

SONY®



HDC-1000R Series

Multi-format HD Camera System

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R
SERIES

Digital **HDVS**®

Sony HDC-1000R Series - A New Era of HD Production



Studio Camera



HDC-1000R
Optical-fiber interface
1080/50i, 59.94i
1080/23.98P, 24P, 25P, 29.97P
1080/50P*, 59.94P*
720/50P, 59.94P

Portable Camera



HDC-1550R
Triax interface
1080/50i, 59.94i
1080/23.98P, 24P, 25P, 29.97P
720/50P, 59.94P



HDC-1500R
Optical-fiber interface
1080/50i, 59.94i
1080/23.98P, 24P, 25P, 29.97P
1080/50P*, 59.94P*
720/50P, 59.94P



HDC-1450R
Triax interface
1080/59.94i (for 60 Hz countries)
720/59.94P (for 60 Hz countries)
1080/50i (for 50 Hz countries)
720/50P (for 50 Hz countries)

* 1080/59.94P and 1080/50P signals can be output only from the HDC-1000R/HDC-1500R camera head in a stand-alone configuration.

Since introducing its first model, Sony has continually enhanced its line of high-definition cameras in support of emerging DTV agendas around the world. Its flagship HDC-900 Series, introduced in 2000, has presented a comprehensive and cost-effective path into studio, OB van, and field-based HD productions, due to its multiple format capability, stunning picture performance, and system flexibility.

Pursuing the ultimate HD system for today and for tomorrow, Sony sets another milestone in the history of multi-format HD camera systems - the HDC-1000R Series - offering a broader choice of interlace and progressive formats, much better picture quality, and enhanced operational flexibility.

The HDC-1000R Series consists of five camera heads, two large lens adaptors, one large viewfinder adaptor, two CCUs (Camera Control Units), and a range of peripherals.

The cameras incorporate a newly developed CCD imager and DSP LSI - two key devices that allow them to achieve ultimate picture performance in a variety of scanning modes. The CCD used in this series of cameras can accommodate all existing interlace and progressive scan formats ranging from 1080/50i and 1080/59.94i to 1080/24P*. It can also capture stunning 1080/59.94P** and 1080/50P** images - as well as delivering the highest-possible quality 720/50P and 720/59.94P image creation*.

This camera series has a variety of optional peripherals to make installation and operation of an HDC-1000R system very smooth.

The HDLA-1500/HDLA-1505 Large Lens Adaptor incorporates a totally unique interlocking mechanism, which allows a large lens to be attached/detached from the portable camera in just a matter of seconds - relieving operators from lengthy mechanical adjustments.

The HDCU-1000/HDCU-1500 Camera Control Unit uses an optical fiber connection between the HDC-1000R/HDC-1400R/HDC-1500R camera for top-quality signal transmission and longer cable runs. In addition to a broad range of signal outputs, both CCUs come equipped with an Ethernet interface (10Base-T/100Base-TX) for control over a standard TCP/IP network. What's more, the HDC-1450R/HDC-1550R Triax-based Portable Camera, and the HDTX-100 and HDFS-100 Triax Adaptors which provide conversion between optical fiber and triax, allow systems to be configured around conventional triax-based infrastructures.

Another powerful option, the HDVF-EL100 OLED (Organic Light Emitting Diode) Viewfinder, has been recently introduced, providing an impressively high contrast, faithful color reproduction, and much more. With its innovative performance, operability, and system flexibility, Sony's HDC-1000R Series will certainly become the mainstream acquisition tool to open unlimited possibilities in a broad range of HD production applications.

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

** 1080/59.94P and 1080/50P signals can be output only from the HDC-1000R/HDC-1500R camera head in a stand-alone configuration.

Large Lens/Viewfinder Adaptor



HDC-1400R
Optical-fiber interface
1080/59.94i (for 60 Hz countries)
720/59.94P (for 60 Hz countries)
1080/50i (for 50 Hz countries)
720/50P (for 50 Hz countries)



HDLA-1500
(for HDVF-EL100/700A)



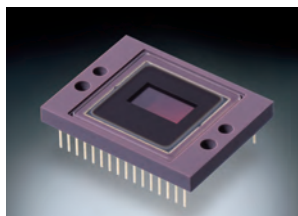
HDLA-1505
(for HDVF-C950W/C730W/550)



HDLA-1507
(for HDVF-EL100/700A)

Newly Developed Progressive CCD

At the heart of the outstanding picture performance of the HDC-1000R Series of cameras is a newly developed 2/3-inch type 2.2-megapixel full HD progressive CCD. Based on Sony's HAD sensor technology and the latest on-chip



lens structure, this CCD offers a high sensitivity of F10 or F11 at 2,000 lx and an excellent signal-to-noise ratio of 56 dB (typical). In addition to this performance, a wide variety of capturing modes including 1080/50i, 1080/59.94i, 1080/23.98P, 1080/24P, 1080/25P, and 1080/29.97P are available.

What's more, this CCD can capture top-quality 1080/59.94P* and 1080/50P* images - a capability that also offers the highest-possible quality 720/50P and 720/59.94P image acquisition**.

* 1080/59.94P and 1080/50P signals can be output only from the HDC-1000R/HDC-1500R camera head in a stand-alone configuration.

** The HDC-1400R/HDC-1450R supports 1080/59.94i and 720/59.94P formats for 60 Hz countries and 1080/50i and 720/50i for 50 Hz countries, respectively.

High-quality 14-bit A/D Conversion

The HDC-1000R Series of cameras incorporates a high-performance 14-bit A/D converter that enables images captured by the high-performance CCDs to be processed with maximum precision. In particular, this high-resolution A/D conversion allows the gradation in mid-to-dark-tone areas of the picture to be faithfully reproduced. Thanks to the 14-bit A/D converter, pre-knee signal compression at highlight areas can be eliminated and the camera can clearly reproduce a high-luminance subject at a 600% dynamic range.

State-of-the-art DSP LSI

The newly developed DSP (Digital Signal Processing) LSI is the heart of the image-processing device for the HDC-1000R Series of cameras.



By adopting the latest 0.11 μ m design rule, this processor can accommodate up to 1080/59.94 and 1080/50 progressive formats and 14-bit resolution, maximizing the high-clarity images captured by the CCD. In addition, white balance, white shading, and flare are digitally corrected, allowing for stable image correction. Moreover, newly incorporated function-Auto Lens Aberration Compensation can optimize lens performance to provide stunning picture quality.

Noise Suppression Function

The HDC-1000R Series of cameras has a "Noise Suppression" function, which reduces the high-frequency noise elements in video signals by using Sony's advanced digital signal processing technology.

Ergonomic Design

The design of the HDC-1000R Series of cameras is based on over two decades of Sony's experience in manufacturing broadcast video cameras and camcorders, and 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-1000R camera minimizes the parallax between the optical axis of the camera head and the large viewfinder, while the HDC-1400R/HDC-1450R/HDC-1500R/HDC-1550R's low-center-of-gravity design allows the operator to carry the camera comfortably on the shoulder. In addition, the shoulder pad of these cameras can be adjusted either forwards or backwards without using a screwdriver, so the camera can easily be moved to a well-balanced position.



Optical Fiber Digital Transmission (HDC-1000R/HDC-1400R/HDC-1500R)

The HDC-1000R/HDC-1400R/HDC-1500R camera comes equipped with an SMPTE standard optical fiber interface for connecting its associated HDCU-1000/HDCU-1500 Camera Control Unit.

