

**SONY®**

DME PROCESSOR PACK

**MVE-9000-C**

MULTI FORMAT DME PROCESSOR

**MVE-9000**

MKE-9020M MKE-9021M MKE-9040M HK-PSU04

OPERATION MANUAL English  
1st Edition (Revised 2)

## WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

**THIS APPARATUS MUST BE EARTHED.**

## AVERTISSEMENT

Afin de réduire les risques d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écartier tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

**CET APPAREIL DOIT ÊTRE RELIÉ À LA TERRE.**

## WARNUNG

Um die Gefahr von Bränden oder elektrischen Schlägen zu verringern, darf dieses Gerät nicht Regen oder Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur qualifiziertem Fachpersonal.

**DIESES GERÄT MUSS GEERDET WERDEN.**



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING:** THIS WARNING IS APPLICABLE FOR USA ONLY.

If used in USA, use the UL LISTED power cord specified below.  
**DO NOT USE ANY OTHER POWER CORD.**

Plug Cap	Parallel blade with ground pin (NEMA 5-15P Configuration)
Cord	Type SJT, three 18 AWG wires
Length	Minimum 1.5 m (4 ft. 11 in.), Less than 2.5 m (8 ft. 3 in.)
Rating	Minimum 10 A, 125 V

Using this unit at a voltage other than 120 V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

**WARNING:** THIS WARNING IS APPLICABLE FOR OTHER COUNTRIES.

1. Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

## AVERTISSEMENT

1. Utilisez un cordon d'alimentation (câble secteur à 3 fils)/ fiche femelle/fiche mâle avec des contacts de mise à la terre conformes à la réglementation de sécurité locale applicable.
2. Utilisez un cordon d'alimentation (câble secteur à 3 fils)/ fiche femelle/fiche mâle avec des caractéristiques nominales (tension, ampérage) appropriées.

Pour toute question sur l'utilisation du cordon d'alimentation/ fiche femelle/fiche mâle ci-dessus, consultez un technicien du service après-vente qualifié.

## WARNUNG

1. Verwenden Sie ein geprüfetes Netzkabel (3-adriges Stromkabel)/einen geprüfeten Geräteanschluss/einen geprüfeten Stecker mit Schutzkontakten entsprechend den Sicherheitsvorschriften, die im betreffenden Land gelten.
2. Verwenden Sie ein Netzkabel (3-adriges Stromkabel)/ einen Geräteanschluss/einen Stecker mit den geeigneten Anschlusswerten (Volt, Ampere).

Wenn Sie Fragen zur Verwendung von Netzkabel/ Geräteanschluss/Stecker haben, wenden Sie sich bitte an qualifiziertes Kundendienstpersonal.

### **For the customers in the U.S.A.**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### **For the customers in Canada**

This Class A digital apparatus complies with Canadian ICES-003.

### **Pour les clients au Canada**

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

### **For kundene i Norge**

Dette utstyret kan kobles til et IT-strømfordelingssystem.

### **For the customers in Europe (MVE-9000 only)**

This product with the CE marking complies with both the EMC Directive and the Low Voltage Directive issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60950-1: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment: E4 (controlled EMC environment, ex. TV studio).

### **Pour les clients en Europe (MVE-9000 uniquement)**

Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) et à la Directive sur les basses tensions émises par la Commission de la Communauté Européenne.

La conformité à ces directives implique la conformité aux normes européennes suivantes:

- EN60950-1: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans l'environnement électromagnétique suivants: E4 (environnement EMC contrôlé, ex. studio de télévision).

### **Für Kunden in Europa (nur MVE-9000)**

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt die EMV-Richtlinie sowie die Niederspannungsrichtlinie der EG-Kommission.

Angewandte Normen:

- EN60950-1: Sicherheitsbestimmungen
- EN55103-1: Elektromagnetische Verträglichkeit (Störaussendung)
- EN55103-2: Elektromagnetische Verträglichkeit (Störfestigkeit)

Für die folgenden elektromagnetischen Umgebungen: E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

### **For the customers in Europe (Optional Board and HK-PSU04 only)**

This product with the CE marking complies with the EMC Directive issued by the Commission of the European Community.

Compliance with this directive implies conformity to the following European standards:

- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment: E4 (controlled EMC environment, ex. TV studio).

### **Pour les clients en Europe (carte optionnelle et HK-PSU04 uniquement)**

Ce produit portant la marque CE est conforme à la Directive sur la compatibilité électromagnétique (EMC) émise par la Commission de la Communauté européenne.

La conformité à cette directive implique la conformité aux normes européennes suivantes:

- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans l'environnement électromagnétique suivant: E4 (environnement EMC contrôlé, ex. studio de télévision).

**Für Kunden in Europa (nur optionale Karte und HK-PSU04)**

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt die EMV-Richtlinie der EG-Kommission.

Angewandte Normen:

- EN55103-1: Elektromagnetische Verträglichkeit (Störaussendung)
- EN55103-2: Elektromagnetische Verträglichkeit (Störfestigkeit)

Für die folgende elektromagnetische Umgebung: E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

**For the customers in Europe, Australia and New Zealand****WARNING**

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

**Pour les clients en Europe, Australie et Nouvelle-Zélande****AVERTISSEMENT**

Il s'agit d'un produit de Classe A. Dans un environnement domestique, cet appareil peut provoquer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre des mesures appropriées.

