HITACHI

DIGITAL



DIGITAL CAMERA

Z-3000W

Premier Performance Starring the

The curtain is raising on digital broadcast television. Capture the scene with the next-generation Z-3000W Hitachi digital camera.

The new concept 2/3-inch Z-3000W CCD camera switches aspect ratios at the push of a button. With its new 640,000 pixel CCD's, the Z-3000W provides outstanding performance in both 16:9 and 4:3 aspect ratios.

The advanced new single-chip DSP enhances gradation response, color reproduction accuracy, as well as providing sharper cleaner images. The DSP is fully digital from the video processing to the encoder. The built-in digital noise reduction assures superb low-light operation.

Designed for the demanding needs of field production, the Z-3000W is built to last with a die cast frame that is lightweight and provides great strength. This new design also provides a lower center of gravity for optimum shoulder balance and the lower profile greatly improves the right side visibility for added safety.

The Z-3000W is ready for today's 4:3 NTSC world and with the push of button is ready to perform in tomorrow's wide aspect ratio digital television broadcasting.

Outstanding Features.

Resolution.

The outstanding 850 H. TV line resolution is due to the new 2/3-inch, 16:9 wide aspect ratio, 640,000 pixel CCD with micro-lens technology and the high performance double sampled digital signal processing.

Switchable 16:9/4:3.

The video professional has the freedom to do productions in a 4:3 or 16:9 aspect ratios at the push of a button. Digital switching assures the picture quality is preserved in either aspect ratio.

Next-Generation DSP

Hitachi's unique DSP technology encompasses all digital processing including the encoder into a single LSI device. This single chip DSP design reduces the size and power consumption and greatly enhances stability.
The 10 bit A/D converter and 13 to18 bit DSP provide a high S/N ratio and wide dynamic range.

Signal to Noise Ratio.

With the new digital noise reduction and low noise DSP technology a S/N ratio of 65dB is provided. This new technology assures clear low noise images can be obtained with high gain modes.

Sensitivity - f11.0 (2000 lux)

Up to +36dB of gain is available for imaging in light levels down to 0.5 lux (f1.4). The total gain of +36dB is a combination of +24dB high gain and low noise +12dB ultra-gain.

Setup card.

A small plug-in setup card (Compact Flash type) can store user setup information for later recall. The setup card offers operational flexibility by storing and recalling setups tailored optimized for individual scenes.

Versatile CCD Shutter

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





Hitachi Z-3000W Digital Camera

Digital Processing Improves Image Highlight Quality

Highlight Chroma and Auto Knee.

The auto knee and highlight chroma functions provide a wide dynamic range and restore natural color saturation to scene highlights above 100IRE.

Flesh Tone Detail.

Flesh tone detail flatters talent by smoothing and softening facial lines and blemishes without sacrificing overall scene 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 and linear matrix provides the user 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 six colors.

Special Gamma.

Adjusts the initial gamma gain to optimize the reproduction of dark scene components.

Extensive User-Friendly Features

The user can assign frequently used functions to programmable switches for ease of operation.

Four scene files are provided to store and recall functions such as gain, detail, and gamma.

Each optical filter has four white balance memories. A total of 8 memories are used in two white balance memory systems.

Menu settings are provided for iris level (fine adjust) and iris peak/average.

Computer controlled real-time auto-white balance.

Camera ID, date and time are displayed on the color bar display.

Audio test tone (1 kHz) is output when color bars are selected.

Viewfinder Displays

Displays function settings of the tree type menu system. The self-diagnostic and display check functions are also available.

Two mode zebra

Selectable for over-level and within range indication.

Battery remaining

Display Indicates percentage of battery power remaining when used with Anton/Bauer Digital Magnum series battery.

High Performance Viewfinder (GM-9)

Offers switching between 16:9/4:3 aspect ratios and 600 TV line resolution for easy focus.

Large aperture lens is used for improved viewfinder viewing.

Front - back, left - right and tilt positioning are provided for optimum VF user comfort. The bayonet mount provides a direct connection to the camera without the need of a cable.

Rotates to a perpendicular position for convenient carrying.

New low center of gravity design

Main operation switches are grouped forward for easy use. The low center of gravity design is lightwight (camera head 2.6 kg) making it ideal for portable use.

Adjustable shoulder pad position and non-slip finish provide on-the-shoulder comfort and confidence.

