SPECIFICATIONS : Z-3500W Camera Head

Color System	PAL-B
Optical system	2/3" F1.4 prism
Pickup system	RGB 3IT- CCD, 2/3" Image format
Picture elements (pixels)	Total 1008(H) x 591(V) Effective 936(H) x 575(V)
Sync system	Internal or genlock
Horizontal resolution	800 TV lines
Signal-to-noise ratio	63 dB typical (Gamma : 1, DTL : off, Gain : 0 dB, Y-OUT, DNR: off) 66 dB typical (Gamma : 1, DTL : off, Gain : 0 dB, Y-OUT, DNR: on)
Standard sensitivity	F11+1/2 at 2000 lx
Minimum illumination	0.5 lx F1.4 / 0.8 lx F1.8 (Gain : +24dB, digital gain : on)
Gamma correction	0.35 to 1.0 (ON/OFF switchable)
Geometric distortion	All zones : less than measurement limit (excluding lens)
Registration	All zones : less than 0.05% (excluding lens)
Optical filters	3200K, 5600K +1/16ND, 5600K, 5600K+1/64ND
Vertical detail correction	2H
DTL controls	DTL LEVEL, DTL FREQ, FLESH TONE, LEVEL DEP, CRISP, H-V BAL, SOFT DTL, etc.
Lens mount	Bayonet (Backfocus : 48mm in air)
Gain selector	Low : -3, 0, 3, 6, 9dB Mid : 0, 3, 6, 9, 12, 15, 18dB High: 3, 6, 9, 12, 15, 18, 21, 24dB Remote mode : 0dB to +24dB (3dB steps)
Digital-Gain function	Gain is increased +6dB, +12dB by Internal processing of DSP
Scene file	4 scene files Items: gain, DTL, masking, gamma, electronic shutter, auto iris mode, contrast, etc.
Electronic shutter	Preset mode 1/60, 1/250, 1/500, 1/1000, 1/2000 CC FRAME Lock SCAN mode : approx 1/50 to approx. 1/2000 (in 1H steps); Automatic Electronic Shutter (AES) mode : (up to 4 lens-stops)
Input signals	1.Genlock input (BNC or multi-connector) : VBS 1.0Vp-p (±3dB or black burst/75Ω (sync 0.3±0.1Vp-p, burst : 0.3±0.1Vp-p) 2.Viewfinder AUX input (multi-connector) : VBS 1.0Vp-p ±3dB / 75Ω
Output signals	1.Video output(BNC) VBS 1.0Vp-p / 75Ω 2.VTR output 1(multi-connector) VBS 1.0Vp-p / 75Ω 3.VTR output 2(multi-connector) a : Composite signal: VBS 1.0Vp-p / 75Ω b : Y/C output : Y : 1.0Vp-p / 75Ω, C : 0.3Vp-p (burst), c : RGB output : RGB : 0.7Vp-p / 75Ω d : Component output: VS : 1.0Vp-p / 75Ω R-Y, B-Y : 0.525Vp-p / 75Ω 4.Monitor output (BNC) VBS 1.0Vp-p / 75Ω, with charactors 5.Audio output (multi-connector) −20dBm or −60dBm
Ambient temperature	-Operating: −10 to +45˚C (+14 to +113F) Storage: −20 to +60˚C (−4 to +140F)
Power requirement	12 V DC (+10.5VDC to +17VDC)
Power consumption	Approox. 11.5W (excluding GM-9, camera adapter)
Dimensions	125(W)x268(H)x160(D)mm (excluding camera adapter)
Mass	Approx. 2.6kg (5.7 lb) (excluding GM-9, lens and camera adapter)

