Sony 4K 3-CMOS Camera –
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. And now Sony proudly introduces you to next-stage migration with a new camera model featuring Sony's state-of-the-art technologies.

Sony adds the HDC-5500 camera to its lineups of widely accepted HDC Series cameras, with quality far above the industry standard.

The HDC-5500 can directly output 4K signals via a 12G-SDI interface. This amazing performance from a compact unit allows the HDC-5500 to be used, for instance, in a Steadicam system or wireless camera system. Furthermore, Sony developed all-new 4K signal transmission technology specifically for the HDC-5500.

This new UHB transmission system can transmit 4K baseband signals from the camera together with, for example, 4K signals captured by the HDC-P50 point-of-view (POV) style camera system via just a SMPTE fiber cable.

The HDC-P50 can directly output 4K signals or high frame rate signals and therefore offers excellent usability for capturing high-resolution images from a wide range of camera positions such as aerial video shooting.

Together the HDC-5500, HDC-3500, HDC-3100, HDC-3170, and HDC-P50 are powerful tools that truly inspire innovation. All of these HDC Series cameras boast various options such as a stunning 7-inch OLED viewfinder and a large lens adaptor that enables rapid attachment without fine adjustment.

Sony continues to strongly support creators in the image industry and enable their imagination with cutting-edge technologies and the HDC Series.

4K

HDC-5500

Sony developed a powerful new imaging device specifically for the HDC-5500. It offers high sensitivity of F10 (at UHD/59.94p) or F11 (at UHD/50p) and a superior signal-to-noise ratio. Along with this, the HDC-5500 offers enhanced, excellent picture quality through three recently developed cutting-edge technologies. The first of these is a 4K CMOS imaging device equipped with global shutter technology, the second is a dedicated low–power, high-speed signal processor, and the third is a UHB transmission system that can transmit 4K baseband signals from the camera together with, for example, 4K signals captured by the HDC-P50 point-of-view (POV) style camera system via just a SMPTE fiber cable. In addition, the HDC-5500 can output progressive signals as standard and can be upgraded with optional software licenses to add required functions such as progressive segmented frame (PsF) signal output and double-speed acquisition. Furthermore, the HDC-5500 can capture high frame rate (HFR) images of HD 8x[*1], 6x[*1], 4x, and 3x. This camera can also capture high dynamic range (HDR) images at the same time. This enables simultaneous production of HDR and SDR at an SR-Live event. Joining Sony's widely acclaimed HDC Series family for live production solutions, the HDC-5500 offers similar operability to existing HDC Series cameras and is fully compatible with a wide range of Sony's existing products and workflows, including viewfinders, large lens adaptors, and camera control units. All this helps you to keep down costs and inventory.

HDC-3500, HDC-3100, HDC-3170

The HDC-5500 joins four pre-existing HDC Series cameras: the HDC-3500, HDC-3100, HDC-3170, and HDC-P50. The HDC-3500 is operated through fiber transmission as standard and has an exchangeable side panel interface; the optional HKC-CN50 side panel attachment kit makes switching easy. To satisfy your varying requirements with the HDC-3500, Sony provides exchangeable adaptors – the HKC-FB30 for fiber transmission and the

HKC-TR37 for triax transmission. The HDC-3100 offers an optical fiber transmission capability as standard while the HDC-3170 offers a digital triax transmission capability. Both deliver high sensitivity of F12 (at 1080/59.94p) or F13 (at 1080/50p) so you can select your model according to your anticipated signal wiring setup – optical fiber or triax.

Portable Cameras

HDC-5500
Optical-fiber interface
1080/59.94i, 1080/23.98PsF[*2]
1080/24PsF[*2], 1080/29.97PsF[*2]
1080/59.94p[*3], 720/59.94p[*4]
1080/119.88i[*5], 119.88p[*5], UHD/59.94p[*7]
UHD/(23.98p, 24p, 29.97p, 119.88p[*7*8])
1080/(2x, 3x, 4x, 6x[*1], 8x[*1])[*8]
720/(2x, 3x, 4x, 6x, 8x)[*4*8]

HDC-3500
Optical-fiber interface
1080/59.94i, 1080/23.98PsF[*2]
1080/24PsF[*2], 1080/29.97PsF[*2]
1080/59.94p[*3]
720/59.94p, 1080/119.88i[*5]
720/119.88p[*5], UHD/59.94p[*3*6]

HDC-3100
Optical-fiber interface
1080/59.94i, 720/59.94p
1080/23.98PsF[*2]
1080/24p[*2]
1080/29.97p[*2],1080/59.94p[*3,]
UHD/59.94p[*3*6]

HDC-3170
Digital triax interface
1080/59.94i
720/59.94p
1080/59.94p

*1 Available in future. *2 Optional HZC-PSF50 software is required. *3 Optional HZC-PRV50 software is required. *4 Output from CCU *5 Double-speed acquisition format for slow-motion *6 Optional HKCU-UHD30 Board is required to be installed into HDCU-3100. *7 Optional HZC-UHD50 software is required. *8 Optional HZC-HFR50 software is required.

# HDC Series Cutting-Edge Technologies

Highly Acclaimed 4K 3-CMOS Sensor with Global Shutter Technology (for the HDC-5500 and HDC-3500)

Based on Sony's cutting-edge imaging device technology and the latest on-chip lens structure, this 2/3-inch-type 4K CMOS sensor offers high sensitivity of F10 (at UHD/59.94p) and F11 (at UHD/50p) *[1] for the HDC-5500, and F10 (at 1080/59.94p) and F11 (at 1080/50p)*[2] for the HDC-3500 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*[3], 1080/24PsF*[3], 1080/25PsF*[3], 1080/29.97PsF*[3], and 1080/59.94p*[2] or 1080/50p*[2]. These formats exceed HD picture quality made from 4K capturing images.

*1 Optional HZC-UHD50 software is required for the HDC-5500.
*2 Optional HZC-PRV50 software is required for the HDC-3500.
*3 Optional HZC-PSF50 software is required for the HDC-3500.
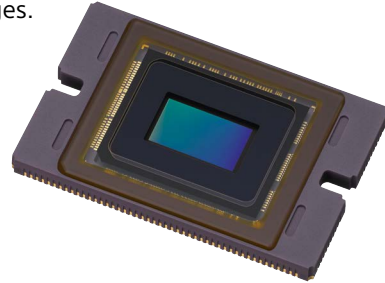
State-of-the-Art Evolving Digital Signal Processor

The DSP LSI developed for the HDC-5500 supports UHD/59.94p and UHD/50p progressive formats, making full use of high-clarity images captured by the CMOS sensor.
You can also capture HFR images and achieve the high-speed signal processing capability that is needed in most compact camera operations.

Optical Fiber Transmission

The HDC-5500 camera and HDCU-5500 Series system both offer as standard the capability of two 4K signal lines of UHB optical fiber transmission, enabling you to shoot in various capturing formats, and an additional 4k video trunk line.
HDC-3500 and HDC-3100 cameras offer an optical fiber transmission capability as standard, enabling you to shoot in various capturing formats.
These cameras are 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, with a control line and a prompter line, over extremely long distances.

Next-Generation Digital Triax Transmission

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)*[4] with a ø14.5 mm triax cable.

*4 Maximum cable length varies with camera system configuration.

Network TRUNK*[5]

The network TRUNK function (LAN port) allows for data transmission between the camera and the CCU at up to 1 Gbps. This supports new system configurations that are being used with various IP-based products.

*5 This function can only be used with the fiber system.

ND and CC Filters

The HDC-5500/HDC-3500 and HDC-3100 are equipped with a ND (neutral density) / CC (color correction) filter which can also be remotely controlled by a remote control panel (RCP) or master setup unit (MSU). The HDC-5500 and HDC-3500 have five changeable positions and the HDC-3100 and HDC-3170 have four.

Compact and Lightweight Camera Body

HDC-5500, HDC-3500, HDC-3100, and HDC-3170 cameras incorporate magnesium alloy in their bodies and the HDC-5500 and HDC-3500 also feature carbon fiber reinforced plastic (CFRP) in their outside panels. 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-5500, HDC-3500 and HDC-3100 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 RGB switches of the HDLA-1500 Series Large Lens Adaptor, and the same position data 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.

Flexibility with the HDC Series

Easy Transmission Change (for HDC-5500,HDC-3500 and HDC-3500H)

The transmission system can be easily changed between fiber (HKC-FB30 and HKC-FB50), triax (HKC-TR37), and wireless (HKC-WL50) transmission by replacing parts assembled in the outside panels*¹.
In addition, since all replacement connectors are located in the outside panels, camera balance is maintained.
*1 The optional HKC-CN50 is required to attach an outside panel.

HKC-FB30: Optical Fiber Transmission Adaptor

HKC-FB50: UHB Optical Fiber Transmission Adaptor

HKC-TR37: Digital Triax Transmission Adaptor

HKC-WL50: Wireless Transmission Adaptor

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-DFR50: Double-speed Capturing Software for Slow Motion (for HDC-5500 and HDC-3500)

HZC-DFR50M: Double-speed Capturing Software for Slow Motion (30-day limited period) (for HDC-5500 and HDC-3500)

HZC-DFR50W: Double-speed Capturing Software for Slow Motion (7-day limited period) (for HDC-5500 and HDC-3500)

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)

HZC-UHD50: 4K format Software (for HDC-5500 and HDC-P50)

HZC-UHD50M: 4K format Software (30-day limited period for HDC-5500 and HDC-P50)

HZC-UHD50W: 4K format Software (7-day limited period for HDC-5500 and HDC-P50)

HZC-UHD50P: 4K format Portable Software (for HDC-5500)

HZC-HFR50: HFR format Software (for HDC-5500 and HDC-P50)

HZC-HFR50M: HFR format Software (30-day limited period for HDC-5500 and HDC-P50)

