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## Z-3000W Digital Camera

# HITACHI

As the current rises on a new digital wide screen ear for television, capture the scene with the all-new Z-3000W digital camera. At the push of a button, the Z-3000W switches from today's 4:3 aspect ratio to the 16:9 format required by the new digital television system. With its new 640,000 pixel CCD's, the Z-3000W provides outstanding performance in both aspect ratios. The advanced new single-chip DSP provides full digital video processing and digital encoding. This DSP provides enhanced gradation response and colour reproduction accuracy for sharper and cleaner images, and the build-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 yet provides great strength. This new design also offers a lower centre of gravity for optimum shoulder balance and the lower profile improves the right side visibility for added operator safety.



Specifications and Technical Description [Click Here](#)

### Features

- > 640K pixel IT CCDs
- > 850 line of resolution
- > Sensitivity 2000 lux @ f.11.0
- > 63 dB SN
- > 16:9/4:3 switchable
- > Available in 4:3 mode only
- > Automatic flesh tone detail
- > Dual masking system
- > Pixel management system
- > Memory card for camera setup
- > Triax and multicore base stations available

# Technical Description

## **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 or 4:3 only.**

The Z-3000W 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, 640,000 pixel CCD's and digital switching assure the highest picture quality is preserved in either aspect ratio. The Z-3000 operates in a dedicated 4:3 mode and offers maximum performance value for the investment. The 2/3-inch, 410,000 pixel CCD's (4:3 aspect ratio) achieve 850 TV lines of horizontal resolution. In all other aspects, the Z-3000 offers the same features and specifications as the Z-3000W.

## **Next-Generation DSP.**

Hitachi's unique DSP technology encompasses the video digital processing and the encoder into a single LSI device. This single chip DSP design reduces the size, power consumption and greatly enhances stability. The 10 bit A/D converter and 13 to 18 bit DSP processing 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 while operating in the high gain modes.

## **Sensitivity - F11 (2000 lx).**

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

## **Setup card.**

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

## **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 100IRE. Dyna-chroma restores color saturation to scene highlights above 100IRE.

## **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 scene components.

### **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 automatic 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 for color temperature variations due to changing types of lighting conditions.

- Four scene files are provided to store and recall functions such as gain, detail, and gamma.
- A 4-point star filter is included in filter wheel.
- Menu access is provided for iris level (fine adjust) and iris peak/average selection.
- 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.**

The viewfinder displays the function tree menus.  
Self diagnostic and check function.

- **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.

- **Battery remaining.**

Fuel-gauge for Anton Bauer Digital interactive batteries. Displays percentage of battery power remaining.

- **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.

## Specifications

Color System	PAL
Optical system	2/3" F1.4 prism
Pickup system	RGB 3IT- CCD, 2/3" Image format
Picture elements (pixels)	Z-3000W Total 1290(H) - 496(V) Effective 1216(H) - 492(V)  Z-3000 Total 1811(H) - 508(V) Effective 1768(H) - 494(V)
Sync system	Internal or genlock
Horizontal resolution	Z-3000W 850 TV lines (4 : 3), 800 TV lines (16 : 9)  Z-3000 850 TV lines (4 : 3)
Signal-to-noise ratio	63dB(Typ). 65dB (DNR ON)  (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 +1/16ND, 5600K, cross filter
Vertical contour correction	2H
Lens mount	Bayonet (Backfocus : 48mm in air)
Gain selector	Low : 0dB/-3dB Mid : +6/ +9 / +12dB High: +12/ +18 / +24dB Remote mode : -3 to +24dB (in 3dB steps)
DTL controls	DTL LEVEL, DTL FREQ, FLESH TONE,
Scene file	4 scene files tems: gain, DTL, masking, gamma, electronic shutter, auto iris mode, contrast, etc.
Setup card file	4 (scenes files and other menu items)
ULTRA-Gain function	Gain is increased by approx. +12dB by switching the read-out mode of CCD (Horizontal resolution is lowered)
Electronic shutter	Preset modea 1/100, 1/250, 1/500, 1/1000, 1/2000 CC FRAME Lock SCAN mode : approx 1/61 to approx. 1/2000 (in 1H steps); Automatic Electronic Shutter (AES) mode : (up to 4 lens-stops)
Ambient temperature	Operating: -10 to +45°C (-28 to +113F) Storage: -10 to +60°C (-28 to +140F)
Power requirement	12 V DC (+10.5V DC to +17V DC)
Power consumption	16W approx. (including GM-9, excluding camera adapter)
Dimensions	125(W)x268(H)x160(D)mm (excluding camera adapter)
Mass	3.2kg (7.1 lb) approx. (including GM-9 and excluding lens and camera adapter)