HDC Series HDC-2000 Series, HDC-3300R, HDC-P1

HD System Camera

SONY

Digital HDVS

Sony HD Cameras –
Setting a New Benchmark of Performance and Creativity

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

Sony's flagship model, the HDC-2000 Series, has been accepted as a worldwide standard with its excellent picture quality realized by cutting-edge technologies.

For even higher levels of creativity, Sony offers the HDC-3300R triple-speed acquisition super-motion camera and a Point-of-View (POV)-style HD camera, the HDC-P1. In addition to various camera head choices, this system also boasts various options such as a stunning 7-inch OLED viewfinder and a large lens adapter that enables rapid attachment without fine adjustment. Also, the intelligent transmission interface unit HDFA-200 brings simple 3D multi-camera system operation. As all options are compatible with the HDC Series, you can build your own camera system to meet your precise needs.

With their innovative high performance, advanced operability, and field-proven high reliability, the HDC Series is a stunning acquisition tool for a broad range of HD production applications.

HDC-2000 Series Multi-format HD Camera System

HDC-2500

The HDC-2000 Series*1 has been accepted as a worldwide standard with its excellent picture quality realized by cutting-edge technologies, including high-performance 2/3-inch CCD image sensors and a digital signal processor (DSP) with a 16-bit A/D converter.
In addition, the HDC-2000 Series incorporates a 3-Gbps high bit-rate fiber transmission system as standard which enables double-speed acquisition for exquisite picture-quality slow motion.
Along with these cameras, Sony offers two types of camera control units for the HDC-2000 Series. Also, exchangeable external panels are provided for flexible operation through fiber, triax, or wireless infrastructures.

*1 Please refer to the table below to see the supported formats for each camera head.

Studio Camera

HDC-2000
Optical-fiber interface
1080/50i, 1080/59.94i
1080/23.98p, 1080/24p, 1080/25p, 1080/29.97p
1080/50p, 1080/59.94p, 720/50p, 720/59.94p
1080/100i*2, 1080/119.88i*2,
720/100p*2, 720/119.88p*2

Portable Cameras

HDC-2500
Optical-fiber interface
1080/50i, 1080/59.94i
1080/23.98p, 1080/24p, 1080/25p, 1080/29.97p
1080/50p, 1080/59.94p, 720/50p, 720/59.94p
1080/100i*2, 1080/119.88i*2,
720/100p*2, 720/119.88p*2

HDC-2400
Optical-fiber interface
1080/50i, 1080/59.94i
720/50p, 720/59.94p
1080/23.98p*3, 1080/24p*3, 1080/25p*3,
1080/29.97p*3, 1080/50p*4, 1080/59.94p*4,
1080/100i*5, 1080/119.88i*5,
720/100p*5, 720/119.88p*5

HDC-2570
Progressive digital triax interface
1080/50i, 1080/59.94i
720/50p, 720/59.94p
1080/50p*4, 1080/59.94p*4

*2 Double-speed acquisition format for slow-motion *3 Optional HZC-PSF20 software is required. *4 Optional HZC-PRV20 software is required. *5 Optional HZC-DFR20 software is required.

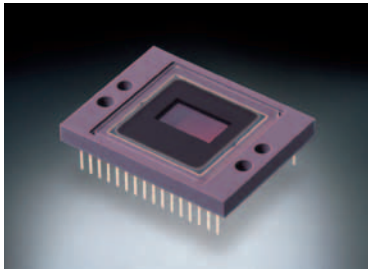
HDC-2000 Series Cutting-edge Technologies

Highly Acclaimed Progressive CCD

Based on Sony's HAD sensor technology and the latest on-chip lens structure, this 2/3-inch type 2.2-megapixel*1 full-HD progressive CCD offers high sensitivity of F11 (at 1080/50i) or F10 (at 1080/59.94i) at 2,000 lx, and a superior signal-to-noise ratio of -60 dB even without digital noise suppression.
In addition, a wide variety of capturing formats are available, including 1080/50i, 1080/59.94i, 1080/23.98p, 1080/24p, 1080/25p, and 1080/29.97p.
What's more, this CCD can capture top-quality 1080/50p or 1080/59.94p images – a capability that also delivers the highest quality 720/50p or 720/59.94p image acquisition.
Double-speed acquisition for excellent slow-motion picture quality is available in 1080/100i*2, 1080/119.88i*2, 720/100p*2, and 720/119.88p*2 modes.

*1 Actual picture area.

*2 Optional HZC-DFR20 software is required for the HDC-2400 and HDC-2570.



Servo-controlled ND and CC Filters*3

HDC-2000, HDC-2500, and HDC-2570 cameras are equipped with dual optical filter wheels for ND (Neutral Density) and 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.

*3 The HDC-2400 is equipped with a single optical filter wheel for ND.

State-of-the-art DSP LSI with 16-bit A/D Conversion

The DSP LSI developed for the HDC-2000 Series supports 1080/50p and 1080/59.94p progressive formats, and 16-bit resolution, making full use of the high-clarity images captured by the CCD. Additionally, high-resolution A/D conversion allows faithful reproduction of gradation in mid-to-dark-tone areas of the picture. White balance, white shading, and flare are digitally corrected, allowing for stable image correction. Moreover, the new version of the Auto Lens Aberration Compensation 2 (ALAC2) function is incorporated to optimize lens performance, providing stunning picture quality by highly improved horizontal and vertical compensation.

3-Gbps Optical Fiber Transmission

HDC-2000, HDC-2400, and HDC-2500 cameras offer a 3-Gbps transmission capability as standard. This high-performance feature enables you to shoot in various capturing formats.
Each camera comes equipped with a SMPTE-standard optical fiber interface for connecting its respective HDCU-2000 or HDCU-2500 Camera Control Unit.
In addition to achieving exceptional quality, these cameras can transmit all-digital bi-directional video and audio signals, a control line, and a prompter line over extremely long distances – up to 4,000 meters (13,123 feet)*4 with the HDCU-2000, and 2,000 meters (6,562 feet)*4 with the HDCU-2500.

*4 When supplying power to the camera via optical fiber cable, maximum cable length depends on camera system configuration, lens type, the size of the optical fiber cable, and the number of cable connectors.

Network TRUNK*5

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

*5 Optional HKC-FB20 and HKC-CN20 side panels are required for the HDC-2570.

Compact and Lightweight Camera Body

HDC-2400, HDC-2500, and HDC-2570 cameras incorporate carbon fiber reinforced plastic (CFRP) in their external panel. With a strong and lightweight body, these cameras are highly mobile and can be operated even in the toughest shooting conditions.

The HDC Series provides stable handling, owing to its 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. HDC-2000 studio cameras also offer great ergonomic design for improved ease of use.

Noise Suppression Function

The HDC-2000 Series has a Noise Suppression function which reduces the high-frequency noise elements in video signals by using Sony's advanced digital signal processing technology.

Two Types of 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. This is helpful especially when shooting with a wide-viewing angle.

HDC-2000

HDC-2000 Series Flexibility

Easy Transmission Change

The transmission system can be easily changed between fiber, triax, and wireless transmission by replacing parts assembled in the external panels*1.
In addition, since all replacement connectors are located in the external panels, camera balance is maintained.

*1 The optional HKC-CN20 is required to attach an external panel.

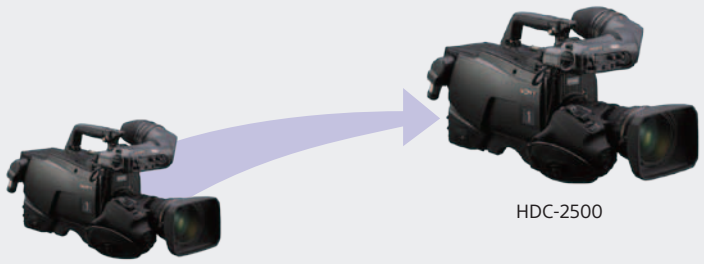
HKC-FB20 : Optical Fiber Transmission Adaptor
HKC-TR27 : Digital Triax Transmission Adaptor
HKC-WL20 : Wireless Module Adaptor

Upgrade Software to Expand Creativity

An upgrade path is provided from the basic model HDC-2400 to the full-featured flagship model HDC-2500. You can select the configuration according to your needs*2.

*2 To upgrade from the HDC-2400 to the HDC-2500, an optional HKC-DF20 Dual Optical Filter Unit is required.

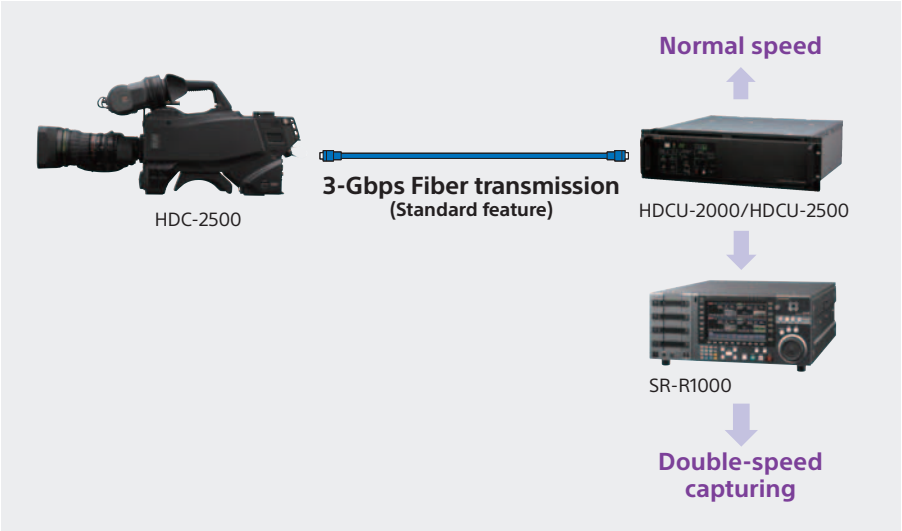
HZC-PSF20 : Support Software for PsF format
HZC-PRV20 : 50p/59.94p Software
HZC-DFR20 : Double-speed Capturing Software for Slow Motion
HZC-UG444 : User Gamma-compatible Software
HKC-DF20 : ND/CC Dual Optical Filter Unit



Double-speed Acquisition for Slow Motion*3

With a 3-Gbps wideband transmission capability, the HDC-2000 Series offers a double-speed acquisition function in 1080/100i, 1080/119.88i, 720/100p, or 720/119.88p mode. This functionality allows transmission of high quality images to the HDCU-2000 or HDCU-2500 Camera Control Unit (CCU) using an optical hybrid cable.
In addition, normal-speed image acquisition by 1080/50i, 1080/59.94i, 720/50p, or 720/59.94p can also be output in parallel, with double-speed acquisition from the CCU.
This means there is no need to set up an additional camera just for double-speed shooting.

*3 Optional HZC-DFR20 software is required for the HDC-2400 and HDC-2570.



HDC-2000 Series Versatile System Components

HDTX-200 HD Digital Triax Adaptor (Camera-side)
HDFX-200 HD Digital Triax Adaptor (HDCU-side)

HDTX-200 and HDFX-200 HD Digital Triax Adaptors are available to convert optical fiber transmission to widely used triax transmission. The HDTX-200 adaptor is used with the HDC-2000, HDC-2400, or HDC-2500 camera*1 to convert its camera output to triax, while the HDFX-200 adaptor is used with the HDCU-2000 or HDCU-2500 camera control unit to receive triax signals from the camera. These triax-based systems enable high-quality images to be transmitted from the camera over a long distance – up to 1,400 meters (4,593 feet)*2 with a ø14.5 mm triax cable or 1,000 meters (3,281 feet)*2 with a ø13.2 mm triax cable.

