

SONY®

MULTI IMAGE PROCESSOR

MPE-200



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OPERATION MANUAL
1st Edition (Revised 1)

Japanese/English



4172043020

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.

WARNING

When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power plug to an easily accessible socket-outlet near the unit. If a fault should occur during operation of the unit, operate the disconnect device to switch the power supply off, or disconnect the power plug.

AVERTISSEMENT

Lors de l'installation de l'appareil, incorporer un dispositif de coupure dans le câblage fixe ou brancher la fiche d'alimentation dans une prise murale facilement accessible proche de l'appareil. En cas de problème lors du fonctionnement de l'appareil, enclencher le dispositif de coupure d'alimentation ou débrancher la fiche d'alimentation.

WARNUNG

Beim Einbau des Geräts ist daher im Festkabel ein leicht zugänglicher Unterbrecher einzufügen, oder der Netzstecker muss mit einer in der Nähe des Geräts befindlichen, leicht zugänglichen Wandsteckdose verbunden werden. Wenn während des Betriebs eine Funktionsstörung auftritt, ist der Unterbrecher zu betätigen bzw. der Netzstecker abzuziehen, damit die Stromversorgung zum Gerät unterbrochen wird.

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 14 AWG wires
Length	Minimum 1.5m (4 ft. 11 in.), Less than 2.5 m (6 ft. 7 in.)
Rating	Minimum 15A, 125V

Using this unit at a voltage other than 120V 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 geprüftes Netzkabel (3-adriges Stromkabel)/einen geprüften Geräteanschluss/einen geprüften 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 customers in Canada

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

Pour les utilisateurs au Canada

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

For the customers in Europe

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

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

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 utilisateurs 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.

For kundene i Norge

Dette utstyret kan kobles til et IT-strømfordelingssystem.

For the State of California, USA only

Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate

Perchlorate Material : Lithium battery contains perchlorate.

For the customers in Taiwan only



廢電池請回收

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Usage Notes

Precautions for Products With Built-In HDD

This unit has a built-in hard disk drive (HDD). The HDD is a precision device. If subject to shock, vibration, static electricity, high temperature or humidity, data loss can occur. When installing and using the unit, closely observe the following precautions.

Protect from shocks and vibrations

When subject to shocks or vibrations, the HDD can be damaged and loss of data on the HDD can occur.

- When transporting the unit, use the specified packing material. When transporting on a dolly or similar, use a type which does not transmit excessive vibrations. Excessive shocks and vibrations can damage the HDD. Also before removing or inserting the unit in a rack, make sure that power is off.
- Before removing or inserting the unit in a rack, make sure that power to any other HDD-equipped devices in the rack is also switched off.
- Never move the unit while it is powered.
- When placing the unit on a floor or other surface, make sure to put the unit down carefully.
- Do not place the unit near other devices that may become a source of vibrations.

Wait for 30 seconds after turning power off

For a brief interval after the power is turned off, the platters inside the HDD will still keep spinning and the heads will be in an insecure position. During this interval, the unit is more susceptible to shocks and vibrations than during normal operation. For a period of at least 30 seconds after turning power off, avoid subjecting the unit even to very light shocks. After this period, the hard disk will be fully stopped and the unit can be manipulated.

Temperature and humidity related precautions

Use and store the unit only in locations where the specified temperature and humidity ranges are not exceeded.

Temperature range for operation:

5 °C to 40 °C (41 °F to 104 °F)

Performance guaranteed temperature:

10 °C to 35 °C (50 °F to 95 °F)

Humidity range for operation:

20% to 90% relative humidity
(no condensation)

Temperature range for storage:

-20 °C to +60 °C (-4 °F to +140 °F)

Humidity range for storage:

20% to 90% relative humidity
(no condensation)

Ensuring Good Performance From This Unit

Operation and storage

Avoid using or storing the unit in the following places.

