

# Roland

PROFESSIONAL  
AUDIO AND VIDEO EQUIPMENT  
2013

## AUDIO

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS



## VIDEO

VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS



**Roland**  
Systems Group

# Bringing Professional Audio and Video Together

Welcome to the Roland Professional Audio and Video Equipment catalog.

Roland has introduced many innovative products to the professional market over the past few years and has built a strong trust across many users and installations around the world. Through continuous development and a clear focus on professional audio/video products, Roland Systems Group is committed to providing unique solutions to improve workflow and maximize creative possibilities.

We offer solutions to many markets including: Broadcast • Education • Legal • Live Production • Sports • Theater • Theme Park • Videography • Visual Performance • Worship.

## NEW PRODUCTS

### M-200i | Live Mixing Console



P.11

iPad Meets Professional Digital Mixing Console

### R-88 | 8-Channel Recorder and Mixer



P.24

All in One Recorder, Mixer and Audio Interface - Anytime, Anywhere

### V-800HD | Multi-format Video Switcher



P.29

Eight Multi-Format Channels with Independent Scalers

### V-40HD | Multi-format Video Switcher



P.33

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

### V-4EX | 4-Channel Video Mixer



P.37

Four HDMI input video mixer with built-in multiviewer and USB port for streaming

DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/ SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

APPLICATIONS



M-480



M-380



M-300



M-200i

DIGITAL CONSOLES



S-4000 series



S-1608 / S-0816



S-0808



S-4000M



S-MADI



S-OPT



W100S-R / SC-W100S / SC-W20F

DIGITAL SNAKES



M-48



S-4000D



RH-PM5

PERSONAL MIXERS



R-1000



S-RDK

MULTI-CHANNEL RECORDERS



AR-3000R



AR-200R



R-88



R-44



R-26

AUDIO RECORDERS



V-1600HD



V-800HD / V-440HD / V-44SW



V-40HD



LVS-800



V-8 / V-4 / V-4EX



MVS-12



VR-5 / VR-3

VIDEO MIXERS/SWITCHERS



VC-300HD



VC-200HD



VC-50HD



VC-30HD

VIDEO CONVERTERS



P-10



CG-8

VIDEO PLAYERS

- Audio Production
- Personal Mixing
- Recording / Broadcasting

- Visual Production
- Web Streaming and Capture / Archiving

APPLICATIONS

# V-Mixing System

## Configure a system for any venue or application The V-Mixing System - an advanced mixing environment

It's not simply a digital version of an analog console. The V-Mixing System is the next generation mixing "ecosystem" that exploits the advantages of digital technology. It separates mixing (V-Mixer) from the input/output section (Digital Snake) enabling pure sound, minimal loss of transmission with very flexible system configuration and setup. It allows effortless additions for monitoring solutions (M-48 Personal Mixer) as well as multi-channel live recording (SONAR REAC Recording System and R-1000 48-Track Recorder/Player). The V-Mixing System brings together the predominant components of the live sound environment, expanding the possibilities and benefits far beyond the sum of its parts.

## REAC

## High quality sound is obtained with ease and flexibility REAC - advanced audio transfer technology

REAC (Roland Ethernet Audio Communication) technology is the cornerstone of the V-Mixing System. REAC is Roland's original technology for low latency, high quality digital audio transfer. REAC is an Ethernet based technology that enables multiple components to be easily integrated using lightweight Cat5e/6 cable. With just a single inexpensive cable, 40 input x 40 output channels of 24-bit uncompressed audio data (including level and control information) are transferred.



### Digital Snakes

Enjoy superior clear sound, great intelligibility with minimum latency and the freedom to split or extend your audio sources anywhere.



### Bridging

The S-MADI REAC Bridge enables connectivity between MADI-equipped digital audio mixers/systems to any REAC-based devices.

S-MADI  
REAC MADI BRIDGE

### Personal Mixers

The M-48 is the "next generation" live personal mixer that offers musicians the flexibility to control exactly what they want to listen to during their performances.

M-48  
LIVE PERSONAL MIXER

### V-Mixing System



### Digital Consoles

Available with a variety of digital snake configurations, this fully featured digital solution is ideal for any mid-sized live event applications in corporate, church, school or rental/staging environments.

### Recording

Multi-channel recording and playback is accomplished with reliability and stability using the dedicated R-1000 48-Track Recorder/Player.

R-1000  
48-TRACK RECORDER/PLAYER

SONAR  
PRODUCER

DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

APPLICATIONS



**M-480**                      **M-380**                      **M-300**                      **M-200i**

<b>Input</b>	Mixing Channels	48	48	32	32
	Return Channels	6 Stereo (12)	-	-	-
	Dynamics Channel	48	24 (assignable)	32	32
	Delay	0 to 1200 msec	-	-	-
	PEQ	4-band PEQ	2-band PEQ + 2 Shelving EQ	4-band PEQ	4-band PEQ
<b>Effects</b>	EQ	12 x 31-band GEQ or 8-band PEQ * Maximum 24 using FX	4 x 31-band GEQ * Maximum 12 using FX	- * Graphic EQ: Maximum 4 using FX	4 x 31-band GEQ * Maximum 8 using FX
	Built-in Effect (Stereo/Dual mono)	6	4	4	4
<b>Output</b>	AUX bus	16	16	8	8
	MATRIX bus	8	8	4	4
	MAIN bus	L, C, R	L, R * AUX is available as Main C	L, C, R	L, R
	PEQ	4-band PEQ	2-band PEQ + 2 Shelving EQ	8-band PEQ	4-band PEQ
	Limiter	Limiter	Limiter (MAIN, AUX)	Limiter	Limiter/Comp
<b>Console/ Others</b>	Delay	0 to 1200 msec	-	0 to 400 msec	0 to 400 msec
	DCA	24	8	4	8
	Input Connectors	10 [XLR (x8), RCA (x2)]	10 [XLR (x8), RCA (x2)]	12 [XLR (x4), RCA (x4), TRS Phone (x4)]	24 [XLR (x16), RCA (x2), TRS Phone (x6)]
	Output Connectors	10 [XLR (x8), S/PDIF (Optical), Coaxial]	10 [XLR (x8), S/PDIF (Optical), Coaxial]	10 [XLR (x4), TRS Phone (x4), S/PDIF (Optical)]	14 [XLR (x8), TRS Phone (x4), AES/EBU]
	USB Recorder/Player	Yes	Yes	Yes	Yes
	REAC MODE	Master/Split	Master/Split	Master/Split	Master/Slave/Split
	Rackmount	-	12U	10U	10U
	PC/Mac control	M-480 RCS	M-380 RCS	M-300 RCS	M-200i RCS
	iPad control	M-480 Remote	-	-	M-200i Remote

## How to Configure a V-Mixing System

**Step 1**  
**Decide on inputs/outputs**

There are a number of I/O configuration choices. Select based on size, I/O count, and modularity.

S-0808    S-1608    S-4000S

Determine if you need additional splits for monitoring, recording or distribution to multiple places. You can also distribute your main I/O units together into a merged REAC signal.

S-4000D    S-4000M

**Step 2**  
**Choose a Console**

There are four choices of consoles to choose from. Differences center around:

- Mixing Channels
- Processing Power
- Number of Faders
- Size and rackmount ability

M-480    M-380  
 M-300    M-200i

**Step 3**  
**Choose Monitoring Solution**

Monitoring needs can be addressed by adding the M-48 Personal Mixing option, another V-Mixer as a monitor console, or the combination of both.

The M-48 offers musicians the flexibility to control exactly what they want to listen to during their performance.

M-48

Add an additional V-Mixer to create a monitor position that can control wedges and/or any M-48 personal mixers connected taking the burden off of the FOH position.

M-300

**Step 4**  
**Choose Recording/ Playback Solution**

Multi-channel recording and playback can be added by using a simple Cat5e/6 cable from a split point.

Record/play back up to 48-channels of audio using the Roland R-1000 Multi-Channel Recorder/Player.

R-1000

Capture up to 40-channels of audio to a computer using the SONAR REAC Recording solution.

SONAR

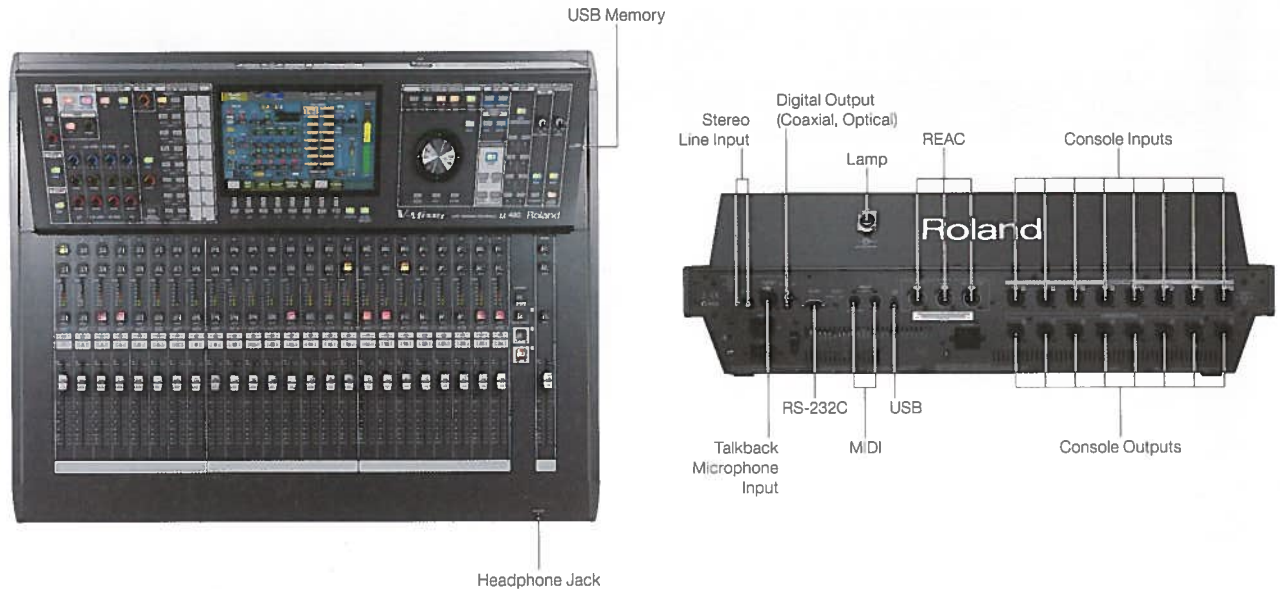
# V-Mixer M-480 | Live Mixing Console

Flagship console with a new world-class powerful mixing engine

REAC

V-LINK

Roland  
Wireless  
CONCERT



- 48 mixing channels plus 6 stereo returns for a total of 60 channels
- Main (LCR) outputs, 16 AUX buses, 8 matrices
- Configurable to 90 inputs and 90 outputs depending on Digital Snake configuration
- 4-band advanced parametric EQ, and delays on all inputs and outputs
- Compressors and Gates on all mixing channels
- Six built-in stereo (dual-mono) multi-effects and twelve graphic EQs (switchable to 8-band PEQs)
- 214 possible output patch points on each port (A,B, console), allows direct routing from preamp to output point without having to use mix channel
- Supports integration with Personal Mixing System and Multi-Channel Live Recording/Playback
- Cascade connection supports large format applications for 96 mixing channels
- Remote control from the dedicated iPad application, M-480 Remote

The large, bright 800 x 480 color LCD gives a very clear view of all the V-Mixer's parameters

### ● Channel Display



Channel Editing Display is a familiar and easy-to-use analog-style layout of all common channel parameters.

### ● Channel EQ



Dedicated screen for editing channel EQ. Change values quickly using the dedicated knobs.

### ● EFFECTS



View and edit the 6 stereo (dual mono), high-quality FX for channel/bus inserts such as reverb, delay, channel strip.

### ● GEQ/PEQ

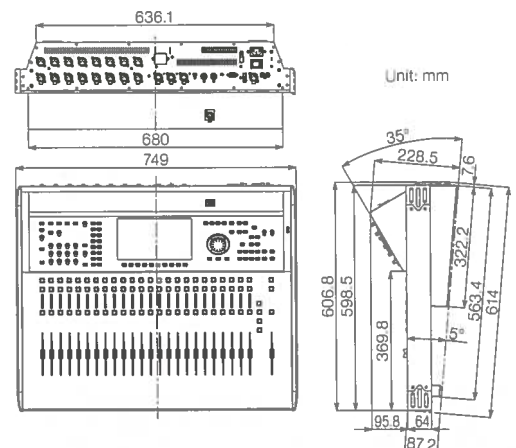


Setup screen for twelve 31-band Graphic EQs or 8-band Parametric EQs.

M-480 RCS - Remote control software for PC/Mac



Free download from  
[www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net)



M-480 Remote

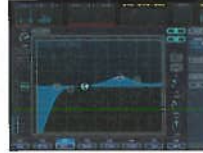
Application for remotely controlling the Roland M-480 V-Mixer live mixing console.



● Channel Strip



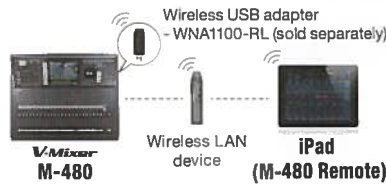
● Channel EQ



● Graphic EQ



● Wireless LAN connection



Using a Wireless USB adapter, connect the M-480 to a wireless LAN device such as a router to establish a wireless connection with an iPad.

● Ad-Hoc connection



Connect the M-480 directly to an iPad without using wireless devices such as a router.



Options



**WNA1100-RL**

Wireless USB Adapter

The M-480 and an iPad can be connected wirelessly.



**M-UF2G**

2 GB USB Flash Memory

For uncompressed WAV recording/playback and saving/loading configuration files.

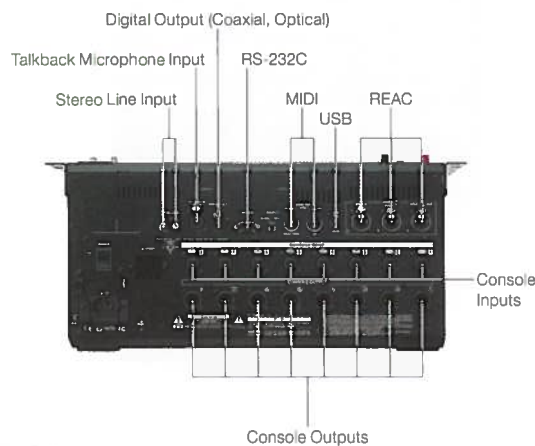
SPECIFICATIONS **M-480**

<b>Channels, Buses, I/O</b>	<b>MIXING CHANNEL:</b> 48 channels, 6 stereo returns <b>BUSES:</b> MAIN L/C/R, 16 AUX buses, 8 MATRIX buses <b>INPUT:</b> 10 ports (Max 90 ports when using REAC devices) <b>OUTPUT:</b> 10 ports (Max 90 ports when using REAC devices)	<b>Input Impedance</b>	CONSOLE INPUT jacks (1 to 8): 14 k ohms, STEREO IN jacks (L / R): 10 k ohms, TALKBACK MIC IN jack: 41 K ohms
<b>Internal processing</b>	56 bits	<b>Non Clip Maximum Input level</b>	CONSOLE INPUT jacks (1 to 8): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON), (typ.), STEREO IN jacks (L / R): +18 dBu (typ.), TALKBACK MIC IN jack: +8 dBu (typ.)
<b>AD/DA Conversion</b>	24-bit/48.0 kHz or 44.1 kHz	<b>Nominal Output Level</b>	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10 k ohms, typ.)
<b>Network Latency</b>	2.8 mS (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-480's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects : No insert effects	<b>Output Impedance</b>	CONSOLE OUTPUT jacks (1 to 8): 600 ohms PHONES jack: 100 ohms
<b>CONSOLE INPUT jacks (1 to 8)</b>	XLR-3-31 type (balanced, phantom power)	<b>Recommended Load Impedance</b>	CONSOLE OUTPUT jacks (1 to 8): 10 k ohms or greater PHONES jack: 8 ohms or greater
<b>TALKBACK MIC IN jack</b>	XLR-3-31 type (balanced, phantom power)	<b>Non Clip Maximum Output level</b>	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10 k ohms load, typ.) PHONES jack: 150 mW + 150 mW (1 kHz, 40 ohms load, typ.)
<b>STEREO IN jacks (L/R)</b>	RCA phono type	<b>Residual Noise Level (IHF-A, typ.)</b>	-88 dBu (All faders: Min)
<b>CONSOLE OUTPUT jacks (1 to 8)</b>	XLR-3-32 type (balanced)	<b>Equivalent Input Noise Level (E.I.N.)</b>	-126 dBu
<b>PHONES jack</b>	Stereo 1/4 inch phone type	<b>Display</b>	800 x 480 dots Wide VGA backlit TFT color screen
<b>DIGITAL OUT jacks Stereo</b>	Optical type, Coaxial type	<b>Power Supply</b>	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
<b>REAC Ports</b>	RJ-45 EtherCon type	<b>Power Consumption</b>	95 W
<b>USB connectors</b>	USB Type A and Type B	<b>Dimensions</b>	749.0 (W) x 614.0 (D) x 228.5 (H) mm 29-1/2(W) x 24-11/16(D) x 9-1/16(H) inches
<b>Remote Controls</b>	RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type	<b>Weight</b>	20 kg, 44 lbs 1 oz
<b>Other Connectors</b>	GND Terminal, LAMP connector XLR-4-31 type		
<b>Frequency Response</b>	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20 k ohms load, +4 dBu, typ.) PHONES jack: -3 dB / +0 dB (40 ohms load, 150 mW, typ.)		
<b>Total Harmonic Distortion + Noise</b>	CONSOLE OUTPUT jacks (1 to 8): 0.05 % (+4 dBu, typ.) PHONES jack: 0.05 % (typ., 40 ohms load, 150 mW, typ.)		
<b>Dynamic Range</b>	CONSOLE OUTPUT jacks (1 to 8): 110 dB (typ.)		
<b>Crosstalk@ 1 kHz</b>	CONSOLE INPUT jacks (1 to 8): -80 dB (Pad: ON, Input gain: +10 dBu, typ.), CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.)		
<b>Nominal Input Level (Variable)</b>	CONSOLE INPUT jacks (1 to 8): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON), (typ.), STEREO IN jacks (L / R): -18 to 0 dBu, TALKBACK MIC IN jack: -50 to -10 dBu		

\* XLR type: 1 GND, 2 HOT, 3: COLD  
\* phantom power: DC +48 V(unloaded maximum), 14 mA(maximum load) (All XLR type inputs)  
\* LAMP power: DC +12 V/500 mA  
\* When a REAC Splitter&Distributor S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.  
\* EtherCon is the registered trade mark of Neutric®

# V-Mixer M-380 | Mixing Console

## The most powerful rack-mountable digital mixing console

**REAC**
**V-LINK**


- 48 Channels/18 Buses/8 Matrices with 4 dual/mono effects processors, 31-band GEQs/8-bands PEQs
- Built-in REAC ports allows flexible system expansion
- 56-bit internal processing
- Large, bright 800 x 480 LCD color screen
- 100 mm touch sensitive motorized faders

- Direct connection with PC for multi-channel recording
- USB memory player/recorder
- Scene recall with preamp gain
- Remote control and offline setup using a PC
- Support for M-48 Personal Mixing System
- V-LINK provides an automatic audio follows video mix

The M-380 allows setup Flexibility and Portability

### ● Desktop Size



[Dimensions]  
482.0 (W) x 581.3 (D) x 220.6 (H) mm  
19 (W) x 22-15/16 (D) x 8-11/16 (H) inches

### ● Rack-mount Size



[Dimensions]  
482.0 (W) x 231.3 (D) x 550.9 (H) mm  
19 (W) x 9-1/8 (D) x 21-11/16 (H) inches

### RS-232 Control

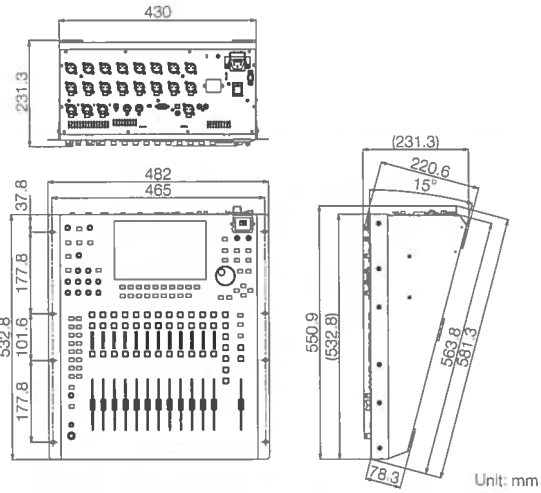
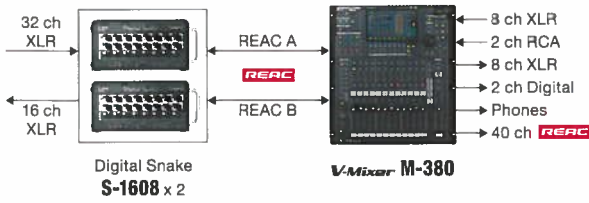


System integrators are able to create control interfaces for the M-380 V-Mixer from industry standard system control touch panels by harnessing the power of the RS-232 connection on the M-380. Users can recall scenes, adjust volume levels, mute channels or groups and control dozens of other mixing parameters. The M-380 can be discreetly installed in a hidden rack with all control happening from the interface designed by the system integrator.



Installed Sound - Standard V-Mixing System - 42 Inputs/26 Outputs

Standard System consists of two S-1608 Digital Snakes on stage.



M-380 RCS - Remote control software



Free download from [www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net)

SPECIFICATIONS M-380

Channels, Buses, I/O	MIXING CHANNEL: 48 channels BUSES: MAIN L/R * AUX is available as MAIN C, 16 AUX buses, 8 MATRIX buses INPUT: 10 ports (Max 90 ports when using REAC devices) OUTPUT: 10 ports (Max 90 ports when using REAC devices)
Internal processing	56 bits
AD/DA Conversion	24-bit/48.0 kHz, 44.1 kHz
Network Latency	2.8 ms (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-380's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects: No insert effects
CONSOLE INPUT jacks (1 to 8)	XLR-3-31 type (balanced, phantom power)
TALKBACK MIC IN jack	XLR-3-31 type (balanced, phantom power)
STEREO IN jacks (L/R)	RCA Pin type
CONSOLE OUTPUT jacks (1 to 8)	XLR-3-32 type (balanced)
PHONES jack Stereo	1/4 inch phone type
DIGITAL OUT jacks	Optical type, Coaxial type
REAC Ports	RJ-45 EtherCon type
USB connectors	Type A, Type B
Remote Control connectors	RS-232C connector 9-pin D-sub type MIDI connectors (OUT/THRU, IN) 5-pin DIN type
Other connectors	GND terminal
Frequency Response	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20k-ohms load, +4 dBu), PHONES jack: -3 dB/+0 dB (40-ohms load, 130 mW)
Total Harmonic Distortion + Noise	CONSOLE OUTPUT jacks: (1 to 8) 0.05 % (typ., +4 dBu) PHONES jack: 0.05 % (typ., 40-ohms load, 130 mW)
Dynamic Range	CONSOLE OUTPUT jacks (1 to 8): 110 dB (typ.)
Cross Talk @ 1 kHz	CONSOLE INPUT jacks (1 to 8): -80dB (Pad: ON, Input gain: +10 dBu, typ.), CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.)
Nominal Input Level (Variable)	CONSOLE INPUT jacks (1 to 8): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON), STEREO IN jacks (L/R): -18 to 0 dBu, TALKBACK MIC IN jack: -50 to -10 dBu
Input Impedance	CONSOLE INPUT jacks (1 to 8): 14 k-ohms, STEREO IN jacks (L/R): 10 k-ohms, TALKBACK MIC IN jack: 41 k-ohms

Non Clip Maximum Input level	CONSOLE INPUT jacks (1 to 8): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON), STEREO IN jacks (L/R): +18 dBu, TALKBACK MIC IN jack: +8 dBu
Nominal Output Level	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10k-ohms)
Output Impedance	CONSOLE OUTPUT jacks (1 to 8): 600-ohms, PHONES jack: 100-ohms
Recommended Load Impedance	CONSOLE OUTPUT jacks (1 to 8): 10 k-ohms or greater, PHONES jack: 8-ohms or greater
Non Clip Maximum Output level	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10k-ohms load), PHONES jack: 150 mW + 150 mW (1 kHz, 40-ohms load)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min)
Equivalent Input Noise Level (E.I.N.)	-126 dBu
Display	800 x 480 dots Wide VGA backlit TFT color
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	75 W
Dimensions	[Desktop] 482.0 (W) x 581.3 (D) x 220.6 (H) mm 19 (W) x 22-15/16 (D) x 8-11/16 inches [Rack mount] 482.0 (W) x 231.3 (D) x 550.9 (H) mm 19 (W) x 9-1/8 (D) x 21-11/16 (H) inches * EIA-12U
Weight	14.0 kg, 30 lbs. 14 oz.

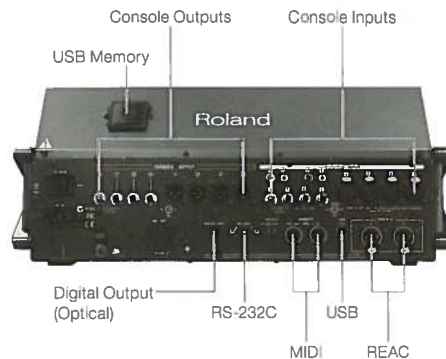
\* XLR connector (1: GND, 2: Hot, 3: Cold)  
\* Phantom Power: DC +48V (Unloaded maximum), 14mA (Maximum load) (All XLR type inputs)  
\* When a REAC Splitter S-4000-SP or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependent upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.  
\* EtherCon is the registered trade mark of Neutric®

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI CHANNEL RECORDERS  
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APPLICATIONS

# A powerful and compact digital mixing console

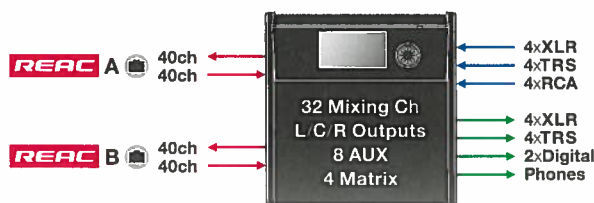


Headphone Jack



- 32 mixing channels, L/C/R outputs, 8 AUX buses, 4 Matrices
- Built-in REAC ports allows flexible system expansion
- 4-band PEQ and dynamics on all channels
- 11 different built-in multi-effects/ PEQ and delay on all outputs
- 100 mm motorized faders
- 24bit AD/DA for high-quality sound remotely controllable from a PC
- Record to /playback from USB flash memory
- Perfectly integrates with the Digital Snake for simple and high-quality audio transmission, distribution, splits and merging
- Construct a flexible and powerful system by adding the Personal Mixing System, multi-channel recording and other REAC components

### Two built-in REAC ports allows flexible system configuration



### V-Mixer series - Control Features and Options

#### ●Control remotely from your computer

V-Mixers can be controlled remotely in real-time from a PC (Windows/Mac) connected via the USB port. Mixing functions can be operated directly from a PC by using the RCS dedicated control software which has the same interface as the V-Mixer color display. (The RCS for the specific V-Mixer can be downloaded from the Roland Systems Group website.) The RCS can also be operated in offline mode, allowing data for various settings to be created in advance and saved to a USB memory drive. When you get to the venue, load the settings and jump right into sound check and rehearsal.



#### ●V-LINK - Audio and Visual Solution

By connecting the MIDI input/output to the video switcher such as the V-1600HD, V-LINK automatically synchronizes the audio of the V-Mixer with the visual images allowing "audio follows video".



#### ●Control remotely using a wireless LAN

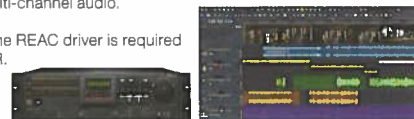
By enabling VNC or Remote Desktop Connection on a local computer directly connected to the V-Mixer via USB, the console can be controlled remotely from another PC or tablet using a wireless LAN. For example, you can walk around the venue listening in various locations adjusting the house mix appropriately, or stand onstage to adjust the monitor mix while consulting the stage performer.



#### ●Multi-channel recording

Forty channels of 24-bit audio can be recorded directly to a PC (Windows) by connecting a REAC port to the gigabit Ethernet port on the PC via a single Cat5e/6 cable. Audio is recorded as individual WAV files using Cakewalk SONAR\* and can be mixed after recording using the powerful digital audio tools and effects in SONAR. Alternatively you can use the new R-1000 48-Track Recorder/Player to record or playback multi-channel audio.

\* To use this feature, the REAC driver is required in addition to SONAR.



USB memory recorder/player

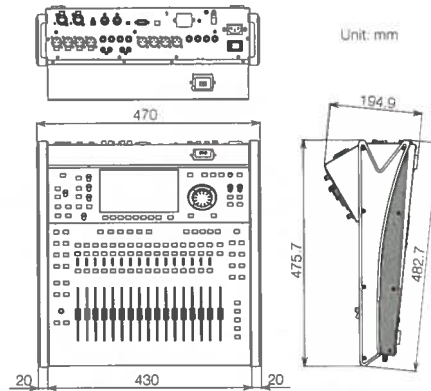


Record the output of the V-Mixer Main, assigned AUX bus or MATRIX bus directly to a USB memory drive connected to the built-in USB port. A mix produced with the V-Mixer is saved as an uncompressed WAV file, without the need for an external recorder. WAV files on the USB memory drive can also be played back on the V-Mixer and used for pre/post show music or background music/tracks. User settings and mixer data can also be saved to a USB memory drive. The USB recording function is available on all V-Mixer Consoles.

M-300 RCS - Remote control software for PC/Mac



Free download from [www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net)



Option



**RA-10U**  
Rackmount Angle  
Rackmountable to 19-inch rack (EIA)

SPECIFICATIONS M-300

PROCESSING	
Channels, Buses, I/O	MIXING CHANNEL: 32 channels BUSES: MAIN L/C/R, 8 AUX buses, 4 MATRIX buses INPUT: 12 ports (Max 92 ports when using REAC devices) OUTPUT: 10 ports (Max 90 ports when using REAC devices)
AD/DA Conversion	24-bit/48.0 kHz or 44.1 kHz
Network Latency	2.8 mS (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-300's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects: No insert effects

CONNECTORS	
CONSOLE INPUT jacks (1 to 4)	XLR-3-31 type (balanced, phantom power)
CONSOLE INPUT jacks (5 to 8)	1/4 inch Phone type (balanced)
CONSOLE INPUT jacks (9 to 12)	RCA Pin type
CONSOLE OUTPUT jacks (1 to 4)	XLR-3-32 type (balanced)
CONSOLE OUTPUT jacks (5 to 8)	1/4 inch Phone type (balanced)
PHONES jack	Stereo 1/4 inch phone type
DIGITAL OUT jack	Optical type
REAC port	RJ-45 EtherCon type x 2
USB port	Type A x 1, Type B x 1
Remote Connectors	RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type
Other Connectors	Grounding terminal AC INPUT connector

INPUT/OUTPUT CHARACTERISTICS	
Frequency Response	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20k ohms load, +4 dBu) PHONES jack: -3 dB / +0 dB (40 ohms load, 150 mW)
Total Harmonic Distortion + Noise	CONSOLE OUTPUT jacks (1 to 8): 0.05 % (typ., +4 dBu) PHONES jack: 0.05 % (typ., 40 ohms load, 130 mW)
Dynamic Range	CONSOLE OUTPUT jacks (1 to 8): 105 dB (typ.)
Cross Talk@ 1 kHz	CONSOLE INPUT jacks (1 to 4): -80dB (Pad: ON, Input sens: +4 dBu, typ.) CONSOLE INPUT jacks (5 to 12): -80dB (Input sens: +4 dBu, typ.) CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.) * Sampling frequency is 48 kHz or 44.1 kHz.

