

Hitachi Kokusai Electric

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Inspire the Next

SK-HD1300E-S1 SK-HD1300E-S3

Hitachi SK-HD1300 Series
1.5G/3G/4K/High-Speed Universal Camera System



Hitachi SK-HD1300 Series 1.5G/3G/4K/High-Speed Universal Camera System

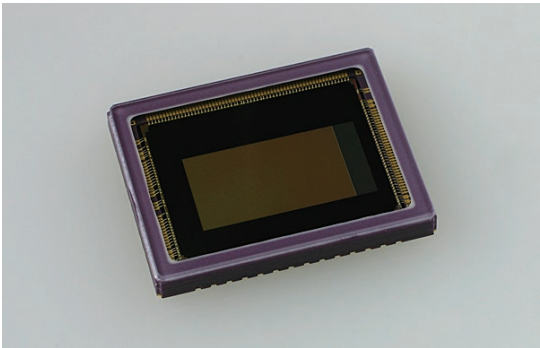
SK-HD1300E-S1 is a multi-format production camera, available in formats 1.5G, 3G and 4K. The camera can be fitted to HDR (High Dynamic Range) and BT.2020 functionalities.*1

SK-HD1300E-S3 is a multi-format production High-Speed (Super Slow Motion) camera and provides up to three times high speed superior pictures compatible with all slow motion servers in the market and is ideal for demanding live sports' productions. The Hitachi SK-HD1300 series' cameras achieve outstanding high sensitivity with no vertical smear.

*1 BT.2020 is the specification of extended color gamut defined by ITU-R. Hitachi cameras support some parts of the standard. The HDR and BT.2020 are available by software upgrade option.

Multi-format HDTV production camera

The SK-HD1300 is a multi-format portable HDTV studio camera. The new 2.6 million 3 chip 2/3 inch MOS sensors produce outstanding image performance. The camera offers progressive HD images due to Hitachi's implementation of the latest 3-MOS imaging technology. New achievements in high sensitivity and no vertical smear have been reached as a result.



2/3-inch MOS Sensor

Hitachi's advanced digital signal processing

Each essential part of the Hitachi SK-HD1300 camera system has its own DSP processor. Specialized DSP processors are used independently for the HDTV camera head, the transmission system and the Camera Control Unit (CCU) processing. The new, power efficient Hitachi's DSP processors are designed to work with any 2K imaging technology that is in the near future, thus, offering a high R.O.I. (return on investment). An outstanding overall signal-to-noise ratio specification of 62dB is achieved by use of our own low-noise circuit technology. The standard sensitivity is rated at F11@50Hz (SK-HD1300E-S1) with 2000 lx. Even at high gain, clear images are obtained with little noise. Also high horizontal resolution performance of 1100TVL (Luminance channel) is the pinnacle of picture sharpness and is an attribute to the claim of having the most transparent signal processing path of any Hitachi digital camera manufactured to date.

Digital signal transmission via Hybrid Fiber Optical Cable

The SK-HD1300 camera system utilizes industry standard Hybrid Fiber-optic cable (HFOC) connectors made of high-strength materials that ensure durability and reliable performance under the most demanding TV production conditions. The maximum HFOC length with applied camera power and fully operational facilities is 4,000m (13,200 feet) with no utility power*2. Maximum Single mode Fiber-Optic Cable length is 10 km (33,300 feet). The Optical power meters at the CCU front panel indicate the optical condition of both transmitting and receiving signals independently to accurately depict proximity to the "digital cliff" (maximum cable distance) or provide basic HFOC diagnostics.

*2 HFOC distance with applied CCU power differs depending on system configuration and HFOC and connectors. It is dependent on type of lens used, viewfinder, studio adaptor, teleprompter and other accessories that may be connected thereby consuming power otherwise available for the camera head.



Digital signal transmission via Triax Cable

Hitachi's new digital triax can transmit both HD and progressive format signals over long cable distances. The Ultra-low delay H.264 codec and wide band digital transmission with digital modulation technology ensure low delay and high quality picture transmission including video, prompter, return video, audio and all comms. Cable condition indicators at the CCU front panel show the status of both transmitting and receiving signals independently.



Superb High Definition picture reproduction & enhancement tools

Real-time Lens Aberration Correction (RLAC)

Modern HDTV lenses can still produce optical distortions. One of these called "lateral chromatic aberration" can be reduced in certain lens models when used with the SK-HD1300 camera system. The Hitachi function is called RLAC (Real-time Lens Aberration Correction) and it dynamically corrects images using correction data provided by the lens through a digital interface with the camera.



Luminance response tools

HDR

Customers can select HDR curve in the camera menu and the remote control panel. Hitachi supports a customized HDR curve according to user's requests by SD CARD to change curve.

Black gamma

The SK-HD1300's Black gamma function can control Initial Gamma Gain more finely than conventional black stretch. Independent Initial Gamma controls are provided for the Red, Green and Blue channels offering a fine granularity control over dark colors.

Black Stretch

The SK-HD1300's Black stretch function allows for better reproduction of dark or underexposed areas by evenly raising the luminance response without changing the pedestal or white clip/ knee Settings. It is especially useful in high contrast shooting conditions.



Ultra-Gamma

A new and useful function implemented in the SK-HD1300 is Ultra-Gamma, which provides seven different responses to dramatically increase exposure latitude of the camera in shooting conditions where lighting and scenery vary widely in intensity.

Auto-knee

The auto knee provides the perception of a wider dynamic range by dynamically compressing (varying knee and slope) the video level in accordance with the strength of its over-exposure. Knee setting is changeable (Auto, On, OFF).

Knee Point

Beginning point of KNEE can be set. By using "TOTAL KNEE", R/G/B KNEE points can be adjusted simultaneously. Knee can be switched to AUTO, ON and OFF.

