Discover the next level in live production shooting

4K

HDC-4300
No compromise
4K/HD live productions

Giving you total control of your content

Flexibility to build the system that works for you

The HDC-4300 system camera with real 4K imagers seamlessly integrates with HD infrastructures and accessories, and the world's most advanced 4K live production workflows. Software option upgrades for amazing 8x HD super slow motion[*1] and to add 4K image capture[*2] to standard HD outputs give you great flexibility to create the live production system you need. Both permanent and pay-per-use software options are available.

*1 SZC-4002 software option increases standard 3x HD super slow motion to 4x, 6x and 8x HD super slow motion.
*2 SZC-4001 software option enables 4K capture.

HDC-4300

Three 2/3-inch 4K imagers bring new capabilities to live sports and multi-camera productions

World's first three 2/3-inch 4K imagers for 4K and HD multi-platform output

The HDC-4300 delivers superb 4K images thanks to its three 2/3-inch 4K imagers with Sony's latest designed optical system, supporting ITU-R BT.2020*1 and providing a wide color gamut. The HDC-4300 delivers true-to-life images that make the audience feel as if they are actually there.

*1 ITU-R BT.2020 is the specification of video format defined by ITU-R.
    The HDC-4300 does not cover it in full.

Direct installation of B4-mount lenses

Thanks to the 2/3-inch camera mount, the HDC-4300 works directly with B4 lenses. The B4-mount supports both HD and 4K lenses, allowing you to use B4-mount high power large lenses to capture sports scenes with a deep depth of field.

HD 8x super slow motion

The HDC-4300 captures 1920x1080 high definition images up to 3x super slow motion as standard and up to 8x super slow motion*[1] with an optional software upgrade. This provides an amazing maximum frame rate of 479.52 fps (60Hz) or 400 fps (50Hz), allowing you to create sensational super slow motion sequences of key moments in a game or event, offering audiences unprecedented views of subtle body movements, muscle actions and spray of sweat that could not be normally seen by viewers.

*1 SZC-4002 software option for 4x, 6x and 8x HD super slow motion.

Smooth and easy migration from HD to 4K

The HDC-4300 is designed to fit into the growing Sony 4K live production environment alongside the PMW-F55 and F65 live camera configurations. With an optional software upgrade*[2], the HDC-4300 enables 4K capture for multiple 4K and HD outputs, working directly with the BPU-4000 baseband processor unit and the HDCU-2000 or HDCU-2500 camera control units.

*2 SZC-4001 software option to enable 4K capture.

Seamless integration into Sony HD workflows

The HDC-4300 is part of Sony's acclaimed and widely adopted HDC Series family of live production solutions and benefits from direct compatibility with its wide range of accessories, including viewfinders, large lens adaptors, remote control panels and camera control units.

The HDC-4300 forms a new 4K live camera system in combination with the BPU-4000 baseband processor unit and the HDCU-2000 or HDCU-2500 camera control unit. This enables the camera to be controlled and powered through a standard SMPTE fiber cable. Real-time fine adjustment of image factors and other camera settings can also be controlled by Sony's RCP-1000 Series remote control panels or MSU-1000 Series master setup units.

By simply adding this system to an existing HDC-2000 Series camera system, you can achieve multi-source operation. HD signals from the HDC-2000 Series cameras and from the HDC-4300 can be adjusted to match colorimetry. With the 4K optional software*[1] for the HDC-4300, the camera system can process multiple outputs of HD and 4K. The camera system also works seamlessly with the PMW-F55 and F65 live camera configurations (PMW-F55, CA-4000*[2]; and F65, SKC-4065*[3], CA-4000).

As a next step, further key products in the 4K live production workflow include the PWS-4400 4K/HD multi-port AV storage unit, which enables HD and 4K recording and super slow motion capture and replay, the MVS-8000X and MVS-7000X multi-format switchers, capable of real-time 4K signal processing, and the BVM-X300 4K OLED master monitor and the PVM-X300 4K LCD picture monitor for the highest 4K monitoring performance.