Nominal Input Level (Variable)	CONSOLE INPUT jacks (1 to 4): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON) CONSOLE INPUT jacks (5 to 12): -28 to +4 dBu
Input Impedance	CONSOLE INPUT jacks (1 to 4): 14 k ohms CONSOLE INPUT jacks (5 to 12): 10 k ohms
Non Clip Maximum Input level	CONSOLE INPUT jacks (1 to 4): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON) CONSOLE INPUT jacks (5 to 12): +22 dBu
Nominal Output Level	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10 k ohms)
Output Impedance	CONSOLE OUTPUT jacks (1 to 8): 600 ohms PHONES jack: 100 ohms
Recommended Load Impedance	CONSOLE OUTPUT jacks (1 to 8): 10 k ohms or greater PHONES jack: 8 ohms or greater
Non Clip Maximum Output level	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10 k ohms load) PHONES jack: 150 mW + 150 mW (Typ., 1 kHz, 40 ohms load)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min)
Equivalent Input Noise Level (E.I.N.)	-126 dBu (Main Fader: Unity, Channel faders: Unity only one channel, Preamp gain: Max)
OTHERS	
Display	800 x 480 dots Wide VGA TFT color screen with backlight
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	50 W
Dimensions	470.0 (W) x 482.7 (D) x 194.9 (H) mm 18-1/2(W) x 19(D) x 7-1/4(H) inches
Weight	9.8 kg 21 lbs 10 oz

(0dBu=0.775Vrms)

\* XLR type: 1 GND, 2 HOT, 3: COLD  
\* phantom power: DC+48V(unloaded maximum), 14mA(maximum load) (All XLR type inputs)  
\* When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200microseconds.

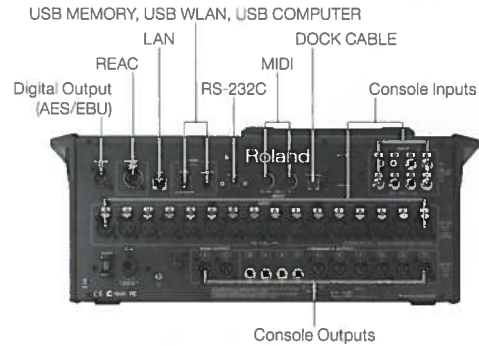
# V-Mixer M-200i | Live Mixing Console

## Comprehensive iPad Control Meets Professional Mixing Console

**NEW**



\* iPad not included



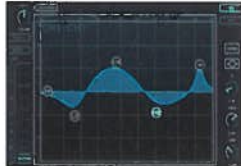
- 32 Channel Mixer with Moving Faders
- 4 Band PEQ/Comp & Gate (with Key-in Filter) per channel
- 8 AUX/4 Matrices - with EQ, Dynamics & Delay
- 8 DCAs/4 Mute Groups
- 4 Stereo Effects/4 GEQ (31 Band)
- 24 Analog Inputs, 12 Analog Outputs and Stereo Digital Output (AES/EBU)
- REAC Expandable
- 19" Rackmount Compatible

### M-200i Remote - M-200i Remote Control Application for the iPad

#### ● Channel Strip



#### ● Channel EQ



#### ● Channel Edit



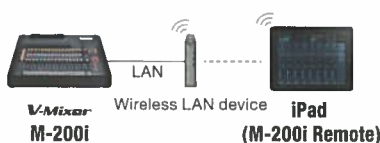
By simply installing the dedicated application, "M-200i Remote", you can control all key M-200i features from an iPad. Channel strips, channel EQ, channel dynamics, AUX SENDs, Scenes and other functions can be easily accessed. Use a simple swipe to move between channels. Make your faders longer for even more precise control. Visually drag, pinch or stretch EQ curves on a large screen.

\* The M-200i Remote will be available on the App Store in the 1Q of 2013.

### Three types of wireless connections

The M-200i and an iPad can be connected wirelessly by attaching the "WNA1100-RL" (sold separately) dedicated wireless USB adapter or connecting with a wireless LAN device directly.

#### ● Cable LAN connection



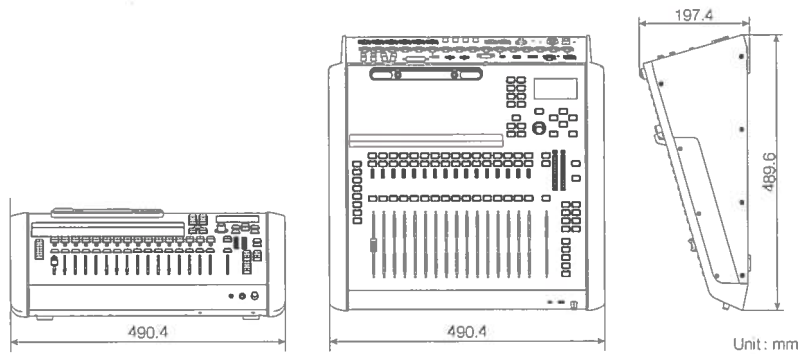
#### ● Wireless LAN connection



#### ● Ad-Hoc connection



Options	
<b>M-200i RCS</b>	Remote Control Software Free download from <a href="http://www.rolandsystemsgroup.net">www.rolandsystemsgroup.net</a>
<b>WNA1100-RL</b>	Wireless USB Adapter
<b>M-UF2G</b>	2 GB USB Flash Memory
<b>RA-10U</b>	Rackmount Kit



**SPECIFICATIONS M200i**

Processing	
<b>Channels/Buses</b>	CHANNELS: 32 BUSES: MAIN L/R, 8 AUX, 4 MATRIX
<b>Inputs/Outputs</b>	INPUTS: 24 (64 when using optional REAC devices) OUTPUTS: 14 (Max 54 ports when using REAC Devices)
<b>Signal Processing</b>	AD/DA Conversion: 24 bit Sample Rate: 48.0 kHz or 44.1 kHz
<b>Console Latency</b>	2.0 mS (typ.) *1 * Total Latency of audio signal from M-200i's console inputs to M-200i's outputs. * Sample Rate: 48.0 kHz * Effects: No insert effects
<b>Network Latency</b>	2.5 mS (typ.) *1 * Total System Latency of audio signal from S-1608 inputs to outputs via M-200i's REAC ports. * Sample Rate: 48.0 kHz * Effects: No insert effects
Connectors	
<b>Inputs/Outputs/ Others</b>	INPUT jacks (1 to 16): XLR-3-31 type (balanced, phantom power) INPUT jacks (17 to 22): 1/4 inch Phone type (balanced) INPUT jacks (23 to 24): RCA Phono type ASSIGNABLE OUTPUT jacks (1 to 6): XLR-3-32 type (balanced) ASSIGNABLE OUTPUT jacks (7 to 10): 1/4 inch Phone type (balanced) MAIN OUTPUT jacks (L, R): XLR-3-32 type (balanced) PHONES jacks: Stereo 1/4 inch phone type, Miniature phone type AES/EBU OUT jack: Optical type REAC port: RJ-45 EtherCon type RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type USB MEMORY port: USB Type A USB WLAN ADAPTOR port: USB Type A USB COMPUTER port: USB Type B LAN port: RJ45 type DOC CABLE port: 10-pin mini DIN type DC IN jack Grounding terminal * XLR type: 1 GND, 2 HOT, 3: COLD * Phantom power: DC +48 V (unloaded maximum), 14 mA (maximum load, All XLR type inputs)
Input/Output Characteristics	
<b>Frequency Response</b>	ASSIGNABLE OUTPUT jacks (1 to 10): -2 dB/+0 dB (20k-ohms load, +4 dBu, typ.) MAIN OUTPUT jacks (L, R): -2 dB/+0 dB (20k-ohms load, +4 dBu, typ.) PHONES jack: -3 dB/+0 dB (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Pad: ON, Input sens: +4 dBu, 20 Hz to 20 kHz)
<b>Total Harmonic Distortion + Noise</b>	ASSIGNABLE OUTPUT jacks (1 to 10): 0.05 % (+4 dBu, typ.) MAIN OUTPUT jacks (L, R): 0.05 % (+4 dBu, typ.) PHONES jack: 0.05 % (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)

<b>Dynamic Range</b>	ASSIGNABLE OUTPUT jacks (1 to 10): 102 dB (typ.) MAIN OUTPUT jacks (L, R): 102 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)
<b>Crosstalk @ 1 kHz</b>	INPUT jacks (1 to 24): -80 dB (Input sens: +4 dBu, IHF-A, typ.) ASSIGNABLE OUTPUT jacks (1 to 10): -88 dB (typ.) MAIN OUTPUT jacks (L, R): -88 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz
<b>Nominal Input Level (Variable)</b>	INPUT jacks (1 to 16): -65 to +4 dBu INPUT jacks (17 to 24): -28 to +4 dBu
<b>Input Impedance</b>	INPUT jacks (1 to 16): 14 k-ohms INPUT jacks (17 to 24): 10 k-ohms
<b>Non Clip Maximum Input level</b>	INPUT jacks (1 to 24): +22 dBu (1 kHz, 20 k-ohms load, typ.)
<b>Nominal Output Level</b>	ASSIGNABLE OUTPUT jacks (1 to 10): +4 dBu (Load impedance: 10 k-ohms, typ.) MAIN OUTPUT jacks (L, R): +4 dBu (Load impedance: 10 k-ohms, typ.)
<b>Output Impedance</b>	ASSIGNABLE OUTPUT jacks (1 to 10): 600 ohms (typ.) MAIN OUTPUT jacks (L, R): 600 ohms (typ.) PHONES jack: 49 ohms (typ.)
<b>Recommended Load Impedance</b>	ASSIGNABLE OUTPUT jacks (1 to 10): 10 k-ohms or greater MAIN OUTPUT jacks (L, R): 10 k-ohms or greater PHONES jack: 40 ohms or greater
<b>Minimum Load Impedance</b>	PHONES jack: 16 ohms
<b>Non Clip Maximum Output level</b>	ASSIGNABLE OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k-ohms load, typ.) MAIN OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k-ohms load, typ.) PHONES jack: 150 mW + 150 mW (1 kHz, 40 ohms load, typ.)
Others	
<b>Display</b>	Graphic LCD 132 x 64 dots with backlight
<b>Current Draw</b>	3.6 A
<b>Dimensions</b>	Desktop: 491 (W) x 490 (D) x 198 (H) mm Desktop: 19-3/8 (W) x 19-5/16 (D) x 7-13/16 (H) inches
<b>Weight</b>	9.8 kg, 21 lbs 10 oz
<b>Accessories</b>	DOCK CABLE, TABLE STAND, AC Adaptor, Power Cord, Owner's Manual

(0dBu=0.775Vrms)

\*1: When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be no more than 200 microseconds.

# Digital Snake S-4000 series

**S-4000S-3208** | 32 x 8 Modular Stage Unit

**S-4000S-0832** | 8 x 32 Modular Stage Unit

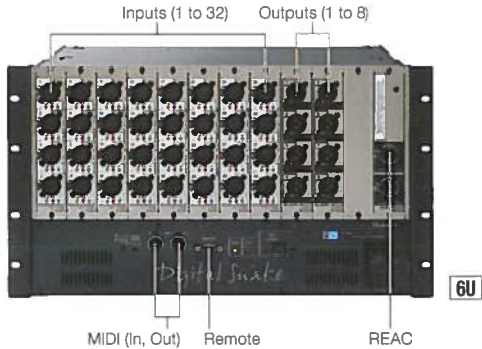
**S-4000H** | 8 x 32 FOH Unit

**S-4000R** | Remote Controller

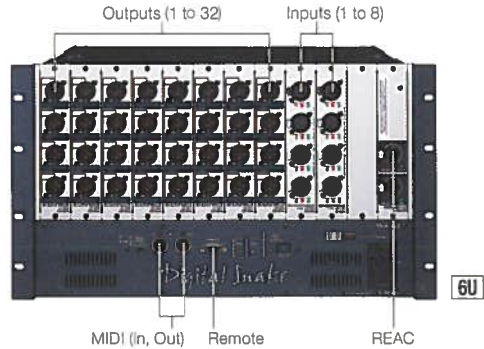
Simple and flexible digital snake units provide superb sound quality



■ S-4000S-3208 Front Panel



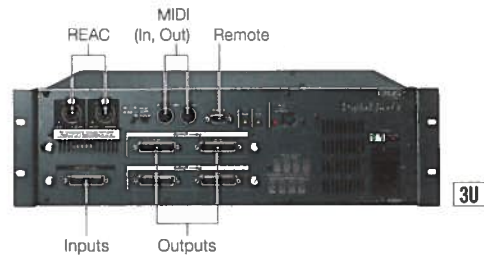
■ S-4000S-0832 Front Panel



■ S-4000S-3208/0832 Rear Panel



■ S-4000H Front Panel



■ S-4000R Top Panel



■ S-4000R Rear Panel

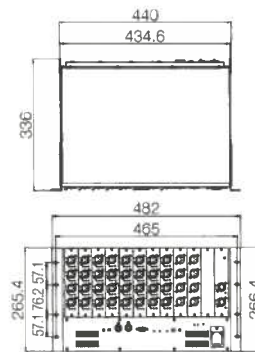


■ S-4000H Rear Panel

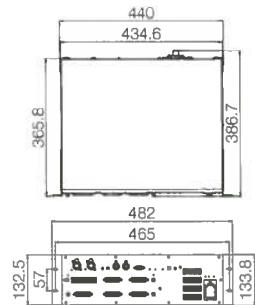


- Superb quality pre-amps on each input channel
- S-4000S-3208/S-4000S-0832 can be used as I/O units of a V-Mixer for full digital mixing system
- S-4000S-3208 with S-4000H or S-4000S-0832 enables configuration of an individual digital transfer system
- Two REAC ports (one primary, one redundant) provide system reliability
- RS-232C interface for S-4000R Remote Controller or computer control
- MUTE ALL OUTPUTS button for noise-free connection of audio sources
- Connection port for optional redundant power supply (S-240P)
- S-4000R provides easy remote control of all input gain adjustments, phantom power and PAD settings

■ S-4000S-3208/0832 Dimensions

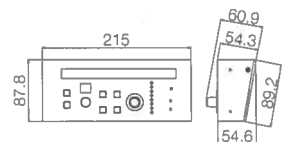


■ S-4000H Dimensions



Unit: mm

■ S-4000R Dimensions



DIGITAL CONSOLES | DIGITAL SNAKES | PERSONAL MIXERS | MULTI-CHANNEL RECORDERS | AUDIO RECORDERS | VIDEO MIXERS/SWITCHERS | VIDEO CONVERTERS | VIDEO PLAYERS | APPLICATIONS

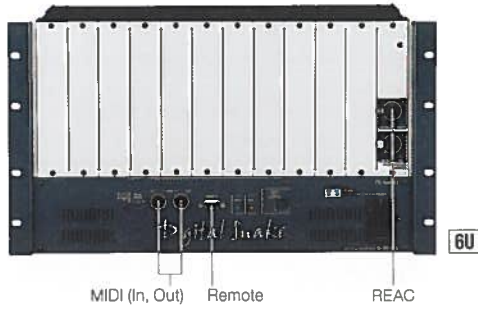
# Digital Snake S-4000 series

**S-4000S-MR** | Digital Snake Modular Rack Chassis    **SI-AD4** | 4-channel Analog Input Module    **SO-DA4** | 4-channel Analog Output Module  
**SI-AES4** | 4-channel Digital Input Module    **SO-AES4** | 4-channel Digital Output Module    **S-240P** | External Power Supply Unit

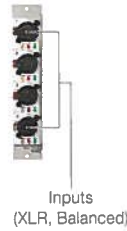
## High quality options provide system flexibility



### ■ S-4000S-MR Front Panel



### ■ SI-AD4



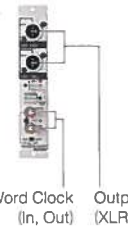
### ■ SO-DA4



### ■ SI-AES4



### ■ SO-AES4



### ■ S-4000S-MR Rear Panel



■ **S-4000S-MR is modular rack chassis with no pre-installed In/Out modules; Designed for custom configurations such as 24x16 and 40x0**

■ **SI-AD4 - 4-Channel Analog Input Module provides high quality pre-amps on each input channel with phantom power**

■ **SO-DA4 - 4-Channel Analog Output Module provides high quality D/A converter**

■ **SI-AES4 - 4-Channel Digital Input Module allows input of up to 96 kHz AES/EBU signal using the built-in sampling rate converter**  
 \* No support for double wire

■ **SO-AES4 - 4-Channel Digital Output Module allows output of up to 96 kHz AES/EBU signal using the built-in sampling rate converter, and also supports synchronization with an external word clock**  
 \* No support for double wire

■ **S-240P supplies redundant DC power to an S-4000S or S-4000H; Outputs DC 24 V 6 A power**

\* S-4000S-MR can be customized in blocks of 8 channels when combined with the modules from the SI/SO series, which have both analog and digital I/O. Audio transmission and power supply redundancy is possible.

### ■ S-240P Front Panel

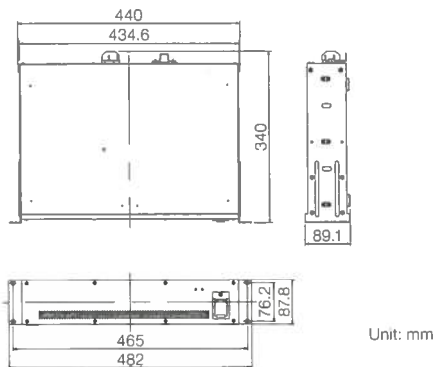


### ■ S-240P Rear Panel

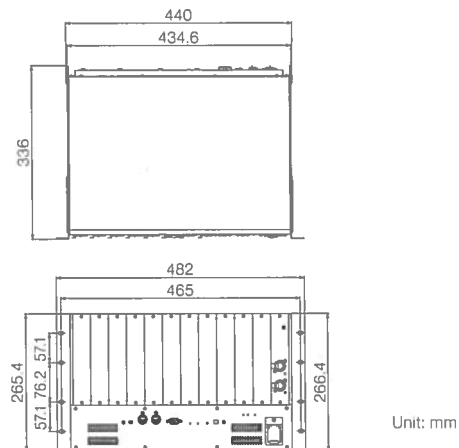


### ■ S-4000S-MR Dimension

### ■ S-240P Dimension



Unit: mm



Unit: mm

# Digital Snake S-4000 series

## SPECIFICATIONS S-4000S-3208

Number of Channels	32 inputs/8 outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.05 % or less (Pad: On, Input Gain: +4 dBu, 22 to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)
PAD	20 dB On/Off
Input Impedance	20 k-ohms
Nominal Output Level	+4 dBu (Max. +22 dBu)
Output Impedance	150-ohms
Recommended Load Impedance	10 k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-90 dBu

Equivalent Input Noise Level (E.I.N.)	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Memory	10
Connectors	Input: 32 (XLR type, balanced, phantom power, 4 ch input module x 8), Output: 8 (XLR type, balanced, 4 ch output module x 2), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
AC Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	130 W
Phantom Power	+48 V/14 mA (each input on SI-AD4, remote controlled)
Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches
Weight	17.0 kg, 37 lbs. 8 oz.

## SPECIFICATIONS S-4000S-0832

Number of Channels	8 inputs/32 outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.05 % or less (Pad: On, Input Gain: +4 dBu, 22 to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)
PAD	20 dB On/Off
Input Impedance	20 k-ohms
Nominal Output Level	+4 dBu (Max. +22 dBu)
Output Impedance	150-ohms
Recommended Load Impedance	10 k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-90 dBu

Equivalent Input Noise Level (E.I.N.)	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Memory	10
Connectors	Input: 8 (XLR type, balanced, phantom power, 4 ch input module x 2), Output: 32 (XLR type, balanced, 4 ch output module x 8), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
AC Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	130 W
Phantom Power	+48 V/14 mA (each input on SI-AD4, remote controlled)
Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches
Weight	17.0 kg, 37 lbs. 8 oz.

## SPECIFICATIONS S-4000H

Number of Channels	8 inputs/32 outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.05 % or less (Input Gain: +4 dBu, 22 to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB
Nominal Input Level	+4 dBu (Max. +22 dBu)
Input Impedance	30 k-ohms
Nominal Output Level	+4 dBu (Max. +22 dBu)
Output Impedance	600-ohms
Recommended Load Impedance	10 k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-90 dBu

Equivalent Input Noise Level (E.I.N.)	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Memory	10
Connectors	Input: 1 (DB-25 type, balanced, 8-channels), Output: 4 (DB-25 type, balanced, 32-channels each), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	70 W
Dimensions	482 (W) x 387 (D) x 133 (H) mm 19 (W) x 15-1/4 (D) x 5-1/4 (H) inches
Weight	9.4 kg, 20 lbs. 12 oz.

## SPECIFICATIONS S-4000R

Connector	Remote Connector: 1 (RS-232C, DB-9 type)
Power Supply	Supplied from connected device. (S-4000S, S-4000H; through the remote cable)

Dimensions	215 (W) x 87 (D) x 55 (H) mm 8-1/2 (W) x 3-7/16 (D) x 2-3/16 (H) inches
Weight	0.8 kg, 1 lbs. 13 oz.

## SPECIFICATIONS S-4000S-MR

Connectors	REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)

Memory	10
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	130 W
Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches

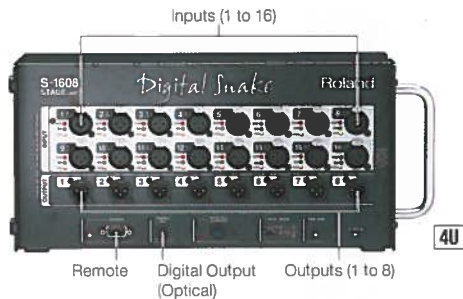


# S-1608 | Stage Unit S-0816 | FOH Unit

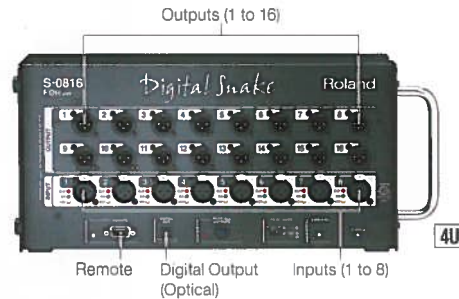
Compact and portable, 16x8 Digital Snake offers many flexible configurations for any installation

**REAC**

## ■ S-1608 Front Panel



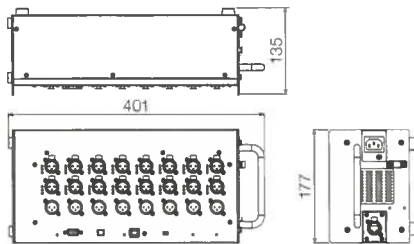
## ■ S-0816 Front Panel



- 16 x 8 Ch high quality 24-bit/96 kHz digital audio transmission via Cat5e cable
- Compact, floor-based or rack-mountable design
- REAC low latency digital audio transmission system

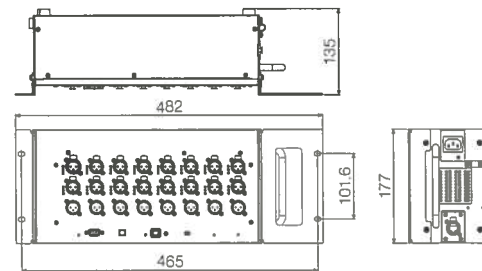
- Connect as I/O unit of V-Mixer for full digital mixing system
- Remote controllable preamps using an S-4000R or free downloadable RCS software for PC
- Easy and affordable splits and recording options

## ■ S-1608/S-0816 dimension



Unit: mm

## ■ S-1608/S-0816 with rack mount bracket dimension



Unit: mm

## SPECIFICATIONS S-1608/S-0816

Number of Channels	S-1608: 16 inputs/8 Outputs S-0816: 8 Inputs/16 Outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB @ +4 dBu, 20 Hz to 20 kHz
Total Harmonic Distortion + Noise	0.05 % or less (PAD: On, Input Gain: +4 dBu, 22 Hz to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB or less (Input Gain: +4 dBu, typ.)
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)
PAD	20 dB On/Off
Input Impedance	14 k-ohms
Nominal Output Level	+4 dBu (Max. +22 dBu)
Output Impedance	600-ohms
Recommended Load Impedance	10 k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-80 dBu or less
Equivalent Input Noise Level	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: approx 1.2 ms)

S-1608 Connectors	Input: 16 (XLR type, balanced, phantom power), Output: 8 (XLR type, balanced), Digital Output connector: 1 (Optical type), REAC Connector: 1 (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type)
S-0816 Connectors	Inputs: 8 (XLR type, balanced, phantom power), Outputs: 16 (XLR type, balanced), Digital Output connector: 1 (Optical type), REAC Connector: 1 (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type)
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	45 W
Phantom Power	+48 V (each input, remote controlled)
Dimensions	401.0 (W) x 135.0 (D) x 177.0 (H) mm 15-13/16 (W) x 5-3/8 (D) x 7 (H) inches
Weight	5.5 kg, 12 lbs. 3 oz. (Including rack mount bracket)

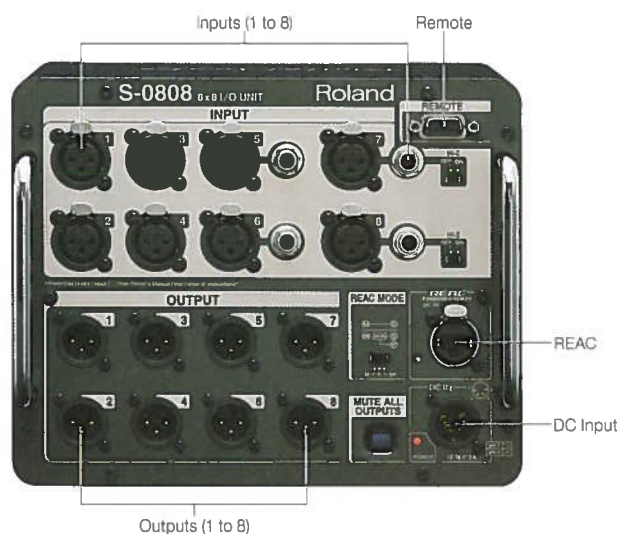
\* When a REAC Splitter S-4000-SP or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.

# S-0808

8 x 8 I/O Unit

Enjoy flexibility using external battery operation or power supplied over REAC

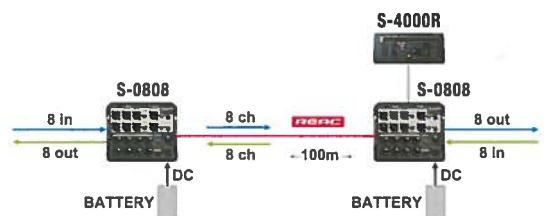
REAC



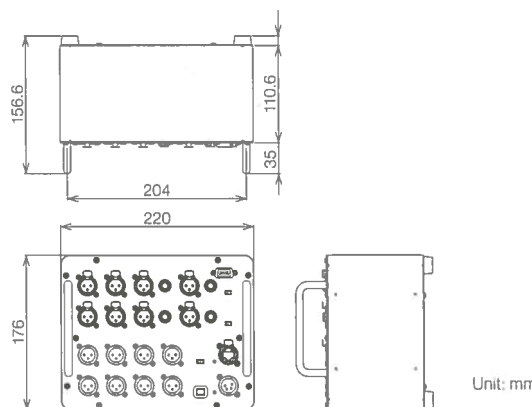
- Compact and light weight 8 input/8 output Digital Snake
- High quality, fully discreet preamp
- Eliminate the need for direct boxes by using the TRS or Hi-Z inputs

- Power options – REAC Embedded Power and External Battery enabling a variety of setups
- Preamp gain, PAD and Phantom Power can be controlled by S-4000R, S-4000RCS software and V-Mixer M-480/M-380

## Battery-Powered 8 x 8 Snake



An 8 input, 8 output simple digital snake system – ideal when AC power is not convenient or available.



## SPECIFICATIONS S-0808

Number of Channels	8 inputs/8 outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.04 % or less (PAD: On, Input Gain: +4 dBu, 22 Hz to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB or less (Input Gain: +4dBu, typ.)
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max.+28 dBu)
PAD	20 dB On/Off
Input Impedance	7 k-ohms
Nominal Output Level	+4 dBu (Max.+22 dBu)
Output Impedance	600-ohms
Recommended Load Impedance	10k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-80 dBu or less
Equivalent Input Noise Level	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: approx 1.2 ms)

### Connectors

Input 1 to 8 (XLR type, balanced, phantom power),  
Input 5 to 8 (TRS Phone type, balanced)  
Output 1 to 8 (XLR type, balanced),  
REAC Embedded Power x 1 (RJ-45 EtherCon type),  
Remote Connector x 1 (RS-232C, DB-9 type)  
DC Input x 1 (XLR 4-pin type, Supports DC 12 to 18 V)

### Power Supply

External Battery (DC 12 to 18 V) or REAC Embedded Power

### Power Consumption

26 W (DC 12 V)

### Phantom Power

+48 V/Max. 14mA (each input, remote controlled)

### Dimensions

220 (W) x 176 (D) x 156.6 (H) mm  
8-11/16 (W) x 6-15/16 (D) x 6-3/16 (H) inches

### Weight

2.9 kg, 6 lbs. 7 oz.

- \* TRS takes priority if XLR and TRS are simultaneously input to INPUT 5 to 8.
- \* TRS of INPUT 7/8 turns to unbalanced when Hi-Z is turn on.

- \* When a REAC Splitter S-4000-SP or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds

# S-MADI | REAC MADI Bridge

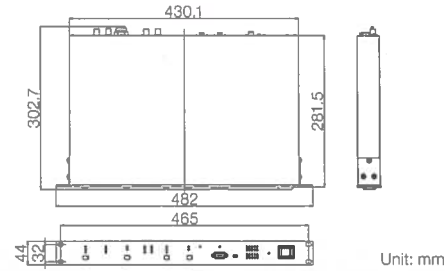
## Expand audio system possibilities with REAC and MADI



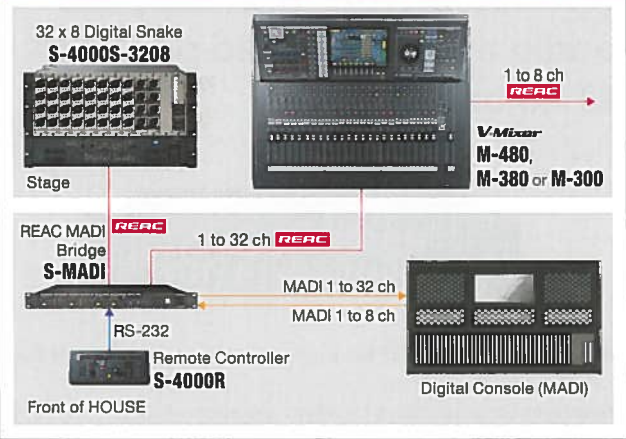
1U



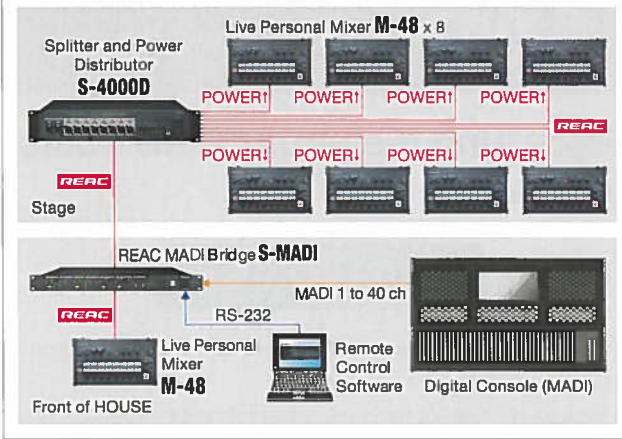
- Bi-directional format conversion between REAC and MADI
- BNC and Optical MADI ports
- Supports REAC Embedded Power and Split out for connecting and power additional devices (e.g., M-48 Personal Mixer, S-0808)
- Support for 44.1/48kHz
- Preamp and personal mixing control with S-4000RCS (Remote Control Software)
- Clock source can be selected from REAC, MADI or Word Clock



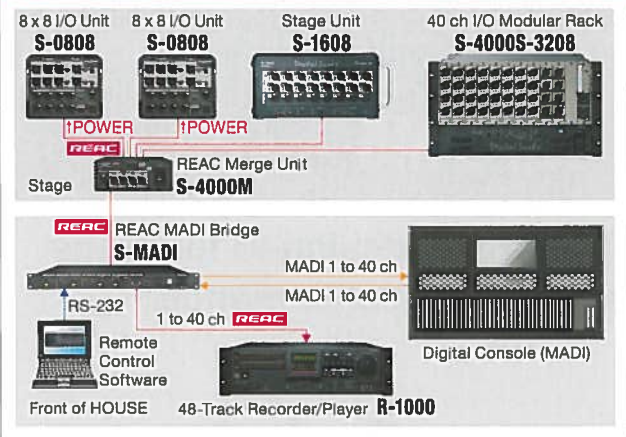
### Digital Snake with Monitor Position



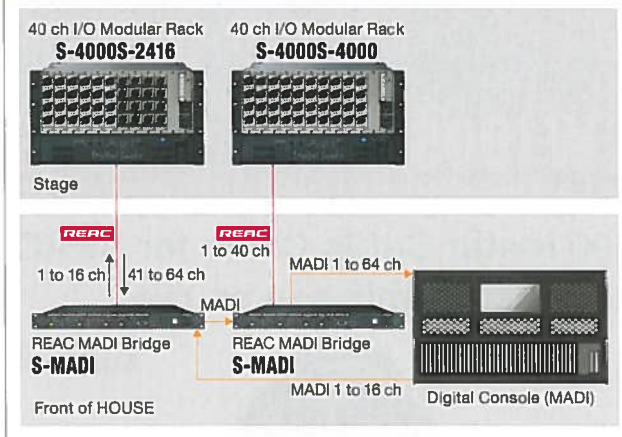
### Personal Mixing



### Digital Snake (Merge) and Recording



### Digital Snake - 64 x 16



### SPECIFICATIONS S-MADI

Sampling Frequency	48 kHz/44.1 kHz
MADI Channel Mode	64 Ch/56 Ch
Connectors	Front Panel: REMOTE (D-sub 9-pin type, RS-232C) Rear Panel: REAC MAIN (RJ-45 EtherCon type), REAC SPLIT OUT (REAC EMBEDDED POWER, RJ-45 EtherCon type), WORD CLOCK IN (BNC type), WORD CLOCK OUT (BNC type), Coaxial MADI IN (BNC type), Coaxial MADI OUT (BNC type), Optical MADI IN/OUT (SC duplex type)

Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Current Draw	0.7 A (REAC Embedded Power: Maximum)
Dimensions	482.0 (W) x 302.7 (D) x 44.0 (H) mm 19 (W) x 11-15/16 (D) x 1-3/4 (H) inches
Weight	3.5 kg/7 lbs 12 oz

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

DIGITAL SNAKES | Roland  
**S-4000M** | REAC Merge Unit

Enables distributed input/output possibilities by merging up to four REAC devices



REAC

- Merge up to 4 REAC devices into a single REAC stream
- Power REAC devices supporting embedded power
- Automatically assign input channels using the Auto Map function
- Patch input and output assignments using S-4000RCS software or the V-Mixer
- Configure and power up to four S-0808 Digital Snakes for a 16 input x 16 output system

DIGITAL SNAKES | Roland

**S-OPT** | REAC Optical Converter

Enjoy long distance REAC audio transfer



REAC

- Converts multi-channel REAC signal to a digital optical signal
- Up to 2 km distance transfer
- Rugged, Neutrik® OpticalCon connectors provide highest possible system reliability

\* Use Neutrik's Mobile Fiber Cable for optical single transfer.

