V-1200HD Multi-format Video Switcher

Power Supply
AC Adaptor, DC 9V to 16V (XLR-4-32 type) *Can not be used at the same time.
Internal speaker
PHONES jack: Stereo 1/4-inch phone type × 1 (80 mW + 80 mW, 32 ohms)
LAN: RJ45 100BASE-TX (Connect to V-1200HD)
USB: Type A × 1 * USB Memory
HDMI (type A) × 2 * 1920x1080/60p, 59.94p, 59.94i, 50p, 50i * HDCP Supported
7 inch 800 x 480 Graphic color LCD (touch screen) × 2
HDMI: type A × 2 (HDMI OUTPUT MULTI-VIEW 1 * HDCP Not required, 1080/60p)
HDMI: type A × 2 (HDMI OUTPUT 1-2) * HDCP Supported.
3G/HD-SDI: BNC type × 6 * Conforms to SMPTE 424M (SMPTE 425M-AB), 292M
HDMI: type A × 2 (HDMI INPUT 3-4) * HDCP Supported., Multi-format Supported.
HDMI: type A × 2 (HDMI INPUT 1-2) * HDCP Not supported
4:4:4 (Y/Pb/Pr / RGB), 10-bit / *Analog Audio or AES/EBU
3G/HD-SDI: BNC type × 4 (Ch7-10), HDMI: type A × 4, AUDIO IN (XLR) L (1/2)/R (3/4) * HDCP Required
MULTI-VIEW 1 (4:2:2 Processing): 16/10 screens, Label, Tally * HDCP Not required
Still Image Inputs: 2, Internal Memory: 16, Maximum 1920x1080 pixels
These effects depends on M/E type.
Others: HDCP Supported, Output Fade, Output Cropping, Signal Generator
Transition: Mix, Cut
Input: 4 (4:2:2 Processing outputs × 2, HDMI INPUT 3, HDMI INPUT 4)
M/E: 1 M/E, Matrix, Scaler
* These effects depend on M/E type.
Others: Output Fade, Output Freeze, Output Capture, Composition Edit, SDI Output Patchbay
AUX: 2
Composition (Keyer): 4 (PinP, Luminance Key, Chroma Key, External Key supported)
Transition: Mix, NAM (*2), FAM (*2), Cut, Wipe
M/E: 1 M/E, 1.5 M/E, 2 M/E (9 patterns)
(*1)Output refresh rate is 75 Hz when frame rate is set to 50Hz.
* Frame rate is 59.94 (NTSC) or 50 (PAL)
* Conforms to CEA-861-E, VESA DMT Version 1.0 Revision 11
1920x1200/60RB
1366x768/60 (*1), 1280x1024/60 (*1), 1400x1050/60 (*1), 1600x1200/60, 1920x1080/60,
HDMI: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i,
* Conforms to SMPTE 274M
SDI: 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p

V-1200HDR Control Surface

Remote Controler
Connector: RS-422 DB-9 type (Female) x 1 * for VISCA Control
RS-232: DB-9 type (Male) x 1 * for Remote Control
TALLY/GPIO: DB-25 type (Female) x 1 (Input: 8, Output/Tally: 16)
RS-422: DB-9 type (Female) x 1
Black Burst (Sync to frames)
Output/Through: BNC type × 1
Input: BNC type × 1
* The video a maximum of 2 inputs 2 outputs and the audio a maximum of 16 inputs 16
* Outputs can treat in 2 slots sum total.
Delay: 16ch
Patchbay: 92 inputs x 92 outputs
AES/EBU: Linear PCM, 24bits, 48kHz, 4ch
Audio Output: +4dBu (Maximum: +22dBu, 600 ohms)

Dimensions

V-1200HD

V-1200HDR

Accessories
Power Cord, Rubber Feet (4), Owner’s Manual
Weight
9.0 kg 19 lbs 14 oz
Dimensions
482 (W) × 357 (D) × 133 (H) mm 19 (W) × 14-1/16 (D) × 5-1/4 (H) inches * EIA-3U rack mount size
Operation Temperature
+0 to +40 degrees Celsius +32 to +104 degrees Fahrenheit
Power Consumption
90 W/0.8 A (117V), 90 W/0.5 A (220V, 230V, 240V), 90 W/3.75 A (DC 24V)

MULTI-FORMAT VIDEO SWITCHER

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

Roland
proav.roland.com

Printed in Japan Sept. 2016 RAM-20060 BLY-PD
A comprehensive and flexible multi-format video switcher giving you complete control of video sources, key layers and mixing engine configurations. The V-1200HD introduces a unique flexible hybrid engine with 4:2:2 broadcast switcher and 4:4:4 live event switcher. In addition to powerful video capabilities, the V-1200HD also has a built-in 16-channel audio mixer.

Innovative hybrid processing from Roland

In addition to a 4:2:2 video process widely used for video signals, 4:4:4 signals that are the standard output for computers are handled by a separate processing engine. 4:2:2 signals can be upsampled to 4:4:4 signals.

Flexible M/E

The 4:2:2 engine’s variety of M/E modes allows for more creative freedom.

2 M/E Mode

This provides a standard two M/E operation style. Two keyers can be used with each M/E. Keyer priority can also be assigned and changed. Not only is re-entry of the video source from M/E 1 to M/E 2 possible, but so is reverse re-entry from M/E 2 to M/E 1. This means you can switch the two M/E sources output them from a single PGM output. The two M/E can also be output independently allowing for applications such as simultaneous transmission of captions in two different languages.

