

Preliminary

HV-D30



High Resolution C-mount 3 CCD Color Camera Multi-purpose, compact, high performance 12-bit A/D, 3 million gate DSP

Features

- Digital signal processor (DSP) is contained on a single newly developed ultra-LSI (large scale integration) chip utilizing Hitachi's most recent processing technology (0.18 μm , internal core plus 1.8 V drive, 3 million gates) to achieve small size, low power consumption and high stability.
The multi-functional design is conducive to a wide range of industrial and general-purpose applications.
- Performance in a cube
The camera is built into a compact cube with short depth dimension for easy incorporation into an overall system.
- High picture quality
Each high sensitivity 1/3-inch CCD has 410,000 picture elements (470,000 pixels PAL). Together with the 12-bit analog to digital (A/D) converter and 14-bit accelerated DSP, horizontal resolution is 800 TV lines and signal to noise ratio (S/N) is 64 dB(62 dB Pal) by using dynamic noise reduction (DNR).
- Auto shading compensation (ASC)
- The ASC function automatically compensates for color shading, brought about by the C-mount optical system, and two-dimensional luminance shading.
Note: The luminance shading mode requires time to process. Select this mode as appropriate to the application.
- Versatile functions
 - 6-vector independently variable masking Optimum for microscope and other applications where color fidelity is important.
 - Color detail adjustment
Two colors can be selected and the detail of each adjusted independently.
The function is excellent for smoothing human complexion and enhancing color contours for easy visibility.
 - Intelligent auto level control (ALC)
Digital light metering, computer chip controlled automatic gain control (AGC) lens iris and auto electronic shutter (AES) operate under continuous control to respond to an extremely wide range of light variation.
Note: AES functions continuously only with a manual over-ride lens.
 - External trigger
A scene can be captured at a desired timing and exposure time. Strobe and frame readout can also be combined.
 - RS-232C enables bi-directional communication.

Major specifications

Color system	NTSC/PAL
Optical system	1/3-inch, F2.2 prism
Imaging system	R, G, B 3CCD
Lens mount	C-mount (Frangback 17.526 mm in air)
CCD	1/3-inch interline transfer
Total pixels	NTSC 811(H)×508(V) PAL 795(H)×596(V)
Effective pixels	NTSC 768(H)×494(V) PAL 752(H)×582(V)
Effective image area	NTSC 4.88(H)×3.66(V) mm PAL 4.89(H)×3.64(V) mm
Horizontal resolution	800 TV lines (Y signal center, DTL off)
S/N	NTSC 64 dB (DNR on) PAL 62 dB (DNR on) (Y OUT, γ off, DTL off, Gain 0 dB)
Standard sensitivity	2000 lx, F8.0
Sensitivity setting	AGC (0 to +24 dB) / Manual (0 to +24 dB, 1 dB step) and Digital gain (approx. +12 dB)
Minimum Sensitivity	1.2 lx(F2.2 +24 dB Digital gain on)
Electronic shutter	4 mode
Preset mode	1/100 s (PAL 1/60 s) to 1/100,000 s, 10 steps
Lock scan mode	NTSC 1/60.38 s to 1/100,000 s PAL 1/50.38 s to 1/100,000 s
Auto electronic Shutter (AES)	OFF to 1/100,000 s
Long term Integration	Field/Frame integration selectable NTSC 1/30 s to 8 s PAL 1/25 s to 8 s (1 frame step) (external image memory needed for continuous image)
External trigger	Field/Frame readout selectable One pulse trigger input
White balance mode	Preset : 3200 K/5600 K selection Memory : Auto white balance Auto: Real time auto white balance
Scene files	4 files
Color bars	NTSC : SMPTE, PAL : FULL
Power supply voltage	12 V rated (stable operation at 10.5 to 15 Vdc)
Power consumption	4.0 W approx
Dimensions	65(W) × 65(H) × 80(D) mm
Mass	400 g(14 oz) approx. (not include lens)
Ambient temperature	Operating : -10 to +45 °C (+14 to 113 F) Storage : -20 to +60 °C (-4 to 140 F)