**Für Kunden in Europa, Australien und Neuseeland****WARNUNG**

Dies ist eine Einrichtung, welche die Funk-Entstörung nach Klasse A besitzt. Diese Einrichtung kann im Wohnbereich Funkstörungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen durchzuführen und dafür aufzukommen.

**For the customers in Europe**

The manufacturer of this product is Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan.

The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany.

This apparatus shall not be used in the residential area.

**Pour les clients en Europe**

Le fabricant de ce produit est Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japon.

Le représentant autorisé pour EMC et la sécurité des produits est Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Allemagne.

Ne pas utiliser cet appareil dans une zone résidentielle.

**Für Kunden in Europa**

Der Hersteller dieses Produkts ist Sony Corporation, 1-7-1 Konan, Minato-ku, Tokyo, Japan.

Der autorisierte Repräsentant für EMV und Produktsicherheit ist Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Deutschland.

Dieser Apparat darf nicht im Wohnbereich verwendet werden.

**Periodic inspections**

To guarantee safe long-term operation, periodic inspections are recommended. Please contact your Sony representative for detailed information about the content and cost of periodic inspections.



---

# Table of Contents

<b>Overview .....</b>	<b>7</b>
Features.....	7
Overview of the MVE-9000-C Components.....	7
<b>Location and Function of Parts.....</b>	<b>9</b>
Front Panel.....	9
Rear Panel.....	10
<b>Example System Configuration (MKE-9020M Installed) .</b>	<b>12</b>
MVS-8000 System Configuration .....	12
Flow of Video Signals .....	13
<b>Example System Configuration (MKE-9021M Installed)</b>	<b>14</b>
MVS-8000 System Configuration .....	14
Flow of Video Signals .....	15
<b>Power Supply Unit Status Indicator.....</b>	<b>16</b>
<b>Specifications .....</b>	<b>17</b>
MVE-9000 Multi Format DME Processor .....	17
MKE-9020M MVS Interface Board.....	18
MKE-9021M Input/Output Board .....	18
MKE-9040M Advanced Effects Board .....	18
HK-PSU04 Power Supply Unit .....	18

---

# Overview

The Sony MVE-9000-C DME Processor Pack is a multifunction digital video effects unit for use in a system configured around an MVS-8000 Multi Format Switcher System.

The MVE-9000-C is a generic name of the DME processor unit having option boards installed in it.

---

## Features

### Multi format support

This unit supports both HDTV and SDTV signal formats, which can be easily selected from the center control panel for the MVS-8000 system without exchanging expansion boards. The wide range of supported signal formats allows the unit to be used in many different video production environments. The following signal formats are supported.

- SDTV formats: 480i/59.94, 576i/50
- HDTV formats: 1080i/50, 1080i/59.94, 1080i/60, 1080p/23.976sF, 1080p/24sF, 1080p/25sF, 1080p/29.97sF, 1080p/30sF, 720P/59.94

### Rich variety of effects

The unit supports a wide variety of effects and functions such as 3D linear transforms (including expand and reduce) and borders. The effects and functions supported are as follows.

- 3D linear transforms (expand, reduce, move, rotate)
- Border / Crop
- Defocus / Blur
- Multi-move
- Color modifiers (sepia, monochrome, negative, posterization, solarization, contrast)
- Mosaic
- Freeze
- Lighting
- Trail
- Background
- Graphics display
- Drop shadow
- Combiner
- Brick (3-channel effect)
- Sketch
- Metal
- Glow

### Up to four DME channels in a single unit

DME boards can be installed to enable up to four independent DME channels in a single unit, for space savings and energy efficiency. Because there are multiple

internal channels, 2-channel and 3-channel effects can be applied without making any special connections.

### Linked operation with switcher processor

This unit is connected to the MVS-8000 Multi Format Switcher Processor by a special interface, which allows DME wipes, processed keys and a wide variety of other DME effects to be used as if they were switcher functions. All DME operations can be controlled from the MVS-8000 system's center control panel.

### Optional backup power supply

Installation of one or two optional HK-PSU04 Power Supply Units provides backup power in addition to the power supply unit (s) supplied as standard equipment. This reduces the risk of power trouble and increases the reliability of live broadcast systems.

---

## Overview of the MVE-9000-C Components

### MVE-9000 Multi Format DME Processor

This is a cabinet (size: EIA 4RU) in which to install option boards to provide multi-format DME processing capabilities.

The option boards are as follows.

Board name	Maximum installable number of boards
MKE-9020M	1 set (2 boards) <sup>a)</sup>
MKE-9021M	1 set (2 boards) <sup>a)</sup>
MKE-9040M	4 boards <sup>b)</sup>

a) At least one of either set is required.

b) At least one board is required.

### MKE-9020M MVS Interface Board

This board provides a special video signal interface for the MVS-8000 Multi Format Switcher Processor.

### MKE-9021M Input/Output Board

This board enables input and output of video signals via an SDI interface.

### MKE-9040M Advanced Effects Board

This board enables 1-channel DME effects. At least one board is required. Up to four boards can be installed to provide 4-channel DME effects.