DIGITAL SNAKES | Roland

**W100S-R** | REAC Cable

100 meter Cat5e Cable for REAC signal transmission on reel



REAC

- Crossover Ethernet cable with Neutrik® Ethercon connectors on both ends
- Compact and lightweight cable reel with SC-W100S cable pre-rolled

DIGITAL SNAKES | Roland  
**SC-W100S/SC-W20F** | REAC Cable

100/20 meter Cat5e Cable for REAC signal transmission



REAC

- Crossover Ethernet cable with Neutrik® Ethercon connectors on both ends

PERSONAL MIXERS | Roland

**S-4000D** | REAC Splitter and Power Distributor

A REAC Splitter that supplies audio and embedded power to M-48 or S-0808



2U

REAC

- Equipped with 10 REAC ports including 8 ports of REAC Embedded Power
- Automatic detection of a REAC products. Power is not supplied if the device is not compatible with REAC Embedded Power

PERSONAL MIXERS | Roland

**RH-PM5** | In-ear Monitors

Tuned and designed for stage and studio performance

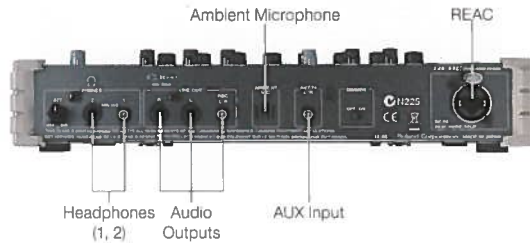


- High quality and detailed sound articulation for on-stage and studio monitoring
- Heavy duty aluminum construction to handle the rigors of stage usage
- 4 different types of ear adapters (S/M/L/XL) along with carrying case

# M-48

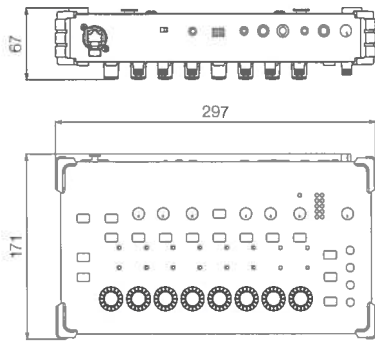
Live Personal Mixer

The “next generation” live personal mixer offers musicians the flexibility to control exactly what they want to listen to



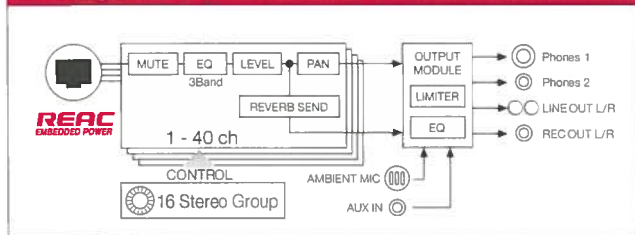
- Enables control of up to 40 audio channels via 16 stereo groups
- Provides the highest level of sound monitoring quality for both headphones and IEMs (In-ear Monitors) as well as for wedge and powered monitors
- Built-in ambient mic aids in communicating with other musicians as well as enabling a stage/room “presence”

- REAC Embedded Power transfers both power and 40 channels of audio to the M-48 via a single Cat5e/6 cable
- Volume, Pan, 3-band EQ and built-in Reverb per group – all instantly adjustable by convenient encoder knobs



Unit: mm

### Block Diagram



### M-48 Setup

- A complete Monitoring System with the V-Mixer  
The V-Mixer is equipped with all the remote management software, memory recall, providing a simple and flexible setup.

#### Setup Display



#### Source Assignment



- Connect to an existing Analog/Digital Console  
Connect M-48s to your existing console using a Digital Snake front-end or the S-MADI for MADI capable consoles.



Setup and manage the M-48 on PC using the S-4000RCS Remote Control Software when using with an existing console.

### SPECIFICATIONS M-48

Number of Input Channels	43 (40 in, STEREO AUX in, 1 AMBIENT MIC in)
Number of Output Channels	4 (STEREO LINE out, STEREO PHONES out)
AD/DA Conversion	24-bit/96.0 kHz, 48.0 kHz, 44.1 kHz
Nominal Input Level	AUX IN L/R: -16 dBu (at max volume)
Input Impedance	AUX IN L/R: 10 k-ohms
Non Clip Maximum Input level	AUX IN L/R: +2 dBu
Nominal Output Level	LINE OUT L/R: -6 dBu (LINE OUT Vol: Unity, Load impedance: 10 k-ohms), LINE OUT REC L/R: -12 dBu (LINE OUT Vol: Unity, Load impedance: 10 k-ohms)
Output Impedance	PHONES jacks (1, 2): 10 ohms LINE OUT L/R jacks: 600 ohms LINE OUT REC L/R jack: 1 k ohms
Recommended Load Impedance	PHONES jacks (1, 2): 16 ohms or greater (Composition impedance of 1 and 2), LINE OUT L/R jacks: 10 k-ohms or greater, LINE OUT REC L/R jack: 10 k-ohms or greater

Non Clip Maximum Output level	PHONES jacks (1, 2): 250 mW + 250 mW (1 or 2, 1 kHz, 40-ohms load), LINE OUT L/R jacks: +12 dBu (1 kHz, 10 k-ohms load), LINE OUT REC L/R jack: +6 dBu (1 kHz, 10 k-ohms load)
Connectors	REAC port: RJ-45 EtherCon type AUX IN L/R jack: Stereo miniature phone type LINE OUT L/R jacks: 1/4-inch TRS phone type LINE OUT REC L/R jack: Stereo miniature phone type PHONES jacks: Stereo miniature phone type and Stereo 1/4-inch phone type
Power Supply	REAC Embedded Power (S-4000D or S-4000M is needed for supplying power)
Power Consumption	13 W
Dimensions	297 (W) x 171 (D) x 67 (H) mm 11-3/4 (W) x 6-3/4 (D) x 2-11/16 (H) inches
Weight	1.5 kg, 3 lbs. 5

# R-1000

48-Track Recorder/Player

**Capture. Playback. Soundcheck. Rehearse.**  
Ideally suited for many configurations and applications

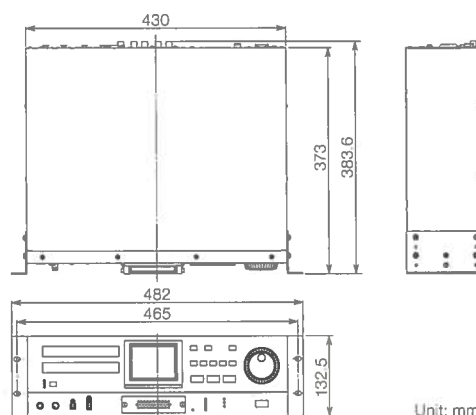
**REAC**

- Records up to 48 tracks of 24-bit audio in BWF (WAV format)
- Approximately 20 hours recording (44.1/48 kHz) using the removable 500GB HDD
- Removable HDD ensures smooth integration with any DAW such as SONAR
- Plays up to 48 tracks of 24-bit audio via REAC
- Easy and intuitive operation using Built-in LCD monitor, any V-Mixer or a PC/Mac with R-1000RCS software

## Option



**HDD-500G**  
HARD DISK DRIVE UNIT (500GB)  
Dedicated removable hard disk drive for 20 hours recording (44.1/48kHz)

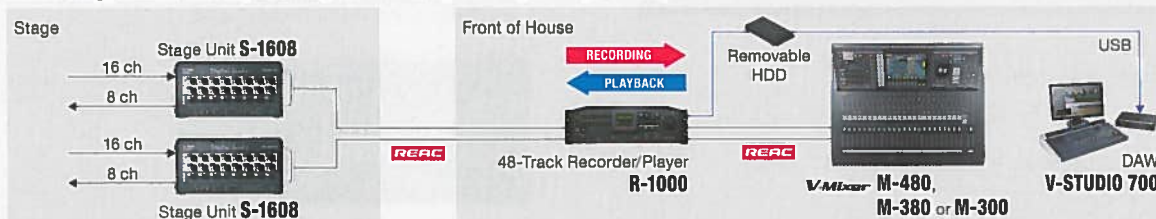


Unit: mm

## System Example

The R-1000 is a 48-channel multi-track recording and playback system for live concerts and productions. Utilizing the benefit of bi-directional audio with REAC, the R-1000 can be connected between the V-Mixer and the Digital Snake for recording, sound check, rehearsals and training exercises without the need to repatch.

## Recording, Sound Check, Backing Track &amp; Playback System (V-Mixer)



\* Recording and Playback can not be done simultaneously.

SPECIFICATIONS **R-1000**

Tracks	48 maximum (44.1/48.0 kHz), 24 maximum (96.0 kHz)
DA Conversion	Sample Rate: 44,1/48,0/96.0 kHz, Signal Processing: 24 bits
Data type	BWF (Broadcast Wave Format) Sample Rate: 44.1/48.0/96.0 kHz Bit Depth: 24 bits
Media	Removable hard disk
Connectors	USB connector (EXTERNAL STORAGE): USB type A (Support mass storage) USB connector (PC): USB type B (Support USB-MIDI) MONITOR OUT jacks (1, 2): XLR-3-32 type (Balanced) PHONES jack: Stereo 1/4 inch phone type REAC ports (A, B, C, D): RJ-45 EtherCon type RS-232C connector: 9-pin D-sub type MIDI connectors (IN, OUT/THRU): 5-pin DIN type GPI jack: 1/4-Inch phone type VIDEO SYNC (BLACK BURST) jacks (IN/THRU): BNC type WORD CLOCK jacks (IN/THRU): BNC type SMPT (LTC) IN jack: BNC type Grounding terminal AC INPUT connector * XLR type: 1 GND, 2 HOT, 3: COLD

## Recording Time

24 bit/44.1 kHz/48 Tracks: 500 GB/1300 min  
24 bit/48.0 kHz/48 Tracks: 500 GB/1200 min  
24 bit/96.0 kHz/24 Tracks: 500 GB/1200 min  
\* These recording times are approximate. Your actual results may vary somewhat.  
\* If multiple projects and songs exists, the total recordable time will be less than these.

## Display

320 x 240 dots backlight TFT color touch screen

## Power Supply

AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)

## Dimensions

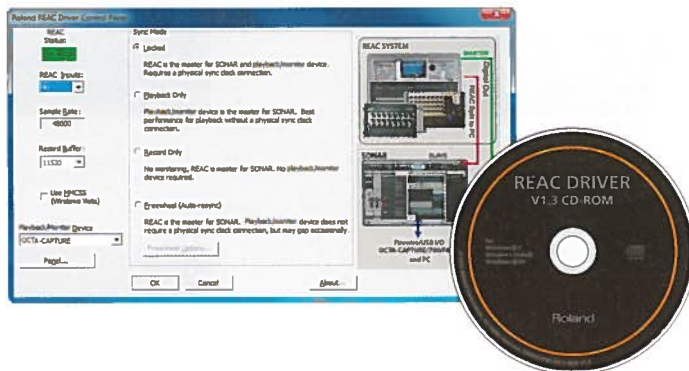
482.0 (W) x 383.6 (D) x 132.5 (H) mm  
19 (W) x 15-1/8 (D) x 5-1/4 (H) inches

## Weight

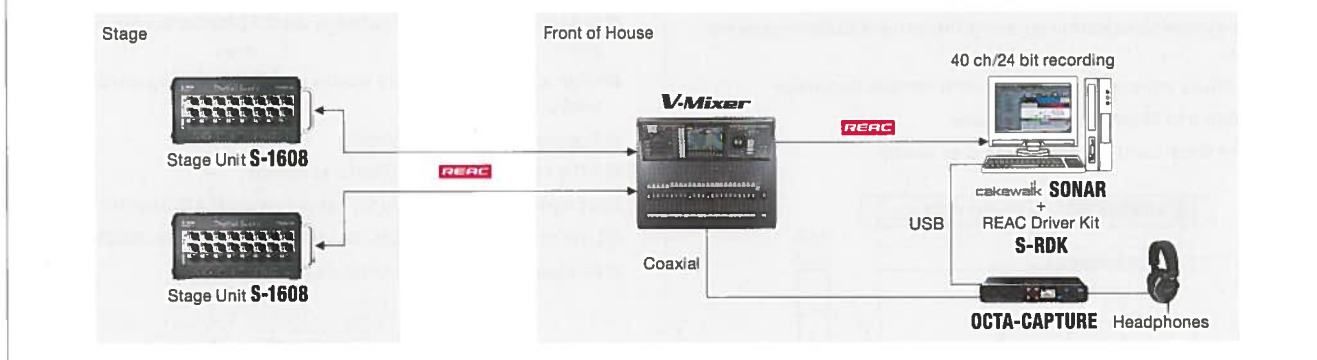
7.3 kg, 16 lbs 2 oz.

# S-RDK | REAC Driver Kit

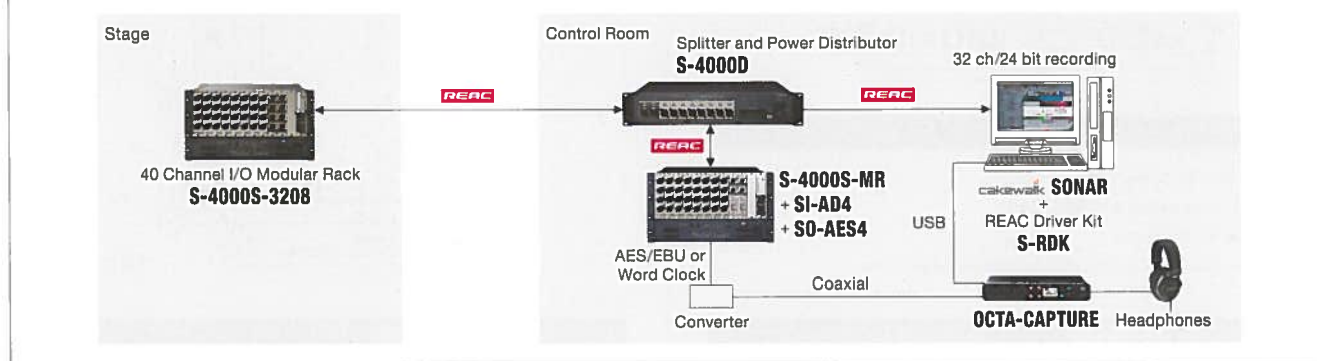
The REAC Driver Kit enables recording of 40 simultaneous audio tracks into SONAR X1 Producer software via one Cat5e/6 cable from a REAC System to a PC Ethernet Port



### System Example with V-Mixing System



### System Example with Digital Snake



### SYSTEM REQUIREMENTS S-RDK

<b>PC</b>	
<b>Operating System</b>	Windows® XP SP3 (32 bit) Windows Vista® SP2 (32 bit or 64 bit) Windows® 7 SP1 (32 bit or 64 Bit)
<b>Processor Speed</b>	Intel Core2Quad 2.4 GHz or higher
<b>RAM</b>	4 GB or more
<b>Ethernet Port Speed</b>	Gigabit Ethernet/CAT5e only
<b>Graphics</b>	1280 x 800, 16-bit color or higher Recommended: 1920 x 1080, 24-bit color or higher
<b>Audio Hard Disk Type</b>	RAID 0 with (2) SATA drives
<b>Media Drive</b>	DVD-ROM, DVD+/-R or DVD+/-RW
<b>OTHERS</b>	
<b>Monitoring Device *1</b>	Roland OCTA-CAPTURE Cakewalk FA-66 Cakewalk VS-700R

<b>Other Hardware *2</b>	Roland Digital Snake or V-Mixing System Roland CAT5e cables (supplied with Digital Snakes) Gigabit Ethernet switch (optional)
<b>SONAR Version *3</b>	SONAR X1 Producer, SONAR X1 Producer Expanded
<b>Other Software</b>	Adobe Reader

SONAR REAC Recording System requirements are based on the system requirements for SONAR X1 Producer.

There are a number of other variables that may affect performance, including differences in hardware design, system configuration and overall combination of software applications that are installed.

\*1: REAC Driver version 1.3.1 provides legacy support for Edirol FA-66 and Cakewalk SPS-66 hardware units.

\*2: System components will vary depending on your V-Mixing System configuration.

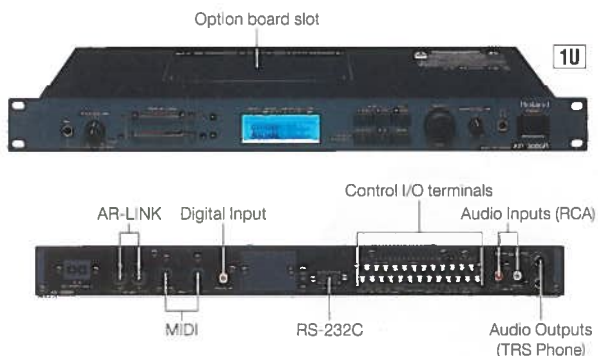
\*3: REAC Driver version 1.3.1 does not provide legacy support for SONAR 7 Producer and SONAR 8 Producer.

DIGITAL CONSOLES | DIGITAL SNAKES | PERSONAL MIXERS | MULTI-CHANNEL RECORDERS | AUDIO RECORDERS | VIDEO MIXERS/SWITCHERS | VIDEO CONVERTERS | VIDEO PLAYERS | APPLICATIONS

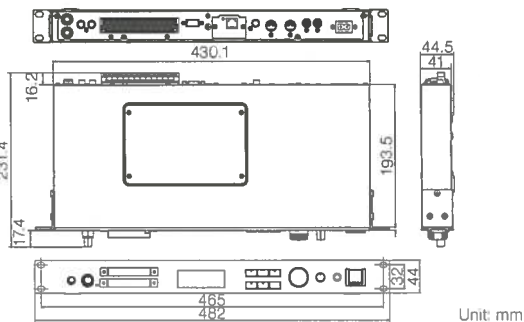
# AR-3000R

 Audio Recorder

The highest sound quality and most flexible control options on the market



- Industry standard for reliable audio playback with no moving parts
- High quality/long time audio playback and recording using RDAC technology
- Supports WAV file playback/recording
- Flexible system integration by using the various built-in external controls
- Link multiple units (up to 32 units) with sample accuracy
- Recording and Playback of MIDI data
- Compact flash card is used as storage media



### Option

- ARC-15** AR-LINK Cable (1.5m)
  - AR-NT1R** Network Option for AR-3000R
  - ARE-3000** AR Card Editor \*
- \* Free download available from [www.roland-systems-group.net](http://www.roland-systems-group.net)

### SPECIFICATIONS AR-3000R

<b>Recording Format</b>	RDAC (Roland Digital Audio Coding) , WAV
<b>Recording Media</b>	Compact Flash Memory Card up to 2GB x 2
<b>RDAC Mode</b>	WAV, H-LINEAR, LINEAR, MODE3, MODE2, MODE1
<b>Phrase Type</b>	Stereo, Mono (Audio) or SMF (MIDI)
<b>Number of Phrases</b>	Up to 2,000 phrases
<b>Audio Input</b>	Mic Input : -40dBu/2k ohms/balanced Line Input : 0dBu/20k (stereo) or 10k (mono) ohms/unbalanced
<b>Audio Output</b>	Line output : +4dBu/500 ohms/balanced Mono output : +4dBu/500 ohms/unbalanced Phone : 90+90mW Max (30 ohms or more)
<b>S/N Ratio</b>	90dB
<b>Interfaces</b>	RS-232C, MIDI, AR-LINK
<b>Power Supply</b>	AC 117V, 230V, 240V (50/60Hz)
<b>Power Consumption</b>	11W (117V), 12W (230/240V)
<b>Dimensions</b>	482.0 (W) x 231.4 (D) x 44.0 (H) mm 19 (W) x 9-1/8 (D) x 1-3/4 (H) inches
<b>Weight</b>	2.7 kg 6 lbs

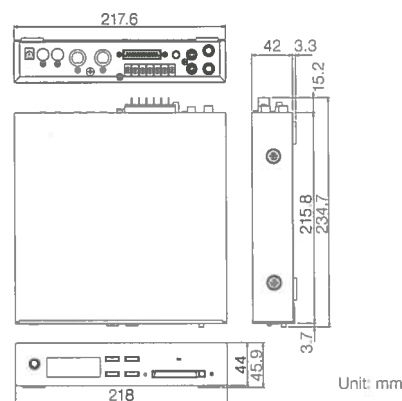
# AR-200R

 Audio Recorder

Industry standard sound quality in a compact size



- Industry standard for reliable audio playback with no moving parts
- High quality/long time audio playback and recording using RDAC technology
- Supports WAV file playback
- DC 9 to 24V is also available as power
- Complete compatibility for playback with AR-3000R card setup
- Link multiple units (up to 32 units) using the AR-3000R
- Compact flash card is used as storage media



### SPECIFICATIONS AR-200R

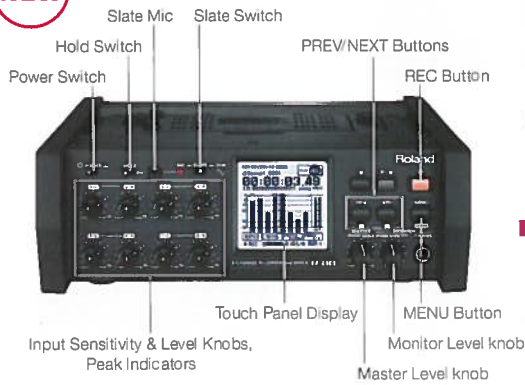
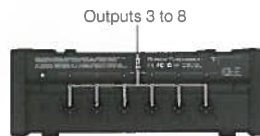
<b>Recording Format</b>	RDAC (Roland Digital Audio Coding)
<b>Recording Media</b>	Compact Flash Memory Card up to 2GB
<b>RDAC Mode</b>	WAV *, H-LINEAR *, LINEAR, MODE3, MODE2, MODE1 *Playback only
<b>Phrase Type</b>	Stereo, Mono (Audio) or SMF (MIDI)
<b>Number of Phrases</b>	Up to 1,000 phrases * *When saved on AR-3000R
<b>Audio Input</b>	0dBu/10k ohms/unbalanced
<b>Audio Output</b>	Line output : +4dBu/-10dBV/600 ohms/balanced Phone : 1+1 mW Max (30 ohms or more)
<b>S/N Ratio</b>	84 dB
<b>Power Supply</b>	AC Adaptor or DC9 -24V
<b>Current Draw</b>	1000mA (AC Adaptor) or 1200mA (External DC Power)
<b>Options</b>	Rack Mount bracket (RAD-50) AC Adaptor (ACI/PSB series)
<b>Dimensions</b>	218.0 (W) x 234.7 (D) x 44.0 (H) mm 8-5/8 (W) x 9-1/4 (D) x 1-3/4 (H) inches
<b>Weight</b>	1.4 kg 3 lbs. 2 oz



**R-88**

8-Channel Recorder and Mixer

## Seamless integration of recording, mixing and an audio interface - a new dimension in professional portable recording

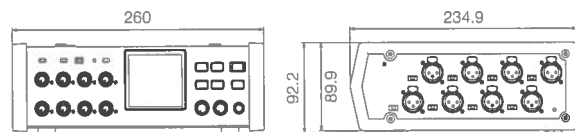
**NEW****Right Side Panel****Left Side Panel****Rear Panel**

- Simultaneous recording of 8 channels + stereo mix (up to 96kHz)
- Up to 24 bit/192 kHz uncompressed linear PCM recording (up to 4 channels)
- 8 XLR inputs, 8 XLR outputs, AES/EBU input/output
- Built-in 8 channel mixer with 3-band EQ and MS microphone decoder
- Built-in 10 in/8 out USB audio interface to use with any common DAW (up to 96 kHz)

- Touch Panel Display for intuitive navigation
- SMPTE time code In/out for video sync
- BWF and iXML embedded metadata (SCENE, TAKE, TIME CODE RATE)
- Option Carrying Bag - CB-R88

	Recording Time using 32GB SDHC memory card										Unit: hours
	16 bits/ 44.1 kHz	24 bits/ 44.1 kHz	16 bits/ 48 kHz	24 bits/ 48 kHz	16 bits/ 88.2 kHz	24 bits/ 88.2 kHz	16 bits/ 96 kHz	24 bits/ 96 kHz	16 bits/ 192 kHz	24 bits/ 192 kHz	
1ch	100	67	92	61	50	33	46	30	23	15	
2ch	50	33	46	30	25	16	23	15	11	7.7	
4ch	25	16	23	15	12	8.4	11	7.7	5.7	3.8	
8ch	12	8.4	11	7.7	6.3	4.2	5.7	3.8	—	—	
10ch	10	6.7	9.2	6.1	5	3.3	4.6	3	—	—	

\* These recording times are approximate. Actual results may vary somewhat.  
\* If more than one recorded file exists, the total recordable time will be less.

**SPECIFICATIONS R-88**

<b>Recorder Part</b>	
<b>Channels</b>	8 channels + 2 channels (stereo mix from built-in mixer) (Sampling Frequency 44.1, 48, 88.2 and 96 kHz), 4 channels (Sampling Frequency 192 kHz)
<b>Data Type</b>	Format: BWF (mono, stereo) Sampling Frequency: 44.1, 48, 88.2, 96, 192 kHz Bit Depth: 16, 24 bits Meta Data: Origination Time, Frame Rate, etc.
<b>Recording Media</b>	SDHC Memory Card: 4 to 32 GB, SD Memory Card: 2 GB
<b>Pre-Recording</b>	OFF, 1, 2, 3, 4, 5 second(s)
<b>Mixer Part</b>	
<b>Mixing Channels</b>	Input: 8 channels, Output: 2 channels (stereo)
<b>Channel Strip</b>	3-band equalizer, Fader, Pan, MS microphone decoder
<b>Master</b>	Fader, Limiter
<b>Audio Input Part</b>	
<b>Signal Processing</b>	AD Conversion: 24 bits
<b>AD Dynamic Range</b>	120 dB or greater ([SENS] knob = +4 dBu)
<b>Channel Effects</b>	Limiter, Low Cut, MS microphone decoder
<b>IN 1 to 8 jacks (Analog Inputs)</b>	XLR type (Phantom powered) Nominal Input Level (chooses with [SENS] knob): -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu ([LEVEL] KNOB MODE = INPUT; Changes with the [LEVEL] knob positions in the range of -infinity to +8 dB.) Maximum Input Level: +26 dBu Input Impedance: Mic Input ([SENS] knob = -56 to -20 dBu): 3.4 k-ohms, Line Input ([SENS] knob = -14 to +4 dBu): 5.6 k-ohms * When sampling frequency is 192 kHz, IN 5 to 8 jacks are inactive.
<b>DIGITAL IN jack</b>	XLR type (AES/EBU, conforms to IEC 60958-4) * When using Digital Input, IN 1 to 2 jacks are inactive.

<b>Phantom Power</b>	48 +/-4 V, 10 mA per 1 channel (8 channels of phantom power available simultaneously)
<b>Audio Output Part</b>	
<b>Signal Processing</b>	DA Conversion: 24 bits
<b>OUT 1 to 2 jacks (Analog Outputs)</b>	XLR type Output Buses: Channel 1 to 2, Channel 3 to 4, Channel 5 to 6, Channel 7 to 8, Stereo mix from built-in mixer Output Level: +4 dBu/-60 dBu Maximum Output Level: +24 dBu Output Impedance: 600 ohms
<b>OUT 3 to 8 jacks (Analog Outputs)</b>	XLR type Output Buses: Channel 1 to 2, Channel 3 to 4, Channel 5 to 6, Channel 7 to 8, Stereo mix from built-in mixer Output Level: +4 dBu Maximum Output Level: +24 dBu Output Impedance: 600 ohms * When sampling frequency is 192 kHz, OUT 5 to 8 jacks are inactive.
<b>MIX OUT jack (Analog Outputs)</b>	Stereo miniature phone type Output Buses: Stereo mix from built-in mixer Maximum Output Level: 2 Vrms/-30 dBu Output Impedance: 1 k-ohm
<b>DIGITAL OUT jack</b>	XLR type (AES/EBU, conforms to IEC 60958-4) Output Buses: Stereo mix from built-in mixer
<b>Others</b>	
<b>Dimensions</b>	260 (W) x 235 (D) x 93 (H) mm 10-1/4 (W) x 9-1/4 (D) x 3-11/16 (H) inches
<b>Weight (including batteries)</b>	2.7 kg 6 lbs

(0dBu=0.775Vrms)

DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/SWITCHERS

VIDEO CONVERTERS

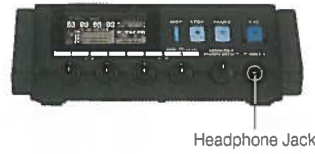
VIDEO PLAYERS

APPLICATIONS

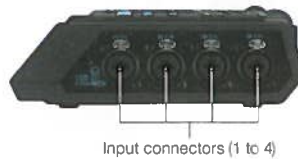
## A compact, solid-state, four channel portable audio recorder



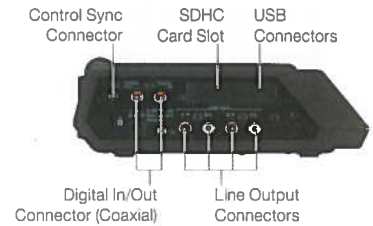
### Front Panel



### Right Side Panel



### Left Side Panel



- Up to 24-bit 192 kHz uncompressed linear PCM recording (2 channels)
- SD or SDHC card as the recording media for quiet and reliable field recording
- Built-in limiter, low-cut filter, and studio class effects
- Pre-recording function
- Synchronized operation of 2 units enables up to 8 channels of recording

- Built-in stereo microphones and monitor speakers
- High-contrast Organic LED display
- Three types of power options: AC adaptor, external battery, or standard AA batteries
  - \* Four hours of operation is possible with NiMH.
  - \* 44.1 kHz/16-bit/Stereo Recording, alkaline batteries, Phantom power: OFF.

