

E-25B-P37P B/W Low Light Mini Pinhole Camera

The **E-25B-P37P** is an extremely compact B/W CCD camera. It features a super HAD sensor with 420 TV lines of resolution. For low light use, the camera has excellent sensitivity and can operate down to 0.05 lux. The CCD is IR sensitive which makes it compatible for use with any of our Infra-Red Illuminators. All this is provided in a compact metal non-reflective case with dimensions of only 25 x 25 mm. Fitted with a 'super-cone' pinhole type lens, the E-25B-P37P is suitable for covert use. Typical usage includes installation behind ceilings, walls or everyday objects. Other features include reverse polarity protection, as well as a wide operating voltage. This is helpful in preventing damage to your camera.



MODEL	E-25B-P37P
Lens	3.7 mm Super Cone (F2.0)
Sensor	1/3" Super HAD Monochrome CCD
Viewing Angle	58°
Resolution	420 Horizontal TV lines
Min Illumination	0.05 lux (F2.0)
S/N Ratio	>50dB
Voltage & Current	9 ~ 15VDC (12VDC; 100mA)
Weight	50 g
Dimensions(mm)	25 x 25 x 18.5



Front View



Side View

E-25B-B36 B/W Low Light Mini Camera

Housed in a compact rugged aluminium case, the E-25B-B36 mini camera is a low cost and very popular security camera. It is ideal for general purpose indoor use to monitor distances from half a meter up to 8 meters. A built-in electronic iris allows the camera to adjust to moderate light changes. It also features a low light IR compatible CCD sensor, wide operating voltage range, as well as, reverse polarity protection.

Optional lenses are available for longer range use. Each unit is supplied with a swivel mounting bracket and power/video cables.



MODEL	E-25B-B36
Lens	3.6 mm Board Lens (F2.0)
Sensor	1/3" Super HAD Monochrome CCD
Viewing Angle	58°
Resolution	420 Horizontal TV lines
Min Illumination	0.05 lux (F2.0)
S/N Ratio	>50dB
Voltage & Current	9 ~ 15VDC (12VDC; 100mA)
Weight	50 g
Dimensions(mm)	25 x 25 x 28



Side View



Front View

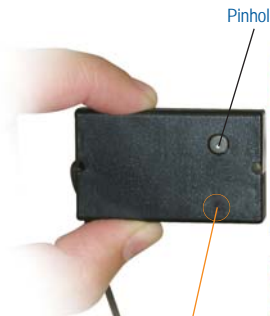
E-476A Lightweight Covert Colour Camera with Audio

This covert camera is our lightest camera yet. Extremely compact in size it has a slimline plastic polymer casing. Many other covert cameras have a metal casing which makes them bulky and heavy, especially for body-worn or covert applications. Thus the E-476A is ideal for concealing in clothing, in wall cavities, through ceilings and behind clocks or wall hangings.

Operating down to a fairly low light level, this colour camera, provides good images in daylight and in many situations at night. It also features an integrated audio microphone with pre-amplifier for audio pickup.

The lens fitted is a pinhole with an extremely small diameter of only 1 mm. This makes it harder to detect and reduces the overall height of the camera. It has a standard video and audio output and comes with a special screened cable and mini connectors. Power consumption is low, making it suitable for battery operated 12VDC applications.

Pinhole Lens



Integrated Microphone

MODEL	E-476A
Lens	3.1 mm Pinhole (1mm Diam.) F3.4
Sensor	1/4" CCD
Viewing Angle	70°
Resolution	350 Horizontal TV lines
Minimum Illumination	1.6 lux (F3.4)
S/N Ratio	> 52dB (AGC off)
Microphone	20~16000Hz (with 63dB SPL @ 1000Hz)
Voltage & Current	12VDC; 70mA
Weight	16 g
Dimensions (mm)	28 x 48 x 8 mm



E-811H Colour Compact Mini Camera with Pinhole Lens

The **E-811H** is a compact mini camera housed in a solid metal case. Due to its size and super-cone-shaped pinhole lens, it is ideal for covert use. This includes installation into ceiling boards and behind everyday objects such as picture frames, wall clocks and more.

The camera provides a good colour image in most lighting conditions and operates with an electronic shutter to compensate for changing indoor lighting. Other features include automatic white balance, AGC and a small mounting bracket.

MODEL	E-811H
Lens	3.7 mm /F2.0 Super-Cone Pinhole
Sensor	1/4" Sharp Colour CCD
Pixel Format (H x V)	512 x 582
Resolution	420 TVL
Min. Illumination	1 lux (F2.0)
S/N Ratio	More than 48dB (AGC off)
Electronic Shutter	1/50 to 1/100,000 sec.
Gamma	0.45
Viewing Angle	51°
Video Output	1Vp-p composite, 75ohm
Audio Microphone	Yes
Voltage & Current	12VDC; 120mA
Weight	40 g
Dimensions (mm)	30 (W) x 30 (H) x 20 (D)



E-811H Pinhole Lens



E-634S-F36 Colour Mini Camera with Board Lens

The **E-634S-F36** mini camera is a low cost and very popular surveillance camera, housed in a compact rugged aluminium case. It is ideal for general purpose indoor use. A built-in electronic iris allows the camera to adjust to the moderate lighting conditions indoors. These cameras are usually used to monitor distances from 500 mm to 5 metres and come in board or pinhole versions. Optional lenses are available in our lens section.

MODEL	E-634S-F36
Lens	3.6 mm (F2.0) Board
Sensor	1/4" CCD
Viewing Angle	52°
Resolution	350 Horiz TV lines
Pixel Format (H x V)	512 x 582
Minimum Illumination	1 lux (F2.0)
S/N Ratio	> 48dB (AGC off)
Voltage & Current	12VDC; 80mA
Microphone	Yes
Weight	99 g
Dimensions (mm)	28 x 28 x 20.5



E-634S-F36 Board Lens



See Board Lenses on pg. 7

E-253CH-P37 Hi-Resolution Colour Mini Camera

This mini camera, features a hi-resolution 1/3" Colour CCD Sensor with 480 TV lines. Due to its 1/3" sensor, more light enters the chip which means a greater sensitivity and thus allowing the camera to operate in lower lighting levels. In poor lighting, the camera gives an excellent 'noise-free' image unlike many other mini cameras which have a picture saturated by the camera's automatic gain control. S/N ratio is greater than 50dB.

Other features include automatic BLC, reverse polarity protection, low power consumption and automatic white balance. The lens fitted to the E-253CH-P37 is a super-cone-pinhole with a 3.7mm focal length. Packaged in a compact metal enclosure, the camera has a small mounting bracket and comes included with a short video and power cable.



E-253CH-P37

MODEL	E-253CH-P37		
Sensor	1/3" Sharp CCD	Video Output	1Vp-p 75 ohm Composite Video (PAL)
Effective Pixels	752 (H) x 582 (V)	Voltage & Current	12VDC; 80mA (+/-3V)
Resolution	480TVL Horiz	Operating Temp	-10° ~ +50°C
S/N Ratio	Greater than 50dB (AGC off)	Weight	70g
Minimum Illumination	0.8 lux (F2.0)	Dimensions	25 x 25 x 20.5mm

See Board Lenses on pg. 7

E-S408 B/W Micro Cameras

The smallest covert camera you have ever seen, the **E-S408** measures an incredible 8.5 x 8.5 mm's! It is based around single chip CMOS technology, which gives it its small size. Two versions are available, one fitted with a 3.5 mm pinhole (2.5 mm diameter hole) lens and the other with a 3.1 mm cone-shaped pinhole (1mm diameter hole) lens. While the **E-S408-3T** pinhole lens is easier to hide, because of its smaller pinhole diameter, it allows in less light, which makes the E-S408 (3.5mm model) better suited in poor lighting conditions.

The camera has an effective depth of field of 3 metres. Both models are ideally suited for covert use due to their compact size and extremely low power consumption (20mA). These cameras can be easily powered from a standard 9 V battery.



E-S408

E-S408-3T



E-S408

3.5mm
Pinhole



E-S408-3T

3.1mm
Pinhole

2.1mm DC Socket; RCA Female

MODEL	E-S408	E-S408-3T
Lens	3.5 mm (F2.6)	3.1 mm (F3.4)
	2.5 mm Pinhole Diameter	1 mm Pinhole Diameter
Sensor	1/4" B/W CMOS	1/4" B/W CMOS
Viewing Angle	45°	50°
Resolution	240 TVL	240 TVL
Min. Illumination	1.6 lux (F2.6)	3 lux (F3.4)
S/N Ratio	> 48dB	> 48dB
Video Output	1Vp-p PAL	1Vp-p PAL
Voltage & Current	7~12VDC; 20mA	7~12VDC; 20mA
Operating Temperature	-10 ~ +45°C	-10 ~ +45°C
Dimensions (mm)	8.5 x 8.5 x 15	8.5 x 8.5 x 10

E-235/P Monochrome Board Camera With Pinhole or Board Lens

The **E-235/P** features a special high quality Sony CCD sensor. A pinhole or wide angle lens is available. Operating off 12VDC, these board cameras feature a standard video output.

MODEL	E-235 / E-235P
Lens	3.6 mm (F2.0) Board / 3.7 mm (F2.0) Pinhole
Sensor	1/3" CCD
Viewing Angle	67°
Resolution	420 TVL
Min Illumination	0.3 lux (F2.0)
Voltage & Current	12VDC; 130mA
Dimensions (mm)	35 x 35 x 26



IR
Compatible

With
Pinhole
Lens



Unterminated Leads

E-53KR11 Low Light Colour Board Camera - Hi-Resolution

The **E-53KR11** & **E-53X11HP-CS** are extremely low light colour board cameras. They utilize a sensitive 1/3" Matsushita CCD sensor which allows the camera to operate down to 0.8/0.4 lux. This CCD sensor is 2.5x more sensitive than standard colour CCD sensors. Two models are available, a medium res with a 3.6 mm board lens and an ultra-hi-res with a CS mount lens ring for CS mount lens attachments. For other board focal lengths we have a range of different lenses. The camera has an electronic shutter, AWB and auto BLC function.

MODEL	E-53KR11	E-53X11HP-CS
Lens	3.6mm (F2.0)	CS Mount Ring
Sensor	1/3" Colour CCD	1/3" Colour CCD
CCD Pixels	542 (H) x 492 (V)	816 (H) x 495 (V)
Viewing Angle	67°	~
Resolution	380 TVL (480 with DSP)	480 TVL (520 with DSP)
Min Illumination	0.8 lux (F2.0)	0.4 lux (F1.4), 0.2 (F1.0)
Operating Temp	-20 to 50°C	-20 to 50°C
S/N Ratio	60dB (typ.); 52dB (min.)	60dB (typ.); 52dB (min.)
White Balance	Auto High Speed (3200-10000K colour temp range)	
Voltage & Current	12VDC; 120mA	12VDC; 150mA
Dimensions (mm)	42 (W) x 42 (L) x 33 (H)	42 (W) x 42 (L) x 31 (H)



E-53KR11



E-53X11HP-CS

See Board Lenses on pg. 7

E-426L-F36 / E-426L-P General Purpose Colour Board Cameras

The **E-426L** is a low cost colour board camera for general purpose video monitoring or covert surveillance use. It features an electronic shutter, auto white balance, auto BLC function and onboard microphone.

Two versions are available, one with a board lens and the other a cone-shaped pinhole lens. The pinhole lens is ideal for concealing behind everyday objects such as walls, picture frames, clocks, books etc. For a different field of view, the board lens model can be inter-changed with any of our board mount lenses in the range, from 1.78 mm to 25 mm.

The onboard audio microphone allows the camera to be used to monitor sound simultaneously.

MODEL	E-426L-F36	E-426L-P
Lens	3.6mm (F2.0) Board	3.7mm (F2.0) Pinhole
CCD	1/4" Sharp	1/4" Sharp
Viewing Angle	52°	51°
Horiz Resolution	330TVL	330TVL
Min Illumination	2 lux @ F2.0	2 lux @ F2.0
S/N ratio	> 46dB (AGC off)	> 46dB (AGC off)
Video Output	Composite Video (PAL)	Composite Video (PAL)
	1 Vp-p 75ohm	1 Vp-p 75ohm
Voltage & Current	12VDC; 150mA	12VDC; 150mA
Weight	16 g	16 g
Dimensions (mm)	32 x 32	32 x 32

See Board Lenses on pg. 7

E-54C0-F36 / E-54C0P Colour Low Power Hi-Res Board Cameras

The **E-54C0 series** of cameras are extremely compact colour board cameras measuring only 22 x 22 x 26/30 mm. They are available with a standard board lens or 3.7mm pinhole lens. For the board lens models one can replace the lens with any of our board lens ranging from 1.78 mm to 25 mm.

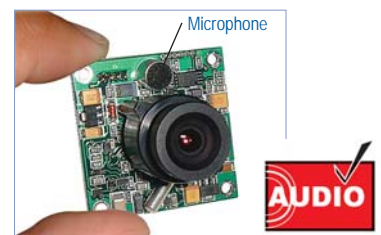
Sharp image quality is ensured by the 60db S/N ratio, 10-bit A/D and on board Digital Signal Processing.

For a CCD camera, this product features an extremely low power consumption, drawing only 65mA. This makes it suitable for battery powered applications such as used with one of our video transmitters.

Other camera features include automatic white balance, automatic gain control, electronic shutter and mirror image capability. Weighing in at amazing 7 grams this is an extremely popular camera.

