

IT'S NEW IT'S EEV IT'S *photon* CCD

Years of research and development have enabled EEV to produce in the most modern CCD plant in Europe, a completely new range of CCTV Cameras ... "The Photon". They are tough, and very reliable featuring custom designed ceramic covered hybrid circuits which provide sensor drives and video processing in a miniature housing. Our new dedicated fabrication facility provides the low noise CCD sensor for these cameras which initially will offer a choice of variable integration time, switchable between 1 ms and TV, together with standard features such as gen-lock, auto iris drive, a.g.c. and video clamp. The cameras power requirement is less than 4 watts, at either 12V d.c. or via a line power supply. More new models will be released later this year as the Photon CCD family grows, but in the meantime, contact us for details of these exciting new cameras.



EEV Solid State Devices

UK:

EEV, Waterhouse Lane, Chelmsford, Essex CM1 2QU, England
Telephone: (0245) 261777 Telex: 99103 Fax: (0245) 50424

USA:

EEV Inc, 7 Westchester Plaza, Elmsford, NY 10523, USA
Telephone: 914 592 6050 Telex: 6818096 Fax: 914 592 8342

CANADA:

EEV Canada Ltd, 67 Westmore Drive, Rexdale, Ontario M9V 3Y6
Telephone: 416 745 9494 Telex: 06 989363 Fax: 416 745 0618

FRANCE:

EEV Departement Tubes Electroniques de GEC Composants
2 Rue Henri Bergson, 92600 ASNIERES, (France)
Telephone: 1 47 90 62 15 Telex: 610471 Fax: Paris (331) 4733 11 31



Introducing four new CCD cameras from the Photon CCD family for monochrome CCTV applications in industry, surveillance and machine vision.

**P46110 and P45110 for standard CCTV
P46111 and P45111 for high speed imaging**

Performance specification — Provisional.

Sensor P8602 frame transfer CCD

Active lines	288 (576 with interlace)
Pixels per line	385
Imaging area	8.5 x 6.4mm
Spectral response	450-1100nm
Sensitivity, for peak white	> 1.5 lux illumination on the CCD

Resolution

Limiting vertical	576 TV lines
Limiting horizontal	385 TV lines

Camera

6 custom designed hybrid circuits provide all drive pulses and video processing. The total component count is 33.

Video output	Composite video 75 Ω impedance
Sync level	0.3V p-p
Signal level	0.7V p-p
Clamp	Black (dark current reference) and white.
Genlock	high impedance (use ext. 75 Ω termination)
a.g.c.	12 dB range.
Auto iris drive	standard via HR10 socket
Gamma	1.0 (0.7 available on request)

Integration period:- P46110/P45110	standard TV
P46111/P45111	1 ms or TV, switchable
Dimensions (ex. lens)	46(h) x 46(w) x 95(l)mm

Accessories — included with camera

Power supply	120/240V 50/60Hz input. 12V dc output. with line input and dc output cables.
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Lens

P46110	F1.4 16mm manual iris
P46111	F1.4 16mm auto iris
P45110	F1.4 16mm manual iris
P45111	F1.4 16mm auto iris

Tripod mount

Standard 1/4" BSW. Can be configured for top or bottom mounting.

Video cable User manual

BNC — BNC co-axial

Camera sales in N. America

All cameras sold in N. America will be supplied with a power supply only as an optional extra. P45110 and P46110 will only include a lens as an optional extra. These options will be charged for at the appropriate cost.

Optional extras

EEV will be pleased to quote for various accessories, including:

Manual and auto iris fixed focal length lenses
Various zoom lenses.

Future sensor options

In addition to the current choice of P8602 variants, EEV will soon offer their new P85000 and P86000 series CCD sensors for the Photon camera family.

