

SONY®

Multi Format Production Switcher **MVS-8000 SERIES**



Key Features

- ✦ Multi-format capability
 - 1080i/60, 59.94, 50
 - 1080p/30, 29.97, 25, 24, 23.976
 - 720p/59.94 (*)
 - 480i/59.94
 - 576i/50
 - ✦ 2-, 3- and 4-Mix/Effects configurations
 - ✦ Layout free control panel
 - ✦ Creative M/E functionality
 - Four full function keys per M/E
 - Multiple M/E Program out configurations
 - 14 individual wipe pattern generators per M/E
 - ✦ Independent M/E functionality
 - 4:3 / 16:9, Crosspoint Assignments and Bus Toggle on/off
 - Snapshots, Keyframe and various setups
 - ✦ Up to 80 inputs and 56 outputs (including 8 monitor outputs)
 - ✦ Integrated device control
 - VTRs, Digital Disk Recorders, Digital Multi Effects, Routers and more
 - ✦ Multi-panel / Multi-processor operations
 - ✦ More than 200 frames storage (SD) with simultaneous 8 channel playout
 - ✦ Integrated 3D DME plus external DME control
 - ✦ Remote maintenance and image file exchange via the Ethernet network
 - ✦ User programmable tally conditions and multi-level tally
- * Will be supported in the future.

Preliminary

The advent of High Definition broadcast and DTV has brought a new set of challenges to live production. These include Standard and High Definition simulcast, multiple frame rates and resolutions, multi-channel casting and even greater resource sharing, to name just a few.

The increased complexity of future broadcast operations also calls for much quicker and more reliable operability, with a level of flexibility that can meet any specific user needs.

Responding to this dramatic transition Sony has developed the MVS series, a range of digital switchers that provide a complete solution to the new and emerging requirements of both live and post-production environments.

The MVS series is the result of extensive discussions with prominent technical directors. Based on these discussions, Sony has integrated a wide variety of new features including SD/HD capability, advanced networking, layout-free control panels, and special considerations for use in mixed PC and AV environments. The MVS series is completely scalable for smooth integration into current systems, offering the added quality, reliability and features, needed for the next generation production environments.

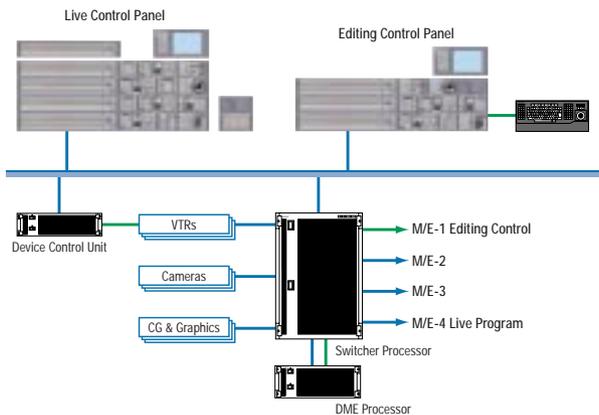
Multi-format Compliant

The MVS series is offered in either a Standard or High Definition configuration. The following resolutions and frame rates are available in each respective configuration.

- High Definition configuration
 - 1080i/60/59.94/50
 - 1080p/30, 29.97, 25, 24, 23.976
 - 720p/59.94(future)
- Standard Definition configuration
 - 480i/59.94
 - 576i/50

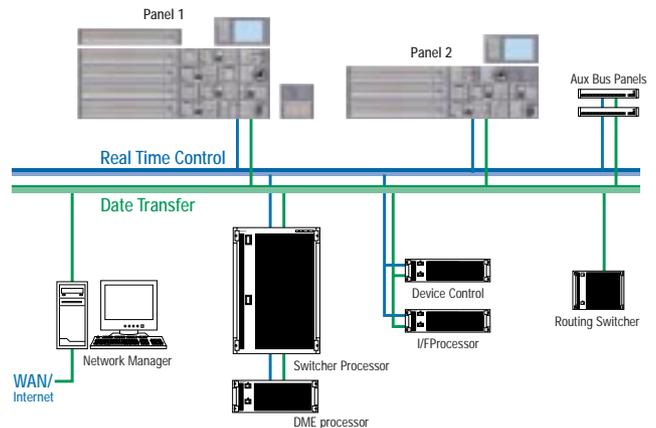
The well thought-out design of the MVS series also provides a smooth upgrade path from Standard to High Definition with minimal cost or system reconfiguration.

Efficient Control System



For integrated operations, the MVS uses a dedicated Ethernet-based control system that provides real-time control among MVS components, and efficient resource sharing between the switcher and other external devices. The Ethernet-based network enables multiple switcher control panels to simultaneously operate with a single switcher processor or multiple processors.

Networking



The MVS series has a second Ethernet connection on all key MVS components and Sony peripherals. This Ethernet connection is used for remote administrative tasks including status monitoring, software upgrades and configuration, as well as maintenance and facility management tasks. Image file transfers are also available for sharing graphics and titling resources.

This second network can extend across a local LAN/WAN or even reach out over the Internet.



