



Digital Surveillance Cameras

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MAN PACK PORTABLE LONG RANGE LENS

TSE 5125

USAGE

The Man Pack Portable long range lens is designed to cater for all static urban and rural surveillance operations.

The TSE 5125 provides ultra long range Surveillance Target Acquisition using its combination of day or night sensor technology, providing many times higher magnification than normal spotting scopes in service today.

The TSE 5125 is man portable and can be deployed rapidly within a few minutes. With its unique remote monitoring system, surveillance operators are able to monitor and record information observed from the target area, well away from where the sensor platform is deployed. This allows operators to work in complete safety and allows the use of multiple observers without compromising the position of the sensor platform.



Control Tower from 2km



Control Tower from 2km

OPERATION

Simply find a location, set up the scope and tripod, connect the battery and monitor. The pictures will be relayed in live video to the waterproof LCD monitor base station up to 90 meters away.

Use the coarse adjustment, along with the finder scope to get close, and then precisely target using the fine vertical and horizontal knobs. Further zooming or extra magnification is then available.

Microwave transmission is available, as an option for the LCD monitor/sensor platform, with distances up to 1Km (line of sight) and fiber optic transmission over several kilometers if required.

The Sensor platform can be quickly released from the low profile tripod and attached to any full size tripod fitted with world standard 1/4" UNC thread, while maintaining full use of the special coarse/fine pan and tilt head.

CAPABILITY

- Color video display up to 711x magnification
- Optional night vision image intensified video up to 519 x magnification
- Optional naked eye night vision image intensified observation up to 253x magnification
- Rapid deployable – man-portable (20kg approx.)
- Long range high magnification
- Provides extra security and stand off for operators
- Able to monitor and record target information away from sensor platform
- All equipment is self contained within its own webbing back pack

MAN PACK PORTABLE LONG RANGE LENS

TSE 5125



standard day use version



in night vision mode showing also finder scope



with optional PNP Night Scope Module for naked eye Image Intensified operation



Close up of fine/coarse tripod adjustment



Rugged waterproof 6.4" LCD monitor with sunshade



4 x 20 Finder Scope with cross hair mounted on Picatinny rail (rail fitted to both sides).

TECHNICAL DATA

Lens system dual zoom ratio as standard

	FoV Degrees*	FoV mils*	Zoom Magnification*
Color Camera			
High zoom range	0.475 to 0.162	8.44 to 2.87	83x to 249x
Low zoom range	0.165 to 0.056	2.94 to 1.00	242x to 711x
II Camera			
High zoom range	0.668 to 0.228	11.87 to 4.06	59x to 175x
Low zoom range	0.232 to 0.077	4.12 to 1.37	172x to 519x
II Scope			
High zoom range	1.336 to 0.457	23.74 to 8.12	29x to 87x
Low zoom range	0.464 to 0.158	8.25 to 2.81	85x to 255x

* ±5% Nominal Values

"LONGJOHN" LONG RANGE LENSES

TSE 5120

The two LongJohn Long Range Lenses have been specially designed for Intelligence and Special Forces Units that are required to undertake long term long range observation on target locations, operations or suspects.

Each of the lenses is to TSE Specifications and come in the following focal lengths;

LongJohn Two - 750mm & 1250mm

LongJohn Three - 750mm, 1250mm, 2500mm & 3750mm

These lenses will allow the operational team to maintain an observation from 1 to 3 kilometers with the LongJohn Two and 1 to 8 kilometers using the LongJohn Three lens.

At these distances the observation team cannot be seen or detected, yet, they obtain high quality video footage of the target and operation that is acceptable as identification evidence.

When fitted with the Color/Black & White Ultra Low Light Changeover Camera superb results are achievable.

In countries where heat haze is present, it is recommended the Video Enhancement Module be used with the camera-lens combination to enhance the color, contrast and focus of the video footage.



