

SONY

4K/HD system camera
HDC-4300



4K

A higher level of live production

HDC-4300

Live production in 4K and HD

Sports, music and entertainment
will never be the same.





The breakthrough camera, now even more powerful

In 2015, Sony astonished broadcasters with the world's first native 4K camera for three 2/3-inch live production. The HDC-4300 is the ideal choice whether you're looking to enhance HD broadcasts with stunning 4x, 6x or 8x super slow motion (with SCZ-4002 software). Or you're diving into 4K live production (with SCZ-4001 software). Or planning a long term migration from HD to 4K. And now the camera is even more powerful with a wider portfolio of 4K live production accessories, plus forward-looking IP Live production capability.

HDC-4300

The world's first three 2/3-inch camera with 4K sensors

Three 2/3-inch 4K sensors for 4K and HD output

4K establishes a new world of imagery, delivering texture, detail and you-are-there excitement like nothing else. The HDC-4300 can take you there with three 2/3-inch native 4K CMOS imagers and an advanced optical system. The camera also covers a huge portion of the extended Rec.2020 color gamut. The result is a transformation in live production.

B4 lens mount

While the HDC-4300 redefines live production, it uses the same, familiar 2/3-inch B4 lenses that broadcasters already know and appreciate. You've got the same choice of glass, the same familiar zoom ranges, the same high-powered box lenses and the same depth of field.





4K 2x and HD 8x Super Slow Motion

Nothing reveals the ballet of sports like high frame rate images. With the HDC-4300, your audience sees what was previously invisible: subtle body movements, muscle action, even sweat sprays. The base HDC-4300 captures Full HD at up to 3x super slow motion. The SZC-4002 software, available on a permanent or pay-per-use basis, expands HD high frame rates to 4x, 6x and 8x. You get up to 479.52 fps (60 Hz) or 400 fps (50 Hz) for incredible instant replays. Using the SCZ-4002 and SCZ-4001 software together delivers 4K imagery with 2x slow motion. (HD output at 23.98, 24, 25 and 29.97 PsF requires SZC-4001 software.)

Logical migration from HD to 4K

The HDC-4300 readily matches Sony's HDC-2000 cameras and fits directly into Sony's growing 4K live production environment. The HDC-4300 works with the F55 and F65 live camera configurations and connects to the same BPU-4000 processor. This accepts SZC-4001 software to enable 4K capture and 4K/HD outputs. The BPU-4000 also works directly with the familiar HDCU-2000 and 2500 camera control units.

Compatible with Sony HDC-2000 Series accessories

Part of Sony's acclaimed HDC Series, the HDC-4300 works with the infrastructure that so many broadcasters and OB van operators already have, including viewfinders, large lens adaptors, remote control panels and camera control units.

Sony's 4K/HD live production ecosystem

The HDC-4300 fits directly into Sony's established 4K live camera system. Like the PMW-F55 and F65, the HDC-4300 works in combination with the BPU-4000 baseband processor unit and the HDCU-2000 or HDCU-2500 camera control unit. So you can control and power the camera through standard SMPTE fiber cables. And you can tweak settings via RCP-1000 Series remote control panels or MSU-1000 Series master setup units.

You can also add the HDC-4300 to an existing HDC-2000 Series camera system, for multi-camera operation with seamlessly matched colorimetry. With the SZC-4001 software, the HDC-4300 camera can provide multiple HD and 4K outputs, perfect for operating side-by-side with the PMW-F55 (equipped with the CA-4000 adaptor) or the F65 (equipped with the SKC-4065 and CA-4000 adaptors).

Sony's 4K live ecosystem includes other landmark components:

- The PWS-4500 server enables HD and 4K recording and high frame rate capture with up to 8x replay.
- The XVS-8000, MVS-8000X and MVS-7000X multi-format switchers perform real-time 4K signal processing
- The BVM-X300 OLED evaluation monitor is a triple threat, providing 4K resolution, High Dynamic Range and Wide Color Gamut
- The PVM-X300 4K LCD picture monitor is the choice for general applications

Whether you need pure 4K live production or a logical migration from HD to 4K, Sony's ecosystem enables you to deliver spectacular imagery to audiences worldwide.



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

Plug into IP Live Production



As broadcasters tap into the excitement of 4K and High Frame Rates, the current 3G SDI production infrastructure becomes a bandwidth bottleneck. That's why Sony has been hard at work, developing live production infrastructure based on 10 Gigabit Ethernet IP networking. The result is a practical solution for IP Live production systems: Sony's Networked Media Interface.

The HDC-4300 is poised to take full advantage. The camera works with Sony's BPU-4500 baseband processor, which provides the Networked Media Interface. So you can receive and transmit video and audio over an IP network.

And when you combine the BPU-4500 with the PWS-4500 4K/HD server, the XVS-8000 multi-format switcher and the BVM-X300 4K OLED master monitor, you get an IP Live production system of unsurpassed capability and uncompromised performance.



Space-saving HDCU-4300



Because outside broadcast trucks are always tight on space, Sony has now integrated the camera control unit and 4K baseband processor into a single, compact component: the HDCU-4300. Just 2 rack units high, the HDCU-4300 is perfect for small trucks and for use in the background at live events. The unit even connects to IP Live production, with the HKCU-IP43F Networked Media Interface Board and OTM-10GSR1 SFP+ transceiver module, both sold separately.



