

Specifications (Provisional)

Video Formats	3G: 1080/60p, 1080/59.94p, 1080/50p (Level-A/B*) 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)
*1Level-B: At 1920 x 1080 only	
Video Inputs	SDI/analog composite switching (Mix input, asynchronous acceptable) 75Ω BNC x 8*2
3G/HD/SD-SDI	3G-SDI (Level A/B): 3 Gbps HD-SDI: 1.5 Gbps SD-SDI: 270 Mbps
Analog composite	Analog composite: 1.0 Vp-p Quantization: Y: 8-bit, C: 8-bit
DVI-I/HDMI*3 (Optional card: MV-4200HDMI)	DVI-I x 8 Quantization: R: 8-bit, G: 8-bit, B: 8-bit Refresh rate: 60 Hz
DVI-I	Resolution: PC (VESA DMT): 640 x 480p, 1024 x 768p, 1280 x 1024p, 1360 x 768p, 1600 x 1200p, 1920 x 1200p**4, 1440 x 900p, 1680 x 1050p VIDEO (SMPTE): 1920 x 1080p, 1920 x 1080i, 1024 x 768p, 1280 x 720p R/G/B: 0.7 V p-p H/V: TTL
HDMI*5 (HDCP-compliant)	Resolution: PC (VESA DMT): 640 x 480p, 1024 x 768p, 1280 x 1024p, 1360 x 768p, 1600 x 1200p, 1920 x 1200p**4, 1440 x 900, 1680 x 1050p VIDEO (SMPTE): 1920 x 1080p, 1920 x 1080i, 1280 x 720p
*2 +20 channels per card when an optional card MV-4200SDI is used	
*3 Plug-and-play capable devices are recognized as HDMI-compatible monitors	
*4 Supports reduced blanking only	
*5 Using a DVI-I to HDMI cable	
Audio Input	
Embedded	Sampling frequency: 48 kHz (sync to input video signals) Quantization: 16 to 24-bit SDI: 16 channels per 3G/HD/SD-SDI input signal (8 stereo pairs) HDMI: 8 channels per HDMI input signal (4 stereo pairs)
Analog (Optional card: MV-4200IF)	D-sub 25-pin (female*), balanced or unbalanced, 8 channels, inch screw Input impedance: 600 Ω/Hi-Z Input level: -10 dBu/-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
AES (Optional card: MV-4200IF)	75Ω, BNC x 4, unbalanced, 8 channels Sampling frequency: 32/44.1/48 kHz Quantization: 16 to 24-bit
*6 For unbalanced input, short Cold-Shield externally	
LTC input	BNC x 1 SMPTE-compatible timecode: within 1.0 V p-p ± 6 dBm
Video Outputs*7	
HDMI (HDCP-compliant)	HDMI x 4 (Type A) Quantization: R: 8-bit, G: 8-bit, B: 8-bit Resolution: 1920 x 1080i/p, 1280 x 720p Frequency: 59.94 Hz, 50 Hz
SDI	75 Ω, BNC x 4 3G-SDI (Level-A): 3 Gbps HD-SDI: 1.5 Gbps
Audio Output	
Analog	Stereo mini jack x 1 (stereo pair x 1/monaural x 2), unbalanced Output impedance: 100 Ω or less Output level: -10 dBV Maximum output level: +5 dBV Sampling frequency: 48 kHz Quantization: 24-bit

