

# Hitachi Kokusai Electric

# HITACHI

Inspire the Next



4K Ultra HD Television Production Camera

# SK-UHD7000

**4K** ULTRA  
**HD**

**HDR**  
HIGH DYNAMIC RANGE





# Debut 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 Simultaneous Operation.







## 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, 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.



## 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.

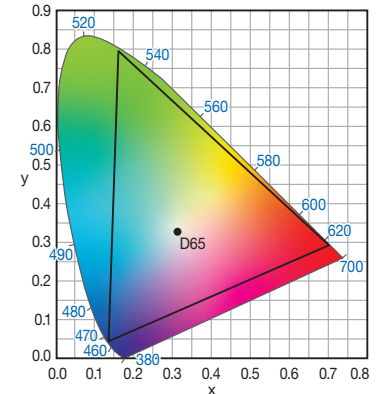
## Combined RF and 5G Dual 4K Wireless Camera System

SK-UHD7000 can be available for RF transmission by connecting wireless mount modules.

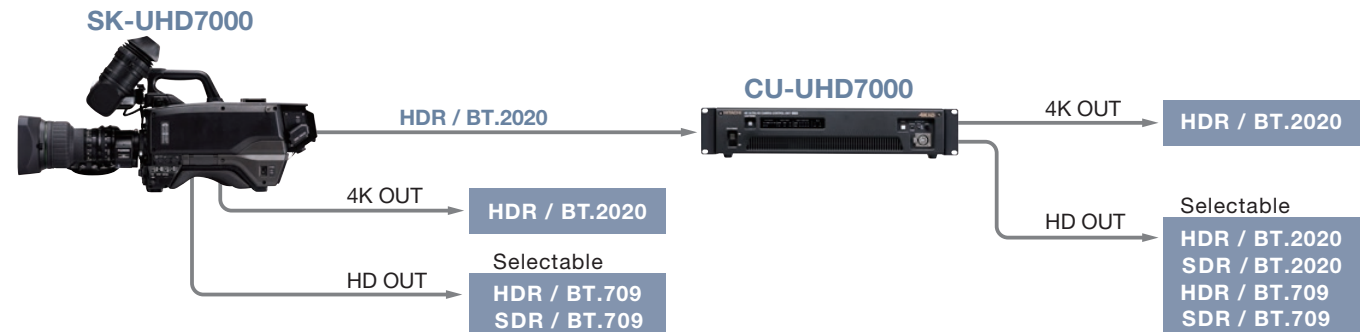
## Wide Color Gamut and High Dynamic Range

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.

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.



## Output Variation





# Camera Control System

4K Ultra HD Television Production Camera

## 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-synchronizer.

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, dual-link 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.



