3G/HD/SD 2M/E Video Switcher
HVS-2000 "HANABI"
New generation HANABI series, HVS-2000 7M/E* switcher launched

HANABI HVS-2000
The new HVS-2000 switcher is a powerful 7 Video M/E machine and a game changer in today’s video production switches. Now with the power in our new HVS-7M/E technology, the switcher can be used in a variety of applications.

- Up stream transition effects
- Down stream transition effects
- Add the pure power of 7 real M/Es for multiple independent on-stage monitor display control or add multiple control panels to operate from a control room...each with mixes, wipes, keys, and DVEs including preview control.

The new HANABI will allow its users to win the video production race with all of its quality features and ease of operation.

* 7M/E capability: 3M/E + exclusive 4MELite™ with FLEXaKEY™

HVS-3320OU control panel

HVS-2240OU control panel
Reasons to buy

1 Easy-to-use control panel
Offers enhanced usability and supports accurate control through color-coded button lights for specific material or button functions, a built-in 7-inch mini menu touch panel with thumbnail display, button/macro bus macro name display, and more. Direct input via a three-axis (XYZ) joystick, dials, and a keyboard. Several user-customizable buttons are available to assign as functions.

2 4 keys per M/E, plus 4 FLEXaKEY per system
The four FLEXaKEY system can be freely assigned to M/E 1, M/E 2, or MELite™ (AUX output). When assigned to M/E 2, up to eight keys (4 keys and 4 FLEXaKEY) can be combined. DVE is available for FLEXaKEY to generate multiple P-in-Ps. FLEXaKEY can also be assigned to an MELite bus and Advanced Aux as an upstream keyer, and to multiple AUX buses to change each with keying output. Useful in many scenarios.

3 7M/E performance—3M/E + 4 MELite, with FLEXaKEY architecture
In addition to three full M/E’s (optional), the switcher includes MELite. With cuts, mixing, wiping, and keying “all with preview” available from four MELite buses. Operators will enjoy the performance of 7M/E’s in a single unit. Versatile in re-entry, MELite is ready for a broad range of scenarios, such as providing an independent “web cut” output, expanding an operation with multiple control surfaces, delegating M/E resource and even allowing a single operator from a single desk to easily control independent transitions on multiple monitors. Excellent for staging applications.

Example

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<th>HVS-2000</th>
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Reasons to buy

4 24 inputs/18 outputs standard, expandable to 48/18 or 40/22

Besides standard inputs and outputs, six expansion slots enable you to add optional I/O cards for easy in-field expansion. Easily incorporate an array of content from PC sources (such as PowerPoint, videos played on computers, webcam images, or Skype calling screens) and combine it with broadcast material. Even analog composite I/O can be added.

5 2.5D DVEs (total: 8 per system), 3D DVEs (total: 4; optional per system) up to 4 channels per M/E or MELite

2.5D DVEs enable free arrangement of P-in-Ps in a 3D space using global axes. Also combines exceptionally well with 3D content, as with virtual studios. Flying key, which moves titles with DVEs applied, is available from all DVEs and can be assigned to all resources in any M/E, whether PGM, PST, or KEY 1–4. P-in-Ps are available in a variety of other shapes besides standard shapes such as quadrilaterals, and can be used in live sports coverage, for example. The switcher’s 3D DVEs include page turn and other warping effects.

6 Expanded 4K mode

No need to configure I/O settings when using 4K systems. Four 3G-SDI lines (I/O or bus) are automatically grouped. Expanded system settings enable output of down-resized video or DVE from built-in multi viewers.
**Main features**

- **6M/E capability**: 2M/E + exclusive 4 MELite with FLEXaKEY architecture
- **Expandable to 3M/E**: (Optional), offering the performance of up to 7M/E: 3M/E + 4 MELite (with FLEXaKEY)
- **24 in/18 out standard (including 2 HDMI)**. Up to 48 in/18 out or 40 in/22 out (optional)
- **6 I/O expansion slots**: HVS-100 series optional cards can be installed
- **PGM, PVW and 2 CLEAN outputs** per full M/E
- **Supports 3D DVEs** that can be used in 4K video processing (optional)
- **Supports 4K input in 2SI format** (optional)
- **Multi format**: HD/SD/HDSDI/Analog/VGA (optional)
- **3G/4K Ready (S/W option)**
- **4 x Keyers per M/E, and 4 x FLEXaKEYs** (assignable to M/E or AUX) Up to 6 keyers to M/E1, up to 8 keyers to M/E2, and up to 4 keyers to AUX are assignable
- **8 x 2.5D DVE plus 4 x 3D DVE** (Optional)

**Five key features for advanced operation**

**FLEXaKEY**

Powerful quad FLEXaKEY allows the operator to place keyers in practical areas of the switcher:
- Add keys to traditional M/E resources to provide more graphic layers
- Add keys to AUX and multiply additional M/E’s (MELite)
- Can also expand and multiply AUX bus transitions

The HVS-2000 V6MU engine is the only system that offers this kind of pure power and user flexibility.

