The Z-HD5500 is a 1080 progressive scan CMOS camera system with HDR.

**High-performance starts with advanced sensors**

Hitachi has achieved a new level of HD camera performance with a new generation of CMOS Full Frame progressive scan imagers. Using these newly developed progressive scan CMOS imagers, the Z-HD5500 easily handles difficult mixed frequency LED lighting and display situations. If the new sensors also enable the Z-HD5500 to achieve outstanding resolution, dynamic range, sensitivity and absence of vertical smear. A high horizontal resolution of 1000TVL (luminance channel) offers very high picture sharpness with low noise and ultra-low vertical smear.

**Dynamic head-room ready for today's HDR**

The Z-HD5500 takes full advantage of the increased dynamic range output performance of the HDV CMOS imagers. Exposure latitude is available to satisfy the most demanding scene lighting or creative talent.

**Optimized for on-shoulder production**

Hitachi's Z-HD5500 professional studio and field production camera employs the latest imaging advancements by utilizing a new generation of high-performance CMOS Full Frame sensors. The Z-HD5500 is 1600 x 1080 HD progressive scan throughout the entire camera chain. Outstanding sensitivity, signal-to-noise ratio and low power consumption are a result of utilizing Hitachi's new generation equivalent 99-inch CMOS image sensors. The Z-HD5500 delivers flawless high-performance in TV studios, houses of worship, arenas and other venues where LED lights and large LED displays are being used. It readily adapts to a wide range of LED lighting conditions.

**Hitachi’s advanced digital signal processing**

Each essential part of the Hitachi Z-HD5500 camera system has its own DSP. Different DSPs are used independently for the HDV camera head processing, the transmission system and the Camera Control Unit (CCU) processing. The new, power-efficient Digital Signal Processors have a dynamic processing capability in excess of 30-kits per pixel, per RGB channel. Hitachi’s DSPs are designed for processing of signals from progressive readout, HDTV sensors. The dynamic head-room of the Z-HD5500 allows to be faithfully reproduced thus providing future advancements in dynamics handling. Additional digital encoding at the camera head and CCU provides high signal integrity for all signal outputs.

**Exposure latitude is available**

With present technology, an outstanding system signal-to-noise ratio specification of 62dB is achieved by use of our own low-noise circuitry. The standard sensitivity is rated at F10(59.94Hz)/F11(50Hz) with 2000 lx. Even at high gain, clear images are obtained with little noise.

**Setup memory and adjustment transfer card**

A small plug-in setup card (SD card) stores the user setup and Scene File information. The adjustment data can then be recalled and used for future scenes and productions thereby assuring the exact video “look” and characteristics as the original Scene File and adjustment settings. A single camera’s setup data can also be transferred to quickly adjust a group of cameras to be used in a production. Access to setup card data and transfer is also available from the SU-1000 Setup Control Unit.

**High Dynamic Range (HDR)**

With the addition of High Dynamic Range (HDR), the Z-HD5500 camera system delivers a dramatic improvement in picture performance with HDR. The improved dynamic range contrast also increases perceived detail in blacks, brighter highlights and more accuracy in mid-tones. Visible at all viewing distances. HDR enhances images with expanded detail in blacks, brighter highlights and more accuracy in mid-tones. The improved dynamic range contrast also increases perceived detail in blacks, brighter highlights and more accuracy in mid-tones.

**Digital signal transmission via Hybrid Fiber Optical Cable**

The Z-HD5500 camera system utilizes industry standard Hybrid Fiber optic cable connectors made of high-strength stainless steel to insure durability and reliable performance under the most demanding TV Studio and Field production circumstances. All command audio and video signals to and from the camera are digitally transmitted, totally immune to EMI/RFI interference. Camera power and cable condition supervision are also performed when using the Hybrid Fiber-Optic Cable (HFOC). Full Aux capability (up to 4 analog or digital, HD or SD) video return and individual Teleprompter facilities are also available depending on the model of the transmission and CCU system. The maximum HFOC length with applied camera power and fully operational facilities is over 4,000 meters (~13,123 feet) with the optional OU-HD1020PT-CCU. Unique to cameras in the Z-HD5500’s price range are optical power meters at the camera head (via engineering menu), on the Remote Control Unit (RU-1500N) and on the front of the Camera Control Units. These meters indicate the optical condition of both the receive and, transmitted signals independently to accurately depict the proximity to the “digital cliff”, maximum cable distance or provide basic HFOC diagnostics in the field.

**Ultra Gamma**

It dramatically increases the exposure latitude of the camera in shooting conditions where lighting and scenery vary widely in intensity. Seven different ultra gamma responses are preprogrammed to suit just about every possible adverse shooting condition.