OTM-10GSR1
SFP+ Transceiver Module

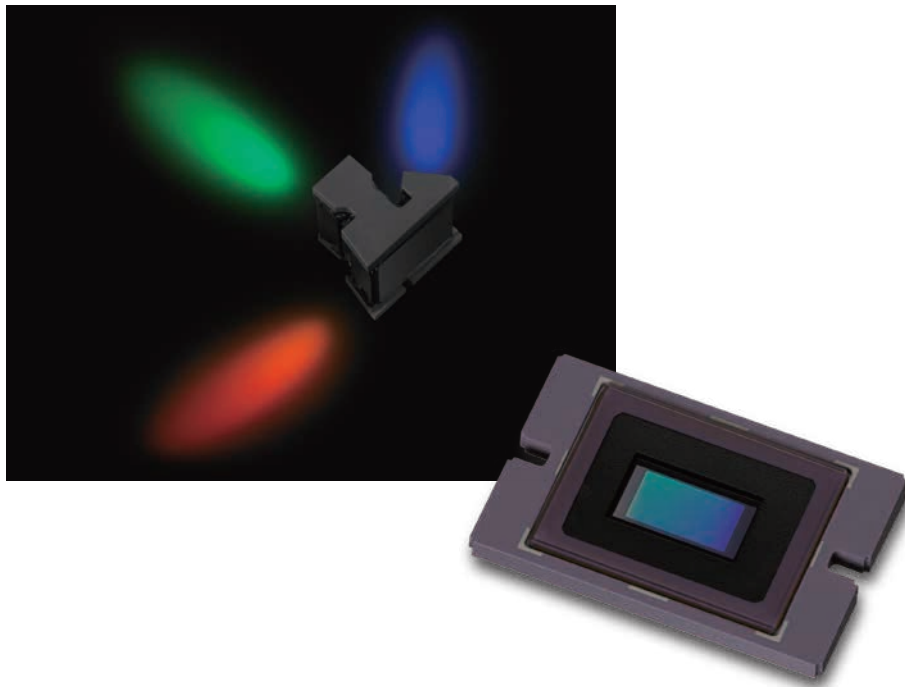


HKCU-IP43F
Network Media Interface

You can't build the future with yesterday's technology

4K resolution (with SCZ-4001), High Dynamic Range and Wide Color Gamut

There's never been anything in live television like the sensory thrill of 4K resolution, High Dynamic Range and Wide Color Gamut. With the HDC-4300, you're prepared. The camera incorporates Sony's exclusive advances, including the world's first three 2/3-inch 4K imagers and ultra-precise alignment on an innovative prism. This cutting-edge optical system performs beautifully, covering a huge part of the ITU-R BT.2020 color gamut. So you can deliver broadcasts of unprecedented realism and impact. (The SCZ-4001 also enables HD output at 23.98, 24, 25 and 29.97 PsF.)



Up to 8x High Frame Rate in HD, 2x in 4K with SCZ-4002 software

The base-level HDC-4300 provides HD high frame rates at 2x and 3x, providing 59.94/50, 119.88/100, and 179.82/150 fps. The SCZ-4002 software, sold separately, takes you all the way to 4x, 6x and 8x HD—a maximum of 479.52 fps (60 Hz) or 400 fps (50 Hz). Using the SCZ-4002 and SCZ-4001 software together delivers 4K imagery with 2x slow motion. (The SCZ-4001 also enables HD output at 23.98, 24, 25 and 29.97 PsF.) The BPU-4000, BPU-4500, and HDCU-4300 apply the full digital process up to the highest frame rates. So even at 8x, you get the same picture quality and the same image adjustments with the same paint controls.

You can record to the PWS-4500 4K/HD server for up to 8x high frame rate replay (requires software upgrade V1.4). Some third party servers may also be used.



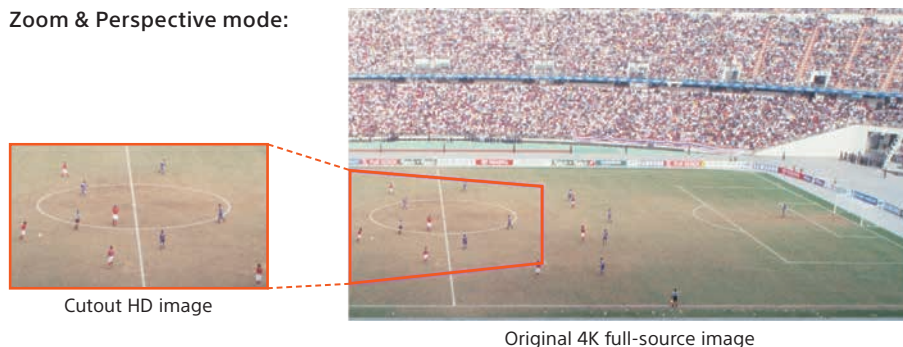
Simulated image

HD cutout, pan and zoom with SZC-2001 software

Imagine using the 4K canvas to create an entirely new narrative during replay. In conjunction with Sony's BPU-4000, BPU-4500 or HDCU-4300, our SZC-2001 software enables you to keep the camera in a fixed position, then zoom into the 4K image, creating an HD "cutout." You can also pan around in real time, following the play as never before. In Zoom & Perspective mode, you can cut out one portion 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 beautifully clear image.

