

12G/3G/HD Video Switcher
HVS-1200 "HANABI"

FOR.A[®]

花火
HANABI

12G/3G/HD VIDEO SWITCHER
HVS-1200

HANABI



New 12G-SDI 1M/E switcher on the scene

This new switcher builds on the features of the HANABI HVS-100/110 and HVS-490 video switchers and adds 12G-SDI support as standard. One or two M/E switching (in 4K(UHD) and HD mode, respectively) is just the start. Enjoy two or six M/E performance in these modes thanks to FOR-A's MELite™ technology. The compact, 3U form factor is exceedingly portable, making the HVS-1200 the perfect choice for mobile production or events.

Various features

Standard 12G-SDI support

10 12G-SDI inputs come standard on this compact unit. Use as a switcher in HD mode with 40 inputs and 2M/Es. Can be used mainly for HD switching while switching to 4K(UHD) as needed. Enjoy convenient operation in HD mode and smoother migration to a 4K(UHD) environment.

Ten standard inputs in 4K(UHD) mode

4K(UHD) mode: 10 inputs and 10 outputs, including two outputs for HDMI 2.0 Level B.

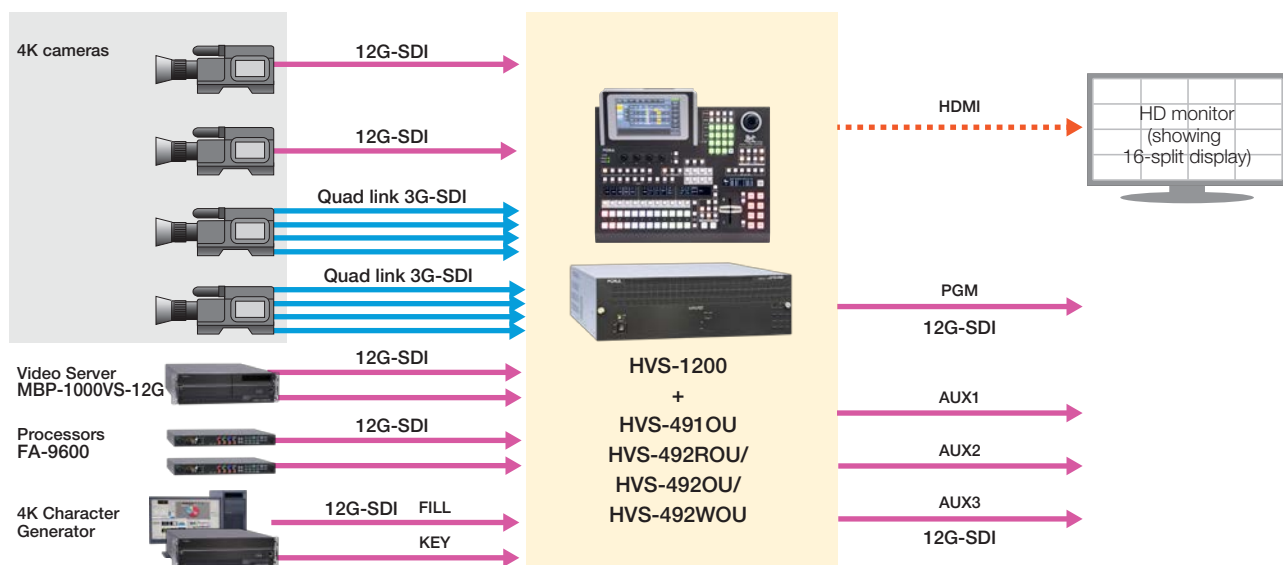
Mixed inputs of 12G-SDI and quad link 3G-SDI are supported.

Two inputs/outputs supported for 29.97p/25p/24p/23.98p.

HD mode: 40 inputs and ten outputs are supported, including two outputs for HDMI 2.0 Level B.

Frame synchronization on all inputs enables switching of synchronous and asynchronous sources.

Example of 4K system configuration



MELite™

MELite is patented FOR-A technology that expands the capabilities of AUX transitions. With an AUX bus, users can preview transitions before executing them and enjoy the same control over AUX output as for PGM or PST. One MELite (in 4K-UHD mode) or four MELite (in HD mode) are provided. Assigning FLEXaKEY to an MELite expands the system, making 2 M/E performance (in 4K-UHD mode) and 6 M/E performance (in HD mode) possible with this 1 M/E switcher.