With the latest technologies from Sony, you can choose a complete 4K live production solution, ideal for pure 4K live production, or you can be assured of a smooth and easy migration from HD to 4K production simply by extending the capabilities of existing HD systems. Both routes enable delivery of spectacular 4K imagery to audiences worldwide.

*1 SZC-4001 : 4K upgrade software
*2 CA-4000 : Camera system adaptor
*3 SKC-4065 : F65 adaptor

1 HDC-4300   2 BPU-4000   3 HDCU-2000

Superb 4K capability with wide dynamic range and wide color space
(with optional software, SZC-4001 for HDC-4300)

The HDC-4300 has the function of capturing 4K images. For the HDC-4300, Sony has brought together its leading-edge technologies and deep experience to design and build the world's first three 2/3-inch 4K imagers with ultra-precision alignment technology used to mount the chips to a newly developed prism. This new optical system supports the wide color gamut of ITU-R BT.2020[1], enabling more precise color reproduction in live broadcasts.

[1] ITU-R BT.2020 is the specification of video format defined by ITU-R. The HDC-4300 does not cover it in full.
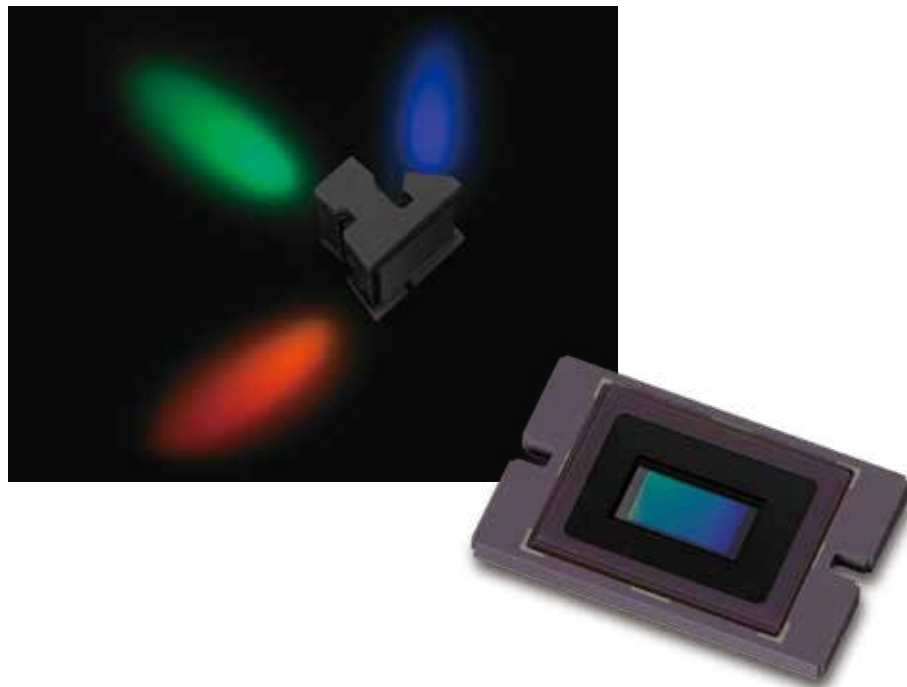
High-frame-rate HD capture for 8x super slow motion
(with optional software, SZC-4002 for BPU-4000)

The HDC-4300's real 4K imagers capture at four times the resolution of HD. In HD shooting, this can be used to achieve extreme high-speed image capture at a maximum of 479.52/400 fps with the optional software upgrade. Capture rates of 59.94/50, 119.88/100 and 179.82/150 fps are available as standard.
The full digital process is applied to each frame even at high-frame rates in the BPU-4000, producing the same quality in the images as one at the normal speed. Both the high-speed image and the normal-speed image can be adjusted by individual paint parameters.
Captured images can be recorded to the PWS-4400 4K/HD multi-port AV storage unit for super slow motion replay[2].