You can control the cutout region with a mouse or other devices connected to the controllers such as the CNA-1 camera control network adaptor. The BPU-4000, BPU-4500 and HDCU-4300 can output the cutout images and the 4K full-source image simultaneously. HD images down-converted from the 4K full-source image can also be output from these components 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, BPU-4500 or HDCU-4300.

Zoom & Perspective mode:

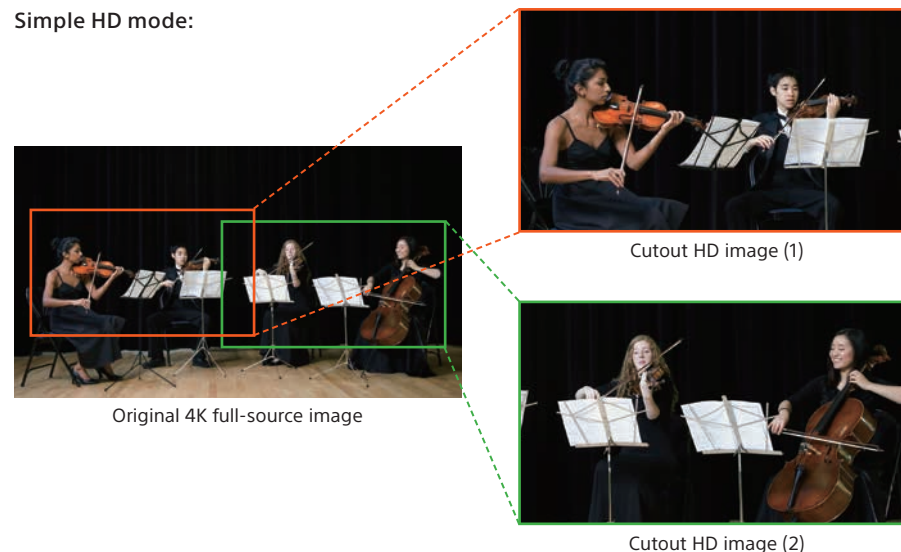


Precise live 4K adjustments

The HDC-4300 system supports a robust range of live camera adjustments in 4K operation.

- Dynamic focus (4K focus assist): Because focus in 4K is especially critical, you can display a marker in the viewfinder when 4K resolution is achieved.
- Auto Lens Aberration Compensation 2 (ALAC2)
- Color adjustments
- Gamma table selection
- User gamma
- Natural skin-tone detail
- Knee saturation
- Low-key saturation

Simple HD mode:



Simulated images

4K Live HDR (High Dynamic Range)

Just as high definition upturned every previous notion of picture quality, a new era of image reproduction has begun. The combination of 4K, High Dynamic Range (HDR), BT.2020 Wide Color Gamut, High Frame Rates and increased bit depth empower you with live production that's substantially more engaging, more immersive, more impressive and more like life itself. The HDC-4300 is beautifully prepared for this new era.



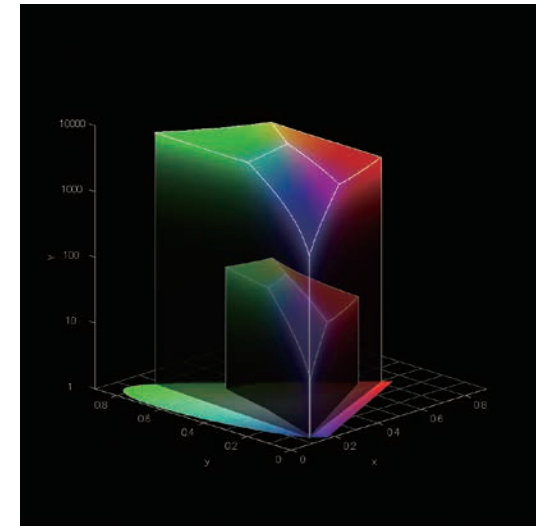
SDR image



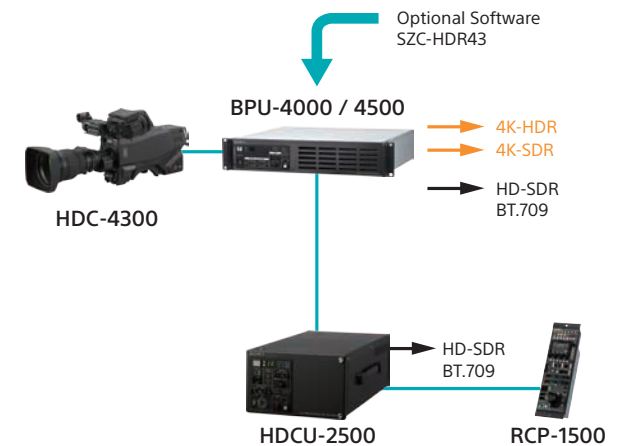
HDR image

In particular, HDR opens up new creative possibilities. As one example, HDR revolutionizes the way you cover sports on a sunny day. With Standard Dynamic Range (SDR), it's hard to hold detail on both the sunny and shaded parts of the stadium. You're forced to choose between clipping highlights or crushing blacks. HDR changes everything. Suddenly, your audience can take in the entire scene, just as if they were in the stadium themselves.