### Recording Time using 8 GB SDHC card (Unit: minute)

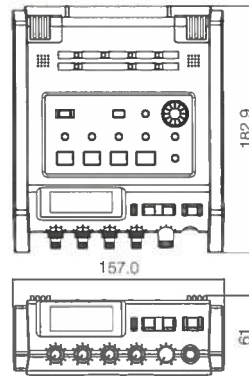
#### ● Stereo Recording

Sampling Rate	Sampling Frequency			
	44.1 kHz	48 kHz	96 kHz	192 kHz
16-bit	755	694	347	173
24-bit	503	462	231	115

#### ● 4 channel Recording

Sampling Rate	Sampling Frequency			
	44.1 kHz	48 kHz	96 kHz	192 kHz
16-bit	377	347	173	—
24-bit	251	231	115	—

\* Recording times are approximate. Actual results may vary.  
 \* If more than one recorded file exists, the total recordable time will be less than listed.



Unit: mm

### Option

**CB-R44**  
 Carrying Bag  
 Easy cable connection and media exchange.

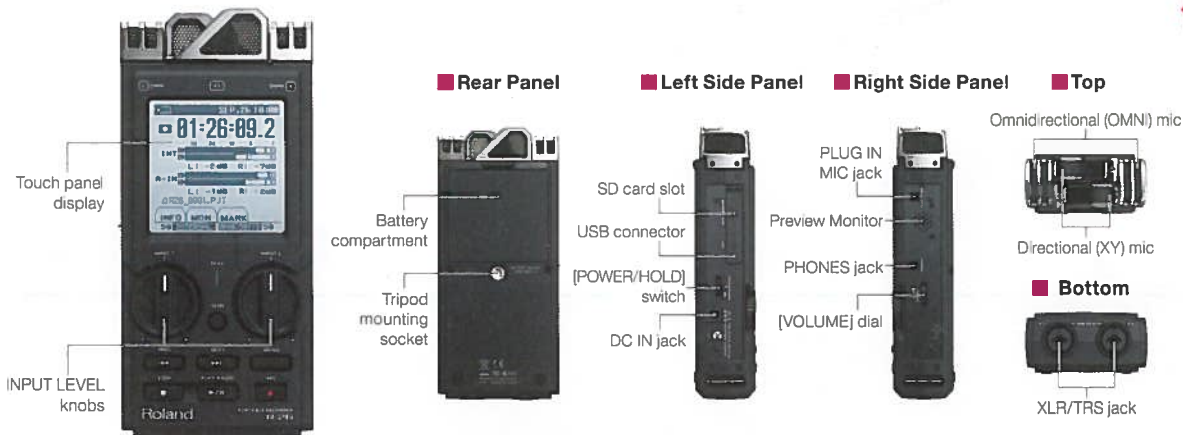
### SPECIFICATIONS R-44

<b>Channels</b>	4	<b>Noise Level</b>	Line Output: -100 dBu (Input Sens: +4 dBu, Input Level: Center)
<b>Signal Processing</b>	Sampling Bit Rate: 16/24-bit Sampling Frequency: 44.1 kHz/48 kHz/88.2 kHz/96 kHz/192 kHz (Limited to Stereo x 1 at 192 kHz) * 16 or 24-bit sampling rate can be selected with any frequency	<b>Residual Noise Level</b>	Line Output: -103 dBu (Input Sens: +4 dBu, Input Level: Minimum)
<b>Data Type</b>	WAV/BWF	<b>Frequency Response</b>	20 Hz to 40 kHz (0/-3 dB) Dynamic Range AD: 100 dB, DA: 104 dB
<b>Recording Media</b>	SDHC memory card (compatible with 64 MB to 32 GB)	<b>Phantom Power</b>	48 V + or -4 V, 8 mA per 1 channel (20 mA or less in all channels)
<b>Analog Input</b>	Ch1 to 4: XLR/TRS Combo type, XLR type (phantom powered), TRS type (balanced/unbalanced), Stereo Built-in Microphones	<b>USB Port</b>	Mini-B Type Connector * USB 1.1 or 2.0 High Speed (Mass Storage Class)
<b>Analog Output</b>	Ch1 to 4: RCA Pin type (line output) Headphone: Stereo Phone type (1/4 inch)	<b>Control Sync</b>	Jack Stereo Mini Type Jack, Word clock sync and start/stop remote control of 2 units * Remote control function does not guarantee the exact same REC start time
<b>Digital In/Out</b>	RCA Pin type (IEC 60958-3)	<b>Display</b>	128 x 64 dot organic LED
<b>Input Impedance</b>	XLR: 4 k-ohms or greater (balanced) TRS: 6 k-ohms or greater (balanced)	<b>Power Supply</b>	AC adaptor (PSB-1U), AA type battery x 4 (Alkaline or NiMH)
<b>Nominal Input Level (Input Level Knob: Center)</b>	11 steps: -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu (input sense knob: -Inf. to +8 dB)	<b>Current Draw</b>	1.2 A
<b>Maximum Input</b>	+24 dBu (Input Sens Knob: +4 dBu)	<b>Dimensions</b>	157 (W) x 183 (D) x 61 (H) mm, 6-3/16 (W) x 7-1/4 (D) x 2-7/16 (H) inches
<b>Recommended Load Impedance</b>	Line: 4 k-ohms or greater, Headphone: 16-ohms or greater	<b>Weight</b>	1.3 kg, 2 lbs 14 oz (including batteries)
<b>Output Level</b>	Line Output: -20 dBu (fixed), Headphone: 40 mW + 40 mW	<b>System Requirements</b>	Microsoft® Windows® Vista®/XP/2000, Mac OS X 10.2 or later
<b>Total Harmonic Distortion + Noise Line (THD+N)</b>	Output: 0.02 % (Input Sens: +4 dBu)		



# R-26 | Portable Recorder

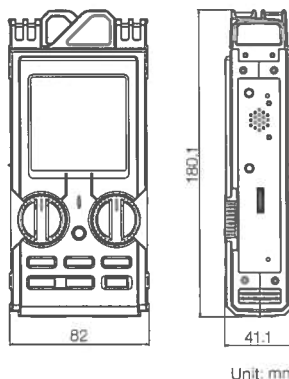
Up to six channels of simultaneous recording using two built-in stereo mics (XY and Omni) as well as two XLR/TRS inputs



- Two types of built-in stereo microphones (omnidirectional and directional) that can be used in various combinations
- Two XLR/TRS combo inputs with 48 V phantom power plus an input for a stereo plug-in powered mic
- Supports up to six channels (three stereo channels) of simultaneous recording
- Large LCD touchscreen display for intuitive navigation

- Large input-level knobs for fine adjustment
- Built-in Hi-Speed USB interface for use as an audio interface or external storage
- Loop-Back function; combine this with the built-in or external mics for the optimum streaming setup (only with Audio Interface function)
- Bundled with SONAR LE software (PC)

Recording Time (Unit: hour)		Memory Size		
Data Format		2 GB	8 GB	32 GB
WAVE/BWF	16-bit, 44.1 kHz STEREO	3.0	12.2	48.9
	24-bit, 96.0 kHz STEREO	0.9	3.7	15.0
	16-bit, 44.1 kHz 4 CH	1.5	6.1	24.5
	24-bit, 96.0 kHz 4 CH	0.5	1.9	7.5
	16-bit, 44.1 kHz 6 CH	1.0	4.1	16.3
	24-bit, 96.0 kHz 6 CH	0.3	1.2	5.0
MP3	128 kbps	33	134	539
	320 kbps	13	53	215
WAVE/BWF + MP3	16-bit + 128 kbps 44.1 kHz	2.8	11.2	44.9
	16-bit + 128 kbps 48.0 kHz	2.5	10.4	41.5



**Option**

**OP-R26CW**  
Cover/Windscreen Set for R-26  
This custom-designed accessory set includes an easy-to-use cover, a strap, and a windscreen for outdoor recording with the R-26.

\* Each recording time is approximate. The times may change depending on the card specifications.  
\* In the case of plural files, the recording time will be shortened than the above.

## SPECIFICATIONS R-26

RECORDER PART	
<b>Tracks</b>	6 (3 stereo)
<b>Signal Processing</b>	AD/DA conversion: 24 bits, 96.0/88.2/48.0/44.1 kHz
<b>Data Type</b>	<For Recording> WAVE/BWF: Sampling Rate 96.0/88.2/48.0/44.1 kHz, Bit Depth 24/16 bits, MP3 (MPEG-1 Audio Layer 3): Sampling Rate 48.0/44.1 kHz, Bit Rates 320/160/128 kbps, WAVE + MP3: Sampling Rate 48.0/44.1 kHz, Bit Depth 16 bits, Bit Rates 128 kbps <For Playback> WAVE/BWF: Sampling Rate 96.0/88.2/48.0/44.1 kHz, Bit Depth 24/16 bits, MP3 (MPEG-1 Audio Layer 3): Sampling Rate 48.0/44.1 kHz, Bit Rates 32 - 320 kbps or VBR (Variable Bit Rate)
<b>Memory Card</b>	SD Card (SDHC format compatible)
INPUT/OUTPUT	
<b>Audio Inputs</b>	Internal Stereo Microphone: Omnidirectional (OMNI) mic, Directional (XY) mic, Analog Input 1/L, 2/R (XLR/TRS Combo type): XLR type (phantom powered), 1/4-inch TRS phone type (balanced/unbalanced), Plug-in powered mic Input: Stereo miniature phone type
<b>Audio Output</b>	Phones (Stereo miniature phone type)
<b>Nominal Input Level (Variable)</b>	Analog Input 1/L, 2/R: +4/-2/-8/-14/-20/-26/-32/-38/-44/-50/-56/-62 dBu
<b>* Input Level Knob: Center</b>	Plug-in powered mic Input: LOW -7.5 dBu, MID -21 dBu, HIGH 26 dBu

<b>Input Impedance</b>	Analog Input 1/L, 2/R: 5 k ohms, Plug-in powered mic Input: MID/HIGH 3 k ohms, LOW 2 k ohms
<b>Maximum Input</b>	Analog Input 1/L, 2/R: +24 dBu (SENS = +4 dBu) Plug-in powered mic Input: +4 dBu (SENS = LOW)
<b>Output Level</b>	35 mW + 35 mW (In case 16 ohms load)
<b>Recommended Load Impedance</b>	16 ohms or greater
<b>Frequency Response</b>	20 Hz - 40 kHz
<b>Phantom Power</b>	48 V ± 4 V, 10 mA or less in all channels
<b>USB Interface</b>	Mini-B type connector, USB mass storage device class, USB audio (Hi-Speed USB)

OTHERS	
<b>Power Supply</b>	AC adaptor, Alkaline dry battery LR6 (AA) type x 4, Rechargeable Ni-MH battery (AA, HR6) X 4
<b>Current Draw</b>	500 mA
<b>Dimensions</b>	82.0 (W) x 180.1 (D) x 41.1 (H) mm 3-1/4 (W) x 7-1/8 (D) x 1-5/8 (H) inches
<b>Weight</b>	0.37 kg, 14 oz (excluding batteries)

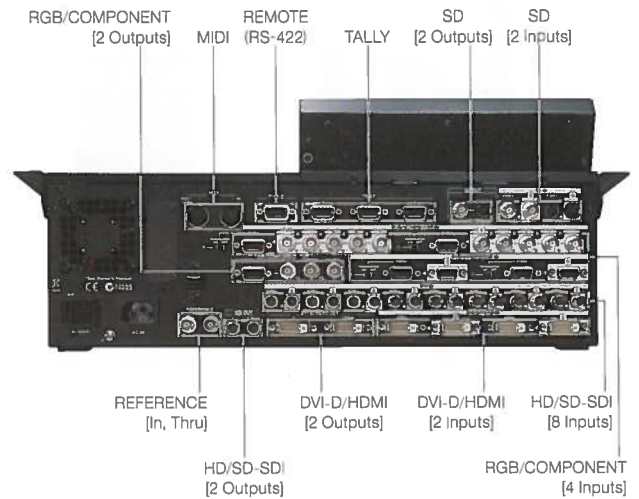
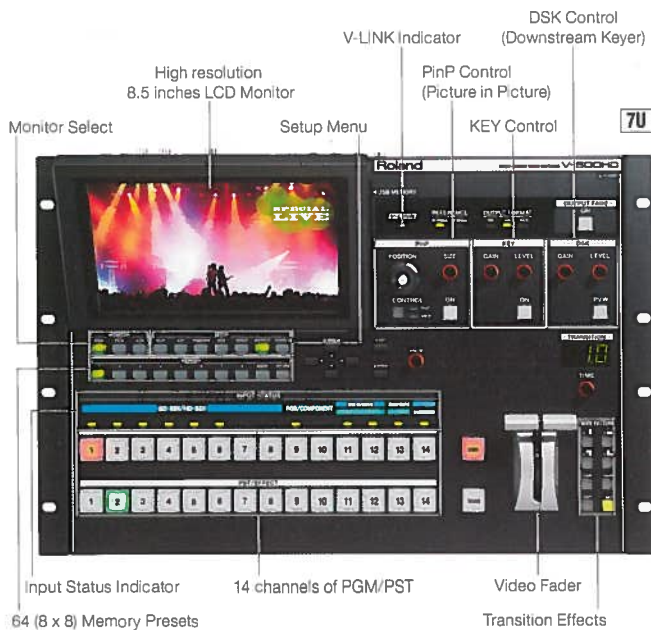
(0dBu=0.775Vrms)

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# V-1600HD | Multi-Format Video Switcher



## An all-in-one multi-format live video switcher

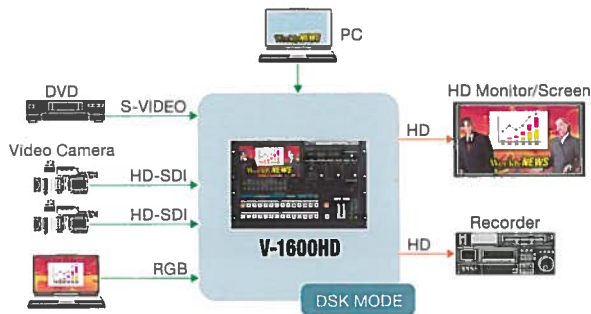


- All-in-one 14 channel (16 Input) seamless switcher/mixer
- Ready to connect anything: SDI, DVI/HDMI, RGB, Component, S-Video, Composite
- Built-in high-res preview monitor, frame synchronizer and scalers
- Independent multi-format outputs including edge-blending

- Downstream Keyer, Composite Keyer and Picture-in-Picture
- SPAN, DUAL and SPLIT modes offer a variety of output configurations
- Use one camera to create multiple perspectives for virtual multi-camera production

### DSK Mode

Text/Graphics from a PC/Mac can be composited on background video content.



\* In DSK mode, outputs are same format.

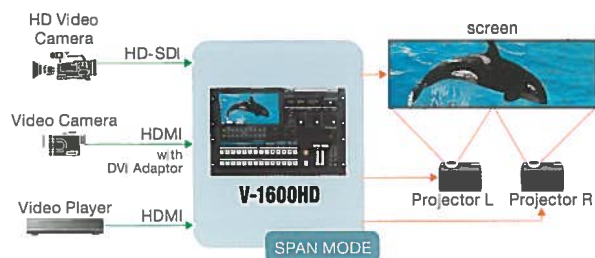
### AUX Mode

Two different video formats can be output simultaneously.



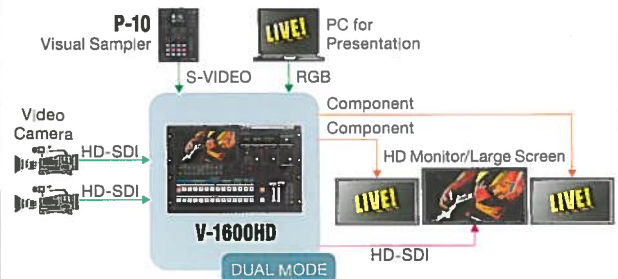
### SPAN Mode \*1

Displays a single image across two screens. Built-in Edge Blending enables seamless image across a wide screen.



### DUAL Mode \*1

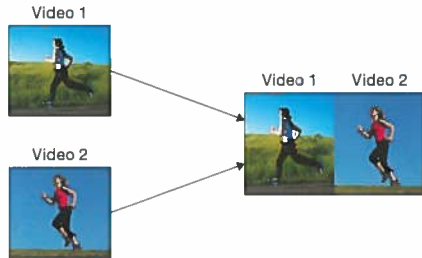
Using the DUAL Mode, two video inputs can be switched individually. Switching both inputs at same time is also possible. Preview monitoring of each output enables confident operation.



\*1: In SPAN/DUAL/SPLIT Mode, PinP, Key, DSK, External Control are not available. Transition effects cannot be applied. When [CUT] is selected, a black screen is inserted momentarily at the time of transition. When [MIX] is selected, a black screen is inserted and a fade-in or fade-out occurs.

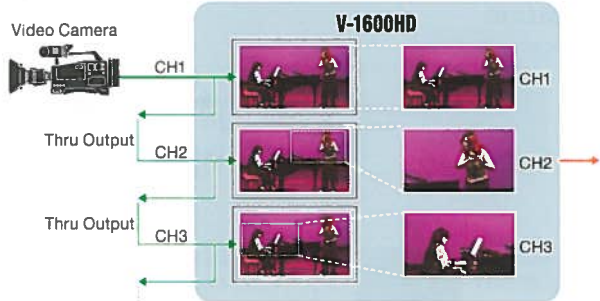
SPLIT Mode

Using SPLIT Mode, two video inputs can be displayed on one display. This is useful for comparing two videos on a single screen.



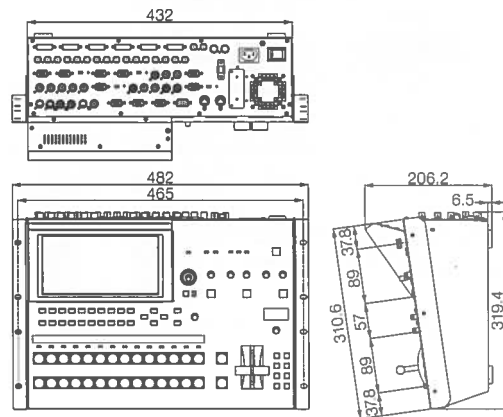
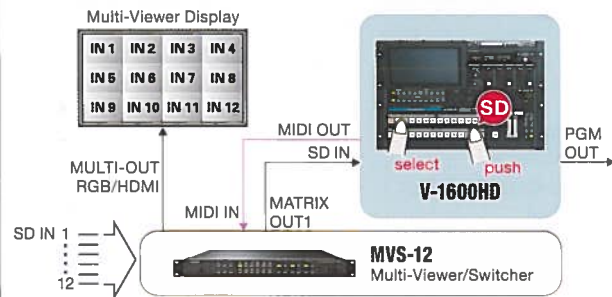
Multi-Zoom

Using the thru out connectors, one video input can be daisy-chained to multiple inputs. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras.



Expansion of SD Inputs

The Matrix Switcher function enables the V-1600HD mixer to access additional SD inputs. By connecting a MIDI cable and using the V-LINK function, the V-1600HD can directly select any video source from the MVS-12.



Unit: mm

SPECIFICATIONS V-1600HD

<b>Video Processing</b>	
<b>Processing</b>	4:2:2 (Y:Pb:Pr), 10 bit
<b>Supported Formats</b>	SD : 480/59.94i, 576/50i, 480/59.94p, 576/50p HD : 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p RGB : 640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz * Confirms to VESA DMT Ver. 1.0 Revision 10 * When PAL is selected, RGB refresh rate from 640 x 480 to 1280 x 1024 is 75Hz * Reduced blanking to be applied to 1920 x 1200 STILL : BMP
<b>Input/Output Level and Impedance</b>	
<b>Composite</b>	1.0 Vp-p, 75 ohms
<b>S-Video</b>	Luminance Signal : 1.0 Vp-p, 75 ohms Chrominance Signal : 0.286 Vp-p, 75 ohms (NTSC) , 0.3 Vp-p, 75 ohms (PAL)
<b>Analog HD/RGB</b>	0.7 Vp-p, 75 ohms (H, V : 5V TTL)
<b>Input Connectors</b> * Loop thru connectors are equipped for all inputs	
<b>Analog SD</b>	S-Video (4 pin mini DIN type) x 1, Composite (BNC type) x 1 * Select one from menu
<b>Analog HD (Component)</b>	Y/Pb/Pr (BNC type) x 2, D-Sub 15 pin type x 2 * Combined use with analog RGB
<b>Analog RGB</b>	R/G/B/H/V (BNC type) x 2, D-Sub 15 pin type x 2 * Combined use with analog HD (Component)
<b>DVI-D</b>	Single Link Type x 2
<b>HD/SD-SDI</b>	BNC type x 8 * Confirms to SMPTE 259M-C, SMPTE 292M
<b>Output Connectors</b>	
<b>Analog SD</b>	S-Video (4 pin mini DIN type) x 1, Composite (BNC type) x 1
<b>Analog HD (Component)</b>	Y/Pb/Pr (BNC type) x 1, D-Sub 15 pin type x 1 * D-Sub 15 pin type : combined use with analog RGB

<b>Analog RGB</b>	D-Sub 15 pin type x 1 * Combined use with analog HD (Component)
<b>DVI-D</b>	Single Link Type x 2
<b>HD/SD-SDI</b>	BNC type x 2 Conforms to SMPTE 259M-C, SMPTE 292M
<b>Other Connectors</b>	
<b>TALLY</b>	D-Sub 15 pin type x 3 (200 mA, Open Collector type)
<b>Remote</b>	MIDI (IN, OUT/THRU), RS-422 (D-Sub 9 pin type) x 1
<b>REFERENCE</b>	BNC type (IN, THRU) * Black Burst (Sync to frames), Bi-Level, Tri-Level Sync
<b>USB port (host)</b>	A type x 1 for USB memory
<b>Effects</b>	
<b>Transition</b>	Mix, FAM, NAM, Wipe (9 patterns)
<b>Composition</b>	PinP, Chroma Key, Luminance Key, Split, DSK
<b>Others</b>	Output Fade, Edge Blending, Multi Screen (Video Wall)
<b>Others</b>	
<b>Power Supply</b>	AC117 V, 220 V, 230 V, 240 V (50/60Hz)
<b>Power Consumption</b>	90 W
<b>Dimensions</b>	482 (W) x 319 (D) x 206 (H) mm 19 (W) x 12-5/8 (D) x 8-1/8 (H) inches
<b>Weight</b>	8.1 kg 17 lbs. 14 oz

\* This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

\* This product is intended for use in the following Electromagnetic environments: E1:residential, E2:commercial and light industrial, E3:urban outdoors, E4:controlled EMC environment, ex. recording studio (broadcasting studio) which are specified in EN55103-1 and EN55103-2.

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VIDEO PLAYERS  
APPLICATIONS

# V-800HD

Multi-Format Video Switcher

## Eight Multi-Format Channels with Independent Scalers A Variety of Output Formats including a Built-in Multiviewer

**NEW**

### SCALING

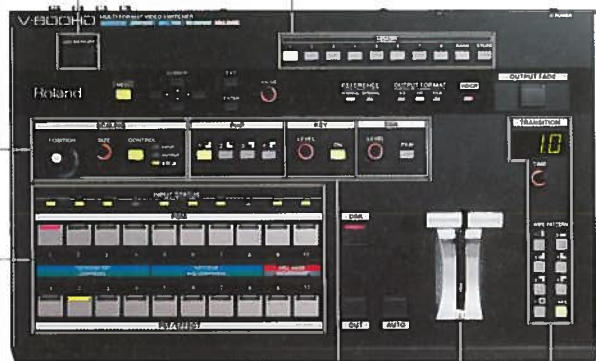
#### ●Scaling Sample



### USB MEMORY



64 (8 x 8) Memory Presets



10 channels of PGM/PST

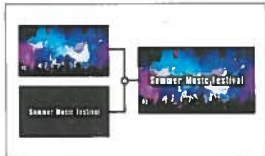
VIDEO FADER TRANSITION

### PinP/KEY/DSK (Down Stream Keyer)

#### ●PinP (Picture in Picture)



#### ●DSK (Downstream Keyer)



- 8 Input (4 SDI/Composite + 4 DVI-I/HDMI/RGB/Component), 6 Output (2 SDI + 2 DVI-D/HDMI + RGB/Component + Composite)
- 4:4:4/10-bit Internal Processing
- 1 M/E (Key, PinP) + DSK
- Built-in frame synchronizers and scalers on all inputs
- SDI support: 3G (Level A and B), HD, and SD
- DVI-D/RGB/HDMI support
- Input status LEDs
- HDCP support
- Live access to two still-image sources
- 10 assignable cross-points
- Multiviewer monitor output (Switch between Y/Cr/Cb and RGB modes)

3G bps  
1080/60p

MULTI-FORMAT

MIDI VISUAL CONTROL

V-LINK



DVI-I/HDMI Input  
Up to WUXGA, 1080p



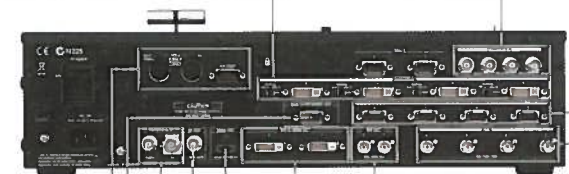
SDI Input  
Up to 1080p



COMPOSITE Input  
480i or 576i



RGB/COMPONENT Input  
Up to WUXGA, 1080p



RGB/COMPONENT Output  
Up to WUXGA, 1080p



SD Output  
480i or 576i



SDI Output  
Up to 1080p

MIDI/RS-232C Connectors

REFERENCE Connectors



DVI-D/HDMI Output  
Up to WUXGA, 1080p



Multiviewer Output  
1080/60p with HDCP

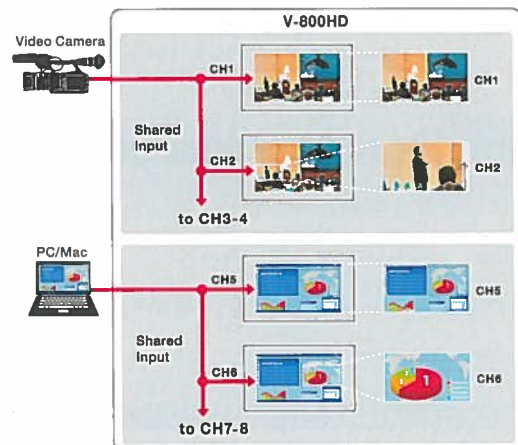
\* Use an HDMI monitor that supports HDCP and 60p signals.

\* SDI and composite inputs are displayed at the original source frame rate.

\* DVI-I/HDMI and RGB/Component inputs are displayed using a reduced frame rate.

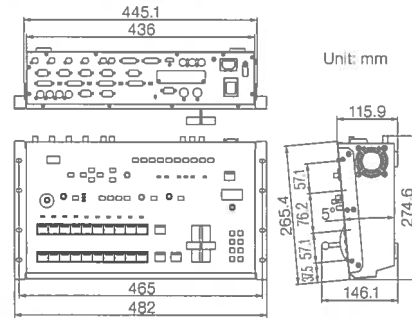
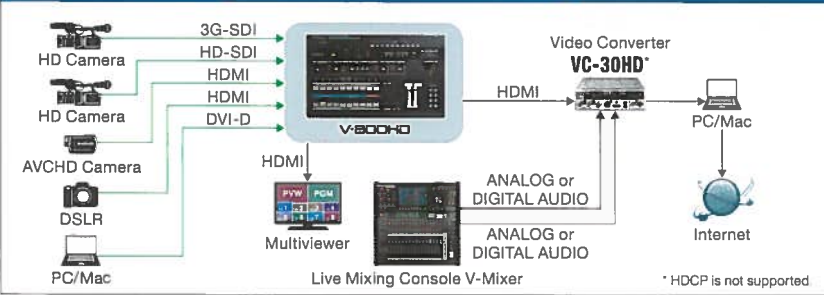
### Multi-Zoom

Using the shared input function, you can assign the video on channel 1 to channels 2 through 4 and the video on channel 5 to channels 6 through 8. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras connected.

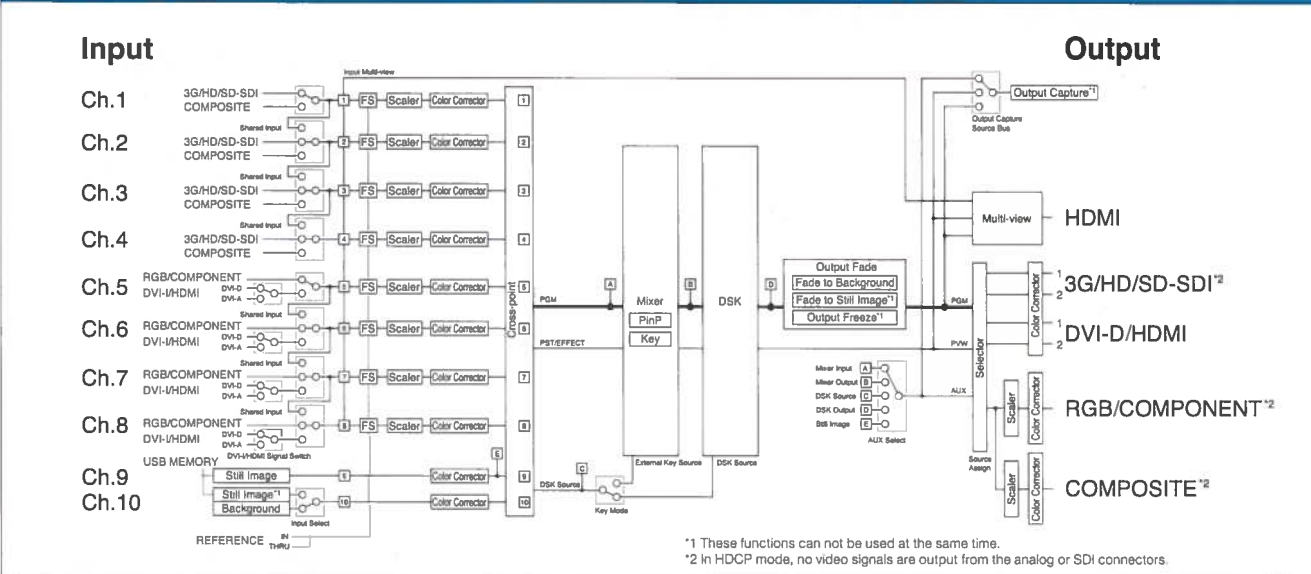


\* Only the source of the previous adjacent channel can be shared.

V-800HD with Live Mixing Console and Video Converter



Block Diagram



SPECIFICATIONS V-800HD

Video Processing

**Processing** 4:4:4 (Y/Pb/Pr, RGB), 10-bit

**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

\* The SDI input can input the same frame rate as a setup menu setting.

**PC:** 640 x 480/60 Hz\*1, 800 x 600/60 Hz\*1 \*3, 1024 x 768/60 Hz\*1, 1280 x 768/60 Hz\*1, 1280 x 1024/60 Hz\*1, 1366 x 768/60 Hz\*1, 1400 x 1050/60 Hz\*1, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz\*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 Image:** Windows® Bitmap File (.bmp)

\* Maximum 1900 x 1200 pixels, 24-bit per pixel, uncompressed

Input/Output Level and Impedance

**Composite** 1.0 Vp-p, 75 ohms

**Analog HD/RGB** 0.7 Vp-p, 75 ohms (H, V: 5 VTTL)

Input Connectors

**3G/HD/SD-SDI** BNC type x 4  
\* Conforms to SMPTE 424M (Level-A), 292M, 259M-C

**DVI-I/HDMI** DVI-I type x 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 channel

**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), 292M, 259M-C

**DVI-D/HDMI** DVI-D 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

**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): 12V, 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-232C** 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 Consumption** 75 W

**Power Supply** AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)

**Dimensions** 482 (W) x 274.6 (D) x 115.9 (H) mm  
19 (W) x 10-13/16 (D) x 4-9/16 (H) inches  
\* When rack mount brackets are attached.  
\* EIA-6U rack mount size.

