SONY

MVS-7000X

High-end 3G / HD / SD switcher

Overview

Powerful production switcher upgrades from SD to HD

The MVS 7000X is available for SD, HD or 1080/50P (3G) production and a simple software upgrade will allow the user to switch between these modes. Powerful features include up to 6 ME operation with up to eight high-performance keyers per full ME bus (only four in 6ME mode), 8 channels of format conversion, with frame synchronisation support and two channels of multi-viewer output. An internal two or four channel DME processor can also be installed offering visual effects of superb quality, equivalent to those of the external MVE-9000 processor.

Shares common architecture with the MVS family

The MVS-7000X is the latest model in the MVS family of production switchers. Due to their common architecture, the MVS-7000X shares the same control panels and peripherals as the rest of the MVS family, meaning that a customer wishing to upgrade to the latest processor can utilise their existing infrastructure. With innovative operability, brilliant performance, and system flexibility, the MVS-7000X is set to inspire creativity in a wide range of multi-format production applications.

Switcher Processors Option
Multi-format Switcher Processor

MKS-8110X - 20 Input Board
MKS-8160X - Output Board Set
MKS-8440X - Frame Memory Board
MKS-8450X - Format Converter Board
MKS-7171X - DME - Interface Board Set
MKS-7210X - Mix/Effect Board
MKS-7470X - DME Board Set
MKS-7471X - Additional DME Board
HK-PSU05 - Power Supply Unit
BZS-7200X - Multi-program 2 Software
BZS-7420X - Color Corrector Software
BZS-7560X - Switcher Upgrade Software
BZS-7561X - DME Upgrade Software
BZS-7500X - Switcher Upgrade Software
BZS-7510X - Switcher Upgrade Software
BZS-7520X - Switcher Upgrade Software (Upgrade SD to Multi Format for 2nd Mix Board)
BZS-7530X - Switcher Upgrade Software(Upgrade SD to Multi Format for 3rd Mix Board)
BZS-7540X - Switcher Upgrade Software(Upgrade SD to Multi Format for 1st DME Board)
BZS-7541X - Switcher Upgrade Software(Upgrade SD to Multi Format for 2nd DME

Board)

Switcher Control Panel
CCP-8000 Series

MKS-8017A - 32 XPT Module
MKS-8013A - 32 AUX BUS Module
MKS-8018A - 24 XPT Module
MKS-8014A - 24 AUX BUS Module
MKS-8019A - 16 XPT Module
MKS-8015A - 16 AUX BUS Module
MKS-8020A - Standard Transition Module
MKS-8021A - Simple Transition Right Module
MKS-8021ASC - Simple Transition Compact R Module
MKS-8022A - Simple Transition Left Module
MKS-8022ASC - Simple Transition Compact L Module
MKS-8023AB - Compact Key Transition Module
MKS-8027A - Compact Transition Right Module
MKS-8028A - Compact Transition Left Module
MKS-8026A - 10-Key PAD Module
MKS-8030A - Key Frame Module
MKS-8031ATB - Track Ball Module
MKS-8031AJS - Joystick Module
MKS-8036A - Device Control Module
MKS-8025MS - Memory Stick™/USB Module
MKS-8011A - Menu Panel
MKS-8032A - DSK Fader Module
MKS-8033A - Utility/Shot Box Module
MKS-8035A - Key Control Module
MKS-8024A - Flexi-Pad Module
MKS-8034AD - DSK/FTB Module
MKS-8034AFB - FTB Module
MKS-8041 - Blank Panel (1/2)
MKS-8040 - Blank Panel (1/3)
MKS-8042 - Blank Panel (1/6)
MKS-8010B - System Control Unit
HK-PSU02 - Backup Power Supply Unit
SWC-5002 - Panel Cable
SWC-5005 - Panel Cable
SWC-5010 - Panel Cable
MKS-8075A - Extension Adaptor
MKS-8076 - Memory Card USB Adaptor

CCP-6000 Series

CCP-6324 - 3 M/E Control Panel (24 XPT)
CCP-6224 - 2 M/E Control Panel (24 XPT)

CCP-9000 Series

MKS-9012A - 2 M/E Control Panel (12 XPT)
MKS-9011A - 1 M/E Control Panel (12 XPT)

Remote Panel

MKS-8080 - AUX BUS Remote Panel
MKS-8082 - AUX BUS Remote Panel
UCP-8060 - Universal Control Panel

DME Processor

MVE-8000A - Multi-Format DME Processor
MKE-8020A - MVS Interface Board
MKE-8021A - Input/Output Board (for SDI)
MKE-8040A - Effects Board (2CH)
HK-PSU02 - Power Supply Unit
BZDM-8560 - DME Upgrade Software (1080p/59.94,50, Dual-link, 3D)

Plug-in Editor

BZS-8050 - Editing Control Software
MKS-8050 - Editing Keyboard
MKS-2050 - Editing Keyboard