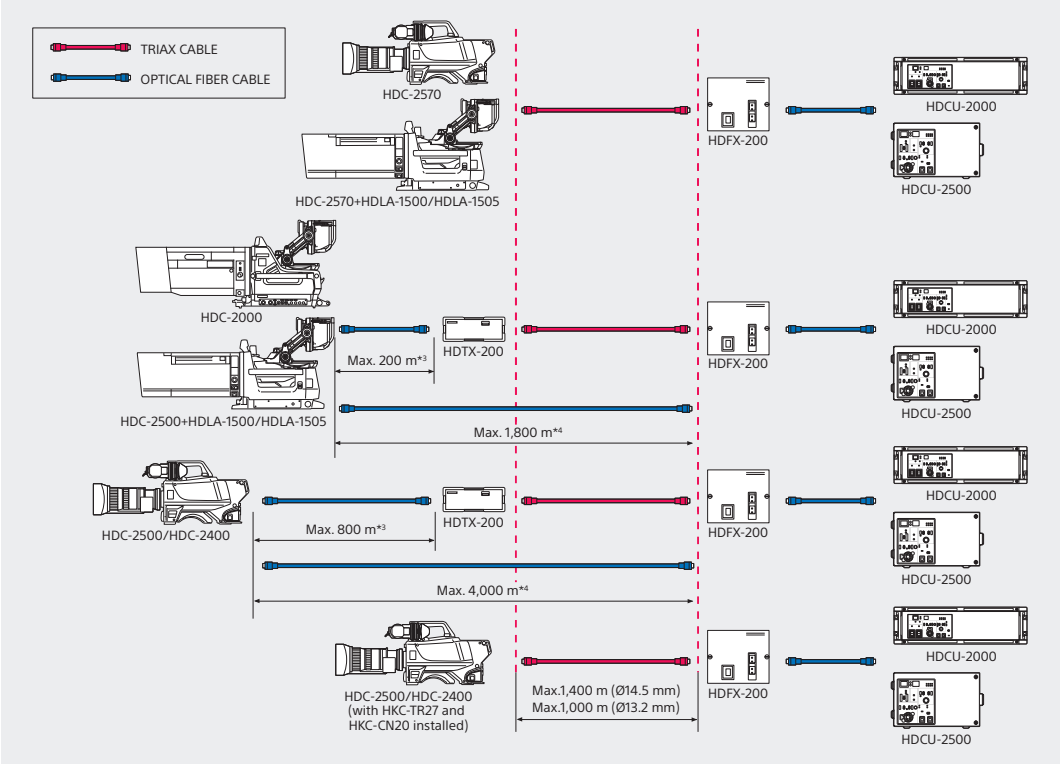
*1 The HDC-2570 does not require the HDTX-200 unit because it is equipped with a triax output as standard.

*2 When supplying power to the camera via an optical fiber cable and/or a triax cable, maximum cable length varies with the camera system configuration, lens type, viewfinder type, and the size of the optical fiber cable.

HDTX-200

HDFX-200

Triax and Optical Fiber Operation



*3 The maximum cable length varies with the camera system configuration, lens type, and viewfinder type.

*4 The maximum cable length varies with the camera system configuration, lens type, and viewfinder type. Maximum length is achieved when the HDCU-2000 is connected.

HDC-2000 Series Creative Versatility

Multi-matrix Function

The Multi-matrix function of the HDC Series allows color adjustments to be applied over a user-specified color range. The color spectrum is divided into 16 areas of adjustment, where the hue and/or saturation of each area can be modified.

Multi-matrix OFF

Multi-matrix ON

Simulated images

Natural Skin-tone Detail Function

The Natural Skin-tone Detail function lets you control the tone of human skin by making certain areas smooth while keeping specific areas sharp. This function is particularly effective in maintaining eyebrows when human skin tone is touched up.

Natural Skin-tone Detail OFF

Natural Skin-tone Detail ON

Simulated images

Adaptive-matrix Function

This enables ideal color conversion for shooting even under excessively strong ambient lighting conditions such as live shooting under bright monochromatic blue light. These conditions would typically cause a conventional matrix function to exceed the color conversion range.

Knee Saturation Function

Traditionally, shooting very bright portions of an object (such as key light conditions from a person's forehead) can reduce color saturation and change the hue in highlight areas. HDC-2000 Series cameras adopt a Knee Saturation function, in which the "washed-out" effect caused by saturation and hue change is reduced to a minimum. This function provides far more natural color reproduction in highlighted areas.

Knee Saturation OFF

Knee Saturation ON

Simulated images

Digital Extender Function

The Digital Extender function expands the size of the image by a factor of two in the center of the image sensor's captured image. This function works without a decrease in sensitivity, such as an F-number drop, which typically occurs when using conventional optical extender functions.

Low-key Saturation Function

With conventional cameras, low light areas can be subject to a reduction in saturation. This results in under-saturated colors in those areas. The Low-key Saturation function on the HDC-2000 Series eliminates this problem by optimizing the amplification of color saturation in low light areas, providing more natural color reproduction.

Low-key Saturation OFF

Low-key Saturation ON

Simulated images

Selectable Gamma Table

The selectable gamma table provided with this camera series allows you to create a specific look for a picture by selecting from a choice of fixed gamma patterns.

Variable Black Gamma Function

This feature helps bring out details from the dark areas of an image without affecting mid-tones.

Standard Video Gamma

Variable Black Gamma ON

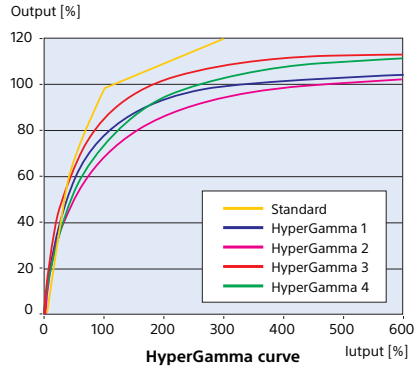
Simulated images

HyperGamma

HyperGamma is a set of transfer functions designed to provide powerful contrast. These functions are simply accessed via the setup menu, and you can select one of the four types of curves according to your needs and conditions. For example, you can select to enhance natural reproduction in low-key areas, to achieve greater flexibility in wide dynamic scenes.

Low Light Condition

High Contrast Scene



Simulated images

User Gamma*1

User Gamma is another useful gamma feature, which allows for the creation of customized gamma curves. You can edit gamma curves using the CVP File Editor*2 gamma creation software running on a Microsoft Windows PC, and then quickly load them onto HDC-2000 Series cameras via a USB memory stick or an MSU/RCP using Memory Stick Duo. The software has an easy-to-use GUI that allows the gamma curve to be visually edited simply by plotting the x and y values of each point of the curve.

*1 Optional HZC-UG444 software is required for the HDC-2400 and HDC-2570. An optional HKC-FB20 side panel is also required for the HDC-2570.

*2 Available via Sony's download site.

HDC-2000 Series Versatile System Components

HDC-2000 Series cameras are compatible with a variety of new and legacy peripherals including camera control units, remote controllers, command network units, and master setup units. This gives you flexibility to configure a system according to your needs both in the studio and out in the field. Optional HDTX-200 and HDFX-200 Digital Triax Adaptors are available for the HDC-2000, HDC-2400, and HDC-2500 optical fiber-based cameras to enable triax-based operation.

HDCU-2000 Full-rack-size Camera Control Unit
HDCU-2500 Half-rack-size Camera Control Unit

You can configure the HDC-2000 Series with two types of camera control units – either the full-rack-size HDCU-2000, or the half-rack-size HDCU-2500. The optical fiber transmission system used in these units maintains the camera's high picture quality across cable runs of up to 13,123 feet (4,000 meters)*1 with the HDCU-2000, and up to 6,562 feet (2,000 meters)*1 with the HDCU-2500. Both models are equipped with a range of built-in interfaces such as 3G-SDI/HD-SDI/SD-SDI outputs, 3G-SDI/HD-SDI/SD-SDI/analog composite return inputs, and a down-converted analog composite monitor output. In addition, a variety of output interfaces are offered via optional boards, which can be installed in six slots on the HDCU-2000 and two slots on the HDCU-2500. Furthermore, the LAN interface (10BASE-T/100BASE-TX) that is built into both CCUs allows you to control the camera over a network.
Both the HDCU-2000 and HDCU-2500 CCU are equipped with menu buttons and indicators that show the status of optical transmission on the front panel, providing greater operability.

*1 When supplying power to the camera via an optical fiber cable, 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.

HDCU-2000

- Eight SDI outputs, including four 3G-SDI outputs
- Up to twelve additional 3G-SDI/HD-SDI outputs (with three optional HKCU-2007 boards)
- Four sets of 3G-SDI/HD-SDI/SD-SDI and analog composite 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
- AES/EBU digital audio output
- Two-channel microphone outputs (two XLR connectors)
- High power supply allowing HDC-2000 Series cameras or HDC-2400/HDC-2500 with HDLA-1500/ HDLA-1505/HDLA-1507 operation

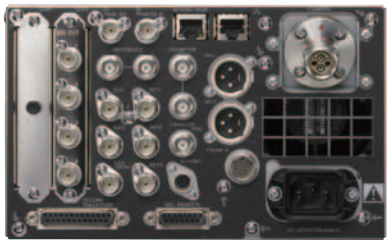
HDCU-2000


HDCU-2000 Rear Panel

HDCU-2500

- High power supply allowing HDC-2000 Series cameras to operate with the HDLA-1500/HDLA-1505/HDLA-1507
- Seven SDI outputs, including three 3G-SDI outputs
- Up to four additional 3G-SDI/HD-SDI outputs (with optional HKCU-2007 boards)
- Three 3G-SDI/HD-SDI/SD-SDI or analog composite return video inputs
- One-channel teleprompter input
- Built-in LAN interface (10BASE-T/100BASE-TX)
- Two-channel data trunk line (RS-422A/RS-232C) for easy data transmission
- Two-channel microphone outputs (two XLR connectors)

HDCU-2500



HDCU-2500 Rear Panel

HKC-T1500 CCD Block Extension Adaptor

The HKC-T1500 CCD Block Extension Adaptor is a unique accessory for HDC-2400, HDC-2500, and HDC-2570 portable cameras. It allows the CCD block to be extended from the camera body by up to 12.5 m (up to 50 m with an optional cable). More creative camera shooting angles can be achieved, along with the freedom to place the imaging assembly in areas where a full-size camera would be restricted. The HKC-T1500 adaptor expands the spectrum of HD camera applications to areas such as snorkel lenses, helicopter gimbal mounts, and mini jibs.

The HKC-T1500 connected to the HDC-2500.

Interface Expansion Options

Three types of interface expansion options are available for both CCUs: the HKCU-1001, HKCU-1003, and HKCU-2007.

