3G/HD/SD PORTABLE VIDEO SWITCHER

HVS-100/110

HANABI
Enhanced Multi-functionality and Unbelievable Cost Performance

The HVS-100 and the HVS-110, portable video switchers, boast exceptional cost performance. Both mixers inherit and improve upon the diverse functions and features of the popular HVS-300HS, including mixed HD/SD input, frame synchronizing, re-sizing engine, 2.5D wipe effects, DVE, Chroma keyer and DSK. The HVS-100 and HVS-110 also have a built-in Web server that lets you change settings from a PC or a tablet. A clip memory feature has been added to the still store to support playback of video or animations and enhances productions through the use of CG wipes, while the multi-viewer meets a diverse range of monitoring needs. The equipment can be used in all types of locations, including live events, sports, news studios, OB vans, editorial offices and presentation venues, making it the ideal tool for shaping the imaginative ideas of video creators.

Product Line-up

Two models are available: one with separate main unit and control panel, and one with compact, integrated design, both of which can be adapted to a wide variety of applications and operation configurations.

**HVS-100**

Separate Main Unit/Control Panel Type

The control panel has been laid out specifically with professionals in mind with a design that leverages the knowledge of expert operators. It includes dedicated bus buttons, AUX buttons, a fader controller and direct user buttons for various functions. The main unit offers exceptional expandability to facilitate the addition of a redundant power source unit and various input/output cards.

**HVS-110**

Integrated Main Unit/Control Panel Type

Featuring operability almost on par with the HVS-100, the HVS-110 also boasts a compact design enabling simple portability. The inclusion of ample video input and output functionality, making it ideal for use in small broadcasting vans and broadcasting helicopters. Despite being portable, a redundant power source is also possible using an optional AC adaptor.
### HVS-100/110 Main Features

**Standard 8, Maximum 14 Inputs;**
**Standard 4 + 1, Maximum 9 outputs (HVS-100)**

8 HD/SD-SDI inputs, 4 HD/SD-SDI outputs and 1 HDMI output come as standard. Mixed HD/SD input is supported in the standard configuration. The 5 outputs can all be freely assigned. Three slots enable various inputs and outputs to be added, such as analog component, analog composite, HDMI, and VGA in addition to more HD/SD-SDI.

**12 Inputs; 8 + 1 Outputs (HVS-110)**

12 HD/SD-SDI inputs, 8 HD/SD-SDI outputs and 1 HDMI output come as standard. Mixed HD/SD input is supported in the standard configuration. The 9 outputs can all be freely assigned.

#### Input/Output Card Configuration

The following outlines combinations of input/output cards that can be used in the HVS-100 slots. Refer to “Options” for details of cards.

<table>
<thead>
<tr>
<th>Expansion Slots</th>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>SlotA SlotB SlotC</td>
<td>HDMI/SDI</td>
<td>HDMI/SDI</td>
</tr>
<tr>
<td>— — —</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>6</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>8</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>8</td>
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<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>8</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>8</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>8</td>
</tr>
<tr>
<td>HVS-100AI</td>
<td>— — —</td>
<td>10</td>
</tr>
<tr>
<td>HVS-100PCO</td>
<td>— — —</td>
<td>12</td>
</tr>
</tbody>
</table>

**HDMI Inputs**

2 HDMI inputs, or 1 HDMI input and 1 VGA input are possible with HVS-100PCO input card.

**HDMI Outputs**

1 HDMI output is supported as standard. Able to add 2 HDMI outputs and 1 VGA output with HVS-100PCO output card (HDMI-2 output and VGA output are mirrored).
HVS-100/110 Main Features

Frame Synchronizer
Every input in the HVS-100 and 8 inputs in the HVS-110 are fitted with frame synchronizers that enable switching of synchronous and asynchronous video signals. Installation of optional expansion cards supports asynchronous picture input from PCs, etc. Each input is also equipped with a process amplifier capable of adjusting the video level and chroma level, etc. of the input signal.

Re-sizing Engine
Up-resizing engines are provided on 4 of the standard inputs. This achieves a fully mixed SD/HD environment with the switcher alone. The optional input cards also have re-sizing engine on each input. This is readily suitable for re-sizing not only SD signals but also PC video (*Up-resizing engines are not supported at 1080p).