### HK-PSU04 Power Supply Unit

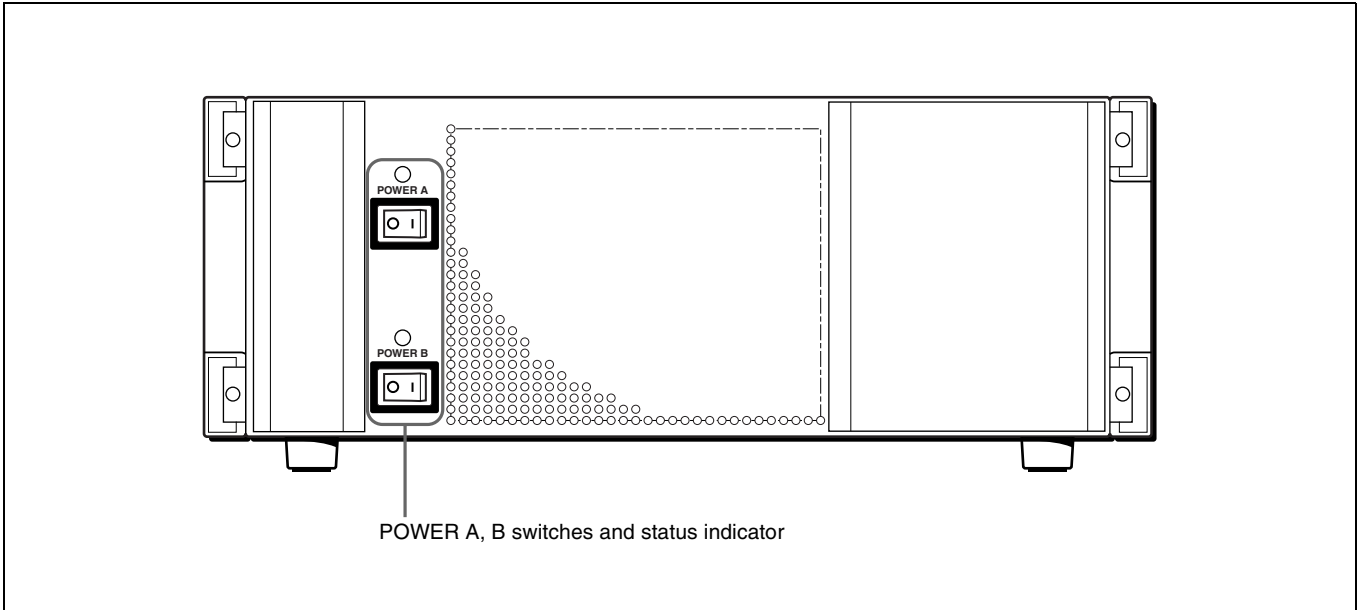
A backup power supply unit. By installing one backup unit in the MVE-9000, you can back up the system's power supply.

**Optional accessories**

RMM-10 Rack Mount Kit

# Location and Function of Parts

## Front Panel



### Power A, B switches and status indicators

The POWER switches turn the unit on and off. The unit is powered on when the POWER switches are on the “I” side, and powered off when the POWER switches are on the “O” side. The status indicators light in green when the unit is powered on.

Depending on the system’s configuration when shipped, there may be no optional HK-PSU04 Power Supply Unit installed. In this case, the only available POWER switch is A (there is no switch B).

The unit is powered on when either of the two POWER switches (A or B) is turned on.

With an HK-PSU04 unit installed, the system continues to function normally as long as either of the two power supply units is operating normally.

#### Caution

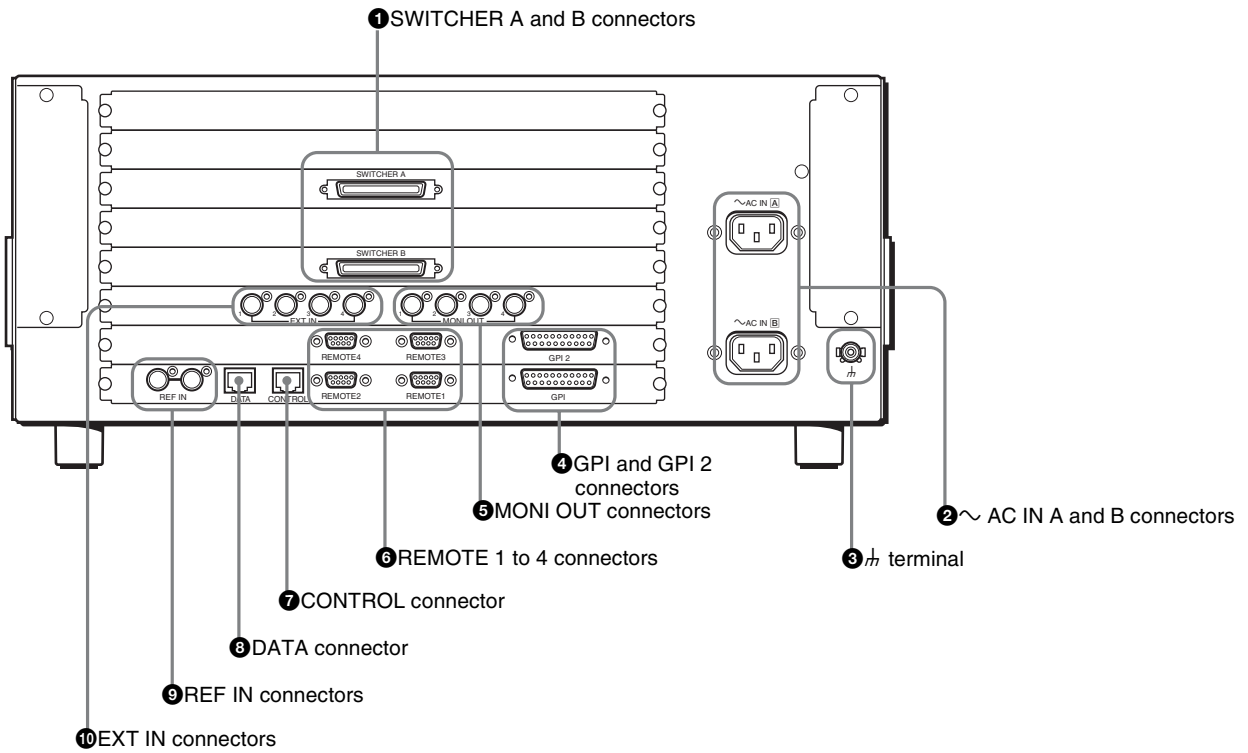
When installing the HK-PSU04 in your unit, be sure to contact your Sony service representative.

