4K/HD Video Switcher
HVS-6000/6000M "HANABI"

HANABI

4K/HD Video Switcher
HVS-6000/6000M
HANABI
Offering 4K UHD and 12G-SDI support, a maximum of 80 inputs/32 outputs or 64 inputs/48 outputs, the HVS-6000 is ideal when upgrading from HD to 4K UHD.

Designed for use in 4K UHD systems, the HVS-6000 brings 12G-SDI compatibility to all inputs and outputs. Users can operate the unit in the same manner as current HD systems. In an era of video-over-IP, the HVS-6000 enables IP interfaces to be mounted on all I/O slots.*

12G-SDI compatibility across all inputs and outputs

Build and use a 4K production system with the same number of connections, phase control, methods of adjustment, and fault-tolerant design as before. Compatible with existing HD equipment, the switcher ensures a smooth transition in equipment and operation, as you move to 4K or take on simulcast production.

Expandable and ready for the IP era

Support for up to 80 inputs provides an ample quantity for future 8K production. Structurally, switcher design also accounts for planned I/O expansion cards for video-over-IP. The HVS-6000 video switcher has outstanding expandability, including mixed production with IP video material.

Includes secondary M/E, four full functional keyers per M/E and 3D DVEs

Each M/E bus provides four full functional keyers, which can be used with 2D DVEs. 3D DVEs can be used for background graphics, enabling HD-quality 3D DVE transitions. Secondary M/E function can also be used for both HD and 4K UHD operation.

Full-featured conversion

Up/down converter functions for internal signal unifying and processing (optional) will be supported. Highly compatible with existing HD systems, the switcher paves the way for 4K migration.

* Planned for future support
Practical video memory

Data in video memory that is available for all Still and Clip operations is automatically backed up to internal storage. The switcher’s memory is also equipped with a mechanism for sequential storage as each image is captured. Saved data is automatically restored when the switcher is turned on, eliminating the need to read material again, and streamlining operation.

Versatile GUI for many switching styles

The control panel features a compact GUI on a 7-inch screen. Larger display and touch operations are possible by connecting an external monitor. By accessing the switcher from a Chrome web browser, users can also display a GUI panel enabling basic operations on a connected smartphone or tablet. This enables still image switching. PNG files can be uploaded with transparency, as edited on the smartphone or tablet. Password locking ensures security. What’s more, the switcher is an excellent match for Gear-Link software, which consolidates operations of the switcher and external equipment in a single GUI.

Solid performance with flexibility

Steady operation is ensured by separating real-time control and data transfer in switcher-panel connections. With six channels of serial ports, the synced control/connections for video router linkage, virtual studios, or peripherals are executed simultaneously and independently from current or reserved connections using one-touch controllers. Control can also be set up within an IP network. Tally lamps indicate calculation results for 24 channels in red, green, and so on. Tally input from external sources can be added to internal tally calculation. These features ensure flexibility in control and tallying when temporarily adding system equipment.

Fault-tolerant design

Structurally, the switcher’s power unit and each card (including input, output, M/Es, MTX, CPU, and genlock) slot in and are replaceable. For control panels, GUI and other operations such as button or fader, operations are processed by a separate CPU, enabling uninterrupted operation in case of a GUI failure. An external computer running GUI software can be connected as a backup. Additionally, the HVS-3355OU control panel enables redundant power supplies for line, aux, control, touch panel, and other system components. As an emergency feature in case of switcher failure, MFR routers are controlled by independent CPUs in line units via a dedicated connection. Each row of line units is independent and can also be used for backup. Button assignment in emergencies responds to the switcher bus (including shift bus) reassignment, ensuring a smooth switchover to emergency operation.

Note: Descriptions apply to HVS-6000 specifications. For details on HVS-6000M, see page 6.
Four types of control panels
The switcher is compatible with HVS-2000 control panels. Four options are available: the rack-sized HVS-2120ROU, two-bus HVS-2240OU, three-bus HVS-3320OU, and the HVS-3355OUA, with a custom-ordered amount of buttons, buses and fader layout. The panels offer customizable RGB button lights assigned to specific video material or button functions, a touch panel with GUI menus, and button/macro bus macro name display. Direct input is possible via a three-axis (XYZ) joystick, setting knobs, and a keypad. A larger GUI display is possible simply by connecting an external touchscreen monitor. A range of functions can also be assigned to user buttons on the control panel.

