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CCD Color Camera

KP-D20B

Specifications

Hitachi Kokusai Electric Inc.

DWN	K.Igarashi	Aug. 02 *02		Hitachi Kokusai Electric Inc. Tokyo Japan	
DSGN	K.Igarashi	Aug. 02 *02			
CHKD	T.Shibasaki	Aug. 02 *02			
APPD	A.Tsukui	Aug. 02 *02			

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1. General

The KP-D20B is a single CCD type color camera utilizing digital signal processing in addition to digital control of the various correction and adjustment functions to enable high quality images.

The high density CCD comprises 410,000 picture elements NTSC (470,000 PAL) and provides clear pictures even under low illumination, in addition to high sensitivity and resolution.

Important functions, including auto iris and auto white balance, allow use in a wide range of CCTV systems for image processing, surveillance and other applications.

2. Principal features

(1) Very small, light weight, Various functions

44 (W) x 44 (H) x 49 (D) mm , 130g

Y/C output standard equipment

RS-232C standard equipment

(2) High sensitivity and resolution

The high density interline type CCD sensor with on-chip microlenses enables low-light pickup down to 0.3 lux (F 1.2 lens, AGC maximum) and horizontal resolution of 480 TV lines (NTSC) , 470 TV lines (PAL).

(3) Digital signal processor (DSP)

Digital processing includes 2 H enhancer and contour correction to deliver clear pictures and high signal to noise ratio (S/N). Picture control parameters can also be adjusted with the aid of on-screen menus, thus enabling optimum adjustments to match the application.

(4) Electronic shutter

The electronic shutter can be set in 10 steps from standard (off setting) 1/60 second (1/50 PAL) to 1/30000 second. Auto electronic shutter (AES) operates to 1/180000 second. Even with a fixed iris lens, the shutter speed responds to the amount of light to keep the signal output at optimum level.

(5) Backlight compensation

Backlight compensation can operate with either a video signal or control voltage input type auto-iris lens. The sensing area can also be selected according to usage conditions.

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(6) Three white balance modes

Auto-tracking white balance (ATW) functions by detecting white color in the scene at a color temperature from 2500 to 8000 Kelvin. Auto-white balance control (AWC) is a preset type function whereby white color in the scene is detected and white balance is automatically adjusted, then the setting status is stored. Manual white balance allows adjusting red and blue gain manually according to requirements.

(7) Text display

Up to 24 alphanumeric characters can be displayed at either the top or bottom of the screen.

(8) Digital zoom

The screen can be smoothly enlarged up to 4 times.

(9) Picture quality menus

A wide variety of modes and parameters can be selected from menus and adjusted by using rear panel key buttons.

3. Specifications**(1) Pickup element : Interline transfer type CCD (with on-chip microlenses)**

Total pixels	NTSC: 811 (H) × 508 (V)
	PAL : 795 (H) × 596 (V)
Effective pixels	NTSC: 768 (H) × 494 (V)
	PAL : 752 (H) × 582 (V)
Scanning area	NTSC: 6.45 (H) × 4.84 (V) mm
	PAL : 6.47 (H) × 4.83 (V) mm
	(equivalent to 1/2-inch pickup tube)
Unit cell size	NTSC: 8.4 (H) × 9.8 (V) μm
	PAL : 8.6 (H) × 8.3 (V) μm

(2) Scanning system : 2:1 interlace

Frequency : Horizontal	NTSC: 15.734 kHz
	PAL : 15.625 kHz
Vertical	NTSC: 59.94 Hz
	PAL : 50 Hz

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(3) Sync system : Internal

(4) Video signal output : Composite video : 1.0 Vp-p/75 unbalanced
 Video:0.7Vp-p positive or negative (negative picture)
 Sync :0.3 Vp-p negative
 Burst : 0.3 Vp-p more than 8 cycles
 Subcarrier frequency NTSC : 3.579545 MHz
 PAL : 4.433618 MHz
 Connector : BNC type

Y/C outputs

Y:1.0Vp-p
 Video:0.7Vp-p positive or negative (negative picture)
 Sync :0.3 Vp-p negative
 C:0.3Vp-p(Burst)
 Impedance : 75 ohms unbalanced
 Connector : Round multi-connector,4pin

(5) Remote controll : RS-232C
 Connector : Round multi-connector,4pin

(6) S/N (luminance signal) : More than 50 dB
 (standard gain, enhancer and gamma off)

(7) Resolution : Horizontal NTSC More than 480 TV lines
 PAL More than 470 TV lines
 Vertical More than 350 TV lines

(8) Scene illumination range : 0.3 to 100,000 lux (F1.2, Auto-iris lens)

(9) Minimum illumination : 0.3 lux (F1.2, 3200 K, AGC 31dB.)