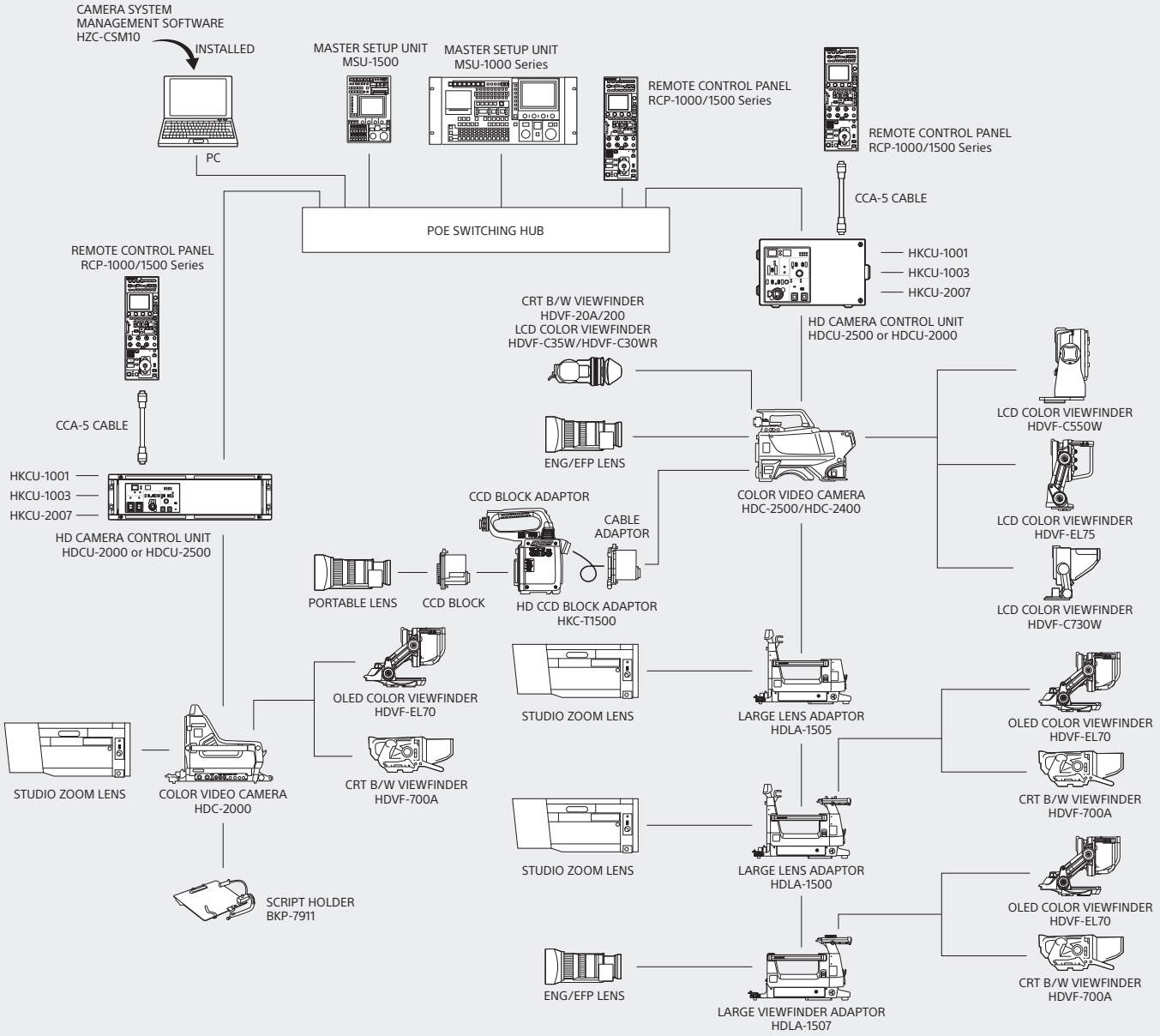
- The HKCU-2007 3G-SDI/HD-SDI Output Expansion Unit provides four 3G-SDI or HD-SDI outputs
- The HKCU-1003 Multi Interface Unit consists of three types of interface boards and provides:
  - Two analog NTSC or PAL VBS signal outputs, a PIX output, and a WFM output (Board A)
  - A frame reference input, output to lock 2-3 pull-down sequence, a PIX output, and a WFM output (Board B)
  - Analog NTSC or PAL VBS and analog component R/G/B or Y/R-Y/B-Y outputs (Board C)
- The HKCU-1001 SD Analog Interface Unit provides two analog NTSC or PAL VBS signal outputs, a PIX (picture monitor) output, and a WFM (waveform monitor) output

HKCU-2007 3G-SDI/HD-SDI Output Expansion Unit

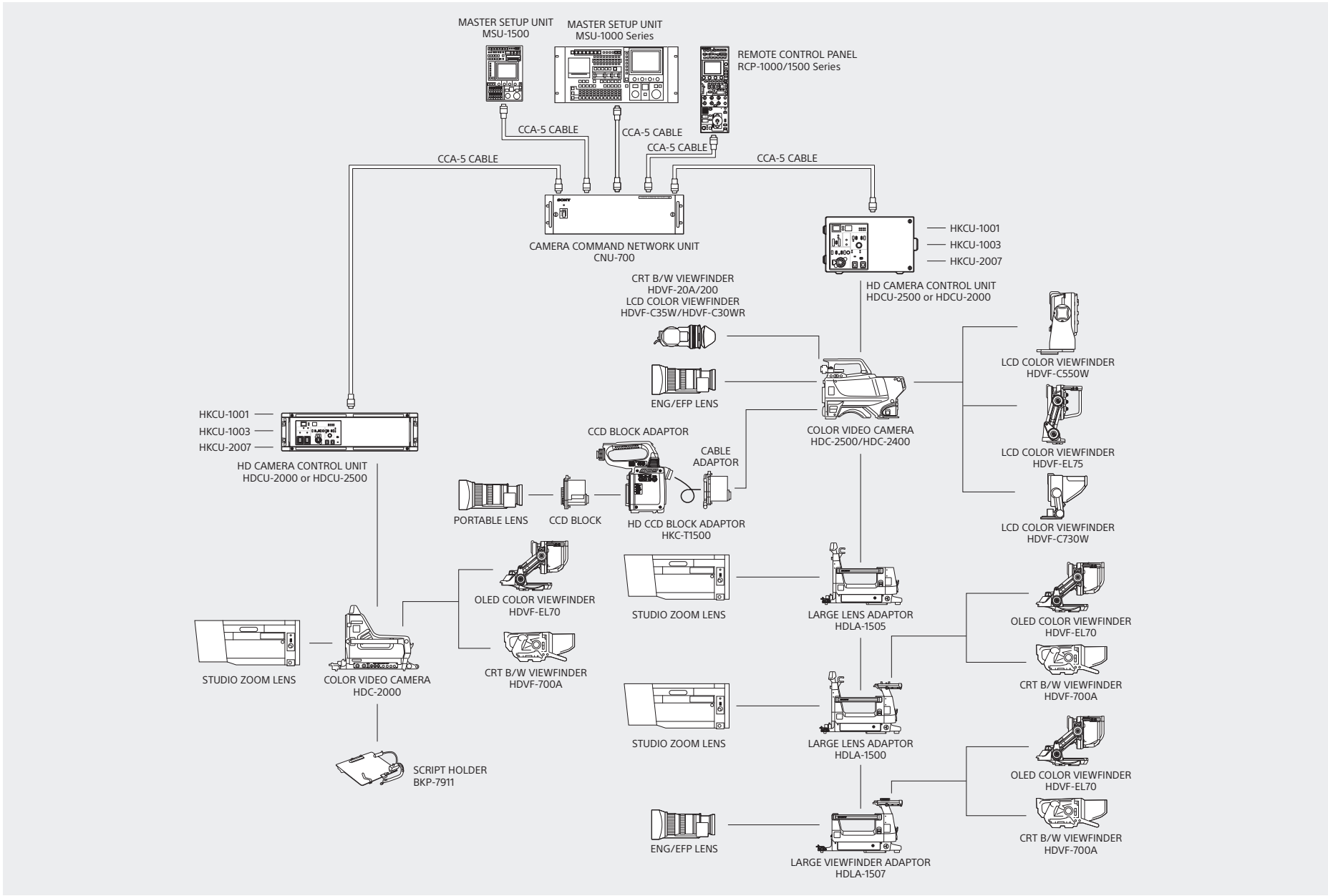
HKCU-1003 Multi Interface Unit

HKCU-1001 SD Analog Interface Unit

HDC-2000 Series System Configuration with LAN Connection



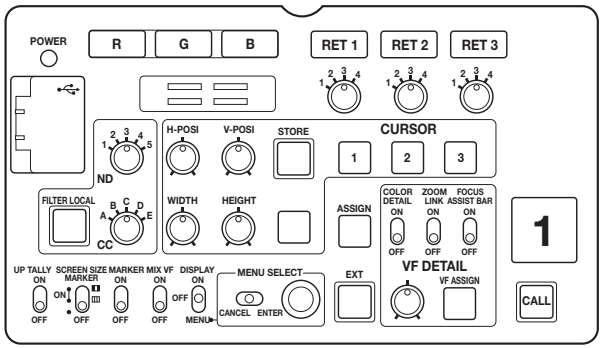
HDC-2000 Series System Configuration with Camera Network Unit Connection



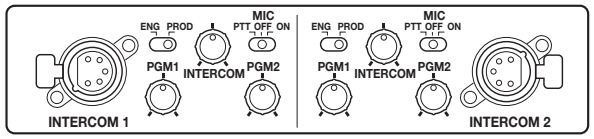
HDC-2000 Series Control/Intercom Panels and Connectors

HDC-2000

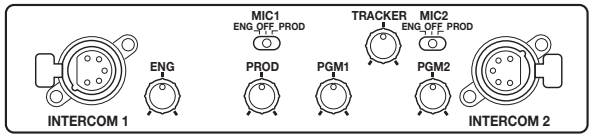
Control Panel



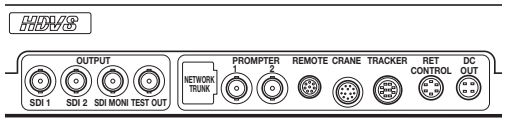
Intercom Panel (for 60 Hz countries)



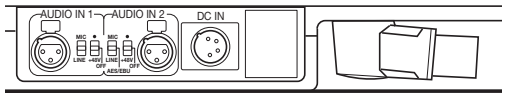
Intercom Panel (for 50 Hz countries)



Connectors



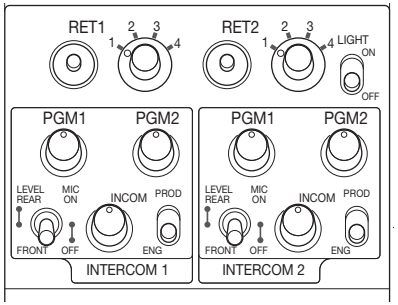
Inside Panel



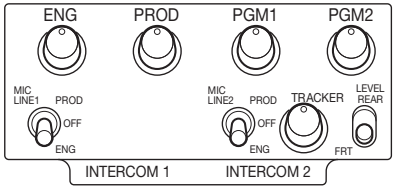
Outside Panel

HDC-2400/HDC-2500/HDC-2570

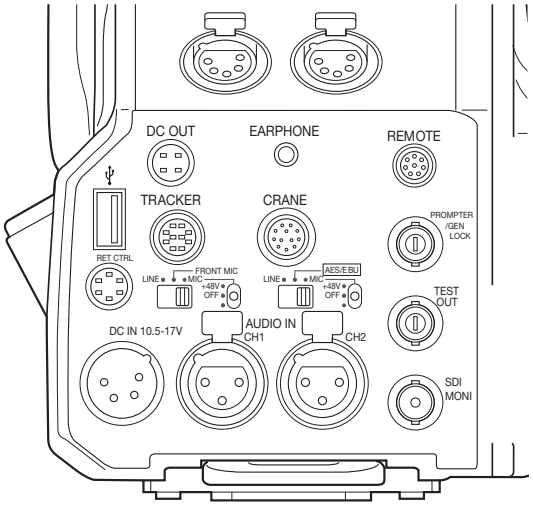
Control/Intercom Panel (for 60 Hz countries)



Control/Intercom Panel (for 50 Hz countries)



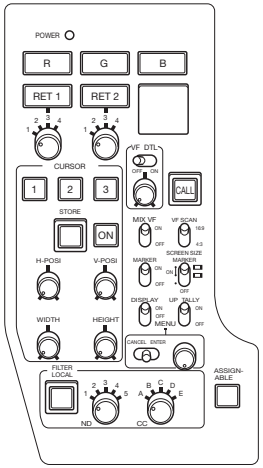
Connectors



HDLA-1500/HDLA-1505/HDLA-1507

DC OUT Connector

Control Panel




SONY
TILT LOCK
LIFT LOCK
DC OUT
EARPHONE
REMOTE
TRACKER
CRANE
TEST OUT
AUDIO
CH1
CH2
RET 1
MIC 1

HDC-2500

HDC-3300R HD Super Motion Color Camera

HDC-3300R HD Super Motion Color Camera

Since the launch of the BVP-3000 high-speed capturing camera in 1984, Sony has been continuously developing cameras that provide high-quality slow-motion image shooting, primarily used for sports coverage. There is strong demand for a slow-motion camera system - one that offers even greater performance, as well as HD compatibility. The HDC-3300R has stunning picture quality by enhanced S/N ratio, state-of-the-art features, and many other functions.

HDC-3300R
Lens and viewfinder are optional.

Sony's cutting-edge technology enables the HDC-3300R to capture full-resolution 1920 x 1080 high-definition images at an amazing frame rate, three times above the normal frame rate (1080/180i, 1080/150i, 720/180p, or 720/150p).
The HDC-3300R system is capable of transferring data at a rate of 10 Gbps. This high transfer rate enables superb-quality uncompressed wideband signals to be transferred from the camera head to the HDCU-3300R Camera Control Unit over distances up to 8,200 feet (2,500 meters)*1. Furthermore, since its design is based on proven HDC Series cameras, the HDC-3300R offers the same array of functionalities, outstanding picture quality with its 14-bit A/D converter, versatile multi-format capability, and high reliability, in addition to its slow-motion capability.
Another unique advantage of this camera is its outstanding picture quality even at normal frame rates. This simultaneous output can be used as a conventional camera feed to the switcher, making the camera ideal for use in a variety of shooting opportunities. In addition, the Flicker Reduction function further enhances picture quality. With all these attractive features, the Sony HDC-3300R is the optimum solution to deliver slow-motion HD images with breathtaking quality.