In addition to its exceptional quality, the camera can transmit all-digital bi-directional video and audio signals, one control line, and a prompter line over extremely long distances _ up to 9843 feet (3000 meters)* with the HDCU-1000 and 5906 feet (1800 meters)* with the HDCU-1500.

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



Choice of Two Camera Control Systems

In a multi-camera configuration featuring the HDC-1000R Series, two types of camera control systems can be used. One is where the CNU-700 Camera Command Network Unit is at the center of the configuration, while the other makes use of the Ethernet functionality of the systems - a new and powerful feature that also provides a path to the future. Both control systems allow communication between all the devices in the configuration, including cameras, camera control units, remote controllers, and setup units.

Wide-band Triax Transmission (HDC-1550R/HDC-1450R)

The HDC-1450R/HDC-1550R camera comes equipped with a widely used triax transmission interface. This enables the camera to transmit bi-directional video and audio signals, and one control line to the HDCU-1000/HDCU-1500 Camera Control Unit via the HDFX-100 unit over long distances - up to 4593 feet (1400 meters)* with a \varnothing 14.5 mm triax cable or 3281 feet (1000 meters)* with a \varnothing 13.2 mm triax cable.

* When supplying power to the camera via the triax cable, the maximum cable length varies with the camera system configuration, the lens type, the size of the triax cable, and the number of cable connectors.

Focus Assist Functions

For easier focusing through the viewfinder, two types of focus assist functions are newly incorporated into the HDC-1000R Series: Viewfinder Detail and Focus Assist Indicator. To intuitively recognize a focusing point, users of the camera can add dedicated image-enhancing edge signals directly to the viewfinder as "Viewfinder Detail". The "Focus Assist Indicator" is a helpful tool for manual focus adjustments, especially when shooting wide-angle views. An indicator is displayed at the bottom or other positions of the viewfinder frame, enabling users to make more accurate and fine focus adjustments.

Compact and Lightweight

HDC-1550R/HDC-1500R/HDC-1400R cameras are designed to be very compact and lightweight for a high level of mobility in the field. The HDC-1400R/HDC-1500R and HDC-1450R/HDC-1550R cameras weigh approximately 9 lb 15 oz (4.5 kg) and 10 lb 13 oz (4.9 kg), respectively.

Servo-controlled ND and CC Filters

The HDC-1000R/HDC-1500R/HDC-1550R camera comes equipped with dual optical filters for ND (Neutral Density) and CC (Color Correction), while the HDC-1400R/HDC-1450R camera is equipped with a single optical filter for ND. The filters can be remotely controlled from an RCP Series Remote Control Panel, MSU-900/950 Master Setup Unit, or RM-B750/B150 Remote Control Unit, as well as locally controlled on the camera head.

Other Features

- Versatile output signal format
- Memory Stick® Storage of Camera Setup Parameters

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

Responding to the ever-increasing requirement of operations that combine a portable camera with a large lens, Sony is continuously seeking the optimum solution. The result is the highly sophisticated optional HDLA-1500 and HDLA-1505 Large Lens Adaptors, which are designed to maximize the operability of the HDC-1400R/HDC-1450R/HDC-1500R/HDC-1550R camera. Generally, setting up a portable camera to a large lens adaptor can be a difficult task, especially

fine-tuning the mechanical adjustments between each device.

With the HDLA-1500/HDLA-1505 Large Lens Adaptor, time-consuming adjustments, as well as wiring, are absolutely eliminated.

Another convenient optional peripheral for the portable cameras, the HDLA-1507 Large Viewfinder Adaptor, is also available, enabling a large viewfinder to be used with the cameras.



Docking 3

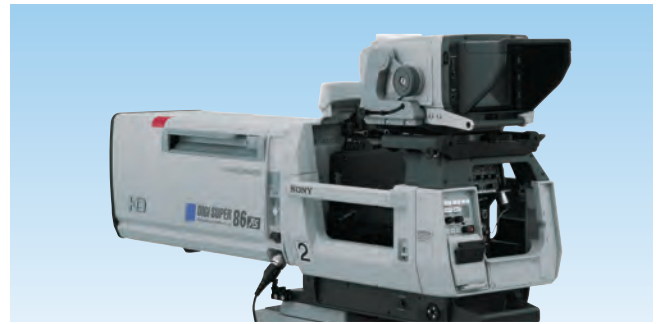
Close the rear cover. Turn the handle of the camera and then slide the viewfinder forward.



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 the locking click is heard.



HDLA-1500



HDLA-1505



HDLA-1507

Totally Unique Interlocking Mechanism

The HDLA-1500/HDLA-1505/HDLA-1507 optional adaptor does not require any cable wirings. Utilizing a newly developed interlocking mechanism, the power, video, and control signals are passed on directly from the portable cameras to the HDLA Series adaptor. This unique mechanism also allows the portable cameras to be attached and detached without removing the large lens. Furthermore, the lens can be removed even when the camera is mounted on the HDLA-1500/HDLA-1505 adaptor. The interlocking mechanism allows for an astonishingly quick and smooth setup.

Low-profile Design

Together with the low-profile design of the portable camera, the viewfinder position of the HDLA-1500 is 45 mm lower than the previous model. This low-profile design significantly improves the operator's view, as well as minimizes the parallax between the optical axis of the camera head and viewfinder.

Creative Versatility

Digital Extender*

The Digital Extender function of the HDC-1000R Series of cameras enables images at the center of the shot to be digitally doubled in size. Unlike lens extenders, the Digital Extender function performs this capability without any loss in image sensitivity, which is often referred to as the "F drop" phenomenon.

* Use of the digital extender function will reduce the resolution of the image by half.

Multi-matrix

The Multi-matrix function of the HDC-1000R Series of cameras allows color adjustments to be applied over the color range specified by the operator. The color spectrum is divided into 16 areas of adjustment, where the hue and/or saturation of each area can be modified. This function is especially useful when only the hue of certain colors needs to be adjusted for special-effects work.



Multi-matrix OFF



Multi-matrix ON

Triple Skin Tone Detail Correction

Skin Tone Detail Correction controls the detail level of those objects in a scene with specific color tones. The HDC-1000R Series of cameras allows detail to be set independently for each of three separate color ranges. These colors are not limited to skin tones, but can be set for any color. Detail may be increased or decreased relative to the normal level.



Skin Tone Detail OFF



Skin Tone Detail ON

Master White Gain

The Master White Gain function of the HDC-1000R Series of cameras enables stepless adjustment of gain levels.

This makes it possible to adjust the gain level more precisely compared to conventional stepwise adjustment.



Knee Saturation

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. The HDC-1000R Series of cameras adopts a Knee Saturation function, in which this "washed-out" effect on saturation and hue change is reduced to a minimum, and far more natural color reproduction in highlight areas is achieved.



Knee Saturation OFF



Knee Saturation ON

Low-key Saturation

With conventional cameras, low light areas can be subject to a reduction in saturation. This can result in colors in those areas being "washed-out". The Low-key Saturation function on the HDC-1000R Series of cameras eliminates this problem by optimizing the amplification of color saturation at low light levels, providing more natural color reproduction.



