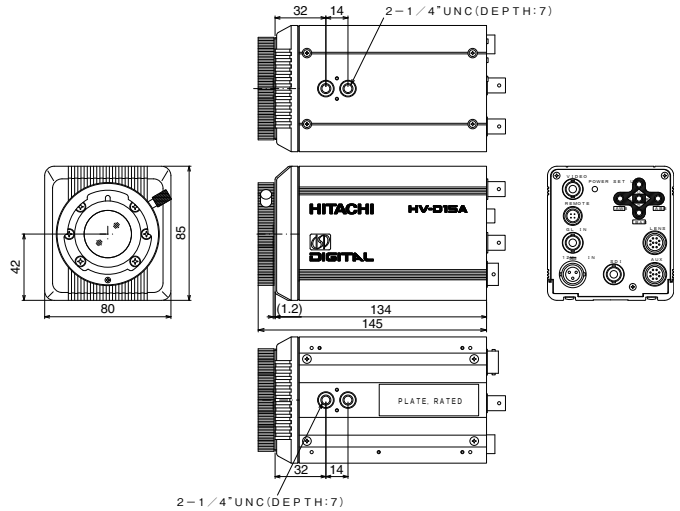


Preliminary

# 3CCD Color Camera with Serial digital output HV-D15AS



The Hitachi HV-D15AS is a High-Performance, Multi-purpose Camera with Serial Digital Interface (SDI) video output.

Superb picture quality is attained through advanced technology implementation of a Hitachi designed and manufactured 3-million gate, 3rd generation Digital Signal Processor and use of 12-bit analog to digital converters. Hitachi's HV-D15AS establishes a new benchmark for compact size, low-power consumption and high-reliability color cameras.

- **Serial digital output (SDI) :**  
Serial digital OUTPUT is compliant with SMPTE 259M standard.
- **High picture quality :**  
High Sensitivity and High Resolution are achieved through the use of three 1/2 inch CCD's, each with 410,000 picture elements (470,000 PAL). Together with the 12-bit analog to digital (A/D) converters and 14-bit Double-clocked DSP a horizontal resolution of 850TV lines and a high signal to noise ratio (S/N) of 65 dB (63 dB PAL) are obtained with the use of dynamic noise reduction (DNR). Clear high quality low noise images are now possible even in a high gain mode.
- **Auto Shading Compensation (ASC)**
- **External Trigger functions**
- **RS-232C control**

## Input and output signals

Input signal conditions	
Genlock input	VBS 1.0 Vp-p ±3 dB or black burst/75 Ω or high (BNC) (sync 0.3 ±0.1 Vp-p, burst 0.3 ±0.1 Vp-p)
External trigger input	Ext Trig Low 0 VDC, High 2 to 5 VDC
Serial data (REMOTE connector)	1.5 Vp-p ±3 dB/High (when connected to RC-Z3, JU-C20, JU-Z2) RS-232C level (when connected to personal computer) Note: Set internal switches according to connected equipment.) A level converter JU-C20 is required if controlling the camera from a personal computer via RS-232C interface over a distance more than approx.15 meter.
Output signal ratings	
Component video output	VBS 1.0 Vp-p/75 Ω
SDI output	SMPTE 259M
Output (REMOTE connector)	1.5 Vp-p/Low (when connected to RC-Z3, JU-C2-, JU-Z2) RS-232C level (when connected to personal computer) Note: Set internal switches according to connected equipment.)
Lens iris control output (Lens connector, manual override)	IRIS CONT : 1.5 V (closed) to 5.5 V (open) or 2.5 V (closed) to 7.5 V (open) Selectable
Lens control output	ZOOM : 0VDC (WIDE) ~ 5VDC (TELE) / 1k Ω FOCUS : 0VDC (NEAR) ~ 5VDC (FAR) / 1k Ω PAN : 0VDC (LEFT) ~ 5VDC (RIGHT) / 1k Ω TILT : 0VDC (DOWN) ~ 5VDC (UP) / 1k Ω

