles are fitted.
Weight	5.3 kg 11 lbs 11 oz * Including rack mount angles.
Accessories	Owner's Manual Power cord Rack-mount angle x 2

* 0 dBu=0.775 Vrms
* This product is a Class A digital device under FCC part 15.

V-02HD | MULTI-FORMAT VIDEO MIXER

VIDEO COMPOSITIONS
Select between Mix and Wipe patterns. Introduce a PinP or a Keyer using the selector switch.

OUTPUT FADE
Fade the Video Output to white or black and fade the corresponding audio. Switch to the Still Image.

APPLYING AND ADJUSTING VIDEO EFFECTS

SWITCHING/ COMPOSITING VIDEO BUTTONS, VIDEO FADER
Switch (manually or automatically) between video INPUT 1 and 2, and send them to the program output.

PROGRAM OUT
MAIN video output.

PREVIEW OUT
The preview output displays the standby video signal and the On-screen Menu.

HDMI INPUTS
2 High quality HDMI inputs with Scalers.

USB PORT
Connect the USB cable to an iPad for remote control. The V-02HD iPad Remote Control App is free of charge and downloadable from the Apple AppStore.

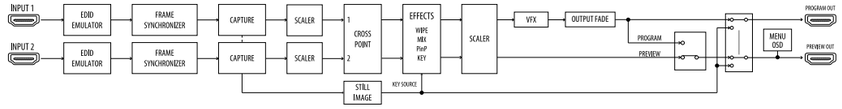
CTL/EXP JACK
Connect an expression pedal (sold separately: EV-5, etc.) or footswitch (sold separately: BOSS FS-6, etc.).

Switcher, scaler, expander with audio processing and video effects

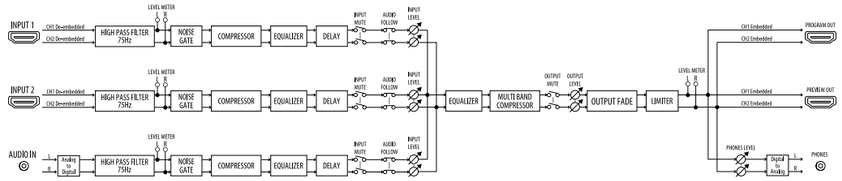
- 2 in / 2 out multi-format video mixer
- Professional transition and composition FX including KEY and PinP
- Input / output scalers and EDID emulator
- 10-bit 4:4:4 quality processing
- 14 onboard Visual FX including Mosaic FX
- Still image store
- Advanced audio processing DSP
- Audio Embed/De-embed
- Switch between cameras via a connected footswitch (sold separately)
- Preset memory (8 types)
- Dedicated V-02HD remote control app for iPad

BLOCK DIAGRAM

AUDIO

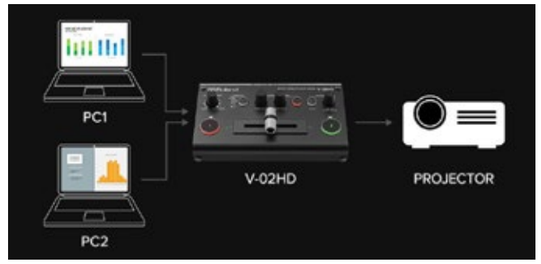


VIDEO



Dual camera / single operator productions

The V-02HD takes the HDMI output from two cameras and seamlessly switches to a connected recorder or livestreaming encoder. The operator can then switch between cameras using the dedicated controls or even by using their feet, via a connected footswitch that lets them continue operating their camera. Audio from both cameras and external sources can be mixed together within the V-02HD and monitored through a dedicated headphone output. Finally, the resulting mix is embedded with the video switch and output over HDMI.



Simple, seamless switching

Switching sources in a small presentation can be a pain, whether it's signal loss to the main display or the computer's inability to handle unexpected input signals. The V-02HD ensures a professional cross-dissolve switchover between computers and screens, maintaining hi-res 'pixel-accurate' display resolution with deep 10-bit 4:4:4 color space. With simple two-button operation, anyone can pull off professional switching of multiple sources, even if using the V-02HD for the first time.

SPECIFICATIONS V-02HD

VIDEO	
Video Processing	4:4:4 (Y/Pb/Pr), 10-bit
Input Connectors	INPUT 1--2: HDMI type A x 2 * HDCP Supported * Multi-format Supported
Output Connectors	PROGRAM OUT: HDMI type A PREVIEW OUT: HDMI type A * HDCP Supported * Multi-format Supported
Input formats	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), FWXGA (1366 x 768/60 Hz) SXGA (1280 x 1024/60 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 video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz)
Output formats	480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i 1080/59.94p, 1080/50p SVGA (800 x 600/60 Hz), XGA (1024 x 768/60 Hz) WXGA (1280 x 800/60 Hz), FWXGA (1366 x 768/60 Hz) SXGA (1280 x 1024/60 Hz), SXGA+ (1400 x 1050/60 Hz) UXGA (1600 x 1200/60 Hz), WUXGA (1920 x 1200/60 Hz) * Conforms to VESA DMT Version 1.0 Revision 11. * The output refresh rates of 800 x 600--1400 x 1050 are 75 Hz when the unit's frame rate setting is 50 Hz * 1920 x 1200/60 Hz: Reduced blanking
Video Effects	Transition: CUT, MIX (DISSOLVE), WIPE (9 types) Composition: PinP (SQUARE, CIRCLE, DIAMOND), KEY (Luminance Key, Chroma Key) Visual Effects (14 types): MOZAIC, WAVE, RGB REPLACE, COLORPASS, NEGATIVE, COLORIZE, POSTERIZE, SILHOUETTE, EMBOSS, FINDEDGE, MONOCOLOR, HUE OFFSET, SATURATION OFFSET, VALUE OFFSET Others: Flip horizontal, Flip vertical, Still Image Capture, Still Image Playback, Output fade (Audio, Video: WHITE or BLACK), Test pattern output

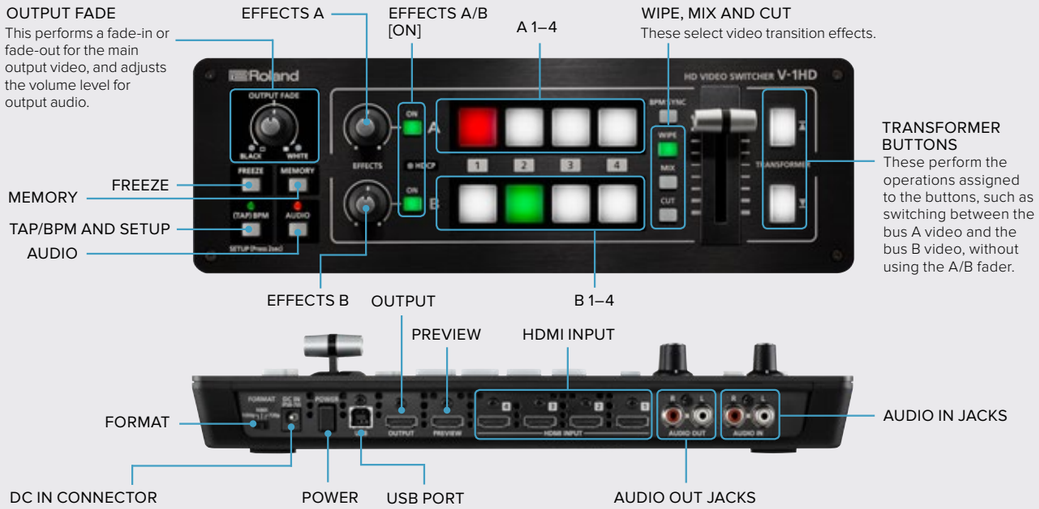
AUDIO	
Audio Processing	Sampling rate: 24 bits/48 kHz
Audio formats	Linear PCM, 24 bits/48 kHz, 2ch
Input Connectors	INPUT 1--2: HDMI Type A x 2 AUDIO IN: Stereo miniature type
Output Connectors	PROGRAM OUT: HDMI type A PREVIEW OUT: HDMI type A PHONES: Stereo miniature type
Input Level	AUDIO IN: -10 dBu (Maximum: +8 dBu)
Input Impedance	AUDIO IN: 45 k ohms
Output Level	PHONES: 92 mW + 92 mW (32 ohms)
Output Impedance	PHONES: 10 ohms
Audio Effects	Delay, High pass filter, Compressor, Noise gate, Equalizer, Multi-band compressor, Limiter, Test tone output

OTHERS	
Other Connectors	USB MEMORY: USB B Type (for backup from PC) CTL/EXP:1/4-inch TRS phone type
Other Functions	Preset Memory (8 types) Panel lock function EDID Emulator Auto Scan Auto Input Detect
Power Supply	AC Adaptor
Current Draw	1.1 A
Power Consumption	10.0 W
Operating Temp.	+0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit
Dimensions	160 (W) x 108 (D) x 51 (H) mm 6-5/16 (W) x 4-1/4 (D) x 2-1/16 (H) inches
Weight (excluding AC adaptor)	0.6 kg, 1 lbs 6 oz
Accessories	Startup Guide, AC adaptor, Power cord, Cord hook
Options (sold separately)	Footswitch: BOSS FS-5U, FS-6, FS-7 Expression Pedal: EV-5, BOSS FV-500L, FV-500H

* 0 dBu=0.775 Vrms

V-1HD | HD VIDEO SWITCHER

VER 2.0



Compact and portable entry model of Full HD supported video switcher

- Support for video cameras, action cameras, smartphones, 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)

3G-SDI VIDEO SWITCHER | V-1SDI

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]

*1 HDCP Compliant - *2 Built-in EDID Emulator - *3 The Still-image data is deleted once the power is turned off