Low-key Saturation OFF



Low-key Saturation ON

Selectable Gamma Table

The selectable gamma table provided with the HDC-1000R Series of cameras allows users to create a specific look for a picture by selecting from a choice of fixed gamma patterns.

Variable Black Gamma

The Variable Black Gamma function for the HDC-1000R Series of cameras allows for fine adjustment of tonal reproduction in the shadow area. This feature can help to bring out details from the dark parts of the picture without affecting mid-tones while maintaining the absolute black level.



Standard Video Gamma



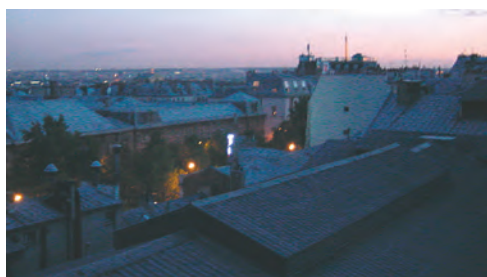
Variable Black Gamma ON

Enhanced Gamma Features

In addition to artistic and skillful lighting, in-camera gamma setting plays an important role in dealing with contrast range and giving a specific “look” to an image. In order to meet a broad array of customer demands, the HDC-1000R Series of cameras offers the following flexible gamma options to faithfully reproduce the desired “look” of an image.

HyperGamma

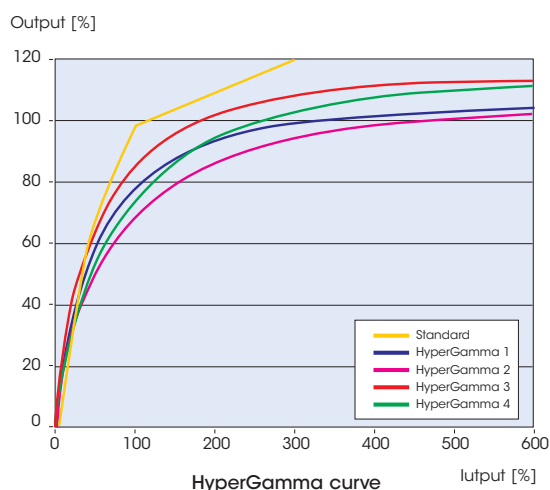
HyperGamma is a set of new transfer functions designed to provide powerful contrast handling by making maximum use of the capacity and wide dynamic range of the Power HAD™ CCD sensor. These functions are quickly accessed via the set-up menu, and camera operators can select one curve from a choice of four that best suits their needs and conditions. For example, they can select to enhance natural reproduction in low-key areas, to achieve greater flexibility in wide dynamic scenes, and more.



Low Light Condition



High Contrast Scene



User Gamma*

User Gamma is another useful gamma feature, which allows for the creation of customized gamma curves. Users can edit gamma curves using the CVP File Editor** gamma creation software running on a Microsoft® Windows® PC, and then quickly load them onto the HDC-1000R Series of cameras via a Memory Stick media card. 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.

* Optional HZC-UG444 software is required.

** Available via Sony's download site.

Versatile Optional System Peripherals

The HDC-1000R Series of cameras is compatible with a variety of optional peripherals including camera control units, remote controllers, command network units, and master setup units. This allows operators to flexibly configure the system according to their needs

HDCU-1000 Full-size Camera Control Unit HDCU-1500 Half-rack-size Camera Control Unit

The HDC-1000R Series of cameras can be configured with two types of camera control units - the full-size HDCU-1000 and half-rack-size HDCU-1500. The optical fiber transmission system used in these units maintains the high picture quality of the camera across cable runs of up to 9843 feet (3000 meters)* with the HDCU-1000 and up to 5906 feet (1800 meters)* with the HDCU-1500. Both models are equipped with a range of built-in interfaces such as HD-SDI/SD-SDI outputs, HD-SDI/SDSDI/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 four slots on the HDCU-1000 and two slots on the HDCU-1500. Furthermore, the Ethernet interface (10Base-T/100Base-TX) that is built into both CCUs allows the camera to be controlled over a network.

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

Three types of interface expansion option are available for both CCUs.

- 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.

both in the studio and out in the field. Optional triax adaptors are available for the HDC-1000R/HDC-1400R/HDC-1500R optical fiber-based camera to enable triax-based operation.

- The HKCU-1003 Multi Interface Unit consists of three types of interface board 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-1005 HD/SD Output Expansion Unit provides four HD-SDI or SD-SDI outputs



HDCU-1000

HDCU-1000

- Eight HD-SDI or SD-SDI outputs
- Up to eight additional HD-SDI or SD-SDI outputs (with two optional HKCU-1005 boards)
- Four sets of HD-SDI, SD-SDI, and analog composite return video inputs
- Two-channel teleprompter inputs
- Built-in Ethernet 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-1000R camera or HDC-1400R/HDC-1450R/HDC-1500R/HDC-1550R with HDLA-1500/HDLA-1505/HDLA-1507 operation



HDCU-1000 Rear Panel

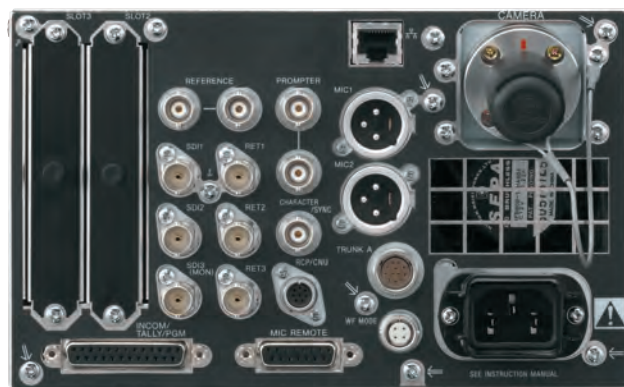
Versatile Optional System Peripherals

HDCU-1500

- High power supply allowing HDC-1000R Series cameras to operate with HDLA-1500/HDLA-1505/HDLA-1507
- Three HD-SDI or SD-SDI outputs
- Up to eight additional HD-SDI or SD-SDI outputs (requires two optional HKCU-1005 boards)
- Three HD-SDI, SD-SDI, or analog composite return video inputs
- RM-B750 Remote Control Unit attachment capability on the front panel
- One-channel teleprompter input
- Built-in Ethernet 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-1500



HDCU-1500 Rear Panel



HKCU-1001
SD Analog Interface Unit



HKCU-1003
Multi Interface Unit



HKCU-1005
HD-SDI/SD-SDI Expansion Unit

RM-B750 Remote Control Unit

The RM-B750 Remote Control Unit has been designed to offer a highly mobile and fully controllable camera system in the field. The RM-B750 can be connected directly to the HDC-1000R Series of cameras or attached to the half-rack-size HDCU-1500 Camera Control Unit. The combination of an LCD touch-panel screen and direct push buttons enables full parameter adjustment of the camera to be controlled. For further operational convenience, the RM-B750 has a Memory Stick media card slot so that various setup parameters can be stored and recalled.



RM-B750



The RM-B750 attached to the HDCU-1500

MSU-900/950 Master Setup Unit

The MSU-900/950 Master Setup Unit is a central control panel used for the adjustment of camera parameters in a multi-camera system. The MSU-900/950 unit is connected to each camera control unit in the system via the CNU-700 Command Network Unit or an Ethernet network hub.

