

SONY

The ultimate solution
for HD image capture

HDC-1500 Series
Multi-format HD Camera System

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HDC-1500 Series

Heralding a New Era of HD Production



Pursuing the ultimate HD system for today and for tomorrow, Sony now sets another milestone in the history of multi-format HD camera systems – the HDC-1500 Series – offering a broader choice of interlace and progressive formats, much greater picture quality and enhanced operational flexibility.

Since pioneering High Definition over 20 years ago, Sony has continually enhanced its line of HD cameras, in support of the emerging DTV agendas around the world. It has presented a comprehensive and cost-effective path into studio, OB van and field-based HD productions, due to its multiple format capability, stunning picture performance, and system flexibility.

The HDC-1500 Series consists of two camera heads, one large lens adaptor, two Camera Control Units and a range of peripherals. The HDC-1000 studio camera and its companion HDC-1500 portable camera incorporate a newly developed CCD imager and DSP LSI – two key devices that allow them to achieve ultimate picture performance in a variety of scanning modes. The new CCD can accommodate all existing interlace and progressive scan formats ranging from 1080/50i and 1080/60i to 1080/24P*1. The CCD employed in the HDC-1500 Series can operate at 1080/50P and 1080/60P, which deliver highest-quality 720/50P and 720/60P image creation for operations today*2.

Such high image quality is supported by the camera's convenient peripherals, which make installation and operation of the HDC-1500 system very smooth. The HDLA-1500 large lens adaptor incorporates a totally new interlocking mechanism, which allows conversion of the HDC-1500 camera from portable to large lens mode in just a matter of seconds – relieving operators from lengthy mechanical adjustments.

The new HDCU-1000 and HDCU-1500 Camera Control Units use an optical fibre connection between the HDC camera for top-quality signal transmission and longer cable runs. In addition to a broad range of signal outputs, both CCUs come equipped with an Ethernet interface (100Base-T) for control over a standard TCP/IP network. What's more, the HDTX-100 and HDFX-100 Triax Adaptors, which provide conversion between optical fibre and triax, allow systems to be configured around traditional triax-based infrastructures.

With its innovative performance, operability and system flexibility, the Sony HDC-1500 Series will certainly become the mainstream acquisition tool to open unlimited possibilities in a broad range of HD production applications.

*1 In this brochure, 60i, 24P, 30P and 60P are used as generic names for 59.94i, 23.976P, 29.97P and 59.94P, respectively.

*2 1080/60P and 1080/50P signals can be output from the HDC-1000/HDC-1500 camera head.



Cutting-Edge Technology



New Progressive CCD

At the heart of the outstanding picture performance of the HDC-1000/HDC-1500 cameras are three new 2/3-inch 2.2-megapixel HD CCDs. Based on Sony HAD sensor technology and the latest on-chip lens structure, this new CCD offers a high sensitivity of F10 at 2000 lx and an excellent signal-to-noise ratio of -54 dB (typical). In addition to this performance, a wide variety of capturing modes including 1080/50i, 1080/60i, 1080/24P, 1080/25P and 1080/30P are available. What's more, this CCD can capture top-quality 1080/60P* images – a capability that also offers highest-quality 720/50P and 720/60P image acquisition for today's operations.

*1080/60P and 1080/50P signals can be output from the HDC-1000/HDC-1500 camera head.

Industry-first 14-bit A/D Conversion

The HDC-1000/HDC-1500 incorporates an industry-first* 14-bit A/D converter that enables images captured by the high-performance CCDs to be processed with maximum precision. In particular, this high-resolution A/D conversion allows the gradation in mid-to-dark-tone areas of the picture to be faithfully reproduced. Thanks to the 14-bit A/D converter, pre-knee signal compression at highlight areas can be eliminated and the camera can clearly reproduce a high-luminance subject at a 600% dynamic range.

*In a 2.2-megapixel HD camera.

