SONY

HSC-300
HD/SD System Camera

HSCU-300
Camera Control Unit

Power HAD FX

Opening a New World of HD Production

Over the years, Sony's standard-definition (SD) and high-definition (HD) production cameras have been widely accepted by a great number of video professionals around the world, due to their excellent picture performance and system versatility. Sony is now proud to introduce the new HSC-300 HD/SD System Camera equipped with newly developed digital triax technology, which allows systems to be configured with conventional triax.
The HSC-300 camera supports versatile applications for HD with a high-quality SD output. It uses the latest 14-bit A/D conversion circuit as well as the superb 2/3-inch Power HAD™ FX CCDs to bring out high picture quality.

Together with the highly compact 1.5 RU-size HSCU-300 Camera Control Unit, the HSC-300 camera offers a broad choice of system configurations including the MSU-950/900 Master Setup Unit. Thus, the HSC-300 can be used in a large-scale broadcasting system consisting of multiple cameras or as a simple studio system.
The HSC-300 also offers large-lens operation in combination with Sony's HDLA-1500 Series Large Lens Adaptors, which are accepted worldwide for the operation with HDC Series cameras. These Lens adaptors, featuring a unique "Quick Mount" design, help to maximize the operability of the camera.
With a variety of beneficial functions packed into the camera, such as its Focus Assist function, the HSC-300 provides genuine user-friendliness.

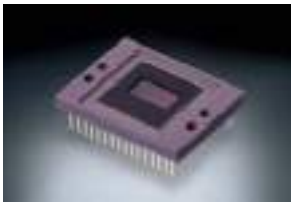
Excellent Picture Quality

Sophisticated Power HAD FX CCD

The HSC-300 camera is equipped with field-proven 2/3-inch type full-resolution 1920 x 1080 HD Power HAD FX CCDs.
Due to Sony's advanced sensor technologies, the CCD imager offers a high sensitivity of F10 for 59.94 Hz and F11 for 50 Hz with high signal-to-noise ratios (S/N) of -55 dB (HD) and -65 dB (NTSC)/ -63 dB (PAL). All of these excellent features capture high-quality pictures in all kinds of demanding shooting environments.
In addition to the camera's high performance, a wide range of capturing modes are available including 1080/50i, 1080/59.94i, 720/50P, 720/59.94P, 576/50i, and 480/59.94i.

High-quality 14-bit A/D Conversion and DSP LSI

The HSC-300 camera incorporates a high-performance 14-bit A/D converter that enables images captured by the high-performance CCDs to be processed with maximum precision.
Also, the newly incorporated Auto Lens Aberration Compensation function can optimize lens performance to provide stunning picture quality.



System Versatility

Digital Triax Operation

The HSC-300 camera utilizes a very high-quality digital triax system that expands its operability in field applications, as well as for studio production.
The HSC-300's digital triax system can be integrated into conventional triax-based infrastructures, enabling an easy upgrade from existing systems.
The newly developed digital triax transmission system offers long cable runs of up to 1800 m (5906 feet)* via a ø14.5 mm cable between the camera and the CCU.

* The maximum cable length depends on the camera system configuration, lens type, and the number of cable connections.

Versatile Camera Interfaces

The HSC-300 camera provides a wide range of inputs and outputs via the connector panel such as HD-SDI output, SD-SDI output, VF signal, return signal, and SDI Prompter signal.
What's more, an intercom channel (ENG/PROD) is also provided.

System Compatibility

The HSC-300 camera is fully compatible with Sony's current master setup units (MSU) and remote control panels (RCP). This flexibility allows for comprehensive camera systems or simple point-to-point systems.

Large Lens Operation

In addition to the compatible devices mentioned above, the highly flexible HDLA-1500, HDLA-1505, and HDLA-1507 Large Lens Adaptors are also available.

These adaptors allow the HSC-300 to be used for many different applications and for users to choose the optimum viewfinder for the production. This capability makes the HSC-300 the most flexible portable camera in its class.
Installing the HDLA-1500/1505/1507 Large Lens Adaptor is very simple and eliminates time-consuming adjustments such as lens centering or additional wiring.