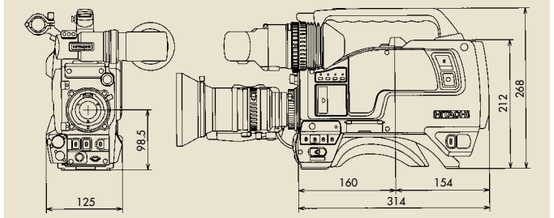
SPECIFICATIONS : RU-Z35

OUTPUT signals	**LINE 1/2**	VBS 1.0Vp-p/75Ω
	SDI output	0.8Vp-p/75Ω
	MON	VBS 1.0Vp-p/75Ω
	RGB R-Y, Y, B-Y	V : 0.7Vp-p VS1.0Vp-p/75Ω
	AUDIO output	0dB, 600Ω, one system
INPUT signals	**PROMPT**	VBS 1.0Vp-p/75Ω or loop-through
	AUX VIDEO	VBS 1.0Vp-p/75Ω or loop-through
	GENLOCK	BB 0.6Vp-p/75Ω or loop-through
	TALLY	Closure or Voltage(24V)
	INTERCOM	XLR-5pin Corresponding to dynamic mic
Power requirements		230 V AC, 50 Hz
Power consumption		Approx. 120W
Maximum cable length		Approx. 300m (980 ft)
Ambient temperature		5 to 40°C (41 to 104°F)
Dimensions		482(W) x 88(H) x 300(D)mm (19.0 x 3.5 x 11.8 in)
Mass		Approx. 9kg (20 lb)

SPECIFICATIONS : TU-Z3A/ CX-Z3A

Video band width (Base band)	Y signal : 10 MHz PB,PR signal : 5 MHz RET, PROMPT signal : 5 MHz
AmbientTemperature	Operating : TU-Z3A : 0 to +40 °C CX-Z3A : −10 to +45 °C Storage : −20 to +60 °C
Power supply voltage	230V AC 50 Hz
Power consumption	approx. 130 W (AC operation, includeing Z-3500/GM-51 and AUX POWER OUT 50 W)
	TU-Z3A : approx. 25 W (DC operation)
	CX-Z3A : approx. 30 W (DC operation, including Z-3500/GM-51)
Dimensions	TU-Z3A 212(W) x 163(H) x 381(D) mm CX-Z3A 135(W) x 196(H) x 215(D) mm
Mass	TU-Z3A Approx. 9.0 kg (19.9 lb) CX-Z3A Approx. 3.0 kg (6.6 lb)

Dimensions unit : mm



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

These Specifications are subject to change without notice.

Hitachi Kokusai Electric Inc.

Head Office : 14-1,Sotokanda 4-choume, Chiyoda-ku, Tokyo 101-8980, Japan
Phone : +81(0) 3-6734-9432, Fax : +81(0) 3-5209-5942
URL : http://www.h-kokusai.com

Beijing Office
Beijing Fortune Building 5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China
Phone : +86(0) 10-6590-8755/8756, Fax : +86(0) 10-6590-8757

Hitachi Kokusai Electric America, Ltd. URL : http://hitachikokusai.us
Headquarters and Northeast Office : 150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.
Phone : (+1) 516-921-7200, Fax : (+1) 516-496-3718
West Office : 371 Van Ness Way, Suite 120 Torrance, CA. 90501, U. S. A.
Phone : (+1) 310-328-6116, Fax : (+1) 310-328-6252
Midwest Sales : Phone : (+1) 330-334-4115, Fax : (+1) 516-496-3718
Service (+1) 989-345-5379
South Sales : Service (+1) 256-774-3777
Parts Center : Phone : (+1) 516-682-4435, Fax : (+1) 516-921-0993
Latin Sales : Phone : (+1) 516-682-4420, Fax : (+1) 516-496-3718

Hitachi Kokusai Electric Canada, Ltd. URL : www.hitachikokusai.ca
Head Office : 1 Select Avenue Unit#11 Scarborough, Ontario M1V 5J3, Canada
Phone : (+1) 416-299-5900, Fax : (+1) 416-299-0450
Eastern Office : 5795 Chemin St. Francois St. Laurent, Quebec H4S 1B6, Canada
Phone : (+1) 514-332-6687, Fax : (+1) 514-335-1664

