XVS-8000

High-end 4 K/3G/HD video switcher for IP and SDI

Overview

Powerful switcher sits at the heart of IP Live and 4K and HD production operations

The XVS-8000 multi-format video switcher delivers massive benefits in terms of flexibility and operability for top-end production, giving you the ability to realize a powerful mixed environment with SDI and IP. Utilizing the flexible ICP-X7000 X-Panel assignable modular design, you can configure the control panel to suit your specific operations. The XVS-8000 provides 4K production capability similar to HD, including DME. Supporting not only Networked Media Interface (NMI), but also SMPTE ST 2110, places the switcher at the heart of the new generation IP Live production system. 100G IP interface boards fully support SMPTE ST 2110, and new 12G-based SDI interface boards increase flexibility even further by enabling IP/SDI hybrid operating environments. The advanced features and operational flexibility of the XVS-8000 make it Sony's high-end production switcher, offering ultimate quality combined with significant return on investment.

IP Live switcher

The core of the new generation IP Live production system supports not only Network Media Interface (NMI), but also the SMPTE ST 2110 Professional Media Over Managed IP Networks suite of standards, enabling a mixed IP and SDI production environment.

12G-SDI based live switcher

The XVS-8000 supports 12G-SDI interfaces, enabling on-board format conversion for every incoming and outgoing video signal to offer greater options for applications such as in-house studios, OB vehicles, and flypacks.

Powerful 4K switcher

4K production capability similar to HD production, with 5 M/E, 40 inputs, 12 assignable outputs for 4K and format converter outputs, plus up to 10 full keyers and 10 sub keyers, enabling simultaneous 4K and HD operation, and powerful 4K features.

4K 3D Digital Multi Effects (DME)

The newly developed 4K DME board offers up to 2 channels of floating 4K 3D DME capability for the XVS-8000. This 4K DME board can also be configured with the XVS-9000 switcher (up to 4 Ch), XVS-7000 switcher (up to 2 Ch), and the XVS-6000 switcher (1 Ch).

Evolutionary switcher controller

The XVS-8000 utilizes the ICP-X7000 X-Panel for very flexible panel configuration with a modular style design, OLED display, RGB XPT buttons and LCD button pad. The button layout is also re-designed. The X-Panel has a flexible mounting style for flat or curved mounting, or even for splitting into two positions.

Switcher Processor Options Multi-format Switcher Processor

• XKS-S8110 - SDI Input Connector Board• XKS-S8111 - SDI Input and FC Connector Board• XKS-S8112 - 12G-SDI Input Board• XKS-Q8111 - QSFP IP Input and FC Connector Board• XKS-C8111 - 100G IP Input Board • XKS-8160 - Output Processor Board • XKS-S8165 - SDI Output Connector Board • XKS-S8167 - 12G-SDI Output Board• XKS-Q8166 - QSFP IP Output and FC Connector Board• XKS-C8166 - 100G IP Output Board • XKS-8210 - Mix Effect Board • XKS-8440 - Frame Memory Board • XKS-8460 - Format Converter Board • XKS-8470 - HD DME Board • XKS-8475 - DME Board• XZS-8510 - Switcher Upgrade Software (4K Upgrade for 1st ME Board)• XZS-8520 - Switcher Upgrade Software (4K Upgrade for 2nd ME Board)• XZS-8530 - Switcher Upgrade Software (4K Upgrade for 3rd ME Board)• XZS-8540 - Switcher Upgrade Software (4K Upgrade for 4th ME Board)• XZS-8550 - Switcher Upgrade Software (4K Upgrade for 5th ME Board)• XZS-8200 - Multi Program 2 Software

Switcher Control PanelICP-X7000 Series

• MKS-X7011 – Menu Panel • MKS-X7017 – 36 XPT Module • MKS-X7018 – 28 XPT Module • MKS-X7019 – 20 XPT Module • MKS-X7020 – Standard Transition Module • MKS-X7021 – Simple Transition Module • MKS-X7023 – Key Transition Module • MKS-X7024 – FlexiPad Module • MKS-X7026 – 10-key Pad Module • MKS-X7031TB – Track Ball Module • MKS-X7032 – Key Fader Module • MKS-X7033 – Utility/Shot Box Module • MKS-X7035 – Key Control Module • MKS-X7040 – Blank Panel (1/3) • MKS-X7041 – Blank Panel (1/2) • MKS-X7042 – Blank Panel (1/6) • MKS-X7075 – Extension Adapter • PWS-110SC1 – Switcher Control Station

Remote Panel

• MKS-8080 — AUX BUS Remote Panel • MKS-8082 — AUX BUS Remote Panel

Device Control Unit

• MKS-X2700 – System Interface Unit • MKS-X7700 – System Interface Unit • MKS-X7701 – Tally/GPI Output Board • MKS-X7702 – Serial Interface Board

