

SONY®



HD SUPER MOTION

Digital HDVS

HDC-3300

HD Super Motion Colour Camera

HDCU-3300

HD Super Motion Camera Control Unit

www.sonybiz.net/live





Lens, viewfinder and microphone are extra.

HD SUPER MOTION COLOUR CAMERA HDC-3300 OFFERS TOP-QUALITY SDTV VIDEO PRODUCTION OPPORTUNITIES

SINCE THE LAUNCH of the BVP-3000 high-speed scanning camera in 1984, Sony has been continuously developing cameras that provide high-quality slow-motion image shooting, which are primarily used for sports coverage. Today, as television broadcasting evolves and moves steadily towards High Definition (HD), there is now strong demand for a new breed of slow-motion camera system – one that offers even greater performance, as well as HD compatibility. In response to this demand, Sony offers the HDC-3300 Super Motion Camera and HDCU-3300 Camera Control Unit – its long-awaited HD slow-motion camera system.

Sony's cutting-edge technology enables the HDC-3300 to capture full-resolution 1920 x 1080 High Definition images at an amazing three times the normal frame rate (1080/180i, 1080/150i, 720/180P, or 720/150P). The HDC-3300 system is capable of transferring data at a rate of 10 Gb/s. This high transfer rate enables superb-quality uncompressed wideband signals to be transferred from the camera head to the HDCU-3300 Camera Control Unit over distances up to 2,500 metres (8,200 feet)*. Furthermore, since its design is based on the proven HDC-1500 HD Multi-format Camera, the HDC-3300 Super Motion HD Camera offers the same array of functionalities, outstanding picture quality by 14-bit A/D converter, versatile multi-format capability and high reliability as the HDC-1500, in addition to its slow-motion capability.

Another unique advantage of this camera is its outstanding picture quality even at normal frame rates, which is achieved thanks to its signal-processing LSI (Large Scale Integration) that's dedicated to normal-speed operation. This simultaneous output can be used as a conventional camera feed to the switcher, making the camera ideal for use in a variety of shooting opportunities.

With all these attractive features, the Sony HDC-3300 camera is the optimum solution to deliver slow-motion HD images of breathtaking quality.

* The distance depends on the conditions such as the number of cables used and configuration of the system.

FEATURES

Three-times Normal Speed HD Signal Output

The HDC-3300 camera can output full-resolution 1920 x 1080 HD images at an outstanding three times the normal frame rate of 1080/180i (59.94i) and 1080/150i (50i) and 1280 x 720 HD images at three times the normal frame rate of 720/180P (59.94P) and 720/150P (50P).

The slow-motion images captured by this camera are extremely high-quality. They are further enhanced by Sony's state-of-the-art techniques to minimise flicker that is typically seen on slow-motion images due to artificial lighting.

Long-distance Optical Fibre Transmission

The HDC-3300 camera allows captured data to be transferred as high-quality wideband signals to its companion HDCU-3300 Camera Control Unit up to 2500 metres (8200 feet)* at an amazingly high data rate of 10 Gb/s. This is achieved through an SMPTE standard optical fibre cable, giving users a practical, yet outstanding high-quality transmission system. The HDCU-3300 Camera Control Unit allows these signals to be recorded onto a compatible third-party server via three HD-SDI outputs.

* The distance depends on the conditions such as the number of cables used and configuration of the system.

High-quality Normal-speed HD Images

In addition to its high-quality, slow-motion images, the HDC-3300 camera also provides high-quality, normal-speed images – thanks to a signal-processing LSI that's dedicated to processing these images. Furthermore, the HDCU-3300 Camera Control Unit can output these normal-speed images for live transmission simultaneously with Super Motion images. This allows users to employ the HDC-3300 for both slow-motion and standard shooting purposes with only one camera and operator.