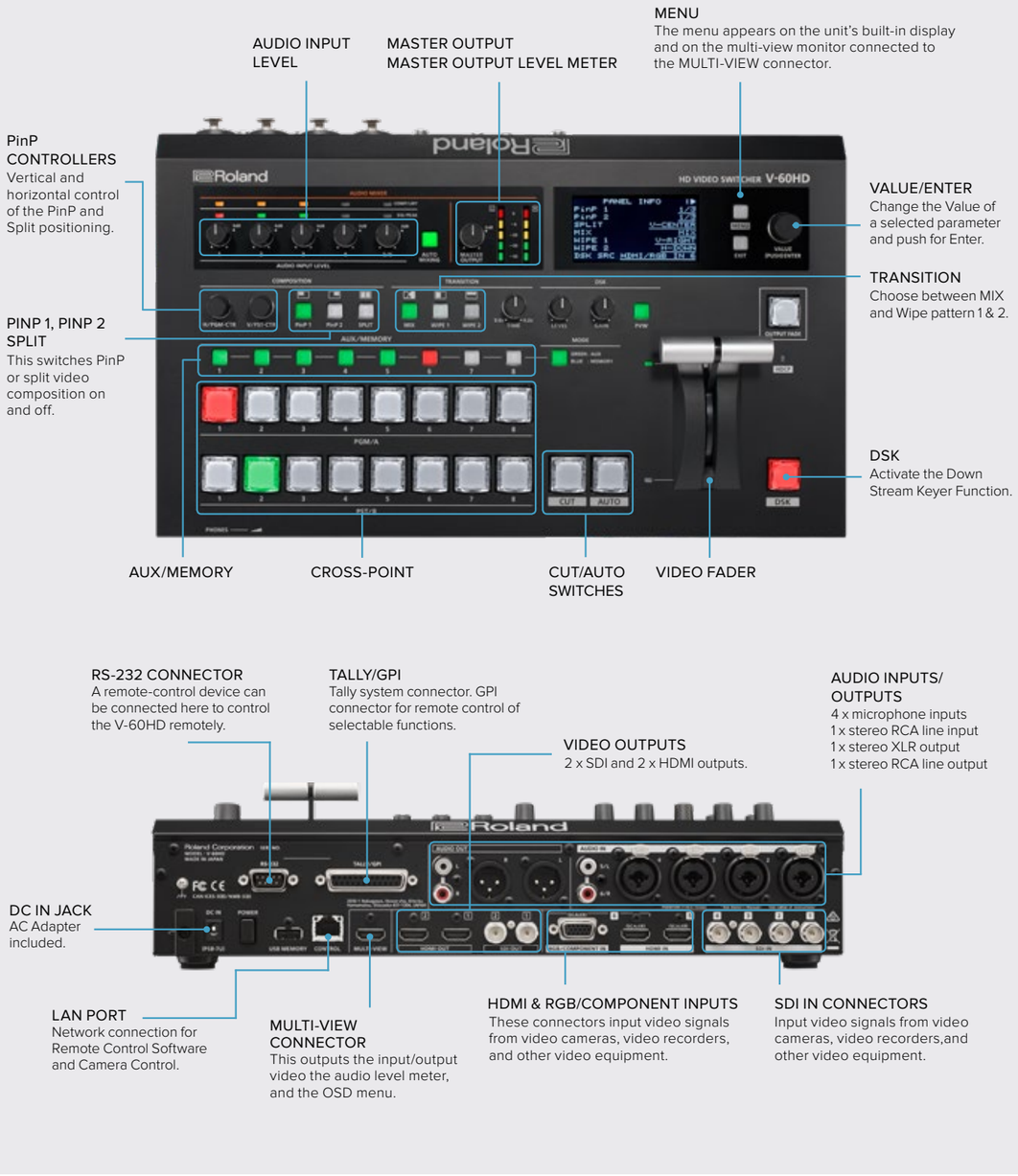
SPECIFICATIONS V-1SDI

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

V-60HD | HD VIDEO SWITCHER VER 2.5

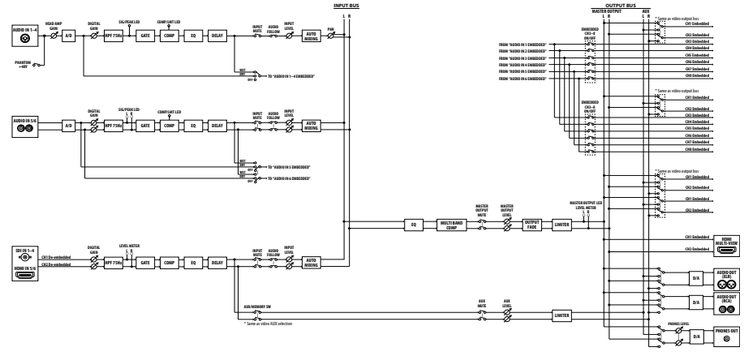


Plug-and-play production switcher with audio for live events and streaming

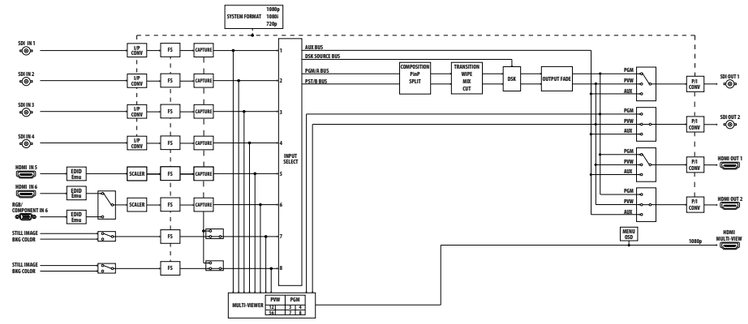
- 4 SDI inputs (with de-interlacer)
- 2 HDMI inputs (scaled)
- 1 RGB shared with HDMI input 6 (scaled)
- 2 SDI outputs – Assignable to PGM, AUX
- 2 HDMI outputs – Assignable to PGM, PVW, AUX
- 1 Multiview output – Program, preview, plus 8 video sources with audio meters
- LAN – Remote control and Smart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

BLOCK DIAGRAM

AUDIO



VIDEO



Live production

Corporate event production is the fastest growing live event space with companies hosting town halls, meetings, trainings, new product announcements, both in person and streaming.

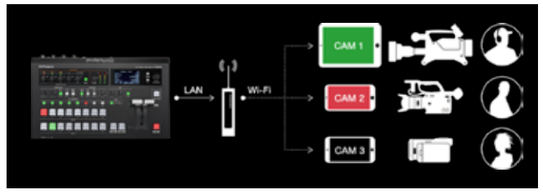
Education

Video communication helps improve the effectiveness of education when used for streaming lectures, assemblies, distance learning, sports, live performances or theater productions.

Church/theater

The V-60HD is ideal for multiscreen environments usually found in churches, conference centers, hotels, and trade show facilities where different content needs to be switched to independent screens.

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

Extending the V-60HD's audio mixer with outboard USB control surfaces is an economical alternative to using a dedicated full-size audio mixer. USB MIDI control devices are instantly recognizable by Mac and Windows PCs including the V-60HD Remote Control Software. For a gaming-like experience, pick up a USB gamepad and command a team of PTZ cameras. Instincts will guide the way as cameras Pan, Tilt and Zoom effortlessly on the action.

VIDEO

Cut, Mix with cross dissolve and NAM, FAM transitions. Use up to 30 different wipe patterns. Time based corrected and frame synched provides seamless transitions between 6 video sources and 2 still images instead of buses. Auto-Scan (Ver.2.0) enables to switch automatically to reduce operator work.

Professional user interface

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.

Video composition

The V-60HD includes a DSK (downstream keyer), Picture-in-Picture (PinP), Split composition effects ideal for creating news style broadcasts and corporate presentations. PinP window shapes include rectangle, circle, heart and diamond patterns to add a special touch to special events. Cropping of PinP and adjusting of SPLIT center portion (Ver.2.0) are suitable for composition of vertically long screen of smart phone.

AUX bus

Live streams, HD recording, and confidence monitors often have different visual needs from the main program output. Switch any of the connected input sources to any of the four SDI or HDMI outputs without affecting the main PGM destination. AUX Linked PGM enables AUX output to synchronize with the Program (PGM) output.

Multi-view output

V-60HD can preview all six video inputs and two still images, PGM and PVW to a single preview monitor via the Multi-view output. In addition, you can display the menu on the Multi-view display, so you make setting changes without changing your focus from the preview display. From Ver.2.0, exchanging PGM and PVW window and editing label name of IN1 to 6 are possible.

AUDIO

Audio mixer with preamp and dynamics

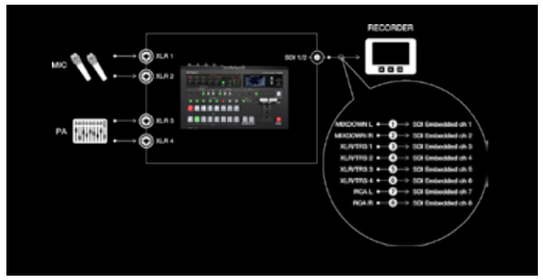
The V-60HDs' preamp and dynamics effects include a high-pass filter, gate, compressor, a 3-band EQ and delay. Anyone without audio knowledge can run sound thanks to the built-in effect's library packed with presets for common production scenarios including interviews, ambient sound recording and elimination of "pops" & wind noise.

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.



V-60HD SYSTEM PROGRAM VER.2.5

The Ver.2.5 update supports JVC, Panasonic PTZ and Canon camcorder control, adds audio effect preset, PNG still image format, an improved user interface and more.

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 / Mac OS bitmap (.bmp), PNG (It cannot support alpha) * 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 or 50)
HDMI MULTI-VIEW	1080/59.94p, 1080/50p

(0dBu=0,775Vrms)

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

V-800HD MK II | MULTI-FORMAT VIDEO SWITCHER VER 1.5

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.

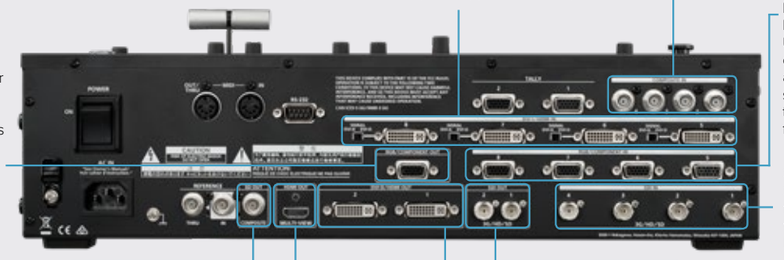
TRANSITION
The simple design makes selecting a transition pattern as easy as pressing an icon-marked button. You can also set the length of transition times precisely, using either seconds or frames.

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.

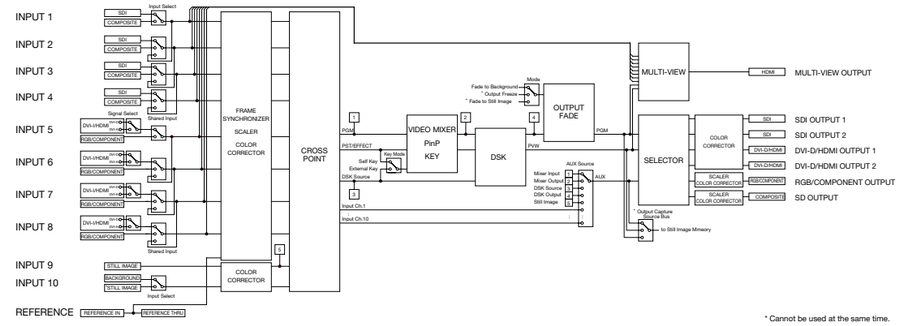
DVI-D/HDMI OUTPUT
The V-800HD MK II is equipped with two DVI-D/HDMI outputs for connecting displays/projectors and is HDCP-compatible.

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
- 10-bit 4:4:4 high quality 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 image stores
- AUX bus switch

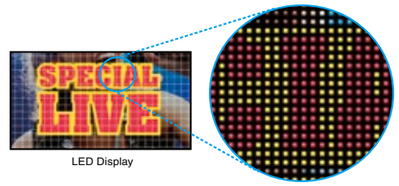
BLOCK DIAGRAM



* Cannot be used at the same time.

10-bit 4:4:4 internal processing

The V-800HD MK II uses 10-bit 4:4:4 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.

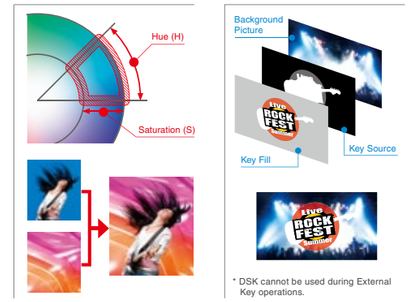


LED Display

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 MK II

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, 1920×1080/60Hz, 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-1200HD | MULTI-FORMAT VIDEO SWITCHER

MENU BUTTONS

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.

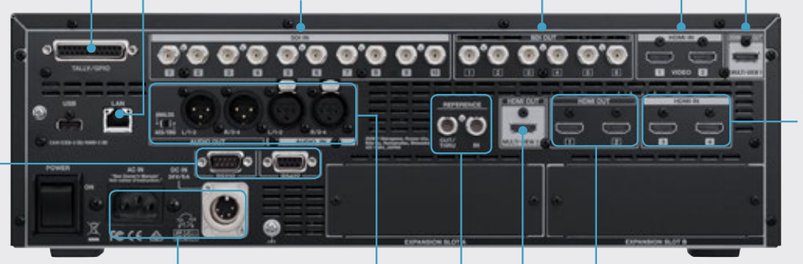
LAN PORT
An Ethernet cable connects the console and the main-unit processors. Using an Ethernet hub lets you connect up to two controllers, V-1200HDR units or computers on which the dedicated remote control sofware V-1200HD RCS is installed, to the V-1200HD.

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

SDI INPUT

SDI OUTPUT

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).

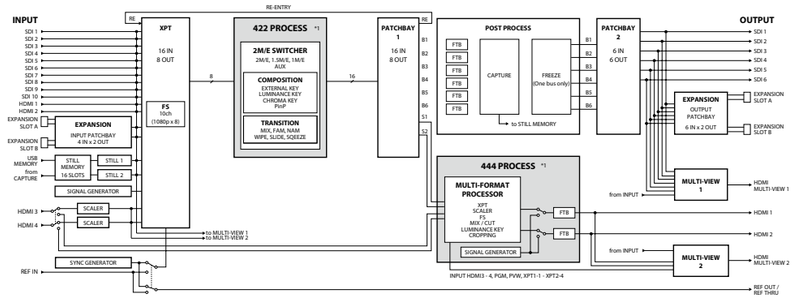
REFERENCE IN, OUT/THRU
Black burst, 2-value, and 3-value input are supported. In addition to loop-through, installing a generator for output is also supported.

