

Roland

# V-4EX

4-CHANNEL VIDEO MIXER

HDMI DVI-D RGB COMPONENT S-VIDEO COMPOSITE



All in one video mixer  
with HDMI in/out, USB streaming out,  
and built-in multiviewer with touch control

480p/576p

HDCP

AUDIO  
EMBEDDING



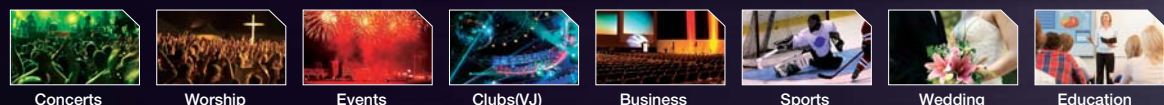
# Accessible and quality video performance and web streaming -

The V-4EX - advancing the legendary V-4 and V-8 family to now include HDMI in/out, progressive internal processing, audio embedding, USB streaming and built-in touch monitor.

	V-4 4-CHANNEL VIDEO MIXER	V-8 8-CHANNEL VIDEO MIXER	V-4EX 4-CHANNEL VIDEO MIXER
Analog IN/OUT	COMPOSITE S-VIDEO	COMPOSITE S-VIDEO RGB	COMPOSITE S-VIDEO RGB COMPONENT
Digital IN/OUT			HDMI DVI-D
Video Processing	Interlaced (480i/576i)	Interlaced (480i/576i)	Progressive (480p/576p)
New Features			<ul style="list-style-type: none"> <li>Audio Embedding</li> <li>USB Streaming Out</li> <li>Built-in Touch Multiviewer</li> <li>Frame Synchronizers on All Inputs</li> <li>Scalers on CH 4 and Output</li> </ul>

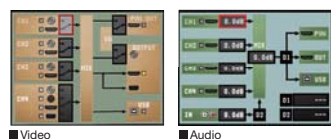


The V-4EX provides a single unit solution for many applications.



## INPUT Buttons

Displays the input/output patching screen for video or audio.



## HDCP Indicator

The V-4EX features an HDCP mode that lets you input and switch commercial digital video from sources such as Blu-ray Discs or game consoles encoded using HDCP digital copyright management technology. \*

## LCD monitor with touch control

You can monitor settings, 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. You can select either 16:9 or 4:3 as the aspect ratio for video displayed on the monitor.

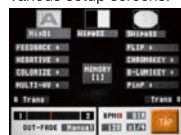


## MENU Button and VALUE Dial

Use this to bring up the menu screen to select and control various parameters.

## Setup Buttons

Use these buttons to access various setup screens.

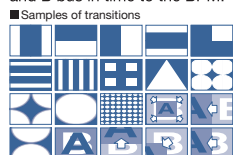


## MEMORY Dial

Select one of eight memory settings of the V-4EX instantly by turning this dial.

## Transition Buttons and BPM SYNC Button

Select the type of transition effects. When BPM SYNC is turned on, the V-4EX automatically switches between the A and B bus in time to the BPM.



## Transformer

Instantly toggle between the A and B images without using the video fader.

## Video Fader

The T-Bar video fader allows intuitive transitions between the A and B buses. You can change the T-bar orientation from up/down to left/right- your preference.

## MONITOR Buttons

These control the view mode of the monitor.

## OUTPUT FADE Dial

Apply fade-to-white or fade-to-black to the final output.

## FREEZE Button

This freezes the final output. It lights up while the still video is being output.

## Input Selectors

Select the input source for A and B buses. Each input has a frame synchronizer so hitting any button ensures a glitch-free image switch.

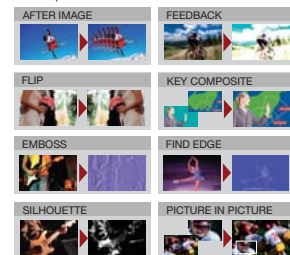
## Control Dials

This changes (move up to previous line) the amount of effect applied to the video on A/B-buses in a smooth and continuous manner.

## Effect Buttons

These customizable buttons apply video effects (filter/composition) to inputs on A/B buses.

Examples of video effects



\*Commercial use of content requires the permission of the copyright holder.

\*In HDCP mode, only HDMI output can be used. Use of RGB/Component, Composite, and USB output is not possible.

\*The display or projector connected to HDMI output must support HDCP.