- Users can preview output from an AUX bus when applying transitions*¹ (cut, mix, or wipe) or when keying. This ground-breaking technology makes sure your production is ready for virtually any request.
- For more sophisticated switching needs, MELite can be assigned before the M/E buses.
- Any M/E can be assigned to multiple on-stage monitors for independent background transitions and graphics transitions - all from the same control panel.

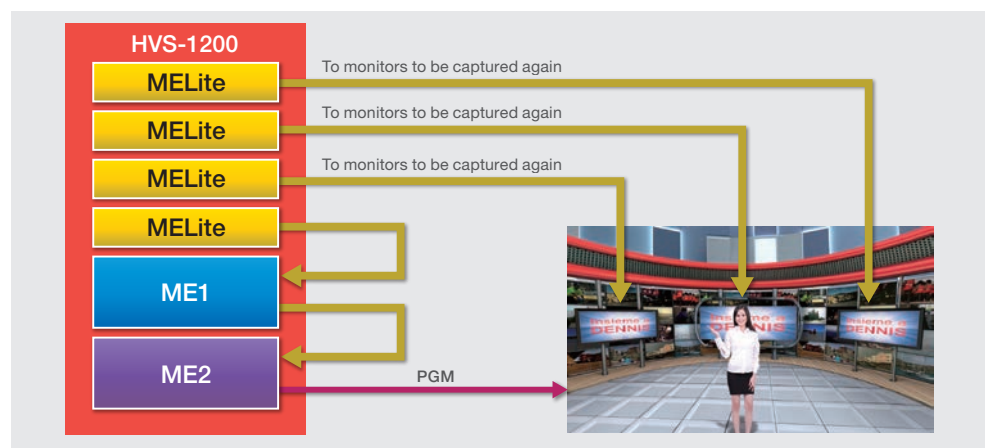
*¹ DVE transitions are not included.

FLEXaKEY™

Special FLEXaKEY keyers are designed for flexible reassignment. The one FLEXaKEY (in 4K(UHD) mode) or four FLEXaKEYs (in HD mode) provided operate separately from standard keyers of the full M/E buses. Easy keying of four different FLEXaKEYs in any AUX bus enables performances beyond the reach of conventional switchers.

- The FLEXaKEY system can be freely assigned to M/E or AUX buses.
 - 4K(UHD) mode: Combine up to three keyers for an M/E bus (2 keyers + 1 FLEXaKEY).
 - HD mode: Combine up to eight keyers for an M/E bus (4 keyers + 4 FLEXaKEY).
- P-in-P display is possible using an AUX bus. Assigning FLEXaKEY to an MELite enables use as an upstream key.
- FLEXaKEY can also be applied to create a multi-monitor video wall with a single HVS-1200.

Example of HD system using MELite and FLEXaKEY



Transitions/DVEs

Choose from cut, mix, or wipe transitions. In addition to 100 wipe patterns, the switcher offers five*² (in 4K(UHD) mode)/16 (in HD mode) 2.5D DVE wipes, such as: rotate, perspective and reposition. Other rich effects include: mosaic, posterization, pseudo color and defocus.

*² Offers up to four 2.5D DVE wipes at 2160/59.94p and 50p.



Standard multi viewer output

The HVS-1200 provides two displays of multi viewer output*³, each supporting up to 16-split display. More than eight screen layouts each are available. This provides an optimal monitoring environment for both the main operator and other users. Tallys, titles (up to 8 letters) and audio level meters can be displayed on each window.

*³ Supports HD resolution (1920 x 1080).

Various features

■ AES Digital Audio I/O*4

Supports four lines (eight channels) of balanced or unbalanced audio input and output. Enables demuxing of video/clip input and muxing of video output. Use an internal sampling rate converter to sync audio input to the system.

*4 HVS-49AES is required

■ Clean Switching

For noiseless transitions, audio is muted when video is switched.

■ Macro Function

A macro function enables you to store and register a series of operations and then perform complicated operations with one push of a button.



■ Event Memory/User Button

Up to 100 registers of control panel configurations can be stored as events. Event memories can be recalled from the user buttons on the control panels and remote control panels. Operators can set the transition durations and effects. By storing events in advance, operators can use event memories to make performances more expressive, simply by pressing buttons during the event. And because a variety of HVS-1200 functions can be freely assigned to user buttons, operators can customize control panels.

■ Still/Clip Stores

One (in 4K(UHD) mode) and four (in HD mode) still/clip stores are equipped. Load video input signals or PGM output signals as stills*5 or import data (either stills or clips with up to 449 frames (in 4K(UHD) mode) and 1797 frames (in HD mode)) created on a computer for use as wipes. Stills and clips are loaded from a control panel and computer. Using the backup feature, operators can also save stills or clips to an optional SSD in the switcher to load the data when the HVS-1200 is restarted.