Hitachi Kokusai Electric Europe GmbH
Head Office : Weiskircher Straße 88, Jügesheim D-63110 Rodgau, Germany
Phone : +49(0) 6106-69920, Fax : +49(0) 6106-16906
URL : www.hitachi-ke-eu.com
General email address : info@hitachi-ke-eu.com

Hitachi Kokusai Electric U.K. Ltd.
Head Office : Windsor House, Britannia Road, Waltham Cross, Hertfordshire EN8 7NX, United Kingdom
Phone : +44(0) 845-121-2177, Fax : +44(0) 845-121-2180
Leeds Office : Brookfield House, Selby Road, Garforth, Leeds LS25 1NB, United Kingdom
Phone : +44(0) 113-287-4400, Fax : +44(0) 113-287-4260
URL : www.hitachi-ke-eu.com
General email address : info@hitachi-ke-eu.com

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Hitachi Kokusai Electric

HITACHI

Digital Camera Z-3500W

Hitachi has once again elevated the standard by which professional video cameras are judged with the introduction of our Z-3500W.

This latest generation of Z-camera has improved performance over previous models by the incorporation of the newest electronic devices and circuit designs. Popular features such as aspect ratio switching have been retained to facilitate TV program production for SDTV in 4:3 and 16:9. Pristine picture quality in both aspect ratios is provided by the use of new high-performance CCD imaging devices. These new CCDs bring to reality never before seen performance in the areas of picture quietness, highlight smear suppression and object depth-of-field characteristics. Hitachi's Digital Signal Processing now benefits from an increased dynamic range and resolution offered by the latest generation of 14 bit Analog to Digital converters at the output of the CCD imaging device.

The new ADCs make it possible to eliminate analog pre-processing associated with older devices thereby decreasing the manipulation of the image signal prior to digital processing. Hitachi's latest Digital Signal Processor VLSIC is at the heart of the Z-3500W's upgraded performance. The new DSP offers superior color rendition and reproduction characteristics while offering the highest accuracy in edge definition. This translates to cleaner, sharper images. Also performed in the digital domain within the Z-3500W's DSP device, are video signal encoding and advanced noise reduction for low-light scenes.

Outstanding Features

Resolution 800TV lines

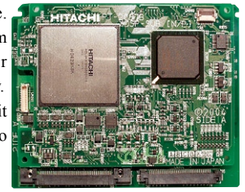
An outstanding 800 TV Lines of resolution are achieved through the use of Hitachi's own Digital Signal Processor and new 2/3-inch, 600,000 pixel IT-CCDs.

Switchable 16:9/4:3

The Z-3500W provides the video professional the freedom to do productions in a 16:9 or 4:3 aspect ratio at the push of a button. The 2/3-inch, 600,000 pixel CCD's and digital switching assure the highest picture quality is preserved in either aspect ratio.

Next-Generation DSP

Hitachi's unique DSP technology encompasses the video digital processing and the encoder into a single LSI device. This single chip 3 million gates 0.18µm DSP design reduces the size, power consumption and greatly enhances stability. The 14 bit A/D converter and 20 to 30 bit DSP processing provide a high S/N ratio and wide dynamic range.



Signal to Noise Ratio 66dB

With the new digital noise reduction and low noise DSP technology, a S/N ratio of -63dB(DNR off)/ -66dB(DNR on) is achieved. This new technology assures clear low noise images while operating in the high gain modes.

Sensitivity - F11+1/2 (2000 lx)

A total of +36dB of gain is available for reproducing low light scenes down to 0.5 lx (F1.4). The +36dB gain is a combination of +24dB high gain and +12dB digital gain.

Versatile CCD Shutter

Four modes of shutter operation are provided : Five Preset electronic shutter speeds, Lock Scan to image computer monitors without flicker, Auto Electronic Shutter (AES) maintains the video level with a fixed lens f-stop, and CC Frame offers improved vertical resolution.