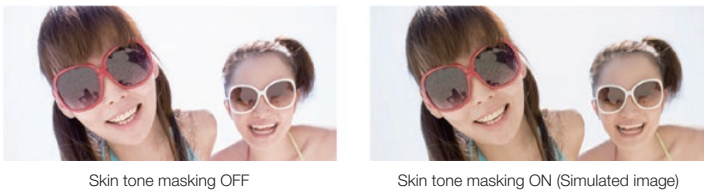
Color reproduction excellence

BT.2020 *1

Extended color gamut

Triple-masking

The triple-masking function includes 12-vector, linear matrix and skin tone masking providing users wide latitude in subject image color control. The 12-vector color corrector provides independent control of hue and saturation for six primary and six secondary combinations of colors. A 6-axis linear matrix provides overall color control for excellent, precise color rendition control. The skin tone masking function provides "fine painting" (hue and saturation) of skin tones without affecting other colors in the scene.



Preset Masking

The Preset Masking function recalls industry standard colorimetry values that are precisely calibrated at the factory. These color standards are: STANDARD (Hitachi standard) / ITU-709 / SMPTE240M / SMPTE-WIDE / NTSC / EBU.

Knee Saturation

Washed out colors are faithfully reproduced in bright areas of the image with the Knee Saturation control.



Chroma Saturation

Total chroma saturation allows control over the amount of color in the image. A purely black & white image can also be achieved.



Auto Chroma

Auto Chroma automatically reduces over-saturated colors in the image caused by extremely bright and colorful objects like stage lighting LED's. Also it has the effect of 'legalizing' the color gamut of a particular preset masking setting.

Picture sharpness enhancement

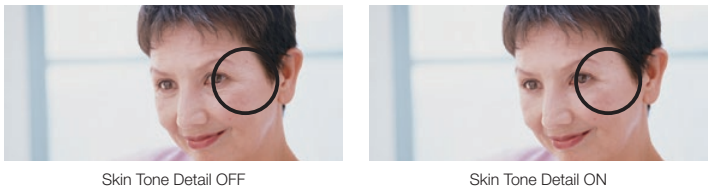
High-chroma detail

The High-chroma detail adjustments allow precise control of the detail level in highly color-saturated portions of the picture such as the petals of a rose or colorful fabrics.



New Skin Tone Detail

The new Skin Tone Detail function allows three channel skin tone adjustments. Flesh-color based softening of the image to achieve a much more youthful look for on-camera personalities. Three individual channels exist as well as a function to automatically detect the hue, saturation and luminance of the Skin Tone. Furthermore, the Skin Tone Detail level can be adjusted to follow the lens' zoom to avoid 'rubber faces' in wide angle shots while using the function. Using CS menu allow easy and quick adjustment with SU-1000, RU-1500JY and RU-1500JY-S3.



Other Useful Production Camera Features

Prompter and floor monitor power

The SK-HD1300 camera system provides plenty of power to drive 2x 24inch LCD monitors with either Hybrid Fiber Cable or Digital Tri-ax CCUs.



Floor Monitor Digital Video

The studio floor or talent monitor can be driven with SDI (digital) video for critical viewing by the talent.

Professional Audio connectors

Hitachi uses dependable XLR-professional type audio connectors for the 2 Intercom headset and 2 MIC/LINE audio connections.

Focus Assist

Precise focus can be easily achieved by the camera operator with the aid of the Hitachi viewfinder focus assist functions. They consist of a linear bar graph on the bottom of the VF raster and detail level control just for the VF video.

Gray-Scale automatic setup

Hitachi's Gray-scale auto-setup accurately adjusts the video parameters of the camera by using an external known reference, under actual lighting conditions, compensating for the lens in use. Color matching can easily be accomplished by employing this unique function.

SD Card Slot

Camera Head and CCU have SD Card Slot. So Camera Head, Camera Adaptor and CCU can do firmware update by SD card.

Tracker Intercom as option

RJ-45 Trunk as option

Dockable Camera Adaptors

Hitachi offers CA-HF1300E fiber and CX-HD1300E triax camera adaptors in identical chassis. The only difference is fiber and triax connector. The both adaptors have the same balance and operability making simple and quick adaptor replacement possible.



Flexible Choice of Camera Control Units

CCU Common Features and Benefits

- Multi Format outputs : 1080p/50*3, 1080/50i, 720p/50 and SD-SDI.
- Built in, high-performance SDTV up/down converters.
- Auto power switching 100 to 240 V AC 47 to 63 Hz
- Dedicated teleprompter channel and AC power.
- 2 channel balanced analog Mic audio outputs.
- Genlock with composite or tri-level sync.

- 2-tally (Red/Green) system.
 - 2-channel, 2 W/4 W intercom system.
 - RS-232C remote control.
 - TCP/IP Network connectivity via RJ-45.
 - CCU Status OPT&TRX indicators including cable condition LED are available on front panel.
- *3 excluding CU-HD1300E-S3

CU-HD1300FTE/CA-HF1300E/CX-HD1300E Digital Fiber and Triax System

Hitachi offers fiber and triax dual transmission system, changing fiber adaptor to triax and vice versa without losing neither the performance nor the technical quality.

Fiber & Triax

- CU-HD1300FTE fiber/triax dual-purpose CCU with 3G (1080p/50) Video Transmission system equipped with both fiber and triax connectors.

Fiber Mode

- With 9.5mm SMPTE 311 cable up to 4000 meter video transmission
- Software upgradable option for CU-HD1300FE and CU-HD1300FTE 4K OUT (4 x BNC quad 3G-SDI and 12G-SDI x 2 as option)
- Simultaneous 4K and 2K signal outputs without any recognizable delay

CU-HD1300FE/CA-HF1300E Optical Fiber System

- 4K OUT and BT.2020 as option.
- No compression in native HDTV Transmission
- 1.5 Gbps or 3 Gbps through SMPTE 304M-311M

Triax Mode

- Multilevel digital modulation technology transmits high bitrate signal multi-format long distance transmission with triax cable using triax connector 1051 series up to 1800 m (@ 14.5 mm FUJIKURA), 900 m @ 8.6 mm FUJIKURA, 1250 m @ 11mm DRAKA and 1750 m @ 14.4 mm NK NETWORKS(1080i50).
- Ultra-Low latency H.264 codec Less than 1 field (<20 ms) latency by multi-slice Ultra-Low latency H.264 codec technology with high bitrate video transmission with similar to fiber quality.
- It can also operate on simple coax cable with local head power.