[2] Some third party manufacturer servers may also be used.
For 8x slow motion reply, the PWS-4400 system requires software upgrade V1.4.

Simulated image

HD cutout function for clear images
(with optional software, SZC-2001 for BPU-4000)

Sony's innovative software technology enables a full HD image to be cut out from a 4K picture in real-time. Two modes are available: you can select either Zoom & Perspective mode or Simple HD mode. Keeping the camera in a fixed position, any portion of the captured image can be cropped to provide a close-up HD image to viewers as if the camera had been panned. In Zoom & Perspective mode, one portion can be cut out while performing perspective transformation, according to the lens focal length. In Simple HD mode, two portions can be cut out at the same time. Sony's cut-outs and zooms give viewers a surprisingly clear image.

The cutout region can be controlled with a mouse or other devices connected to the controllers such as the CNA-1 camera control network adaptor. The cutout images and the 4K full-source image can be output simultaneously from the BPU-4000. The HD images down-converted from the 4K full-source image can be output from the BPU-4000 and the HDCU-2000/HDCU-2500. In addition, a wire frame indicating the cutout region can be displayed on the signal from the BPU-4000.
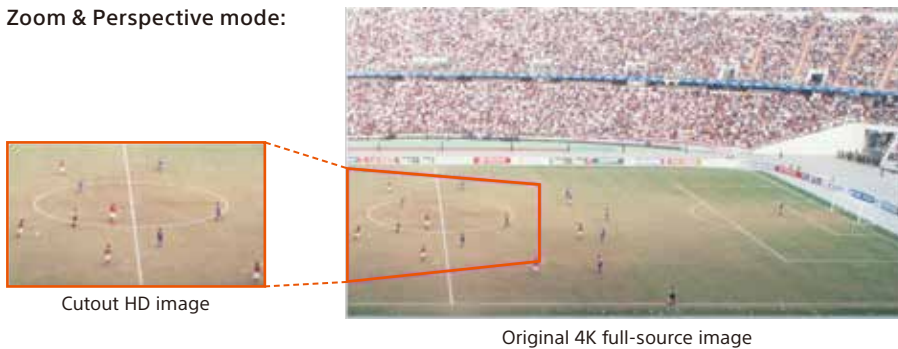
Picture adjustment functions of HDC Series cameras supported in the 4K live camera system

- Dynamic focus (4K focus-assist function):
  On the viewfinder, a focus point can be displayed with a marker when 4K resolution is obtained for easy focusing. This function is extremely useful when shooting 4K live programs.
- Auto lens aberration compensation 2 (ALAC2) function
- Color reproduction adjustment functions
- Gamma table selection
- User gamma function
- Natural skin-tone detail function
- Knee saturation function
- Low-key saturation function

Zoom & Perspective mode:

Cutout HD image

Original 4K full-source image

Simple HD mode:

Cutout HD image (1)

