FOR-A®

花火
HANABI

3G/HD/SD VIDEO SWITCHER

HVS-490

HANABI

Our newest production switcher leverages the creative power of the HANABI series.

The HVS-490 switcher inherits key technology of the HVS-2000 and HVS-390HS, while opening the door to even more affordable 4K production. Exclusive MELite™ technology extends the switcher's 2 M/Es to offer 6 M/E performance.*1 Expand your switching capabilities even more by assigning FLEXaKEY™ or feature rich 2.5D DVE, for compositing with up to 12 keyers. Take advantage of this truly broad range of switching in live production.

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*1 Using an optional HVS-49IO card. In 4K mode, 1 M/E + 1 MELite is available.

Highlights

1 MELite™

MELite 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. Two MELites are provided, and an optional HVS-49IO card brings the total to four. Assigning FLEXaKEY to an MELite expands the system, adding the equivalent of two M/E buses to the standard two Full M/E's and bringing the total available to four. 4-6 M/E performance is possible in this 2 M/E switcher.

- Preview output from an AUX bus when applying transitions (cut, mix, or wipe) or keying. This ground-breaking technology makes sure your production is ready for virtually any request.
- For greater impact and more sophisticated switching, MELite can be assigned before 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.

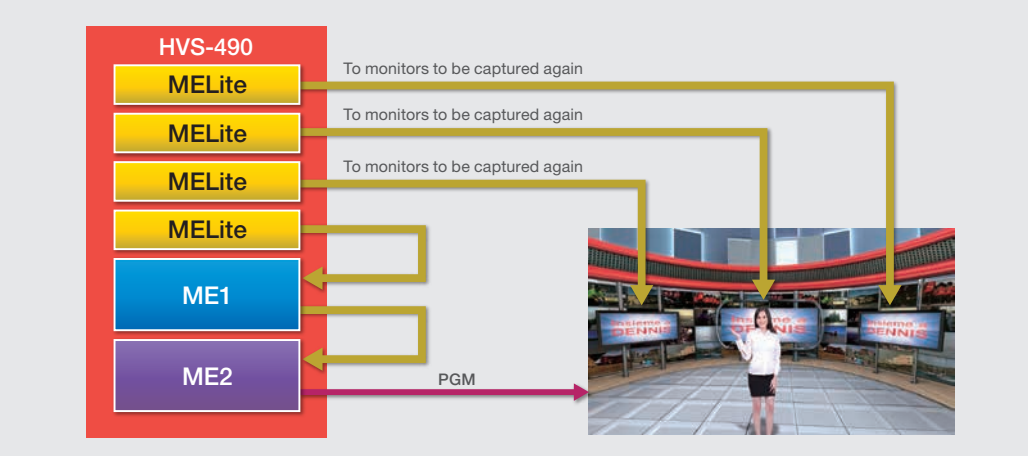
2 FLEXaKEY™

Special FLEXaKEY keyers are designed for flexible reassignment. The four FLEXaKEYs provided operate separately from standard keyers of the full M/E buses. Easy keying of four different FLEXaKEYs in any AUX bus is another feature that enables impressive performances beyond the reach of conventional switchers.

- Quad FLEXaKEY system can be freely assigned to M/E or AUX buses. Combine up to eight keyers for an M/E bus (4 keyers + 4 FLEXaKEYs).
- P-in-P display is possible using an AUX bus, and 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-490.

Sophisticated performances using MELite and FLEXaKEY[*2*3]

*2 By adding HVS-49IO
*3 In 4K mode, 1 M/E + 1 MELite



3 DVEs

Choose from cut, mix, or wipe transitions. In addition to 100 wipe patterns, the switcher offers 16 useful 2.5D DVE wipes such as rotate, perspective and reposition. Other rich effects include mosaic, posterization, pseudo color and defocus are also provided.

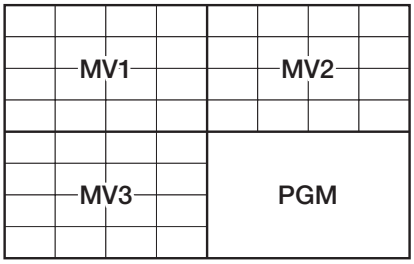
4 Extensive input/output

16 video inputs are provided, expandable to 40, along with 9 video outputs (including 1 HDMI port) that are expandable to 22 (including 2 HDMI ports). For 4K[*4], 8 to 10 inputs and 6 to 7 (including 2 HDMI ports) outputs (expandable to 7) are provided. See "Options" for details on expansion cards.

*4 HVS-49IO and HVS-49EXP4K are required for supporting 4K.

5 Standard multi viewer output

The HVS-490 provides three displays of multi viewer output, each supporting up to 16-split display. More than 10 screen layouts each are available. This provides an optimal monitoring environment for both the main operator and other users. 4K output is supported via HDMI 2.0 Level B. Monitor four images on one screen via HDMI outputs. Using 3 multi viewer outputs and PGM output, up to 49 windows can be displayed.



Via HDMI 2.0 Level B output

6 AES digital audio I/O (optional*5)

Offers ability to demultiplex AES audio from video/clip input and multiplex AES audio into video output. Use an internal sampling rate converter to sync audio input to the system.

