

MV-1620HSA Datasheet

1. Specifications

Basic specifications

Temperature/ Humidity	0°C to 40°C / 30% to 90% (no condensation)
Power	100VAC - 240VAC \pm 10%, 50Hz/60Hz
Consumption	88VA (86W) (at 100 to 120 VAC) 107VA (85W) (at 200 to 240 VAC)
Dimensions	430 (W) x 44 (H) x 475 (D)mm, EIA1RU
Weight	6.9 kg
Consumables (at 24-hour operation)	Cooling fans: P1480-1 (x 4) Replace every 5 years (at room temp.) Backup battery: CR2032 Replace every 5 years (at room temp.) Power unit Replace every 5 years (at room temp.)

Technical specifications

Video Format	
3G	1080/60p, 1080/59.94p, 1080/50p (Level A/B) * Level B support for 1920 x 1080 only
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 Input	Accepts the following signals (Mixed input, asynchronous acceptable) 75 Ω BNCx16
HD-SDI/SD-SDI Input	3G-SDI: 3.0Gbps HD-SDI: 1.5 Gbps SD-SDI: 270 Mbps Quantization: Y: 10-bit, C: 10-bit
Analog Composite Input	Analog composite: 1.0(p-p) Quantization: Y: 8-bit, C: 8-bit
BKGD (Background) Input (MV-1620DO option)	3G-SDI (Level A): 3.0 Gbps HD-SDI : 1.5 Gbps * Only BKGD VIDEO OUT signal from an MV-1620DO can be input.
Audio Input	
3G-SDI/HD- SDI/SD-SDI	<Embedded audio signal> Sampling frequency: 48kHz (sync to input video signals) Quantization: 16 to 24-bit 16 channels per 3G/HD/SD-SDI input signal (4 groups, 8 stereo pairs) * 3G-SDI (Level B) audio support for Link A only. Link B unsupported.

<p>Analog/AES Audio Input (MV-1620DO Option)</p>	<p>37-pin, D-sub female, inch screws <Analog audio signal> Balanced or unbalanced * The circuit between COLD and SHIELD pins must be shorted outside the unit for an unbalanced input. Input impedance: 600Ω or Hi-Z Input level: -10dBV/-3dBu/0dBu/+4dBu Maximum input level (with +4dBu input level): +24dBu (balanced), +18dBu (unbalanced) Rated input power (with 600Ω termination): +24dBm Sampling frequency: 48kHz Quantization: 24-bit Number of inputs: 8 channels (4 stereo pairs)</p>																				
	<p><AES audio signal> 75Ω unbalanced, 37-pin, D-sub female, inch screw Sampling frequency: 32/44.1/48kHz Quantization: 16 to 24-bit Number of inputs: 8 channels (4 stereo pairs)</p>																				
<p>LTC Input (MV-1620IF Option)</p>	<p>1 input, SMPTE time code 1.0 Vp-p within ±6 dB</p>																				
<p>Video Output</p>																					
<p>HDMI Output</p>	<p>HDMI connector (TYPE A) -Quantization: R: 8-bit, G: 8-bit, B: 8-bit -Resolution: 1920 x 1080i@59.94/50Hz, 1920 x 1080p@59.94/50Hz, 1280 x 720p@59.94/50Hz * 720 x 480p@59.94Hz and 720 x 576p@50Hz are only for the SMPTE test signal color bar output. * No input/output frame rate converter. A frame rate difference between the input and output may result in a repeat frame or drop frame.</p>																				
<p>SDI Output</p>	<p>75Ω BNC Quantization: Y: 10-bit, C: 10-bit (Normal display) Y: 8-bit, C: 8-bit (Vertical display using MV-1620RT option.) 3G-SDI: 3Gbps 1080/59.94p, 1080/50p(LevelA) HD-SDI: 1.5Gbps 1080/59.94i, 1080/50i, 720/59.94p, 720/50p</p>																				
<p>BKGD (Background) Output (MV-1620DO Option)</p>	<p>75Ω BNC Quantization: Y: 10-bit, C: 10-bit (Normal display) Y: 8-bit, C: 8-bit (Vertical display using MV-1620RT option.) 3G-SDI: 3Gbps 1080/59.94p, 1080/50p(LevelA) HD-SDI : 1.5Gbps 720/59.94p, 720/50p * Video image output only. No audio output.</p>																				
<p>Acceptable Resolution</p>	<table border="0"> <tr> <td>1080/60p, 1080/59.94p, 1080/50p:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1080/60i, 1080/59.94i, 1080/50i:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1080/30PsF, 1080/29.97PsF, 1080/25PsF:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1080/24PsF, 1080/23.98PsF:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1080/30p, 1080/29.97p, 1080/25p:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1080/24p, 1080/23.98p:</td> <td>1920x1080 pixels</td> </tr> <tr> <td>1035/60i, 1035/59.94i:</td> <td>1920x1034 pixels</td> </tr> <tr> <td>720/60p, 720/59.94p, 720/50p, 720/24p, 720/23.98p:</td> <td>1280x720 pixels</td> </tr> <tr> <td>525/60: 720x486 pixels</td> <td></td> </tr> <tr> <td>625/50: 720x576 pixels</td> <td></td> </tr> </table>	1080/60p, 1080/59.94p, 1080/50p:	1920x1080 pixels	1080/60i, 1080/59.94i, 1080/50i:	1920x1080 pixels	1080/30PsF, 1080/29.97PsF, 1080/25PsF:	1920x1080 pixels	1080/24PsF, 1080/23.98PsF:	1920x1080 pixels	1080/30p, 1080/29.97p, 1080/25p:	1920x1080 pixels	1080/24p, 1080/23.98p:	1920x1080 pixels	1035/60i, 1035/59.94i:	1920x1034 pixels	720/60p, 720/59.94p, 720/50p, 720/24p, 720/23.98p:	1280x720 pixels	525/60: 720x486 pixels		625/50: 720x576 pixels	
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Audio Output	
Analog Audio	RCA pin jack x2(1 stereo pair, or 2 mono channels), unbalanced Output impedance: 100Ω or below Output level: -10dBV Maximum output level: +5dBV Sampling frequency: 48kHz Quantization: 24-bit
Embedded Audio (SDI)	Group x 4 (8 stereo pairs) Sampling frequency: 48kHz Quantization : 24-bit
Embedded Audio (HDMI)	4 stereo pairs Sampling frequency: 48kHz Quantization : 24-bit
Genlock Input (MV-1620DO Option)	BB: 0.429 Vp-p (NTSC), 0.45 Vp-p (PAL), Tri: 0.6 Vp-p
I/O delay	1 to 1.5 frames (with an interlaced SDI video input)
HDMI/SDI Output	Standard (without MV-1620RT):0.5 – 1 frames (Delay Reduction Mode ON): 0.5 frames With MV-1620RT: 0.5 – 1 frames (0° angle) 1 – 1.5 frames (90/180/270° angle) (Delay Reduction Mode ON): 1 frames (90/180/270° angle) * Interlaced inputs
BKGD (Background) Output (MV-1620DO Option)	Compared to the genlock input signal; 1080p: 1 st unit: 0 μs, 2 nd unit: 1 μs, 3 rd unit: 2 μs, 4 th unit: 3 μs *All MV-1620HSA units must be synchronized to an external reference signal. 720p: 1 st unit: 0 μs, 2 nd unit: 2 μs, 3 rd unit: 4 μs, 4 th unit: 6 μs
Video Window	Up to 20 windows * Up to 20 total windows for 2 outputs enabled by the MV-1620DO option. * 4K video window consumes 4 windows from total displayable windows.
Clock Window	Up to 4 windows * Up to 4 total windows for 2 outputs enabled by the MV-1620DO option. * Internal clock or LTC time code selectable when the MV-1620IF is installed. * Accuracy of the internal clock within ±15 seconds per month (at 25°C) * SNTP time correction for internal clock supported.
AFD	Crop/aspect processing according to AFD code
Count up/down Timer and Remaining Time Counter Display	Displayed in clock window (Internal clock or LTC is selectable for remaining time counter.) * Count up/down timer uses an internal crystal oscillator: Temperature characteristic within ±50PPM (0 - 40°C)
Information Display	Clock windows can be used for 13 types of information display, such as log, unit, or text information.
Background Display	1 image per output can be displayed. Up to 4 images can be saved. Max. image size: 1920 x 1080
Logo Display	2 Images per output can be displayed. Up to 8 images can be saved. Max. image size: 1024 x 512 (In vertical monitor display mode, max. size 512 x 512)
Screen layout	User customized layout Up to 16 layout patterns each for Simultaneous and Independent Dual output modes can be saved.