CU-HD1300FE-S3/CA-HF1300E-S3 Three Times High Speed System

- Flicker Reduction Mode
- Simultaneous outputs of three times and normal speed
- Identical operation and connections with SK-HD1300E-S1 model
- Fully compatible with all accessories including Viewfinders, RU and SU panels
- Almost same physical size and footprint as SK-HD1300E-S1
- Transmission through SMPTE 304M-311M Hybrid Fiber cable



CU-HD1300FTE Front Panel (Fiber/Triax)



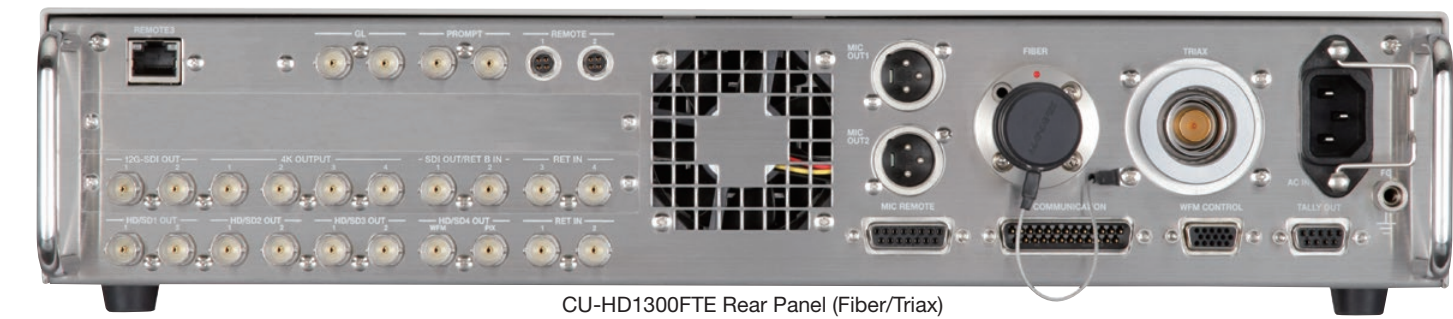
CU-HD1300FE Rear Panel (Fiber)



CU-HD1300TE Rear Panel (Triax)



CU-HD1300FE-S3 Rear Panel (High-speed)



CU-HD1300FTE Rear Panel (Fiber/Triax)

Remote Control Unit and Setup Control Unit

RU-1500JY is a high performance joystick and touch screen remote operation panel designed for ease of use. Easily adjustable using the 3.5" LCD touch screen panel, rotary encoders and custom switches to support the professional users. The RU-1500JY provides an integrated SD card slot for transferring user setup and Scene File information and LAN connectivity for control over IP network. The RU-1500JY-S3 have same function and additional back lit function for dark room operation. SU-1000, Setup Control Unit, is used for the adjustment of camera parameters in a multi-camera production environment. The unit has a wide touch screen LCD panel that expands control functions. It is connected directly to each CCU in parallel via serial data cable with a distance of up to 100 meters.

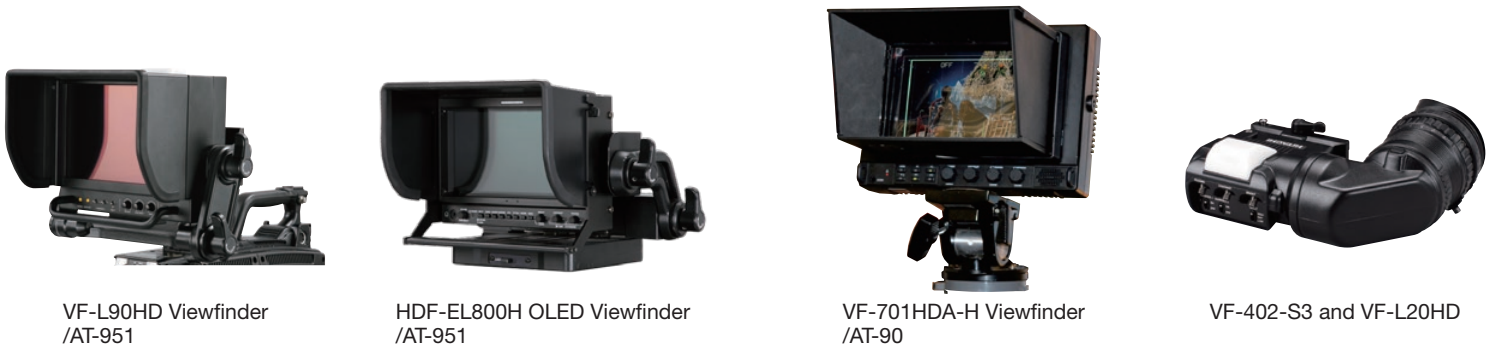
12 cameras can be directly controlled from the SU-1000. Camera control can be extended from 12 cameras up to 128 cameras in LAN operation. The RU and SU provide full control of all parameters for camera systems.



Studio and Field Production Viewfinders

The SK-HD1300 camera system offers choices for Studio and Field production viewfinders. VF-L90HD is a color 9-inch TFT LCD screen viewfinder and VF-701HDA-H is a color 7-inch TFT LCD screen viewfinder which are designed for critical color viewing of the image. HDF-EL800H is a color 7.4-inch OLED screen viewfinder. The OLED

viewfinder is more suited to Sports and OB applications where high-brightness and contrast are required. VF-402-S3 is 2 inch and has 650 TV line High-resolution. VF-L20HD has High-resolution 2-inch color LCD panel with the built-in heater.