*1 Maximum cable length varies with the camera system configuration, lens type, and viewfinder type.

HDC-3300R HD Super Motion Color Camera

Features

Three-times Normal Speed HD Signal Output

The HDC-3300R can output full-resolution 1920 x 1080 HD images at an outstanding rate, three times the normal frame rate of 1080/180i (59.94i) and 1080/ 150i (50i), and 1280 x 720 HD images at three times the normal frame rate of 720/180p (59.94p) and 720/150p (50p).

Excellent Flicker Reduction Function

The slow-motion images captured by the HDC-3300R are extremely detailed, and are enhanced by Sony's state-of-the-art real-time processing technique, which minimizes the flicker phenomenon typically seen on slow-motion images. Flickering can be further reduced by selecting an appropriate mode from three available response modes, and by adjusting the video level according to the brightness of the shooting environment.

Long-distance Optical Fiber Transmission

The HDC-3300R allows captured data to be transferred as high-quality wideband signals to its companion HDCU-3300R Camera Control Unit up to 8,200 feet (2,500 m)*1 at an amazingly high data rate of 10 Gbps. This can be achieved only through a SMPTE standard optical fiber cable, giving you a practical yet outstanding high-quality transmission system. The HDCU-3300R allows these signals to be recorded onto a compatible third-party server via three HD-SDI outputs.

*1 The actual distance depends on operating conditions, such as the number of connected cables and system configuration.

High-quality Normal-speed HD Images

In addition to its high-quality, slow-motion images, the HDC-3300R also provides high-quality, normal-speed images - thanks to a signal-processing LSI that's dedicated to processing images in this way. Furthermore, the HDCU-3300R can output these normal-speed images for live transmission simultaneously with Super Motion images, allowing you to use the HDC-3300R for both slow-motion and standard shooting purposes for increased versatility.

Flexible System Configuration

HDC-3300R and HDCU-3300R camera systems are compatible with other broadcast camera peripherals from Sony including RCP-700/920/1000 Series Remote Control Units, the CNU-700 Camera Command Network Unit, and MSU-900/1000 Series Master Setup Units. This enables the HDC-3300R and HDCU-3300R to be easily integrated into other existing camera systems from Sony. In addition to the conventional 700 protocol, a LAN interface (10BASE-T/ 100BASE-TX) is also incorporated, allowing the HDC-3300R to be controlled over a network. What's more, the HDC-3300R is compatible with HDLA-1500/HDLA-1505 Large Lens Adaptors and HDLA-1507 Large Viewfinder Adaptors, which are quick and easy to install thanks to a unique design that does not require any cable wiring or time-consuming adjustment.

Ergonomic Design

The design of the HDC-3300R is based on the proven HDC-2500 Series Multi-format HD Portable Camera that provides a high level of operability. All control switches and connectors are in the most logical places for optimum functionality and ease of use. The low-profile body of the HDC-3300R minimizes the parallax between the optical axis of the camera head and the large viewfinder when the camera is attached to the HDLA-1500/HDLA-1505 Large Lens Adaptors and the HDLA-1507 Large Viewfinder Adaptor. In addition, the HDC-3300R is designed with a low center of gravity, allowing you to carry the camera comfortably on your shoulder. To achieve a well-balanced position, the shoulder pad of the HDC-3300R can be adjusted either forwards or backwards without using a screwdriver.

HDCU-3300R HDC-3300R

Reliable Camera Head Operation

The HDC-3300R uses optimal design techniques to reduce heat generation within the camera body for comfortable operation.

Other Features of the HDC-3300R

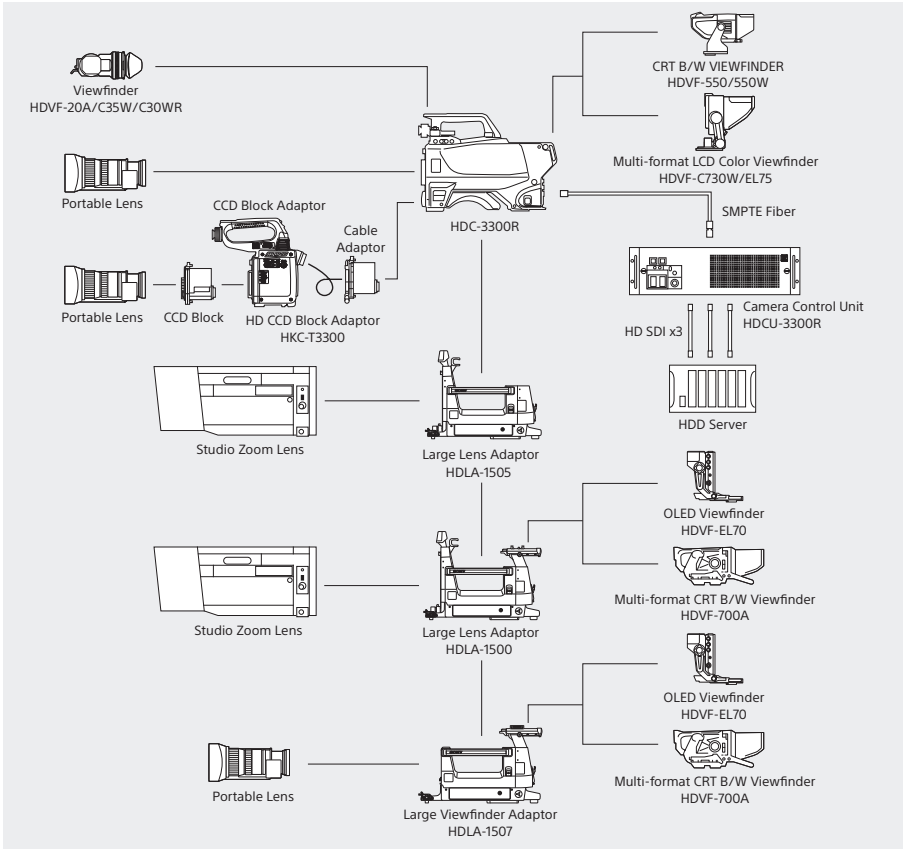
- Five assignable switches: one on the inside panel, and another four switches – RET1 (handle), RET1 (outside panel), INCOM1 (handle), and RET2 (front panel) – allow you to assign frequently used functions
- Memory Stick™ media slot for saving and recalling camera setup files
- A wide range of viewfinder options

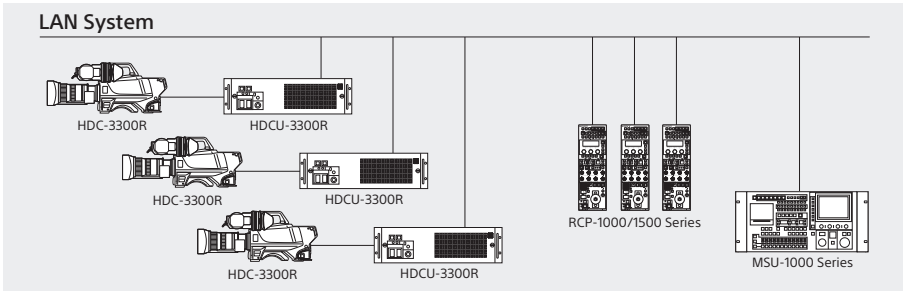
HKC-T3300 CCD Block Extension Adaptor

The HKC-T3300 CCD Block Extension Adaptor is a unique accessory for the HDC-3300R. It allows the CCD block to be extended from the camera body by up to 41 feet (12.5 m). This enables you to achieve more creative camera shooting angles, and gives you the freedom to place the imaging assembly in areas where a full-size camera would be restricted. The HKC-T3300 expands the spectrum of HD super-motion color camera applications in areas such as snorkel lenses, helicopter gimbal mounts, mini jibs, and 3D production.

The HKC-T3300 connected to the HDC-3300R.

System Example





HDC-P1 HD Multi-purpose Camera

The HDC-P1 is a highly compact Point-of-View (POV)-style HD multi-purpose camera based on sophisticated core technologies established through a long-time development of Sony's flagship HDC Series system cameras.
Sony offers the HDC-P1 as a small box-type POV camera with shooting flexibility from almost anywhere, and also high-quality full-HD pictures as a standalone camera or a system camera that enables seamless integration with pictures from full-size cameras.
The HDC-P1 also enhances the creative flexibility of live production. You can use it as a robotic camera in a studio automation system or compact 3D camera installed in a 3D camera system.

HDC-P1 HD Multi-purpose Camera

Features

Compact design with high picture quality

Packed in a slim and compact body of only about 3 1/2 inches (86 mm) wide and weighing around 3 lb 12 oz (1.7 kg, excluding a lens), the HDC-P1 is equipped with three superb 2/3-inch progressive CCDs and Sony-developed digital processing LSI to bring out high picture quality equivalent to that of other HDC Series cameras.
The HDC-P1 is ideal for use in space-limited areas such as camera crane jibs, helicopter camera mounts, and stereoscopic 3D camera rigs.

Dual optical servo filters

The HDC-P1 is equipped with Neutral Density (ND) and Color Correction (CC) optical servo filter units, which can be remotely controlled according to lighting condition changes from a remote control panel (RCP) or a master setup unit (MSU).

Master setup unit and remote control panel

You can use the MSU-1000/MSU-1500 Master Setup Unit (MSU) and RCP-1000 Series Remote Control Panel (RCP) developed for Sony's flagship HDC Series system cameras to adjust HDC-P1 camera parameters.

Multi-format operation

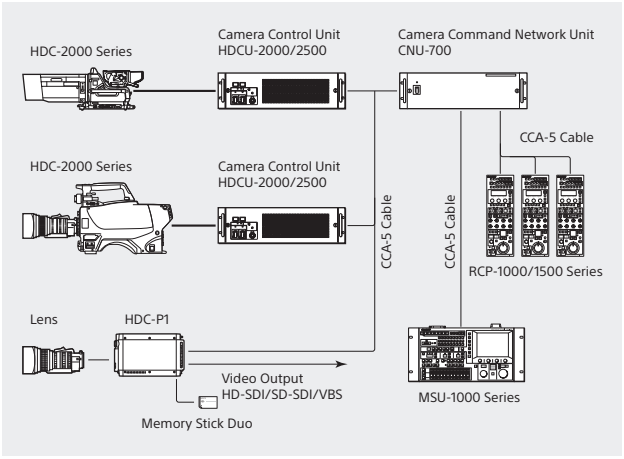
A wide range of capturing formats are supported, such as 1080/59.94i, 1080/50i, 1080/59.94p*1, 1080/50p*1, 720/59.94p, 720/50p, 1080/23.98PsF*2, 24PsF*2, 25PsF*2, and 29.97PsF*2.

*1 Optional HZC-PRVP1 software is required.

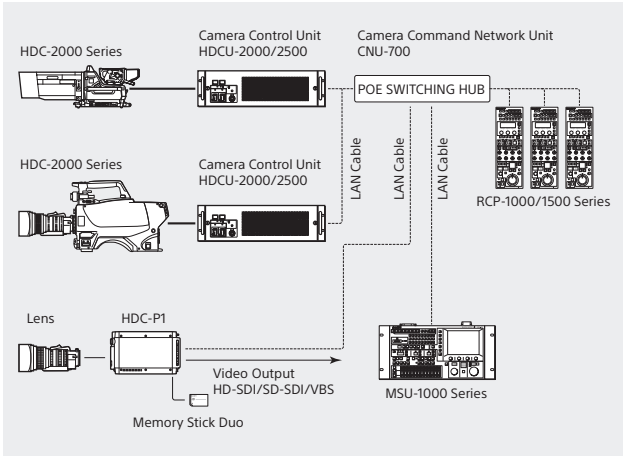
*2 Optional HZC-PSFP1 software is required.

