SONY

HD CAMERA CONTROL UNIT

HDCU3300R

SD ENCODER UNIT

HKCU1001

MULTI INTERFACE UNIT

HKCU1003

SDI OUTPUT EXPANSION UNIT

HKCU1005

HD SUPER MOTION

Digital HDVS R SERIES

OPERATION MANUAL English

1st Edition

For the HDCU3300R

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'écarter 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 16 or 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 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.

For the customers in Europe

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

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

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

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. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

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. Pour toute question concernant le service ou la garantie, veuillez consulter les adresses indiquées dans les documents de service ou de garantie séparés.

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. Bei jeglichen Angelegenheiten in Bezug auf Kundendienst oder Garantie wenden Sie sich bitte an die in den separaten Kundendienst- oder Garantiedokumenten aufgeführten Anschriften.

Dieser Apparat darf nicht im Wohnbereich verwendet werden.

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.

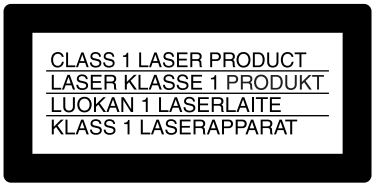
Pour les clients en Europe, Australie et Nouvelle-Zélande

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 kundene i Norge
Dette utstyret kan kobles til et IT-strømfordelingssystem.



This HD Camera Control Unit is classified as a CLASS 1 LASER PRODUCT.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION
The use of optical instruments with this product will increase eye hazard.

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

For the HKCU1001/HKCU1003/HKCU1005

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 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 Environments: E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors), 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 les environnements électromagnétiques suivants : E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et 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 folgenden elektromagnetischen Umgebungen: E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

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.

Pour les clients en Europe

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

Table of Contents

Overview

The HDCU3300R HD Super Motion Camera Control Unit is to be connected to a Sony HDC3300R HD Super Motion Color Camera. It carries out signal processing and provides an interface for external equipment.
The HDCU3300R features a down converter, which converts HD[1)] signals to SD[2)] signals, and a return video up converter, which converts SD signals to HD signals, making it usable with standard definition color video cameras as well as a high-definition super slow-motion color video cameras.

1) HD (High Definition) signal: A name for 1125/750-line high definition TV signals
2) SD (Standard Definition) signal: A name for NTSC/PAL, 525/625 component, or 525/625 composite signals

The HDCU3300R may be combined with an MSU-900-series Master Setup Unit (optional) or RCP-700/900-series Remote Control Panel (optional) to form a camera control system. Further, a system capable of controlling multiple video cameras may be made up by adding a CNU-700 Camera Command Network Unit.

The HDCU3300R has the following major features.

Multiple video inputs and outputs

The HDCU3300R is equipped with a range of built-in interfaces, such as the following:
- Two for each HD-SDI output of SS-A, B, and C
- Four HD-SDI outputs
- Four SDI outputs (HD-SDI/SD-SDI selectable)
- Four HD-SDI return inputs
- Four SD-SDI return inputs
- Four SD analog return inputs
- Two teleprompter inputs

In addition, a variety of output interfaces are offered via optional boards.

HKCU1001 SD Encoder Unit and HKCU1003 Multi Interface Unit

This board provides two analog VBS (NTSC/PAL) signal outputs, an SD picture monitor output, and an SD waveform monitor output.

Note

The VDA-C board packed in the HKCU1003 cannot be used.

HKCU1005 SDI Output Expansion Unit

This provides four HD-SDI or SD-SDI outputs.

External reference signals

The HDCU3300R can be locked to an external reference signal. Either an HD tri-level sync signal or an SD sync (black burst) signal may be used as the reference signal.

Built-in down converter

When the system is operating at a 59.94/50 Hz field frequency, HD signals can be converted to SD component SDI signals using the down converter. The output signal aspect ratio may be set to 4:3 edge crop, 16:9 squeeze, or letter box. The down converter has image enhancement, gamma control, and matrix ON/OFF features, and can be controlled externally.

Built-in simplified up converter

The HDCU3300R has a simplified up converter to allow monitoring of SD signal return video using an HD viewfinder. The aspect ratio of the return video signal may be set to 4:3 edge crop, 16:9 squeeze, or letter box.

Optical digital transmission

The HDCU3300R may be connected to a camera using an optical fiber cable (two single-mode optical fiber lines, two power lines, two control lines) for the transmission of digitized video, audio, and control signals. By connecting together 500 meter (1,640 feet) optical fiber cables, signals may be transmitted up to a maximum of 2,500 meters (8,200 feet). The maximum length of the cable supplying power to the camera varies with the camera system configuration and with the type of optical fiber cable.

Safety-oriented power supply

The HDCU3300R is designed for safety. When the power is turned on, a low voltage is supplied at first. Only after it has been verified that an appropriated camera is attached, the normal 240 V AC power supply is activated. The power is not supplied unless a camera is connected via an optoelectric cable.
Also, the HDCU3300R is equipped with an alarm indicator to warn of open or short circuits in the cable.

Note

It is not recommended to connect any camera other than the HDC3300R to the HDCU3300R. If it is connected, the HDCU3300R can supply power to the camera, but it cannot communicate with the camera nor supply the video signal from the camera, because of the different signal interfaces.

Wide range of audio functions

The HDCU3300R has connectors for two-channel microphone outputs, a digital audio output and a program

audio input. Further, the HDCU3300R can use an intercom system with two independent channels, and supports four-wire and RTS/Clear-Com intercom systems.

For information on support for RTS/Clear-Com systems, contact a Sony service or sales representative.

Remote control

The levels and phases of HDCU3300R output signals can be controlled remotely by an MSU-900-series Master Setup Unit.

Microphone volume control

The camera's microphone volume can be controlled via the MIC REMOTE connector.

Character monitor signal output

The results of the HDCU3300R self-diagnosis and setup menu can be obtained with a text display by character signal output.

Rack mountable

The HDCU3300R may be installed in a standard EIA 19-inch rack (three units high).

Plug-in unit configuration

Internal printed circuit boards are designed for easy plug-in and removal, which makes it easy to inspect and maintain the unit.

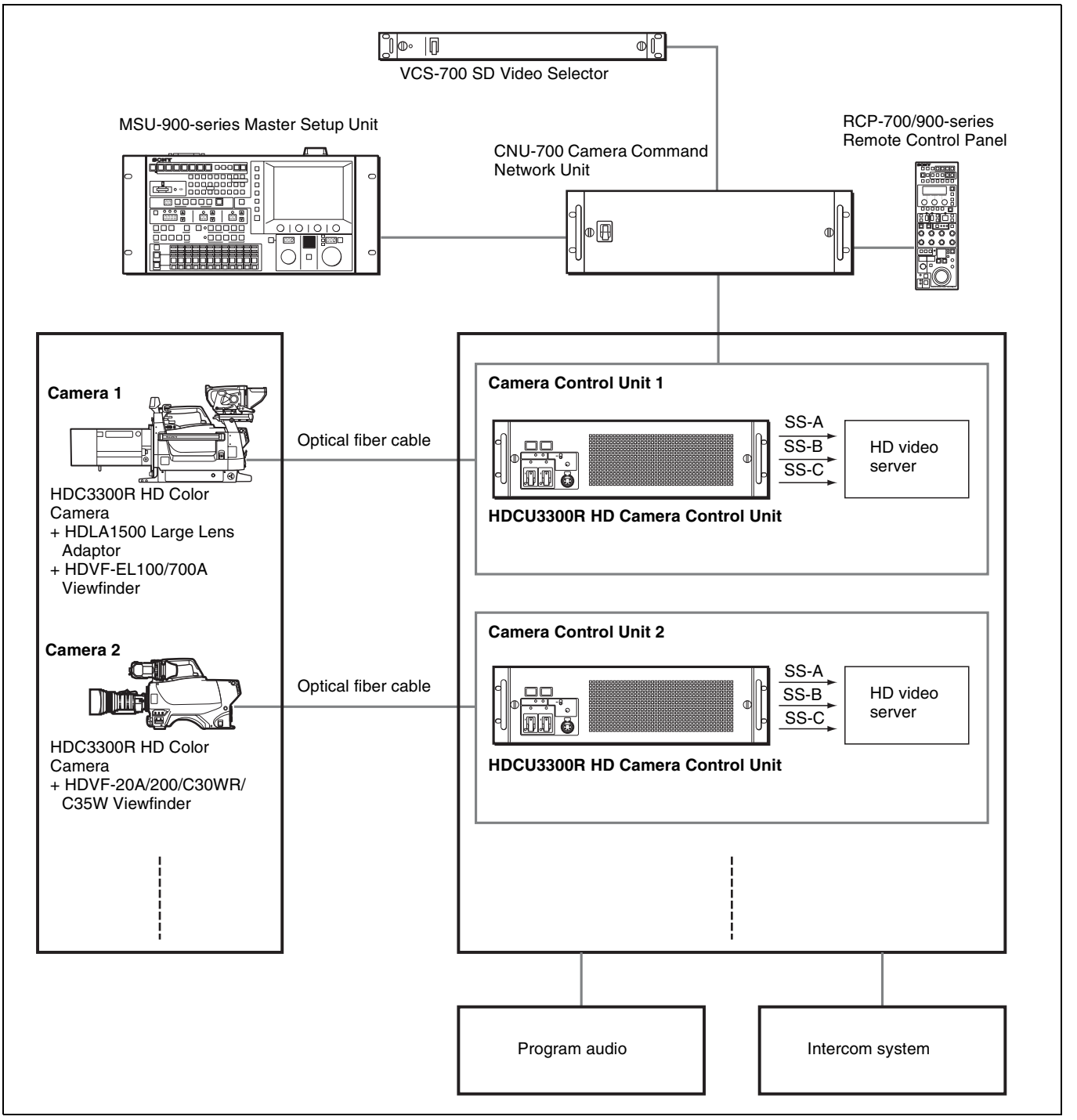
System Configuration

Peripherals and related devices for this unit are shown in the figures on the subsequent pages.