*5 With HVS-49AES expansion card

7 2SI/SQD 4K mode (optional*6)

The switcher processes 4K video from the quad 3G-SDI output of 4K cameras in 2SI (2-sample interleave) or SQD (square division) format.

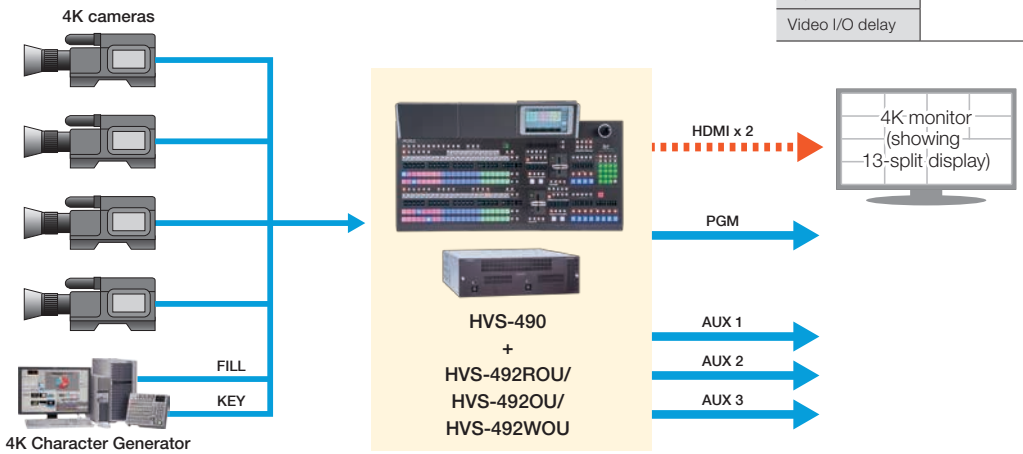
*6 With HVS-49EXP4K software and HVS-49IO card

Example of 4K system configuration

The HVS-490 was designed with future 4K upgrading in mind. By adding optional expansion cards, it provides up to 10 4K inputs and 6 outputs or 8 4K inputs and 7 outputs. What's more, unique use of AUX buses enables a 4K switcher to have the equivalent of 1-1.5 M/E features.

4K mode specifications

4K UHD signal	3840 x 2160/59.94p, 50p 3G-SDI (Level-A) x 4 (quad link), 2SI or SQD
	3840 x 2160/29.97p, 25p, 24p, 23.98p 3G-SDI (Level-B-DS) x 2 (dual link), 2SI HD-SDI x 4 (quad link), SQD
	3840 x 2160/59.94i, 50i, 29.97PsF, 25PsF, 24PsF, 23.98PsF HD-SDI x 4 (quad link), SQD
HDMI output	2 outputs; 4K UHDTV (3840p)
Processing	4 : 2 : 2, 3G-SDI, 10 bit
Transitions	Same as in regular mode
2.5D DVE	Standard: 4 (2*), Max.: 5 (4*), 2SI (*at 3840 x 2160/59.94p, 50p)
Keyer	2 channels; luminance keyer, full keyer, bus keyer, box mask
FLEXaKEY	1 channel; luminance keyer, full keyer, bus keyer; output to M/E, MELite, or AUX
Color corrector	1
Still/clip store	1
Multi viewer	3 lines of multi viewer output (some layout restrictions)
Genlock input	Same as in regular mode
System phase adjustment	
Video I/O delay	



Applications

Live staging

The HVS-490 has an incredibly powerful feature set that makes it ideal for live staging and event applications where systems must be set up quickly and temporarily. Event memory and macro functions make it easier to prepare for performances. MELite eliminates the need to have several switchers ready for multi-monitor staging, greatly reducing the equipment required. It's essential to keep production simple and easy to prevent mistakes and help operators focus on staging.

Mobile OB and Up-Link production trucks

With its robust feature set, the HVS-490 is perfect for small mobile video production or Up-Link where space is limited. The HVS-490 switcher offers a rich feature set perfect for live or recorded production. With integrated frame synchronizers and multi viewer, the HVS-490 can reduce the amount of equipment required in the truck. Using multiple FOR-A control panels, the system can also provide an environment for several operators each in charge of separate tasks - for example one for the main event and a second for a web cut of the same event.

Full-featured control

Frame Synchronizer

Every input in the HVS-490 is outfitted with frame synchronizers that enable switching of synchronous and asynchronous video signals. Installation of optional expansion cards supports asynchronous input signals from PCs, etc. Each input is also equipped with a process amplifier capable of adjusting the video level, chroma level, and hue of the input signal.

Re-sizing Engine

Up re-sizing feature is provided on 4 of the standard inputs. This achieves a fully mixed SD/HD environment with the HVS-490. This is ideally suited for re-sizing not only SD signals but also PC video.*7

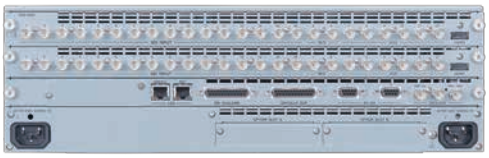
*7 With HVS-100PCI PC input card

Audio playback support

Available during Graphic-Wipe transitions is the ability to play back audio with video in the internal media players and integrate sound effects.

