SONY

HDC Series HDC-3100, HDC-3170

SR Live for HDR

4K

Sony HDC-Series Cameras –
Open up a World of Creativity with this New Performance Benchmark

Over the years, Sony has established a powerful solution lineup for HD studio operations with its HDC Series cameras along with a wide range of accessories to enhance your creative options.

Sony's flagship HDC Series cameras have been accepted as a worldwide standard, using cutting-edge technologies to realize excellent picture quality.

Now Sony proudly introduces new models designed to boost creativity with higher levels of performance along with the flexibility of continued interchangeability with existing models. The new HDC-3100 and HDC-3170 are powerful tools that truly inspire innovation and enable your creative vision.

In addition, all HDC Series cameras also boast various options such as a stunning 7-inch OLED viewfinder and remote control panels.

With their field-proven high reliability, all HDC Series cameras are stunning acquisition tools, ideal for a broad range of HD and UHD production applications.

HDC-3100, HDC-3170

Sony has newly developed a powerful imaging device specifically for the HDC-3100 and HDC-3170. This offers high sensitivity of F12 (at 1080/59.94p) or F13 (at 1080/50p) and a superior signal-to-noise ratio.
The HDC-3100 and HDC-3170 offer enhanced, excellent picture quality through new cutting-edge technologies. The first of these is a newly developed CMOS imaging device equipped with global shutter technology. In addition, the HDC-3100 and HDC-3170 can be upgraded with optional software licenses to add required functions.

The HDC-3100 offers an optical fiber transmission capability as standard together with the HDCU-3100 Camera Control Unit for fiber operation.
Meanwhile, the HDC-3170 offers a digital triax transmission capability together with the HDCU-3170 for triax operation. So you can select your model according to the signal wiring setup – optical fiber or triax – in the expected stadium.

HDC-3100
Optical fiber interface
1080/50i, 1080/59.94i
720/50p, 720/59.94p
1080/50p*[1], 1080/59.94p*[1]
1080/23.98PsF*[2], 1080/24PsF*[2]
1080/25PsF*[2], 1080/29.97PsF*[2]
UHD/50p*[1]*[3], UHD/59.94p*[1]*[3]

HDC-3170
Digital triax interface
1080/50i, 1080/59.94i
720/50p, 720/59.94p
1080/50p, 1080/59.94p
1080/23.98PsF*[2], 1080/24PsF*[2],
1080/25PsF*[2], 1080/29.97PsF*[2],
UHD/50p*[3], UHD/59.94p*[3]

*1 Optional HZC-PRV50 software is required. *2 Optional HZC-PSF50 software is required. *3 Optional HKCU-UHD30 Board is required to be installed into HDCU-3100 and HDCU-3170.

HDC Series Cutting-Edge Technologies

Highly Acclaimed CMOS Sensor with Global Shutter Technology

Based on Sony's cutting-edge imaging device technology and the latest on-chip lens structure, this 2/3-inch-type CMOS sensor offers high sensitivity of F12 (at 1080/59.94p) or F13 (at 1080/50p) at 2,000 lx and a superior signal-to-noise ratio even without digital noise suppression.
In addition, there is a wide variety of available output formats including 1080/59.94i, 1080/50i, 1080/23.98PsF[1], 1080/24PsF[1], 1080/25PsF[1], 1080/29.97PsF[1], and 1080/59.94p[2] or 1080/50p[2].

*1 Optional HZC-PSF50 software is required for the HDC-3100 and HDC-3170.
*2 Optional HZC-PRV50 software is required for the HDC-3100.
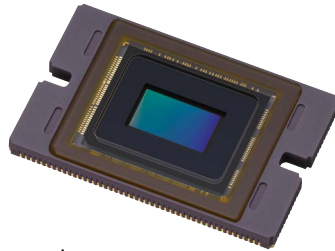
Optical Fiber Transmission (for HDC-3100)

HDC-3100 camera offers an optical fiber transmission capability as standard, enabling you to shoot in various capturing formats.
This camera is equipped with an SMPTE-standard optical fiber interface for connecting the associated camera control unit (the HDCU-3100 or HDCU-2000). While achieving exceptional quality, these cameras can also transmit all digital bi-directional video and audio signals, a control line, and a prompter line over extremely long distances.

