

HD/SD/ANALOG MIXED HIGH RESOLUTION MULTI VIEWER

MV-1620HS



Up to 16 Channels, Two-Screen Output

The MV-1620HS is a compact (1RU) multi-viewer that accepts up to 16 channels of mixed HD/SD-SDI or analog composite signals for monitoring on one or two (option) screens. Full-featured yet economical, the unit offers a customizable window layout and displays audio levels, titles, and timers, etc.

Versatile Mixed-Source Environment

Supports mixed signals as required, from HD-SDI, SD-SDI, or analog composite sources. Asynchronous input is also supported. The viewer accepts an array of formats and frame rates including NTSC, PAL, 1080/59.94i, 1080/23.98PsF and 1080/50i.

HD Output of Source Signals

Sources can be displayed on one or two (option) screens, with HDMI and SDI interfaces available for both screens to support HD monitoring.

Layout Manager

Includes a Windows application for managing the layout. Customize the layout on a computer by registering or changing layout patterns, adjusting title display, and configuring other settings as needed. Store up to 16 layout patterns on the viewer. Saved layouts can be applied directly from the front panel control.



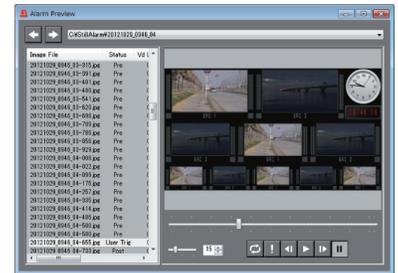
Layout Manager screen



Video streaming screen (Live Viewer)

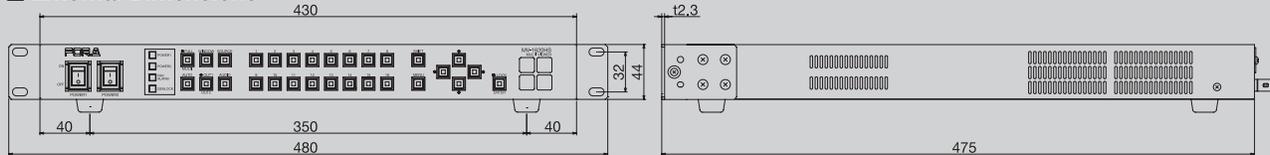
Video Streaming

In addition to computer-based layout management, you can also stream video from the viewer over Ethernet. The streaming video can be used for additional local computer display or for remote monitoring.

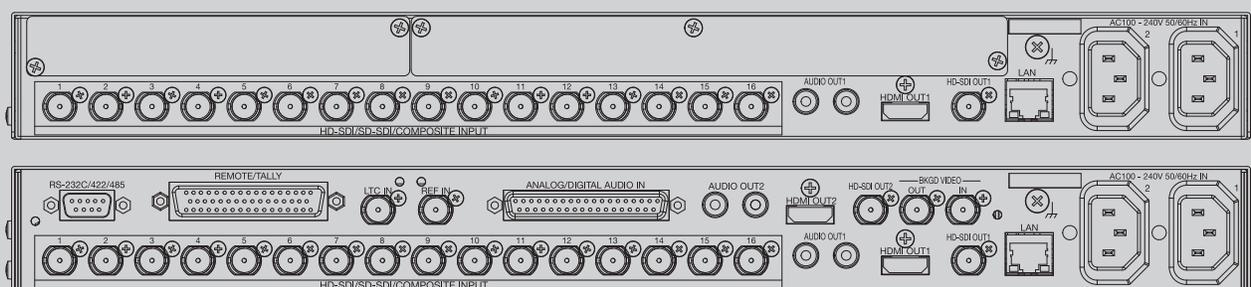


Screen for recording streams (Alarm Preview)

External Dimensions



Rear Panel



▲ Fully Equipped with Options

Front Control Panel

Standard front control panel enables layout and channel switching, local control settings, as well as remote operation.

Audio Level Display

Monitor audio levels of up to 16 channels of HD/SD-SDI embedded audio. For each source signal, use Layout Manager to customize displays for positions, the number of channels shown, and the display groups.

Tally Display/Title Display/Timecode Display

- Tally: Choose from frame tally or marker tally display.
- Titles: Identify each source channel with a title. Supports display of alphanumeric characters and symbols (up to 16 letters), which can be displayed within or outside the picture.
- Timecode: Ancillary Timecode can be displayed on HD/SD-SDI.

Logo Display/ Background Display

Register up to eight logos and four background images. Add two logos and one background per output, as required.

Adding logos and backgrounds



Time Display

Correct clock time is ensured by SNTP server sync. Two clocks can be displayed, in analog or digital format. Date display is also available. If not used as a clock display, this feature can be used as a count up/down timer, or remaining time counter.