- Where it is subject to extremes of cold or heat (operating temperature 5 °C to 40 °C (41 °F to 104 °F))
- Where it is subject to direct sunlight for extended periods, or close to heating equipment.
- In conditions of high humidity or much dust
- Where it is subject to severe vibration
- Close to a source of strong magnetic fields
- Close to a radio, television, or other source of powerful electromagnetic radiation

Install in a level place

This unit is designed to be operated in a level place. Do not turn it vertically, or incline at an angle of 20 degrees or more.

Do not apply strong shocks

Dropping the unit, or subjecting it to other strong shocks may cause it to break.

Do not obstruct the ventilation holes

To prevent the temperature from rising, do not, for example, wrap the unit in a blanket while operating.

Care of the unit

Clean dirt from the cabinet and panel by wiping gently with a dry cloth. If the unit is very dirty, wipe with a cloth steeped in a little neutral detergent, then wipe dry. Do not use alcohol, thinners, insecticides, or other volatile solvents, as this may cause the case to deform or damage the finish.

Shipping

Pack in the original carton, or similar packaging, to cushion the unit from violent shocks.

Introduction

The MPE-200 is a multi-purpose image processor capable of performing real-time signal processing for HD live image inputs, and outputting images in real time after signal processing.

The unit is equipped with a Cell Broadband Engine (Cell/B.E.) high-performance microprocessor and RSX graphics processor, and is capable of receiving up to four HD image inputs. Signal processing of live images in real time is possible via a software application.

Features

High-performance multicore processor -Cell/B.E.-

The interconnection of the Cell Broadband Engine's internal PPE (PowerPC Processor Element) and eight SPEs (Synergistic Processor Elements) via a high-speed bus, and the ability to connect to external main memory, allow high-performance processing of floating-point operations at 230 GFLOPS.

Graphics engine tightly coupled to Cell/B.E. - RSX -

The RSX graphics processor is connected to the Cell/B.E. via the high-speed FlexIO bus, and delivers efficient graphics processing. With input and output functions at a total of over 4 GB/s, signal processing can be performed simultaneously on four HD lines.

Multiple software installation

The unit supports installation of multiple application software. You can decide which software to install and switch between their use based on your intended purpose.

HD-SDI video input and output

The unit is equipped with video input and output functions for up to four lines via HD-SDI. Utilizing the broadband input and output capabilities of the RSX, the unit can input and output up to 4 lines of HD live images in real time.

Compact 2U (unit) size with 19-inch rack mountability

The unit can be installed on an EIA-standard, universal pitch 19-inch rack. An optional (not supplied) rack mount kit is also available.

Low energy consumption

The unit delivers high computational performance while maintaining low power consumption at 400 W or less.

Optional Accessories (Not Supplied)

The following optional accessories are commercially available.

Application software

A variety of application software is available for installation and use on the unit.

For details, consult your Sony service representative or dealer.