System Example

System Configuration (CNU Connection)



System Configuration (LAN connection)



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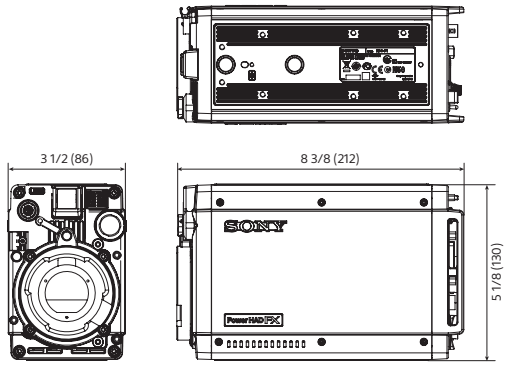


Unit: inches (mm)

Versatile System Components

HDFA-200 HD Optical Fiber Adaptor Unit

The HDFA-200 is an optical fiber adaptor which employs sophisticated high bit-rate transmission technologies to realize stereoscopic 3D camera operation.
You can configure an unprecedentedly high-performance, highly compact 3D camera rig using the HDFA-200 combined with the POV-style HDC-P1 HD Multi-purpose Camera.
Alternatively, a simple system can be configured using the HDFA-200 with a single optical fiber cable.
The HDFA-200 can also transmit RGB 4:4:4 signals using an F35 Digital Cinematography Camera with a 35-mm-sized CCD sensor and PL lens mount.
With its sophisticated performance and functionality, the HDFA-200 is ideal for a broad range of applications such as 3D live production and TV program production with digital cinematography cameras.

Features

Optical fiber transmission

By employing high bit-rate digital optical fiber transmission technologies, signals can be transmitted from two cameras to a camera control unit (CCU) with a single optical fiber cable. Power*1 and genlock signals can also be supplied to the two cameras.

*1 Up to DC 13 A (14 V) power can be supplied. It depends on connected devices or the cable length.

Stereoscopic 3D multi-camera operation

The HDFA-200 provides data transmission capability that includes two-channel audio input, intercom, and trunk data (a general-purpose control signal via a CCU and the HDFA-200). The adapter unit lets you carry out 3D multi-camera system operation as simply as with a conventional camera system.

Beneficial single remote panel operation

Flexible 3D system camera operation is assured. You can control left-eye and right-eye cameras simultaneously or separately for individual adjustment.

Viewfinder output with multiple diagnostic/monitoring modes

The HDFA-200 has a viewfinder output, which offers several ways to display the output from the two connected cameras. You can choose from Split, Mix, and Difference modes, as well as a variety of other options designed to ease the process of rigging 3D camera pairs.

3D monitoring with a viewfinder

The viewfinder (VF) connector on the HDFA-200 can output just right-eye, left-eye, or both right- and left-eye signals. In both right- and left-eye signals mode, you can select split-, mix-, or Y difference-mode for adjustment of the 3D rig.

Features

Lens metadata linkage with HDFA-200

The focal length of the lens, zoom position, and iris data are overlaid on an HD-SDI signal output from the CCU as metadata when using a lens supporting serial data transmission. This enables powerful operation for a 3D live production combined with the HDFA-200.

Remote operation of a 3D rig using a trunk data line

General-purpose control signals of up to 150 kbaud can be transmitted as trunk data. This enables RS232C or RS422 signals to be transmitted between a CCU and the HDFA-200, such as operation signals for a 3D rig.

H/V inverting function

The HDFA-200 is equipped with a function that compensates for picture inversion caused by a half-mirror rig such as replacement between right- and left-eye pictures, mirror reversed-picture of horizontal, vertical, or both horizontal and vertical direction. In addition, the amount of signal delay caused by picture inversion is automatically controlled.

Simple system integration with the HDC-P1

By adopting a universal synch cord adaptor, a CCA5 interface control cable is unnecessary for connecting the HDC-P1 HD multi-purpose camera. This makes the system easy to build.

Lightweight and compact

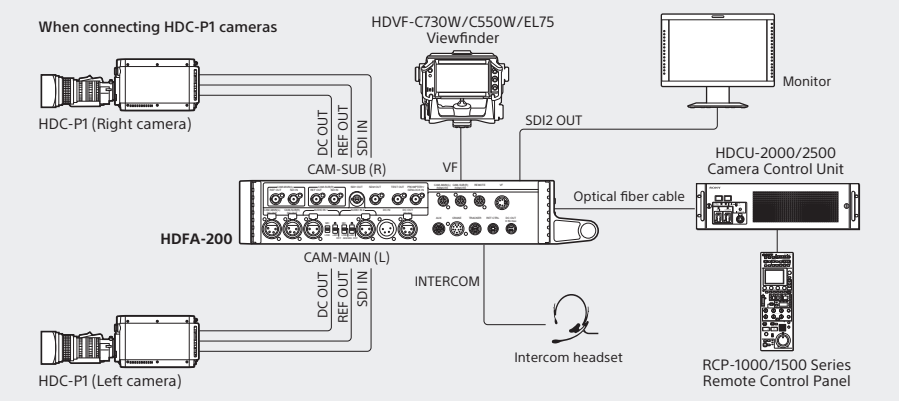
The HDFA-200 is designed to be very compact and lightweight for superior mobility in the field. It weighs approximately 8 lb 6 oz (3.8 kg). It's easily mounted to a 3D rig, a tripod adaptor, or a universal clamp due to its many general-purpose mounting screw holes.

Optical fiber transmission

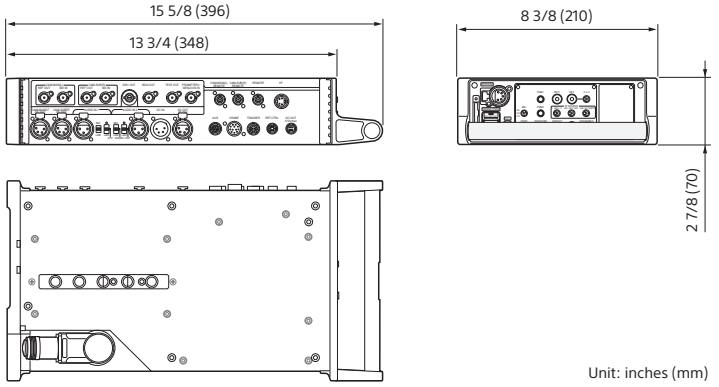
Offering a high bit-rate digital optical fiber transmission capability, the HDFA-200 can transmit two cameras' signals to a connected camera control unit, and supply power and genlock signals to the cameras as well with a single optical fiber.

System Example

Two cameras with a CCU



Dimensions



Unit: inches (mm)

Versatile System Components

MSU-1000/MSU-1500 Master Setup Unit

The MSU-1000/MSU-1500 Master Setup Unit is a central control panel used for the adjustment of camera parameters in a multi-camera system. The MSU-1000/MSU-1500 unit is connected to each camera control unit in the system via the CNU-700 Command Network Unit or a switching hub.

- Central control of camera parameters for the entire camera system
- Picture and waveform monitor switching
- Precise picture adjustment
- Built-in 6.5-inch*1 LCD display for clear viewing of adjustment parameters during operation
- Memory stick slot for storing/recalling files
- Built-in LAN interface (10BASE-T/100BASE-TX)

*1 Viewable area measured diagonally.

MSU-1000

MSU-1500

RCP-1000/1500 Series Remote Control Panel

Five types of remote control panels are available: the RCP-1000, RCP-1001, RCP-1500, RCP-1501, and RCP-1530. A wide range of camera parameters can be controlled. The RCP-1500, RCP-1501, and RCP-1530 are equipped with various functions for fundamental camera operations, and offer a network interface capability, while the RCP-1000 and RCP-1001 are simple remote control panels that provide specific basic functions.

RCP-1000 RCP-1001 RCP-1500 RCP-1501 RCP-1530

CNU-700 Camera Command Network Unit

The CNU-700 allows communication between all the units in the system, and provides the ability to assign CCUs, MSUs, RCPs, and HDC-2000 Series camera heads. A RISC-based microprocessor system provides high-speed transfer of command signals to the HDCU-2000 and HDCU-2500 Camera Control Unit for rapid response and reliable control.

One CNU-700 unit can control six cameras, and can be expanded to control up to 12 cameras when fitted with an optional BKP-7930 Expansion Board. Several CNU-700 units can be connected to the camera control network in a large system. The CNU-700 supports RCP assignment and an S-BUS interface*1.

*1 An optional BKP-7933 S-BUS Interface Board is required.

CNU-700

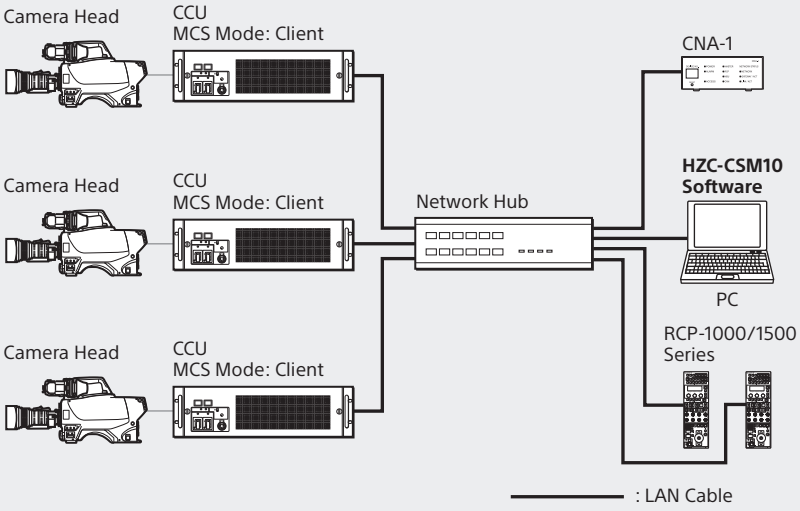
HZC-CSM10 Camera System Management Software

The HZC-CSM10 is a Microsoft Windows-based Master Setup Unit (MSU) software application for controlling the camera system from a PC. It has similar features to a hardware-based MSU, offering camera control, optical level display, file management, remote control panel (RCP) assignment, and diagnosis. The HZC-CSM10 GUI controls any parameters of the system camera and enables visual setting lists. It acts as a software client to a master hardware MSU.

System requirements

Operating system:	Windows® 7 (with Service Pack 1 installed), Windows 8 Professional: 32-/64-bit, Ultimate: 32-/64-bit (The software cannot be installed on Windows Vista® and Windows XP.)
CPU:	1 GHz or faster 32-bit (x86) or 64-bit (x64) processor
Memory:	2 GB or more
Hard disk:	50 MB or more of free space

HZC-CSM10 Camera System Management Software



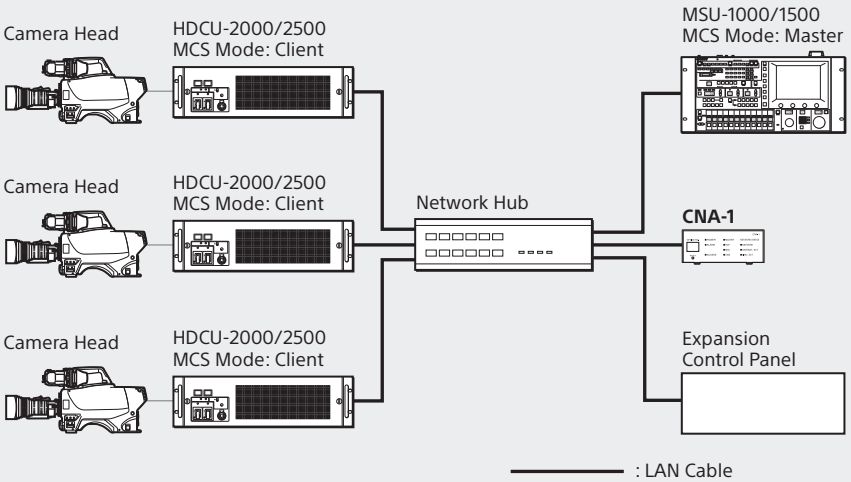
Versatile System Components

CNA-1 Camera Control Network Adaptor

Using the CNA-1, third-party systems integrators and vendors can integrate a system much more easily. With its protocol-converting capability between Sony's protocol and the IP protocol, the CNA-1 enables Sony's system cameras to work with other manufactures' products. An additional camera chain can be extended via the CNA-1. In addition, the CNA-1 can also be utilized as a "master" module with the HZC-CSM10 PC-based Master Control Unit (MSU) software without requiring a hardware MSU.

