

CCD Color camera

K P - D 8

Specification

1.General

The Hitachi KP-D8 Color camera is the small, one piece(self-contained) CCD color camera employed the digital signal processing technology to perform a high quality picture.

The KP-D8 features high performance, high sensitivity and high resolution using a Type 1/3 CCD with 410,000 pixels(NTSC)/470,000 pixels(PAL) and with the micro lens on each pixel.

The KP-D8 is provided with variety of function including auto iris, auto white balance control, various remote controls via RS-232C interface from P.C., and can be used for various purposes and conditions.

2.Major Features

(1)Very small, compact, self-contained color camera.

Only single power supply needed to perform high quality picture, very small space for installation, and can be used for various purposes and conditions.

(2)High sensitivity, high resolution

Minimum illumination 2 lx(with F1.2 lens, AGC ON) and 470 TVL (Horizontal) performed by using a Type 1/3 CCD with 410,000 pixels(NTSC)/470,000 pixels(PAL) and with the micro lens on each pixel.

(3)Digital signal processing

High quality picture performed by digital signal processing function such as 2H enhancer, aperture correction.

(4)Automatic electronic shutter control

Output signal level is continuously maintained an optimum video level for a fixed iris lens.

The shutter speed is automatically controlled from normal(1/60s for NTSC, 1/50s for PAL) to 1/180,000s, contrast ratio is over 3,000 times.

(5)Electronic shutter

Selectable from 2 steps, 1/100s for NTSC(flickerless shutter in east Japan), 1/120s for PAL, normal (1/60s for NTSC, 1/50s for PAL).

Remotely selectable the shutter speed from normal to 1/10,000s.

(6)Automatic white balance control

Selectable white balance control mode from 3 modes.

Auto Tracking white balance controlled from 2,500K to 8,000K.

Preset mode maintained the previous setting after ATW control.

(7)Y/C outputs (switchable from VBS output)

As the luminance (Y) signal and the chrominance (C) signal are delivered separately, a sharp picture is obtained without deteriorating the response of the Y signal to fine patterns.

(8)Remote control

Remote control via RS-232C interface by personal computer, Shutter speed,

Gain, Y/C output, Chroma level, Gamma ON/OFF, Manual white balance, Enhancer level.

3. Specifications

(1) Color system : NTSC / PAL

(2) Imaging device : Type 1/3

Interline transfer type CCD(with micro lens on chip)

No. of pixels : NTSC 811(H) X 508(V)

PAL 795(H) X 596(V)

No. of effective pixels : NTSC 768(H) X 494(V)

PAL 752(H) X 582(V)

Scanning area : NTSC 4.88(H) X 3.66(V)(mm)

PAL 4.89(H) X 3.64(V)(mm)

(equivalent to 1/3 inch pickup tube)

Size of cell : NTSC 6.35(H) X 7.4(V)(μ m)

PAL 6.5(H) X 6.25(V)(μ m)

(3) Scanning system : 2:1 interlaced

(4) Scanning frequency : Hor. :NTSC 15.734KHz

PAL 15.625KHz

Vert.:NTSC 59.94Hz

PAL 50Hz

(5) Sync system : Internal

(6) Output signal : VBS output : 1.0 Vp-p
Video : 0.7 Vp-p Positive
Sync : 0.3 Vp-p Negative
Burst : 0.3 Vp-p 8 cycles or more
Subcarrier : frequency NTSC 3.579545 MHz
PAL 4.433618 MHz
Impedance : 75 ohms unbalanced
Connector : Round, multi-connector, 12pins

: Y/C outputs :

Y : 1.0 Vp-p

Video : 0.7 Vp-p Positive

Sync : 0.3 Vp-p Negative

C : 0.3 Vp-p (Burst)

Impedance : 75 ohms unbalanced

Connector : Round, multi-connector, 12pins

(7) Signal processing : Digital processing (Input:9 bits, output:8 bits)

(8) S/N ratio : 48 dB (Y signal、 AGC 0dB、 enhancer OFF、
gamma correction OFF)

(9) Resolution : Hor. NTSC 470 TVL(Y signal at center)

PAL 460 TVL(Y signal at center)

Vert. 350 TVL(Y signal at center)

(10) Range of illumination : 2 to 100,000 lx (with ES lens,F1.2 AGC ON)

(11) Minimum illumination : 2 lx(F1.2 3200K at maximum gain of AGC)

(12) AGC : ON / OFF switchable

ON(0 to 18dB) / OFF(fixed 0dB)

(13) Electronic shutter : Normal (Shutter : OFF)

1/60s(NTSC) or 1/50s(PAL), 1/100s(flickerless

shutter mode, J type only) or 1/120(PAL)

(14) Auto electronic shutter : ON/OFF Switchable

Range of illumination : 2 to 100,000 lx (AGC ON)

(Range of shutter speed) NTSC 1/60s to 1/180,000s

PAL 1/50s to 1/180,000s

Note 1 when excessively intense light comes to the CCD for a long time, the spectral filter in the CCD pixel may be deteriorated, and the color of the corresponding portion may change .