Next-Generation Digital Triax Transmission (for HDC-3170)

With these newly developed third-generation digital triax-based systems, you can transmit detailed high-quality images over a long distance – up to 1,800 meters (5,904 feet)[3] with a ø14.5 mm triax cable, and become able to have UHD and HDR output over Triax transmission.
*3 Maximum cable length varies with camera system configuration.

Remote-Controlled ND and CC Filters

The HDC-3100 and HDC-3170 are equipped with single optical filter wheel for ND (neutral density) and electrical CC (color correction) which can be remotely controlled by any remote control panel (RCP) or master setup unit (MSU), as well as directly controlled by the camera head.

Compact and Lightweight Camera Body

HDC-3100 and HDC-3170 cameras incorporate magnesium alloy in their bodies. With this strong yet lightweight design, these cameras are highly mobile and can be operated even in the toughest shooting conditions.
The HDC Series provides stable handling, owing to a low center of gravity. You can easily adjust the shoulder pad into a well-balanced position without needing to use a screwdriver. Also, a wide viewable area beneath the handle provides you with a broad field of view, ideal for handheld camera operation. In every carefully considered aspect, HDC Series studio cameras offer great ergonomic design to increase ease of use.

Rich Focus Assist Functions

The viewfinder detail function adds dedicated image-enhancing edge signals directly to the viewfinder, helping you to recognize a focusing point. The focus assist indicator displays an indicator for adjustment at the bottom (or another selected position) of the viewfinder frame.
In addition, the HDC-3100 and HDC-3170 are equipped with an advanced focus position meter function; the return switch can also be utilized as the focus position meter with illumination. Three focus positions can be assigned at the return switches on the camera's intercom panel. These switches can be lit in red, green, blue or others according to the functions. This is helpful especially when shooting with a wide-viewing angle.

Upgrade Software to Expand Creativity

An upgrade path is provided for your further creative operation. You can select your configuration with the following optional software, including special versions that operate for a limited time period, according to your needs.

HZC-PSF50: PsF-format Software

HZC-PSF50M: PsF-format Software (30-day limited period)

HZC-PSF50W: PsF-format Software (7-day limited period)

HZC-PRV50: 59.94p/50p Software

HZC-PRV50M: 59.94p/50p Software (30-day limited period)

HZC-PRV50W: 59.94p/50p Software (7-day limited period)

HZC-UG50: User Gamma-compatible Software

HZC-UG50M: User Gamma-compatible Software (30-day limited period)

HZC-UG50W: User Gamma-compatible Software (7-day limited period)
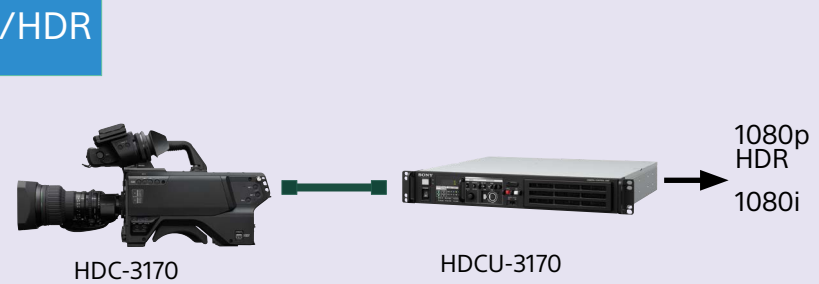
Flexibility with the HDC Series