External Interfaces

Plentiful 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 6 inputs and 6 outputs.



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.

Keyer

For HD input, 2.5D DVEs can be assigned to all four keyers of each M/E and all four FLEXaKEYs.*8 The four chroma keys provided can also be assigned to each keyer or FLEXaKEY. Edge effects (configurable up to 8h) are also available for each keyer as a standard feature.

*8 With 1080/59.94p or 1080/50p input, assigning 2.5D DVEs to all keyers at the same time requires an optional HVS-49DVE. Share up to 8 DVEs among keyers, FLEXaKEYs, and transitions in a standard configuration.

Event Memory/User Button

Up to 100 registers of control panel configurations can be stored as events. Event memories can be recalled easily from the user buttons on the control panels and remote control panels. Operators can freely set the transition durations and effects. By storing events in advance, operators can use event memories to make performances more exciting and expressive, simply by pressing buttons during the event. And because a variety of HVS-490 functions can be freely assigned to user buttons, operators can customize control panels as they wish.

GUI Control Function

Thanks to a built-in Web server, the HVS-490 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

4 color correctors are available per M/E.

Sequence Function

Up to 30 patterns can be registered.

4 Still/Clip Stores

Load video input signals or PGM output signals as stills,*9 or import data (either stills or clips with up to 440 frames) created on a computer for use as wipes. Stills and clips are loaded from a control panel and computer. Using the backup feature, you can also save stills or clips to an optional SSD in the switcher to load the data when the HVS-490 is restarted.

*9 JPEG, TGA, and BMP supported

Convenient Control Panels

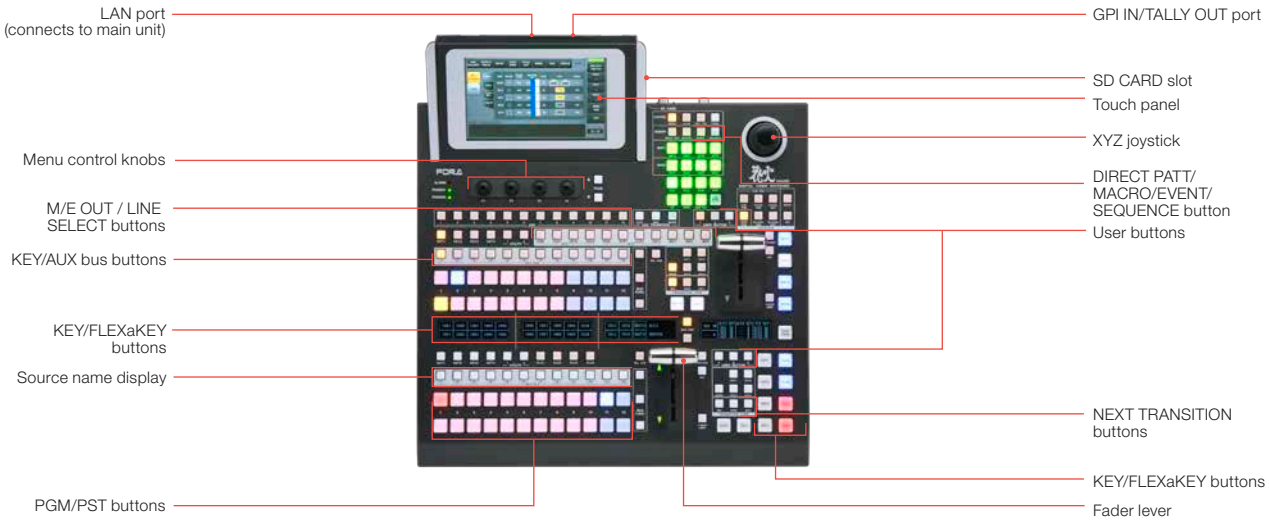
Choose from HVS-492ROU, HVS-492OU or HVS-492WOU panels to suit your applications.
Advantages include enhanced usability and accurate control through customizable RGB button lights assigned to specific video material or button functions, an OLED display for material, a 7-inch touch panel, source and macro name display, and more. 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-492ROU

