UHC-8300

UHC-8300
 8K 3CMOS sensor Camera system

 UHCU-8300
8K Camera Control Unit
UKCU-8001 (8K ST 2110 Interface)
UZCU-SNMP80 (SNMP for 8K ST 2110)
 UKCU-IP01F (Networked Media Interface)

Overview

A new landmark in broadcasting in 8K

The world's first 8K television channel is already on air in Japan. And Sony is proud to be supporting this broadcasting landmark with the UHC-8300 system camera that enables an entire 8K Ultra HD workflow – from image capture to storage, editing, display and playout. The Sony 8K camera system consists of the combination of UHC-8300 camera head and UHCU-8300 camera control unit.

Perfection in every detail

At the heart of the UHC-8300 is the world's first 1.25-type 8K 3CMOS sensor, capturing pristine images with a resolution of 7680x4320 pixels and a signal to noise ratio of -62dB (at 1080/59.94i). It realizes the 8K picture capturing at high speed of 120p HDR. Along with this new generation image sensor, the newly developed F1.6 prism system is capable to support the BT.2020 wide colour space, allowing content creators to realise 8K images with unprecedented clarity, colour and realism.

The 4K signal dot-by-bot extracted from 8K captured image can be utilized for the monitoring in accurate focusing camera operation without any degradation.

8K adding more value to 4K production

8K Ultra HD images captured with the UHC-8300 camera system can be downconverted to produce spectacular 4K UHD images, bursting with fine detail and colour. This allows content creators to add value to every production, ensuring that premium footage captured in 8K can be enjoyed by consumers on today's 4K HDR televisions and display devices. 8K images captured with the UHC-8300 can be enjoyed with native 7680x4320 pixel resolution on Sony's Crystal LED large-scale display system.

IP solutions for 8K system

In addition to the NMI (Networked Media Interface Board): UKCU-IP01F, the 8K ST 2110 Interface Board: UKCU-8001 is available as an option product which works with LSM (Sony IP Live System Manage). The networked 8K ST 2110 system can be monitored by another license key option of SNMP: UZCU-SNMP80.

Features

Advanced 8K interface
Weighing just 7kg (approx.), the compact UHC-8300 camera head connects via a SMPTE fibre connection to the UHCU-8300 Camera Control Unit. The CCU outputs 8K 120p baseband signals over octal 12G-SDI based on SMPTE ST.2082-12. In parallel, simultaneous 4K and HD outputs are available over 12G/3G-SDI.

Made for tomorrow's workflows
You're covered for today's production workflows as well as tomorrows. 8K Ultra HD images captured with the UHC-8300 can be stored and replayed as XAVC files

using Sony's PWS-4500 live server. Also, the 8K signal can be transmitted to Sony's XVS-8000/9000 switcher, and combined with Sony's IP converters. And with a growing choice of third-party display, switching and editing solutions already available from Sony and other manufacturers, the 8K Ultra HD ecosystem is growing fast.

Simultaneous 8K/4K/HD production in HDR and SDR

Teamed with the UHCU-8300 Camera Control Unit, the UHC-8300 enables HDR production workflows with a choice of S-Log3, HLG Live and HLG BT.2100. Broadcasters can also enjoy the benefits of Sony's SR Live, with simultaneous output of 8K, 4K and HD signals in HDR and SDR to suit a wide range of live production requirements.

New 8K lens mount

A new 1.25-type lens mount system offers direct compatibility with specially developed 8K lenses from lens vendors. Current 4K lenses can also be used with a 1.25-type B4 lens mount adaptor.

Compatibility with current live production elements

The UHC-8300 is compatible with current Sony live production system components including remote controllers, multi camera system units and viewfinders. So broadcasters and programme makers can realise fresh value from the current 4K/HD investments – today and tomorrow.

Real-time 4K cutout

The extraordinary resolution of 8K UHD allows production teams to select a 4K cutout from a portion of images captured with the UHC-8300. Displayed on a 4K monitor, this allows critical inspection and confirmation of focus.

This can be done by dot-by-dot extraction from the captured 8K image without any degradation.

IP solutions

The IP based network connection makes much advanced flexible total system, and it can be realized even in 8K world. The 8K ST 2110 interface board, UKCU-8001 is optionally available. It can be monitored by SNMP activated with a license key of UZCU-SNMP80. An NMI (Networked Media Interface board), UKCU-IP01F option product is also available. Either IP board can be installed to the CCU, UHCU-8300.