MODEL	E-54C0-F36	E-54C0P
Lens	3.6 mm (F2.0) Board	3.7 mm (F2.0) Pinhole
Sensor	1/4" Colour CCD	1/4" Colour CCD
Viewing Angle	52°	51°
Resolution	470 TVL	470 TVL
Min. Illumination	2 lux (F2.0)	2 lux (F2.0)
S/N Ratio	60dB (typ.) 52dB (min.)	60dB (typ.); 52dB (min.)
White Balance	Auto High Speed (3200-10000K colour temp range)	Auto High Speed (3200-10000K colour temp range)
Operating Temp	-20 to 50°C	-20 to 50°C
Voltage & Current	12VDC +/-10%; 65mA	12VDC (+/-10%); 65mA
Dimensions (mm)	22 (W) x 22 (L) x 30 (H)	22 (W) x 22 (L) x 26 (H)

MODEL	E-54C0P-H	E-54C0-F36-H
Lens	3.7mm Pinhole (F2.0)	3.6mm Board (F2.0)
Sensor	1/4" CCD	1/4" CCD
Viewing Angle	52°	51°
CCD Pixels	795 (h) x 596 (V)	795 (h) x 596 (V)
Resolution	580 TVL (DSP enhanced from 470 TVL)	580TVL (DSP enhanced from 470 TVL)
Min. Illumination	2 lux (F2.0)	2 lux (F2.0)
S/N Ratio	60dB (typ.) 52dB (min.)	60dB (typ.); 52dB (min.)
White Balance	Auto High Speed (3200-10000K colour temp range)	Auto High Speed (3200-10000K colour temp range)
Voltage & Current	12VDC @ 70mA	12VDC @ 70mA
Operating Temp	-20° to 50°C	-20° to 50°C
Voltage & Current	12VDC +/- 10%; 65 mA	12VDC +/- 10%; 65 mA
Dimensions (mm)	22 (W) x 22 (L) x 30 (H)	22 (W) x 22 (L) x 26 (H)



E-426L-F36 Board Lens

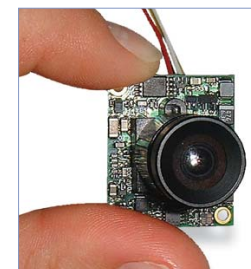


E-426L-P Pinhole Lens

Underterminated Leads

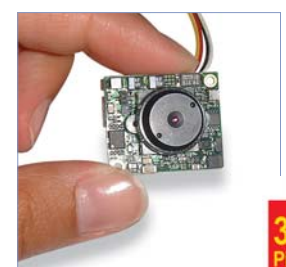


Board Lens



Interchangeable Board Lens

LOW POWER



Underterminated Leads

3.7mm Pinhole



Button Lens (3.7 or 4.3 mm)

LOW POWER

Lenses Fixed Focal Length Board Lenses

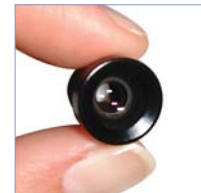
When the standard lens fitted is not suitable, try one of our high quality fixed focal length board lenses that are suitable for use with our board, mini and dome cameras fitted with board lenses.

The **E-B178** is a board mount fish-eye lens, suitable for fitting to any camera with a board mount lens fitting. The lens provides an extremely wide angle of view and is recommended for indoor use in areas such as shops, stock rooms and areas where a general camera view is needed. The new 25 mm lens gives a small mini camera a range of 20 ~ 30 metres. This makes it ideal for covert surveillance of a subject, a distance away from the camera.

MODEL	E-B178	E-B2162	E-B245
Focal Length	1.78 mm	2.1 mm	2.45 mm
Aperture	F3	F2.0	F2.5
1/3" Viewing Angle (H)	108°	98°	87°
1/4" Viewing Angle (H)	90°	80°	70°
Dimensions (mm)	31 x 24.3	17 x 18.5	17 x 9
MODEL	E-B297	E-B43	E-B6
Focal Length	2.97 mm	4.3 mm	6 mm
Aperture	F2.0	F1.8	F2.2
1/3" Viewing Angle (H)	77°	58°	43°
1/4" Viewing Angle (H)	61°	45°	33°
Dimensions (mm)	14 x 15	14 x 16.3	14 x 16
MODEL	E-B8	E-B12	E-B16
Focal Length	8 mm	12 mm	16 mm
Aperture	F2.0	F2.0	F2.0
1/3" Viewing Angle (H)	33°	22°	17°
1/4" Viewing Angle (H)	25°	17°	13°
Dimensions (mm)	14 x 14	14 x 14	14 x 15.5



FishEye Lens



Board Lens



FishEye Lens Fitted to an E-636S-F36 Camera



25 mm Board Lens



25 mm Lens Fitted to an E-636S-F36 Camera



E-B2162
2.1 mm Lens



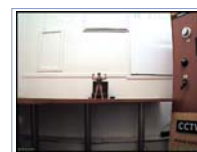
1.78 mm



2.45 mm



2.97 mm



3.6 mm



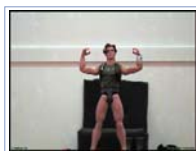
6 mm



8 mm



12 mm



16 mm



25 mm

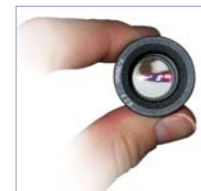
Distance between image and camera = 2.5 meter

E-B2162 / E-B350 / E-B500 Long Range Fixed Board Lenses

We are proud to be able to offer an expansion on our range of board lenses. These lenses mount on cameras, fitted with a board mount lens holder. This includes, many of our mini cameras, board cameras and some of our dome cameras. They expand the usefulness of these small but powerful cameras.

Our 25, 35 and 50 mm lenses provide a compact longer range surveillance solution. They are used in situations when a larger CS-mount camera body and lens are unsuitable. The 35 mm and 50 mm models only work with 1/3" CCD cameras.

MODEL	E-B250	E-B350	E-B500
Focal Length	25 mm	35 mm	50 mm
Aperture	F2.5	F2.0	F2.0
1/3" Viewing Angle (H)	11°	8°	5.5°
1/4" Viewing Angle (H)	8°	6°	4°
Weight	7 g	15.4 g	38 g
Dimensions (mm)	25 x 23.5	25 x 23.4	27 x 57



E-B250
25 mm Lens



E-B350
35 mm Lens



E-B500
50 mm Lens

E-C470 Colour CCD 'Snake Camera' With 300mm Cable

The **E-C470** is an innovative new product for covert video surveillance. The camera consists of a lens with the CCD as the head of the camera connected by 300 mm of cable to the camera's electronics.

This allows the camera head to be an amazing size of only 11 x 11 x 14 mm (-3T model). For a CCD-based camera, this is very small, making it easy to conceal the head in a compact place with the 30 x 30 mm electronic board further along the cable elsewhere. The camera provides crisp sharp colour images in normal lighting conditions. Various models are available, one with a cone-shaped 3.7 mm pinhole lens and another with an ultra-fine 3.1 mm pinhole lens. There is a slight difference in sensitivity, with the 3.7 mm lens (-3C) allowing in more light and thus operating at lower lux levels.

These cameras operate on 12VDC and are fairly low in power consumption (70mA). The cameras are supplied with a short cable terminated with a female RCA connector and a standard 2.1 mm DC socket.

MODEL	E-C470-3C	E-C470-3T
Lens	3.7 mm Cone Pinhole (F2.0)	3.1 mm Flat Pinhole (F3.4)
Sensor	1/4" CCD	1/4" CCD
Colour or Mono	Colour	Colour
Viewing Angle	58°	58°
Resolution	350 TVL	350 TVL
Min Illumination	1.2 lux (F2.0)	1.6 lux (F3.4)
Audio	High Sensitive Microphone	High Sensitive Microphone
S/N Ratio	< 48dB	< 48dB
Voltage & Current	12VDC; 70mA	12VDC; 70mA
Operating Temp.	-10° ~ +45°	-10° ~ +45°
Dimensions: Head (mm)	11 (W) x 11 (H) x 18 (D)	11 (W) x 11 (H) x 14 (D)
Dimensions: Electronics	29 (W) x 29 (H) x 7 (D)	29 (W) x 29 (H) x 7 (D)



E-C488 Colour CCD 'Snake Camera' With 1000mm Cable

A newly released camera the **E-C488** features the same high quality as the E-C470, but now with a 1000 mm cable. This extra length allows one to hide the "head" further away from the subject. It also makes the camera more useful for use in remote inspection applications. The camera features a 3.7 mm F2.0 pinhole lens and features good sensitivity.

MODEL	E-C488
Lens	3.7 mm Cone Pinhole (F2.0)
Sensor	1/4" CCD
Colour or Mono	Colour
Viewing Angle	58°
Resolution	350 TVL
Min Illumination	1.4 lux (F2.0)
S/N Ratio	< 48dB
Voltage & Current	12VDC; 70mA
Operating Temp.	-10° ~ +45°
Dimensions: Head (mm)	11 (W) x 11 (H) x 18 (D)
Dimensions: Electronics	38 (W) x 38 (H) x 10.5 (D)



E-C490AD Colour CCD 'Snake Camera' With Screw-Head

The **E-C490AD** is an innovative new product for covert video surveillance. The camera consists of a lens and CCD disguised as a screw-head connected by 220 mm of cable to the camera's electronics. Hexagonal screws are commonly found in many places, therefore making the camera easily concealed. For a CCD-based camera, it is extremely small with a 11 x 18 mm head and a 28 x 28 mm electronics board.

The camera provides crisp sharp colour images in normal lighting conditions. Behind the screw-head is a 3.7 mm pinhole lens providing a wide angle of view at a distance of 2 ~ 5 metres. A standard video output allows the camera to be connected to any of our video recorders such as our body-worn DVR or our 4 channel embedded recorder. For audio monitoring, the E-490AD has a separate high-sensitive microphone attached to the video/power cables.

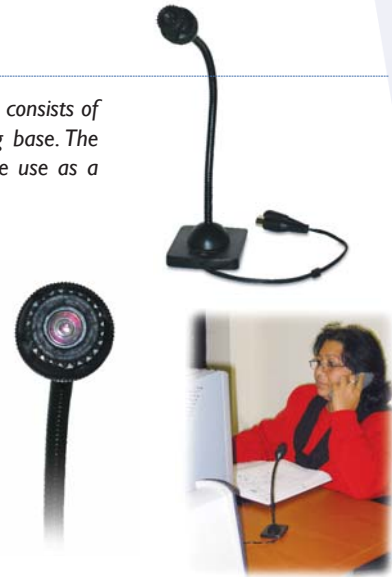
MODEL	E-C490AD
Lens	3.7 mm Pinhole Lens
Sensor	1/4" CCD
Resolution	350TVL
Viewing Angle	58°
S/N Ratio	< 48dB
Min Illumination	1.2 lux (F2.0)
Audio	High Sensitive Microphone
Voltage & Current	12VDC; 70mA
Dimensions (mm)	11 x 18 (Head) 28 (W) x 28 (L) x 6 (H) (Electronics Board)



E-R621 Camera with Flexible Head

The **E-R621** is an extremely innovative new addition to our range of covert cameras. This camera consists of a colour CMOS sensor with lens mounted on a flexible bracket, connected to a flat mounting base. The camera features a standard video output and operates off 12VDC. Typical applications include use as a reception camera for visitor registration.

MODEL	E-R621
Lens	Board lens
Sensor	1/3" CMOS
Resolution	380 TVL
Pixel	330K (PAL), 250K (NTSC)
Shutter Speed	1/50 - 1/15 000
Min Illumination	3 Lux / F1.2 (Colour) 0.5 Lux / F1.2 (B/W)
Voltage & Current	12VDC; 50 mA
Dimensions: Head (mm)	11 (W) x 11 (H) x 18 (D)
Dimensions: Electronics	38 (W) x 38 (H) x 10.5 (D)



E-21CSHRX Day / Night Pinhole Bullet Camera

The **E-21CSHRX** is our first day/night pinhole bullet camera. It features a highly sensitive 1/3" Sony Ex-View CCD sensor. In its colour mode the camera is suitable for most lighting conditions and provides excellent picture quality, with its 460 TV lines. Where lighting conditions are poor (below 2 Lux) the camera switches to black and white mode.

A special IR filter fitted to the camera's sensor allows it to be IR compatible when in the black and white mode. It is sensitive to our range of 940 nm infrared illuminators. A super cone shaped pinhole lens is fitted. For covert installation above ceiling boards, one can mount the bracket and tilt the camera for an angled view of the subject. It is black anodised aluminium and includes a swivel mounting bracket. It also has a wide operating voltage.

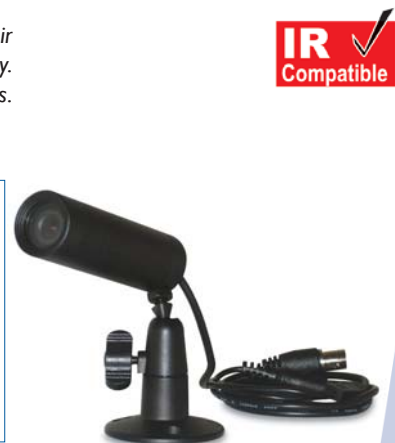
MODEL	E-21CSHRX
Lens	3.7 mm (F2.0) Super Cone Pinhole
Sensor	1/3" Sony Colour Ex-View
Lens Angle	67°
Resolution	460 TVL
Min Illumination	0.1 lux (F2.0)
Day/Night Switch Over	At 2 Lux
IR Sensitivity	940 nm
S/N ratio	50dB (AGC off)
Voltage & Current	9 ~ 15VDC; 130mA
Weight	150 g
Dimensions (mm)	21 (Diam) x 65 (L)



E-307 / E-687 Weatherproof Bullet Cameras

Measuring 26 mm in diameter, these cameras offer incredible features and performance for their size. Constructed of machined aluminium, they will impress you with their ruggedness and quality. Ideal for general purpose indoor or outdoor use, they are weatherproof and feature an electronic iris. They are supplied with a swivel mounting bracket and short cable.

MODEL	E-307	E-687
Lens	3.6 mm (F2.0) Board	3.6 mm (F2.0) Board
Sensor	1/3" B/W	1/4" Colour
Lens Angle	67°	52°
S/N Ratio	46dB	48dB
Resolution	380 TVL	350 TVL
Min Illumination	0.25 lux (F2.0)	1 lux (F2.0)
Voltage & Current	12VDC; 75mA	12VDC; 80mA
Dimensions (mm)	26 (Diam) x 87 (L)	26 (Diam) x 87 (L)



E-6020EHPSC-DN/E-506EHPSC Underwater Camera

The **E-6020EHPSC-DN** and the **E-506EHPSC** are hi-resolution submergible cameras for outdoor or underwater use. The **E-6020EHPSC-DN** is a colour day/night model which switches from colour to black and white when operating in lighting conditions below 2 lux. Both models are IR sensitive and can be used with any of our illuminators.

They are ideal for general purpose outdoor use or for diverse applications, such as drain inspection or for submergible use in fresh water conditions. The camera comes complete with 30 metres of waterproof combined video/power cable and operates off 12VDC. IP68 rated, one can completely submerge it.



2.1mm DC Socket; BNC Female

MODEL	E-6020EHPSC-DN	E-506EHPSC
Lens	3.6 mm (F2.0) Board	3.6 mm (F2.0) Board
Sensor	1/3" Sony ExView HAD CCD	1/3" Sony ExView HAD CCD
Viewing Angle	67°	67°
S/N Ratio	50dB (AGC off)	50dB (AGC off)
Resolution	480 TVL	600 TVL
Min Illumination	0.05 lux (F2.0)	0.001 lux (F2.0)
Day/Night Mode	On at 2 lux	~
White Balance	2400°K~10000°K	~
BLC	Automatic	Automatic
Video Output	1V p-p 75 ohm	1V p-p 75 ohm
Waterproof Rating	(IP68) or (3PSI)	(IP68) or (3PSI)
Operating Temp	-10° ~ +50°C	-15° ~ +50°C
Voltage & Current	12VDC; 250mA	12VDC; 175mA
Dimensions (mm)	110 (L) x 32 (Dia)	102 (L) x 28.5 (Dia)

E-300LWW-6S Colour Underwater Camera with White LED Illumination

The **E-300LWW-6S** is a colour bullet camera with white LED illumination for underwater use. It is ideally suited for underwater inspection of boats, boreholes, pipes or hard to reach places. Other applications include filming of fishing expeditions, monitoring of sea life and normal surveillance use outdoors. The camera's 6 white LEDs allow it to provide a colour image in 0 lux conditions. LEDs are powered from a second DC plug allowing them to be switched off when not in use. Other special features include extra-slimline design (30mm diam) and low power consumption (12VDC@200mA). Each camera is supplied with a waterproof connector and 20 metres of waterproof cable.