Flexible System Configuration

The HDC-3300 and HDCU-3300 camera system is compatible with other Sony broadcast camera peripherals including the RCP-700/920 Series Remote Control Units, CNU-700 Camera Command Network Unit and MSU-900/950 Master Setup Units. This enables the HDC-3300 and HDCU-3300 to be easily integrated into existing systems of other Sony cameras. In addition to the conventional 700 protocol, an Ethernet interface (10Base-T/100Base-TX) is incorporated, allowing the HDC-3300 camera to be controlled over a network. What's more, the HDC-3300 camera is compatible with the HDLA-1500 and HDLA-1505 Large Lens Adaptors. These are quick and easy to install thanks to a unique design that does not require any cable wiring or time-consuming adjustment.

Ergonomic Design

The design of the HDC-3300 camera is based on the proven HDC-1500 Series Multi-format HD Portable Camera that provides a high level of operability. All control switches and connectors are in the most logical places for optimum functionality and ease of use. The low-profile body of the HDC-3300 minimises the parallax between the optical axis of the camera head and the large viewfinder when the camera is attached to HDLA-1500/ HDLA-1505 Large Lens Adaptors and the HDLA-1507 Large Viewfinder Adaptor. In addition, the HDC-3300 is designed with a low centre of gravity, allowing the operator to carry the camera comfortably on the shoulder. The shoulder pad of the HDC-3300 camera can be adjusted either forwards or backwards without using a screwdriver, so the camera can easily be moved to a well-balanced position.

Reliable Camera Head Operation

The HDC-3300 camera uses optimal design techniques to reduce heat generation within the camera body for comfortable operation.



HDCU-3300



HDC-3300

Creative Versatility

Knee Saturation

Shooting very bright portions of an object (such as key light conditions from a person's forehead) can reduce colour saturation and change the hue in highlight areas. The HDC-3300 adopts a knee saturation function, in which this "washed-out" effect on saturation and hue change is reduced to a minimum and offers far more natural colour reproduction in highlight areas.



Knee Saturation OFF



Knee Saturation ON

Simulated image

Low Key Saturation

With traditional video cameras, low light areas can be subject to a reduction in saturation. This can result in colours in those areas being "washed-out". The low key saturation function on the HDC-3300 eliminates this problem by optimising the amplification of colour saturation at low light levels by boosting it to an optimised level, thus providing more natural colour reproduction.



Low Key Saturation OFF



Low Key Saturation ON

Triple Skin Tone Detail Control

The HDC-3300 comes equipped with a triple skin tone detail control function, which allows for independent detail control over three specified colours. This enhances the capability of skin tone detail correction – enabling one colour selection to be used for reducing the detail level of skin colour and two other selections to be used for either increasing or decreasing the detail level of two other objects. This can be a powerful imaging tool not available in film shooting.



