SONY

Live action replay
in perfect detail

High Definition Video System

Digital **HDVS**®

HD SUPER MOTION

HDC-3300
HD Super Motion Colour Camera

HDCU-3300
HD Super Motion Camera Control Unit

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HD Super Motion Colour Camera HDC-3300

Since the launch of the BVP-3000 high-speed scanning camera in 1984, Sony has continued to develop cameras that provide high-quality slow-motion image shooting, primarily for sports coverage. Today, as television broadcasting evolves steadily towards High Definition (HD), there is a strong demand for a new breed of slow-motion camera systems – one that offers full HD performance.

In response to this demand, Sony is proud to introduce 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 CCU connects to the camera via optical fibre with digital data for perfect HD images over runs of up to 2500 metres.

Furthermore, since the design is based on the proven HDC-1500 HD multi-format camera, the HDC-3300 camera offers the same functionality, including outstanding picture quality thanks to 14-bit A/D conversion, versatile multi-format capability, and high reliability, in addition to its slow-motion capability. Another unique advantage of this camera is its simultaneous standard frame-rate output, which can be used as a conventional camera feed to the switcher, making the camera ideal for use in a variety of shooting applications. Thanks to one signal processing LSI (Large Scale Integration) which is dedicated to normal speed image capture, outstanding image quality is maintained.

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

HDCU-3300

HDC-3300

Features

Three-times Normal Speed HD Image Capturing

The HDC-3300 camera can capture 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) or 1280 x 720 HD images at 720/180p (59.94p) and 720/150p (50p). 3 x image capture results in smooth, flicker-free slow-motion images with exceptional detail.

Long-distance Optical Fibre Transmission

The HDC-3300 camera allows captured digital data to be transferred to its companion HDCU-3300 camera control unit at an amazingly high rate of 10 Gigabytes per second. This can only be 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.

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 images in this way. Furthermore, the HDCU-3300 Camera Control Unit can output these normal-speed images for live transmission simultaneously with super-motion images, allowing users to employ the HDC-3300 for both slow-motion and standard shooting purposes for increased versatility.
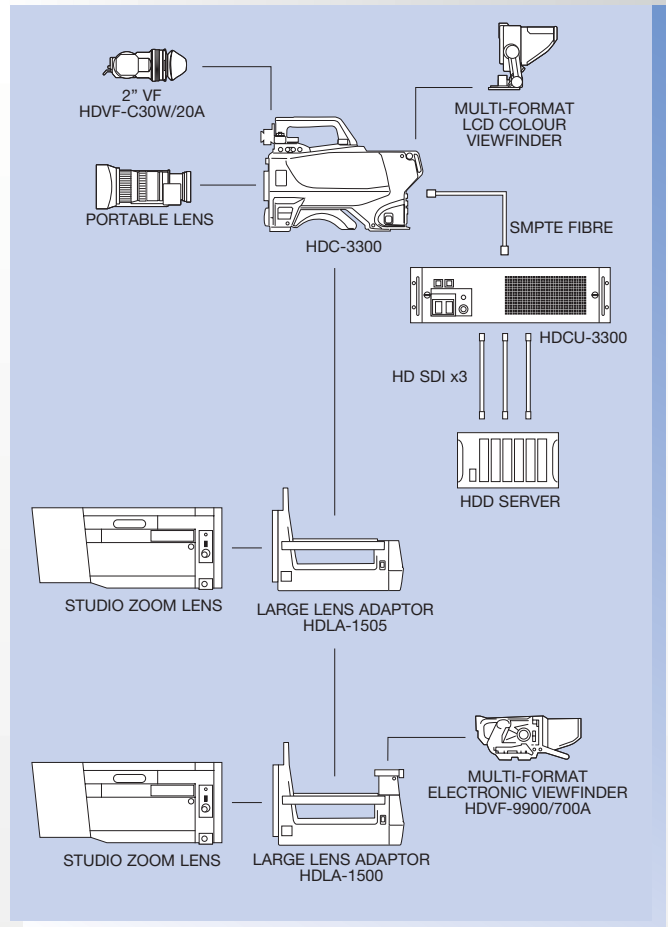
Flexible System Configuration

The HDC-3300 and HDCU-3300 camera system is compatible with other Sony broadcast camera peripherals including the RCP-700 series remote controllers, CNU-700 network command units, 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. What's more, the HDC-3300 camera is compatible with the HDLA-1500 and HDLA-1505 Large Lens Adaptors, which are quick and easy to install thanks to a unique design that does not require any cable wiring or time-consuming adjustment.