Audio Monitoring Output

Audio from any channel can be monitored via HD-SDI, HDMI, or analog audio output.

Error Display

- Video: video signal loss, frozen frames, incorrect luminance/black levels, or CRC error
- Audio: audio signal loss, silence, or excessive audio levels

Expansion Options

- MV-1620DO: Reference input, analog audio/AES input, HD-SDI, HDMI, analog audio monitoring output, and background input/output
- MV-1620IF: Add a variety of control interfaces by using RS-232C/422/485 or GPIO input
- MV-1620RT: Rotated image output (90/180/270°)
- MV-1620SNMP: Remote monitoring of source signals and fan alarm status
- MV-1620PS: Redundant power supply

FOR-A Multi-Viewer Line-up

MV-3200 Series



- Mixed 3G (Level A)/HD/SD-SDI, analog composite, or computer (DVI) input. (Async input also supported)
- Add up to four input and two output cards, for split display of a total of 32 signals on four screens.

MV-1600HS Series



- Includes 18 models in all, varying by input quantity and signal format.
- Mixed HD/SD-SDI, analog composite, or computer input.
- Displays up to 16 source channels at once. (varies by model)

MV-410HS



- Accepts four HD/SD-SDI or analog composite signals. (Mixed and async input supported)
- Video streaming over Ethernet
- Audio level display (Max. 8 channels).
- Redundant power supply supported (option).

MV-410RGB



- Mixed DVI (digital/analog RGB from computers or other equipment) and regular analog composite video signals. (Async input supported)
- Choose four of eight inputs, half for digital/analog RGB signals via DVI-I and half for analog composite signals.
- High-definition WUXGA output via DVI-I.

MV-42HS



- Economical, practical four-channel multi-viewer.
- Mixed HD/SD-SDI signals and async input supported.
- HD output: HD-SDI or DVI-D (1920×1080i or 1280×720p).

Other Multi-Viewers

- SXGA output models: MV-1600 (16 channels); MV-400 (4 channels)
- Analog I/O models: MV-162F (16 channels); MV-94F (9 channels); MV-40F (4 channels)