SA-1000 Studio Adaptors

Hitachi offers SA-1000, Studio Adaptor, for large box lens applications. Functions routinely required by the cameraperson in Studio and Field production are brought out from the camera menu system and grouped in the SA-1000's rear operation panel for easy access. Hitachi's efforts at providing an advanced level of studio camera features with this Studio Adaptor include a "Cableless" and "tool-less" camera interface which increases the systems' reliability.

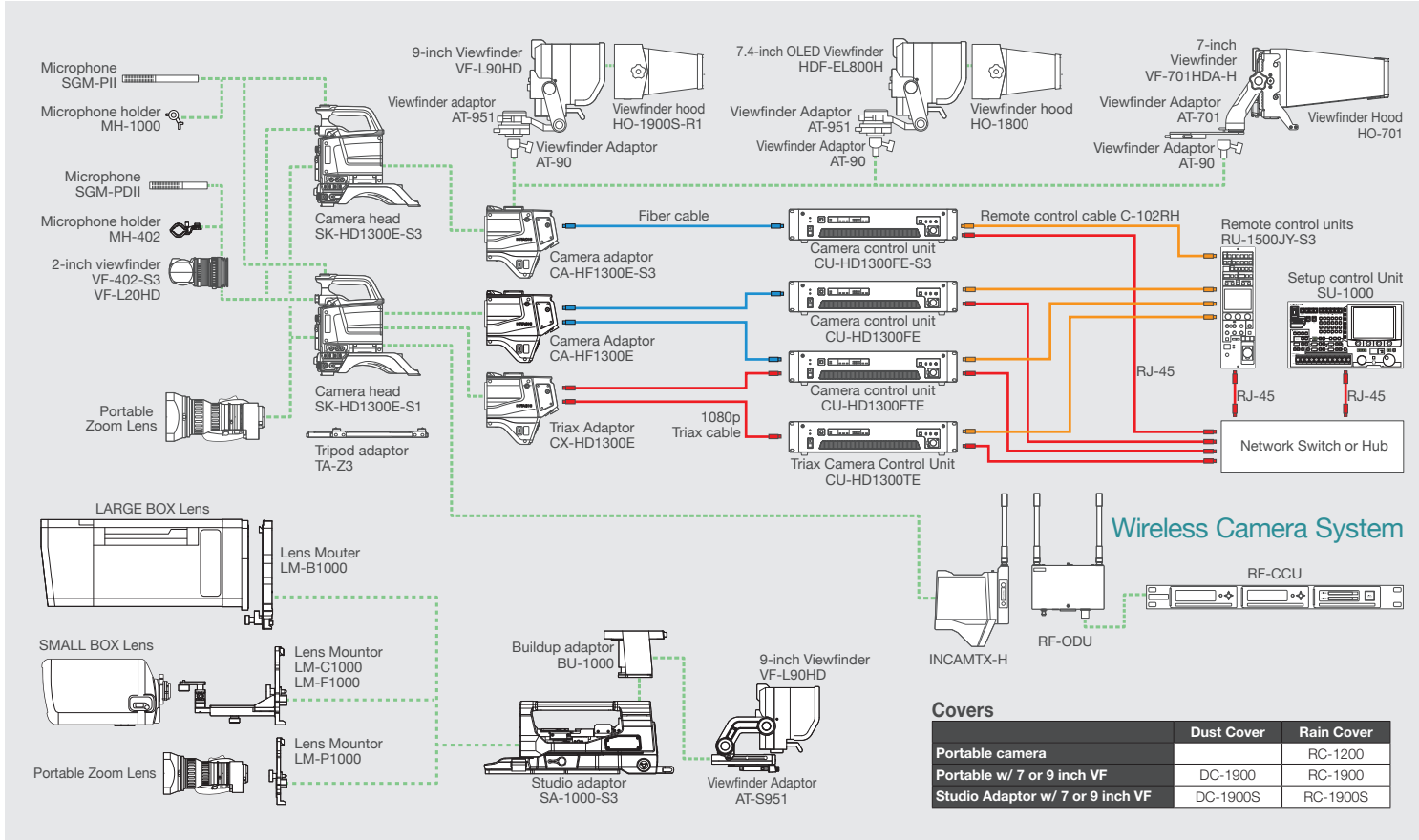


Additional lens mounting options for the SA-1000

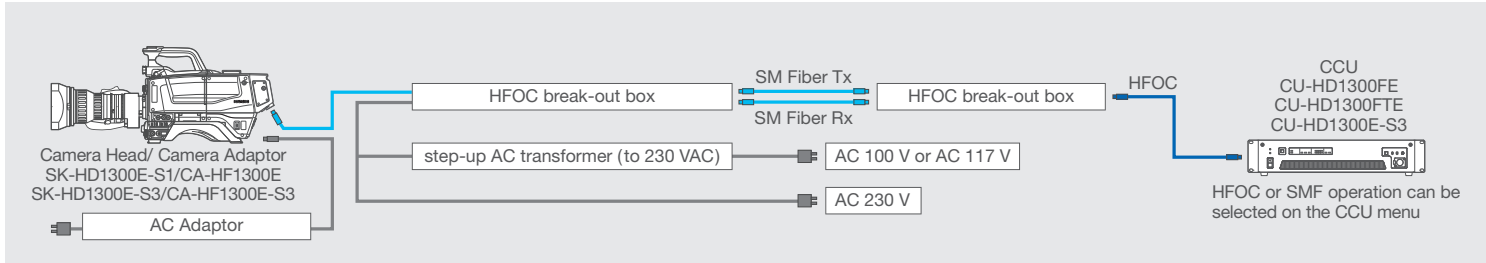


ACCESSORIES

System configuration chart



Single Mode Fiber System



SPECIFICATIONS

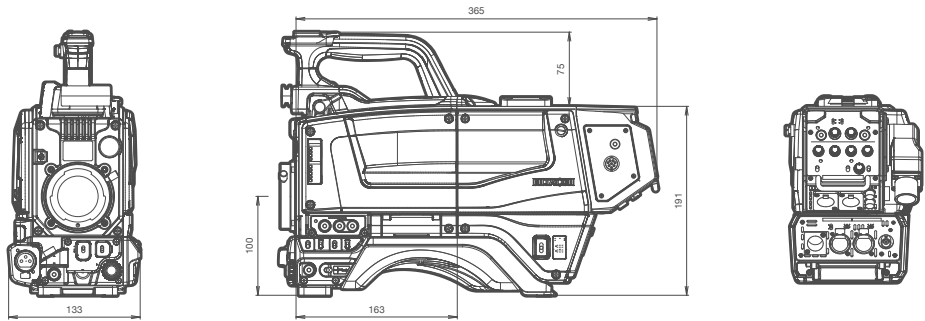
SK-HD1300E-S1
SK-HD1300E-S3

Multi-format production camera SK-HD1300E-S1 High-Speed camera SK-HD1300E-S3		
Model Name	SK-HD1300E-S1	SK-HD1300E-S3
Imaging Device	2/3 inch MOS image sensor Total pixels : 2,270(H) x 1,144(V) 2.6 million pixels Effective pixels : 1,920 (H) x 1,080 (V)	
Optical system	F1.4 prism	
Optical Filters	1x motorized filter wheel w/4 filter positions Clear, Cross, 1/16ND, 1/64ND ECC (Electronic Color Correction) with 5 settings (3200K, 4300K, 5600K, 7500K, FAW (Full-time Auto White))	
Sensitivity	1080/50i : F11 @ 2000 lx, 3200 K, 89.9% reflectance 1080/59.94i : F10 @ 2000 lx, 3200 K, 89.9% reflectance	1080/50i : F11 @ 2000 lx, 3200 K, 89.9% reflectance 1080/59.94i : F10 @ 2000 lx, 3200 K, 89.9% reflectance 1080/150i : F8 @ 2000 lx, 3200 K, 89.9% reflectance 1080/179.82i : F7.3 @ 2000 lx, 3200 K, 89.9% reflectance
Signal to Noise Ratio	62dB (1080i) (typical)	59dB (50i/59.94) (typical) 56dB (150i/179.82i) (typical)
Formats	1080i at 50/59.94 Hz 720p at 50/59.94 Hz 1080p at 50/59.94 Hz** 1080p at 25 Hz* 1080PsF at 29.97/25/23.98 Hz* 2160p at 50/59.94 Hz (4 x 3G-SDI, 12G-SDI)*	1080i at 50/59.94 Hz 720p at 50/59.94 Hz 1080i 150/179.82 Hz (Hi-Speed 3X)* or 720p 150/179.82 Hz (Hi-Speed 3X)*
* Output from CCU ** Output from CA and CCU		
Resolution	Horizontal : 1100TVL , Vertical : 1000TVL	
Modulation depth	Min 50% @ 800TVL (16:9 1080i @ 27.5 MHz)	
Registration	0.01 % (excluding lens characteristics)	
Lens mount	2/3 inch B4 bayonet-type	