**Black stretch**

The Z-HD5500 black stretch function allows 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 image venues, outdoors or sports production.

**Knee saturation and auto-knee**

Like the peak video level control function of the white clip, the knee saturation function is made up of the actual knee (level compression) point and its slope which improve overexposed portions of the picture.

**High Dynamic Range (HDR)**

High Dynamic Range (HDR) is a significant advancement in camera technology that dramatically improves picture quality and is easily visible at all viewing distances. HDR enhances images with expanded detail in blacks, brighter highlights and more accuracy in mid-tones. The improved dynamic range contrast also increases perceived sharpness and color saturation. Multiple HDR settings for HFOC and Hybrid Log Gamma are provided for increased compatibility with legacy TV’s using Standard Dynamic Range.

**Optimized for on-shoulder production**

Hitachi’s advanced digital signal processing

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* Ultra Gamma

It dramatically increases the exposure latitude of the camera in shooting conditions where lighting and scenery vary widely in intensity. Seven different ultra gamma responses are preprogrammed to suit just about every possible adverse shooting condition.

* Black stretch

The Z-HD5500 black stretch function allows 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 image venues, outdoors or sports production.

* Knee saturation and auto-knee

Like the peak video level control function of the white clip, the knee saturation function is made up of the actual knee (level compression) point and its slope which improve overexposed portions of the picture by compressing the video past a certain point. These points are user adjustable.

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With present technology, an outstanding system-to-noise ratio specification of 62dB is achieved by use of our own low-noise circuitry. The standard sensitivity is rated at F10.05/54(51.50Hz) with 1000 lx. Even at high gain, clear images are obtained with little noise.

Setup memory and adjustment transfer card

A small plug-in setup card (SD card) stores the user setup and Scene File information. The adjustment data can then be recalled and used for future scenes and productions thereby assuring the exact video "look" and characteristics as the original Scene File and adjustment settings. A single camera’s setup data can also be transferred to quickly adjust a group of cameras to be used in a production. Access to setup card data and transfer is also available from the SU-1000 Setup Control Unit.

Superb High Definition picture reproduction & enhancement tools

Selectible gamma tables

In addition to normal gamma point and balance adjustments, the Z-HD5500 offers a multi-point gamma table that provides the user with exposure control over just the darkest points in the image. It enables adjusting the initial gamma gain to optimize the reproduction of dark scene components. Hitachi’s DSPs assure that no additional noise components are introduced in the image even with the most aggressive Gamma Table settings. Additionally, this function does not change any of the other parameters of the video signal thus maintaining overall exposure, detail, color reproduction and composition.

Black stretch

The Z-HD5500 black stretch function allows 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 image venues, outdoors or sports production.

Knee saturation and auto-knee

Like the peak video level control function of the white clip, the knee saturation function is made up of the actual knee level (saturation) points and slope of the knee for improved color rendition of portions of the picture by compressing the video past a certain point. These points are user adjustable.

The auto knee function is relevant to a wider dynamic range by dynamically compressing (varying knee and slope) the video level in accordance to the strength of its over-exposure.

Digital signal transmission via Hybrid Fiber Optical Cable

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

Ultra Gamma

It dramatically increases the exposure latitude of the camera in shooting conditions where lighting and scenery vary widely in intensity. Seven different ultra gamma responses are preprogrammed to suit just about every possible adverse shooting condition.
Lens optimization

Gray-Scale automatic setup
The Z-HD5500 offers Gray-Scale Automatic Setup function to optimize the optical parameters that could negatively affect the image you are trying to capture and faithfully reproduce. The Gain, Gamma, and Range are the video signal functions that vary from lens to lens.

Automatic vertical modulation shading adjustment
The Z-HD5500 assures that with any lens used, an even, white-balance throughout the raster will be attained by the automatic vertical modulation shading correction function. At the simple push of a button, this function provides separate memory of lens' modulation shading characteristics to optimize the X1 and X2 lens extender positions.

Color reproduction excellence

Triple-masking
The triple-masking function includes the 12-vector, linear matrix and Skin-tone masking to provide the user wide latitude in image color control. The 12-vector color corrector provides independent control of the hue and modulation shading correction function. At the simple push of a button, balance throughout the raster will be attained by the automatic vertical characteristics to optimize the X1 and X2 lens extender positions.

Picture sharpness enhancement

Absolute detail control
Hitachi provides 3 major detail controls designed to precisely place, control and shape the picture sharpness characteristics of the Z-HD5500.

