

## 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)<br>107VA (85W) (at 200 to 240 VAC)                                                                                                                               |
| Dimensions                            | 430 (W) x 44 (H) x 475 (D)mm, EIA1RU                                                                                                                                                            |
| Weight                                | 6.9 kg                                                                                                                                                                                          |
| Consumables<br>(at 24-hour operation) | Cooling fans: P1480-1 (x 4)      Replace every 5 years (at room temp.)<br>Backup battery: CR2032      Replace every 5 years (at room temp.)<br>Power unit Replace every 5 years (at room temp.) |

#### Technical specifications

|                                                     |                                                                                                                                                                                                                                                                   |
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| Video Format                                        |                                                                                                                                                                                                                                                                   |
| 3G                                                  | 1080/60p, 1080/59.94p, 1080/50p (Level A/B)<br>* 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,<br>1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 720/24p, 720/23.98p, 1080/30PsF,<br>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 $\Omega$ BNCx16                                                                                                                                                                           |
| HD-SDI/SD-SDI<br>Input                              | 3G-SDI: 3.0Gbps<br>HD-SDI: 1.5 Gbps<br>SD-SDI: 270 Mbps<br>Quantization: Y: 10-bit, C: 10-bit                                                                                                                                                                     |
| Analog Composite<br>Input                           | Analog composite: 1.0(p-p)<br>Quantization: Y: 8-bit, C: 8-bit                                                                                                                                                                                                    |
| BKGD<br>(Background) Input<br>(MV-1620DO<br>option) | 3G-SDI (Level A): 3.0 Gbps<br>HD-SDI : 1.5 Gbps<br>* Only BKGD VIDEO OUT signal from an MV-1620DO can be input.                                                                                                                                                   |
| Audio Input                                         |                                                                                                                                                                                                                                                                   |
| 3G-SDI/HD-<br>SDI/SD-SDI                            | <Embedded audio signal><br>Sampling frequency: 48kHz (sync to input video signals)<br>Quantization: 16 to 24-bit<br>16 channels per 3G/HD/SD-SDI input signal (4 groups, 8 stereo pairs)<br>* 3G-SDI (Level B) audio support for Link A only. Link B unsupported. |

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| Analog/AES Audio Input (MV-1620DO Option)   | 37-pin, D-sub female, inch screws<br><Analog audio signal><br>Balanced or unbalanced<br>* The circuit between COLD and SHIELD pins must be shorted outside the unit for an unbalanced input.<br>Input impedance: 600Ω or Hi-Z<br>Input level: -10dBV/-3dBu/0dBu/+4dBu<br>Maximum input level (with +4dBu input level): +24dBu (balanced), +18dBu (unbalanced)<br>Rated input power (with 600Ω termination): +24dBm<br>Sampling frequency: 48kHz<br>Quantization: 24-bit<br>Number of inputs: 8 channels (4 stereo pairs) |  |
|                                             | <AES audio signal><br>75Ω unbalanced, 37-pin, D-sub female, inch screw<br>Sampling frequency: 32/44.1/48kHz<br>Quantization: 16 to 24-bit<br>Number of inputs: 8 channels (4 stereo pairs)                                                                                                                                                                                                                                                                                                                               |  |
| LTC Input (MV-1620IF Option)                | 1 input, SMPTE time code 1.0 Vp-p within ±6 dB                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Video Output                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| HDMI Output                                 | HDMI connector (TYPE A)<br>-Quantization: R: 8-bit, G: 8-bit, B: 8-bit<br>-Resolution: 1920 x 1080i@59.94/50Hz, 1920 x 1080p@59.94/50Hz, 1280 x 720p@59.94/50Hz<br>- Recommended cable length: 5m or less<br>* 720 x 480p@59.94Hz and 720 x 576p@50Hz are only for the SMPTE test signal color bar output.<br>* No input/output frame rate converter. A frame rate difference between the input and output may result in a repeat frame or drop frame.                                                                   |  |
| SDI Output                                  | 75Ω BNC<br>Quantization: Y: 10-bit, C: 10-bit (Normal display)<br>Y: 8-bit, C: 8-bit (Vertical display using MV-1620RT option.)<br>3G-SDI: 3Gbps<br>1080/59.94p, 1080/50p(LevelA)<br>HD-SDI: 1.5Gbps<br>1080/59.94i, 1080/50i, 720/59.94p, 720/50p                                                                                                                                                                                                                                                                       |  |
| BKGD (Background) Output (MV-1620DO Option) | 75Ω BNC<br>Quantization: Y: 10-bit, C: 10-bit (Normal display)<br>Y: 8-bit, C: 8-bit (Vertical display using MV-1620RT option.)<br>3G-SDI: 3Gbps<br>1080/59.94p, 1080/50p(LevelA)<br>HD-SDI : 1.5Gbps<br>720/59.94p, 720/50p<br>* Video image output only. No audio output.                                                                                                                                                                                                                                              |  |
| Acceptable Resolution                       | 1080/60p, 1080/59.94p, 1080/50p: 1920x1080 pixels<br>1080/60i, 1080/59.94i, 1080/50i: 1920x1080 pixels<br>1080/30PsF, 1080/29.97PsF, 1080/25PsF: 1920x1080 pixels<br>1080/24PsF, 1080/23.98PsF: 1920x1080 pixels<br>1080/30p, 1080/29.97p, 1080/25p: 1920x1080 pixels<br>1080/24p, 1080/23.98p: 1920x1080 pixels<br>1035/60i, 1035/59.94i: 1920x1034 pixels<br>720/60p, 720/59.94p, 720/50p, 720/24p, 720/23.98p: 1280x720 pixels<br>525/60: 720x486 pixels<br>625/50: 720x576 pixels                                    |  |