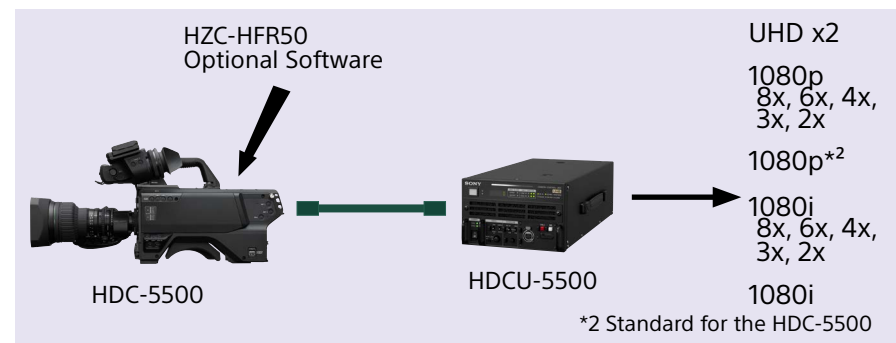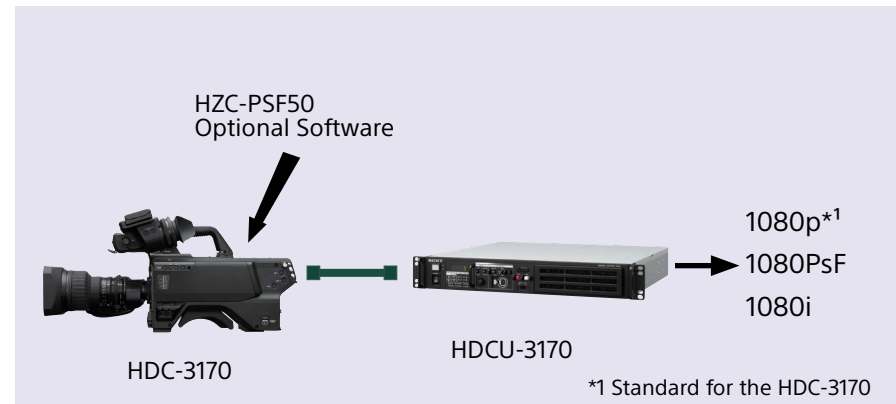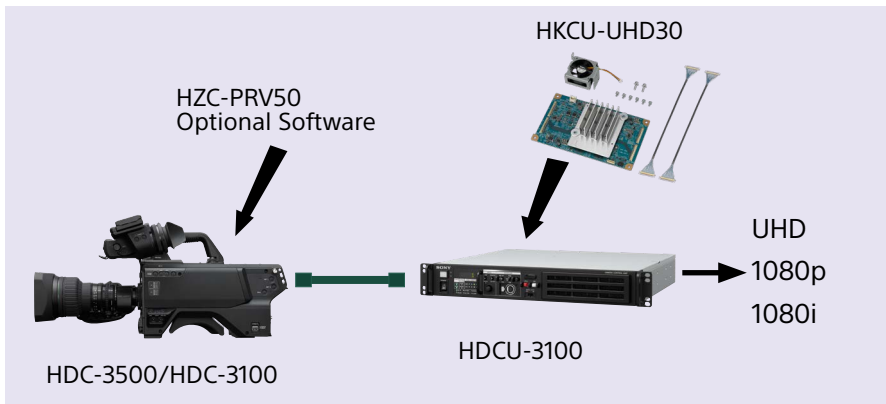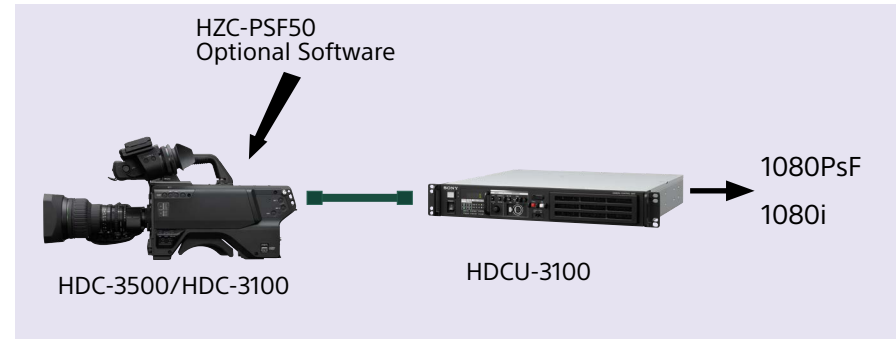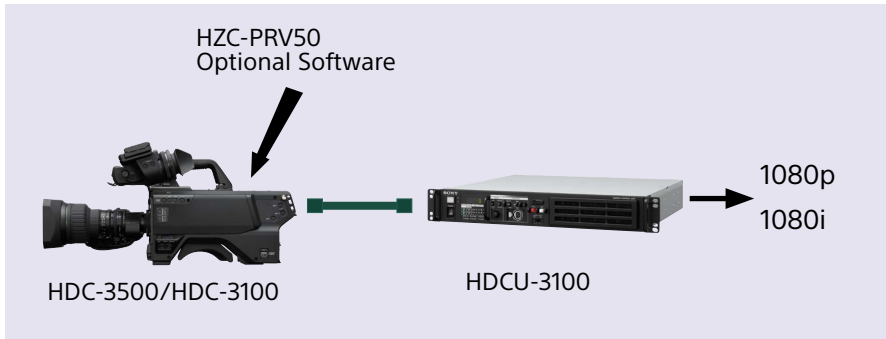HZC-HFR50W: HFR format Software (7-day limited period for HDC-5500 and HDC-P50)

HZC-HFR50P: HFR format Portable Software (for HDC-5500)

HDC-5500

Flexibility with the HDC Series

HZC-PRV50
Optional Software

HDC-3500/HDC-3100 — HDCU-3100 → 1080p
1080i

HZC-PSF50
Optional Software

HDC-3500/HDC-3100 — HDCU-3100 → 1080PsF
1080i

HKCU-UHD30

HZC-PRV50
Optional Software

HDC-3500/HDC-3100 — HDCU-3100 → UHD
1080p
1080i

HZC-PSF50
Optional Software

HDC-3170 — HDCU-3170 → 1080p*[1]
1080PsF
1080i

*1 Standard for the HDC-3170

HZC-UHD50
Optional Software

HDC-5500 — HDCU-5500 → UHD
1080p*[2]
1080i

*2 Standard for the HDC-5500

HZC-HFR50
Optional Software

HDC-5500 — HDCU-5500 → UHD x2
1080p
8x, 6x, 4x,
3x, 2x
1080p*[2]
1080i
8x, 6x, 4x,
3x, 2x
1080i

*2 Standard for the HDC-5500

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.

Excellent Visibility

Camera numbering using electronic paper (for the HDC-5500 and HDC-3500)

An industry first, these camera uses electronic paper (e-ink)-type camera numbers. This numbering changes automatically when the system changes the camera number. In addition, graphics can also be displayed with a number.

Side tally using an LED lamp (for the HDC-5500 and HDC-3500)

A tally lamp is mounted next to the camera number, improving visibility of tally status from the outside.
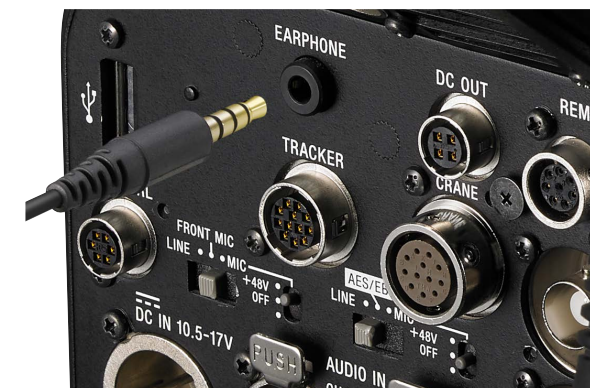
User-Friendly Interface

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.

Always Pursue the Best Quality & High Efficiency

ARIA: Automatic Restoration of Illumination Attenuation

F drop and peripheral light loss are unwanted physical phenomena especially in long-distance object shooting. With the newly developed ARIA function of the HDC-5500/3500/3100/3170/P50, the impact on picture appearance is automatically compensated for by processing inside the camera for the supported lens[1]. This means that content quality remains high, even in tough shooting conditions.
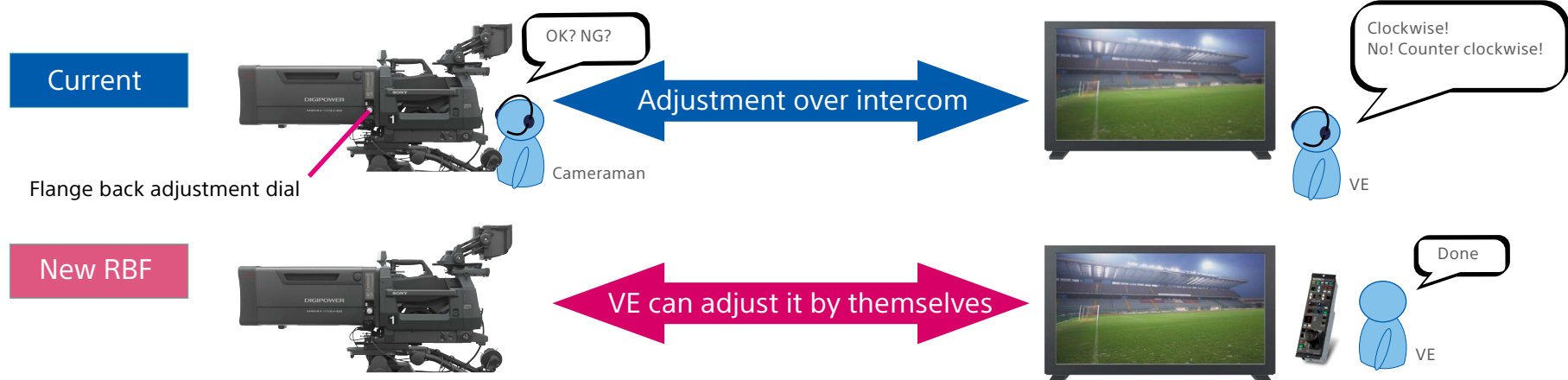
ARIA Off

ARIA On

RBF: Remote Back Focus

The HDC-5500/3500/3100/3170 offers a remote back focus (RBF) function. The back focus of the supported lens[1] can be adjusted remotely from the Sony master setup unit (MSU) or remote control panel (RCP). The video engineer can check the back focus and adjust it. RBF shortens preparation time on the day.

Current

OK? NG?

Adjustment over intercom

Clockwise!
No! Counter clockwise!

Flange back adjustment dial

Cameraman

VE

New RBF

Done

VE can adjust it by themselves

VE

*1 Please contact your nearest Sony sales office on the supported lens.

Versatile System Components: HDCU-5000 and HDCU-5500

Sony's HDCU-5000, HDCU-5500 and HDCU-3500 are next-generation camera control units (CCUs) that perform signal processing, provide an interface to external equipment, and supply power to the camera. These devices also provide a path for IP and 12G-SDI capabilities as an option, including IP on HDC Series optical fiber studio cameras. The HDCU-5000 and HDCU-5500 are capable of ultra-high bit rate (UHB) transmission for main 4K signals and a 4K video trunk line.

HDCU-5000 Camera Control Unit

-19-inch 3U full-size CCU for the HDC-5500 and HDC-3500/HDC-3100
-Dual transmission capability allowing, for example, ultra-high bit rate (UHB) transmission with the HDC-5500 and even current HDC-2000 Series cameras
-Includes the same interface as the HDCU-5500 as well as various additional optional interfaces
-Optical fiber transmission system up to 4,000 meters*[1]
-UHB transmission for 2 channels of 4K picture such as 4K 2x slow picture or two types of 4K picture (a main camera plus another camera, e.g. a POV picture input to an UHD trunk line)

HDCU-5500 Camera Control Unit

-19-inch 3U half-size CCU for the HDC-5500
-Companion CCU for the HDC-5500
-12G-SDI and 4K output interface as standard
-The HKCU-SM50 provides 3G single mode fiber transmission between the HDCE-100 linked with the HDC-2500 (or HDC-3500)
-Easy web menu settings via a network
-IP tally support (TSL UMD v5.0) as standard

HDCU-5000 Rear view (standard)

HDCU-5500 Rear view (standard)

*1 When supplying power to the camera via optical fiber cable, the maximum cable length varies with camera system configuration, lens type, viewfinder type, the size of the optical fiber cable, and the number of cable connectors.
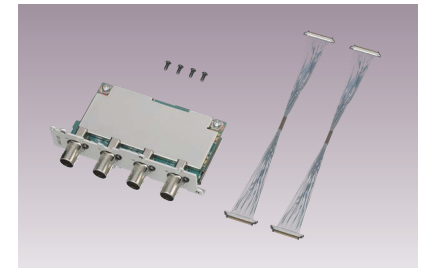
Versatile System Components: HDCU-5500 and HDCU-5000

HDCU-5000 Rear view with the optional HKCU=SDI50

## HKCU-SDI50   12G-SDI Interface Kit

The HKCU-SDI50 12G-SDI interface kit is an optional board for the HDCU-5000 Camera Control Unit that allows transmission of 4K signals through a single BNC cable.

