

## HDC-1500R

Multi format HD Camera with fibre interface for Prestige Production



### Heralding a New Era of HD Production

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

The HDC-1500R incorporates a newly developed CCD imager and DSP LSI - two key devices that allow it to achieve ultimate picture performance in a variety of scanning modes. The CCD used in this camera can accommodate all existing interlace and progressive scan formats ranging from 1080/50i and 1080/59.94i. It can also capture stunning 1080/59.94P\* and 1080/50P\* images - as well as delivering the highest-possible quality 720/50P image creation\*.

Such high image quality is supported by the camera's convenient peripherals, which make installation and operation of an HDC-1000R system very smooth.

The HDLA-1500/HDLA-1505 Large Lens Adaptor incorporates a totally unique interlocking mechanism, which allows a large lens to be attached/detached from the portable camera in just a matter of seconds - relieving operators from lengthy mechanical adjustments.

\* 1080/59.94P and 1080/50P signals can be output only from the HDC-1500R in a stand-alone configuration.

## Features

### Power HAD FX CCD for high sensitivity

The HDC-1500R is equipped with a newly developed three 2/3-inch type 2.2-megapixel HD CCD. Based on Sony HAD sensor technology and the latest on-chip lens structure, this new CCD offers a high sensitivity of F11 at 2000 lx. In addition to this performance, a wide variety of capturing modes including 1080/50i, 60i, 1080/24P, and 1080/25P, 30P are available. What's more, this CCD can capture top-quality 1080/50P, 60P(\*) images - a capability that also offers highest-quality 720/50P, 60P image acquisition for

today's operations. (\*)1080/50P, 60P signals can be only output from the camera head.

### 14-bit A/D (Analog to Digital) conversion

The HDC-1500R utilises a 14-bit A/D convertor, which 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 this 14-bit A/D convertor, 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.

### Improved S/N ratio

At the heart of the outstanding picture performance of the HDC-1500R camera is a newly developed 2/3-inch type 2.2-megapixel full HD progressive CCD. Based on Sony's HAD sensor technology and the latest on-chip lens structure, this CCD offers a high sensitivity of F10 or F11 at 2,000 lx and an excellent signal-to-noise ratio of 56 dB (typical).

Together with a unique "Noise Suppression" function, which reduces the high-frequency noise elements in video signals by using Sony's advanced digital signal processing technology, a 64dB S/N ratio can be achieved.

### Newly added Focus Assist Functions

For easier focusing through the viewfinder, two types of focus assist functions are newly incorporated to the HDC-1500R: Viewfinder Detail and Focus Assist Indicator. To intuitively recognize a focusing point, users of the camera can add dedicated image-enhancing edge signals directly to the viewfinder as "Viewfinder Detail". The "Focus Assist Indicator" is a helpful tool for manual focus adjustments, especially when shooting wide-angle views. An indicator is displayed at the bottom or other positions of the viewfinder frame, enabling users to make more accurate and fine focus adjustments.

### Compact and Lightweight

The HDC-1500R portable camera is designed to be very compact and lightweight for a high level of mobility in the field. The HDC-1500R camera weighs

approximately 4.5 kg ensuring comfortable operation either on the shoulder or on a tripod.

## Benefits

### 1080/50p ready and 3G Transmission upgradable

The HDC-1500R can capture 1080/50p and output from camera head as dual link. Moreover, using a 3G migration kit, the HDC-1500R will be able to upgrade to a 3G transmission system.

For broadcasters wishing to migrate to 1080/50p transmission in the future, Sony offers the HDC-1500R as future proof 1080p ready camera.

\*3G migration kit is planned for release in 2010.

### New CCD and DSP provides even greater picture performance

The use of a new, state-of-the-art CCD sensor ensures high quality images even at low light level. The high sensitivity of F11 at 2000 lux, together with a signal to noise ratio of 56 dB combine to deliver unprecedented picture quality.

### Multi-format operation

The HDC-1500R can operate in a wide variety of capturing modes, including 1080 50/60i, 1080 24/25/30P. Furthermore, the CCD can capture 1080 50/60P images, which can be down sampled to deliver the highest quality 720 50/60P pictures.

## Technical Specifications

General	
Power requirements	240 V AC, 1.4 A (max.), 180 V DC, 1.0 A (max.), 12 V DC, 7 A (max.)
Operating temperature	-20 to +45°C (-4 to +113°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Mass	Approx. 4.5 kg (9 lb 15 oz)

Camera	
Pickup device	3-chip 2/3-inch type CCD
Effective picture elements (H x V)	1920 x 1080
Signal format	1080/50i, 59.94i, 23.98P, 24P, 25P, 29.97P, 1080/50P*, 59.94P*, 720/50P, 59.94P
Spectrum system	F1.4 prism system
Lens mount	Sony bayonet mount

### Ergonomic Design

The design of the HDC-1500R 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 HDC-1500R'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-1500R can be adjusted either forwards or backwards without using a screwdriver, so the camera can easily be moved to a well-balanced position.