HVS-2120ROU Control Panel

HVS-2240OU Control Panel
HVS-3320OU Control Panel

M/E OUT/LINE SELECT buttons
KEY/AUX bus buttons
User buttons
KEY/DSK/MACRO bus buttons
Source name display
PGM/PST bus buttons
NEXT TRANSITION buttons

HVS-3355OUA Control Panel

GUI control buttons
AUX unit
LINE unit
Source name display
KEY/MACRO/USER bus buttons
A/B bus buttons
Bus control buttons
KEY Transition buttons

*Control units and GUI units can be connected. Fader units, KEY units, number of M/Es and Control pad unit position can be customized. Please contact us for details.
HVS-6000 Series Line-up

HVS-6000

12RU enclosure with 5 input slots and 2 input/output slots. Can be expanded by 8 channels at a time with the addition of input or output expansion cards. 12G-SDI, expandable to up to 80 inputs/32 outputs or 64/48. A full-featured, expandable model for use as the primary switcher in studios or news control rooms.

HVS-6000M

2 M/E switcher in a 7RU enclosure offering up to 32 inputs/24 outputs for 4K production. Useful not only in control rooms but also an excellent choice for mobile video production, thanks to a form factor that’s less than 500mm deep. Brings full-scale 4K production within reach of many users.

<table>
<thead>
<tr>
<th></th>
<th>HVS-6000</th>
<th>HVS-6000M</th>
</tr>
</thead>
<tbody>
<tr>
<td>M/Es</td>
<td>2 M/Es standard, expandable to 4*1</td>
<td>2 M/Es standard</td>
</tr>
<tr>
<td>Inputs</td>
<td>24 inputs standard, expandable to 80*1</td>
<td>24 inputs standard, expandable to 32*1</td>
</tr>
<tr>
<td>Outputs</td>
<td>24 outputs standard, expandable to 48*1</td>
<td>24 outputs standard</td>
</tr>
<tr>
<td>AUX</td>
<td>16 standard, expandable to 32*1</td>
<td>16 standard</td>
</tr>
<tr>
<td>Keyers</td>
<td>4 per M/E</td>
<td></td>
</tr>
<tr>
<td>Still/Clip Stores</td>
<td>4 channels (with key):</td>
<td>2 channels (with key):</td>
</tr>
<tr>
<td></td>
<td>Approx. 30 sec. of shared uncompressed video memory</td>
<td>Approx. 30 sec. of shared uncompressed video memory</td>
</tr>
<tr>
<td>Conversion</td>
<td>Up/down-conversion, and resizing can be incorporated to modify inputs and outputs.</td>
<td></td>
</tr>
</tbody>
</table>

*1 Optional

(All specifications in below table are for 4K format.)
HVS-6000 Block Diagram

HVS-6000M Block Diagram
Options

[For HVS-6000]

Expansion Cards 5 input slots, 2 input/output slots and 1 M/E slot

- HVS-6000ME: M/E Expansion Cards
  2 cards standard, expand M/E by adding cards
- HVS-6000SDO: 1.5G/3G/12G Output Expansion Cards
  8 output channels per card. 2 cards standard, expandable to 4.
- HVS-6000SDIC: Conversion software for input expansion cards.
  Adds conversion features to cards (to be supported)
- HVS-6000SDOC: Conversion software for output expansion cards.
  Adds conversion features to cards (to be supported)

[For HVS-6000 or HVS-6000M]

Expansion Cards

- HVS-6000SDI: 1.5G/3G/12G Input Expansion Cards
  8 input channels per card. 3 cards standard, expandable to 10 (HVS-6000) or 4 (HVS-6000M).
- HVS-6000IP-8IO: Video over IP Expansion Cards
  8 input and 8 output channels per card. Slots can be shared to HVS-6000SDO. Expandable to 4* (HVS-6000) or 2* (HVS-6000M).

Remote Control Panel

- AUX Remote Control Panels: up to 12 units (to be supported) can be connected
- HVS-GPIO128: 1RU-sized GPI control unit. 128 GPI I/O can be freely assigned.