SR Live for HDR **4K**

HDC-3100

Progressive/HDR

HZC-PRV50*¹
Optional Software

HDC-3100 → HDCU-3100 → 1080p*¹ HDR / 1080i

HDC-3170*⁵

HDC-3170 → HDCU-3170 → 1080p HDR / 1080i

UHD/HDR

HKCU-UHD30*²

HZC-PRV50*¹
Optional Software

HDC-3100 → HDCU-3100 → UHD*² HDR / 1080p*¹ HDR / 1080i

HKCU-UHD30*²

HDC-3170 → HDCU-3170 → UHD*² HDR / 1080p HDR / 1080i

PSF RGB444

HZC-PSF50*³, HZC-UG50*⁴
Optional Software

HDC-3100 → HDCU-3100 → 1080PsF*³ / 1080(444)*⁴ / 1080i

HZC-PSF50*³, HZC-UG50*⁴
Optional Software

HDC-3170 → HDCU-3170 → 1080PsF*³ / 1080(444)*⁴ / 1080p HDR / 1080i

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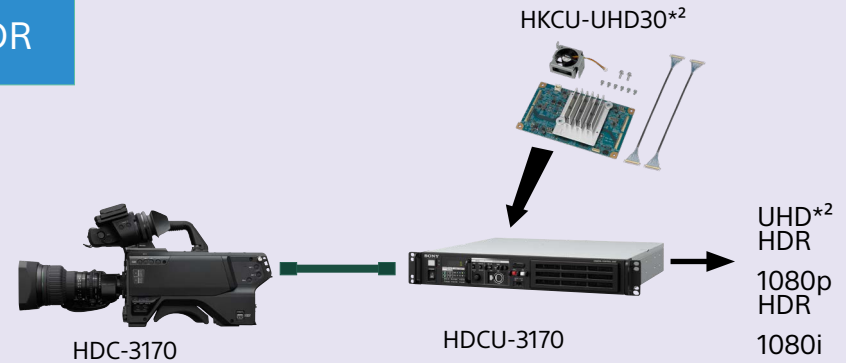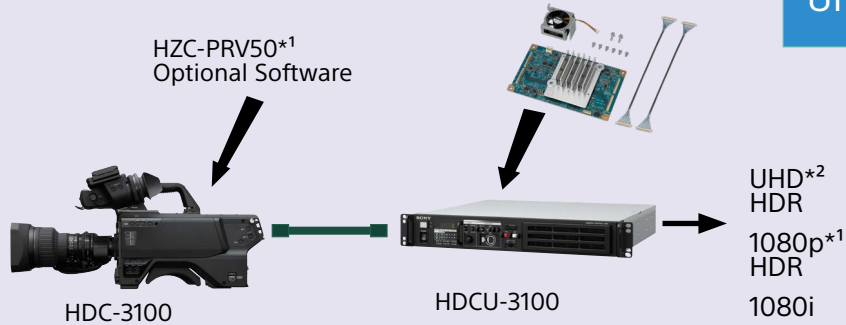
*1, *2, *3, *4 Optional function

*5 1080p output signals are supported as standard.

Superior Operability

Wider area for an easier handle grip

It's easy to grip the handle even with gloves on. And visibility through this area has improved. In addition, the ergonomically designed handle enables stable handling of the camera – use your index finger to tightly hold this part of the camera.

Viewfinder position: easy and stylish to use

The position of the viewfinder can be adjusted with ease. You can slide the viewfinder backward or forward and lock it to set its position with just the positioning lever. Its mounting rods are perfectly retracted into the body in a minimized position. As the rods do not protrude inward, they cannot interfere with your hand when gripping the handle.

User-Friendly Interface

Improved layout of connectors

It's easy to pull BNC connectors out of the rear panel because of the ergonomic layout design.

Simple intercom with earphone terminal

Besides the conventional intercom system, a commercially available earphone (4-pole earphones) can be utilized to input and output the intercom audio signal.

Versatile System Components: HDCU-3100 and HDCU-3170

Sony HDCU-3100 and HDCU-3170 Camera Control Units are next-generation CCUs that perform signal processing, provide an interface to external equipment, and supply power to the camera. In a compact 1.5 RU-size, these devices provide a path for IP and 12G-SDI capabilities, including IP on HDC Series optical fiber studio cameras. These highly compact 1.5 RU-size CCUs fit a standardized 19-inch rack system, ideal for space-limited production areas.

HDCU-3100 Camera Control Unit

-Up to eight 3G-SDI/HD-SDI outputs
-Four sets of 3G-SDI/HD-SDI/SD-SDI return video inputs
-Two-channel teleprompter inputs
-Built-in LAN interface (10BASE-T/100BASE-TX)
-Two-channel data trunk lines (RS-422A or RS-232C) for easy data transmission
-Two-channel microphone outputs (two XLR connectors)
-Network TRUNK

HDCU-3170 Camera Control Unit

-Up to eight 3G-SDI/HD-SDI outputs
-One-channel teleprompter input
-Built-in LAN interface (10BASE-T/100BASE-TX)
-A channel data trunk line (RS-422A/RS-232C) for easy data transmission
-Two-channel microphone outputs (two XLR connectors)
-A triax transmission connector is incorporated as standard and an optical fiber connector can also be added by installing an optional HKCU-FB30 Optical Fiber Connector kit. When you are operating in an OB van, it's easy to switch signals between optical fiber and triax cables.