Specifications

UHC-8300 Camera Head General

Power Requirement and Consumption Current	240Vdc, 1.0A (max.) 12Vdc, 9.5A (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
Dimensions (W x H x D)*1	167 x 299 x 396 mm 6 5/8 x 11 7/8 x 11 3/4 inches *1 The values for dimensions are approximate and excluding the protrusions.
Mass	(Body) Approx. 7.0 kg (Body) Approx. 15 lb 7 oz

UHC-8300 Camera Head Camera Section

Pickup Device	3-chip 1.25-inch type CMOS
Resolution	8K: 7680 x 4320 (H x V)
Spectrum System	F1.6 prism system
Lens Mount	1.25-inch type bayonet mount, ARIB TR-B37
Built-in Filters	CC: A; 3200K(Clear), B; 4300K, C; 6300K, D; Cap ND: 1; Clear, 2; 1/4ND, 3; 1/16ND, 4; 1/64ND
Sensitivity (at 2000 lx, 3200K, 89.9% reflectance)	F8 (8K 59.94p), F9 (8K 50p)
Noise Level	-62dB (1080/59.94i)
Horizontal Resolution (8K: Center of the picture at Modulation depth 5% or higher.)	3,840 TV lines
Gain	-6, -3, 0, 3, 6, 9, 12 dB
Shutter Speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94 mode) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (50 mode)

UHC-8300 Camera Head Input/Output

CCU	Optical/electrical multi-

	connector (x1)
Lens	12-pin (x1)
Viewfinder	20-pin (x1), for HDVF
Audio Input (CH1)	XLR type: 3-pin, female (x1) MIC IN: -60dBu (Up to -20dBu can be set by using menu or UHCU-8300), balanced LINE IN: +4dBu, balanced
Audio Input (CH2)	XLR type: 3-pin, female (x1) MIC IN: -60dBu (Up to -20dBu can be set by using menu or UHCU-8300), balanced LINE IN: +4dBu, balanced
Intercom	1: XLR type 5-pin, female (x1) 2: XLR type 5-pin, female (x1)
Earphone Output	Stereo mini jack (x1)
DC Input	XLR-type 4-pin (x1), DC 10.5 V to 17 V
DC Output	4-pin (x1), DC 10.5 V to 17 V (max. 0.5A)*2 2-pin (x1), DC 10.5 V to 17 V (max. 2.5A)*2 *2 May be limited, depending on load and input conditions.
SDI 1 Output	BNC (x1) SMPTE ST2082-10 12G-SDI Out, ST424/425-1 3G-SDI Out, ST292-1 HD-SDI Out or HD Prompter Out selectable

SDI 2 Input/Output	BNC type (x1) SMPTE ST292-1, HD-SDI Out or HD Video Trunk In selectable
Monitor Output	BNC (x1) SMPTE ST292-1, HD-SDI Out
SYNC Output	BNC (x1) HD-Sync, SD-Sync Out
Prompter Output	BNC (x1) 1Vp-p, 75Ω
Return Control	6-pin (x1) for CAC-6
For Future Use	8-pin (x1)
Tracker	10-pin (x1)
MAG Control	14-pin (x1)
Crane	12-pin (x1)
Network Trunk	8-pin (x1), RJ-45
USB	USB 2.0 type-A 4-pin (x1) for USB Memory

UHC-8300 Camera Head Supplied Accessories

Supplied Accessories	Operation manual CD-ROM (x1) JP, GB, CS Cable clamp belt (x1) Camera number label (x1) Screws +B3 (x2) for cable clamp belt Lens mount cap (x1)

SONY

UHCU-8300 CCU General

Power Requirement	AC 100 to 127V, 200V to 240 V, 50/60 Hz
Consumption Current	AC IN 1: 4.0A (max.) AC IN 2: 6.2A (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
Dimensions (W x H x D) *1	482 (440) x 221 x 500 mm 19 (17 1/2) x 8 3/4 x 19 3/4 inches
Mass	Approx. 24 kg Approx. 52 lb 15 oz
Video Signal	8K 4320: 119.88p, 100p, 59.94p, 50p (SQD-2SI,2SI-2SI) 4K 2160: 59.94p, 50p (2SI, SQD, Level-A/B) HD 1080: 59.94p, 59.94i, 50p, 50i
*1	The values for dimensions are approximate and excluding the protrusions.