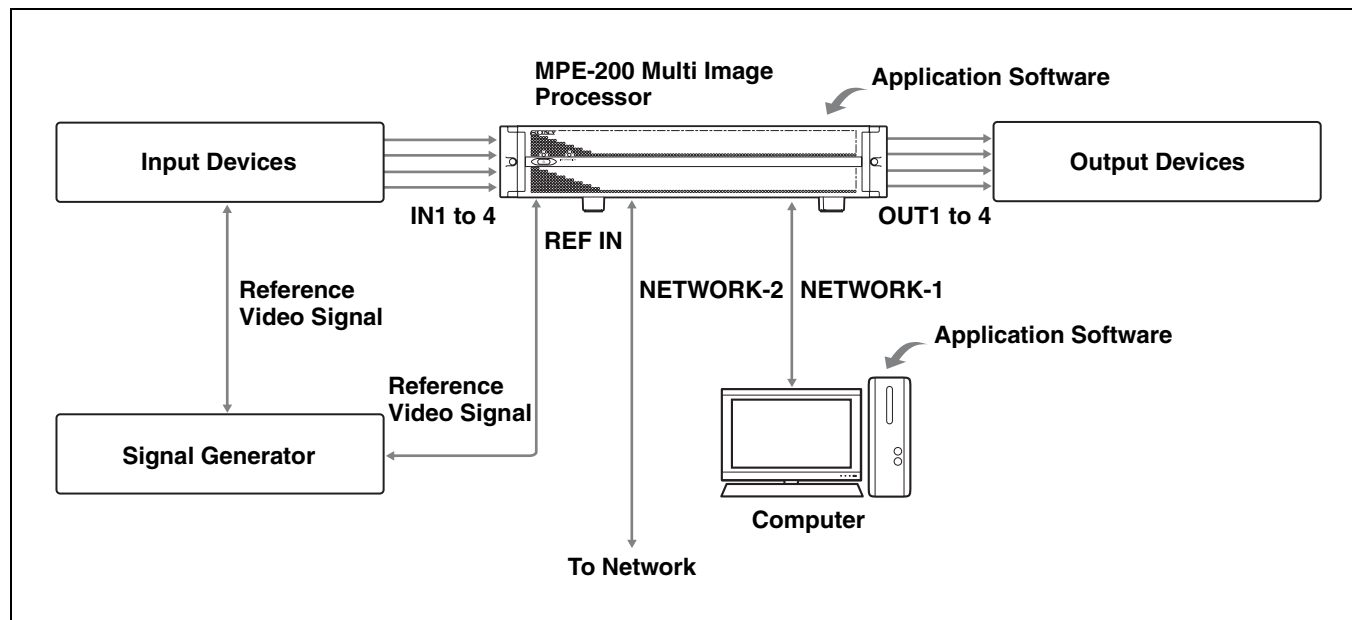
RMM-10 Rack Mount Kit

Rail kit for mounting the unit on a rack.

System Configuration Examples

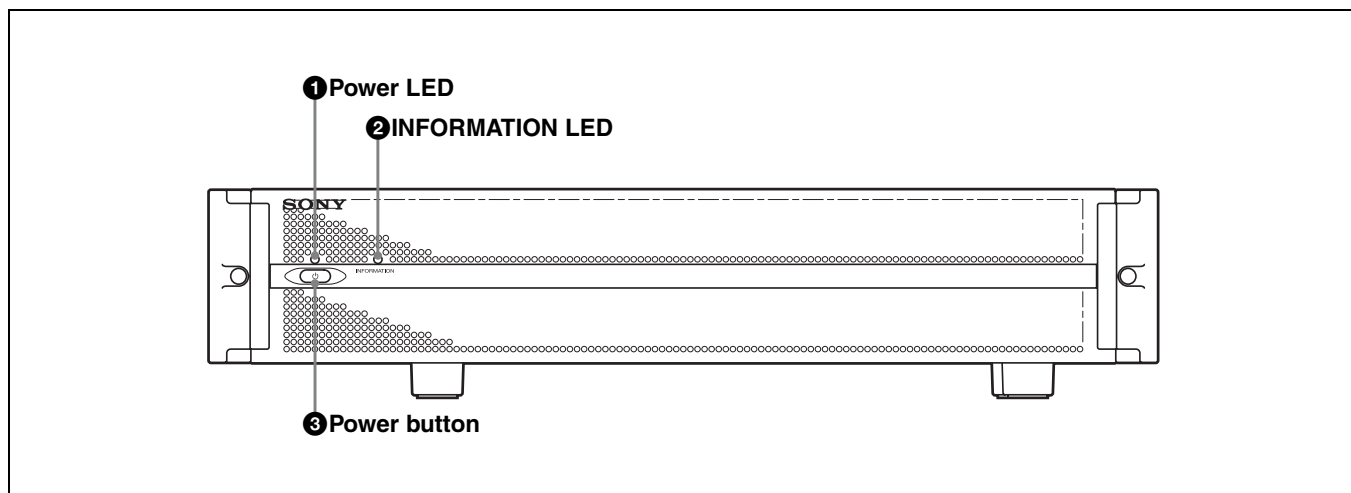
The devices that can be connected to this unit and the supported video formats differ depending on the application software used.

For details, see the User's Guide or Help that is supplied with the application software.