- Tally relay unit (HVS-TALR32),

Tally open collector unit (HVS-TALOC32)

External Dimensions

HVS-6000

<table>
<thead>
<tr>
<th>Front</th>
<th>Side</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>![HVS-6000 Front Diagram]</td>
<td>![HVS-6000 Side Diagram]</td>
<td>![HVS-6000 Rear Diagram]</td>
</tr>
</tbody>
</table>

HVS-6000M

<table>
<thead>
<tr>
<th>Front</th>
<th>Side</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>![HVS-6000M Front Diagram]</td>
<td>![HVS-6000M Side Diagram]</td>
<td>![HVS-6000M Rear Diagram]</td>
</tr>
</tbody>
</table>

*When installing maximum cards on HVS-6000/6000M, HVS-6000IP-8IO must be replaced with a standard output card.
External Dimensions

HVS-3355OUA Control Panel (panel units can be customized)

HVS-3355OUA Control Unit

HVS-3320OU Control Panel

HVS-2240OU Control Panel

HVS-2120ROU Control Panel

HVS-6000/6000M
### HVS-6000 / 6000M Specifications

| Number of M/Es | [HVS-6000] | Standard: 2M/E  
|               | w/ HVS-6000ME | 3M/E  
|               | w/ HVS-6000ME x 2 | 3M/E + 4 DSK  
|               | w/ HVS-6000ME x 2 + HVS-6000ME4 | 4M/E  
| [HVS-6000M] | Standard: 2M/E  
| Video format | UHD 4K: 2160p /59.94, 50 (Single Link 12G-SDI)  
|             | HD: 1080i / 59.94, 50  
|             | 10-bit YCbCr 4:2:2  
| Video input | 12G-SDI: 12 Gbps, HD-SDI: 1.5 Gbps  
|             | 75Ω BNC  
| Video input (option) | HVS-6000SDI  
|             | 12G-SDI: 12 Gbps, HD-SDI: 1.5 Gbps  
|             | 75Ω BNC x 8  
| Number of inputs | [HVS-6000] | Standard: 24, Max: 80  
|               | [HVS-6000M] | Standard: 24, Max: 32  
| Video output | 12G-SDI: 12 Gbps, HD-SDI: 1.5 Gbps  
|             | 75Ω BNC  
| Video output (option) | HVS-6000SDO  
|             | 12G-SDI: 12 Gbps, HD-SDI: 1.5 Gbps  
|             | 75Ω BNC x 8  
| Number of outputs | [HVS-6000] | Standard: 24 (AUX 16), Max: 48 (included 32 auxiliaries)  
|               | [HVS-6000M] | 24 (AUX 16)  
| Signal processing | 10-bit YCbCr Key: 4:2:2:4  
| Reference input | 75Ω BNC x 1  
|                 | w/ loop-through (Terminate with 75Ω if not used.)  
| System phase adjust | (Horizontal) -1/2H to +1/2H  
| I/O delay | Minimum delay: UHD 4K: 2H  
|           | HD: 1H (depending on conditions)  
|           | W/ FS: 0-1 frame + minimum delay  
|           | W/ FS and DVE: Progressive: 2-3 frames + minimum delay  
|           | Interlace: 1-2 frames + minimum delay  
| Effects | Wipe patterns: 100 (W/ modifier)  
|          | DVE patterns: 30 or more (W/ modifier)  
|          | 2D DVE: Standard: 8 channels (1 channel per KEY, including DVE patterns), MAX. 16 channels  
|          | 3D DVE: Standard: 2 channels (1 channel per M/E BKGD, including DVE patterns), MAX. 4 channels  
| Transition | Execution: Fader, AUTO or CUT button  
|           | Type: MIX or WIPE (DVE and CG WIPE included)  
| Still/Clip store | [HVS-6000] | UHD 4K: 4 channels (W/ key), HD: 8 channels (W/ key)  
|               | [HVS-6000M] | UHD 4K: 2 channels (W/ key), HD: 4 channels (W/ key)  
|               | Built-in RAM for up to 2,000 non-compressed video frames (Approx. 30 sec)  
|               | Auto backup/resume  
| KEY | [HVS-6000] | Standard: 8 channels (4 per M/E), Max. 16 channels  
|     | [HVS-6000M] | Standard: 8 channels (4 per M/E)  
|     | Bus key, Luminance key, Full key and Chroma key, Mask and Invert  
| DSK (HVS-6000) | 4 channels (4 keys and 4 backgrounds)  
|     | Bus key, Luminance key and Full key, Mask  
| Event memory buffers | Global: 100, Local: 100, Keyer: 8, Control panel: 10  
| Macros | 100 macros  