The P85000 series is a dedicated 525 line sensor for EIA video standard, and the P86000 series is the 625-line variant. Both devices feature:

- ★ anti-blooming performance.
- ★ 385 pixels per line by 488 (P85000) or 576 (P86000) active lines with interlace.
- ★ dark current reference sites.
- ★ front or back illumination options.
- ★ anti static gate protection structures.

CCD

COLOUR PHOTON CAMERA

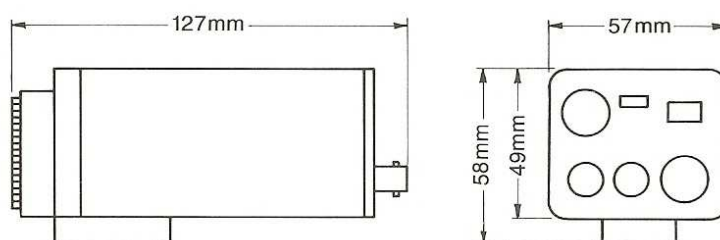
In addition to our range of monochrome cameras, we also offer a quality, single MOS sensor colour camera type PC46320.



Colour Photon camera.

Manufactured in Japan, we believe that this camera offers value for money and a quality picture for general monitoring and surveillance duties.

Colour Photon camera dimensions.



ACCESSORIES

To complement our range of CCD camera products, EEV is able to offer a wide range of CCTV lenses to meet with your requirements.

Our sales staff will be pleased to make lens recommendations if necessary.

As well as lenses, we can, by special request, supply camera housings, pan and tilt units and control systems, though we are unable to undertake any CCTV system design or installation work.

All cameras featured in this brochure can be supplied with dedicated power supplies.

RUGGED PHOTON MONOCHROME CAMERAS

The Photon range has been designed and built to give reliable service under the toughest conditions.

Many advanced features normally offered at extra cost are included within our standard cameras, although cameras modified to your specific requirements can be supplied on request.

In addition to the standard Photon camera the following variants are available.



Shuttered Photon camera.

Electronically shuttered Photon camera

Based on the standard camera, this model offers a user selectable integration period of 1/1000th of a second as well as the standard picture integration time.

This effectively provides an electronic shutter facility which can be used to image fast moving objects without blurring. As the camera will always provide a standard video output, the image from the camera can be fed

directly into any suitable VTR, frame store or image processing system.

Asynchronous Photon camera

The asynchronous Photon camera combines EEV's proven electronic shuttering capability with the advantage of event-related triggering. In other words you can tell the camera when you want your 'snapshot' rather than having to organise your subject to be in the right place at the right time — an often impossible task. Exposure times can be varied from as short as 1/1000th second to as long as required (subject to dark-current limitations).

As with the electronically shuttered camera, the camera output is standard video.



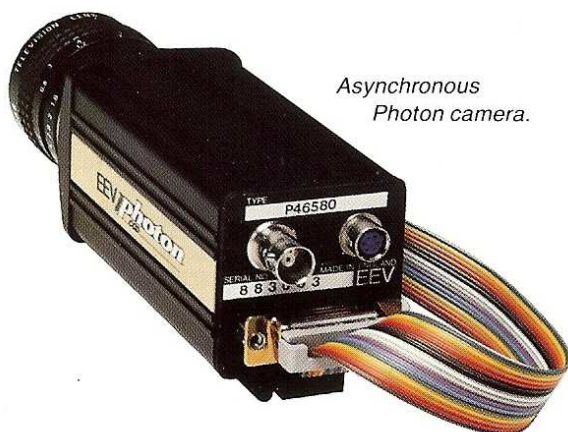
Fibre Optic Window camera.

Standard Photon camera

In common with the other Photon cameras the standard model has a small compact size, low power consumption and rugged construction. The Photon can, therefore, often be used without modification in some of the world's most demanding environments. This model is also available with a fibre optic window and mounting flange.