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

* Viewable area, measured diagonally



MSU-900



MSU-950

RCP Series Remote Control Panel

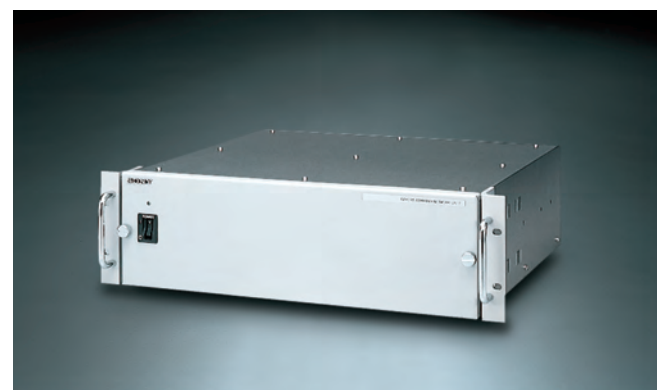
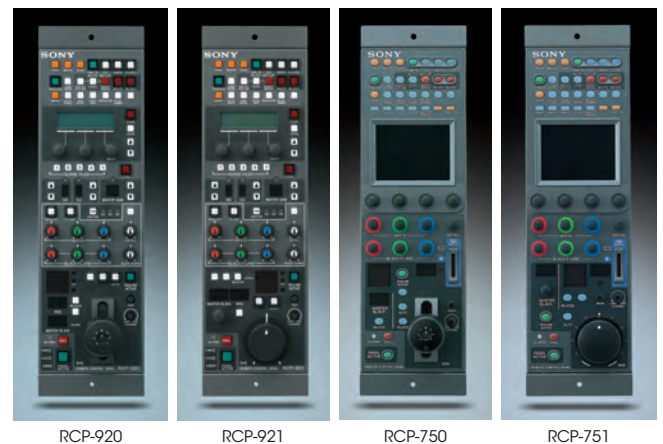
Four types of Remote Control Panel - the RCP-750, RCP-751, RCP-920, and RCP-921 - are available, providing a wide range of camera parameter controls. The RCP-750/751 offers in-depth menu-based controls, while the RCP-920/921 allows direct and quick control of various parameters using dedicated buttons on the panel.

CNU-700 Camera Command Network Unit

The CNU-700 Camera Command Network Unit allows communication between all the units in the system, and provides the ability to assign CCUs, MSUs, RCPs, and HDC-1000R Series camera heads. A RISC-based microprocessor system provides high-speed transfer of command signals to the HDCU-1000/HDCU-1500 Camera Control Unit for rapid response and reliable control. One CNU-700 unit can control six cameras, but 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 S-BUS interface*.

* Requires an optional BKP-7933 S-BUS Interface Board



CNU-700

Versatile Optional System Peripherals

HDTX-100 HD Triax Adaptor (Camera side) HDFX-100 HD Triax Adaptor (HDCU side)

The HDTX-100 and HDFX-100 HD Triax Adaptors are available to convert optical fiber transmission to the widely used triax transmission. The HDTX-100 adaptor is used with the HDC-1000R/HDC-1400R/HDC-1500R camera* to convert their camera output to triax, while the HDFX-100 adaptor is used with the HDCU-1000/HDCU-1500 camera control unit to receive triax signals from the camera side.

The triax-based system enables high-quality pictures to be transmitted from the cameras over long distances - up to 4593 feet (1400 meters)** with a $\varnothing 14.5$ mm triax cable or 3281 feet (1000 meters)** with a $\varnothing 13.2$ mm triax cable. In addition, the HDTX-100 adaptor enables hybrid triax and optical fiber operation. In this case, longer cable runs of more than 6562 feet (2000 meters)** can be achieved with the HDC-1400R/HDC-1500R portable camera that is equipped with a portable lens and a small viewfinder.

* The HDC-1450R/HDC-1550R does not require the HDTX-100 unit because it is equipped with a triax output as standard.

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

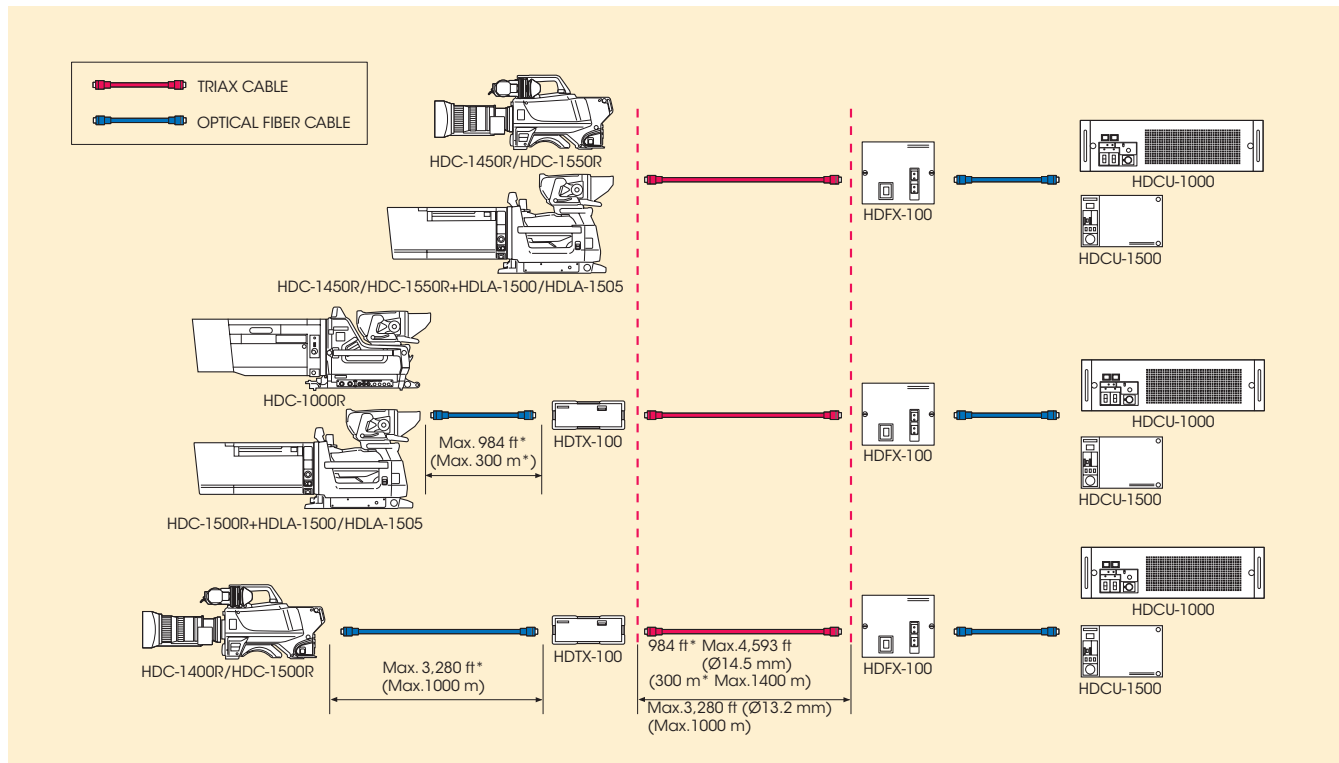


HDTX-100



HDFX-100

Triax and Optical Fiber Operation



* This distance may be reduced depending on the type of viewfinder and lens, such as high-power-consumption lens.