Original 4K full-source image

Cutout HD image (2)
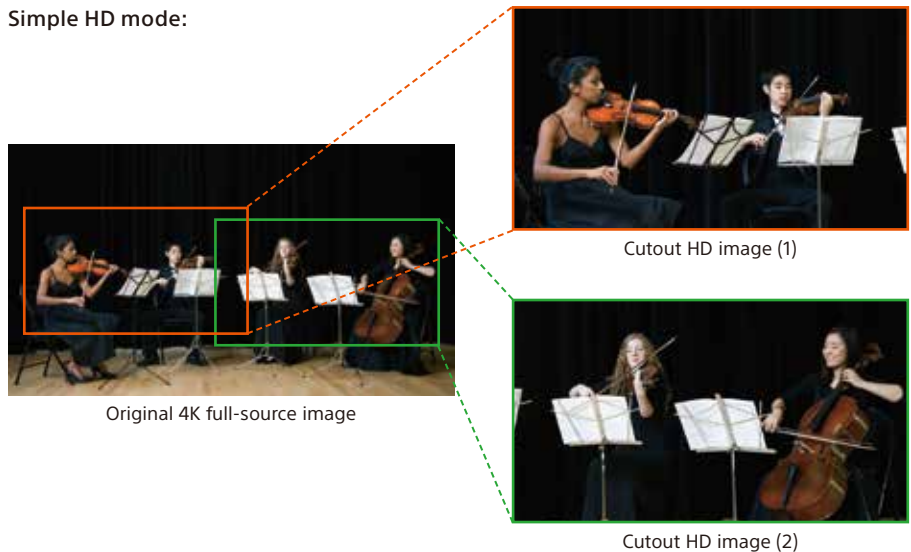
Simulated images

System Configuration Examples
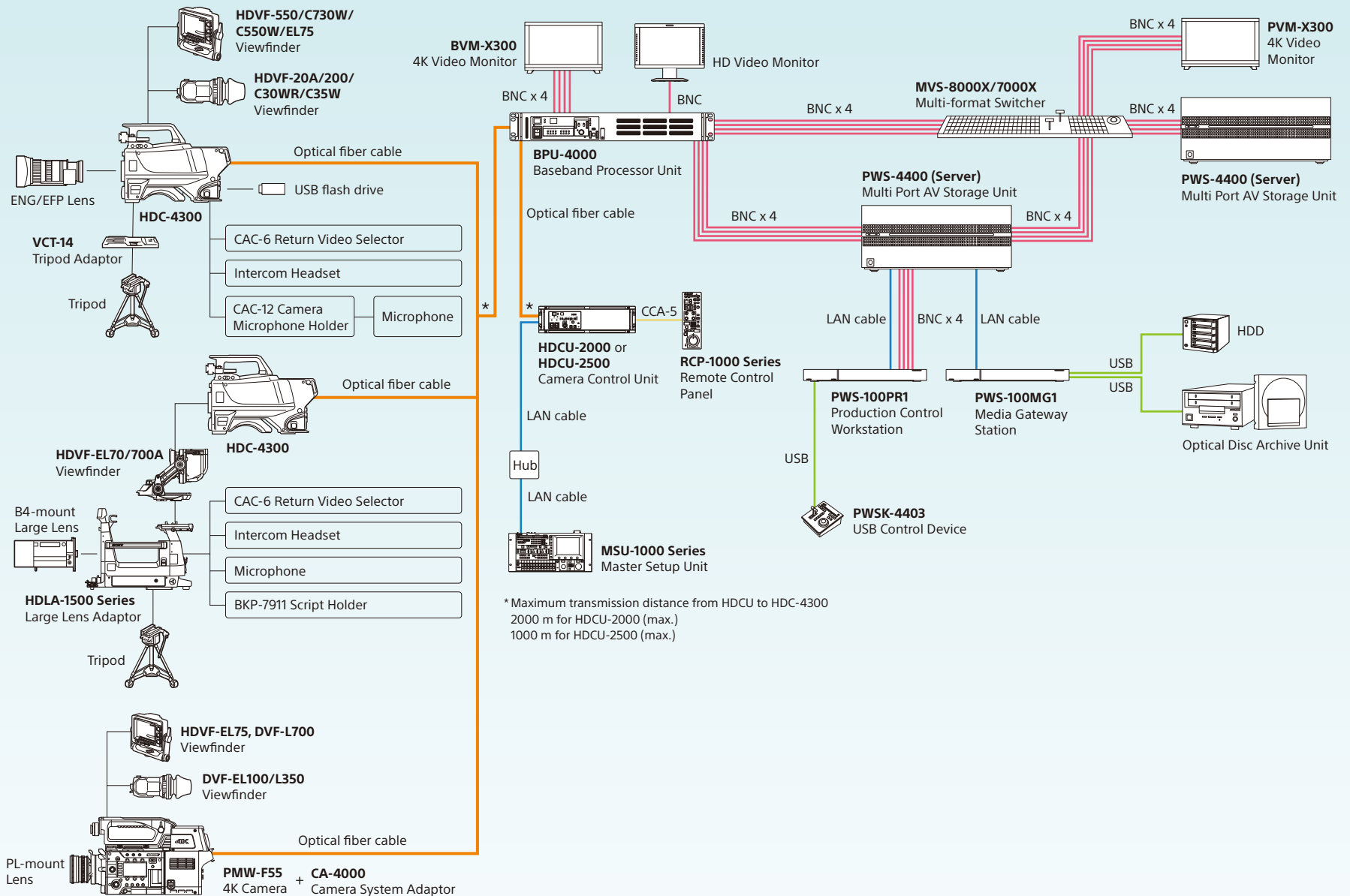
HDVF-550/C730W/C550W/EL75
Viewfinder