#### Note

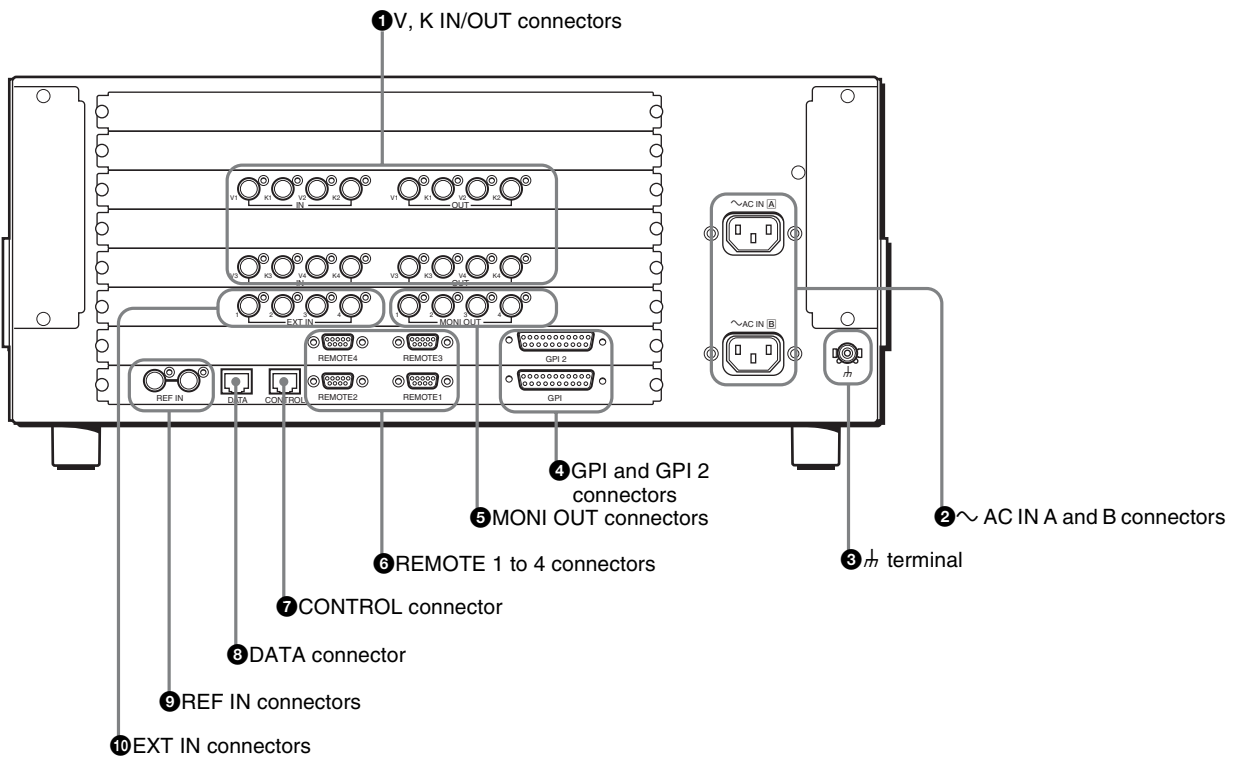
If a status indicator does not light when you turn a POWER switch on, there may be a fault in the power circuits. Turn the POWER switch off and contact your Sony service representative.

# Rear Panel

This figure shows the rear panel when one MKE-9020M is installed in the unit.



This figure shows the rear panel when one MKE-9021M is installed in the unit.



**1 SWITCHER (switcher I/O) A and B connectors (MDR 68-pin) (MKE-9020M)**

Connect with the supplied special cable to the DME 1A and 1B connectors of the MVS-8000 Multi Format Switcher Processor.

Each connector handles two channels of video signal input and output. Therefore, when this unit is configured for one or two channels (with one or two MKE-9040M boards installed), you do not need to connect the SWITCHER B connector.

If you are connecting a second MVE-8000 Multi Format DME Processor to the MVS-8000, connect the SWITCHER A and B connectors on the second processor to the DME 2A and DME 2B connectors on the MVS-8000.

**1 V, K IN/OUT (video and key input and output) connectors (BNC type) (MKE-9021M)**

Used for SDI interface input and output of video signals between this unit and the switcher or external video devices.

**2 ~ AC IN (AC power input) A and B connectors (3-pin)**

Connect to 100 to 240 V AC power supply with the optional AC power cord.

**3 ⏏ (signal ground) terminal**

Connect to the system ground.