Hybrid engine 2 M/E switcher and processor for broadcast and live events

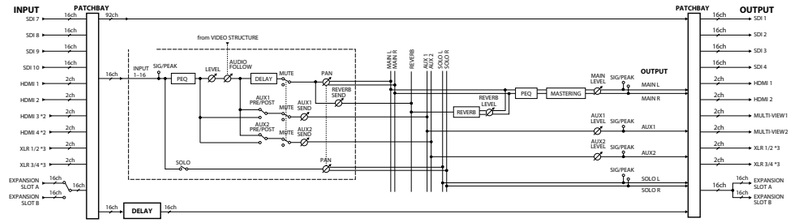
- 10 SDI and 4 HDMI inputs, and 6 SDI and 2 HDMI outputs
- 4:2:2/4:4:4 hybrid engine
- The 4:2:2 process functions as a 2 M/E switcher that is able to switch 2 M/E, 1.5 M/E, and 1 M/E
- The 4:4:4 process functions as a multi-format processor that supports live presentation, split-screen, and matrix output
- 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 * 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)

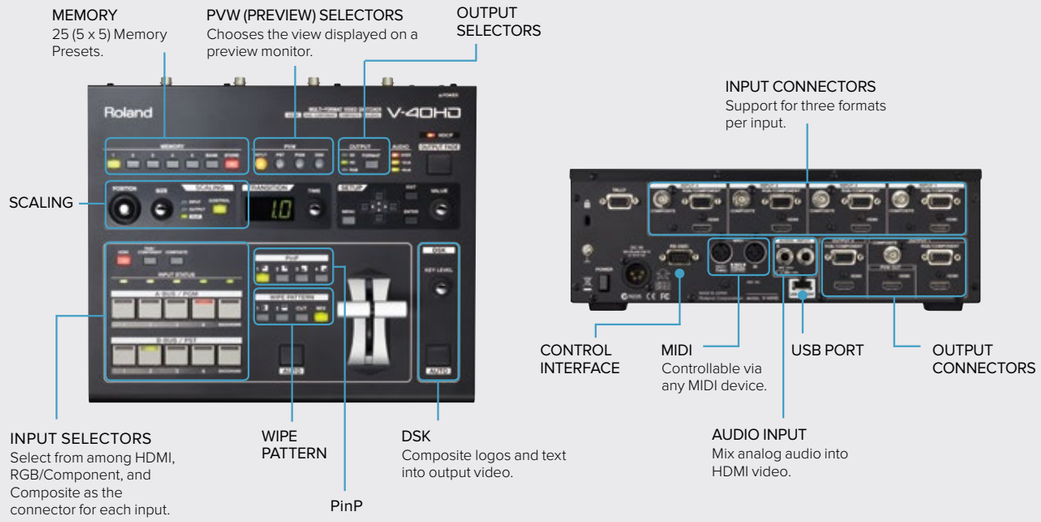
OTHERS	
Expansion Slot	Slot: 2 * The maximum number of channels for the two slots in total is 2 inputs/2 outputs for video and 16 inputs/16 outputs for audio * Features to be added by planned firmware update
Reference	Input: BNC type x 1 * Black Burst (Sync to frames), Bi-Level, Tri-Level Output/Through: 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.

MULTI-FORMAT VIDEO SWITCHER | V-40HD



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)
- 10-bit 4:4:4 internal processing (*8-bit 4:2:2 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

VR-1HD | AV STREAMING MIXER

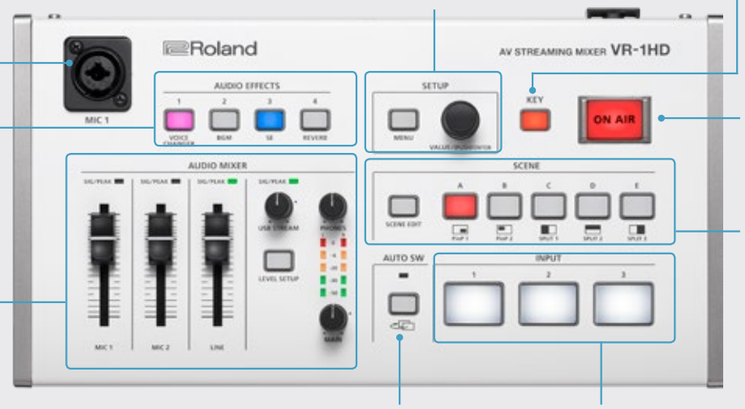
MICROPHONE INPUT 1
There are two Microphone inputs with Phantom Power available.
One on the top and one on left side.

AUDIO EFFECTS
Choose from Voice Changer, Reverb or Audio file playback and Solo/Mute functions for these 4 programmable buttons.

AUDIO MIXER
Adjust the volume of the Inputs (MIC 1, MIC 2, and LINE) and Outputs (USB, PHONES, MAIN).

SETUP MENU
The on-screen menu appears on the Monitor HDMI output.
The Value knob has a push function for Enter.

KEY BUTTON
Turns key compositing on/off.



ON AIR BUTTON
The ON AIR button activates the USB streaming output on/off.

SCENE SELECTION
Choose from 5 different picture compositions. All setups are fully adjustable and you can choose between PinP and Split screen modes. There is a convenient shortcut button to the Scene Edit menu.

AUTO SWITCH
The Auto switch function can be set to Video follow Audio, where audio from the Mic/Line inputs can control the video channel selection.

VIDEO INPUT SELECTION

MONITOR & MENU OUTPUT

THRU CONNECTOR
The "THRU" output throughputs the video from input 3. This can be used as a presenters output monitor or for recording purposes.

USB MEMORY PORT
Connect a USB flash drive here. You can load WAV files (sound efx or music) or still images as well as backup/recall your settings.

USB STREAM PORT
The USB 3.0 Streaming output transmits the main output as an uncompressed Video and Audio signal in various resolutions from 854 x 480p/25 up to 1080p/30. The USB port also accepts Audio return signal from the connected computer. Additionally the USB 3.0 port can be used for the Roland VR-1HD RCS remote control software for Mac/Win.

MAIN OUTPUT
The Main Output is scalable and supports HDCP.

VIDEO INPUTS
The 3 HDMI inputs have individual scalers that accept a wide range of different resolutions and frame rates. The inputs support HDCP.

MICROPHONE INPUT 2
There are two Microphone inputs with Phantom Power available. One on the top and one on left side.

LINE IN/OUT
Connect audio inputs and outputs here.

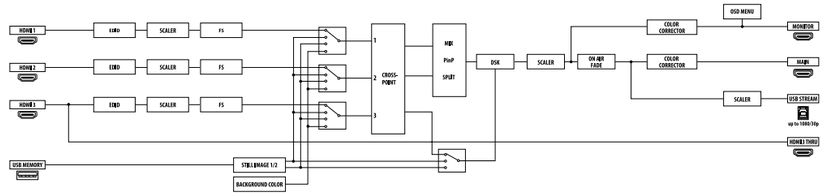
PHONES OUTPUT
Connect headphones here.

VR-1HD makes it easier than ever to broadcast live

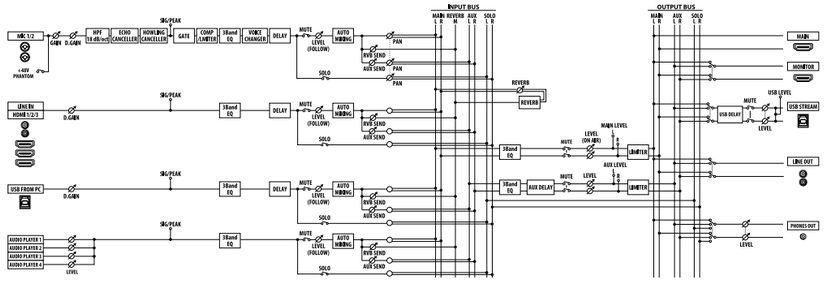
- Three HDMI inputs that accept HD and computer video resolutions
- Two-studio quality XLR microphone inputs and line input
- Mic input for a goose neck microphone making it easy for hands-free and headset-free performances
- Scene switching functionality, with five pre-set scenes that can be included in any live stream
- Audio Effects functionality allows sound effects, jingles and theme songs in videos/performances
- Auto Switching modes make it easy to put on a one-person show
- Functions as its own audio engineer with automatic mixing functions and built in "equalizers", "gates" and "compressors" to balance out changes in volume when speaking or singing to ensure professional sound performance
- Voice Changer effect from Roland's VT series of Voice Transformers can instantly transform any performer's sound
- Stream performances and presentations easily through a computer's USB 3.0 ports

BLOCK DIAGRAM

VIDEO



AUDIO



Real engagement in realtime

If you're a content creator seeking maximum engagement, livestreaming outperforms uploaded video by a significant margin; audiences are larger, watch for longer and post more comments. Roland's VR-1HD lets you broadcast dynamic multi-camera livestreams, complete with amazing picture and sound that easily outshines 'standard' livestreams from a mobile phone or static webcam. Whether you're a creator, gamer, commentator or presenter, it's the easy way to livestream with high production standards. And since you're going to get more comments, ensure they're good ones with the VR-1HD.

SPECIFICATIONS VR-1HD

VIDEO

Processing	4:4:4 (Y/Pb/Pr), 10-bit
Input Connectors	VIDEO INPUT 1--3 connectors: HDMI type A x 3 * HDCP Supported. * Multi-format Supported
Output Connectors	MAIN connector: HDMI type A * HDCP Supported MONITOR connector: HDMI type A * HDCP Supported THRU connector: HDMI type A * HDCP Supported USB STREAM port: USB B type
Input formats	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), HD (1280 x 720/60 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), FHD (1920 x 1080/60 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 video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz)
Output formats	MAIN, MONITOR connectors: 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 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) (*1), FHD (1920 x 1080/60 Hz), WUXGA (1920 x 1200/60 Hz) * The video signal frame rate can be selected at the SYSYTEM menu (59.94 or 50). (*1) Output refresh rate is 75 Hz when frame rate is set to 50 Hz. USB STREAM port: 854 x 480/29.97p, 854 x 480/25p, 854 x 480/59.94p, 854 x 480/50p, 720/29.97p, 720/25p, 720/59.94p, 720/50p, 1080/29.97p, 1080/25p * The video signal frame rate can be selected at the SYSTEM menu (59.94 Hz or 50 Hz)
Still Image	Maximum Size: 1920 x 1200 pixels Format: Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed * It can be loaded up to 2 files from USB memory at startup.
Video Effects	Scene: PinP, Split Transition: Black fade, Mix fade Key Composition: Luminance key Other: Still Image playback, Output fade (Audio, Video: WHITE or BLACK), Test pattern output

AUDIO

Audio Processing	Sample rate: 48 kHz, 24 bits
Audio formats	VIDEO INPUT 1--3 connectors: Linear PCM, 48 kHz, 24 bits, stereo USB STREAM port: Linear PCM, 48 kHz, 16 bits, stereo
Input Connectors	VIDEO INPUT 1--3 connectors: HDMI type A MIC IN 1--2 jacks: Combo type (XLR, 1/4-inch TRS phone), phantom power (DC 48 V, 10 mA Max) LINE IN jacks: RCA phono type USB STREAM port: USB B type
Output Connectors	MAIN connector: HDMI type A MONITOR connector: HDMI type A LINE OUT jacks: RCA phono type USB STREAM port: USB B type PHONES jack: Stereo miniature phone type
Nominal Input Level	MIC IN 1--2 jacks: -60--+4 dBu (Maximum input level: +28 dBu) LINE IN jacks: -10 dBu (Maximum input level: +8 dBu)
Input Impedance	MIC IN 1--2 jacks: Minimum 10 k ohms (balanced, HEAD AMP GAIN: 0--+17 dBu), Minimum 5 k ohms (balanced, HEAD AMP GAIN: +17--+64 dBu) LINE IN jacks: 15 k ohms
Nominal Output Level	LINE OUT jacks: -10 dBu (Maximum input level: +8 dBu) PHONES jack: 92 mW + 92 mW (32 ohms)
Output Impedance	LINE OUT jacks: 1 k ohms PHONES jack: 10 ohms
Audio Effects	Auto mixing, Echo canceller, Howling canceller, EQ, Delay, Compressor, HPF, Gate, Reverb, Limiter, Voice changer
Audio Player	Number of Players: 4 Data Format: WAV (Linear PCM, 48 kHz, 16 bits stereo/44.1 kHz, 16 bits, stereo)