Device Control Unit

MKS-8700 - Device Control Unit
MKS-8701 - Tally/GPI Output Board
MKS-8702 - Serial Interface Board
MKS-2700 - Device Control Unit
HK-PSU01 - Backup Power Supply Unit

System Management Software

BZPS-8000 - System Management Software
BZPS-8000L - System Management Software (Standalone type)
BZPS-8001 - Switcher Setup Software
BZPS-8002 - PFV-SP Setup Software

Features

Upgradable to HD operation

Using optional software, users can work in SD initially and, as required, upgrade their system to a SD / HD multi-format switcher. With optional software, the MVS-7000X switcher operates in a huge variety of formats, including 1080/59.94i, 1080/50i, 1080/29.97 PsF, 1080/25PsF, 1080/24PsF, 1080/23.97PsF, 720/59.94P, 720/50P, 1080/59.94P and 1080/50P.

3D signal production capabilities

Using optional software our users can work in SD initially and then, as required, upgrade their system to a SD/HD multi-format switcher.

Wide range of SD and HD Formats

The MVS-7000X switcher operates in any of the following formats:

Standard-definition: 480i/59.94, 576i/50

High-definition :1080i/59.94, 1080i/50, 1080PsF/29.97, 1080PsF/25, 1080PsF/24,1080PsF/23.976, 720p/59.94, 720p/50 (with optional BZS-7500X/7510X/7520X/7530X SwitcherUpgrade Software). 1080p/59.94, 1080p/50 (with optional BZS-7560X Switcher Upgrade Software).

3D signal production capability

The MVS-7000X is designed for 3D production in a 3 Gbps or 1.5 Gbps dual-link system. Left- and right-eye signals for 3D video are combined into a single 3 Gbps signal for both three-dimensional and 1080P production applications. Laborious link settings can be simply adjusted in the unique 3D mode, and, in dual-stream mode, 2D signals and 3D signals can be assigned to crosspoint buttons. When left- and right-eye signal combinations for 3D video are incorrect, they can be easily changed via the touch screen menu. The depth of 2D graphics can also be adjusted via the DME function on the newly designed parallax menu.

Scalable processor configurations

The processors of the MVS-7000X 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. With the flexible ME architecture a system can be configured with up to six ME busses, supporting up to 80 I/Ps and 48 O/Ps.

Built-in format convertor

One of the unique and very powerful features of the MVS-7000X switcher is that a format conversion capability can be incorporated simply by adding a format convertor board (the MKS-8450X). This option provides up-conversion and down-conversion between HD (1080i and 720p) and SD (480i and 576i), and cross-conversion between 1080i and 720p at both input and output.

The format convertor can also work in frame delay mode which provides synchronisation and up to 8 frames delay for up to eight input signals. This is useful for remote non-locked sources or for applications involving virtual studios where a compensatory delay is required

Customisable control panel

A lineup of three control panels are available: the customizable CCP-8000 Series and two simple and practical control panels, the CCP-6000 Series and CCP-9000 Series. The CCP-8000 Series incorporates a modular design in which each control area is provided as a separate module. The CCP-6000 Series is an easy-to-use control panel that takes up little space. The CCP-9000 Series control panels comprise 1-M/E, or 2-M/E compact configurations with 12 crosspoint buttons and a built-in redundant power supply.

Easy and efficient operation

The MVS-7000X switcher has a large colour touch-screen menu for efficient and intuitive system control. Button indications are greatly enhanced over previous-generation switchers. Crosspoint source name displays, FlexiPad, and Shot Box™ buttons all incorporate a backlit three-colour LCD indicator to which preset pattern icons or text can be imported and displayed. In addition, optional remote-control panels, such as AUX Remote,), and M/E Remote panels, allow convenient operating environments for live use.

Aux mix functionality

The switcher has aux mix ability, which provides a mix transition, rather than a hard cut on aux bus outputs.

Creative M/E functionality

Each M/E card on the MVS-7000X is equipped with eight keyers, allowing sophisticated layering from a single M/E. Separate from the main fader, each keyer has its own auto-transition control, allowing users to insert or remove keys on an individual basis with independent wipes, DME wipes, or dissolves.

Variety of versatile 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 MVS-7000X also features Sony's unique Processed Key mode and DME-link function.

Colour correction function

Two-channel full-featured primary and secondary colour correction is optionally available for MVS-7000X (with the BZS-7420X Colour Correction Software).

Resizer function

A useful resizer function is provided, that gives simple 2.5D DME effects with

adjustable parameters such as Expand, Shrink, Locate, Rotate X, Rotate Y (same as MVS-6000) for every keyer.

Variety of M/E mode selection

Using the advanced mix effect modes in the MVS-7000X, one bank can be configured to control not only the main ME output, but also a sub mix from that ME. This Double ME 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 ME.