Names and Functions of Parts

Front



1 Power LED

Lights green when the unit is operating normally.
This LED, in combination with the INFORMATION LED, indicates the status of the system.

2 INFORMATION LED

Lights blue when the unit is operating normally.
This LED, in combination with the power LED, indicates the status of the system.

Power LED	INFORMATION LED	Status
Lit (green)	Lit (blue)	Operation normal
Lit (green)	Off	Firmware starting up or shutting down
Blinking (green)	Off	Unit starting up
Lit (red)	Off	Standby status
Blinking (red)	Off	Unit shutting down
Off	Off	Power not supplied

3 Power button

When you press this button during standby status, the unit starts up.

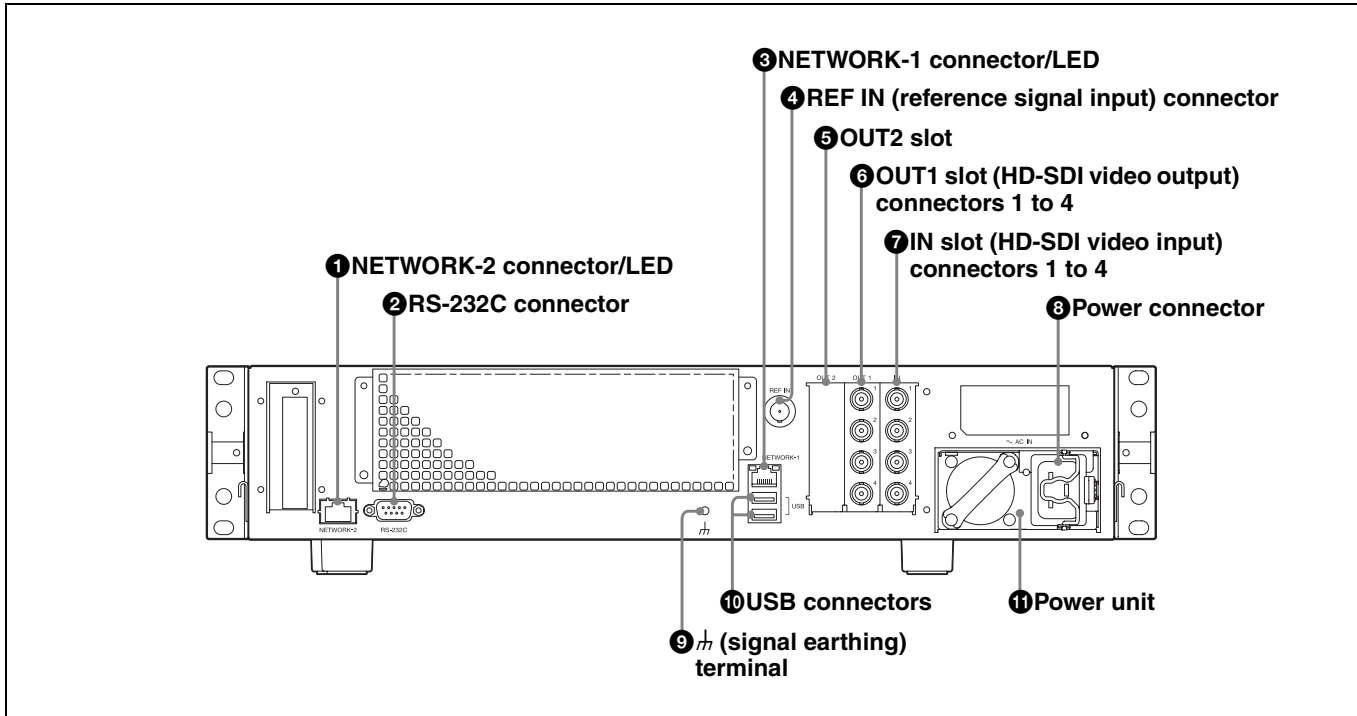
When you press and hold this button for one to two seconds while the unit is powered, the INFORMATION LED turns off and the unit begins shutting down. Do not disconnect the power supply until the power LED remains lit in red (standby status).