Specifications

● Video Formats	HD: 1080/60i, 1080/59.94i, 1080/50i, 720/60p, 720/59.94p, 720/50p, 1080/30p, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/24p, 720/23.98p, 1080/30PsF, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 1035/60i, 1035/59.94i SD: 525/60 (NTSC), 625/50 (PAL)	● Video Windows	Up to 20 (*with MV-1620DO: up to 20 windows in all on 2 screens)
● Video Inputs	Accepts the following signals (Mix input, asynchronous acceptable) 75Ω BNC × 16 SDI/analog composite switching	● Clock Windows	Up to 2 (*with MV-1620DO: up to 2 windows in all on 2 screens) Internal clock or LTC time code selectable. Time correction via GPI or SNTP. Internal clock accuracy: within ±15 seconds/month (at 25°C)
HD/SD-SDI	HD-SDI: 1.5Gbps SD-SDI: 270Mbps	● Count up/down Timer, Remaining Time Counter	Can be displayed in clock window (Internal clock or LTC is selectable for remaining time counter) * Stopwatch/timer uses an internal crystal oscillator: ±50 ppm within operating temperature (0°C to 40°C)
Analog composite	Analog composite: 1.0 Vp-p Quantization: Y: 8-bit, C: 8-bit	● Background Display	Memory: 4 / Display: 1 per output Max. size: 1920×1080
Background (MV-1620DO)	3G-SDI (Level A): 3Gbps HD-SDI: 1.5Gbps * Connectable only with MV-1620HS background output	● Logo Display	Memory: 8 / Display: Max. 2 per output Max. size: 480×480
● Audio Input		● Screen Layout	In dual output simultaneous mode: up to 16 layout can be saved In dual output independent mode: up to 16 layout can be saved
Embedded	Sampling frequency: 48 kHz (sync to input video signals) Quantization: 16 to 24-bit 16 channels per HD/SD-SDI input signal (4 groups, 8 stereo pairs)	● Dual Output Mode	- Simultaneous mode: Output 1 and Output 2 can be switched simultaneously - Independent mode: Output 1 and Output 2 can be switched separately * Output 2 can be displayed only with MV-1620DO
Analog (MV-1620DO)	Analog audio: Balanced or unbalanced D-sub 37-pin (female), inch screw * For unbalanced input, short Cold-Shield externally Input impedance: 600Ω/Hi-Z Input level: -10 dBV/-3 dBu/0 dBu/+4 dBu, Maximum input level (with +4 dBu input level): +24 dBu (balanced), +18 dBu (unbalanced) Rated input power (with 600 Ω termination): +24 dBm Sampling frequency: 48 kHz Quantization: 24 bits; 8 channels (4 stereo pairs)	● Title Display	Character limit: Max. 16 characters × 2 lines for each input channel Supported characters: Letters, numbers, symbols, and Japanese kana/kanji (JIS 1 and 2)
AES (MV-1620DO)	AES audio: Unbalanced, 75 Ω, D-sub 37-pin (female), inch screw (same as analog) Sampling frequency: 32/44.1/48 kHz Quantization: 16-24 bits; 8 channels (4 stereo pairs)	● Tally Display	Indicated as a frame (red/green/orange) or marker (red/green) on each input window
● LTC input (MV-1620IF)	1 input, SMPTE time code 1.0 Vp-p within ±6 dB	● Audio Level Display	Up to 16 audio channels of audio level metering per input
● Video Outputs		● Time Code Display	Display for HD/SD-SDI Ancillary Timecode (ATC) Reader mode: * Ancillary Timecode (ATC) is not passed through * Timecode input in LTC connector is not displayed
HDMI (digital output)	HDMI ports: 1 (2 with MV-1620DO) Quantization: R: 8-bit, G: 8-bit, B: 8-bit Resolution: 1920×1080, 1280×720 Frequency: 59.94 Hz, 50 Hz * Interlaced output also available at 1920×1080 * No input/output frame rate conversion Unmatched frame rates may cause repeated or dropped frames.	● Video Monitoring	Detects video loss, frozen frames, incorrect luminance/black level, and CRC error * Detected by calculating the active picture CRC error for input signals to check whether this value remains the same for each frame.
SDI	75 Ω; BNC ports: 1 (2 with MV-1620DO) SDI 1 and 2 output matches the screen for HDMI 1 and 2 output 3G-SDI (Level A): 3 Gbps HD-SDI: 1.5 Gbps	● Audio Monitoring	Detects audio loss, silence, and excessive audio levels
Background (MV-1620DO)	3G-SDI (Level A): 3Gbps 1080/59.94p 1080/50p HD-SDI: 1.5Gbps 729/59.94p 720/50p * Connectable only to MV-1620HS background input	● Safety Area Marker	Safety area can be displayed on each input screen
● Audio Output		● Interface (MV1620IF)	LAN: 100BASE-TX/1000BASE-T RJ-45 × 1 (CAT 5e-compliant)
Analog	Ports: 1 (2 with MV-1620DO) RCA pin jacks: 2 (1 stereo pair), unbalanced Output impedance: 100 Ω or less Output level: -10 dBV Maximum input level: +5 dBV Sampling frequency: 48 kHz Quantization: 24-bit	● Layout Manager (Windows Software)	RS-232C/RS-422/RS-485: D-sub 9-pin (male) × 1 Baud rate: 9,600/19,200/38,400/57,600/115,200 bps Data length: 8-bit, stop bit 1-bit Parity: none/odd/even GPIO: D-sub 50-pin (female) × 1; 18-pin used for both input and output Choose up to 48 inputs/18 outputs * I/O selectable
Embedded (SDI)	Ports: 1 (2 with MV-1620DO) 4 groups (8 stereo pairs) Sampling frequency: 48 kHz Quantization: 24-bit	● Live Viewer	Window size and position settings (Layout Editor screen) Switching output video and audio (Remote Controller screen) Editing and registering logos and backgrounds (Logo Registration screen)
Embedded (HDMI)	4 stereo pairs Sampling frequency: 48 kHz Quantization: 24-bit	● Data Backup	Software for video streaming (Windows software)
● Genlock Input (MV-1620DO)	BB: NTSC 0.429 Vp-p/PAL 0.45 Vp-p, Tri: 0.6 Vp-p	● Temperature/Humidity	Stores settings internally to the memory (rewrite capacity: approx. 100,000) * Frequent setting changes may impair data retention
		● Backup Battery	0°C to 40°C / 30% to 90% (no condensation)
		● Power	Internal lithium battery (to maintain time)
		● Consumption	100 VAC to 240 VAC ± 10% 50 Hz/60 Hz
		● Dimensions/Weight	88 VA (86 W) (at 100 VAC to 120 VAC) 107 VA (85 W) (at 200 VAC to 240 VAC)
		● Accessories	EIA 1 RU 430 (W) × 44 (H) × 475 (D) mm / 6.9 kg
		● Options	Quick Setup Guide, AC cord, Rack mount brackets, CD-ROM (Layout Manager, Live Viewer, Operation Manuals)
		MV-1620PS	Redundant power supply
		MV-1620IF	Interfaces (GPIO/RS-232C/LTC)
		MV-1620DO	Dual Output Output: SDI/HDMI/Audio/Background Input: Analog/AES Audio/Genlock/Background
		MV-1620RT	90/180/270° rotation display
		MV-1620SNMP	SNMP support

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