HDVF-20A/200/C30WR/C35W
Viewfinder

ENG/EFP Lens

HDC-4300

Optical fiber cable

USB flash drive

VCT-14
Tripod Adaptor

Tripod

CAC-6 Return Video Selector

Intercom Headset

CAC-12 Camera Microphone Holder | Microphone

HDVF-EL70/700A
Viewfinder

HDC-4300

Optical fiber cable

B4-mount Large Lens

CAC-6 Return Video Selector

Intercom Headset

Microphone

BKP-7911 Script Holder

HDLA-1500 Series
Large Lens Adaptor

Tripod

HDVF-EL75, DVF-L700
Viewfinder

DVF-EL100/L350
Viewfinder

Optical fiber cable

PL-mount Lens

PMW-F55
4K Camera
+
CA-4000
Camera System Adaptor

BVM-X300
4K Video Monitor

BNC x 4

HD Video Monitor

BNC

BPU-4000
Baseband Processor Unit

Optical fiber cable

*

* CCA-5

HDCU-2000 or **HDCU-2500**
Camera Control Unit

RCP-1000 Series
Remote Control Panel

LAN cable

Hub

LAN cable

MSU-1000 Series
Master Setup Unit

* Maximum transmission distance from HDCU to HDC-4300
  2000 m for HDCU-2000 (max.)
  1000 m for HDCU-2500 (max.)

MVS-8000X/7000X
Multi-format Switcher

BNC x 4

PWS-4400 (Server)
Multi Port AV Storage Unit

BNC x 4

BNC x 4

BNC x 4

LAN cable | BNC x 4 | LAN cable

PWS-100PR1
Production Control Workstation

PWS-100MG1
Media Gateway Station

USB

PWSK-4403
USB Control Device

BNC x 4

PVM-X300
4K Video Monitor

BNC x 4

PWS-4400 (Server)
Multi Port AV Storage Unit

HDD

USB

USB

Optical Disc Archive Unit

Related Products

Baseband Processor Unit
BPU-4000

The BPU-4000 offers real-time 4K digital signal processing and the signal can be simultaneously down-converted to a HD signal and output when connected to the HDC-4300 via an optical fiber cable. The detail process can be optimally adjusted in each signal.
• Parallel processors for 4K/HD
• Down-converter from 4K to HD
• HD Cutout and HD High-fame-rate operation by installing optional software (SZC-2001 for HD Cutout function; SZC-4002 for High-frame-rate function)

Camera Control Unit
HDCU-2000
HDCU-2500

The full-rack-size HDCU-2000 and half-rack-size HDCU-2500 are available for the 4K live camera system. These enable power supply to the camera, interfacing with peripheral equipment, and transferring Intercom, Tally, Prompter, Audio, and other signals. The optical fiber transmission system used in these units maintains the camera's high picture quality.
Even without an HDCU-2000/HDCU-2500 unit, the 4K live camera system can operate by supplying power to the HDC-4300 locally in a simple configuration. This is particularly useful when you need to minimize equipment (e.g., during location shooting).