Virtual Shot Box Software

• BZPS-7020 — Virtual Shot Box Base Software • BZPS-7021 — Virtual Shot Box Additional Software

Virtual Menu

• BZPS-7030 — Virtual Menu Base Software • BZPS-7031 — Virtual Menu Additional Software

Features

Supports Networked Media Interface (NMI) and SMPTE ST 2110
The XVS-8000 supports the Networked Media Interface (NMI), developed by Sony and some of the world's leading broadcast industry organizations. NMI combines the latest IP network technologies with a current SDI standard interface to support any resolution of video transmission. The XVS-8000 also supports two key industry standards—SMPTE ST 2110 Media Transport and AMWA NMOS Device Discovery—with the new 100G-based IP interface boards. While conventional systems require multiple different types of cables to carry various signal types (video, audio, reference, metadata, and control data), NMI and SMPTE ST 2110 require only a single standard network cable passing through conventional network switches.

12G-SDI interfaces
New 12G-SDI input and output boards further expand the line-up of XVS interface options. The 12G-SDI interface boards have on-board input or output format converters, and any input or output signal can be converted to an appropriate video signal.

Flexible and scalable configurations

The processors of the XVS-8000 can be configured to suit the exact needs of each particular user in terms of operation, resolution, frame rate, number of I/Os, number of M/E banks, and more.

5 M/E for large 4K production systems

5 M/E functionality enables you to operate with different video formats per M/E, allowing 4K and HD simultaneous operation.

40 inputs and 12 assignable outputs for 4K

Up to 40 inputs and up to 12 assignable outputs are configurable depending on the Input and Output option configuration. Additional format converter outputs* and 2 channels of multi-viewer are also available.* The number of additional Format Converter outputs depends on format selection, from 4 to 16.

Resource sharing for multiple productions

With on-going pressures to find operational efficiencies within production workflows, the XVS-8000 supports resource sharing. Resource sharing provides a highly flexible and efficient production environment in which a single processor can be configured to perform multiple disparate tasks. Processor features, such as inputs/outputs, mix-effect banks etc., can be allocated to different control panels, either within or outside of the facility to provide, the ultimate in scalable local and/or remote operations.

Variety video format support

4K 2SI/SQD, 3G Level-A 1080/59.94p, 50p, 1080/59.94i,50i etc.

Up and down conversion between 4K, HD and SD

The XVS-8000 switcher allows up/down/cross/level conversion between 4K, HD and SD, using optional format converter board XKS-8460, as well as the 3G-SDI input board XKS-S8111 and 12G-SDI input board XKS-S8112. These options provide up and down conversion between 4K (2160p) and HD (1080p, 1080i), and between HD (1080p, 1080i and 720p) and SD (480i and 576i), cross-conversion between 4K 2SI and 4K SQD, and between 1080i and 720p, and level conversion between Level-A and Level-B at input and/or output.

Sophisticated layering on M/E cards

There are 8 keyers on an individual M/E card that permit sophisticated layering techniques. Each keyer has its own auto-transition control that is separate from the main fader, which allows you to insert or remove keys on an individual basis with independent wipes, DME wipes, or dissolves. All full keyers with 2.5D resizer and chroma key are available in both 4K and HD, as well as additional Sub Keyers* with linear and luminance key in 4K. * Sub Keyer is another keyer that allows Linear and Lum Keying for 4K content.

Variety of M/E mode selections

Using the advanced mix effect modes in the XVS-8000, one bank can be configured to control not only the main M/E output, but also a sub mix from that M/E. This Double M/E Mode is perfect for producing multiple outputs of the same event, for example "clean" and "dirty" feeds of a soccer match from within the same M/E.

Adjustable resizer function for each keyer

The resizer function allows you to create simple 2.5D DME effects with every keyer, with adjustable parameters such as Expand, Shrink, Locate, Rotate X, and Rotate Y

Precise effects

Fine key technology allows precise adjustment of key positions and border widths on a sub-pixel level within the range of 8H on all of these switchers. For additional power

and user convenience, the XVS-8000 also features Sony's unique Processed Key mode and DME-link function.

Enhanced frame memory system with 4K CG wipe
4K CG wipe is available, together with audio. The processor has an enhanced frame memory system, whereby instant recall of up to 1,250 frames (equivalent to an approx. 20 seconds movie) are available as source in 4K. Additionally, more frames are directly available from the embedded large capacity SSD drive.

Mix function on aux bus outputs
The switcher provides a mix transition, rather than a hard cut on aux bus outputs.

Color correction function
Primary color correction is available on every aux output as standard as well as on inputs as option.

Simplified live operations with programmable macros
Macros are extremely useful in live environments when time is critical and there is no tolerance for making operational mistakes. Using the FlexiPad module, or the 10-key Pad module, users can simply record operational sequences, then store and assign them to any desired button. Not only can macros record complex panel operational sequences, but menu operation can also be recorded as a macro. Macros can be edited either directly from the control panel or by using the touch-screen menu display.