Level-B signal input support at 1080/59.94p, 50p
HVS-100/110 have a new Level-B/A converter function on input signals that allows Level B of 3G-SDI signals to be input onto 1080/59.94p, 50p signals. Level-A and Level-B signals are combined to system equipment on the input-side of the switcher, which converts Level-B signals to Level-A, and outputs all signals as Level-A. (Output-side fixed as Level-A.)

Audio playback support
Play back clips with audio. Sound effects can be mixed on switched videos using CG-Wipe effects. To utilize this function, download the audio data to the HVS-100/110 in advance.

2 Keyers and 2 DSKs
Further proof of the power of these new small mixers is that they come as standard with 2 keyers, 2 DSKs and 4 powerful 2.5D DVE engines.

Advance Chroma Key
An advanced, high quality Chroma keyer can be assigned to any one of the two M/E Keyers or two Downstream Keyers.

4 DVE 2.5D (rotation and perspective)
The 4* powerful DVE engines, can be assigned to any keyer or used for transitions etc, and with their standard 2.5D ability, allows flexible creativity for the operator to enhance productions (*Only 2 DVE engines are available at 1080p).

Abundant Transitions and DVEs
Cut, mix and wipe can be chosen for the transition. Diverse DVE wipes include 100 2.5D wipe patterns. Along with wipes, effects like mosaic and defocus are also provided.

2 Still/Clip Stores
Powerful, high capacity clip stores are now a standard feature. Each store can hold up to 227 frames of HD video. Images can be recorded and played back from incoming video or PGM o/p, or animations transferred over FTP (.bmp, .jpeg, .tga sequences). Clip store images can be used as CG wipe transitions, to further enhance possibilities and add production value. In addition, should both stores be used for clips, then still images can be used as well, by the standard feature of using some of the inputs as still stores.
20 kinds of multi-viewer split patterns able to be selected as standard.
Display channels can be freely assigned, allowing assignment of not only input source but also PGM output. Each channel offers title display and tally display functions.

Additional Non-Border display function support and 4K mode layout on Multi Viewer
Selection of Non-Border Multi-Viewer function is now supported. In 4K mode, Square Division (SQD) signal able to assign each quarter window, and display the 1080p Re-sized output. In 16-part layout mode, maximum four 4K video images are able to be monitored simultaneously via display.

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 and User Button
The main unit is equipped with an event memory function allowing up to 100 events to be stored. Event memories can be simply recalled by the user buttons. Mixer set-ups and useful operational tools such as key set up, DVE position/size etc can all be stored in event memories. Operators can freely set the transition time and effect for loading events. By setting up in advance, event memories can bring extra power and creativity, simply by pressing buttons during the live event. User buttons can also be used for many other features, such as instant navigation to a selectable menu page, or grab a still, or send a GPI, or preview a key etc as well as many other functions to make life easier in a live production.

Freely Assignable DSK
The 2 Downstream keyers can be assigned to either the M/E PGM, M/E PST or an AUX output. As we also include the ability to mix on an Aux crosspoint selection, the Aux outputs can effectively and creatively be used to do away with the need for multiple M/Es, when creating different outputs for different screens or feeds at a live venue.
**Dimensions**

HVS-100OU Control Panel

**Unit: mm**

HVS-100/110

**HVS-100 (Main Unit)**

- Dimensions:
  - HVS-100: 430 x 480 x 225 mm
  - HVS-110: 420 x 402 x 225 mm

**Ports and Connectors**

- REF OUT 1-12
- REF IN
- HDMI OUT
- SDI INPUT
- GENLOCK
- LAN
- GPI IN/TALLY OUT
- AUX
- DC12V IN 1-2
- SDI INPUT 5-6
- MODE SW
- AUX 8
- RS-422 1-2-7
- RATING LABEL

**Buttons and Controls**

- PGM 1-12
- PST 1-12
- AUTO CUT
- DSK1
- DSK2
- KEY2
- KEY1
- BLACK TRANS
- KEYER 1-2-1-2-3-4
- AUX 3-4-5-6-7-8-9-10-11-12
- KEY/AUX
- DIRECTION
- NEXT TRANSITION
- TRANSITION TYPE
- DIRECT
- PATT
- MENU
- EVENT
- MACRO CLEAR
- DETACH
- ATTACH
- WIPE
- POS MENU
- POS ROT
- STORE
- ENTER
- RECALL
- USER BUTTON
- NOR/REV
- BKGD KEY1
- KEY2
- MIX WIPE
- WIPETRANS RATE
- STILL MATT FILE
- KEY1
- KEY2
- DSK1
- DSK2
- SETUP
- SELECT/KEYPAD
- JOYSTICK
- 2D DVE
- SIZE
- (PUSH to DEF)
- 7
- DSK
- REV
- PREV
- PG M
- CLEAN
- MV
- ALARM
- USB MEMORY
- CK EFFECT
- KEY1
- KEY2
- FILE