- ⊕ 6 Super-Bright LEDs
- ⊕ Backlight Compensation, AGC & ATW
- ⊕ Waterproof Combine Video/Power Cable
- ⊕ 20 metres Submergible Depth
- ⊕ Metal Anodised Housing
- ⊕ 40m Cable, RCA (video), DC Jack (power)

MODEL	E-300LWW-6S	Min Illumination	0.0 lux (LEDs on)
Lens	3.6 mm (F2.0) Board	Video Out	0.03 lux (LEDs off)
Sensor	1/3" Sony Color CCD	Voltage & Current	Composite 1Vp-p
Viewing Angle	52°	Dimensions (mm)	12VDC; 200mA
Electronic Shutter	1/60~1/100,000 sec		30 (Diam) x 72 (L)
Resolution	420 TVL		

E-308 B/W Mini Camera with 6 Infra-Red LEDs

The new **E-308** compact mini camera features six infra-red LEDs for additional illumination in poor lighting conditions. The LEDs are able to provide illumination for a distance up to one metre. Fitted with a standard wide angle 3.6mm board lens, the E-308 has a short swivel mounting bracket.

MODEL	E-308	Min Illumination	0.5 lux to 0 lux (depending on surface reflection and surface colour)
Lens	3.6 mm board	Voltage & Current	12VDC; 180mA
Sensor	1/3" B/W Samsung CCD	Weight	200 g
Viewing Angle	67°	Dimensions (mm)	52 (W) x 42 (H) x 16 (D)
Resolution	380 TVL		
S/N Ratio	48dB		



Infra-Red LEDs, Wide Angle Board Lens

2.1mm DC Socket; BNC Female

E-307R Monochrome Infra-Red Waterproof Camera

The **E-307R** is a low cost waterproof black and white video camera with 10 infra-red LEDs for low-light performance. This IR illumination makes it ideal for covert or applications in which the lighting is poor. Typically the infra-red enables the camera to provide a usable image at a distance of ± 5 metres in poor light (depending on surface reflection and surface colour). As the camera features a light sensor, the illumination switches on when the ambient lighting drops below a certain level.

As standard the camera is fitted with a 4 mm wide angle lens which can be interchanged for one of our other board lenses. This camera is waterproof to IP57 and has a short sun-shield for protection against sun-glare from above. The shield also helps to divert water from the front of the camera. Typical applications include general indoor/outdoor security for home or business.



Protective Sunshield



IR Illumination

2.1mm DC Socket; BNC Female

MODEL	E-307R
Lens	4 mm (F2.0) Board
Sensor	1/3" Monochrome CCD Sensor
Resolution	380 TVL
Viewing Angle	67°
Min Illumination	0.1 lux to 0 lux (depending on surface reflection and surface colour)
IR Illumination	± 5 metres
S/N Ratio	48dB
Temperature	-10° ~ +50°
Voltage & Current	12VDC; 120mA (IR off) 280mA (IR on)
Dimensions (mm)	65 (Diam) x 105 (L)
Lifetime of LEDs	50,000 hours



Normal Operation



0 lux - other cameras



0 lux - E-307R (IR on)

E-537 Infra-Red Day/Night Waterproof Camera - 10 Metre Range

The **E-537** is the latest generation of infra-red day/night colour waterproof cameras. Suitable for indoor or outdoor applications, it is the ideal general purpose surveillance camera. Featuring 12 infra-red LEDs and a day/night switching colour camera, the E-537 is supplied with a 3.6 mm board lens.

DAY/NIGHT OPERATION

During the day, the unit provides accurate colour images. At night or in poor lighting conditions, the camera switches to monochrome and becomes IR sensitive. The night mode is activated by a light sensor which senses when the light drops below a certain level. In this mode, the infra-red LEDs switch on and provide external light to illuminate the subject. Depending on surface colour and reflection, these LEDs have a range of approximately 7-10 metres in little or no light.

POWER

Power wise, the E-537 cameras are able to operate in a wide range from 8-16VDC. They also feature reverse polarity protection which is the most common fault causing damage to surveillance cameras. Other features include auto white balance, an electronic shutter and of course automatic gain control.

HOUSING

Packaged in a rugged aluminium housing, these cameras are weatherproof and rate to IP66. After manufacture, these cameras are tested for 72 hours in 10 metres of water. A sunshield protects the camera against the environment i.e sun and harsh rain. Each E-537 is supplied with a terminated 1,5 metre video/power cable and an adjustable mounting bracket.



Daytime With Fluorescent Light



0 lux - E-537 (IR on)

MODEL	E-537
Lens	3.6 mm (F2.0) Board
Sensor	1/4" Colour Sharp CCD
Resolution	420 TVL
Min Illumination	0 lux (LEDs switch on 2 lux)
IR Illumination	12x IR LEDs (850nm; ± 8 m range)
S/N Ratio	48dB (AGC off)
Voltage & Current	8 ~ 16VDC; 120mA (550mA with IR on)
Operating Temp	-20° to +70°C
Dimensions (mm)	49 (Diam) x 82 (L)

E-539 Infra-Red Day/Night Waterproof Camera - 15 Metre Range

The **E-539** is the latest generation of infra-red day/night colour waterproof cameras. Suitable for indoor or outdoor applications, it is the ideal general purpose surveillance camera. Featuring 24 infra-red LEDs and a day/night switching colour camera, the E-539 is supplied with a 6mm board lens and has a 1/3" Sony CCD.

DAY/NIGHT OPERATION

During the day, the unit provides accurate colour images. At night or in poor lighting conditions, the camera switches to monochrome and becomes IR sensitive. The night mode is activated by a light sensor which senses when the light drops below a certain level. In this mode, the infra-red LEDs switch on and provide external light to illuminate the subject. Depending on surface color and reflection, these LEDs have a range of approximately 12~15 metres in little or no light.

POWER

Power wise, the E-539 cameras are able to operate in a wide range from 8~16 VDC. They also feature reverse polarity protection which is the most common fault causing damage to surveillance cameras. Other features include auto white balance, an electronic shutter and of course automatic gain control.

HOUSING

Packaged in a rugged aluminium housing, these cameras are weatherproof and rate to IP66. After manufacture, these cameras are tested for 72 hours in 10 meters of water. A sunshield protects the camera against the environment i.e sun and harsh rain. Each E-539 is supplied with a terminated 1,5 metre video/power cable and an adjustable mounting bracket.

MODEL	E-539
Lens	6 mm (F2.0) Board
Sensor	1/3" Colour Sony CCD
Resolution	420 TVL
Min Illumination	0 lux (LEDs switch on 2 lux)
IR Illumination	25x IR LEDs (850nm; ±15m range)
S/N Ratio	48dB (AGC off)
Voltage & Current	8~16VDC; 250 mA (550mA with IR on)
Operating Temp	-20° to +70°C
Dimensions (mm)	55 (Diam) x 107 (L)



Daytime



Nighttime With Streetlighting

E-B53K10-N Vandalproof Weatherproof Colour Infra-Red Camera

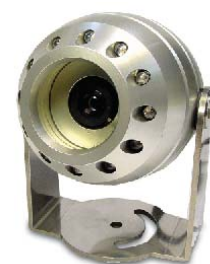
The **E-B53K10-N** is a camera specially designed for use in public places, prisons, mines and in any area where the camera is exposed to vandalism or harsh environments. Constructed of an ultra hard aluminium magnesium alloy, with bulletproof glass, the camera's housing can withstand a direct hit from a fire-arm or a 10 pound hammer.

During daylight, a colour image is shown and in poor light, a monochrome image is produced. For applications in which there is no or poor light, the camera features eleven IR LEDs with a narrow beamwidth and range of ± 5 metres.

Weatherproof rated to IP55, the camera is suitable for use indoors or out. It includes a gland through which 20 cm of cable protrudes. For longer cable lengths, E-POWERAX-WP cable can be supplied.

MODEL	E-B53K10-N
Lens	4.3 mm (F2.0) Board
Sensor	1/3" Colour CCD Sensor
Viewing Angle	58°
Horizontal Resolution	380 TVL (F2.0)
Min Illumination	1 lux (normal colour mode); 0 lux (IR illumination on)
IR Illumination	11x IR LEDs (5 metre range; 30° beam spread)
S/N Ratio	60dB (typ.) 52dB (min.)
White Balance	Auto White Balance (3200-10000K colour temp)
Voltage & Current	12VDC (±10%); 250mA (IR on); 90mA (IR off)
Operating Temp	-20° to 50°C
Dimensions (mm)	143 (L) x 85 (Diam) x 147 (Height with bracket)

IP-55



2.1mm DC Socket; BNC Female



Camera in B/W mode with IR illumination on

E-83X10P Vandalproof Day/Night Infra-Red Dome Camera

Designed for indoor or outdoor applications, the **E-83X10P** is suitable for placement in areas where cameras may be vandalised or subject to tampering. This includes mounting on low hanging ceilings, in unattended areas or in places where great hostility exists such as prisons, schools or factories.

The base of the camera is made from die-cast aluminium alloy and the dome from ultra hard Lexan polycarbonate. Inside the vandalproof housing is a medium resolution colour camera with a fixed 4.3 mm lens. This 4.3 mm lens is able to provide an effective depth of field of 3 ~ 6 metres. For use in low light or night time situations, the E-83X10P has a light sensor which switches the camera to a B/W mode below a certain lux level. This is further enhanced by the built-in 12-LED IR illuminator which provides illumination in little or no light. The housing can be surfaced mounted and features a cable gland which can protrude from the side or from the base of the camera.



E-83X10P

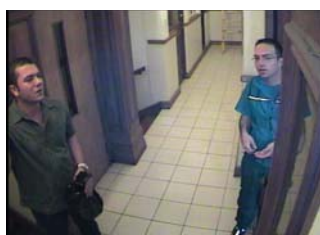


E-83X10P Ceiling Mount



Cable can protrude from the side or from the base.

MODEL	E-83X10P
Lens	4.3 mm (6.0, 12.0 mm Board Lens Option)
Sensor	1/3" Colour CCD
Viewing Angle	58°
Resolution	380 TVL (470 DSP enhanced)
Min Illumination	0 lux F1.2 with IR-LED
IR Illumination	850nm, 12 x IR LEDs, ± 6 metre Range, 15° angle
S/N Ratio	52dB
White Balance	Auto White Balance (3200-10000K colour temp)
Backlight	Automatic
Voltage & Current	12VDC; 250mA
Operating Temp	-20 to 50°C
Dimensions (mm)	117 (dia) x 85 (H)



Normal Indoor Lighting Conditions



0.5 Lux (IR on)

E-90CSHRX Vandalproof Auto-Iris Day/Night Infra-Red Dome Camera

This camera has been designed for indoor or outdoor use and is constructed of die-cast aluminium with a shatter-proof polycarbonate dome. It is ideally suited for areas where the camera is exposed to tampering or abuse. This includes low hanging ceilings, search cubicles, sorting glove boxes and more.

Inside the vandalproof housing is a hi-resolution colour day/night CCD camera with vari-focal auto iris lens. This type of lens can be used in conditions of varying light such as outdoors or inconsistent indoor lighting. A day/night switch over circuit converts the camera from colour to black and white when the light level drops below 2 lux. This also activates the infra-red illumination which provides illumination for a distance up to 10 metres. The vari-focal adjustment means the installer can adjust the focal length of the lens to suit his application. Other features include automatic white balance, automatic backlight compensation, as well as a wide input voltage range.

Applications for this dome include monitoring of unattended areas such as passageways, underground parking, stairwells, night clubs, shopping centres and any other area where one fears the camera will be damaged or vandalised.

- ⊕ IP66 Weatherproof
- ⊕ Polycarbonate Dome Window (90mm diam)
- ⊕ Tamper Resistant Aluminium Die-Cast Case
- ⊕ Wall/Ceiling Mount
- ⊕ Auto Iris Vari-Focal Lens
- ⊕ Camera Settings via Dip Switches



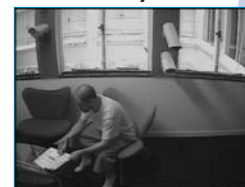
IP-66



4~9mm AI Lens



Day



Night -With Illumination Cameras | 13

MODEL	E-90CSHRX		
Lens	4 ~ 9 mm vari-focal	Lens Iris	F1.6 ~ 360
	DC Auto Iris lens	S/N Ratio	> 48dB
Sensor	1/3" Sony Ex-Viewi CCD	Infra-Red LEDs	21 (940nm ±10 Metres)
Resolution	480 TVL	Day/Switch Over	2 Lux
Backlight Compensation	Automatic (On/Off Selectable)	Voltage & Current	10.5~40VDC; 150mA
Auto Gain Control	Automatic (On/Off Selectable)	Weight	225 g
Auto White Balance	Automatic (2500 ~ 9500K)	Dimensions (mm)	127 (dia) x 105 (L)

Our **E-588** domes are high quality high speed cameras for complete pan/tilt and zoom surveillance. Micro-processor controlled, they feature an integrated colour zoom camera, high-quality Swiss made pan/tilt motors and US-made Mil-Spec slip-rings.

Its DSP-based camera provides excellent image quality and high sensitivity down to 0.01 lux (day/night model). The heart of the E-588 is a CPU with memory which receives control signals via RS485 and stores 128 preset camera positions, as well as 4 cruise tours and 4 pattern tours. Up to 128 preset positions of focus, pan angle, tilt and zoom can be programmed. The user can select preset locations or can program the system to patrol between presets for a selected time. Pattern tours allow you to program the dome to follow a continuous memorised path, panning, tilting and zooming at any speed. The digitally controlled stepper motors provide precise and rapid camera placement when seeking presets.