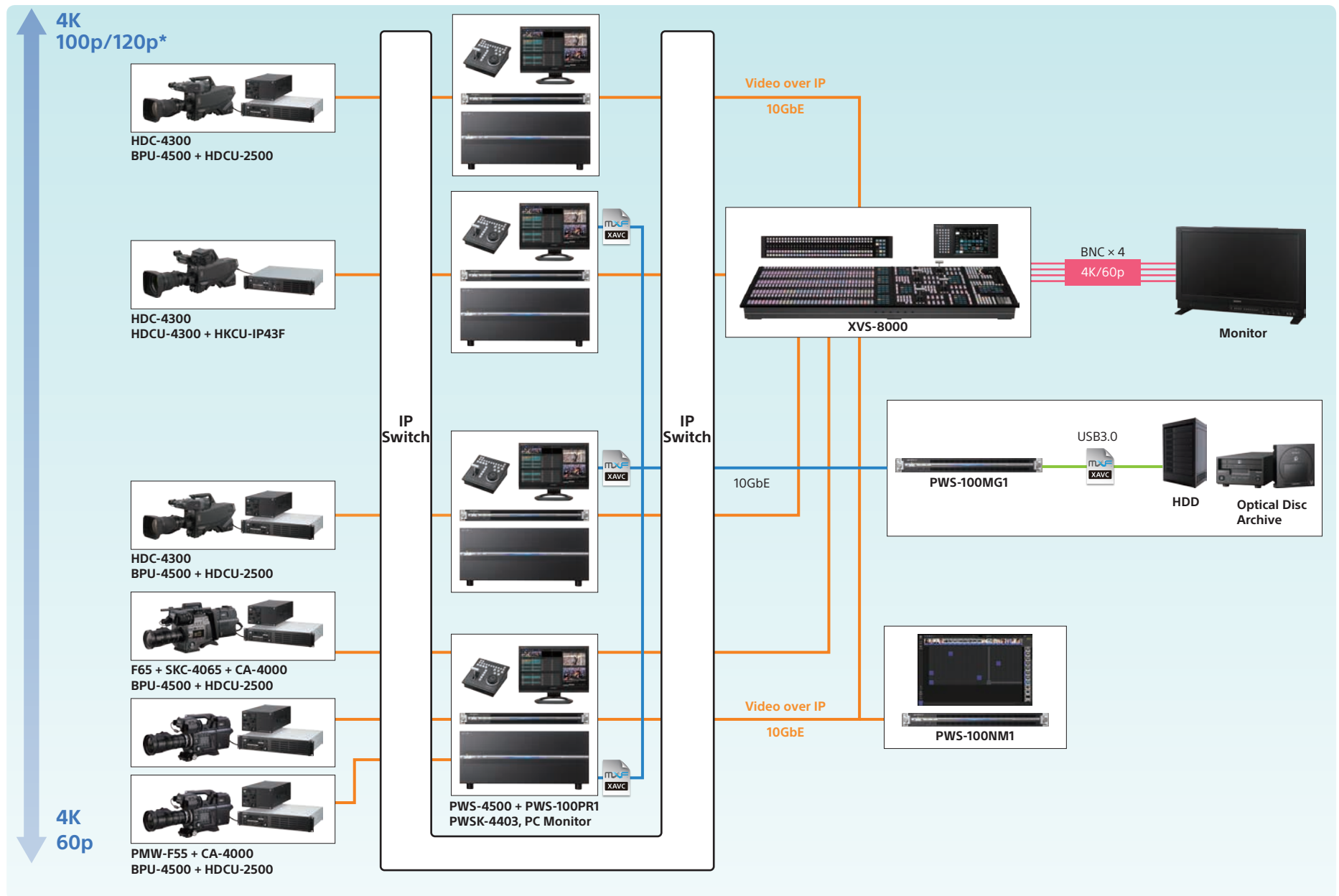
HDR is such a potent storytelling tool that Sony is devoting time and attention to major HDR live broadcasting solutions. For example, Sony enables you to protect highlight and shadow detail when you bring content into post production. Simply connect the HDC-4300 to a BPU-4000, BPU-4500 or HDCU-4300 and output S-Log 3 HDR. (S-Log 3 is also available with the F55 camera, CA-4000 adaptor and BPU-4000.) Until now, S-Log 3 has only been available with a fixed PAINT control setting. But with the SZC-HDR43 software, sold separately, you can actually vary the PAINT control setting on a Sony RCP Series remote control panel or MSU Series master setup unit.