Large Lens Adaptor
HDLA-1500, HDLA-1505, HDLA-1507

HDLA-1500, HDLA-1505, and HDLA-1507 adaptors do not require any cable wiring. Utilizing an unprecedented interlocking mechanism, this solution passes the power, video, and control signals on 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.
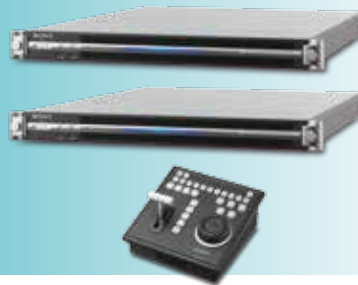
HDLA-1500   HDLA-1505   HDLA-1507

Multi Port AV Storage Unit
PWS-4400

This unit records both 4K and HD video signals using as many as four 4K channels through the highly efficient XAVC video format. The recorded content can be easily handled for slow motion replay.

Production Control Station
PWS-100PR1

Media Gateway Station
PWS-100MG1

USB Control Device
PWSK-4403

Operation for live slow motion is available by utilizing the PWS-100PR1 and PWSK-4403. PWS-100MG1 transfers content to/from removable media (e.g., USB-HDD and Optical Disc Archive unit).

For 8x slow motion reply, the PWS-4400 system requires software upgrade V1.4.

Multi-format Switcher
MVS-8000X, MVS-7000X

These are Sony's flagship switchers supporting 3G (1080p). Optional upgrade software adds 4K support, and the optional MKS-8460X 4K format converter board enables high-performance HD-4K up-conversion.

Upgrade software:
BZS-8570X for MVS-8000X
BZS-7570X for MVS-7000X

4K OLED Master Monitor
BVM-X300

This top-end monitor offers the inherent superb TRIMASTER EL™ OLED monitor performance. In addition, the BVM-X300 supports High Dynamic Range mode and wide color gamut conforming to DCI-P3 and most of the ITU-R BT.2020[1] color space.

[1] ITU-R BT.2020 is the specification of video format defined by ITU-R. The BVM-X300 does not cover it in full.

4K LCD Picture Monitor
PVM-X300

This right-size, easy-to-use monitor fits for every element of the production workflow including 4K cinema production (on-set monitoring, dailies, and editing), 4K live production (camera control and program preview) and real-time 4K presentation.