HDCU-5000 Rear view with the optional HKCU=SFP50

HKCU-SFP50:
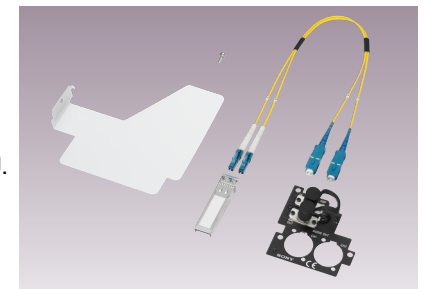## ST 2110 IP Interface Kit

The HKCU-SFP50 provides ST 2110 4K/HD IP video/audio and an IP intercom capability as system camera operations.
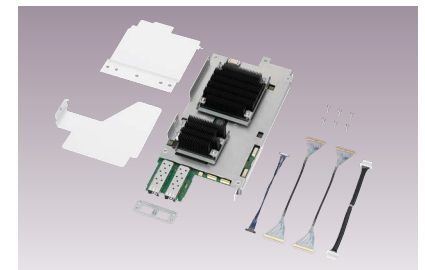
HDCU-5000 Rear view with the optional HKCU=SM50

HKCU-SM50:
Single Mode Fiber Connection Kit

The HKCU-SM50 is a single mode fiber connection kit between the camera and CCU. With the HKCU-SM50, the maximum distance extends up to 10 km.

HDCU-3500 Camera Control Unit

- 19-inch 3U half-size CCU for the HDC-3500
- Companion CCU for the HDC-3500 and HDC-3100
- 12G-SDI and 4K output with an optional HZCU-UHD35 software license
- The HKCU-SM50 provides 3G single mode fiber transmission between the HDCE-100 linked with the HDC-3500 (or HDC-3100)
- Easy web menu settings via a network
- IP tally support (TSL UMD v5.0) as standard

Software option for system integration

HZCU-SNMP50: SNMP Protocol Software

The HZCU-SNMP50 can add SNMP protocol support to HDCU-3100/3170/3500/5000/5500 CCUs. With this option, the CCU can be integrated with system monitoring software.

HZCU-CNFG50: Ember+ Protocol Software

The HZCU-CNFG50 can add Ember+ protocol support to HDCU-3100/3170/3500/5000/5500 CCUs. With this option, the CCU can be integrated with a VSM control system.

HZCU-UHD35 : 4K Upgrade for HDCU-3500

With optional HZCU-UHD35 4K HDR processor software and HZC-PRV50 signal format software, the HDC-3500 and HDC-3100 can be upgraded to create 4K images as well as 4K live high dynamic range (HDR) images.

Rear View of HDCU-3500

Standard

ST 2110 IP interface with optional HKCU-SFP50

Single Mode Fiber interface with optional HKCU-SM50

Network Recording Drastically Changes Live Production

Recording Options for the HDCU-5000/5500/3500

Sony's new HKCU-REC50 and HKCU-REC55 recording options allow you to choose recording functions for the HDCU-5000 and HDCU-5500/3500.

Simplicity Brings Reliability

With these options, the CCU can record a live feed inside its compact body without external recorders. No cable between the CCU and the recorders makes this a simple, reliable production system and enhances space efficiency in your OB truck.

Real-Time File Transfer Never Delays Your Work

The CCU can transfer a file to the portable SSD with USB or network storage via a 10Gb fiber interface. The file can be transferred in real time during recording. This means that after shooting you can finish your day without waiting for the file transfer. Moreover, a mirror transfer function frees you from file backup tasks.
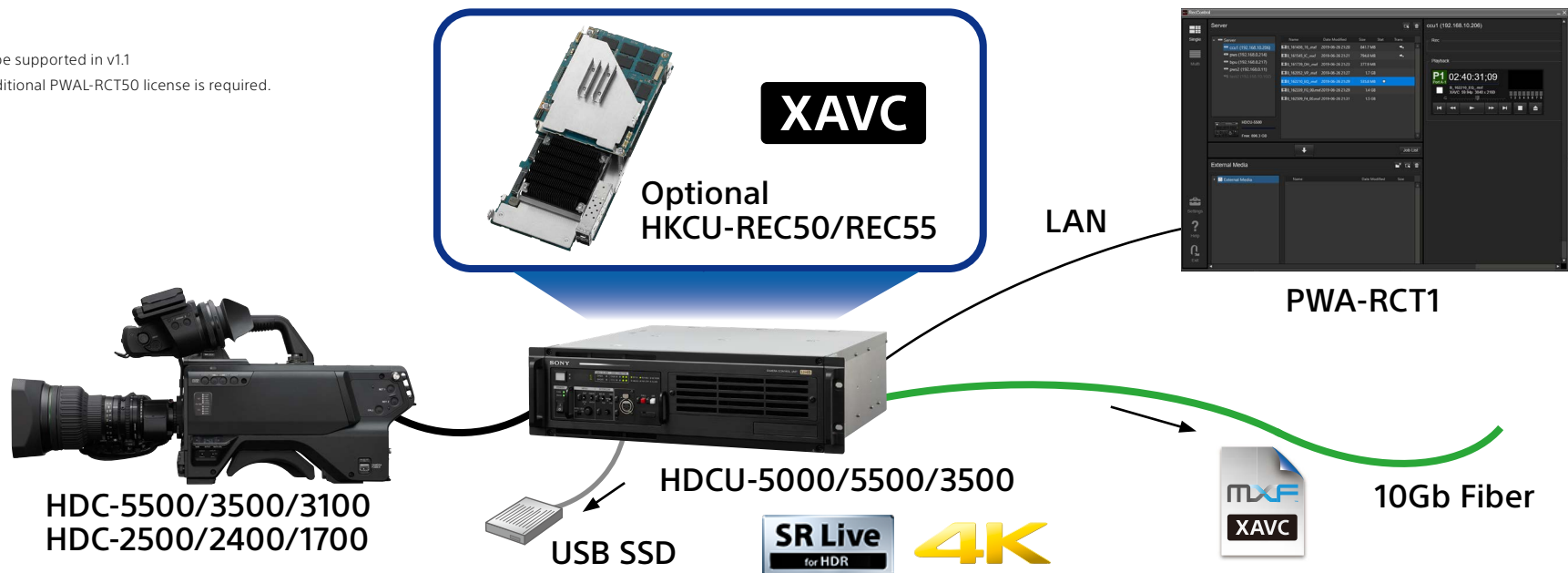
Best Recorder for SR Live Production

The CCU can record 4K and HD simultaneously, making it suitable for 4K HDR and HD SDR simultaneous production. Moreover, SR live metadata recording[1] will boost your efficient workflow in HDR productions. With CCU recording options, the CCU becomes the starting point for SR live production and file-based production.

Integrated Network Control Software

-Achieve network control with PWA-RCT1[2] recording control software
-Offers REC/STOP and file transfer control of the HKCU-REC50/REC55 and PWS-4500 live production server with an easy user interface

*1 To be supported in v1.1
*2 Additional PWAL-RCT50 license is required.

XAVC

Optional
HKCU-REC50/REC55

LAN

PWA-RCT1

HDC-5500/3500/3100
HDC-2500/2400/1700

USB SSD

HDCU-5000/5500/3500

SR Live for HDR 4K

MXF
XAVC

10Gb Fiber

Network Recording Drastically Changes Live Production

Recording Option Board for the HDCU-5000 and HDCU-5500/3500

HKCU-REC50

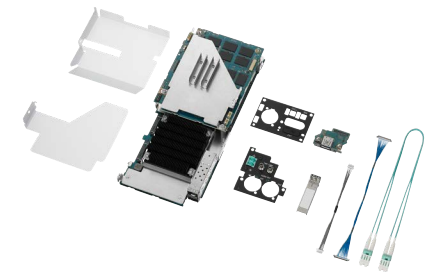The HKCU-REC50 provides a recording capability for the HDCU-5000*[1]
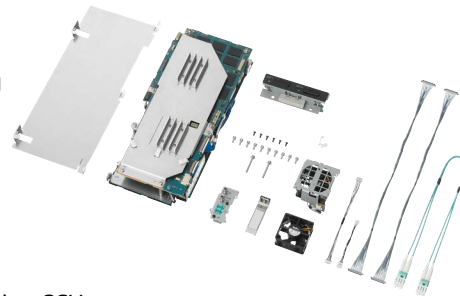
Features
- Recording function inside half-rack size CCU
- 4K / HD simultaneous recording
- Direct file transfer to a portable SSD/HDD via USB 3.0 and to network storage via 10Gb fiber
- Real-time file transfer speed during recording
- 4K codec: XAVC-I C480, C300, XAVC-L 422 200
- HD codec: XAVC-I C100, MPEG HD 422, DNxHD, ProRes*[2]
- Recording time: 8 hours for 4K XAVC-I C300, 81 hours for MPEG HD 422
- Loop rec function is supported
- Timecode IN/OUT
- Audio recording up to 3 channels from camera audio input
- External audio recording up to 8 channels

*1 The HKCU-REC50 cannot be installed concurrently with the HKCU-SDI50.

*2 This will be supported in future versions.

HKCU-REC55

The HKCU-REC55 provides a recording capability for the HDCU-5500/3500*[3]

Features   Version 1.1
- Recording function inside half-rack size CCU
- 4K / HD simultaneous recording
- Direct file transfer to a portable SSD/HDD via USB 3.0 and to network storage via 10Gb fiber
- Real-time file transfer speed during recording
- 4K codec: XAVC-I C480, C300, XAVC-L 422 200
- HD codec: XAVC-I C100, MPEG HD 422, DNxHD, ProRes*[2]
- Recording time: 4 hours for 4K XAVC-I C300, 40 hours for MPEG HD 422
- Loop rec function is supported
- Timecode IN/OUT
- Audio recording up to 3 channels from camera audio input
- External audio recording up to 8 channels

*3 The HKCU-REC55 cannot be installed concurrently with the HKCU-SFP50 and HKCU-SM50.

PWA-RCT1 Recording Control Software

The CCU can be controlled via a network. PWA-RCT1 is the control software for the PWS-4500 live production server.

PWAL-RCT50 Recording Control Option for the PWA-RCT1

The PWAL-RCT50 allows the PWA-RCT1 to control the HKCU-REC50/REC55 in a multiple-camera system.