**4 GPI (General Purpose Interface) and GPI 2 connectors (D-sub, 25-pin)**

Connect to external devices for input and output of trigger signals. Up to sixteen inputs and sixteen outputs are possible, with input and output conditions set on the center control panel.

**5 MONI OUT (monitor output) connectors (BNC type)**

Used to output system channel video keys and graphics to a monitor.

**6 REMOTE 1 to 4 connectors (D-sub 9-pin, RS-422A)**

Connect to control this unit from a BVE-9100 or other editing control system.

**7 CONTROL connector (RJ-45)**

Connect to an Ethernet switch\*.

The MVS-8000 Multi Format Switcher Processor and the MVS-8000 system's center control panel are connected in the same way to the Ethernet switch to form a network for exchange of signals between the devices.

This network is used primarily to control the various devices from the center control panel.

\* Ethernet is a trademark of XEROX Corporation.

For information about Ethernet switches that can be used in an MVS system, contact your Sony service representative.

*For detailed information about setting up the Ethernet switch, refer to the documentation supplied with the switch.*

*For more information about Ethernet switch connectors, see "MVS-8000 System Configuration" (page 12).*

**8 DATA connector (RJ-45)**

Connect to an Ethernet switch.

The MVS-8000 Multi Format Switcher Processor and the MVS-8000 system's center control panel are connected in the same way to the Ethernet switch to form a network for exchange of signals between the devices.

This network is used primarily for exchange of various types of data (key frame effects, snapshots, etc.).

**9 REF IN (reference video signal input) connectors (BNC type)**

If you wish to synchronize this unit to an external reference signal, input the reference signal. For an HDTV system, input an HD tri-level sync signal, black burst signal, or analog sync signal. For an SDTV system, input a black burst signal or analog sync signal.

The two connectors have a loop-through configuration. Signal input to one connector can be output from the other connector. If you will not be using the loop-through output, be sure to terminate the unused connector with the supplied 75Ω terminator.

**10 EXT IN (external SDI video signal input) connectors (BNC type)**

Used to input external video signals for use as effect materials.

**CAUTION**

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following ports.

- CONTROL connector
- DATA connector

Follow the instructions for the above ports.

**ATTENTION**

Par mesure de sécurité, ne raccordez pas le connecteur pour le câblage de périphériques pouvant avoir une tension excessive aux ports suivants.

- CONTROL connecteur
- DATA connecteur

Suivez les instructions pour les ports ci-dessus.

**VORSICHT**

Aus Sicherheitsgründen nicht mit einem Peripheriegerät-Anschluss verbinden, der zu starke Spannung für diese Buchse haben könnte.

- Buchse CONTROL
- Buchse DATA

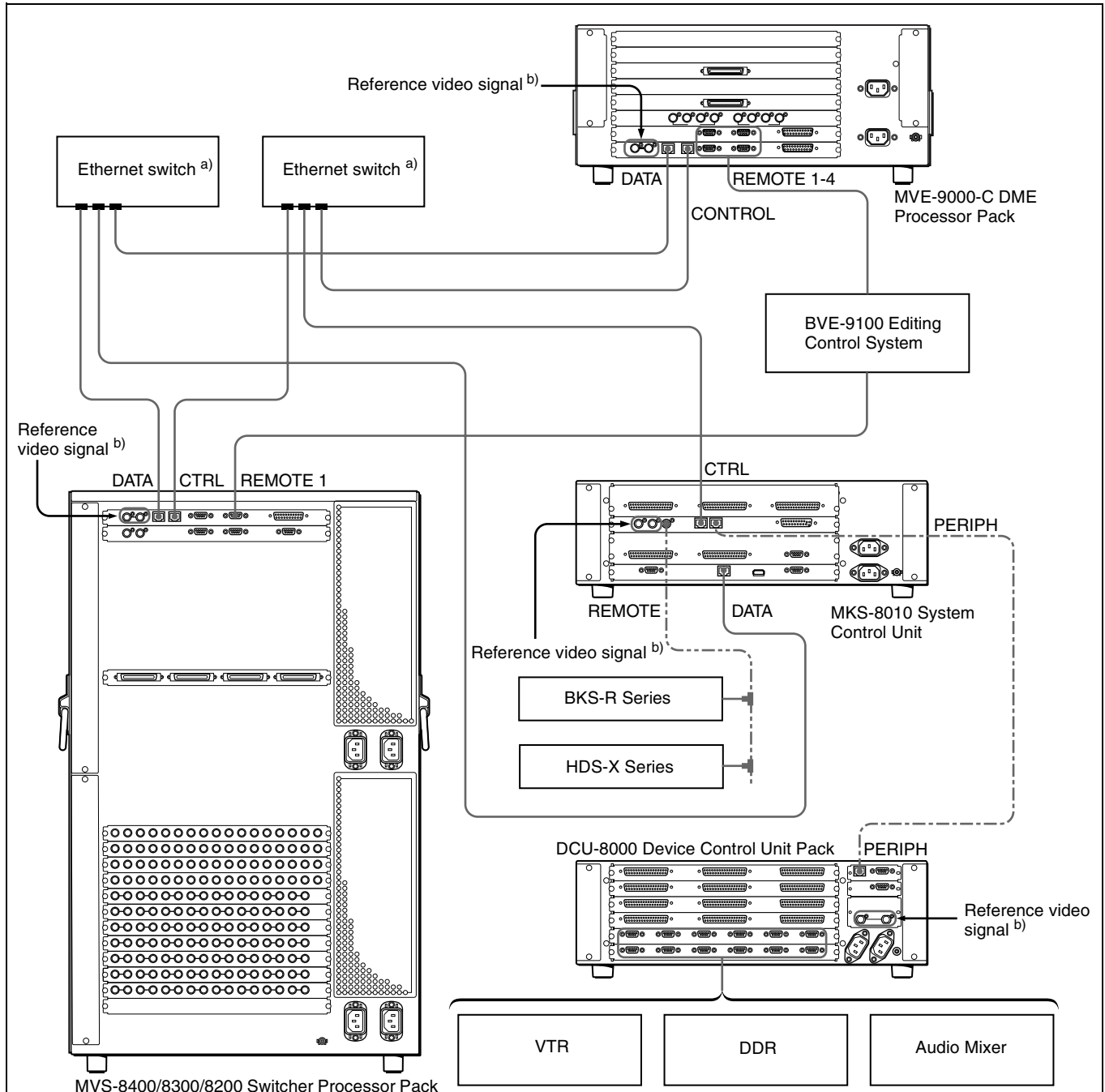
Folgen Sie den Anweisungen für die oben aufgeführten Buchsen.