**MELite**

This powerful, distinguishing and core feature allows a traditional AUX bus to transform into a full functional M/E with cuts, mixes, wipes, keys all with preview (MELite). The MELite is the building block to a real full-function 6M/E switcher and can be assigned upstream or downstream from main mix effects. Also, MELite allows operators to configure a 3M/E switcher with a 3 rows control surface that provides independent output with transitions to display sources on back monitors in the studio.

**Reasons to buy**

**3G/HD/SD 2M/E Video Switcher**

HVS-2000

- **18 Auxiliary buses** (2 HDMI, 12 SDI, 8 AUX transition, 6 MELite function)
- **Intuitive GUI** software HVS-2000GUI is included which allows HVS-2000 control and settings to be configured
- **Control panel with LED, RGB, user-configurable color buttons and 7-inch touch mini menu GUI**
- 4 multi viewers (standard; 2, up to 4 MVS, and 64 windows)
- All inputs have FS with Still image store and capture
- 4 dedicated still/clip stores installed as standard with 900 frames at 1080 resolution (approx. 30 seconds at 1080i) of built-in memory. Optional expansion cards available.
- All full ME keyers have chroma keys and ability to add 2 optional channels of advanced chroma keys
- Easy operation with Midas Touch™ master set up and configuration GUI
- ONStage™ mode for stage and multiscreen application
- Color corrector input, output, and bus lines (optional)

**Applications**

**Broadcasting environments/control rooms**

The HVS-2000 can be the main switcher for: Broadcasting Stations/control rooms, cable TV stations, Internet television providers and satellite studios. The advanced features and programmability of HVS-2000 allow you to create high quality content without any compromise. FOR-A’s quality and attention to detail ensures a reliable solution for live programming.

**Live staging / Event production**

The combination of the HVS-2000 and its rich feature set makes it the best suited switcher for live applications where systems need to be set up temporarily in a short amount of time. MELite allows multiscreen staging with effects, including cuts, mix, wipe, keys and DVE. You can reduce the number of switchers and streamline system operation, keeping everything simple and easy for everyone.

**Mobile OB and Up-Link production trucks**

The HVS-2000 is perfect for mobile video production or Up-Link applications in which space is limited. The HVS-2000 switcher offers a rich feature set perfect for live or recorded production. With integrated frame synchronizers and up to 4 multi viewers, the HVS-2000 can reduce the amount of equipment required in the truck. Using multiple control panels, the system can also provide an environment for several operators, each in charge of separate tasks, including a dual-feed operation.
External view

Main unit

Rear

HVS-3320OU control panel

HVS-2240OU control panel

HVS-2000 3G/HD/SD 2M/E Video Switcher
Block diagram

2M/E configuration (standard)

- Storage
- RAM
- Clip/Still x 4
- Clip/Still x 2
- GMatte
- Matte x 2
- GMatte
- CK x 4
- CC x 8
- M/E x 2
- MV x 2
- M/E x 2
- 2.5D DVE x 4
- 3D DVE x 4
- FLEXaKEY x 4
- AUX x 6
- AUX x 6
- MELite x 6
- HDMI out x 2
- SDI out
- Analog out
- HDMI out

3M/E configuration (expanded)

- Storage
- RAM
- Clip/Still x 4
- Clip/Still x 2
- GMatte
- Matte x 2
- GMatte
- CK x 4
- CC x 8
- M/E x 3
- Keyer x 4
- 2.5D DVE x 4
- 3D DVE x 4
- FLEXaKEY x 4
- AUX x 6
- AUX x 6
- MELite x 6
- HDMI out x 2
- SDI out
- Analog out
- HDMI out

- Expansion cards (optional)
Control panels

- Up to 3 control panels can be connected simultaneously.
- HVS-2000 dedicated control panels: HVS-3320OU, HVS-2240OU
- Other control panels*1:
  HVS-391OU/392ROU/392OU/392WOU
*1 Firmware modification required for use with the HVS-2000
- A single processing main unit can supply a dual operation.
  Able to share resources between two independent suites
- Link buses and keys in multilingual or a dual-feed production.
  Have the second language follow the primary language for simultaneous switching of on-screen text prepared for each screen

Four types of AUX remote control panels available. Allows remote aux control or even a shotbox for user button control or macro recall

- Up to 12 AUX remote control panel connections (Planned for future support)

Expansion cards

With the HVS-2000, you can add just the input and output formats and functions you need, in just the amount needed. The six I/O expansion slots enable support for additional HD/SD-SDI, analog component/composite, HDMI, and RGB connectivity. Other cards expand capabilities by adding four channels of 3D DVEs, two channels of multi viewer display, color correction, or advanced chroma keying.