**Specifications**

- Power: AC100-240V 50/60Hz
- Dimensions: HVS-100: 430 x 480 x 225 mm
  - HVS-110: 420 x 402 x 225 mm
- Units: mm

**Note:** All dimensions and specifications are approximate and subject to change without notice.
### Options

### Options for the HVS-100

With the HVS-100, you can add just the input and output formats you need, in just the amount needed. There are three expansion slots so that other inputs and outputs can be installed, such as analog component, analog composite, HDMI and RGB in addition to HD/SD-SDI.

#### HVS-100DI-A

**HD/SD-SDI Input Card**

4 channels of HD/SD-SDI input are possible with a single card. A frame synchronizer function for all inputs and re-size (expansion) function for 2 inputs are provided. SD images can be processed internally as HD images.

| Resolutions supported by the input cards
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HD mode</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/50i</td>
</tr>
<tr>
<td><strong>SD mode</strong></td>
</tr>
<tr>
<td>525/50i</td>
</tr>
<tr>
<td>625/60i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Input images are played at a 60Hz refresh rate.

#### HVS-100DO

**HD/SD-SDI Output Card**

2 channels of HD/SD-SDI output are possible with a single card. 2 output channels are possible using both. 2 channels of analog video signal output 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) input for each input terminal.

| Resolutions supported by the output cards
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HD mode</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/50i</td>
</tr>
<tr>
<td><strong>SD mode</strong></td>
</tr>
<tr>
<td>525/50i</td>
</tr>
<tr>
<td>625/60i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Output images are played at a 60Hz refresh rate.

#### HVS-100AI

**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) input for each input terminal.

| Resolutions supported by the input cards
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HD/SD/SDI</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/50i</td>
</tr>
<tr>
<td><strong>PC (HDMI/VGA)</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/60i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Input images are played at a 60Hz refresh rate.

#### HVS-100AO

**Analog Video Output Card**

2 channels of analog video signal output 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) output for each output terminal.

| Resolutions supported by the output cards
<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>HD/SD/SDI</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/50i</td>
</tr>
<tr>
<td><strong>PC (HDMI/VGA)</strong></td>
</tr>
<tr>
<td>525/60i</td>
</tr>
<tr>
<td>625/60i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Input images are played at a 60Hz refresh rate.

#### 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.

| Resolutions supported by the input cards
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HD mode</strong></td>
</tr>
<tr>
<td>1080/59.94p</td>
</tr>
<tr>
<td>1080/50p</td>
</tr>
<tr>
<td><strong>SD mode</strong></td>
</tr>
<tr>
<td>525/50i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Input images are played at a 60Hz refresh rate.

#### 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.

| Resolutions supported by the output cards
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HD mode</strong></td>
</tr>
<tr>
<td>1080/59.94p</td>
</tr>
<tr>
<td>1080/50p</td>
</tr>
<tr>
<td><strong>SD mode</strong></td>
</tr>
<tr>
<td>525/50i</td>
</tr>
</tbody>
</table>

* HDCP-incompatible

** Video signal disturbances may occur in 25 or 50 system frame rate formats, when Output images are played at a 60Hz refresh rate.
HVS-100/110

**3G/HD/SD PORTABLE VIDEO SWITCHER**

**HVS-100TB2**

_Thunderbolt™ 2 Expansion Card_

The Expansion Card has a Thunderbolt™ 2 I/O, high speed transfer standard. It has capability to transfer simultaneously up to 4 Full HD video, multiple audio, and control signals by just one cable. It is also available to transfer one 4K(UHD) video for input or output.*

*require in the future

**HVS-100PSM/100PSO**

_Redundant Power Supply Unit_

- HVS-100PSM: For the HVS-100
- HVS-100PSO: For the HVS-100OU Control Panel

**Options for the HVS-110**

**HVS-110PSM**

_Redundant Power Supply Unit_

For the HVS-110

**Options for the HVS-100/110**

**HVS-TALOC32**

_Tally Interface Unit_

Open collector-type HVS-TALOC32 or relay-type HVS-TALR32 can be connected. They are both half-rack size, and up to 3 units can be connected to the HVS-100 or HVS-110.