State-of-the-art DSP LSI

The newly-developed DSP (Digital Signal Processing) LSI "Visual Image Processor" is the heart of the image-processing device for the HDC-1000/HDC-1500. By adopting the latest 0.11 um design rule, this processor can accommodate up to 1080/60 progressive format and 14-bit resolution, maximizing the high-clarity images captured by the CCD. In addition, white balance, white shading and flare are all performed as digital operations, allowing for stable image correction.

Great Operability



HDC-1000 Rear panel



HDC-1500 Memory Stick slot



HDC-1500 Rear panel

Ergonomic Design

The design of the HDC-1000/HDC-1500 is based on over two decades of Sony experience in manufacturing broadcast video cameras and camcorders and provides a high level of operability. All control switches and connectors are in the most logical places and are positioned for optimum functionality and ease of use. The low-profile body of the HDC-1000 minimises the parallax between the optical axis of the camera head and the large viewfinder, while the HDC-1500's low centre of gravity design allows the operator to carry the camera comfortably on the shoulder. In addition, the shoulder pad of the HDC-1500 can be adjusted either forwards or backwards without using a screwdriver, so the camera can easily be moved to a well-balanced position.

Memory Stick™ Storage of Camera Setup Parameters

The HDC-1000/HDC-1500 camera incorporates the Sony Memory Stick system for the storage and recall of setup parameters such as scene files, reference files and lens files. This is an easy, effective system for storing and recalling camera parameters for individual scenes, plus individual operators' camera-setup preferences, such as viewfinder indicator settings.

Servo-controlled ND and CC filters

The HDC-1000 and HDC-1500 are supplied with servo-controlled dual optical filters for ND (Neutral Density) and CC (Color Correction) for flexible colour and exposure control. The filter settings can be remotely controlled from a RCP, MSU, or RM-B750/B150 Remote Control Unit or locally controlled on the camera head.



HDC-1500

Compact and Lightweight

The HDC-1500 is very compact and lightweight for a high level of mobility in the field. It weighs approximately 4.5 kg (9 lb 14 oz).

Optical Fibre Digital Transmission

The HDC-1000/HDC-1500 camera provides high quality digital transmission to the associated HDCU-1000/HDCU-1500 Camera Control Unit using SMPTE standardised optical fibre cable. Unlike traditional analogue transmission systems, digital transmission suffers no signal degradation even at long cable lengths. As well as providing exceptional quality, the camera can transmit all-digital bi-directional HD video and audio signals, control, power and teleprompter signals over extremely long distances - up to 3000 metres* with the HDCU-1000 and 1800 metres (5900 feet)* with the HDCU-1500.

* When supplying power to the camera via the optical fibre cable, the maximum cable length varies with the camera system configuration, lens type, the size of the optical fibre cable and the number of cable connectors.

Versatile Interfaces

The camera also provides two HD SDI outputs and one digitally down-converted SDI or analogue composite output, which can be used to feed directly to a VTR, or fed to a picture monitor. In addition, viewfinder signals with characters can be output from the SDI output connector, giving camera operators additional convenience. Furthermore, when using 24P operation, the built-in 2-3 pull-down function of the HDC-1500 enables 60i down-converted SD signals to be output on a standard SD monitor - a capability that also minimises any flicker that could otherwise be visible on the viewfinder.



HDC-1000



HDC-1000 right side panel



HDC-1000 left side panel



HDLA-1500 rear panel



■ HDLA-1500 – Maximising Operability

Responding to the ever-increasing requirement of operations that combine a portable camera with a large lens, Sony is continuously seeking the optimum solution. The result is the highly sophisticated HDLA-1500 Large Lens Adaptor – maximizing operability. Generally, setting up a portable camera to a large lens adaptor can be a difficult task, especially fine-tuning the mechanical adjustments between each device. With the new HDLA-1500 adaptor, time-consuming adjustments, as well as wiring, are absolutely eliminated.