- HVS-100DI-A: HD/SD-SDI Input Card
  4 channels of HD/SD-SDI output are possible using a single card. A frame synchronizer function for all inputs and resize (expansion) function for 2 inputs are provided. SD images can be processed internally as HD images.

- HVS-100AI: Analog Video Input Card
  2 channels of analog video signal input are possible using 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) input for each input terminal.

- HVS-100PCI: PC (HDMI/VGA) Input Card
  HDMI and VGA terminals have been mounted onto a single card. 2 input channels are possible using both.

- HVS-100DO: HD/SD-SDI Output Card
  2 channels of HD/SD-SDI output are possible using a single card. As down-converters are provided for all outputs, HD and SD images can be simultaneously output.

Options

• Four types of AUX remote control panels available. Allows remote aux control or even a shotbox for user button control or macro recall

- Up to 12 AUX remote control panel connections (Planned for future support)
Options

- **HVS-100AO:**
  Analog Video Output Card
  2 channels of analog video signal input are possible using a single card. Output terminal 2 is a dedicated connector (conversion connector supplied). Select between analog composite and analog component (HD or SD) output for each output terminal.

- **HVS-2000DVE:**
  Four-channel 3D DVE Expansion Card
  4 channels of 3D DVE output are possible using a single card. 12 total channels of DVEs are available, including 2.5D DVEs as standard. Includes effects such as page turn, ripple, and wave, as well as cropping with rounded corners.

- **HVS-2000DVE-EX:**
  3D DVE 4K Expansion Set
  Adds 3D DVEs available in 4K video processing. Assign one 3D DVE channel when working with 4K or six channels (two for each M/E) for 3G/HD/SD-SDI formats when using the 3M/E Expansion Card.

- **HVS-100PCO:**
  PC (HDMI/VGA) Output Card
  HDMI and VGA terminals have been mounted onto a single card. 2 output channels are possible using both.

- **HVS-2000MV:**
  Multi viewer 2ch Expansion Card
  Replicates the features of the standard multi viewer and adds another 2 channels of multi viewer display.

- **HVS-2000EX:**
  Color Corrector / Advanced Chroma Keyer Card
  Adds 4 channels of chroma keying and 8 channels of color correction. Chroma keying can be applied to FLEXaKEY signals and color correction to source material or to video from AUX output. *
  * Advanced CK supports HD only

- **HVS-2000ME:**
  3M/E Expansion Card
  Adds M/E3 along with 4 keyers, 4 DSKs and 8 channels of 2.5D DVE using a single card. Offers the performance of up to seven M/Es when MELite buses are added to the three M/E buses. *
  * Cannot be used in conjunction with the built-in multi viewers or optional HVS-2000MV.

Software

Optional software introduces 3G-SDI and 4K format support or adds a switcher control interface.

- **HVS-2000ED:**
  Editor Interface Software
  Enables switcher control using control commands that expand the editor interface. Can also be linked to OTC-1000 or GearLink™.

- **HVS-2000GUI:**
  GUI software
  Intuitive GUI software allows HVS-2000 control and settings to be configured.

- **HVS-2000EXP3G:**
  3 Gbps Expansion Software
  Introduces 3G-SDI format support, enabling the switcher to be used with 4K systems.

- **HVS-2000-2SI:**
  4K-2SI Compatibility Software
  Enables direct switching of 2SI video, with less camera output delay than with SQD.
Specifications

**Video formats**
- 1080/59.94, 1080/50, 1080/59.94PsF, 1080/50PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 525/59.94 (NTSC), 625/50 (PAL)

**Video inputs**
- HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps

**Video outputs**
- HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps

**Video outputs (optional)**
- HVS-100DI-A: HD/SD-SDI Input Expansion Card

**HVS-2000EXP3G**
- 3G-SDI: 3.0 Gbps

**Number of video inputs**
- Standard SDI x 24 / Max.: SDI x 48

**Signal processing**
- 4: 2: 2: 4, digital component

**Quantization**
- 10-bit

**Effect**
- WIP: 100 pattern modification capability included / 2 SD DVE, 30 patterns or more DVE WIPs

**Transition**
- Available controller: Fader controller, AUTO or CUT button / Type: MIX or WIPE (DVE included)

**HVS-2000**
- 430 (W) x 177 (H) x 500 (D) mm / 18 kg (incl. optional cards: 30 kg)

**HDMI**
- 4: 2: 2: 4, digital component

**External memory port**
- HVS-2240/3320DU: USB2.0 x 6

**Interface**
- 1080i, 1080PsF), SDI to WXGA (720p), SVGA/SDTV (SD)

**Options**
- HVS-100DI-A: Analog Video Input Expansion Card
- HVS-100PCD: HD analog component, SD analog component, Analog composite

**Specifications**

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