HZCU-UHDR50 4K Recording License for the HKCU-REC50/REC55

The HZCU-UHDR50 enables 4K resolution recording in the HKCU-REC50/REC55.

HZCU-DHR50 Codec License for the HKCU-REC50/REC55

The HZCU-DHR50 enables DNxHD recording in the HKCU-REC50/REC55.

Network Recording drastically changes Live Production
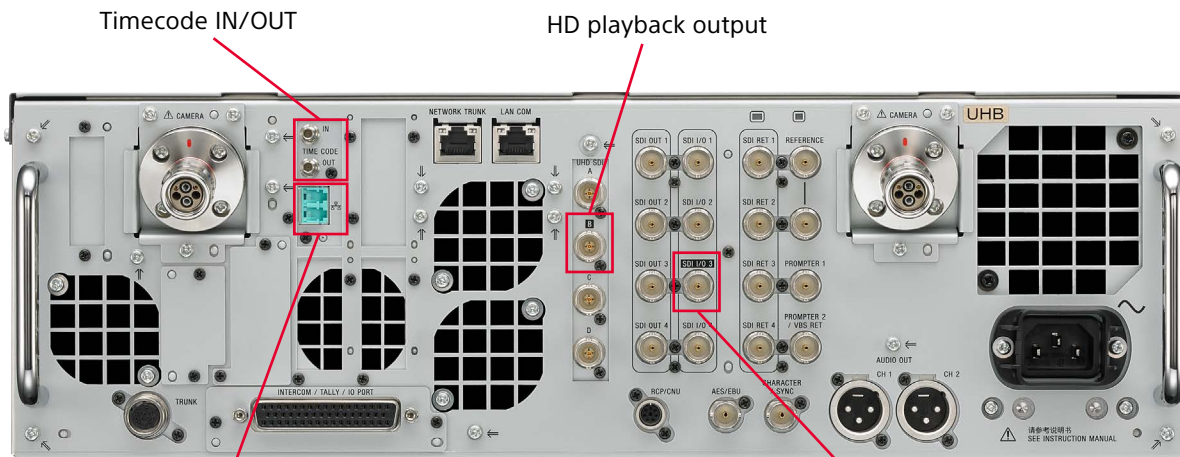
HDCU-5000 with optional HKCU-REC50 (Front view)

USB 3.0 Transfer for USB SSD/HDD

HDCU-5500 with CCU recording option (Front view)

USB 3.0 Transfer for USB SSD/HDD

HDCU-5000 with optional HKCU-REC50 (Rear view)

Timecode IN/OUT

HD playback output
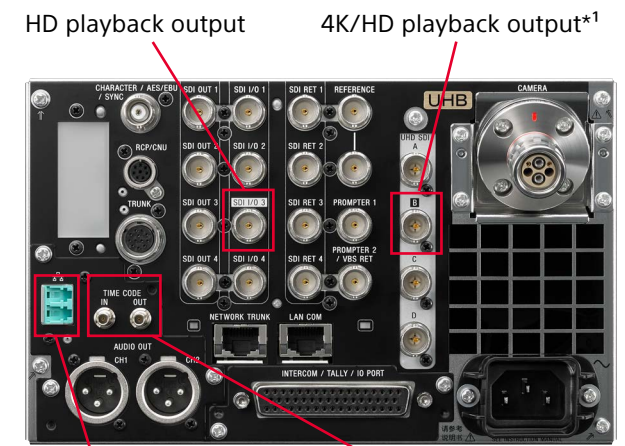

LC connector for 10G fiber Transfer to NAS

4K/HD playback output*[1]

*1 The connecter for "4K playback" is the same one as that for "UHD TRUNK".

HDCU-5500 with CCU recording option (Rear view)

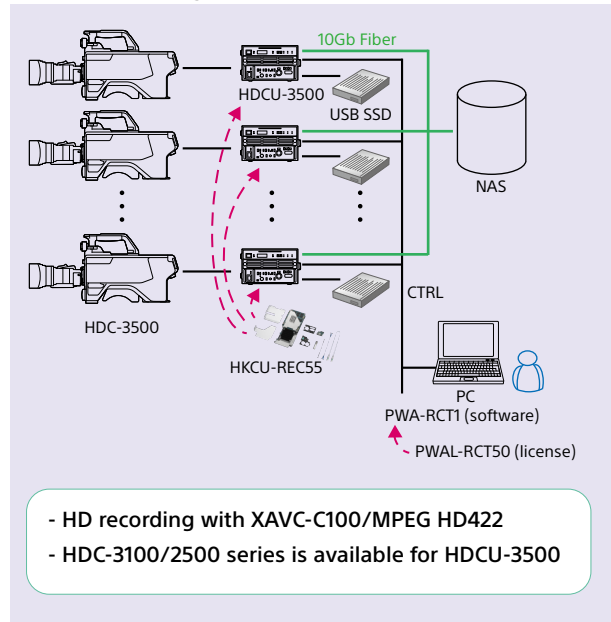HD playback output

4K/HD playback output*[1]

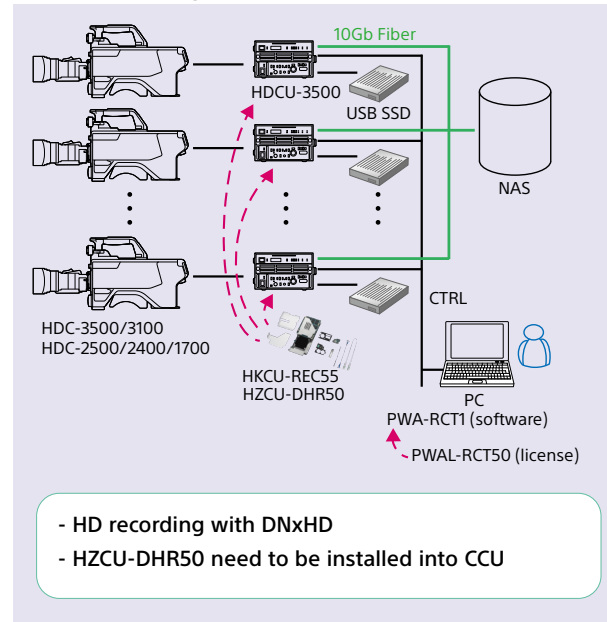LC connector for 10G fiber Transfer to NAS

Timecode IN/OUT

16

System configuration

1 HD Recording with XAVC-C100/MPEG HD422

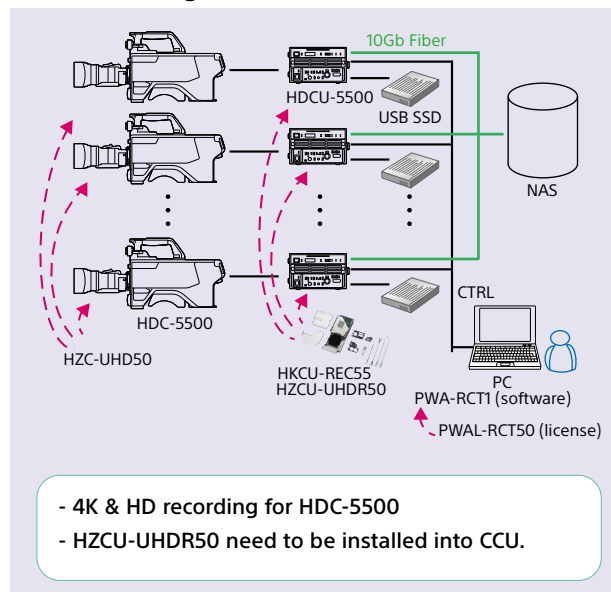- HD recording with XAVC-C100/MPEG HD422
- HDC-3100/2500 series is available for HDCU-3500

2 HD recording with DNxHD

- HD recording with DNxHD
- HZCU-DHR50 need to be installed into CCU

3 4K recording for HDC-3500

- 4K & HD recording for HDC-3500
- HZCU-UHDR50 need to be installed into CCU.

4 4K recording for HDC-5500

- 4K & HD recording for HDC-5500
- HZCU-UHDR50 need to be installed into CCU.
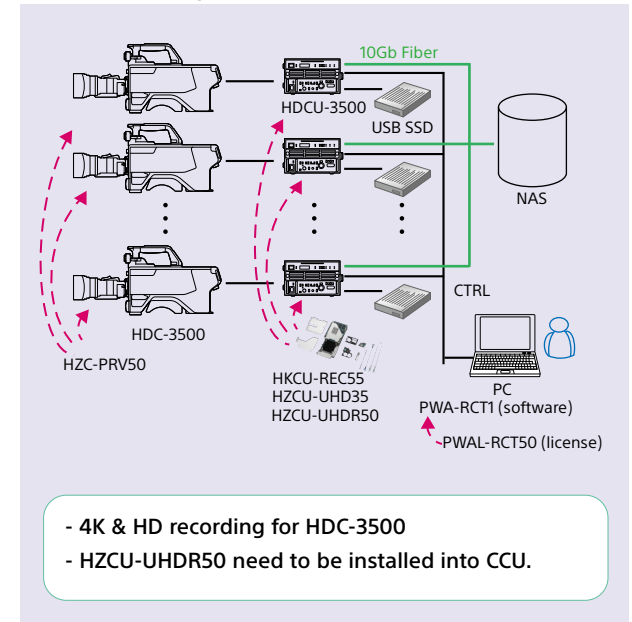
5 HD 1x recording concurrently with HFR output

- HD 59.94P/50P recording inside CCU
- Concurrent HD HFR output from CCU
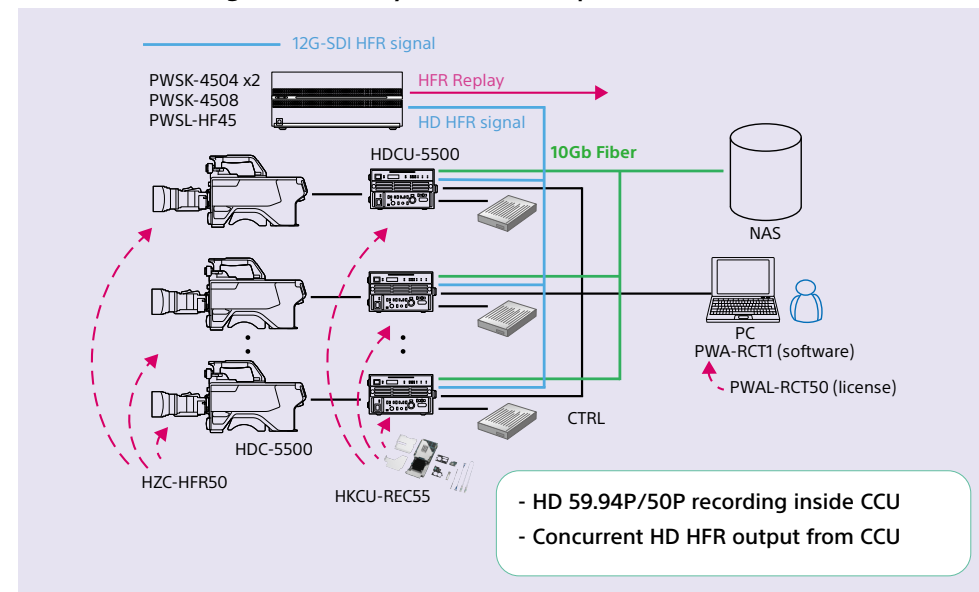
Sony HDCU-3100 and HDCU-3170 Camera Control Units are next-generation CCUs that perform signal processing, provide an interface to external equipment, and supply power to the camera. In a compact 1.5 RU-size, these devices provide a path for IP and 12G-SDI capabilities, including IP on HDC Series optical fiber studio cameras and Triax 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)
-Easy web menu setting via network
-IP Tally support (TSL UMD v5.0) as standard

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.
-Easy web menu setting via network
-IP Tally support (TSL UMD v5.0) as standard

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, the HDC-3500, 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.*1

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

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.