**CAUTION**

When you connect the CONTROL connector or DATA connector of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

# Example System Configuration (MKE-9020M Installed)

## MVS-8000 System Configuration

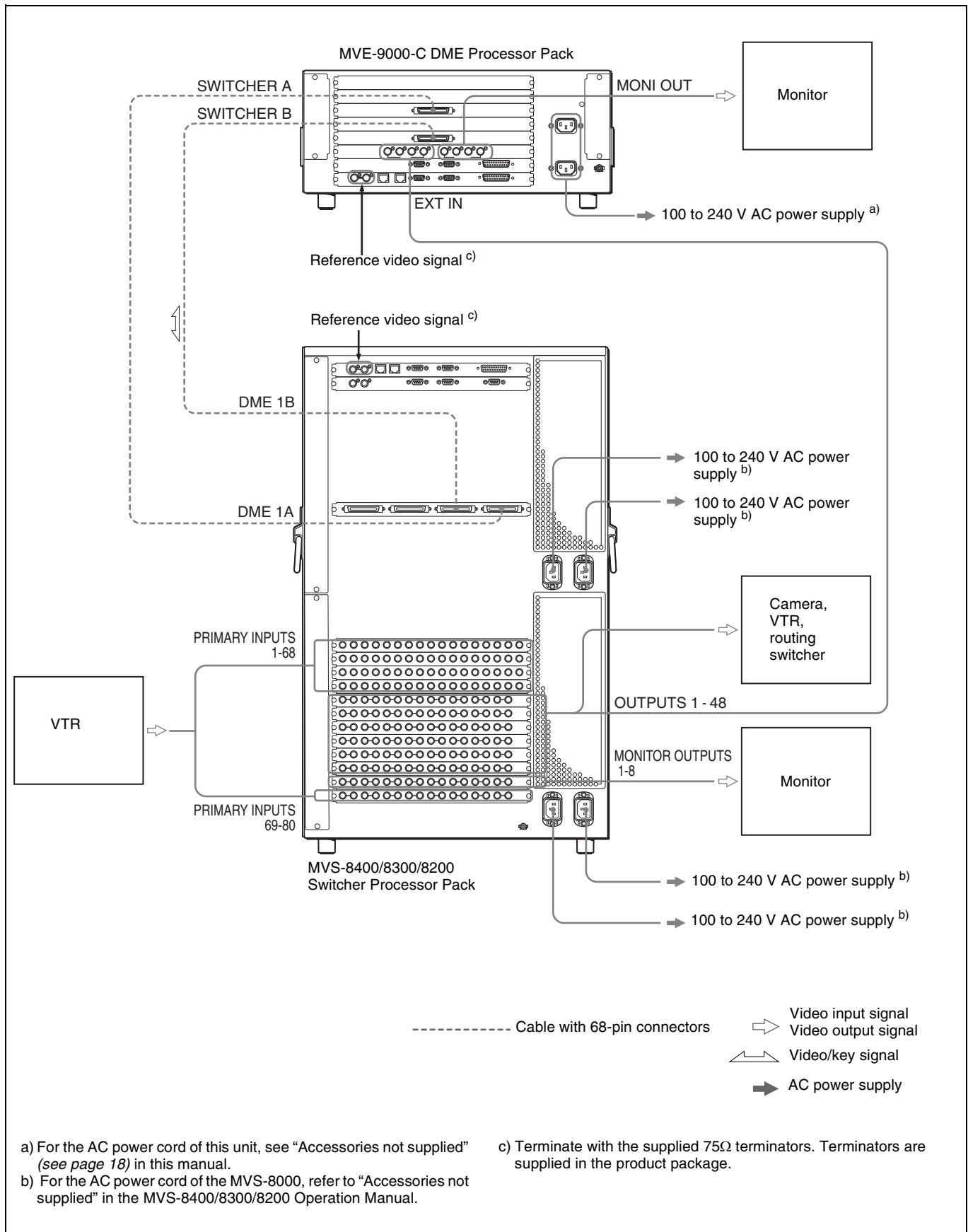


a) It is recommended that the CTRL and DATA LAN networks be configured by connecting separate Ethernet switches for each LAN. However, it is also possible to make connections for both LANs on a single Ethernet switch.

b) Terminate with the supplied 75Ω terminators. Terminators are supplied in the product package.

