

High sensitivity color camera

# KP-DE500

High sensitivity black and white camera

# KP-E500



## High sensitivity color camera KP-DE500

### 100 Times More Sensitive Than A Normal Camera

- A new 1/2 inch EM-CCD with electron multiplication is used to achieve exceptional sensitivity.

Color in full motion mode	0.0009 lx
Color accumulation mode	0.000015 lx
Monochrome in full motion mode	0.00005 lx
Monochrome accumulation mode	0.0000008 lx

### Hitachi Technology Enables Superior Image Reproduction In Low Light Levels

- Thermoelectric cooling used on the EM-CCD to reduce the effects of dark current noise along with a new digital signal processor (DSP) that provides digital noise reduction of the luminous signal yields sharp clear pictures with a high S/N ratio.

## High sensitivity monochrome camera KP-E500

### For Even Greater Sensitivity A Monochrome Version of the Camera is Available Allowing Use in Even Lower Light Levels

- In the normal mode of operation the camera provides higher sensitivity as compared to a normal camera. In the accumulation mode unmatched sensitivity is achieved allowing use in extremely low light situations.

Monochrome in full motion mode	0.00003 lx
Monochrome accumulation mode	0.0000005 lx

### Electron Multiplication used in the EM-CCD Improves Performance While Reducing Technical Issues

- Typical high sensitivity cameras use an Image Intensifier Tube that is subject to burn in, afterimage (lag) and short life span. These problems are eliminated with the use of the EM-CCD.