- HVS-TALOC32: open collector system with 32 terminals
- HVS-TALR32: relay system with 32 terminals

**HVS-100EXP3G**

_3Gbps Expansion Software_

Software to support 1080p format and 4K Square Division transmission methods.

**HVS-AUX8**

_AUX Remote Control Panel_

Half-rack sized AUX remote control panel with 8 buttons. 5 units can be daisy-chained via ARCNET. A panel extension kit enables the button interface to be extended.

- HVS-AUX8RK: Panel extension kit (for HVS-AUX8)

**HVS-AUX16A/32A/64A**

_AUX Remote Control Panel_

AUX remote control panels with either 16, 32 or 64 buttons. The 16-button panel and the 32-button panel are 1U in size and the 64-button panel is 2U in size. 5 AUX remote control units can be daisy-chained via Ethernet.

**HVS-AUX16B**

-desktop type of AUX remote control panels with 16 buttons.

**HVS-100VR**

_Virtual Link Software_

Software for establishing a link between FOR-A Virtual System and HVS-100/110 to build a compact virtual studio system comprised of multiple cameras and small number of CG/combine processors.

**HVS-100ED**

_Editor Interface Software_

Interface software to connect with an external device that supports BVS-3000/DVS and GVG-100 protocols.

**HVS-100ARC**

_ARCNET Card_

This enables connection to HVS-AUX8/AUX16.
<table>
<thead>
<tr>
<th>Specifications</th>
<th>HVS-100</th>
<th>HVS-110</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video Formats</strong></td>
<td>1080/59.94i, 1080/50i, 1080/29.97p, 1080/25p, 1080/24p, 1080/23.98p, 1080/24PsF, 1080/23.98PsF, 1080/25PsF, 1080/29.97PsF, 720/59.94p, 720/50p/59.94p and 1080/50p Level A (HVS-100DEP35G)</td>
<td>525/60 NTSC, 625/50 (PAL)</td>
</tr>
<tr>
<td><strong>Video Inputs</strong></td>
<td>HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 8 (FS) on 8 inputs, resize engines on 4 inputs</td>
<td>HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 12 (FS) on 8 inputs, resize engines on 4 inputs</td>
</tr>
<tr>
<td><strong>Video Inputs (optional)</strong></td>
<td>HVS-100DA: HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 4 + FS/4:0:2, resize engines 2 x (out of 4 inputs)</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>HVS-100DEP35G</td>
<td>3G-SDI Level A-Level B: 3 Gbps</td>
</tr>
<tr>
<td></td>
<td>HVS-100AI</td>
<td>HD analog component, SD analog component, composite</td>
</tr>
<tr>
<td></td>
<td>HVS-100DCI</td>
<td>HDMI: IXA to WUXGA (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), IXA to WUXGA/HDTV (720p), VGA to IXA (SD)</td>
</tr>
<tr>
<td></td>
<td>HVS-100PCI</td>
<td>XGA to SXGA (720p), VGA to IXA (SD)</td>
</tr>
<tr>
<td></td>
<td>HVS-100DO</td>
<td>RGB: IXA to WUXGA (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), SXGA to WUXGA/HDTV (720p), VGA to IXA (SD)</td>
</tr>
<tr>
<td><strong>Number of Video Inputs</strong></td>
<td>Standard: HD-SDI x 8 / Max.: Refer to “I/O Expansion Card Configuration.”</td>
<td>Standard: HD-SDI x 12</td>
</tr>
<tr>
<td><strong>Video Outputs</strong></td>
<td>HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 4, HDMI x 1</td>
<td>HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 8, HDMI x 1</td>
</tr>
<tr>
<td><strong>Video Outputs (optional)</strong></td>
<td>HVS-100DO: HD-SDI: 1.5 Gbps or SD-SDI: 270 Mbps, 75Ω, BNC x 2</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>HVS-100DEP35G</td>
<td>3G-SDI Level A-Level B: 3 Gbps</td>
</tr>
<tr>
<td></td>
<td>HVS-100AO</td>
<td>HD analog component, SD analog component, composite</td>
</tr>
<tr>
<td></td>
<td>HVS-100PCI</td>
<td>HDMI: IXA to WUXGA/HDTV (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), SXGA to WUXGA/HDTV (720p), VGA to IXA (SD)</td>
</tr>