*5 JPEG, TGA, and BMP supported

■ GUI Control Function

Thanks to a built-in Web server, the HVS-1200 can be controlled from a computer connected via Ethernet. Settings can also be adjusted from mobile devices connected via Wi-Fi to a local access point.

■ Color Corrector Function

One color corrector (in 4K(UHD) mode) and four color correctors (in HD mode) are available per M/E.

■ Sequence Function

Up to 30 patterns can be registered.

■ External Interfaces

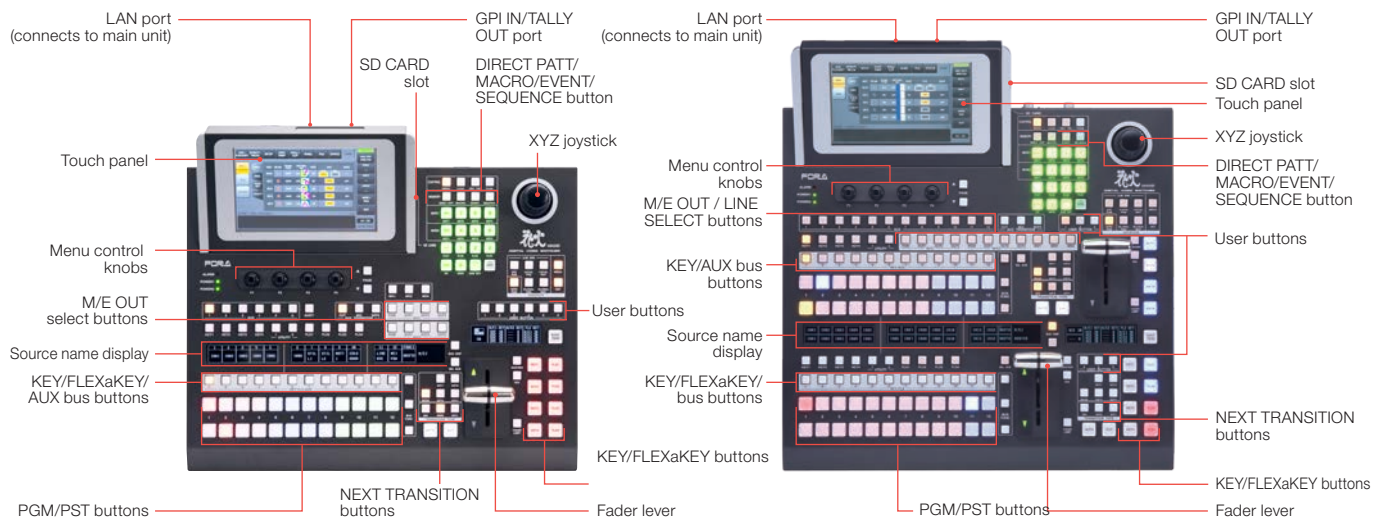
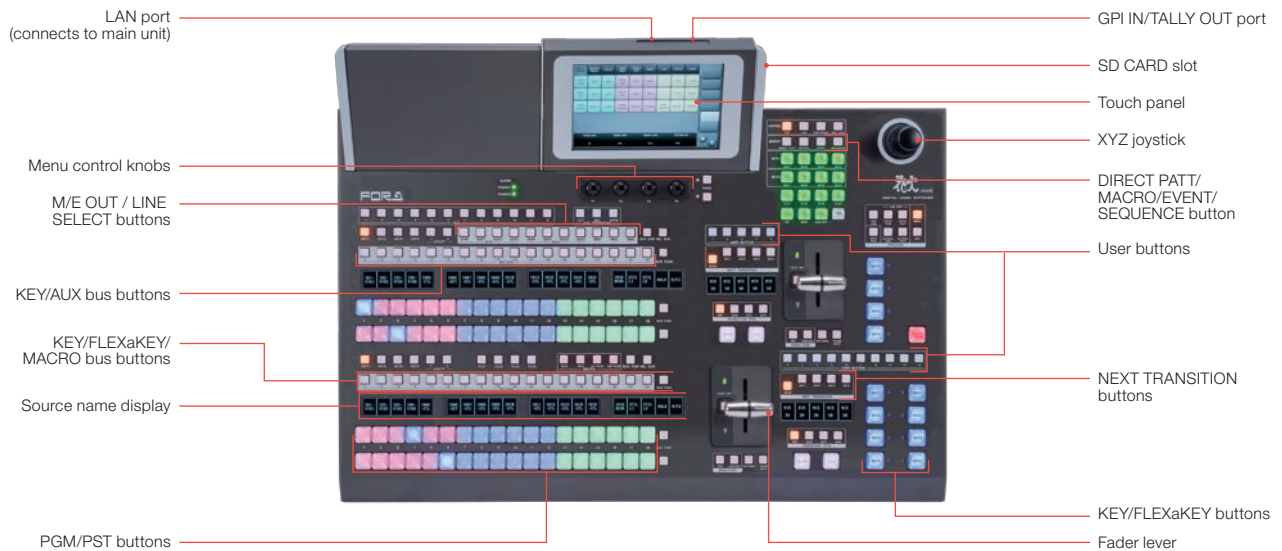
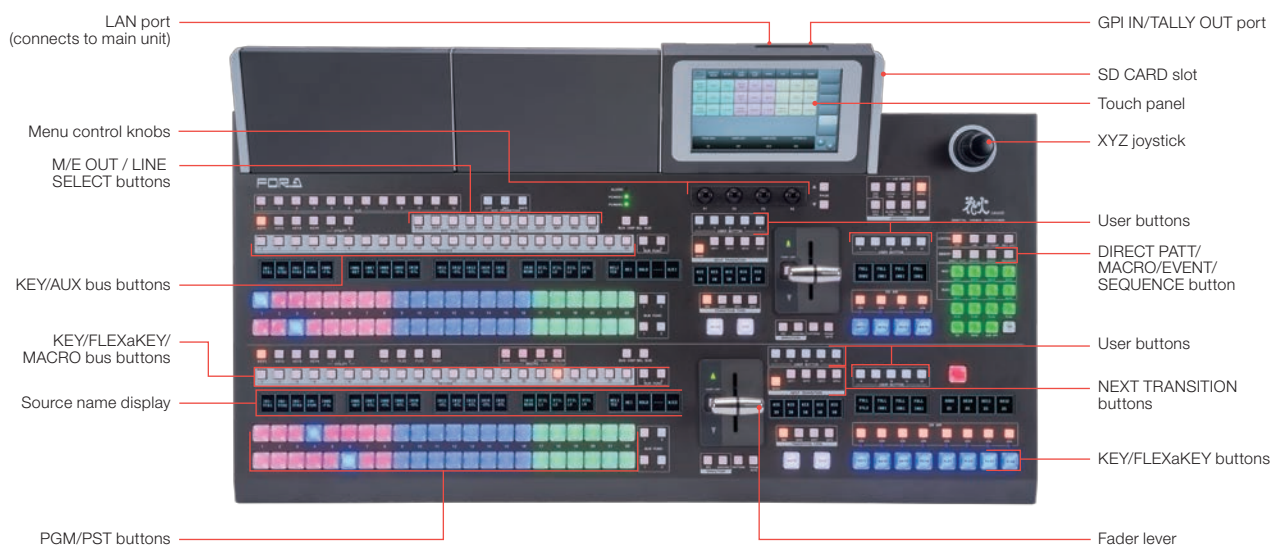
Interfaces include: GPI IN (19 inputs); GPI IN/TALLY OUT (22 outputs); Alarm output (cooling fan, power); RS-422 (for editing or other interfaces); and Ethernet (for control from a computer). GPI ports on the operation unit also support up to six inputs and six outputs.