Title Display	Character limit : Max.16 characters x 2 lines for each video window. Character types: Alphanumeric characters, symbols, Japanese Kana, Kanji (JIS 1 and 2) , and Korean
Tally Indication	Frame (red, green or orange) or square indicator (red or green) for each input. Colors can be adjusted.
Audio Level Metering	Vertical/horizontal audio meters of up to 16 embedded audio channels per input Audio level meters of other audio signals also supported when the MV-1620DO is installed.
Time Code Display	3G-SDI/HD-SDI/SD-SDI ancillary time code (ATC) reader * Ancillary Time Codes (ATC) are not passed through. * Time code input in LTC connector is not displayed.
Video Monitoring	Video signal loss, freeze, black level, luminance level, and CRC error alarm detection
Audio Monitoring	Audio signal loss, silence, and over level alarm detection
Closed Caption	Data loss detection and status display
Safety Area Marker	Safety area display in each input screen
Interfaces	
RS-232C/RS-422/ RS-485 (MV-1620IF option)	9-pin D-sub male x 1 Baud rate: 9,600/19,200/38, 400/57,600/115,200bps, data length 8-bit, stop bit 1-bit, parity NONE/ODD/EVEN
GPIO (MV-1620IF option)	50-pin D-sub female, 18/50 pins are input/output compatible. Up to 48 inputs
LAN	100Base-TX/1000Base-T, RJ-45 (Category 5) x 1
Layout Manager	Window size and position editing, layout switchover, and background image and logo data registration. (Windows software)
Live Viewer	For video transmission (Windows software)
Data Backup	Stores the setting data to memory (Rewrite capacity: approx. 100,000) *Frequent changes of display settings may result in being unable to retain data.
Backup battery	Internal lithium battery (to maintain time)

Options

MV-1620PS	Redundant power supply unit (Including AC cord retaining clip)
MV-1620IF	Interface option
MV-1620DO	Dual output option
MV-1620SNMP	SNMP option
MV-1620RT	Vertical display option
PC3323-1	Breakout cable (37-pin D-sub)

Other Options

HVS-AUX16A/16B/32A/64A (*)	Auxiliary unit (Ethernet LAN Connection)
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(*) Up to 2 units can be connected.

Accessories

Rack mount brackets, AC cord, Rubber feet, CD-ROM, and Quick setup guide

2. External Dimensions

(All dimensions in mm.)