(10) Signal processing : Digital processing (input: 10 bits)

(11) AGC : On/off selectable
 Max. gain at on setting selectable:6, 12, 21 and 31 dB
 (factory setting is 21 dB)

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- (12) **Electronic shutter speed** : Selectable in 10 steps
 NTSC : 1/60, 1/100, 1/250, 1/500, 1/1000, 1/2000,
 1/4000, 1/10000, 1/20000, 1/30000 second,
 and Auto
 PAL : 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000,
 1/4000, 1/10000, 1/20000, 1/30000 second,
 and Auto
- (13) **Backlight compensation** : On/off switchable
 Sensing areas: selectable from 9 areas
- (14) **Auto-iris lens outputs** : Video signal input type lens
 (a) **Luminance signal** : 1.0 Vp-p/high impedance
 Power supply : 12 VDC 60 mA
 (b) **Iris control voltage input (galvanometer) type lens**
 Coupling coil impedance
 Damper : 1150 ± 10 %
 Drive : 190 ± 10 %
- (15) **White balance** : Selectable auto-tracking (ATW), preset (AWC),
 manual (MANUAL) (R/B gain adjustment)
- (16) **Text display** : One line of up to 24 alphanumeric characters
 Selectable display position
- (17) **Digital zoom** : Up to 4 × , selectable enlarge position
 H resolution loss with magnification (approx. 50 % at
 2 × zoom)
- (18) **Picture adjust menus** : Modes and settings can be selected and adjusted
 from on-screen menus
- | | |
|----------------------------|-------------------------------------|
| (1) Text display | On/off, text edit, display position |
| (2) Backlight compensation | Selectable on/off |
| (3) Level detect area | Selectable |
| (4) Video level | Adjustable |
| (5) AGC | Selectable on/off, max. gain |
| (6) Shutter speed | Selectable |
| (7) White balance | Selectable mode |

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Notice:

These specifications are subject to change without prior notice due to product improvement.

Confirm the most recent specifications at time of order.

Hitachi Kokusai Electric certifies this product complies with the standard warranty conditions of Hitachi Kokusai Electric , and that quality control is implemented to the extent required to comply with these conditions.

Warranty and service:

- (1) The guarantee period is one year after the data purchase. However, the defects due to erroneous use or intentional act are excluded.**
- (2) As the defect after expiration of the guarantee period, where product repair is possible, repair will be performed at charge.**
- (3) The present Warranty pertains only to the camera unit. Secondary malfunctions attributable to camera failure as well as expenses incurred by disassembly and reassembly of the related system, are beyond the scope of this Warranty.**
- (4) Compensation for loss of business, loss or damage to software, database and other contingent losses are beyond the scope of this Warranty.**
- (5) Hitachi Kokusai Electric Inc. is not liable for the losses caused when the equipment is used in a system, use for business trades, production process, medical fields, crime prevention applications, etc.**
- (6) The parts used in the equipment have their respective lives. The lives of such parts will be shortened under the environments of high temperature or high humidity.**

When the stable operation is required for a long time, It is recommended to perform periodical maintenance and inspection every year or every two years.

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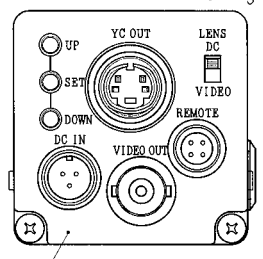
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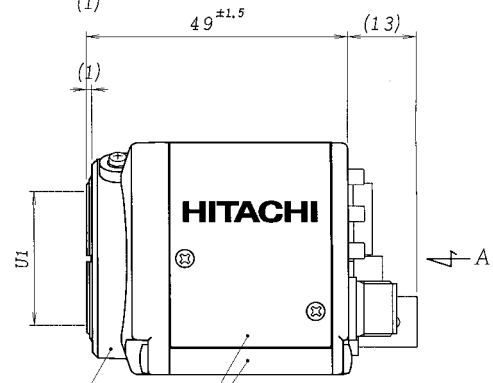
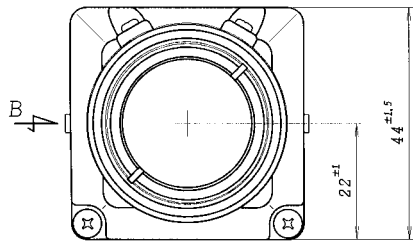
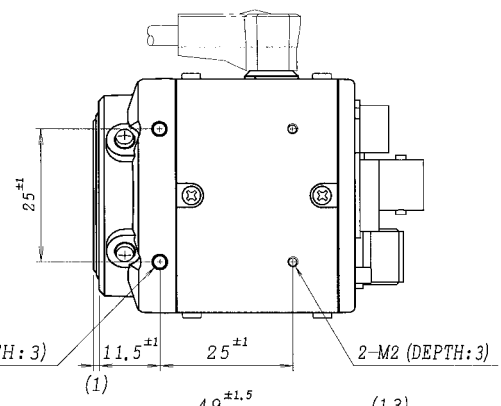
F

SCALE : 1 : 1
 UNIT : mm
 MASS : APPROX 130 g



COLOR: BASIC GRAY 2-M3 (DEPTH: 3)

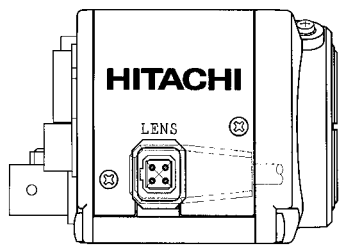
VIEW "A"



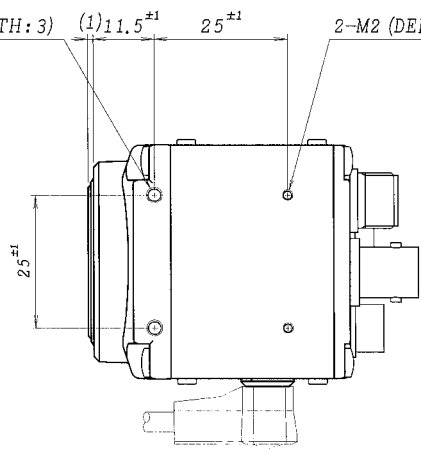
COLOR: BASIC GRAY

COLOR: BASIC GRAY

2-M3 (DEPTH: 3) (1) 11.5±1 25±1 2-M2 (DEPTH: 3)



VIEW "B"



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