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.

Versatile System Components: IP Remote Live Production

Overall

Currently you need many people and a lot of equipment at each venue when shooting for an outside broadcast. Remote live production with the HDCE-TX30 in IP direct mode increases your workflow flexibility and saves the cost and time of transporting equipment to all of your venues. Following a typical studio workflow, producers and directors at the broadcasting station can easily give directions to camera operators at the remote venue on a real-time basis using IP intercom technology.
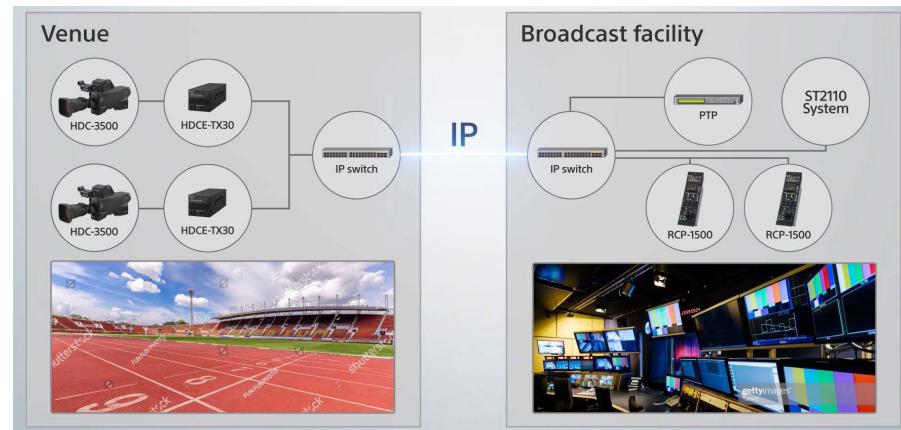
HDCE-TX30

Camera system settings can be performed at the venue to match the usual workflow or even from the broadcasting station side using the web menu and RCP/MSU.

AMWA NMOS regulations IS-04 (Discovery & Registration) and IS-05 (Device Connection Management) are also supported as standard. If you install the optional software license, you can monitor SNMP devices and control devices using the Ember+ protocol.

Sony's IP solution supports current systems with SMPTE cables. If you update your system with the HDCE-TX30 and HDCE-RX30, the routing system between your camera and CCU will be changed to IP routing. Currently the transfer distance is determined by the performance of the SMPTE cable and transmission method. On the other hand, remote live production is available even across continents because IP technology overcomes the constraints of distance.

HDCE-RX30

Quick-to-configure control and monitoring devices are available with the Sony IP solution – Live Element Orchestrator (LEO) software – without any physical layout changes. You will have centralized control of the setup and monitoring of each device and of allocation between cameras and remote controllers. .

This is also available at any place where bandwidth is limited, because it supports compressed transmission via a third-party encoder and decoder. All of these IP remote live production functions are included in Sony's top-end camera system – these functions are not due for future release; they are already available. Sony provides an end-to-end IP remote live solution now!

HZCE-DIR50: Direct mode software for HDCE-TX30
The HZCE-DIR50 allows the ST 2110 direct interface to be used at camera side with HDCE-TX30. The software can be used permanently.

HZCE-SNMP50: Software for SNMP Agent capability.
HZCE-SNMP50 software give HDCE-TX30/HDCE-RX30 additional SNMP Agent capability. The software can be used permanently.

HZCE-CNFG50: Software for Ember+ protocol support
HZCE-CNFG50 allows you to access to the HDCE-TX30/HDCE-RX30 MENU from VSM control system. The software can be used permanently.
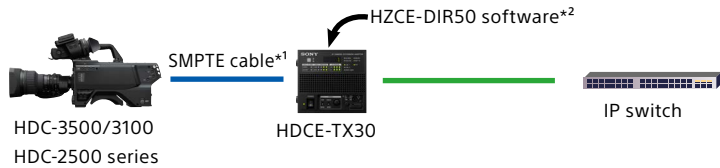
Versatile System Components: IP Remote Live Production

HDCE-TX30
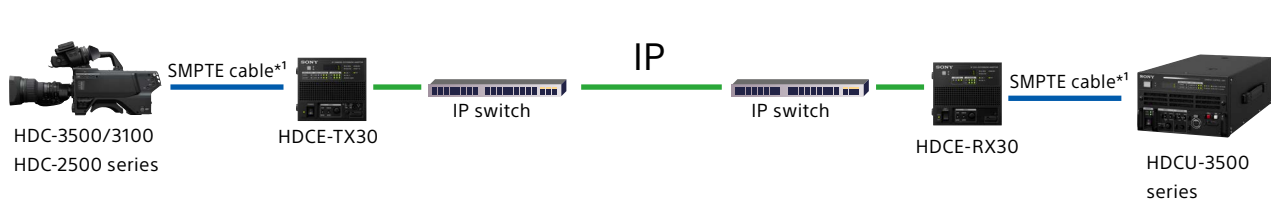IP Camera Extension Adaptor

IP Direct Mode

Features

- 3U 1/3 of 19-inch rack compact size adaptor, easily carried in a flight case
- Same operation as the CCU+IP option and third-party collaboration is available
- SMPTE ST 2110 interface as standard, compatible with IP intercom systems
- Cross-compatibility with the HDC-2500/1700 Series as well as the HDC-3500/3100
- Local setting is available by Monitor output and RCP/WEB Menu interface.

HZCE-DIR50 software[2]

SMPTE cable[1]

HDC-3500/3100
HDC-2500 series

HDCE-TX30

IP switch

IP

ST 2110 System
IP Intercom, IP Tally

IP

RCP

ST 2110   SDI Moni   Camera

RCP

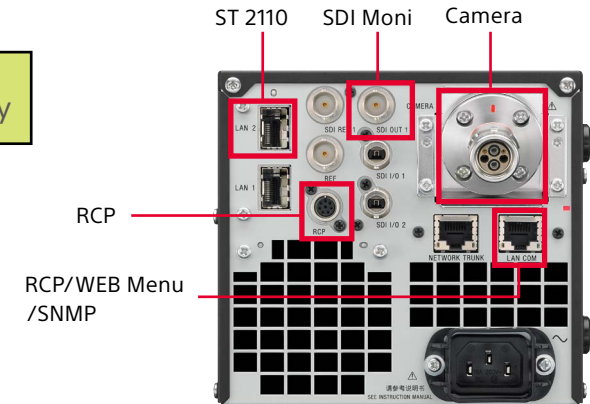RCP/WEB Menu
/SNMP

HDCE-TX30 Rear

HDCE-RX30
IP CCU Extension Adaptor

Features

- Provides the ideal migration path from a current SMPTE fiber system to IP remote production
- SMPTE ST 2110 interface as standard, compatible with IP intercom systems
- The IP remote live production via narrow bandwidth network is available with the routing system including the HDCE-TX30 and HDCE-RX30 connected with IP switches.
- The HDCE-TX30 powers the camera head; the HDCE-RX30 is powered by the CCU
- Cross-compatibility with the HDCU-2500/1700 Series as well as the HDCU-3500/3100

IP Pair Mode

SMPTE cable[1]

HDC-3500/3100
HDC-2500 series

HDCE-TX30

IP switch

IP

IP switch

HDCE-RX30

SMPTE cable[1]

HDCU-3500
series

SDI, Intercom,
Tally

RCP
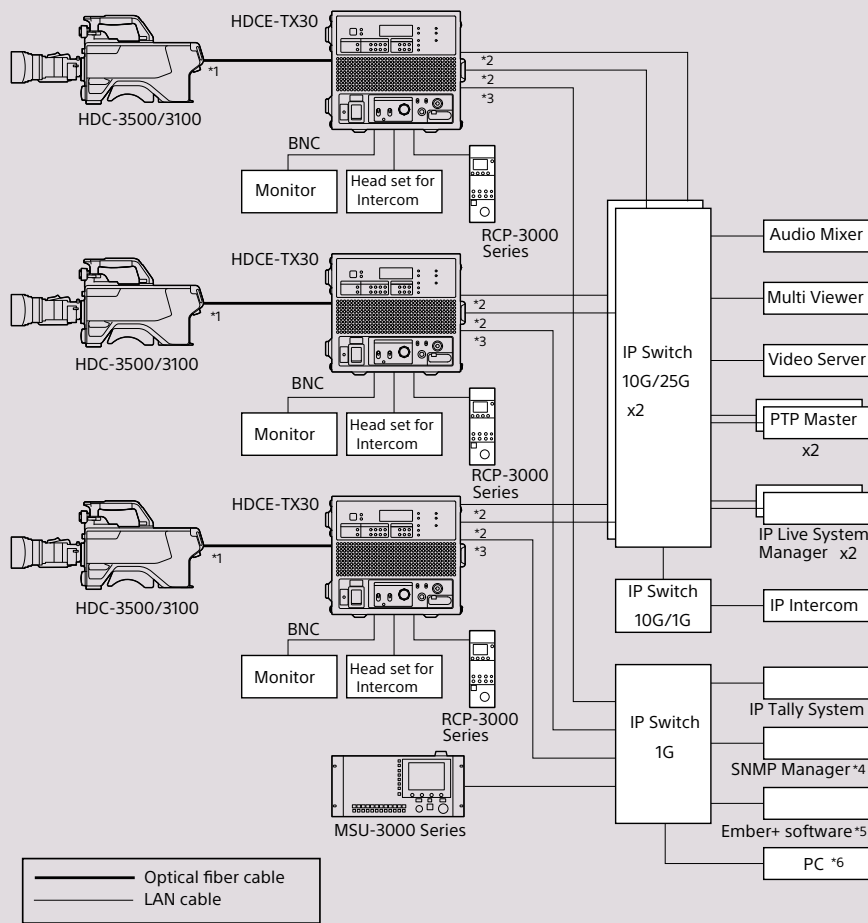
*1 Power is supplied through a SMPTE cable. *2 Optional HZCE-DIR50 software is required.

System Configuration for IP HDCE series

Direct Mode

Optical fiber cable
LAN cable

Pair Mode

Optical fiber cable
LAN cable

*1 Signal transition is available up to 2km. Transition distance depends on its system configuration, optical fiber cables or acquisition formats.

*2 Connected to the LAN 1 and LAN 2 connectors of the HDCE-TX30.

*3 Connected to the LAN 1 COM connector of the HDCE-TX30.

*4 The optional agent software HZCE-SNMP50 is required for monitoring SNMP.