Digital Processing Improves Image Highlight Quality

Dyna-Chroma and Auto Knee

The auto knee provides a wide dynamic range by compressing the video above 100%. Dyna-chroma restores color saturation to scene highlights above 100%.

Automatic Flesh Tone Detail

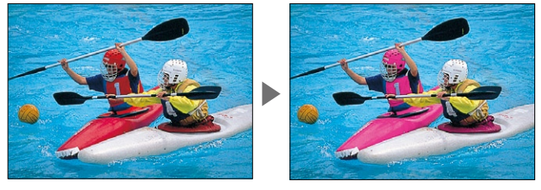
Flesh tone detail smooths and softens facial lines and blemishes without sacrificing overall scene detail. Automatic flesh tone detail provides an easy and fast means to optimize flesh tone detail.

Variable Detail Boost Frequency

The detail center frequency is user selectable to match the detail signal to the scene.

6-Vector and Linear Matrix

The 6-vector color corrector and linear matrix provide the user a wide latitude in subjective image color control. The linear matrix provides overall color control and the 6-vector color corrector provides independent control of the hue and saturation for each of the three primary and three secondary colors.



Special Gamma

Adjusts the initial gamma gain to optimize the reproduction of the dark areas in a scene.

Gray Scale Automatic Setup

This "through the lens" automatic is used in combination with a standard gray scale chart to automatically setup gain, gamma, black and flare. Markers are provided in the viewfinder to aid in the positioning of the gray scale chart and the iris is automatically adjusted to the correct video level.

Automatic shading

Automatic shading corrects white vertical shading at the push of a button. This feature provides separate setups to optimize the X1 and X2 lens extender positions.

Extensive User-Friendly Features

• Quick Focus

Quick Focus automatically opens the iris then sets the video level with the electronic shutter. With the resulting shallow depth of focus, the exact focus point can be set easily.

• Two User-Programmable Switches (CS-1, CS-2)

The user can assign full auto, quick focus or contrast to either of the two programmable switches for ease of operation.

• Full Auto

The built-in automatic electronic shutter (AES) and automatic iris maintain the video level even with radically changing light levels. Real-time automatic white balance corrects color temperature variations due to changing types of lighting conditions.

- Four scene files are provided to store and recall functions such as gain, detail, masking, gamma and other settings.
- Title texts are displayed on the color bar display.
- Audio test tone (1kHz) is output when color bars are selected.

Viewfinder Displays

- The viewfinder displays the function tree menus.

• Status display

Indicators for zoom and focus (with compatible lenses), iris F-stop, color temperature for auto white balance and other functions are displayed.

• Two mode zebra

Menu selection of over-level or between range zebra is provided.

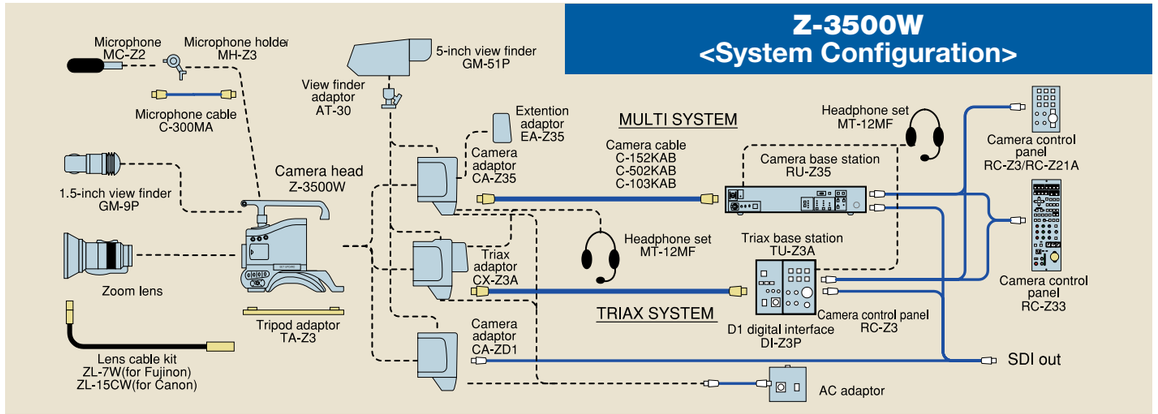
• Viewfinder V-Detail

Vertical detail is enhanced in both the 1.5-inch VF (GM-9) and 5-inch VF (GM-51) viewfinders for easy lens focus. Horizontal detail is also provided.