Front

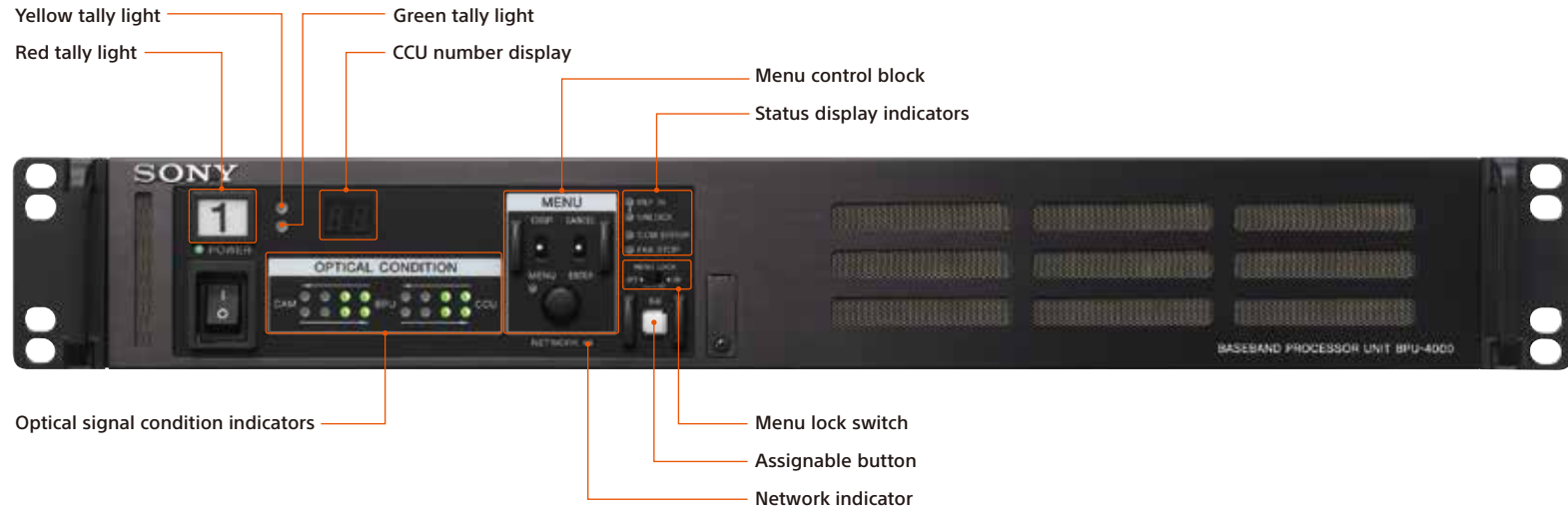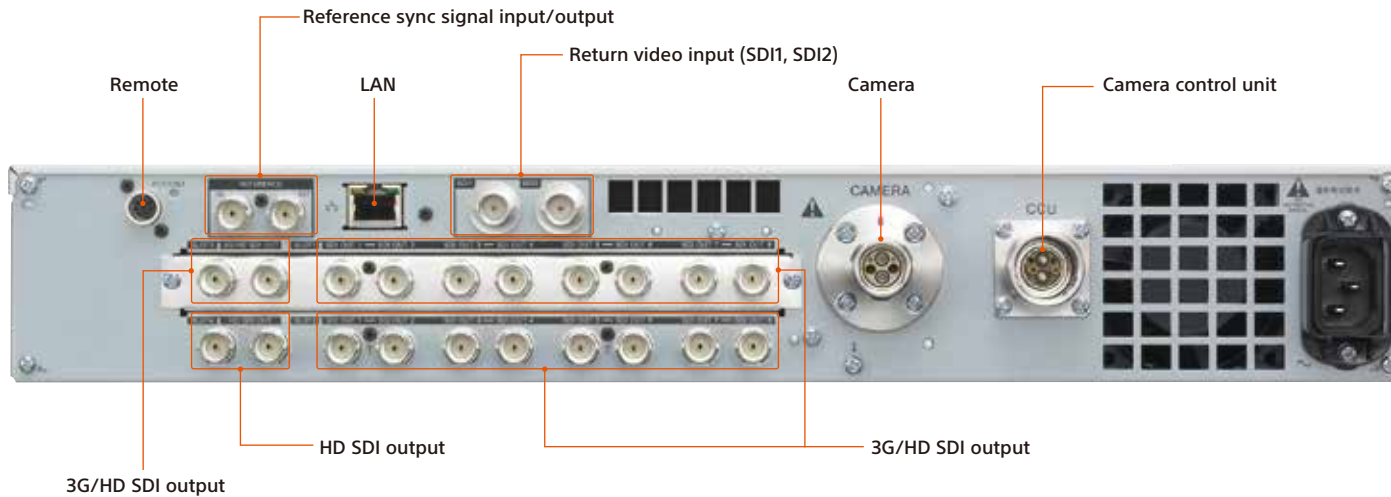**Rear (with HDVF-20A)**

For 60 Hz countries

For 50 Hz countries

BPU-4000

Front

Yellow tally light

Green tally light

Red tally light

CCU number display

Menu control block

Status display indicators

Optical signal condition indicators

Menu lock switch

Assignable button

Network indicator

Rear

Reference sync signal input/output

Return video input (SDI1, SDI2)

Remote

LAN

Camera

Camera control unit

HD SDI output

3G/HD SDI output

3G/HD SDI output

Optional Accessories

MSU-1000
Master Setup Unit

MSU-1500
Master Setup 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-EL75
7.4-inch* OLED Color Viewfinder

VFH-790
Outdoor Hood for HDVF-EL70/EL75

HDVF-L770
7-inch* LCD Color Viewfinder

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

BKP-7911
Script Holder

CAC-6
Return Video Selector

CAC-12
Mic Holder

VCT-14
Tripod Adaptor

CNA-1
Camera Control Network Adaptor

HDCE-100
Camera Extension Adaptor

* Viewable area measured diagonally.