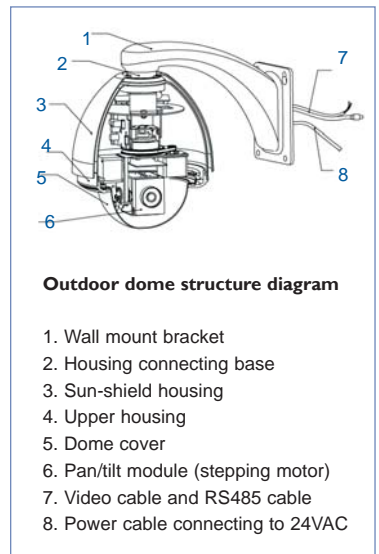
The integrated receiver features multi-protocol support which allows the dome to be compatible with various well known speed dome camera manufacturers. This allows the dome to be easily integrated into a new or existing system where other makes of equipment are present. Another feature includes zoom-speed interaction which makes the operating speed of the pan function dependant on the zoom focal length.

Outdoor versions of the E-588 domes feature climate control with a heater and circulation system for operation in a wide range of environments. A product spec is the integrated alarm input and output. This means when an alarm is activated in a certain area covered by the speed dome it can move to that preset area.

- ⊕ 4 Patterns (each with upto 180 sec storage)
- ⊕ 4 Tours (with upto 32 presets & adjustment levels)
- ⊕ 128 Preset positions
- ⊕ 8 Zone Privacy Mask
- ⊕ RS485 Interface (2400/4800/9600/19200 bps)
- ⊕ 254 Programmable Camera ID's
- ⊕ Protocols Supported: Pelco-P/D/C, VCL, Molynx, Vicon, Diamond, Kalatel, Lililin, Philips, American Dynamics, Univision & Sensornet
- ⊕ Controlled by E-DCJ, E-KB02, E-KB03 control keyboards or via a DVR and/or Smartsight Product Range
- ⊕ New Integrated Black Liner
- ⊕ 7 Alarm Inputs, 2 Alarm Outputs
- ⊕ Positioning Accuracy of up to 0.5°
- ⊕ Wall Mount, Pendant Mount, Pole Mount or Corner Mount Brackets available



Outdoor Wall Mount Model



SPECIFICATIONS	(N)	(C)	(E)
Model	22X	22X	23X
Image Sensor	Colour	Colour	Day/Night
Resolution	1/4" CCD 470 TVL	1/4" CCD 470 TVL	1/4" Exview CCD 470 TVL (Colour) 570TVL (B/W)
Sensitivity	0.9 lux	0.02 lux	Colour 0.08 lux Mono 0.01 lux
Iris	Auto/Manual	Auto/Manual	Auto/Manual
Focus	Auto/Manual	Auto/Manual	Auto/Manual
Zoom	264x	264x	230x
Magnification	(22x optical; 12x digital)	(22x optical; 12x digital)	(23x optical; 10x digital)
Zoom Length	4 ~ 88 mm	4 ~ 88 mm	3.6 ~ 82.8 mm
Aperature	F1.6 ~ F3.8	F1.6 ~ F3.8	F1.6 ~ F3.8
Zoom Speed	4.2 ~ 5.8 sec	3.9 ~ 6.3 sec	3.9 ~ 6.3 sec
Angle of View	Wide 47° / Tele 2.2°	Wide 47° / Tele 2.2°	Wide 54° / Tele 2.5°
Pan Rotation	360° continuous	360° continuous	360° continuous
Preset Pan Speed	300°/sec	300°/sec	300°/sec
Pan/Tilt Manual Speed	0.5° ~ 160°/sec	0.5° ~ 160°/sec	0.5° ~ 160°/sec
Tilt Range	90°	90°	90°
B.L.C	Auto/Off	Auto/Off	Auto/Off
White Balance	Auto/Mauual	Auto/Mauual	Auto/Mauual
S/N	50dB	50dB	50dB
Video Output	1.0 ±0.2Vp-p	1.0 ±0.2Vp-p	1.0 ±0.2Vp-p
Alarm I/O	7 In, 2 Out	7 In, 2 Out	7 In, 2 Out
Operating Temp	-51° to +70°	-51° to +70°	-51° to +70°
Power	24VAC; 50W Outdoor Model	24VAC; 50W Outdoor Model	24VAC; 50W Outdoor Model
Weatherproof Rate	IP66 Outdoor Model	IP66 Outdoor Model	IP66 Outdoor Model
Dimensions (mm)	218 (D) x 306 (H) (including bracket)	218 (D) x 306 (H) (including bracket)	218 (D) x 306 (H) (including bracket)



Recessed Mount Indoor Model



Surface Mount Indoor Model

ORDERING INFORMATION

E-588-

Camera	Format	Housing	INTERFACE
N 22X Colour	P PAL	0 Wall mount, indoor, clear	R RS485
C 22X Colour		1 Wall mount, indoor, smoked	M Manchester,
E 23X Colour/Mono		3 Ceiling, recessed mount, clear	P Bi-Phase
		4 Ceiling, recessed mount, smoked	C Coaxitron
		6 Wall mount, outdoor, clear	
		7 Wall mount, outdoor, smoked	
		K Ceiling, surface, indoor smoked	
		J Ceiling, surface, indoor, clear	

Example: E-588CP7R

OPTIONAL ACCESSORIES

MODEL	Description
E-M013-01	Wall Mount bracket For Speed Dome
E-M023-00	Pendant Mount bracket For Speed Dome
E-SW12-012	Pole Mount bracket For Speed Dome
E-SW12-013	Corner Mount bracket For Speed Dome
E-BR-103	Ceiling Mounting Bracket for Speed Dome

OPTIONAL MOUNTING HARDWARE



E-M013-01
Wall Bracket



E-M023-00
Pendant Mount
Bracket

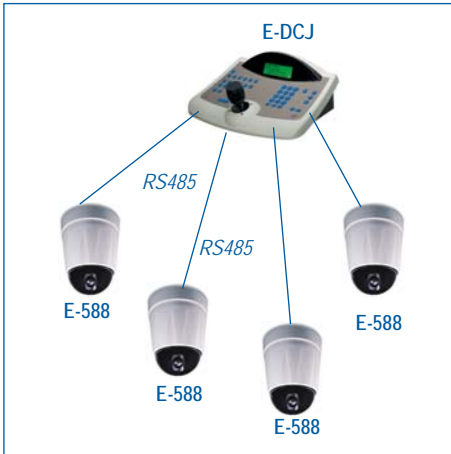


E-SW12-013
Corner Bracket
Adaptor

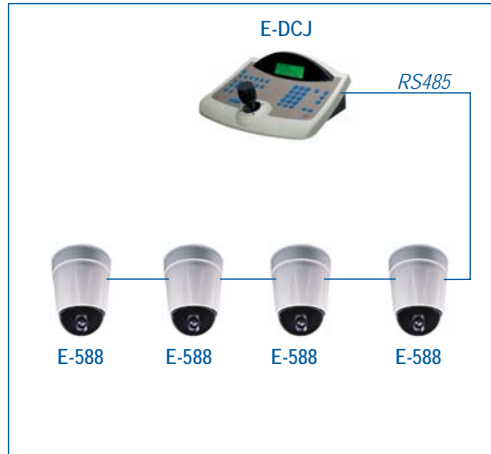


E-SW12-012
Pole Bracket
Adaptor

Star Configuration



Daisy Chain Configuration



OPTIONAL DOME COVERS



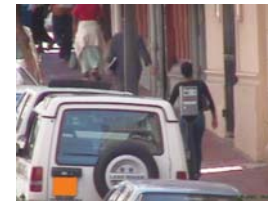
Vandalproof - For Exposed Areas



Gold Dome -
For Casino Applications



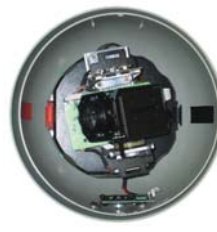
Zoom At 4 mm
Focal Length



Zoom At 88 mm
Focal Length
Approximate Distance =
70 metres



E-588-EP7



E-588-EPK



E-DR3CL 3" Mini Speed Dome Camera - Indoor

The **E-DR3CL** is a mini speed dome camera with fixed lens. It is ideal for indoor applications requiring roaming surveillance in a compact low cost package. Typical installations include supermarkets, retail shops, mines, casinos and other sites where one has a large traffic of people. The dome is ceiling mounted and features 355° pan and 90° tilt.

Featuring a fixed focal length lens, the speed dome's camera is DSP based and provides a sharp image with 380 TVL (470 TVL software enhanced). Supplied as standard with a 6mm lens, one can also choose from any of our other board lenses from 2.5 to 25mm. Other camera features include auto backlight compensation, AGC and auto white balance.

Controlled via RS485 from a control keyboard or PC, this camera features unique multi-protocol support. Protocols supported include Pelco, Kalatel, Molyx, Lilin, Vicon, Ernitec, VCL, Diamond and more. This enables the dome to be used in an existing camera installation with most makes of controllers or in a new installation controlled by one of our DVRs.

The integrated PTZ receiver allows programming of up to 64 preset positions and the capability of auto patrolling to a set sequence.



MODEL	E-DR3CL
Lens	6 mm (F2.0) Fixed Focal Length (others available)
Sensor	1/4" CCD
Resolution	380 TVL (software enhanced to 470 TVL)
Min. Illumination	1 lux
S/N Ratio	52dB min (60dB Typ)
AGC/ATW/BLC	On/off switchable
Video Output	1V p-p 75ohm
Shutter Speed	1/50-1/120,000
Pan Speed	Variable 4.5° to 45°/sec
Pan Range	0° to 355°
Tilt Speed	Variable 4.5° to 45°/sec
Tilt Range	0° to 90°
Presets	64 individual programmable positions with Auto Tour
Protocols Supported	Kalatel, Ernitec, Lillin, VCL, Pelco, Molunx, SAE, Vicon.
Data Interface	RS485 @ 2400, 4800 or 9600 bps
Voltage & Current	12VDC; 800mA
Operating Temp	0° to 40° C
Weight	700 g
Dimensions (mm)	160 (D) x 120 (H)

Vandalproof Outdoor Version

The **E-DR3NT** is an outdoor vandal-proof mini dome.

FEATURES

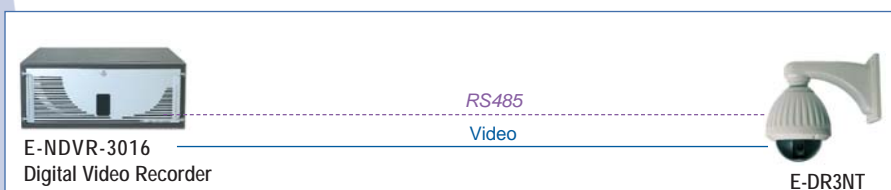
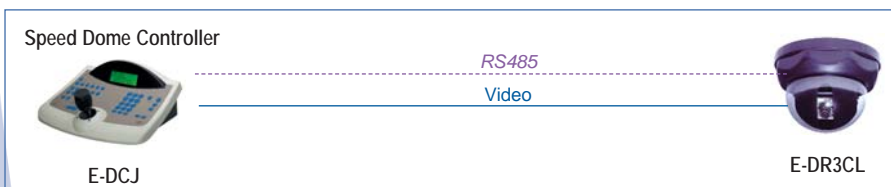
- ⊕ Camera specifications as per indoor model
- ⊕ High impact metal dome housing
- ⊕ Polycarbonate dome cover
- ⊕ 215 (D) x 160(H) mm
- ⊕ Weight: 1.7kg



OPTIONAL ACCESSORIES

MODEL	Description
E-DCJ	PTZ Camera and Matrix Control Keyboard with Joystick

Typical Configurations



E-933 Miniature Pan/Tilt/Zoom Dome Camera

An amazingly innovative product, the **E-933** is a miniature speed dome for indoor applications. The camera can be panned 350° and tilted up and down through a 90° angle. An integrated motorised zoom lens allows remote adjustment between a focal length of 4.2 & 12.7 mm. Control of the camera is via an RS485 interface from a digital video recorder or from a joystick controller. The camera gives out a standard video signal which can be recorded on a DVR or displayed on a monitor. Housed in a plastic enclosure, the dome is suitable for ceiling mount and operates off 12VDC.



The E-933 is an extremely cost-effective product for customers needing a motorised surveillance camera at a reasonable price. Typical applications include use in retail stores and for clients not sure of exact camera positions and views when installing.

MODEL	E-933	BLC	On / Off
Lens	Built-in 3X Optical Zoom Lens (4.2~12.7mm, F2.6~4.3)	Camera ID preset ID, camera ID	Up to 8 characters On-screen set-up menu.
Sensor	1/3" CCD	Panning Range	350°
Resolution	480 TVL	Panning Speed	Max. 144 degree/s at preset mode.
Video Output	1.0 Vp-p, 75Ω	Tilting Range	0° ~ 90°
S/N Ratio	Greater than 48dB (AGC off)		16 preset positions.
Minimum Illumination	1.5 Lux / F2.6	Control Interface	RS485 (Pelco D Protocol)
Zoom Speed	Approx. 1s (Tele/Wide) in manual mode	Operating Temperature	0°C ~ 40°C
Aperature	F2.6(Wide Mode) ~ 4.3(Tele Mode)	Power Source	12VDC
Angular Field of View	26.7° ~80°	Current Consumption	400mA (Pan/Tilt Active)
Focus	Auto Focus or Manual	Weight Approx.	320g
Electronic Shutter	1/60 (1/50) to 1/100,000 sec.	Dimensions	105 (D) x 105 (H) mm
White Balance	ATW Mode		
Mirror	On/Off		
AGC	On (low, mid, high) or Off Mode		

Typical Configuration

Speed Dome Controller



E-DCJ

Video

RS485



Video Monitor



E-933

E-DC2003 Indoor PTZ Video Conferencing Camera

The **E-DC2003** is a compact indoor pan/tilt/zoom camera. It can typically be used for applications including video conferencing, ID card photography, machine vision and of course remote video surveillance.

A compact well designed product, the E-DC2003 combines a 1/3" hi-resolution colour CCD camera and swiss-made DC motors giving the camera low noise pan/tilt performance and good positioning accuracy. An integrated 12x optical lens provides fast and stable auto focus. Other camera features include auto exposure control, backlight compensation and automatic white balance. Up to 64 preset camera pan/tilt/zoom/focus positions can also be stored onboard for later recall.

The Video output signal from the camera is a standard composite video signal or an S-Video signal.

Featuring a Sony VISCA control interface, the E-DC2003 can be controlled by any software application supporting the Sony VISCA protocol. This includes our EagleDVR product which has this support. When combined with the EagleDVR, the user has the perfect system for remote camera control and monitoring over LAN.