Skin-tone Detail
The Skin-tone Detail function provides a skin-tone color-based softening of the image to achieve the impression of more youthful TV personalities. Individual memories exist as well as a function to automatically detect the hue, saturation and luminance of the Skin-tone to be affected. This function is not limited to Skin-tones only; it can increase or decrease the sharpness of any pair of colors in the image. Furthermore, the Skin-tone Detail level can be adjusted to follow the lens zoom position so that one can avoid "rubber faces" at wide angle shots of talent.

Knee Saturation
The Knee Saturation function dynamically restores color saturation to scene highlights above the Knee point. Color-saturated highlights lost in overexposed scenes are now visible. This function provides excellent results in imaging high-contrast, sunny outdoor scenes, fireworx, concerts, television stage lighting, and colored night scenes.

Lens Files
The Z-HD5500 can store 8 lens files which include various lens correction data such as vertical modulation shading. This lens correction data can also be stored in a SD card (SD card), where it can be recalled when necessary.

Optical and image capture functions

Versatile CMOS functions
The Z-HD5500 camera system has six PRESET electronic shutter speeds, for stopping action or fast moving objects in the image, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (1080/59.94i), plus LOCK SCAN to capture non-synchronous displays without flicker. Automatic Electronic Shutter (AES) maintains the video level when the maximum F-stop shooting condition is reached.

Programmable Smooth Video Gain
This new function allows the Z-HD5500 to smoothly and seamlessly transition between the video gain settings and electronic color correction filters. Continuous recording can be achieved without flash or glitch artifacts in the image.

Optical filters
In traditional photography, ND filters are used for depth of field control. One optical filter wheel is provided as standard. These are: Clear, 4-point Cross, 1/16ND and 1/64ND.

Viewfinder Focus Assist
Three different visual aids are available to help the camera operator find the focus right: VF DETL, VF PEAKING and VF Focus Assist. The Area Marker detects edges inside area, while a Focus indicator shows the actual detail level by a horizontal line. A Focus Indicator Gauge can further be set to lock the maximum achieved level for a few seconds.

Quick-focus function for Precise Focus
The Quick Focus function automatically opens the iris then sets the focus level with the electronic shutter at the push of a button. The resulting shallow depth of focus, allows the cameraman to set the actual detail by a horizontal line. A Focus Indicator Gauge can further be set to lock the maximum achieved level for a few seconds.

ECC (Electronic Color Compensation)
Due to the wide gain characteristics of the Z-HD5500, the ECC function compensates for color temperature electronically by providing preset gains to equal color temperature gradations of 3200K, 4300K, 5000K, 6300K and 8000K. The ECC can be controlled by the remote Control Unit and the Setup Control Unit like an optical filter. The setting can be stored in the Scene files and its status can be displayed on the viewfinder and the monitor output.

Full auto mode
The Quick Focus function automatically opens the iris then sets the focus level with the electronic shutter at the push of a button. The resulting shallow depth of focus, allows the cameraman to set the actual detail by a horizontal line. A focus indicator shows the actual detail level by a horizontal line. A Focus Indicator Gauge can further be set to lock the maximum achieved level for a few seconds.

Chroma Saturation
In addition to the extensive colorimetry controls offered in the Z-HD5500, the overall color saturation can be varied to achieve "dramatic" or artistic effects. This functions additionally and independently from the linear matrix and 12-vector-masking functions thereby adding an additional color-correction (Triple-masking) channel to the overall image color control.

Ease of use characteristics & functions

Programmable soft-switches (CS-1, CA-CS)
The cameraperson can assign Zebra, marker, VF DETL, Quick Focus or FAW to the CS-1 switch via the operation menu. The CA-CS switch can take on the functions of VF DETL on/off, marker-1 or marker-2 on/off.

Viewfinder options
Steven viewfinder options are offered with the Z-HD5500 camera system. Black & White CRT-type and LCD color viewfinders are available for ENG (2 inch). Five different larger studio viewfinders including 9 inch and 7 inch color TFT LCD screen viewfinders and 7.4 inch OLED are offered for critical viewing such as encountered in studio productions.

Viewfinder markers & functions
The Z-HD5500 provides an excellent range of viewfinder markers and functions to aid the cameraman in providing outstanding results during a TV program production. All VF parameters can be stored in 4 dedicated memories which can call up any number of camera setups for quick switchovers. Preset masks can be stored in 3 dedicated memories which can be recalled on any memory and even on full off memory.

Viewfinder status displays
VF DETL, Iris status display, Shutter speed, Optical and ECC filter in use, and all independently displayed via menu selection. Menu selection also includes over-level or between-range zebra pattern.