**Weight** 5.5 kg  
12 lbs 3 oz

**Accessories** Power Cord, Rack Mount Angle (2), Input Template, Owne's Manual

\* This product is a Class A digital device under FCC part 15.

# V-440HD

Multi-format Video Mixer

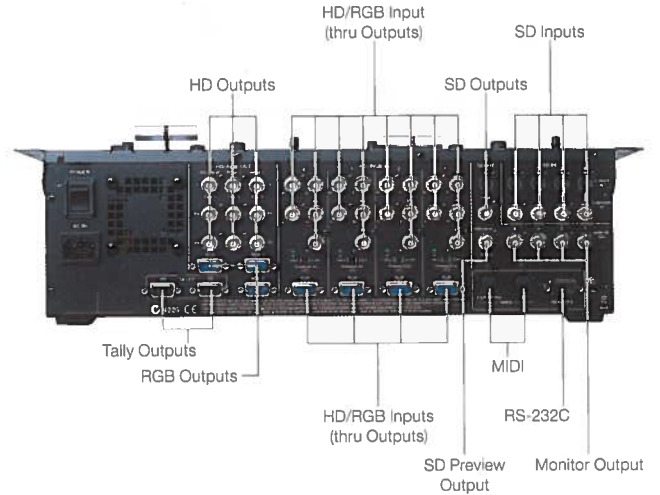
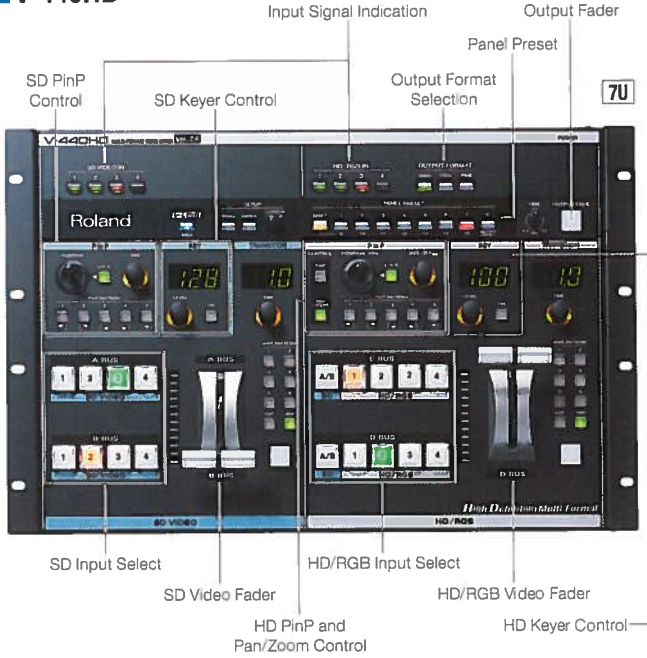
# V-44SW

Multi-format Video Switcher

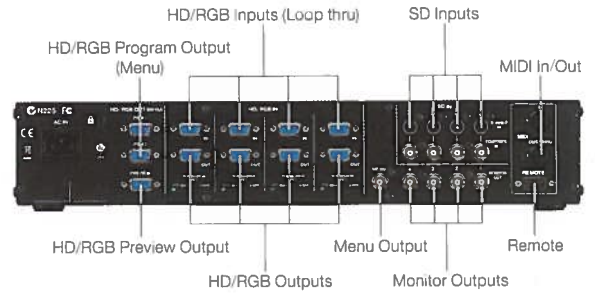
## Seamless mixing and scaling of multi-format SD/HD/RGB video signals



### V-440HD



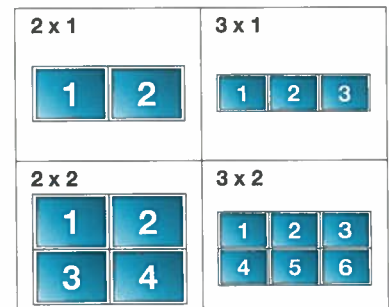
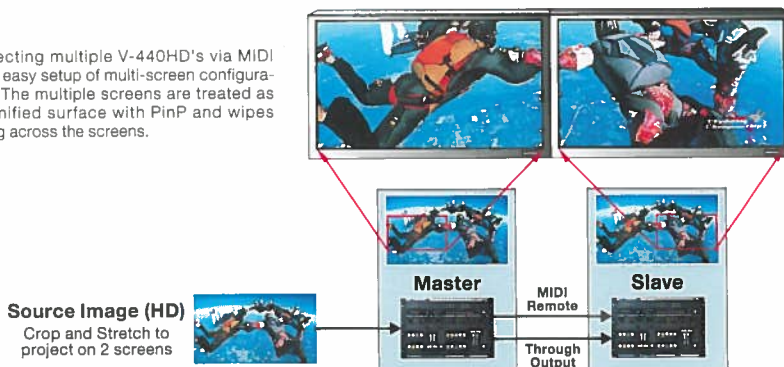
### V-44SW



- Mix SD video, HD video and RGB signals from computers
- Selectable output formats; 1080i or 720p for HDTV or RGB for computer display with built-in scaling
- Simple and intuitive operation
- Dissolve/Wipe transitions, PinP, SD/HD Key compositions
- With thru outputs and MIDI sync, multiple units can be connected for output to multiple screens (video walls)
- Remote control using RS-232C, V-LINK/MIDI
- Panel Preset function up to 15 memory settings
- Control the audio input level of the V-Mixer live mixing consoles using V-LINK
- Tally Output Terminal (V-440HD Only)

### Output to multiple screens

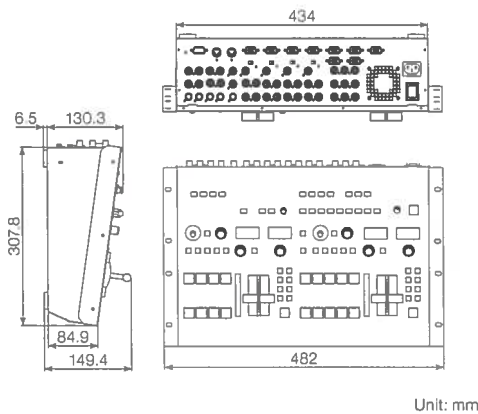
Connecting multiple V-440HD's via MIDI allows easy setup of multi-screen configurations. The multiple screens are treated as one unified surface with PinP and wipes moving across the screens.



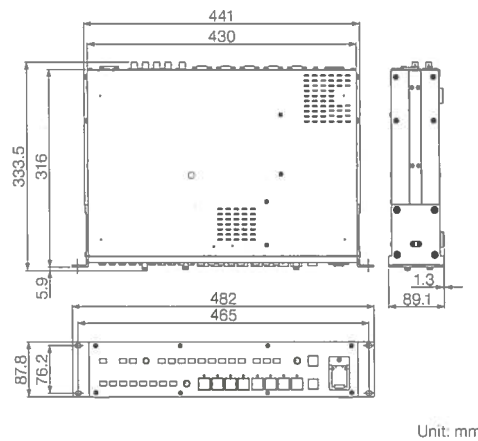
NATURAL CAMCORDER | PERSONAL MIXERS | MULTI-CHANNEL RECORDERS | AUDIO RECORDERS | VIDEO MIXERS/SWITCHERS | VIDEO CONVERTERS | VIDEO PLAYERS | APPLICATIONS



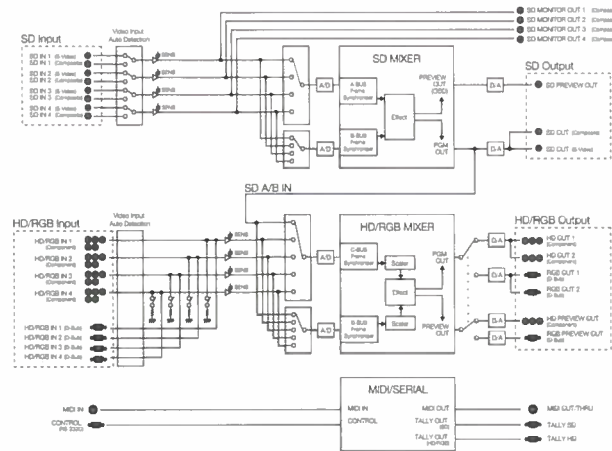
V-440HD Dimension



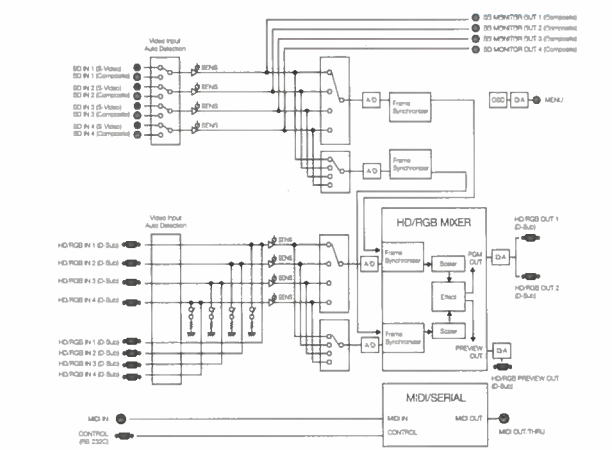
V-44SW Dimension



V-440HD Block Diagram



V-44SW Block Diagram



SPECIFICATIONS V-440HD/V-44SW

Video Processing	<p>&lt;Video Format&gt; Standard Definition: NTSC or PAL [CVBS, S (Y/C)], High Definition: 1080/59.94/50i SMPTE274M (Y/Pb/Pr TriLevelSync), 720/59.94p/50p SMPTE296M (Y/Pb/Pr TriLevelSync), RGB: 640 x 480/60/75, 800 x 600/60/75, 1024 x 768/60/75, 1280 x 768/60/75, 1280 x 1024/60, 1366 x 768/75/60 (Output only) (RGB VH: positive/negative logic)                  * VESA DMT Version 1.0 Revision 10 confirm</p> <p>&lt;Video Sampling&gt; Standard Definition: 4:2:2 (Y:Cb-Cr), 8-bit sampling, 13.5 MHz (BT.601), High Definition: 4:4:4 (Y:Cb-Cr), 8-bit sampling 74.1758 MHz/74.25 MHz, RGB: 4:4:4 (G:B:R), 8-bit sampling, 25 MHz to 110 MHz</p>
	<p>&lt;SD Input&gt; Composite: BNC Connector x 4, Y/C (S-video)*: 4-pin MiniDIN Type x 4 (Y: 1 Vp-p, 75-ohms, C: 0.286 Vp-p, 75-ohms (NTSC), 0.3 Vp-p, 75-ohms (PAL)                  * S-video input has priority</p> <p>&lt;HD/RGB Input&gt; BNC Type x 4: HD=Y/Pb/Pr (1 Vp-p, 75-ohms, TriLevelSync) or RGB=R/G/B (0.7 Vp-p, 75-ohms), H (5 V TTL), V (5 V TTL), D-SUB 15-pin Shrink Type x 4: HD=Y/Pb/Pr (1 Vp-p, 75-ohms, TriLevelSync) or RGB=R/G/B (0.7 Vp-p, 75-ohms), H (5 V TTL), V (5 V TTL)</p> <p>&lt;SD Output&gt; PGM S-Video (Y/C): 4-pin mini DIN type x 1 (Y: 1.0 Vp-p, C: 0.286 Vp-p, 75-ohms), PGM Video (composite): BNC type x 1 (1.0 Vp-p, 75-ohms), Monitor (composite): BNC type x 4 (1.0 Vp-p, 75-ohms), Preview/OSD Menu (composite): BNC type x 1 (1.0 Vp-p, 75-ohms)</p> <p>&lt;HD Output&gt; PGM Component HD: V-440HD: BNC Type x 2 (1.0 Vp-p, 75-ohms, TriLevel Sync), Preview Component HD: BNC type x 1 (1.0 Vp-p, 75-ohms, TriLevel Sync), OSD Menu Output (display On/Off is selectable)</p> <p>&lt;RGB Output&gt; PGM RGB: D-sub 15-pin Shrink Type x 2 (0.7 Vp-p, 75-ohms, 5 V TTL Sync), Preview RGB: D-sub 15-pin Shrink type x 1 (0.7 Vp-p, 75-ohms, 5 V TTL Sync), OSD Menu Output (display On/Off is selectable)</p> <p>&lt;Tally Output&gt; D-SUB 15-pin Shrink type x 2 (1 for SD/1 for HD), Max input: 12 V, 200 mA Open Collector Type</p>
V-440HD Connectors	

V-44SW Connectors	<p>&lt;SD Input&gt; S-Video (Y/C): 4-pin mini DIN type x 4 (Y: 1.0 Vp-p, C: 0.286 Vp-p, 75-ohms), Video (composite): BNC type x 4 (1.0 Vp-p, 75-ohms)</p> <p>&lt;HD/RGB Input&gt; D-SUB 15-pin Shrink Type x 4, HD: Y/Pb/Pr (1.0 Vp-p, 75-ohms, TriLevel Sync), RGB: R/G/B (0.7 Vp-p, 75-ohms), H (5 V TTL), V (5 V TTL)</p> <p>&lt;SD Output&gt; Preview (composite): BNC type x 4 (1.0 Vp-p, 75-ohms), Menu Output (composite): BNC type x 1 (1.0 Vp-p, 75-ohms)</p> <p>&lt;HD/RGB Output&gt; HD/RGB PGM: D-sub 15-pin Shrink Type x 2 (HD: 1.0 Vp-p, 75-ohms, TriLevel Sync, RGB: 0.7 Vp-p, 75-ohms, 5 V TTL Sync), HD/RGB Preview: D-sub 15-pin Shrink Type x 1 (HD: 1.0 Vp-p, 75-ohms, TriLevel Sync, RGB: 0.7 Vp-p, 75-ohms, 5 V TTL Sync)</p>
Video Transition	Cut, Dissolve, Wipe: 6 Patterns, Reverse, Soft Edge
Video Composition	Picture in Picture, Chroma Key (Blue/Green), Luminance Key (White/Black)
Multi-screen Presentation	Screen Setup (width by height): 2 x 1, 3 x 1, 2 x 2, 3 x 2
Remote Control Interfaces	MIDI 5-pin DIN type (in/out), RS-232C D-SUB 9-pin
Power Supply	AC 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	50 W
Dimensions	V-440HD: 482 (W) x 308 (D) x 130 (H) mm 17-7/8 (W) x 12-3/4 (D) x 4-1/4 (H) inches V-44SW: 482 (W) x 308 (D) x 88 (H) mm 19 (W) x 12-1/8 (D) x 3-1/2 (H) inches
Weight	V-440HD: 6.8 kg, 15 lbs, V-44SW: 6.0 kg, 13 lbs, 4 oz.

DIGITAL CONSOLES  
 DIGITAL SNAKES  
 PERSONAL MIXERS  
 MULTI-CHANNEL RECORDERS  
 AUDIO RECORDERS  
 VIDEO MIXERS SWITCHERS  
 VIDEO CONVERTERS  
 VIDEO PLAYERS  
 APPLICATIONS

# V-40HD

Multi-Format Video Switcher

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

**NEW**

### INPUT

#### SCALING

##### Zoom and Adjustment.

The V-40HD features scalars that let you make settings independently for every input source. With these, you can take input sources of different resolutions and adjust to any sizing.



#### INPUT Selectors

Select from among HDMI, RGB/Component, and Composite as the connector for each input.

With just one touch, you can access the video source from any of the three pieces of equipment connected to the respective inputs.

#### PinP

Two images can be combined into one video image.

You can select any of four positions for an inset screen: top left, bottom left, top right, or bottom right. You can also freely adjust the size of the inset screen.



#### MEMORY

25 (5 x 5) Memory Presets

### OUTPUT

#### OUTPUT Selectors

Three types of output formats to choose from.

Select SD, HD, or RGB simply by pressing a button.

Default Settings (can be changed)

SD	480i
HD	1080i
RGB	XGA (1024 x 768)

\* You can select other format on the menu.

\* The format of PVW OUT cannot be changed (1920 x 1080/60Hz fixed)

#### PVW (Preview) Selectors

Chooses the view displayed on a preview monitor.

Select a four-way split screen, PST, PGM or DSK to display.

\* The resolution and refresh rate of monitor output is fixed at 1920 x 1080/60 Hz (progressive)

\* Use an HDMI monitor that supports HDCP and 60p signals.

\* When INPUT is selected (four-way split), the sources are displayed using a reduced frame rate.

#### WIPE PATTERN

Easy selection of video transition effects.



#### DSK (Downstream Keyer)

Composite logos and text into output video.

You can overlay logos and text onto composited and switched video. Scene transitions underneath logos or text that remain displayed is possible.



#### VIDEO FADER

Switch the sources at the speed you want.

Using the video fader (T-bar) lets you carry out scene transitions, fade-ins, and fade-outs manually at exactly the speed you want.

#### INPUT Connectors 1 - 4

Support for three formats per input.

[HDMI] Up to WUXGA, 1080p

[RGB/Component] Up to WUXGA, 1080p

[Composite] 480i or 576i

HDMI inputs support an embedded audio signal.



#### CONTROL INTERFACE

[RS-232C]

Use RS-232C for integrated remote control.

It's possible to connect a computer, wall panel or other remote device and use it to control switching, effects, and other operations.

[MIDI]

Controllable the V-40HD via any MIDI device.

A Roland digital audio mixer like the M-200i V-Mixer can link to the V-40HD for audio-follows-video application. Connect another V-40HD for more inputs.

#### AUDIO INPUT

Mix analog audio into HDMI video.

The V-40HD is equipped with inputs for analog audio equipment. This enables you to embed analog audio in the HDMI video output.

#### Output Connectors

Connect monitors, projectors, or recording equipment.

[HDMI] Up to WUXGA, 1080p

[RGB/Component] Up to WUXGA, 1080p

[Composite] 480i or 576i

\* In HDCP mode, no video signals are output from the RGB/Component and composite connectors.

#### USB PORT

For saving the internal memory.

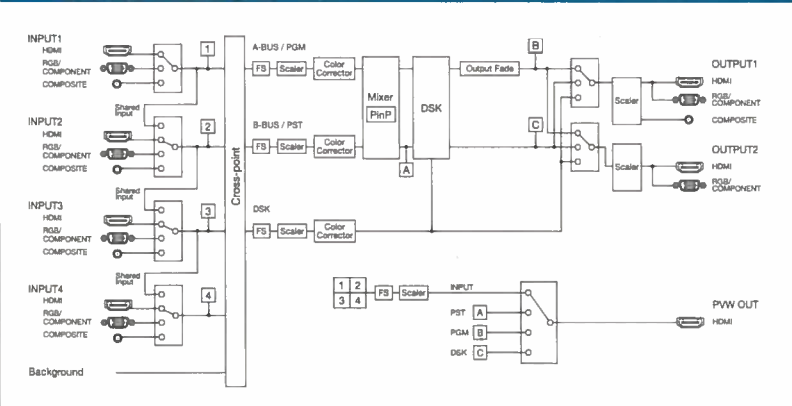
This lets you connect a USB flash drive and save the internal memory to it.



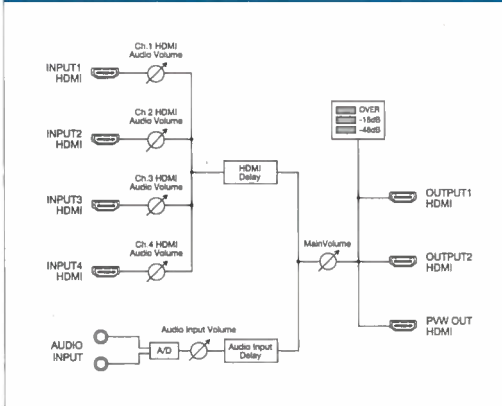
- 4 Inputs (HDMI/RGB/Component)
- 3 Outputs (HDMI/RGB/Component/Composite + HDMI/RGB/Component + HDMI)
- 4:4:4/10-bit Internal Processing (\* 4:2:2/8-bit Output Processing)
- 1 M/E (PinP) + DSK
- Built-in frame synchronizers and scalars on all inputs
- Input status LEDs

- Full HDCP support
- Preview monitor output (Four-way split screen for Inputs, PST, PGM, or DSK)
- Audio embedding
- Up to 12 frames audio delay to align the timing with video for perfect lip sync

Block Diagram (Video)

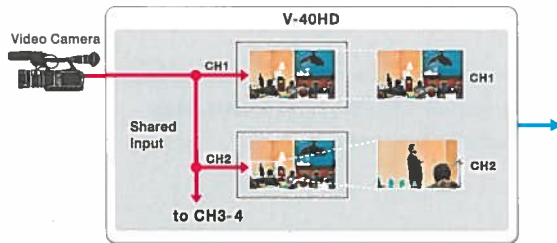


Block Diagram (Audio)

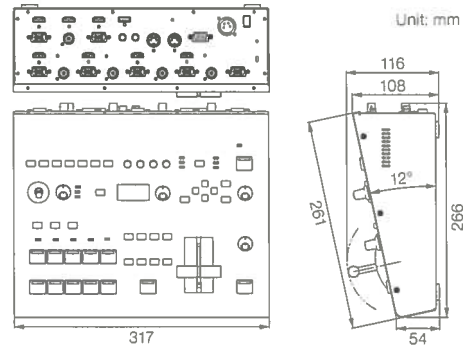


Multi-Zoom

Using the shared input function, you can assign the video on channel 1 to channels 2 through 4. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras connected.



\* Only the source of the previous adjacent channel can be shared.



SPECIFICATIONS V40-HD

<b>Video Processing</b>	
<b>Sampling Rate</b>	4:4:4 (Y/Pb/Pr), 10 bits * Output signal processing is 4:2:2/8-bit.
<b>Audio Processing</b>	
<b>Sampling Rate</b>	24 bits/48 kHz, 2ch
<b>Input Formats</b>	
<b>HDMI Video</b>	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
<b>HDMI Audio</b>	Linear PCM, 24 bits/48 kHz, 2ch
<b>RGB/Component</b>	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
<b>Composite</b>	NTSC, PAL
<b>Output Formats</b>	
<b>HDMI Video</b>	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
<b>HDMI Audio</b>	Linear PCM, 24 bits/48 kHz, 2ch

<b>RGB/Component</b>	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
<b>Composite</b>	NTSC, PAL
<b>Preview (HDMI)</b>	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
<b>Signal Level/Impedance</b>	
<b>RGB/Component</b>	Signal level: 0.7Vp-p (H, V: 5VTTL) Impedance: 75 ohms
<b>Composite</b>	Signal level: 1.0 Vp-p (luminance), 0.286 Vp-p (chroma [NTSC]), 0.3 Vp-p (chroma [PAL]) Impedance: 75 ohms
<b>Analog Audio</b>	Nominal input level: +4 dBu Maximum Input Level: +22 dBu Impedance: 15 k-ohms
<b>Video Effects</b>	
<b>Transition</b>	Mix, Cut, Wipe (9 patterns)
<b>Composition</b>	Picture in Picture, DSK (Luminance Key, Chroma Key)
<b>Audio Effects</b>	
<b>Delay</b>	0.0 to 12.0 frames
<b>Others</b>	
<b>Dimensions</b>	317 (W) x 266 (D) x 108 (H) mm 12-1/2 (W) x 10-1/2 (D) x 4-1/4 (H) inches
<b>Weight</b>	3.4 kg, 7 lbs 8 oz (excluding AC Adaptor)

(0dBu=0.775Vrms)

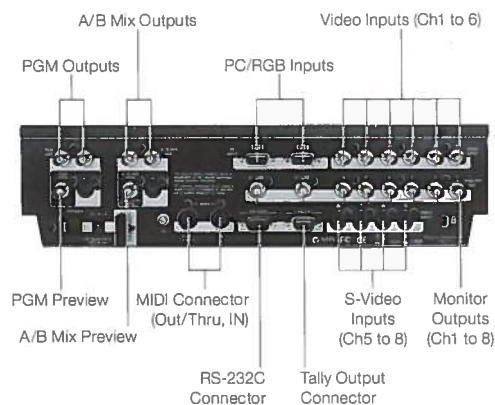
\*1: Conforms to VESA DMT Version 1.0 Revision 11  
\*2: 1920 x 1200/60 Hz: Reduced blanking

# LVS-800 | Video Mix/Live Switcher

## Innovative 8-channel video mixer with DSK (Downstream Keyer) and Two separate PC/RGB inputs

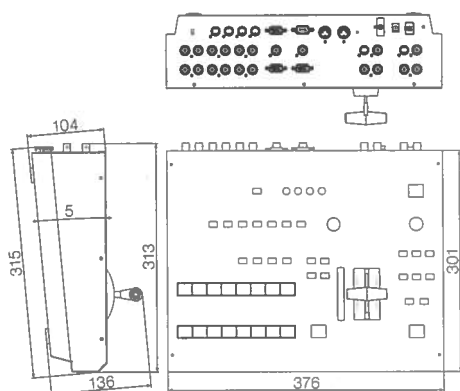
**V-LINK**


A/B Mix  
DSK  
(Downstream Keyer: Composition Function)



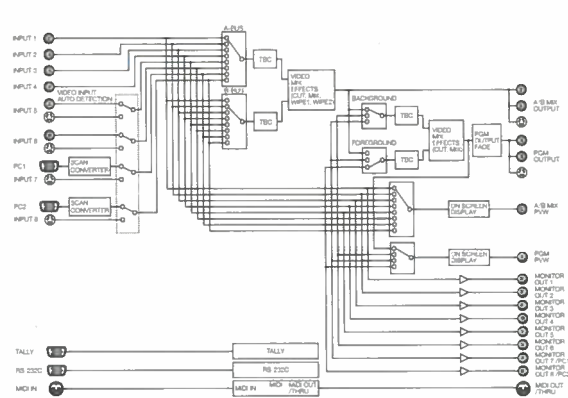
- 8 video inputs and 2 independent outputs for multi-screen applications
- Downstream keyer for seamless mixing under title/graphics
- Two PC/RGB inputs for mixing between computer sources

- Panel Presets for instant recall of mixer configurations
- Remote control using RS-232C, V-LINK/MIDI
- Equipped with Tally Outputs



Unit: mm

### Block Diagram



### SPECIFICATIONS LVS-800

<b>Video Format</b>	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 832 x 624/80 Hz, 1024 x 768/80 Hz, 1152 x 864/80 Hz, 1152 x 870/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB VH: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
<b>Sampling Rate</b>	Video 4:2:2 (Y:Cb:Cr:Y), 8-bit, 13.5 MHz
<b>Frame Synchronizer</b>	4 Systems
<b>Video Transition</b>	A/B MIX: Cut, Mix (Dissolve, FAM, NAM), Wipe (Hard edge wipe, Soft edge wipe), DSK: Cut, Mix (Dissolve)
<b>Video Composition</b>	A/B MIX: Picture in Picture DSK: Luminance Key, Chroma Key, Picture in Picture
<b>Input Level/Impedance</b>	Video (Composite): 1.0 Vp-p, 75-ohms S-Video: Luminance Signal 1.0 Vp-p, 75-ohms, Chroma Signal 0.286 Vp-p, 75 (NTSC)/0.3 Vp-p, 75 (PAL) PC-RGB: 0.7 Vp-p, 75 (H, V: 5 V TTL)
<b>Output Level/Impedance</b>	Video (Composite): 1.0 Vp-p, 75-ohms S-Video: Luminance Signal 1.0 Vp-p, 75-ohms, Chroma Signal 0.286 Vp-p, 75 (NTSC)/0.3 Vp-p, 75 (PAL)

### Connectors

<Input> Video (Composite): BNC type x 6 (Ch1 to 6)  
S-Video: 4-pin mini DIN type x 4 (Ch5 to 8)  
PC-RGB: D-SUB 15-pin shrink type x 2 (Ch7 to 8)  
\* S-Video input takes priority for channels 5 to 8.  
<Output> A/B MIX: 4-pin mini DIN type x 1, BNC type x 2 + Preview x 1 (\*1), PGM-OUT: 4-pin mini DIN type x 1, BNC type x 2 + Preview x 1 (\*2)  
\*1: Preview displays one of input channel 1 to 8 video and on-screen menu.  
\*2: Preview displays one of input channel 6 to 8 video and A/B MIX OUT video.  
<Monitor Output> Video (Composite): BNC type x 8 (Ch1 to 8)

### Remote Control Interfaces

MIDI (IN, OUT/THRU), RS-232C (D-SUB 9-pin type)

### Tally Output

D-sub 15-pin shrink type, maximum Input = 12 V, 200 mA open collector type

### Power

AC Adaptor (Accessory)

### Current Draw

2,200 mA

### Dimensions

376 (W) x 315 (D) x 136 (H) mm,  
14-13/16 (W) x 12-7/16 (D) x 5-3/8 (H) inches

### Weight

4.3 kg, 9 lbs 8 oz

### Accessories

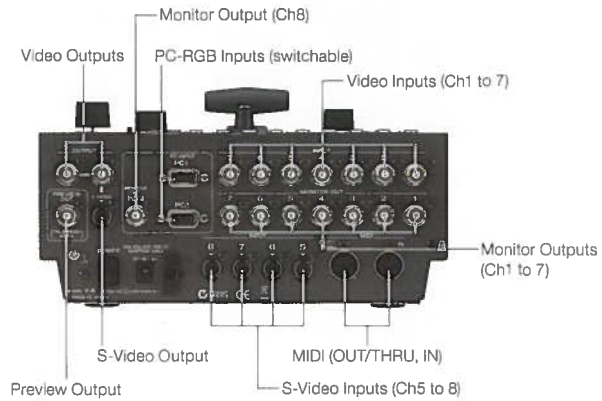
AC Adaptor, BNC to RCA video adapter x 4

# V-8

8-Channel Video Mixer

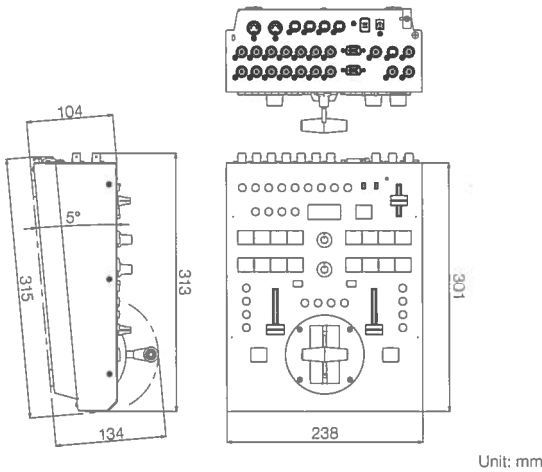
## Powerful Eight Input Video Mixer with Two PC/RGB Inputs

V-LINK



- 8 video inputs including built-in scan converter for RGB input
- High image quality 4:2:2 full-frame digital processing
- Support for RGB input (VGA to UXGA)
- Luminance key, chroma key enables logos or text from computer to be overlaid over background video
- Over 260 patterns of various transitions including Mix, Wipe, Key, Slide, Stretch etc.