## Interfaces

<table>
<thead>
<tr>
<th>Interfaces</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN 1 (MAIN)</td>
<td>100BASE-TX/1000BASE-T, RJ-45 x 2 For OU Control Unit and other device connection</td>
</tr>
<tr>
<td>LAN 2 (SUB)</td>
<td>For OU Control Unit and other device connection</td>
</tr>
<tr>
<td>GPI IN</td>
<td>15-pin D-sub (female) x 1 (w/ inch screws) 12 inputs</td>
</tr>
<tr>
<td>TALLY OUT</td>
<td>25-pin D-sub (female) x 1 (w/ inch screws) 23 outputs</td>
</tr>
<tr>
<td>RS-422</td>
<td>9-pin D-sub (female) x 6 (w/ inch screws) For Tally Unit connection</td>
</tr>
<tr>
<td>ALARM</td>
<td>9-pin D-sub (female) x 1 (w/ inch screws) Fan and power alarms, Relay contact output</td>
</tr>
</tbody>
</table>

### Temperature
- 0°C to 40°C

### Humidity
- 30% to 90% (no condensation)

### Power
- 100 V - 240 V AC ±10%, 50/60 Hz

### Consumption
- **HVS-6000**
  - Standard: 950 W (at 100-120 V) 950 W (at 220-240 V)
  - Full option: 1800 W (at 100-120 V) 1800 W (at 220-240 V)
- **HVS-6000M**
  - Standard: 873 W (at 100-120 V) 856 W (at 220-240 V)
  - Full option: 930 W (at 100-120 V) 895 W (at 220-240 V)

### Dimensions
- **HVS-6000**
  - 430 (W) x 500 (D) x 532 (H) mm
  - 480 (W) (including rack mount brackets)
- **HVS-6000M**
  - 430 (W) x 500 (D) x 310 (H) mm
  - 480 (W) (including rack mount brackets)

### Weight
- **HVS-6000**
  - 65 kg (With all options: 80 kg)
- **HVS-6000M**
  - 45 kg (With all options: 47 kg)

### Consumables
- Power supply unit: Replace every 5 years.
- Cooling fans: Replace every 5 years.
- SSD: Replace every 5 years (which vary depending on usage environment).

### Accessories
- AC Cord, Rack Mount Brackets, GUI software and Operation Manual (PDF), Quick Setup Guide

## HVS-3355OU/OUA

### Control Panel Common Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0°C to 40°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>30% to 90% (no condensation)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>1300 (W) x 528(D) x 68 (H) mm (LINE Unit x 3, AUX Unit x 1, plane placement)</td>
</tr>
<tr>
<td>Consumption</td>
<td>150 W (If in normal configuration, 35 buttons and 3 M/Es)</td>
</tr>
</tbody>
</table>

### OU Control Unit

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN port</td>
<td>RJ-45 x 7 For OU component connection and external device connection</td>
</tr>
<tr>
<td>TO TOUCH PANEL UNIT</td>
<td>9-pin D-sub (female) x 1 (w/ inch screws)</td>
</tr>
<tr>
<td>GPI IN/TALLY OUT</td>
<td>25-pin D-sub (female) x 1 (w/ inch screws) 12 inputs /12 outputs</td>
</tr>
<tr>
<td>DC OUTPUT (OUT1)</td>
<td>Cannon 3-pin XLR (female) x 1 (DC 48 V distributed output)</td>
</tr>
<tr>
<td>Power</td>
<td>AC 100 V - 240 V ±10%, 50/60 Hz</td>
</tr>
<tr>
<td>Dimensions</td>
<td>430 (W) x 300 (D) x 88 (H) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>5 kg (With redundant power supply: 6 kg)</td>
</tr>
<tr>
<td>Consumables</td>
<td>Power supply unit: Replace every 5 years.</td>
</tr>
</tbody>
</table>
### Accessories
- LAN cable, RS-422 cable, AC power cable, DC canon cable, Rack Mount Brackets