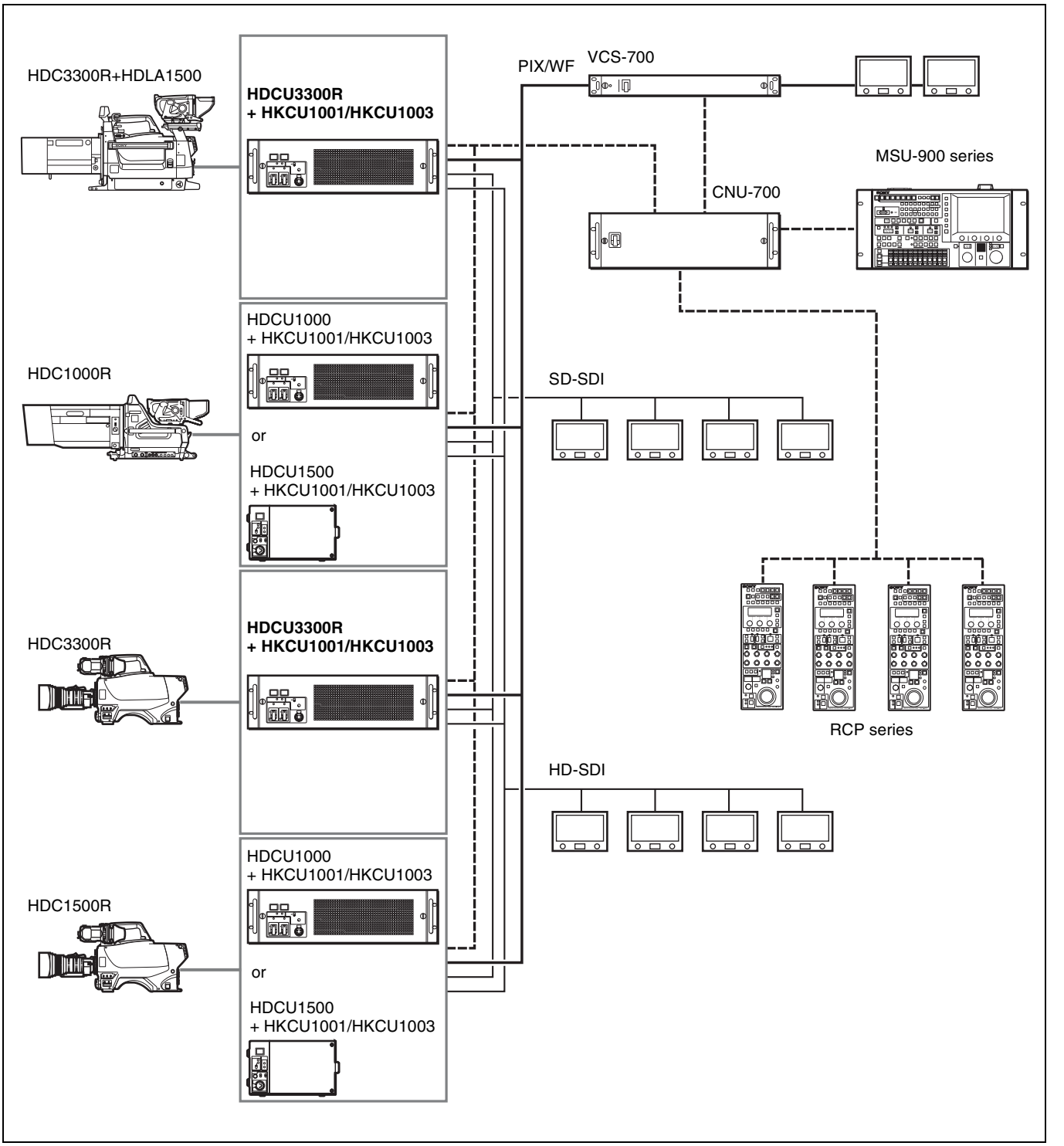
Note

Production of some of the peripherals and related devices shown in the figures has been discontinued. For advice on choosing devices, please contact your Sony dealer or a Sony sales representative.

Basic System Components



HD Super Motion/HD/SD Signal System



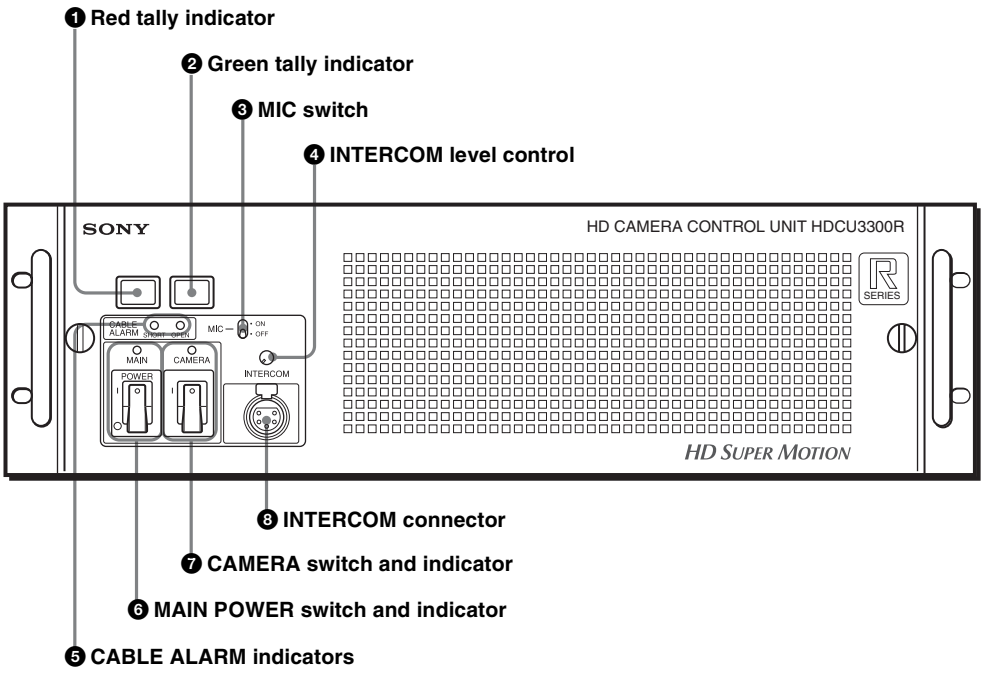
Precautions

Installation environments

- Avoid extremely hot places or near heating equipment.
- Do not place the unit near strong electromagnetic fields.
- Place the unit in a dry, well-ventilated place.
- Avoid direct sunlight and other strong lighting.

Locations and Functions of Parts

Front Panel



❶ Red tally indicator

Lights in red when this unit receives a red tally signal. When the CALL button on the video camera, the MSU-900-series Master Setup Unit, the RCP-700/900-series Remote Control Panel, etc. is pressed, this indicator will go out if previously lit, and light up if previously off.
You can attach the supplied number plate here.

❷ Green tally indicator

Lights in green when this unit receives a green tally signal.
You can attach the supplied number plate here.

❸ MIC (microphone) switch

Press to turn the intercom microphone on and off.

❹ INTERCOM level control

Turn to adjust the audio listening level of the intercom.

❺ CABLE ALARM indicators

SHORT (red): Lights in red if the power supply cord of an optical fiber cable is short-circuited to its external sheath, or if two power supply cords are short-circuited. Power is not supplied to the camera when this indicator is lit.

OPEN (red): Lights in red when a camera is not connected to the CAMERA connector on the rear panel of this unit via an optical fiber cable.
Flashes when the connection status of an optical fiber cable is bad.

