

# HD Camera Control Unit

## Operation Guide

### HDCU1700

#### Digital HDVS

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Before operating the unit, please read this manual thoroughly and retain it for future reference.

#### For the HDCU1700

### 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.



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 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.

#### About the LAN connector

##### CAUTION

- For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port.
- When you connect the LAN cable of the unit to peripheral device, use a shielded-type cable to prevent malfunction due to radiation noise.

#### 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.

Dieses HD-Kamera-Steuergerät ist als LASERPRODUKT DER KLASSE 1 eingestuft.

Tämä HD-kameraohjausyksikkö on luokiteltu 1. LUOKAN LASERTUOTTEEKSI.

Den här kontrollenheten för HD-kamera klassificeras som en LASERPRODUKT AV KLAS 1.

##### 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 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.

#### 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).

#### 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.

#### For the customers in Europe

This product has been manufactured by or on behalf of Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan. Inquiries related to product compliance based on European Union legislation shall be addressed to the authorized representative, Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters, please refer to the addresses provided in the separate service or guarantee documents.

This apparatus shall not be used in the residential area.

#### For the State of California, USA only

Perchlorate Material – special handling may apply, See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate)

#### For the customers in Taiwan only



廢電池請回收

#### For the HKCU1001/HKCU1003

##### 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.

#### 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).

Manufacturer: Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan  
For EU product compliance: Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany

#### For the HKCU2007

##### 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.

#### 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).

#### 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.

#### For the customers in Europe

Manufacturer: Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan  
For EU product compliance: Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany

This apparatus shall not be used in the residential area.

**For the customers in the U.S.A.**  
**SONY LIMITED WARRANTY** - Please visit <http://www.sony.com/psa/warranty> for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

**For the customers in Canada**  
**SONY LIMITED WARRANTY** - Please visit <http://www.sonybiz.ca/solutions/Support.do> for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

**For the customers in Europe**  
Sony Professional Solutions Europe - Standard Warranty and Exceptions on Standard Warranty.  
Please visit <http://www.pro.sony.eu/warranty> for important information and complete terms and conditions.

**For the customers in Korea**  
**SONY LIMITED WARRANTY** - Please visit <http://bpeng.sony.co.kr/handler/BPAS-Start> for important information and complete terms and conditions of Sony's limited warranty applicable to this product.

### Overview

The HDCU1700 Camera Control Unit is connected to a Sony HDC1700 high-definition video camera. It carries out signal processing and provides an interface for external equipment.

### Using the CD-ROM manual

The manual can be read on a computer with Adobe Reader installed. You can download Adobe Reader free from the Adobe website.

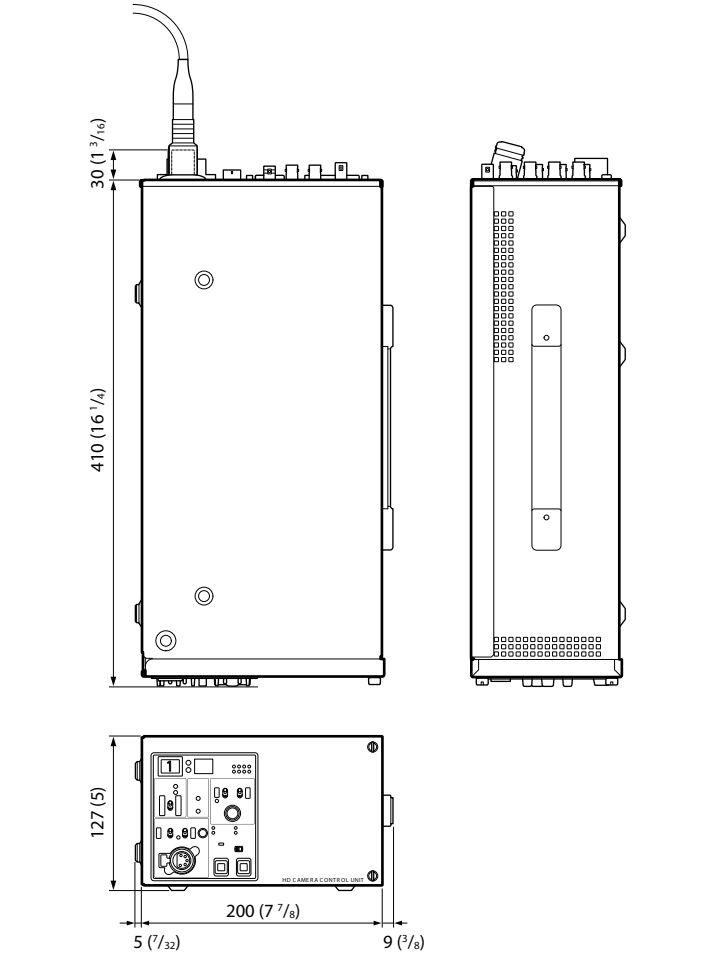
- 1 Open the index.html file in the CD-ROM.
- 2 Select and click on the manual that you want to read.

##### Note

If you have lost or damaged the CD-ROM, you can purchase a new one from your Sony dealer or Sony service counter.