Convenient Control Panels

Choose from HVS-491OU, HVS-492ROU, HVS-492OU or HVS-492WOU panels to suit your application.

Advantages of all the control panels include: enhanced usability and accurate control through customizable RGB button lights assigned to specific video material or button functions; an OLED display for material, a 7-inch touch panel, source and macro name display, and more.

There is also direct input via a three-axis (XYZ) joystick, menu control knobs, and a keypad. A range of functions can also be assigned to user buttons in convenient locations on the control panel. Use an SD card to load or save configuration files and stills. Remote setup, control, and previews are possible via the switcher's internal Web server.

HVS-4910U 1 M/E (12 buttons) Control Panel**HVS-492ROU** 2 M/E (12 buttons) Control Panel**HVS-4920U** 2 M/E (18 buttons) Control Panel**HVS-492WOU** 2 M/E (22 buttons) Control Panel

Options

Expansion cards

HVS-49AES

Digital Audio I/O Card

Supports four lines (eight channels) of balanced or unbalanced audio input and output.

HVS-49DVE

2.5D DVE Expansion Card

Supports eight channels of DVE output as standard at 1080/59.94p and 50p. With a single card, DVEs are available for all keyers and FLEXaKEYs when 1080/59.94p, 50p and 4K formats are used.

Other options

HVS-1200ED

Editor Interface Software

Adds support for protocols used for editing on other video systems (BVS/DVS, GVG).

HVS-49SSD240G

SSD Expansion Option

SSD for storing stills and clips.

HVS-TALOC32/TALR32

Tally Interface Unit

Connects up to five of the following half-rack tally units to a single HVS-1200.

- HVS-TALOC32: Open-collector, 32 contacts
- HVS-TALR32: Relay, 32 contacts

HVS-49PSM/49PSO

Redundant Power Supply Unit

HVS-49PSM provides a redundant power supply for HVS-1200. HVS-49PSO is available for the HVS-492ROU, HVS-492OU or HVS-492WOU.

HVS-AUX16A/AUX32A/AUX64A

AUX Remote Control Panel

16- and 32-button models are 1U size, and 64-button models are 2U. Up to 12 AUX units can be connected via Ethernet. Expand switcher versatility by assigning AUX source previews or a variety of functions to each button.



HVS-AUX16A

HVS-AUX16C
16-button model with display

HVS-AUX32A



HVS-AUX64A

HVS-AUX16B

Tabletop AUX Remote Control Panel

A 16-button tabletop AUX remote control panel.