Reliable Camera Head Operation

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

Camera System

2" VF HDVF-C30W/20A

MULTI-FORMAT LCD COLOUR VIEWFINDER

PORTABLE LENS

HDC-3300

SMPTE FIBRE

HDCU-3300

HD SDI x3

HDD SERVER

STUDIO ZOOM LENS

LARGE LENS ADAPTOR HDLA-1505

STUDIO ZOOM LENS

LARGE LENS ADAPTOR HDLA-1500

MULTI-FORMAT ELECTRONIC VIEWFINDER HDVF-9900/700A

Specifications

HDC-3300 HD SUPER MOTION COLOUR CAMERA

GENERAL
Imaging Device	3-CCD 2/3 inches
Effective picture elements (H x V)	1920 x 1080
Mass	4.9 Kg (10 lb 13 oz) (without VF and lens)
Dimensions (W x H x D)	173 x 197 x 350 mm (6 ⅞ x 7 ⅞ x 13 ⅞ inches)
Operation temperature	-20 °C to +45 °C (-4 °F to +113 °F)
Storage temperatue	-20 °C to +60 °C (-4 °F to +140 °F)

FILTER
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, D: 8000K
Sensitivity	F7 at 2000 lx (3200K, 89.9% reflectance)*
Signal-to-noise ratio	50 dB (typical)*
Holizontal resolution	1000 TV lines*
Moduration depth	45% (800 TV lines at center, 27.5 MHz, with typical lens)*

INPUT/OUTPUT CONNECTORS
DC 12V Output (max.1.5A)	4pin (1)
Remote	8pin (1)
DC 12V Input	XRL-4-pin type (1)
Viewfinder	20pin (1)
Lens	12pin (1)
Front Mic input	XLR-3-pin type (1)
Audio 1 input	XLR-3-pin type (1), (Mic or Line)
Audio 2 input	XLR-3-pin type (1), (AES/EBU or Mic or Line)
Intercom 1	XLR-5-pin type (1)
Intercom 2	XLR-5-pin type (1)
HD-SDI output	BNC type (1):HD-SDI or SD-SDI, character on/off selectable**
Test output	BNC type (1):VBS(SD), VF YorRorGorB (HD)
RET Control	6pin (1)
Tracker	10pin (1) : Tracker R/T, R/G Tally, Unreg12V
Prompter	BNC type (1)
Crane	12pin (1):Y/Pb/Pr, Trunk Data I/O, Serial Data
Earphone	Minijack (1), 8ø

* at 1080/180i mode

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

OPTIONAL INPUT/OUTPUT BOARDS

HKCU-1001 SD ANALOGUE INTERFACE UNIT
VBS output	BNC type (2)
monitor output (Analogue composite)	BNC type: WF (1), PIX (1)

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

HDCU-3300 SUPER MOTION COLOUR CAMERA CONTROL UNIT

GENERAL
Power supply	AC 100/120/220-240 V, 50 Hz/60 Hz
Maximum. Current consumption	5.4 A (at 100 V AC, entire system active)
Operating temperature	+5°C to +40 °C (+41 °F to +104 °F)
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Dimensions (W x H x D)	424 x 133 x 410 mm (16 ¾ x 5 ¼ x 16 ¼ inches)
Mass	15.9 Kg (35 lb 1 oz)

INPUT/OUTPUT CONNECTORS
HD SDI LINKA/B/C Super Motion Output	BNC type (1) LinkA x 2, LinkB x 2, LinkC x 2
HD SDI output	BNC type (4), SMPTE-292M, 1080/50i, 60i, 720/60P, 50P
HD/SD SDI output	BNC type (4), HD : SMPTE-292M 1080/50i, 60i, 720/60P, 50P SD : SMPTE-259M
Character output (composite analogue)	BNC type (1), CHAR (1)
HD SDI return input	BNC type (4), SMPTE-292M, 1080/50i, 60i, 720/60P, 50P
SD-SDI return input	BNC type (4), SMPTE-259M,
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 Black Burst

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

OTHERS
RCP/MSU/CNU interface	8-pin (1), Sony Camera System-700 Control Protocol (for entire camera system control)
Ethernet	10BAS-T/100BASE-TX connector (RJ-45)
Mic Remote	D-sub 15-pin (1)
WF control	D-sub 15-pin (1), GPI (for SDI component WF control)
WF mode	4-pin (2), Stair step (for SD composite WF monitor)
System expansion I/O	D-sub 15-pin GPI (1, for system control with external GPI interface)
Trunk line	12Pin (1, round type connector), RS-232C or RS422

CAMERA
Optical fibre cable interface	SMPTE-304M based optical fibre connector (1)

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