FOR.A
INNOVATIONS IN VIDEO and AUDIO TECHNOLOGY

花火
HANABI

HD/SD Portable Digital Video Switcher

HVS-500HS "1M/E HANABI Portable"

A Low Cost, High Performance, Custom-Built Switcher

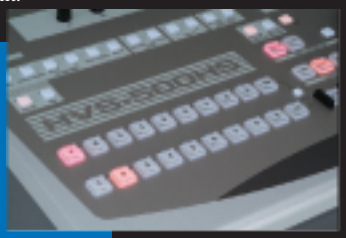
Why pay for more than you really need? Every single HVS-500HS is custom-built to fit the customer's exact needs. No more extra cost for functions you'll never use and no more wasted I/O's. Take advantage of FOR-A's proven broadcast technology in a low-cost, fully-customizable, and portable One Box System.

Simple & Compact, but Powerful

The HVS-500HS is an HD/SD-compatible, yet portable switcher that combines the easy operation and powerful features that FOR-A's HANABI series is famous for. The compact case houses a wide array of functions to give you unrivaled mobility.

Selectable Inputs and Outputs

Both digital and analog input and output boards are available for users to freely create their own combinations to match their needs. 21 different configurations with several hundred variations of signal I/O formats are possible. The HVS-500HS enables you to find the optimal I/O configuration for your particular operating environment.



Maximum I/O configuration
8 HD/SD SDI Inputs
4 Analog Inputs
5 HD/SD SDI Outputs
2 Analog Outputs
Max. 12 Inputs, 7 Outputs

One Box System

The HVS-500HS uses an integrated main unit and operation unit to provide HANABI's trademark compact body and enhanced mobility design for enabling superior portability and usage in any possible operating environment.

DSK with Chroma Key Function

The HVS-500HS includes one DSK channel with a chroma key function as standard features.

Freely-Assignable DSK

DSK can be assigned to either PGM, AUX 1, 2, or 3.

Two Still Stores

The basic input provides two still stores. USB memory is supported for importing images created on a workstation or exporting still stores.

HD/SD Switchable

HVS-500HS is switchable between HD or SD formats by simply reinitializing the mode setup. It supports various HD formats such as 1080/60i and 720/60p and SD formats.

Supported formats;

HD formats: 1080/60i, 59.94i, 50i, 720/60p, 59.94p (720/50p to be released).

SD formats: 525/60, 625/50, NTSC, PAL.

Picture-in-Picture Function

A dedicated picture-in-picture function is provided with the basic configuration. This enables the building of composites with up to two reduced-size screens without using DVEs.

Picture-in-Pincture Sample

Wide Array of Effects

In addition to the regular MIX transitions, NAM, FAM, and WIPE transitions are available. The HVS-500HS has 100 different preset wipe patterns.

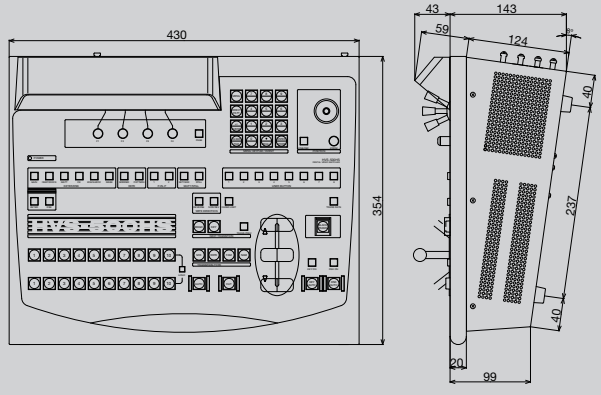
Process Control

Both input and offset levels can be independently adjusted, enabling easy color correction and color matching on-site when using multiple cameras.