Comprehensive camera person operation panel
In Studio and Field production, the Z-HD5500 provides the camera-person with a wide array of controls for intercom audio, auxiliary video switching controls, script lamp connectors, dual tally and call functions that are the norm in high-end broadcast cameras. These functions along with available BAFA of teleprompter monitor power and dedicated prompter signal make the Z-HD5500 a logical choice for sophisticated productions.

Camera head inputs & outputs
The camera head provides 2 buffered HD-SDI outputs, 1 SD analog teleprompter out, and 1 HD-SDI switchable as Monitor or VF and VERT video output via BNC connectors. The M-1 channel is switchable with balanced XLR input connector located at the front of the camera (shutter mic) or at the rear of the GA-HF1000. All the microphone inputs provide phantom power supplies and accept mic or line levels. These I/Os satisfy a wide variety of production requirements and are typically provided with broadcast-grade cameras.
Lens optimization

Gray-Scale automatic setup

The Z-HD5500 offers Gray-Scale Automatic Setup function to optimize the optical parameters that could negatively affect the image you are trying to capture and faithfully reproduce. The Gain, Gamma, and Parel are the video signal functions that vary from lens to lens.

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Color reproduction excellence

Triple-masking

The triple-masking function includes the 12-vector, linear matrix and Skin-tone masking to provide the user wide latitude in image color control. The 12-vector color corrector provides independent control of hue and saturation for six primary and six secondary combinations of colors. The 12-vector, linear matrix and Skin-tone masking provide overall color control providing the user with excellent and precise color rendition control.

Preset Masking

The preset masking function reproduces various image color spaces such as STANDARD (Hitachi standard), T.U-709, SMPTE-240M, SMPTE-WIDE, NTSC, and EBU.

Skin-tone masking

The skin-tone masking function provides "fine painting" (hue and saturation) of Skin tones without affecting other colors in the image. This function adds and independently from the linear matrix and 12-vector masking functions thereby adding an additional color-correction (Triple-masking) channel to the overall image color control.

Chroma Saturation

In addition to the extensive colorimetry controls offered in the Z-HD5500, the overall color saturation can be varied to achieve "dramatic" or "artistic" effects.

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The Knee Saturation function dynamically restores color saturation to scene highlights above the Knee point. Color-saturated highlights that lost in overexposed scenes are now visible. This function provides excellent results in imaging high-contrast, sunny outdoor scenes, firework, concerts, theatre stage lighting, and colored night scenes.

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Optical and image capture functions

Versatile CMOS functions

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Programmable Smooth Video Gain

This new function allows the Z-HD5500 to smoothly and seamlessly transition between the video gain settings and electronic color correction filters. Continuous recording can be achieved without flash or glitch artifacts in the image.

Optical filters

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Viewfinder Focus Assist

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Quick-focus function for Precise Focus

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ECC (Electronic Color Compensation)

Due to the wide gain characteristics of the Z-HD5500, the ECC function compensates for color temperature electronically by providing preset gains to equal color temperature gradations of 3000K, 4300K, 5600K, 6300K and 8000K. The ECC can be controlled by the remote the Remote Control Unit and the Setup Control Unit like an optical filter. The setting can be stored in the Scene files and its status can be displayed on the view finder and the monitor output.

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Viewfinder markers & functions

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Programmable functions include; color/momo, detail, crisp, safety zone, 2 movable markers, center cross-hair, 2 movable effect boxes, variable aspect ratio side panels, side panel contrast/ brightness, 2-mode zebra and variable line display level.

Viewfinder status displays

Iris f-stop, Lens Extender position, Shutter speed, Optical and ECC filter, Use, and markers are all independently displayed via menu selection. Menu selection also includes over-level or between-range zebra pattern.

Comprehensive camera person operation panel

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SA-1000 Studio Adaptor

Demanding production workflows that require hand-held cameras to be used with large lenses in studio or sports productions, Hitachi offers the SA-1000 studio adaptor in traditional light gray or matching charcoal color. 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 retains the flexibility of having multiple choices for viewfinders when using the Z-HD5500 in this configuration.

Flexible Choice of Camera Control Units

5 different Camera Control Units (CCU) are offered for every budget, physical size and signal requirement for the Z-HD5500 camera system.