Gain selection	L (low) -3, 0 dB M (medium) 0, +3, +6, +9, +12, +15, +18, +21 dB H (high) +3, +6, +9, +12, +15, +18, +21, +24 dB	
Electronic Shutter	Preset mode 1/60, 1/250, 1/500, 1/1000, 1/2000 Lock scan mode 1/50.17 to 1/1940 AES mode Automatic video level control by shutter speed	Preset mode 1/250, 1/500, 1/1000, 1/2000 Lock scan mode 1/150.8 to 1/1940 AES mode Automatic video level control by shutter speed
Power consumption	Camera head 18 W Head only (without VF)	Camera head 22 W Head only (without VF)
Dimensions	133 (W) x 191 (H) x 262 (D) mm	
Mass	2.1 kg, 4.6 lbs. Camera head	
Operating temperature	-10 °C to +45 °C, 14 °F to 113 °F	
Input & Output	1x BNC HD-SDI (1080i or 720p), VF out (Character ON/OFF) or HD-SDI RET out 4-pin Multi connector for remote control panel 20-pin Multi VF connector, 12-pin Multi LENS connector 3-pin XLR MIC-1 connector +48 VDC PHANTOM POWER, GAIN CONTROL, SD Memory Card Slot	

Fiber Camera Adaptor CA-HF1300E/CA-HF1300E-S3	
CCU connector	1x-type HFOC female connector (LEMO) SMPTE-304M-type
Intercom	2x channel, 5-pin each XLR, MIC on/off , ENG/PD level control, Tracker level control
Program audio	2x, PGM audio level controls w / Chnl1 & Chnl2 intercom mix
Teleprompter power output	1x 5-pin, AC230 V, 100 VA, external prompter R/G Tally drive out (depending on configuration accessories)
Microphones	Channel 1 & 2 Line or MIC level select (MENU), with +48 V phantom power on/off
Return/ Aux switcher	4-input remote AUX / VF video select connector (RET control)
Video Inputs & Outputs	1x HD-SDI1 OUT, 3G-SDI/HD-SDI (for CA-HF1300E), HD-SDI (for CA-HF1300E-S3) • 3G-SDI (1080p50/59.94) : SMPTE424/425 Level-A • HD-SDI (1080i50/59.94) : SMPTE292M 1x HD-SDI2 OUT, RET B output : SMPTE292M 1x SD analog teleprompter out sheared with Genlock in
Other I/O	1x 29-pin (for SA-1000 cable-less interface) (female) 1x 5-pin script lamp DC12 V (1.0 A max) (female) 1x 6-pin VF AUX return (female) (for use in cranes or extended Head / VF configurations) 1x R05-R8F 8-pin TRUNK RS-422 or RS-232C (option) (female) 1x XLR 4-pin, DC12 V power input (male)
Dimensions	133 (W) x 189 (H) x 194 (D) mm
Mass	2.2 kg, 4.8 lbs. approx.
Operating temperature	-10°C to +45°C, 14°F to 114°F