Versatile System Configuration - HSCU-300

The HSC-300 camera offers flexible configuration with the highly compact 1.5 RU-size HSCU-300 Camera Control Unit, creating a standardized 19-inch rack system that is ideal for space-limited production areas.
The HSCU-300 can connect the HSC-300 with the MSU-950/900 Master Setup Unit, which enables the HSC-300 to be used as a simple studio system or as part of a large-scale broadcasting system consisting of multiple cameras.
Equipped with the latest Sony-developed digital transmission technology, the HSCU-300 can transmit high-resolution pictures between the camera and CCU, regardless of the cable length.
The HSCU-300 features flexible interfaces of selectable inputs/outputs between HD-SDI and SD-SDI.

HSCU-300

Operating Versatility

Robust Design

In order to survive the stresses of professional use, the main chassis of the HSC-300 is made of a magnesium-alloy casting. This rigid body makes the camera highly durable and helps to protect its lightweight precision components such as the integrated optical and electronics.
In addition, the outside cover panel is designed as a dual structure consisting of a main structure and a cover part. Due to this revolutionary structure, the cover can be replaced easily if damaged, thereby protecting the value of your asset.

Magnesium-alloy casting body

Position-adjustable Shoulder Pad

The position of the shoulder pad can be adjusted – either forwards or backwards – to provide users with the optimum weight balance. This is particularly useful when the camera is docked with any type of lens or camera adaptor. In addition, no tool is required for this adjustment.

Focus Assist Functions

For easier focusing through the viewfinder, two types of focus assist functions are newly incorporated to the HSC-300 Series: 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 as a "focus meter". An indicator is displayed at the bottom or other positions of the viewfinder frame, enabling users to make more accurate and fine focus adjustments.

Optimized Handle Shape for Stable Shooting

The newly designed carrying handle enhances the camera's operability.
A protrusion positioned on the front of the handle enables users to hold the camera with added stability while shooting.
In addition, the non-slip structure of its lower surface helps users to grasp the handle firmly.

ND/CC Dual Optical Servo Filters Mounted

The HSC-300 camera is equipped with Neutral Density (ND) and Color Correction (CC) optical servo filter units, which can be remotely controlled from a remote control panel (RCP) or a master setup unit (MSU).

Function-assignable Switches

The HSC-300 camera has dedicated 'assignable switches' available for frequently used functions. Located on both the side and rear panels, these switches allow functions such as electronic color-temperature conversion to be assigned as required.
Buttons on the handle are also available as function-assignable switches.
All of these switches greatly enhance the camera's operational convenience.

Other Convenient Features

- "Memory Stick" operation for storage or recall of parameters
- Built-in high-quality down converter for superior SD images

Selection of Multiple Gamma Tables

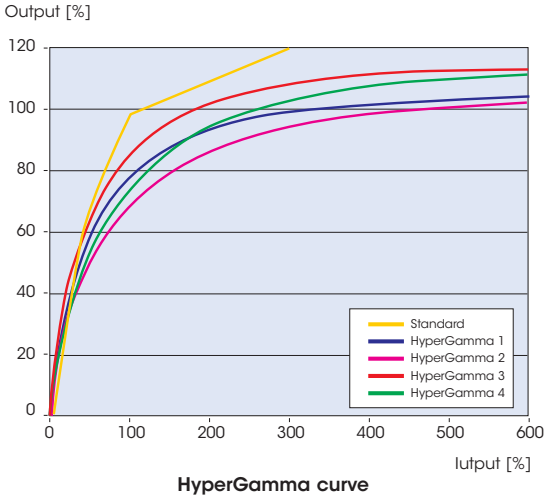
In addition to artistic and skillful lighting, in-camera gamma setting plays an important role in dealing with contrast range and giving a specific "look" to an image.
In order to meet a broad array of customer demands, seven types of standard-gamma and four types of hyper-gamma tables are provided.