Embedded (SDI)	Sampling frequency: 48 kHz Quantization: 24-bit SDI: 16 channels for 3G/HD/SD-SDI per output (8 stereo pairs) HDMI: 2 channels per HDMI output (4 stereo pairs) BB: NTSC 0.429 Vp-p/PAL 0.45 Vp-p, Tri-level sync: 0.6 Vp-p
Genlock Input (Optional card: MV-4200IF)	
Clock Windows*7	Up to 4 screens
*7 Based on internal clock (accurate to within 15 seconds/month, at 25°C) or LTC time code. Time correction via GPI or SNTP.	
Count up/down Timer, Remaining Time Counter*8	Can be displayed in clock window. (Internal clock or LTC is selectable for remaining time counter.)
*8 Stopwatch/timer uses an internal crystal oscillator: ±50 ppm within operating temperature (0°C to 40°C)	
Background Display	Memory: Four 4K background images Max. size: 3840 x 2160
Logo Display	Memory: 8 Max. size: 1024 x 512
Screen Layout	User customized layout Up to 48 layout patterns can be saved.
Title Display	Character limit: Max. 16 characters x 2 lines for each input channel Supported characters: Letters, numbers, symbols, Korean characters 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. Colors are adjustable.
Audio Level Display	Up to 16 audio channels of audio level metering per input
Time Code Display Reader mode	Display for 3G/HD/SD-SDI Ancillary Timecode (ATC) Ancillary Timecode (ATC) is not passed through. Timecode input in LTC connector is not displayed.
Video Monitoring	Detects video loss, frozen frames*9, incorrect luminance/black level, and CRC error.
*9 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.
Interfaces*10	LAN: 100BASE-TX/1000BASE-T, RJ-45 x 1 (CAT 5e-compliant) RS-232C/RS-422/RS-485: D-sub 9-pin (male) x 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 80-pin (female); up to 144-pin for input/output**11
*10 Interfaces other than Ethernet require installation of the MV-4200IF option.	
*11 Input and output selectable	
Layout Manager (Windows Software)	Enables layout creation, window switching, and more
Live Viewer (Windows software)	Software for video streaming
Data Backup	Stores settings internally to the memory (rewrite capacity: approx. 100,000)*12.
*12 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 VA C ±10% 50 Hz/60 Hz
Dimensions	EIA 2 RU
Accessories	Quick Setup Guide, AC cord, Rack mount brackets, CD-ROM (Layout Manager, Live Viewer, Layout File, Operation Manuals)
Options	MV-4200PS: Redundant power supply MV-4200IF: Interface card (GENLOCK/AES/Analog audio/RS-232C/422/485/GPIO) MV-4200SDI: SDI input card (3G/HD/SD x 20) MV-4200HDMI: DVI/HDMI input card (DVI-I x 8) MV-4200DO: Software for 4 channels of output MV-4200SNMP: SNMP-compatible software

The above specification is as of August, 2014

3G/HD/SD/Analog/HDMI/DVI/RGBHV Mixed High Resolution Multi Viewer
(Up to 68 Inputs, 8-Monitor Outputs)

MV-4200

Provisional



3G/HD/SD/ANALOG/HDMI/DVI/RGBHV
MIXED HIGH RESOLUTION MULTI VIEWER
MV-4200



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ISO 9001 and 14001 certified (Sakura R&D)

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4K-Compatible, 68 Channels of Input, 8-monitor Output High Performance with Better Energy Efficiency

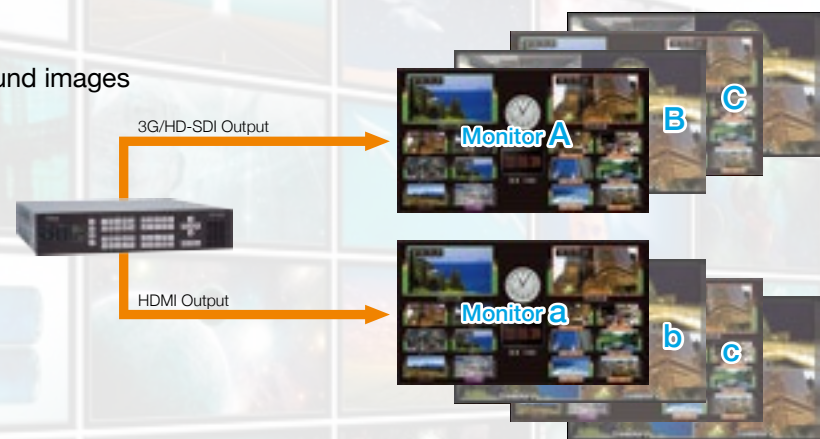
Up to 68 channels of input with optional cards*1

- Combine optional input cards—an MV-4200SDI card (3G/HD/SD-SDI, analog composite × 20) or MV-4200HDMI card (DVI-I/HDMI × 8)—or the MV-4200IF interface card (GPIO, serial control, and input of analog audio, AES audio, and genlock) as needed.

*1 When using three MV-4200SDI cards.