Totally New Interlocking Mechanism

The HDLA-1500 does not require any cable connections. Utilising a newly developed interlocking mechanism, the power, video and control signals are passed on directly from the HDC-1500 to the HDLA-1500. This unique mechanism also allows the HDC-1500 to be attached and detached without removing the large lens. Furthermore, the lens can be removed without the camera having to be mounted on the HDLA-1500 adaptor. The interlocking mechanism allows for an astonishingly quick and smooth setup.

Low-profile Design

Together with the low-profile design of the HDC-1500, the viewfinder position of the HDLA-1500 is 45 mm lower than the previous model. This low-profile design significantly improves the operator's view, as well as minimising the parallax between the optical axis of the camera head and viewfinder. The viewfinder is mounted on a slide mechanism to provide a comfortable viewing position. The camera carrying handle may additionally be swung aside to allow the large viewfinder to be positioned even further forward.

1

Open the rear cover of the HDLA-1500. There is no need to detach the viewfinder.



2

Mount the HDC-1500 camera and slide forward. The camera locks into place automatically.



3

Close the rear cover.



Versatile System Components

The HDC-1000/HDC-1500 camera is compatible with a variety of peripherals including camera control units, remote controllers, command network units and master setup units. This allows operators to flexibly configure the system according to their needs both in the studio and out in the field. In addition to the optical fibre transmission capability, a triax operation is also possible by adding the HDC-1000/HDC-1500 system for further flexibility.

HDCU-1000 Camera Control Unit

HDCU-1500 Portable Camera Control Unit

The HDC-1000/HDC-1500 camera can be configured with two types of camera control units – the full-size HDCU-1000 and half-rack HDCU-1500. The optical fibre transmission

system used in these units maintains the high picture quality of the camera across cable runs of up to 3000 metres (9800 feet)* with the HDCU-1000 and up to 1800 metres (5900 feet)* with the HDCU-1500. Both models are equipped with a range of built-in interfaces such as HD SDI/SD SDI outputs, HD/SD return inputs and a down-converted analogue composite monitor output. In addition, a variety of output interfaces are offered via optional boards, which are installed in four slots on the HDCU-1000 and two slots on the HDCU-1500. Furthermore, the Ethernet interface (100Base-T) that is built into both CCUs allows the camera to be controlled over a network. Both units also support the standard 700 Series control interface.

* When supplying power to the camera via the optical fibre cable, the maximum cable length varies with the camera system configuration, lens type, the size of the optical fibre cable and the number of cable connectors.



HDCU-1000



HDCU-1500

HDCU-1000

- Eight HD SDI or SD SDI outputs
- Up to eight additional HD SDI or SDI outputs (with two optional HKCU-1005 boards)
- Four sets of HD SDI, SD SDI and analogue composite return video inputs
- Built-in down-converted analogue composite output
- Built-in 2-3 pull-down capability
- Two-channel teleprompter inputs
- Built-in Ethernet interface (100Base-T) as well as standard 700 Series control interface
- Utility power output capability for use with the HDC-1000 or HDLA-1500
- Two-channel data trunk lines (RS-422A or RS-232C) for easy data transmission
- AES/EBU digital audio output
- Two-channel microphone outputs (two XLR connectors)
- Expansion slots for 4 option boards

HDCU-1500

- High capacity power supply allowing HDC-1000 camera or HDC-1500 with HDLA-1500 operation
- Three HD SDI or SD SDI outputs
- Up to eight additional HD SDI or SD SDI outputs (with two optional HKCU-1005 boards)
- Three HD SDI, SD SDI, or analogue composite return video inputs
- Built-in down-converted analogue composite output
- Built-in 2-3 pull-down capability
- RM-B750 Remote Control Unit can be attached to provide front control panel
- One channel teleprompter inputs
- Built-in Ethernet interface (100Base-T) as well as standard 700 Series control interface
- Two-channel data trunk line (RS-422A/RS-232C) for easy data transmission
- Two-channel microphone outputs (two XLR connectors)
- Expansion slots for 2 option boards

Control Systems



HDCU-1000 rear panel



HDCU-1500 rear panel



HKCU-1001
SD Analogue
Interface Unit

HKCU-1003
Multi Interface Unit

HKCU-1005
HD/SD
Expansion Unit

Interface Expansion Options

Three types of interface expansion option are available for both CCUs.

