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

Hitachi Kokusai Electric Inc.

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These Specifications are subject to change without notice.
Hitachi SK-HD1300
Multi-format HDTV Studio production camera

Multi-format HDTV production camera
The SK-HD1300 is a multi-format portable HDTV Studio camera. Its new MOS sensors, each having 2.6 million pixels produce outstanding imaging performance.

Hitachi’s advanced digital signal processing
Each essential part of the Hitachi SK-HD1300 camera system has its own DSP processor. Different DSP ICs are used independently for the HDTV camera head processing, the transmission system and the Camera Control Unit (CCU) processing. The new, powerful Hitachi’s DSP processors are designed to work with any new 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 F10/60/94Hz (SK-HD1300/F11/480Hz (SK-HD1300E) with 2000 lx).

The camera offers progressive HD images due to Hitachi’s implementation of the latest 3-MOS imaging technology. New achievements in high sensitivity and noise reduction have been reached as a result.

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
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 providing 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 even 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.

Multi-format Digital HDTV Production Camera
SK-HD1300
Progressive Image Capture

Superb High Definition picture reproduction & enhancement tools

Color reproduction excellence

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.

Auto Chroma
Auto Chroma automatically reduces over-saturated colors in the image caused by extremely bright and colorful objects such as emergency vehicle lights or stage lighting LED’s. Also has the effect of ‘legalizing’ the color gamut of a particular preset setting.

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 Triax Cables.

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 automatically 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.

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 insure 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 (13,000 feet) with no utilities.

The Optical power meters at the camera head, control panel and CCU front panel indicate the optical condition of both transmitting and receiving signals independently to accurately depict proximity to the “digital ciff” (maximum cable distance) or provide basic HFOC diagnostics.

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

**Optical Fiber System**

The SK-HD1300 camera system can employ 3 different model control units to suit your budget for Studio and Field production. The CU-HD1200, CU-HD1000-S8 and CU-HD500 optical fiber CCUs (camera control units) can be used worldwide due to their 50/60Hz switchable universal power supplies. They furthermore comply with RoHS/WEEE directives. 

"RoHS" is an abbreviation of “Restriction of Hazardous Substances” in electrical and electronic equipment. It is a European Directive aiming to restrict the use of certain hazardous substances in the production commonly used in electrical and electronic equipment (EEE). 

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**CCU Features and Benefits**
- Front panel Optical Power meter.
- Simultaneous HD-SDI and SD-SDI outputs with 2 channel embedded digital audio.
- Analog RGB and Y, B-Y, R-Y component outputs. (CU-HD1000-S8)
- 4 auxiliary return, CU-HD1200 and CU-HD1000-S8)
- Dedicated teleprompter channel and AC power.
- ARIB-type color bar output.
- 2-channel balanced analog Mic audio outputs. 
- Genlock with composite or tri-level sync.
- RS-232C remote control.
- TCP/IP Network connectivity via RU-1500JY.

**Remote Control Units and Setup Control Unit**

- The RU-1500JY is a compact remote operation panel designed for easy operation of standard camera functions. It is master and master black controls employ "VRflye" rotary knob controls and compactly used controls and functions are directly and instantaneously accessible to the video control engineer.

- The RU-1500JY is a high performance touch screen remote operation panel designed for ease of use. Easily adjustable using the 3.5" LCD touch-screen panel and rotary encoders, plus custom switch or Hub. A RS-232/RS-422 may be further support the professional user in designing a personal workflow. The RU-1500JY provides an integrated SD card slot for dual operation.

- The RU-1500JY serves primarily as a mechanical lens supporter and it also offers these important features.
- The ability to use “Hanger-type” box lenses and “Bayonet-type” hand-held portable lenses without removing the camera from the SA-1000.
- 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.

The SU-1000 Setup Control Unit is used for the adjustment of camera parameters in a multi-camera production environment. This unit provides full control of the SK-HD1300 camera systems. Utilizing a new wide touch screen LCD panel that expands control functions. It is connected directly to each CCU in parallel fashion 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 48 cameras (option) or 128 cameras in ethernet operation.

**CU-HD1200**

CU-HD1200 and CU-HD500 now work with either Hybrid fiber cable or Single mode fiber cable. These cable types are selected on CUU menu.