HVS-AUX16B

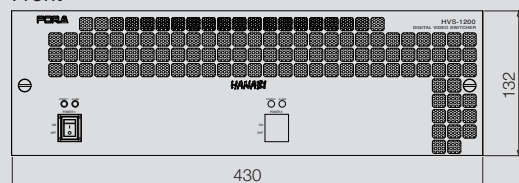
HVS-AUX16D
16-button model with display

External view

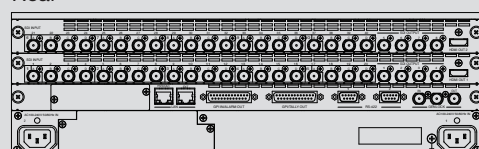
HVS-1200

Unit: mm

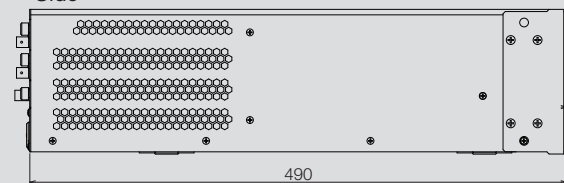
Front



Rear



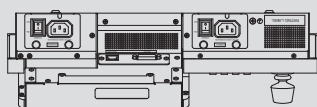
Side



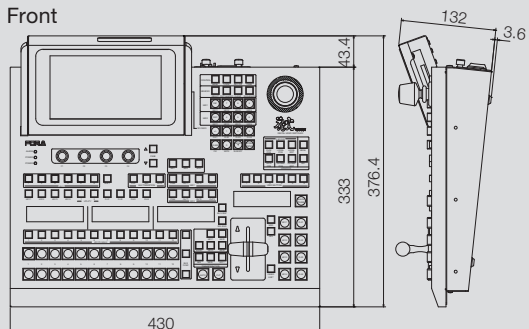
External view

HVS-4910U

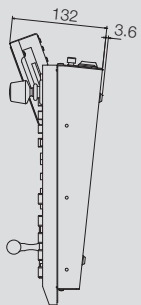
Rear



Front

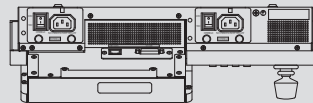


Side

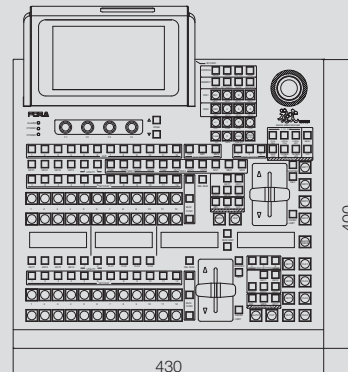


HVS-492ROU

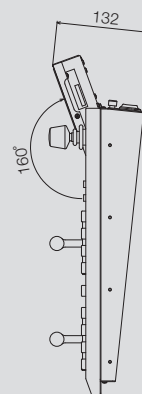
Rear



Front



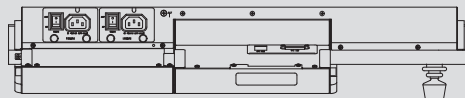
Side



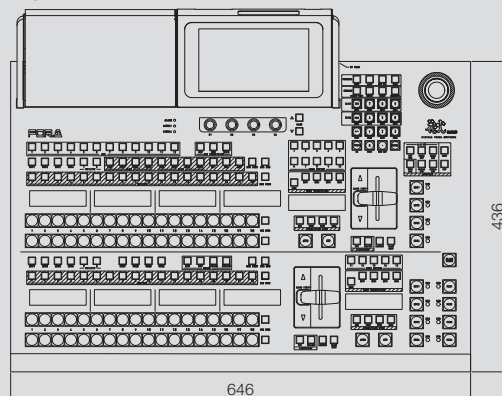
Unit: mm

HVS-492OU

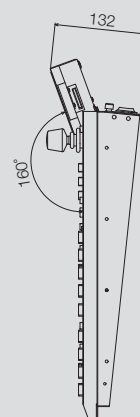
Rear



Front

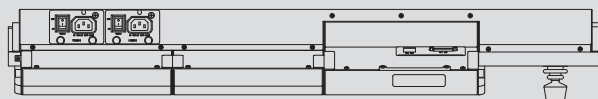


Side

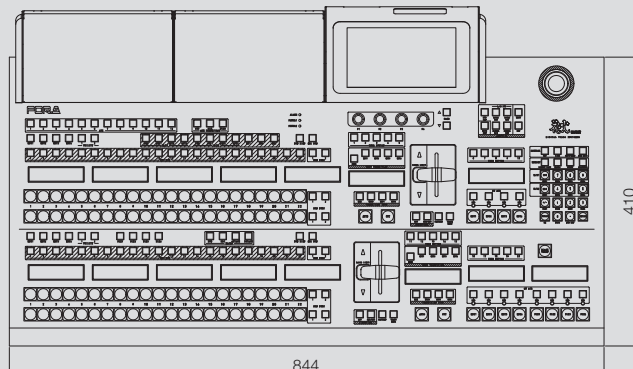


HVS-492WOU

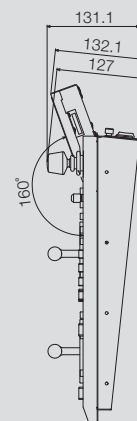
Rear



Front



Side



Specifications

	3G/HD-SDI	4K(UHD)
M/E, MELite	M/E1, M/E2, MELite1-4	M/E1, MELite1
Video formats	3G-SDI (Level-A): 1080p/59.94, 50 HD-SDI: 1080p/29.97, 25, 24, 23.98 1080i/59.94, 50 1080PsF/29.97, 25, 24, 23.98 720p/59.94, 50	Single-Link 12G-SDI: 2160p/59.94, 50 Quad-Link 3G-SDI Level-A (2SI): 2160p/59.94, 50 YCbCr 4:2:2 10-bit Dual-Link 3G-SDI Level-B-DS (2SI): 2160p/29.97, 25, 24, 23.98 YCbCr 4:2:2 10-bit
Number of video input	40	10
Video inputs	3G/HD-SDI: 3 Gbps/1.5 Gbps, 75 Ω, BNC x 40 (Frame synchronizer x 40)	12G-SDI: 12 Gbps, 75 Ω, BNC x 10 or 3G-SDI: 3 Gbps, 75 Ω, BNC x 40 (Frame synchronizer x 10)
Number of video outputs (SDI)	8	8 (2: Quad-Link 3G-SDI) (4: Dual-Link 3G-SDI)
Number of video outputs (HDMI)	2	
Video outputs (SDI)	3G/HD-SDI: 3 Gbps/1.5 Gbps, 75 Ω, BNC x 8	12G/3G-SDI: 12 Gbps/3 Gbps, 75 Ω, BNC x 8
Video outputs (HDMI)	HDMI 2.0 Level-B (TYPE A) x 2 (AUDIO supported)	
AUX bus (Internal bus)	6 channels *Video signal switching available in 4 channels (Similar function as MELite)	
Sampling	YCbCr Key 4 : 2 : 2 : 4, Digital component, 10-bit	
Proc Amp	Equipped with all inputs	
Color corrector	4 channels	1 channel
Keyer	M/E1KEY1-4, M/E2KEY1-4: Luminance key, FULL key, Bus key, Chromakey, Box mask, Pattern mask, EDGE Destination: M/E FLEXaKEY1-4: Luminance key, FULL key, Bus key, Chromakey Destination: M/E, AUX *Available chromakey: Total 4 channels (3 channels for 1080/59.94p, 50p)	KEY1, KEY2: Luminance key, FULL key, Bus key, Chromakey, Box mask, Pattern mask, EDGE Destination: M/E FLEXaKEY1: Luminance key, FULL key, Bus key, Chromakey Destination: M/E, AUX *Available chromakey: Total 1 channel