❻ MAIN POWER switch and indicator

Turns the entire camera system on and off, including this unit, the video camera, and the RCP-700/900-series Remote Control Panel connected to the REMOTE connector of this unit.
Press the "**I**" side to turn the camera system on, and the "○" side to turn it off.
The indicator lights when the power switch is turned on.

❼ CAMERA switch and indicator

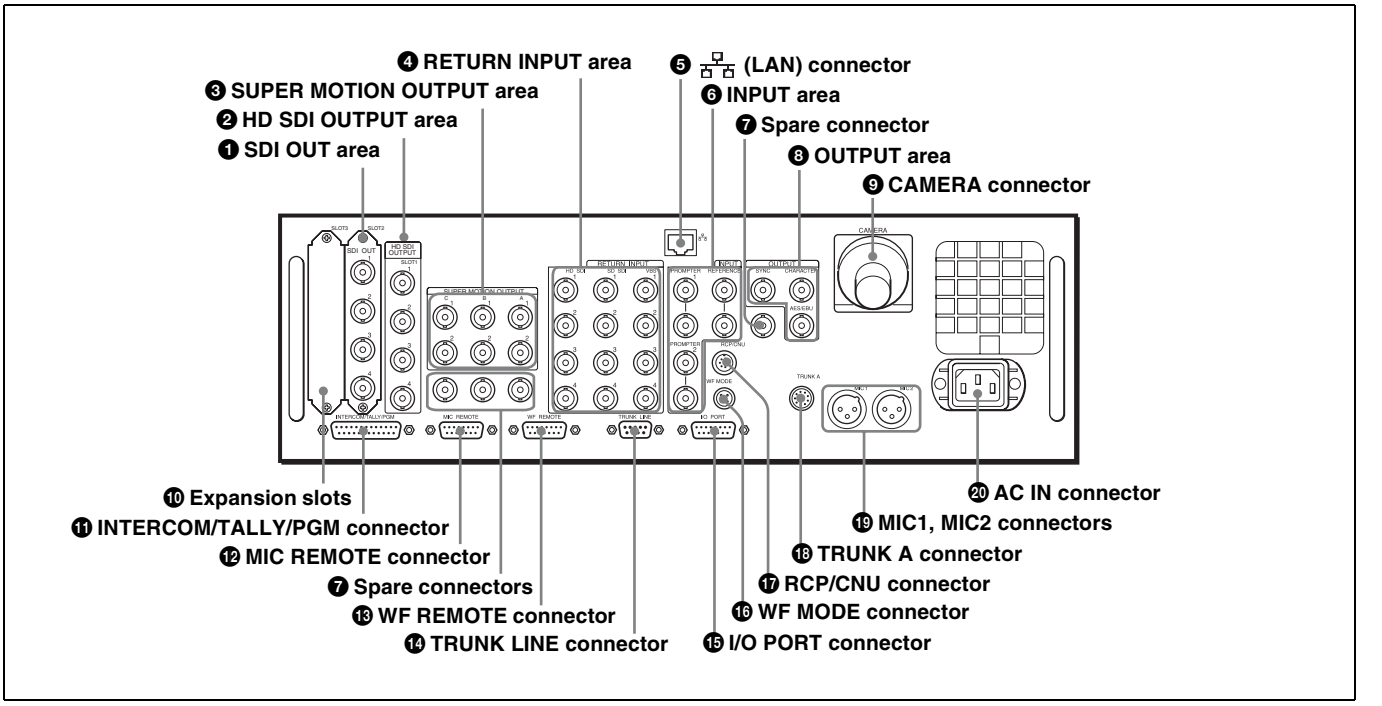
Turns the video camera on and off when the MAIN POWER switch is turned on.
Press the "**I**" side to turn on the video camera and the "⏻" side to turn it off.
When the CAM PW button of the remote control panel connected to this unit is set to off, you can't turn on the video camera with this switch only.

❽ INTERCOM connector (XLR 5-pin)

Connect a headset.

To use a headset with a plug other than an XLR 5-pin plug, consult a Sony service or sales representative.

Rear Panel



❶ SDI OUT area (BNC-type)

The signal from the video camera may be output as two HD-SDI or SD-SDI signals.
The signals output from the SDI OUT 3 and SDI OUT 4 connector can be superimposed character and marker.
SD-SDI signals are output only when the system is operating with a field frequency of 59.94/50 Hz.

For details on the field frequency setting, contact a Sony service or sales representative.

❷ HD SDI OUTPUT area (BNC-type)

The normal speed video signal from the video camera can be output as four HD-SDI signals.

Note

The connectors in this area do not supply the color bar signals while the power to the video camera is ON (default setting). There is a setting on the setup menu to supply the color bar signals even if the power to the video camera is ON. With that setting, the color bar signals are also supplied to the viewfinder on the camera.

For details on the setup menu, contact a Sony service or sales representative.

❸ SUPER MOTION OUTPUT area (BNC-type)

The HD super slow motion signals from the video camera can be output as two LINK-A, LINK-B or LINK-C signals. The connectors below are spares.

❹ RETURN INPUT area

① HD-SDI 1 to 4 (HD-SDI return video input 1/2/3/4) connectors (BNC-type)

Four different HD-SDI return video input signals may be received independently.
The selection of RET 1, 2, 3, or 4 is made by the return switch of the video camera.
The type of input signal on RET 1, 2, 3, and 4 may be set individually using the setup menu, or using the MSU-900-series Master Setup Unit.

For details on the setup menu, contact a Sony service or sales representative.

Refer also to the Master Setup Unit manual.

② SD-SDI 1 to 4 (SD component SDI return video input 1/2/3/4) connectors (BNC-type)

Four different SD component SDI return video input signals may be received independently when the system is operating with a field frequency of 59.94/50 Hz.
The selection of RET 1, 2, 3, or 4 is made by the return switch of the video camera.
The type of input signal on RET 1, 2, 3, and 4 may be set individually using the setup menu, or using the MSU-900-series Master Setup Unit.
An aspect ratio may also be selected for SD signals.

For details on the setup menu, contact a Sony service or sales representative.

Refer also to the Master Setup Unit manual.

③ VBS 1 to 4 (VBS return video input 1/2/3/4) connectors (BNC-type)

Four different VBS return video input signals may be received independently.
The selection of RET 1, 2, 3, or 4 is made by the return switch of the video camera.
The type of input signal on RET 1, 2, 3, and 4 may be set individually using the setup menu, or using the MSU-900-series Master Setup Unit.
An aspect ratio may also be selected for SD signals.

For details on the setup menu, contact a Sony service or sales representative.

Refer also to the Master Setup Unit manual.

❺ (LAN) connector (RJ-45 8-pin)

For LAN connection. Connect a LAN HUB (10BASE-T/100BASE-TX), using a LAN cable (shielded type of category 5 or more).

CAUTION

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

ATTENTION

Par mesure de sécurité, ne raccordez pas le connecteur pour le câblage de périphériques pouvant avoir une tension excessive à ce port.

ACHTUNG

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

❻ INPUT area

① PROMPTER 1, 2 (teleprompter input 1, 2) connectors (BNC-type)

Input a teleprompter signal to either of the two connectors. The input signal is output from the other connector as is (loop-through output). If loop-through output is not used, terminate the unused connector at 75 ohms. If the signal used is a 1.0 Vp-p, 75-ohm signal, it may be output from the PROMPTER OUT connector of the video camera with a frequency bandwidth of 5 MHz, regardless of signal format.

② REFERENCE connectors (BNC-type)

Input an HD tri-level reference sync signal or SD reference sync signal (black burst signal) to either of the two connectors.
The input signal is output from the other connector as is (loop-through output). If loop-through output is not used, terminate the unused connector at 75 ohms.
The type of reference signal is selected using the setup menu, or using the MSU-900-series Master Setup Unit.

For details on the setup menu, contact a Sony service or sales representative.

Refer also to the Master Setup Unit manual.

Note

To use the VBS signal of the HKCU1001 SD Encoder Unit or the HKCU1003 Multi Interface Unit (when SC phase lock is required), use an SD reference sync signal (black burst signal).

❼ Spare connector (BNC-type)

Reserved for future use.

❽ OUTPUT area

① SYNC (sync signal output) connector (BNC-type)

Used for output of an SD composite sync signal (with no burst signal) or an HD tri-level sync signal from the internal sync signal generator. (Factory setting: SD composite sync signal)

For details on the signal selection, contact a Sony service or sales representative.

② CHARACTER (character output) connector (BNC-type)

Outputs the self-diagnostic results or the setup menu as an SD monochrome analog video signal.

③ AES/EBU connector (BNC-type)

Outputs an AES/EBU format digital audio signal input to a video camera.

❾ CAMERA connector (optical fiber connector)
Used to connect a video camera, using an optical fiber cable. All video camera signals, including power supply, control, video, and audio, are sent and received over one optical fiber cable.