MODEL	E-DC2003	S/N Ratio	More than 48 dB
Lens	Integrated 120X (12X optical, 10X digital),	Pan/Tilt Range	±160°
Sensor	1/3" CCD	Tilt Range	±25° (in 0.05 degrees increments)
Pixel Format	795x596; (470,000 Pixels)	Pan Speed	Max 80°/s
Effective Pixels	752x582; (440,000 Pixels)	Tilt Speed	Max 50°/s
Horizontal Resolution	470TVL	Video Output	Composite Video (RCA) & Y/C S-Video (Mini Din)
Lens Focal Length	F=5.4 ~ 64.8mm (F1.8 ~2.5)	Power	9~15VDC (12VDC recommended - PSU included)
Horizontal Angle of View	5° (Tele) 57° (Wide)	Power Consumption	12W @ 12VDC
Minimum Object Distance	100 mm (wide end), 800 mm (tele end)	Operating Temperature	0° to 40°C
Minimum Illumination	1 lux (F1.8)	Weight	1.1 Kg
Auto Exposure	Auto/Manual/ AE mode	Dimensions	143 x 158 x 134 mm
Shutter Speed	1/50 to 1/10,000 s		
White Balance	Auto/Manual, One Push auto white balance		

E-MICI-400 Rugged Day/Night Speed Dome Camera - IP68

The **E-MICI-400** dome is a unique concept in dome camera design. This compact pan/tilt/zoom camera has been designed to be used in areas where standard speed domes and PTZ cameras cannot survive or are not suitable.

Completely weatherproof the units are rated to IP68 and can be used submerged in one metre of water. They are virtually vandalproof and constructed from 6 mm aluminium. Pre-coated with alachrone this makes them resistant to impact from stones, bricks, air gun pellets and even shot guns.

A wide range of mounting options are available. These include vehicle mounts, top-of-pole mounts and mounting options which are not possible with conventional speed dome cameras.

Many CCTV PTZ cameras use potentiometers (Pots) with wipers for positioning which are limited in both life and accuracy. The E-MICI-400 uses resolvers (a contact less positioning sensor) which results in extremely accurate presets and no life limitation on preset tours. The superior performance of the resolver system allows the camera to return with pinpoint accuracy to the same preset position even at high zoom settings.

A built-in high resolution colour camera and lens unit, with optical zoom and digital enhancements, complete the design making it virtually a "plug and play" device thus cutting down installation time. Options for the E-MICI-400 include an external wiper, as well as, a range of infra-red illuminators which can be supplied fitted to the unit.



FEATURES

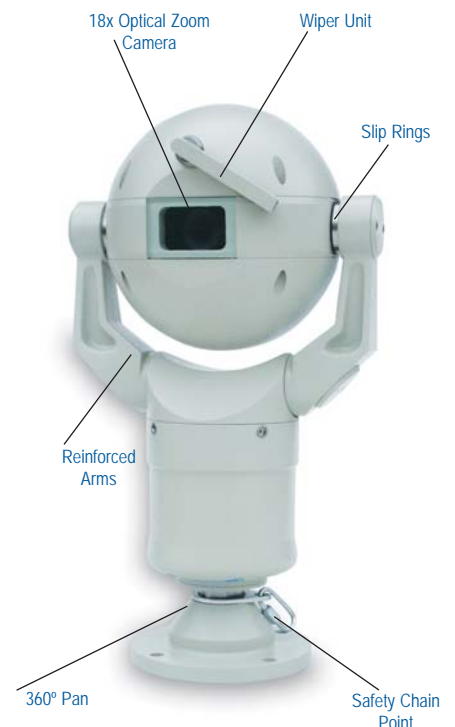
- ⊕ **COMPACT SIZE** 360 mm high
- ⊕ **ROBUST AND VANDALPROOF** 6 mm machined alachron coated
- ⊕ **IP68 WATERPROOF** Completely submergible
- ⊕ **HIGH QUALITY OPTICS** 18X Optical Zoom with flat window providing distortion-free optics
- ⊕ **HIGHLY CONTROLLABLE** Closed loop DC motor provides fine motor control at maximum zoom levels
- ⊕ **ACCURATE** High precision resolvers provide accurate repeatable positioning of 0.08°
- ⊕ **EASY INTERFACING** Flexible protocol options allow communication with different makes of control systems
- ⊕ **COMPLETELY INTEGRATED** Combined camera, zoom lens, motor-drive and telemetry receiver
- ⊕ **TOUGHENED GLASS** Window using tempered glass



E-MICI-400
Standard Model

E-MICI-400
45° Model

MODEL	E-MICI-400
Lens	F1.4 f= 4.1 mm to 73.8 mm Colour Mode: 0.7 Lux & 0.05 Lux (Slow Shutter 3 FPS) B&W Mode: <0.01 Lux (Slow Shutter 3 FPS)
Sensor	1/4" Sony CCD
Pixels	768 x 494
Resolution	460 TVL
S/N Ratio	50dB
Zoom	18x optical, 12x digital zoom
Min Illumination	0.2 Lux (mono) @ 25 FPS, 0.01 Lux (mono) at 3 FPS, 3 lux (colour)
Angle of view	48 ° @ wide, 2.7 ° @ optical telephoto
Housing	Waterproof (IP68 rated) & Vandal Resistant
Material	Epoxy Coated Aluminium Alloy (Std), Shafts & Fixings are Stainless Steel
Pre-set Positions	64 Internally stored, 10 camera mode preset configurable via telemetry, for colour & night vision correction
Speed	Max: 90 ° / Sec; Min: 0.5 ° / Sec
Control Interface	RS485/422 Videmech Universal, VCL, Philips, Enitech, Vicon.
Power	15Vrms AC (Peak current = 1.4A Nominal = 405mA)
Colours	Jet Black, Signal White, Silver Grey
Operating Temp	-15° ~ +45° C
Weight	4.5 kg
Dimensions (mm)	Camera housing: 145 mm (Diam) Overall: 360 (H) x 205 (W)



E-MIC1-400 Rugged Day/Night Speed Dome Camera - IP68

2000
Produced
Since
1998

APPLICATIONS

- ⊕ **Traditional CCTV:** Town Centres, Car Parks, Railway Stations, Shopping Malls
- ⊕ **Broadcast:** Big Brother series, Sport Events, Music Concerts
- ⊕ **Rapid Deployment:** Police Vehicles, Building Site Security, Perimeter Security, Temporary Installations
- ⊕ **Hazardous Environments:** Nuclear, Seafronts, Harbours, Shipping
- ⊕ **Defence:** Military Vehicles, Naval Vessels
- ⊕ **Prestigious Developments:** Museums, Visitor centres, Science parks, Art Galleries
- ⊕ **Hostile Environments:** Informal Settlements, Highways
- ⊕ **High Security:** Government Buildings



E-MIC1-400
Jet Black Version
With Thermal Imager



E-MIC1-400
Stainless Steel Version

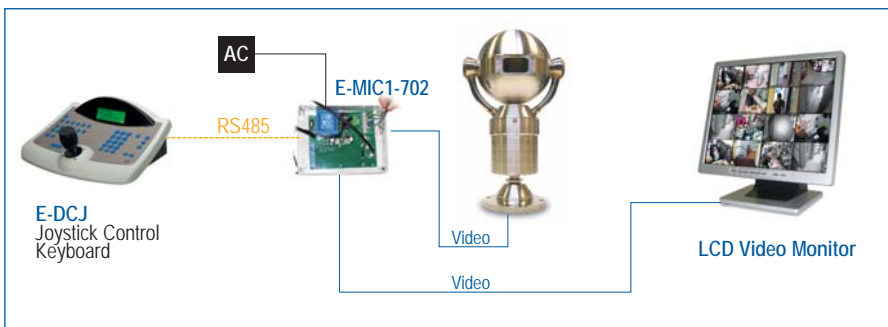


E-MIC1-400
Mast Mounting



E-MIC1-400
Roof Mounted Options

Typical Control Configuration



E-MIC1-702
PSU & Interface Unit



E-MIC1-400
With Conduit Base

MODEL	Description
E-MIC1-400	IP68 Rugged PTZ Camera
E-MIC1-400S	IP68 Rugged PTZ Camera - Stainless Steel Version
E-MIC1-400U	IP68 Rugged PTZ Camera - Underwater Submergible Version
E-MIC1-400-041	External Wiper Option
E-MIC1-400-041S	External Wiper Option - Stainless Steel Version
E-MIC1-400-044	Internal Heater Option
E-MIC1-702-240D	240VAC Input PSU & Interface Unit
E-MIC1-702-024D	24VAC Input PSU & Interface Unit
E-MIC1-400-026	4" PCD Mounting Base
E-MIC1-400-026S	4" PCD Mounting Base - Stainless Steel Version
E-MIC1-400-222	Medium Weight Wall Bracket
E-MIC1-400-032	4" PCD Mounting Base Conduit Adaptor

Please Indicate Colour when Ordering

E-PATROL-CCTV Day/Night Mobile Vehicle PTZ Camera & Display Controller

The **E-PATROL-CCTV** is a ruggedised pan and tilt zoom camera system for all-weather-use.

It is ideal for police operations, covert surveillance or intelligence / military use. This day/night video system enhances the user's vision of the outside world and can operate on fixed or mobile platforms. Constructed of aluminium, stainless steel, rubber and glass, E-PATROL-CCTV is virtually indestructible. For low light operation, the camera can be supplied with a high-intensity halogen NIR beam lamp which works in conjunction with the NIR camera filter.

Inside the vehicle is a hand operated display-controller. This controller features a 5.6" TFT LCD video monitor with PTZ camera joystick and controls for zoom and focus. A single cable connection connects the camera and display/control unit ensuring easy installation.



Vehicle Mount

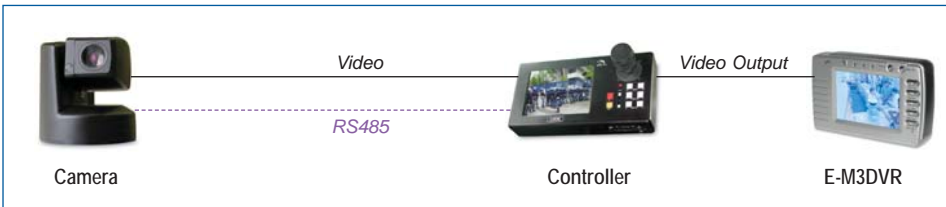


FEATURES

Features include inertial stabilization for mobile use, a quick disconnect mounting system, for roof racks and a near-infra-red filter for day/night operation modes. The image stabilization feature ensures a clear and jitter free video picture when the vehicle is on the move or in pursuit of a subject.

- ⊕ Auto Focus, Time/Date Stamp
- ⊕ Video Monitor with 5.6" TFT LCD & Joystick Controller
- ⊕ Optional Accessories: NIR illuminator, wiper, nitrogen pressurised camera housing
- ⊕ Optional NIR illuminator: 50W Halogen, 4° spot, 50 m Range (760nm)

Typical Configuration



CAMERA SPECIFICATIONS

Sensor	Sony FCB-EX780S CCD Camera
Zoom	25x Optical; 12x Digital
Resolution	460 TVL (PAL)
Light Sensitivity	3.0 lux (Colour); 0.02 lux (NIR filter mode)
Near-Infra-Red Filter	On/off switchable
Pan/Tilt Angle	340° / 240°
Pan/Tilt Speed	0.5°-80° per sec / 0.3°-30° per sec
Operating Temperature	-20 to 70°C
Operating Vibration	3grams 3 axis, 5 to 1000Hz
Power	11.5 to 18 VDC (500mA, 2.0A Peak)
MTBF	2 years (300,000 movements)
Weight	4.5kg
Dimensions (mm)	180 (Diam) x 200 (H)

CONTROLLER SPECIFICATIONS

Display	5.5" TFT (320 x 240); 250 NIT
Housing Material	Aluminium
Power	11.5 - 18VDC (1.3 A Vibration; 1 grams 3 axis)
Operating Temp	0 to 50°C
Joystick	Pan/Tilt/Zoom
Electr. Gearing	3 Speed, Push-button
Imaging Mode	Colour/NIR Push-button
Focus	Auto/Manual Push-button
Zoom	Twist Joystick
Image Stability	Toggle On/Off Push-button
Connectors	2x RCA (Video & Audio); HiDEF (Camera)
Weight	2.2kg
Dimensions (mm)	140 x 220 x 30

MODEL	Description
E-PATROL-CCTV-DN	Day/Night Mobile Vehicle PTZ Camera & Display Controller Includes PTZ Camera, 5.6" TFT LCD Joystick Controller, Vehicle Mounting Bracket & Cables

OPTIONAL ACCESSORIES MODEL	Description
E-PATROL-CCTV-ENCODE	Encoder for pan/tilt feedback fitted to E-PATROL-CCTV camera unit
E-PATROL-CCTV-NIR	Near-infra-red Illuminator for Vehicle PTZ Camera - 50m range
E-PATROL-CCTV-NITRO	E-PATROL-CCTV Housing Pressurised with Nitrogen
E-PATROL-CCTV-WIPER	Wiper for E-PATROL-CCTV PTZ Camera

E-901 Colour Hi-Res Dome Camera - Vari-Focal Auto Iris Lens

The **E-901** is a high resolution colour dome camera with vari-focal auto iris lens. It is suitable for ceiling or wall mounting and is constructed of white plastic with a clear dome.

Features include a **Panasonic** Colour CCD, backlight compensation, low light operation and easy installation. The integrated lens can be adjusted from 4.0 to 9 mm. This allows the installer to adjust the camera's focal length to better suit the application. Aesthetically pleasing, this camera will not look out of place in an office, hospital, fashion boutique or hi-tech home.

As an added feature, the E-901 has a built-in audio microphone.

MODEL	E-901
Lens	4 ~ 9 mm Vari-focal Auto-Iris
Sensor	1/3" Colour CCD
Resolution	480 TVL
S/N	> 48dB
Auto White Balance	On/Off
Backlight Compensation	On/Off
Auto Gain Control	On/Off
Min Illumination	0.5 Lux (F1.6)
Min. Illumination	Auto 2500 ~ 9500K
Iris	F1.6 - 360
Audio	Integrated Pre-Amplified Microphone
Voltage & Current	12VDC; 120mA
Operating Temp.	0° ~ 50° C
Weight	27 g
Dimensions (mm)	131 (W) x 85 (H) X 122 (L)



At 4 mm Focal Length



At 9 mm Focal Length

E-83KR11P-CB Ceiling Mount Hi-Res Colour Dome Camera

The **E-83KR11P-CB** is a high resolution colour dome camera for ceiling mounting. It is the ideal surveillance camera for indoor use in areas such as offices, retail stores, schools etc. Features include auto white balance, AGC, BLC, digital zoom and mirror function. All of these are on/off switchable via the camera's DIP-switch. Board lenses are inter-changeable and can be found in the board lens section.