- The HKCU-1001 SD Analogue Interface Unit provides two analogue NTSC or PAL VBS signal outputs, a WFM and a picture monitor output.
- The HKCU-1003 Multi Interface Unit consists of three types of interface board and provides:
 - Frame reference input and output to lock 2-3 pull-down sequence (Board A)
 - Two analogue NTSC or PAL VBS signal outputs (Board B)
 - Analogue NTSC or PAL VBS and analogue component R/G/B or Y/R-Y/B-Y outputs (Board C)
- The HKCU-1005 HD/SD Output Expansion Unit provides 4 additional HD SDI or SD SDI outputs.



MSU-950



MSU-900

MSU-900 Master Setup Unit

MSU-950 Portable Master Setup Unit

The MSU-900/950 Master Setup Unit is a central control panel used for the adjustment of camera parameters in a multi-camera system. The MSU-900/950 is connected to each camera control unit in the system via the CNU-700 Command Network Unit or an Ethernet network hub.

- Central control of all cameras parameters for the entire camera system
- Picture and waveform monitor switching
- Precise picture adjustment
- Built-in 6.5-inch* colour LCD touch-screen for clear viewing of adjustment parameters during operation
- Memory Stick slot for storing/recalling files
- Built-in Ethernet interface (100Base-T) as well as standard 700 Series control interface

* Viewable area, measured diagonally

Versatile System Components



RM-B750



The RM-B750 attached to the HDCU-1500

RM-B750 Remote Control Unit

The RM-B750 Remote Control Unit has been designed to offer a highly mobile and fully controllable camera system in the field. The RM-B750 can be connected directly to the HDC-1000/HDC-1500 camera or attached to the half-rack HDCU-1500 Camera Control Unit. The combination of an LCD touch-panel screen and direct push buttons enables full parameter adjustment of the camera to be controlled. For further operational convenience, the RM-B750 has a Memory Stick media card slot so that various setup parameters can be stored and recalled.



RCP-750



RCP-751

RCP-750/751 Remote Control Panel

Two types of RCP-750 Series Remote Control Panels are also available, providing a range of control functions from the basic to the very sophisticated for operational adjustments of an HDC-1000/HDC-1500. Each type is available with either a joystick or dial-type iris control.





CNU-700

CNU-700 Camera Command Network Unit

The CNU-700 Camera Command Network Unit allows communication between all the units in the system and provides the ability to assign CCUs, MSUs, RCPs and HDC-1000/HDC-1500 camera heads. A RISC-based microprocessor system provides high-speed transfer of command signals to the HDCU-1000/HDCU-1500 for rapid response and reliable control. One CNU-700 can control six cameras, but can be expanded to control up to 12 cameras when fitted with an optional BKP-7930 expansion board. Several CNU-700 units can be connected to the camera control network in a large system.



HDFX-100

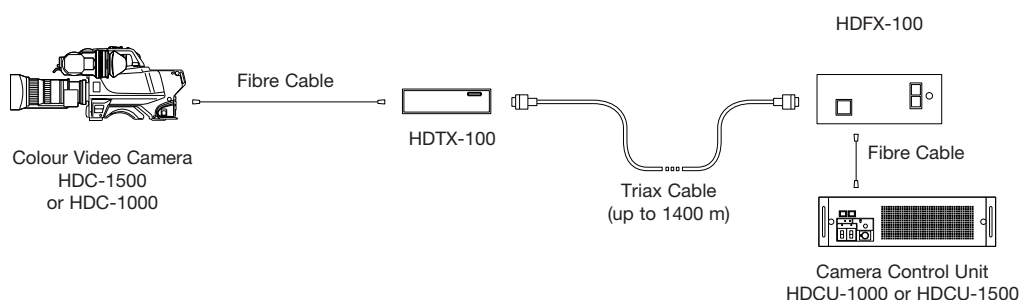


HDTX-100

HDTX-100 HD Triax Adaptor (Camera side)