CNA-1

System Example



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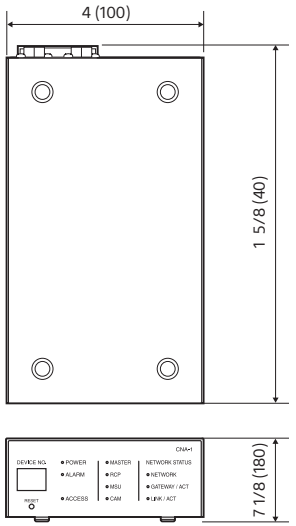


Unit: inches (mm)

HDVF-EL70/75 OLED (Organic Light Emitting Diode) Viewfinder

The HDVF-EL70/75 is a sophisticated color viewfinder which uses a Sony-developed OLED (Organic Light Emitting Diode) display. This provides an unprecedented level of image performance such as high-resolution, high-contrast, and faithful color reproduction – especially for black. The OLED display also provides a wide color gamut, short response time, and wide viewing angle, which helps users to easily adjust the focus. Thanks to the OLED display's thin size, the HDVF-EL70/75 viewfinder is designed to be very compact, allowing for highly flexible viewing positions – from high to low and front to back.

Flexible Positioning Mechanism

HDLA-1500/HDLA-1505/HDLA-1507 – Maximizing Operability

To meet the demand for operations that combine a portable camera with a large lens, Sony has developed highly sophisticated HDLA-1500 and HDLA-1505 Large Lens Adaptors to maximize the operability of HDC-2400, HDC-2500, and HDC-2570 cameras.
Generally, setting up a portable camera to a large lens adaptor is a difficult task, especially fine-tuning the mechanical adjustments between each device. However, with the HDLA-1500 or HDLA-1505 Large Lens Adaptor, time-consuming adjustments and wiring are completely eliminated. Another convenient peripheral for the portable cameras, the HDLA-1507 Large Viewfinder Adaptor, is also available, enabling a large viewfinder to be used.

Unique Interlocking Mechanism for Simple Operation

HDLA-1500, HDLA-1505, and HDLA-1507 adaptors do not require any cable wiring. Utilizing an unprecedented interlocking mechanism, this solution passes through the power, video, and control signals directly from the portable camera to the HDLA Series adaptor. This unique mechanism also allows the portable camera to be attached and detached without removing large lenses. Furthermore, a lens can be removed even when the camera is mounted on the HDLA-1500 or HDLA-1505 adaptor. The interlocking mechanism therefore allows for astonishingly quick and smooth setup.

Low-profile Design

The low-profile design significantly improves your view, while also minimizing the parallax between the optical axis of the camera head and viewfinder.

Docking 1
Open the rear cover of the HDLA Series adaptor. There is no need to detach the viewfinder.

Docking 2
Mount the portable camera and slide forward until you hear the locking click.

Docking 3
Close the rear cover.

Optional Accessories

MSU-1000
Master Setup Unit

MSU-1500
Master Setup Unit

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

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

HDLA-1507
Large Viewfinder Adaptor
(for attachment of the HDVF-EL70/700A)

RM-B170
Remote Control Unit

RCP-1000
Remote Control Panel

RCP-1001
Remote Control Panel

RCP-1500
Remote Control Panel

RCP-1501
Remote Control Panel

RCP-1530
Remote Control Panel

HDVF-20A
2.0-inch*1 CRT B/W Viewfinder

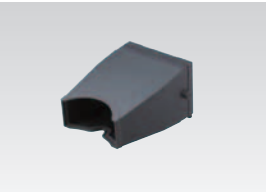
HDVF-200
2.0-inch*1 CRT B/W Viewfinder

HDVF-C35W
3.5-inch*1 LCD Color Viewfinder

HDVF-C30WR
2.7-inch*1 LCD Color Viewfinder

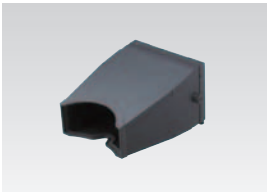
HDVF-EL70
7.4-inch*1 Color HD Viewfinder

HDVF-EL75
7.4-inch*1 Color HD Viewfinder



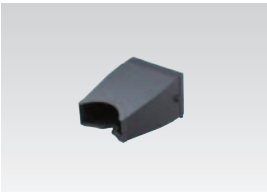
VFH-790
Outdoor Hood for HDVF-EL70/EL75

HDVF-C730W
6.3-inch*1 LCD Color Viewfinder



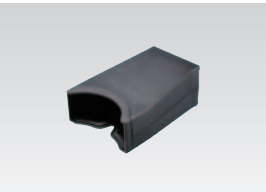
VFH-770
Outdoor Hood for HDVF-700A/C730W

HDVF-550
Viewfinder
5.0-inch*1 CRT B/W



VFH-550
Outdoor Hood for HDVF-550

HDVF-C550W
5-inch*1 LCD Color Viewfinder



VFH-570
Outdoor Hood for HDVF-C550W

*1 Viewable area measured diagonally

Optional Accessories

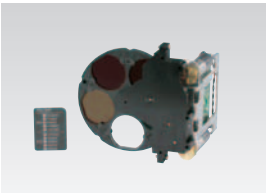
BKW-401
Viewfinder Rotation Bracket

BKP-7911
Script Holder

CAC-6
Return Video Selector

CAC-12
Mic Holder

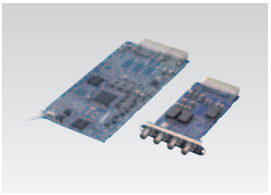
VCT-14
Tripod Adaptor



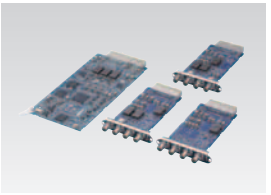
HKC-DF20
Dual-filter Unit for HDC-2400

HKC-T1500
HD CCD Block Adaptor

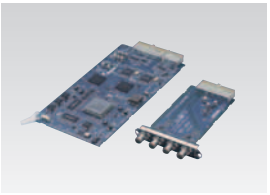
HKC-T3300
HD CCD Block Adaptor



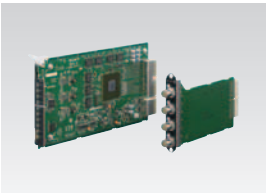
HKCU-1001
SD Analog Interface Unit
(for HDCU-2000/HDCU-2500)



HKCU-1003
Multi Interface Unit
(for HDCU-2000/HDCU-2500)



HKCU-1005
HD-SDI/SD-SDI Expansion Unit
(for HDCU-3300R)

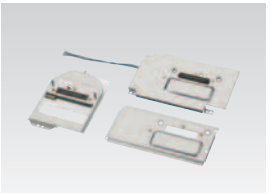


HKCU-2007
3G-SDI/HD-SDI Expansion Unit
(for HDCU-2000/HDCU-2500)

HKC-FB20
Optical Fiber Transmission
Adaptor

HKC-TR27
Digital Triax Transmission
Adaptor

HKC-WL20
Wireless Module Adaptor



HKC-CN20
Side Panel Attachment Kit

HDCU-2000
Full-rack-size
Camera Control Unit

HDCU-2500
Half-rack-size
Camera Control Unit

HDCU-3300R
HD Super Motion
Camera Control Unit

HDFX-200
Digital Triax CCU Adaptor

HDTX-200
Digital Triax Camera Adaptor

Combination List

	Model name	Product name	HDC-2000	HDC-2500	HDC-2400	HDC-2570	HDC-3300R	HDC-P1
Master Setup Unit	MSU-1000	Master Setup Unit	●	●	●	●	●	●
	MSU-1500	Master Setup Unit	●	●	●	●	●	●
Large Lens Adaptor	HDLA-1500	Large Lens Adaptor	–	●	●	●	●	–
	HDLA-1505	Large Lens Adaptor	–	●	●	●	●	–
	HDLA-1507	Large Viewfinder Adaptor	–	●	●	●	●	–
Remote Cntrol Panel	RM-B170	Remote Control Unit	●	●	●	●	●	●
	RCP-1000	Remote Control Panel	●	●	●	●	●	●
	RCP-1001	Remote Control Panel	●	●	●	●	●	●
	RCP-1500	Remote Control Panel	●	●	●	●	●	●
	RCP-1501	Remote Control Panel	●	●	●	●	●	●
	RCP-1530	Remote Control Panel	●	●	●	●	●	●
View finder & Outdoor Hood	HDVF-20A	2.0-inch CRT B/W Viewfinder	–	●	●	●	●	–
	HDVF-200	2.0-inch CRT B/W Viewfinder	–	●	●	●	●	–
	HDVF-C35W	3.5-inch LCD Color Viewfinder	–	●	●	●	●	–
	HDVF-C30WR	2.7-inch LCD Color Viewfinder	–	●	●	●	●	–
	HDVF-EL70*1	7.4-inch Color HD Viewfinder	●	–	–	–	–	–
	HDVF-EL75*1	7.4-inch Color HD Viewfinder	–	●	●	●	●	–
	HDVF-700A*2	7.0-inch CRT B/W Viewfinder	●	–	–	–	–	–
	HDVF-C730W*2	6.3-inch LCD Color Viewfinder	–	●	●	●	●	–
	HDVF-550*3	5.0-inch CRT B/W	–	●	●	●	●	–
	HDVF-C550W*4	5-inch LCD Color Viewfinder	–	●	●	●	●	–
Accessory	HDCU-2000	HD Camera Control Unit	●	●	●	● *5	–	–
	HDCU-2500	HD Camera Control Unit	●	●	●	● *5	–	–
	HDCU-3300R	HD Camera Control Unit	–	–	–	–	●	–
	HDFX-200	Digital Triax CCU Adaptor	–	–	–	●	–	–
	HDTX-200	Digital Triax Camera Adaptor	●	●	●	–	–	–
	HKC-T1500	HD CCD Block Adaptor	–	●	●	●	–	–
	HKC-T3300	HD CCD Block Adaptor	–	–	–	–	●	–
	HKC-DF20	ND/CC Dual Optical Filter Unit	Standard	Standard	●	Standard	–	–
	HKC-FB20*6	Optical Fiber Transmission Adaptor	–	Standard	Standard	●	–	–
	HKC-TR27*6	Digital Triax Transmission Adaptor	–	●	●	Standard	–	–
	HKC-WL20*6	Wireless Module Adaptor	–	●	●	●	–	–
	HKC-CN20	Side Panel Attachment Kit	–	●	●	●	–	–
	BKW-401	Viewfinder Rotation Bracket	–	●	●	●	●	–
	BKP-7911	Script Holder	●	●	●	●	●	–
	CAC-6	Return Video Selector	●	●	●	●	●	–
	CAC-12	Mic Holder	–	●	●	●	●	–
	VCT-14	Tripod Adaptor	–	●	●	●	●	●
Software	HZC-PSF20	Support software for PsF format	Standard	Standard	●	●	–	–
	HZC-PRV20	50p/59.94p Software	Standard	Standard	●	●	–	–
	HZC-DFR20	Double-speed capturing software for slow motion	Standard	Standard	●	●	–	–
	HZC-UG444	User Gamma-compatible software	Standard	Standard	●	●	–	–
	HZC-PRVP1	Support software for progressive format	–	–	–	–	–	●
	HZC-PSFP1	Support software for PsF format	–	–	–	–	–	●

Model name	Product name	HDCU-2000	HDCU-2500	HDCU-3300R
HKCU-1001	SD Analog Interface Unit	●	●	●
HKCU-1003	Multi Interface Unit	●	●	●
HKCU-2007	3G-SDI/HD-SDI Expansion Unit	●	●	–
HKCU-1005	HD-SDI/SD-SDI Expansion Unit	–	–	●

*1 Outdoor Hood: VFH-790 (for HDVF-EL70/EL75), It can attach to HDLA-1500, 1507.
*2 Outdoor Hood: VFH-770 (for HDVF-730W/700A)
*3 Outdoor Hood: VFH-550 (for HDVF-550)
*4 Outdoor Hood: VFH-570 (for HDVF-C550W)
*5 An optional HDFX-200 is required.
*6 HKC-CN20 is necessary for connection.