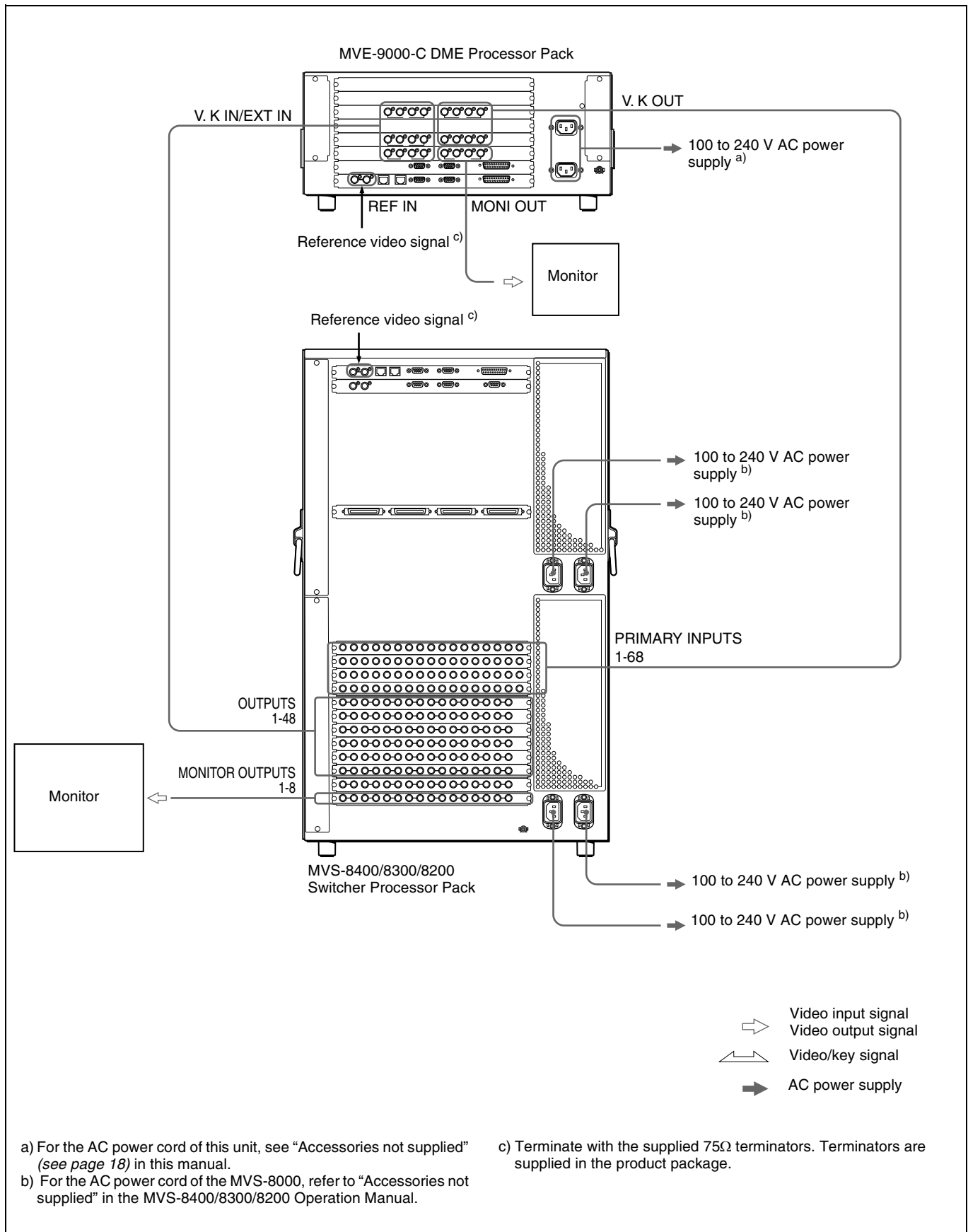
----- Cross cable  
 - - - - - Cable with BNC connectors

# Flow of Video Signals





# Flow of Video Signals



---

# Power Supply Unit Status Indicator

The power supply unit status indicator shows the status of the power supply unit during operation and when the unit is powered on. Whenever a power error is detected, it is reflected immediately by the indicator.

Meaning of status indicator displays

Indicator color	Status	Description	Steps to take
Green	Lit	Operating normally	–
Red	Lit	Power supply unit fan fault	Exchange the fan unit
–	Not lit	Power supply unit fault	Exchange the power unit

# Specifications

The following specifications show the reference performance for this unit and individual option boards.

Design and specifications are subject to change without notice.