High Performance 1.5 inch Viewfinder (GM-9)

- The 600 TV line resolution assures easy focus.
- Large aperture lens improves viewfinder viewing.
- Front-back, left-right and tilt positioning is provided for optimum user comfort. The bayonet mount provides a direct connection to the camera eliminating the need of a cable.
- Rotates to a perpendicular position for convenient carrying.

Z-3500W <System Configuration>



FLEXIBLE CHOICE OF REMOTE CONTROL UNITS

Suggested System Configurations

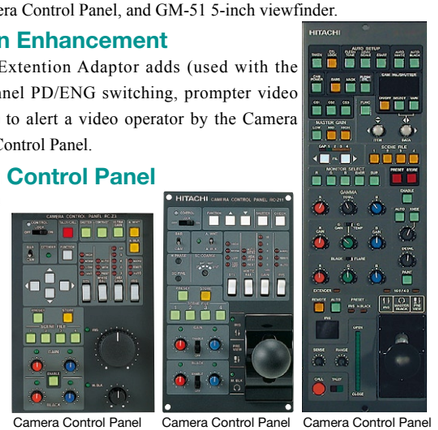
Studio system : RU-Z35 Camera Base Station, CX-Z35 Camera Adaptor, RC-Z3/ RC-Z21A/ RC-Z33 Camera Control Panel, and GM-51 5-inch viewfinder.

Studio Operation Enhancement

The optional EA-Z35 Extention Adaptor adds (used with the RU-Z35) intercom channel PD/ENG switching, prompter video output and a call button to alert a video operator by the Camera Base Station or Camera Control Panel.

RC-Z33 Camera Control Panel

The RC-Z33 Camera Control Panel has 11 potentiometers to control the Z-3500 camera.



Camera Control Panel **RC-Z3**

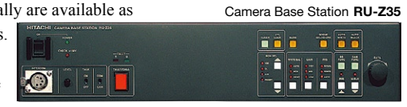
Camera Control Panel **RC-Z21A**

Camera Control Panel **RC-Z33**

RU-Z35 Camera Base Station

The new Camera Base Station model RU-Z35 includes all the essential camera system features and offers a high picture quality in demanding production studio applications. Production Switcher independent Green Tally and Red Tally are available as standard features. Prompter video and power at the camera head are also standard functions offered.

Camera Base Station **RU-Z35**



Back

CCU (Triax Base Station) TU-Z3A

Excellent picture and signal quality are enabled with new and improved RF circuit. Cable length of up to 1900 meters (14.5 mm Fujikura cable) can be used with this FM-modulated triax cable transmission.

Other Optional Functions

Independent 2-Channel Intercom system.

Trunk Video: Triax adaptor CX-Z3A has easy switcable circuit of prompter video output and trunk video input

Triax Base Station **TU-Z3A**

Triax Adaptor **CX-Z3A**

ACCESSORIES

CA-Z35
Camera adaptor for RU-Z35

MC-Z2
Microphone

MH-Z3
Microphone holder

C-300MA
Microphone cable

GM-9
1.5-inch viewfinder

GM-51
5-inch viewfinder

AT-30
Viewfinder adaptor for GM-51

MT-12MF
Headset

TA-Z3
Tripod adaptor

C-502KAB/C-152KAB/C-103KAB
Camera cable

EA-Z35
Extension adaptor for CA-Z35

A20 × 8.6BRM-24
Zoom lens

YJ20 × 8.5BKRS
Zoom lens