



HDC-1400R

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-1400R - offering a broader choice of interlace and progressive formats, much greater picture quality, and enhanced operational flexibility.

The HDC-1400R 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 popular interlace and progressive scan formats including 1080/50 as well as the highest-quality 720/50P images.

The HDC-1400R camera provides digital transmission using SMPTE standard fibre optic cable to transmit high-quality digital data over long distances. The camera also provides two HD SDI outputs and one digitally down-converted SDI or analogue composite output. In addition, viewfinder signals with characters can be output from the SDI output connector, giving camera operators additional convenience.

The HDC-1400R, if required, can be operated in a triax environment utilising the HDTX-100/HDFX-100 triax adapter.

Features

Power HAD FX CCD for high sensitivity

The HDC-1400R 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. What's more, this CCD can capture top-quality 1080/50P images - a capability that also offers highest-quality 720/50P image acquisition for today's operations.

14-bit A/D (Analogue to Digital) conversion

The HDC-1400R 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-1400R 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-1400R: 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-1400R portable camera is designed to be very compact and lightweight for a high level of mobility in the field. The HDC-1400R camera weighs approximately 4.5 kg ensuring comfortable operation either on the shoulder or on a tripod.

Benefits

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.

Dual-format operation - 1080 50i and 720 50P.

The HDC-1400R can operate in a wide variety of capturing modes, including 1080 50i and 720/50p. Furthermore, the CCD can capture 1080 50P images, which can be down sampled to deliver the highest quality 720 50P pictures. In addition optional software allows the HDC-1400R to be upgraded with 1080/25P capability if necessary.

Ergonomic Design

The design of the HDC-1400R 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-1400R'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-1400R 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-1400R 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-1400R 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-1400R can be used with a triax transmission system

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	1080/59.94i, 720/59.94P
Spectrum system	F1.4 prism system
Lens mount	Sony bayonet mount
Built-in filters	ND:Å 1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND, 5: CROSS
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)
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)
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 output	BNC type (1) HD-SDI/SD-SDI selectable
Earphone output	Stereo minijack (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)

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

HD Camera Control Unit

**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

**HDTX-100**

HD Triax Adaptor (Fischer type)

**RCP-750**

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

**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-751**

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



RCP-920
Remote Control Panel



HDCU-1500
HD Camera Control Unit



RCP-921
Remote Control Panel

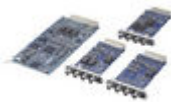
Option Boards



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

Lens Accessories



HDLA-1500
HD Large Lens Adaptor



HDLA-1505
HD Large Lens Adaptor

Viewfinders and Hoods



HDVF-20A
HD Electronic Viewfinder (2IN)

HDVF-C730W

6" Multi-format HD Colour LCD Viewfinder



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



HDVF-700A
HD CRT Viewfinder(7 inch)



VFH-770
SPORTS HOOD FOR BVF-77CE

VFH-990
Sony View Finder Hood

HDVF-9900
SONY ELECTRONIC VIEWFINDER

Viewfinders



HDVF-C35W
HD Colour LCD Viewfinder

BKW-401
Viewfinder Rotation Bracket

Tripods**VCT-14**

TRIPOD ADAPTOR FOR PORT.
CAMERAS/CAMC.