Standard compotion

Camera	1
Accessories	
Power plug (R03-P3F)	1
Operation manual	1

Major accessories

- Camera control box, RC-Z3
- Junction box, JU-Z2

Input and output signals

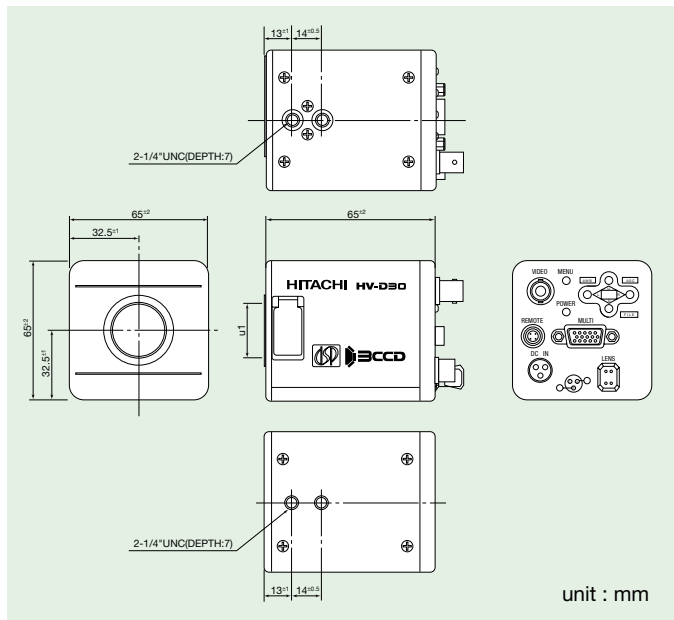
Input signal conditions	
Genlock (Multi*2)	VBS 1.0 Vp-p±3 dB or black burst/75 Ω HD/VD 2 to 5 Vp-p, negative
External Trigger(Multi)	Low 0 Vdc, High 2 to 5 Vdc
Serialdata (Remote*3)	1.5 Vp-p / High (when connected to RC-Z3) RS-232C level (when connected to personal computer)
Output signal conditions	
Composite video (Video, Multi *1)	VBS 1.0 Vp-p / 75 Ω
RGB (Multi)	0.7 Vp-p / 75 Ω
Component (Multi *1)	Y : VS 1.0 Vp-p / 75 Ω R-Y : 0.7 Vp-p / 75 Ω B-Y : 0.7 Vp-p / 75 Ω
Y/C (Multi *1)	Y : VS 1.0 Vp-p / 75 Ω C : NTSC BURST 0.28 Vp-p / 75 Ω PAL BURST 0.3 Vp-p / 75 Ω
Sync (Multi *2)	SYNC/HD : 2.0 Vp-p / 75 Ω VD : 2.0 Vp-p / 75 Ω
Serial data(Remote *3)	1.5 Vp-p / Low (when connected to RC-Z3) RS-232C level (when connected to personal computer)

Note1 : RGB,Component and YC/VBS Multi connector outputs are selected by menu.

Note2 : Sync and HD Multi connector output are selected by menu.
Inputs (Genlock, HD/VD) and Outputs (Sync, HD/VD) are selected by internal switch

Note3 : Set internal switch according to connected equipment.

Dimension



unit : mm

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) 3368-6111, Fax : (03) 3365-9119 <http://www.h-kokusai.com>

International Sales Operation's Division

1, Kanda Izumi-cho Chiyoda-ku Tokyo 101-0024, Japan

Phone : (03)5921-5311, Fax : (03) 5921-5394

Beijing Office

Beijing Fortune Building 5, Dong San Huan Bei-lu, Chao Yang District, Beijing, 100029 China

Phone : (10) 8590-8755/8756, Fax : (10) 8590-8757

Hitachi Denshi America, Ltd.

Headquarters and Northeast Office : 150 Crossways Park Drive, Woodbury, New York 11797, U. S. A.

Phone : (516) 921-7200, Fax : (516) 496-3718

West Office : 371 Van Ness Way, Suite 120 Torrance, CA, 90501, U. S. A.

Phone : (310) 328-6116, Fax : (310) 328-6252

Midwest Sales : Phone : (877) 328-8104, Fax : (516) 496-3718

Service (734) 721-6180

South Sales : Phone : (877) 328-8105, Fax : (516) 496-3718

Service (678) 937-0201

Parts Center : Phone : (516) 892-4435, Fax : (516) 921-0993

Latin Sales : Phone : (516) 882-4420, Fax : (516) 496-3718

Hitachi Denshi Canada, Ltd.

Head Office : 1 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) 332-6687, Fax : (514) 335-1864

Ottawa Office : 9 Antares Drive, Nepean, Ontario, K2E 7V5, Canada

Phone : (613) 727-3930, Fax : (613) 825-4253

Hitachi Denshi (Europa) GmbH

Head Office : Westkircher Strasse 89, 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) 287-4260