Skin Tone Detail OFF



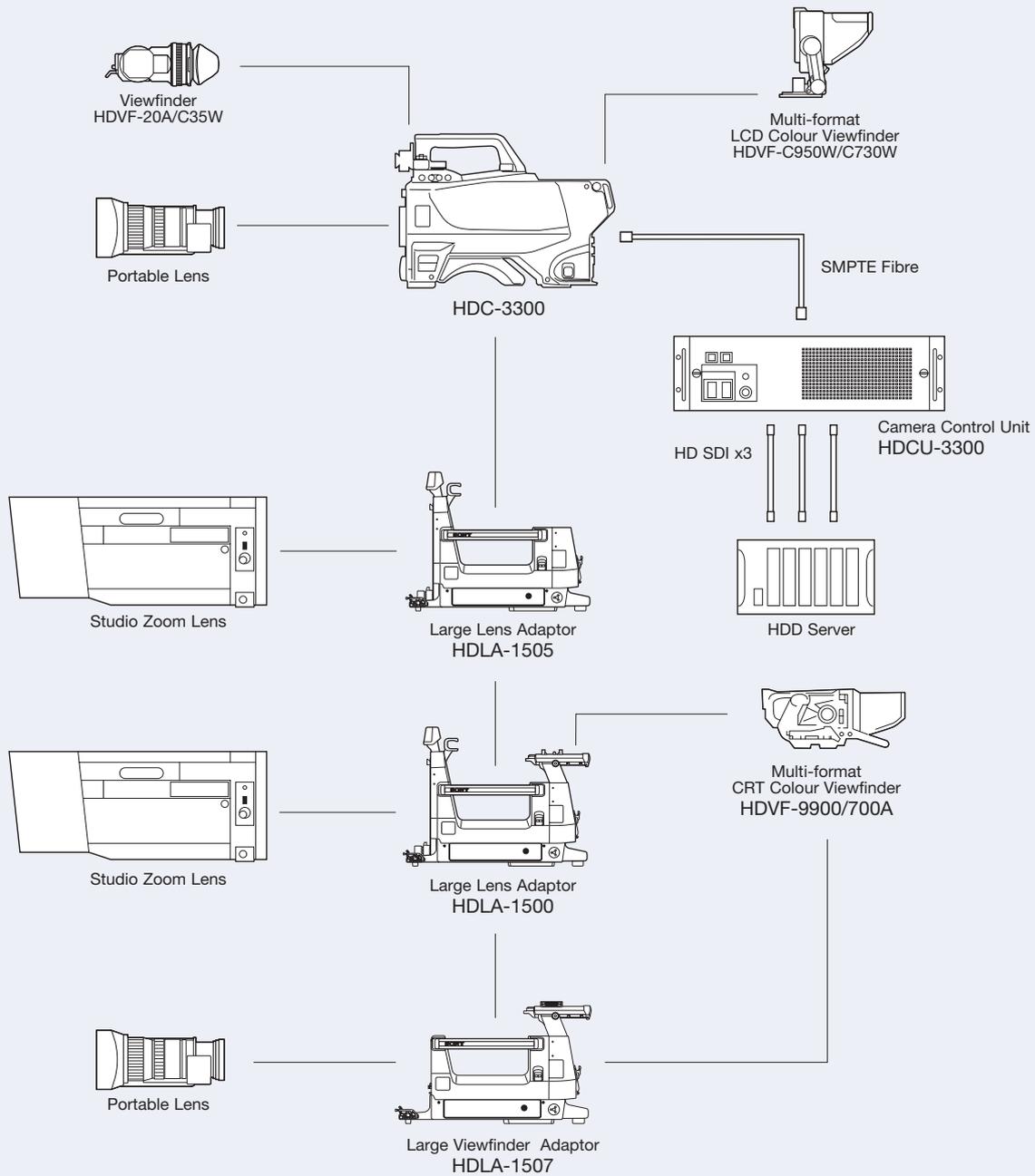
Skin Tone Detail ON

Other Features of the HDC-3300

- > Five assignable switches: one on the inside panel and another four switches – RET1 (handle), RET1 (outside panel), INCOM1 (handle) and RET2 (front panel) – enable operators to assign frequently used functions
- > Memory Stick™ media slot for saving and recalling camera setup files
- > A wide range of viewfinder options: HDVF-20A, HDVF-C35W, HDVF-C950W, HDVF-C730W, HDVF-700A and HDVF-9900

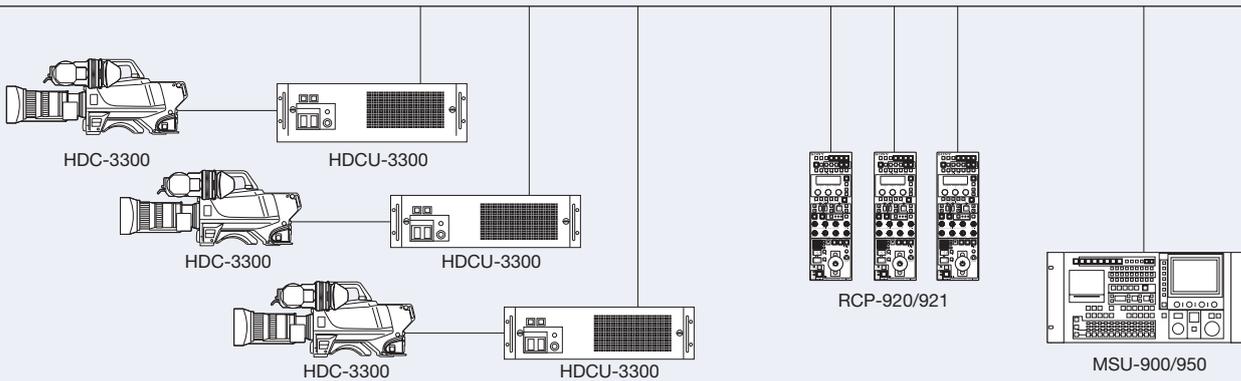


System Configurations



ETHERNET SYSTEM

Exclusive LAN



Optional Accessories



HDLA-1500
Large Lens Adaptor
(support for the
HDVF-700A/9900)