Docks to a Wide Variety of VTR's

Optional adapters and inner modules offer flexibility in docking video tape recorders.

Compatible models

Sony: Betacam SP (BVV5), Betacam PRO (PVV-3), DVCAM (DSR-1)

Panasonic: MII Promind (AU-45H), DVCPRO

JVC: Digital-S (BR-D40), S-VHS (BR-S422)

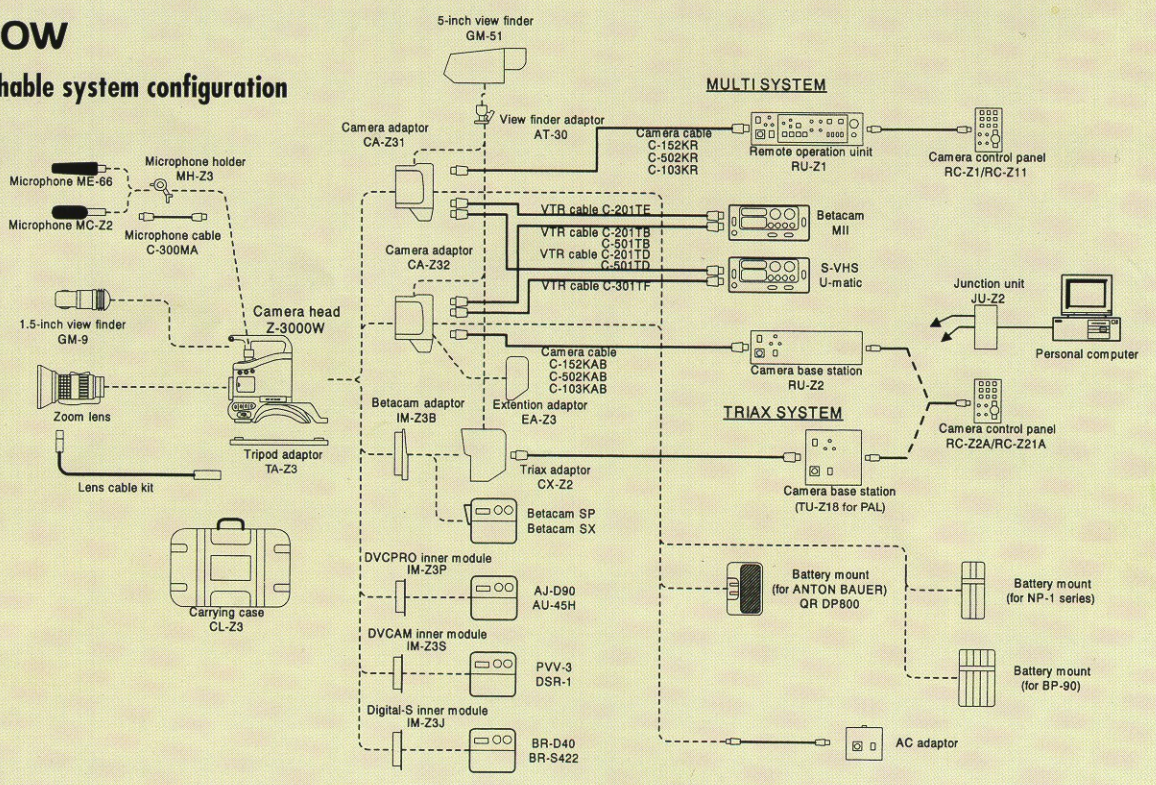
Suggested System Configurations

New 16:9/4:3 switchable studio system: RU-Z2 Camera Base Station, CA-Z32 Camera Adapter, RC-Z2A/RC-Z21A Camera Control Panel, GM-51 5-inch viewfinder

Small scale 16:9/4:3 switchable studio system: RU-Z1 Remote Operation Unit, CA-Z31 Camera Adapter, RC-Z1/RC-Z11 Camera Control Panel, and GM-51 5-inch viewfinder.