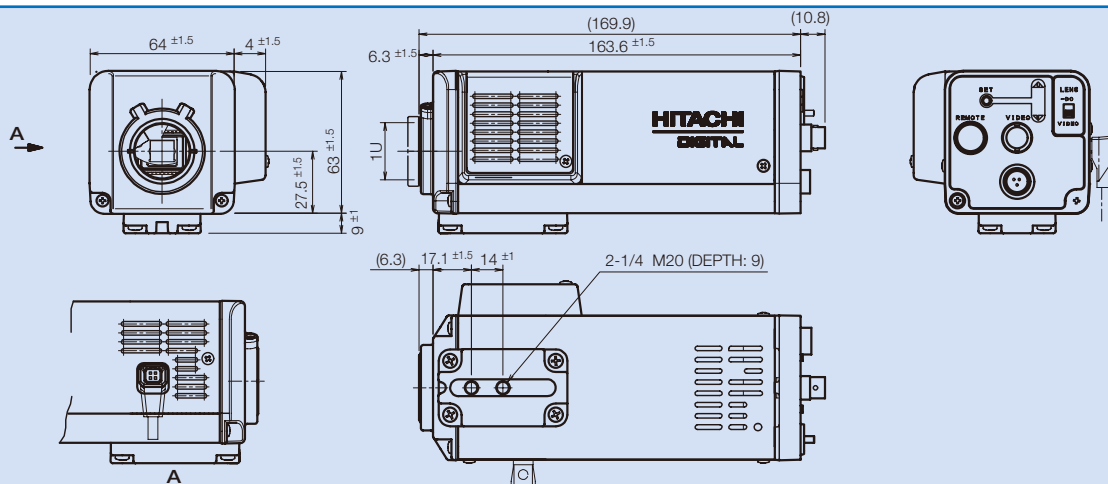


## Main Specifications

<b>Imaging device</b>	1/2-inch interline EM-CCD
<b>Total pixels</b>	680(H) x 500(V)
<b>Effective pixels</b>	658(H) x 489(V)
<b>Imaging area</b>	6.58(H) x 4.89(V) mm
<b>Pixel pitch</b>	10.0(H) x 10.0(V) $\mu$ m (Square pixel)
<b>Scanning system</b>	2 : 1 Interlace
<b>Scanning frequency</b>	Horizontal 15.734 kHz      Vertical 59.94 Hz
<b>Synchronization</b>	Internal
<b>Video output</b>	
<b>VBS output</b>	Video 0.7 Vp-p Plus terminal nature
<b>Sync</b>	0.3 Vp-p Negative polarity
<b>Burst</b>	0.3 Vp-p, More than 8 cycles
<b>Impedance</b>	75 $\Omega$ Un-balancing.
<b>Signal-processing system</b>	Digital processing (Input 10 bit)
<b>Signal to noise ratio (S/N)</b>	50 dB or more (luminosity signal, Gamma OFF, minimum gain, without detail boost)
<b>Resolution</b>	Horizontal: 480 lines      Vertical: 350 lines (In the central part)
<b>Minimum photographic subject illumination KP-DE500</b>	0.0009 lx (Color in full motion, maximum sensitivity setup, F1.2, 50 IRE) 0.00005 lx (Monochrome in full motion, maximum sensitivity setup, F1.2, 50 IRE) 0.000015 lx (Color 64 time accumulation, maximum sensitivity setup, F1.2, 50 IRE) 0.000008 lx (Monochrome 64 time accumulation, maximum sensitivity setup, F1.2, 50 IRE)
<b>Minimum photographic subject illumination KP-E500</b>	0.00003 lx (Monochrome in full motion, maximum sensitivity setup, F1.2, 50 IRE) 0.000005 lx (Monochrome 64 time accumulation, maximum sensitivity setup, F1.2, 50 IRE)
<b>Sensitivity (Gain) setup</b>	Auto or a manual (factory set-AUTO)
<b>Electronic shutter</b>	Shutter: 7 steps /AES (factory set-OFF) OFF(1/60), 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 sec
<b>Accumulation magnification setup</b>	Auto or a fixed change is possible. (factory set-OFF) 2, 4, 6, 8, 10, 16, 32, 64 times
<b>Backlight compensation</b>	An ON/OFF change is possible (factory set-OFF) Light-measurement area: Nine area to selection is possible.

<b>The output for auto iris lenses</b>	(Square shape 4 pin, JEITA conformity) A galvanometer system/video signal
<b>White balance control</b>	From the following three modes to selection (factory set-ATW) *Only KP-DE500 (color) ATW: The mode which follows automatically AWC: The mode which holds a white balance after an automatic setup MANUAL: They are red and the mode which carries out blue gain adjustment and unites a white with manual operation
<b>Camera title character display</b>	A display is possible to 22 characters in an alphanumeric character and a sign A setup to either of two upper and lower sides of a screen is possible in the position of a character.
<b>B/W Mode</b>	OFF: The mode of fixation on a color image On: In high sensitivity monochrome image mode
<b>*Only KP-DE500 (color)</b>	AUTO: With luminous intensity OFF of high sensitivity monochrome image, the mode where ON changes automatically In addition, it changes, as for luminous intensity from 3 stages of the HI, the MID and the LOW selective possibility
<b>Picture quality adjustment menu</b>	Following to the menu indication of the picture, various picture quality adjustments and mode selection are possible
<b>DNR</b>	Change of AUTO / MANU (8 steps) (factory set-AUTO)
<b>Power supply voltage</b>	DC 12V $\pm$ 1 V
<b>Current consumption</b>	Approximately 1.5 A (excluding lens load)
<b>Lens mount</b>	The C / CS mount (flange back adjustment mechanism it is attached)
<b>Ambient, operating</b>	- 10 $^{\circ}$ C - + 50 $^{\circ}$ C / 30 - 80% RH *when in order for you to use with the efficiency which long time is stabilized, it continues uses by all means +40 $^{\circ}$ C please use at below.
<b>Ambient, storage</b>	Retention: 20 $^{\circ}$ C - + 60 $^{\circ}$ C / 20 - 90% RH
<b>Vibration endurance</b>	24.5 m/s <sup>2</sup> (10 - 200Hz XYZ direction each 30 minute) *Please do not add the strong vibration over long time.
<b>External dimensions</b>	78(W) x 63(H) x 170(D) mm (The lens and the projection section are excluded)
<b>Mass</b>	Approximately 610g (The lens is excluded)

## Dimensions



**CAUTION:** To ensure safe operation, please read the instruction manual before using this product.