- Equipped with 25 categories/150 patterns of video effects such as colorize, negative, feedback, after image etc.
- Picture in Picture, Luminance Key and Chroma key are available for compositing videos
- Independent monitor outs for each video input
- V-LINK control enabling audio-follows video with V-Mixers



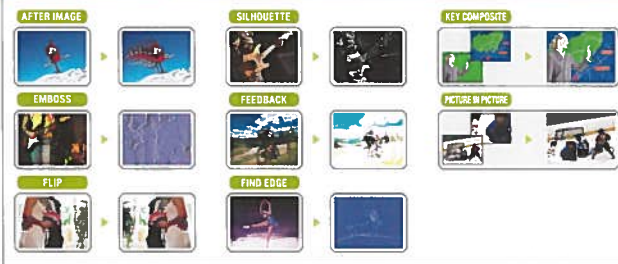
Unit: mm

### Over 260 Transitions

Example video transitions



### Video Effects Examples



### SPECIFICATIONS V-8

<b>Video Format</b>	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 832 x 624/75 Hz, 1024 x 768/80 Hz, 1152 x 864/80 Hz, 1152 x 870/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB Vh: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
<b>Video Sampling Rate</b>	4:2:2 (Y:B-Y:R-Y), 8-bit, 13.5 MHz
<b>Frame Synchronizer</b>	2 systems
<b>Connectors</b>	<Input> Video (composite): BNC type x 7 (Ch1 to 7) S-video: 4-pin mini DIN type x 4 (Ch5 to 8) PC-RGB: D-SUB 15pin Shrink Type x 2 (Ch8: PC1/PC2) * Inputs 5 to 8; however if S-video is simultaneously input to 5 to 8, S-video takes priority. <Output> Video (composite): BNC type x 2 S-video: 4-pin mini DIN type x 1 <Preview Output> Video (composite): BNC type x 1 (OSD Menu) <Monitor Output> Video (composite): BNC type x 8 (Ch1 to 8)

<b>Remote Control Interfaces</b>	MIDI IN: 5-pin DIN type x 1, MIDI OUT/THRU: 5-pin DIN type x 1
<b>Transition Effects (more than 260 types)</b>	Mix (Dissolve, Non-Additive Mix: NAM, Full-Additive Mix: FAM), Wipe (Hard edge wipe, Soft edge wipe), Key, Slide, Stretch, User Transition
<b>Video Effects</b>	Still, Strobe, Afterimage, Feedback, Shake, Negative, Colorize, Find Edge, Silhouette, Mono Color, Emboss, Posterize, Color Pass, Luminance key, Chroma key, Flip, Multi, Mirror, Picture-in-picture
<b>Power Supply</b>	DC 9 V (AC Adaptor: Roland PSB-1U)
<b>Current Draw</b>	2 A (Preliminary, AC Adaptor PSB-1U 0.4 A)
<b>Dimensions</b>	238 (W) x 315 (D) x 134 (H) mm, 9-3/8 (W) x 12-7/16 (D) x 5-5/16 (H) inches
<b>Weight</b>	3.2 kg, 7 lbs. 1 oz.
<b>Accessories</b>	AC Adaptor, Power Cord, BNC to RCA video adapter x 4, Mount screw for Video fader x 4, Owner's Manual

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# V-4EX

 | 4-Channel Video Mixer

Four HDMI input video mixer with built-in multiviewer and USB port for streaming

**NEW**



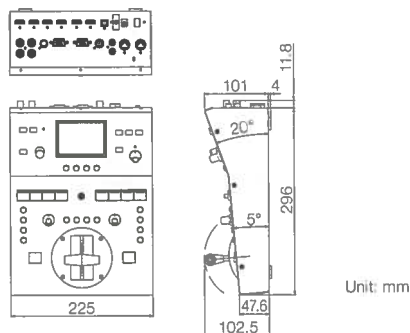
**HDCP**

**AUDIO EMBEDDING**

**MIDI VISUAL CONTROL**

**V-LINK**

- Built-in Color LCD Touch Multiviewer
- 3 Inputs (HDMI/Composite) + 1 Input (Up to 1080p HDMI/RGB/Component/Composite)
- 3 PGM Output (HDMI + RGB/Component + Composite)
- PVW Output (PVW/Multiviewer)
- Built-in frame synchronizers on all inputs
- Selected Transition and Effect patterns from V-8
- Audio embedding and delay
- Streaming Output (USB AUDIO/USB VIDEO)



## SPECIFICATIONS V-4EX

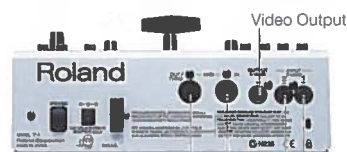
<b>Video Processing</b>	4:2:2 (Y/Pb/Pr), 8 bits (Internal Processing: 480/59.94p when set to NTSC, 576/50p when set to PAL)
<b>Audio Processing</b>	24 bits/48 kHz, 2 ch
<b>Input Formats</b>	HDMI Video (INPUT 1 to 3): 480/59.94p (when set to NTSC), 576/50p (when set to PAL) HDMI Video (INPUT 4): up to 1080p RGB/Component (INPUT 4): up to 1920 x 1200/60Hz Composite Video (INPUT 1 to 4): NTSC, PAL S-Video (INPUT 4): NTSC, PAL
<b>Output Formats</b>	HDMI and RGB/Component Video (OUTPUT): Up to 1080p, 1920 x 1200 Composite Video: NTSC, PAL Preview Video (PVW OUT): 480/59.94p when set to NTSC, 576/50p when set to PAL
<b>Power Supply</b>	AC Adaptor
<b>Dimensions</b>	225 (W) x 296 (D) x 105 (H) mm 8-7/8 (W) x 11-11/16 (D) x 4-3/16 (H) inches
<b>Weight</b>	2.6 kg, 5 lbs 12 oz (excluding AC Adaptor)
<b>Accessories</b>	AC Adaptor, Power Cord, RCA - BNC conversion plug x 2, Owner's Manual

# V-4

 | 4-Channel Video Mixer

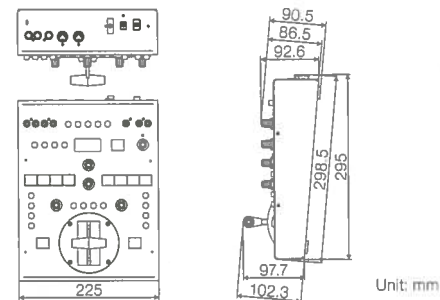
Four input video mixer with many high quality video effects

**V-LINK**



MIDI (Out/Thru, In) Video Inputs

- Designed as visual performance mixer
- 4 inputs and 3 outputs enabling switching, mixing and compositing of any two inputs
- DV quality images with clean digital processing
- Independent 2 channel TBC enables smooth mixing/switching
- More than 90 types of effects and more than 240 types of wipe patterns
- BPM Sync to match visuals to the beat of the music
- V-LINK/MIDI provides synchronization with sound



## SPECIFICATIONS V-4

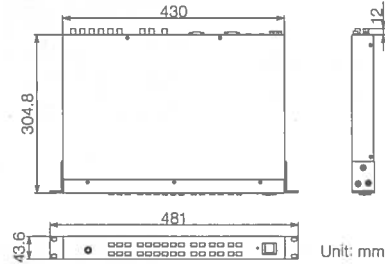
<b>Video Format</b>	NTSC or PAL (ITU601), Video Sampling Rate: 13.5 MHz, 4:2:2 (Y:B-Y:R-Y), 8-bit, Frame Synchronizer x 2
<b>Transition Effects</b>	Hard Edge Wipe, Soft Edge Wipe, Multi-Border Wipe, Slide
<b>Video Effects</b>	Still, Strobe, Shake, Negative, Colorize, Mono Color, Posterize, Color Pass, Multi, Mirror
<b>Compositing Effects</b>	Picture-in-Picture, Chroma Key, Luminance Key
<b>Video Input</b>	S-Video: 4-pin mini DIN type x 2 Video (composite): RCA pin type x 4 (If S-Video is simultaneously, S-Video takes priority)
<b>Video Output</b>	S-Video: 4-pin mini DIN type x 1 Video (composite): BNC type x 2
<b>Preview Output</b>	Video (composite): RCA pin type x 1
<b>Remote Control Interface</b>	MIDI (In/Out): 5-pin DIN type
<b>Power Supply</b>	AC Adaptor
<b>Current Draw</b>	1500 mA
<b>Dimensions</b>	225 (W) x 295 (D) x 105 (H) mm 8-7/8 (W) x 11-5/8 (D) x 4-3/16 inches
<b>Weight</b>	2.3 kg, 5 lbs. 2 oz.
<b>Accessories</b>	AC Adaptor, T-Bar attachment screws x 4 (spares)

# MVS-12 | Multi-Viewer/Switcher

## Multi-viewer for convenient video monitoring with simple matrix switcher



- Groups and displays up to 12 SD video signals to a single HD or RGB monitor
- Matrix switcher function enables ability to assign 12 inputs to 4 different outputs
- Four setups can be stored and recalled
- Controllable via Ethernet, RS-232C and MIDI
- Displays channel selection on monitor using V-LINK



### 4 Multi-Viewer Layouts

#### ● 12 Screen Layout



#### ● 10 Screen Layout



#### ● 9 Screen Layout

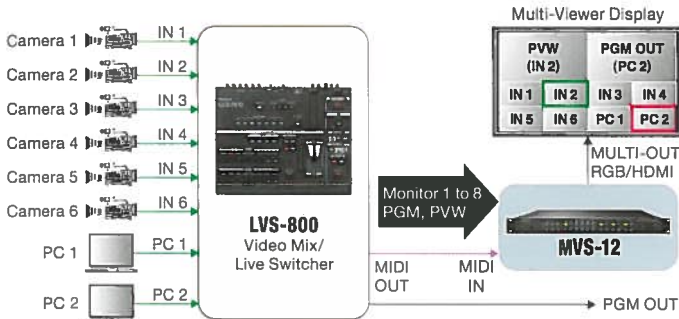


#### ● 4 Screen Layout



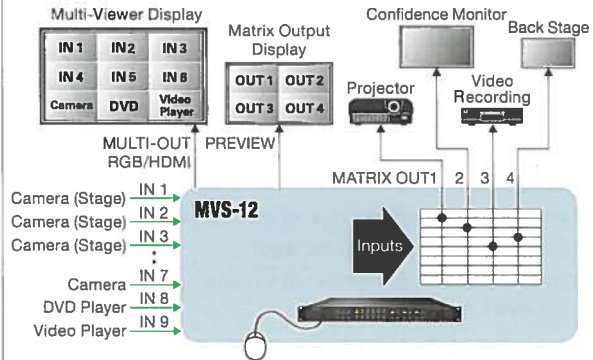
### Multi-viewer and Matrix switcher function enables system expansion

#### ● Monitoring for Switcher



The MVS-12 is a perfect companion for the LVS-800 allowing you to preview all monitor outputs. Using a MIDI connection the PGM/PVM video source is displayed and indicated by a red frame and green frame (tally).

#### ● Monitoring for Video Installation



Video sources can be distributed to up to four different locations.

### SPECIFICATIONS MVS-12

<b>Video Format</b>	Composite: NTSC or PAL HDMI, PC-RGB: 1920 x 1080 (60/50 Hz), 1680 x 1050 (60/75 Hz), 1600 x 900 (60/75 Hz), 1440 x 900 (60/75 Hz), 1280 x 1024 (60/75 Hz), 1280 x 720 (60/50 Hz), 1024 x 768 (60/75 Hz) (Progressive Scan)
<b>Sampling Rate</b>	4:2:2 (Y:B-Y:R-Y), 8-bit, 13.5 MHz (ITU-R BT.601)
<b>Input/Output Level and Impedance</b>	Composite: 1.0 Vp-p, 75 ohms PC-RGB: 0.7 Vp-p, 75 ohms (H, V: 5V TTL)
<b>Connectors</b>	Video Input Composite: BNC type x 12 jacks Output Connectors Composite (for MATRIX OUT): BNC type x 4 jacks Composite (for MATRIX OUT Preview): BNC type x 1 jack HDMI (for MULTI-OUT, MENU) x 1 jack PC-RGB (for MULTI-OUT, MENU): D-Sub 15pin type x 1 jack
<b>Other Connectors</b>	Ethernet 10/100Base-Tx RJ45 type x 1 jack RS-232C DB-9 type x 1 jack MIDI IN 5-pin DIN type x 1 jack MIDI OUT/THRU 5-pin DIN type x 1 jack Mouse PS/2 type *Not bundled.

<b>Power Supply</b>	AC Adaptor (Accessory)
<b>Current Draw</b>	2 A
<b>Dimensions</b>	481 (430 without rack mount bracket) (W) x 320 (D) x 44 (H) mm 18-15/16 (16-15/16 without rack mount bracket) x 12-5/8 (D) x 1-3/4 (H) inches
<b>Weight</b>	3.0 kg 6 lbs. 10 oz. (without AC Adaptor)

\* MONITOR: XGA (1024 x 768 pixels) or greater, HDMI or Analog RGB input is required.  
HDMI OUTPUT Connection: Audio is not supported. HDMI version is 1.2. Supports EDID when the setup is AUTO.  
RGB OUTPUT Connection: Manual pixel rate setup is needed.  
Aspect Ratio: In MULTI-OUT, display aspect and each input aspects can be adjusted individually. MATRIX OUTPUT has no aspect adjustment function.  
Switching: A mixed image before and after switching may appear on MATRIX Output at switching.

# VR-5 | AV Mixer & Recorder

## All-in-one AV Mixer for stand-alone recording and live streaming



**USB Port ready for Live Streaming** \* The world's first USB Video/Audio Class supported AV mixer. Simply connect like a Web camera to enable easy live streaming. \*Our research at time of printing

### MONITOR

**Intuitive operation with Dual Touch Monitors**

Select the input source by touching the quad view layout display. Menu parameters are easily accessed and set.



### PC INPUT

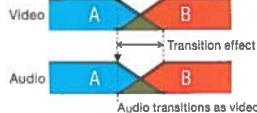
**Audio and video from a PC**  
RGB input and stereo mini Audio input



### AUDIO MIXER

**Full digital audio mixing**

Audio Follow function



### VIDEO/PC SELECT

**Video switching with a single touch of a button**



### VIDEO/AUDIO OUTPUT

### RECORDER

**Record to SD memory card**  
Supports SD and SDHC memory cards.



Note: Video can not be played back when recording.

### VR-5 Image Converter (Win/Mac)

Software for preparing data to be played back from the VR-5 is available from the Roland Systems Group website.

Supported Formats:  
AVI, MPG, MOV, WMV, MP4, DV

### KEYER

**Control transparency with a single knob**

Chroma Key Composite a person over a background  
Luminance Key Composite text over a background



### VIDEO EFFECTS

#### Simple video compositing

Transition between sources with various switching effects



SPLIT displays two video sources simultaneously

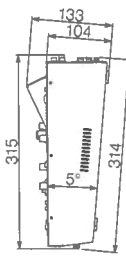
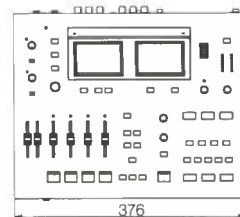
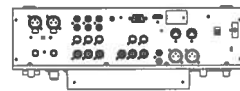


PinP inlays a small window in the main source



- 5-Channel Video Switcher (3 video sources, PC input, video playback)
- 2 Mono and 5 Stereo Mixable Audio Channels
- Built-in scan converter for PC input
- Built-in dual LCD monitors with touch control for easy video source selection

- Three video layers for 2 video sources plus DSK (downstream keyer)
- Video player/recorder
- USB video/audio class device for web streaming



Unit: mm

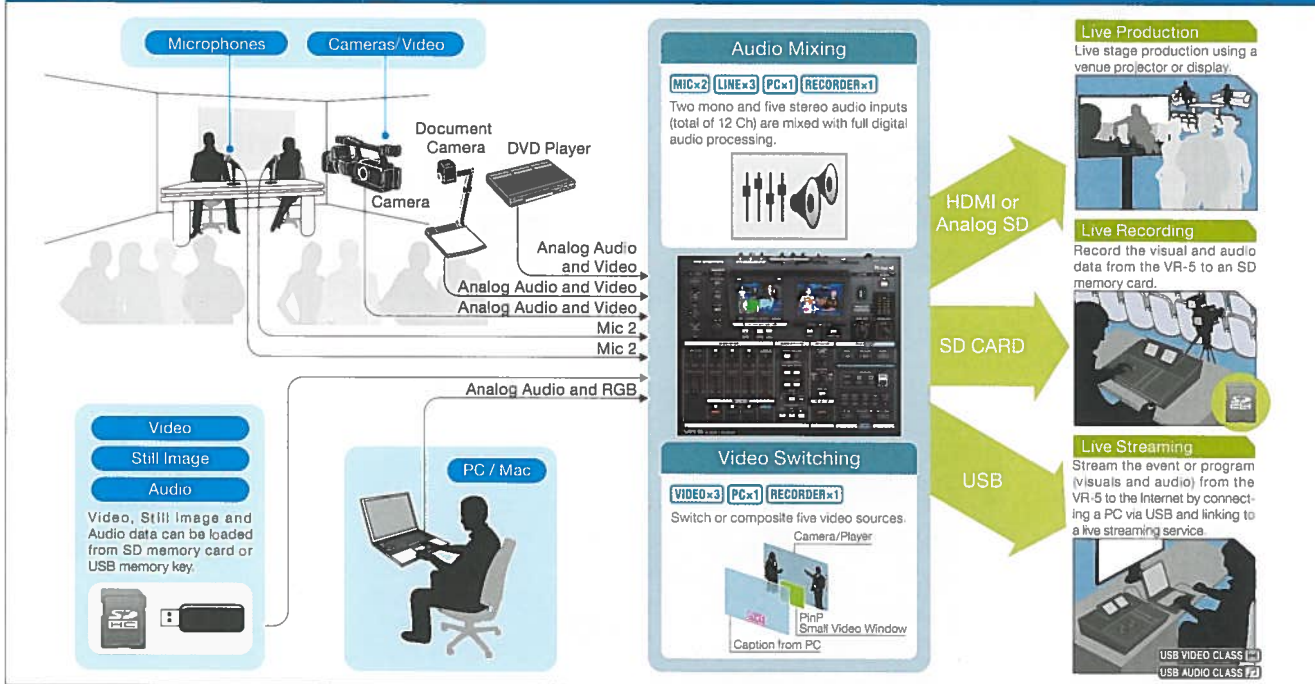
Let's start live streaming with easy 4 steps!



DIGITAL CONSOLES  
DIGITAL MIXERS  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS



Everything you need in a single device



SPECIFICATIONS VR-5

VIDEO

Video Format	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 1024 x 768/60 Hz, 1152 x 864/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB VH: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
--------------	---

Video Sampling Rate	Video: 4:2:2 (Y-B-Y-R-Y), 8 bits, 13.5 MHz
---------------------	--

Input Level and Impedance	<Video (composite)> 1.0 Vp-p, 75 ohms <S-video> Luminance signal: 1.0 Vp-p, 75 ohms Chrominance signal: 0.286 Vp-p, 75 ohms (NTSC)/ 0.3 Vp-p, 75 ohms (PAL) <PC-RGB> 0.7 Vp-p, 75 ohms (H, V: 5 V TTL)
---------------------------	--

Output Level and Impedance	<Video (composite)> 1.0 Vp-p, 75 ohms <S-video> Luminance signal: 1.0 Vp-p, 75 ohms Chrominance signal: 0.286 Vp-p, 75 ohms (NTSC)/ 0.3 Vp-p, 75 ohms (PAL)
----------------------------	--

Connectors	<Input> Video (composite): BNC type x 3, S-video: 4-pin mini DIN type x 3, PC-RGB: D-Sub 15-pin Shrink type x 1 * Inputs 1 to 3; When S-video is simultaneously input to 1 to 3, S-video takes priority <Output> Video (composite): BNC type x 2, S-video: 4-pin mini DIN type x 2 <Preview Output> Video (composite): BNC type x 1
------------	--

AUDIO

Internal Processing	Sample Rate: 24-bit/48.0 kHz
---------------------	------------------------------

Input Level	<AUX AUDIO INPUT> +4 dBu to -68 dBu (variable) Max: +22 dBu <Channel 1/2/3> -10 dBu Max: +8 dBu <PC AUDIO> -15 dBu Max: +3 dBu
-------------	---

Input Impedance	<AUX AUDIO INPUT> XLR type: 4 k ohms, TRS phone type: 6 k ohms <Channel 1/2/3 and PC AUDIO> 15 k ohms
-----------------	---

Input Level	AUX AUDIO INPUT: XLR-3-31 type (balanced, phantom power), 1/4 inch TRS phone type (balanced/unbalanced) * TRS type takes priority Channel 1/2/3: RCA phono type PC AUDIO: Stereo miniature type
-------------	---

Output Level	<AUDIO OUTPUT> -10 dBu Max: +8 dBu <PHONES> 50 mW + 50 mW
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Output Impedance	<AUDIO OUTPUT> XLR type: 600 ohms, TRS phone type: 1 k ohms <PHONES> 10 ohms
------------------	--

Output Connectors	AUDIO OUTPUT: XLR-3-32 type (balanced), RCA phono type PHONES: Stereo 1/4 inch phono type
-------------------	--

RECORDER

Recording Format	<Format> MP4 (.mp4) Video Codec: MPEG-4 Visual Audio Codec: MP3 (MPEG-1 Audio Layer-3)
------------------	--

Bit Rate	2 Mbps, 4 Mbps, 6 Mbps
----------	------------------------

Media	SD Memory Card (1 to 2 GByte), SDHC Memory Card (Max 32 GByte), Class 4 or greater
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File System	FAT32 (Max file size of 4 GByte)
-------------	----------------------------------

Movie Size	TV Size: NTSC (720 x 480), PAL (720 x 576)
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File System	Recorded file is up to 4 GByte. Bit Rate at 2 Mbps: approximately 4 hours/4 GByte Bit Rate at 4 Mbps: approximately 2 hours/4 GByte Bit Rate at 6 Mbps: approximately 80 minutes/4 GByte
-------------	---

Supported Playback Format	<Video File Format> .MP4, .AVI Video Codec: MPEG-4 Visual Audio Codec: MP3 (MPEG-1 Audio Layer-3) <Audio File Format> .WAV, .MP3 <Picture File Format> .BMP, .JPG
---------------------------	---

OTHER CONNECTORS

HDMI Connector	<Resolution> Setup to NTSC: 480p, Setup to PAL: 576p OUTPUT or PREVIEW OUTPUT
----------------	--

USB A Type Connector	For USB Storage device, For USB Video Stream output (Support UVC/UAC) USB 2.0 High-Speed
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Remote Control Interfaces	MIDI IN: 5-pin DIN type x 1 jack MIDI OUT/THRU: 5-pin DIN type x 1 jack
---------------------------	--

OTHERS

Transition Effects	Switcher: Cut, Mix, Hard edge wipe, Soft edge wipe DSK: Cut, Mix
--------------------	---

Video Effects	Luminance key, Chroma key, Picture-in-picture, Split
---------------	--

Power Supply	DC 12 V (AC Adaptor)
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Current Draw	3 A (AC Adaptor)
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Dimensions	376 (W) x 315 (D) x 133 (H) mm 14-13/16 (W) x 12-3/8 (D) x 5-1/4 (H) inches
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Weight	4.3 kg, 9 lbs 8 oz (without AC Adaptor)
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(0dBu=0.775Vrms)

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# VR-3 | AV Mixer

## Portable Audio and Video Mixer with USB port Ready for Live Streaming



### Live Production

**Live stage production using a projector or display.**

Show computer image as main display or use the composite out for mixed image.



### Live Streaming

**USB video/audio class device for webstreaming or recording with a PC/Mac.**

Stream the event (visuals and audio) to the internet by connecting to a computer via USB and linking to a live streaming service.

USB AUDIO CLASS

USB VIDEO CLASS



### VIDEO

#### VIDEO SELECT

**Built-in LCD monitor with touch control for easy video source and menu selection.**

You can monitor four inputs and the output. Monitor can be used to view a quad display of inputs, program out or combination quad view with program out. When the [INPUT] button and [OUTPUT] button are pressed simultaneously, the output picture is overlaid on a four-way split screen of the input.



VIDEO INPUT [4] switchable between Composite or PC. A built-in scan converter is available for the PC input to allow it to be mixed with the other video sources. A PC thru jack is also included enabling direct connection to a projector or display with no reduction in resolution.



### AUDIO

#### AUDIO MIXER

**Hands-on mixing for live performance and production.**

4 Mono (XLR or 1/4") and 2 stereo mixable audio channels. Built-in stereo microphone for mixing in ambient sound.



Easy operation thanks to faders as well as GAIN/EQ/PAN dials for improving the sound.

#### AUDIO EFFECTS

**Reverb control that enables adjustment of sound space.**

Digital Audio effects include: Noise Gate, EQ, Reverb, Noise Suppressor, Enhancer and Master Lo/Hi Filters. Select them using the menu on the touch screen monitor.



Master Lo/Hi Filters enable stable mixing for audio streaming.

#### VIDEO EFFECTS

**Simple video compositing.**

In addition to Transition effects, Picture in Picture (PiP) and SPLIT are also available. Simply select an effect and the respective video sources.

Transition between sources with various switching effects.



SPLIT displays two video sources simultaneously



PinP inlays a small window in the main source.



PinP inlays a small window in the main source.



#### KEYER

**Control transparency with a single knob.**

Advanced video composition such as placing a person or text over a background video source can be fine-tuned using a single knob.



Chroma Key Composite a person over a background

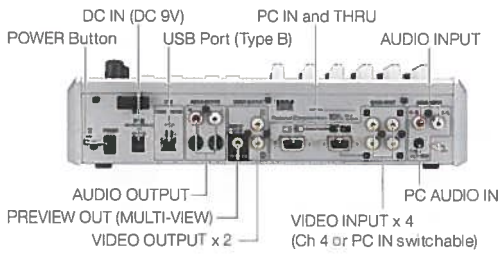
Luminance Key Composite text over a background

- 4-Channel Video Switcher (3 Composite video sources + 1 Composite/PC switchable)
- 4 Mono (XLR or 1/4") and 2 stereo mixable audio channels
- Built-in stereo microphone for mixing in ambient sound
- Built-in scan converter for PC input with a thru for connecting a projector or display
- Built-in single LCD monitor with touch control for easy video source and menu selection

- Monitor can be used to view a quad display of inputs, program out or combination quad view with program out
- Compositing video effects include: keying, split screen, picture-in-picture
- Digital audio effects include: Noise Gate, EQ, Reverb, Noise Suppressor, enhancer and master Lo/Hi filters
- USB video/audio class device for web streaming or recording with a PC/Mac

NATURAL CHANNELS | PERSONAL MIXERS | MULTI CHANNEL RECORDERS | AUDIO RECORDERS | VIDEO MIXERS/SWITCHERS | VIDEO CONVERTERS | VIDEO PLAYERS | APPLICATIONS

**Rear Panel**



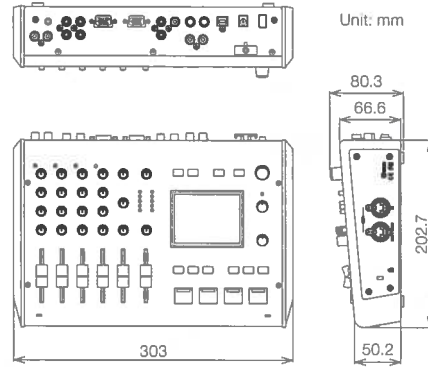
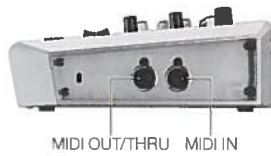
**Left Side Panel**



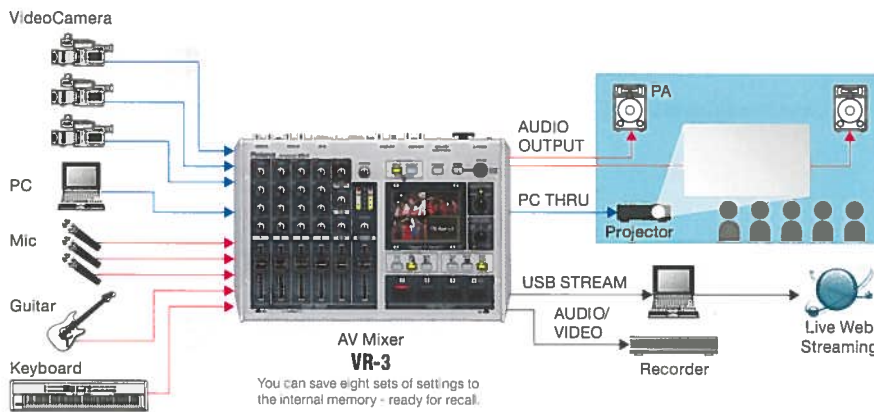
**Front Panel**



**Right Side Panel**



**Application Sample**



**Video Capture for VR for Windows**



Free download from [www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net)

**SPECIFICATIONS VR-3**

**VIDEO**

**Input Connectors** VIDEO IN 1 to 4 jacks (Composite: RCA phono type)  
 PC IN connector (DB-15 type)

**Output Connectors** VIDEO OUT 1, 2 jacks (Composite: RCA phono type)  
 VIDEO OUT MULTI-PREVIEW jack (Composite: RCA phono type)  
 PC THRU connector (DB-15 type) (THRU)

**Video Format** Composite: NTSC or PAL  
 PC IN: 800 x 600 (120 Hz), 832 x 624 (75 Hz), 1024 x 768 (80 Hz), 1152 x 864 (75 Hz), 1152 x 870 (75 Hz), 1280 x 720 (60 Hz), 1280 x 768 (75 Hz), 1280 x 800 (75 Hz), 1280 x 1024 (75 Hz), 1366 x 768 (75 Hz)  
 \* The refresh rate is the maximum value of each resolution.

**Sampling Rate** 4:2:2 (Y:R:Y:B-Y), 8-bit, 13.5 MHz (ITU-R BT.601)

**Input/Output Level and Impedance** Composite: 1.0 Vp-p, 75 ohms  
 PC IN: 0.7 Vp-p, 75 ohms (H, V: 5V TTL)

**AUDIO**

**Input Connectors** AUDIO IN 1 to 4 jacks (XLR/TRS combo type, phantom power)  
 AUDIO IN 5 to 6 jacks (RCA phono type)  
 AUDIO IN 7 to 8 jack (Stereo miniature type)  
 MIC (Internal stereo microphones)

**Phantom Power** DC 48 V (unloaded maximum), 5 mA (maximum load)  
 \* Current value per channel.

**Output Connectors** AUDIO OUT L, R jacks (Stereo 1/4-inch phone type)  
 AUDIO OUT L, R jacks (RCA phono type)  
 PHONES jack (Stereo 1/4-inch phone type) (headphones)  
 PHONES jack (Stereo miniature type) (headphones)

**Sampling Rate** 48 kHz (24-bit)

**Input Level and Impedance** XLR/TRS: -68 to +4 dBu (Maximum: +22 dBu, 4 k ohms)  
 RCA phono: -10 dBu (Maximum: +8 dBu, 15 k ohms)  
 Miniature: -15 dBu (Maximum: +3 dBu, 15 k ohms)

**Output Level and Impedance** 1/4-inch phone/RCA phono: -10 dBu (Maximum: +8 dBu, 1 k-ohm)  
 Headphones: 25 mW + 25 mW, 10 ohms

**OTHER CONNECTORS**

**USB connector** Hi-Speed USB: USB Type B, USB-VIDEO, USB-AUDIO  
 Resolution: 720 x 480 (29.97 fps/Motion-JPEG)  
 Audio: 48 kHz/16 bit

**Remote** MIDI IN, OUT/THRU (5-pin DIN type)

**Display** Graphic color LCD 320 x 240 dots (touch screen)

**Power Supply** DC 9 V

**Current Draw** 1.5 A

**Dimensions** 303 (W) x 202.7 (D) x 80.3 (H) mm  
 11-15/16 (W) x 8 (D) x 3-3/16 (H) inches

**Weight** 2.0 kg (without AC Adaptor), 4 lbs 7 oz

(0dBu=0.775Vrms)

# VC-300HD

Multi-format Video Converter

# VC-200HD

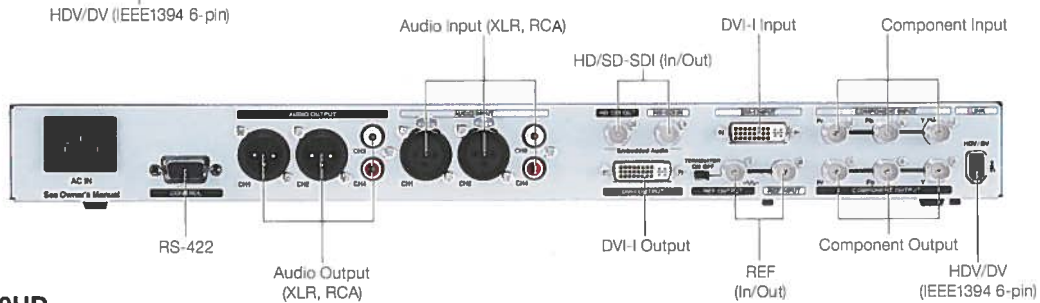
Multi-format Video Converter

## Bi-directional Multi-format Video Converter with embedded Audio support Supports progressive conversion formats including 24p Frame Rates

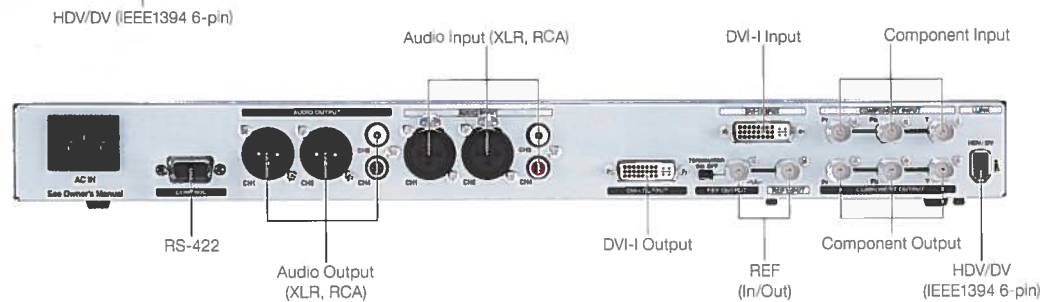


### VC-300HD

1U



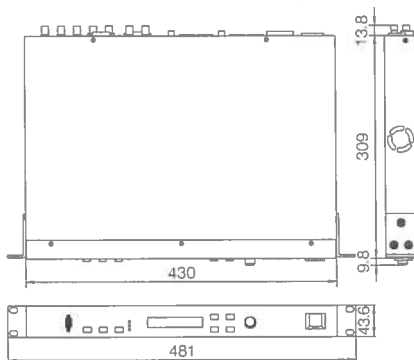
### VC-200HD



- Bi-directional video conversion between Digital and Analog, HD and SD, Compressed and Uncompressed
- High quality A/D and D/A with internal 4:4:4 10-bit signal processing
- Enables frame size scaling, change in frame rate and I<->P
- Gen Lock with external devices

- Time code and Embedded audio are available between HD/SD-SDI and HDV/DV conversion (VC-300HD only)
- Built-in high quality audio delay to achieve perfect lip sync
- Compatible with HDV/DV Cameras and VTR from SONY, Canon and JVC
- Support for 23.976, 24, 25, 29.97, 30, 50, 59.94, 60 frame rates

### VC-300HD/VC-200HD Dimensions



Unit: mm

Format Conversion Table (○: available)

	OUTPUT FORMAT					
	HDV (1080i/720p)	DV	COMPONENT/ DVI-A**	DVI-D/ HDMI*	HD-SDI	SD-SDI
INPUT FORMAT	HDV (1080i/720p)	—	○	○	○	○
	DV	—	○	○	○	○
	COMPONENT	○	○	○	○	○
	DVI-A/RGB*	○	○	○	○	○
	DVI-D/HDMI*	○	○	○	○	○
	HD-SDI	○	○	○	○	○
	SD-SDI	○	○	○	○	○

■ For VC-300HD/VC-200HD    ■ For VC-300HD only

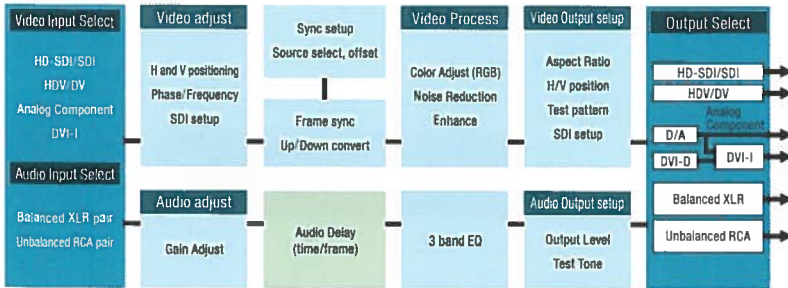
\* RGB and HDMI connection is needed to use conversion cable. HDMI audio and HDCP protection of HDMI are not supported.