HDVF-EL100 OLED

(Organic Light Emitting Diode) Viewfinder

The HDVF-EL100 is a new type of color viewfinder, which uses a newly developed OLED (Organic Light Emitting Diode) display that 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, a fast response time, and a wide viewing angle, which helps users to easily adjust the focus.

Thanks to the OLED display's thin size, the HDVF-EL100 viewfinder is designed with a unique mechanism for camera mounting. This allows highly flexible viewing positions - from high to low and front to back. The OLED viewfinder can even be positioned on the axis of the lens, just posterior to the camera.



Back position



Center position



Front position

HKC-T1500 CCD Block Extension Adaptor

The HKC-T1500 CCD Block Extension Adaptor is a unique accessory for HDC-1400R/HDC-1450R/HDC-1500R/HDC-1550R portable cameras. It allows the CCD block to be extended from the camera body by up to 41 feet (12.5 meters) (up to 164 feet (50 meters) 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.



HKC-T1500 connected to the HDC-1500R

Optional Accessories



HDLA-1500
Large Lens Adaptor
(for attachment of
the HDVF-EL100/700A)



HDLA-1505
Large Lens Adaptor
(for attachment of
the HDVF-C950W/C730W/550)



HDLA-1507
Large Viewfinder Adaptor
(for attachment of
the HDVF-EL100/700A)



RM-B150
Remote Control Unit



RM-B750
Remote Control Unit



RCP-920/921
Remote Control Panel
(Photo shows RCP-920)



RCP-700/701
Remote Control Panel
(Photo shows RCP-700)



RCP-750/751
Remote Control Panel
(Photo shows RCP-750)



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



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



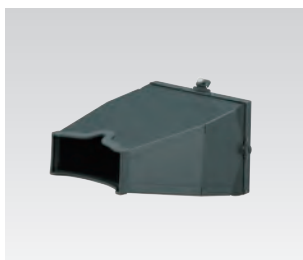
HDVF-C35W
3.5-inch* LCD Color Viewfinder



HDVF-C30WR
2.7-inch* LCD Color Viewfinder



HDVF-C950W
9.0-inch* LCD Color Viewfinder



VFH-990
Outdoor Hood for HDVF-C950W



HDVF-C730W
6.3-inch* LCD Color Viewfinder



HDVF-700A
7.0-inch CRT B/W Viewfinder

* Viewable area measured diagonally



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



VFH-550
Outdoor Hood for
HDVF-700A/C730W



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



HDVF-EL100
11-inch* OLED Color Viewfinderr



BKW-401
Viewfinder Rotation Bracket



BKP-7911
Script Holder



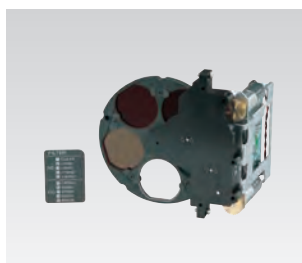
CAC-6
Return Video Selector



CAC-12
Mic Holder



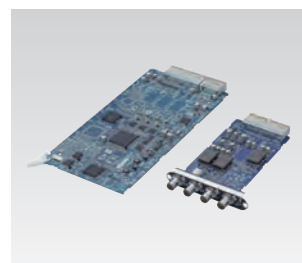
VCT-14
Tripod Adaptor



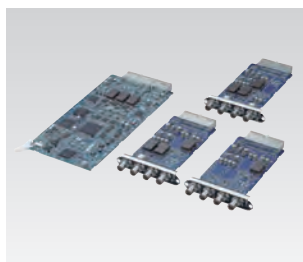
HKC-DF14
Dual-filter Unit for
HDC-1400R/HDC-1450R



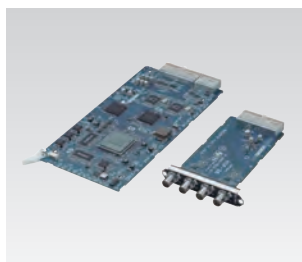
HKC-T1500
HD CCD Block Adaptor



HKCU-1001
SD Analog Interface Unit
(for HDCU-1000/1500)



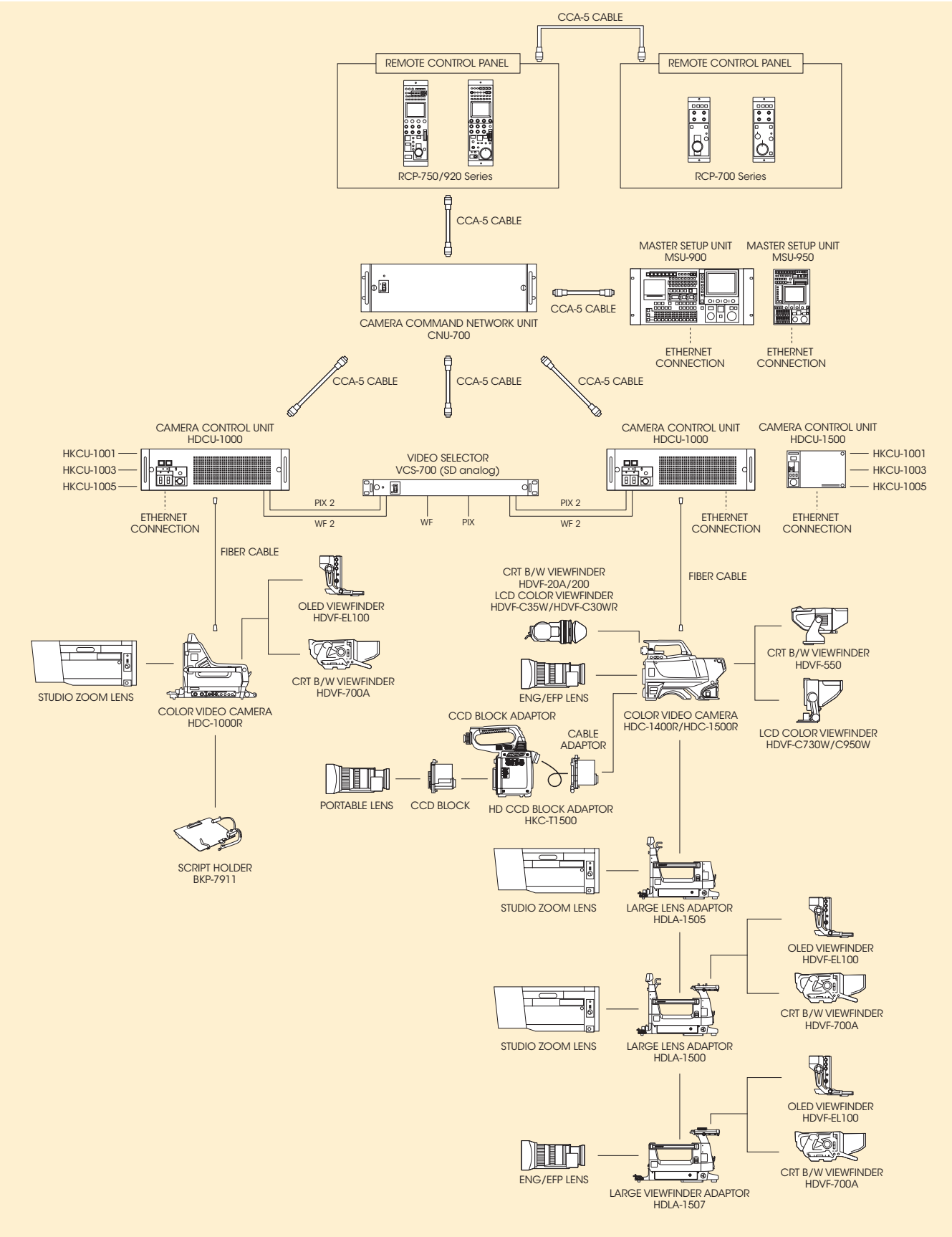
HKCU-1003
Multi Interface Unit
(for HDCU-1000/1500)