### Sophisticated large lens adaptor design with one-touch, cable-free docking

The HDLA-1500 large lens adaptor includes a unique mechanism which allows the HDC-1500R to be quickly and easily attached and detached without removing the large lens. No additional cable connections are necessary between the camera and adaptor, thanks to a novel "hot shoe" system.

### Flexible selectable transmission system both digital fibre optic or analogue triax transmission

The HDC-1500R provides a fully digital transmission link to the base station. Using SMPTE standard hybrid fibre/copper cable, this allows completely transparent transmission of full bandwidth video and audio signals over cable length of up to 3000 metres. This ensures optimum quality HD signals can be delivered into any production environment. Moreover using the HDTX-100/HDFX-100 adaptor, the HDC-1500 can be used as triax transmission system

Built-in filters	CC: A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K ND: 1: Clear, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
Sensitivity (1080/59.94i)	F10 at 2000 lx (3200K, 89.9% reflectance)
Signal-to-noise ratio	56 dB/64 dB (w/NS max.) (1080i, typical)
Horizontal resolution (1080/59.94i)	1000 TV lines (at center)
Registration	Within 0.02% (all zones, without lens)
Shutter speed selection	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/59.94i) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i)
Modulation depth	45% horizontally (typical) (800 TV lines at center, 27.5 MHz, with typical lens)

**Input/output connectors**

Audio input (CH1)	XLR-3-pin (female) (1), mic or front mic or line selectable
Audio input (CH2)	XLR-3-pin (female) (1), AES/EBU or mic or line selectable
Mic 1 input	XLR-3-pin (female) (1)
Prompter output/Gen-lock input/Return input	BNC type (1), 1.0 Vp-p, 75 ohms
Prompter 2	BNC type (1), 1.0 Vp-p, 75 ohms
DC input	XLR-4-pin (1), 10.5 to 17 V DC
DC output	4-pin (1), 10.5 to 17.5 V DC, 1.5 A (max.)
Test output	BNC type (1), 1.0 Vp-p, 75 ohms

SDI 1 output	BNC type (1) HD-SDI
SDI 2 output	(without embedded audio)
Earphone output	Stereo mini-jack (1)
CCU	Electro-optical connector (1)
Tracker	10-pin (1)
Crane	12-pin
Intercom 1	XLR-5-pin (female) (1)
Intercom 2	XLR-5-pin (female) (1)
Remote	8-pin (1)
Lens	12-pin (1)
Viewfinder	20-pin (1)

**Supplied Accessories**

	Switch label 1, 2
	Operation manual

**Accessories****Control Systems****HDCU-1000**

HD Camera Control Unit

multi camera system in any studio or OB van, in a compact, vertical panel format

**HDTX-100**

HD Triax Adaptor (Fischer type)

**MSU-900**

Master Set-Up Unit for BVP and HDC series cameras. Provides centralised control for a multi camera system in any studio or OB van, in a compact, horizontal panel format

**RCP-1500**

Standard remote control panel with Joystick type control

**RCP-920**

Remote Control Panel

**MSU-950**

Master Set-Up Unit for BVP and HDC series cameras. Provides centralised control for a

**RCP-921**

Remote Control Panel

**Lens Adaptors****HDLA-1500**

HD Large Lens Adaptor

**HDLA-1505**

HD Large Lens Adaptor

## Viewfinders



**HDVF-20A**  
2-inch Type HD B/W CRT Viewfinder



**HDVF-C950W**  
Multi-format HD Colour LCD Viewfinder for use with the HDC-1500 portable HD cameras



**HDVF-700A**  
HD CRT Viewfinder(7 inch)



**HDVF-EL75**  
7.4-inch OLED Viewfinder for portable cameras



**HDVF-9900**  
SONY ELECTRONIC VIEWFINDER



**VFH-990**  
Sony View Finder Hood



**HDVF-C730W**  
6" Multi-format HD Colour LCD Viewfinder

## Viewfinders



**HDVF-C35W**  
HD Colour LCD Viewfinder

## Option Boards and Modules



**HKCU-1001**  
SD Analogue Interface Board for HDCU-1000 and HDCU-1500



**HKCU-1005**  
SDI Output Expansion Board for HDCU-1000 and HDCU-1500



**HKCU-1003**  
Multi Interface Option Board for HDCU-1000 and HDCU-1500



**RM-B150**  
Remote Control Unit

## Tripods and Supports



**VCT-14**  
TRIPOD ADAPTOR FOR PORT. CAMERAS/ CAMC.