**CU-HD500**

**CU-HD1000-S8**

**SA-1000 Studio Adaptor**

With consideration to our customers and advancements in production workflows that require hand-held cameras to be used with large lenses in studio or field HD productions, Hitachi offers the SA-1000 studio Adaptor for the SK-HD1300. The SA-1000 serves primarily as a mechanical lens supporter and it also offers these important features.

- The ability to use “Hanger-type” box lenses and “Bayonet-type” hand-held portable lenses without removing the camera from the SA-1000.
- 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 “Cable-less” and “tool-less” camera interface which increases the systems’ reliability and Hitachi retains the flexibility of having 2 choices for viewfinders when using the SK-HD1300 in this configuration.

**Studio and Field Production Viewfinders**

The SK-HD1300 camera system offers four choices for Studio or Field production viewfinders. Model VF-LHD is a color 9-inch TFT-LCD screen and Model HDF-700H is a color 7-inch TFT-LCD screen which are designed for critical color viewing of the image. The HDF-700H model is a monochrome 5-inch OLED screen. The VF-LHD model is a color 7-inch OLED screen. The VF-LHD is a color 7-inch OLED screen. The VF-LHD is a color 7-inch OLED screen. The VF-LHD is a color 7-inch OLED screen.

**System configuration chart**

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**Field production viewfinders**

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**SPECIFICATIONS**

**SK-HD1300-S2**

- **Optical Filters:**
  - Optional LEF-12x5 ND CAP, 1: Clear, 2: 1/4 ND, 3: 1/16 ND, 4: 1/64 ND
  - 2x motorized filter wheel with 5 filter positions

- **Input & Output**
  - X-Y mechanical movement
  - Diopter (CRT Focus Ring)

- **Lens**
  - 1x 2-inch Viewfinder VF-402 (59.94Hz) / VF-402E (50Hz)
  - 9-inch Viewfinder VF-L90HD

- **Payload**
  - 3.8kg, 8.4lbs.

**SK-HD1300E-S2**

- **Optical Filters:**
  - Optional LEF-12x5 ND CAP, 1: Clear, 2: 1/4 ND, 3: 1/16 ND, 4: 1/64 ND
  - 2x motorized filter wheel with 5 filter positions

- **Input & Output**
  - X-Y mechanical movement
  - Diopter (CRT Focus Ring)

- **Lens**
  - 1x 2-inch Viewfinder VF-402 (59.94Hz) / VF-402E (50Hz)
  - 9-inch Viewfinder VF-L90HD

- **Payload**
  - 3.8kg, 8.4lbs.

**Dimensions**

**SK-HD1300 with CA-HF1200 / CA-HF1000**

- **Dimensions:**
  - 262 x 196 x 91

**1080p Multi-format system**

- **Camera Head SK-HD1300 / SK-HD1300E**
  - videowave 5/10-150 MHz, 5/7 Vp-p, 75Ω
  - SK-HD1300-S2 / SK-HD1300E-S2
  - Optical filters: Option: LEF-12x5
  - 2x motorized filter wheel with 5 filter positions
  - X-Y mechanical movement
  - Diopter (CRT Focus Ring)
  - Camera Head SK-HD1300 / SK-HD1300E
  - Camera Head SK-HD1300 / SK-HD1300E
  - Camera Control Unit CU-HD500U / CU-HD500E

- **Fiber Camera Adapter CA-HF1200**
  - 1x 4-pin XLR, 12VDC, power input
  - 1x XLR, 5-pin, 0dBu Max +15dB

**1080i system**

- **Camera Control Unit CU-HD1000U-50 [59.94Hz] / CU-HD1000E-50 [59.94Hz]**
  - 1x XLR, 5-pin, 0dBu Max +15dB
  - 1x XLR, 3-pin, 0dBm/ 600Ω

- **Camera Control Unit CU-HD500U / CU-HD500E**
  - 1x D-sub 9-pin
  - 1x 6-pin VF AUX return (female)
  - 1x 5-pin script lamp DC12V (1.0A max) (female)
  - 1x 29-pin (for SA-1000 cable-less interface) (female)

- **Digital Return 1/2/3/4**
  - 1x XLR, 3-pin, 0dBm/ 600Ω
  - 1x XLR, 3-pin, 0dBm/ 600Ω

- **Digital Out**
  - 1x XLR, 5-pin, 0dBu Max +15dB
  - 1x XLR, 5-pin, 0dBm

- **Power consumption**
  - 300W approx. (AC operation, including SK-HD1000, VF-402 and AUX POWER OUT 100VA)

- **Dimensions**
  - 262 x 196 x 91