MODEL	E-83KR11P-CB
Lens	3.6 mm (F2.0) Board
Sensor	1/3" CCD
Colour or Monochrome	Colour
Viewing Angle	67°
Resolution	470 TVL
S/N Ratio	52dB (min.); 60dB (typ.) (AGC off)
Min Illumination	0.8 lux (F2.0)
Auto White Balance	Yes
Voltage & Current	12VDC; 120mA
Dimensions (mm)	109 (Diam) x 90 (H)



2.1mm DC Socket; BNC Female

See **Board Lenses** on pg. 7

E-302 / E-682 Mini Dome Cameras

Our plastic dome cameras are versatile, unobtrusive and easy to mount. They are able to mount on ceilings or walls and feature an electronic iris, as well as auto white balance (E-682). For a different focal length, select one of our board lenses.

MODEL	E-302	E-682
Lens	3.6 mm (F2.0) Board	3.6 mm (F2.0) Board
Sensor	1/3" CCD	1/4" CCD
Colour or Monochrome	Monochrome	Colour
Viewing Angle	67°	52°
Resolution	380 TVL	350 TVL
S/N Ratio	46dB	48dB
Min Illumination	0.5 lux (F2.0)	1 lux (F2.0)
Auto White Balance	-	Yes
Voltage & Current	12VDC; 110mA	12VDC; 80mA
Dimensions (mm)	87 (Diam) x 60 (H)	87 (Diam) x 60 (H)



E-DDOME *Dummy Dome*

The **E-DDOME** is a dome housing with a non-functional camera inside. It can be ceiling or wall mounted and is an addition to your camera system as a deterrent in areas not covered by real cameras.

MODEL	Description
E-DDOME	Dummy Dome (86 x 60 mm)



E-345A / E-445A *Smoke Detector Camera*

A smoke detector is an everyday item, which doesn't look out of place in an office, factory or workshop. Except this one hides a covert monochrome or colour CCD camera.

Due to it being ceiling mounted, the camera provides an excellent above head-height coverage of a room. The integrated camera peeks out of the side of the unit. To keep with its appearance, the unit has an LED which is illuminated. Both models include an audio microphone and feature standard composite video output. As an option, one can have the unit fitted with a wireless transmitter.

MODEL	E-345A	E-445A
Lens	3.6 mm (F2.0) Board	3.6 mm (F2.0) Board
Sensor	1/3" Monochrome CCD	1/4" Colour CCD
Viewing Angle	67°	52°
Resolution	420 TVL	380 TVL
Min Illumination	0.05 lux (F2.0)	1 lux (F2.0)
S/N Ratio	48dB	48dB
Audio	Yes	Yes
Voltage & Current	12VDC; 130mA	12VDC; 150mA
Dimensions (mm)	127 (Diam) x 58 (H)	127 (Diam) x 58 (H)

MODEL	Description
E-345A	Smoke Detector B/W Camera - 420 TV lines - 0.2 lux - Audio
E-455A	Smoke Detector Color Camera - 380 TV lines - 1 lux - Audio
E-1345XA-CASE	Smoke Detector Camera Empty Housing



Non-functional Smoke Detector



2.1mm DC Socket; BNC Female

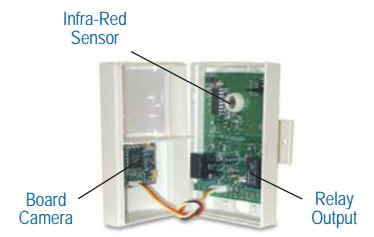
See Board Lenses on pg. 7

E-802 / E-828 *PIR Camera*

The **E-802** and **E-828** are working passive infra-red sensor units with built-in pinhole cameras. Two models are available, a colour 1/4" model and a 1/3" B/W unit. Very discrete, the units look like a standard wall mount alarm sensor. The sensor part functions as normal and has a relay output to activate an alarm, lamp, time lapse recorder or DVR.

Both models now feature an on board pre-amplified microphone allowing audio to be monitored. As an option, one can have the unit fitted with an integrated wireless transmitter.

MODEL	E-802	E-828
Lens	3.7 mm (F2.0) Pinhole	3.7 mm (F2.0) Pinhole
Sensor	1/3"	1/4"
Viewing Angle	65°	51°
Colour or Monochrome	Monochrome	Colour
Resolution	380 TVL	350 TVL
Min Illumination	0.25 lux (F2.0)	1 lux (F2.0)
S/N Ratio	48dB	48dB
PIR Sensor Range	110° @ 12m	110° @ 12m
Relay Contact Output	N.C/N.O 30VDC @ 5A	N.C/N.O 30VDC @ 5A
Voltage & Current	12VDC; 150mA	12VDC; 150mA
Audio Microphone	Yes	Yes
Dimensions (mm)	110 (L) x 70 (W) x 49 (D)	110 (L) x 70 (W) x 49 (D)



2.1mm DC Socket; BNC Female

See Board Lenses on pg. 7

E-MEMOCAM+ Intelligent B/W PIR Camera - with Motion Detection

The **E-MEMOCAM+** is a covert digital video recorder with removable memory card. It comprises of a pinhole B/W CCD camera, digital video recording module with smart motion detection, all built into a standard fully working PIR.

In addition to the built in camera, the 2 additional video inputs allow the connection of 2 additional B/W cameras. The video output enables you to connect a monitor to the E-MEMOCAM+, allowing the user to view video frames from a selected camera. This feature simplifies the installation process and offers an additional monitoring feature.

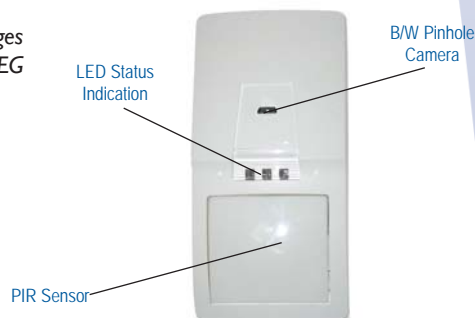
The E-MEMOCAM+ automatically records events on the memory card following an alarm. The recording can be activated by an external open contact, an internal PIR detector, the internal video motion detection or by an external remote control unit.

Each camera is equipped with a remote control unit which can be used to arm, disarm (code-protected), record a frame or access preset functions.

To analyse the recorded events, the memory card can be removed from the unit and images downloaded to a PC using a Memory Card Reader (E-MEMREADER). Images are in standard JPEG format and feature a digital watermark for authentication.



Wall Mount Bracket



Specifications

CAMERA

- ⊕ Camera - B/W 1/3" 420TVL CCD
- ⊕ Lens - 3.7 mm (F2.0)
- ⊕ Min Illumination - 0.1 Lux (F2.0)
- ⊕ S/N Ratio - Better than 48db
- ⊕ External Video Inputs - 2 x Composite Video
- ⊕ External Video Output - 1 x Composite Video

DIGITAL VIDEO CAPTURE

- ⊕ Storage Medium - Removable MMC Memory Card 16MB (std), 32MB, 64MB, 128MB (available)
- ⊕ Typical Capturing Quantity - 1500 images (8MB) 6000 images (32MB)
- ⊕ Picture Format - JPEG with automatic Thumbnails Support
- ⊕ Quality Options - Medium, Good, High and Super modes, (from 5k up to 20k)
- ⊕ Watermarking - Digital Signature for each image
- ⊕ Recording Rate - From 3 images/sec to 1 image per 5 minutes
- ⊕ Recording Options - Fixed (Until memory is full) or Cyclic (Records Over)

ALARM ACTIVATION

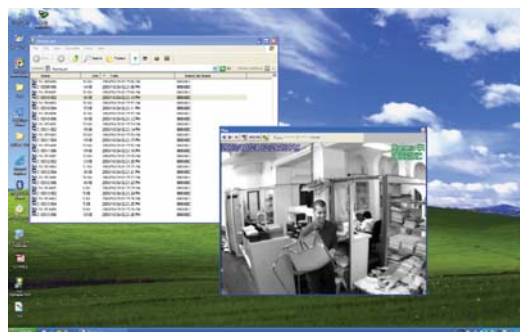
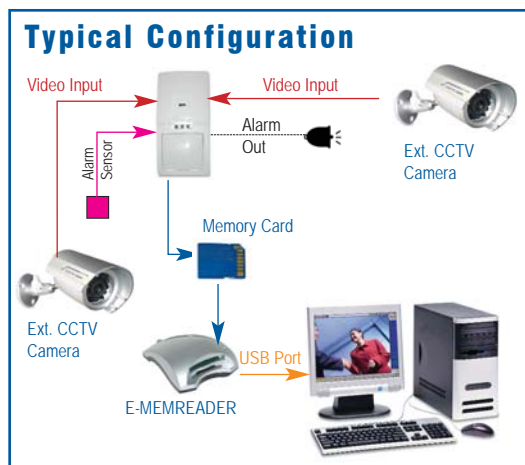
- ⊕ Dual-Element PIR Detector - Built-in
- ⊕ External Alarm Input - Isolated dry contact input
- ⊕ Relay Output - 28VDC @ 0.1A with 10ohm serial resistor (opens for 1.6 sec)
- ⊕ Tamper switch - If cover is removed
- ⊕ Delay time between alarm triggers - 1 sec to 5 minutes
- ⊕ Number of images per event - 1 to 100 images
- ⊕ PIRCoverage - Wide angle 90deg (18 m x 18 m)

POWER

- ⊕ Optional Separated Power feeds - For PIR and Recording module sections
- ⊕ EMI Protection - 50,000V of electric interference from lightning or surge
- ⊕ Power consumption - 12VDC @ 500mA (Typ.) 30mA @12VDC (PIR only)

OTHER

- ⊕ External dimensions - 67 x 135 x 65 mm (W x H x D)
- ⊕ Weight (excluding base) - 250 g



Play-back Software

MODEL	Description
E-MEMOCAM+	Intelligent B/W PIR Camera - with Motion Detection - Includes a 16MB Memory Card for approx 2500 images
E-MEMREADER	USB Memory Card Reader for use with E-MEMOCAM+

E-301D Monochrome CS Mount Camera Body

For general purpose indoor/outdoor applications, the **E-301D** can accept a variety of video or DC-drive CS mount auto-iris lenses. It features an automatic electronic shutter when used with fixed iris manual lenses.

- ⊕ Automatic gain control
- ⊕ High sensitivity microphone
- ⊕ Video & DC Iris lenses supported
- ⊕ Auto-Iris / Electronic Shutter

MODEL	E-301D
Sensor	1/3" B/W Samsung CCD
Resolution (H)	380 TVL
Min Illumination	0.25 lux (F1.4); 0.125 lux (F1.0)
S/N Ratio	48dB (AGC off)
Voltage & Current	12VDC; 160mA
Weight	360 g
Dimensions (mm)	108 (L) x 62 (W) x 50 (H)



380 TV Lines

2.1mm DC Socket; BNC Female



E-6311XP/E-7311CP-H Colour Low Light CS Mount Camera Body - Standard & Hi-Res Models

The **E-6311XP**, **E-6311XP-H** & **E-7311XP-H** are general purpose low light colour CS mount cameras for surveillance or imaging applications.

A high quality image is produced by the 10 bit DSP processor and digital circuitry. It also features a special EX-View CCD sensor from Matsushita which provides usable images down to a very low light level making it the perfect indoor or outdoor security camera.

The camera can be used with any of our CS mount lenses and features support for both DC and video drive auto-iris lenses. Other features include automatic backlight compensation, AGC and image mirror function.

A new version, the E-7311XP-H is a slimline version of the camera for space sensitive applications or for use with compact camera housings.



Back Focus Ring

2.1mm DC Socket; BNC Female

SPECIFICATIONS	
Sensor	1/3" Colour Matsushita CCD
Resolution (Standard)	380 TVL Horizontal (470 with DSP enhancement)
Resolution (Hi-Res)	480 TVL Horizontal (520 with DSP enhancement)
White Balance Mode	ATW/AWC Switchable (Zero colour rolling)
White Balance Range	3200 - 10000°K
Min Illumination	0.2 lux (F1.0); 0.4 lux (F1.4); 0.6 lux (F1.6)
S/N Ratio	60dB (typ.) 52dB (min.) (AGC off)
Electronic Shutter	1/50-1/120,000 sec
Iris Type	Automatic Electronic Shutter (AES) Direct Drive or Video Drive Auto Iris (DC)
Voltage & Current	12VDC; 160mA
Operating Temperature	-20°C ~ +55°C
Weight	360 g
Dimensions (mm)	50 (W) x 64.5 (H) x 116 (L) (E-6311XP & E-6311XP-H)
Dimensions (mm)	50 (W) x 64.5 (H) x 66 (L) (E-7311XP)



Auto-Iris Level Setting



MODEL	Description
E-6311XP	Colour Low Light CS Mount Camera Body (Std Res Model)
E-6311XP-H	Colour Low Light CS Mount Camera Body (Hi-Res Model)
E-7311XP-H	Compact Colour Low Light CS Mount Camera Body (Hi-Res Model)



E-6311XP-H With Lens



E-7311XP-H With Lens

STARLIGHT TECHNOLOGY

The **E-63V1/E-13V1** features special 'starlight' technology which allows it to provide a clear colour image under low lighting conditions. With this, the onboard DSP allows the shutter speed to go lower than the normal exposure mode of 1/160 or 1/150 sec. This allows photons to be accumulated for 2 to 128 times longer than normal. Thus the minimum illumination is increased by a factor of 2 to 128 times.

The user can turn on the 'starlight' mode (slow shutter frame integration) via the on-screen-display buttons. In the 'starlight' mode under decreasing lighting conditions, the AGC attempts to compensate until it cannot maintain the 100 IRE video level. The 'starlight' mode then kicks in and the shutter speed starts to drop from 1/160 to 1/130, 1/115, 1/118 1/4 1/2, 1, 2, 4, 8 ... and all the way down to 1~10 sec.

One can set the camera for AGC mode or for SLOW SHUTTER mode. The shutter priority mode is used in machine vision and astronomical applications especially for steady object observation, and where good picture quality is the priority. AGC priority mode is used for surveillance, traffic control and military applications where fluid motion pictures are important.

SUPER BACKLIGHT COMPENSATION

Another important feature of the E-63V1 is the advanced backlight compensation (Super BLC). This function provides perfect camera exposure for an object in front of strong background lighting. Thus preventing the main object from being too dark to see. Onboard intelligence provided by the DSP allows the camera to change the BLC 'weight' zone from the center to any portion of the screen automatically following the main object's movement.

FEATURES

Features include excellent S/N ratio (60dB typ), Camera Titles, Digital Zoom, Camera Mirror and a choice of Composite Video or S-VHS (Y/C) Outputs.