## Note

Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

## MVE-9000 Multi Format DME Processor

### General

#### Power requirements

100 to 240 V AC  $\pm 10\%$ , 50/60 Hz

#### Peak inrush current

- (1) Power ON, current probe method:  
110 A (100 V), 220 A (240 V)
- (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 40 A (230 V)

#### Power consumption

6 to 2.5 A

#### Performance temperature

5°C to 40°C (41°F to 104°F)

#### Operating temperature

10°C to 35°C (50°F to 95°F)

#### Storage temperature

-20°C to +60°C (-4°F to +140°F)

#### Operating humidity

10% to 90%

#### Dimensions (w/h/d, excluding projections)

482×194×520 mm  
(19×7<sup>3</sup>/<sub>4</sub>×20<sup>1</sup>/<sub>2</sub> inches)

#### Mass

Approx. 27 kg (59 lb 8 oz)  
(when equipped with all installable option boards)

### Video input

Inputs 4 (BNC type)

Signal format HD: SMPTE 292M  
SD: SMPTE 259M-C

Signal level 0.8Vp-p  $\pm 10\%$

#### Signal transfer rate

HD: 1.5Gbps

SD: 270Mbps

Return loss 15dB

Cable length HD: 100m (5C-FB cable, BELDEN1694 or equivalent)

SD: 200m (5C-2V cable, BELDEN8281 or equivalent)

### Video output

Outputs 4 (BNC type)

Signal format HD: SMPTE 292M  
SD: SMPTE 259M-C

Signal level 0.8Vp-p  $\pm 10\%$

#### Signal transfer rate

HD: 1.5Gbps

SD: 270Mbps

Return loss 15dB

Cable length HD: 100m (5C-FB cable, BELDEN1694 or equivalent)

SD: 200m (5C-2V cable, BELDEN8281 or equivalent)

### 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

### Control connectors

CONTROL RJ-45  
Complies with 100 Base-TX standard

DATA RJ-45  
Complies with 100 Base-TX standard

REMOTE 1 to 4 D-sub 9-pin, female  
Complies with RS-422A standard  
Data transfer rate: 38.4 Kbps

GPI, GPI2 D-sub 25-pin, female  
TTL inputs: 8  
Relay contact outputs: 4  
(30 V AC/DC, 0.1 A)  
Open collector outputs: 4

### AC input

AC IN A, B 3-pin AC connector

### System Delay

System delay 1 frame

## Accessories supplied

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

## Accessories not supplied

AC power cord (for USA and Canada only) (125 V 10 A  
2.4 m (8 ft)) (Part No.: 1-557-377-11)  
AC power cord (for Europe only) (250 V 10 A 2.4 m  
(8 ft)) (Part No.: 1-782-929-21)

Signal format HD: SMPTE 272M  
SD: SMPTE 259M-C  
Signal level 0.8Vp-p ±10%  
Signal transfer rate  
HD: 1.5Gbps  
SD: 270Mbps  
Return loss 15dB  
Cable length HD: 100m (5C-FB cable, BELDEN1694  
or equivalent)  
SD: 200m (5C-2V cable, BELDEN8281  
or equivalent)

---

## MKE-9020M MVS Interface Board

### General

Power requirements  
12 V DC  
Power consumption  
Approx. 2 A  
Dimensions (w/d)  
278×94 mm  
(11×3<sup>3</sup>/<sub>4</sub> inches)  
Mass  
Approx. 1 kg (2 lb 3 oz)

### Video signal inputs and outputs

#### SWITCHER A, SWITCHER B

Connectors MDR 68-pin  
Signal format LVDS (special format)

## Accessories supplied

Operation and Installation Guide (1)  
(supplied only when product is purchased separately)  
MDR-68 pin cable (2)  
Cable holder (2)

---

## MKE-9021M Input/Output Board

### General

Power requirements  
12V DC  
Power consumption  
Approx. 2 A  
Dimensions (w/d)  
278×94 mm (11×3<sup>3</sup>/<sub>4</sub> inches)  
Mass  
Approx. 1 kg

### Video signal inputs and outputs

#### IN V1 to V4, IN K1 to K4, OUT V1 to V4, OUT K1 to K4

Connector BNC type  
Inputs/Outputs Each with 8

## Accessories not supplied

Operation and Installation Guide (1) (supplied only when product is purchased separately)

---

## MKE-9040M Advanced Effects Board

Power requirements  
12 V DC  
Power consumption  
Approx. 7 A  
Dimensions (w/d)  
317×380 mm (12<sup>1</sup>/<sub>2</sub>×15 inches)  
Mass  
Approx. 2 kg (4 lb 6 oz)  
Accessories supplied  
Operation and Installation Guide (1)  
(supplied only when product is purchased separately)

---

## HK-PSU04 Power Supply Unit

Power requirements  
100 to 240 V AC, 50/60 Hz  
Power consumption  
100 V: 10 A, 240 V: 5 A  
Output power 12 V DC ±0.5V  
Secondary power supply  
Max. 60 A  
Dimensions (w/h/d)  
94×83×396 mm (3<sup>3</sup>/<sub>4</sub>×3<sup>3</sup>/<sub>8</sub>×15<sup>5</sup>/<sub>8</sub> inches)  
Mass  
Approx. 3 kg (6 lb 9 oz)  
Accessories supplied  
Operation and Installation Guide (1)  
(supplied only when product is purchased separately)

The material contained in this manual consists of information that is the property of Sony Corporation and is intended solely for use by the purchasers of the equipment described in this manual.

Sony Corporation expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

## For Customer in China

根据中华人民共和国信息产业部第39号令《电子信息产品污染控制管理办法》及标准中要求的“有毒有害物质或元素名称及含量”等信息，本产品相关信息请参考以下链接：

<http://pro.sony.com.cn>

制造商：索尼公司

原产地：日本

总经销商：索尼（中国）有限公司

进口商地址：北京市朝阳区东三环北路霞光里18号佳程大厦A座25层

出版日期：2009年5月

# Sony Corporation

MVE-9000

(WW)

3-791-069-03 (1)

<http://www.sony.net/>

Printed on recycled paper.

Printed in Japan

2009.05 13

© 2003