HDFX-100 HD Triax Adaptor (HDCU side)

The HDTX-100 and HDFX-100 HD Triax Adaptors extensively broaden the range of applications suited to the HDC-1000/HDC-1500. By converting optical fibre transmission to the widely used triax transmission, they provide the high reliability and stability needed for field-production applications. They enable high-quality pictures to be transmitted from the HDC-1000 or HDC-1500 camera or HDC-1500 mounted on the HDLA-1500 over long distances – up to 1400 metres (4500 feet) with a \varnothing 14.5 mm triax cable or 1000 metres (3200 feet) with a \varnothing 13.2 mm triax cable. In addition, the HDTX-100 enables hybrid triax and optical fibre operation. In this case, longer cable runs of more than 2000 metres (6500 feet) can be achieved with the HDC-1500 portable camera configuration.



Optional Accessories



HDLA-1500
Large Lens Adaptor



RCP-700/701
Remote Control Panel
(Photo shows RCP-700)



RCP-750/751
Remote Control Panel
(Photo shows RCP-750)



HDVF-20A
CRT B/W Viewfinder
for HDC-1500



HDVF-C30W
LCD Colour Viewfinder
for HDC-1500



HDVF-700A
CRT B/W Viewfinder
for HDC-1000



HDVF-C750W
LCD Colour Viewfinder
for HDC-1000



BKP-7911
Script Holder



Viewfinder Eye-piece for HDVF-20A
A-8262-537-A (High magnification)
A-8262-538-A (Low magnification)
A-8267-737-A (Standard magnification with
special compensation for aberrations)



Viewfinder Eye-piece for HDVF-20A
A-8314-7298-A
(High performance, with soft cushion)