### Touch Panel Unit

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>TFT LCD, 12.1-inch, w/ multi-touch</td>
</tr>
<tr>
<td>SBC</td>
<td>Windows 10 IoT</td>
</tr>
<tr>
<td>TO CONTROL UNIT</td>
<td>RS-422  9-pin D-sub (female) x 1 (for OU Control Unit connection)</td>
</tr>
<tr>
<td>EXT PC block</td>
<td></td>
</tr>
<tr>
<td>HDMI IN</td>
<td>Standard-A connector x 1</td>
</tr>
<tr>
<td>SW CONTROL</td>
<td>USB Standard-B connector x 1</td>
</tr>
<tr>
<td>PANEL SENSOR</td>
<td>USB Standard-B connector x 1</td>
</tr>
<tr>
<td>USB1, USB2</td>
<td>USB Standard-B connector x 2</td>
</tr>
<tr>
<td>LAN 2 (SUB)</td>
<td>RJ-45 x 1 (for OU control panel connection)</td>
</tr>
<tr>
<td>USB port</td>
<td>USB Standard-A connector x 4</td>
</tr>
<tr>
<td>HDMI OUT</td>
<td>Standard-A connector x 1</td>
</tr>
<tr>
<td>DC 12 V IN</td>
<td>AC adapter input</td>
</tr>
<tr>
<td>DC 48 V IN</td>
<td>Cannon 3-pin XLR x 1 (Power supplied from OU Control Unit)</td>
</tr>
<tr>
<td>Power</td>
<td>DC 12 V or DC 48 V</td>
</tr>
<tr>
<td>Dimensions</td>
<td>410 (W) x 221 (D) x 68 (H) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>3 kg</td>
</tr>
<tr>
<td>Consumables</td>
<td>SBC battery: Replace every 3 years.</td>
</tr>
</tbody>
</table>

### LINE Unit

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus button</td>
<td>35 (switched by SEL) x 2 rows (for key video, macro and user)</td>
</tr>
<tr>
<td></td>
<td>35 (4 levels) x 2 rows (for M/E background video source)</td>
</tr>
<tr>
<td>Control Unit</td>
<td>RJ-45 x 1</td>
</tr>
<tr>
<td>Ethernet</td>
<td>RJ-45 x 1 (for OU control panel connection)</td>
</tr>
<tr>
<td>DC 12 V IN</td>
<td>AC adapter input</td>
</tr>
<tr>
<td>DC 48 V IN</td>
<td>Cannon 3-pin XLR x 1 (Supplied from OU Control Unit in cascade connection)</td>
</tr>
<tr>
<td>DC 48 V OUT</td>
<td>Cannon 3-pin XLR x 1 (Supplied from OU Control Unit in cascade connection)</td>
</tr>
<tr>
<td>Power</td>
<td>DC 12 V or DC 48 V</td>
</tr>
<tr>
<td>Dimensions</td>
<td>1300 (W) x 132 (D) x 68 (H) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>8 kg</td>
</tr>
</tbody>
</table>

### AUX Bus Unit

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus Button</td>
<td>35 (switched by SEL) x 2 rows (for AUX bus, DSK bus, MACRO and USER)</td>
</tr>
<tr>
<td></td>
<td>35 (4 levels) x 2 rows (for video source)</td>
</tr>
<tr>
<td>Control Unit</td>
<td>RJ-45 x 1</td>
</tr>
<tr>
<td>Ethernet</td>
<td>RJ-45 x 1 (for OU Control Unit connection)</td>
</tr>
<tr>
<td>DC 12 V IN</td>
<td>AC adapter input</td>
</tr>
<tr>
<td>DC 48 V IN</td>
<td>Cannon 3-pin XLR x 1 (Supplied from OU Control Unit in cascade connection)</td>
</tr>
</tbody>
</table>
### DC 48 V OUT
- Cannon 3-pin XLR x 1 (Supplied from OU control Unit in cascade connection)

