

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 Inputs	Accepts the following signals (Mix input, asynchronous acceptable) 75Ω BNC x 16 SDI/analog composite switching
HD/SD-SDI	HD-SDI: 1.5Gbps SD-SDI: 270Mbps
Analog composite	Analog composite: 1.0 Vp-p Quantization: Y: 8-bit, C: 8-bit
Background (MV-1620DO)	Background input
● Audio Input	
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)
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)
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)
● LTC input (MV-1620IF)	1 input, SMPTE time code 1.0 Vp-p within ±6 dB
● Video Outputs	
HDMI (digital output)	HDMI ports: 1 (with MV-1620DO: 2 (2 pairs)) Quantization: R: 8-bit, G: 8-bit, B: 8-bit Resolution: 1920x1080, 1280x720 Frequency: 59.94 Hz, 50 Hz *Interlaced output also available at 1920x1080 *No input/output frame rate conversion Unmatched frame rates may cause repeated or dropped frames.
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
Background (MV-1620DO)	Background output
● Audio Output	
Analog	Ports: 1 (with MV-1620DO: 2 (2 pairs)) 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
Embedded (SDI)	Ports: 1 (with MV-1620DO: 2 (2 pairs)) 4 groups (8 stereo pairs) Sampling frequency: 48 kHz Quantization: 24-bit
Embedded (HDMI)	4 stereo pairs Sampling frequency: 48 kHz Quantization: 24-bit
● Genlock Input (MV-1620DO)	BB: NTSC 0.429 Vp-p/PAL 0.45 Vp-p, Tri: 0.6 Vp-p
● Video Windows	Up to 16 (*with output option: up to 16 windows in all on 2 screens)
● Clock Windows	Up to 2 (*with output option, 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)
● 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)
● Background Display	Memory: 4 / Display: 1 per output Max. size: 1920x1080
● Logo Display	Memory: 8 / Display: Max. 2 per output Max. size: 480x480
● Screen Layout	User customized layout Up to 16 layout patterns can be saved
● Title Display	Character limit: Max. 16 characters x 2 lines for each input channel Supported characters: Letters, numbers, symbols, and Japanese kana/kanji (JIS 1 and 2)
● Tally Display	Indicated as a frame (red/green/orange) or marker (red/green) on each input window
● Audio Level Display	Up to 16 audio channels of audio level metering per input
● 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
● Video Monitoring	Detects video loss, frozen frames, and incorrect luminance/black level *Detected by calculating the active picture CRC for input signals to check whether this value remains the same for each frame.
● Audio Monitoring	Detects audio loss, silence, and excessive audio levels
● Interface	LAN: 100BASE-TX/1000BASE-T RJ-45 x 1 (CAT 5e-compliant)
● Interface (MV1620IF)	RS-232C/RS-422/RS-485: D-sub 9-pin (male) x 1 Baud rate: 9,600/19,200/38,400 bps/57,600 bps/115,200 bps Data length: 8-bit, stop bit 1-bit Parity: none/odd/even GPIO: D-sub 50-pin (female) x 1; 18-pin used for both input and output Choose up to 48 inputs/18 outputs *I/O selectable
● Layout Manager (Windows Software)	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)
● Live Viewer	Software for video streaming (Windows software)
● Data Backup	Stores settings internally to the memory (rewrite capacity: approx. 100,000) *Frequent setting changes may impair data retention
● Temperature/Humidity	0°C to 40°C / 30% to 90% (no condensation)
● Backup Battery	Internal lithium battery (to maintain time)
● Power	100 V AC to 240 V AC ±10% 50Hz/60Hz
● Power Consumption	68VA (64W) (at 100 V AC to 120 V AC) 87VA (60W) (at 200 V AC to 240 V AC)
● Dimensions/Weight	EIA 1 RU 430 (W) x 44 (H) x 475 (D) mm / 6.7 kg
● Accessories	Quick Setup Guide, AC cord, Rack mount brackets, CD-ROM (Layout Manager, Live Viewer, Operation Manuals)
● Options	MV-1620PS Redundant power supply MV-1620IF Interfaces (GPIO/RS-232C/LTC) Dual Output MV-1620DO Output: SDI/HDMI/Audio/Background Input: Analog/AES Audio/Genlock/Background MV-1620RT 90/180/270° rotation display MV-1620SNMP SNMP support

HD/SD/Analog Mixed High-Resolution Multi-Viewer (16 Channels, Two-Screen Output)  
**MV-1620HS**



HD/SD/ANALOG MIXED HIGH RESOLUTION MULTI VIEWER

# MV-1620HS



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# 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