Triax Camera Adaptor CX-HD1300E	
CCU connector	1x-Triax connector
Video transmission system	Fully digital bi-directional, 10-bit, 4 : 2 : 2 sampling, 3G (1080p50/59.94)
Intercom	2x channel, 5-pin each XLR, MIC on/off, ENG/PD level control, Tracker level control
Program audio	2x, PGM audio level controls w/ Chnl1 & Chnl2 intercom mix
Teleprompter power output	1x 5-pin, 230 VAC, 60 W to 100 W, external prompter Tally drive out (depending on configuration accessories)
Microphones	Chnl1 & 2, Line or MIC level select (MENU), with +48 V phantom power on/off
Return/ Aux switcher	Remote AUX / VF video select connector (RET control)
Video Inputs & Outputs	2x HD-SDI1/3 OUT, 3G-SDI/HD-SDI • 3G-SDI (1080p50/59.94): SMPTE424/425 Level-A • HD-SDI (1080i50/59.94): SMPTE292M 1x HD-SDI2 OUT 3G-SDI or HD-SDI • 3G-SDI (1080p50/59.94): SMPTE424/425 Level-A • HD-SDI (1080i50/59.94): SMPTE292M 1x SD analog prompter out shared with Genlock in
Other I/O	1x 29-pin (for SA-1000 cable-less interface) (female) 1x 5-pin script lamp +12 VDC (1.0 A max) (female) 1x 6-pin VF AUX return (female) (for use in cranes or extended Head / VF configurations) 1x XLR 4-pin, 12VDC power input (male)
Dimensions	142 (W) x 188 (H) x 202 (D)
Mass	2.6 kg, 5.7 lbs. approx.
Operating Temperature	-10 °C to +45 °C, 14 °F to +114 °F

DIMENSIONS (SK-HD1300E-S1/SK-HD1300E-S3 with CA-HF1300E/CA-HF1300E-S3)



SPECIFICATIONS

SK-HD1300E-S1
SK-HD1300E-S3

Camera Control Unit CU-HD1300FTE/ CU-HD1300TE/ CU-HD1300FE	
Input signal	
GENLOCK IN	1x BNC • B-BST 0.45Vp-p/75Ω (loop through) • HDTV tri-level sync 0.60Vp-p/75Ω (loop through)
RETURN IN (1/2/3/4) RETURN B IN (1/2)	2x BNC, 3G-SDI/HD SDI(1080i or 720P)/ SD SDI • 3G-SDI: SMPTE424/425 Level-A • HD-SDI: SMPTE292M • SD-SDI: SMPTE259M-C NOTE: RETURN (3/4) and RETURN B (1/2)are provided by CU-HD1300FTE and CU-HD1300FE
PROMPT IN	1x BNC, VS or VBS 1.0Vp-p/75Ω (loop through)
INTERCOM (HEAD SET)	5-pin XLR, -60dBm
COMMUNICATION · INTERCOM	1x D-sub 25-pin, Incom, Tally 0dBm , 600Ω at 4Wire 0dBu or -15dBu, 200Ω at 2Wire (ENG, PROD) Clear-Com and RTS compatible 0dBm/600Ω
· PGM · R/G TALLY IN	Contact or Voltage selectable
REMOTE 1	1x 4-pin, 1.5Vp-p or 1x D-sub, 9-pin RS-232C (Switchable)
REMOTE 2	1x 4-pin, 1.5Vp-p
REMOTE 3	1x RJ-45
Output signal	
12G-SDI OUT	2x BNC, 12G-SDI (option, fiber only) • Square Division or 2 Sample Interleave division • 12G-SDI: SMPTE ST 2082-1
4K OUT	4x BNC 3G-SDI (Embedded audio available, option, fiber only) • Square Division or 2 Sample Interleave division • 3G-SDI: SMPTE424/425 Level-A/B
HD/SD OUT (1/2/3)	6x BNC, 3G-SDI(1080p)/HD-SDI (1080/25p, 1080/25PsF, 1080i or 720p)/ SD-SDI selectable (Embedded audio available) • 3G-SDI: SMPTE424/425 Level-A • HD-SDI: SMPTE292M • SD-SDI: SMPTE259M-C
PIX/WFW OUT	1x BNC, 3G-SDI/HD-SDI (1080i or 720p)/SD-SDI selectable (Embedded audio available) • 3G-SDI: SMPTE424/425 Level-A • HD-SDI: SMPTE292M • SD-SDI: SMPTE259M-C
MIC OUT 1	1x XLR, 3-pin, 0dBm/ 600Ω
MIC OUT 2	1x XLR, 3-pin, 0dBm/ 600Ω
INTERCOM (HEAD SET)	1x XLR, 5-pin, 0dBu Max +15dB
REMOTE 1	1x 4-pin, 1.5Vp-p or 1x D-sub, 9-pin RS-232C (Switchable)
REMOTE 2	1x 4-pin, 1.5Vp-p
REMOTE 3	1x RJ-45
COMMUNICATION · INTERCOM	1x D-sub 25-pin 0dBm , 600 Ω at 4Wire 0dBu or -15dBu ,200 Ω at 2Wire (ENG, PD and PGM)
TALLY OUT (R/G)	1x D-sub 9-pin, Contact 24 Vdc, 10 mA
WFM CONTROL	1x D-sub 15-pin WFM 0-7, 0/5V
Power supply voltage	100 to 240 VAC 47 to 63Hz(with auto-sensing mode)
Mass	11 kg, 24.3 lbs. approx.
Dimensions	432 (W) × 88 (H) × 419 (D) mm, 2 RU
Operating temperature	0°C to 40°C, 32°F to 104°F
Power consumption	300W approx. (AC operation, including SK-HD1300, VF-402 and AUX POWER OUT 100VA)

Remote Control Units RU-1500JY / RU-1500JY-S3	
Dimensions	102 (W) x 370 (D) x 56.2 (H) mm, 19" rack
Mass	Approx. 1.3 kg
Power input	+12 VDC
Operational temperature	0°C to 40°C, 32°F to 104°F
Interface	RJ-45 connector, 4-pin connector