Features

Flexible configurations

MVS switchers can be configured to suit the exacting needs of each particular customer in terms of operation, resolution, frame rate, number of I/Os, number of M/E banks, number of DME (Digital Multi Effects) channels, frame memory capability, etc. Another great benefit of the MVS series is that it can be flexibly upgraded as a users' needs grow by simply installing the appropriate option board. MVS switchers are offered in 2-, 3- and 4-M/E configurations, with control panels using a modular architecture in order to be configured according to each specific need.

A substantial number of inputs and outputs are available on the processor – 80 primary inputs and 56 assignable outputs (including 8 monitor outputs) for program, preview, key preview, clean key and auxiliary. These can be expanded further by using external routing.

Creative M/E Functionality

Each M/E on the MVS series comes equipped with four keyers, allowing much more sophisticated layering on a single M/E. Separate from the main fader, each keyer has its own auto transition controls, which allow users to insert or remove keys on an individual basis. For even further flexibility, each keyer in every M/E offers Chroma keying and color vector keying, eliminating restrictions of selectable key types. These fully featured M/E's allow total inter-operability of effects on all M/E's. The MVS series also inherits many of the features of the well-proven DVS series, but with greater enhancements.

Finekey™ technology allows fine adjustments of key position and border widths on a sub-pixel level within the range of 8H. "Processed Key" mode and DME-LINK™ function are also provided, but now with additional power. The "Multi-program output" feature allows 4 simultaneous outputs per M/E, in which any of the four keys can be assigned in any combination.

Independent M/E Functionality

Snapshot settings, keyframe settings and various setups such as crosspoint assignments, 4:3 / 16:9 modes and bus toggle on/off can be independently designated per M/E. This functionality of the M/E allows the user to efficiently assign different tasks to a single MVS processor when required.

Enhanced Frame Memory System

The frame memory system has 8 simultaneous outputs and can store more than 200 frames of video or key (in SD configuration). The memory buffer can sequentially recall frames at frame-rate so that short logo animations can be played. An internal hard disk drive in the control panel provides additional storage for a greater number of frames. The stored video or graphics frames can be easily exchanged between the MVS switcher and external PCs or graphic workstations via the Ethernet network.

Fully Configurable and Layout-Free

The control panel has been designed with special care and attention. It incorporates a modular design architecture in which each control area is built into a separate module. This approach allows users to locate the desired module in their preferred area of each M/E base plate. M/E base plates are offered in 24-, 32- and innovative 48-button styles, while M/E banks are available in 2-, 3- or 4-M/E configurations.

Excellent Operability

The MVS switchers have a large color touch-screen, which is used for efficient and intuitive menu control. Button indications have also been greatly enhanced. Crosspoint source name displays, FlexiPad™ and Shot Box buttons all incorporate a back lit three color LCD indicator to which custom graphics or text can be imported and displayed. These indicators help keep the operator informed of crosspoint and button assignments at all times.

The MVS series also allows its users to easily program macros. Using the 10-keypad, operational sequences can easily be created, stored and assigned to the desired button on the Shot Box, crosspoint area or virtually any button on the control panel. Macro's are extremely useful in live events when time is critical and there's no room to make operational mistakes.

Powerful Device Control Capability

External router, I/F processors, VTRs, DDRs and audio mixers can be controlled directly from the MVS control panel. Moreover, control of these external devices is provided on the same timeline as the switcher events.

The MVS series can control Sony DVS and HDS-X series routers via an S-BUS connection so that re-assignment of router crosspoints is achieved without taking attention away from the switcher control panel. The router's source names can be automatically shown on the source name displays of the MVS control panel.

Integrated DME (Digital Multi Effects)

The DME processor is integrated with the MVS switcher processor via a dedicated interface, which avoids sacrificing the switcher's input and output capability.

The internal DME processor supports the same SD and HD frame rates as the MVS switcher, and all resolutions and frame rates are supported without board swapping.

Up to eight channels of integrated DME can be fitted when two DME processors are connected. Each channel is assignable to any or all M/E's. 4:3 / 16:9 modes, global axis and multiple timelines can be selected independently for each DME channel.

In addition to providing the same variety of standard effects commonly used today, the functionality and operability of this DME has been especially refined for live production.

Comprehensive Tally Functions

The MVS switcher system provides an intelligent and multi-functional tally system, which integrates the switcher and router tally functions. On the switcher system, multiple on-air tallies and recording tallies can easily be programmed.

Using the S-BUS interface, the MVS switcher system can provide tally outputs to UMD's and router control panels via a simple coaxial cable connection.

By adding tally boards to the external Device Control Unit (DCU), the number of tally ports can be flexibly expanded to suit the needs of each system.