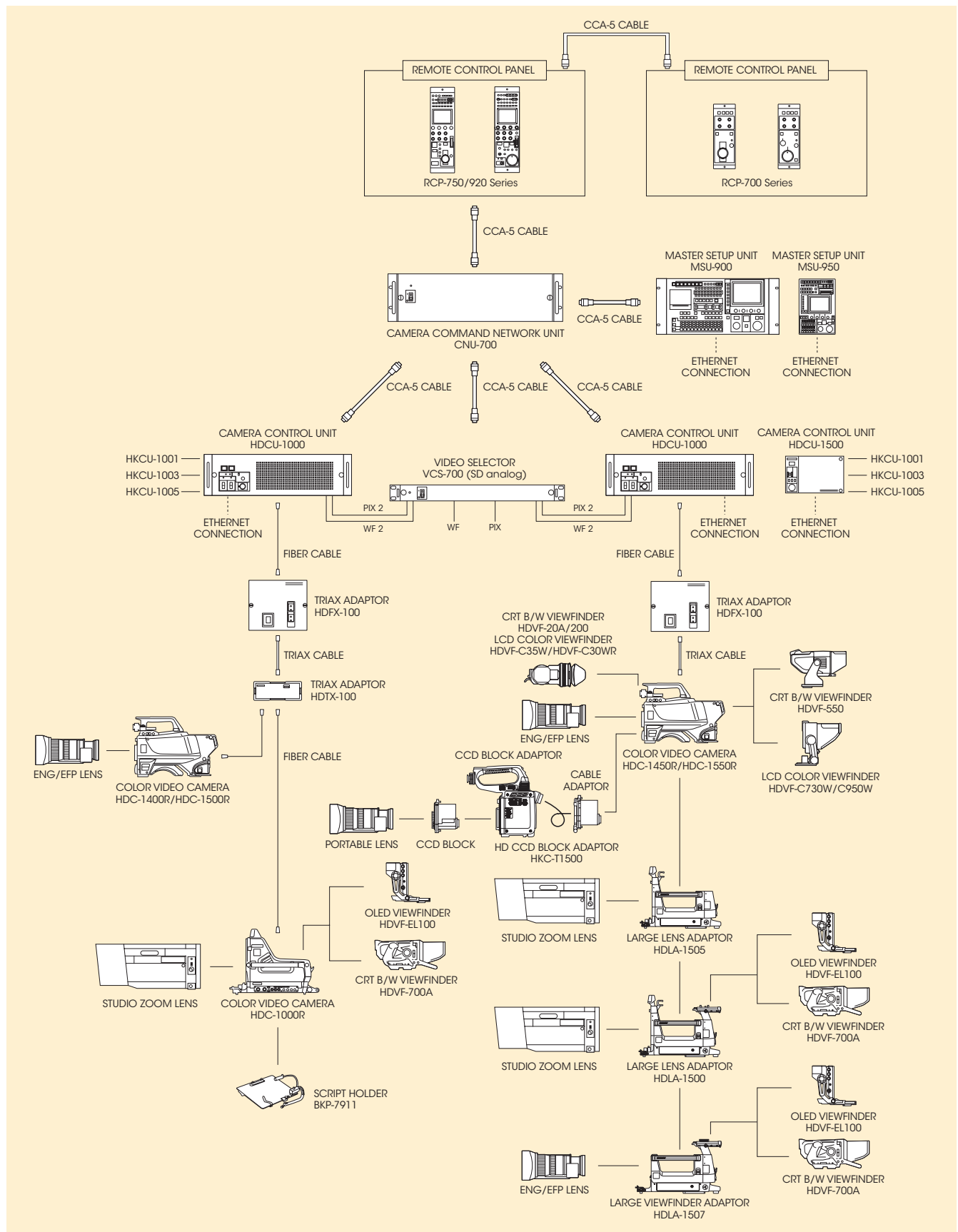
HKCU-1005
HD-SDI/SD-SDI Expansion Unit
(for HDCU-1000/1500)

* Viewable area measured diagonally

System Configuration for Optical Fiber Operation



System Configuration for Triax Operation



Specifications

HDC-1000R/1400R/1450R/1500R/1550R Specifications

| | | HDC-1000R | HDC-1400R | HDC-1450R | HDC-1500R | HDC-1550R |
|--|----|--|--|--|--|--|
| General | | | | | | |
| Power requirements | | 240 V AC, 1.7 A (max.), 180 V DC, 0.9 A (max.), 12 V DC, 10 A (max.) | 240 V AC, 1.4 A (max.), 180 V DC, 1.0 A (max.), 12 V DC, 7 A (max.) | 180 V DC, 1.0 A (max.), 12 V DC, 7 A (max.) | 240 V AC, 1.4 A (max.), 180 V DC, 1.0 A (max.), 12 V DC, 7 A (max.) | 180 V DC, 1.0 A (max.), 12 V DC, 7 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 5 oz (21 kg) | 9 lb 15 oz (4.5 kg) | 10 lb 13 oz (4.9 kg) | 9 lb 15 oz (4.5 kg) | 10 lb 13 oz (4.9 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 | 1080/59.94i, 720/59.94P (for 60-Hz countries) 1080/50i, 720/50P (for 50-Hz countries) | | 1080/50i, 59.94i, 23.98P, 24P, 25P, 29.97P 1080/50P*, 59.94P* 720/50P, 59.94P | 1080/50i, 59.94i, 23.98P, 24P, 25P, 29.97P 720/50P, 59.94P |
| Spectrum system | | F1.4 prism system | | | | |
| Lens mount | | Sony hanger mount | Sony bayonet mount | | | |
| Built-in filters | CC | A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K | Electrical** | | 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) | | F1.0 (1080/59.94i), F1.1 (1080/50i) | | | | |
| Signal-to-noise ratio (1080i, typical) | | 56 dB/64 dB (w/NS max.) | | | | |
| Horizontal resolution (1080i) | | 1000 TV lines (at center) | | | | |
| Shutter speed selection | | 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) | 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (for 1080/59.94i, 60-Hz countries) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (for 1080/50i, 50-Hz countries) | | 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 (1080i, typical) | | Y: 45% 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) (1), mic or line selectable mic or line selectable | | | | |
| Audio input (CH2) | | XLR-3-pin (female) (1), AES/EBU or mic or line selectable | | XLR-3-pin (female) (1), AES/EBU or mic or line selectable | XLR-3-pin (female) (1), mic or line selectable | |
| Mic 1 input | | — | XLR-3-pin (female) (1) | | | |
| Return control input | | 6-pin (1) | | | | |
| Prompter output/Genlock input/Return input | | — | BNC type (1), 1.0 Vp-p, 75 Ω | | | |
| Prompter 1 | | BNC type (1), 1.0 Vp-p, 75 Ω | | — | | |
| Prompter 2 | | BNC type (1), 1.0 Vp-p, 75 Ω | | — | | BNC type (1), 1.0 Vp-p, 75 Ω |
| DC input | | XLR-4-pin (1), 10.5 to 17 V DC | | | | |
| DC output | | 4-pin (1), 10.5 to 17.5 V DC, 500 mA (max.) | | | | |
| Test output | | BNC type (1), 1.0 Vp-p, 75 Ω | | | | |
| SDI 1 output (with embedded audio) | | BNC type (1) HD-SDI | | — | | BNC type (1) HD-SDI |
| SDI 2 output (with embedded audio) | | BNC type (1) HD-SDI or SD-SDI selectable | | — | | BNC type (1) HD-SDI or SD-SDI selectable |
| SDI output (with embedded audio) | | — | | BNC type (1) HD-SDI or SD-SDI selectable | | — |
| | | BNC type (1) HD-SDI or SD-SDI selectable | | | | |
| Earphone output | | — | | | | |
| CCU | | Electro-optical connector (1) | | — | | Electro-optical connector (1) |
| HDCU/HDFX | | — | | Triax connector (1) | | — |
| Tracker | | 10-pin (1) | | | | |
| Crane | | 12-pin (1) | | | | |
| Intercom 1 | | XLR-5-pin (female) (1) | | | | |
| Intercom 2 | | XLR-5-pin (female) (1) | | | | |
| Remote | | 8-pin (1) | | | | |
| Lens | | 36-pin (1) | | 12-pin (1) | | |
| Viewfinder | | D-sub 25-pin (1) | | 20-pin (1) | | |
| Supplied accessories | | | | | | |
| | | 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) | | Operation manual (1), Switch label 1, 2 (1 each), Cable clamp belt (1 set) | | |