2.5D DVE	16 channels (8 channels for 1080/59.94p, 50p. Buses limited.) * 16 channels with HVS-49DVE option	2 channels * 4 channels with HVS-49DVE option
M/E transition	Video: CUT, MIX, WIPE (including DVE), FAM, NAM Audio: CUT, MUTE (FADE OUT/FADE IN), MUTE time: 1 V to 10 V (interlaced format: 1 fields to 10 fields, progressive format: 1 frame to 10 frames)	
AUX transition	Video: CUT, MIX, WIPE, 4 channels Audio: CUT, MUTE (FADE OUT/FADE IN), MUTE time: 1 V to 10 V (interlaced format: 1 fields to 10 fields, progressive format: 1 frame to 10 frames)	
Sub Effects	4 channels (3 channels for 1080/59.94p, 50p)	1 channel
Multi viewer	Output channels: 2 (HD resolution) Split display: 2 - 16 Display: Title, tally, audio level meter	
Still/clip store	4 channels (stores up to 1797 frames)	1 channel (stores up to 449 frames)
Event memory	100 events: Crossfade switching available when recalling events. * Event data made in HD are not applicable to 4K and vice versa.	
Macro	100 macros - No. 00-89: Up to 30 actions, No. 90-99: Up to 300 actions	
Genlock input	BB: 0.429 Vp-p (NTSC)/0.45 Vp-p (PAL) or Tri-level sync: 0.6 Vp-p, 75Ω, BNC x 1, loop-through (to be terminated with 75Ω terminator, if unused)	
Genlock output	BB: 0.429 Vp-p (NTSC)/0.45 Vp-p (PAL) or Tri-level sync: 0.6 Vp-p, 75Ω, BNC x 1	
System phase adjustment	Horizontal: -1/2H to +1/2H	
Video I/O delay	Minimum delay: approx. 1.4 H, approx. 1.7 H at 720/59.94p, approx. 1.8 H at 720/50p 0 to 1 frames + Minimum delay (when FS or input re-sizing engine used) 1 to 2 frames + Minimum delay (when FS or input re-sizing engine plus DVE used)	
External memory	SD-CARD slot	
Audio input (option) HVS-49AES (AES/EBU)	Balanced, 0.2-7 Vp-p, 110Ω, 25-pin D-sub (female) x 1, input/output, 4 stereo pairs, 32/44.1/48 kHz, 16-bit to 24-bit or Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4, 4 stereo pairs, 32/44.1/48 kHz, 16-bit to 24-bit	
MUTE control	1 to 16 channels for embedded audio output (Group1-4), Applicable to M/E1 and two AUX buses (1 from AUX01-03 and 1 from AUX04-06).	
Audio output	Embedded audio to each SDI output: 1-16 channel, 48 kHz 16-bit to 24-bit	