- The Fiber CU-HD1000-S8 is a half-rack model. It offers 50/60Hz line power switching and output 1080i, 720p, 576i and 480i. The reduced size, weight and low power consumption makes it ideal for more portable applications. CU-HD1000-S8 also includes a unique optical power meter that indicates the status of the physical fiber.
- The budget priced CU-HD500 Fiber CCU is a full rack model that outputs either 1080i or (special order) 720p. All CCU models serve applications for a variety of Studio and Field productions.
- Full HD 1080 Progressive CCUs include the fiber CU-HD1200, the CU-HD1300T and CU-HD1300FT that offers fiber, triax or both camera cable options. The dual fiber and triax cable CCU is particularly suitable for venues that may have multiple cable types connecting to mobile production/OB units. All CCUs have an easy-to-maintain modular design, employ the same control panels, data cables and peripherals.
- Hitachi’s 4th generation digital triax system can transmit full 1080 progressive signals over much longer triax cable distances. The ultra-low delay H.264 codec and hybrid digital modulation technology ensures high quality picture transmission. Signals include: video, prompter, return video, audio and all intercoms. Signal level indicators show the status of receive and transmit of triax or optical cable in the RU-1500JY Remote Control Unit and all CCUs.

** (See detailed specifications on the last page of this brochure)

SA-1000 Studio Adaptor

Flexible Choice of Camera Control Units

- Simultaneous HDTV/SDTV, digital and analog video outputs
- 
- HD-SDI and SD-SDI outputs
- Analog RGB or Y, B-Y, R-Y component outputs (CU-HD1000)
- 4 auxiliary returns (CU-HD1000, CU-HD1200 and CU-HD1300T/FT)
- Dedicated teleprompter channel
- SMPTE color bar output
- 2 channel balanced analog Mic audio outputs or embedded HD-SDI digital audio
- Genlock with composite or tri-level sync
- 3 tally (Red/Green) system.
- 2-channel, 2W/4W intercom system.
- RS-232C remote control (CU-HD1000, CU-HD500)
- TRUNK (RS-422) option (CU-HD1200)

Dockable : One camera body to suit multiple configurations.

CU-HD1300T/FT

Hitachi’s 4th generation digital triax system can transmit full 1080 progressive signals over much longer triax cable distances. The ultra-low delay H.264 codec and hybrid digital modulation technology ensures high quality picture transmission. Signals include: video, prompter, return video, audio and all intercoms. Signal level indicators show the status of receive and transmit of triax or optical cable in the RU-1500JY Remote Control Unit and all CCUs.

In applications where traditional triax is already in use, substantial savings in the cabling infrastructure can be realized by employing Hitachi’s patented fully digital, bi-directional signal transmission system. Little to no signal degradation. Capitalizes on reduced costs and flexibility of triax copper cable. Includes 1080V 720p cross-converter for HD-SDI outputs Built in, high-performance SDTV up/down converters.

CU-HD1300T/FT Front Panel

CU-HD1300T/FT Rear Panel (Fiber/Triax)

CU-HD1300E

CU-HD1300U

For more information, please refer to the detailed specifications on the last page of this brochure.
SA-1000 Studio Adaptor

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 system’s reliability and retains the flexibility of having multiple choices for viewfinders when using the Z-HD5500 in this configuration.

Flexible Choice of Camera Control Units

5 different Camera Control Units (CCU) are offered for every budget, physical size and signal requirement for the Z-HD5500 camera system. The Fiber CU-HD1000-S8 is half-rack model. It offers 50/60Hz line power switching and output 1080i, 720p, 576i and 480i. The reduced size, weight and low power consumption makes it ideal for more portable applications. CU-HD1000-S8 also includes a unique optical power meter that indicates the status of the HFOC. The budget priced CU-HD500 Fiber CUU is a full rack model that outputs either 1080 or (special order) 720p. All CCU models serve applications for a variety of Studio and Field productions. Full HD 1080 Progressive CCUs include the fiber CU-HD1200, the CU-HD1300T and CU-HD1300FT that offers fiber, triax or both camera cable options. The dual fiber and triax cable CUU is particularly suitable for venues that may have multiple cable types connecting to mobile production/OB units. All CCUs have an easy-to-maintain modular design, employ the same control panels, data cables and peripherals.

Additional lens mounting options for the SA-1000

Dockable : One camera body to suit multiple configurations.

CU-HD1300T/FT, CX-HD1300 Digital Triax System

Hitachi’s 4th generation digital triax system can transmit full 1080 progressive signals over much longer triax cable distances. The ultra-low delay H.264 codec and hybrid digital modulation technology ensures high quality picture transmission. Signals include: video, prompter, return video, audio and all intercoms. Signal level indicators show the status of receive and transmit of triax or optical cable in the RU-1500JY Remote Control Unit and all CCUs. In applications where traditional triax is already in use, substantial savings in the cabling infrastructure can be realized by employing Hitachi HDTV Digital Triax cameras.