RU-1500JY



RU-1000VR

### Control Panel

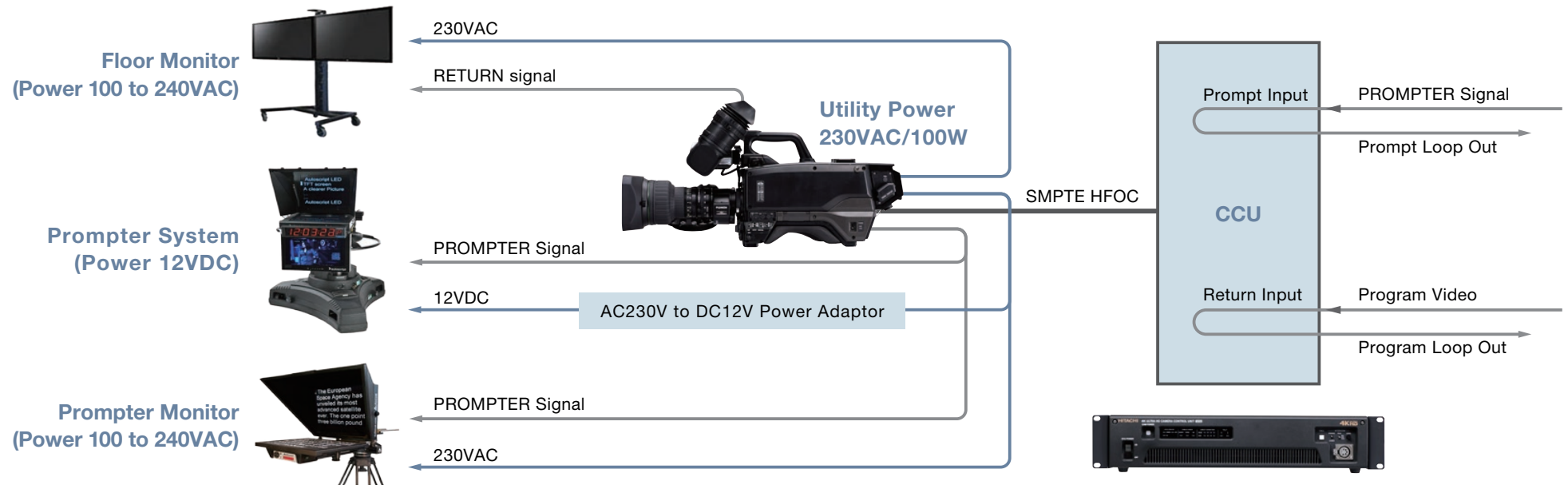
#### RU-1500JY Features

- > 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.

# Monitor Application Utility Power Output (230VAC/100W)



## Accessories

### SU-1000 MASTER SETUP UNIT

- > Control 12 cameras TCP Control or 128 cameras IP Control.
- > Menu Structure same as RU-1500JY Remote Control Panel –easy to use.



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

- > 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.