Note

Dust on the connection surface of the optical fiber cable may result in transmission errors. When not connected, always cover the end of the connector with the supplied cap.

❿ Expansion slots
For installation of an optional HKCU1001 SD Encoder Unit, HKCU1003 Multi Interface Unit, or HKCU1005 SDI Output Expansion Unit.

For details on installation, contact a Sony service or sales representative.

⓫ INTERCOM/TALLY/PGM (intercom/tally/program audio) connector (D-sub 25-pin)
Used for input and output of intercom, tally, and program audio signals. Connect to the intercom/tally/program audio connector of the intercom system.

⓬ MIC REMOTE (microphone remote) connector (D-sub 15-pin)
Using this connector, the video camera's microphone input level may be set by external equipment such as an audio mixer, in five level (-60, -50, -40, -30, and -20 dB). When shooting, set the volume to a level appropriate for the audio conditions.
This connector also supplies a red tally signal and a green tally signal.

The microphone input level may also be set using the setup menu. For details on the setup menu, contact a Sony service or sales representative.

⓭ WF REMOTE (waveform monitor remote) connector (D-sub 15-pin)
Used to attach to the appropriate connector on a recall-type waveform monitor when operating the waveform monitor display using an MSU-900-series Master Setup Unit or an RCP-700/900-series Remote Control Panel.When using a recall-type monitor, preset a display mode on the waveform monitor, and then recall the mode externally.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

⓮ TRUNK LINE connector (D-sub 9-pin)
Used to connect to the CCU connector on a video camera via an RS-232C interface. Used mainly for communication with equipment on the camera side.
Communication with up to two channels is available.

⓯ I/O PORT connector (D-sub 15-pin)
Used for remote control using an external control device.

Note

Use of a case wider than 42 mm can cause interference at connectors ②, ④, ⑤. It is recommended that you use a JAE-made DA-C1-J10.

⓰ WF MODE (waveform monitor mode output) connectors (4-pin)
Connect to the appropriate connector on a waveform monitor when monitoring a signal in sequential mode. A sequence signal will be output when the SEQ button on the RCP-700/900-series Remote Control Panel or the MSU-900-series Master Setup Unit is pressed, allowing simultaneous monitoring of the R, G, and B signals in sequential mode. When both the RCP and MSU are in use, this connector functions as the output connector for RCP control.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

⓱ RCP/CNU connector (8-pin)
Used to connect to an MSU-900-series Master Setup Unit, CNU-700 Camera Command Network Unit, or RCP-700/900-series Remote Control Panel via a CCA-5 Connection Cable. Control signals are sent and received via this connector.
When using an RCP-700/900-series unit, power is also supplied.

⓲ TRUNK A connector (12-pin)
Used to connect to the CCU connector on a video camera via an RS-232C or RS-422A interface. Communication with up to two channels is available.

⓳ MIC1, MIC2 (microphone output 1, 2) connectors (XLR 3-pin)
Used to supply the microphone signal sent from the video camera.

⓴ AC IN (AC power input) connector
Use the specified AC power cord to connect to an AC power supply. The AC power cord can be secured to this unit, using the plug holder (optional).

HKCU1001 SD Encoder Unit (optional)

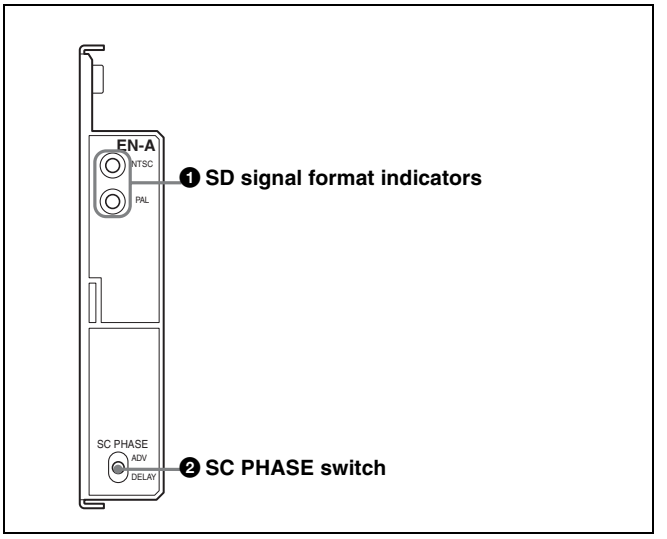
Note

To reduce the risk of electric shock, fire or injury, do not open the cabinet. To adjust the internal settings, refer to qualified service personnel.

The HKCU1001 consists of an EN-A front board and a VDA-A rear board.
When these boards are installed in the front and rear expansion slots of the unit, the unit outputs SD composite signals, waveform monitor output signals, and picture monitor output signals through the VDA-A board.

For details on installation, contact a Sony service or sales representative.

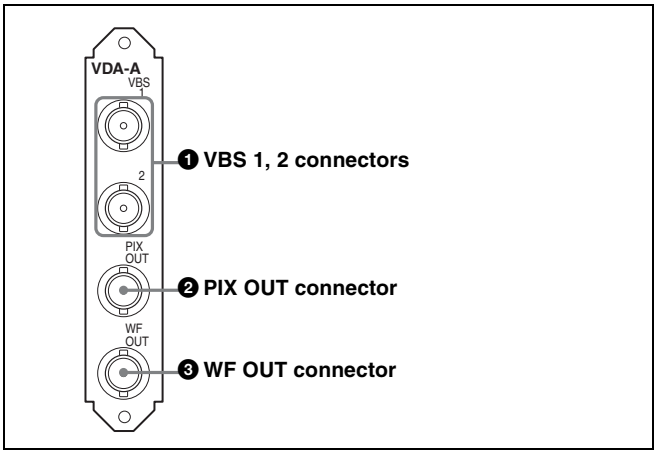
EN-A Board



❶ SD signal format indicators
Either of these indicators lights, corresponding to the SD signal format.

❷ SC PHASE (subcarrier phase) switch
Used to adjust the SC phase with respect to the reference signal (black burst).
Press and hold the switch towards ADV to advance the phase or towards DELAY for delay.
The phase is advanced or delayed only while the switch is held pressed.

VDA-A Board



❶ VBS 1, 2 (composite video output 1, 2) connectors (BNC-type)
The signal from the video camera may be output as two analog composite signals.

❷ PIX OUT (picture monitor output) connector (BNC-type)
Outputs the video signal for a picture monitor selected with the PICTURE MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit.
Character signals or marker signals can be superimposed on the video signal output through this connector.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

❸ WF OUT (waveform monitor output) connector (BNC-type)
Outputs the video signal for a waveform monitor selected with the WF MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

HKCU1003 Multi Interface Unit (optional)

Note

To reduce the risk of electric shock, fire or injury, do not open the cabinet. To adjust the internal settings, refer to qualified service personnel.

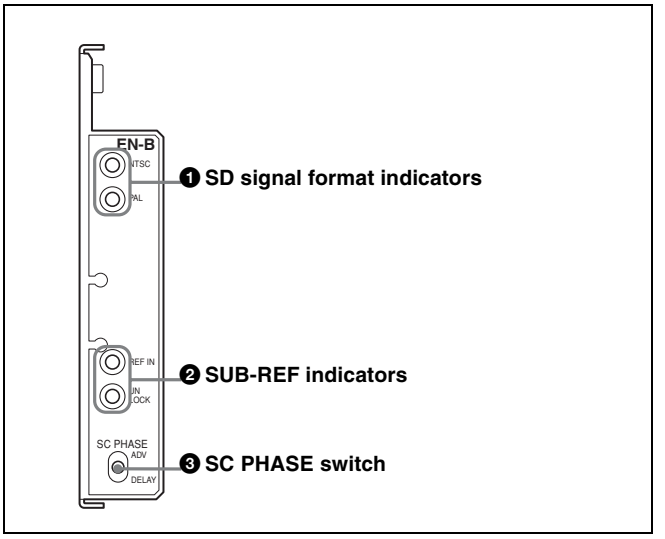
The HKCU1003 consists of an EN-B front board and three VDA rear boards (A/B/C). Only the VDA-A board can actually be used with the HDCU3300R at present, and the HKCU1003 has almost the same function as the HKCU1001.

Note

The VDA-B board can be used, but the FRAME REF IN connector does not function.

For details on installation, contact a Sony service or sales representative.

EN-B Board



❶ SD signal format indicators
Either of these indicators lights, corresponding to the SD signal format.