- ⊕ 10-Bit A/D for excellent gamma correction
- ⊕ On-Screen-Display Menu
- ⊕ Composite Video & S-VHS (Y/C) Output
- ⊕ 48-Zone Back Light Compensation Function
- ⊕ High Speed DSP (20 Mips)
- ⊕ 4 Camera Privacy Masking areas
- ⊕ 2x Digital Zoom
- ⊕ Camera titles



Back Focus Ring



On-Screen Display

Video Out

S-Video Output

12VDC Operation

2.1mm DC Socket; BNC Female; Mini-DIN

SPECIFICATIONS	E-63V1/E-13V1
Sensor	1/3" CCD Sensor
Resolution	470 TVL (Colour); 600 TVL (Monochrome)
CCD Pixels (H x V)	795 x 596
Dynamic Range	10:1 (typ.); 7:1 (min.)
Min Illum (Normal mode)	E-63V1 = 0.4 lux (F1.4); 0.2 lux (F1.0); 0.6 lux (F1.6) E-13V1 = 0.04 lux (F1.4); 0.02 lux (F1.0); 0.06 lux (F1.6)
Min Illum (Starlight Mode)	E-63V1 = 0.01 lux (F1.4); 0.005 lux (F1.0); 0.014 lux (F1.6) E-13V1 = 0.001 lux (F1.4); 0.0005 lux (F1.0); 0.0014 lux (F1.6)
White Balance	ATW, AWB or Fixed (Range 3200-10000°K)
Automatic Gain Control	0-18dB
S/N Ratio	60dB (typ.); 52dB (min.) (AGC off)
Electronic Shutter	1/50-1/120,000sec
Iris Type	Automatic Electronic Shutter (AES) or Direct Drive Auto Iris (DC)
Voltage & Current	12VDC; 180mA
Operating Temp	-20° to 50°C
Dimensions (mm)	50 (W) x 50 (H) x 115 (L)

MODEL	Description
E-63V1	1/3" Colour Low Light CS Mount Camera Body
E-13V1	1/3" B/W Low Light CS Mount Camera Body

OPTIONAL ACCESSORY MODEL	Description
E-13VG308AS	Low Light Vari-Focal Lens (For more information see lenses section)



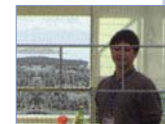
< 0.0035 Lux without Starlight Technology



< 0.0035 Lux with Starlight Technology



48 Zones BLC



7 Zones BLC



Super BLC



No BLC



4 Masking Areas

E-63W1 / E-62W1 Super Wide Dynamic CS Mount Camera Body

STARLIGHT TECHNOLOGY

Featuring the same 'starlight' technology as the E-63V1/E-13V1, the **E-63W1/E-13W1** is an extremely advanced super wide dynamic CCD camera. It is ideally suited for use in lighting conditions where there is a major contrast between lux levels.

SUPER WIDE DYNAMIC RANGE

It features a 280:1 dynamic range which is 90 times more than that of normal CCD cameras which only have a 3:1 dynamic range. Natural lighting outdoors can range from 120,000 lux to 0.00035 lux. While a camera can see from an indoor room to scenery outside a window, the indoor illumination may be 100 lux and the outdoor scenery may be 10,000 lux. The contrast is 100:1. This type of contrast is easy for the human eye, as it can handle 1000:1 contrast ratio. However for normal CCTV cameras, it is a major problem as the camera has to choose between a shutter mode to capture the light outdoors or a mode to capture the light indoors.

DOUBLE EXPOSURE TECHNOLOGY

Using double exposure technology at 50 frames/sec instead of the normal 25 frames/sec, this problem is overcome. The camera first takes an image of the darker area with a slow shutter speed such as 1/100 sec. This is stored in memory place one. It then uses a higher shutter speed such as 1/4000 sec to get the bright zone of the image and stores it in memory place two. The two images are then processed by the DSP and merged to create one image which is replayed and appears to the user as normal 25 frames/sec video.

SMEAR REJECTION FUNCTION

Another exciting feature of the E-63W1/E-13W1 is the smear-rejection function. This is particularly important when the camera is viewing an area where light is introduced into the picture that is much brighter than the norm. An example of this is monitoring a vehicle entrance or exit. On many normal CCD cameras, the vehicle's headlamps will cause the image to smear. With our camera, two images are taken at different shutter modes. The images are then processed by the DSP and merged to provide an image without smear.

FEATURES

- ⊕ 10-Bit A/D for excellent gamma correction
- ⊕ High Speed DSP (20 Mips)
- ⊕ Composite Video & S-VHS (Y/C) Output
- ⊕ On-Screen-Display Menu
- ⊕ 48-Zone Back Light Compensation Function

SPECIFICATIONS	E-63W1/E-13W1	E-62W1/E-12W1
Sensor	1/3" CCD Sensor	1/2" CCD Sensor
Min. Resolution	470 TVL (Colour)	600 TVL (Monochrome)
CCD Pixels (H x V)	795 x 596	
Dynamic Range	280:1 (48dB)	
Super Smear Rejection	154dB	
Min Illum (Normal mode)	0.6 lux (F1.4) 0.06 lux (F1.4)	0.3 lux (F1.0) 0.03 lux (F1.0)
Min Illum (Starlight Mode)	0.05 lux (F1.4) 0.005 lux (F1.4)	0.025 lux (F1.0) 0.0025 lux (F1.0)
White Balance	ATW, AWB or Fixed (Range 3200-10000°K)	
Automatic Gain Control	0-18dB	
S/N Ratio	60dB (typ.); 52dB (min.) (AGC off)	
Electronic Shutter	1/50-1/120,000sec	
Iris Type	Automatic Electronic Shutter (AES) or Direct Drive Auto Iris (DC)	
Voltage & Current	12VDC; 250mA	
Operating Temp	-20° to 50°C	
Dimensions (mm)	50 (W) x 50 (H) x 115 (L)	

MODEL	Description
E-63W1	1/3" Colour Super Wide Dynamic CS Mount Camera Body
E-13W1	1/3" Monochrome Super Wide Dynamic Mount CS Camera Body
E-62W1	1/2" Colour Super Wide Dynamic CS Mount Camera Body
E-12W1	1/2" Monochrome Super Wide Dynamic CS Mount Camera Body

OPTIONAL ACCESSORY MODEL	Description
E-13VG308AS	Low Light Vari-Focal Lens (For more information see lens section)



470 TV Lines



2.1mm DC Socket; BNC Female



Over exposure



Under exposure



Wide Dynamic Camera
Good exposure both
inside and outside



Smear image
on all normal
cameras



Smear rejection
function
License plate legible

E-631 IXP-HK IR Compatible Colour CS Mount Camera Body

The **E-631 IXP-HK** is a member of the reliable E-631 IXP family. This high resolution CS mount camera has the same specifications as the E-631 IXP-H, but with the addition of a special IR sensitive filter.

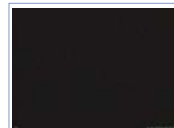
This selective filter allows in infra-red illumination which in turn allows the camera to display high quality colour images in day and black and white images under infra-red illumination. The IR illumination is beneficial for camera operation in areas of poor illumination or even in conditions of 0 lux.

We recommend the use of our infra-red CS mount lens, the E-13VG281 IASIR. This lens prevents focus shift when the camera moves from normal lighting conditions to infra-red illumination.



E-631 IXP-HK Fitted with E-13VG281 IASIR lens
Please Note: Lens not included

MODEL	Description
E-631 IXP-HK	Colour Low Light CS Mount Camera Body - IR Compatible



0 Lux No IR Present



Normal Colour Image Under Fluorescent Lighting



0 Lux With IR Illumination

E-45CSHRX Compact Day/Night CS Mount Camera

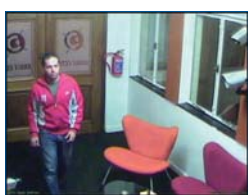
The **E-45CSHRX** is an extremely compact day/night camera for C or CS mount lenses. It features a high resolution Sony Ex-View CCD and a 10-bit DSP processor for high resolution low light surveillance. An integrated day/night circuit automatically switches over from colour to black and white at 2 lux. In the black and white mode the camera is able to provide better quality images at lower light levels such as at night. For extremely low light applications the camera is compatible with our range of 940 nm infra-red illuminators. Camera settings are performed manually via the rear dip switches.

These include on/off control for AGC, BLC and various white balance colour settings. The E-45CSHRX can operate off 12VDC or 24VAC and features settings for internal or external line-lock. It is also protected against reverse-polarity connection as well as limited voltage surges.

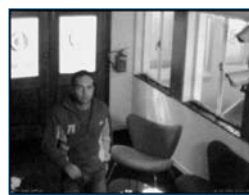


MODEL	E-45CSHRX
Sensor	1/3" Sony Ex-View CCD
Resolution	460 Horiz TVL
Min Illumination	0.01 lux (F1.2)
S/N Ratio	50db (AGC off)
AGC	On/off selectable
BLC	On/off selectable
White Balance	Auto or Manual 2100~9100K
Electronic Shutter Mode	Auto 1/50~1/100'000
Auto Iris	Video or DC Drive Support
Power	12VDC (11~40VDC) or 24VAC (9~30VAC)
Power Consumption	12VDC @ 150mA or 24VAC @ 110mA
Weight	310 g
Dimensions	50 x 50 x 115 mm

MODEL	Description
E-45CSHRX	Compact Day/Night CS Mount Camera



Colour



B/W



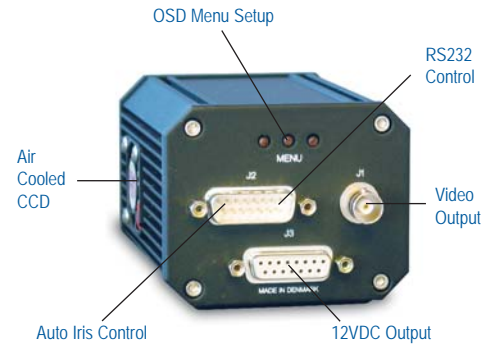
E-S221/E-S231/E-S321/E-S331 Low Light Hi-Res Air-Cooled CS Mount Cameras

FEATURES

- ⊕ **AIR-COOLED CCD SENSOR**
These cameras feature a special technique which transfers the heat off the cameras sensor to the outer sections of the camera housing, the result is an effective reduction of white pixels on the image and thus improved signal to noise ratio. To the user this equates to better quality images at lower light levels. The air-cooling also increases component life-time and reduces maintenance.
- ⊕ **HIGH RESOLUTION**
Well designed circuitry, high quality CCD sensors and excellent signal to noise ratio ensure these cameras provide high quality video for high-end imaging.
- ⊕ **QUASI-MILL SPEC**
Tested to Mill Specification these cameras are able to provide reliable operation in extreme environments. This include protection from dust ingress, vibration & shock proofing and a wide operating temperature range.
- ⊕ **PRECISION SENSOR PLACEMENT**
This feature gives an indication on the alignment of the CCD on the optical axis of the lens. The camera will only ensure optical tracking on the target, if the sensor is positioned exactly in the centre of the optic.



E-S221 - Front View



E-S221 - Back View

APPLICATIONS

- ⊕ Perimeter Protection
- ⊕ Defence Use
- ⊕ Scientific Imaging
- ⊕ Astronomy

MODEL	E-S221	E-S231	E-S321	E-S331
CCD Image Sensor	1/2" Exview HAD	1/3"	1/2"	1/3"
Camera Type	B/W	B/W	Day/Night Colour	Day/Night Colour
Lens Mounting	C/CS-Mount	C/CS-Mount	C/CS-Mount	C/CS-Mount
Spectral Response	400 - 1000 nm	400 - 1000 nm	400 - 950 nm	400 - 950 nm
Effective Pixels PAL	752 x 582	752 x 582	752 x 582	752 x 582
Horizontal Resolution	570 TVL	570 TVL	480 TVL	480 TVL
Sensitivity with f1.4 lens (with max agc)	0,004 Lux	0,008 Lux	0,008 Lux	0,05 Lux
Sensitivity with f1.4 lens (slow shutter)	0,001 Lux	0,004 Lux	0,002 Lux	0,01 Lux
Sensitivity @ CCD (with max agc)	0,0004 Lux	0,0008 Lux	0,0008 Lux	0,005 Lux
Sensitivity @ CCD (slow shutter)	0,0001 Lux	0,0004 Lux	0,0002 Lux	0,001 Lux
Expected lifetime	Minimum 120'000 hours			
Available Shutter Speeds	1/50, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000			
S/N	50db			
Video Out	1V P-P			
White Balance	No	No	Auto, 3200K, 4600K & Manual	
Power	12VDC @ 3W +/-10%			
Control Interface	RS232			
Operating Temperature	-10 to +70 °C			
Vibration	IEC 68-2-6 test			
Shock	3 shocks in each direction @ 60g's			
Bump Test	100 bumps 3 x 10g's			
Cooling Type	2 x high speed mechanical fans coupled to sensor			
Connectors	Video (BNC), Power (DB15), RS232/video iris (DB15)			
Weight	480 g			
Dimensions (mm)	120 x 76 x 56			

E-Storm-Eye Thermal Imaging Camera

We are proud to introduce our new range of thermal imaging camera products.

The **E-STORM-EYE** camera provides night vision capability for civilian, military and paramilitary surveillance, detection and protection applications.

FLIR SENSOR

The heart of the E-Storm-Eye is its imaging sensor. This French made sensor used is an uncooled 320x240 micro-bolometer detector module, which provides advanced thermal imaging in the 8-14 μ spectral band. There are many benefits to using uncooled FLIR technology to collect light in the 8 – 12 μ m spectral band. This band provides a better penetration through smoke, smog, dust and water vapor because the wavelength is much longer than the 3 – 5 μ m spectral band which normal CCD cameras utilise.

ANALOG VIDEO OUPUT

A DSP processor drives the camera and converts the representation detected by the sensor to an image which can be outputted in analog video format for display on a monitor. This can be CCIR 50Hz @ 75ohm or RS170 60Hz @ 75ohm.

REMOTE CONTROL

For control of the cameras from a distance, it features an RS422 interface which can be interface to a PC with custom software. Several camera modes can be set from this.

OTHER FEATURES

Some of the other features of the E-Storm-Eye camera range include the following:

- ⊕ Unique Digital Signal Processing (DSP) algorithms
- ⊕ Self-monitoring Built-in-Test (BIT) functionality
- ⊕ Field-level Built-in Go/No Go Tester
- ⊕ Anti-blooming technology
- ⊕ External video synchronization

APPLICATIONS

Typical applications for the E-Storm-Eye camera include nighttime perimeter surveillance of sensitive sites and areas such as national borders, airport boundaries, pipelines, oil terminals, electricity generating stations, communication transmitters and prisons. As the main component of these cameras is an infra-red thermal sensor, it can also detect overheating and fires, before flames and smoke become visible. This makes it a highly cost-effective device for early-warning and/or predictive maintenance in power stations and in industrial process control.