*5 The optional configuration control software HZCE-CNFG50 is required for the setups with ember+.

*6 Operating via a web menu is available when a PC is connected to the LAN COM connector of the HDCE-TX30 through the hub.
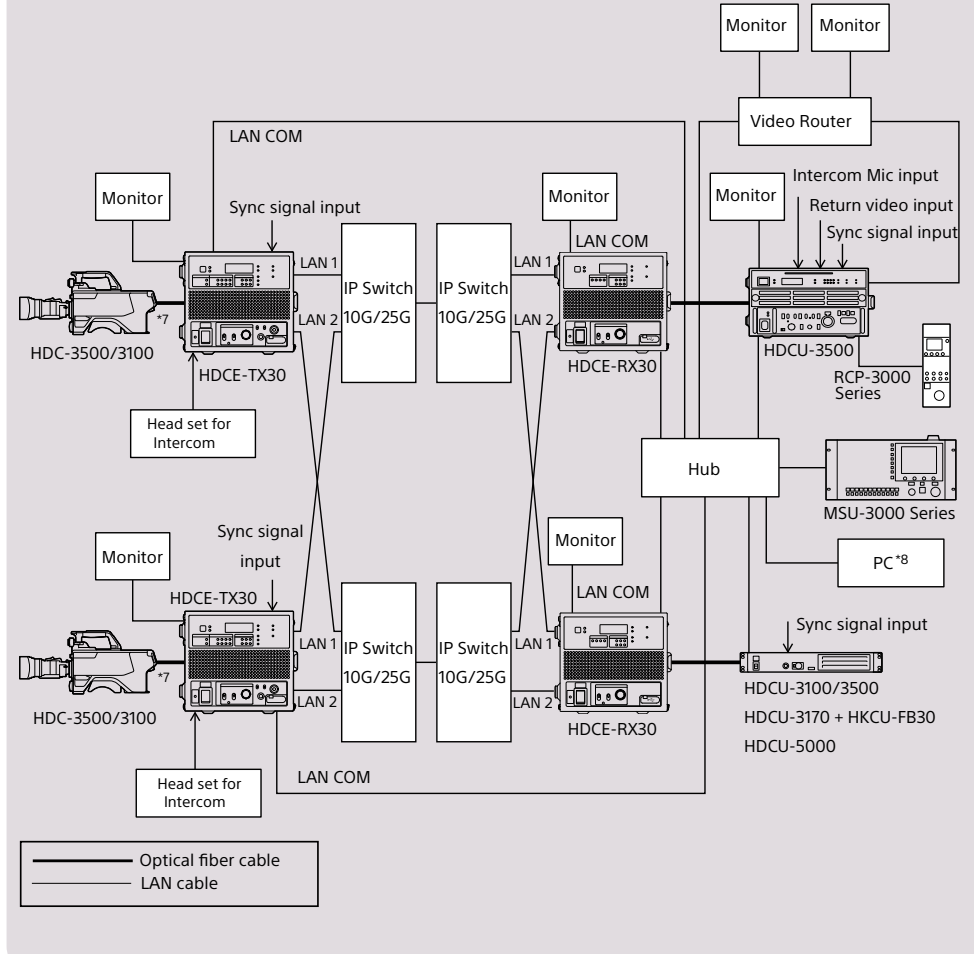
*7 Signal transition is available up to 2km. Transition distance depends on its system configuration, optical fiber cables or acquisition formats.

*8 Operating via a web menu is available when a PC is connected to the LAN COM connector of the HDCE-TX30 or HDCE-RX30 through the hub.

Versatile point-of-view (POV)-style 4K camera: HDC-P50

Compact Design with High Picture Quality

Packed in a highly slim and compact body of only about 112 mm (4 1/2 inches) in width and weighing around 2.4 kg (5 lb 4.7 oz) excluding a lens, the HDC-P50 is equipped with three superb 2/3-inch 4K CMOS with Global Shutter and Sony-developed digital processing LSI, achieving high picture quality equivalent to that of reputable HDC Series cameras.

The HDC-P50 is ideal for use in space-limited areas such as camera crane jibs, helicopter camera mounts, and stereoscopic 3D camera rigs.

HD 6x Super Slow Motion[*1]

The HDC-P50 captures HD(1080p) images up to 6x super slow motion with an optional software upgrade.

This provides an amazing maximum frame rate of 359.64 fps (59.94 Hz) or 300 fps (50 Hz), allowing you to create sensational super-slow-motion sequences of key moments in a game or event.
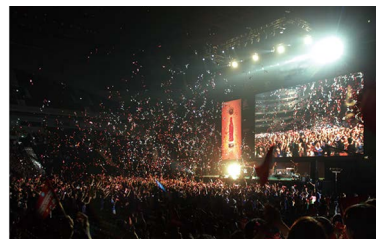
*1 Optional software is required.

Multi-Format Operation

This camera supports a wide range of capturing formats such as 1080/59.94i, 1080/50i, 1080/59.94p[*2], 1080/50p[*2], 720/59.94p, 720/50p, 1080/23.98PsF[*3], 24PsF[*3], 25PsF[*3], and 29.97PsF[*3].
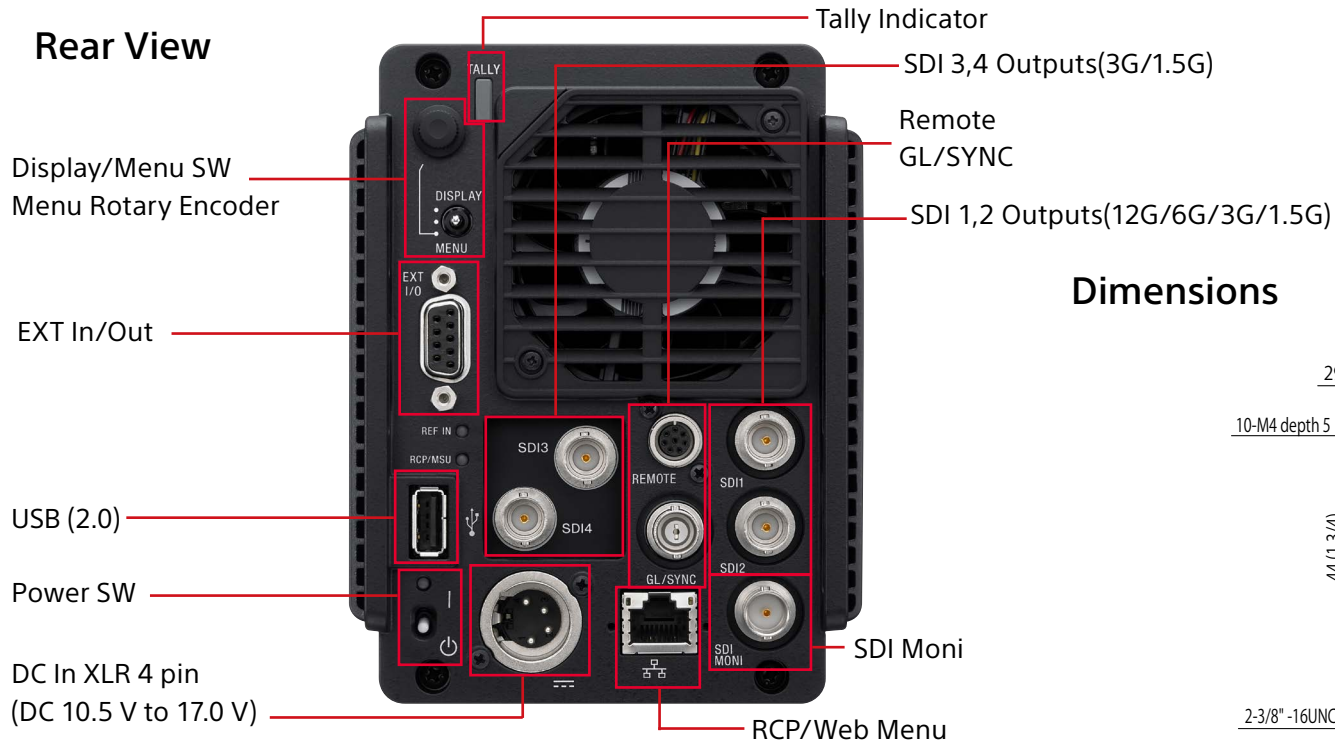
*2 Optional HZC-PRV50 software is required.
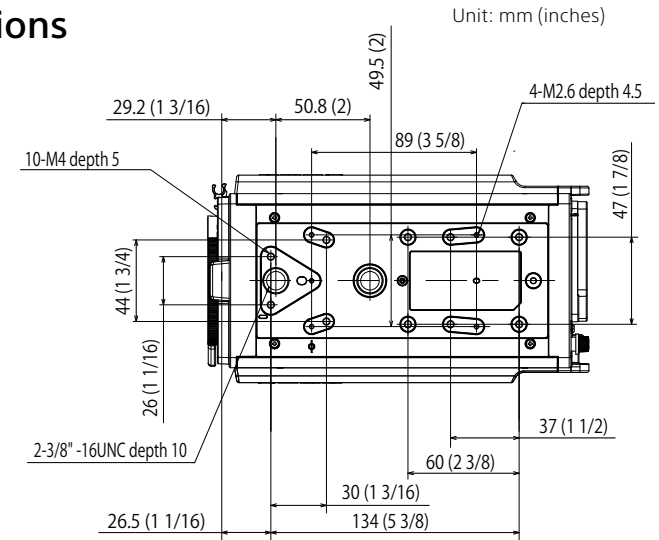*3 Optional HZC-PSF50 software is required.