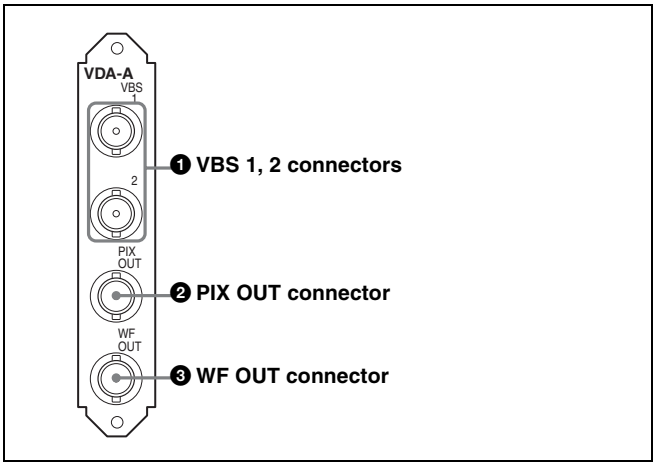
❷ SUB-REF (sub-reference) indicators
Either of these indicators lights, corresponding to the reference signal input via the FRAME REF IN connector on the VDA-B board.

REF IN: Lights when the appropriate reference signal is input.

UNLOCK: Lights when the reference signal is not synchronized with the reference signal input via the REFERENCE connector of the unit.

❸ SC PHASE (subcarrier phase) switch
Used to adjust the SC phase with respect to the reference signal (black burst).
Press and hold the switch towards ADV to advance the phase or towards DELAY for delay.
The phase is advanced or delayed only while the switch is held pressed.

VDA-A Board



❶ VBS 1, 2 (composite video output 1, 2) connectors (BNC-type)
The signal from the video camera may be output as two analog composite video signals.

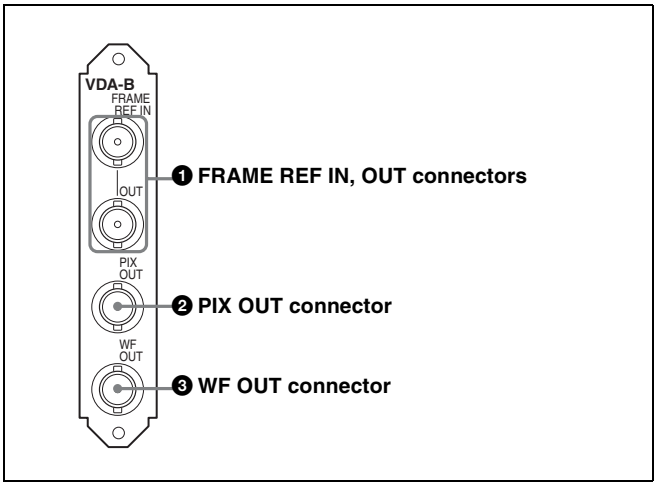
❷ PIX OUT (picture monitor output) connector (BNC-type)
Outputs the video signal for a picture monitor selected with the PICTURE MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit.
Character signals or marker signals can be superimposed on the video signal output through this connector.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

❸ WF OUT (waveform monitor output) connector (BNC-type)
Outputs the video signal for a waveform monitor selected with the WF MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

VDA-B Board



❶ FRAME REF IN, OUT (frame reference input/output) connectors (BNC-type)
Not used now.

❷ PIX OUT (picture monitor output) connector (BNC-type)
Outputs the video signal for a picture monitor selected with the PICTURE MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit. Character signals or marker signals can be superimposed on the video signal output through this connector.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

❸ WF OUT (waveform monitor output) connector (BNC-type)

Outputs the video signal for a waveform monitor selected with the WF MONITOR button of an RCP-700/900-series Remote Control Panel or MSU-900-series Master Setup Unit.

For details on these operations, refer to the Master Setup Unit or Remote Control Panel manuals.

HKCU1005 SDI Output Expansion Unit (optional)

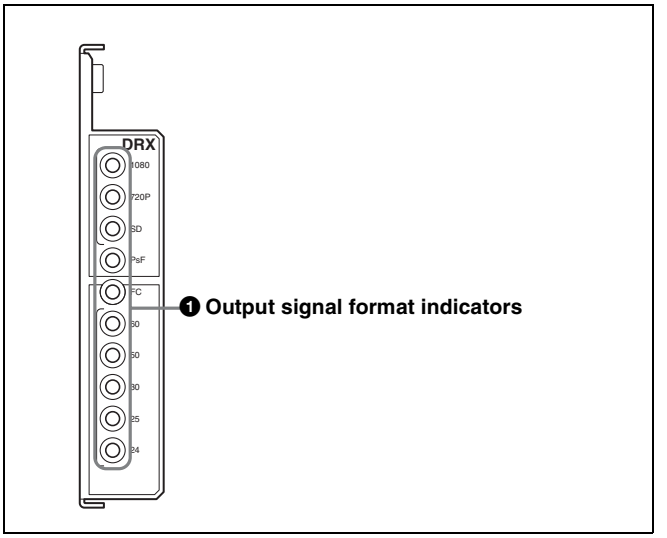
Note

To reduce the risk of electric shock, fire or injury, do not open the cabinet. To adjust the internal settings, refer to qualified service personnel.

The HKCU1005 consists of a DRX front board and a HIF rear boards.
When these boards are installed in the front and rear expansion slots of the unit, four SDI output connectors are added to the unit.

For details on installation, contact a Sony service or sales representative.

DRX Board



❶ Output signal format indicators

Displays the format status of the output signal.

1080/720P/SD: One of these indicators corresponding to the signal status of the SDI OUTPUT 1, 2 connectors of the four SDI signal output from this unit lights.

PsF: Not function.

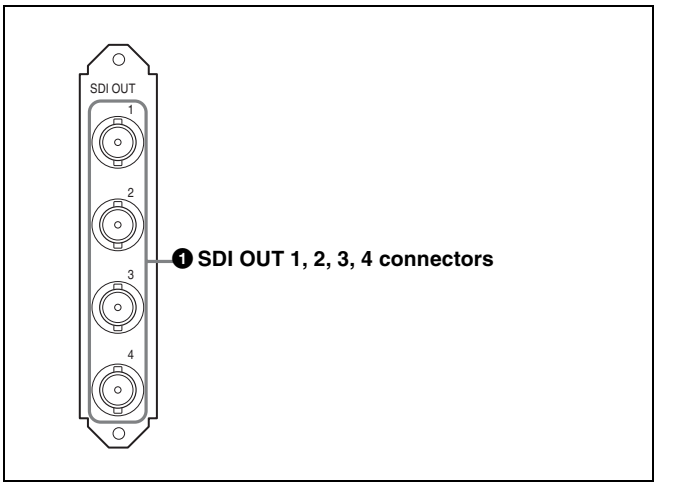
FC: Lights when the frame rate converter function of the unit is performed.

60/50/30/25/24: One of these indicators corresponding to the field/frame frequency of the output signals lights.

Note

The 30, 25, and 24 indicators do not function on the HDCU3300R.

HIF Board



❶ SDI OUT 1, 2, 3, 4 (HD/SD serial digital interface output 1 to 4) connectors (BNC-type)

The signal from the video camera is supplied as four HD-SDI or SD-SDI signals.

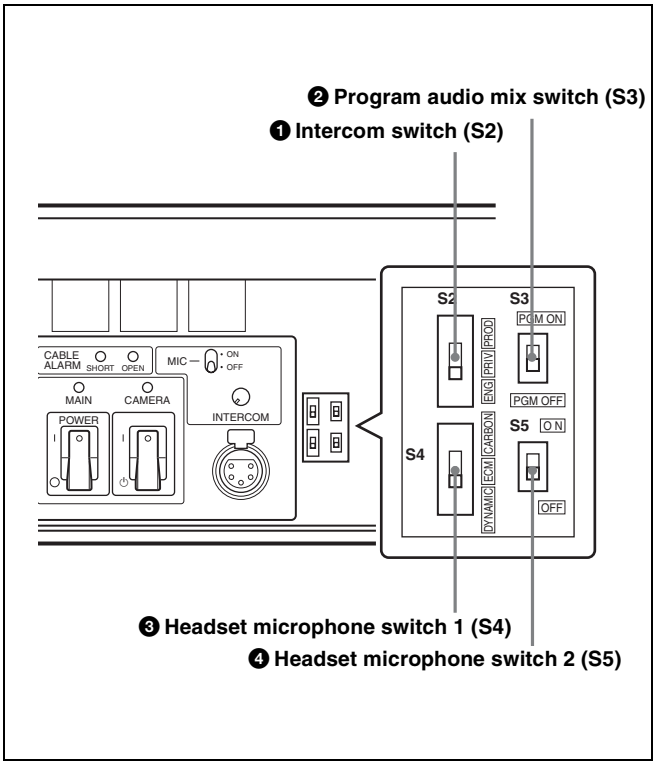
Internal Switches and Internal Boards

CAUTION

To reduce the risk of electric shock, fire or injury, do not open the cabinet. To adjust the internal settings, refer to qualified service personnel.