* 1080/59.94P and 1080/50P signals can be output only from the HDC-1000R/HDC-1500R camera head in a stand-alone configuration.

** CC optical filters are available with optional HKC-DF14

MSU-900/950 Specifications

| | MSU-900 | MSU-950 |
|------------------------|---|---|
| General | | |
| Power requirements | 100 to 240 V AC, 50/60 Hz | |
| Current consumption | 0.35 A | |
| Operating temperature | +41 to +104 °F (+5 to +40 °C) | |
| Maximum cable length | 656 feet (200 m) | |
| Weight | 9 lb 14 oz (4.5 kg) | 8 lb 2 oz (3.7 kg) |
| Dimensions (W x H x D) | 19 x 2 3/4 x 8 3/4 inches (482 x 67 x 222 mm) | 8 1/8 x 14 x 2 3/4 inches (204 x 354 x 67 mm) |
| Inputs/outputs | | |
| Remote | CCU/CNU: 8-pin (1) AUX: 8-pin (1) | |
| I/O port | 50-pin (1) | |
| Ethernet | 6-pin (1) | |
| AC input | 3-pin (1) | |

HDLA-1500/1505/1507 Specifications

| | HDLA-1500 | HDLA-1505 | HDLA-1507 |
|-------------------------------|---|-----------------------|----------------------|
| General | | | |
| Power requirement | 240 V AC (max. 1.2 A)/180 V DC (max. 0.65 A), 12 V DC (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 3 oz (15.5 kg) |
| Input/output connector | | | |
| Lens | 36-pin | | – |
| DC IN | XLR-4-pin (male) (1), 10.5 to 17 V DC | | |
| DC OUT | 4-pin (1), 10.5 to 17 V DC, max 1.5 A XLR-4-pin (female) (1), 10.5 to 17 V DC, max 5.0 A | | |
| VF | D-sub 25-pin (1) | – | D-sub 25-pin (1) |

HDCU-1000/1500 Specifications

| | HDCU-1000 | HDCU-1500 |
|--------------------------------|---|--|
| General | | |
| Power supply | 100 V or 120 V or 220 to 240 V AC, 50/60 Hz | 100 to 240 V AC, 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 | 32 lb 10 oz (14.8 kg) | 14 lb 5 oz (6.5 kg) |
| Input/output connectors | | |
| Camera | Optical fiber connector (1), 1.485/1.4835 Gb/s Serial Digital x2, 240 V AC power supply | Optical fiber connector (1), 1.485/1.4835 Gb/s Serial Digital x2, 180 V AC power supply |
| Intercom/Tally/PGM | D-sub 25-pin (1) INCOM (PD/ENG): 4W/RTS/CC, 0 dB PGM: 2 systems, 0/-20 dB TALLY (R, G) | |
| RCP/CNU | 8-pin (1) | |
| Trunk A | 12-pin (1) | |
| Trunk line | D-sub 9-pin (female) (1), RS-232C/422 | – |
| Ethernet | RJ-45 (1), 10Base-T/100Base-TX | |
| I/O port | D-sub 15-pin (female) (1) | – |
| Input connectors | | |
| AC input | (1), 100, 110 to 120, 220 to 240 V AC | (1), 100 to 240 V AC |
| Return input | BNC type (4), HD-SDI: SMPTE 292M, 1.485/1.4835 Gb/s BNC type (4), SD-SDI: SMPTE 259M, 270 Mb/s VBS: 1.0 Vp-p, 75 Ω | BNC type (3), HD-SDI/SD-SDI/VBS selectable VBS: 1.0 Vp-p, 75 Ω HD-SDI: SMPTE 292M, 1.485/1.4835 Gb/s SD-SDI: SMPTE 259M, 270 Mb/s |
| Reference input | BNC type (2), 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 type (4), loop-through output (2-ch), analog signal, 1.0 Vp-p, 75 Ω | BNC type (2), loop-through output (2-ch), analog signal, 1.0 Vp-p, 75 Ω |
| Mic remote | D-sub 15-pin (1) | |
| Output connectors | | |
| Mic output | XLR-3-pin (male) (2), 0/-20 dBs | |
| AES/EBU | BNC type (1) | – |
| Character output | BNC type (1), VBS, 1.0 Vp-p, 75 Ω, character ON/OFF selectable | – |
| Character/Sync output | – | BNC type (1), 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 |
| WF remote | D-sub 15-pin (female) (1) | – |
| HD-SDI/SD-SDI output | BNC type (4), HD-SDI/SD-SDI selectable HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s | BNC type (2), HD-SDI/SD-SDI selectable HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s |
| HD-SDI/SD-SDI monitor output | BNC type (4), HD-SDI/SD-SDI, and character ON/OFF selectable HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s | BNC type (1), HD-SDI/SD-SDI, and character ON/OFF selectable HD-SDI: SMPTE 292M, 0.8 Vp-p, 75 Ω, 1.485/1.4835 Gb/s SD-SDI: SMPTE 259M, 0.8 Vp-p, 75 Ω, 270 Mb/s |
| Sync out | BNC type (1), 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 mode | 4-pin (2) | |