### Power
- DC 12 V or DC 48 V

### Dimensions
- 777 (W) x 132 (D) x 68 (H) mm

### Weight
- 5 kg

### HVS-2240OU / 3320OU / 2120ROU

<table>
<thead>
<tr>
<th></th>
<th>2240OU</th>
<th>3320OU</th>
<th>2120ROU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of lines</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Number of bus buttons</td>
<td>24</td>
<td>32</td>
<td>12</td>
</tr>
</tbody>
</table>

#### Interfaces

- **VGA**: For PC monitor connection
- **HDMI**: For touch panel connection
- **USB**
  - Panel: 2.0 (Type-A) x 2
  - Rear: 2.0 (Type-A) x 4
- **LAN 1 (MAIN)**
  - RJ-45 x 1 For HVS-6000 connection
- **LAN 2 (SUB)**
  - RJ-45 x 1 For HVS-6000 connection
- **GPI IN/ TALLY OUT**
  - 25-pin D-sub (female) x 1 (inch screws)
  - 12-input/12-output
- **GPI I/O**
  - ---
- **DC OUTPUT(5V)**
  - ---
- **LAMP**
  - ---
  - USB 2.0 (Type-A) x 1 For LED lighting

### Temperature
- 0°C to 40°C

### Humidity
- 30% to 90% (no condensation)

### Consumption
- 46 W (at 100-120 V)
- 67 W (at 100-120 V)
- 46 W (at 220-240 V)
- 63 W (at 220-240 V)

### Dimensions
- 1060 (W) x 354 (D) x 155 (H) mm
- 1196 (W) x 494 (D) x 155 (H) mm
- 430 (W) x 420 (D) x 127 (H) mm

### Weight
- 12 kg
- 22 kg (23 kg w/ redundant power supply)
- 8 kg

### Consumables
- Power supply unit: Replace every 5 years.
- SBC battery: Replace every 3 years.

### Accessories
- Bus button partition plate, User button cover plate, Control cable, AC Cord or AC adapter

### Options

#### HVS-6000 (MU)

- HVS-6000ME
  - M/E / DSK expansion card (M/E expansion if installed on M/E slot and DSK expansion if installed on OPTION slot)
- HVS-6000ME4
  - Software license for using DSK of optional slot as M/E
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVS-6000PSM</td>
<td>Power Supply Units (UNIT 3/4) for power redundancy</td>
</tr>
<tr>
<td>HVS-6000SDI</td>
<td>12G-SDI Input expansion card</td>
</tr>
<tr>
<td>HVS-6000SDI-EX</td>
<td>12G-SDI Input expansion card (for I/O slots)</td>
</tr>
<tr>
<td>HVS-6000SDO</td>
<td>12G-SDI Output expansion card</td>
</tr>
<tr>
<td>HVS-6000SDOC</td>
<td>Down-converter software license for each output</td>
</tr>
</tbody>
</table>

Max 10 input cards. Max 4 output cards (Note that 10 input and 4 output cards cannot be installed simultaneously due to using some shared I/O slots.)

### HVS-6000M (MU)

- HVS-6000PSM: Power Supply Units for power redundancy
- HVS-6000SDI: 12G-SDI Input expansion card

### HVS-3355OU/OUA (Control Panel)

- HVS-3355PSO: Power Supply Unit for OU (Control Unit)’s power redundancy

### HVS-2240OU / 3320OU / 2120ROU (Control Panel)

- HVS-2000PSO: OU Power Supply Unit for power redundancy

### Others

- HVSAUX16A/32A/64A/16B/16C/16D (*1): Auxiliary Unit (Ethernet LAN connection)
- HVS-GPIO128: 1RU-sized GPI control unit (128 GPI I/O can be freely assigned)
- HVS-TALR20/32 (*2): Tally Control Unit (Relay type)
  (HANABI Series Option) (RS-422 connection)
- HVS-TALOC20/32 (*2): Tally Control Unit (Open Collector type)
  (HANABI Series Option) (RS-422 connection)

(*1) Up to 12 units can be connected to the switcher LAN.
(*2) Multiple HVS-TALOC / HVS-TALR configurations possible; up to 5 units max.

Optional devices or software are basically provided with the installation manuals (except factory- installed ones) or specific operation manuals.