Audio output (option) HVS-49AES (AES/EBU)	Balanced, 3.3 Vp-p, 110Ω, 25-pin D-Sub (female) x 1, input/output, 4 stereo channel pairs, 48 kHz, 24-bit or Unbalanced, 1.0 Vp-p, 75Ω, BNC x 4, 4 stereo channel pairs, 48 kHz, 24-bit	
Audio delay	0 ms - 85 ms (adjustable in 1 ms steps)	
Audio processing	Sampling rate converter (SRC), Gain control	
Interface	LAN HVS (OU): 100BASE-TX/1000BASE-T, RJ-45 x 1 (for OU connection) LAN EXT: 100BASE-TX/1000BASE-T, RJ-45 x 1 (for PC or external units connection) GPI IN/ALARM: 25-pin D-sub (female) x 1 (inch screw) 19 inputs GPI/TALLY OUT: 25-pin D-sub (female) x 1 (inch screw) 22 outputs RS-422: 9-pin D-sub (female) x 2 (inch screw) *For router connection HVS LAN: HVS-491OU/492OU/492WOU/492ROU: 100BASE-TX/1000BASE-T, RJ-45 x 1 GPI I/O: HVS-491OU/492OU/492WOU/492ROU: 15-pin D-sub (female) x 1 (inch screw), 6 inputs/6 outputs	
Temperature/humidity	0°C to 40°C/10% to 90% (no condensation)	
Power	AC 100 V to 240 V ±10%, 50/60 Hz	
Consumption	HVS-1200 (standard): 540 W (at 100-120 V), 506 W (at 220-240 V) HVS-491OU: 16 W (at 100-120 V), 16 W (at 220-240 V) HVS-492OU: 27 W (at 100-120 V), 28 W (at 220-240 V)	HVS-1200 (full option): 640 W (at 100-120 V), 597 W (at 220-240 V) HVS-492ROU: 20 W (at 100-120 V), 18 W (at 220-240 V) HVS-492WOU: 30 W (at 100-120 V), 28 W (at 220-240 V)
Size/weight	HVS-1200: 430 (W) mm x 132 (H) mm x 490 (D) mm / 18 kg (With all options: 22 kg) HVS-491OU: 430 (W) mm x 132 (H) mm x 376.4 (D) mm / 6 kg (With redundant power supply: 7 kg) HVS-492ROU: 430 (W) mm x 132 (H) mm x 474 (D) mm / 7 kg (With redundant power supply: 8 kg) HVS-492OU: 646 (W) mm x 132 (H) mm x 510 (D) mm / 11 kg (With redundant power supply: 11 kg) HVS-492WOU: 844 (W) mm x 132 (H) mm x 484 (D) mm / 12 kg (With redundant power supply: 13 kg)	
Accessories	Included with HVS-1200: CD-ROM (Operation manual), Quick Setup Guide, AC cord, rack mount bracket HVS-492ROU/HVS-492OU/HVS-492WOU: MU/OU connecting cable (10 m), AC cord	
Consumables/replacement timing (constant use at room temperature)	HVS-1200: Power unit/5 years, redundant power supply/5 years, Cooling fan/4 years HVS-491OU: Power unit/5 years, redundant power supply/5 years HVS-492ROU: Power unit/5 years, redundant power supply/5 years HVS-492OU: Power unit/5 years, redundant power supply/5 years HVS-492WOU: Power unit/5 years, redundant power supply/5 years	
Options	See "Options" for details.	