BKW-401
Viewfinder Rotation Bracket
for HDVF-20A



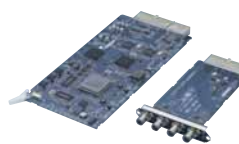
CAC-6
Return Video Selector



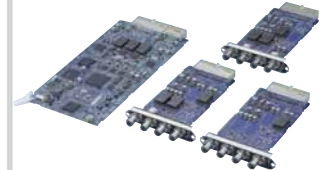
CAC-12
Mic Holder



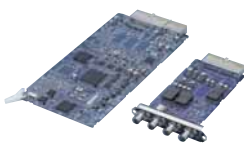
VCT-14
Tripod Adaptor



HKCU-1001
SD Analogue Interface Unit



HKCU-1003
Multi Interface Unit



HKCU-1005
HD/SD Expansion Unit

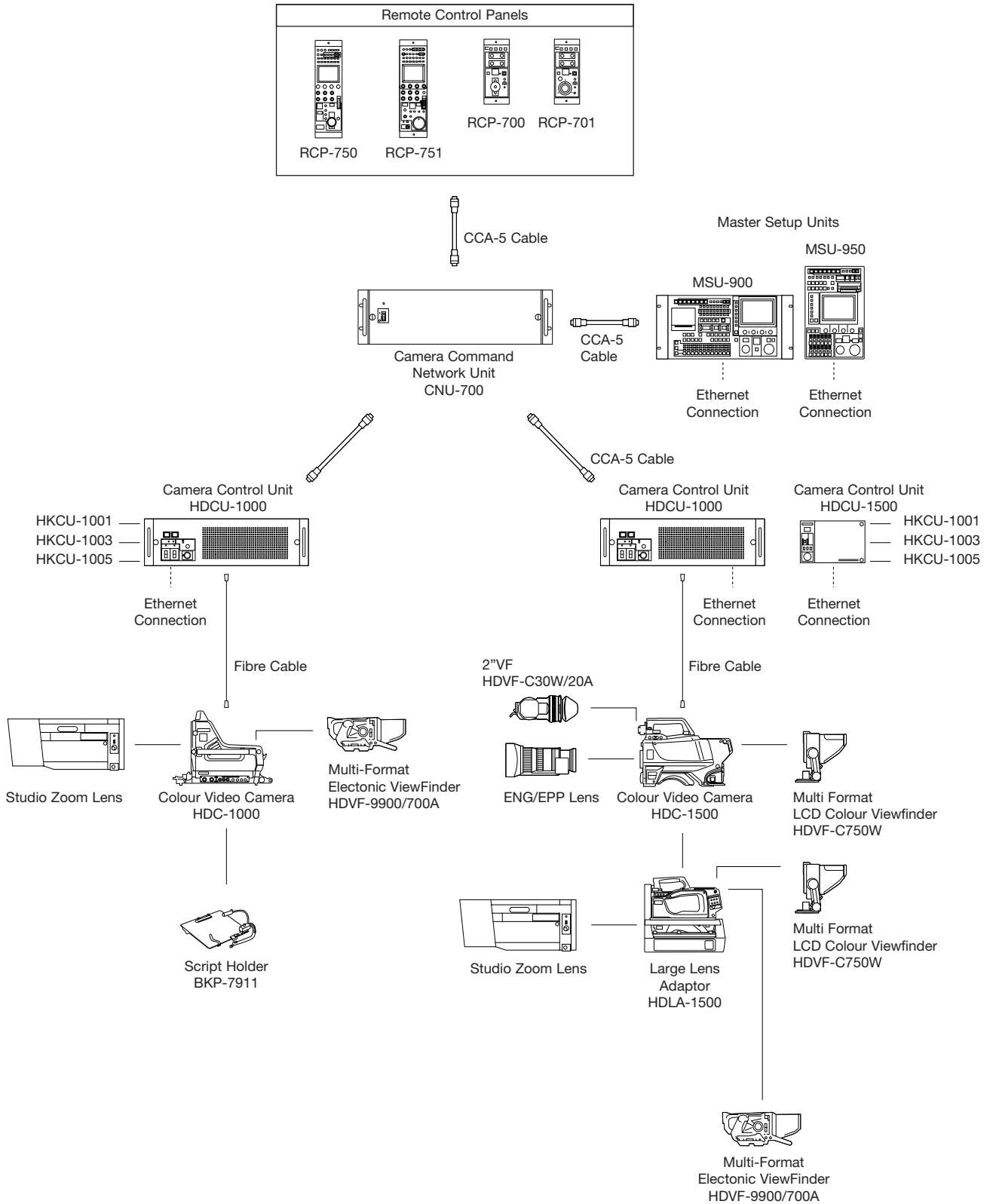


HDTX-100
Triax Adaptor (Camera Side)



HDFX-100
Triax Adaptor (CCU Side)

System Configuration



Specifications

HDC-1000/HDC-1500

GENERAL	
Mass	HDC-1000: Approx. 20 kg (44 lb 9 oz, without VF and lens) HDC-1500: Approx. 4.5 kg (9 lb 14 oz, without VF and lens)
Operating temperature	-20 to +45 °C (-4 to +113 °F)

CAMERA	
Pickup device	3-CCD 2/3-inch type 16:9
Effective picture elements (H x V)	1920 x 1080
Spectrum system	F1.4 prism system
Built-in filters	1: Clear, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K
Servo filter control	Yes
Lens mount	HDC-1000: Sony hanger mount HDC-1500: Sony bayonet mount
Sensitivity	F10 at 2000 lx (3200K, 89.9% reflectance)
Minimum illumination	10 lx (F1.4, +12 dB gain up)
Signal-to-noise ratio	54 dB (typical)
Horizontal resolution	1000 TV lines
Dynamic range (1080/60i mode)	600%
Registration	Within 0.02% (all zones, without lens)
Shutter speed selection	HDC-1000: 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/60i mode) HDC-1500: 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i mode)
Modulation depth	45% or more horizontally (800 TV lines at centre, 27.5 MHz, with typical lens)