1.5 M/E Mode

This is the highest-performance operation style, capable of using PGM/PST rows as the final stage in addition to M/E 1. All four keyers can be used in M/E 1. You can freely change the priority of each keyer, and even copy keyers. This mode enables complex mixing operations such as switching a video source with four compositions to another single video source.

1 M/E Mode

This is a simple operation style using one M/E with four keyers. In addition to using PGM/PST rows on the main line, you can use two AUX buses. In this mode, the V-1200HD can be used as a video distributor or routing switcher making it the ideal primary switcher for a number of broadcast and live performance applications. In cases when you want to use three or more AUXes, using the composition buses lets you achieve up to six additional outputs.

4:4:4 Multi-Format Processor

There are two scalers between the 4:2:2 engine and the 4:4:4 engine, and two scalers between HDMI IN 3 and 4 and the 4:4:4 engine. These enable switching, self key composition, and matrix output. Signals input from HDMI IN 3 and 4 can be sent to both 4:2:2 process and 4:4:4 process, which means if you choose the latter, you will get clearer computer images. With the scalers you can also display a single picture across two screens.
Features for changing priority and for copying and pasting settings are built into the four channels of composition (keyers). You can instantly access preset settings through store and recall operations using four memory banks. The number of keyers available in each M/E differs according to the format selected as the 4:2:2 process format.

HDMI inputs 3 and 4 and both HDMI outputs are equipped with scalers that support SD through HD, including data resolutions such as 1366x768 and 1920x1200. This makes it possible to input common data resolutions sent from computers without external converters and transmit signals from the V-1200HD that are matched to the native resolution of the destination display.

Input and output of up to 92 channels of audio embedded in SDI and HDMI signals is possible. Full 16-channel support is provided for SDI audio. A 16-channel audio mixer equipped with EQ, reverb, and delay is also built-in. Powerful patchbay functionality lets you select 16 sources to be assigned to the audio mixer and also accomplish central control of source feeds as a hub not just for video, but for audio as well.

Up to 16 still-images in BMP or PNG format can be stored in the internal memory. The unit supports resolutions up to 1920x1080, and also supports alpha channel for images in PNG format.

Primary inputs are freely assignable to any cross-point location. Quick input changes can be accommodated easily because the source labels follow simultaneously.

Multi-view is indispensable for single-point monitoring of multiple video feeds. The V-1200HD provides two multi-view outputs, MULTI-VIEW 1 for the 4:2:2 process and MULTI-VIEW 2 for the 4:4:4 process. You can assign video sources for the multi-view screen. Three layout patterns are available for the 4:2:2 process.

At this screen, you can make video-related settings such as selecting the M/E mode for the 4:2:2 process or changing the connection destinations for HDMI IN 3 and 4. If you want to output HDMI signals with crystal image on large-sized LED and projector displays, you can specify the 4:4:4 process as the connection destination for HDMI IN 3 and 4 here.

All functions and setting changes are accessible from the root menu. This instantly calls up the required operation screen from among the large number of parameters. These operations can be performed not only via the dedicated V-1200HDR Control Surface, but also by using the free remote control software, V-1200HD RCS, on a connected computer. You can use the software for off-line system configurations and training operations.

An innovative and flexible system designed to easily realize your full creative potential.
A dedicated V-1200HDR controller provides fast and accurate operation. Dual touch monitors provide quick and easy operation. All the functionality required for operation of a high-end switcher, in an efficient compact size.
Multi-format support for a diverse range of inputs and outputs.

Two expansion slots are provided for even more compatibility.

Application

The flexible workflow and functionality supports a wide variety of live production applications.

A wide variety of video effects are ideal for all kinds of broadcast studios.

Multiple M/E choices allow for a diverse range of video production applications in one switcher.

The V-1200HD is ideal as a main switcher for concert recording and for a live feed. Through a variety of multi-view functions, even a large number of sources can be checked at a glance. The M/E configuration can be varied as desired to meet the needs of the production. Control up to seven remote cameras ensures creative productions even with limited camera operators.

Equipped with HDMI input and output with multi-format support. Freely mix computer and video sources and output to a wide range of displays and devices.

Along with ten 3G/HD-SDI inputs, the V-1200HD features four HDMI inputs. Six 3G/HD-SDI and two HDMI outputs are also provided. Among these, two HDMI inputs and outputs offer multi-format support. Computer sources with varying resolutions and frame rates are supported without a need for video converters. The signal is passed directly to the 4:4:4 process, so it can be output, unchanged, at the same high resolution.

Supporting a rich range of control as a video/audio hub.

The full-feature routing functionality enables conversion and distribution of a high number of video sources in a variety of formats. The V-1200HD can also achieve remote operation as a video/audio source hub from a variety of control terminals and programs. In addition to just simple video switching, the system also offers functions available only on production switchers, such as distributing PIP video to various locations.

Broadcast Studios

Freeze frame recording is possible for convenient remote control when recording.

Events and Conferences

Live-performance Production

Classrooms and Event Halls

Hardware

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Options

A diverse selection of option cards for video and audio system expansion.

VC-1 Series Video Converters

Converters enabling input/output expansion and format conversion however you like. These provide support for upgrading systems to achieve low heat generation and lossless conversion.

VC-1-SC
Scan Converter
Conversion of digital signals of SDI and HDMI and analog signals of RGB, component and composite to SDI or HDMI

VC-1-DL
FS Delay
Bi-directional conversion of video and audio signals from HDMI to SDI or SDI to HDMI with Frame Sync and Delay

VC-1-HS
HDMI to SDI
Conversion of video and audio signals from HDMI input to SDI output

VC-1-SH
SDI to HDMI
Conversion of video and audio signals from SDI input to HDMI output

Block Diagram