

# HITACHI

**Wide Switchable  
3-CCD digital color camera**

# HV-D5W



The Hitachi HV-D5W digital 3-CCD color camera offers a switchable 16:9/4:3 aspect ratio. The 2/3-inch IT CCD provides 510,000 pixels and along with Hitachi's exclusive 13-bit digital processing produces outstanding video quality. In addition, precision CCD matching and low-noise circuit design take the HV-D5W to new levels in terms of resolution and signal to noise ratio. Microprocessor control is used for automatic, camera control and remote control functions. The host of high performance functions and features of the HV-D5W provides the quality and versatility necessary to meet a broad range of applications.



## Features

### High resolution

The three 2/3-inch 510,000 pixel CCDs (16:9 wide aspect) and digital double sampling deliver 750 lines of horizontal resolution (luminance channel).

### Switchable 16:9/4:3 aspect ratio

The switchable aspect ratio enables flexible program production.

### New DSP

Hitachi's state-of-the-art DSP technology has produced a single 230,000 gates LSI chip providing digital video processing and encoding for the camera. The single-chip DSP lowers power consumption, increases stability and reduces size compared to analog designs.

### High S/N

The outstanding 65 dB signal to noise ratio due to the low noise circuit technology and the new digital noise reduction technology used. Clear images can now be obtained even in high gain modes.

### High sensitivity

Standard sensitivity is 2000 lx, F11. In addition, the +18 dB high gain mode and +12 dB ultra gain function can raise the gain up to +30 dB to enable pickup at a minimum illumination of 1 lx (F1.4) and 1.5 lx (F1.8).

### Versatile CCD drive functions

- 5 preset electronic shutter speeds.
- Lock scan mode allows flicker-free pickup of a screen display having a different scanning frequency than the camera.
- Automatic electronic shutter (AES) mode sets the video signal to a fixed level without changing the lens iris.
- Charge control (CC) frame mode improves vertical resolution. Image lag is reduced by controlling the shutter with respect to the video field.

### Image enhancements from digital processing

- Dyna chroma and auto-knee  
Wide dynamic range is achieved by improving color loss in high luminosity signals and automatically compressing highly luminous signals.
- 6 vector independently variable masking and linear matrix masking  
Linear matrix masking compensates for overall color reproduction, while 6 vector variable masking allows precise independent hue and saturation adjustment of individual colors.

### Improved operational ease

- Auto iris peak/average response and video level adjustments can be set from menu screen
- Scene color temperature changes are detected and corrected in real time with automatic white balance compensation.

### Bi-directional data transfer function

An RS-232C input is provided on the camera head to allow remote control from a personal computer. An ID number for each camera can also be registered to allow multiple cameras to be controlled from a single computer.

### Serial digital output (option:DI-D5)

High quality digital component signals can be sent to other digital video equipment with a single coaxial cable. The EDH (error detection and handling) is added to the output for the detection of transmission errors at the receiving equipment.

### Remote filter wheel (option:FD-Z5)

The optical filter wheel can be remotely controlled utilizing the RS-232 C connection.

## Standard composition and options

Camera head	HV-D5W
SDI adaptor	DI-D5(option)
Remote filter wheel	FD-Z5(option)
Camera control panel	RC-Z3(option)
Camera control panel	RC-Z3(option)

## Specifications

Color system	NTSC
Optical system	2/3-inch F1.4 prism
Aspect ratio	16:9/4:3 switchable
Pickup system	R, G, B 3-CCD
Imaging devices	2/3-inch IT CCDs
Total Pixels	1020 (H) x 505 (V)
Effective pixels	948 (H) x 485 (V)
Effective image area	9.48 (H) x 5.335 (V) mm
Horizontal resolution	750 TV lines (Y signal center)
S/N	65 dB typical (gamma: 1, DTL: off, sensitivity: 0 dB, Y signal, DNR: ON)
Standard sensitivity	2000 lx, F11
Minimum illumination	1 lx (F1.4, GAIN:MAX, ULTRA GAIN:ON)
Gamma correction	0.45 or 1.0
Lens mount	2/3-inch bayonet
Gain	from -3dB to +18dB +12dB(ULTRA GAIN)
Shutter Preset	1/100, 1/250, 1/500, 1/1000, 1/2000 second
Lock scan	1/60.38 to 1/2000 second
AES	Off to approx. 1/1000 second (continuous 1 H steps to 4 F stops)
Filter wheel	3200K, 5600K, 5600K+1/16ND
Scene file	4 Scene
Power supply voltage	12 V DC ( 10.5 V to 17 V DC )
Power consumption	Approx. 12.5 W
Ambient temperature	
Operating	-10 to +45 °C
Storage	-20 to +60 °C
Dimensions	98 (W) x 105 (H) x 180 (D) mm
Mass	Approx. 1.5 kg ( 3.3 lb )