\*\* DVI-A output is Y/Pb/Pr signal.

DIGITAL CHANNELS | PERSONAL MIXERS | MULTI-CHANNEL RECORDERS | AUDIO RECORDERS | VIDEO MIXERS/SWITCHES | VIDEO CONVERTERS | VIDEO PLAYERS | APPLICATIONS

# VC-300HD VC-200HD

## Multiple Video and Audio Processing Functions



\* HDV/DV output is not available when input is HDV/DV.

## Additional Features

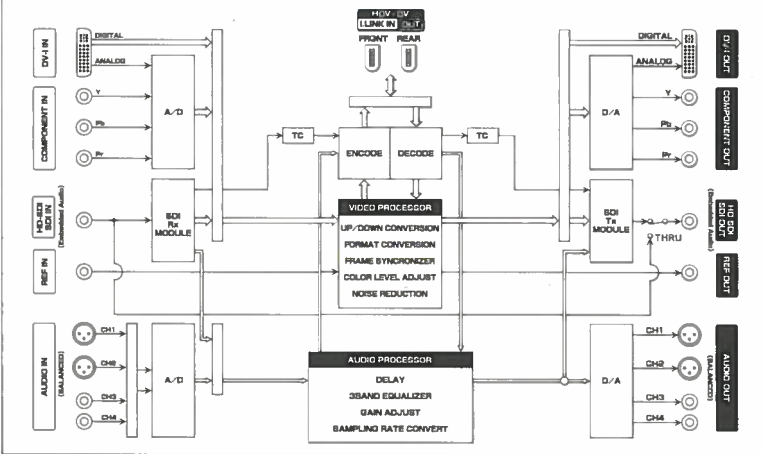
- 4 Point Gamma Correction**  
 The newly added 4 points Gamma Correct function enables adjustment of bright/dark part independently. Enhances images to have a more film-like color.
- User Presets**  
 Parameters like input signal, conversion or processing can be saved to an internal memory. Up to 3 presets can be saved and enables convenient recall.
- Remote Control**  
 Remotely control parameter setup of the VC from external devices, like a PC, via RS-422A Remote Terminal. This can be also used for parameter data backup.

## Supports 24p Frame Rates

Supports 24p, 23.976p, 25p, 30p, 60p etc.  
Enables conversion of footage shot with a variety of cameras.

- Enables use of affordable production system and media.**
- Use HDV shooting devices with current production systems.**

## VC-300HD Block Diagram



## SPECIFICATIONS VC-300HD/VC-200HD

**Video Input Format**

<IEEE1394 (i-LINK)> HDV: 1080/60i, 1080/50i, 1080/30p, 1080/25p, 1080/24p, 720/60p, 720/50p, 720/30p, 720/25p, 720/24p, 576/50p, 480/60p, DV: 576/50i, 480/60i, 480/24p

<Analog Component> Y/Pb/Pr: 1080/60i, 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 576/50p, 576/50i, 480/59.94p, 480/59.94i

<DVI-I> Digital (RGB): 1600 x 1200/60 Hz, 1400 x 1050/60/75 Hz, 1360 x 768/60 Hz, 1280 x 1024/60/75 Hz, 1280 x 768/60 Hz, 1280 x 960/60 Hz, 1152 x 864/75 Hz, 1024 x 768/60/75 Hz, 800 x 600/60/75 Hz, 640 x 480/60/75 Hz, Analog (RGB): 1024 x 768/60 Hz, 800 x 600/60/75 Hz, 640 x 480/60/75 Hz

<HD-SDI/SD-SDI> \* 1080/60i, 1080/59.94i, 1080/50i, 1080/30PsF, 1080/30p, 1080/29.97PsF, 1080/29.97p, 1080/25PsF, 1080/25p, 1080/24PsF, 1080/24p, 1080/23.98PsF, 1080/23.98p, 720/60p, 720/59.94p, 720/50p, 720/30p, 720/29.97p, 720/25p, 720/24p, 720/23.98p, 576/50i, 480/59.94i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p), 480/23p (Over 59.94i)

<Video Sampling Rate> SD: 4:4:4 (Y/Cb/Cr), 10-bits, 13.5 MHz, HD: 4:4:4 (Y/Pb/Pr), 10-bits, 74.1758 MHz/74.25 MHz, RGB: 4:4:4 (R/G/B), 10-bits, 25 MHz to 90 MHz

**Video Output Format**

<IEEE1394 (i-LINK)> HDV: 1080/60i, 1080/50i, 1080/30p, 1080/25p, 1080/24p, 1080/24f, 1080/24A, 720/60p, 720/50p, 720/30p, 720/25p, 720/24p, 576/50p, 480/60p, DV: 480/60i (NTSC), 576/50i (PAL)

<Analog Component> Y/Pb/Pr

<DVI-I> Digital RGB/Analog RGB: 1080/60p, 1080/60i, 1080/59.94p, 1080/59.94i, 1080/50p, 1080/50i, 1080/30PsF, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/24p, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 576/50p, 576/50i, 480/59.94p, 480/59.94i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p)

<HD-SDI/SD-SDI> \* 1080/60i, 1080/59.94i, 1080/50i, 1080/30PsF, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 480/59.94i, 576/50i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p)

**Audio Input**

<IEEE1394> HDV: MPEG1 Layer II 16-bit 48 kHz 384 kbps, DV: Linear PCM 16-bit 48 kHz, Nonlinear PCM 12-bit 32 kHz (2ch)

<Analog> Balanced XLR Type (ch1, ch2): +4 dBu, -2 dBu, -4 dBu, -10 dBu Selectable, Unbalanced RCA pin type (ch3, ch4): +0 dBu, -6 dBu, -8 dBu, -14 dBu Selectable, Audio Sampling Rate: 24-bit, 48 kHz/32 kHz

<HD-SDI/SDI Embedded Audio (Only VC-300HD)> Linear PCM 24-bit 48 kHz

**Audio Output**

<IEEE1394> HDV: MPEG1 Layer II 16-bit, 48 kHz, 384 kbps, DV: Linear PCM 16-bit, 48 kHz, Nonlinear PCM 12-bit, 32 kHz (2ch)

<Analog> Balanced XLR Type (ch1, ch2): +4 dBu, -2 dBu, -4 dBu, -10 dBu Selectable, Unbalanced RCA pin type (ch3, ch4): +0 dBu, -6 dBu, -8 dBu, -14 dBu Selectable, Audio Sampling Rate: 24-bit, 48 kHz/32 kHz

<HD-SDI/SDI Embedded Audio> Linear PCM 24-bit, 48 kHz

**Video Processing**

Scaling: Scaling between the specified input and output, Frame Sync: Built in frame synchronizer and genlock to external device, Frame Rate Conversion: from 59.94 to 50 Hz etc., I/P Conversion: De-interlace function built-in

**Audio Processing**

Delay: Adjustment with Millisecond or Frame  
Sample Rate Conversion: from 32 to 48 kHz etc.

**Display**

Character Type LCD: 20 characters, 2 lines (backlit LCD)

**Power Supply**

AC 117 V, AC 230 V, AC 220 V, AC 240 V (50/60 Hz)

**Power Consumption**

60 W

**Dimensions**

482 (430 without rack mount bracket) (W) x 309 (D) x 44 (H) mm  
19 (16-15/16 without rack mount bracket) (W) x 12-3/16 (D) x 1-3/4 (H) inches

**Weight**

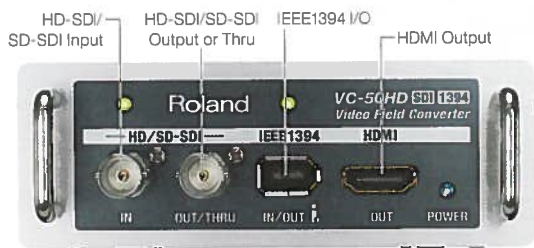
4.5 kg, 9 lbs 15 oz

DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# VC-50HD

 Video Field Converter

## Bi-directional, portable video conversion between HD/SD-SDI and MPEG-2 TS/HDV/DV

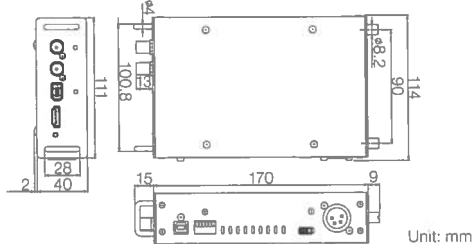


### Side Panel

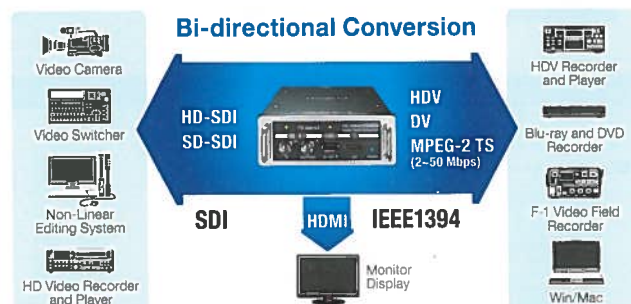


- Bi-directional conversion between HD-SDI and HDV (19/25 Mbps) and 8/35/50 Mbps MPEG-2 TS
- Supports conversion between SD-SDI and DV format (25 Mbps) and 2/9/12 Mbps MPEG-2 TS
- Easy to capture using Video Capture for VC for Windows
- Directly capture and edit using your non-linear editing system
- Easy capture or archiving to Blu-ray/DVD via IEEE1394 (iLINK)
- HDMI Output allows flexible and convenient monitoring
- Setup and Control using VC-50HD RCS for Win/Mac and/or dip switches
- Three different types of power - AA battery x 8, AC Adaptor, External battery (4-pin XLR 9 to 20 V)

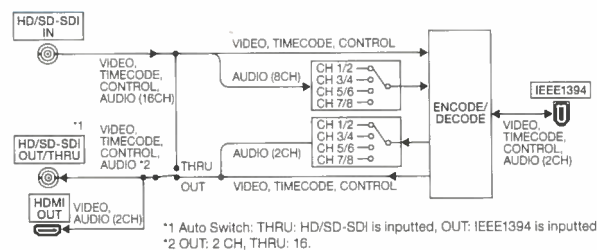
\* Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.



Unit: mm



### Block Diagram



\*1 Auto Switch: THRU: HD/SD-SDI is inputted, OUT: IEEE1394 is inputted.  
\*2 OUT: 2 CH, THRU: 16.

The VC-50HD can pass the original time code and audio stream signals between HD/SD-SDI and IEEE1394.

### SPECIFICATIONS VC-50HD

Video Input Format	<p>&lt;IEEE1394 (i-LINK)&gt; HDV: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, DV: 480/59.94i, 576/50i, MPEG-2 TS: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 480/59.94i, 576/50i</p> <p>&lt;HD/SD-SDI (SMPTE 259M-C, SMPTE 292M)&gt; HD-SDI: 1080/59.94i, 1080/50i (SMPTE 274M), 720/59.94p, 720/50p (SMPTE 296M), SD-SDI: 487/59.94i, 576/50i (ITU-R BT.656-3, 4)</p>
Video Output Format	<p>&lt;IEEE1394 (i-LINK)&gt; HDV: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, DV: 480/59.94i, 576/50i, MPEG-2 TS 50/35/8*1 Mbps (HD): 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, MPEG-2 TS 12/9/2*1 Mbps (SD): 480/59.94i, 576/50i</p> <p>&lt;HD/SD-SDI (SMPTE 259M-C, SMPTE 292M)&gt; HD-SDI: 1080/59.94i, 1080/50i (SMPTE 274M), 720/59.94p, 720/50p (SMPTE 296M), SD-SDI: 487/59.94i, 576/50i (ITU-R BT.656-4)</p> <p>&lt;HDMI&gt; 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 480/59.94i, 576/50i</p>
Audio Input	<p>&lt;IEEE1394&gt; HDV: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps, DV: Linear PCM 16-bit 48 kHz 2ch 384 kbps</p> <p>MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps</p> <p>&lt;HD/SD-SDI Embedded Audio&gt; HD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 299M), SD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 272M-AC)</p>
Audio Output	<p>&lt;IEEE1394&gt; HDV: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps, DV: Linear PCM 16-bit 48 kHz 2ch, MPEG-2 TS: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps</p> <p>&lt;HD/SD-SDI Embedded Audio&gt; HD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 299M), SD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 272M-C)</p> <p>&lt;HDMI&gt; Linear PCM 24-bit 48 kHz 2ch</p>
Timecode In/Out	<p>&lt;IEEE1394&gt; HDV: Conforms to HDV Standard, DV: Conforms to IEC 61834-2, MPEG-2 TS: Conforms to IEC 13818-2</p> <p>&lt;HD/SD-SDI&gt; HD-SDI: Conforms to SMPTE RP188 (VITC, LTC), SD-SDI: Conforms to SMPTE 266M, SMPTE RP188 (VITC, LTC)</p>

Connectors	<p>&lt;IEEE1394 Connector (i.LINK)&gt; 6-pin Type x 1 Conforms to IEEE1394-1995</p> <p>&lt;HD/SD-SDI Input Connector&gt; BNC Type x 1 Conforms to SMPTE 259M-C, SMPTE 292M</p> <p>&lt;HD/SD-SDI Output/Thru Output Connector&gt; BNC Type x 1 Conforms to SMPTE 259M-C, SMPTE 292M</p> <p>&lt;HDMI Output Connector&gt; Type A (19-pin) x 1</p> <p>&lt;USB Connector&gt; B Type x 1 Conforms to USB1.1 Full Speed</p> <p>&lt;DC IN Connector&gt; XLR 4-pin Type x 1 DC 9-20 V</p>
Power Supply	AC Adaptor (PSB-1U) or External Battery (DC 9 to 20 V) or HR15/51 x 8 or LR6 (AA) x 8
Max Operation time	<p>about 2 hour (Nickel Metal Hydride Battery), about 30 min (Alkaline Dry Battery), about 10 hour (External, iDX Endura10 Li-Ion Battery)</p> <p>* battery life will be changed according to the system situation.</p>
Current Draw	2000 mA
Dimensions	114 (W) x 194 (D) x 42 (H) mm 1-1/2 (W) x 7-11/16 (D) x 1-11/16 (H) inches
Weight	620 g, 1 lb 6 oz (excluding batteries)
Accessories	Owner's Manual, AC Adaptor (PSB-1U), Conversion cable (AC Adaptor to XLR 4-pin type connector), AC Power Cord, Battery Case (for AA type battery x 8), Battery Plate Holder, mount screw for Battery Plate Holder x 8, Ferrate Core x 8

\* Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.

\* Parameter setup can be controlled by dip switch, dedicated utility software, or via the F-1 Video Recorder directly (Version 2.0).

\* Dedicated software, VC-50HD RCS for PC or Mac can be downloaded from [www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net).

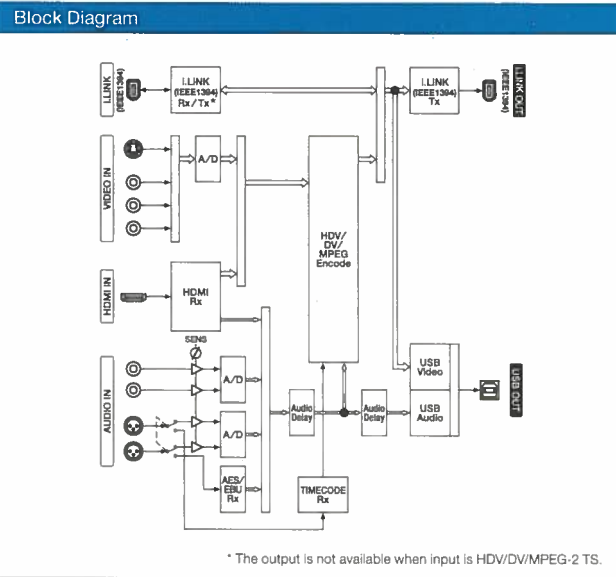
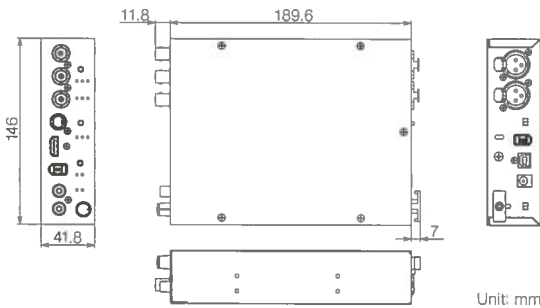
# VC-30HD

Video Converter

## Audio/Video converter for web streaming and capture/archiving



- Webstream and archive to Blu-ray at the same time
- Live event video streaming & recording applications
- Simultaneous USB and two Firewire outputs
- Supports numerous video/audio format conversions
- Easy to capture using Video Capture for VC for Windows
- Setup and Control using VC-30HD RCS for Win/Mac



### SPECIFICATIONS VC-30HD

CODEC TYPE	
HDV	Video Format: MPEG-2 Video, 8 bits, 4:2:0 1440 x 1080/59.94i/50i/23.98p (25 Mbps), 1280 x 720/59.94p/50p (18.3 Mbps), 720 x 480/59.94p, 720 x 576/50p (18 Mbps) Audio Format: MPEG-1 Audio Layer2, 16 bits, 48 kHz, 2 ch (384 kbps)
DV	Video Format: 720 x 480/59.94i, 720 x 576/50i Audio Format: Linear PCM, 16 bits, 48 kHz, 2 ch
MPEG-2	Video Format: MPEG-2 Video, 8 bits, 4:2:0 1920 x 1080/59.94i/50i/23.98p (25 Mbps) *1, 1280 x 720/59.94p/50p (25 Mbps) *1, 720 x 480/59.94p, 720 x 576/50p (25 Mbps) *1, 720 x 480/59.94i, 720 x 576/50i (6 Mbps) *2 Audio Format: MPEG-1 Audio Layer2, 16 bits, 48 kHz, 2 ch (384 kbps)
INPUT	
HDMI *3	Connector Type: Type A (19 pins) x 1 Video Format: 1920 x 1080/59.94i/50i, 1280 x 720/59.94p/50p, 720 x 480/59.94p, 720 x 576/50p, 720 (1440) x 480/59.94i, 720 (1440) x 576/50i Audio Format: Linear PCM, 16 to 24 bit, 32 to 48 kHz, 2 ch
Component	Connectors Type: Y/Pb/Pr (BNC type) x 1 Video Format: 1920 x 1080/59.94i/50i/23.98 PsF, 1280 x 720/59.94p/50p, 720 x 480/59.94p, 720 x 576/50p, 720 x 480/59.94i, 720 x 576/50i Input Level: 1.0 Vp-p (Luminance), 0.7 Vp-p (Chrominance) Impedance: 75 ohms
Composite	Connector Type: BNC type x 1 (Combined use with Component Y Connector) Video Format: NTSC, PAL Input Level: 1.0 Vp-p, Impedance: 75 ohms
S-Video	Connector Type: 4-pin mini DIN type x 1 Video Format: NTSC, PAL Input Level: 1.0 Vp-p (Luminance), 0.286 Vp-p (NTSC Chrominance), 0.3 Vp-p (PAL Chrominance) Impedance: 75 ohms
i.LINK (Front)	Connector Type: 6-pin type (S100) x 1 Signal Format: HDV, DV (IEC61883-2), MPEG-2 TS (IEC61883-4) Maximum Bit Rate: 50 Mbps

Audio (Front)	Connectors Type: RCA phono type x 1 pair (L/R) Input Level: -20 to -6 dBu, Impedance: 35 k ohms
Audio (Rear)	Connectors Type: XLR type (balanced) x 1 pair (L/R) Input Level: -8 to +10 dBu, Impedance: 14 k ohms
Digital Audio	Connector Type: XLR type x 1 (Combined use with Audio Rear R ch Connector) Signal Format: AES3, 16 to 24 bits, 32 to 48 kHz, 2 ch Impedance: 110 ohms
Timecode	Connector Type: XLR type x 1 (Combined use with Audio Rear L ch Connector) Signal Format: SMPTE 12M LTC Input Level: 0.5 to 18 Vp-p, Impedance: 14 k ohms
OUTPUT *4	
i.LINK (Rear)	Connector Type: 6-pin type (S100) x 1 Signal Format: HDV, DV (IEC61883-2), MPEG-2 TS (IEC61883-4) Maximum Bit Rate: 50 Mbps
USB	Connector Type: USB Type B (Hi-Speed USB) x 1 Signal Format: USB Video (DV, MPEG-2 TS), USB Audio (Audio, MIDI) Maximum Bit Rate: 25 Mbps (35 Mbps and 50 Mbps are not supported.)
OTHERS	
Dimensions	146 (W) x 210 (D) x 42 (H) mm 5-3/4 (W) x 8-5/16 (D) x 1-11/16 (H) inches
Weight	900 g, 2 lbs (without AC Adaptor)

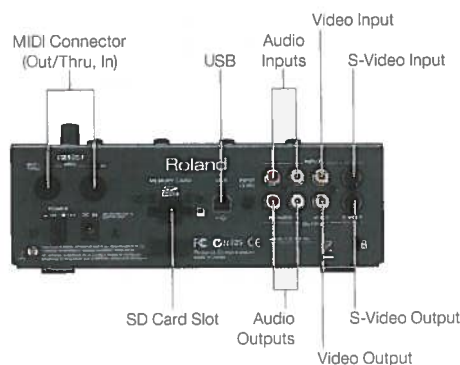
(0dBu=0.775Vrms)  
 \*1: 25 Mbps is default value. MPEG-2 TS bit rate can be set using VC-30HD RCS.  
 \*2: 6 Mbps is default value. MPEG-2 TS bit rate can be set using VC-30HD RCS.  
 \*3: Version 1.3, with Deep Color support.  
 HDCP (High-bandwidth Digital Content Protection) is not supported.  
 \*4: i.LINK and USB output signals are the same bit rate. Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.  
 \* Dedicated software, VC-30HD RCS for PC or Mac can be downloaded from [www.rolandsystemsgroup.net](http://www.rolandsystemsgroup.net).

DIGITAL CONSOLES  
 DIGITAL SNAKES  
 PERSONAL MIXERS  
 MULTI-CHANNEL RECORDERS  
 AUDIO RECORDERS  
 VIDEO MIXERS/SWITCHERS  
 VIDEO CONVERTERS  
 VIDEO PLAYERS  
 APPLICATIONS

# P-10 | Visual Sampler

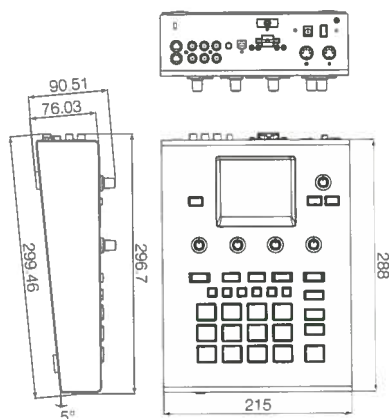
Enjoy easy-to-use, reliable playback of video and still images with dedicated video presenter

V-LINK



- Record to, and Playback from, standard SD or SDHC Memory Cards
- Capturing media from various sources (video decks, DVD players, digital cameras, etc) is extremely easy, and video is stored as Motion JPEG and still images as JPEGs
- Playback modes like Reverse, Strobe, or Motion Control provide impressive effects for your audience, Slide Show enables animation from multiple still images

- Store and recall up to 864 clips using 12 pads and 72 banks
- Built-in 3.5 inch color LCD display eliminates the need for an external monitor
- Hi-Speed USB port for rapid data transfer of media to and from a computer
- Sync your Audio & Video with V-LINK
- Includes P-10 Image Converter Software



Unit: mm

### Movie Play Modes

Forward Loop	Loops playback	Gate 1	Plays while a pad is pressed. Pauses the frame when the pad is released. Press again to start from the paused frame.
Alternate Loop	Repeats forward and reverse playback		
One Shot 1	Stops at final frame and pauses	Gate 2	Plays while a pad is pressed. Output is stopped when the pad is released.
One Shot 2	Stops at final frame without pausing		

### Easily Capture Movies and Assign Clips to Pads

- Play back an image on the external device and press the [EXT SOURCE] button.
- Press the CAPTURE [MOVIE] button at the point that you want to start capturing the movie.
- Press the CAPTURE [MOVIE] button again at the point that you want to stop capturing the movie. (Empty pads flash red.)
- Press a pad that is flashing. The captured movie is assigned to the selected pad.

### SPECIFICATIONS P-10

Maximum track	Video: 1, Audio: 1 (Stereo)
Video Format	NTSC or PAL (selectable)
Data Format	Movies: Motion JPEG (640 x 480 pixels), 29.97 fps (NTSC), 25 fps (PAL), Still image: JPEG (640 x 480 pixels), Audio: WAV (16-bit/44.1 kHz)
Storage Media	SD or SDHC memory card
Number of Clips	Movies only: up to 864 clips (12 pads x 72 banks), Stills only: up to 86,400 clips (100 images x 12 pads x 72 banks)
Video Playback Mode	Forward Loop, Alternate Loop, One Shot (2 types), Gate (2 types)
Visual Effects	Repeat, Reverse, Strobe, Speed, Color, Output Fade, Slide Show
Controller	Speed, Color, Output Fade

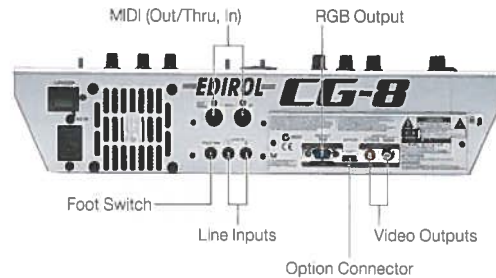
Display	320 x 240 dots QVGA Color Display
Connectors	Composite Video Input: RCA pin type, S-Video Input: 4-pin mini DIN type, Audio Input: RCA pin type (L/R), Composite Video Output: RCA pin type, S-Video Output: 4-pin mini DIN type, Audio Output: RCA pin type (L/R), Headphones: Stereo 1/4 inch Phone type, MIDI (In, Out/Thru), USB
Power Supply	DV 9 V (AC Adaptor)
Current Draw	900 mA
Dimensions	215 (W) x 300 (D) x 91 (H) mm 8-1/2 (W) x 11-13/16 (D) x 3-5/8 (H) inches
Weight	1.9 kg, 33 lbs. 9 oz.



# CG-8 | Visual Synthesizer

Produce moving 3D effects  
from still images - all controllable in real-time

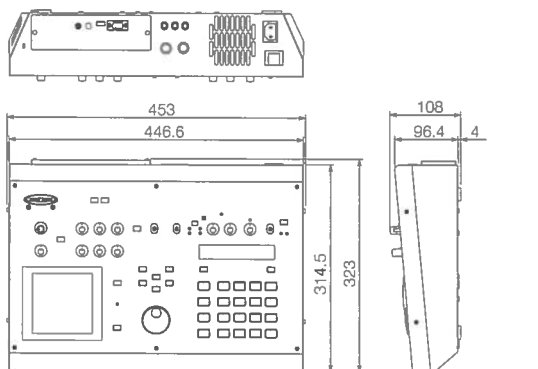
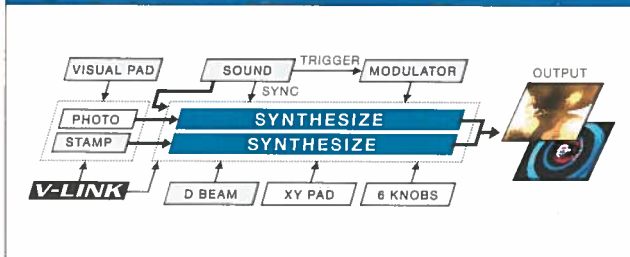
**V-LINK**



- 3D motion graphics from still images - all controllable in real-time
- 2 separate layers of images enables overlay of a 3D moving title, logo or icon on a background moving image
- More than 200 Photo effects and more than 60 Overlay effects
- 16 trigger pads, a twin D-Beam controller, an assignable X-Y pad, control knobs or an optional foot switch

- Adjustable frequency and peak detection provides graphic modulation based on the incoming audio
- VGA, S-video or composite video (NTSC or PAL) output
- MIDI compatibility with support for V-LINK enabled instruments

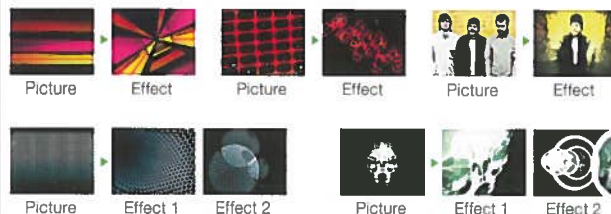
## Image flow within the CG-8



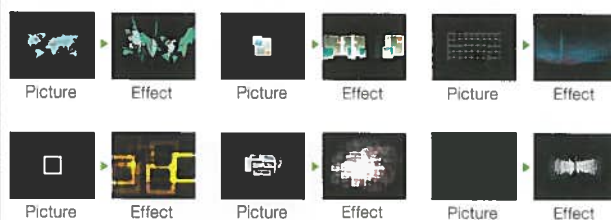
Unit: mm

## Visual Examples

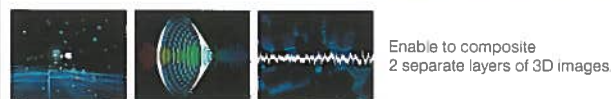
### EXAMPLE 1 (Image of Photo Layer)



### EXAMPLE 2 (Image of Stamp Layer)



### EXAMPLE 3 (Image of Combination)



Enable to composite  
2 separate layers of 3D images.