Press and hold this button for five seconds or more to force shutdown.

CAUTION

When forced shutdown is performed, configuration data on the unit may not be saved.

Rear



1 NETWORK-2 connector/LED

Supports 10 Base-T, 100 Base-TX, and 1000 Base-T Ethernet.

Right LED	Transmission speed
Off	Not 1000 Base
Lit (green)	1000 Base

Left LED	Transmission status
Off	Not linked
Lit (orange)	Linked
Blinking (orange)	Transmission in progress

2 RS-232C connector

Used for maintenance or system administration.

3 NETWORK-1 connector/LED

Connects to networks for data transfer. Supports 10 Base-T, 100 Base-TX, and 1000 Base-T Ethernet.

Right LED	Transmission speed
Off	Not 1000 Base
Lit (orange)	1000 Base

Left LED	Transmission status
Off	Not linked
Lit (green)	Linked
Lit (red)	Transmission in progress

4 REF IN (reference signal input) connector

Inputs reference image signals of the specified field frequency. Automatically terminates at 75Ω.

5 OUT2 slot

Slot for future option installation.

6 OUT1 slot (HD-SDI video output) connectors 1 to 4

Outputs HD-SDI video signals.

7 IN slot (HD-SDI video input) connectors 1 to 4

Inputs HD-SDI video signals.

8 Power connector

Connect the power cord here.

To prevent accidental disconnection of the power cord, attach a power cord clamp.

9 (signal earthing) terminal

Connect the earthing wire for the system here.

10 USB connectors

Connect USB devices here.

ⓘ Power unit

Consult your Sony service representative or dealer for maintenance and replacement.

As the power unit produces heat, the internal cooling fan will operate even when the unit is in standby status.

CAUTION

- For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to the following ports.
 - NETWORK-1 connector
 - NETWORK-2 connectorFollow the instructions for the above ports.
- When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

ATTENTION

- Par mesure de sécurité, ne raccordez pas le connecteur pour le câblage de périphériques pouvant avoir une tension excessive aux ports suivants.
 - NETWORK-1 connecteur
 - NETWORK-2 connecteurSuivez les instructions pour les ports ci-dessus.
- Lors de la connexion du câble LAN de l'appareil au périphérique, utilisez un câble blindé afin d'empêcher tout dysfonctionnement dû au bruit de rayonnement.

ACHTUNG

- Aus Sicherheitsgründen nicht mit einem Peripheriegerät-Anschluss verbinden, der zu starke Spannung für diese Buchse haben könnte.
 - Buchse NETWORK-1
 - Buchse NETWORK-2Folgen Sie den Anweisungen für die oben aufgeführten Buchsen.
- Verwenden Sie beim Anschließen des LAN-Kabels des Geräts an ein Peripheriegerät ein abgeschirmtes Kabel, um Fehlfunktionen aufgrund von Störungen zu vermeiden.

Unit Operations

You can operate the unit by installing application software on the unit and connecting it to a computer and other external devices.

The operation procedures differ depending on the application software that is installed. For details, see the User's Guide or Help that is supplied with the application software.

Maintenance

Remove dust from the ventilation holes once a month or whenever the holes are dirty.

Troubleshooting

Check the following if problems occur. If a problem persists, consult your Sony service representative or dealer.

The unit does not turn on.

- Make sure that the power cord is connected properly.
- Make sure that the power unit is installed properly.

Cannot connect to the network.

- Make sure that the network cable is connected properly.
- Make sure that connections to the NETWORK-1 and NETWORK-2 ports are not mixed up.

The unit overheats quickly.

- Make sure that objects, including dust, are not blocking the ventilation holes.