USB AUDIO CLASS

USB VIDEO CLASS

259 Transitions  
 148 Effects

**AUDIO EMBEDDING**

480p/576p

16:9/4:3

**Audio Mixer & Delay**  
-up to 4 frames

**HDMI**  
up to 1080p

**Built-in Touch Multiviewer**

\*Input 1-3 : 480p/576p, Input 4 : up-to 1080p

**10 IN-4CH/3OUT**

**HDCP**

**RGB/COMPONENT**  
up to WUXGA



**AUDIO Input**

The V-4EX is equipped with inputs for analog audio equipment. This enables you to embed analog audio in the HDMI video outputs and USB streaming output.

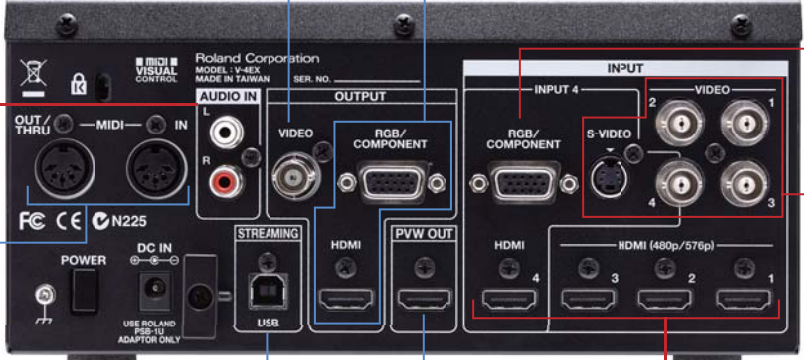


**MIDI CONTROL**

You can use MIDI to interlink the V-4EX with other products including the Roland V-Mixing system and even another V-4EX/V-8.

**COMPOSITE Output**  
NTSC/PAL

**HDMI and RGB/COMPONENT Output**  
Scaled from SD up to WUXGA, 1080p



**RGB/COMPONENT Input**  
Up to WUXGA, 1080p



**COMPOSITE Input**  
**S-VIDEO Input**  
NTSC/PAL

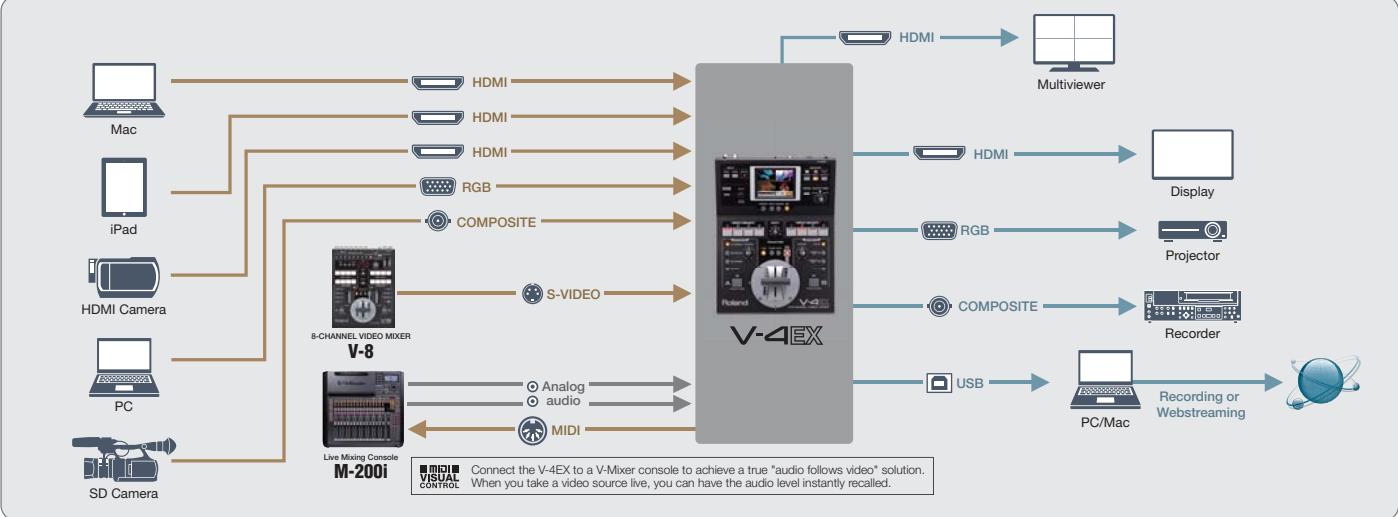
**USB Streaming Output**  
USB video/audio class device for webstreaming or recording with a PC/Mac.