INPUT CONNECTORS	
Audio in (CH-1)	XLR-3-31 type (1, female), mic or line selectable
Audio in (CH-2)	XLR-3-31 type (1, female), AES/EBU or mic or line selectable
Mic in (front)	XLR-3-31 type (1, female) (HDC-1500 only)
Return control	6-pin (1)
DC in	XLR-4-pin type (1)

OUTPUT CONNECTORS	
Test out	BNC type (1), 1.0 Vp-p, 75 Ω
HD SDI out	BNC type (2)
Earphone out	Mini-jack (1), 8 Ω (HDC-1500 only)
DC out	4-pin (1), 10.5 to 17 V max. 1.5 A
AC utility out	Yes (Output connector differs by region)

INPUT/OUTPUT CONNECTORS	
CCU	Optical fibre connector
Lens	HDC-1000: 36-pin HDC-1500: 12-pin
Viewfinder	HDC-1000: D-sub 25-pin HDC-1500: 20-pin
Remote	8-pin
Prompter	BNC type (1), 1.0 Vp-p, 75 Ω
Tracker	10-pin: Tracker R/T, R/G Tally, unregulated 12 V
Crane	12-pin, Y/Pb/Pr, Trunk data I/O (RS-232/422 bi-directional serial data)
Intercom	XLR-5-pin (2, female)

SUPPLIED ACCESSORIES	
	HDC-1000: Operation manual (1), Front cover (1), Number plate for side panel (2), Belt for cable clamp (2), Angle adjustment fitting (2)
	HDC-1500: Operation manual (1), Lens cap (1), Label for assignable switch (1)

MSU-900/MSU-950

GENERAL	
Power requirements	AC 100 to 240 V, 50/60 Hz
Current consumption	0.35 A
Operating temperature	+5 to +40 °C (+41 to +104 °F)
Maximum cable length	200 m (656 feet)
Mass	MSU-900: Approx. 4.5 kg (9 lb 14 oz) MSU-950: Approx. 3.7 kg (8 lb 2 oz)
Dimensions (W x H x D)	MSU-900: 482 x 67 x 222 mm (19 x 2 3/4 x 8 3/4 inches) MSU-950: 204 x 354 x 67 mm (8 1/8 x 14 x 2 3/4 inches)

INPUTS/OUTPUTS	
Remote	CCU/CNU: 8-pin (1) AUX: 8-pin (1)
I/O port	50-pin (1)
Ethernet	6-pin (1)
AC input	3-pin (1)

RM-B750

GENERAL	
Power requirements	DC 10.5 to 30 V max., supplied from camera/CCU
Operating temperature	+5 to +40 °C (+41 to +104 °F)
Mass	Approx. 0.7 kg (1 lb 8 oz)
Dimensions (W x H x D)	197 x 62 x 124 mm (7 7/8 x 2 1/2 x 5 inches)

INPUTS	
Control interface	8-pin (1)
Monitor input	BNC type (1), VBS (No HD signal capable)

