Specifications

These Specifications are subject to change without notice.

Camera Head SK-UHD7000

Model name	SK-UHD7000 (59.94Hz), SK-UHD7000E (50Hz)
Image sensor	3-chips, 2/3-inch, CMOS image sensor with global shutter Effective pixels : 3,840 (H) × 2,160 (V)
Prism	F1.4
Optical Filter	1x motorized filter wheel ND (CLEAR, 1/4 ND, 1/16 ND, 1/64 ND)
ECC Filter	3200K, 4300K, 5600K, 6300K, 8000K
Lens mount	B4 Bayonet
Horizontal resolution	4K: 2000 TVL (At center, 5% or higher modulation depth) HD: 1000 TVL (At center, 5% or higher modulation depth)
SNR	HD: 62dB typ. Mod. Dept. HD : 60% at 800TVL (27MHz)
Sensitivity (2000 lx, 3200 K, 89.9% reflectance)	4K : F10/59.94p, F11/50p HD: F10/59.94p, F11/50p
Minimum illumination	2 lx (at F1.4, GAIN: +24 dB)
Vertical Smear	No smear
Gain selection	L (low) -9/-6/-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

Shutter	Preset : 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 second (59.94Hz)
	              1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 second (50Hz)
	Lock scan : 1/60.53 to 1/1981 (59.94Hz)
	                 1/50.39 to 1/2002 (50Hz)
	AES mode : Automatic video level control by shutter speed.

Geometric distortion	Negligible (excluding lens characteristics)
Registration Overall	0.01 % (excluding lens characteristics)
Dimensions	140(W) x 191(H) x 365(D) mm
Power supply voltage	DC 12 V (10.5 V to 17 V)
Temperature range	Performance maintenance -20 °C to +45 °C , -4 °F to +113 °F Operation -20 °C to +50 °C , -4 °F to +122 °F Storage -20 °C to +60 °C , -4 °F to +140 °F
Power Consumption	Approx. 70 W (without VF and lens)
MASS	Approx. 4.6 kg (without VF and lens)

Input & Output	MON OUT: BNC x1, HD/SD SDI with Character
	SDI OUT1/2: BNC x2, 12G/6G/3G/HD SDI
	   MAIN out (12G/6G/3G/HD SDI), HD return out (HD SDI),
	   or HD prompter out (HD SDI)
	SDI IN/OUT: BNC x1
	   MAIN out (3G/HD SDI), HD trunk in (3G/HD SDI, only when
	   HD mode), or HD return in (HD SDI, only when standalone)
	PROMPT/GL: BNC x1
	   Analog prompter out (VBS, only when combined with CCU)
	   Genlock in (Black-Burst/Tri-level, only when standalone)
	REMOTE: 4-pin Multi connector for remote control panel
	VF: 20-pin, LENS: 12-pin, MIC: 3-pin XLR,
	DC5V OUT: USB Type-A (DC5V/1.0Amax),
	Ethernet TRUNK: RJ-45,
	EARPHONE: Ø3.5 Monaural Mini jack,
	CCU: SMPTE304M-SMPTE311M-type FOC (LEMO),
	AC230V OUT: 5-pin, INTERCOM: 5-pin XLR x2,
	MIC: 3-pin XLR x2, SCRIPT: 5-pin, RET CONT: 6-pin,
	SA connector: 15pin for Studio Adaptor (SA-1100-S1),
	DC IN: 4-pin XLR (DC12V)

Camera Control Unit CU-UHD7000

Model name	CU-UHD7000 (59.94Hz), CU-UHD7000E (50Hz)
Power supply voltage	AC100~240V, 47~63Hz with auto-sensing
Power consumption	300W approx. (AC operation, including SK-UHD7000, VF-L20HD, and AUX POWER OUT 100VA)
Operating temperature	0 °C to 40 °C (+32 °F to +104 °F)

Connectors (SDI INPUT/OUTPUT)