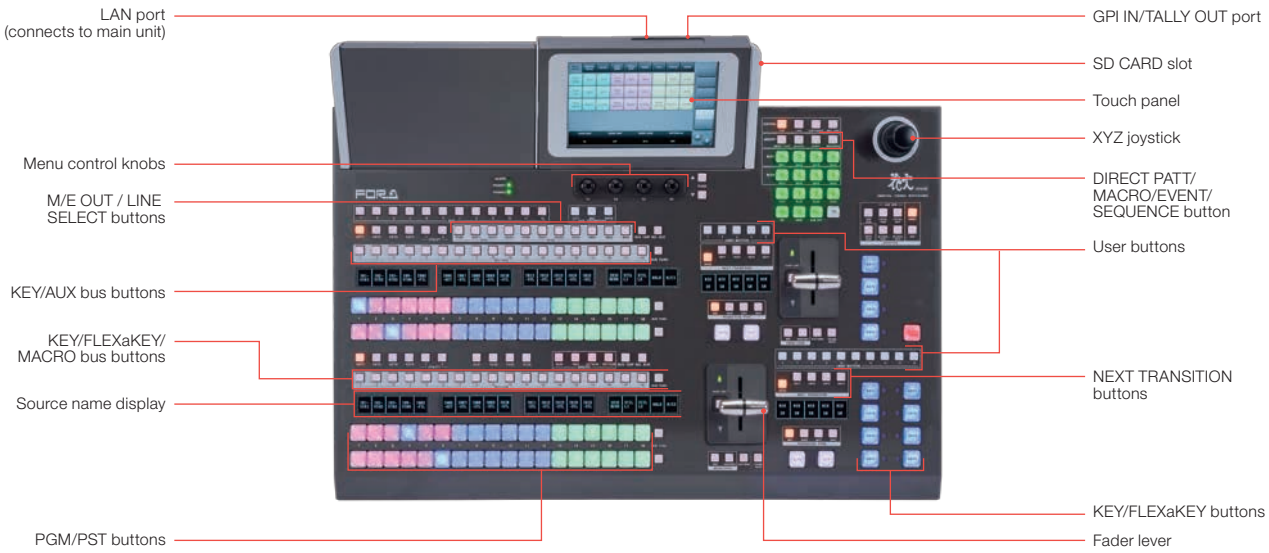

HVS-492OU


HVS-492WOU

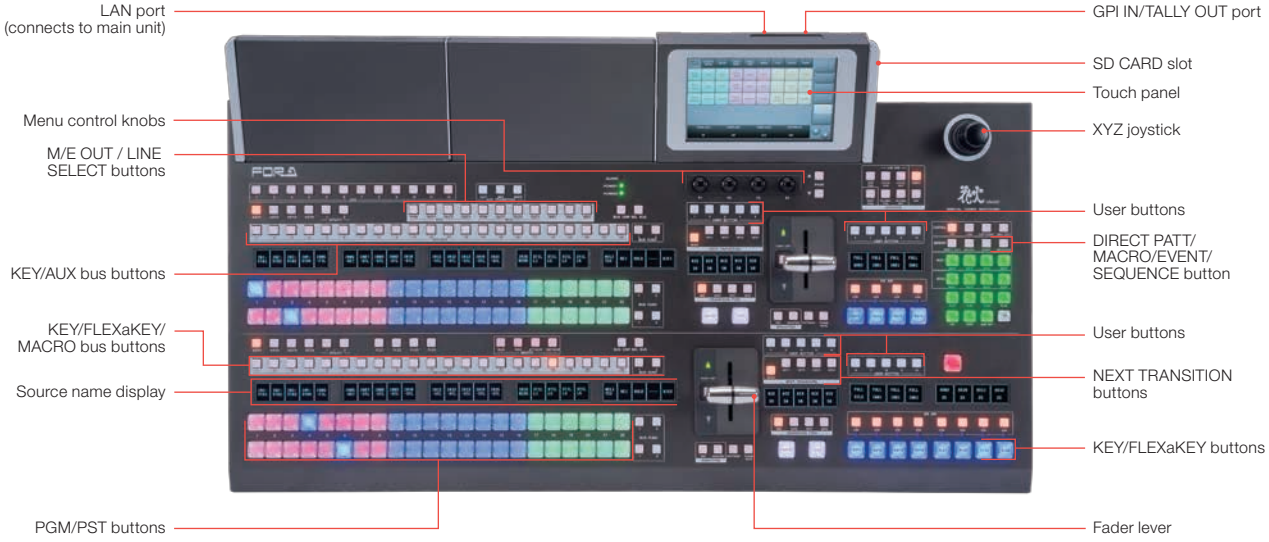
HVS-492ROU 2 M/E (12 buttons) Control Panel



HVS-492OU 2 M/E (18 buttons) Control Panel



HVS-492WOU 2 M/E (22 buttons) Control Panel



Options

Software

Supports 4K formats or video systems used for editing.

HVS-49EXP4K
4K Expansion Software

Adds support for 4K (3840 x 2160/59.94p, 50p, 2SI/SQD) input and output.*10

*10 HVS-49IO is required.

HVS-49ED
Editor Interface Software

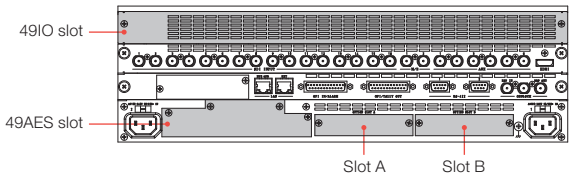
Adds support for protocols used for editing on other video systems (BVS/DVS, GVG).

HVS-49SD
SD Expansion Software

Adds support for SD (625/50i, 525/60i) signals.

Expansion cards

Add the number of interfaces or the extended features you need by installing expansion cards in the three slots.