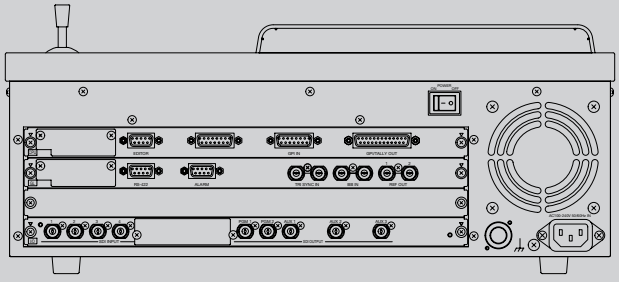
Gradation Matte

A vertical, horizontal, or diagonal gradation matte can be installed for assigning to backgrounds, wipe borders, and keyer mattes.

External Dimensions



Rear Panel



Fully-customizable Configuration

With the HVS-500HS, you can go beyond the standard configuration with customized inputs and outputs and a diverse array of other available options. Since you only add the required functions to match your operating environment or system, you can use different function combinations to transform the HVS-500HS into a switcher with performance optimized for your application.

Selectable Inputs and Outputs

HVS-50HSDI: HD/SD-SDI Input Card

Install up to 8 HD/SD-SDI inputs. (4 inputs/card)
Maximum two cards can be installed.

HVS-50HSDO: HD/SD-SDI Output Card

Option providing 5 HD/SD-SDI outputs. (PGM x 2, AUX x 3)
Maximum one card can be installed.

HVS-50HSAI: HD/SD Analog Input Card

Choose your analog input format from the following card configurations. Maximum two cards can be installed.

- Component (HD/SD) x 2
- Component (SD) x 1 and Composite (SD) x 1
- RGB (PC) x 1 and Component (HD/SD) x 1
- RGB (PC) x 1 and Composite (SD) x 1
- Composite (SD) x 2

HVS-50HSAO: HD/SD Analog Output Card

Choose your analog output format from the following card configurations. Maximum one card can be installed.

- Component (HD/SD) x 2
- Component (SD) x 1 and Composite (SD) x 1
- RGB (PC) x 1 and Component (HD/SD) x 1
- RGB (PC) x 1 and Composite (SD) x 1
- Composite (SD) x 2

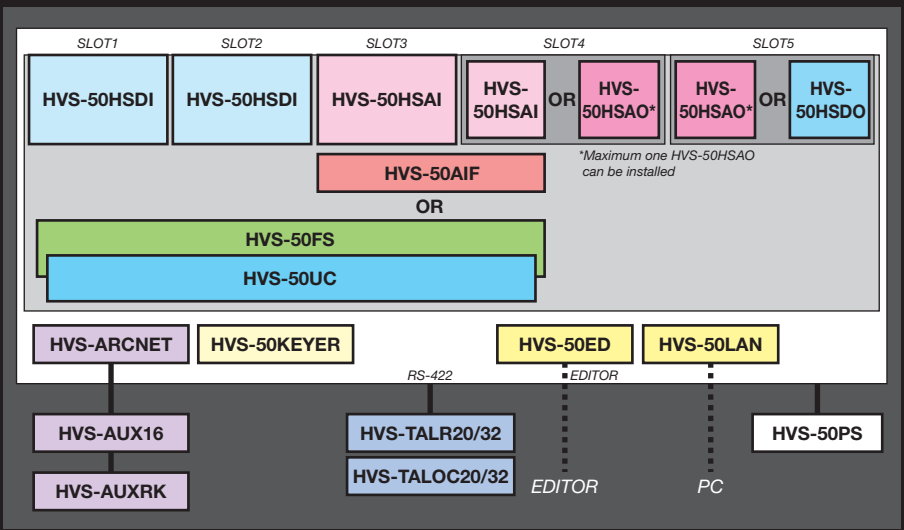
Slot Configuration

Five slots are provided for I/O boards. Each slot supports a specific card configuration for enabling the 21 combinations shown below.