- Hitachi’s patented, fully digital, bi-directional signal transmission system
- Little to no signal degradation.
- Capabilities on reduced costs and flexibility of triax copper cable.
- Includes 1080i/ 720p cross-converter for HD-SDI outputs Built in, high-performance SDTV up/down converters

Hitachi's professional HDTV camera system.

CU-HD1300E, Fisher Rear Panel

CU-HD1300U, Kings Rear Panel

LM-C1000/SA-1000 (for Canon Small Box Lens)

LM-F1000/SA-1000 (for Fujinon Small Box Lens)

LM-P1000/SA-1000 (for Portable Lens)

(3rd party) Wireless Adaptor

Wireless Adaptor

Hybrid Fiber-optic Triax cable Adaptor

cable Adaptor

Professional HDTV Camera Z-HD5500

ACCESSIONS

5 6
SU-1000 Setup Control Unit

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 Z-HD5500 camera system in a production facility or studios across town. Utilizing a new large touch screen LCD panel that expands its 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 as well as an external video switcher used for control monitoring. With Ethernet control, the SU-1000 can control up to 128 CCUs. With the CCUs, it can control cameras in parallel or simultaneously with an RU-1500JY Remote Control Unit.

The SU-1000 has these primary functions:

- Selection of a single camera or groups of cameras to be controlled.
- On/Off control of all functions.
- Selection of a single camera or groups of cameras to be controlled.
- On/Off control of all functions.
- Adjustment and file data (write/read) from SD memory card.
- Video output selection including external video switcher control.
- Transfer of files and data between cameras or groups of cameras.
- Control of all variable data adjustments including Iris & Master Black.
- Ethernet connectivity and data cabling.

The SU-1000 enhances any studio or field production under budget constraints.

Remote Control Units RU-1500JY and RU-1000VR

The optional RU-1500JY Remote Control Unit has a comprehensive array of controls and functions directly accessible to the video control engineer. It features a joystick for iris and black level, as well as, touchscreen panel operation and Ethernet connectivity and serial data cabling. The RU-1000VR Remote Control Unit is a small, low cost, simplified Remote Control Unit for the Hitachi Z-HD5500. Access to popular camera functions as well as advanced ones is directly available via full menu access and navigation. It is an ideal production tool that enhances any studio or field production under budget constraints.

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**SU-1000 Setup Control Unit**

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The SU-1000 has these primary functions:
- Selection of a single camera or groups of cameras to be controlled.
- On/Off control of all functions.
- Transfer of files and data between cameras or groups of cameras.
- Selection of storage and operation data files.
- Transfer of files and data between cameras.
- Control of all variable data adjustments including Iris & Master Black.
- Video output selection including external video switcher control.
- System configuration chart

**Remote Control Units RU-1500JY and RU-1000VR**

The optional RU-1500JY Remote Control Unit has a comprehensive array of controls and functions directly accessible to the video control engineer. It features a joystick for iris and black level, as well as touchscreen panel operation and Ethernet connectivity and serial data cabling.

The RU-1000VR Remote Control Unit is a small, low cost, simplified Remote Control Unit for the Hitachi Z-HD5500. Access to popular camera functions as well as advanced ones is directly available via full menu access and navigation. It is an ideal production tool that enhances any studio or field production under budget constraints.

**Accessories**

Remote Control Units
- RU-1500JY
- RU-1000VR

**Studio and Field Production Viewfinders**

The Z-HD5500 camera system offers various choices for Studio or Field production viewfinders. The new optional HDF-EL800H is a high-brightness OLED High Definition color viewfinder designed for critical outdoor color viewing of the image. The HDF-700H color LCD screen offers a wide viewing angle and fast transient response time for reproduction of lag-free, crisp images.

HDF-EL800H OLED and VF-L90HD TFT LCD color Field/ Studio viewfinders with AT-951 mount.

The optional VF-L20HD is a LCD color ENGL-style 2-inch viewfinder for sports and OB applications where high-resolution, brightness and contrast are required. This viewfinder is optimized for use in cold weather conditions.

VF-L20HD TFT color and VF-402-S3 monochrome ENG viewfinders.

VF-402-S3 is subject to Import restrictions in certain countries, please contact your local Hitachi Kokusai Electric Group office to check if available in your country.