BT.2020 and HDR

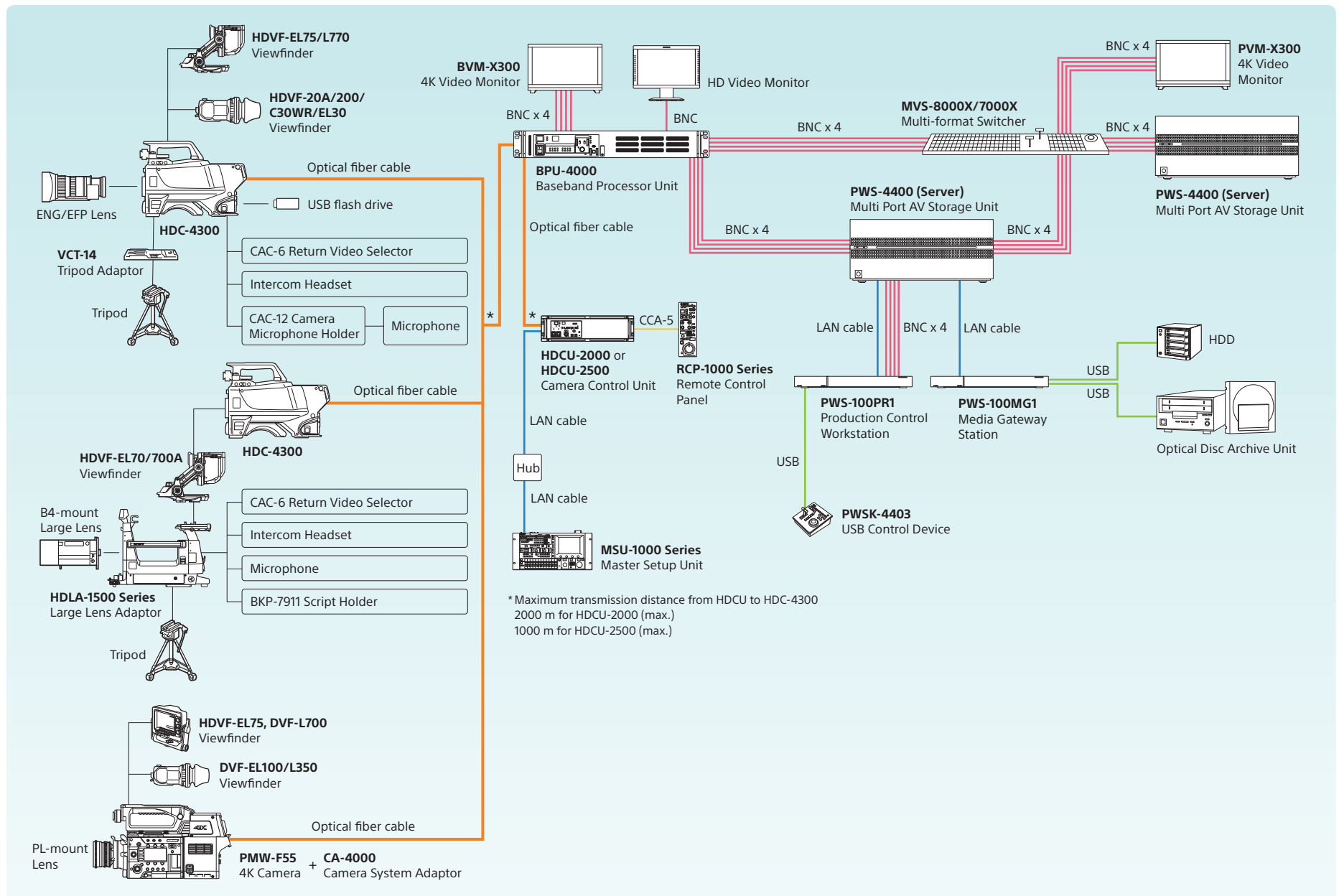


Sample Systems (IP)



* 4K 100p/120p will be available with a future upgrade.

Sample Systems (SDI)



Key Accessories

Baseband Processor Unit BPU-4000



The BPU-4000 accepts HDC-4300 signals via an optical fiber cable, performs real-time 4K digital signal processing and then outputs 4K and down-converted HD simultaneously. You can optimize detail separately for 4K and HD.

- Parallel processors for 4K/HD
- 4K to HD down-converter
- HD Cutout using SZC-2001 software
- HD High-frame-rate operation using SZC-4002 software

Baseband Processor Unit BPU-4500



The BPU-4500 performs the functions of the BPU-4000 and offers Sony's Networked Media Interface in addition to SDI output. With the OTM-10GSR1 SFP+ transceiver module, sold separately, you can plug into IP Live production systems. The BPU-4500 also connects to an HDCU-2000 or 1000 Series camera control unit for 4K multi-camera systems that power the camera and handle signals including Video, Intercom, Tally, Prompter and Audio.

Camera Control Unit HDCU-4300



To save space in mobile production trucks, the HDCU-4300 combines the functions of a 4K baseband processor and camera control unit in a single, compact, two-rack-unit chassis. The compact chassis also fits perfectly in the background at live events. The HDCU-4300 supports not only the HDC-4300 camera, but also Sony's F55 camera equipped with the CA-4000 adaptor or Sony's F65 camera equipped with the CA-4000 and SKC-4065 adaptors.

Camera Control Unit HDCU-2000 HDCU-2500



The HDC-4300 works with the same, full-rack-size HDCU-2000 and half-rack HDCU-2500 camera control units (CCUs) that are well established for Sony's immensely popular HDC-2000 and HDC-2500 cameras. These CCUs supply power to the camera; interface with peripheral equipment; and transfer Intercom, Tally, Prompter, Audio, and other signals. Fiber transmission maintains the camera's pristine picture quality.