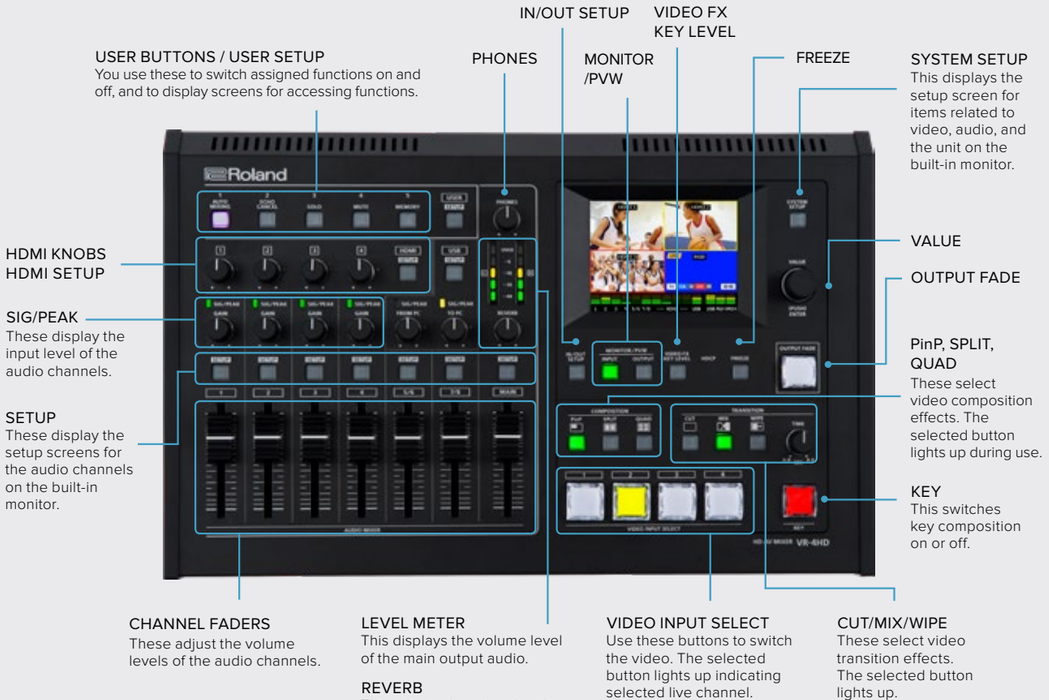
COMMON SECTION

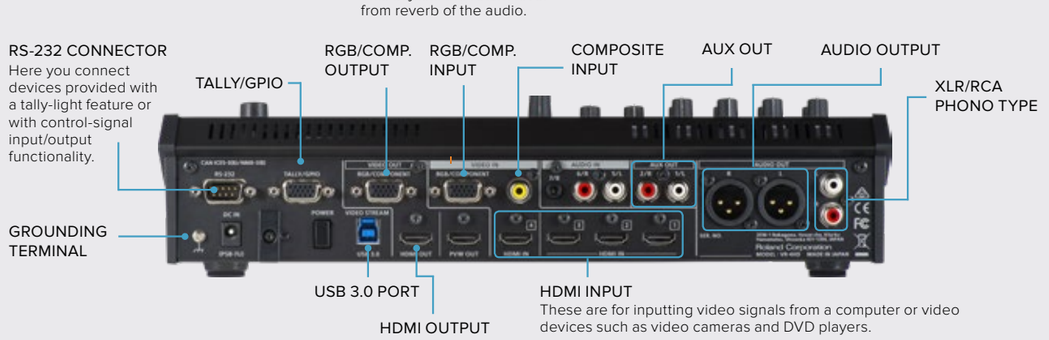
Connectors	USB MEMORY port (HOST): USB A type (For USB flash drive, Still image, Audio player) USB STREAM port (DEVICE): USB B type (For USB-VIDEO (USB 3.0), USB-AUDIO stereo (USB 2.0): 1 IN/1 OUT, Remote control) DC IN jack
Functions	Scene memory : 5, Panel lock function, EDID emulator, Auto switching (Auto scan, Beat sync switching, Video follow audio)
Power Supply	AC Adaptor
Current Draw	2 A
Power Consumption	24 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	314 (W) x 169 (D) x 66 (H) mm, 12-3/8 (W) x 6-11/16 (D) x 2-5/8 (H) inches
Weight	1.6 kg, 3 lbs 9 oz
Accessories	Startup Guide, Leaflet "USING THE UNIT SAFELY", AC adaptor, Power cord

0 dBu=0.775 Vrms

VR-4HD | HD AV MIXER

VER 2.0



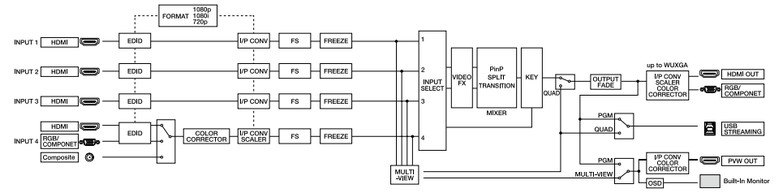


All-in-one HD AV mixer with built-in USB 3.0 for web streaming and recording

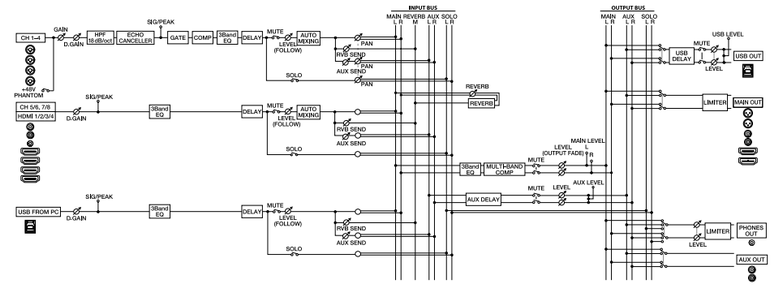
- All-in-one portable production solution
- Easy to use with dedicated hardware controls and audio faders and integrated touch screen preview monitor
- 6 input, 4-Channel Video Switcher
- Supports HDMI, RGB/Component, and Composite Video Inputs Up to 1080p
- Input 4's scaler now supports a wider range 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-50HD MK II | 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.

FOUR LAYER COMPOSITION

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.

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.

LAN PORT
This is used to remotely control this unit from a web browser or terminal software.

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.

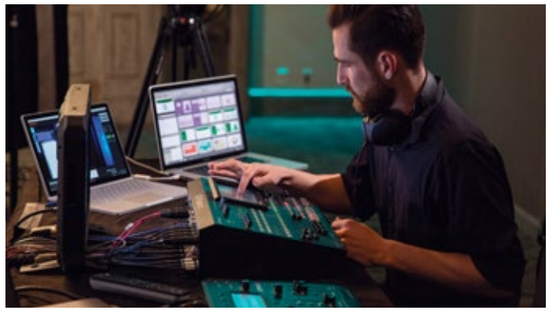
Mark II, inspired by you

- 2 audio AUX outputs for dedicated record, streaming, or comfort monitor feeds
- New high-quality audio preamps and converters for crystal-clear sound
- Automatic audio mixing and video switching functions to support single operators
- Updated user interface for fast, trouble-free operation
- Direct control of select PTZ cameras from Canon, JVC and Panasonic over LAN

Loaded with new productivity features inspired directly from user feedback, the VR-50HD MK II Multi-Format AV Mixer is the next evolution of Roland's industry-leading, all-in-one AV switcher with USB 3.0 streaming. Easily operated by a single person, the VR-50HD MK II continues to deliver best-in-class connectivity and flexibility, allowing you to work a wide range of events with different I/O requirements.

All-in-one convenience and ultra-flexible connectivity

The powerful VR-50HD MK II is a completely self-contained AV solution, consolidating video switching, digital audio mixing, multi-viewer touchscreen control, and USB AV streaming into a single unit that's simple to run. And with the comprehensive rear patch panel, it's quick and easy to make on-the-fly input assignments to cross-points on the switcher.



Separate feeds for separate needs

Live streams, HD recording and the presenter comfort monitor often have separate visual needs from the main program output. The VR-50HD MK II has you covered, allowing you to send any of the connected input devices to a dedicated AUX output without affecting the main PGM destination. Use the AUX assignment panel buttons to switch the source, or synchronize the AUX output with the PGM (mixer) output to act as a built-in distribution amp.

Redesigned interface for free-flowing operation

The VR-50HD MK II not only does more, it's also easier to operate via a redesigned user interface. Drilling down into menus while switching is a thing of the past, thanks to dedicated broadcast-style buttons for AUX, PinP, and Still sources. Select, Solo, and Mute buttons are included for all audio channels, speeding up the monitoring process. And with the large touchscreen multi-view monitor, you can view and assign inputs, display up to four still images, execute preview/program functions, and much more.

Pro sound made easy

Great sound is always expected for events and live streams, but employing a dedicated audio engineer doesn't always fit the budget. The VR-50HD MK II eliminates this problem, offering a number of automation functions that allow a single operator to switch video and mix pro-level audio at the same time. Use Automix to balance audio levels, Video Follows Audio to switch cameras based on sound input, and Anti-Feedback to automatically tame howling mic feedback. The VR-50HD MK II is also equipped with a variety of standard audio production inputs, including four XLR/TRS combo jacks with 48 V phantom power, four stereo pairs (two ¼-inch and two RCA), and embedded audio from 3G/HD/SD-SDI and HDMI.

Integrated PTZ camera control

Robotic pan-tilt-zoom (PTZ) cameras eliminate the need for multiple camera operators, provide great production coverage with studio-grade broadcast quality, and can be placed in discreet locations thanks to their small size. The VR-50HD MK II includes built-in support to directly control select Canon, JVC and Panasonic PTZ LAN cameras, so you don't need to employ a dedicated PTZ camera controller or operator. Up to six PTZ cameras can be operated at once via the LAN port.

Intelligence built in

The VR-50HD MK II is equipped with a number of intelligent audio mixing and video switching functions to enhance your workflow. See the VR-50HD MK II's intelligent functions in action.

4-layer composition and still store

Place keyed video on picture-in-picture, or superimpose a still image* on top of all layers and switch these effects on/off at any time.

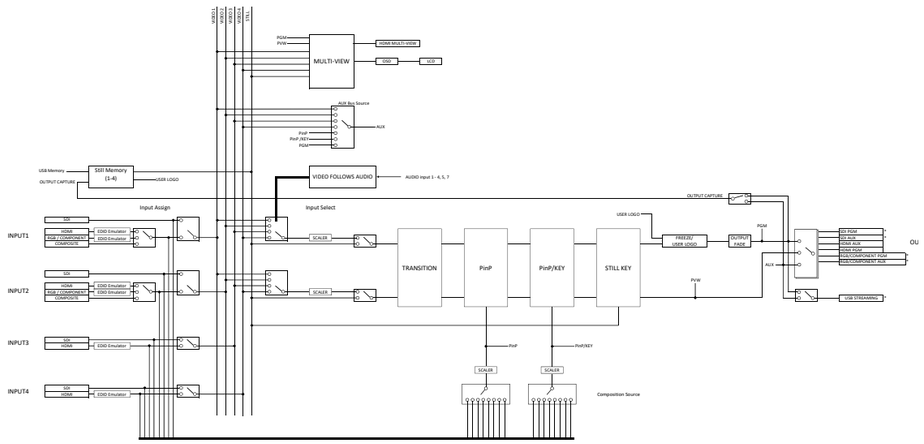
*Still position and size compositing cannot be adjusted. *Still images are stored in volatile memory.