HDCU-3170 standard

HDCU-3170 Triax/Fiber transmission
with optional HKCU-FB30

Upgrade Program for 4K

With the optional HKCU-UHD30 4K HDR Processor Board and HZC-PRV50 Signal Format Software[1], the HDC-3100 and HDC-3170 can be upgraded to create 4K images as well as 4K Live HDR (high dynamic range) images.

HKCU-UHD30: 4K/HDR Processor Board

The HKCU-UHD30 4K HDR Processor Board provides 4K HDR signals for SDI and IP output.
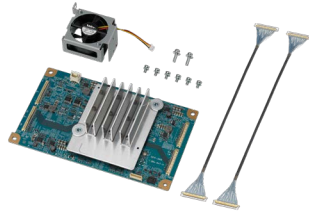
HKCU-SDI30: 12G-SDI Extension Kit

The HKCU-SDI30 is an 12G-SDI expansion kit that adds two connectors for 4K 12G-SDI signals.[2]

Interface Expansion Options

HKCU-FB30: Optical Fiber Connector Kit

The HDCU-3170 Digital Triax CCU can achieve fiber transmission when you install the optional HKCU-FB30. With this new feature, the HDCU-3170 provides selectable triax and fiber transmission in one CCU body.
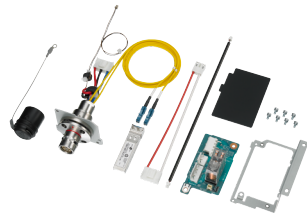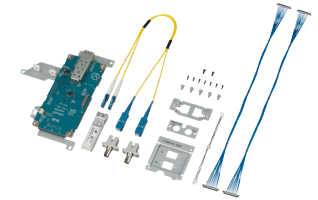
*1 The HZC-PRV50 is optional software for the HDC-3100 (this function is as standard for the HDC-3170)

*2 The HKCU-UHD30 is required for 4K signal output.

HKCU-SM30: Single Mode Fiber Connector Kit

The HKCU-SM30 is a single mode fiber connection kit between a camera and CCU. With the HKCU-SM30, the maximum distance extends up to 10 km.

Interface options for HDCU-3100, HDCU-3170 and HDCU-3500

Functions	HDCU-3100	HDCU-3170	HDCU-3500
12G-SDI Output	HKCU-SDI30[3][5]	HKCU-SDI30[4][5]	Standard[6]
ST 2110 IP	HKCU-SFP30[3]	HKCU-SFP30[4]	HKCU-SFP50
SMF Output	HKCU-SM30	HKCU-SM30[4]	HKCU-SM50
4K/HDR Process	HKCU-UHD30[5]		HZCU-UHD35[6] (Optional software)
SNMP Protocol	HZCU-SNMP50 (Optional software)		
ember+ Protocol	HZCU-CNFG50 (Optional software)		
SMPTE Optical Fiber	Standard	HKCU-FB30	Standard
UHB Transmission	No		HKCU-FB50

*3 The optional HKCU-SDI30 or HKCU-SFP30 can be installed to the option slot of the HDCU3100.

*4 One of the optional HKCU-SDI30, HKCU-SFP30 or HKCU-SM30 can be installed to the option slot of the HDCU3170.

*5 To output SDI or 12G-SDI signals from the optional HKCU-SDI30, the optional HKCU-UHD30 is also required in the HDCU-3100 and HDCU-3170.

*6 To output 12G-SDI signals from the HDCU-3500, the optional HZCU-UHD35 is required.

HDCU-3500 Camera Control Unit

- 19-inch 3U Half size CCU
- Companion CCU for the HDC-3100
- 12G-SDI and 4K output with an optional software license HZCU-UHD35
- 3G Single Mode Fiber transmission with an optional HKCU-SM30
- Easy web menu settings via network
- IP Tally support (TSL UMD v5.0) as standard

