TELEVISION CAMERA TYPE 109A/B



The Type 109 camera is available in two forms. The 109A, for use with all types of 1" camera tube, contains its own internal interlaced sync pulse generator and provides a broadcast quality output waveform. Type 109B is similar to the 109A but is designed to be driven from an external source of mixed sync and mixed blanking pulses for studio applications.

The Type 109 cameras are suitable for use as high quality surveillance cameras or as low cost caption/telecine cameras for television studio applications.

The camera has the following features:-

* Fully stabilised and regulated circuitry to give completely stable pictures over a wide range of ambient temperature and AC power supply variation.

* Full broadcast sync and blanking waveform internally set to 525 or 625 line operation.

* Gamma correction variable between 0.3 and unity.

* Variable amplitude, phase equalised, aperture correction using level dependent and noise coring techniques.

* Excellent noise performance due to the use of FET head amplifier.

* Two independent outputs, one of which may be non-composite internally selected.

* Precision light weight sheet metal construction.

* Auto sensitivity circuits provide either auto target supply for use with Vidicon tubes, or drive from internal servo amplifier to feed motorised iris lenses for use with other tubes.

LINK ELECTRONICS

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CAMERA TUBES

VIDICON TUBES provide the cheapest arrangement and provide excellent picture quality providing a reasonable amount of light is available. By using an automatic target supply the sensitivity of the camera can be adjusted automatically which enables cheap pre-set iris CCTV lenses to be used.

CHALNICON TUBES are the most sensitive 1" tubes available without recourse to intensifier techniques; they have extremely wide spectural response and negligible dark current. These tubes are very robust and have excellent resolution. The internal gamma amplifier provides correction for their linear gamma characteristic. These tubes provide the very best pictures for security/surveillance applications and must be used with motorised iris lenses specially designed for use with high sensivity camera tubes. The motorised iris is driven from the internal camera servo amplifier.

NEWVICON TUBES, similar to Chalnicon.

SILICON DIODE Vidicons. For general surveillance work these tubes have largely been replaced by Chalnicon Tubes but they can be useful where a near infra-red response is required.

LEAD OXIDE Vidicon Tubes (Plumbicon). These tubes are the most expensive but have extremely low lag characteristics useful when the camera is viewing high speed movement, for applications in broadcasting, etc.

Other tubes are available for use in ultra-violet light or for infra-red, etc.

S P E C I F I C A T I O N

Power	:	230V ± 10% or 115V ± 10% by change of transformer tap. Consumption - 12VA. A battery powered option for operation between 18V and 28V at 1A is available.
Ambient Temperature	:	$-15^{o}C$ to $+55^{o}C$.
Outputs	:	2 off each, 1V composite from 75 ohm source, syncs may be removed from output 1 by means of internal link.
Resolution	:	For all types except Silicon Diode, the output response may be set for 100% modulation at 400 lines per picture height. Limiting resolution 800 lines per picture height.
Signal to Noise Ratio	:	RMS noise typically -43dB with respect to peak white.

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TELEVISION CAMERA TYPE 109A/B

Sensitivity	:	For tungsten light. Faceplate illumination for full output. Vidicon - 3 lux with 50% dark current. 20 lux with 5% dark current. Chalnicon - 0.5 lux.
Geometry and Linearity	:	Better than 1% within a circle whose diameter is equal to picture height, better than 2.5% over the remainder.
Gamma Correction	:	Internally adjustable between unity and 0.3.
Aperture Correction	:	Level dependent, phase equalised, noise cored correction, maximum 30dB at 5MHz.
Line Standard	:	625 or 525 lines fully interlaced broadcast standard, type 109A - mains lock (crystal lock option to order), type 109B - externally driven.
Mixed Sync	:	Input to 109B between 0.7 and 8V peak to peak into 75 Ohms.
Mixed Blanking	:	Input to 109B between 0.7 and 8V peak to peak into 75 Ohms.
White Clipper	:	Pre-set to clip at 105% nominal.
Picture Inversion	:	Switchable.
Auto Sensitivity	:	Large area peak detector, auto target for Vidicon Tubes; or iris motor drive for other tubes.
Remote Controls	:	When connected, override auto circuits to give remote control. 109A lift, target supply, and +ve/-ve picture switching, beam current, beam focus, and video level. 109B lift, target and +ve/-ve picture.
Lenses	:	C mount. Internal pre-set infinity focus adjustment set for 17.5mm adjustable $\pm$ 3mm.
Connectors	:	Co-axial - BNC, AC power - Bulgin 3 pin, Remote Control - 9 pin lens, 7 pin DIN. Mating connectors except BNC supplied.
Mounting	:	Two 0.375" threads provided for use with different weight lenses, or to provide two position fixing.
Weight	:	2.8Kg (less lens).
Dimensions	:	Height - 132mm, Width - 150mm, Length - 285mm.
Scan Reverse	:	Internal jumpers provided to reverse field or line scan (109A only).

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