Easy, uncompressed streaming output with USB 3.0

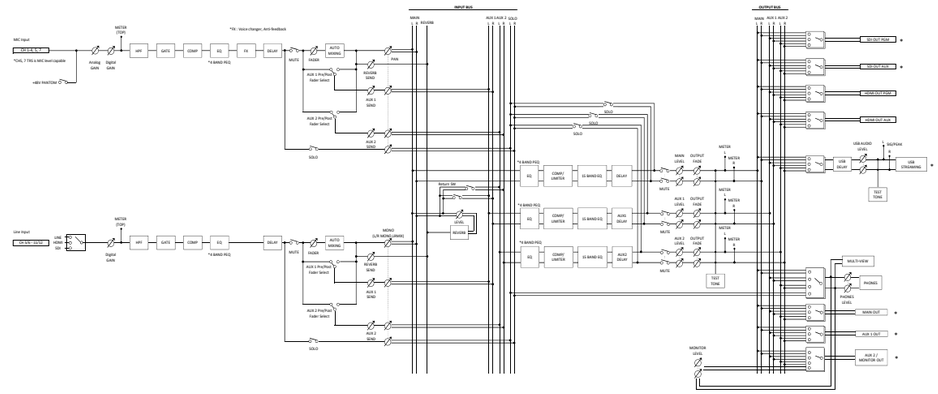
The VR-50HD MK II uses the same connection technology as webcams, allowing you to capture and share events to reach a worldwide audience. Simply plug into a computer via USB 3.0 and use any streaming service that's able to use a webcam as its source. Everything is plug-and play, with no software to download or drivers to install. For recording to a web-ready full HD AV file, use Roland's free VR Capture software for Mac and Windows.

BLOCK DIAGRAM

VIDEO



AUDIO



SPECIFICATIONS VR-50HD MK II

VIDEO	
Processing	4:4:4 (RGB), 10-bit, 4:4:4 (Y/Pb/Pr), 10-bit
Input Connectors	SDI IN 1--4 connectors: BNC type x 4 (INPUT 1--4) * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C. HDMI IN 1--4 connectors: HDMI type A x 4 (INPUT 1--4) * HDCP Supported RGB/COMONENT IN 1--2 connectors: HD DB-15 type x 2 (INPUT 1--2) COMPOSITE IN 1--2 connectors: BNC type x 2 (INPUT 1--2) * INPUT 1--2: Select SDI, HDMI, RGB/COMPONENT or COMPOSITE using menu.
Output Connectors	HSDI OUT (PGM, AUX) connectors: BNC type x 2 (PGM OUT, AUX OUT) * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C HDMI OUT (PGM, AUX, MULTI-VIEW) connectors: Type A x 3 (PGM OUT, AUX OUT, MULTI-VIEW OUT) * HDCP Supported Analog RGB/HD-Comp.: Mini D-sub 15-pin type x 2 (PGM OUT, AUX OUT)
Input/Output Level and Impedance	Composite (COMPOSITE IN): 1.0 Vp-p 75 ohms Analog RGB (RGB/COMPONENT IN, RGM/COMPONENT OUT): 0.7 Vp-p 75 ohms (H, V: 5 VTTL) Analog HD (RGB/COMPONENT IN, RGB/COMPONENT OUT): 1.0 Vp-p 75 ohms (Sync-Signal: Bi-Level/Tri-Level)
Supported Video Formats	SDI (SDI IN, SDI OUT): 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 (HDMI IN, HDMI OUT) (*1): 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 Hz (*2), 1280 x 720/60 Hz (*2), 1280 x 800/60 Hz (*2), 1280 x 1024/60 Hz (*2), 1400 x 1050/60 Hz, 1920 x 1080/60 Hz
	HDMI (HDMI OUT MULTI-VIEW only) (*1): 1080/59.94p
	Component (RGB/COMPONENT IN, RGB COMPONENT 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
	RGB (RGB/COMPONENT IN, RGB/COMPONENT OUT) (*1): 1024 X 768/60 HZ (*2), 1280 X 720/60 HZ (*2), 1280 X 800/60 HZ (*2), 1280 X 1024/60 HZ (*2), 1400 X 1050/60 HZ, 1920 X 1080/60 HZ
	COMPOSITE (COMPOSITE IN): NTSC, PAL
	*Note *1 Conforms to CEA-861-E or VESA DMT Version 1.0 Revision 11. *2 Output refresh rate is 75 Hz when frame rate is set to 50 Hz. * 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 (USB STREAMING): 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. * It can be loaded up to 4 files from USB memory.
Effects	Transition: Mix, Cut, Wipe (9 patterns) Composition: PinP, Chrominance Key, Luminance Key Others: Output Fade, Output Freeze, User Logo

SYSTEM RECOMMENDATIONS	
Windows	Windows 8.0 and higher
Mac	OS X 10.7 and higher * When recording data in the HD size, use OS X 10.8.5 or later.
Common	Ivy Bridge Core i5 and higher 8GB Memory or more USB 3.0 (supported USB3.0 Intel Chipset e.g. 7Series)

AUDIO	
Audio Processing	Sampling Rate: 24 bits, 48 kHz
Audio formats	SDI (SDI IN, SDI OUT): Linear PCM, 24 bits, 48 kHz, 2 ch * SMPTE 299M, SMPTE 272M-C HDMI (HDMI IN, HDMI OUT): Linear PCM, 24 bits, 48 kHz, 2 ch USB-AUDIO (USB STREAMING): Linear PCM, 16 bits, 48 kHz, 2 ch
Input Connectors	AUDIO IN 1--4 jacks: Combo type (XLR, 1/4-inch TRS phone), balanced, phantom power (DC 48 V, 10 mA Max) AUDIO IN 5--8 jacks (1/4-inch TRS phone type) (LINE 1--2) * AUDIO IN 5 and 7 are mic level capable. (MIC 5, 7) AUDIO IN 9--12 jacks (RCA phono type) (LINE 3--4)
Output Connectors	AUDIO OUT MAIN (L, R) jacks: XLR type AUDIO OUT AUX 1 (L, R) jacks: RCA phono type AUDIO OUT AUX 2/MONITOR (L, R) jacks: 1/4-inch TRS phone type PHONES jack: Stereo 1/4-inch phone type PHONES jack: Stereo miniature type
Nominal Input Level	AUDIO IN 1--4 jacks: -64 to +4 dBu (Maximum input level: +24 dBu) AUDIO IN 5, 7 jacks: -64 to +4 dBu (Maximum input level: +24 dBu) AUDIO IN 6, 8 jacks: +4 dBu (Maximum input level: +24 dBu) AUDIO IN 9--12 jacks: -10 dBu (Maximum input level: +9 dBu)
Input Impedance	AUDIO IN 1--4 jacks: 30 k ohms, AUDIO IN 5--8 jacks: 30 k ohms, AUDIO IN 9--12 jacks: 7 k ohms
Nominal Output Level	AUDIO OUT MAIN L-R jacks: +4 dBu (Maximum output level: +24 dBu) AUDIO OUT AUX 1 jacks: -10 dBu (Maximum output level: +8 dBu) AUDIO OUT AUX 2/MONITOR jacks: +4 dBu (Maximum output level: +24 dBu) Headphones: 72 mW + 72 mW (32 ohms load)
Output Impedance	AUDIO OUT MAIN L-R jacks: 600 ohms, AUDIO OUT AUX 1 jacks: 1 k ohms AUDIO OUT AUX 2/MONITOR jacks: 600 ohms, Headphones: 30 ohms
Residual Noise Level (IHF-A, typ.)	U-92 dBu (All faders: Min) -89 dBu ([MAIN] Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp gain: Min) -60 dBu ([MAIN] Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp gain: Max) * Input 150 ohms terminate * Output Connector: AUDIO OUT MAIN (L, R) jacks, AUDIO OUT AUX 2/ MONITOR jacks
	-100 dBu (All faders: Min) -98 dBu ([MAIN] Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp gain: Min) -74 dBu ([MAIN] Fader: Unity, Channel faders: Unity only one INPUT1 channel, Preamp gain: Max) * Input 150 ohms terminate * Output Connector: AUDIO OUT AUX 1 (L, R) jacks
Audio Effects	Auto mixing, Anti-feedback, 4-Band EQ, Delay, Compressor, HPF, Noise Gate, Reverb, Limiter, Voice changer, 15-Band EQ
	Channel Effects(common): HPF, Compressor, Noise Gate, 4-Band EQ, Delay Channel Effects(FX Block): Anti-feedback, Voice changer Master Effects: 4-Band EQ, Compressor, Limiter, Reverb, 15-Band EQ

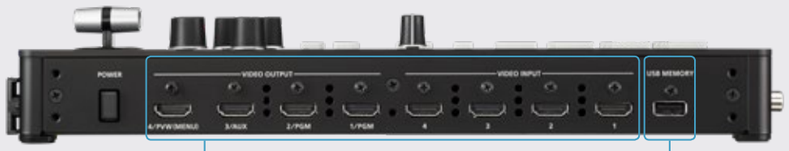
OTHERS	
Remote Control	RS-232C connector: D-sub 9 pin type LAN connector: RJ45 100BASE-TX
USB Interface	USB MEMORY port (HOST): USB A type for USB MEMORY(USB flash drive, Still image) USB port (HOST): USB A type(Use for future expansion) USB STREAMING port (DEVICE): USB B type for USB-VIDEO(SuperSpeed/Hi-Speed), USB-AUDIO (Full-Speed)
Other Functions	Preset Memory (8 types), Panel lock function, EDID emulator, Auto switching (Video follows audio), Remote Camera Control
Display	7 inch Graphic color LCD 800 x 480 dots (touch screen)
Power Supply	AC Adaptor, Secondary AC Adaptor DC 9 V to 16 V (XLR-4-32 type)
Current Draw	2.8 A
Power Consumption	67 W
Operating Temp.	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	437 (W) x 325 (D) x 125 (H) mm, 17-1/4 (W) x 12-13/16 (D) x 4-15/16 (H) inches
Weight	5.9 kg kg, 13 lbs 1 oz
Accessories	Startup Guide, Leaflet "USING THE UNIT SAFELY", AC adaptor Power cord, Ground Cord

0 dBu=0.775 Vrms

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, with a similar width as a a 13” laptop, equipped with four HDMI inputs and outputs
- High-quality 10-bit 4:4:4 processing
- 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

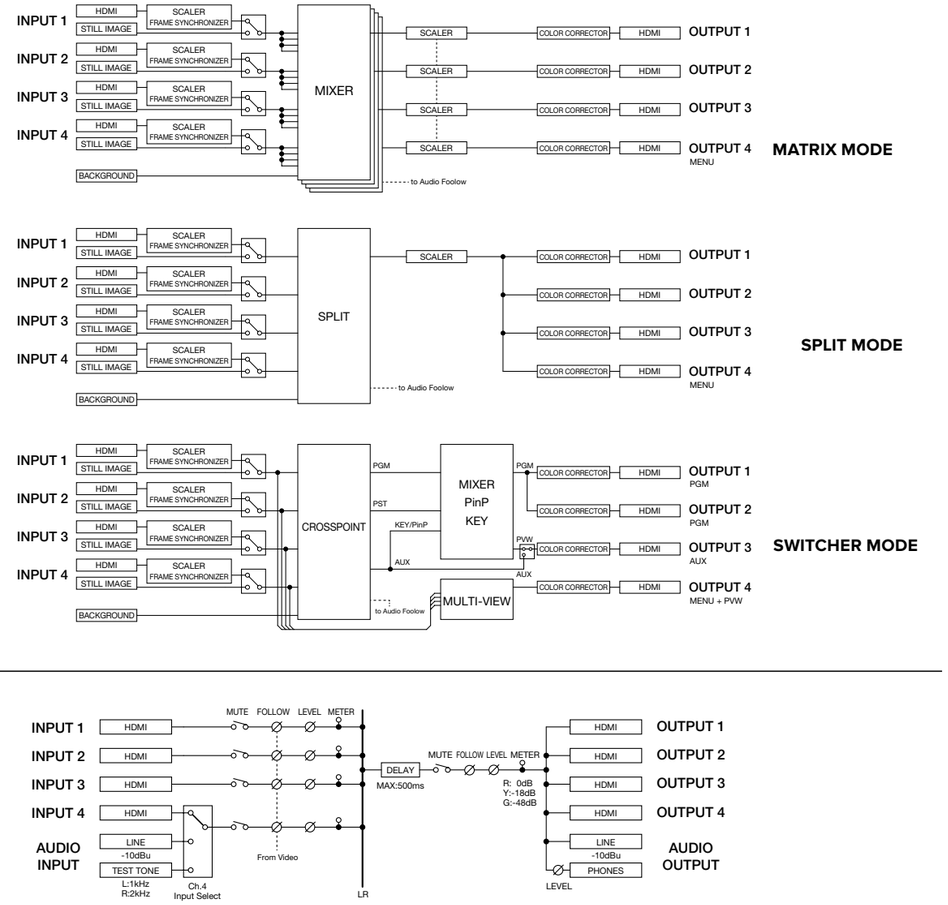
This mode lets you use a cross-dissolve to seamlessly transition between sources, or use PinP or key-compositing. A multi-view input preview can be output from HDMI OUT 4 for confirming input sources while operating the unit.*1 If you're not using PinP or key-compositing, you can use an AUX bus to output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