Compatibility with current HDC/HSC series

Compatibility with HDC-2500 series*¹

NEW HDC-3100

OR

HDC-2500
HDC-2400
HDC-1700

NEW HDCU-3100

OR

HDCU-2500
HDCU-2000
HDCU-1700
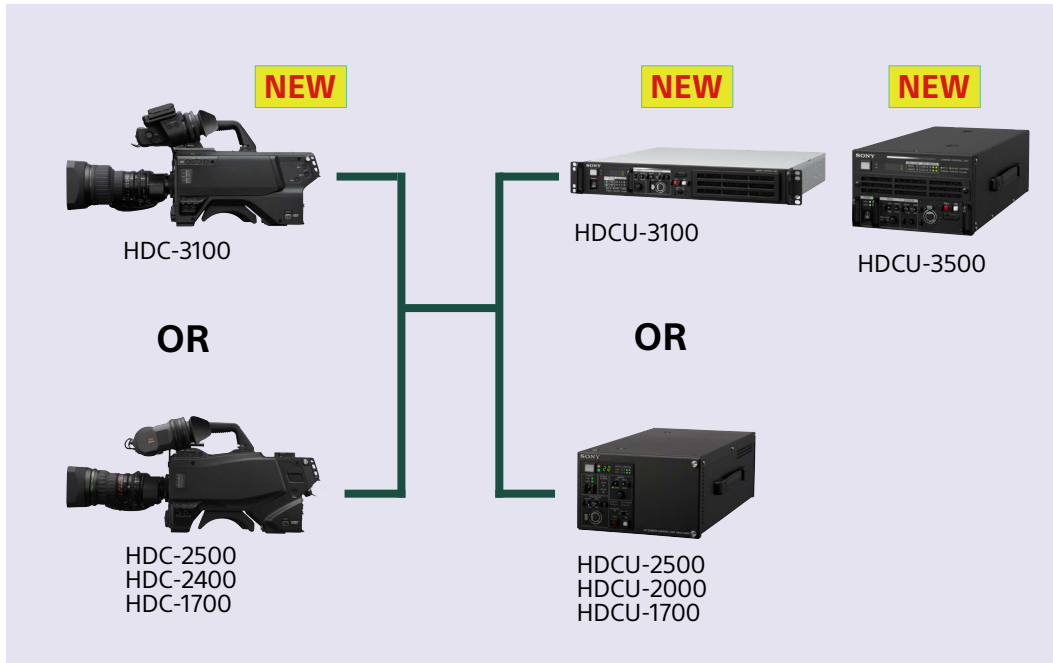
NEW HDCU-3500

*1 The HDC-3170 and HDCU-3170 cannot work with HDC-2570, HKC-TR27, HDTX-200 nor HDFX-200.

Compatibility with HSC-3000RF and HSC-100RF*²*³

NEW HDC-3100

OR

HSC-300RF
HSC-100RF

NEW HDCU-3100
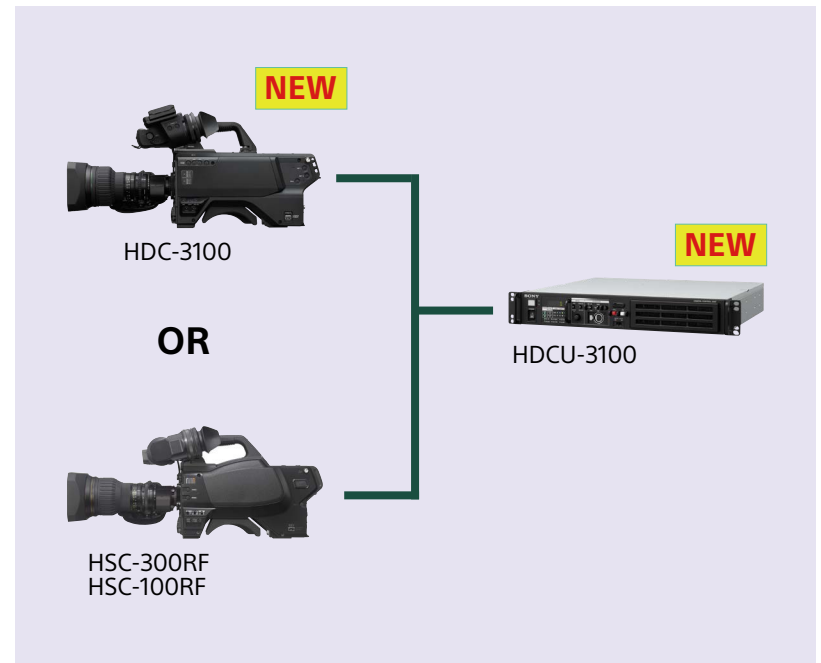
*2 The HDC-3100 cannot work with HSCU-300RF nor HSCU-100RF.