<tr>
<td></td>
<td>HVS-100DO</td>
<td>RGB: IXA to WUXGA (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), SXGA to WUXGA/HDTV (1080i, 1080/59.94p, 50i, 29.97p, 25p, 24p, 23.98p), SXGA to WUXGA/HDTV (720p), VGA to IXA (SD)</td>
</tr>
<tr>
<td><strong>Number of Video Outputs</strong></td>
<td>Standard: HD-SDI x 4, HDMI x 1, Max.: Refer to “I/O Expansion Card Configuration.”</td>
<td>Standard: HD-SDI x 8, HDMI x 1</td>
</tr>
<tr>
<td><strong>Signal Processing</strong></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Quantization</strong></td>
<td>HD/SD-SDI: 10-bit</td>
<td>—</td>
</tr>
<tr>
<td><strong>Effect</strong></td>
<td>WIP: 100 patterns, border and softness / 256 DVE: 56 patterns or more DVE WIPs</td>
<td>—</td>
</tr>
<tr>
<td><strong>Transition</strong></td>
<td>Available controller: Fader controller, AUTO or CUT button / Type: MIX or WIP (DVE included)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Switch/Clip Store</strong></td>
<td>2 channels (with backup feature). Each store can hold up to 227 frames of HD video</td>
<td>—</td>
</tr>
<tr>
<td><strong>Key/DSK</strong></td>
<td>4 channels (KEYER x 2 + DSK x 2), includes 2D DVE that can be freely assigned</td>
<td>—</td>
</tr>
<tr>
<td><strong>Multi-viewer</strong></td>
<td>An advanced, high quality Chroma keyer can be assigned to any one of the two Keyers or two DSKs.</td>
<td>—</td>
</tr>
<tr>
<td><strong>Proc. Amp.</strong></td>
<td>Equipped with all inputs</td>
<td>—</td>
</tr>
<tr>
<td><strong>Event Memory</strong></td>
<td>100 events (complementary transition available when loading events)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Macro Function</strong></td>
<td>30 commands (up to 220 series of operations can be registered per command)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Genlock Input</strong></td>
<td>B/B: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level Sync: 0.6 Vp-p, 75Ω, loop-through (to be terminated with 75Ω terminator, if unused)</td>
<td>—</td>
</tr>
<tr>
<td><strong>System Phase Adjust</strong></td>
<td>Horizontal: -1H to +1H</td>
<td>—</td>
</tr>
<tr>
<td><strong>Genlock Output</strong></td>
<td>B/B: NTSC: 0.429 Vp-p/PAL: 0.45 Vp-p or Tri-level Sync: 0.6 Vp-p, 75Ω, BNC x 1</td>
<td>—</td>
</tr>
<tr>
<td><strong>I/O Delay</strong></td>
<td>1H (minimum delay)</td>
<td>—</td>
</tr>
<tr>
<td><strong>External Memory</strong></td>
<td>0 to 1 frames +1H (when FS or re-size engine used)</td>
<td>—</td>
</tr>
<tr>
<td><strong>IF Output</strong></td>
<td>1 to 2 frames +1H (when FS or re-size engine plus DVE used)</td>
<td>—</td>
</tr>
<tr>
<td><strong>IF Output</strong></td>
<td>2 to 3 frames +1H (when FS re-size engine plus output resize engine and DVE used)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Output Interface</strong></td>
<td>USB flash drive</td>
<td>—</td>
</tr>
<tr>
<td><strong>I/O Connectors</strong></td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Temperature / Humidity</strong></td>
<td>0°C to 35°C / 10% to 90% (no condensation)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Dimensions / Weight</strong></td>
<td>HVS-100: Approx. 360 (W) x 225 (H) x 58 (D) mm / Approx. 13 kg (incl. 3G-SDI)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Consumables</strong></td>
<td>HVS-110: Approx. 360 (W) x 225 (H) x 58 (D) mm / Approx. 13 kg (incl. 3G-SDI)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>HVS-100: Approx. 390 (W) x 240 (H) x 55 (D) mm / Approx. 19 kg (incl. 3G-SDI)</td>
<td>—</td>
</tr>
<tr>
<td><strong>Options</strong></td>
<td>HVS-110: Approx. 390 (W) x 240 (H) x 55 (D) mm / Approx. 19 kg (incl. 3G-SDI)</td>
<td>—</td>
</tr>
</tbody>
</table>