AUDIO

SPECIFICATIONS XS-1HD

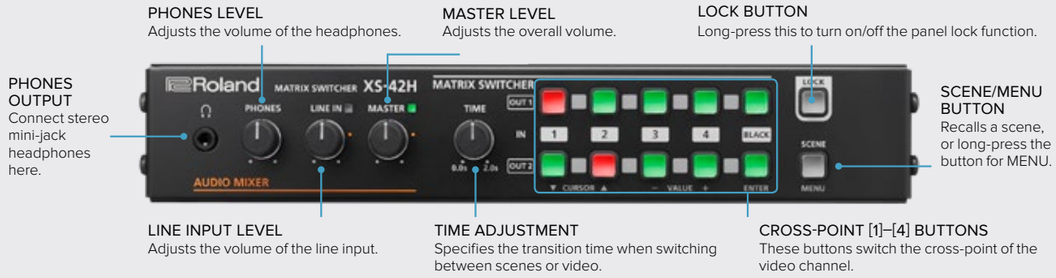
VIDEO		
Processing		4:4:4 (Y/Pb/Pr, RGB), 10 bits / 4:2:2 (Y/Pb/Pr), 10 bits
Input Connectors		HDMI: HDMI type A x 4 (HDMI INPUT 1--4) *HDCP Supported
Output Connectors		HDMI: HDMI type A x 4 (HDMI OUTPUT 1--4) *HDCP Supported
Formats		480/59.94i (*1), 576/50i (*1), 480/59.94p (*1), 576/50p (*1), 720/59.94p, 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-42H | MATRIX SWITCHER



Meet. Share. Repeat.

- Switch up to 4 HDMI inputs to 1 or 2 displays
- Content displays automatically with Auto Input Detection
- Run and switch the meeting from a web browser on a tablet, phone or PC (connected to same network)
- Automatic switching of audio along with video
- Arrange meeting presets for recalling common meeting set-ups with the push of a button

No more ‘guess the input’

Even when successfully connected to a display, you may not see ‘your’ screen because the correct input isn’t selected. This triggers a cycle of chaos as you scramble for the right input settings, while everyone starts checking their smartphones. The XS-42H’s auto input detection solves this problem by automatically switching to a newly connected device, making the transition to a new presenter incredibly smooth while keeping everyone focused on the meeting.

DIY — huddle without the hassle

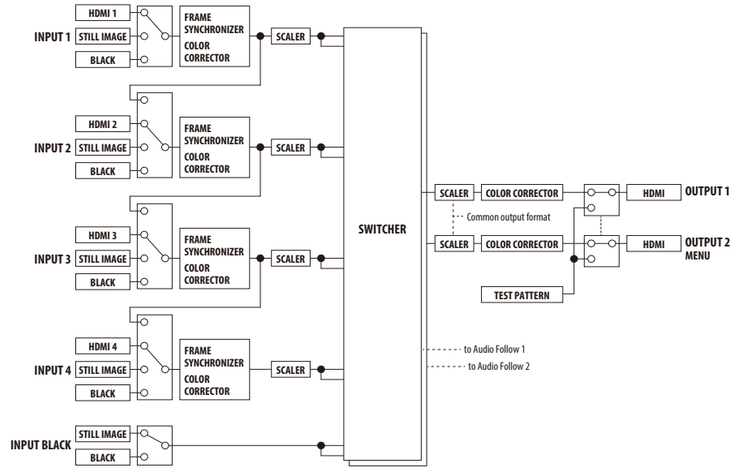
Professionally installed huddle space AV systems aren’t cheap — and for smaller companies the cost is often prohibitive. But if you can mount a TV on a wall, then you can install and set up the Roland XS-42H, giving you a huddle space that’ll make everyone’s lives easier. The XS-42H is small, light and easy to position, and the supplied mounting bracket means it can be located out of sight, but ready for action. You don’t even need to physically press the button to change input sources, as the XS-42H can be controlled from a web browser on your computer, tablet or smartphone.

Connect with confidence

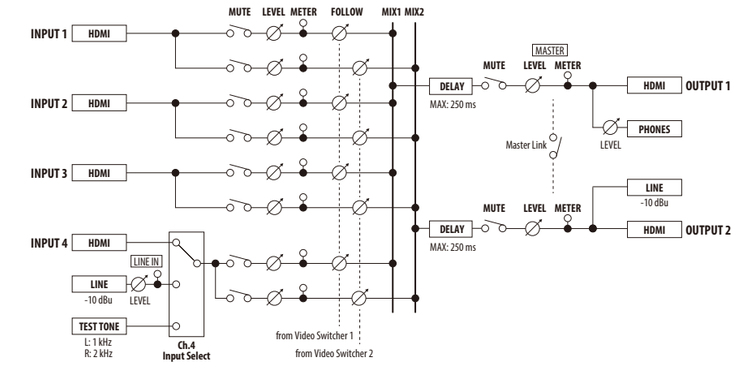
The XS-42H can connect and display a reassuring variety of sources. It achieves this in two ways; EDID and scaling. EDID (or Extended Display Identification Data) tells your PC or tablet the correct resolution to output, so you don’t ever need to get involved. Scaling lets you connect, switch and display between a variety of different sources and resolutions – so no matter what’s going in, it’ll come out fine.

BLOCK DIAGRAM

VIDEO



AUDIO



SPECIFICATIONS XS-42H

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 2 (HDMI OUTPUT 1--2), * 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 x 600/60 (*1), 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 *Frame rate is 59.94 Hz (NTSC) or 50 Hz (PAL). (*1) Input only. (*2) Output refresh rate is 75 Hz when frame rate is set to 50 Hz.
Composition	Layer: 1
Transition	Black-insert, Mix, Cut
Still Image	Internal Memory: 1 Maximum Size: 1920 x 1200 pixels Format: Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed

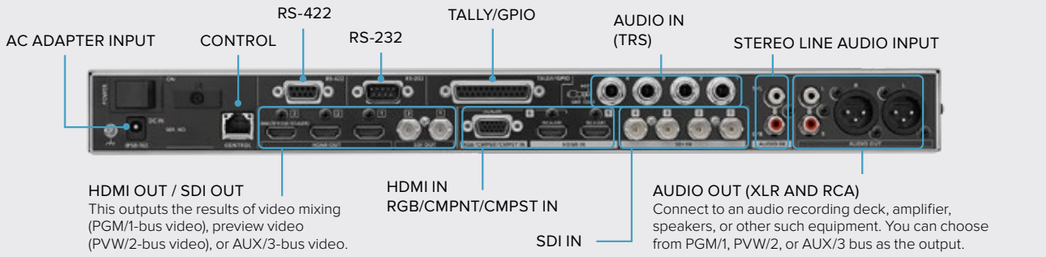
AUDIO	
Sample Rate	48 kHz, 24 bits
Input Connectors	HDMI: HDMI type A x 4, AUDIO INPUT: RCA pin type
Output Connectors	HDMI: HDMI type A x 2, AUDIO OUTPUT: RCA pin type PHONES: Stereo mini type
Input Level	AUDIO INPUT: -10 dBu (Maximum: +8 dBu)
Input Impedance	AUDIO INPUT: 15 k ohms
Output Level	AUDIO OUTPUT: -10 dBu (Maximum : +8 dBu) PHONES: 72 mW + 72 mW (32 ohms)
Output Impedance	AUDIO OUTPUT: 1 k ohm PHONES : 10 ohms
Formats	HDMI: Linear PCM, 24 bits, 48 kHz, 2 ch
Processing	Mixer: 4 ch x 2 (Delay: Maximum 250 ms, Audio Follow)

OTHERS	
External Connectors	REMOTE RS-232: DB-9 type (Male) x 1 LAN: RJ45 x 1 USB: USB A type x 1 (Use for future expansion) USB MEMORY: USB A type x 1 (Use for USB Memory)
Functions	Scene Memory: 10 Test Pattern Generator Test Tone Generator EDID Emulator
Power Supply	AC Adaptor
Current Draw	2.1 A
Power Consumption	25 W
Operation Temperature	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	242 (W) x 125 (D) x 44 (H) mm 9-9/16 (W) x 4-15/16 (D) x 1-3/4 (H) inches
Weight	1.2 kg, 2 lbs 11 oz
Accessories	Owner’s Manual, Leaflet “USING THE UNIT SAFELY”, AC adaptor, Power cord, Rubber feet (4 pcs.), Rack mount angle set

* 0 dBu=0.775 Vrms

XS-62S | HD VIDEO SWITCHER

VER 2.5



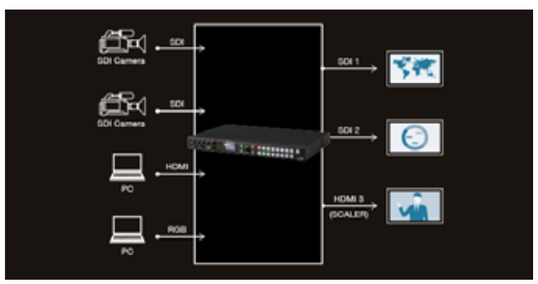
Rackmount switcher for live production and fixed installations with PTZ camera control

- 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)

WUXGA 1080/60p | 3G bps 1080p | AUDIO EMBEDDING | SMART TALLY

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

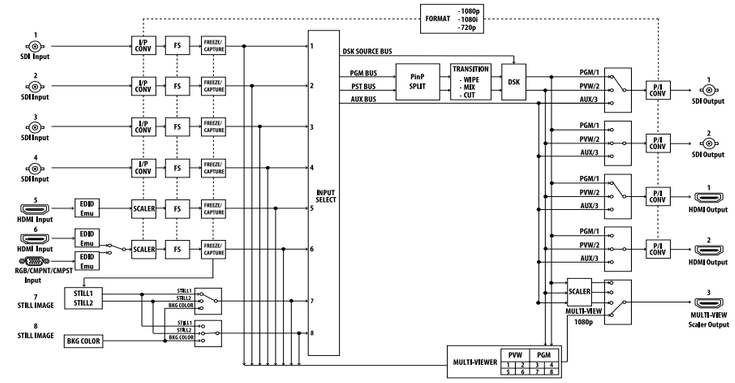
PGM/PST Mode operates as a traditional video switcher complete with video compositions that enable grouping multiple images on one screen. You can create compositions by combining DSK for layering titles and graphics as well PinP inset of video. Compositions can be previewed before sending to Program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

DISSOLVE mode

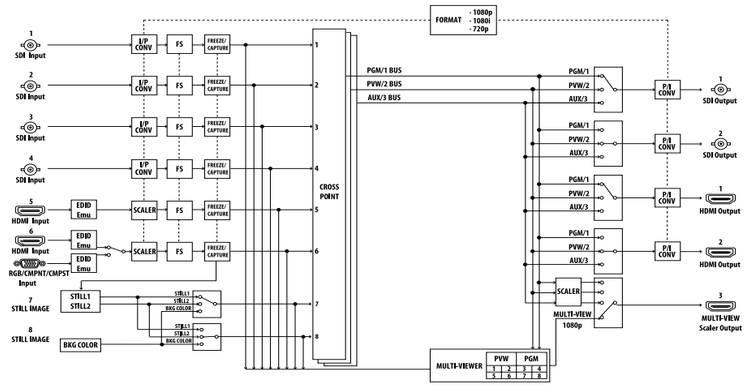
Video switching and composition with cross dissolve to the PGM bus are possible in Dissolve Mode. Dissolve Mode is easily operated from the front panel and is suitable for a system where the user directly operates the main unit in a meeting space or event.