INTERCOM (HEAD SET)	Talk: -60dBm Receive: 0dBu Max+15dB	XLR-5pin (female)
COMMUNICATION · INTERCOM · PGM · R/G TALLY	0dBrn/600Ω (4Wire) or 0dBu or -15dBu/200Ω (2Wire) Clear-com, RTS complied 0dBm/600Ω DC voltage or contact supply	D-sub 25p
REMOTE 1/2/3	REMOTE 1/2:1.5Vp-p(4pin), REMOTE 3: RJ-45	
Ethernet TRUNK	10Mbps	RJ-45
MIC REMOTE · MIC GAIN CTL IN · TALLY OUT	 0/5V Open collector	D-sub 15p
GENLOCK IN	Black burst 0.45Vp-p/75Ω or HD Tri-level sync 0.6Vp-p/75Ω (loop through)	BNC (x2)
MIC OUT 1/2	0dBm/600Ω	XLR-3pin
TALLY OUT	Red / Green : Contact or DC supply (24V / 10mA)	D-sub 9p

WFM CONTROL	WFM CTL0 ~ 7 0/5V	D-sub 15p
12G SDI OUT (1/2/3/4)	12G / 6G / 3G / HD SDI (4x1080p/1080i/720p HFR option), SMPTE ST 2082-1, SMPTE ST 2081-1, SMPTE 424/425M Lv-A/B, SMPTE 292M	BNC (x4)
SDI OUT (1/2/3/4/5/6)	3G / HD / SD SDI (4x1080p/1080i/720p HFR option), SMPTE 424/425M Lv-A/B, SMPTE 292M, SMPTE 259M-C	BNC (x6)
MoIP-1/2 IN/OUT ST-2110*	4K (12G/6G) or 2K (3G/1,5G) or 4xHFR	
PIX / WFM OUT	3G / HD / SD SDI, SMPTE 424/425M Lv-A, SMPTE 292M, SMPTE 259M-C	BNC (x2)
SDI I/O (1/2) (MAIN out or RET.B in)	3G / HD / SD SDI, SMPTE 424/425M Lv-A, SMPTE 292M, SMPTE 259M-C	BNC (x2)
RET IN (1/2/3/4) RET.B IN (1/2)	3G / HD / SD SDI, SMPTE 424/425M Lv-A, SMPTE 292M, SMPTE 259M-C	BNC (x4) BNC (x2)
PROMPT IN	VS or VBS 1Vp-p/75Ω (loop through)	BNC (x2)

* if CU7K board Installed

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, Peaking, knobs VR front-facing Diopter
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)
Operating temperature	-20 to +45°C
Brightness	220 cd/m2 (typ.)

7-inch LCD Full HD Viewfinder HDF-700H-S1/S2

Panel type/size/aspect ratio	TFT LCD / 7-inch /16:9
Picture resolution	1920 (H) x 1080 (V)
Viewing angle	178°(H), 178°(V)
Brightness/contrast/ Color reproduction	450 cd/m2, Contrast:1.100:1, Color 16.7M
Function	Brightness, Contrast, Peaking, Focus Assist, Marker, Waveform, Vector Scope
TALLY	Red/Green
Weight/Power consumption	app. 1Kg / app.12W
Operation temperature	-20°C to +45°C
EXTERNAL SDI IN	BNC x 1
Viewfinder adaptors option	HK700 / HK900 / HK1000 / AT-951-S2

Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Dimensions	432(W) x 88(H) x 419(D) mm
Mass	12 kg approx.
Maximum Cable length	1km (with utility power 100VA), 2km (without utility power), 10km (Single mode fiber)

This catalog also includes items scheduled to be developed within 2024.   All other trademarks are the property of their respective owners.

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

Hitachi Kokusai Electric

Newest 2/3inch GS-CMOS Sensor 4K Camera

SK-UHD7000
CU-UHD7000

'24-03

SK-UHD7000

The camera embodies state of the art like evolving creature.

> Global Shutter and Native 4K Production Camera.