ND and CC Filters

The HDC-P50 is equipped with neutral density (ND) and color correction (CC) optical servo filter units which can be remotely controlled according to lighting condition changes via a remote control panel (RCP) or a master setup unit (MSU).
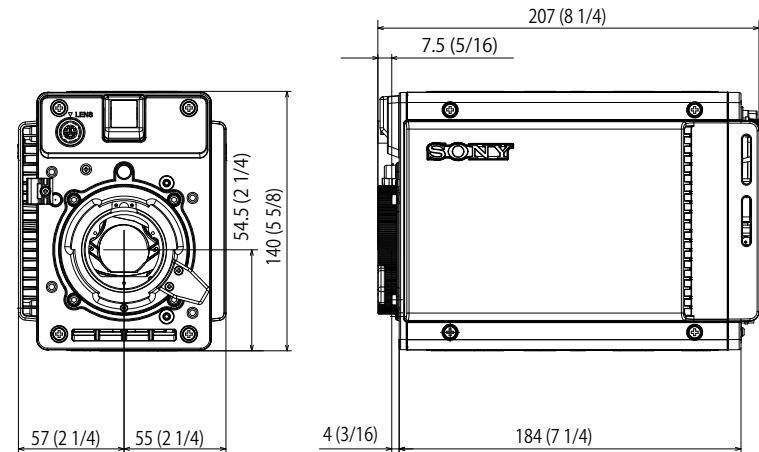
Rear View

Tally Indicator

SDI 3,4 Outputs(3G/1.5G)

Remote
GL/SYNC

SDI 1,2 Outputs(12G/6G/3G/1.5G)

Display/Menu SW
Menu Rotary Encoder

EXT In/Out

USB (2.0)

Power SW

DC In XLR 4 pin
(DC 10.5 V to 17.0 V)

SDI Moni

RCP/Web Menu

Dimensions

Unit: mm (inches)

49.5 (2)

4-M2.6 depth 4.5

29.2 (1 3/16)   50.8 (2)

89 (3 5/8)

47 (1 7/8)

10-M4 depth 5

44 (1 3/4)

26 (1 1/16)

2-3/8" -16UNC depth 10

37 (1 1/2)

60 (2 3/8)

26.5 (1 1/16)

30 (1 3/16)

134 (5 3/8)

207 (8 1/4)

7.5 (5/16)

54.5 (2 1/4)

140 (5 5/8)

57 (2 1/4)   55 (2 1/4)

4 (3/16)   184 (7 1/4)

SONY

System Configuration (LAN connection)

HDC-4300

Camera Control Unit
HDCU-4300

POE SWITCHING HUB

LAN Cable

LAN Cable

LAN Cable

RCP-3500/3100 Series

HDC-5500

Camera Control Unit
HDCU-5500

Lens

HDC-P50

DC in

Video Output
12G/3G/1.5G-SDI

MSU-3500/3000 Series
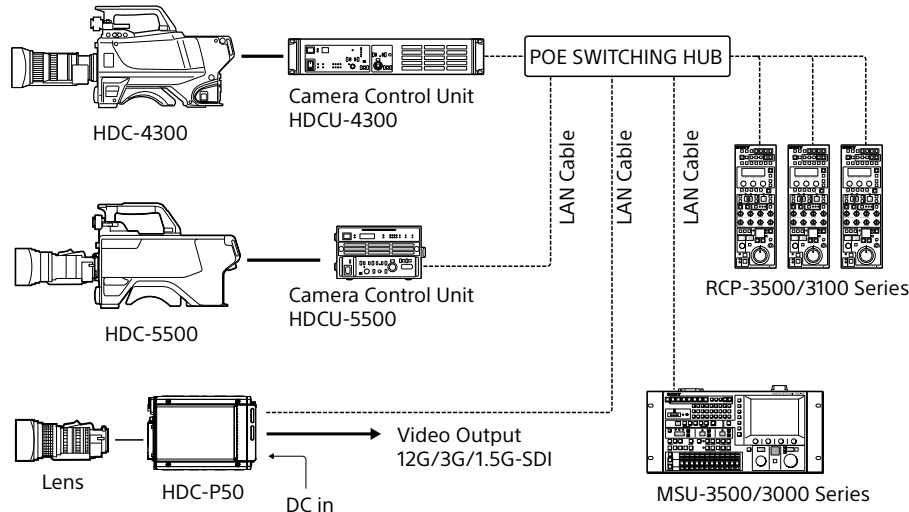
Master Setup Unit and Remote Control Panel

The master setup unit (MSU) and remote control panel (RCP) provide control of system camera parameters.

MSU-3500/MSU-3000 Master Setup Unit

This MSU manages up to 96 HDC camera systems in combination with RCP units. To meet the needs of varying operational environments, the MSU-3000 fits a 19-inch EIA rack (a full-rack-mount size) and the MSU-3500 fits a 9.5-inch EIA rack (a half-rack-mount size). In addition to basic features common to both models, the MSU-3000 has more assignable buttons. Both individual camera settings and MSU settings can be saved in a USB flash drive. The large-size 7-inch WVGA (800x480) LCD panel indicates the operational status of each camera on top of the paint settings.

RCP-3500/RCP-3501 Remote Control Panel

This is the most suitable remote control panel in combination with the MSU system. The RCP-3500/3501 incorporates a visibility improved, brighter 3.5-inch VGA (640x480) LCD with a touch panel. For iris control, the RCP-3500 has a joystick and the RCP-3501 has a dial. In addition to a CCA cable connection (legacy mode) to the camera, you can use a 1000Base-TX LAN connection that works with a PoE switch. Camera settings can be saved in a USB flash drive.

RCP-3100 Remote Control Panel

This RCP is just 80 mm wide, which allows you to mount up to five units in a 19-inch EIA rack. Without an LCD panel, you can directly set the camera/BPU/CCU menu. In addition to a CCA cable connection (legacy mode) to the camera, you can use a 1000Base-TX LAN connection that works with a PoE switch. Because of the LAN connection, settings are available from the web GUI, including the initial IP address and other settings. You can also handle scene files.

RCP-1000/RCP-1001 Remote Control Panel

This is the simplified remote control panel. For iris control, the RCP-1000 has a joystick and the RCP-1001 has a dial. The simple and small size of its body allows you to fit up to 6 units into a 19-inch EIA rack (full-rack-mount size). Also, this lightweight RCP is convenient for a variety of field applications.

| MSU-3500 | MSU-3000 | RCP-3500 | RCP-3501 | RCP-3100 | RCP-1000 | RCP-1001 |
| Master Setup Unit | Master Setup Unit | Remote Control Panel | Remote Control Panel | Remote Control Panel | Remote Control Panel | Remote Control Panel |

Optional Accessories

MSU-3500
Master Setup Unit

MSU-3000
Master Setup Unit

RCP-1000
Remote Control Panel

RCP-1001
Remote Control Panel

RCP-3100
Remote Control Panel

RCP-3500
Remote Control Panel

RCP-3501
Remote Control Panel

HDLA-1500
Large Lens Adaptor
(for attachment of the
HDVF-EL70/700A)

HDLA-1505
Large Lens Adaptor
(for attachment of the HDVF-EL75/L770/
C730W/550/C550W)

HDLA-1507
Large Lens Adaptor
(for attachment of the HDVF-EL75/L770/
C730W/550/C550W)

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

HDVF-EL20
Full HD OLED Viewfinder

HDVF-EL70
7.4-inch*1 Color HD Viewfinder

HDVF-EL75
7.4-inch*1 Color HD Viewfinder

VFH-790
Outdoor Hood for
HDVF-EL70/EL75

HDVF-L750
7-inch*1 LCD Color Viewfinder

HDVF-L770
7-inch*1 LCD Color Viewfinder

HDCE-100
Camera Extension Adaptor
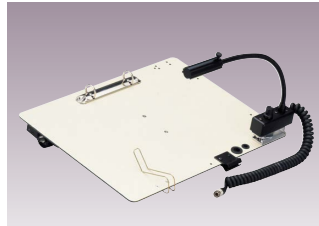

HKCU-SM100
CCU Extension Adaptor

HDCE-TX30
IP Camera Extension Adaptor

*1 Viewable area measured diagonally

Optional Accessories
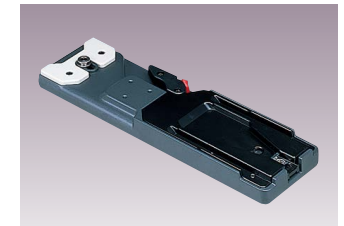
HDCE-RX30
IP CCU Extension Adaptor

BKP-7911
Script Holder

CAC-6
Return Video Selector

CAC-12
Mic Holder

VCT-14
Tripod Adaptor
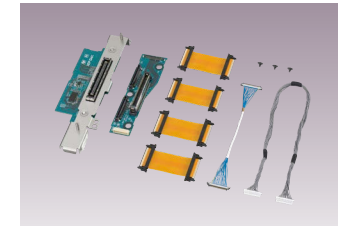
HKC-WL50
Wireless Transmission Adaptor

HKC-FB50
UHB Optical Fiber Transmission Adaptor

HKC-FB30
Optical Fiber Transmission Adaptor

HKC-TR37
Digital Triax Transmission Adaptor

HKC-CN50
Side Panel Attachment Kit

HDCU-5500
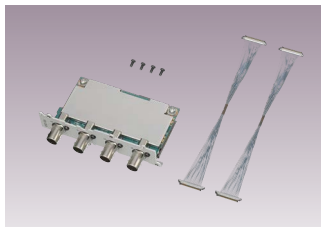Camera Control Unit

HDCU-5000
CCU Recording Option

HDCU-3500
CCU Recording Option

HDCU-3170
Triax Camera Control Unit

HDCU-3100
Fiber Camera Control Unit

HKCU-SDI50
12G-SDI Extension Kit
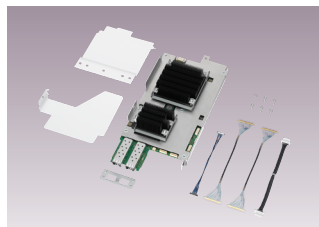
HKCU-SFP50
ST 2110 Interface Kit
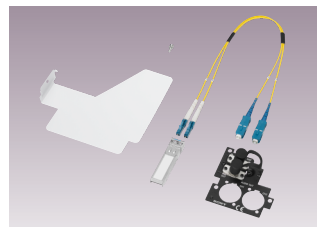
HKCU-SM50
Single Mode Fiber Connector Kit
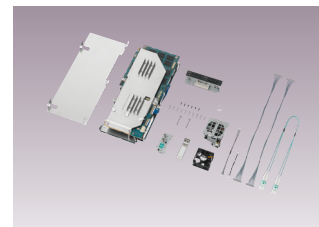
HKCU-REC50
CCU Recording Option
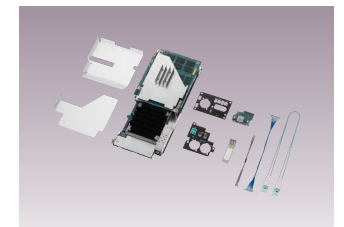
HKCU-REC55
CCU Recording Option
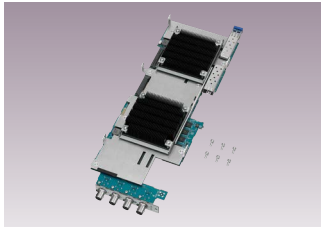
HKCU-FB50
UHB Transmission board kit