**Multiviewer Output**  
480p/576p

**HDMI Input**  
IN 1-3: 480p/576p, IN 4: Up to 1080p

**Application sample**

\*For details about supported formats, refer to the specifications on the back cover.



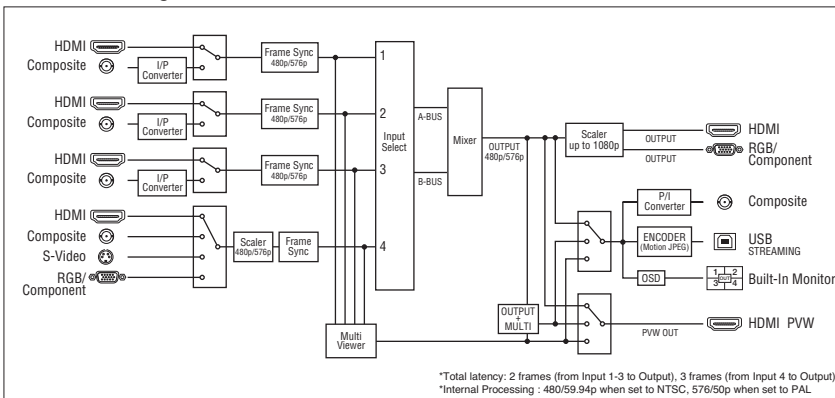
Connect the V-4EX to a V-Mixer console to achieve a true "audio follows video" solution. When you take a video source live, you can have the audio level instantly recalled.