## SPECIFICATIONS CG-8

<b>Video Format</b>	VGA (640 x 480) 16.7 million colors (24-bit full color) (value is approximate), NTSC or PAL
<b>Number of Photos</b>	Photos: up to 48 JPEG files (512 x 384), Stamp: up to 16 PNG files (512 x 256)
<b>Number of Patches</b>	up to 128 patches per project
<b>Connectors</b>	RGB output: HD DB-15 type, Video output: S-Video output 4-pin mini DIN type (Y: 1.0 Vp-p, C: 0.286 Vp-p, 75-ohm), Composite RCA pin type (1.0 Vp-p, 75-ohm), Audio Input L/R: RCA pin type, MIDI: In, Out/Thru, Foot Switch, Option (for included Memory Card Adaptor)

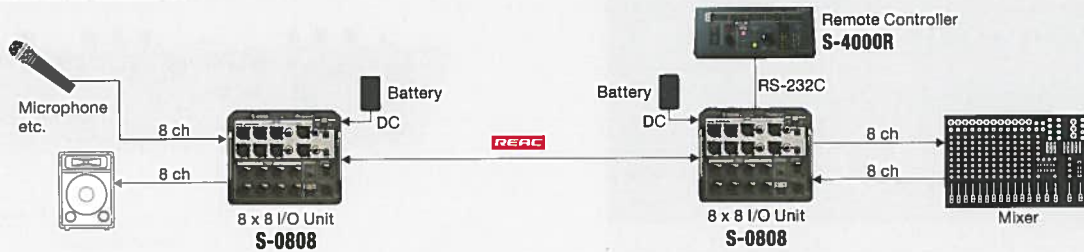
<b>Storage Device</b>	<b>Internal:</b> Hard Disk Drive (for system program and data storage), <b>External:</b> Card Adaptor
<b>Power Supply</b>	AC 117 V, 220 V, 230 V, 240 V (50/60 Hz)
<b>Power Consumption</b>	80 W
<b>Dimensions</b>	453 (W) x 323 (D) x 108 (H) mm 17-7/8 (W) x 12-3/4 (D) x 4-1/4 (H) inches
<b>Weight</b>	5.8 kg, 12 lbs. 13 oz.

# Audio Production

The V-Mixing System/Digital Snake Systems improves sound quality, reduces configuration complexity, and adds breakthrough capabilities.

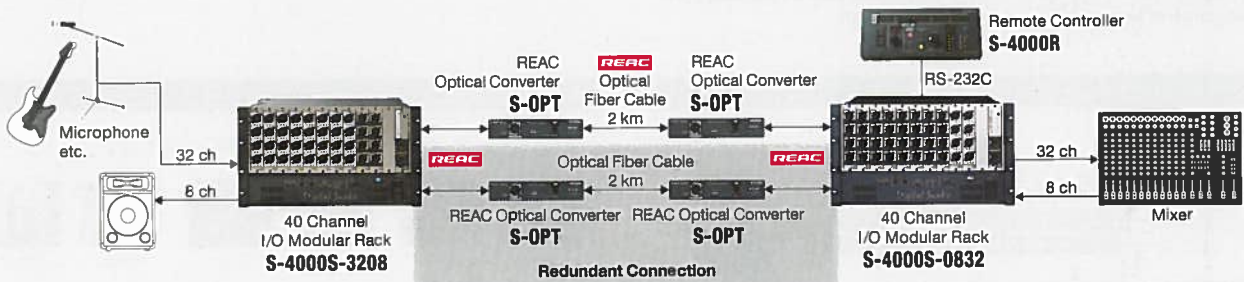
## Location Sound - Digital Snake System 8 x 8 Ch with battery operation

An 8 x 8 Ch Digital Snake system enables high quality audio transmission with an easy setup. This system is ideal when AC power is not convenient or available.



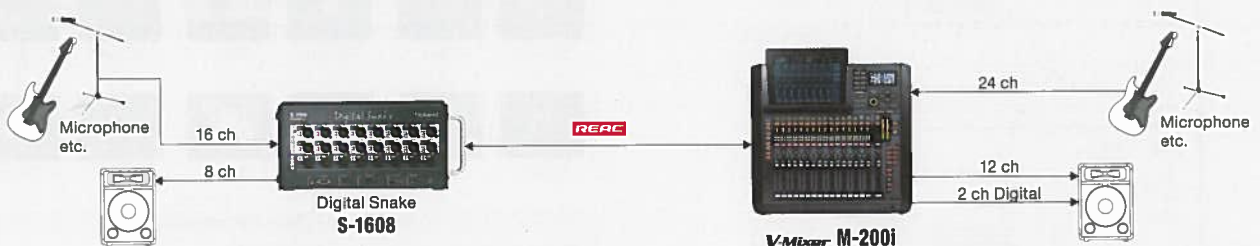
## Broadcast - Long Distance Digital Audio Transmission - 32 x 8 Ch with Redundancy

By using the S-OPT REAC optical converter and optical cables (sold separately), the REAC transmission distance can be extended to a maximum of 2 kilometers. If the main cable is compromised, the system will automatically and seamlessly switch to the backup cable.



## Live Event - Compact V-Mixing System – 40 Inputs/22 Outputs

16 mic/line inputs, 8 line inputs, 2 main outputs, and 10 assignable outputs are all included in the M-200i. Connect a Digital Snake to the REAC port to expand the number of inputs and outputs.



## Installed Sound - Standard V-Mixing System – 42 Inputs/26 Outputs

Standard System consists of two S-1608 Digital Snakes on stage.



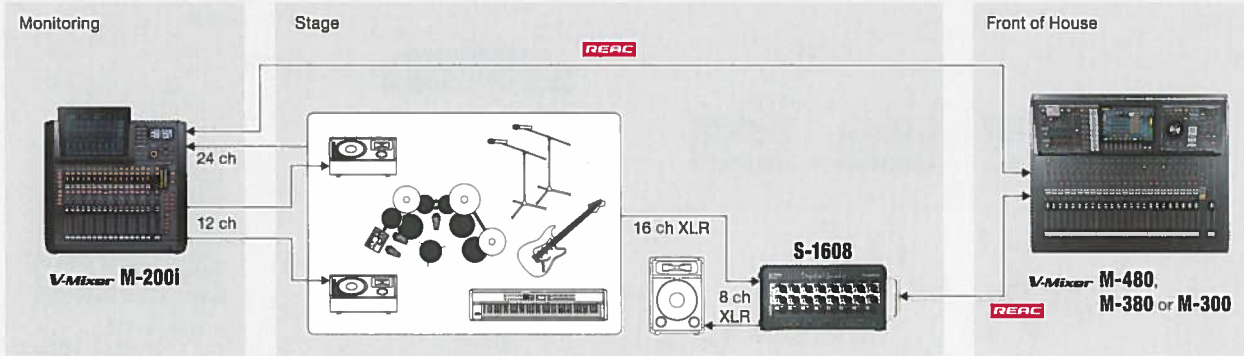
DIGITAL CONSOLES  
DIGITAL SNAKES  
PERSONAL MIXERS  
MULTI-CHANNEL RECORDERS  
AUDIO RECORDERS  
VIDEO MIXERS/SWITCHERS  
VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# Audio Production

The V-Mixing System/Digital Snake System is configurable for any sound system along with convenient Split, Merge, and Embedded Power technology. It is not an "all or nothing" system so even your current mixing environment can be combined with the V-Mixing System.

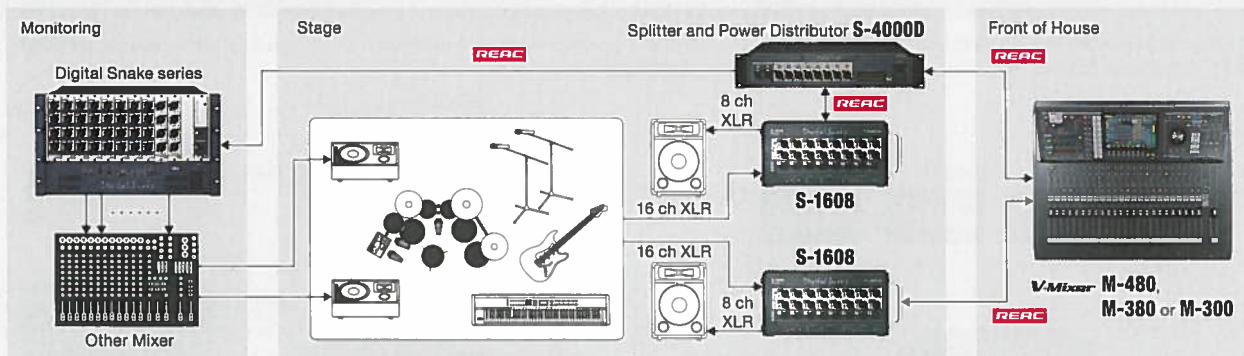
## Front of House, Stage I/O and Monitor V-Mixers Setup

The M-200i can be used as a stage I/O unit and a monitor console simultaneously with a V-Mixer on FOH.



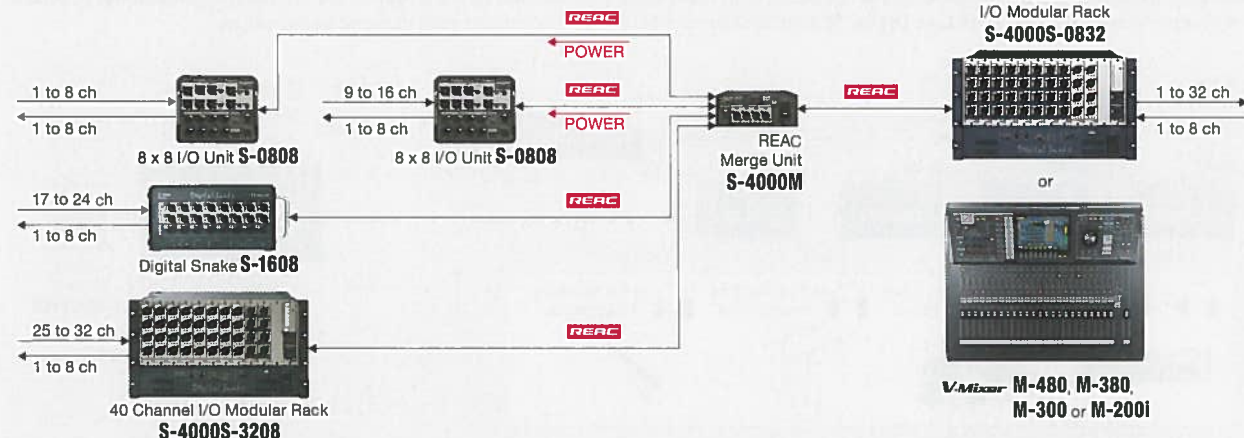
## Monitoring Split Setup using Other Mixers

Any analog or digital console can be used as a monitor console with the V-Mixing System.



## Merge Setup for Distributed Inputs and Outputs

Using the S-4000M, up to 4 REAC signals (up to 160 inputs) from Digital Snakes can be merged to one single REAC signal (40ch). The S-0808 can be used in a place where AC power is not available using REAC Embedded Power technology.



DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

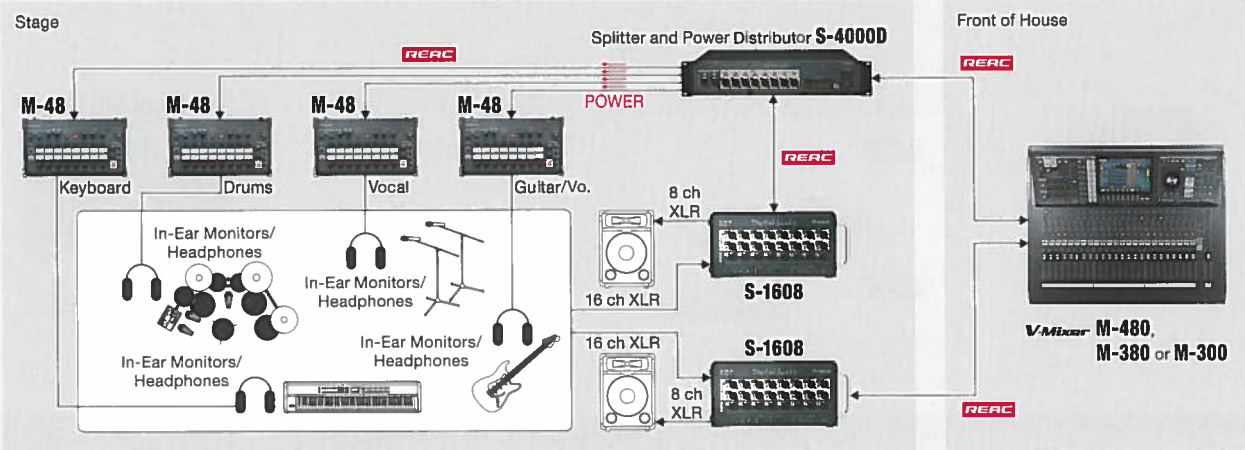
APPLICATIONS

# Personal Mixing

M-48 Live Personal Mixing System offers each musician the flexibility to control exactly what they want to listen to during their performance.

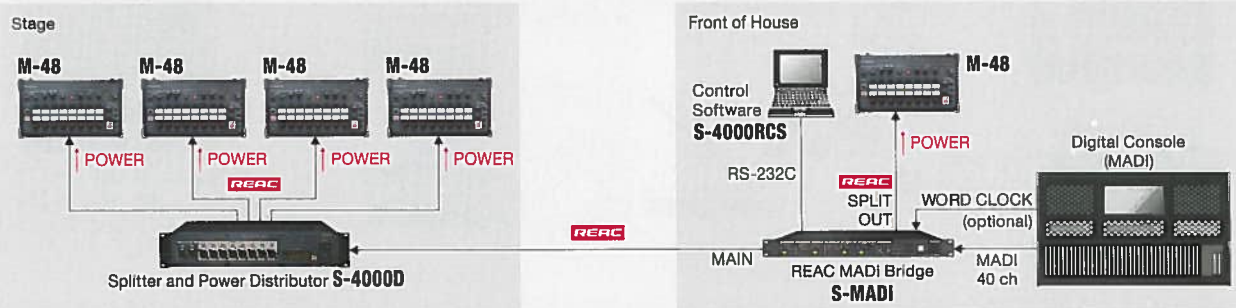
## Personal Mixing Setup with V-Mixer

The M-48 enables control of up to 40 audio sources that can be managed via 16 stereo groups - assignable and unique per musician. Any V-Mixer can setup and control multiple M-48s via the S-4000D.



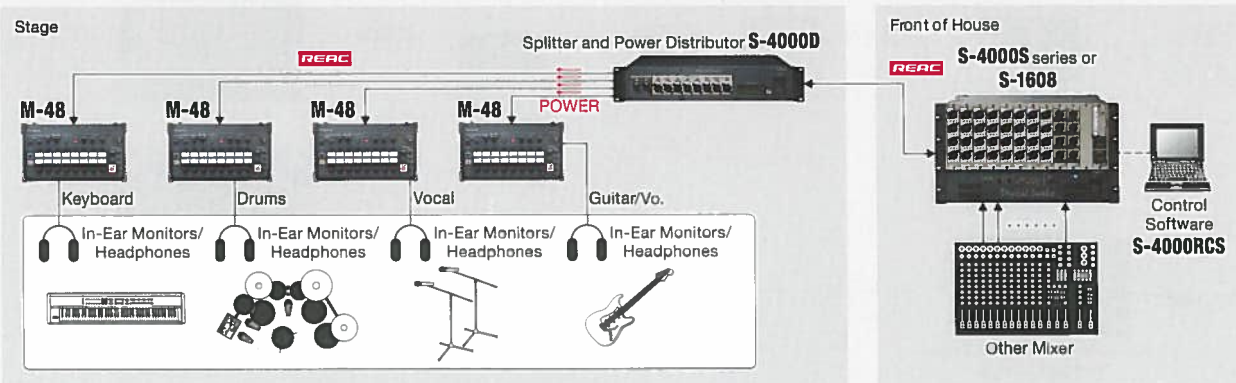
## Personal Mixing Setup with Other Digital Consoles

Connect several M-48 Live Personal Mixers to a MADI equipped digital console. An additional M-48 can be connected to the SPLIT OUT port on the S-MADI that also supplies power - all over one Cat5e cable.



## Personal Mixing Setup with Other Mixers

With your existing console, connect the M-48 along with the S-1608 (16 channel) or the S-4000S (40 channel) Digital Snake to utilize the complete system. The M-48 Live Digital Mixing System can be incorporated into your existing audio setup.



DIGITAL CONSOLES  
 DIGITAL SNAKES  
 PERSONAL MIXERS  
 MULTI-CHANNEL RECORDERS  
 AUDIO RECORDERS  
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 VIDEO PLAYERS  
 APPLICATIONS

# Recording/Broadcasting

A REAC-based system enables a powerful and flexible mixing/recording environment with high sound quality, intuitive operation and easy set-up.

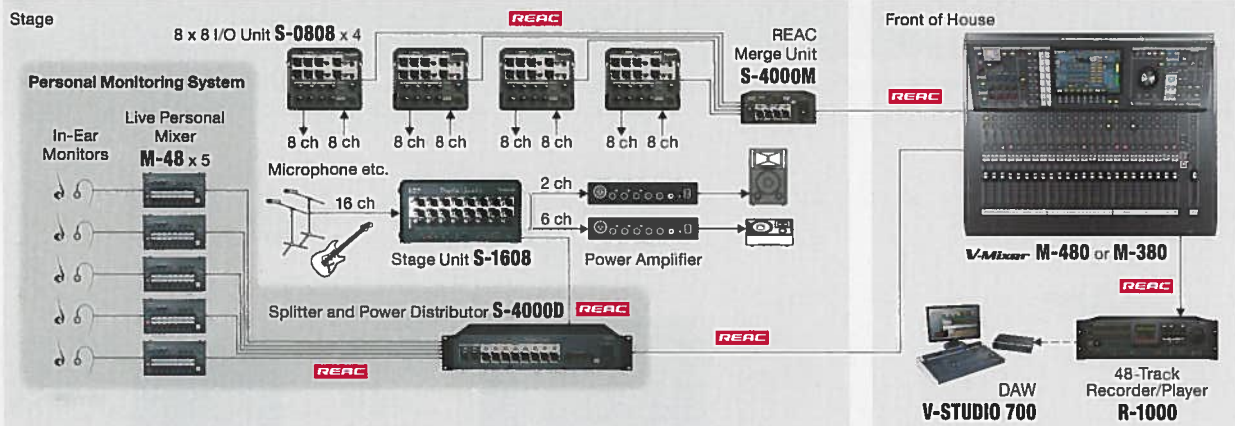
## Recording, Sound Check, Backing Track and Playback System (V-Mixer)

The R-1000 can be used as a 48-channel multi-track recording and playback system for live concerts and productions. Utilizing the benefit of bi-directional audio with REAC, the R-1000 can be connected between the V-Mixer and the Digital Snake for recording, sound check, rehearsals and training exercises.



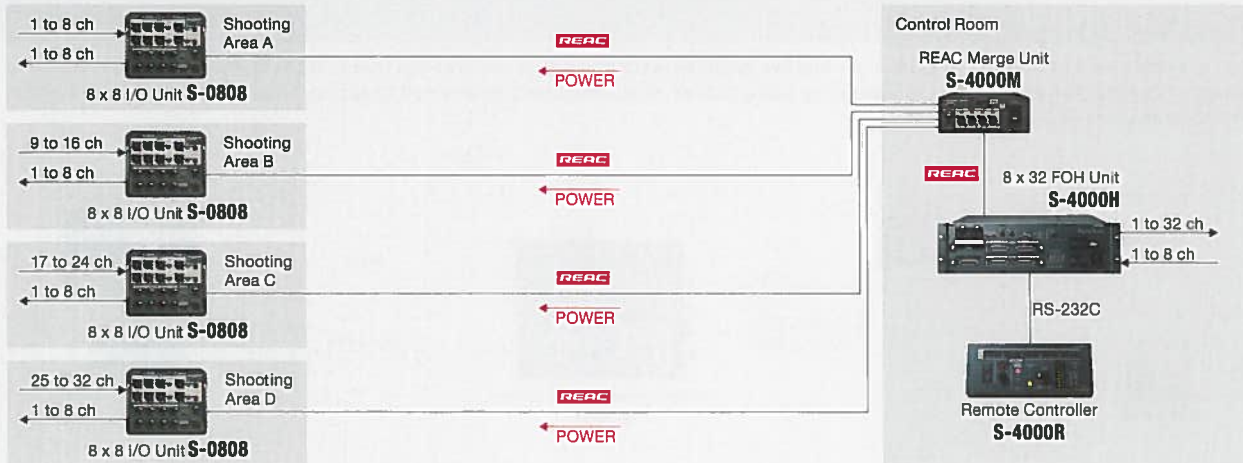
## Full Digital Mixing, Monitoring and Recording Setup

This configuration enables full digital mixing, monitoring and recording. Combining the S-0808 and S-4000M offers an unparalleled setup flexibility. This live recording system uses the REAC port of the V-Mixer (SPLIT/BACKUP) connected to the REAC port (TO MASTER) of the R-1000. Up to 40 channels of 24-bit audio from the V-Mixer is recorded to the R-1000 and once finished can be opened in any DAW software such as Cakewalk SONAR/V-STUDIO by accessing the HDD.



## Broadcasting System with Multiple Locations

This system allows I/O to be placed in 4 separate locations using S-0808s. The signals from the 4 units are merged by the S-4000M as it travels to the S-4000H breakout location. Power to each of the S-0808s is supplied by the embedded power over REAC from the S-4000M.



DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

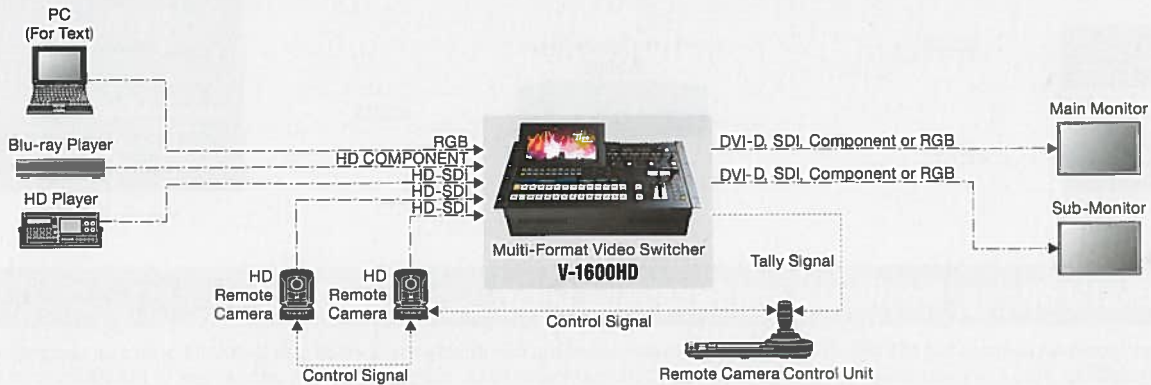
APPLICATIONS

# Visual Production

Roland professional video products enable powerful, high quality live video production with intuitive operation. Clear user interfaces provide reliability and easy to use mixers and playback devices.

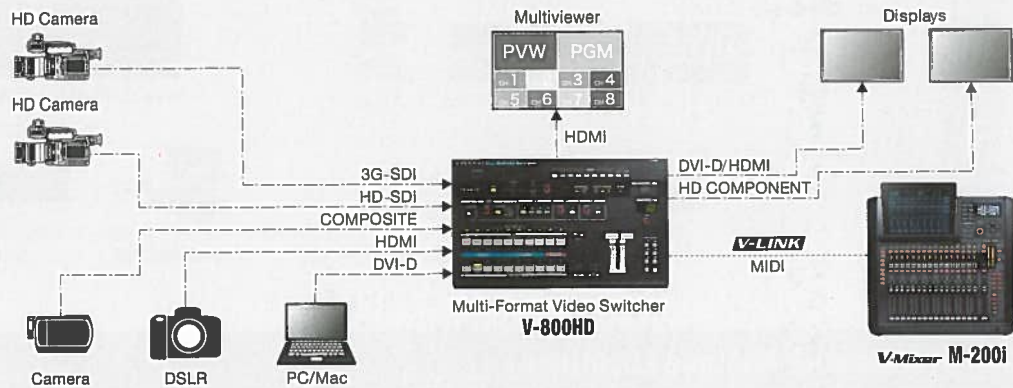
## Concert/Live Stage Production

The V-1600HD enables high quality multi-format video mixing for concert/live stage productions. Many types of video formats can be input and mixed thanks to built-in scalars.



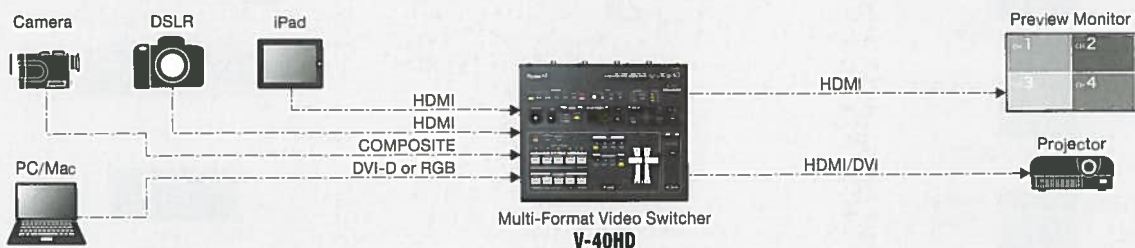
## Corporate Presentation

This presentation system enables seamless video switching between different video formats - HD/SD video sources and RGB signals from PC. With V-LINK, audio faders on a Roland audio mixer follow the input selections and T-bar position of the video mixer.



## Event Production

The V-40HD Live Video Switcher is ideal for any live event or installation that requires the freedom to connect a variety of sources whether they be digital or analog, computer or video format. It is particularly positioned to support configurations using popular HDMI cameras as well as computers.



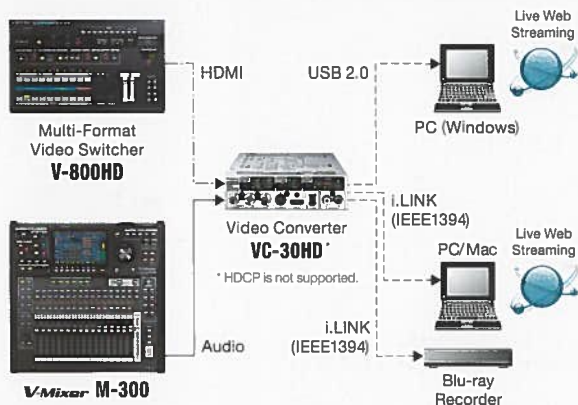
DIGITAL CONSOLES  
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MULTI-CHANNEL RECORDERS  
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VIDEO CONVERTERS  
VIDEO PLAYERS  
APPLICATIONS

# Web Streaming and Capture/Archiving

Integrating Roland Professional Audio and Video products together enables unique and flexible solutions suitable for many applications.

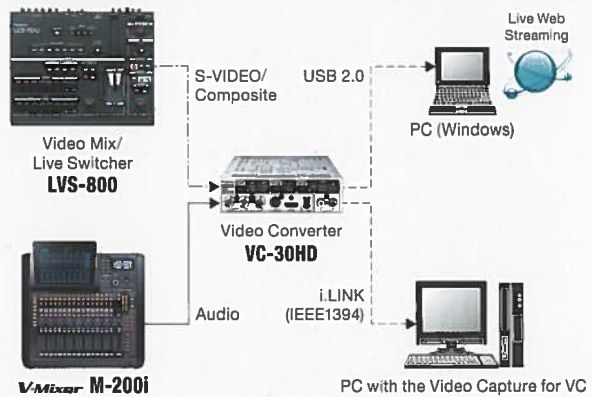
## HD Live Streaming + Archiving

Convert and combine video and audio to MPEG-2 for live streaming. Simultaneously output to IEEE1394 and USB 2.0 ports.



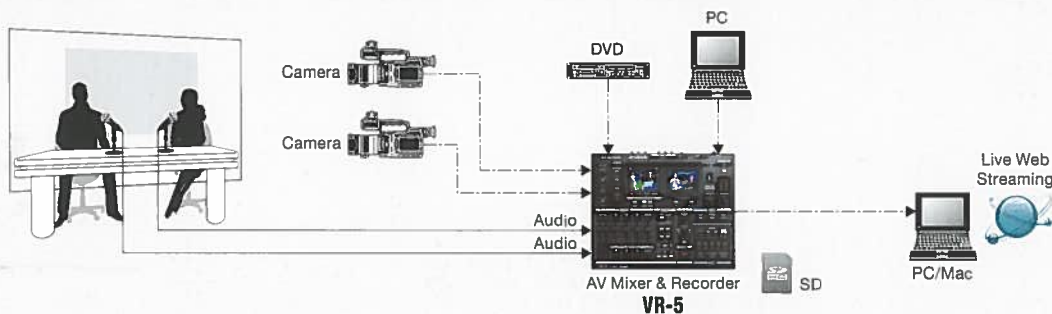
## Live Streaming + Backup Recording

Output from video and audio equipment can be combined and used for web streaming and recording to video devices for backup.



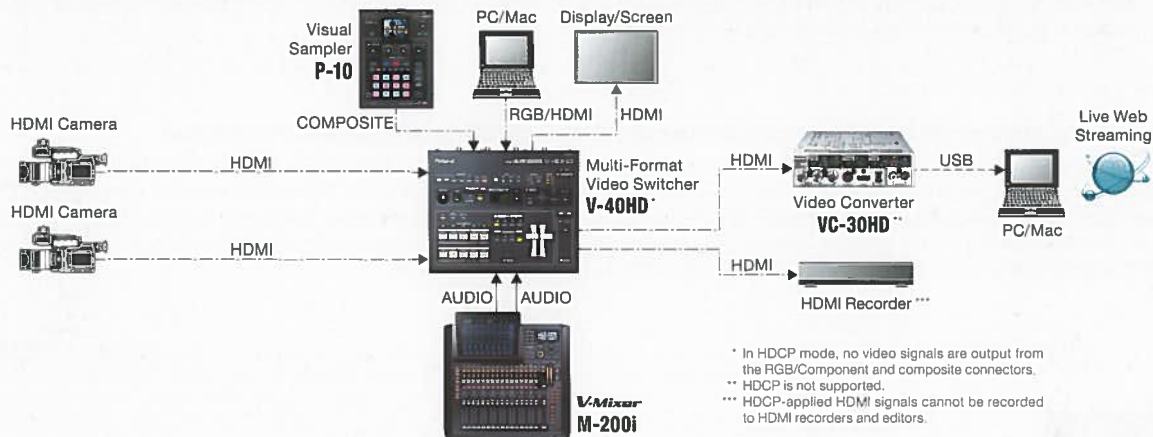
## Live Video Production and Web Streaming

The VR-5 has all the necessary functions for live production including an audio mixer, video switcher, scan converter, video recorder, media player and video output via USB. With VR-5, a live web broadcasting environment becomes simple and easy to operate.



## Live Stage/Church production with live broadcasting

The V-40HD Live Video Switcher is ideal for any live event or installation that requires the freedom to connect a variety of sources whether they be digital or analog, computer or video format. The V-40HD can input background music, narration, or other analog sound sources, mix and sync the video and audio, and then output the result via HDMI.



\* In HDCP mode, no video signals are output from the RGB/Component and composite connectors.  
 \*\* HDCP is not supported.  
 \*\*\* HDCP-applied HDMI signals cannot be recorded to HDMI recorders and editors.

DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

APPLICATIONS



Roland Systems Group, a member of the worldwide group of Roland companies, is dedicated to the support of audio and video professionals demanding excellence in both performance and system design. Through the development and support of video and audio products, we endeavor to improve workflow and maximize creative possibilities.

### **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.)



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