Avoid using the camera under such condition.

(15) Output for ES lens : Video signal input type lens

Y signal : 1.0 Vp-p / High impedance

Power source : DC 12 V 40 mA or less

Connector : miniature round, 3 pins

(16) White balance : Control mode selectable from 3 modes below

(1) Auto tracking white balance(ATW)

on the indoor condition (around 3,200K)

(2) Auto tracking white balance(ATW)

on the outdoor condition (around 5600K)

(3) Preset mode :Preset the fixed balance condition

after ATW operation

Control range of color temperature: 2,500 to 8,000 K

(17) Lens mount : Special mount(Diameter : 17 mm metric screw)

Adaptable for C-mount with optional C-mount adapter

(18) Ambient conditions : -10 to +50 degrees C 20 to 80 %RH(Note 2)

Note 2 : When the camera is used continuously for a long time, be sure to it at less than 40 degrees C to ensure stable performance.

(19) Storage conditions : -20 to +60 degrees C , 20 to 90 %RH

(20) Anti-vibration : 29.4 m/s² or less,

Amplitude : 10 to 55 Hz

Duration : 30 min.

Directions : X,Y,Z

Do not apply strong vibration for a long time.

(21) Resistance to shock : 686.4 m/s²

Drop test, once each top, bottom, left and right

(22) Power supply voltage : DC 12 ± 1 V

(23) Power consumption : 150 mA approx. (Lens load is not included.)

(24) Dimensions : 22(W) X 22 (H) X 86 (D) mm

Excluding lens and protrusions

(25) Mass : 80 g approx.(Excluding lens)

(26) Composition : Camera 1

C-mount adapter LA-D8 1

Lens mount setscrew wrench 1

Operation manual 1

(27) Optional accessories : Camera cable with 12pin-round plugs

C-201KMS(2m)/ C-501KMS (5m)/ C-102KMS(10m)

Junction box JU-D8

Lens for the special mount TF812 (f = 8 mm, F:1.2)

Plug for ES lens SR38-4P-3P (Parts Cord : JPS0040)

Tripod adapter TA-D8

(28) Remote control functions

Adjustable for the items below via RS-232C interface from P.C.















Shutter speed, Gain, Selection of Y/C output, Manual white balance,

Enhancer level, Gamma, Chroma level

Connection of DC IN/VIDEO (12-pin) connector

Pin No.	Abbreviation	Remark
1	GND	DC GND
2	+12V	DC +12V input
3	GND(VBS)	Video GND (Y signal GND)
4	VBS(Y)	Video (Y signal)
5	GND(TX)	TX GND
6	TX	Serial data output(TX) 3.3V-TTL
7	RX	Serial data input(RX) 3.3V-TTL
8	GND(C)	C signal GND
9	(C)	(C signal)
10	GND	DC GND
11	+12V	DC +12V input
12	GND(RX)	RX GND

Selection of function mode switch

Switch No.	1	2	3	4	5	6
Function	AGC mode selection	Auto Ele. Shutter	Auto white balance mode	Auto or Preset white bal.	Shutter Speed selection	Video Output selection
Position of switch & selected function mode	ON * 	ON * 	5600K * 	ATW * 	OFF(STD) 1/60s(NTSC) 1/50s(PAL) * 	VBS * 
Factory setting with the mark (*)	OFF 	OFF 	3200K 	PRESET 	Flickerless shutter 	Y/C 
	ON(0 to +18Db)	OFF(Fixed function selected switches 5 & 6)	Select ATW by switch 4, select mode from 2 modes above. Select PRESET, this selection is unrelated	Select ATW automatically controlled. Select PRESET to keep to fix the previous balance setting.	1/100s(NTSC) 1/120s(PAL) 	

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.

MASS : APPROX 80 g
UNIT : mm
SCALE : [1 : 1]