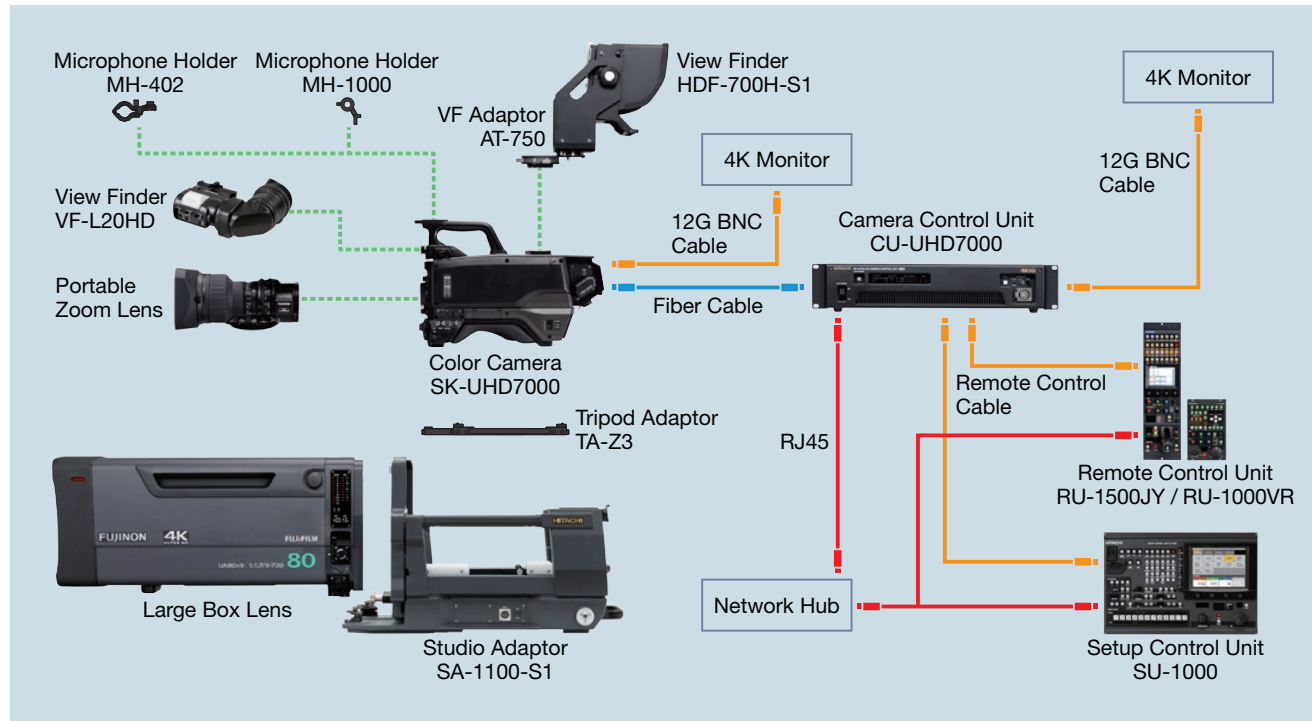


### 2-inch LCD Color ENG Viewfinder VF-L20HD

- > 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.



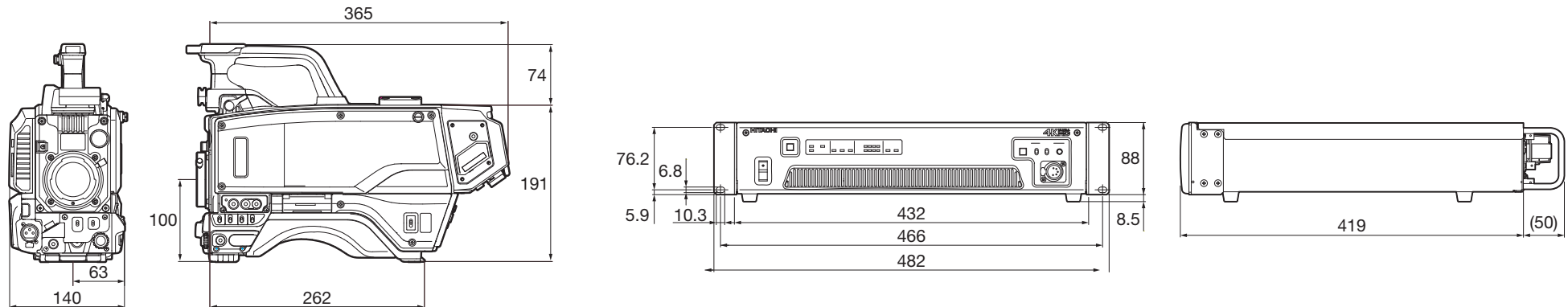
# SK-UHD7000 System Configuration



## 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.

## Dimensions



# Specifications

## Camera Head SK-UHD7000

<b>Model name</b>	SK-UHD7000 (59.94Hz), SK-UHD7000E (50Hz)
<b>Image sensor</b>	3-chips, 2/3-inch, CMOS image sensor with global shutter Effective pixels : 3,840 (H) × 2,160 (V)
<b>Prism</b>	F1.4
<b>Optical Filter</b>	1x motorized filter wheel ND (CLEAR, 1/4 ND, 1/16 ND, 1/64 ND)
<b>ECC Filter</b>	3200K, 4300K, 5600K, 6300K, 8000K
<b>Lens mount</b>	B4 Bayonet
<b>Horizontal resolution</b>	4K : 2000 TVL (At center, 5% or higher modulation depth) HD: 1000 TVL (At center, 5% or higher modulation depth)
<b>SNR</b>	HD: 62dB typ.
<b>Sensitivity (2000 lx, 3200 K, 89.9% reflectance)</b>	4K : F10/59.94p, F11/50p HD: F10/59.94p, F11/50p
<b>Minimum illumination</b>	2 lx (at F1.4, GAIN: +24 dB)
<b>Vertical Smear</b>	No smear
<b>Gain selection</b>	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
<b>Shutter</b>	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 : 1/60.32 to 1/1981 (59.94Hz) 1/50.21 to 1/2002 (50Hz) AES mode : Automatic video level control by shutter speed.
<b>Geometric distortion</b>	Negligible (excluding lens characteristics)
<b>Registration Overall</b>	0.01 % (excluding lens characteristics)
<b>Dimensions</b>	140(W) x 191(H) x 365(D) mm
<b>Power supply voltage</b>	DC 12 V (10.5 V to 17 V)
<b>Temperature range</b>	Performance maintenance -20 °C to +45 °C , -4 °F to +113 °F Operation -20 °C to +50 °C , -4 °F to +120 °F Storage -20 °C to +60 °C , -4 °F to +140 °F
<b>Power Consumption</b>	Approx. 70 W (without VF and lens)
<b>MASS</b>	Approx. 4.6 kg (without VF and lens)