When you're going on-location and need to travel light, you can operate without an HDCU-2000/HDCU-2500. Just supply power to the HDC-4300 locally.

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



To minimize setup time, Sony's large lens adaptors connect via a cable-less interface. Our clever interlocking mechanism passes power, video and control signals directly from the HDC-4300 camera. You can attach and detach the camera without removing large lenses. And you can remove a lens from the HDLA-1500 or HDLA-1505, even when the camera is mounted on the adaptor. Setup becomes astonishingly quick and smooth.



HDLA-1500



HDLA-1505



HDLA-1507

Multi Port AV Storage Unit PWS-4500



This multi-port server captures both 4K and HD video signals using Sony's highly efficient XAVC[®] recording. The PWS-4500 incorporates flexible I/O configurations, a user interface designed for the demanding live production environment and up to 8x super slow motion (with V1.4 software). You can even install Sony's Networked Media Interface with a plug-in board, sold separately, for system efficiency and flexible features like Share Play file-sharing. Combine the PWS-4500 with the BPU-4500 to achieve superior IP-based live production.

Production Control Station PWS-100PR1

Media Gateway Station PWS-100MG1

USB Control Device PWSK-4403



The PWS-4500 server uses three accessories in the live production environment. The PWS-100PR1 production control station and PWSK-4403 USB controller operate instant replay. (For 8x slow motion, the PWS-4500 requires software upgrade V1.4). The PWS-100MG1 media gateway station transfers content to and from removable media such as USB hard drives and Optical Disc Archive units.

4K Live Production System Components

SDI-IP Converter Board NXLK-IP40F



Here's the solution for connecting legacy SDI equipment into the IP Live infrastructure. The NXLK-IP40F option board converts 4K, HD or SD SDI signals into IP signals using fiber optical cables with SFP+ transceiver connections. By supporting network redundancy and clean video switching, this board meets the stringent demands of live production.

Signal Processing Unit NXL-FR318



Just three Rack Units high, this versatile frame holds up to 18 option boards, such as an SDI-IP converter board, audio/video multiplexing or de-multiplexing boards. Two redundant power supplies enhance reliability.

IP Live System Manager Station PWS-100NM1



Set up, control, and reconfigure an IP Live production system with the PWS-100NM1 IP Live System Manager Station. Pre-installed software enables a single screen to monitor multiple video streams at any location on the IP network.

Multi-format Video Switcher XVS-8000



The centerpiece of IP Live production is the XVS-8000, a powerful switcher with up to 5 M/E, 40 inputs, 12 assignable outputs for 4K and comprehensive format conversion. Sony's ICP-7000 X-Panel offers very flexible configuration with a modular design, OLED display, RGB crosspoint buttons and an LCD button pad.

4K OLED Master Monitor BVM-X300



One monitor combines Sony's amazing TRIMASTER EL™ OLED performance with 4K resolution, High Dynamic Range mode and Wide Color Gamut covering all of DCI-P3 and a huge portion of the ITU-R BT.2020 color space.

4K LCD Master Monitor PVM-X300



See your 4K picture with pixel-for-pixel accuracy. The PVM-X300 is ideal for 4K live production camera control and program preview, in addition to 4K digital cinematography and 4K presentation.