Specifications

Processor

CPU	Cell/B.E. (1)
Cache memory	512 KB (PPU)
CPU clock speed	3.2 GHz
GPU	RSX (1)
GPU local memory	256 MB

Memory

System memory	XDR + ECC (on board) / 1 GB
Sub-memory	DDR2-333 (on board) / 1 GB

Storage device

Internal hard disk drive	160 GB (Serial ATA 2.5 in.)
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External connection ports

NETWORK-1, -2	RJ45 10 Base-T/100 Base-TX/1000 Base-T
USB	USB A × 2
RS-232C	9-pin D-sub (male) × 1 Data transfer rate: 38.4 Kbps
IN 1 to 4 (HD-SDI input)	BNC × 4, 75Ω Signal format: SMPTE 292M standard Signaling rate: 1.5 Gbps Cable length: 100 m (approx. 328 ft.) (when using 5C-FB cable (Belden 1694 equivalent)) Video*: 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF, 720/59.94p, 720/50p
OUT1 1 to 4 (HD-SDI output)	BNC × 4, 75Ω Signal format: SMPTE 292M standard Signaling rate: 1.5 Gbps Video*: 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF, 720/59.94p, 720/50p
REF IN	BNC, 75Ω termination HD tri-level sync / SD black burst Tri-level sync is not supported for the 720p format.

* The supported video formats differ depending on the application software used.

General

Power requirements

AC 100 V to 127 V, 200 V to 240 V,
50/60 Hz

Current consumption

100 V to 127 V: 4 A, 200 V to 240 V:
2 A

Peak inrush current

- (1) Power ON, current probe method:
10 A (100 V), 28 A (240V)
- (2) Hot switching inrush current,
measured in accordance with
European standard EN55103-1: 12 A
(230 V)

Operating temperature

5 °C to 40 °C (41 °F to 104 °F)

Performance guaranteed 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

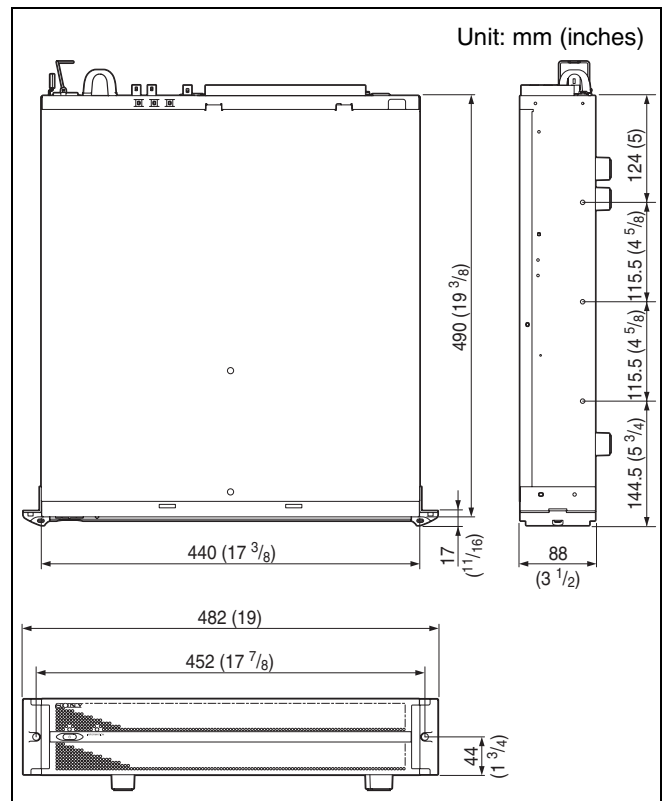
20% to 90% (no condensation)

Mass

Approx. 11.5 kg (25 lb. 5.6 oz.)

Dimensions

440.0 mm × 88 mm × 490 mm
(17 ³/₈ in. × 3 ¹/₂ in. × 19 ³/₈ in.)
(w/h/d, excluding protrusions)



Supplied accessories

- Operation Manual (1)
- Installation Manual (1)
- Notice Concerning Software (1)

Recommended power cord

UC	Part number 1-837-564-11 (125 V, 15 A, 2.0 m (6 ft. 8 in.))
Europe	Part number 1-837-562-11 (250 V, 16 A, 2.0 m (6 ft. 8 in.))

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.

商標について

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“FlexIO” は Rambus 社の商標です。

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

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