Optional input/output boards

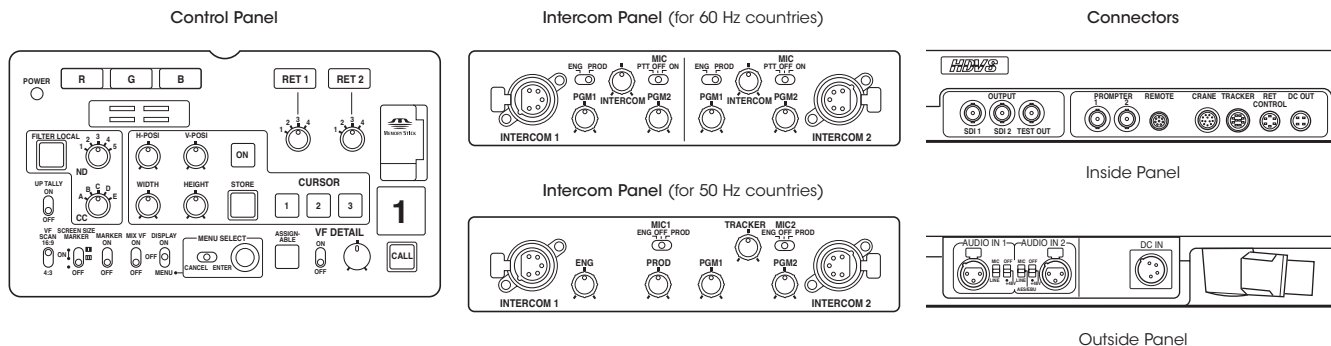
| | |
|---|--|
| HKCU-1001 SD Analog Interface Unit | |
| VBS output | BNC type (2) |
| Analog composite monitor output | BNC type: WF (1), PIX (1) |
| HKCU-1003 Multi Interface Unit | |
| VDA-A board: VBS I/F | |
| VBS output | BNC type (2) |
| Analog composite monitor output | BNC type: WF (1), PIX (1) |
| VDA-B board: Frame rate I/F | |
| Frame reference input/output | BNC type (1, loop-through), full pull-down sequence lock |
| Analog composite monitor output | BNC type: WF (1), PIX (1) |
| VDA-C board: Sub I/F | |
| VBS output | BNC type (1) |
| Analog component output | BNC type (3), R/G/B or Y/R-Y/B-Y selectable |
| HKCU-1005 HD/SD Expansion Unit | |
| HD SDI/SD SDI output | BNC type (2) |
| HD SDI/SD SDI monitor output | BNC type (2), character on/off selectable |

HKC-T1500 Specifications

| | |
|-------------------------------------|---|
| General | |
| Power requirements for camera input | 13.5 to 17.0 V DC |
| Operating temperature | -4 °F to +113 °F (-20 °C to +45 °C) |
| Operating humidity | 10% to 90% (no condensation) |
| Weight | Cable adapter: approx. 1 lb 2 oz (0.5 kg) CCD block adapter: approx. 4 lb 3 oz (1.9 kg) (with CCD block) |
| CCD block adaptor I/F | |
| Camera cable | 55-pin multicore cable connector (male) |
| MIC IN | XLR-3-pin (female) (1) |
| LENS | 12-pin (1) |
| VF | 20-pin (1) |
| Intercom | XLR-5-pin (female) (1) |
| Cable adaptor I/F | |
| Camera cable | 55-pin multicore cable connector (female) |
| MIC OUT | XLR-3-pin (male) (1) |
| VF | 20-pin (1) |
| INCOM | XLR-5-pin (male) (1) |

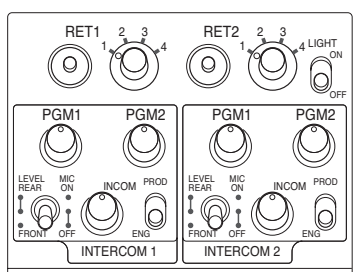
Control/Intercom Panels and Connectors

HDC-1000R

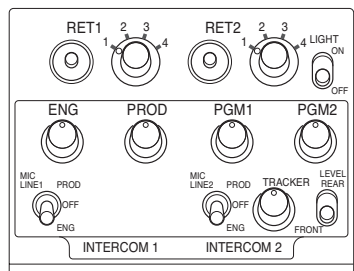


HDC-1550R/HDC-1500R/HDC-1450R/HDC-1400R

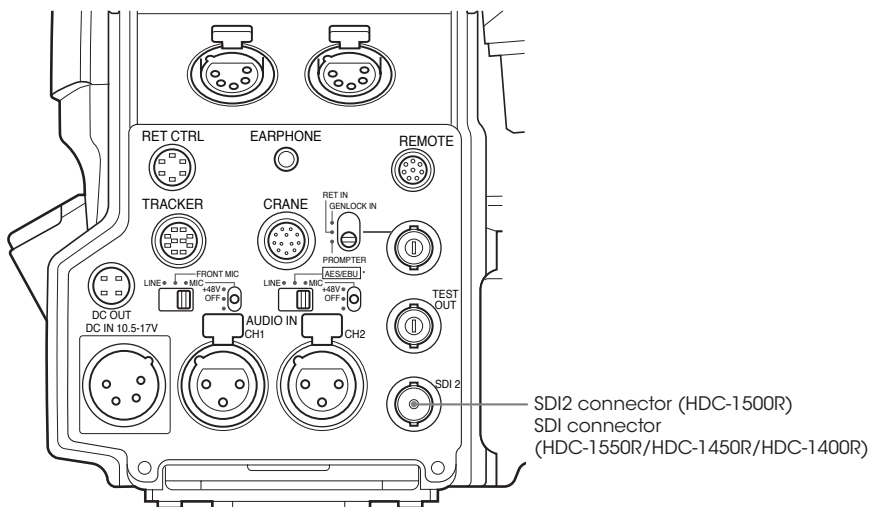
Control/Intercom Panel (for 60 Hz countries)



Control/Intercom Panel (for 50 Hz countries)

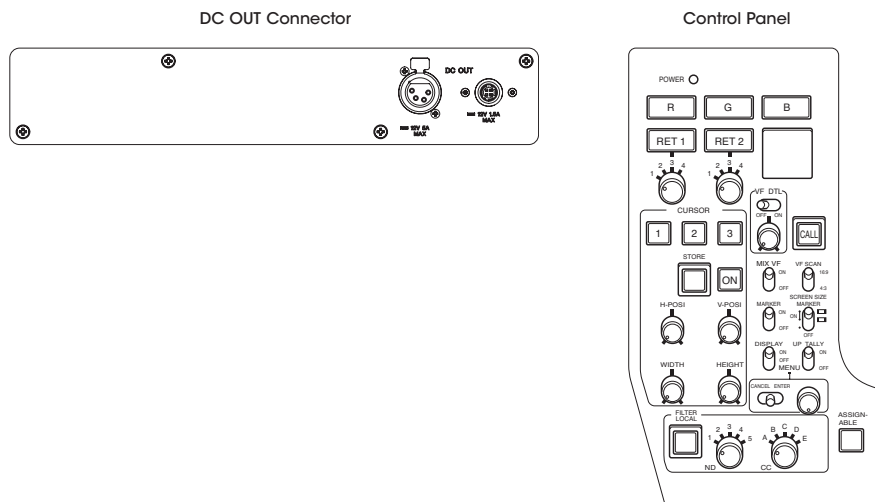


Connectors



* AES/EBU (HDC-1500R/HDC-1400R only):
When a digital audio signal is connected, the signal must be in synchronization with the camera output.
The corresponding position on the HDC-1550R/HDC-1450R is invalid (NC).

HDLA-1500/1505/1507



SONY[®]

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Printed in USA (3/09)