I/O requirements	Slot-1	Slot-2	Slot-3	Slot-4	Slot-5	Inputs Configuration	Outputs Configuration
Digital Inputs/Digital Outputs	DI				DO	HD/SD-SDI x 4	HD/SD-SDI x 5
	DI	DI			DO	HD/SD-SDI x 8	HD/SD-SDI x 5
Digital Inputs/Analog Outputs	DI				AO	HD/SD-SDI x 4	HD/SD Analog x 2
	DI	DI			AO	HD/SD-SDI x 8	HD/SD Analog x 2
Digital Inputs/Digital & Analog Outputs	DI			AO	DO	HD/SD-SDI x 4	HD/SD-SDI x 5, HD/SD Analog x 2
	DI	DI		AO	DO	HD/SD-SDI x 8	HD/SD-SDI x 5, HD/SD Analog x 2
Analog Inputs/Analog Outputs			AI		AO	HD/SD Analog x 2	HD/SD Analog x 2
			AI	AI	AO	HD/SD Analog x 4	HD/SD Analog x 2
Analog Inputs/Digital Outputs			AI		DO	HD/SD Analog x 2	HD/SD-SDI x 5
			AI	AI	DO	HD/SD Analog x 4	HD/SD-SDI x 5
Analog Inputs/Digital & Analog Outputs			AI	AO	DO	HD/SD Analog x 2	HD/SD-SDI x 5, HD/SD Analog x 2
Digital & Analog Inputs/Digital Outputs	DI		AI		DO	HD/SD-SDI x 4, HD/SD Analog x 2	HD/SD-SDI x 5
	DI		AI	AI	DO	HD/SD-SDI x 4, HD/SD Analog x 4	HD/SD-SDI x 5
	DI	DI	AI		DO	HD/SD-SDI x 8, HD/SD Analog x 2	HD/SD-SDI x 5
	DI	DI	AI	AI	DO	HD/SD-SDI x 8, HD/SD Analog x 4	HD/SD-SDI x 5
Digital & Analog Inputs/Analog Outputs	DI		AI		AO	HD/SD-SDI x 4, HD/SD Analog x 2	HD/SD Analog x 2
	DI		AI	AI	AO	HD/SD-SDI x 4, HD/SD Analog x 4	HD/SD Analog x 2
	DI	DI	AI		AO	HD/SD-SDI x 8, HD/SD Analog x 2	HD/SD Analog x 2
	DI	DI	AI	AI	AO	HD/SD-SDI x 8, HD/SD Analog x 4	HD/SD Analog x 2
Digital & Analog Inputs/	DI		AI	AO	DO	HD/SD-SDI x 4, HD/SD Analog x 2	HD/SD-SDI x 5, HD/SD Analog x 2
Digital & Analog Outputs	DI	DI	AI	AO	DO	HD/SD-SDI x 8, HD/SD Analog x 2	HD/SD-SDI x 5, HD/SD Analog x 2

DI: Digital Input Card, AI: Analog Input Card, DO: Digital Output Card, AO: Analog Output Card

Configurations of Options



Hardware/Software Options

HVS-50FS: Frame Synchronizer/Still Store Card

The frame synchronizer option provides 4 extra inputs specifically for A/D conversion of analog inputs or mixing SD signals with HD signals. Also the frame synchronizer card can be used in still store mode for enabling four additional still stores.

HVS-50UC: Up-Converter Card (1ch)

SD signals can be up-converted and processed as HD signals. When combined with an FS card, SD analog signals can also be used as HD format.

HVS-50KEYER: Keyer Card

One keyer incorporating a chroma key function can be added. Of course, our high quality edges and shadow effects can be applied to the key.

HVS-50AIF: Analog Interface Card

When synchronous analog signals are input, the HVS-500AIF should be installed instead of the FS card. (The FS card is required when non-synchronous analog signals are input.)

HVS-50ED: Editor Interface Software

This software program is used to support the GVG-100 and BVS-3000 editing protocols.

HVS-ARCNET: ARCNET Card

This unit is used to connect HANABI peripheral devices such as HVS-AUX16 AUX control panel.

HVS-50LAN: Ethernet Card

Ethernet interface for connecting to workstations and other devices, and transferring still picture files.

HVS-50PS: Redundant Power Supply Unit

Redundant power supply unit is available as an option (uses a separate case and DC input).

HVS-AUX16: AUX Control Panel

A maximum of 4 x AUX switch units can be connected. (Optional HVS-ARCNET is required for connection.)