> Live –Field and Studio Broadcasting.

> UHD/HD, HDR/SDR, BT-2020/BT-709 Simultaneous Operation.

> High Frame Rate up-grade license by option.

> MoIP connection by CU-UHD7000-S4.

Newest GS-CMOS Full Native 4K UHD

Our new, premium 4K flagship broadcast camera, the SK-UHD7000 is our most sophisticated broadcast camera designed to support 4K UHD/HD/HDR.

Hitachi's SK-UHD7000 Newly designed Full 4K. Employing a new generation of 3 Global Shutter CMOS RGB sensors with over 8 million pixels each, the SK-UHD7000 provides outstanding quality regarding sensitivity, color resolution, contrast and ultra-low-noise video. The optical format is the television industry standard 2/3-inch B4 Bayonet mount.

This has a wider spectral bandpass to allow the achievement of ITU-R BT.2020 color gamut specifications.

Wide Space to Hold.

DC Power connection and operation switch on Left- Back side.

Back lit and Convenient Layout.

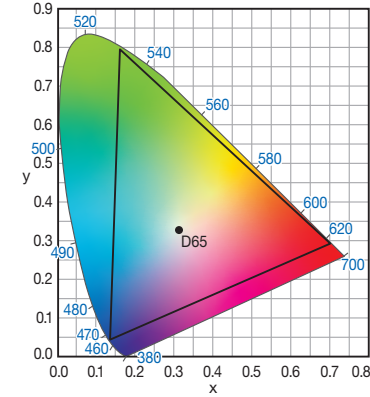**Operational Switch efficiently arranged.**

Evolving Feature

New Design Concept

> One piece Body.
Ergonomic shape and balance are provided with a larger carrying handle, Low center of gravity. Viewfinder return and intercom controls are conveniently placed on the carrying handle.

> 70W Low power consumption by adopting the latest device. Adoption of high efficiency power supply and high efficiency heat dissipation structure.

> UHD and multi-format HDTV SDI video with embedded audio are output directly from the camera head to support jib crane, Spidercam® and Steadicam® applications.

> Independent and unswitched Trunk RJ-45 LAN connector provided for robotic interface and other command-through application requirements.

Wide Color Gamut and High Dynamic Range

The new optical system in the SK-UHD7000 is comprised of HDR Global Shutter CMOS sensors and a wide-bandwidth color spectrum prism that provides outstanding Wide Color Gamut and HDR outputs.(HLG & PQ & S-LOG3)
Live program productions are now possible with simultaneous HDR/SDR workflow. While operating in HDR mode the SK-UHD7000 camera system can switch the UHD and HDTV outputs between ITU-R BT-709 and ITU-R BT.2020 wide color gamut. The SDR video has separate shading controls from the HDR output provided via user menus and on the remote-control panel.

For High End Full 4K Studio/ Field Production

New developed signal processing technology using high speed and large capacity FPGA enable High End Full 4K transmission.

> Hitachi's SK-UHD7000 achieves Native 2000TVL 4K and 1000TVL HD-SDI with 60% Modulation depth.

> Low-noise circuit technology provides a high signal to noise ratio. Even at high gain, clear images are obtained.

> Advanced image handling and adjustment functions.

> Extensive User-Friendly Features.

Upgrade Software License

High Frame Rate(HFR) function can be enabled by Permanent or Days-Limited license.

Output Variation

Camera Control System
SK-UHD7000

CU-UHD7000 Camera Control Unit

CU-UHD7000 has 12G/6G-SDI outputs for 4K(3840x2160) video, and 3G/HD/SD-SDI outputs for converted HD/SD video. External 3G/HD/SD-SDI return video can be displayed on camera viewfinder through built-in cross-converted and frame-syncrhronizer.

CU-UHD7000 has independent 4K and HD processor to output HDR/SDR simultaneously and control detail enhancement for down-converted HD.