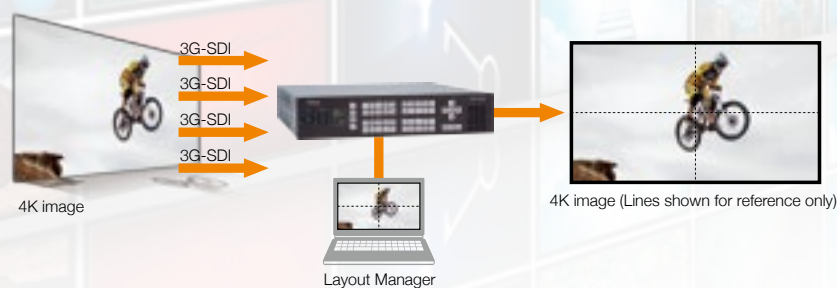
View up to 8 monitors in different layouts

- Up to 4 clocks for 4 channels
- Register up to 8 logos and 4 background images

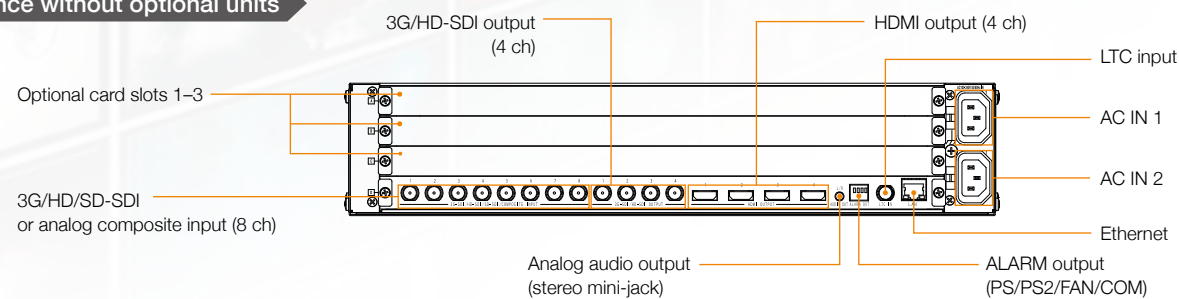


Use 4K sources by using four 3G-SDI inputs

- Layout Manager enables easy layout of 4K video in a seamless display



Appearance without optional units



Main Features

Layout Manager

A Windows based application is provided for managing and creating screen layouts. Customize the layout on a computer by registering or changing layout patterns, adjusting title displays, and configuring other settings as needed. Store up to 48 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 displays or for remote monitoring applications.

Record Streamed Video

Take streaming a step further by capturing the video. Frames before and after errors or specified triggers are captured and can be saved to a Windows computer as a sequence of still-image files.

Error triggers include Video loss, frozen frames, incorrect luminance/black levels, CRC errors, audio loss, silence, and excessive audio levels

Versatile Mixed-Source Environment

Supports mixed signals as required, from 3G-SDI (Level-A/B), HD-SDI, SD-SDI, analog composite, HDMI, DVI, or RGBHV sources. Asynchronous input is also supported. The viewer accepts an array of formats and frame rates including NTSC, PAL, 1080/59.94i, 1080/50i, and 23.98/24/25/29.97/30 P or. PsF. (No frame rate conversion.)

HD Output of Source Signals

Up to 8 channels of output. Sources can be displayed on 1 or 2 screens, each with HDMI and SDI interfaces available for HD monitoring support.

Audio Level

Monitor up to 16 channels embedded audio levels in each 3G/HD/SD-SDI or HDMI signal. Use Layout Manager to customize display positions, number of channels, and display groups.

Audio Monitoring Output

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

Prominent Error Display

Indicates errors by full-screen display, flashing border, error icon, or error message prominently identifying the relevant frame.

Tally/Title/Timecode

- Tally: Choose from frame tally or marker tally display
- Titles: Identify each source channel with a title. Supports display of alphanumeric characters, symbols, and Korean characters (up to 16 letters), which can be displayed within or outside the picture
- Timecode: Ancillary Timecode in 3G/HD/SD-SDI signals can be displayed

Time and Timer Display

Supports clock time synchronization with the SNTP server. Up to 4 clocks can be displayed in analog or digital format. Date display is also available. This feature can be also used as a count up/down timer, or remaining time counter.

Logo/Background

Register up to 8 logos and 4 background images.

Appearance with all optional units

When an MMV-4200IF, MV-4200HDMI, and MV-4200SDI options are mounted