BLOCK DIAGRAM

VIDEO

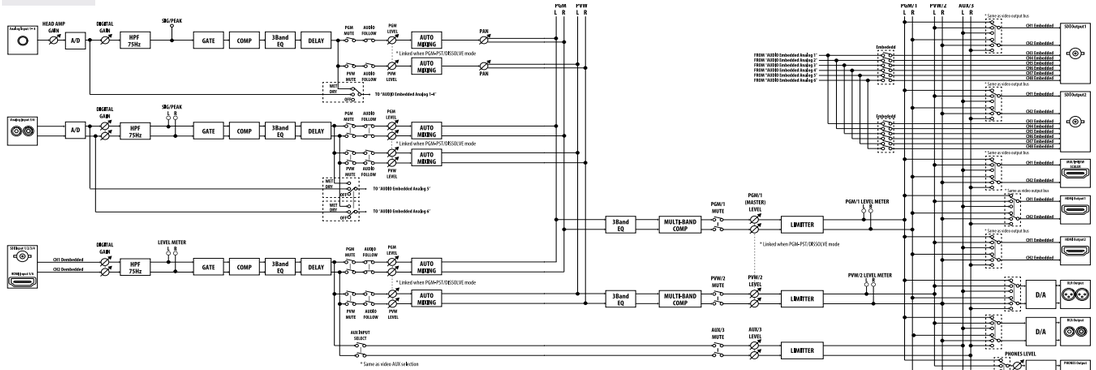


DISSOLVE MODE



MATRIX MODE

AUDIO



FEATURES

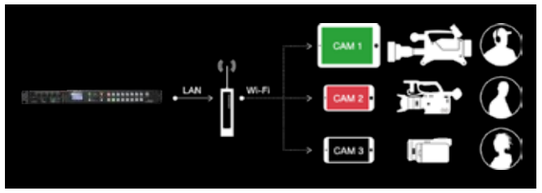
PTZ control

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.

XS-62S system program ver 2.5

The Ver.2.5 update supports JVC, Panasonic PTZ and Canon camcorder control, audio effect preset, adds PNG still image format, improves User interface, and more.

Smart Tally



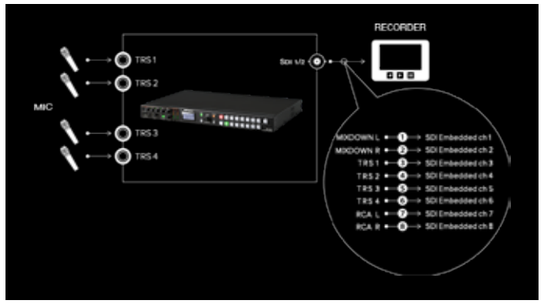
Roland's unique and proprietary wireless tally system uses a wireless LAN router connected to the XS-62S to send tally information to iOS or Android devices on the network.

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	Windows / Mac OS bitmap (.bmp), PNG (It cannot support alpha) * 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)

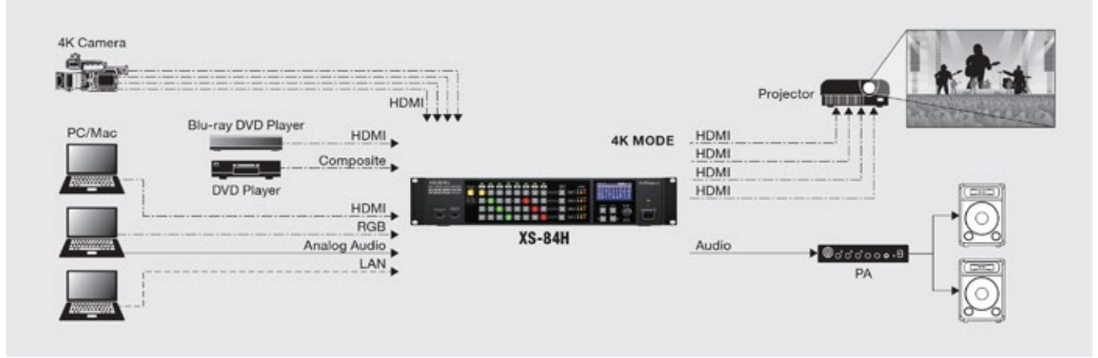
CONFERENCE ROOMS

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.

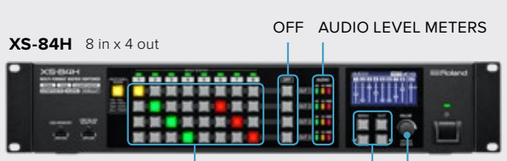
4K SWITCHING

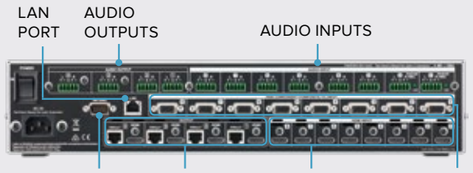


The XS-84H is capable of switching four video lines as a group, which enables configuration of a 4K system. Switching a mixture of video feeds that includes 4K, HD, SD and XGA, as well as other computer video formats is also possible.

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

XS-84H 8 in x 4 out





XS-83H 8 in x 3 out

XS-82H 8 in x 2 out

All-in-one matrix switchers with multi-screen output and compositing functions

- 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)

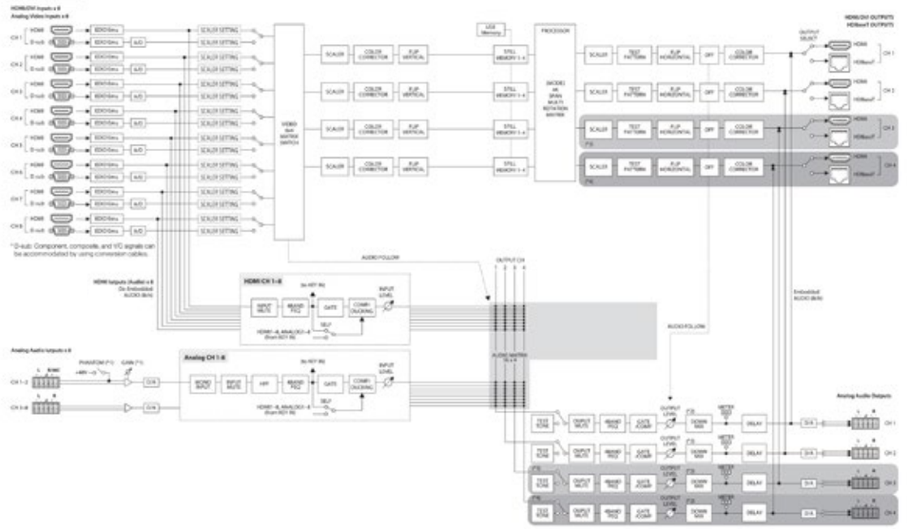
When changing the layout

QUAD 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.

AUDIO	
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

VP-42H | VIDEO PROCESSOR

Everything you need, on a single screen

- Combine up to four HDMI video sources on to a single output
- Connect and switch multiple resolutions simultaneously
- Motion Scene Switching for fluid transitions between complex screen sets
- Simple set-up and remote switching with browser-based network control
- Audio management and connection to external audio devices
- Keyer function for overlays and advanced compositions

Maximum effect, minimum effort

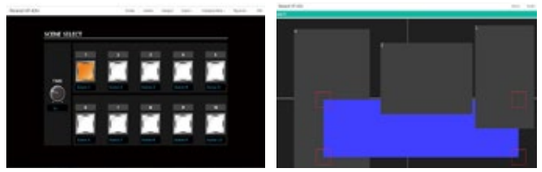
The VP-42H goes way beyond typical switchers. You can instantly switch between 'scenes' containing preset arrangements of layered sources in customizable inset windows. The VP-42H smoothly transitions between current and next scenes by automatically moving and resizing the windows to their new positions. And highly impressive scene changes that used to take hours to program now happen at the touch of a button.

Simple, solid switching

Not all events require creative display and advanced scene transition capabilities. For simpler scenarios, the VP-42H functions as a true cross-dissolve seamless switcher, with a keyer to create overlays and the ability to display still images via USB drive — perfect for logos and safety slides.

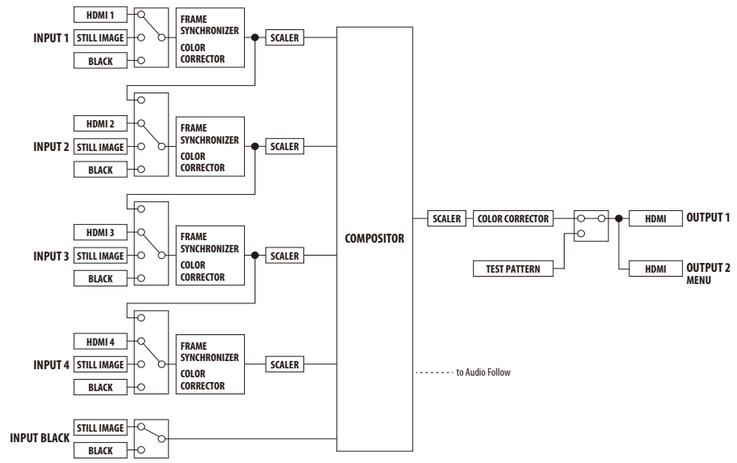
Flexible audio capability

The Roland VP-42H includes stereo RCA outputs for de-embedding audio from connected HDMI sources and outputting it to other devices such as speakers and mixers. Levels for each source can be set by the internal audio mixer, and if the VP-42H is being used as a compositor for recording or streaming, the audio from an external mixer or other sources can be connected to the RCA inputs and embedded into the HDMI output signal.