CU-UHD7000 has 4 programmable output BNCs for UHD. They can be switched between UHD single-link 12G, 6G or QUAD HD. The HDTV cut-out of the UHD signal can be selected and positioned by the control panel and is assigned to the UHD outputs of the CCU.

System Format can be switch to 4xHD(3G/1,5G) HFR (240p/240i/ 200p/200i) if optional Software license are installed.

Control Panel

RU-1500JY Features

> 3.5inch LCD touch panel and LED switch and rotary encoder.
> Lens iris, master black and preview switch can be controlled by a large, easy-to-use joystick control.
> One touch color temperature control function, the RU-1500JY is ideal for Studio and OB-VAN use.
> Adjustment and file data (read/ write) from SD memory card.
> IP Control Interface.
> Back lit function for dark lighting environment operation. (RU-1500JY-S3)

RU-1000VR Features

> Small and Simple control.
> Main function of Filters, Gain, RB Gain, RGB Black, Master Black, Iris and others are controlled directly.
> One touch color temperature control function.

CU-UHD7000 12G-SDI Camera Control Unit

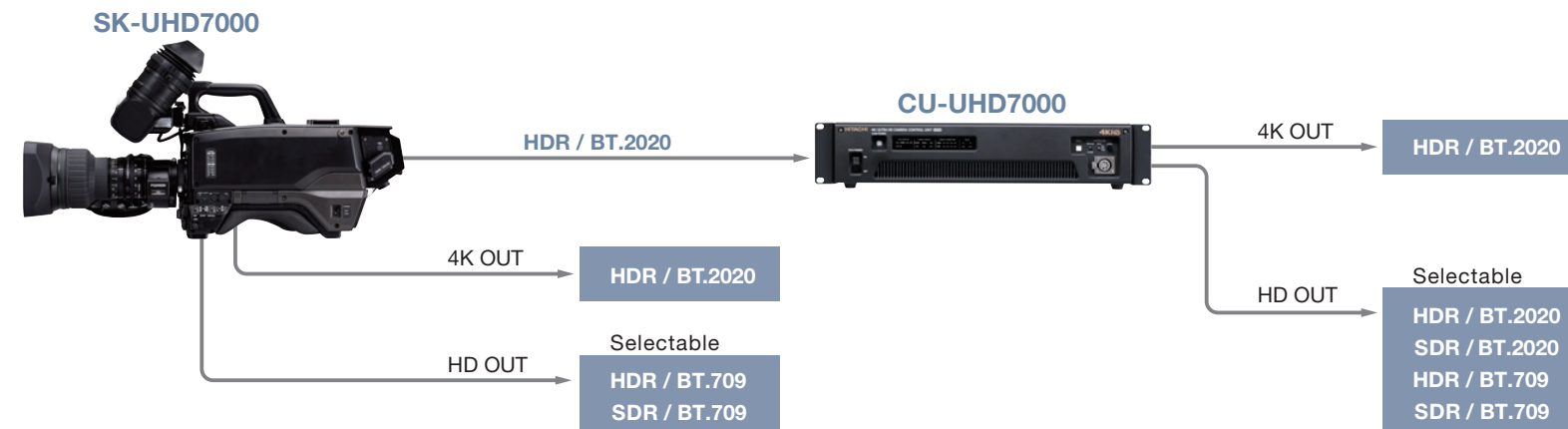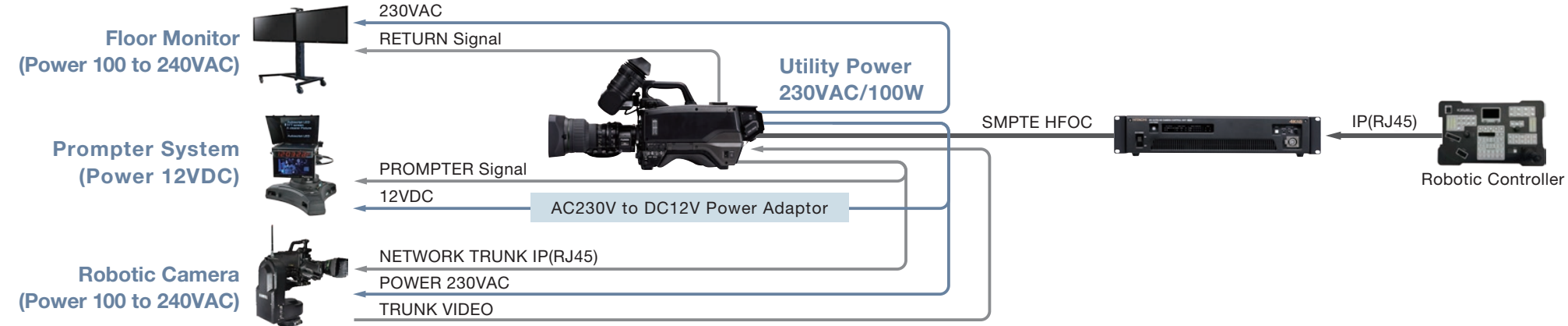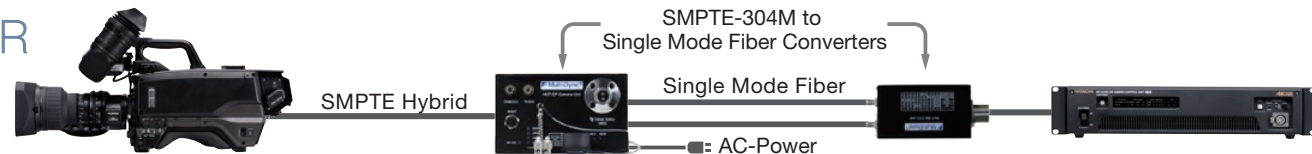CU-UHD7000-S4 12G-SDI and ST-2110 Interface