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Specifications

HDCU-1000

HDCU-1500

GENERAL		
Power requirements	AC 100/120/220 to 240 V, 50/60 Hz	AC 100 to 240 V, 50/60 Hz
Maximum current consumption	5.4 A (at 100 V AC, entire system active)	4 A (at 100 V AC, entire system active)
Operating temperature	+5 to +40 °C (+41 to +104 °F)	-10 to +40 °C (+14 to +104 °F)
Mass	Approx. 16 kg (35 lb 4 oz)	Approx. 6.2 kg (13 lb 10 oz)
Dimensions (W x H x D)	424 x 133 x 410 mm (16 3/4 x 5 1/4 x 16 1/4 inches)	200 x 127 x 410 mm (8 x 5 1/8 x 16 1/4 inches)
VIDEO OUTPUTS		
SDI output	BNC type (4), selectable as either HD or SD	BNC type (2), selectable as either HD or SD
SDI monitor output	BNC type (4), character on/off selectable, selectable as either HD or SD	BNC type (1), character on/off selectable, selectable as either HD or SD
Analogue composite monitor output	BNC type (1), character on/off selectable	BNC type (1), Monitor/Sync selectable, character on/off selectable
VIDEO INPUTS		
HD SDI return input	BNC type (4)	BNC type (3), selectable as HD SDI, SD SDI, or VBS
SD SDI return input	BNC type (4)	
VBS return input	BNC type (4)	
SYNC		
Reference input	BNC type (1, with loop-through), HD tri-level sync or SD black burst	
Sync output	BNC type (1), HD tri-level sync or SD sync	BNC type (1), HD tri-level sync or SD sync Sync/Monitor selectable
INTERCOM/TALLY/PGM		
Intercom PD & ENG	D-sub 25-pin (1), 4W/RTS/CC selectable	
PGM1/PGM2	0/-20 dBu selectable	
R-Tally/G-Tally	24 V power in/make contact	
AUDIO		
MIC1/MIC2 output	XLR-3-31 type (2, female), 0/-20 dBu selectable	
Digital audio output (AES/EBU)	BNC type (1), AES/EBU format, 20-bit/48 kHz	—
Embedded audio	Embedded audio to HD SDI/SD SDI	
PROMPTER		
Prompter in	BNC type (2, with loop-through), Analogue, NTSC/PAL/HD-Y	BNC type (1, with loop-through), Analogue, NTSC/PAL/HD-Y
OTHERS		
RCP/MSU/CNU interface	8-pin (1), Sony Camera Command Network Protocol (for entire camera system control)	
Ethernet	RJ-45 (1), 10BASE-T/100BASE-TX	
Mic remote	D-sub 15-pin	
WF mode	4-pin (2), Stair step (for SD composite Waveform monitor)	4-pin (1), Stair step (for SD composite Waveform monitor)
WF control	D-sub 15-pin (1), GPI (for SDI component WF control)	D-sub 15-pin (1), GPI (for SDI component WF control) WF control/mic remote selectable
System expansion I/O	D-sub 15-pin (1), GPI (for system control with external GPI interface)	
Trunk line	D-sub 9-pin (1), RS-232C (remote line for CHU equipment), 12-pin (round type connector), RS-232C/422 (remote line for CHU equipment)	12-pin (round type connector), RS-232C/422 (remote line for CHU equipment)
CAMERA		
Optical fibre cable interface	SMPTE 304M based optical fibre connector (1), 1.5 gb/s optical fibre digital transmission, SMPTE 292 M	

In the above table

HD SDI inputs and outputs are SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P

SD SDI inputs and outputs are SD SMPTE 259M, Serial digital component 480/576-lines

VBS outputs are composite NTSC/PAL

Optional input/output boards

HKCU-1001 SD ANALOGUE INTERFACE UNIT	
VBS output	BNC type (2)
Analogue composite monitor output	BNC type: WF (1), PIX (1)
HKCU-1003 MULTI INTERFACE UNIT	
VDA-A board: VBS I/F	
VBS output	BNC type (2)
Analogue composite monitor output	BNC type: WF (1), PIX (1)
VDA-B board: Frame Rate I/F	
Frame reference input/output	BNC type (1, loop-through), full pull-down sequence lock
Analogue composite monitor output	BNC type: WF (1), PIX (1)
VDA-C board: Sub I/F	
VBS output	BNC type (1)
Analogue component output	BNC type (3), R/G/B or Y/R-Y/B-Y selectable

HKCU-1005 HD/SD EXPANSION UNIT	
HD SDI/SD SDI output	BNC type (2)
HD SDI/SD SDI monitor output	BNC type (2), character on/off selectable

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