Specifications

HDC-2000/HDC-2500/HDC-2400/HDC-2570 Specifications

		HDC-2000	HDC-2500	HDC-2400	HDC-2570
General					
Power requirements		AC 240 V, 1.7 A (max.), DC 180 V, 0.9 A (max.), DC 12 V, 10 A (max.)	AC 240 V, 1.4 A (max.), DC 180 V, 1.0 A (max.), DC 12 V, 7 A (max.)	AC 240 V, 1.4 A (max.), DC 180 V, 1.0 A (max.), DC 12 V, 7 A (max.)	DC 180 V, 1.1 A (max.), DC 12 V, 8.5 A (max.)
Operating temperature		-4 °F to +113 °F (-20 °C to +45 °C)			
Storage temperature		-4 °F to +140 °F (-20 °C to +60 °C)			
Weight		46 lb 4.8 oz (21 kg)	9 lb 15 oz (4.5 kg)		11 lb 3.9 oz (5.1 kg)
Camera					
Pickup device		3-chip 2/3-inch type CCD			
Effective picture elements (H x V)		1920 x 1080			
Signal format		1080/50i, 59.94i, 23.98p, 24p, 25p, 29.97p 1080/50p, 59.94p, 720/50p, 59.94p 1080/100i, 119.88i, 720/100p,119.88p		1080/50i, 59.94i 720/50p, 59.94p	
Spectrum system		F1.4 prism			
Lens mount		Sony hanger mount	Sony bayonet mount		
Built-in filters	CC	A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K		Electrical (CC optical filters are available with optional HKC-DF20)	A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K
	ND	1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND		1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND, 5: CROSS	1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
Sensitivity (at 2000 lx, 3200K, 89.9% reflectance)		F11 (at 1080/50i), F10 (at 1080/59.94i)			
Signal-to-noise ratio (1080i, typical)		-60 dB/-64 dB (with NS max.)			
Horizontal resolution (1080i)		1,000 TV lines (at center)			
Shutter speed selection		1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (50i) 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94i) 1/32, 1/48, 1/96, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (23.98p/24p) 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (25p) 1/40, 1/60, 1/100, 1/120, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (29.97p) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (50p) 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94p)		1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (50i) 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94i) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (50p) 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec (59.94p)	
Modulation depth (1080i, typical)		Y: 50% at 27.5 MHz (800 TV lines with typical lens), Pb/Pr: 80% at 12 MHz			
Input/output connectors					
Audio input (CH1)		XLR-3-pin (female) (x1), mic or line selectable			
Audio input (CH2)		XLR-3-pin (female) (x1), AES/EBU, mic, or line selectable			
Mic 1 input		–	XLR-3-pin (female) (x1)		
Return control input		6-pin (x1)			
Prompter output/Genlock input/Return input		–	BNC (x1), 1.0 Vp-p, 75 Ω		
Prompter 1		BNC (x1), 1.0 Vp-p, 75 Ω	–		
Prompter 2		BNC (x1), 1.0 Vp-p, 75 Ω			–
DC input		XLR-4-pin (x1), DC 10.5 V to 17 V			
DC output		4-pin (x1), DC 10.5 V to 17 V, 1.5 A (max.)	4-pin (x1), DC 10.5 V to 17 V, 0.5 A (max.), 2-pin (x1), DC 10.5 V to 17 V, 2.5 A (max.)		
Test output		BNC (x1), 1.0 Vp-p, 75 Ω			
SDI 1 output (with embedded audio)		BNC (x1), 3G-SDI, HD-SDI			
SDI 2 output		BNC (x1), HD-SDI			–
SDI-MONI		BNC (x1), HD-SDI or SD-SDI selectable			
Earphone output		–	Stereo mini jack (x1)		
CCU		Electro-optical connector (x1)			–
HDFX		–			Triax connector (x1)
Tracker		10-pin (x1)			
Crane		12-pin (x1)			
Intercom 1		XLR-5-pin (female) (x1)			
Intercom 2		XLR-5-pin (female) (x1)			
Remote		8-pin (x1)			
Network trunk		RJ-45 (x1)			
Lens		36-pin (x1)	12-pin (x1)		
Viewfinder		D-sub 25-pin (x1)	20-pin (x1)		
Supplied accessories					
		Operation manual (1), Angle adjustment brackets (2), Front cover (1), Number plates for side panel (2 sets), Number plates for up-tally lamp (1 set), Cable clamp (2)	Operation manual (1), Cable clamp belt (1 set), Camera number label (1), Screws (+B3x8) (2)		

* 1080/59.94p and 1080/50p signals can be output only from the HDC-2000/HDC-2500 camera head in a stand-alone configuration.

HDCU-2000/HDCU-2500 Specifications

	HDCU-2000	HDCU-2500
General		
Power supply	AC 100 V, AC 120 V, or AC 220 to 240 V, 50/60 Hz	AC 100 V to 240 V, 50/60 Hz
Operating temperature	41 °F to 104 °F (5 °C to 40 °C)	+14 °F to +104 °F (-10 °C to +40 °C)
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)	
Weight	38 lb 9.3 oz (17.5 kg)	14 lb 12 oz (6.7 kg)
Input/output connectors		
Camera	Optical fiber connector (x1), AC 240 V power supply	Optical fiber connector (x1), AC 180 V power supply
Intercom/Tally/PGM	D-sub 25-pin (x1) Intercom (PROD/ENG): 4W/RTS/CC, 0 dB, Tally (R, G, Y), PGM: 2 systems, 0/-20 dB	
RCP/CNU	8-pin (x1)	
Trunk A	12-pin (x1)	
Trunk line	D-sub 9-pin (female) (x1), RS-232C	–
LAN	RJ-45 (x1), 10 BASE-T, 100 BASE-TX	
Network trunk	RJ-45 (x1)	
I/O port	D-sub 15-pin (female) (x1)	–
Input connectors		
Return input	[SDI RET IN] BNC (x4) 3G-SDI: SMPTE 424M/425M Level-B, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE 292M, 1.485 Gbps/1.4835Gbps SD-SDI: SMPTE 259M, 270 Mbps [VBS RET IN] BNC (x4) analog signal, 1.0 V p-p, 75 Ω	BNC (x3) VBS: 1.0 Vp-p, 75 Ω 3G-SDI: SMPTE 424M/425M Level-B, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE 292M, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 270 Mbps
Reference input	BNC (x2), loop-through output 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) or NTSC 10F-BB	
Prompter input	BNC (x4), loop-through output (2-ch), analog signal, 1.0 Vp-p, 75 Ω	BNC (x2), loop-through output (2-ch), analog signal, 1.0 Vp-p, 75 Ω
Mic remote	D-sub 15-pin (x1)	
HD prompter input	BNC (x1) SMPTE 292M, 75 Ω, 1.485 Gbps/1.4835 Gbps	
Output connectors		
Audio output (CH1, CH2)	XLR-3-pin (male) (x2), 0 dBu/-20 dBu/+4 dBu	
AES/EBU	BNC (x1)	–
Character output	BNC (x1), VBS, 1.0 Vp-p, 75 Ω, character ON/OFF selectable	–
Character/Sync output	–	BNC (x1), HD sync/SD sync/Character selectable HD sync: BTA S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD sync: composite sync, 0.3 Vp-p, 75 Ω Character: VBS, 1.0 Vp-p, 75 Ω, character ON/OFF selectable
Sync output	BNC (x1), HD sync/SD sync selectable HD: BTA S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD: composite sync, 0.3 Vp-p, 75 Ω	–
WF remote	D-sub 15-pin (female) (x1)	–
3G-SDI/HD-SDI output	BNC (x2) 3G-SDI: SMPTE 424M/425M Level-B,0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps BNC (x2) 3G-SDI: SMPTE 424M/425M Level-B,0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps 3G-SDI/HD-SDI and character ON/OFF selectable	BNC (x2) 3G-SDI: SMPTE 424M/425M Level-B,0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps BNC (x1) 3G-SDI: SMPTE 424M/425M Level-B,0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps 3G-SDI/HD-SDI and character ON/OFF selectable
HD-SDI/SD-SDI output	BNC (x2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps BNC (x2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps HD-SDI/SD-SDI and character ON/OFF selectable	BNC (x2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps BNC (x2) HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps HD-SDI/SD-SDI and character ON/OFF selectable
HD trunk output	BNC (x1) BTA: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps (Available only when camera single link format is selected.)	

Optional Input/Output Boards

HKCU-1001 SD Analog Interface Unit	
VBS output	BNC (x2)
Analog composite monitor output	BNC: WF (x1), PIX (x1)
HKCU-1003 Multi Interface Unit	
VDA-A board: VBS I/F	
VBS output	BNC (x2)
Analog composite monitor output	BNC: WF (x1), PIX (x1)
VDA-B board: Frame rate I/F	
Frame reference input/output	BNC (x1, loop-through), full pull-down sequence lock
Analog composite monitor output	BNC: WF (x1), PIX (x1)
VDA-C board: Sub I/F	
VBS output	BNC (x1)
Analog component output	BNC (x3), R/G/B or Y/R-Y/B-Y selectable
HKCU-2007 3G/HD SDI Output Expansion Unit	
3G-SDI/HD-SDI output	BNC (x2) 3G-SDI: SMPTE 424M/425M Level-B standard, 0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps 3G-SDI/HD-SDI selectable BNC (x2) 3G-SDI: SMPTE 424M/425M Level-B standard, 0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps 3G-SDI/HD-SDI selectable Character ON/OFF selectable (connectors 3/4)

HKC-T1500	
General	
Power requirements for camera input	DC 13.5 V to DC 17.0 V
Operating temperature	-4 ˚F to +113 ˚F (-20 ˚C to +45 ˚C)
Operating humidity	10% to 90% (no condensation)
Weight	Cable adapter: approx. 0.5 kg (1 lb 1.6 oz) CCD block adapter: approx. 1.9 kg (4 lb 3 oz) (with CCD block)
CCD block adaptor I/F	
Camera cable	55-pin multicore cable connector (male) (x1)
Mic input	XLR-3-pin (female) (x1)
Lens	12-pin (x1)
Viewfinder	20-pin (x1)
Intercom	XLR-5-pin (female) (x1)
Cable adaptor I/F	
Camera cable	55-pin multicore cable connector (female) (x1)
Mic output	XLR-3-pin (male) (x1)
Viewfinder	20-pin (x1)
Intercom	XLR-5-pin (male) (x1)

Specifications

HDC-3300R/HDCU-3300R Specifications

HDC-3300R HD Super Motion Color Camera	
General	
Power requirements	AC 240 V, 1.4 A max., DC 12 V, 8.6 A max.
Operating temperature	-4 °F to +113 °F (-20 °C to +45 °C)
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)
Weight	10 lb 9.3 oz (4.8 kg) (without Viewfinder and lens)
Dimensions (W x H x D)	6 1/8 x 7 7/8 x 13 3/4 inches (154 x 197 x 348 mm)
Camera section	
Pickup device	3-chip 2/3-inch type CCD
Effective picture elements (H x V)	1920 x 1080
Signal format	1920 x 1080 images: 1080/180i (59.94i), 1080/150i (50i) 1280 x 720 images: 720/180p (59.94p), 720/150p (50p)
Sensitivity	F8 (at 1080/180i)/F9 (at 1080/150i) at 2000 lx
Signal-to-noise ratio (typical)*1	(x1): -56 dB/-64 dB (at NS MAX mode) x3: -52 dB/-60 dB (at NS MAX mode)
Horizontal resolution*1	1,000 TV lines (at center)
Spectral system	F1.4 prism
Built-in filters	ND: 1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4:1/16ND, 5: 1/64ND CC: A: CROSS, B: 3200K, C: 4300K, D: 6300K, D: 8000K
Signal inputs	
Mic input	XLR-3-pin (x1) (female)
Audio input	CH1: XLR-3-pin (x1) (female), MIC, LINE, or FRONT MIC selectable CH2: XLR-3-pin (x1) (female), AES/EBU, MIC, or LINE selectable
Signal outputs	
HD-SDI/SD-SDI output*2	BNC (x1), HD-SDI, SD-SDI, or character on/off selectable
Test output	BNC (x1), VBS (SD) or VF: Y/R/G/B (HD), HD-sync, or SD-sync selectable
Other inputs/outputs	
CCU	Optical/electrical multi-connector (x1)
Intercom	XLR-5-pin (x2) (female)
Prompter output	BNC (x2)
DC input	XLR-4-pin (x1), DC 10.5 V to 17 V
DC output	4-pin (x1), DC 10.5 V to 17 V (max. 1.5 A)
Lens	12-pin (x1)
Viewfinder	20-pin (x1)
Earphone	Stereo mini jack (x1)
Return control	6-pin (x1)
Remote	8-pin (x1)
Tracker	10-pin (x1)
Crane	12-pin (x1)
Supplied accessories	
	Operation manual (1), Cable clamper belt (1 set), Switch label 1, 2 (1 each)

*1 1080/180i mode

*2 When the HDC-3300R camera is not connected to the HDCU-3300R camera control unit, the HD-SDI output signal is for maintenance purpose only.