UHCU-8300 CCU Input/Output

Camera	Optical Fiber (x1)
	D-sub 50-pin, female (x1)

Intercom/Program/Tally	• INTERCOM (PROD/ENG), 4Wire/RTS/Clear-Com, 0 dBu • PGM 2 systems, -20/0/+4 dBu • TALLY (R, G, Y) • FLAG
RCP/CNU	8-pin multi connector, female (x1)
Trunk	12-pin, female (x1) RS-232C or RS-422A, 1 system
LAN	8-pin (x1), RJ-45
Network Trunk	8-pin (x1), RJ-45
Focus Demand	20-pin, female (x1)
MAG Control	14-pin, female (x1)
NMI-LAN (Option: TBD)	QFSP+ (x2), 40G Base-SR (by transceiver module)
USB	USB 2.0 type-A 4-pin (x1) for USB Memory

UHCU-8300 CCU Input	
AC	AC 100 to 127V, 200V to 240 V (x2)
	BNC type (x8) 12G-SDI, SMPTE ST2082-10

4K Return	3G-SDI, SMPTE ST424/425-5, 2 systems
HD Return	BNC type (x4) 3G-SDI, SMPTE ST424/425-1 HD-SDI, SMPTE ST292-1, 4 systems
Reference	BNC type (x2), In: HD: SMPTE ST274, 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) Out: Loop-Through
Prompter	BNC type (x1), In: VBS, 1.0 Vp-p, 75 Ω, 1 system
HD Prompter	BNC type (x1) HD-SDI: SMTPE ST292-1

UHCU-8300 CCU Output

8K (SLOT-1)	BNC type (x16) 12G-SDI: SMPTE ST2082-10/12, 2 systems for 59.94p/50p, 1 system for 119.88p/100p 3G-SDI: SMPTE ST424/425-1, 1 system
4K MAG (SLOT-2)	BNC type (x4) 12G-SDI: SMPTE ST2082-10 3G-SDI: SMPTE ST424/425-5
	BNC type (x8)

4K (SLOT-3)	12G-SDI: SMPTE ST2082-10 3G-SDI: SMPTE ST424/425-5, 2 systems
4K Monitor (SLOT-4)	BNC type (x4) 12G-SDI: SMPTE ST2082-10 3G-SDI: SMPTE ST424/425-5
HD (SLOT-5)	BNC type (x4) 3G-SDI: SMPTE ST424/425-1 HD-SDI: SMPTE ST292-1 3G-SDI/HD-SDI, character signal selectable
Sync	BNC type (x1) HD SYNC: SMPTE ST274, tri-level sync, 0.6 Vp-p, 75 Ω SD SYNC: composite sync, 0.3 Vp-p, 75 Ω HD SYNC/SD SYNC selectable
Audio CH-1, CH-2	XLR 3-pin, male (x2), 0/–20/+4 dBu

UHCU-8300 CCU Supplied Accessories

Supplied Accessories	Tally number plate (x1 set) Operation manual CD-ROM (x1), JP, GB, CS

UKCU-IP01F Option Interface General

Power Requirement	DC 12V
Power consumption (Max.)	70 W
Operating	5°C to +40°C

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 D) *1	340 x 237 mm 13 1/2 x 9 3/8 inches
Mass	Approx. 2 kg Approx. 4 lb 6.5 oz
*1	The values for dimensions are approximate and excluding the protrusions.

UKCU-IP01F Option Interface Output

Output *2	QSFP+, conforms to 40GBASE-SR/LR
*2	Transceivers, QSFP+, are not included.

UKCU-IP01F Option Interface Supplied Accessories

Supplied Accessories	Operation manual CD-ROM (x1), JP, GB, CS

UKCU-8001 Optional Interface General

UKCU-8001	ST 2110 Interface Board * further information adding later

UZCU-SNMP80 Optional Software General

UZCU-SNMP80	SNMP Agent Software

Note: The specifications of UKCU-8001 and UZCU-SNMP80 will be available later date.

Related products

HDVF-L750
Full HD 7-inch LCD viewfinder

MSU-1000
Master setup unit, multi camera remote control panel for HDC / HSC cameras (horizontal type)

HDVF-L770
Full HD 7-inch LCD viewfinder, adjustable with large handle

RCP-1500
Joystick type of Remote Control Panel for HDC/HSC/HXC series cameras. 4 units in 19-inch EIA rack.

RCP-1501
Dial type of Remote Control Panel for HDC/HSC/HXC series cameras. 4 units in 19-inch EIA rack.

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)

RCP-3500
Remote-control panel for HDC/HSC/HXC series cameras

HDRC-

MSU-3500

MSU-1500

VCT-14

4000	Master setup unit,	Master setup unit,	TRIPOD ADAPTOR
HDR Production	multi camera	multi camera	FOR PORT.
Converter Unit	remote control	remote control	CAMERAS/CAMC.
	panel for system	panel for HDC / HSC	
	cameras (vertical	cameras (vertical	
	type)	type)	

Gallery