**System configuration chart**
**Professional HDTV Camera Z-HD5500**

**Specifications**

**Z-HD5500 Camera Head**

- **Imaging Device:** 1/3 - 1/4-in. CMOS image sensor, electron-blast type 2/3-in.
- **Optical System:** 1.4/1.6
- **Optical Filters (CCD):** 15 filters with/without filters
- **Color:** 1:1.3, 2:2.4, 3:3, 3:3:1, 4:1:4:3D, 4:1:4
- **SDI:** 3G/HD-SDI, 3G/HD-SDI (1080p) SMPTE292M, SDI-SMPTE292M-C
- **Digital Input/Output:** 1: HDMI 2.0 OUT, 3G-SDI OUT
- **Microphone:** 1: XLR, 3-pin, -15dBu / 600Ω
- **Dimensions:** 168.9 (W) x 116.6 (H) x 44.5 (D) mm
- **Mass:** 2.2kg, 4.8 lbs.

**VF-402-S3 2-inch Viewfinder**

- **Display device:** 2.7-inch WVGA 1920 x 1080 pixels
- **Functions:** Bright, Contrast, Peaking, VR (front-facing) display
- **Internal tally:** Red/Green
- **Control:** 3-way, VERTICAL, HORIZONTAL
- **Power consumption:** 0.78 W at 5V DC (HV power ON) approx.

**CU-HD1000-58 Camera Control Unit**

- **General:** 1x BNC, 1x 10/100 TP IN/OUT, 1x 10/100 TP EXT, 1x 10/100 TP EXT, 1x 10/100 TP EXT, 1x 10/100 TP EXT
- **Display:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Input:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Output:** 1x D-25 pin, Out-HDMI, Out-LCD, Out-SDI, Out-SDI
- **Power consumption:** 300W approx. (AC operation, including SK-HD1000, distance 1080i, Belden 9267 3/8" Triax cable – 700 m, 2,296 ft)
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F

**CU-HD1300FT/T Camera Control Unit**

- **General:** 1x BNC, 1x 10/100 TP IN/OUT, 1x 10/100 TP EXT, 1x 10/100 TP EXT, 1x 10/100 TP EXT
- **Display:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Input:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Output:** 1x D-25 pin, Out-HDMI, Out-LCD, Out-SDI, Out-SDI
- **Power consumption:** 100W approx. (AC operation, including Z-HD5500, distance 1080i, Belden 9267 3/8" Triax cable – 700 m, 2,296 ft)
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F

**VF-L20HD 2-inch Color LCD Viewfinder**

- **Display:** 2.4-inch WVGA 1920 x 1080 pixels
- **Functions:** Bright, Contrast, Peaking, knobs VR (front-facing), Power ON/OFF
- **Internal tally:** Red/Green
- **Control:** 3-way, VERTICAL, HORIZONTAL
- **Power consumption:** 0.75 W at 5V DC (HV power ON) approx.

**HDF-EL800H 7.4-inch Color OLED Viewfinder**

- **Display:** 7.4-inch Color OLED 1920 x 1200 pixels
- **Functions:** Bright, Contrast, Peaking, VR (front-facing) display
- **Internal tally:** Red/Green
- **Control:** 3-way, VERTICAL, HORIZONTAL
- **Power consumption:** 0.75 W at 5V DC (HV power ON) approx.

**HDF-700H 7-inch Color LCD Viewfinder**

- **Display:** 7-inch, color LCD, 800 (H) x 480 (V)
- **Functions:** Bright, Contrast, Peaking, knobs VR (front-facing), Power ON/OFF
- **Internal tally:** Red/Green
- **Control:** 3-way, VERTICAL, HORIZONTAL
- **Power consumption:** 3.2W at 5V DC (HV power ON) approx.

**CA-HF1000 Fiber Camera Adaptor**

- **LCU connector:** 1x 9-pin FPC, female connector (LCX/UG53 type)
- **Input signal:** VE (Video Engineer) Switch input: Contact closure
- **Dimensions:** 102 (W) x 370 (D) x 56.2 (H) mm
- **Mass:** 4.1 kg, 9 lbs.

**VF-402 and AUX POWER OUT (for use in cranes or extended Head / VF configurations)**

- **1x HD-SDI OUT 3G-SDI or HD-SDI (for use in cranes or extended Head / VF configurations)**
- **1x 6-pin VF AUX return (female)**
- **1x 5-pin script lamp +12 VDC (1.0 A max) (female)**
- **1x 6-pin VF AUX return (female)**
- **3-pin XLR MIC-1 connector, SD Memory Card Slot**
- **Power consumption:** 12 W approx.