HyperGamma

HyperGamma is a set of new transfer functions designed to provide powerful contrast handling by making maximum use of the capacity and wide dynamic range of the Power HAD™ FX CCD sensor.
These functions are quickly accessed via the set-up menu, and camera operators can select one curve from a choice of four that best suits their needs and conditions.
For example, they can select to enhance natural reproduction in low-key areas to achieve greater flexibility in wide dynamic scenes.

Low Light Condition

High Contrast Scene



HyperGamma curve

Multi-matrix

The Multi-matrix function of the HSC-300 camera allows color adjustments to be applied over the color range specified by the operator. The color spectrum is divided into 16 areas of adjustment, where the hue and/or saturation of each area can be modified. This function is especially useful when only the hue of certain colors needs to be adjusted for special-effects work.
Multi-matrix is extremely effective for capturing images with similar color tone in a system configured with existing SD cameras or other models of camera. This function enables the picture from another model of camera to be easily matched.

Multi-matrix OFF

Multi-matrix ON

Simulated images

Low-key Saturation

With conventional cameras, low light areas can be subject to a reduction in saturation. This can result in colors in those areas being "washed-out". The Low-key Saturation function on the HSC-300 camera eliminates this problem by optimizing the amplification of color saturation at low light levels, providing more natural color reproduction.

Low-key Saturation OFF

Low-key Saturation ON

Knee Saturation

Traditionally, shooting very bright portions of an object (such as key light conditions from a person's forehead) can reduce color saturation and change the hue in highlight areas. The HSC-300 camera adopts a Knee Saturation function, which reduces this "washed-out" effect on saturation and hue change to a minimum, and achieves far more natural color reproduction in highlight areas.

Knee Saturation OFF

Knee Saturation ON

Simulated images

Optional Accessories

HDLA1500
Large Lens Adaptor
(for attachment of the HDVF-700A/EL100)

HDLA1505
Large Lens Adaptor
(for attachment of the HDVF-C950W/C730W/550)

HDLA1507
Large Viewfinder Adaptor
(for attachment of the HDVF-700A/EL100)

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)

HDVF-200
2.0-inch* CRT B/W Viewfinder

HDVF-550
5.0-inch* CRT B/W Viewfinder

HDVF-C35W
3.5-inch* LCD Color Viewfinder

HDVF-C730W
6.3-inch* LCD Color Viewfinder

HDVF-C950W
9.0-inch* LCD Color Viewfinder

CAC-12
Microphone Holder

CAC-6
Return Video Selector

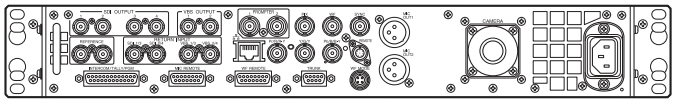
VCT-14
Tripod Adaptor

* Viewable area measured diagonally

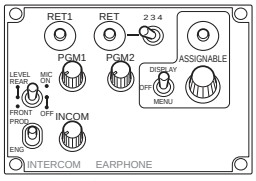
Control/Intercom Panels and Connectors

Front Panel

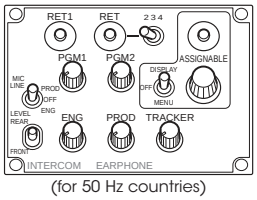
Rear Panel



Operation Panel

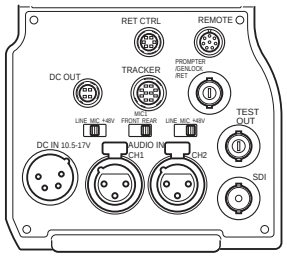


(for 60 Hz countries)