HVS-49IO available for 49IO slot
3G/HD-SDI Input/Output, HDMI Output Card

16 3G/HD-SDI inputs, 8 outputs, and 1 HDMI output are possible with a single card. A frame synchronizer function for all inputs and re-sizing (expansion) function for 4 inputs are provided. SD images can be processed internally as HD images. Compatible with both Level A and B signal input when 3G-SDI signals are supplied. (Level B signals are automatically converted to Level A.)

HVS-100TB2 available for slot A or B
Thunderbolt™2 Expansion Card

4 channels of full HD input and output can be transferred by a single card. *11 Simultaneously transfers video, audio, and control signals.

*11 - The number of channels varies depending on the video formats.
- To be supported

HVS-100DI-A available for slot A or B
3G/HD/SD*12-SDI Input Card

4 channels of 3G/HD/SD-SDI input are possible with a single card. A frame synchronizer function for all inputs and re-sizing (expansion) function for 2 inputs are provided. Compatible with both Level A and B signal input when 3G-SDI signals are supplied. (Level B signals are automatically converted to Level A.)

*12 HVS-49SD is required.

HVS-100DO available for slot A or B
3G/HD/SD-SDI Output Card

2 channels of 3G/HD/SD-SDI*12 output are possible with a single card. As down-converters are provided for all outputs, HD and SD images can simultaneously be output.

*12 HVS-49SD is required.

HVS-100AI available for slot A or B
Analog Video Input Card

2 channels of analog video signal input are possible with a single card. Input terminal 2 is a dedicated connector (conversion connector supplied). The user can select between analog composite and analog component (HD or SD*12) input for each input terminal.

*12 HVS-49SD is required.

HVS-100AO available for slot A or B
Analog Video Output Card

2 channels of analog video signal input are possible with a single card. Output terminal 2 is a dedicated connector (conversion connector supplied). The user can select between analog composite and analog component (HD or SD*12) output for each output terminal.

*12 HVS-49SD is required.

HVS-100PCI available for slot A or B

PC (HDMI/VGA) Input Card

HDMI and VGA terminals have been mounted onto a single card. 2 input channels are possible using both.

HVS-100PCO available for slot A or B

PC (HDMI/VGA) Output Card

HDMI and VGA terminals have been mounted onto a single card. 2 output channels are possible using both.

Resolutions supported by input cards

HD mode*13	1080/59.94p	1024 x 768/60Hz (XGA), 1280 x 1024/60Hz (SXGA), 1280 x 768/60Hz (WXGA), 1600 x 1200/60Hz (UXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/59.94p (HDTV)
	1080/50p	1024 x 768/60Hz (XGA)*14, 1280 x 1024/60Hz (SXGA)*14, 1280 x 768/60Hz (WXGA)*14, 1600 x 1200/60Hz (UXGA)*14, 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/50p (HDTV)
	1080/29.97p	1920 x 1080/29.97p (HDTV)
	1080/25p	1920 x 1080/25p (HDTV)
	1080/24p	1920 x 1080/24p (HDTV)
	1080/23.98p	1920 x 1080/23.98p (HDTV)
	1080/59.94i	1024 x 768/60Hz (XGA), 1280 x 1024/60Hz (SXGA), 1280 x 768/60Hz (WXGA), 1600 x 1200/60Hz (UXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/59.94i (HDTV)
	1080/50i	1024 x 768/60Hz (XGA)*14, 1280 x 1024/60Hz (SXGA)*14, 1280 x 768/60Hz (WXGA)*14, 1600 x 1200/60Hz (UXGA)*14, 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/50i (HDTV)
	1080/29.97PsF	1024 x 768/60Hz (XGA), 1280 x 1024/60Hz (SXGA), 1280 x 768/60Hz (WXGA), 1600 x 1200/60Hz (UXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/29.97PsF (HDTV)
	1080/25PsF	1024 x 768/60Hz (XGA)*14, 1280 x 1024/60Hz (SXGA)*14, 1280 x 768/60Hz (WXGA)*14, 1600 x 1200/60Hz (UXGA)*14, 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/25PsF (HDTV)
	720/59.94p	1024 x 768/60Hz (XGA), 1280 x 1024/60Hz (SXGA), 1280 x 768/60Hz (WXGA), 1280 x 720/59.94p (HDTV)
	720/50p	1024 x 768/60Hz (XGA)*14, 1280 x 1024/60Hz (SXGA)*14, 1280 x 768/60Hz (WXGA)*14, 1280 x 720/50p (HDTV)
SD mode	625/50i	640 x 480/60Hz (VGA)*14, 800 x 600/60Hz (SVGA)*14, 1024 x 768/60Hz (XGA)*14, 720 x 576/50i (SDTV, PAL)
	525/60i	640 x 480/60Hz (VGA), 800 x 600/60Hz (SVGA), 1024 x 768/60Hz (XGA), 720 x 480/60i (SDTV, NTSC)