CU-IP7000 MoIP BOX

RU-1500JY   RU-1000VR

Application

Utilty Power Out (100W) ,Ethernet Trunk &Video Trunk)

- 230VAC
- RETURN Signal
- **Floor Monitor (Power 100 to 240VAC)**
- **Utility Power 230VAC/100W**
- SMPTE HFOC
- IP(RJ45)
- Robotic Controller
- PROMPTER Signal
- 12VDC
- **Prompter System (Power 12VDC)**
- AC230V to DC12V Power Adaptor
- NETWORK TRUNK IP(RJ45)
- POWER 230VAC
- TRUNK VIDEO
- **Robotic Camera (Power 100 to 240VAC)**

SINGLE MODE FIBER-DARK FIBER

Camera powered over SMPTE Hybrid cable up to 1km – Single Mode Fiber over 10km

- SMPTE-304M to Single Mode Fiber Converters
- Single Mode Fiber
- SMPTE Hybrid
- : AC-Power

Accessories

SU-1000 MASTER SETUP UNIT

> Control 12 cameras TCP Control or 128 cameras IP Control or PC Control.

> Menu Structure same as RU-1500JY Remote Control Panel – easy to use.

7-inch LCD Color Full HD Viewfinder HDF-700H-S1/S2

> Nature 16:9 format 7 inch LCD.

> Super Wide Viewing angle: Up & Down/ Left & Right

> High density display : Max. number of pixel :1920(H)x1080(V)

> Focus assist, Peaking.

> Waveform, Vector scope, Zebra, Audio level meter, Marker-Multi Display.

> Easy operation of pan-tilt mechanism.