Specifications

<b>HDCU1700</b>	
<b>General</b>	
Power supply	100 V to 240 V AC, 50/60 Hz
Current consumption	4.1 A (max.)
Standby power	Approx. 5 W
Inrush current	(1)Maximum possible inrush current at initial switch-on (Voltage changes caused by manual switching): 82 A peak, 9 A r.m.s. (240V AC) (2)Inrush current after a mains interruption of five seconds (Voltage changes caused at zero-crossing): 15 A peak, 5 A r.m.s. (240V AC)
Operating temperature	−10°C to +40°C (14°F to 104°F)
Storage temperature	−20°C to +60°C (−4°F to +140°F)
Mass	Approx. 6.7 kg (14 lb 12 oz)
<b>Dimensions (Unit: mm (inches))</b>	



Input/Output connectors	
CAMERA	Optical fiber connector (1) 180 V DC power supply
INTERCOM/TALLY/PGM	D-sub 25-pin connector (1) <ul style="list-style-type: none"><li>INTERCOM (PROD/ENG), 4W/RTS/CC, 0 dBu</li><li>PGM, 2 systems, 0 dBu/−20 dBu</li><li>TALLY (R, G, Y)</li></ul>
RCP/CNU	8-pin multi-connector (1)
TRUNK A	12-pin (1)
LAN	8-pin (1)
Input connectors	
AC IN	(1), 100 V to 240 V AC
RET 1, 2, 3	BNC-type (3) HD-SDI: SMPTE 292M, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 270 MbpsVBS: 1.0 Vp-p, 75 ohms
REFERENCE	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	BNC-type (2), loop-through output, analog signal, 1.0 Vp-p, 75 ohms
MIC REMOTE	D-sub 15-pin (1) (JAE-made DA-C1-J10 recommended) (switchable to WF REMOTE by an internal setting)

Output connectors	
AUDIO OUT CH1, CH2	XLR 3-pin, male (2), 0 dBu/−20 dBu/+4 dBu
HD/SD SDI OUTPUT	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
HD/SD SDI OUTPUT (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 and character ON/OFF selectable
CHARACTER/SYNC	BNC-type (1) HD SYNC: HD, BTA-S001, tri-level sync, 0.6 Vp-p, 75 ohms SD SYNC: SD, composite sync, 0.3 Vp-p, 75 ohms CHARACTER: VBS, 1 Vp-p, 75 ohms, character ON/OFF selectable CHARACTER/HD SYNC/SD SYNC selectable

Supplied accessories
Number plates (1 set)
Operation guide (1)
Operation manual (CD-ROM) (1)
Optional accessories
AC power cord: USA and Canada: 1-551-812-XX Other countries: 1-782-929-XX
Power cord plug holder USA and Canada: 2-990-242-01 Other countries: 3-613-640-01
HKCU2007 3G/HD SDI Output Expansion Unit
HKCU1001 SD Encoder Unit
HKCU1003 Multi Interface Unit
CCA-5-3 Connection Cable (3 meters/10 feet) CCA-5-10 Connection Cable (10 meters/33 feet)
RMM-301 Rack Mount Adaptor
Expansion 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.

Related devices
HDC1700/2500/2400 Color Video Camera
RCP-1000 series Remote Control Panel
MSU-1000 series Master Setup Unit
CNU-700 Camera Command Network Unit
HZC-CSM10 Camera System Management Software

Design and specifications are subject to change without notice.

HKCU2007 (optional)	
General	
Power supply	5.5 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)	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 oz) HIF board: Approx. 0.09 kg (3 oz)

Output connectors	
HIF board	
SDI OUT	BNC-type (4) 3G-SDI: SMPTE 424M/425M, 0.8 Vp-p, 75 ohms, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 ohms, 1.485 Gbps/1.4835 Gbps 3G-SDI/HD-SDI selectable Character ON/OFF selectable (connectors 3/4)

Note

The HDCU1700 does not support 3G-SDI.

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)	

Design and specifications are subject to change without notice.

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-A/B/C board: 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-A/B/C 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)
VDA-B board	
FRAME REF IN	BNC-type (1) HD: SMPTE 274M, tri-level sync input, 0.6 Vp-p, 75 ohms SD: Black burst input, 0.286 Vp-p, 75 ohms
FRAME REF OUT	BNC-type (1) Loop-through output or frame sync pulse output, 0.3 Vp-p, 75 ohms, switchable
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	
VBS	BNC-type (2), 1.0 Vp-p, 75 ohms, VBS
R/R-Y, G/Y, B/B-Y	BNC-type (3) <ul style="list-style-type: none"><li>RGB video R/G/B (100% white): 0.7 Vp-p, 75 ohms</li><li>Component video Y (100% white): 0.714 Vp-p</li><li>R-Y/B-Y (75% color bar): 0.756 Vp-p, 75 ohms</li></ul>
Supplied accessories	
4-pin connector (1)	

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.

产品中有毒有害物质或元素的名称及含量

使用环境条件： 温度−10 °C到+40 °C  
湿度20%到80%

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
实装基板	×	○	○	○	○	○
外壳	×	○	○	○	○	○
附属品	×	○	○	○	○	○

○ 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。  
× 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。