Resolutions supported by output cards

HD mode*13	1080/59.94p	1280 x 1024/60Hz (SXGA), 1600 x 1200/60Hz (UXGA), 1680 x 1050/60Hz (WSXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/59.94p (HDTV)
	1080/50p	1280 x 1024/60Hz (SXGA)*14, 1600 x 1200/60Hz (UXGA)*14, 1680 x 1050/60Hz (WSXGA)*14, 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/50p (HDTV)
	1080/29.97p	1280 x 1024/60Hz (SXGA), 1600 x 1200/60Hz (UXGA), 1680 x 1050/60Hz (WSXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/29.97p (HDTV)
	1080/25p	1280 x 1024/60Hz (SXGA)*14, 1600 x 1200/60Hz (UXGA)*14, 1680 x 1050/60Hz (WSXGA)*14, 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/25p (HDTV)
	1080/24p	1920 x 1080/24p (HDTV)
	1080/23.98p	1920 x 1080/23.98p (HDTV)
	1080/59.94i	1280 x 1024/60Hz (SXGA), 1600 x 1200/60Hz (UXGA), 1680 x 1050 /60Hz (WSXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/59.94i (HDTV)
	1080/50i	1280 x 1024/50Hz (SXGA), 1280 x 1024/60Hz (SXGA)*14, 1600 x 1200/50Hz (UXGA), 1600 x 1200/60Hz (UXGA)*14, 1680 x 1050/50Hz (WSXGA), 1680 x 1050/60Hz (WSXGA)*14, 1920 x 1200/50Hz (WUXGA), 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/50i (HDTV)
	1080/29.97PsF	1280 x 1024/60Hz (SXGA), 1600 x 1200/60Hz (UXGA), 1680 x 1050 /60Hz (WSXGA), 1920 x 1200/60Hz (WUXGA), 1920 x 1080/29.97PsF (HDTV)
	1080/25PsF	1280 x 1024/50Hz (SXGA), 1280 x 1024/60Hz (SXGA)*14, 1600 x 1200/50Hz (UXGA), 1600 x 1200/60Hz (UXGA)*14, 1680 x 1050/50Hz (WSXGA), 1680 x 1050/60Hz (WSXGA)*14, 1920 x 1200/50Hz (WUXGA), 1920 x 1200/60Hz (WUXGA)*14, 1920 x 1080/25PsF (HDTV)
	720/59.94p	1280 x 1024/60Hz (SXGA), 1280 x 768/60Hz (WXGA), 1280 x 720/59.94p (HDTV)
	720/50p	1280 x 1024/50Hz (SXGA), 1280 x 1024/60Hz (SXGA)*14, 1280 x 768/50Hz (WXGA), 1280 x 768/60Hz (WXGA)*14, 1280 x 720/50p (HDTV)
SD mode	625/50i	800 x 600/50Hz (SVGA), 800 x 600/60Hz (SVGA)*14, 720 x 576/50i (SDTV, PAL)
	525/60i	800 x 600/60Hz (SVGA), 720 x 480/60i (SDTV, NTSC)

*13 HDCP-incompatible
*14 Distortion occurs with 25 or 50 fps source video at a refresh rate of 60 Hz.

HVS-49AES available for 49AES slot

Digital Audio I/O Card

Supports 4 lines (8 channels) of balanced or unbalanced audio input and output.

HVS-49DVE

2.5D DVE Expansion Card

Supports 8 channels of DVE output as standard at 1080/59.94p,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-AUX16B

Tabletop AUX Remote Control Panel

16-button tabletop AUX remote control panel.

HVS-AUX16A/AUX32A/AUX64A

AUX Remote Control Panel

16- and 32-button models are 1U size, and 64-button models are 2U. Up to 10 AUX units can be connected via Ethernet. Greatly expand switcher versatility by assigning AUX source previews or a variety of functions to each button.

HVS-AUX16A

HVS-AUX32A

HVS-AUX64A

HVS-49SSD240G

SSD Expansion Option

SSD for storing stills and clips.

HVS-TALR20/32

Tally Interface Unit

Connect up to three of the following half-rack tally units to a single HVS-490.

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

HVS-49PSM/49PSO

Redundant Power Supply Unit

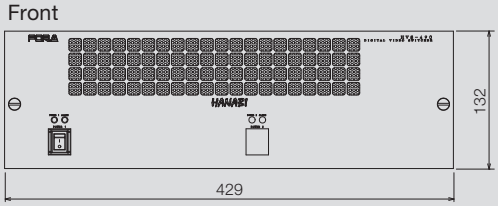
HVS-49PSM provides a redundant power supply for HVS-490. HVS-49PSO is available for HVS-492ROU, HVS-492OU or HVS-492WOU.