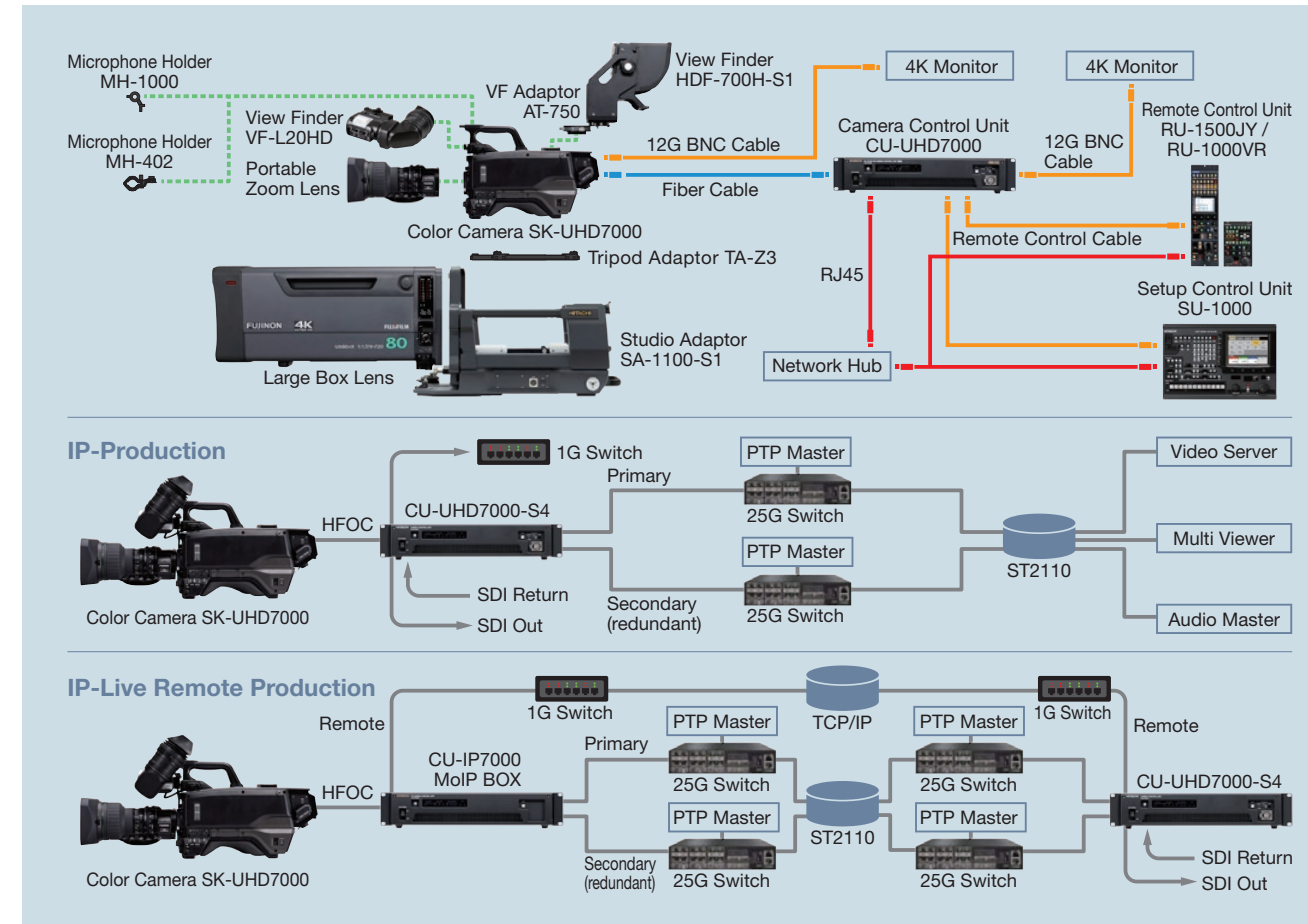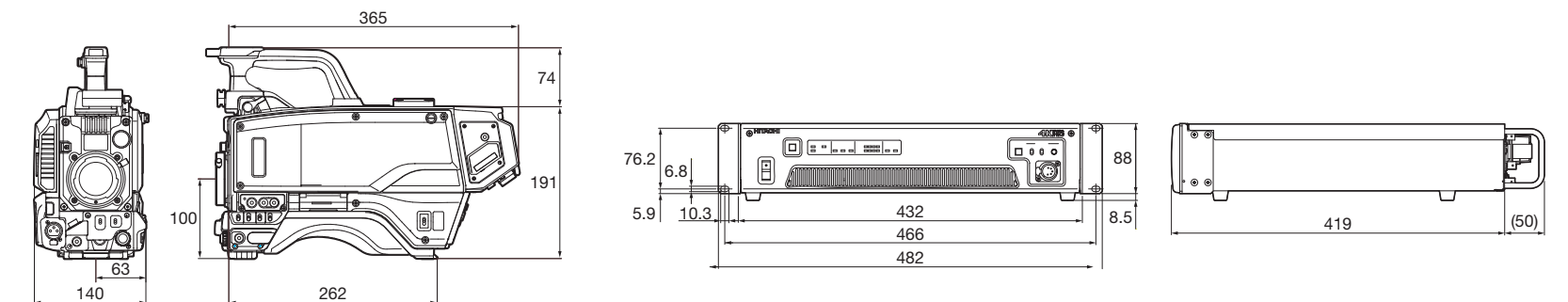## 2-inch LCD Color ENG Viewfinder VF-L20HD