Internal Switches

The following switches are located inside the unit, behind the front panel:



❶ Intercom switch (S2)
Selects the pathway of intercom signals output/input through the INTERCOM connector.
PROD: Producer line
PRIV: Producer line and engineer line are ignored, and communication is possible only between this unit and the video camera connected to this unit.
ENG: Engineer line

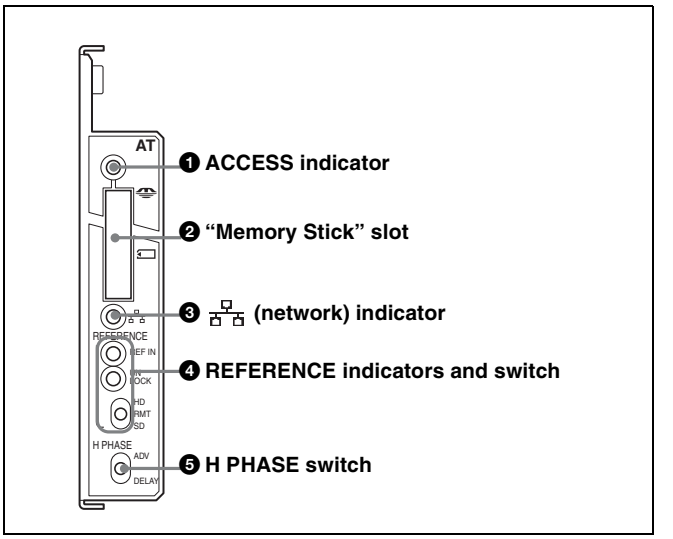
❷ Program audio mix switch (S3)
Set whether or not to mix the program audio with the headset output.

❸ Headset microphone switch 1 (S4)
Set the switch according to the type of microphone of the headset connected to the INTERCOM connector on the front panel of this unit:
CARBON: Carbon microphone (power supply, 20 dB gain)
ECM: Electret condenser microphone (power supply, 40 dB gain)
DYNAMIC: Dynamic microphone (no power supply, 60 dB gain)

❹ Headset microphone switch 2 (S5)
When you set headset microphone switch 1 (S4) to DYNAMIC, also set this switch according to the type of output of the headset microphone.
ON: Unbalanced type
OFF: Balanced type

Internal Boards

AT Board



❶ ACCESS indicator
Shows the status of the "Memory Stick."

Indication	Meaning
Off	No "Memory Stick" is inserted.
Lit in green	There is a "Memory Stick" in the slot.
Lit in red	Data is being read/written. If you eject the "Memory Stick" during this operation, the integrity of the data is not guaranteed. All the data may be lost.

❷ "Memory Stick" slot
Insert an upgrade "Memory Stick" to upgrade the software version of this unit.

To insert a “Memory Stick”
Insert the “Memory Stick” into the slot so that the labelled side of the stick faces you.
When the “Memory Stick” is correctly set, the ACCESS indicator lights in green. If the indicator stays dark, the “Memory Stick” may be inserted incorrectly. Check the stick and reinsert it. To eject the “Memory Stick,” press it in.

Note

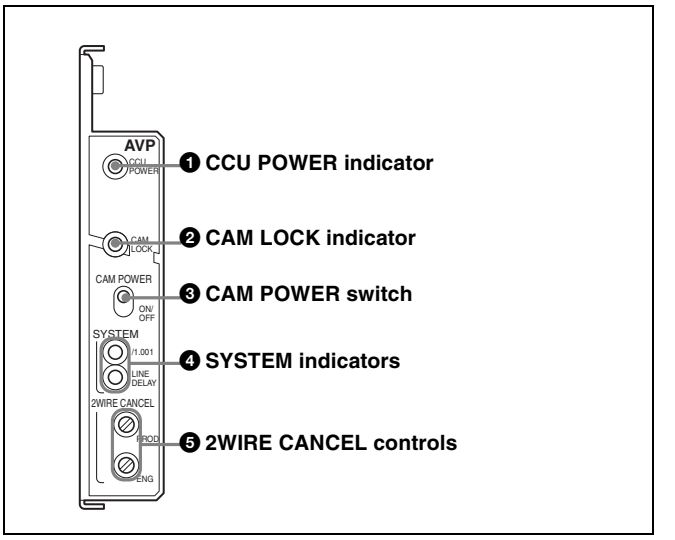
Do not eject a “Memory Stick” when the ACCESS indicator is lit in red (which means that data is being read from or written to the “Memory Stick”). This may erase data stored in the “Memory Stick.”

❸ (network) indicator
Lights in green when communication via the LAN connector is being made.

❹ REFERENCE indicators and switch
The switch is used to select the type of sync signal to be connected to either of the REFERENCE connectors on the rear panel.
HD: HD tri-level reference sync signal (local setting)
RMT (remote): Signal selected on the MSU-900-series Master Setup Unit
SD: SD reference sync signal (black burst signal) (local setting)
When a signal is supplied to the REFERENCE connector, the REF IN indicator lights. If the type of the input sync signal does not match the setting on this unit, the UNLOCK indicator will light.

❺ H PHASE switch
Used to adjust the H phase.
Press and hold it towards ADV to advance the phase or towards DELAY for phase delay.
The phase is advanced or delayed only while the switch is held pressed.

AVP Board



❶ CCU POWER indicator
Lights when the power voltage inside the board is normal.

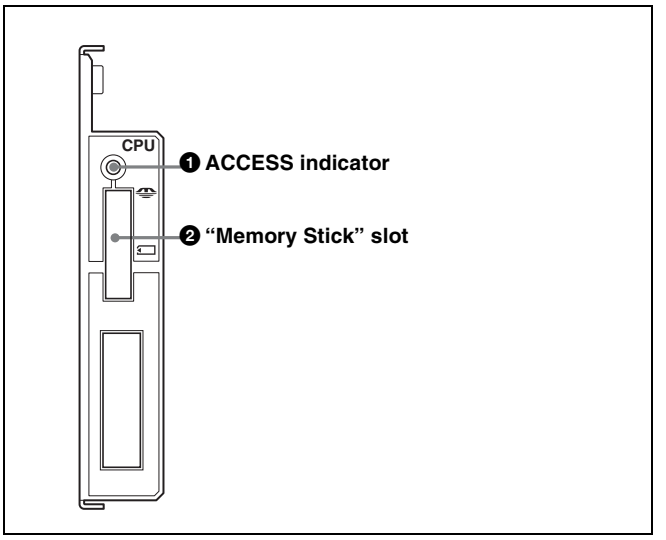
❷ CAM LOCK (camera lock) indicator
Lights when the transaction with the video camera is operating normally.

❸ CAM POWER (camera power) switch
Press downward to turn the video camera connected to this unit on or off.

❹ SYSTEM indicators
/1.001 (frame frequency): Lights when the frame frequency of the camera system is set to 1/1.001.
LINE DELAY (phase difference): Lights when the phase difference between HD and SD outputs is set to LINE DELAY.
Phase difference is 90H when the scan line is 1125, or 120H when the scan line is 750.

❺ 2WIRE CANCEL controls
When using a 2-wire intercom system, adjust the controls to minimize the side tone level on the producer line (**PROD**) and engineer line (**ENG**).

CPU Board



❶ ACCESS indicator

Shows the status of the "Memory Stick."

Indication	Meaning
Off	No "Memory Stick" is inserted.
Lit in green	There is a "Memory Stick" in the slot.
Lit in red	Data is being read/written. If you eject the "Memory Stick" during this operation, the integrity of the data is not guaranteed. All the data may be lost.

❷ "Memory Stick" slot

Insert an upgrade "Memory Stick" to upgrade the software version of this unit.

To insert a "Memory Stick"

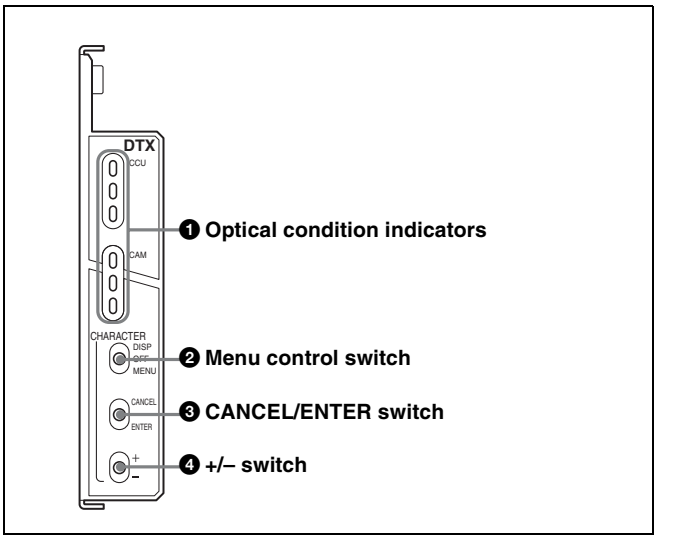
Insert the "Memory Stick" into the slot so that the labelled side of the stick faces you.