External view

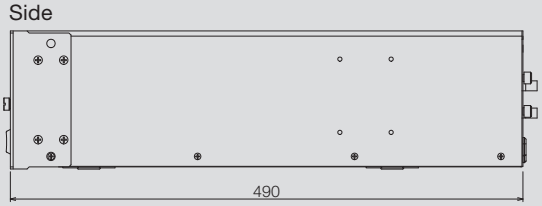
Unit: mm

HVS-490

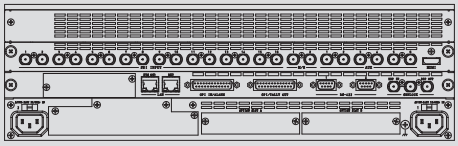
Front



Side



Rear

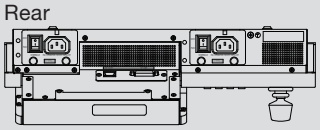


External view

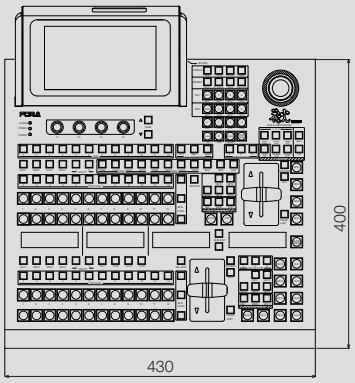
Unit: mm

HVS-492ROU

Rear



Front



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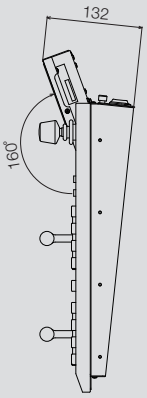
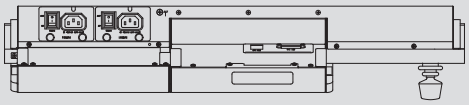


HVS-492OU

Rear



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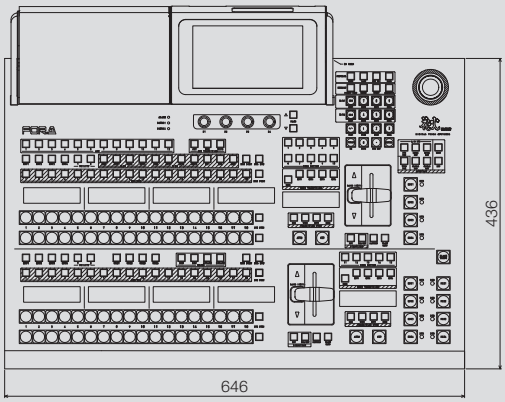

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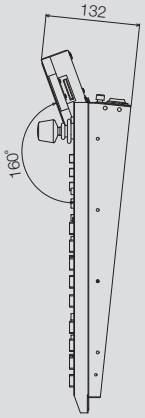
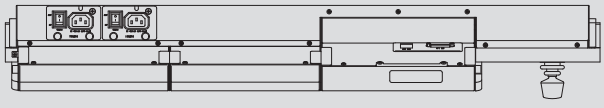
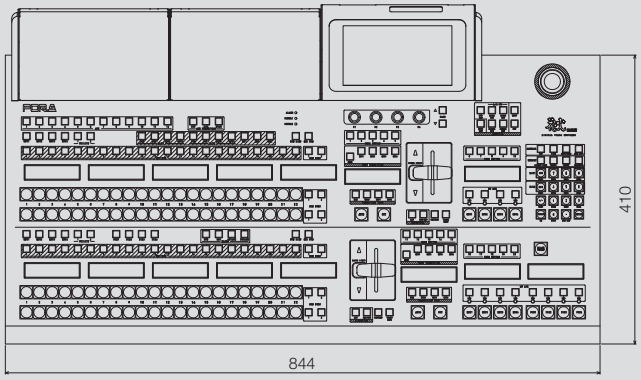