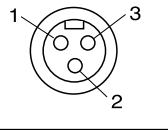
## Main specifications

Color system	NTSC, PAL
Optical system	1/2-inch, F1.4 prism
Imaging system	R, G, B 3 CCD (1/2-inch interline transfer CDD)
Total pixels	NTSC 811(H)X508(V) PAL 795(H)X596(V)
Effective pixels	NTSC 768(H)X494(V) PAL 752(H)X582(V)
Effective image area	NTSC 6.45(H)X4.84(V)mm PAL 6.47(H)X4.83(V)mm
Scanning system	2:1 interlace
Scanning frequency	NTSC 15.735 KHz(H), 59.94 Hz(V) PAL 15.624 KHz(H), 50.00 Hz(V)
Sync system	Internal/external (VBS, BBS or HD/VD auto selection)
Horizontal resolution	850 TV lines, luminance signal center (Y out and DTL off)
S / N	NTSC : 65 dB type (DNR on), 62 dB type (DNR off) PAL : 63 dB type (DNR on), 60 dB type (DNR off) (Y out, γ=1, DTL off, GAIN 0 dB)
Standard sensitivity	2000 lx , F11
Minimum illumination	0.3 lx (50 IRE, F1.4, GAIN +24 dB, DIGITAL GAIN +12 dB)
Gamma correction	0.45 / 1.0 (on/off)
Geometric distortion	Full screen 0% (not including lens characteristics)
Registration	Full screen 0.05% (not including lens characteristics)
Vertical contour compensation	2 H
Lens mount	Bayonet mount (flangeback 35.74 mm in air)
Sensitivity selection	AGC (0 to +24 dB)or GAIN (0 to +24 dB step1 dB or step 3 dB on remote control menu)
Detail control	DTL level and frequency.
Scene files	4 Files
Digital gain	+6 dB, +12 dB sensitivity improvement by digital signal processing
Electronic Shutter speeds	Preset:1/100(1/60(PAL)),1/250,1/500,1/1000,1/2000,1/4000,1/10,000 1/20,000 1/40,000 1/100,000 second
Lockscan	NTSC 1/60.38 to 1/2039 second (step 1H),to 1/100,000 second (step approx. 10% video level) PAL 1/50.31 to 1/2024 second (step 1H)to 1/100,000 second (step approx. 10% video level)
AES	Off to approx. 1/100,000 second (10 F stops of AES range)
Color bar	NTSC:SMPTE / PAL:FULL
Power supply voltage	12 V rated (Stable operation at 10.5 to 15 VDC (ripple and noise absent))
Power consumption	Approx. 8.5 W
Dimensions	80(W)X85(H)X134(D)mm
Mass	Approx. 900 g (32 oz) (not including lens)
Ambient temperature Operating	-10 +45°C (+14 to +113°F)
Storage	-20 +60°C (-4 to +140°F)

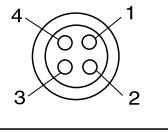
## Pin arrangement

AUX connector HR10A-10R-12PB		LENS connector HR10A-10R-12SB	
Pin No	Signal	Pin No	Signal
1	RESERVE	1	NC
2	RESERVE	2	NC
3	GND	3	GND
4	PAN	4	ENF AUTO
5	GND	5	IRIS CONT
6	RESERVE	6	UNREG +12V
7	RESERVE	7	IRIS POS
8	FOCUS	8	IRIS A/R
9	ZOOM	9	NC
10	GND	10	NC
11	TILT	11	NC
12	GND	12	NC

●12V IN connector (RM12BRD-3PH)	
Pin No.	Signal
1	+12V IN
2	GND
3	NC



●REMOTE connector (HR10A-7R-4S)	
Pin No.	Signal
1	+12V OUT
2	RXD/SD IN
3	TXD/SD OUT
4	GND



**Camera Control Panel  
RC-Z3**

Major specifications

Serial data output : 1.5 Vp-p

Maximum cable length : 200 m  
(with HC-5B2 cable type or equivalent)

Power supply : 9 to 15 VDC  
(supplied from camera)

Power consumption : approx. 0.6 W

Ambient temperature :  
Operating 0 to 40°C (32 to 104°F)