> 2-inch color LCD panel with the built-in heater.

> Lower lag in lower temperature environment.

> Auto switchable 1080 59.94i/50i for common use in worldwide.

System Configuration

- Microphone Holder MH-1000
- Microphone Holder MH-402
- View Finder VF-L20HD
- Portable Zoom Lens
- VF Adaptor AT-750
- View Finder HDF-700H-S1
- 4K Monitor
- 4K Monitor
- 12G BNC Cable
- Camera Control Unit CU-UHD7000
- Remote Control Unit RU-1500JY / RU-1000VR
- 12G BNC Cable
- Fiber Cable
- Color Camera SK-UHD7000
- Tripod Adaptor TA-Z3
- Remote Control Cable
- RJ45
- Setup Control Unit SU-1000
- Large Box Lens
- FUJINON 4K
- Studio Adaptor SA-1100-S1
- Network Hub

IP-Production

- Color Camera SK-UHD7000
- HFOC
- CU-UHD7000-S4
- 1G Switch
- PTP Master Primary
- 25G Switch
- PTP Master
- ST2110
- SDI Return
- SDI Out
- Secondary (redundant) 25G Switch
- Video Server
- Multi Viewer
- Audio Master

IP-Live Remote Production

- Color Camera SK-UHD7000
- HFOC
- Remote
- CU-IP7000 MoIP BOX
- 1G Switch
- PTP Master Primary
- TCP/IP
- PTP Master
- 1G Switch Remote
- 25G Switch
- PTP Master
- ST2110
- 25G Switch
- PTP Master
- CU-UHD7000-S4
- Secondary (redundant) 25G Switch
- 25G Switch
- SDI Return
- SDI Out

Digital Fiber Optic Transmission

The SK-UHD7000's digital signal processing technology harnesses the full UHD bi-directional data transmission. The SK-UHD7000 employs uncompressed high throughput data rates using standard SMPTE 311M type Hybrid Fiber-optic cables for long-distance connections between the camera and the control unit. Installations employing Single Mode (SM) fiber can be used without any type of special power adapters. Both the camera and CCU can utilize SM fiber individual strand runs within a facility. When local camera power is applied, full digital fiber-optic signals are transported between the camera and CCU.

Media Over IP- MoIP System Configuration

CU-UHD7000-S4 enables ST-2110 25G, 4K/2K/HFR uncompressed video transmission with NMOS control and PTP synchronization.

CU-IP7000 MoIP BOX For ST-2110 Live Remote Production

CU-IP7000 enables ST-2110 25G, 4K/2K/HFR uncompressed IP transmission and can be used together with MoIP TX/RX capability Camera Control Unit CU-UHD7000-S4 as a pair.

Dimensions

- 365
- 74
- 191
- 100
- 262
- 140
- 63
- 76.2
- 6.8
- 5.9
- 10.3
- 432
- 466
- 482
- 88
- 8.5
- 419
- (50)