When the "Memory Stick" is correctly set, the ACCESS indicator lights in green. If the indicator stays dark, the "Memory Stick" may be inserted incorrectly. Check the stick and reinsert it. To eject the "Memory Stick," press it in.

Note

Do not eject a "Memory Stick" when the ACCESS indicator is lit in red (which means that data is being read from or written to the "Memory Stick"). This may erase data stored in the "Memory Stick."

DTX Board



❶ Optical condition indicators

The corresponding LEDs light to show the condition of optical signal reception at this unit (**CCU**) and the camera (**CAM**):

Green: Good

Yellow: Low optical level

Red: Extremely low optical level, or disconnection

If communication with the connected camera is not established, all three CAM indicators (green, yellow and red) go dark.

❷ Menu control switch

Displays the setting status of this unit or the setup menu on the monitor connected to this unit.

DISP: Displays the setting status of this unit.

OFF: Does not display the setting status or the setup menu.

MENU: Displays the setup menu.

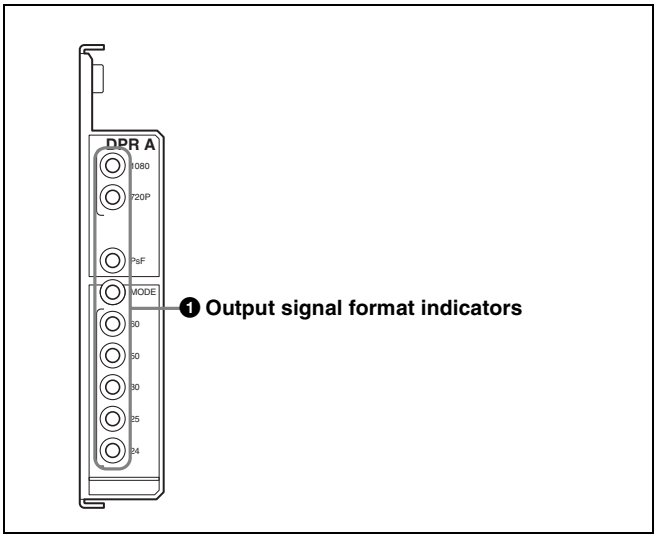
❸ CANCEL/ENTER switch

Used for operations on the setup menu. Press towards ENTER to select an item or to enter a setting, or towards CANCEL to cancel the setting.

❹ +/– switch

Used to adjust the setting items on the setup menu.

DPR-A Board

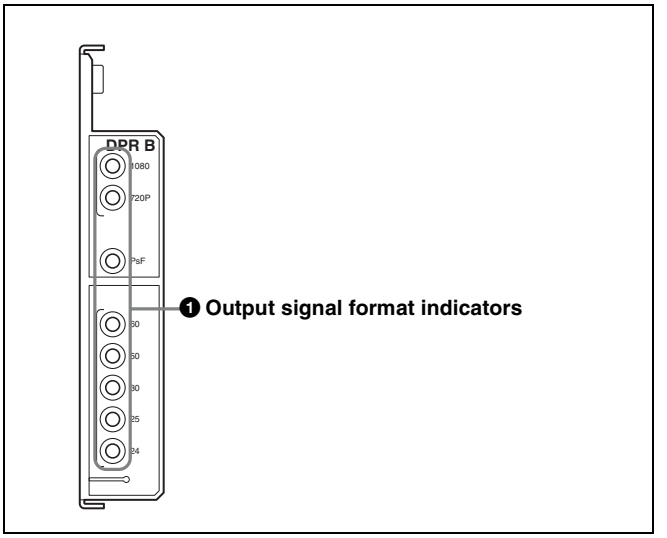


❶ Output signal format indicators
Displays the format status of the output signal.
1080/720P: One of these indicators corresponding to the signal status of the two HD-SDI (SS-A/B/C) signal output from this unit lights.
PsF: Not function
MODE: Reserved for future use
60/50/30/25/24: One of these indicators corresponding to the field/frame frequency of the output signals lights.

Note

The 30, 25, and 24 indicators do not function on the HDCU3300R.

DPR-B Board

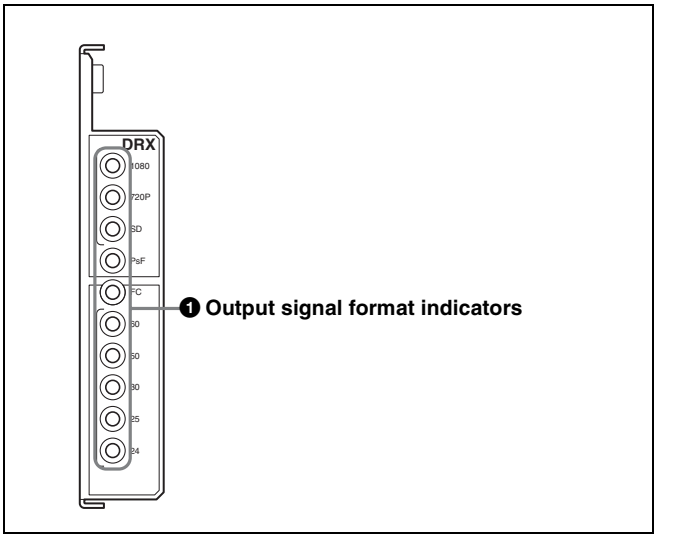


❶ Output signal format indicators
Displays the format status of the output signal.
1080/720P: One of these indicators corresponding to the signal status of the four HD-SDI signal output from this unit lights.
PsF: Not function
60/50/30/25/24: One of these indicators corresponding to the field/frame frequency of the output signals lights.

Note

The 30, 25, and 24 indicators do not function on the HDCU3300R.

DRX Board



❶ Output signal format indicators
Displays the format status of the output signal.
1080/720P/SD: One of these indicators corresponding to the signal status of the SDI OUTPUT 1/2 connectors of the four SDI signal output from this unit lights.
PsF: Not function
FC: Not function
60/50/30/25/24: One of these indicators corresponding to the field/frame frequency of the output signals lights.

Note

The 30, 25, and 24 indicators do not function on the HDCU3300R.

Specifications

HDCU3300R

General

Power supply 100/120/220-240 V AC, 50/60 Hz
(To change to a different power supply, contact a Sony service or sales representative.)

Current consumption
5.6 A (max.)

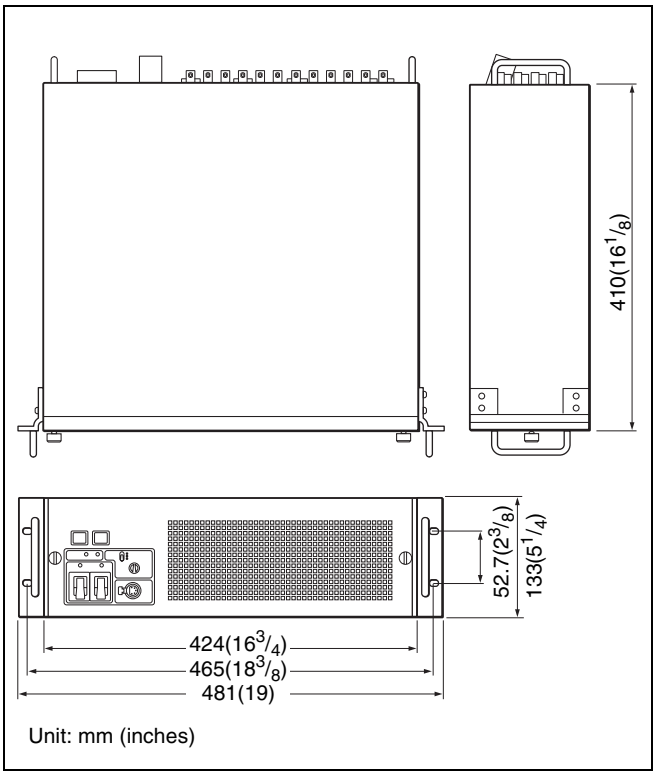
Peak inrush current
(1) Power ON, current probe method: 70 A (240 V)
(2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 23A (230 V)

Operating temperature
5°C to 40°C (41°F to 104°F)

Storage temperature
–20°C to +60°C (–4°F to +140°F)

Mass Approx. 16.8 kg (37 lb)

Dimensions



Unit: mm (inches)

Input/Output connectors

CAMERA Optical fiber connector (1)
10.692 Gbps/10.681 Gbps SDI × 2, 240 V AC power supply

INTERCOM/TALLY/PGM
D-sub 25-pin connector (1)
- INTERCOM (PD / ENG), 4W/RTS/CC, 0 dB
- PGM, 2 systems, 0 dB/ –20 dB
- TALLY (R, G)