## Specifications

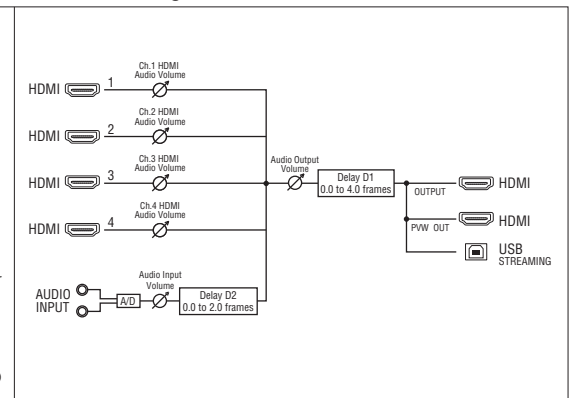
<b>Video Processing</b>	4:2:2 (Y/Pb/Pr), 8 bits (Internal Processing : 480/59.94p when set to NTSC, 576/50p when set to PAL)	<b>Input Connectors</b>	Video	HDMI : Type A (19 pins) x 4 (INPUT 1 -- 4) RGB/Component : HD DB-15 type x 1 (INPUT 4) Composite : BNC type x 4 (INPUT 1 -- 4) S-Video : 4-pin mini DIN type x 1 (INPUT 4)
<b>Audio Processing</b>	Sampling Rate : 24 bits/48 kHz, 2 ch		Audio	RCA-pin type x 1 pair (AUDIO IN)
<b>Input Formats</b>	HDMI Video (INPUT 1 -- 3) : requires 720x480/59.94p (when set to NTSC), 576/50p (when set to PAL) HDMI and Component Video (INPUT 4) : 480/59.94i, 480/59.94p, 720/59.94p, 1080/59.94i, 1080/59.94p (when set to NTSC), 576/50i, 576/50p, 720/50p, 1080/50i, 1080/50p (when set to PAL) HDMI Audio (INPUT 1 -- 4) : Linear PCM, 24 bits/48 kHz, 2 ch RGB (INPUT 4) : 640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1366 x 768/60Hz, 1400 x 1050/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz * The refresh rate is the maximum value of each resolution. * Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60Hz : Reduced blanking Composite Video (INPUT 1 -- 4) : NTSC, PAL S-Video (INPUT 4) : NTSC, PAL	<b>Output Connectors</b>	Final Output	HDMI : Type A (19 pins) x 1 (OUTPUT) RGB/Component : HD DB-15 type x 1 (OUTPUT) Composite : BNC type x 1 (OUTPUT)
			Preview Output	HDMI : Type A (19 pins) x 1 (PWV OUT)
<b>Output Formats</b>	HDMI and RGB/Component Video (OUTPUT) : 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, 1366 x 768, 1400 x 1050, 1600 x 1200, 1920 x 1200 * The output format of HDMI and RGB/Component is always the same. When an interlaced format is selected, component signal is output from the RGB/COMPONENT connector. When a non-interlaced format is selected, RGB signal is output from the RGB/COMPONENT connector. * The refresh rates of RGB format is 60 Hz when set to NTSC, 75 Hz when set to PAL (excluding 1600 x 1200 and 1920 x 1200. The refresh rate of these 2 is 75 Hz when set to PAL.) * RGB formats : Conforms to VESA DMT Version 1.0 Revision 11. * 1920 x 1200/60Hz : Reduced blanking HDMI Audio (OUTPUT) : Linear PCM, 24 bits/48 kHz, 2 ch Composite Video : NTSC, PAL Preview Video (PWV OUT) : 480/59.94p when set to NTSC, 576/50p when set to PAL Preview Audio (PWV OUT) : Linear PCM, 24 bits/48 kHz, 2 ch USB Video : 720 x 480 when set to NTSC, 720 x 576 when set to PAL, Motion JPEG USB Audio : Linear PCM, 16 bits/48 kHz, 2 ch	<b>Other Connectors</b>	MIDI : 5 pins DIN type x 2 (IN, OUT/THRU) USB : B type x 1 (for streaming and remote control)	
		<b>Signal Level Impedance</b>	RGB/Component	Signal Level : 1.0 Vp-p (luminance), 0.7 Vp-p (chroma) Impedance : 75 ohms
			Composite	Signal Level : 1.0 Vp-p Impedance : 75 ohms
			S-Video	Signal Level : 1.0 Vp-p Impedance : 75 ohms
			Analog Audio	Nominal Input Level : - 10 dBu Maximum Input Level : + 8 dBu Impedance : 15 k ohms
			<b>Display</b>	Graphic Color LCD, 320 x 240 dots, touch panel
	<b>Video Effects</b>	Transition : Mix, Cut, Wipe (259 patterns) Composition/Filter : Picture in Picture, Luminance Key, Chroma Key, Strobe, Negative, Colorize, Feedback, Emboss, Multi, Mirror etc. (148 types) Others : Output Fade, Freeze		
	<b>Power Supply</b>	AC adaptor		
	<b>Current Draw</b>	2.0 A		
	<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 (excl. AC adaptor)		
	<b>Accessories</b>	AC adaptor, Power Cord, RCA - BNC conversion plug x 2, Owner's Manual		

\* OdBus=0.775Vrms

## Video Block Diagram



## Audio Block Diagram



## Video Capture for VR

Video Capture for VR is application software that captures video and audio signals output from the V-4EX and saves them to files on your PC connected to the V-4EX via USB.

OS : Windows 7 /Windows Vista

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

## Related Items



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

**MULTI-FORMAT VIDEO SWITCHER**

**V-40HD**

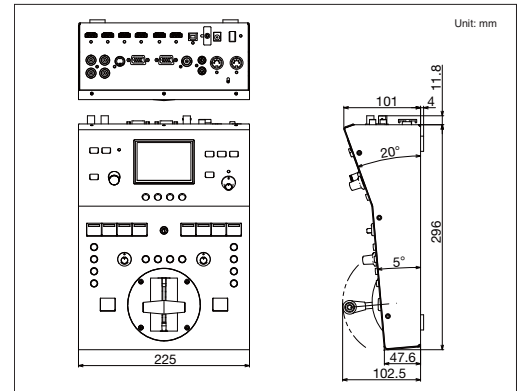


Portable Audio and Video Mixer with USB Streaming

**AV MIXER**

**VR-3**

## Dimensions



# Roland Systems Group

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.



MIDI Visual Control is an internationally-used recommended practice that was added to the MIDI specification so that visual expression could be linked with musical performance. Video equipment that is compatible with MIDI Visual Control can be connected to electronic musical instruments via MIDI in order to control video equipment in tandem with a performance.



Using V-LINK, musicians can "play" video from their electronic instrument when used with Roland video products. With V-LINK, musicians have a powerful interface for realtime audio and video integration.

## 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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