**RU-1000VR Remote Control Unit**

- **Dimensions:** 131 (W) x 182.5 (D) x 32.4 mm
- **Power input:** 4x AA, 1.5V batteries
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F
- **Power consumption:** 0.065 W at 4.5V DC (HV power ON)

**RU-1500V5 Remote Control Unit**

- **Dimensions:** 80 (W) x 175 (D) x 28.5 mm
- **Power input:** 4x AA, 1.5V batteries
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F
- **Power consumption:** 0.06 W at 4.5V DC (HV power ON)

**SU-1000 Setup Control Unit**

- **Input signal:** 1x (Video Engineer) Switch input: Contact closure
- **Dimensions:** 380 (W) x 250 (D) x 65.6 mm
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F
- **Power consumption:** 5VA, 24VA, 7VA
- **Power supply voltage:** 100-240V AC, 50/60Hz
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F

**CU-HD1300FT/T Camera Control Unit**

- **General:** 1x BNC, 1x 10/100 TP IN/OUT, 1x 10/100 TP EXT, 1x 10/100 TP EXT
- **Display:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Input:** 1x D-25 pin, In-HDMI, In-LCD, In-SDI, In-SDI
- **Output:** 1x D-25 pin, Out-HDMI, Out-LCD, Out-SDI, Out-SDI
- **Power consumption:** 100W approx. (AC operation, including Z-HD5500, distance 1080i, Belden 9267 3/8" Triax cable – 700 m, 2,296 ft)
- **Operating temperature:** 0°C to 40°C, 32°F to 104°F
**Z-HD5500 Camera Head**

**Specification**

**Image Device**
- 1/3 - 1/2-inch equivalent CMOS image sensor, 1080i/60, 720p

**Optical System**
- F1.4 prism

**Optical Filters**
- 5 filter slots with six filters
- 1 x 2: Cross, 3:1/4ND, 4:1/2ND, 5:1/4ND, 6:1/2ND, 7:1/4ND, 8:1/2ND, 9:1ND

**ECC**
- 500x, 400x, 300x, 200x, 100x

**Digital to Analog Noise Ratio**
- 62dB (typical)

**Perspective Resolution**
- 1,000 TV lines (at center)

**Lens Mount**
- EF Bayonet Mount (EF-150)

**Jitter**
- 0.01% (excluding lens limitations)

**Video Transmission System**
- Fully digital, bi-directional, 10-bit, 4:2:2 sampling, SMPTE-274M

**Camera Head**
- 1x BNC HD-SDI MON out, VF out (Character ON/OFF) or
- 1x HD-SDI 3G-SDI or HD-SDI

**Operation Temperature**
- -10°C to 50°C (14°F to 122°F)

**Power Input**
- 120-240VAC, 50/60Hz

**Dimensions**
- 157x174x50mm

**Mass**
- 1 kg, 2.2 lbs.

**HDF-EL800H 7.4-inch Color OLED Viewfinder**

**Specification**

**CCU Connector**
- 1pin YPbPr, 2pin Luma & 2pin Chroma

**Television Interface**
- 1 x 1080i/60, 720p

**Program Audio**
- 4x BNC, HD-SDI, SD-SDI Selectable (Embedded 2-Ch audio available)

**Camera Mount**
- AT-1101, AT-1201

**Audio Inputs/Outputs**
- 2x 3.5mm stereo, 2x Line, 2x Mic

**TV Format**
- PAL, NTSC, SECAM

**Color Correction**
- Color Bars, Contour, Bright, Sharpness, Chroma, 1/2
gain, Gain, Gain

**Effects**
- Tally, Desat, Sat, Char In

**Viewfinder Information**
- 16:9, NTSC, PAL, SECAM

**CU-HD1000-S8 Camera Control Unit**

**Specification**

**Digital Return**
- 1x BNC, HD-SDI or SD-SDI

**Input / Output**
- 2x HD-SDI, 3G-SDI or HD-SDI

**Camera Mount**
- AT-1101, AT-1201

**Television Interface**
- 1x 1080i/60, 720p

**Program Audio**
- 4x BNC, HD-SDI, SD-SDI Selectable (Embedded 2-Ch audio available)

**Audio Inputs/Outputs**
- 2x 3.5mm stereo, 2x Line, 2x Mic

**TV Format**
- PAL, NTSC, SECAM

**Color Correction**
- Color Bars, Contour, Bright, Sharpness, Chroma, 1/2
gain, Gain, Gain

**Effects**
- Tally, Desat, Sat, Char In

**Viewfinder Information**
- 16:9, NTSC, PAL, SECAM
MULTI-FORMAT CMOS 1080P PRODUCTION CAMERA

Z-HD5500