High Speed Camera Control Unit CU-HD1300FE-S3	
Input signal	
GEN LOCK IN	1x BNC • B-BST 0.45Vp-p/75Ω (loop through) • HDTV tri-level sync 0.60Vp-p/75Ω (loop through)
DIGITAL RET IN 1/2/3/4 RET.B IN 1/2	6x BNC, HD-SDI/ SD-SDI • 1080i/720p SMPTE292M • SD SDI: SMPTE259M-C
PROMPT IN	VS or VBS 1.0Vp-p/75Ω (loop through)
INTERCOM (HEAD SET)	-60dBm
COMMUNICATION · INTERCOM	1x D-sub 25-pin, Incom, Tally 0dBm , 600Ω at 4Wire 0dBu or -15dBu, 200Ω at 2Wire (ENG, PROD) Clear-Com and RTS compatible 0dBm/600Ω
· PGM · R/G TALLY IN	Contact or Voltage selectable
REMOTE 1	1x 4-pin, 1.5Vp-p or 1x D-sub, 9-pin RS-232C (Switchable)
REMOTE 2	1x 4-pin, 1.5Vp-p
REMOTE 3	1x RJ-45
Output signal	
3 times HIGH SPEED OUTPUT LINK A/B/C	6x BNC Link A (x2), Link B (x2), Link C (x2) • 1080i/720p : SMPTE292M
HD/SD OUT (1/2/3)	6x BNC, HD-SDI/SD-SDI selectable (Embedded 2-Chnl audio available) • 1080i/720p : SMPTE292M • SD-SDI : SMPTE259M-C
PIX/WFM OUT	2x BNC, HD-SDI/ SD-SDI selectable (Embedded 2-Chnl audio available) • 1080i/720p : SMPTE292M • SD SDI : SMPTE259M-C
MIC OUT 1	1x XLR, 3-pin, 0dBm/600 Ω
MIC OUT 2	1x XLR, 3-pin, 0dBm/600 Ω
INTERCOM (HEAD SET)	1x XLR, 5-pin, 0dBu MAX+15dB
REMOTE 1	1x 4-pin, 1.5Vp-p or 1x D-sub, 9-pin RS-232C (Switchable)
REMOTE 2	1x 4-pin, 1.5Vp-p
REMOTE 3	1x RJ-45
COMMUNICATION · INTERCOM	1x D-sub 25-pin 0dBm, 600 Ω at 4Wire 0dBu or -15dBu, 200 Ω at 2Wire (ENG, PD and PGM)
TALLY OUT (R/G)	1x D-sub 9-pin, Contact 24 Vdc, 10 mA
WFM CONTROL	1x D-sub 15-pin, WFM 0-7, 0/5V
MIC REMOTE	1x D-sub 15-pin, MIC1,2 Gain
Power supply voltage	100 to 240 VAC 47 to 63Hz (with auto-sensing mode)
Mass	10 kg (22 lbs) approx.
Dimensions	432 (W) × 88 (H) × 419 (D) mm ,2 RU
Operating temperature	0°C to 40°C, 32°F to 104°F
Power Consumption	300 W approx. (AC operation, including SK-HD1300E-S3, VF-402-S3 and AUX POWER OUT 100VA)

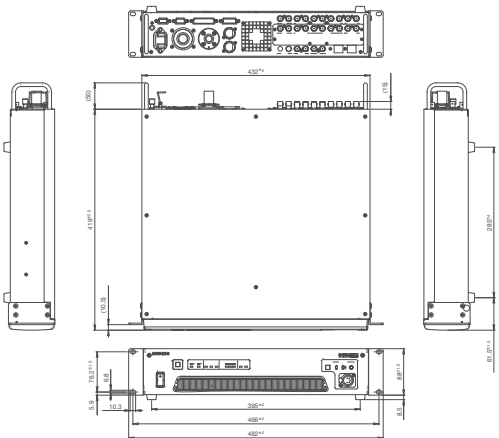
Setup Unit SU-1000	
Input signal	VE (Video Engineer) Switch input : Contact closure
Dimensions	385 (W) x 255 (D) x 65 (H) mm
Power input	100 to 240 VAC 47 to 63 Hz (with auto-sensing mode)
Mass	Approx. 4.1 kg, 9 lbs
Operational temperature	0°C to 40°C, 32°F to 104°F
Power consumption	Approx. 33 VA
Interface	RJ-45 connector, 4-pin connector

Studio Adaptors SA-1000 / SA-1000-S3	
Dimensions	310 (W) x 352 (H) x 500 (D) mm
DC output	DC 12 V ±10% (Max 2.5 A)
Mass	Approx. 18 kg, 40 lbs (SA-1000 with LM-B1000)
Operational temperature	-10 °C to +45 °C, +14 °F to +114 °F
Power consumption	Approx. 1.5 W

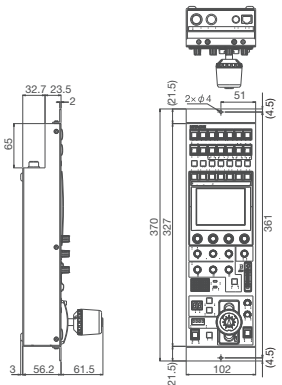
2-inch Viewfinder VF-402-S3	
Display device	2-inch BW (16:9)
Resolution	650 TV lines
Functions	BRIGHT, CONTRAST, Diopter PEAKING knob VR (front facing)
Internal tally	Red / Green
Tally switch	Tally switch OFF, NORMAL, HIGH
Power Consumption	Approx. 5 W (at Tally OFF)

2-inch Color Viewfinder VF-L20HD	
Display device	2-inch color TFT LCD (16:9)
Number of pixels	960 (H) x 540 (V)
Functions	BRIGHT, CONTRAST, Diopter PEAKING knob VR (front facing)
Internal tally	Red / Green
Tally switch	Tally switch OFF, NORMAL, HIGH
Power Consumption	Approx. 5.0 W (at Heater-OFF) 6.5 W (at Heater -ON)

DIMENSIONS (CU-HD1300FTE)