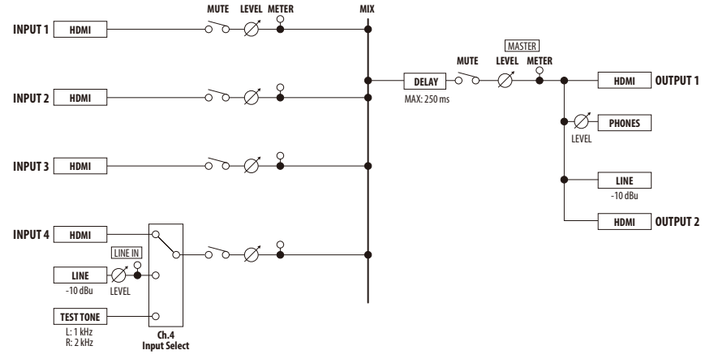


BLOCK DIAGRAM

VIDEO



AUDIO



SPECIFICATIONS VP-42H

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 2 (HDMI OUTPUT 1--2), * 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 x 600/60 (*1), 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 *Frame rate is 59.94 Hz (NTSC) or 50 Hz (PAL). (*1) Input only. (*2) Output refresh rate is 75 Hz when frame rate is set to 50 Hz.
Composition	Layer: 4 (Picture in Picture x 4) *Layer 1 is Picture in Picture with Keyer.
Transition	Black-insert, Mix, Cut, Motion
Still Image	Internal Memory: 1 Maximum Size: 1920 x 1200 pixels Format: Windows Bitmap File (.bmp) 24 bit per pixel, uncompressed

AUDIO	
Sample Rate	48 kHz, 24 bits
Input Connectors	HDMI: HDMI type A x 4, AUDIO INPUT: RCA pin type
Output Connectors	HDMI: HDMI type A x 2 *2 Output is the same audio. AUDIO OUTPUT: RCA pin type PHONES: Stereo mini type
Input Level	AUDIO INPUT: -10 dBu (Maximum: +8 dBu)
Input Impedance	AUDIO INPUT: 15 k ohms
Output Level	AUDIO OUTPUT: -10 dBu (Maximum : +8 dBu) PHONES: 72 mW + 72 mW (32 ohms)
Output Impedance	AUDIO OUTPUT: 1 k ohm PHONES : 10 ohms
Formats	HDMI: Linear PCM, 24 bits, 48 kHz, 2 ch
Processing	Mixer: 4 ch (Delay: Maximum 250 ms)

OTHERS	
External Connectors	REMOTE RS-232: DB-9 type (Male) x 1 LAN: RJ45 x 1 USB: USB A type x 1 (Use for future expansion) * USB MEMORY: USB A type x 1 (Use for USB Memory)
Functions	Scene Memory: 10 Test Pattern Generator Test Tone Generator EDID Emulator
Power Supply	AC Adaptor
Current Draw	2.1 A
Power Consumption	25 W
Operation Temperature	+0 to +40 degrees Celsius, +32 to +104 degrees Fahrenheit
Dimensions	242 (W) x 125 (D) x 44 (H) mm 9-9/16 (W) x 4-15/16 (D) x 1-3/4 (H) inches
Weight	1.2 kg, 2 lbs 11 oz
Accessories	Owner's Manual, Leaflet "USING THE UNIT SAFELY", AC adaptor, Power cord, Rubber feet (4 pcs.), Rack mount angle set

* 0 dBu=0.775 Vrms

VC-1 Series | VIDEO CONVERTERS

VC-1-SH | SDI TO HDMI

NO	MODE	OFF		ON
10	CONTROL	MODE SW		MEMORY
9	HDCP Encrypt	OFF		ON
8	SDI THRU/OUT	THRU		OUT
7 6	AUDIO OUT De-Embedded Ch Sel	1+2	3+4	5+6 7+8
5	SDI Audio Group	G1/G2		G3/G4
4 3	AUDIO IN Embedded Ch Sel	1+2	3+4	5+6 7+8
2	AUDIO IN Embedding	OFF		ON
1	AUDIO IN/OUT Type	Analog		AES3

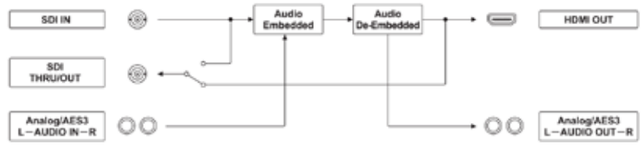
MODE DIP SW

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

NO	MODE	OFF		ON
10	CONTROL	MODE SW		MEMORY
9	3G-SDI Type	Level A		Level B
8	HDMI THRU/OUT	THRU		OUT
7 6	AUDIO OUT De-Embedded Ch Sel	1+2	3+4	5+6 7+8
5	SDI Audio Group	G1/G2		G3/G4
4 3	AUDIO IN Embedded Ch Sel	1+2	3+4	5+6 7+8
2	AUDIO IN Embedding	OFF		ON
1	AUDIO IN/OUT Type	Analog		AES3

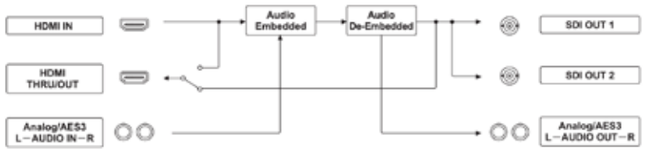
MODE DIP SW

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

NO	MODE	OFF		ON
10	CONTROL	MODE SW		MEMORY
9	3G-SDI Type	Level A		Level B
8	Input Select	SDI IN		HDMI IN
7 6	AUDIO OUT De-Embedded Ch Sel	1+2	3+4	5+6 7+8
5	SDI Audio Group	G1/G2		G3/G4
4 3	AUDIO IN Embedded Ch Sel	1+2	3+4	5+6 7+8
2	AUDIO IN Embedding	OFF		ON
1	AUDIO IN/OUT Type	Analog		AES3
	Audio Delay	x0.5 Frame (x1.0 Field)		
	Video Delay	x0.5 Frame (x1.0 Field)		

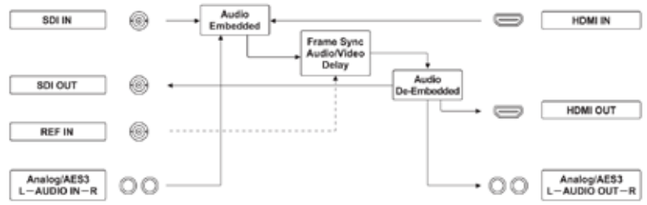
MODE DIP SW

Bi-directional conversion of video and audio signals from HDMI to SDI or SDI to HDMI with frame sync and delay

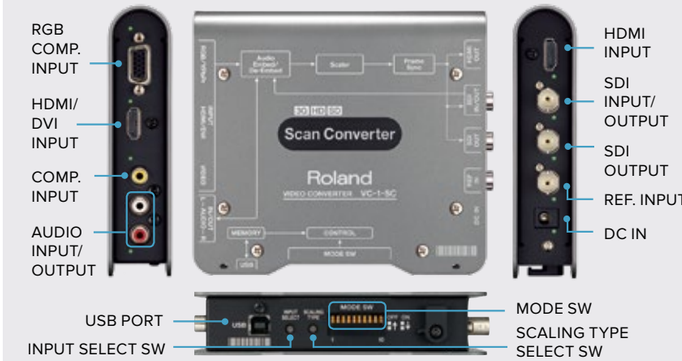
- HDMI to SDI/SDI to HDMI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable Channel for Embedded/De-embedded Audio
- Audio/Video Delay - up to 9 fields (4.5 frames)

* 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



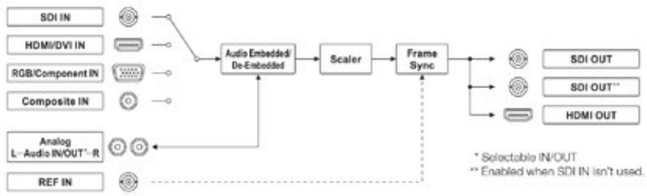
NO	MODE	OFF		ON
10	CONTROL	MODE SW		MEMORY
9	3G-SDI Type	Level A		Level B
8	NTSC Setup	0 IRE		7.5 IRE
7 6	Output Format	SD	720p	1080i 1080p
5	Output Frame Rate	59.94Hz		50Hz
4 3	AUDIO Embedded/ De-Embedded Ch Sel	1+2	3+4	5+6 7+8
2	SDI Audio Group	G1/G2		G3/G4
1	Analog AUDIO	IN		OUT

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

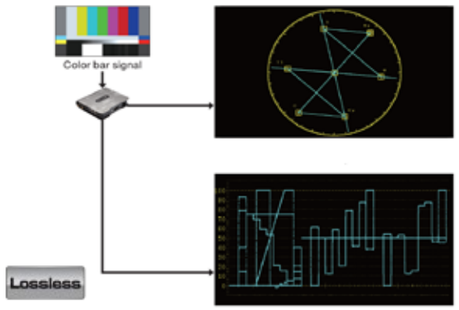
BLOCK DIAGRAM



FEATURES VC-1 SERIES

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.

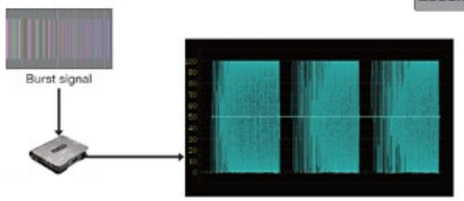
* HDCP-applied HDMI signals cannot be converted to SDI and recorded to HDMI recorders and editors.

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 SDI 1080p

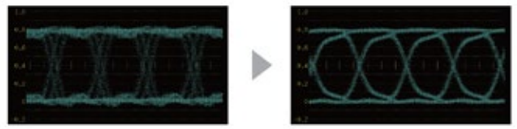
Video signals beyond 1080i can be input and output. The VC-1 series supports both level A and level B 3G-SDI, letting you connect a wide variety of 3G-SDI equipment. 1080i, 720p, and SD signals are automatically accommodated on connection.

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

ACCESSORIES

HT-TX01 | HDBaseT TRANSMITTER

HT-RX01 | HDBaseT RECEIVER

HDBaseT-compatible transmitter/receiver 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

- 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.

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

ACCESSORIES

RRC-3 SDI | BLACK SERIES SDI CABLE

RRC-3 HDMI | BLACK SERIES HDMI CABLE

Cables designed to transmit high-speed digital signals precisely

SDI cable, 1 m length. Also available in 2 m (RCC-6-SDI), 3 m (RCC-10-SDI), 5 m (RCC-16-SDI), 7.5 m (RCC-25-SDI), 15 m (RCC-50-SDI), 30 m (RCC-100-SDI), and 60 m (RCC-200-SDI) lengths

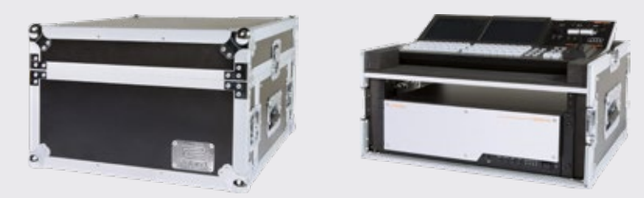
HDMI 2.0 cable, 1 m length. Also available in 2 m (RCC-6-HDMI), 3 m (RCC-10-HDMI), 5 m (RCC-16-HDMI), and 7.5 m (RCC-25-HDMI) lengths

RRC-SP SERIES | BLACK SERIES ROAD CASE

RRC-8SP / RRC-6SP / RRC-4SP / RRC-2SP

- Eight/six/four/two-space rackmount road cases
- Heavy-duty grade recessed hardware
- Tongue and groove aluminum valances
- Premium 3/8-inch plywood with rugged black vinyl laminate

RRC-V1200 | BLACK SERIES ROAD CASE



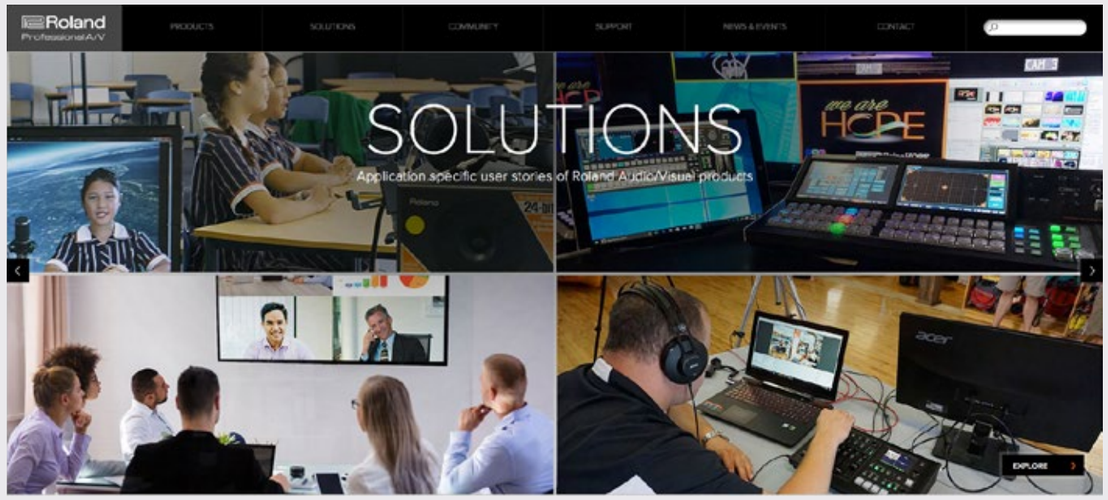
Heavy-duty combo rack for the Roland V-1200H and V-1200HDR

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

INDEX

WEBSITE

proav.roland.com



- 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.)