HKCU-FB30
Optical Fiber Connector Kit

HKCU-SFP30
ST 2110 Interface Kit

HKCU-UHD30
4K/HDR Processor Board

HKCU-SDI30
12G-SDI Extension Kit

HKCU-SM30
Single Mode Fiber Connector Kit

CNA-1
Camera Control Network Adaptor

J-712-156-0A
Camera Test Charts

Specifications

HDC-5500/HDC-3500/HDC-3100/HDC-3170 Specifications

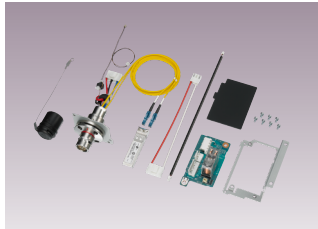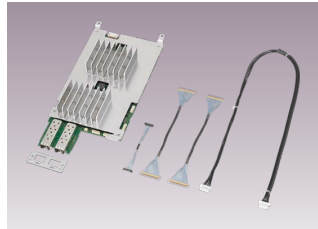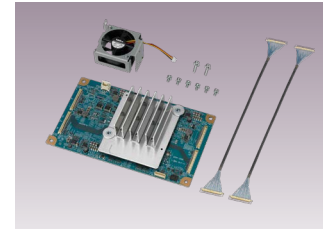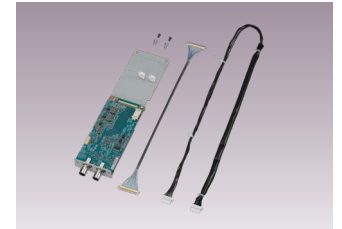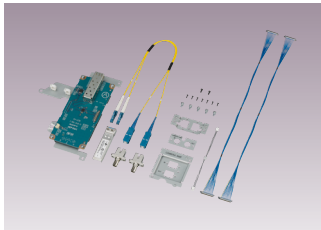|	HDC-5500	HDC-3500	HDC-3100	HDC-3170
General				
Power requirements	AC 240 V, 1.4 A (max.), DC 12 V, 9.5 A (max.), DC 240 V, 1.05 A (max.)	AC 240 V, 1.4 A (max.), DC 240 V, 1.05 A (max.)		DC 240 V, 1.05 A (max.)
Operating temperature	−20°C to +45°C (−4°F to 113°F)			
Storage temperature	−20°C to +60°C (−4°F to 140°F)			
Mass	Approx. 5.0 kg (11 lb 0.4 oz) (Unit only)	Approx. 4.9 kg (10 lb 13 oz) (Unit only) Approx. 5.1 kg (11 lb 4 oz) (when HKC-TR37 is attached) Approx. 4.9 kg (10 lb 13 oz) (when HKC-FB30 is attached)	Approx. 4.8 kg (10 lb 9 oz)	Approx. 5.0 kg (11 lb 0.4 oz)
Imager				
Imager	2/3-inch type 4K CMOS sensor with global shutter		2/3-inch type CMOS sensor with global shutter	
Method	3-CMOS, RGB			
Effective resolution (H x V)	QFHD: 3840 × 2160[*1] HD: 1920 × 1080		HD: 1920 × 1080	
Electrical characteristics				
Sensitivity	F10 with 1080/59.94p F11 with 1080/50p (at 2,000 lx with 89.9% reflectance)		F12 with 1080/59.94p F13 with 1080/50p (at 2,000 lx with 89.9% reflectance)	
Noise level	-62 dB			
Horizontal resolution	2,000 TV lines (at center of screen)[*1]		1,000 TV lines (at center of screen)	
Geometric distortion	Negligible (not including lens distortion)			
Optical system specifications				
Spectrum system	F1.4 prism			
Built-in filters	ND filters 1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND CC filters A: Cross filter, B: 3200K (clear), C: 4300K, D: 6300K		ND filters 1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND CC filters B :3200K,C :4300K,D :6300K	
Input/output connectors				
CCU	Optical/electrical multi 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) When AUDIO switch is set to MIC: −60 dBu (can be selected up to −20 dBu by menu operation), balanced When AUDIO switch is set to LINE: 0 dBu, balanced			
INTERCOM 1	XLR 5-pin, female (x1)			
INTERCOM 2	XLR 5-pin, female (x1)		No	
EARPHONE	4-pole mini jack (x1), (3-pole stereo, 4-pole CTIA standard, 4-pole OMTP standard)	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[*2] 2-pin (x1), DC 10.5 to 17 V, Max. 2.5 A[*2]			
SDI 1	BNC (x1)			
SDI 2	BNC (x1)		No	
SDI 3	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	BNC (x1), 1 Vp-p, 75 Ω	No	
RET CTRL	6-pin (x1)			
REMOTE	8-pin (x1)			
TRACKER	12-pin (x1)			
CRANE	12-pin (x1)		No	
USB	USB 2.0 Type A 4-pin (x1) (for connecting USB drive)			
NETWORK TRUNK	RJ-45 type 8-pin (x1)		No	
Supplied accessories				
	Before Using This Unit (1), Operating Instructions (CD-ROM) (1), Cable clamp belt (1 set), Screws (+B3×8) (2), Attached label (1)		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 Options are required. Please contact your nearest Sony sales office. *2 This may be limited by the imposed load or inputs.

HDCU-5500/HDCU-3500/HDCU-3100/HDCU-3170 Specifications

	HDCU-5500	HDCU-3500	HDCU-3100	HDCU-3170
General				
Power requirements	100 V to 240 V AC, 50/60 Hz			
Current consumption	4.5 A (max.)			
Operating temperature	–10 °C to +40 °C (14 °F to +104 °F)		5 °C to 40 °C (41 °F to 104 °F)	
Storage temperature	–20 °C to +60 °C (–4 °F to +140 °F)			
Mass	Approx. 6.4 kg (14 lb 1.8 oz)	Approx. 6.3 kg (13 lb 14 oz)	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 (LEMO 3K.93C connector) (x1)			No
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, 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	AC 100 V to 240 V (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 AES/EBU format VBS/HD and AES/EBU selectable		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			
UHD SDI A, B	12G/6G/3G/HD SDI OUTPUT, BNC (x2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps 6G SDI: SMPTE ST2081, 0.8 Vp-p, 75 Ω, 5.940 Gbps/5.934 Gbps 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	12G/3G/HD SDI OUTPUT, BNC (x2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps * 12G SDI can be selected by installing the HZCU-UHD35. 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	No	
UHD SDI C, D	12G/6G/3G/HD SDI I/O, BNC type (2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps 6G SDI: SMPTE ST2081, 0.8 Vp-p, 75 Ω, 5.940 Gbps/5.934 Gbps 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	12G/3G/HD SDI I/O, BNC (x2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps * 12G SDI can be selected by installing the HZCU-UHD35. 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	No	
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)				

Design and specifications are subject to change without notice

Specifications

HDCU-5000/HDC-P50 Specifications

HDCU-5000	
General	
Power requirements	100/120/220 to 240 V AC, 50/60 Hz
Current consumption	7 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. 19.5 kg (43 lb)
Input/output connectors	
CAMERA FIBER	Optical fiber connector (LEMO 3K.93C 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, 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	100/120/220 to 240 V (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/SYNC	BNC (x1), VBS, 1 Vp-p, 75 Ω
ABS/EBU	BNC (x1), AES/EBU format
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
UHD SDI A, B, E, F	12G/6G/3G/HD SDI OUTPUT, BNC (x2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps 6G SDI: SMPTE ST2081, 0.8 Vp-p, 75 Ω, 5.940 Gbps/5.934 Gbps 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
UHD SDI C, D, G, H	12G/6G/3G/HD SDI I/O, BNC (x2) 12G SDI: SMPTE ST2082, 0.8 Vp-p, 75 Ω, 11.88 Gbps/11.868 Gbps 6G SDI: SMPTE ST2081, 0.8 Vp-p, 75 Ω, 5.940 Gbps/5.934 Gbps 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
Supplied accessories	
Number plates (1 set), Before Using this Unit (1), Operating Instructions (CD-ROM) (1)	
Optional accessories	
HKCU-SDI50 12G-SDI Extension Kit, HKCU-SFP50 ST 2110 Interface Kit, HKCU-SM50 Single Mode Fiber Connector Kit, HZCU-CNFG50 Config Control Software, HZCU-SNMP50 SNMP Agent Software, HZCU-UHD35 4K/HDR Processor Software, 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), Service Manual	

HDC-P50	
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)
Mass	2.4 kg (5 lb 4.7 oz)
Camera section	
Imager	2/3-inch type CMOS with global shutter
Method	3-CMOS, RGB
Effective resolution (H x V)	QFHD: 3840 × 2160[*1] HD: 1920 × 1080
Spectrum system	F1.4 prism
Lens mount	Sony bayonet mount
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
Sensitivity (at 2000 lx, 3200K, 89.9% reflectance)	F10 (at 1080/59.94p, 720/59.94p), F11 (at 1080/50p, 720/50p)
Noise level	-62 dB
Horizontal resolution	2,000 TV lines (at center)
Shutter speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (1080/59.94i) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (1080/50i)
Inputs/Outputs	
Genlock input	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)
SDI 1 output	BNC (x1), 12G/3G/1.5G-SDI
SDI 2 output	BNC (x1), 12G/3G/1.5G-SDI
SDI 3 output	BNC (x1), 3G/1.5G-SDI
SDI 4 output	BNC (x1), 3G/1.5G-SDI
SDI MONI	BNC (x1), HD-SDI
EXT I/O	D-sub 15-pin (female) (x1)
REMOTE	8-pin (x1)
LENS	12-pin (x1)
LAN	RJ-45 (x1), 10BASE-T, 100BASE-TX
Supplied accessories	
Tally number plate (1set), CD-ROM (1)	

*1 Options are required. Please contact your nearest Sony sales office.

Design and specifications are subject to change without notice

HDCE-TX30/HDCE-RX30 Specifications

	HDCE-TX30	HDCE-RX30
General		
Power requirements	100 V to 240 V AC, 50/60 Hz	AC 240 V, 1.7 A (MAX), DC 12 V, 10 A (MAX), DC 240 V, 1.05 A (MAX)
Operating temperature	–10 °C to +40 °C (14 °F to +104 °F)	
Storage temperature	–20 °C to +60 °C (–4 °F to +140 °F)	
Mass	Approx. 6 kg (13 lb 3.6 oz)	Approx. 4.4 kg (9 lb 8.4 oz)
Input/output connectors		
CAMERA	Optical fiber connector (LEMO 3K.93C connector) (x1)	-
CCU	-	Optical fiber connector (LEMO 3K.93C connector) (x1)
RCP	8-pin multi-connector (x1)	
LAN-COM	8-pin (x1)	-
NETWORK TRUNK	8-pin (x1)	-
SDI I/O 1 to 2	3G/HD/SD-SDI I/O, BNC (x2), 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	3G/HD/SD-SDI I/O, BNC (x2), 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
REFERENCE IN/OUT	BNC (x1), 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	-
EARPHONE	4-pole mni jack (x1)	-
USB	USB 2.0 type A, 4-pin (x1)	USB 2.0 type A, 4-pin (x1)
LAN 1 to 2	SFP+, SFP28, 10GBASE-**, 25GBASE-**	
Input connectors		
AC IN	100 V to 240 V (x1)	-
DC IN	-	XLR type 4-pin (x1), 105 to 17 V DC
SDI RET 1	BNC (x1), 3G-SDI: SMPTE ST424/425, 2.970 Gbps/2.967 Gbps, HD-SDI: SMPTE ST292, 1.485 Gbps/1.4835 Gbps	-
Output connectors		
SDI OUT 1	3G/HD-SDI OUTPUT, BNC (x1), 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 3G-SDI/HD-SDI/SD-SDI, character signal selectable	
Supplied accessories		
Before Using this Unit (1), Operating Instructions (CD-ROM) (1)		
Optional accessories		
HZCE-DIR50 Direct Mode software, HZCE-CNFG50 Configuration Control software, HZCE-SNMP50 SNMP Agent software, Power Code set (1-791-041-XX), Power Code Plug holdwe (3-613-640-01), Conversion plug 3-pole to 2-pole (1-793-461-XX), Connection Cable CCA-5-3 (3m), Connection Cable CCA-5-10(10m)	HZCE-CNFG50 Configuration Control software, HZCE-SNMP50 SNMP Agent software, service manual

SONY