Dimensions : 116(W)X182(H)X60(D) mm

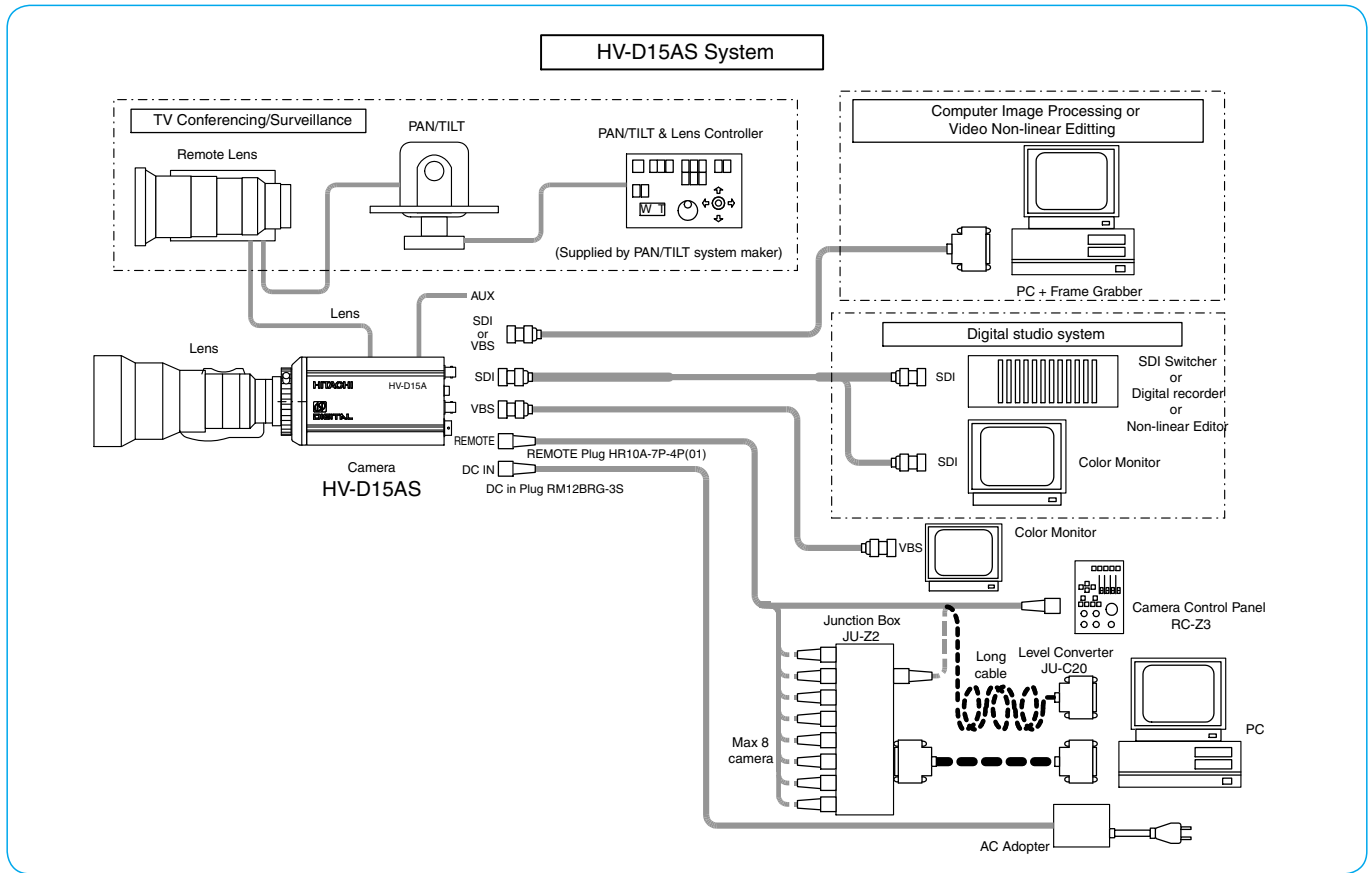
Mass : Approx. 500g (18 oz)

### Standard Composition

- Camera (HV-D15AS)
- Lens mount cap
  - Power plug (RM12BRG-3S)
  - Operation manual

### Optional accessories

- (1) Camera Control Panel..... RC-Z3
- (2) Level Converter.....JU-C20
- (3) Junction Box (max 8 cameras).....JU-Z2



## Hitachi Kokusai Electric Inc.

Head Office : 14-20, Higashi-Nakano 3-choume, Nakano-ku, Tokyo 164-8511, Japan  
 Phone : +86 (0) 10-6590-8755/8756, Fax : +86 (0) 10-6590-8757  
 URL: <http://www.hk-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 Denshi America, Ltd.** URL: <http://www.hitachidenshi.com>  
 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** : Phone : (+1) 770-982-4724, Fax : (+1) 516-496-3718  
 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 Denshi Canada, Ltd.** URL: <http://www.hitachidenshi.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 Denshi (Europa) GmbH**  
 Head Office : Weskircher Straße 88, Jügesheim D-63110 Rodgau, Germany  
 Phone : +49 (0) 6106-69920, Fax : +49 (0) 6106-16906  
 URL : [www.hitachi-denshi.de](http://www.hitachi-denshi.de)  
 General email address : [webmaster@hitachi-denshi.de](mailto:webmaster@hitachi-denshi.de)

**Hitachi Denshi (U. K.) Ltd.**  
 Head Office : 14 Garrick Industrial Centre, Irving Way, Hendon, London, NW9 6AQ, United Kingdom  
 Phone : +44 (0) 208-202-4311, Fax : +44 (0) 208-202-2451  
**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-denshi-uk.com](http://www.hitachi-denshi-uk.com)  
 General email address : [sales@hitachi-denshi-uk.com](mailto:sales@hitachi-denshi-uk.com)

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 5750P1  
 EN 29001/JIS Z9901