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| Audio Output                                           |                                                                                                                                                                                                                                                                                                                                                                       |
| Analog Audio                                           | RCA pin jack x2(1 stereo pair, or 2 mono channels), unbalanced<br>Output impedance: 100Ω or below<br>Output level: -10dBV<br>Maximum output level: +5dBV<br>Sampling frequency: 48kHz<br>Quantization: 24-bit                                                                                                                                                         |
| Embedded Audio (SDI)                                   | Group x 4 (8 stereo pairs)<br>Sampling frequency: 48kHz<br>Quantization : 24-bit                                                                                                                                                                                                                                                                                      |
| Embedded Audio (HDMI)                                  | 4 stereo pairs<br>Sampling frequency: 48kHz<br>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<br>(Delay Reduction Mode ON): 0.5 frames<br>With MV-1620RT: 0.5 – 1 frames (0° angle)<br>1 – 1.5 frames (90/180/270° angle)<br>(Delay Reduction Mode ON): 1 frames (90/180/270° angle)<br>* Interlaced inputs                                                                                                            |
| BKGD (Background) Output (MV-1620DO Option)            | Compared to the genlock input signal;<br>1080p: 1 <sup>st</sup> unit: 0 μs, 2 <sup>nd</sup> unit: 1 μs, 3 <sup>rd</sup> unit: 2 μs, 4 <sup>th</sup> unit: 3 μs<br>*All MV-1620HSA units must be synchronized to an external reference signal.<br>720p: 1 <sup>st</sup> unit: 0 μs, 2 <sup>nd</sup> unit: 2 μs, 3 <sup>rd</sup> unit: 4 μs, 4 <sup>th</sup> unit: 6 μs |
| Video Window                                           | Up to 20 windows<br>* Up to 20 total windows for 2 outputs enabled by the MV-1620DO option.<br>* 4K video window consumes 4 windows from total displayable windows.                                                                                                                                                                                                   |
| Clock Window                                           | Up to 4 windows<br>* Up to 4 total windows for 2 outputs enabled by the MV-1620DO option.<br>* Internal clock or LTC time code selectable when the MV-1620IF is installed.<br>* Accuracy of the internal clock within ±15 seconds per month (at 25°C)<br>* 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<br>(Internal clock or LTC is selectable for remaining time counter.)<br>* 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.<br>Max. image size: 1920 x 1080                                                                                                                                                                                                                                                                     |
| Logo Display                                           | 2 Images per output can be displayed. Up to 8 images can be saved.<br>Max. image size: 1024 x 512 (In vertical monitor display mode, max. size 512 x 512)                                                                                                                                                                                                             |
| Screen layout                                          | User customized layout<br>Up to 16 layout patterns each for Simultaneous and Independent Dual output modes can be saved.                                                                                                                                                                                                                                              |

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|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Title Display                                   | Character limit : Max.16 characters x 2 lines for each video window.<br>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.<br>Colors can be adjusted.                                                                  |
| Audio Level Metering                            | Vertical/horizontal audio meters of up to 16 embedded audio channels per input<br>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<br>* Ancillary Time Codes (ATC) are not passed through.<br>* 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/<br>RS-485 (MV-1620IF<br>option) | 9-pin D-sub male x 1<br>Baud rate: 9,600/19,200/38, 400/57,600/115,200bps, data length 8-bit, stop bit 1-bit,<br>parity NONE/ODD/EVEN                                       |
| GPIO (MV-1620IF<br>option)                      | 50-pin D-sub female, 18/50 pins are input/output compatible.<br>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<br>(Rewrite capacity: approx. 100,000)<br>*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) |
|----------------------------|------------------------------------------|

(\*) 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.)