Optional integrated DME processor
The DME processor can be integrated within XVS-8000 by installing up to two optional XKS-8470 boards (2-channels per board, 4-channels in total in HD) or up to two XKS-8475 boards (1-channel per board, 2-channels in total in 4K), or one XKS-8470 and one XKS-8475 in mixture.

External device control
External VTRs, DDRs, P-bus, and AMP devices can be controlled directly from the control panel of the XVS-8000 using MKS-X7700 or MKS-X2700 device control units via RS-422 and IP. The system supports the majority of servers using VDCP, Odetics, or AMP remote control protocol.

Intelligent multi-functional tally system
The XVS-8000 provides an intelligent and multi-functional tally system, which seamlessly integrates the switcher and router tally functions, via parallel tally ports, serial tally ports, and IP ports. Multiple on-air and recording tallies can easily be programmed on the switcher system — so that even complex tally requirements are accommodated. Extra parallel tally ports can be obtained simply by adding tally boards to the MKS-X7700, or by using the MKS-X2700.

Flexible X-Panel assignable modular design
The ICP-X7000 X-Panel offers very flexible panel configuration with a modular style design, OLED display, RGB XPT buttons and LCD button pad. The button layout is also re-designed. The X-Panel has a flexible mounting style for flat or curved mounting, or even for splitting into two positions. XPT FlexiPad allows function mapping customisation according to your operators' preferences.

Single panel and multi-panel configurations increase your options
With System Interface Unit (SIU) MKS-X2700 or MKS-X7700 as a device controller and Switcher Control Station (SCS) PWS-110SC1, you can operate the switcher as a single panel system or multi-panel system, greatly increasing your options.

More Freedom of control with the Virtual Shot Box
The XVS Series control panel can be partly operated remotely via Ethernet using the

web application called Virtual Shot Box and Virtual Menu. With Virtual Shot Box, buttons and functions are customizable so you can assign macro, snapshot, shot box, XPT switching, and other functions as you wish. The operational menus on the Menu Panel MKS-X7011, however, can be utilized in the Virtual Menu application, which also allows easy engineering operation. These web applications can be used on any device with a web browser installed with Ethernet connection; this means that wireless operation is also supported using mobile devices. There are many possibilities using these applications. For example, you can use Virtual Shot Box with the control panel as a shot box or assist the main switcher operator from any location; in addition, the anchor or talent can use it by themselves, switching on-air images from a sports arena and more.

Data Manager for sharing switcher data
Improves data management workflow and can reduce show set-up times, as well as making for data back-up and maintenance.

Specifications

General

Power requirements	100 to 240 V ± 10% AC 50/60 Hz
Current consumption	22A to 9.2A (when equipped with all installable option boards)
Operating temperature	5ºC to 40ºC (41ºF to 104ºF)
Performance guaranteed temperature	10ºC to 35ºC (50ºF to 95ºF)
Storage temperature	- 20ºC to 60ºC (- 4ºF to 140ºF)
Operating humidity	10% to 90%
Dimensions (W/H/D) (excluding projections)	440 x 443.6 x 582.9 mm
Mass	Approx. 63 kg (when equipped with all installable option boards)

Remote Control Connector

NETWORK (MVS LAN)	RJ-45, complies with 1000BASE-T standard
NETWORK (UTL LAN*)	RJ-45, complies with 1000BASE-T standard

Reference Input

Reference input	REF IN BNC type, 75Ω with loop-through output HDTV systems: HD tri-level sync/SDTV analog black burst/SDTV analog sync SDTV systems: Analog black burst/analog sync

AC Input

AC IN A, B, C, D	3-pin AC connector

Input/Output

Maximum number of inputs	• BNC (x 160) for primary inputs**
Maximum number of outputs	• BNC (x48) for outputs** • BNC (x16) for format converter outputs** • BNC (x8) for Multi Viewer (2CH)**

Notes

*	For future use
**	Alternative connections for QSFP+ and QSFP28 are available

Related products

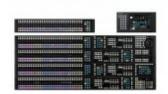**XVS-7000**

Mid-range 4K/3G/HD video switcher for IP and SDI

XVS-6000

Entry-level 4K/3G/HD video switcher for IP and SDI

XVS-9000

Flagship 4K/3G/HD multi-format IP-ready video switcher

ICP-X7000

Control panel for XVS Series and MVS-X Series switchers

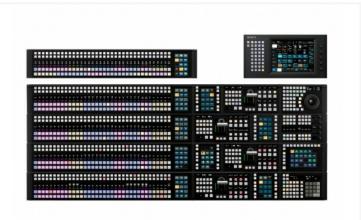**MVS-7000X**

High-end 3G / HD / SD switcher

Gallery