HVS-AUXRK: AUX Panel Extension Kit

This kit provides an extension for connecting a separate HVS-AUX16 panel to the main unit. The maximum extension distance is 5-meters.

HVS-TALR20/32: Tally Relay Unit

This unit is a contact output-type tally relay unit. It contains 20/32 independent output circuits. Free assign available for each output.

HVS-TALOC20/32: Tally Open Collector Unit

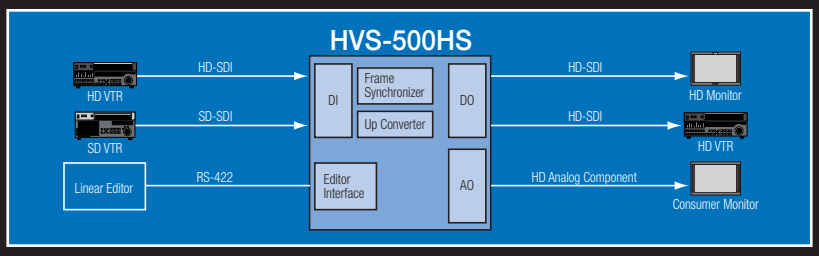
This unit is an open collector-type tally unit. It contains 20/32 independent output circuits. Free assign available for each output.

System Configuration Examples

The HVS-500HS can be custom-tailored to fit your specific application. Here are some examples of ways that the HVS-500HS can be used.

Compact Editing System

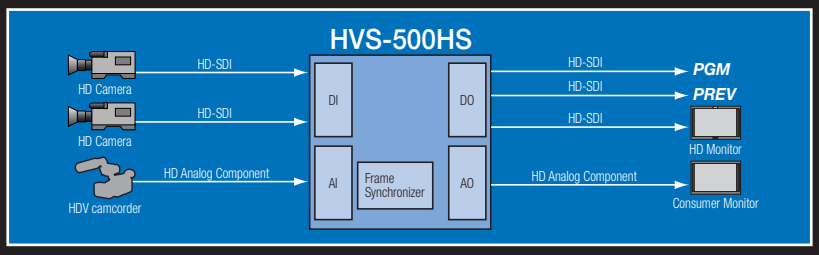
The HD/SD-SDI I/O's provides a compact digital video switcher with up to 8 inputs and 5 outputs. If the editor interface is installed, the HVS-500HS can be fully utilized as an HD compatible compact editing system. When the up-converter feature is installed, SD contents can be used directly in HD editing. An analog output board can also be installed for output to consumer monitors for building a monitoring environment without high-priced monitors.



Required Options for this system
- HVS-50DI x1: Digital Input Card
- HVS-50DO x1: Digital Output Card
- HVS-50AO x1: Analog Output Card
- HVS-50FS x1: FS/Still Store Card
- HVS-50UC x1: Up Converter Card
- HVS-50ED x1: Editor Interface Card

OB Van

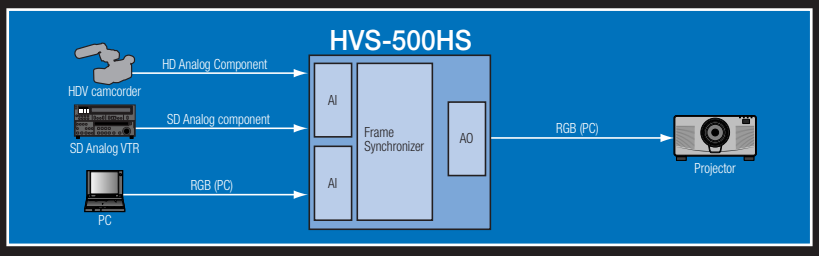
The One-Box design with integrated main unit and operation unit enables installation even in the smallest of spaces. Because I/O's can be selected by the user, switcher upgrades are possible without wasting the equipment that you already have. By installing the frame synchronizer option direct input of video from not only asynchronous signal input devices, but also camcorders, STB, tuners, and other devices without external synchronization is possible. Even when not installed in an OB Van, the HVS-500HS is an ideal switcher for field productions that require mobility.