HDLA-1505
Large Lens Adaptor
(compatible with the
HDVF-C950W/C730W)



HDLA-1507
Large Viewfinder Adaptor
(support for the
HDVF-700A/9900)



RCP-920/921
Remote Control Panel
(Photo shows RCP-920)



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



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



RM-B750
Remote Control Unit



RM-B150
Remote Control Unit



HDVF-20A
2.0-inch* CRT B/W
Viewfinder



HDVF-C35W
3.5-inch* LCD Colour
Viewfinder



HDVF-C950W
9.0-inch LCD Colour
Viewfinder



VFH-990
Outdoor Hood for
HDVF-C950W



HDVF-C730W
6.3-inch* LCD Colour
Viewfinder



HDVF-700A
7.0-inch* CRT Viewfinder



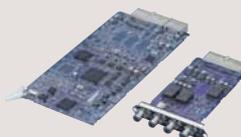
VFH-770
Outdoor Hood for
HDVF-700A/C730W



HDVF-9900
9.0-inch* CRT Colour
Viewfinder



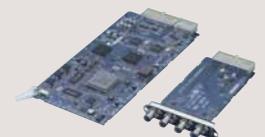
VCT-14
Tripod Adaptor



HKCU-1001
SD Analogue Interface Unit
(for HDCU-3300)



HKCU-1003
Multi Interface Unit
(for HDCU-3300)



HKCU-1005
HD/SD Expansion Unit
(for HDCU-3300)



BKW-401
Viewfinder Rotation Bracket



BKP-7911
Script Holder



CAC-6
Return Video Selector



CAC-12
Mic Holder

* Viewable area measured diagonally

Specifications

HDC-3300 HD Super Motion Colour Camera	
General	
Power requirements	AC 240 V, 1.4 A max. DC 12 V, 8.6 A max.
Operating temperature	-20 °C to +45 °C (-4 °F to +113 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Mass	Approx. 4.8 kg (10 lb 9 oz) (without VF and lens)
Dimensions (W x H x D)	154 x 197 x 348 mm (6 1/8 x 7 7/8 x 13 3/4 inches)
Camera section	
Pickup device	3-chip 2/3-inch type CCD
Effective picture elements	1920 (H) x 1080 (V)
Signal format	1920 x 1080 images: 1080/180i (59.94i), 1080/150i (50i) 1280 x 720 images: 720/180p (59.94p), 720/150p (50p)
Sensitivity	F7 at 2000 lx (3200K, 89.9% reflectance)*
Signal-to-noise ratio	54 dB (typical)*
Horizontal resolution	1000 TV lines (at centre)*
Spectral system	F1.4 prism
Built-in filters	ND: 1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND CC: A: CROSS, B: 3200K, C: 4300K, D: 6300K, D: 8000K
Signal inputs	
Mic input	XLR-3-pin, female (x1)
Audio input	CH1: XLR-3-pin, female (x1), MIC or LINE or FRONT MIC selectable CH2: XLR-3-pin, female (x1), AES/EBU or MIC or LINE selectable
Signal outputs	
HD-SDI/SD-SDI output**	BNC (x1), HD-SDI or SD-SDI, character on/off selectable
Test output	BNC (x1), VBS (SD) or VF: Y/R/G/B (HD) or HD-sync or SD-sync selectable
Other inputs/outputs	
CCU	Optical/electrical multi-connector (x1)
Intercom	XLR-5-pin, female (x2)
Prompter output	BNC type (x2)
DC input	XLR-4-pin (x1), DC 10.5 to 17 V
DC output	4-pin (x1), DC 10.5 to 17 V (max. 1.5 A)
Lens	12 pin (x1)
Viewfinder	20 pin (x1)
Earphone	Stereo mini-jack (x1)
Return control	6 pin (x1)
Remote	8 pin (x1)
Tracker	10 pin (x1)
Crane	12 pin (x1)
Supplied accessories	
	Operation manual (x1), Cable clamber (x1), Cable clamp band (x1), +B3x10 screws (x3), Switch label (x2)

* 1080/180i mode

** When the HDC-3300 camera is not connected to the HDCU-3300 camera control unit, the HD-SDI output signal is for maintenance purpose only.