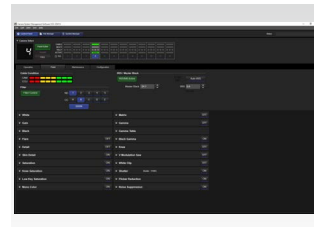*3 The HSC-300RF and HSC-100RF cannot work with HDCU-3500.

Optional Accessories

MSU-1000
Master Setup Unit

MSU-1500
Master Setup Unit

HZC-CSM10
PC-based MSU

RCP-1000
Remote Control Panel

RCP-1001
Remote Control Panel

RCP-1500
Remote Control Panel

RCP-1501
Remote Control Panel

RCP-3100
Remote Control Panel

HDVF-EL20
Full HD OLED Viewfinder

HDVF-EL30
Full HD OLED Viewfinder with 3.5-inch[*1] LCD

HDVF-EL75
7.4-inch[*1] Color HD Viewfinder

VFH-790
Outdoor Hood for HDVF-EL70/EL75

HDVF-L770
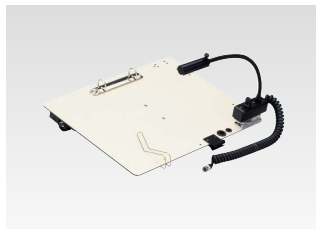7-inch[*1] LCD Color Viewfinder

HDVF-L750
7-inch[*1] LCD Color Viewfinder

HDCE-100
Camera Extension Adaptor

HKCU-SM100
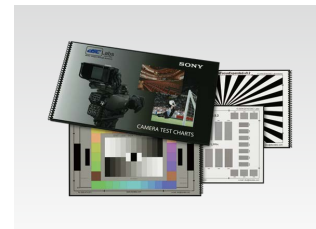CCU Extension Adaptor

BKP-7911
Script Holder

CAC-6
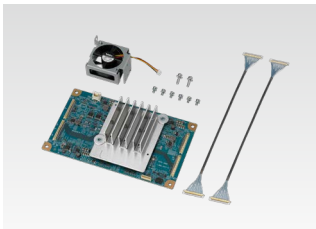Return Video Selector

VCT-14
Tripod Adaptor

J-712-156-0A
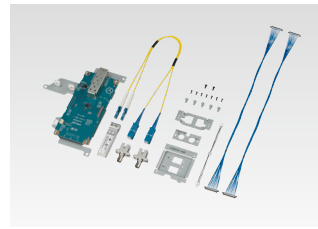Camera Test Charts

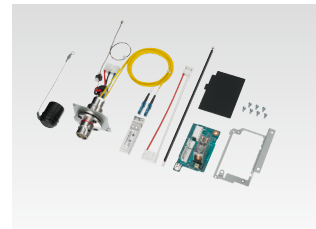**HKCU-SFP30**
ST2110 Interface Kit

HKCU-UHD30
4K/HDR Processor Board

HKCU-SDI30
12G-SDI Extension Kit

HKCU-SM30
Single Mode Fiber Connector Kit

HKCU-FB30
Optical Fiber Connector Kit

*1 Viewable area measured diagonally

Specifications

HDC-3100/HDC-3170 Specifications

	HDC-3100	HDC-3170
General		
Power requirements	AC 240 V, 1.05 A (max.), DC 240 V, 1.05 A (max.)	DC 240 V, 1.05 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)	Approx. 5.0 kg (11 lb 0.4 oz)
Imager		
Imager	2/3 inch type CMOS sensor with global shutter	
Method	3-CMOS, RGB	
Electrical characteristics		
Sensitivity	F12 with 1080/59.94i F13 with 1080/50i (at 2,000 lx with 89.9% reflectance)	
Signal-to-noise ratio	-62 dB or higher	
Geometric distortion	Negligible (not including lens distortion)	
Optical system specifications		
Spectrum system	F1.4 prism	
Built-in filters	ND: Optical (1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND), CC: Electrical	
Input/output connectors		
CCU	Electro-optical connector (LEMO 3K.93C connector) (x1)	Triax connector (x1)
LENS	12-pin (x1)	
VF	20-pin (x1)	
MIC 1 IN	XLR 3-pin, female (x1)	
AUDIO IN CH1, CH2	XLR 3-pin, female (x1 each) AUDIO switch for MIC: –60 dBu (can be selected up to –20 dBu in the menu), balanced AUDIO switch for LINE: 0 dBu, balanced	
INTERCOM	XLR 5-pin, female (x1)	
EARPHONE	4-pole mini jack (x1), (2-pole mono, 3-pole stereo, 4-pole CTIA standard, 4-pole OMTP standard)	
DC IN	XLR 4-pin (x1), DC 10.5 to 17 V	
DC OUT	4-pin (x1), DC 10.5 to 17 V, max. 0.5 A*1 2-pin (x1), DC 10.5 to 17 V, Max. 2.5 A*1	
SDI 1	BNC (x1)	
SDI 2	BNC (x1)	No
SDI MONI	BNC (x1)	
TEST OUT	BNC (x1)	
PROMPTER/GENLOCK	BNC (x1) PROMPTER 1 Vp-p, 75 Ω GENLOCK 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)	
PROMPTER2	No	
RET CTRL	6-pin (x1)	
REMOTE	8-pin (x1)	
TRACKER	12-pin (x1)	
CRANE	No	
USB	USB 2.0 Type A 4-pin (x1) (for connecting USB drive)	
Supplied accessories		
	Before Using This Unit (1), Operating Instructions (CD-ROM) (1), Cable clamp belt (1 set), Screws (+B3×8) (2), Attached label (1), Camera number label (1)	