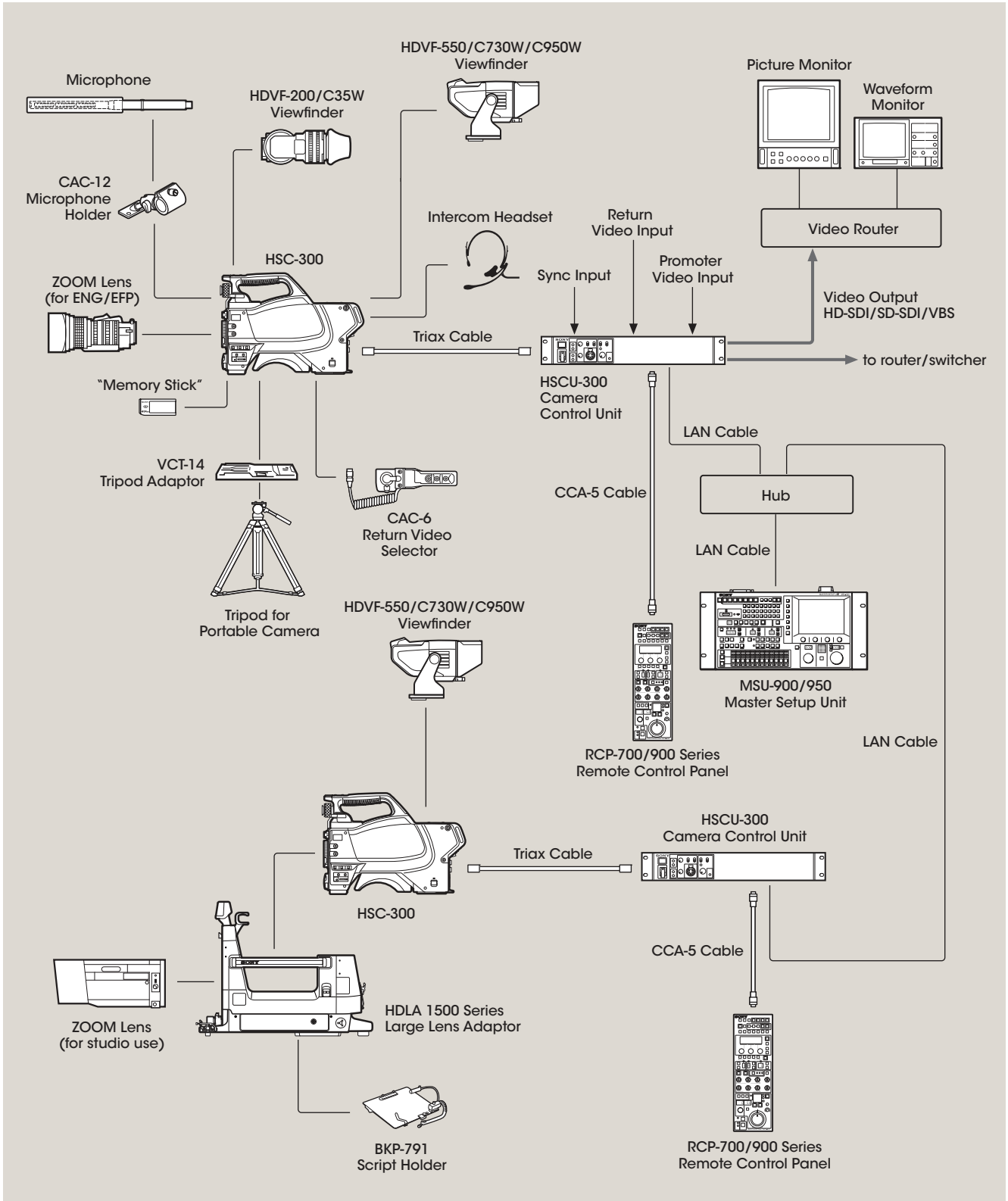


(for 50 Hz countries)

Connector Panel



System Configuration Example



Specifications

HSC-300

General

Power requirements		180 V DC, 1.0 A (max.), 12 V DC, 7 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		4.5 kg (9 lb 15 oz)

Camera

Pickup device		3-chip 2/3-inch type, Progressive Scan Power HAD FX CCD
Effective picture elements (H x V)		1920 x 1080
Signal format		1080/50i, 59.94i, 720/50P, 59.94P, 480/59.94i, 576/50i
Spectrum system		F1.4 prism system
Lens mount		Sony bayonet mount
Built-in filters	CC	A: CROSS, B: 3200 K, C: 4300 K, D: 6300 K
	ND	1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND
Sensitivity (at 2000 lx, 3200 K, 89.9% reflectance)		F10 (59.94 Hz)/F11 (50 Hz) at 2000 lx (3200 K, 89.9% reflectance)
Signal-to-noise ratio (typical)		HD : -55 dB (1080i) SD : -65 dB at 59.94 Hz, -63 dB at 50 Hz
Horizontal resolution		HD : 1000 TV lines SD : 900 TV lines
Shutter speed selection		1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (59.94i mode) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (50i mode)
Modulation depth		HD : 45% at 27.5 MHz (1080i) SD : 90% at 5 MHz

