

HDC-P50

2/3-type 4K 3-CMOS sensor POV system camera with HD 6x HFR capability



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Overview

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The HDC-P50 is a light, compact Point of View (POV) system camera. Integrating seamlessly with existing HD infrastructure, lenses and accessories, it gives ambitious programme makers exciting new possibilities for creating HD, 4K HDR and HD HFR productions.

This light and compact POV system camera features the world's first 2/3-type 4K global shutter three CMOS sensor system that delivers exceptional image with impressive sensitivity and wide dynamic range.

Thanks to ultra-high precision alignment technology, three 4K sensors on the newly-developed prism achieves ITU-R BT.2020 broadcast standard widened colour space. As a result, the HDC-P50 delivers exceptionally high-quality images in demanding 4K/HDR live production environments.

The camera can directly output remarkably crisp, clear 4K HDR* images directly from the camera head with no need for a separate processor unit. Moreover, HD HFR* up to 6x can be output from camera directly. Used standalone or part of a multi-camera shoot, the HDC-P50 can be crane-mounted or operated as a fixed camera position. It's also ideal for a wide range of other shooting situations – such as in combination with a camera stabiliser, in handheld mode, during wireless shooting or while filming aerial footage from a helicopter.

*4K HDR capability requires 4K License HZC-UHD50.

*HD HFR capability requires High Frame Rate License HZC-HFR50.

Features

Next generation imaging

The HDC-P50 features the world's first 2/3-type 4K CMOS sensor with global shutter technology that eliminates the 'jello effect' and banding noise. This next-generation imager captures pristine 4K images with exceptionally low noise, impressive sensitivity and high dynamic range, while achieving the ITU-R BT.2020 broadcast standard widened colour space. It's teamed with a specially developed new Digital Signal Processor that fully realises the extraordinary imaging power of this new sensor.

Light, compact, quiet and energy efficient

The HDC-P50 packs impressive imaging performance into a light, compact camera body that's ideal for use in space-limited situations such as crane jibs, helicopter camera mounts or operated as a fixed camera position. Low power consumption* is complemented by minimal operating noise levels.

* The HDC-P50 is powered by local power supply only.

Wide colour space and dynamic range

The advanced optical system of the HDC-P50 supports the ITU-R BT.2020 colour gamut, enabling exceptionally wide, precise colour reproduction in live broadcasts. From sports to concerts and special events, you'll see the difference with vibrant, true-to-life images that make viewers feel as if they're really there. HDR operation is available for 4K and HD simultaneous live operation through the S-Log3 process.

Dual servo controlled optical filters

Dual optical filter wheels for Neutral Density (ND) and Colour Correction (CC)* open up even wider creative possibilities in changing light conditions. Both filters can be controlled from a remote control panel or master setup unit.

Seamless integration into Sony HD workflows

The HDC-P50 joins Sony's acclaimed HDC Series family of live production solutions. It benefits from direct compatibility with a wide range of accessories and remote control panels. The camera is also designed for integration with third-party control systems.

Smooth migration from HD to 4K

The HDC-P50 fits seamlessly into the growing Sony 4K live production environment. With an optional software upgrade, the camera enables 4K capture for multiple 4K and HD outputs.

Direct HFR output up to 6x

The HDC-P50 can output HD 2x, 3x, 4x, 6x HFR output directly. Since the HFR output can be HDR picture, dynamic motion contents can be captured from variety of shooting location such as goal area or helicopters. The signal can be transmitted via only 2 12G-SDI cable to the live production server PWS-4500.

Specifications

General

Power requirements	DC 10.5 V to 17 V, 8.2 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)
Weight	2.4 kg (5 lb 5 oz)

Imager

Imager	3-chip 2/3-type 4K CMOS with global shutter
Effective resolution (H x V)	QFHD: 3840 × 2160* ¹ , HD: 1920 × 1080 * ¹ Optional HZC-UHD50 is required.
Signal format	1080/50i, 1080/59.94i, 720/50p, 720/59.94p (1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF, 50/59.94p, 4K/50p, 4K/59.94p: option)
Lens mount	Sony bayonet mount

Electrical characteristics

Sensitivity	F10 (at 1080/59.94p, 720/59.94p), F11 (at 1080/50p, 720/50p) (at 2000 lx, 3200K, 89.9% reflectance)
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Electrical characteristics

Signal-to-noise ratio	-62 dB
Horizontal resolution	2000 TV lines (at center)

Optical system specifications

Spectrum 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

Input/output connectors

LENS	12-pin (x1)
SDI	SDI 1 : BNC (x1), 12G/3G/1.5G-SDI SDI 2 : BNC (x1), 12G/3G/1.5G-SDI SDI 3 : BNC (x1), 3G/1.5G-SDI SDI 4 : BNC (x1), 3G/1.5G-SDI
SDI MONI	BNC (x1), HD-SDI
PROMPTER/GENLOCK	BNC (x1) 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)
REMOTE	8-pin (x1)
EXT I/O	D-sub 15-pin (female) (x1)
USB	USB 2.0 Type A 4-pin (x1) (for connecting USB drive)
NETWORK TRUNK	RJ-45 (x1), 10BASE-T, 100BASE-TX

Supplied accessories

Supplied accessories	Tally number plate (1set), CD-ROM (1)
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Information on EU Data Act: [Click here](#) to check if your Sony product and/or related service is subject to the EU Data Act.

Related products



RCP-3100

Joystick type of remote control panel for HDC/HSC/HXC series cameras.
5 units in 19-inch EIA rack.



HZC-PSF50 / HZC-PSF50M / HZC-PSF50W

Software licenses for shooting and transmission of PsF format video



HZC-DFR50 / HZC-DFR50M / HZC-DFR50W

Software licenses for shooting Dual Frame Rate 2x slow motion



HZC-UG50 / HZC-UG50M / HZC-UG50W

Software licenses for shooting 1080/RGB 4:4:4 & User Gamma with HDC-5500/3500 series system camera



HZC-HFR50P

Portable HFR license for HDC-5500/HDC-P50



HZC-UHD50P

Portable UHD/1080p license for HDC-5500/HDC-P50



HZC-QFR50 / HZC-QFR50M / HZC-QFR50W

Max. HD 4x Slow motion with HDC-3500 system camera and others



HZCE-UHD30

Software license for 4K IP output from HDCE-TX30 IP camera extension adaptor



HDC-4000

HDR Production Converter Unit



RCP-3500

Remote-control panel for HDC/HSC/HXC series cameras



RCP-3501

Remote-control panel for HDC/HSC/HXC series cameras



MSU-3000

Master setup unit, multi camera remote control panel for system cameras (horizontal type)



MSU-3500

Master setup unit, multi camera remote control panel for system cameras (vertical type)



HZC-CSM10

Master Setup Unit (MSU) PC Software



HKC-VND50

Variable ND filter unit



HKCU-UHF50

4K 4x processor board for HDCU-5000



CNA-2

Camera Control Network Adapter



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