Enhanced frame memory system

The MVS-7000X provides a high-capacity "frame memory system" that enables video frames to be captured and stored as still images. This also allows a sequence of frames to be recorded as a video clip (called a "frame memory clip"). The frame memory system for the MVS-7000X requires an optional MKS-8440X Frame Memory Board. One board can store approx 2000 HD frames, either as still images or frame memory clips.

Clip transition effects

With simple settings, the MVS-7000X provides clip transition effects that enable transition, together with audio, using a frame memory clip.

Programmable macros

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. Macros are extremely useful in live environments when time is critical and there is no tolerance for making operational mistakes. 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.

Integrated DME processor

The DME Processor is integrated within MVS-7000X by the installation of MKS-7470X (2-channels) and MKS-7471X (additional 2-channels) boards. This advanced DME processor supports all the same effects as the MVE-8000A and MVE-9000 external DME processors.

Networking functions

MVS switchers provide sophisticated network capabilities to allow an extremely efficient and innovative style of operation. Two Ethernet-based networks are provided: the Control LAN and the Data LAN.

System management software

Sony's System Management Software running on a PC enables integrated management of all Sony's live production products configured around and networked to the MVS-7000X. This enables centralised control from a single-user interface, as well as PFV-SP Series signal processing units, and other devices.

Powerful device control

External VTRs, DDRs, and P-bus devices can all be controlled directly from the control panel of the MVS-7000X using MKS-8700 or MKS-2700 device control units. The system supports the majority of servers using VDCP or Odetics remote control protocol.

Plug-in editing control software

One of the distinct advantages of the MVS-7000X is the ability to integrate machine control functions. Optional plug-in BZS-8050 control software and MKS-8050 and MKS-2050 editing keyboards take this ability a stage further, adding powerful linear editing capabilities. BZS-8050 editing control software offers a similar level of functionality to the popular BVE-2000 editor, along with some key functions available on the BVE-9100

Editor. Two types of editing keyboard are available – the MKS-8050 and MKS-2050 – which make the editing control software suitable for small-scale editing operations right up to large-scale post-production mastering.

Integration with Sony routing systems

The integration of the MVS-7000X with S-bus controlled routers, such as IXS-6000 Series Routing Systems, brings a number of great benefits such as bidirectional operational control, source name exchange, and tally management. Crosspoints of the IXS-6000 Series can be selected via the AUX BUS module panel of each MVS switcher. They can also be recalled as a router snapshot via the switcher control panel.

Intelligent tally functions

The MVS-7000X provides an intelligent and multi-functional tally system, which seamlessly integrates the switcher and router tally functions. Multiple on-air and recording tallies can easily be programmed on the switcher system – so that even complex tally requirements are accommodated – and extra parallel tally ports can be obtained simply by adding tally boards to the MKS-8700, or by using the MKS-2700.

Specifications

General	
Power Requirements	AC 100 V to 240 V, ±10%, 50/60 Hz
Power Consumption	15 A to 6.5 A (fully loaded)
Operating Temperature	5°C to 40°C 41°F to 104°F
Storage Temperature	-20°C to +60°C -4°F to +140°F
Dimensions (W x H x D) *[1]	440 x 355 x 497 mm 17 3/8 x 14 x 19 5/8 inches
Mass	Approx. 49 kg (fully loaded) Approx. 108 lb (fully loaded)

Input/Output	
Maximum Number of Inputs	BNC (x80) for Primary inputs BNC (x20) for DME
Maximum Number of Outputs	BNC (x48) for Outputs BNC (x4) for Duplicate outputs for OUT23/24/47/48 BNC (x20) for DME, BNC (x4) for Format Converter BNC (x4) for Multi Viewer (2CH x 2)

Reference	
Reference Input	BNC (x2), 75 Ohm.(High) with loop-through output HD tri-level sync or Analog black burst

Control

Control LAN	RJ-45 (x1), 100BASE-TX
Data LAN	RJ-45 (x1), 100BASE-TX
Remote 1 to 4	D-sub 9-pin (x1), RS-422A
GPI	D-sub 25-pin (x1), TTL level inputs (x8), relay contact outputs (x4), open collector outputs (x4)
FM Data	RJ-45 (x1), 100BASE-TX
FM Device	USB-type A (x2), USB 2.0

Supplied Accessories

Supplied Accessories	75Ω terminator (1) Operation Manual (1) Installation Manual (1)

Notes

Note	[*1] The values for dimensions are approximate.

Accessories

PVM-X550

55-inch 4K TRIMASTER EL™ OLED high grade picture monitor

PVM-A250

25-inch TRIMASTER EL™ OLED high grade picture monitor

BVM-X300

30-inch 4K TRIMASTER EL™ OLED critical reference monitor

BVM-F250A

24.5-inch TRIMASTER EL™ OLED reference monitor with wide viewing angle

BVM-X300 V2

30-inch 4K TRIMASTER EL™ OLED critical reference monitor

PVM-A250 v2.0

25-inch TRIMASTER EL™ OLED high grade picture monitor

PVM-X300

30-inch 4K TRIMASTER™ LCD professional monitor

Gallery