Input/output connectors

Audio input (CH1, CH2)	XLR 3-pin, female (1 each) For MIC: -60 dBu (may be selected to -20 dBu by menu or HSCU-300 operations), balanced For LINE: 0 dBu, balanced
Mic 1 input	XLR 3-pin, female (1)
Return control input	6-pin (1)
Prompter output/Genlock input/ Return input	BNC type (1), 1 Vp-p, 75 Ω
DC input	XLR 4-pin (1), 10.5 to 17 V DC
DC output	4-pin (1), 10.5 to 17 V DC, 0.5 A (max.)
Test output	BNC type (1)
SDI output	BNC type (1)
Earphone output	Stereo minijack (1)
CCU	Triax connector (1)
Tracker	10-pin (1)
Intercom	XLR 5-pin, female (1)
Remote	8-pin (1)
Lens	12-pin (1)
Viewfinder	20-pin (1)

Supplied accessories

Operating instruction (1)
Cable clamp belt (1)
Switch label (1)

HSCU-300

General

Power supply	100 to 240 V AC, 50/60 Hz
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	8.3 kg (18 lb 5 oz)

Input/output connectors

Camera	Triax (1) Kings type (for UC model) Fischer type (for CE model)
Intercom/Tally/PGM	D-sub 25-pin, female (1) • INCOM (PROD/ENG), 4W/RTS/CC, 0 dBu • TALLY (R, G) • PGM 2 systems, -20/0/+4 dBu
Remote	8pin multi-connector (1)
Trunk	D-sub 9-pin, female (1), RS-422A 1 system
Ethernet	8-pin (1)

Input connectors

AC input	100 to 240 V AC
Serial return input	BNC type (2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps bit rate SD-SDI: SMPTE 259M, 270 Mbps bit rate HD-SDI/SD-SDI selectable
VBS return input	BNC type (2) VBS: 1.0 Vp-p, 75 Ω
Reference input	BNC type (2), loop-through 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 type (2), VBS signal, 1.0 Vp-p, 75 Ω, 2 ch
Mic remote	D-sub 15-pin, female (1)

Output connectors

Mic output	XLR 3-pin, male (2), 0/-20 dBu
WF remote	D-sub 15-pin, female (1)
HD-SDI/SD-SDI output	BNC type (2) HD-SDI: SMTPE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps bit rate SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps bit rate HD-SDI/SD-SDI selectable
HD-SDI/SD-SDI monitor output	BNC type (2) HD-SDI: SMTPE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps bit rate SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps bit rate HD-SDI/SD-SDI selectable
Pr/R/R-Y, Y/G/Y, Pb/B/B-Y	HD Component video: Y (100% white): 0.7 Vp-p, Pr/Pb (75% color bar): 0.7 Vp-p, 75 Ω HD RGB video R/G/B (100% white): 0.7 Vp-p, 75 Ω SD Component video: Y (100% white): 0.714 Vp-p, Pr/Pb (75% color bar): 0.756 Vp-p, 75 Ω SD RGB video R/G/B (100% white): 0.7 Vp-p, 75 Ω
VBS OUT	BNC (2), VBS 1.0 Vp-p, 75 Ω
PIX OUT	BNC (1), VBS/R/G/B (VBS 1.0 Vp-p, 75 Ω)
WF OUT	BNC (1), VBS/SEQ/R/G/B (VBS 1.0 Vp-p, 75 Ω)
Sync out	BNC type (1) HD: BTA-S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD: composite sync, 0.3 Vp-p, 75 Ω HD SYNC/SD SYNC selectable
WF mode	4-pin (1)

Supplied accessories

Number plates (1 set)
Operation manual (1)

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