MODELS

The camera can be mounted in a fixed or mounted on a vehicle for mobile reconnaissance. Two models are currently available, the E-Storm-Eye and the E-Storm-Eye-Mini. The E-Storm-Eye is fitted with a 100 mm lens and the E-Storm-Eye-Mini with a 50 mm lens. An OEM unpackaged product can also be supplied for integration into a customer's existing electronics.



E-Storm-Eye



E-Storm-Eye-Mini



E-EyeM320B



Thermal Video Image

Specifications

MODEL	Storm-Eye	Storm-Eye Mini	E-EyeM320B
Focal Plane Array	Micro-bolometer	Micro-bolometer	Micro-bolometer
Spectral range	8-12 μ m	8-12 μ m	8-12 μ m
Number of Pixels	320x240	320x240	320x240
Focal length	100 mm	50 mm	Selection of lenses from 12 ~ 210mm
Field of View	8.45°H x 6.33°V	16.7°H x 12.66°V	Depending on lens fitted
Video Output	CCIR or RS-170	CCIR or RS-170	CCIR or RS-170
Remote control	RS422 or RS232	RS422 or RS232	RS422 or RS232
Remote Control Operation	AGC, Focus (Manual), Contrast, On\Off, Video, Polarity, NUC Video		
Operating Voltage	12VDC Nominal	12VDC Nominal	2VDC Nominal
NETD	< 100° mK	< 100° mK	< 100° mK
Detection Range (Human being)	Better than 800 metres	Better than 400 metres	Depending on lens fitted
Recognition Range (Human being)	Better than 300 metres	Better than 150 metres	Depending on lens fitted
Operating Temp.	-	-	-20° ~ +50° C
Environment Qualification	None	None	IP65

MODEL	Description
E-Storm-Eye	Thermal Imaging Camera with 100 mm Lens
E-Storm-Eye-Mini	Thermal Imaging Camera with 50 mm Lens
E-EyeM320B	Thermal Imaging Camera with Interchangeable lens

E-3NVTV Long Range Infra-Red Nighttime Surveillance Camera

The **E-3NVTV** is a high performance day/night surveillance system for long range video observation. It is able to operate during the day, as well as, night. Incorporating a high sensitive CCD camera and advance electronic processing, the unit is able to automatically adjust the contrast and brightness to suit the light level the camera is operating under.

LENS

The lens fitted to the E-3NVTV is a 7 element F1.5 110 mm lens. A focus ring at the rear of the unit allows for focus adjustment. As the illuminator operates on the 940 nm frequency, the illuminator is invisible to the human eye.

LASER INFRA-RED ILLUMINATION

For additional illumination at night a special laser IR illuminator is fitted. This allows covert illumination of the subject up to 500 metres in poor lighting conditions. Four output levels of power output can be set up depending on the range.

VIDEO OUTPUT

Featuring a standard composite video output, the unit can be connected to a standard video monitor for display or a DVR for recording.

OTHER FEATURES

The camera is ideal for short term surveillance applications and features a standard tripod mount, as well as, on or off controls for the laser illuminator. Operation is off 12 VDC.



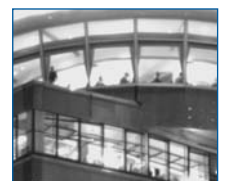
MODEL	E-3NVTV
Lens	F1.5 110 mm
Sensor	1/3" Sony Ex-View
Field of View	3°
Resolution	420 Horiz. TVL (Day) 200 Horiz. TVL (Night)
Effective Range	Up to 80 metres - Identification Up to 300 metres - Observation of vehicles & individuals Up to 500 metres - Monitoring presence of activity
Min Illumination	0.0005 lux, 0 lux (with IR laser on)
Infra-Red Laser	500 mw 940 nm Laser Diode Based (3 power levels)
Video Output	1V p-p 75 ohm PAL Composite Video
Power	12VDC @ 400mA
Weight	4.5 Kg
Dimensions	50 x 50 x 115 mm

APPLICATIONS

- ⊕ Covert Observation
- ⊕ Game Watching
- ⊕ Search & Rescue
- ⊕ Customs Inspections
- ⊕ Law Enforcement



Camera view at 60 metres



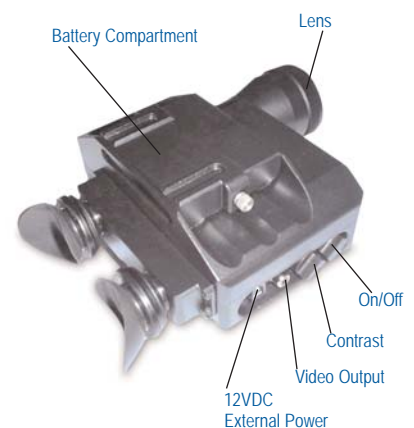
Camera view at 300 metres

E-SM-3DB Nighttime Video Surveillance Binoculars

Designed for clients wanting to do covert video surveillance during the day or night, the **E-SM-3DB** is a set of binoculars which feature a standard composite video output. This output can be connected to a video recorder or display unit.

The E-SM-3DB uses the latest in electronic technology and consists of a video imaging device with lens optics, a miniature flat panel LCD display and an automatic video gain circuit. Our ultra-sensitive CCD sensor can operate down to extremely low lighting conditions with a wide range from 0.0005 lux during the night to 30'000 lux during the day. Images from the sensor are converted electronically and display on the miniature LCD display. The user can then look through the binocular eye-pieces at the displayed image.

For additional illumination at night, the E-SM-3DB can be fitted with an infra-red laser illuminator. The unit operates off four AAA batteries or from external 12VDC power.



MODEL	E-SM-3DB
Sensor	1/3" Sony Ex-View
Field of View	6°
Magnification	11x
Resolution:	480 TVL (Day) 240-320 TVL (Night)
Effective Range:	Up to 40 Metres (Identification), Up to 100 Metres (Observation of Activity) Up to 200 Metres (Monitoring presence of activity)
Video Output	1 Vp-p 75 ohm (PAL)
Battery Life	4.8V (4xAAA) - 1.4 Hour Lifetime
External Power	12 VDC
Weight	1 Kg
Dimensions	139 x 138 x 55 mm

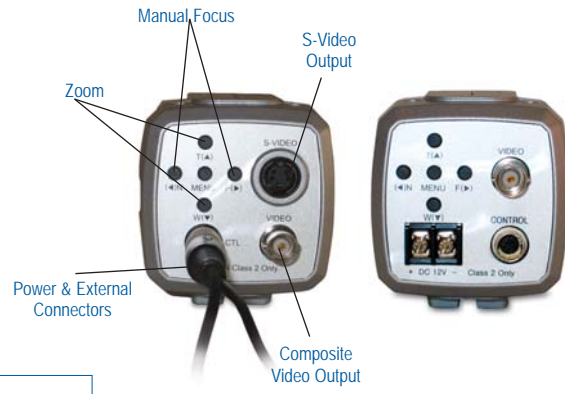
E-AP800/802 Day/Night Camera With Built-in 26x Optical Zoom Lens

The **E-AP800** is a high resolution day/night camera with integrated optical zoom lens. It features a 260x zoom (26x optical; 10x digital) with auto iris and auto focus.

For low light applications the camera has a day/night mode when the camera switches from colour to B/W below 1 lux.

Other features include backlight compensation, automatic gain control and DSP enhanced circuitry. This camera is ideal for housings with minimum space as well as applications which require a fixed camera with greater than 50 mm focal length. This includes covert medium-to-long range observation. For applications which require infra-red illumination, the camera is compatible with our range of IR illuminators. Another advantage of this camera is that due to its autofocus lens, the camera automatically adjusts its focus for the infra-red light.

For short range use, the camera has integrated IR LEDs which can be used to cover up to 5 meters. For longer range use, we have illuminators for distances from 5 to 300 metres. An On-Screen-Display menu and a handy remote allows complete control over camera functions including zoom in and out, and focus adjustment.



Outdoor Operation
18x Zoom at 50 Mtr
Late Afternoon



Outdoor Operation
18x Zoom at 50 Mtr
Early Evening

E-AP800
Std. Model

E-AP802
RS485 Model

Compatible Housing



E-AP800 mounted
in a E-LXNWL housing

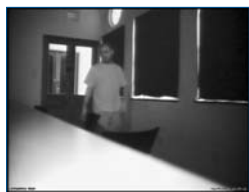


Wired Remote Control

SPECIFICATIONS	
Zoom Ratio	260x (26x optical; 10x digital)
Optical Zoom Lens	3.5 ~ 91 mm (F1.6)
Minimum Focus Point	1cm (Wide) 1 mtr (Tele)
Zoom Speed	4 sec
Sensor	1/4" Interline Transfer Super HAD CCD
Shutter Speed	Auto / Manual (8 Steps 1/60~1/10,000 sec)
Resolution	480 TVL
Min. Illumination	0.01 Lux (Slow Shutter); 0.1 Lux (Mono Day/Night); 1 lux (Colour)
Integrated LED Illumination	8 x 850nm IR LEDs (± 5 mtr range)
S/N Ratio	48dB
Backlight Compensation	Automatic (on/off selectable)
White Balance	Automatic (on/off selectable)
Interface Control	E-AP800 - Via analog control, from wired remote or analog control signals E-AP802 - Via RS485 2-wire serial control
Power	9~15VDC (12VDC Reccomended) @ 360mA
Weight	300 g
Dimensions (mm)	50 x 61 x 92



Indoor Normal
Operation -
Flourescent Lighting



Indoor With IR
Illumination

MODEL	Description
E-AP800	Colour Day/Night 260x Zoom camera (26xOptical,10xDigital)
E-AP802	Colour Day/Night 260x Zoom camera (26xOptical,10xDigital) - RS485 Interface Model
E-WRC015	Wired Remote Control For E-AP800/802 Camera - 15 cm
E-WRC350	Wired Remote Control For E-AP800/802 Camera - 35 Metres

E-188AT Zoom Camera with Integrated PTZ Driver

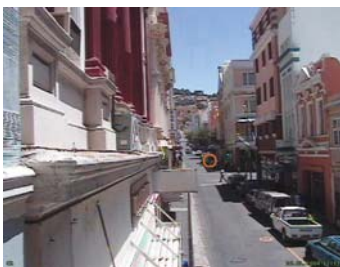
The **E-188AT** is a colour hi-res camera with integrated zoom lens and PTZ driver. Featuring an RS485 interface, the camera can communicate with our E-KB03 or E-DCJ control keyboards. Communication protocols are also supported from most camera manufacturers allowing the camera to be easily integrated into new or old systems. These include Pelco, VCL, Ultrak, Vicon, Diamond and Kalatel.

Several models of this camera can be chosen from providing the user with different zoom ranges and light sensitivity. Standard camera functions include auto white balance, manual or auto focus, auto-iris and setup via on-screen-menu.

- ⊕ Hi-res colour or day/night model
- ⊕ Multi-protocol RS485 support (2400/4800/1600/19200 bps)
- ⊕ Built-in PTZ driver with 24VAC output for pan/tilt unit control
- ⊕ 2 Auxillary outputs for wiper, washer or light
- ⊕ Auto white balance, Iris, Focus and Gain



SPECIFICATIONS	E-188AT-N	E-188AT-C	E-188AT-E
Sensor	1/4" Super HAD	1/4" Super HAD	1/4" Exview
Horiz Resolution	470 TVL	470 TVL	470 TVL (Colour) 580 TVL (B/W)
S/N Ratio	50dB	50dB	50dB
Zoom Ratio	264x (2x Optical, 12x Digital)	264x (2x Optical, 12x Digital)	230x (23x Optical, 10x Digital)
Optical Zoom Lens	F= 4 ~ 88 mm (F1.6~3.8)	F= 4 ~ 88 mm (F1.6~3.8)	F= 3.6 ~ 82.8 mm (F1.6~3.8)
Min. Illumination	1 lux	0.02 lux	0.08 lux (Colour) 0.013 lux (B/W)
Power	24VAC	24VAC	24VAC
Dimensions (mm)	70 x 80 x 186.5	70 x 80 x 186.5	70 x 80 x 186.5



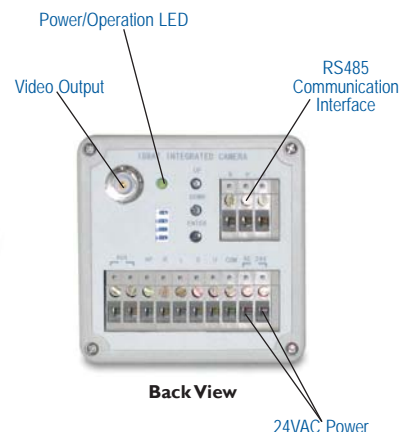
At 4 mm Focal Length



At 88 mm Focal Length
Approximate Distance = 70 meters

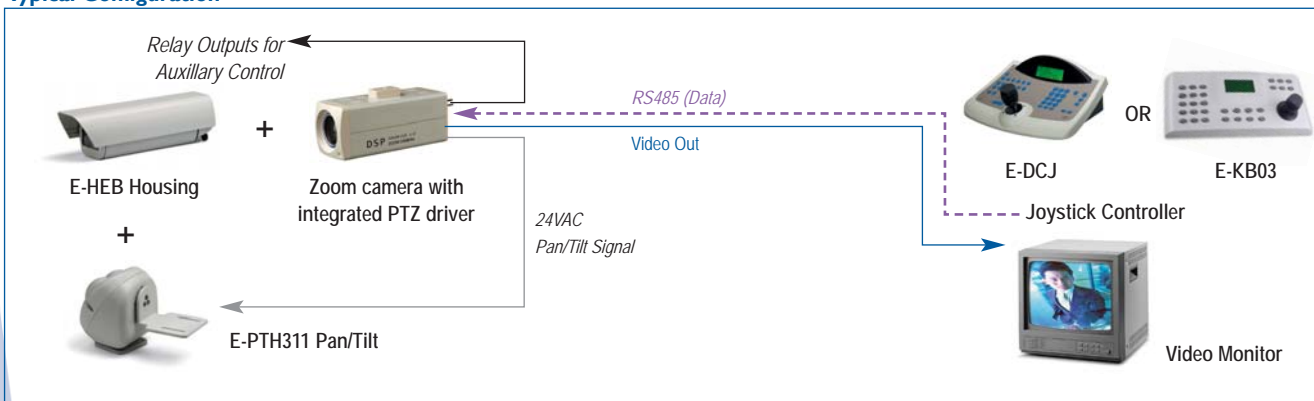


Front View



Back View

Typical Configuration



MODEL	Description
E-188AT-N	Colour Zoom Camera with Int. PTZ Driver - 18x Optical Zoom Lens (1.0 lux)
E-188AT-C	Colour Zoom Camera with Int. PTZ Driver - 22x Optical Zoom Lens (0.02 lux)
E-188AT-E	Colour Zoom Camera with Int. PTZ Driver Day/Night Model