



## HDC-1000R

Multi format HD Studio Camera 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-1000R - offering a broader choice of interlace and progressive formats, much greater picture quality, and enhanced operational flexibility.

The HDC-1000R 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 to 1080/24P. It can also capture stunning 1080/59.94P\* and 1080/50P\* images - as well as delivering the highest-possible quality 720/50P and 720/59.94P 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-1000R in a stand-alone configuration.

### Features

#### Power HAD FX CCD for high sensitivity

The HDC-1000R 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 (Analogue to Digital) conversion

The HDC-1000R utilises a 14-bit A/D converter, 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-1000 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-1000R: 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.

### Low profile chassis design

The unique design of the HDC-1000R provides a very low mounting for the viewfinder. This ensures very convenient and comfortable operation, by keeping the viewfinder close to the axis of the lens. Moreover HDC-1000R can be used with a high quality image viewfinder such as the HDVF-EL100 OLED Viewfinder.

## Benefits

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

The HDC-1000R can capture 1080/50p and output from camera head as dual link. Moreover, using a 3G migration kit, the HDC-1000R will be able to upgrade 3G transmission system.

For broadcasters wishing to migrate to 1080/50p transmission in the future, Sony offers the HDC-1000R 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-1000R 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.

### Ergonomic Design

The design of the HDC-1000R 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-1000's compact body delivers all the benefits of a full size studio camera but in a much smaller, low profile design.

## Technical Specifications

### -- General --

Power requirements	240 V AC, 1.7 A (max.), 180 V DC, 0.9 A (max.), 12 V DC, 10 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. 21 kg (46 lb 5 oz)

### -- Camera --

Pickup device	3-chip 2/3-inch type CCD
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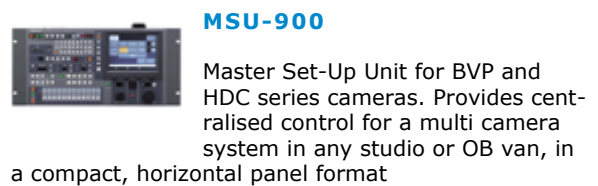
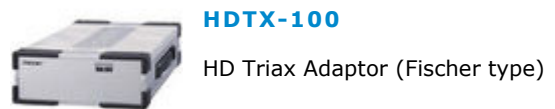
Effective picture elements (H x V)	1920 x 1080
Signal format	1080/50i, 59.94i, 23.98P, 24P, 25P, 29.97P 1080/50P*, 59.94P* 720/50P, 59.94P * 1080/59.94P and 1080/50P signals can be output only from the HDC1000R camera head in a stand-alone configuration.
Spectrum system	F1.4 prism system
Lens mount	Sony hanger mount
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 (1080/59.94i)	54 dB (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 (male) (1), mic or line selectable
Audio input (CH2)	XLR-3-pin (male) (1), AES/EBU or mic or line selectable
Return control input	6-pin (1)
Prompter 1	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	BNC type (1) HD-SDI/SD-SDI selectable
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	36-pin (1)
Viewfinder	D-sub 25-pin (1)

**Accessories**

**Control Systems**



**SONY****MSU-950**

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, vertical panel format

**RCP-751**

New Dial-type full-function remote control panel for use with all BVP and HDC systems cameras

**RCP-750**

New Joystick-type full-function remote control panel for use with all BVP and HDC systems cameras

**RCP-920**

Remote Control Panel

**RCP-921**

Remote Control Panel

**Option Boards****HKCU-1001**

SD Analogue Interface Board for HDCU-1000 and HDCU-1500

**HKCU-1003**

Multi Interface Option Board for HDCU-1000 and HDCU-1500

**HKCU-1005**

SDI Output Expansion Board for HDCU-1000 and HDCU-1500

**Viewfinders and Hoods****HDVF-700A**

HD CRT Viewfinder(7 inch)

**HDVF-C730W**

6" Multi-format HD Colour LCD Viewfinder

**VFH-770**

SPORTS HOOD FOR BVF-77CE

**HDVF-C950W**

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

**HDVF-9900**

SONY ELECTRONIC VIEWFINDER

**VFH-990**

Sony View Finder Hood