– MELite and FLEXaKEY are trademarks of FOR-A Company Limited.



Head Office: 3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan

FOR-A Corporation of America Corporate Office/ Service Center:
11155 Knott Ave., Suite G, H & I, Cypress, CA 90630, U.S.A.

Tel: +1 714-894-3311

FOR-A Corporation of America Northeast Office:
1360 Clifton Ave., Clifton, NJ 07012, U.S.A.

Tel: +1 973-220-847

FOR-A Corporation of America Support Center:
2400 N.E. Waldo Road, Gainesville, FL 32609, U.S.A.

Tel: +1 352-371-1505

FOR-A Latin America and the Caribbean Miami Office:

Tel: +1 657-600-5759

FOR-A Latin America and the Caribbean Sao Paulo Office:

Tel: +55 11-99913-3751

FOR-A Europe S.r.l.:

Tel: +39 039-916-4811

Via Volturmo, 37, 20861 Brugherio MB, Italy

FOR-A UK Limited:

Tel: +44 (0)20-3044-2935

Trident Court, 1 Oakcroft Road, Chessington, KT9 1BD, UK

FOR-A Italia S.r.l.:

ISO 9001 and 14001 certified
(Sakura R&D)

www.for-a.com

Tel: +39 039-881-086/103

Via Volturmo, 37, 20861, Brugherio MB, Italy

FOR-A Corporation of Korea:

Tel: +82 (0)2-2637-0761

1007, 57-5, Yangsan-ro, Yeongdeungpo-gu, Seoul 150-103, Korea

FOR-A China Limited:

Tel: +86 (0)10-8721-6023

1618 Huateng Building, No. 302, 3 District, Jinsong, Chaoyang, Beijing 100021, China

FOR-A Middle East-Africa Office:

Tel: +971 (0)4-551-5830

Dubai Media City, Aurora Tower, Office 1407, P.O. Box 502688, Dubai, UAE

AGIV (India) Private Limited:

Tel: +91 22-2673-3623

2nd Floor, Valecha Chambers, Link Road, Andheri (W), Mumbai 400053, India

FOR-A South East Asia Office:

Tel: +852 2110-1352

Studio 09, Rm. A1, 3/F., Phase 1, Hang Fung Ind. Bldg., 2G Hok Yuen St., Hung Hom, Hong Kong