DIMENSIONS (RU-1500JY/RU-1500JY-S3)

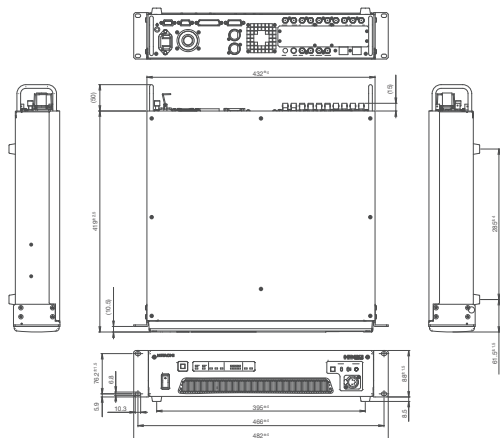


7-inch Viewfinder VF-701HDA-H	
Display device	7-inch color LCD (16:9)
Number of pixels	1280 (H) x 800 (V)
Functions	BRIGHT, CONTRAST, SATURATION, SHARPNESS knob VR (front facing)
Internal tally	Red / Green
Dimensions	207 (W) x 147 (H) x44 (D) mm
Power Consumption	Approx. 11 W

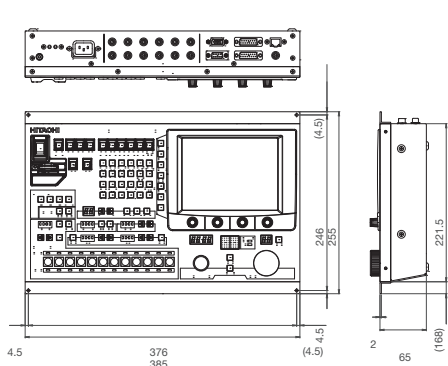
7.4-inch viewfinder HDF-EL800H	
Display device	7.4-inch color OLED (16:9)
Number of pixels	960 (H) x 540 (V) Effective Pixels
Functions	BRIGHT, CONTRAST, Diopter PEAKING knob VR, Waveform on/off
Internal tally	Red / Green
Dimensions	215 (W) x 158 (H) x 51.5 (D) mm
Power Consumption	Approx. 20 W

9-inch viewfinder VF-L90HD	
Display device	9-inch color LCD (16:9)
Number of pixels	1280 (H) x 720 (V) normal scan (16:9)
Functions	BRIGHT, CONTRAST, PEAKING knob VR power on/off, tally on/off, Marker on/off, (center marker, 4:3 marker, area marker)
Internal tally	Red / Green
Dimensions	230 (W) x 175 (H) x 86 (D) mm
Power Consumption	Approx. 18 W

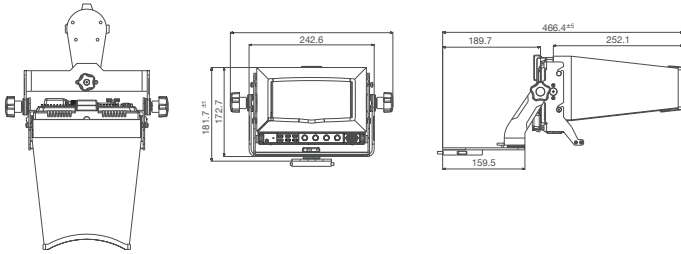
DIMENSIONS (CU-HD1300TE)



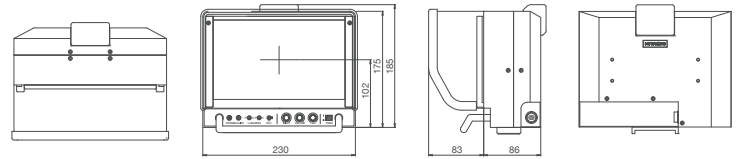
DIMENSIONS (SU-1000)



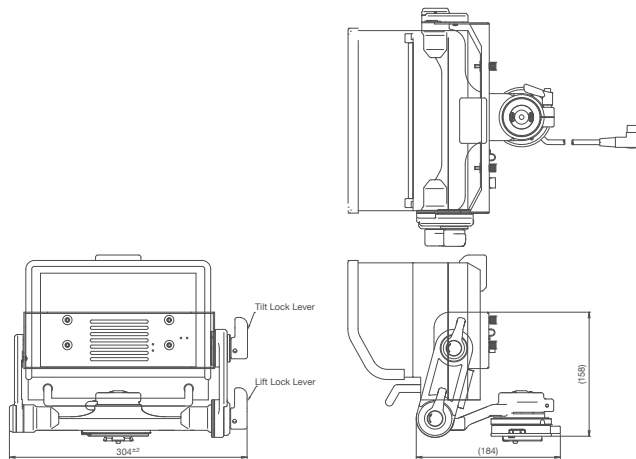
Dimensions (VF-701HDA-H, AT-701, HO-701)



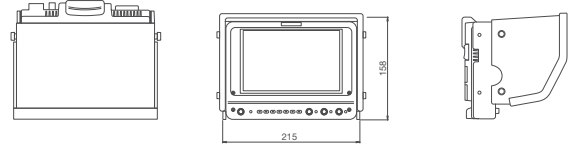
DIMENSIONS (VF-L90HD)



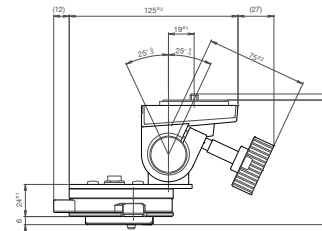
Dimensions (AT-951)



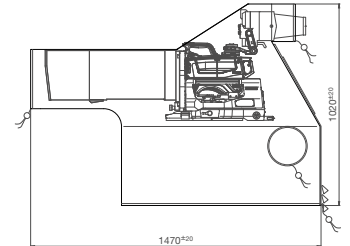
DIMENSIONS (HDF-EL800H)



Dimensions (AT-90)



Dimensions (RC-1900S)



CAUTION : To ensure safe operation, please read the instruction manual before using this product.

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These Specifications are subject to change without notice.

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