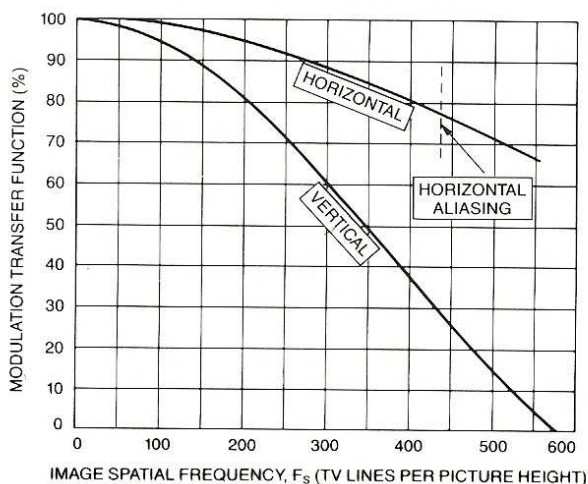
Special Photon cameras

In addition to the models above, EEV takes pride in being able to offer cameras modified to suit your exact requirements. This is often possible within the Photon range at a modest price premium and is most suitable for those applications where the degree of specialisation does not necessitate a full custom or modular camera solution.



Asynchronous Photon camera.

TYPICAL SPATIAL RESOLUTION (White light)



CCD

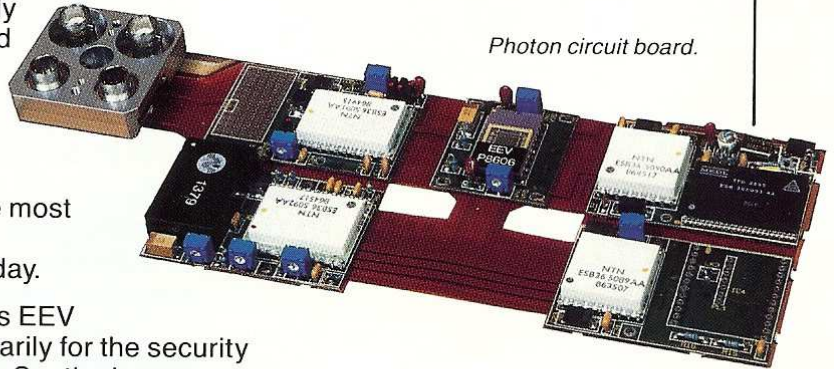
CAMERA MANUFACTURING OPERATION

EEV started producing CCD cameras in 1981 and have now developed a range of products which demonstrate our expertise in this field. The Photon CCD camera, for example, is designed to provide a rugged and reliable CCD camera by employing hybrid circuit technology. This technique is used in the main camera circuit sections of logic pulse generation, CCD drive (2 hybrids), video processing and video support. The resulting camera thus employs only 65 components. A combined flexi - rigid printed circuit board reduces interconnections to a minimum.

These design techniques have also been employed in our intensified CCD camera and result in probably the most rugged low light level camera currently available on the commercial market today.

As well as the Photon range of cameras EEV manufactures a range of cameras primarily for the security market and this is known as the Photon Sentinel range.

The Photon Sentinel range has been carefully designed to meet the ever increasing demands of the CCTV industry which require both good all-round performance and value for money.



Photon circuit board.



Intensified Photon.



*Sentinel camera
with power supply.*

CCD

MODULAR CAMERAS

Through our extensive experience with the design and development of CCD cameras, we have recognised the need for an entirely flexible approach to the supply of cameras, particularly for machine vision and scientific applications.

This need has led to the evolution of EEV's MODULAR camera system which uses a variety of Eurocard format drive boards and remote sensor heads to create a wide choice of camera systems. In addition the system offers a number of link-selectable options thereby giving the user considerable control of the camera set-up.



Asynchronous Modular camera.

Options available include:-

- Intensified, peltier cooled and standard sensor heads
- Sensor drive and video processing boards
- Asynchronous operation (gated intensified or standard)
- Cursor line generator (horizontal and vertical)
- Image frame store and computer interface

