VR-50HD MKII | MULTI-FORMAT AV MIXER

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

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

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

FOUR LAYER COMPOSITION

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

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

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

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

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

RGB/COMPONENT INPUT/OUTPUT
Up to 1080p.

COMPOSITE INPUT
NTSC or PAL.

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

HDMI OUTPUT
Up to 1080p
HDCP support.

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

HDMI INPUT
Up to 1080p, HDCP support.

All-in-one convenience and ultra-flexible connectivity

- Aux output for dedicated record, streaming, or confidence monitor feeds
- New high-quality audio preamps and converters for crystal-clear sound
- Automatic audio mixing and video switching functions to support single operators
- Updated user interface for fast, trouble-free operation
- Direct control of select PTZ cameras from Canon, JVC and Panasonic over LAN
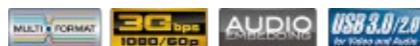
Mark II, Inspired by You

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

All-in-one convenience and ultra-flexible connectivity

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

Separate feeds for separate needs

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

Redesigned interface for free-flowing operation

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

Pro sound made easy

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

Integrated PTZ camera control

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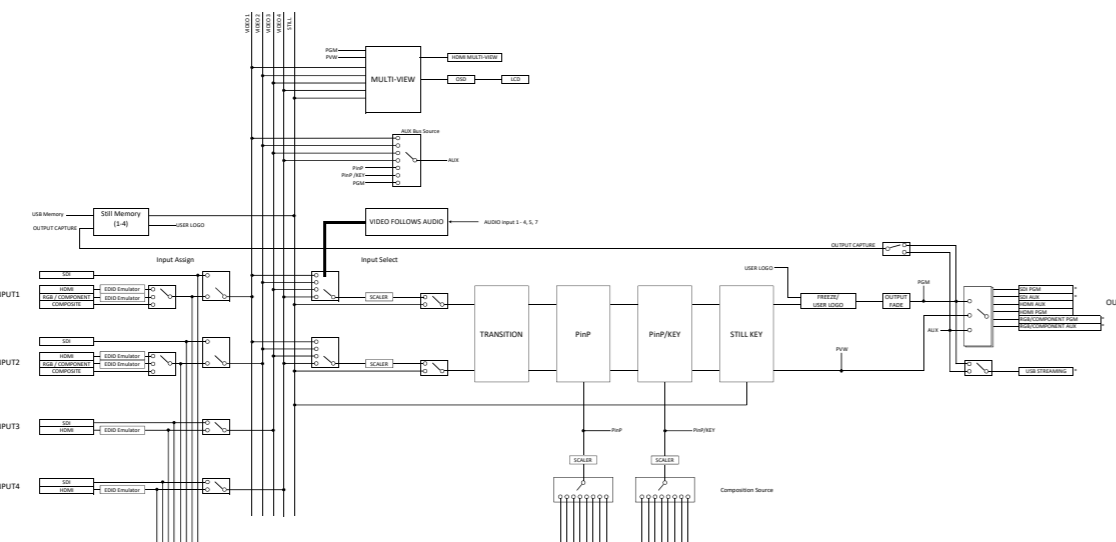
Intelligence built in

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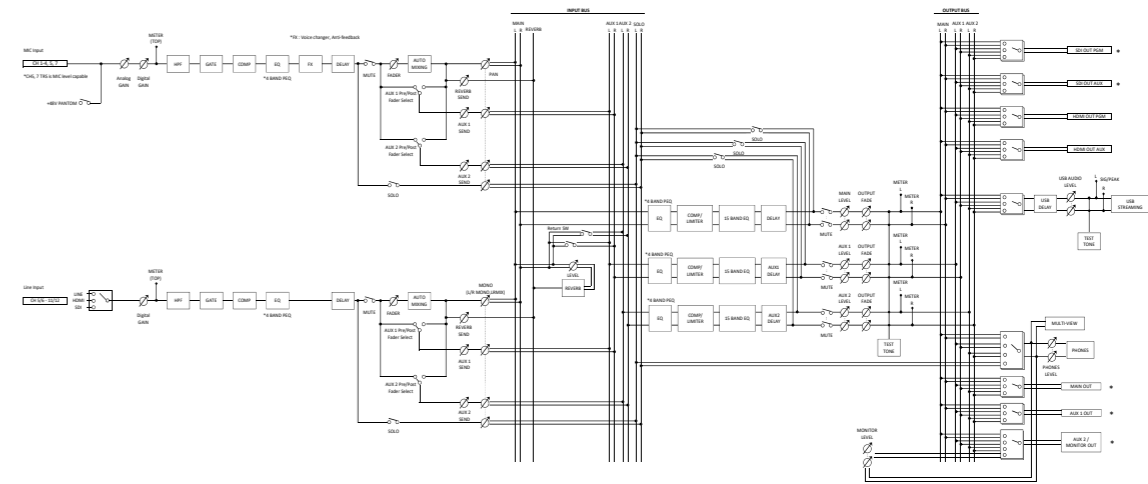
Four-layer composition and still store

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

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

Easy, uncompressed streaming output with USB 3.0

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

BLOCK DIAGRAM

VIDEO

AUDIO

SPECIFICATIONS VR-50HD

VIDEO

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

SYSTEM RECOMMENDATIONS

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

AUDIO

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

OTHERS

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

0 dBu=0.775 Vrms