Specifications

Specifications for MVS-8000 Series

Power	
Power Requirement	100-240 V AC +/- 10% 50/60 Hz
Power Consumption	Switcher Processor: max. 2500 W DME Processor: max. 350 W System Control Unit: max. 250 W (Incl. Center Control Panel, Aux Panel and Menu Panel) Device Control Unit: max. 250 W

Dimensions (W x H x D, without projection)	
Switcher Processor	482 x 708 x 520 mm (19 x 27 7/8 x 20 1/2 inches)
DME Processor	482 x 221 x 520 mm (19 x 8 3/4 x 20 1/2 inches)
Main Panel (4 M/E, 32 Crosspoint Buttons)	1443 (with Mount Bracket) x 98.5 (max.) x 528 mm (56 7/8 x 4 x 20 7/8 inches)
(3 M/E, 32 Crosspoint Buttons)	1443 (with mounting bracket) x 98.5 (max.) x 528 mm (56 7/8 x 4 x 20 7/8 inches)
(2 M/E, 24 Crosspoint Buttons)	1291 (with mounting bracket) x 98.5 (max.) x 396 mm (50 7/8 x 4 x 15 5/8 inches)
Aux Bus Panel (32 Crosspoint Buttons)	782 (with mounting bracket) x 132 x 82 (max.) mm (30 7/8 x 5 1/4 x 3 1/4 inches)
(24 Crosspoint Buttons)	630 (with mounting bracket) x 132 x 82 (max.) mm (24 7/8 x 5 1/4 x 3 1/4 inches)
Menu Panel	424 x 220 x 46 mm (16 3/4 x 83/4 x 1 13/16 inches)
Memory Card/USB Adaptor	263 (with mounting bracket) x 132 x 77 mm (10 3/8 x 5 1/4 x 3 1/8 inches)
System Control Unit	482 x 132 x 520 mm (19 x 5 1/4 x 20 1/2 inches)
Device Control Unit	482 (19 inch) x 132 (3RU) x 520 mm (19 x 5 1/4 x 20 1/2 inches)

Mass (approx.)	
Switcher Processor	85 kg (187 lb 6 oz) (Fully Loaded)
DME Processor	20 kg (44 lb 1 oz) (Fully Loaded)
Main Panel (4 M/E, 32 Crosspoint Buttons)	30 kg (66 lb 2 oz)
Aux Bus Panel (32 Crosspoint Buttons)	4.5 kg (9 lb 14 oz)
Menu Panel	2.2 kg (4 lb 13 oz)
Memory Card/USB Adaptor	1.2 kg (2 lb 10 oz) (with Module)
System Control Unit	10 kg (22 lb)
Device Control Unit	10 kg (22 lb) (Fully Loaded)

Environment	
Operation Temperature	+5 °C to +40 °C (+41°F to +104°F)
Relative Humidity	Up to 90% (Non-Condensing)

Serial Digital Video Inputs	
Switcher Processor	
Primary Inputs	max. 80, BNC type x 1 each, SMPTE292M (HDTV), SMPTE259M-C (SDTV)

Serial Digital Video Outputs	
Switcher Processor	
Assignable Outputs	max. 48, BNC type x 2 each, SMPTE292M (HDTV), SMPTE259M-C (SDTV)
Monitor Outputs	max. 8, BNC type x 2 each, SMPTE292M (HDTV), SMPTE259M-C (SDTV)

Dedicated Switcher/DME Video I/O	
Switcher Processor	
Digital Video I/O	68 pin x 4, LVDS
DME Processor	
Digital Video I/O	68 pin x 2, LVDS

Reference	
Switcher Processor, DME Processor, System Control Unit, Device Control Unit	
Reference Input	BNC type x 2, Loop-through HD Tri-level Sync (HDTV only) or Analog Black Burst or Sync

Switcher Processor	
Reference Output	BNC type x 1, HD Tri-level Sync (HDTV only) or Sync

System Interface	
Switcher Processor	
Control LAN	RJ-45, 100BASE-TX
Data LAN	RJ-45, 100BASE-TX
Remote 1	D-sub 9-pin, RS-422A
Remote 2	D-sub 9-pin, RS-422A
Remote 3	D-sub 9-pin, RS-422A
Remote 4	D-sub 9-pin, RS-422A
Terminal	D-sub 9-pin, RS-232C
GPI	D-sub 25-pin, TTL Level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4
Extension	BNC type

DME Processor	
Control LAN	RJ-45, 100BASE-TX
Data LAN	RJ-45, 100BASE-TX
Editor	D-sub 9-pin, RS-422A
GPI	D-sub 25-pin, TTL Level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4

System Control Unit	
Control LAN	RJ-45, 100BASE-TX
Data LAN	RJ-45, 100BASE-TX
Peripheral LAN	RJ-45, 100BASE-TX
GPI	D-sub 25-pin, TTL Level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4
Remote	BNC type, S-BUS
LTC	D-sub 9-pin
USB	USB Type A

Device Control Unit	
Peripheral LAN	RJ-45, 100BASE-TX
Serial Tally 1	D-sub 9-pin, RS-422A
Serial Tally 2	D-sub 9-pin, RS-422A
TALLY/GPI	D-sub 37-pin, relay contact outputs 18-ch up to 15 ports in steps of 3 ports in a frame
REMOTE	D-sub 9-pin, RS-422A, various protocols, up to 30 ports in steps of 6 ports in a frame

TALLY/GPI and REMOTE ports are alternatively installed.
Mixed configuration of TALLY/GPI and REMOTE ports are possible.

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BC-00861
MK7674V10HB01MAR

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