RCP/CNU 8-pin multi-connector (1)

TRUNK A 12-pin (1)

TRUNK LINE D-sub 9-pin, female (1)
RS-232C, for CHU transmission or system expansion

I/O PORT D-sub 15-pin, female (1)
(JAE-made DA-C1-J10 recommended)

LAN 8-pin (1)

Input connectors

AC IN (1), 100, 110 to 120, 220 to 240 V AC switchable

HD SERIAL RET INPUT
BNC-type (4), SMPTE-292M,
Bit rate: 1.485 Gbps/1.4835 Gbps

SD SERIAL RET INPUT
BNC-type (4), SMPTE-259M
Bit rate: 270 Mbps

REFERENCE INPUT
BNC-type (2), loop-through output
HD: SMPTE-274M, tri-level sync, 0.6 Vp-p, 75 ohms
SD: Black burst
(NTSC: 0.286 Vp-p, 75 ohms)
(PAL: 0.3 Vp-p, 75 ohms)
or NTSC 10F-BB

PROMPTER 1, 2 INPUT
BNC-type (2 for each), loop-through output, analog signal, 1.0 Vp-p, 75 ohms

MIC REMOTE D-sub 15-pin (1)
(JAE-made DA-C1-J10 recommended)

Output connectors

MIC OUT XLR 3-pin, male (2), 0 dBs/–20 dBs

AES/EBU BNC-type (1), AES/EBU format

CHARACTER BNC-type (1), VBS, 1 Vp-p, 75 ohms, character on/off switchable

WF REMOTE D-sub 15-pin, female (1) (JAE-made DA-C1-J10 recommended)

SS-A OUT BNC-type (2)
HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps

SS-B OUT	BNC-type (2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps
SS-C OUT	BNC-type (2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps
HD-SDI OUT	BNC-type (4) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps
SDI OUT	BNC-type (2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 ohms, 270 Mbps HD-SDI/SD-SDI selectable
SDI OUT (MONI)	BNC-type (2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 ohms, 270 Mbps HD-SDI/SD-SDI selectable
SYNC OUT	BNC-type (1) HD: BTA-S001A, tri-level sync, 0.6 Vp-p, 75 ohms SD: composite sync, 0.3 Vp-p, 75 ohms HD SYNC/SD SYNC selectable
WF MODE	4-pin (1)

Supplied accessories

Number plates (1 set)
Fuses (1 set)
Operation manual (1)

Optional accessories

AC power cord:
    USA and Canada: 1-551-812-3X
    Other countries: 1-782-929-1X
Power cord plug holder:
    USA and Canada: 2-990-242-01
    Other countries: 3-613-640-01
HKCU1001 SD Encoder Unit
HKCU1003 Multi Interface Unit
HKCU1005 SDI Output Expansion Unit
CCA-5-3 Connection Cable (3 meter/10 feet)
CCA-5-10 Connection Cable (10 meter/33 feet)
Extension Board
Maintenance manual

For the customers in the U.S.A., Canada, Europe, Australia, and New Zealand

Connectors for optical/electric composite cables:
- LEMO® PUW.3K.93C.TLCC96 (to the "CAMERA" connector on CCU)
- LEMO® FUW.3K.93C.TLMC96 (to the "CCU" connector on CAMERA)

Caution on the optical/electric composite cable:
For connection between the camera control unit and a camera, be sure to use an optical/electric signal composite cable with the connectors specified in this manual in order to comply with the limit for EMC regulations.

Pour les utilisateurs aux Etats-Unis, au Canada, en Europe, à l'Australie, et à la Nouvelle-Zélande

Connecteurs pour les câbles optiques/électriques composites:
- LEMO® PUW.3K.93C.TLCC96 (au connecteur «CAMERA» de l'unité de commande de caméra)
- LEMO® FUW.3K.93C.TLMC96 (au connecteur «CCU» de la caméra)

Attention concernant le câble optique/électrique composite:
Pour la connexion entre l'unité de commande de caméra et une caméra, utilisez un câble optique/électrique composite avec connecteurs spécifiés dans ce manuel pour assurer la conformité avec la réglementation EMC.

Für Kunden in USA, Kanada, Europa, Australien und Neuseeland

Anschlüsse für optische/elektrische FBAS-Kabel:
- LEMO® PUW.3K.93C.TLCC96 (an „CAMERA"-Anschluss an der Kamerasteuereinheit)
- LEMO® FUW.3K.93C.TLMC96 (an „CCU"-Anschluss an der KAMERA)

Vorsichtsmaßregeln für optische/elektrische FBAS-Kabel:
Für Verbindung zwischen Kamerasteuereinheit und Kamera verwenden Sie immer ein optisches/elektrisches FBAS-Kabel mit Steckern, wie in dieser Anleitung beschrieben, um die Grenzwerte der geltenden EMV-Vorschriften zu erfüllen.

Related equipment

RCP-700/900-series Remote Control Panel
MSU-900-series Master Setup Unit
VCS-700 Video Selector
CNU-700 Camera Command Network Unit

Design and specifications are subject to change without notice.

HKCU1001 (optional)

General

Power supply 2.5 W
Operating temperature
–10°C to +40°C (+14°F to +104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (w/h/d)
EN-A board: Approx. 19 × 110 × 226 mm (3/4 × 4 3/8 × 8 7/8 inches)
VDA-A board: Approx. 19 × 98 × 159 mm (3/4 × 3 7/8 × 6 1/4 inches)
Mass EN-A board: Approx. 0.22 kg (7.8 oz)
VDA-A board: Approx. 0.10 kg (3.5 oz)

Output connectors

VDA-A board

VBS BNC-type (2), 1.0 Vp-p, 75 ohms, VBS
PIX OUT BNC-type (1), VBS/R/G/B (VBS 1.0 Vp-p, 75 ohms)
WF OUT BNC-type (1), VBS/R/G/B/SEQ (VBS 1.0 Vp-p, 75 ohms)

Supplied accessories

4-pin connector (1)

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HKCU1003 (optional)

General

Power supply 3.6 W
Operating temperature
–10°C to +40°C (+14°F to +104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (w/h/d)
EN-B board: Approx. 19 × 110 × 226 mm (3/4 × 4 3/8 × 8 7/8 inches)
VDA board (A/B/C): Approx. 19 × 98 × 159 mm (3/4 × 3 7/8 × 6 1/4 inches)
Mass EN-B board: Approx. 0.22 kg (7.8 oz)
VDA board (A/B/C): Approx. 0.10 kg (3.5 oz)

Input/Output connectors

VDA-A board

VBS BNC-type (2), 1.0 Vp-p, 75 ohms, VBS
PIX OUT BNC-type (1), VBS/R/G/B (VBS 1.0 Vp-p, 75 ohms)
WF OUT BNC-type (1), VBS/R/G/B/SEQ (VBS 1.0 Vp-p, 75 ohms)

VDA-B board

FRAME REF IN
BNC-type (1)
FRAME REF OUT
BNC-type (1)
PIX OUT BNC-type (1), VBS/R/G/B (VBS 1.0 Vp-p, 75 ohms)
WF OUT BNC-type (1), VBS/R/G/B/SEQ (VBS 1.0 Vp-p, 75 ohms)

VDA-C board (not used for the HDCU3300R)

VBS BNC-type (1), 1.0 Vp-p, 75 ohms, VBS
R/R-Y, G/Y, B/B-Y
BNC-type (3)
- R/G/B video
  R/G/B (100% white): 0.7 Vp-p, 75 ohms
- Component video
  Y(100% white): 0.714 Vp-p (NTSC) or 0.7 Vp-p (PAL)
  R-Y/B-Y (75% color bar): 0.756 Vp-p (NTSC) or 0.525 Vp-p (PAL), 75 ohms

Supplied accessories

4-pin connector (1)

Design and specifications are subject to change without notice.

HKCU1005 (optional)

General

Power supply 5.3 W
Operating temperature
–10°C to +40°C (+14°F to +104°F)
Storage temperature
–20°C to +60°C (–4°F to +140°F)
Dimensions (w/h/d)
DRX board: Approx. 19 × 110 × 226 mm (3/4 × 4 3/8 × 8 7/8 inches)
HIF board: Approx. 19 × 98 × 159 mm (3/4 × 3 7/8 × 6 1/4 inches)
Mass DRX board: Approx. 0.24 kg (8.5 oz)
HIF board: Approx. 0.09 kg (3.2 oz)

Output connectors

HIF board

SDI OUT	BNC-type (4) HD-SDI: SMPTE-292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE-259M, 0.8 Vp-p, 75 ohms, 270 Mbps HD-SDI/SD-SDI selectable Character ON/OFF selectable (SDI OUT 3 and SDI OUT 4)

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.

For Customer in China

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http://pro.sony.com.cn

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