Optional Input/Output Boards for HDCU-3300R

HKCU-1001 SD Analog Interface Unit	
VDA-A board	
VBS output	BNC (x2), 1.0 Vp-p, 75 Ω
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω

HKCU-1003 Multi Interface Unit	
VDA-A board	
VBS output	BNC (x2), 1.0 Vp-p, 75 Ω
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
VDA-B board	
Frame reference input	BNC (x1)
Frame reference output	BNC (x1)
PIX output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω
WF output	BNC (x1): VBS/R/G/B selectable, VBS: 1.0 Vp-p, 75 Ω

HKCU-1005 HD/SD Expansion Unit	
HD-SDI/SD-SDI output	BNC (x4), HD-SDI/SD-SDI selectable (SDI output 3, 4: character on/off selectable) HD: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps, SD: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps

HDCU-3300R HD Super Motion Camera Control Unit	
General	
Power supply	AC 100/120/220 V to 240 V, 50/60 Hz
Current consumption	max. 5.6 A
Operating temperature	+41 °F to +104 °F (+5 °C to +40 °C)
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)
Weight	37 lb 1.6 oz (16.8 kg)
Dimensions (W x H x D)	16 3/4 x 5 1/4 x 16 1/4 inches (424 x 133 x 410 mm) excluding projection
Signal inputs	
HD-SDI return input	BNC (x4), SMPTE 292M, 1.485/1.4835 Gbps
SD-SDI return input	BNC (x4), SMPTE 259M, 270 Mbps
VBS return input	BNC (x4)
Reference input	BNC (x2) (1 connector for loop-through output) HD: SMPTE 274M, tri-level sync, 0.6 Vp-p, 75 Ω SD: Black burst, NTSC : 0.286 Vp-p, 75 Ω, PAL: 0.3 Vp-p, 75 Ω
Prompter input	BNC (x4) (2 connectors for loop-through output), analog NTSC/PAL/HD-Y, 1.0 Vp-p, 75 Ω
AC input	(x1), AC 100 V, 110 V to 120 V, 220 V to 240 V switchable
Signal outputs	
HD-SDI LINK A/B/C	BNC (x6), SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps
Super Motion output	Link A (x2), Link B (x2), Link C (x2)
HD-SDI output	BNC (x4), SMPTE 292M, 1.485/1.4835 Gbps
SDI output	BNC (x4), HD-SDI/SD-SDI selectable (SDI output 3, 4: character on/off selectable) HD: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gbps SD: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mbps
Sync output	BNC (x1), HD sync/SD sync selectable HD: BTA-S001A, tri-level sync, 0.6 Vp-p, 75 Ω SD: composite sync, 0.3 Vp-p, 75 Ω
Character output	BNC (x1), VBS, 1.0 Vp-p, 75 Ω
AES/EBU output	BNC (x1), AES/EBU format, 20-bit/ 48 kHz
Mic output	XLR-3-pin (x2) (male), 0/-20 dBs selectable
WF mode	4-pin (x1)
Other inputs/outputs	
Camera	Optical/electrical multi-connector (x1), 10.692/10.681 Gbps, Serial digital (x2), AC 240 V power supply
Intercom/Tally/PGM	D-sub 25-pin (x1) Intercom (PD/ENG): 4W/RTS/CC, 0 dB Tally: R, G tally, 24 V power in/make contact PGM: 0/-20 dB selectable
RCP/CNU	8-pin (x1), Sony Camera System-700 Control Protocol (for entire camera system control)
LAN	RJ-45 (x1), 10BASE-T, 100BASE-TX
Trunk A	12-pin (x1)
Trunk line	D-sub 9-pin (x1) (female), RS-232C
Mic remote	D-sub 15-pin (x1)
Supplied accessories	
	Operation manual (1), Number plates (1 set), Fuses (1 set)

HKC-T3300	
General	
Power requirements for camera input	DC 13.5 V to 17.0 V
Operating temperature	-4 ˚F to +113 ˚F (-20 ˚C to +45 ˚C)
Operating humidity	10% to 90% (no condensation)
Weight	Cable adaptor: 1 lb 1.6 oz (0.5 kg) CCD block adaptor: 4 lb 3 oz (1.9 kg) (with CCD block)
CCD block adaptor I/F	
Camera cable	55-pin multicore cable connector (male)
Mic input	XLR-3-pin (x1) (female)
Lens	12-pin (x1)
Viewfinder	20-pin (x1)
Intercom	XLR-5-pin (x1) (female)
Cable adaptor I/F	
Camera cable	55-pin multicore cable connector (female)
Mic output	XLR-3-pin (x1) (male)
Viewfinder	20-pin (x1)
Intercom	XLR-5-pin (x1) (male)

HDC-P1/HDFA-200 Specifications

	HDC-P1
General	
Power requirements	DC 10.5 V to 17 V, 24 W (excluding peripherals)
Operating temperature	-4°F to +113°F (-20°C to +45°C)
Storage temperature	-4°F to +140°F (-20°C to +60°C)
Weight	3 lb 12 oz (1.7 kg)
Camera section	
Pickup device	3-chip 2/3-inch type CCD
Effective picture elements (H x V)	1920 x 1080
Signal format	1080/50i, 1080/59.94i, 720/50p, 720/59.94p (1080/23.98p, 1080/24p, 1080/25p, 1080/29.97p, 50/59.94p: option)
Spectrum system	F1.4 prism
Lens mount	Sony bayonet mount
Built-in filters	CC: A: CROSS, B:3200K, C: 4300K, D: 6300K ND: 1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND
Sensitivity (at 2000 lx, 3200K, 89.9% reflectance)	F10 (at 1080/59.94i, 720/49.94p), F11 (at 1080/50i, 720/50p)
Signal-to-noise ratio	HD output: Typical 55 dB (NS Max. 62 dB) SD output: Typical 65 dB (59.94 Hz) Typical 63 dB (50.00 Hz)
Horizontal resolution	1,000 TV lines (at center)
Shutter speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/59.94i) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i)
Modulation depth	Y: 45% at 27.5 MHz (800 TV lines with typical lens), Pb/Pr: 80% of 12 MHz
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) Can be switched between HD-SDI and SD-SDI
SDI 2 output	BNC (x1) Can be switched between HD-SDI and SD-SDI
VBS output	BNC (x1)
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	
	Operation manual (1), Number plates for up-tally lamp (1set)
Optional Accessories	
	Tripod Adaptor (VCT-14) Remote Control Unit (RM-B170) Remote Control Panel (RM-B750) Master Setup Unit (MSU-900/MSU-1000 series) Remote Control Unit (RCP-700/RCP-920/RCP-1000 series)

	HDFA-200
General	
Power requirements	AC 240 V, 1.2 A (max.), DC 180 V, 1.1 A (max.), DC 12 V, 10 A (max.)
Operating temperature	–4°F to +113°F (–20°C to +45°C)
Weight (the main unit only)	8 lb 6 oz (3.8 kg)
Input/output connectors	
CCU Optical/electrical	multi-connector (x1)
SDI input	CAM-MAIN (L): BNC (x1), CAM-SUB (R): BNC (x1)
REF output	CAM-MAIN (L): BNC (x1), CAM-SUB (R): BNC (x1)
SDI OUT	SDI 1: BNC (x1), SDI 2: BNC (x1)
TEST output	BNC (x1)
Prompter 1/Genlock in	BNC (x1), 1 Vp-p, 75 Ω
Viewfinder	20-pin (x1)
Audio in 1, Audio in 2	XLR-type connector 3-pin, female (x1 each) For MIC: –60 dBu (variable up to –20 dBu by menu or HDCU-1000/1500 operation), balanced For LINE: 0 dBu, balanced
Intercom	XLR-type 5-pin, female (x1)
DC input	XLR-type 4-pin (x1), DC 10.5 V to 17 V
CAM-MAIN (L) DC output	XLR-type 4-pin, female (x1), DC 10.5 V to 17 V
CAM-SUB (R) DC output	XLR-type 4-pin, female (x1), DC 10.5 V to 17 V
DC output (4 A max)	XLR-type 4-pin, female (x1), DC 10.5 V to 17 V
DC output (0.5 A max)	4-pin (x1), DC 10.5 V to 17 V
Remote (L, R)	CAM-MAIN (L): 8-pin (x1), CAM-SUB (R): 8-pin (x1)
Remote	8-pin (x1)
AUX	12-pin (x1)
RET CTRL	6-pin (x1)
Tracker	10-pin (x1)
Crane	12-pin (x1)
Compatible devices	
3D multi-camera	HDC-P1
	HDC-1500R, HDC-1400R, HDC-2400, HDC-2500
	HDC-1500, HDC-2400, HDC-2500
Camera control unit	HDCU-1000*1, HDCU-1500*2, HDCU-2000, HDCU-2500
RGB 4:4:4 transmission (2D) camera	F35
Master Setup Unit	MSU-1000, MSU-1500
Remote Control Panel	RCP-1500, RCP-1501, RCP-1530
Supplied accessories	
	Operation manual (1), Cable clamp belt (1)
Optional accessories	
	HD Electronic Viewfinder HDVF-C550W (5-inch, color), HDVF-C730W (6.5-inch, color), HDVF-EL75 (7.4-inch, color) "Memory Stick Duo", "Memory Stick PRO Duo"

*1 An HKCU-HB10 3G Fiber Transmission Unit is required.

*2 An HKCU-HB15 3G Fiber Transmission Unit is required.

MSU-1000/MSU-1500 Specifications

	MSU-1000	MSU-1500
General		
Power requirements	AC 100 V to 240 V, 50/60 Hz	
Current consumption	0.35 A	
Operating temperature	41°F to 104°F (5°C to 40°C)	
Maximum cable length	656 feet (200 m)	
Weight	10 lb 2.3 oz (4.6 kg)	7 lb 15 oz (3.6 kg)
Dimensions (W x H x D)	19 x 2 3/4 x 8 3/4 inches (482 x 37 222 mm)	8 1/8 x 14 x 2 3/4 inches (204 x 354 x 37 mm)
Inputs/outputs		
Remote	CCU/CNU: 8-pin (x1) AUX: 8-pin (x1)	
I/O port	50-pin (x1)	
LAN	RJ-45 (x1)	
AC input	3-pin (x1)	
DC input	4-pin (x1)	

HDLA-1500/HDLA-1505/HDLA-1507 Specifications

	HDLA-1500	HDLA-1505	HDLA-1507
General			
Power requirement	AC 240 V (max. 1.2 A) / DC 180 V (max. 0.65 A), DC 12 V (max. 9 A)		
Operating temperature	-4°F to +113°F (-20°C to +45°C)		
Storage temperature	-4°F to +140°F (-20°C to +60°C)		
Weight	40 lb 13 oz (18.5 kg)	37 lb 11 oz (17.1 kg)	34 lb 2.7 oz (15.5 kg)
Input/output connector			
Lens	36-pin (x1)		–
DC input	XLR-4-pin (male) (x1), DC 10.5 to 17 V		
DC output	4-pin (x1), DC 10.5 to 17 V, max 1.5 A		
	XLR-4-pin (female) (x1), DC 10.5 to 17 V, max 5.0 A		
Viewfinder	D-sub 25-pin (x1)	–	D-sub 25-pin (x1)

SONY

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