*1 This may be limited by the imposed load or inputs.

*2 Design and specifications are subject to change without notice

HDCU-3100/HDCU-3170 Specifications

	HDCU-3100	HDCU-3170
General		
Power requirements	100 V to 240 V AC, 50/60 Hz	
Current consumption	4.5 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. 7.3 kg (16 lb 1.5 oz)	Approx. 8.1 kg (17 lb 14 oz)
Input/output connectors		
CAMERA FIBER	Optical fiber connector (x1)	Optional Optical fiber connector HKCU-FB30 (x1)
CAMERA TRIAX	No	Triax connector (x1)
INTERCOM/TALLY/IO PORT	D-sub 50-pin connector (x1) INTERCOM (PROD/ENG), 4 W: 0 dBu, RTS: 0 dBu, CC: –14 dBu PGM, 3 systems, 0dBu/–20dBu (for HDC-3100/HDC-3170) TALLY (R, G, Y) FLAG	
RCP/CNU	8-pin multi-connector (x1)	
TRUNK	12-pin (x1)	
LAN-COM	8-pin (x1)	
NETWORK TRUNK	8-pin (x1)	
SDI I/O 1 to 4	3G/HD/SD-SDI I/O BNC (x4) 3G-SDI: SMPTE ST424/425 Level-A/B, 0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE ST259, 0.8 Vp-p, 75 Ω, 270Mbps 3G-SDI/HD-SDI/SD-SDI, character signal selectable	
REFERENCE IN/OUT	BNC (x2), loop-through output 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) or NTSC 10F-BB	
Input connectors		
AC IN	100 V to 240 V AC (x1)	
SDI RET 1 to 4	BNC (x4) 3G-SDI: SMPTE ST424/425, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE ST259, 270 Mbps	
PROMPTER 1 PROMPTER 2/VBS-RET	BNC (x2), loop-through output during 1CH mode, terminate internally at 75 Ω during 2CH mode, analog signal, 1.0 Vp-p, 75 Ω	
Output connectors		
AUDIO OUT CH1, CH2	XLR 3-pin, male (x2), 0dBu/–20 dBu/+4 dBu	
CHARACTER/ABS/EBU	BNC (x1), VBS, 1 Vp-p, 75 Ω HD SYNC: BTA-S001, tri-level sync, 0.6 Vp-p, 75 Ω SD SYNC: composite sync, 0.3 Vp-p, 75 Ω VBS/HD, SYNC/SD, SYNC selectable	
SDI OUT 1 to 4	3G/HD/SD SDI OUTPUT BNC (x4) 3G-SDI: SMPTE ST424/425 Level-A/B, 0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE ST259, 0.8 Vp-p, 75 Ω, 270 Mbps 3G-SDI/HD-SDI/SD-SDI, character signal selectable	
Supplied accessories		
Number plates (1 set), Before Using this Unit (1), Operating Instructions (CD-ROM) (1)		
Optional accessories		
United States and Canada: Power cord set (1-551-812-XX) Other areas: Power cord set (1-782-929-XX)		
United States and Canada: Plug holder B (2-990-242-01) Other areas: Plug holder C (3-613-640-01)		
CCA-5-3 Connection Cable (3 meters), CCA-5-10 Connection Cable (10 meters)		