Specifications

HDC-4300	
General	
Power requirements	AC 240 V, 1.4 A (max.), DC 180 V, 1.0 A (max.), DC 12 V, 7 A (max.)
Operating temperature	-20°C to +45°C (-4°F to +113°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Mass	Approx. 5.0 kg (11 lb 0.37 oz) (unit onlly)
Camera section	
Pickup device	3-chip 2/3-inch type CMOS
Spectrum 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
Sensitivity	F8.0 (2000 lx, 89.9% reflection)
Signal-to-noise ratio	-62 dB (HD/59.94i)
Horizontal resolution	2000 TV lines (at center) in 4K, 5% or higher modulation
Input/output connectors	
BPU	Optical/electrical multi-connector (1)
Audio input (CH1, CH2)	XLR-type 3-pin, female (1 each) For MIC: -60 dBu (can be set to a value up to -20 dBu using the menu or from the HDCU2000/2500), balanced For LINE: 0 dBu, balanced
Mic input	XLR-type 3-pin, female (x 1)
Return control	6-pin (x1)
Prompter/Genlock	BNC (x1), 1 Vp-p, 75 Ω
Prompter 2	BNC (x1), 1 Vp-p, 75 Ω
DC input	XLR-type 4-pin (x1), DC 10.5 V to 17 V
DC output	4-pin (x1), DC 10.5 V to 17 V, 0.5 A (max.) 2-pin (x1), DC 10.5 V to 17 V, 2.5 A (max.) (Limitations may apply, depending on the load and input conditions.)
Test out	BNC (x1)
SDI (1, 2)	BNC (1 each)
SDI Monitor	BNC (x1)
Earphone	Stereo mini jack (x1)
Tracker	10-pin (x1)
Crane	12-pin (x1)
Intercom (1, 2)	XLR-type 5-pin, female (1 each)
Remote	8-pin (x1)
Network trunk	RJ-45 8-pin (x1)
Lens	12-pin (x1)
Viewfinder	20-pin (x1)
USB	USB 2.0, Type A, 4-pin (x1)
Supplied accessories	
	Operation manual (1), Cable clamp belt (1set), Number plates (1set), Screws (+B3x8) (2)

BPU-4000	
General	
Power requirements	AC 100 V to AC 240 V, 50/60 Hz
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Mass	Approx. 6.8 kg (15 lb)
Dimension (W x H x D)	424 x 66 x 395 mm (16 3/4 x 2 5/8 x15 5/8 inches) excluding protrusions
Input/output connectors	
Camera	Optical fiber (x1)
CCU	Optical fiber (x1)
Remote	8-pin multi-connector (x1)
LAN	8-pin (x1)
SDI input	BNC (x2) 3G-SDI: SMPTE ST424/425 Level-B, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
Reference input	BNC (x1) HD: SMPTE ST274, tri-level sync, 0.6 Vp-p, 75 Ω SD: Black burst (NTSC: 0.286 Vp-p, 75 Ω, PAL: 0.3 Vp-p, 75 Ω)
3G/HD-SDI output	BNC (x18) 3G-SDI: SMPTE ST424/425 Level-A/B, 0.8 Vp-p, 75 Ω, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps, 3G-SDI/HD-SDI selectable
HD-SDI output	BNC (x2) SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
Reference output	BNC (x1) HD: SMPTE ST274, tri-level sync, 0.6 Vp-p, 75 Ω SD: Composite sync, 0.3 Vp-p, 75 Ω, HD sync/SD sync selectable
Supplied accessories	
	Number plates (1 set), Operation Guide (1), Operation Manual (CD-ROM) (1)

SONY

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