Z-3000W

Wide switchable system configuration



SPECIFICATIONS : Z-3000W Camera Head

Color System	NTSC/PAL
Optical system	2/3" f1.4 prism
Pickup system	RGB 3-chip system
Imaging device	CCD equivalent to 2/3" tube (with micro lenses)
No. of total pixels (HxV)	1290×496 / 1260×587 PAL
Encoder	R-Y, B-Y(NTSC)/UV(PAL)
Sync system	Internal or genlock
Hor. resolution	850 TV lines (4 : 3), 800TV lines (16 : 9)
Signal-to-noise ratio	63dB(Typ). 65dB (DNR ON) / 61dB (typ), 63dB (DNR ON) PAL (Gamma : 1, DTL :OFF, Gain : 0dB, Y OUT)
Standard sensitivity	f11 at 2000 lx
Minimum sensitivity	0.5 lx f1.4 / 0.8 lx f1.8 (Gain : +24dB, ULTRA-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, 5600K +1/8ND, 5600K +1/32ND
Vertical contour correction	2H
Lens mount	Bayonet (Backfocus : 48mm in air)
Gain selector	Low : 0dB mid : +6/ +9 / +12dB selectable for each scene High: +12/ +18 / +24dB Remote mode : 0 to +24dB (in 3dB steps)
DTL controls	DTL LEVEL, DTL FREQ, FLESH TONE, HIGH CHROMA, LEVEL DEP, CRISP, H-V BAL, SOFT DTL, etc.
Scene file	4 scene files Items: gain, DTL, masking, gamma, electronic shutter, auto iris mode, contrast, etc.
ULTRA-Gain function	Gain is increased by approx. +12dB by switching the read-out mode of CCD (Horizontal resolution is lowered)
Electronic shutter	Preset mode 1/100, 1/60 (PAL), 1/250, 1/500, 1/1000, 1/2000 CC FRAME Lock SCAN mode : 1/61.5 (1/51.8 PAL) 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 : 0.286Vp-p (burst), c: RGB output : RGB : 0.7Vp-p / 75Ω d: Component output: VS : 1.0Vp-p / 75Ω R-Y, B-Y : 0.7Vp-p / 75Ω (BETACAM, 75% color bars), 0.525Vp-p / 75Ω (MII , 75% color bars) 4. Monitor output (BNC) VBS 1.0Vp-p / 75Ω 5. Audio output (multi-connector) - 20dBm or - 60dBm

Ambient temperature	Operating: -10 to +45°C Storage: -10 to +60°C
Rated power supply	12 V DC
Power consumption	16W approx. (includes GM-9 camera adapter CA-)
Dimensions	130(W)×250(H)×160(D)mm (excluding camera adapter)
Mass	3.2kg approx. (including GM-9 and excluding lens and camera adapter)

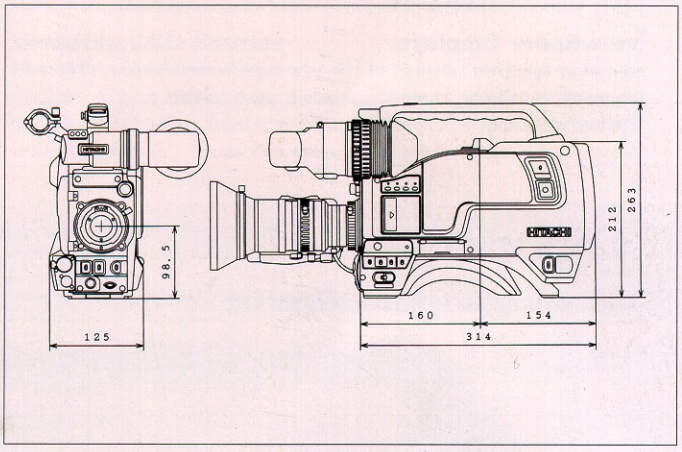
SPECIFICATIONS : GM-9 1.5-inch Viewfinder

Input signal	VS 1.0Vp-p, sync negative
CRT	1.5" B/W
Resolution	600 TV lines approx. (horizontal center)
Aspect ratio	16:9 / 4:3
LED display	TALLY, BATT, SAVE, (!) Warning indicator : out of standard application
Controls	Brightness, Peaking, Contrast, Front tally ON/OFF
Power supply	9V DC
Power consumption	1.4W approx
Mass	0.6kg approx.

STANDARD COMPOSITION

Equipment	Model
Camera head	Z-3000W
1.5-inch viewfinder	GM-9
Tripod adapter	TA-Z3
Carrying case	CL-Z3
16x zoom lens (Fujinon) (Note 1)	A16×9 BRM-27
17x zoom lens (Canon) (Note 1)	YJ18×9B4KRS S×12

(Note 1:) User has choice of lens.



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

These Specifications are subject to change without notice.

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