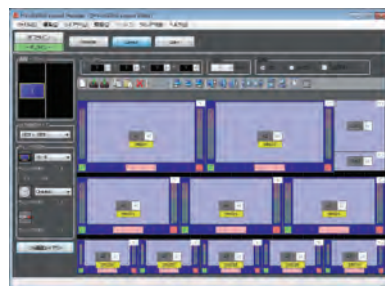
Includes a Windows application for managing the layout. Customize the layout on a computer by registering or changing layout patterns, adjusting title display, and configuring other settings as needed. Store up to 16 layout patterns on the viewer. Saved layouts can be applied directly from the front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

## Video Streaming

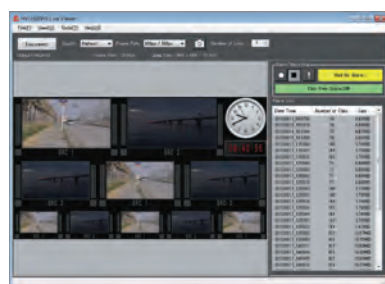
In addition to computer-based layout management, you can also stream video from the viewer over Ethernet. The streaming video can be used for additional local computer display or for remote monitoring.

## Record Streamed Video

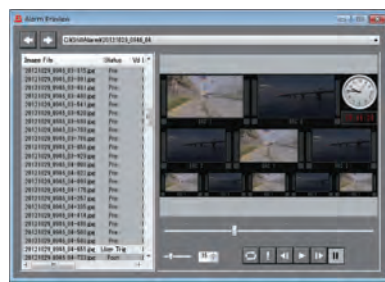
Take streaming a step further by capturing the video. Simply enter triggers to prepare for image capture. (Video is saved as still-image sequence files.)



Layout Manager screen



Video streaming screen (Live Viewer)



Screen for recording streams (Alarm Preview)

## 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, or incorrect luminance/black levels
- Audio: audio signal loss, silence, or excessive audio levels

## Expansion Options

- Dual output expansion: Reference input, analog audio/AES input, HD-SDI, HDMI, analog audio monitoring output, and background input/output
- Interface expansion: Add a variety of control interfaces by using RS-232C/422/485 or GPIO input
- Rotated image output (90/180/270°)
- SNMP-based monitoring: Remote monitoring of source signals or fan alarm status
- 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



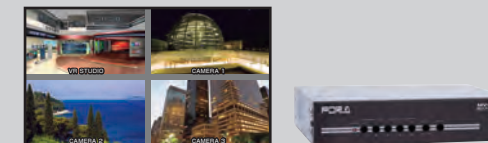
- Accepts four HD/SD-SDI or analog composite signals. (Mixed and async input supported)
- Video streaming over Ethernet
- Audio level display (Max. 8 channels).
- Redundant power supply supported (option).

### 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

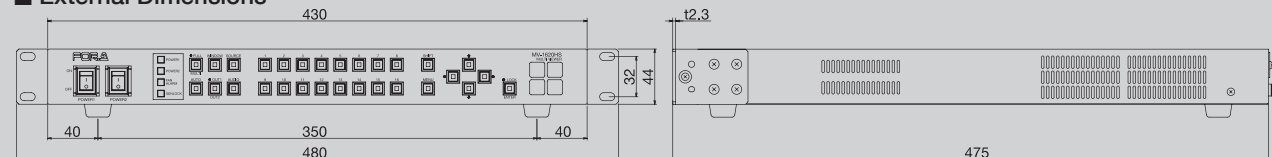


- Economical, practical four-channel multi-viewer.
- Mixed HD/SD-SDI signals and async input supported.
- HD output: HD-SDI or DVI-D (1920x1080i or 1280x720p).

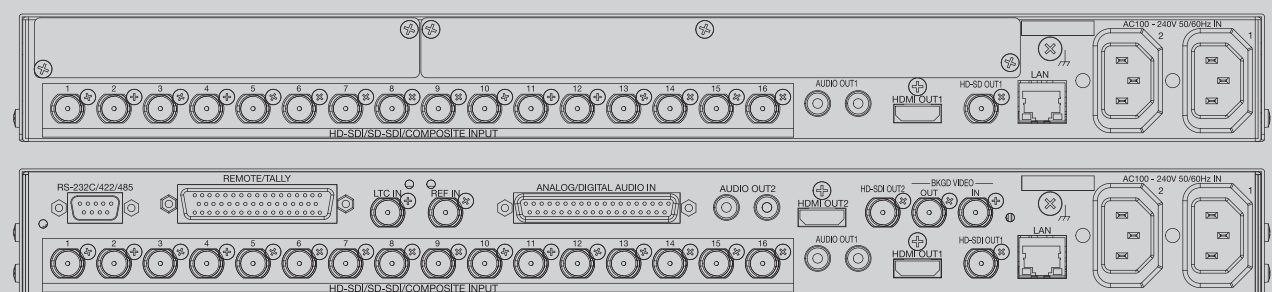
## Other Multi-Viewers

- 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)

### External Dimensions



### Rear Panel



### Fully Equipped with Options