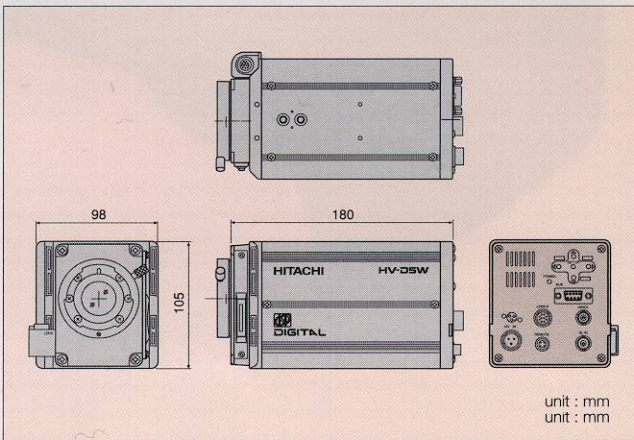
### Input signal parameters

Genlock input (BNC)	VBS: 1.0 Vp-p ± 3 dB or Black Burst, 75 ohms (Sync: 0.3 ± 0.1 Vp-p, burst: 0.3 ± 0.1 Vp-p)
Serial data input (4 pin)	1.5 Vp-p ± 3dB high impedance or RS-232C level

### Digital output signal ratings (built-in DI-D5)

Composite video output (BNC)	VBS: 1.0 Vp-p, 75 ohms
Serial digital output (BNC)	Based on SMPTE259M-C, 0.8Vp-p/75 ohms
Serial data output (4 pin)	1.5 Vp-p / low or RS-232C level

## Dimensions



Specification are subject to change without notice.

## Hitachi Kokusai Electric Inc.

Head Office : 14-20, Higashi-Nakano 3-choume, Nakano-ku, Tokyo 164-8511, Japan  
Phone : (03) 6590-8756/8757, Fax : (03) 6590-8757  
http://www.h-kokusai.com

### International Operator's Division

1, Kanda Izumi-cho Chiyoda-ku Tokyo 101-0024, Japan  
Phone : (03) 5851-5311, Fax : (03) 5851-5394

### Beijing Office

Beijing Fortune Building 5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China  
Phone : (010) 6590-8756/8757, Fax : (010) 6590-8757

### Hitachi Denshi America, Ltd.

150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.  
Phone : (516) 921-7200, Fax : (516) 496-3718

371 Van Ness Way, Suite 120 Torrance, CA, 90501, U. S. A.  
Phone : (310) 328-6116, Fax : (310) 328-6252

Service (724) 721-6186  
Phone : (877) 326-8104, Fax : (516) 496-3718

South Sales : Phone : (877) 326-8105, Fax : (516) 496-3718

Service (678) 937-0201  
Phone : (678) 937-0201

Parts Center : Phone : (616) 682-4435, Fax : (516) 921-0993

Latin Sales : Phone : (516) 682-4420, Fax : (516) 496-3718

### Hitachi Denshi Canada, Ltd.

11 Select Avenue Unit#14 Scarborough, Ontario M1V 5J3, Canada.  
Phone : (416) 299-5900, Fax : (416) 299-0450

Eastern Office : 5795 Chemin St. Francois St. Laurent, Quebec H4S 1B6, Canada  
Phone : (514) 332-6887, Fax : (514) 335-1664

Ottawa Office : 9 Antares Drive, Nepean, Ontario, K2E 7V5, Canada  
Phone : (613) 727-3930, Fax : (613) 825-4253

### Hitachi Denshi (Europa) GmbH

Head Office : Weiskircher Straße 88, Jügesheim D-63110 Rodgau, Germany  
Phone : (6106) 6992-0, Fax : (6106) 1690-6

### Hitachi Denshi (U. K.) Ltd.

Head Office : 14 Garrick Industrial Centre, Irving Way, Hendon, London, NW96 AQ, United Kingdom  
Phone : (208) 202-4311, Fax : (208) 202-2451

Leeds Office : Brookfield House, Selby Road, Garforth, Leeds LS25 1NB United Kingdom  
Phone : (113) 287-4400, Fax : (113) 287-4200

### HITACHI DENSHI (Europa) GmbH

Weiskircher Str. 88  
63110 Rodgau, Germany  
T. 06106-6992-0  
Fax 06106-16906

http://www.hitachi-denshi.de  
e-mail: webmaster@hitachi-denshi.de

These products are manufactured at a factory which has received quality control system certification in accordance with the ISO international standards.



CERTIFICATE No. JMI-0062  
ISO 9001/BS 5750 Part 1  
EN 29001/JIS Z9901