HDC-4300

Front



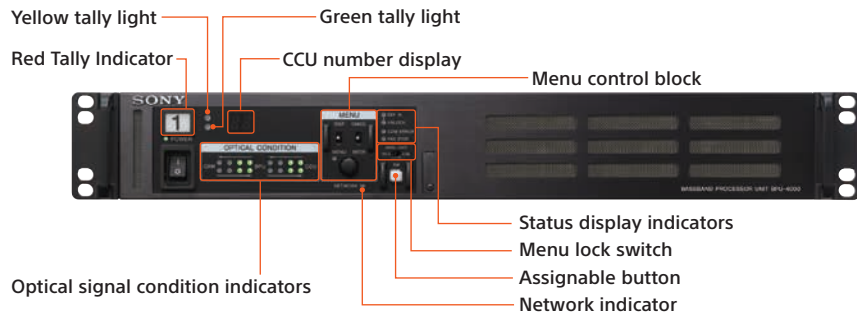
Rear



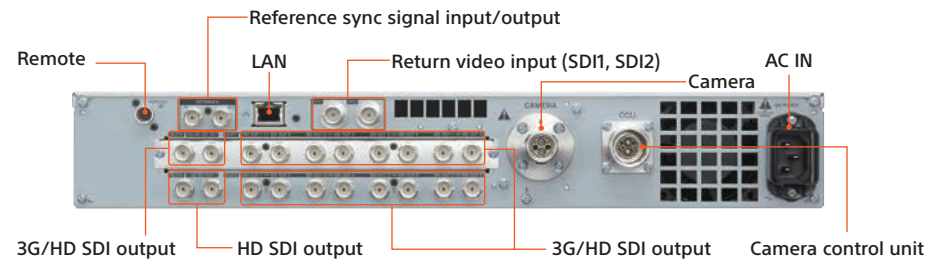
Name and Function of Parts

BPU-4000

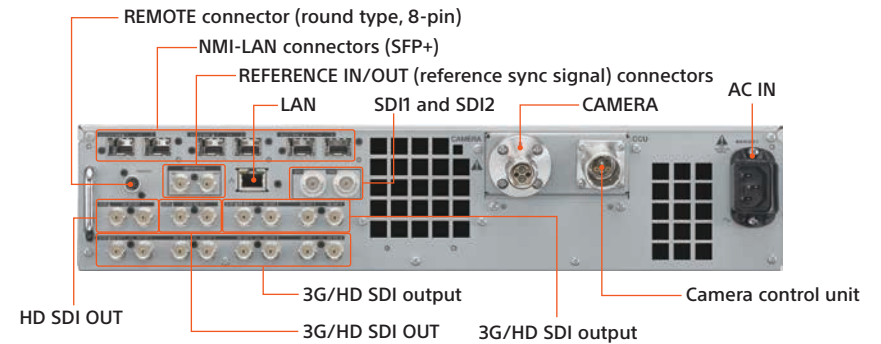
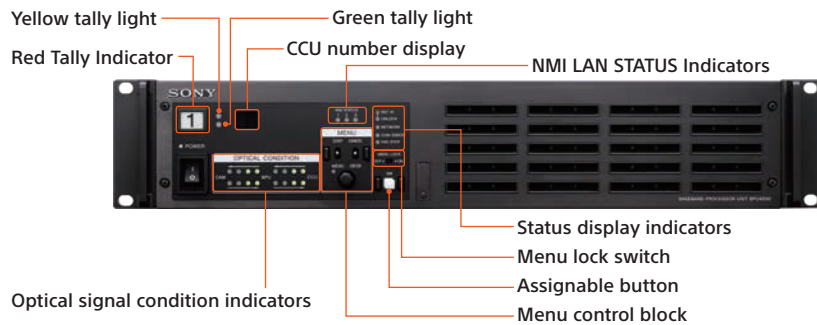
Front



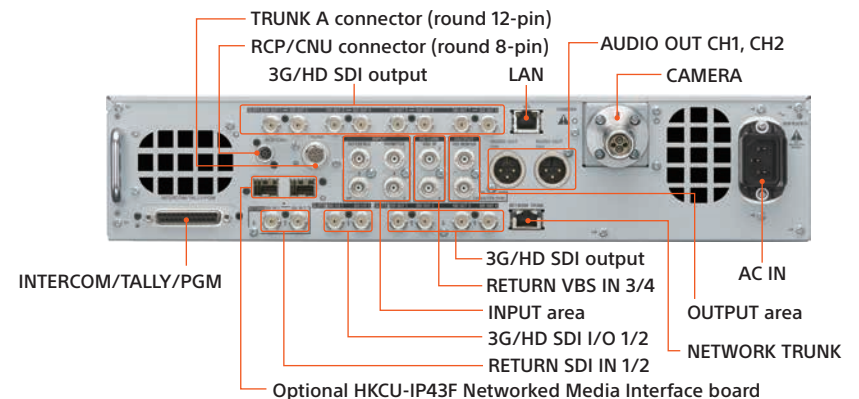
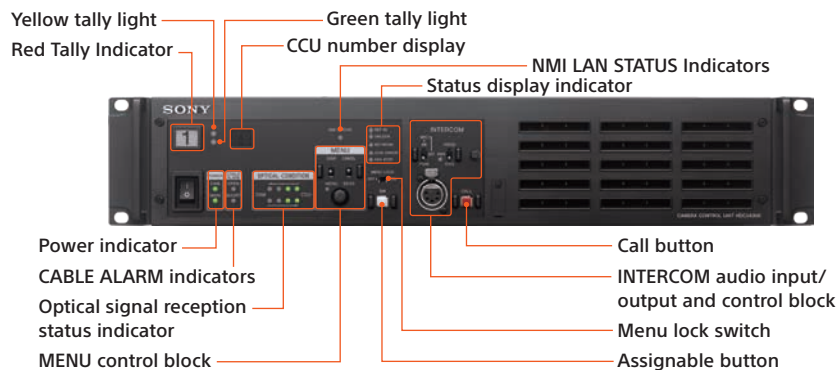
Rear



BPU-4500



HDCU-4300



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*1 OLED Color Viewfinder



VFH-790
Outdoor Hood for HDVF-EL70/EL75



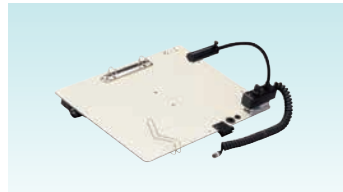
HDVF-L770
7-inch*1 LCD Color Viewfinder



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



HDVF-EL30
0.7-inch*1 OLED 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



HKCU-SM100
CCU Extension Adaptor



OTM-10GSR1
SFP+ Transceiver Module

*1 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	-4°F to +113°F (-20°C to +45°C)
Storage temperature	-4°F to +140°F (-20°C to +60°C)
Weight	Approx. 11 lb 0.37 oz (5.0 kg) (unit only)
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)
NETWORK TRUNK	RJ-45 type 8-pin (1)
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	41°F to 104°F (5°C to 40°C)
Storage temperature	-4°F to +140°F (-20°C to +60°C)
Weight	Approx. 15 lb (6.8 kg)
Dimension (W x H x D)	16 3/4 x 2 5/8 x 15 5/8 inches (424 x 66 x 395 mm) 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)