HDCU-3300 HD Super Motion Camera Control Unit	
General	
Power supply	AC 100/120/220 to 240 V, 50/60 Hz
Current consumption	5.6 A max.
Operating temperature	+5 °C to +40 °C (+41 °F to +104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Mass	Approx. 16.8 kg (37 lb)
Dimensions (W x H x D)	424 x 133 x 410 mm (16 3/4 x 5 1/4 x 16 1/4 inches) excluding projection
Signal inputs	
HD-SDI return input	BNC (x4), SMPTE 292M, 1.485/1.4835 Gb/s
SD-SDI return input	BNC (x4), SMPTE 259M, 270 Mb/s
VBS return input	BNC (x4)
Reference input	BNC (x2, 1 for loop-through output) HD: SMPTE 274M, tri-level sync, 0.6 Vp-p, 75 Ω SD: Black burst, NTSC: 0.286 Vp-p, 75 Ω, PAL: 0.3 Vp-p, 75 Ω
Prompter input	BNC (x4, 2 for loop-through output), analogue NTSC/PAL/HD-Y, 1.0 Vp-p, 75 Ω
AC input	(x1), AC 100, 110 to 120, 220 to 240 V switchable
Signal outputs	
HD-SDI LINK A/B/C Super Motion output	BNC (x6), SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s Link A (x2), Link B (x2), Link C (x2)
HD-SDI output	BNC (x4), SMPTE 292M, 1.485/1.4835 Gb/s
SDI output	BNC (x4), HD-SDI/SD-SDI selectable (SDI output 3, 4: character on/off selectable) HD: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s SD: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s
Sync output	BNC (x1), HD sync/SD sync selectable HD: BTA-S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD: composite sync, 0.3 Vp-p, 75 Ω
Character output	BNC (x1), VBS, 1.0 Vp-p, 75 Ω
AES/EBU output	BNC type (x1), AES/EBU format, 20-bit/ 48 kHz
Mic output	XLR-3-pin, male (x2), 0/-20 dBs selectable
WF mode	4-pin (x1)
Other inputs/outputs	
CAMERA	Optical/electrical multi-connector (x1) 10.692/10.681 Gb/s Serial digital x2, 240 V AC power supply
Intercom/Tally/PGM	D-sub 25-pin (x1) Intercom (PD/ENG): 4W/RTS/CC, 0 dB Tally: R, G tally, 24 V power in/make contact PGM: 0/-20 dB selectable
RCP/CNU	8-pin (x1), Sony Camera System-700 Control Protocol (for entire camera system control)
Ethernet	RJ-45 (x1), 10BASE-T/100BASE-TX
Trunk A	12-pin (x1)
Trunk line	D-sub 9-pin, female (x1), RS-232C
Mic remote	D-sub 15-pin (x1)
Supplied accessories	
	Operation manual (x1), Number plates (1 set), Fuses (1 set)

Optional Input/Output Boards for HDCU-3300

HKCU-1001 SD Analogue Interface Unit	
VDA-A board	
VBS output	BNC (x2), 1.0 Vp-p, 75 Ω
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
HKCU-1003 Multi Interface Unit	
VDA-A board	
VBS output	BNC (x2), 1.0 Vp-p, 75 Ω
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω

VDA-B board	
Frame reference input	BNC (x1)
Frame reference output	BNC (x1)
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
HKCU-1005 HD/SD Expansion Unit	
HD-SDI/SD-SDI output	BNC (x4), HD-SDI/SD-SDI selectable (SDI output 3, 4: character on/off selectable) HD: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s, SD: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s

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