HVS-492WOU

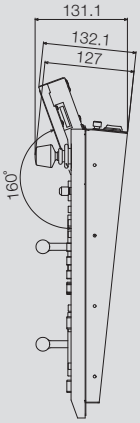
Rear



Front



Side



Specifications

M/E buses	2M/E
Control panels	HVS-492ROU: 2M/E 12 buttons HVS-492OU: 2M/E 18 buttons HVS-492WOU: 2M/E 22 buttons
Video formats	HD-SDI: 1080/59.94i, 1080/50i, 1080/29.97PsF, 1080/29.97p, 1080/25PsF, 1080/25p, 1080/24PsF, 1080/24p, 1080/23.98PsF, 1080/23.98p, 720/59.94p, 720/50p 3G-SDI: 1080/59.94p, 1080/50p (Level-A)
Video formats (optional)	
HVS-49SD/HVS-49EXP4K	2160/59.94p, 2160/50p (Level-A, 2SI, SQD) 2160/29.97p, 2160/25p, 2160/24p, 2160/23.98p (Level-B-DS, 2SI, SQD) 2160/59.94i, 2160/50i, 2160/29.97PsF, 2160/25PsF, 2160/24PsF, 2160/23.98PsF (SQD)
Video inputs	HD-SDI: 1.5 Gbps, BNC x 16, 75Ω (frame synchronizer x 16, re-sizing engine x 4) 3G-SDI: 3 Gbps
Video inputs (optional)	
HVS-49IO	HD-SDI: 1.5 Gbps, BNC x 16, 75Ω (frame synchronizer x 16, re-sizing engine x 4) 3G-SDI: 3 Gbps (Level-A/Level-B)
HVS-100DI-A	HD-SDI: 1.5 Gbps, BNC x 4, 75Ω 3G-SDI: 3 Gbps (Level-A/Level-B), BNC x 4, 75Ω
HVS-100AI	HD analog component, Analog composite
HVS-100PCI	HDMI: SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50p, 29.97p, 25p, 24p, 23.98p), SXGA to WXGA/HDTV (720p) RGB: SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50p), SXGA to WXGA/HDTV (720p)
Number of video input	Standard: 16 (SDI only), Max.: 40 (varies depending on optional configuration)
Video outputs	HD-SDI: 1.5 Gbps, BNC x 8, 75Ω (PGM x 2, AUX x 6) 3G-SDI: 3 Gbps, HDMI (AUX) x 1 (HDCP-incompatible. AUDIO support)
Video outputs (optional)	
HVS-49IO	HD-SDI: 1.5 Gbps, BNC x 8, 75Ω (PGM x 2, AUX x 6) 3G-SDI: 3 Gbps (Level-A) HDMI (AUX) x 1 (HDCP-incompatible. AUDIO support)
HVS-100DO	HD-SDI: 1.5 Gbps, BNC x 2, 75Ω 3G-SDI: 3 Gbps (Level-A), BNC x 2, 75Ω
HVS-100AO	HD analog component, Analog composite
HVS-100PCO	HDMI: SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50p, 29.97p, 25p, 24p, 23.98p), SXGA to WXGA/HDTV (720p) RGB: SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50p), SXGA to WXGA/HDTV (720p)
Number of video outputs	Standard: 9 (SDI x 8 + HDMI x 1) / Max.: 22 (varies depending on optional configuration)
AUX	Standard: 6, Max.: 12
Processing	4:2:2, digital component
Quantization	3G/HD/SD-SDI: 10-bit
Multi viewer	Output channels: 3, Split display: 2/4/5/7/9/10/11/14/15/16 (Max. 49 via HDMI 2.0 Level B), Display: Title, tally, audio level meter
Process amplifier	Equipped with all inputs
Still/clip store	4 channels (stores up to 1796 frames (60 seconds) at 1080i)
2.5D DVE	Standard: 16 (1080/59.94p, 50p: Standard: 8, Max.: 16)
2.5D DVE (optional)	
HVS-49DVE	1080/59.94p, 50p: 8
Transitions	Available controller: Fader controller, AUTO button, CUT button, Type: MIX or WIPE (DVE included)
Audio inputs/outputs (optional)	
HVS-49AES	Embedded: BNC x 8 (16 channels), synchronous/asynchronous, 48 kHz, 16 to 24 bit (3G Level B: Link A embedded only) Input: BNC x 4 (stereo x 4, 8 channels), unbalanced, 75Ω, 32/44.1/48 kHz, 24-bit Output: BNC x 4 (stereo x 4, 8 channels), unbalanced, 75Ω, 48 kHz, 24-bit I/O: D-sub 25-pin x 1 (stereo x 4, 8 channels), 110Ω, balanced, input: 32/44.1/48 kHz, output: 48 kHz, 24-bit
Genlock input	BB: 0.429 Vp-p (NTSC)/0.45 Vp-p (PAL) or Tri-level sync: ±0.3 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-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. 1.4H, approx. 1.7 H at 720/59.94p, approx. 1.8H 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) 2 to 3 frames + Minimum delay (when FS or input re-sizing engine plus output re-sizing engine plus DVE used)
External memory	SD-CARD slot
Inernal memory (optional)	
HVS-49SSD240G	240 GB
Interface	RS-422: 9-pin D-sub (female) x 2 GPI IN: 25-pin D-sub (female) for 19 inputs GPI/TALLY OUT: 25-pin D-sub (female) for 22 outputs Ethernet: RJ-45 x 2, HVS-LAN (for OU connection), PC-LAN (for computer and peripheral device connection)
Temperature/humidity	0°C to 40°C/10% to 90% (no condensation)
Power	HVS-490/492ROU/492OU/492WOU: AC 100 V to 240 V±10%, 50/60 Hz
Consumption	HVS-490: 508 W (full option: 534 W) HVS-492ROU: 20 W HVS-492OU: 27 W HVS-492WOU: 30 W
Size/weight	HVS-490: 429 (W) mm x 132 (H) mm x 490 (D) mm/approx. 17 kg (full option: approx. 23 kg) HVS-492rOU: 430 (W) mm x 474 (H) mm x 132 (D) mm/approx. 7 kg (incl. redundant power supply: approx. 8 kg) HVS-492OU: 646 (W) mm x 510 (H) mm x 132 (D) mm/approx. 11 kg (incl. redundant power supply: approx. 11 kg) HVS-492WOU: 844 (W) mm x 484 (H) mm x 132 (D) mm/approx. 12 kg (incl. redundant power supply: approx. 13 kg)
Accessories	Included with HVS-490: CD-ROM (Operation manual), Quick Setup Guide, AC cord, rack mount bracket HVS-492ROU/492OU/492WOU: MU/OU connecting cable (10 m), AC cord
Consumables/replacement timing (constant use at room temperature)	HVS-490: Power unit/approx. 5 years, Redundant power supply unit/approx. 5 years, Cooling fan/approx. 4 years HVS-492ROU/492OU/492WOU: Power unit/approx. 5 years, Redundant power supply unit/approx. 5 years
Options	See “Options” for details.

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