Required Options for this system
- HVS-50DI x1: Digital Input Card
- HVS-50AI x1: Analog Input Card
- HVS-50DO x1: Digital Output Card
- HVS-50AO x1: Analog Output Card
- HVS-50FS x1: FS/Still Store Card

Large Screen Output at Events

Digital and analog I/O's can be installed to enable user-controlled switching inputs from an HD camera, SD camera, PC video, VCR, and other devices for up to 12 inputs. The picture-in-picture function also includes two inputs for supporting output to large screens at events or for showing presentations with greater impact. When PC output is selected for the analog output, resolutions from VGA to SXGA are supported for using PDP and other large displays or projectors for showing high-resolution video on a wide variety of display devices.



Required Options for this system
- HVS-50AI x2: Analog Input Card
- HVS-50AO x1: Analog Output Card
- HVS-50FS x1: FS/Still Store Card

This is just a small sample of the wide range of applications that can be realized with the HVS-500HS. Use your imagination to custom-tailor its power and performance for your specific applications.

Specifications

	HD mode	*SD mode*
Standard	*1080/60i, 1080/59.94i, 1080/50i, 720/60p, 720/59.94p, 720/50p (to be supported) (selectable at menu)*	*525/60 (NTSC), 625/50 (PAL) (selectable at menu)*
Processing	*4:2:2:4, 10-bit, digital component*	
Quantization	*Y: 10-bit, C: 10-bit, KEY: 10-bit*	
Video Input (Option)	*Selectable as below, refer to configuration chart of previous page*	
	HD-SDI: 1.485Gbps or 1.485/1.001Gbps, 75Ω, BNC	*SD-SDI: 270Mbps, 75Ω, BNC*
	HD Analog component: Y: 1.0Vp-p, PB/PR: 0.7Vp-p, 75Ω, BNC	*SD Analog component: Y: 1.0Vp-p, R-Y/B-Y: 0.7Vp-p, 75Ω, BNC*
	RGB (up to SXGA resolution): R/B/G/H/V: 0.7Vp-p, 75Ω, BNC	*RGB (up to VGA resolution): R/B/G/H/V: 0.7Vp-p, 75Ω, BNC*
		Analog composite: 1.0Vp-p, 75Ω, BNC
Reference Input	*BB: NTSC: 0.429Vp-p/PAL: 0.45Vp-p; or Tri-level sync: ±0.3Vp-p, 75Ω or loopthrough, 1ea., BNC*	*BB: NTSC: 0.429Vp-p/PAL: 0.45Vp-p 75Ω or loopthrough, 1ea., BNC*
Video Output (Option)	*Selectable as below, refer to configuration chart of previous page*	
	HD-SDI: 1.485Gbps or 1.485/1.001Gbps, 75Ω, BNC	*SD-SDI: 270Mbps, 75Ω, BNC*
	HD Analog component: Y: 1.0Vp-p, PB/PR: 0.7Vp-p, 75Ω, BNC	*SD Analog component: Y: 1.0Vp-p, R-Y/B-Y: 0.7Vp-p, 75Ω, BNC*
	RGB (up to SXGA resolution): R/B/G/H/V: 0.7Vp-p, 75Ω, BNC	*RGB (up to VGA resolution): R/B/G/H/V: 0.7Vp-p, 75Ω, BNC*
		Analog composite: 1.0Vp-p, 75Ω, BNC
Reference Output	*BB: NTSC: 0.429Vp-p/PAL: 0.45Vp-p; or Tri-level sync: ±0.3Vp-p, 75Ω or loopthrough, 1ea., BNC*	*BB: NTSC: 0.429Vp-p/PAL: 0.45Vp-p 75Ω or loopthrough, 1ea., BNC*
I/O Delay	*1H*	
	1 frame+1H (Using frame synchronizer option, Keyer edge)	
Backup Device	*USB memory device*	
Interface	*EDITOR: 1 ea., 9-pin D-sub (female)*	
	RS-422: 1 ea., 9-pin D-sub (female)	
	GPI IN: 1 ea., 15-pin D-sub (female) (10 inputs)	
	GPI/TALLY OUT: 1 ea., 25-pin D-sub (female) (20 outputs. open collector)	
	ALARM OUT: 1 ea., 9-pin D-sub (female)	
Interface (Option)	*ARCNET: 1 ea., 75Ω or loopthrough, BNC (HVS-ARCNET)*	
	Ethernet: 10/100Base-T, 1 ea., RJ-45 (HVS-50LAN)	
Temperature / Humidity	*10ºC - 40ºC / 30% - 90% (no condensation)*	
Power / Consumption	*100VAC - 240VAC, 50/60Hz / 160W (at 100VAC)*	
Dimensions / Weight	*430 (W) x 183 (H) x 354 (D) mm / Approx. 12kg*	
Accessories	*Operation manual, AC cord*	
Options	*HVS-50HSDI: HD/SD-SDI input card*	*HVS-50HSDO: HD/SD-SDI output card*
	HVS-50HSAI: HD/SD Analog input card	*HVS-50HSAO: HD/SD Analog output card*
	HVS-50FS: Frame synchronizer/Still store card	*HVS-50AIF: Analog Interface Card*
	HVS-50UC: Up converter card	*HVS-50KEYER: Keyer expansion card*
	HVS-50ED: Editor interface software	*HVS-ARCNET: ARCNET expansion card*
	HVS-50LAN: Ethernet expansion card	*HVS-50PS: Redundant power supply unit*
	HVS-TALR20/32: Tally relay unit	*HVS-TALOC20/32: Tally open collector unit*
	HVS-AUX16: AUX control panel (16-button)	*HVS-AUXRK: AUX control panel extension kit*