<b>Input &amp; Output</b>	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


<b>Power supply voltage</b>	AC100~240V, 47~63Hz with auto-sensing	<b>Dimensions</b>	432(W) x 88(H) x 419(D) mm
<b>Power consumption</b>	300W approx. (AC operation, including SK-UHD7000, VF-L20HD, and AUX POWER OUT 100VA)	<b>Mass</b>	12 kg approx.
<b>Operating temperature</b>	0 °C to +40 °C (+32 °F to +104 °F)	<b>Maximum Cable length</b>	1 km (with utility power 100VA), 2 km (without utility power), 10 km (Single mode fiber)
<b>Storage temperature</b>	-20 °C to +60 °C (-4 °F to +140 °F)		

## Connectors (SDI OUTPUT)

<b>INTERCOM (HEAD SET)</b>	Talk: -60dBm Receive: 0dBu Max+15dB	XLR-5pin (female)		
<b>COMMUNICATION · INTERCOM</b>	0dBm/600Ω (4Wire) or 0dBu or -15dBu/200Ω (2Wire) Clear-com, RTS complied	D-sub 25p	<b>12G SDI OUT (1/2/3/4)</b>	12G / 6G / 3G / HD SDI SMPTE ST 2082-1, SMPTE ST 2081-1 SMPTE 424/425M Lv-A/B SMPTE 292M BNC (x4)
<b>· PGM · R/G TALLY</b>	0dBm/600Ω DC voltage or contact supply		<b>SDI OUT (1/2/3/4/5/6)</b>	3G / HD / SD SDI SMPTE 424/425M Lv-A/B SMPTE 292M, SMPTE 259M-C BNC (x6)
<b>REMOTE 1/2/3</b>	REMOTE 1/2: 1.5Vp-p(4pin), REMOTE 3: RJ-45		<b>PIX / WFM OUT</b>	3G / HD / SD SDI SMPTE 424/425M Lv-A SMPTE 292M, SMPTE 259M-C BNC (x2)
<b>Ethernet TRUNK</b>	10Mbps	RJ-45		
<b>MIC REMOTE · MIC GAIN CTL IN · TALLY OUT</b>	0/5V Open collector	D-sub 15p	<b>SDI I/O (1/2) (MAIN out or RET.B in)</b>	3G / HD / SD SDI SMPTE 424/425M Lv-A SMPTE 292M, SMPTE 259M-C BNC (x2)
<b>GENLOCK IN</b>	Black burst 0.45Vp-p/75Ω or HD Tri-level sync 0.6Vp-p/75Ω (loop through)	BNC (x2)	<b>RET IN (1/2/3/4) RET.B IN (1/2)</b>	3G / HD / SD SDI SMPTE 424/425M Lv-A SMPTE 292M, SMPTE 259M-C BNC (x4) BNC (x2)
<b>MIC OUT 1/2</b>	0dBm/600Ω	XLR-3pin	<b>PROMPT IN</b>	VS or VBS 1Vp-p/75Ω (loop through) BNC (x2)
<b>TALLY OUT</b>	Red / Green : Contact or DC supply (24V / 10mA)	D-sub 9p		
<b>WFM CONTROL</b>	WFM CTL0 - 7 0/5V	D-sub 15p		

These Specifications are subject to change without notice.

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

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