Specifications

BPU-4500	
General	
Power requirements	100 V to 240 V AC, 50/60 Hz
Current consumption	2 A (max)
Operating temperature	41 °F to 104 °F (5 °F to 40 °C)
Storage temperature	-4 °F to +140 °F (-20 °C to +60 °C)
Weight	Approx. 19 lb 6.4 oz (8.8 kg)
Input/output connectors	
CAMERA	Optical fiber connector (1)
CCU	Optical fiber connector (1)
REMOTE	8-pin multi-connector (1)
LAN	8-pin (1)
Input connectors	
AC IN	100 V to 240 V AC (1)
SDI1, SDI2	BNC (2) 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 IN	BNC (1) 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)
Output connectors	
3G/HD SDI OUTPUT (SLOT1)	BNC (4) 3G-SDI: SMPTE ST424/425 Level-A, 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
3G/HD SDI OUTPUT (SLOT2)	BNC (8) 3G-SDI: SMPTE ST424/425 Level-A, 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
3G/HD SDI OUTPUT (SLOT3)	BNC (2) 3G-SDI: SMPTE ST424/425 Level-A, 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 (SLOT4)	BNC (2) HD-SDI: SMPTE ST292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps
REFERENCE OUT	BNC (1) 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
NMI-LAN (SLOT1)	SFP+ (2) 10G BASE-XX (using SFP+ transceiver module)
NMI-LAN (SLOT2)	
NMI-LAN (SLOT3/4)	
Supplied accessories	
Number plates (1 set), Operation Guide (1), Operation Manual (CD-ROM) (1)	
Optional accessories	
United States and Canada: Plug holder B (2-990-242-01) Other areas: Plug holder C (3-613-640-01)	
United States and Canada: Power cord set (1-551-812-XX) Other areas: Power cord set (1-782-929-XX)	
CCA-5-3 (3 m) and CCA-5-10 (10 m) connection cables, SFP+ module, Maintenance manual	

HDCU-4300	
General	
Power supply	100 V to 240 V AC, 50/60 Hz
Current consumption	4.0 A (max)
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	Approx. 22 lb. 4.3 oz (10.1 kg)
Input/Output connectors	
CAMERA	Optical fiber connector (1)
INTERCOM/TALLY/ PGM	D-sub 25-pin connector (1) • INTERCOM (PROD/ENG), 4W/RTS/CC, 0 dBu • PGM, 2 systems, 0 dBu/-20 dBu • TALLY (R, G, Y) • FLAG
RCP/CNU	8-pin multi-connector (1)
TRUNK	12-pin (1)
LAN	8-pin (1)
NETWORK TRUNK	8-pin (1)
Input connectors	
AC IN	100 V to 240 V AC (1)
SDI RET IN	BNC (2) 3G-SDI: SMPTE ST424/425, 2.970 Gbps/2.967 Gbps HD-SDI: SMPTE ST292, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE ST259, 270 Mbps
VBS RET IN	BNC (2), analog signal, 1.0 Vp-p, 75 Ω
REFERENCE	BNC (2), loop-through output HD: SMPTE ST274, tri-level sync, 0.6 Vp-p, 75 Ω SD: Black burst (NTSC: 0.286 Vp-p, 75 Ω/PAL: 0.3 Vp-p, 75 Ω) or NTSC 10F-BB
PROMPTER	BNC (2), loop-through output during 1CH mode, terminate internally at 75 Ω during 2CH mode, analog signal, 1.0 Vp-p, 75 Ω
Output connectors	
AUDIO OUT CH1, CH2	XLR 3-pin, male (2), 0 dBu/-20 dBu/ +4 dBu
VBS MONITOR	BNC (1), VBS, 1 Vp-p, 75 Ω
CHARACTER/SYNC	BNC (1), VBS, 1 Vp-p, 75 Ω HD SYNC: BTA-S001, tri-level sync, 0.6 Vp-p, 75 Ω SD SYNC: composite sync, 0.3 Vp-p, 75 Ω VBS/HD SYNC/SD SYNC selectable
SDI OUTPUT	BNC (4) 3G-SDI: SMPTE ST424/425, 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 and character signal ON/OFF selectable
Input/Output connectors	
SDI I/O	BNC (2) 3G-SDI: SMPTE ST424/425, 0.8 Vp-p, 75 Ω, 2.970 Gbps/ 2.967 Gbps HD-SDI: SMPTE 292, 0.8 Vp-p, 75 Ω, 1.485 Gbps/1.4835 Gbps SD-SDI: SMPTE ST259, 0.8 Vp-p, 75 Ω, 270 Mbps
Supplied accessories	
Number plates (1 set), Operation guide (1), Operation manual (CD-ROM) (1)	
Optional accessories	
United States and Canada: Plug holder B (2-990-242-01) Other areas: Plug holder C (3-613-640-01)	
United States and Canada: Power cord set (1-551-812-XX) Other areas: Power cord set (1-782-929-XX)	
CCA-5-3 Connection Cable (3 meters), CCA-5-10 Connection Cable (10 meters)	
Maintenance manual	

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