HD/SD 1M/E Digital Video Switcher

HVS-1000HS "1M/E HANABI"

*Two versions are available. A TYPE-E package designed for post production editing, and a TYPE-L package for live/event applications.

*In addition to our standard DVEs, optional DVEs enabling advanced effects supporting Real 3-dimensional DVEs using a polygon system are also available.

*Optional color corrector can be installed in the primary inputs and keyers. Proc Amp, color correction and Gumat correction are all available.

*The rich array of options allows creating a wide range of configuration covering from simple transmission to editing.

FOR-A COMPANY LIMITED

Homepage:http://www.for-a.com/

Head Office : 3-8-1 Ebisu, Shibuya-ku, Tokyo 150-0013, Japan	+81 (0)3-3446-3936	Fax : +81 (0)3-3446-1470
FOR-A America Corporate Office : 11125 Knott Ave., Suite #A, Cypress, CA 90630, U.S.A.	+1 714-894-3311	Fax : +1 714-894-5399
FOR-A America East Coast Office : 1065 Avenue of the Americas, Suite #1701A, New York, NY 10018, U.S.A.	+1 212-861-2758	Fax : +1 212-861-2793
FOR-A America Distribution & Service Center : 2400 N.E. Waldo Road, Gainesville, FL 32609, U.S.A.	+1 352-371-1505	Fax : +1 352-378-5320
FOR-A Corporation of Canada : 425 Queen St. W. #210, Toronto, Ontario M5V 2A5, Canada	+1 416-977-0343	Fax : +1 416-977-0657
FOR-A UK Limited : UNIT C71, Barwell Business Park, Leatherhead Road, Chessington Surrey, KT9 2NY, U.K.	+44 (0)20-8391-7979	Fax : +44 (0)20-8391-7978
FOR-A Italia S.r.l. : Viale Europa 50 20093, Cologno Monzese (MI), Milan, Italy	+39 02-254-3635/6	Fax : +39 02-254-0477
FOR-A Corporation of Korea : 801 Dangsan Bld., 53-1 Dangsan-Dong, Youngdeungpo-Gu, Seoul 150-800, Korea	+82 (0)2-2637-0761	Fax : +82 (0)2-2637-0760

ISO 9001 JQA-QM4231

ISO 14001 JQA-EM4853