LongJohn Two



LongJohn Three



Portable Recorder Case

"LONGJOHN" LONG RANGE LENSES

TSE 5120

SPECIFICATIONS

Focal Lengths	2 positions: 787mm and 1250mm	
Fields of View (1/3" camera)	787mm	
	Distance FOV	
	100 m.	0.5 m.
	1000 m.	5.5m.
	2000 m.	11 m.
	3000 m.	16.5m.
	5000 m.	55 m.
	1250mm	
	100 m.	0.4 m.
	1000 m.	4m.
	2000 m.	8 m.
	3000 m.	12 m.
	5000 m.	20 m.
	Optics	Schmidt Cassegrain
F No. @ 1250mm.	F13.8	
Primary Mirror:	Pyrex glass.	
Optical coating	Acromat BK7-SF5 coating	
Clear Aperture	90 mm. (3.5")	
Casing	Aluminum H30	
	Anodized to Mil-Spec MIL-A-	
	8635 Type11 class11	
Tripod Mounts	1/4" or 8mm UNC	
Case cover	Padded DPM or black fabric	
Environmental	Sealed to IP65	
Dimensions	300mm x 125 mm (diameter)	
	(Including cover)	
Recommended camera	Type TSE-321 low light camera	
Minimum Focus distance	3.5 m to infinity @1250mm.	
Weight:	3.5 kg	
Aiming Sight	Riflescope 3-9 x 40	

VIDEO CAMERA KIT

TSE 5202

The TSE 5202 Camera Kit provides an assortment of portable high quality, low light miniature board cameras for a variety of covert installations.

All the cameras have industry standard RCA and 2.1-mm power plugs and cable that attach to the camera bodies via quick connectors. The flexible video power cables allow the cameras to be positioned at any angle for the best possible camera view and operate at 9 – 13.5 VDC

The cameras are encased with a protective covering allowing installation in tight spaces without shorting the camera circuitry.

Wide angle and pinhole lenses provide a variety of near and far camera views with some cameras allowing interchangeable lenses.

The TSE Board Camera Kit is packaged in a rugged ABS case with snap and lock lid with a custom foam insert for camera separation and shock protection during transportation.

TSE 5202 WIRED CAMERA KIT INCLUDES

- 2 CCD Color High Resolution Cameras
- 3 CCD B&W Low Light Cameras
- 10 Microphones
- Pinhole & Wide Angle Lenses
- Camouflaged Lenses – Screw - Rivet
- Camera Video & Power Cables
- Wall Mounting Attachments
- Camcorder Through the wall Attachment
- Covert Foil Material
- Battery Packs



TSE 5951 CONNECTOR KIT INCLUDES

- Set of Connectors –F, SMA, BNC, RCA
- Crimp Tool
- Coaxial Cable
- Plugs & Sockets
- Soldering Iron Kit
- Heat gun, Heat shrink
- Video Adapters
- Side Cutter set

TSE 5952 POWER SUPPLY KIT INCLUDES

- Rechargeable Batteries
- Battery Charger
- Battery Packs
- Connectors

HIGH RESOLUTION CCD CAMERA SERIES III COLOR

TSE 5003

SPECIAL FEATURES:

This new generation of high resolution cameras is based on the latest CCD chip technology. The small dimensions and the low power consumption recommend this camera for container construction. The extensive dynamic range of the camera offers excellent over exposure protection.

A small audio amplifier with a highly sensitive microphone and connecting cable to countersink into the connecting cable at hand can be purchased from GAMMA.

This camera has a 2x digital tele zoom function. All functions (BLC, mirror, zoom and on) can be controlled by the DIP switch. The zoom function can also be externally controlled by a switch or a radio remote control.

Please note that in the zoom mode the resolution is reduced.



TECHNICAL DATA

Image sensor:	1/3" CCD
Lens angle (objective) H/D:	90°/118°
Auto electronic exposure:	1/50 zu 1/120000 sec.
Minimum illumination:	< 0,6 LUX F: 1,2
Entrance pupil diameter objective:	0,8 -1,2 mm
Resolution pixel:	542 x 492 NTSC, 542 x 582 PAL / 570 TV
Power supply:	12 V
Power consumption:	90 mA
S/N ratio:	> 60 dB
Video exit:	1 V, 75 Ohm
Dimensions:	37 x 37 x 12 mm
Lens system:	Pinhole standard
Optional:	Different camouflaged pinhole lenses are available at additional charge.

HIGH RESOLUTION CCD MINI BUTTON CAMERA SERIES II COLOR

TSE 5010

SPECIAL FEATURES:

With this set, fastening the camera onto garments such as jackets or shirts is easy and simple. True to detail we make different lenses with special disguises, e.g. jeans buttons, brooches, pins, etc. Even the threads of the buttons are recreated. The camera is integrated in an elaborately machined casing of full material. This assures a higher heat lead-away, when the camera is body worn.

CONTENTS:

The kit contains a camera with a camouflaged standard button lens and an additional 10 special extra buttons. A connecting cable with a micro connector, a BNC video exit and a power supply port (9 V block battery) with built-in reverse battery protection, are also included in the set. The kit comes ready for use in a robust plastic case.

OPTION:

A small audio amplifier with a highly sensitive microphone and a connecting cable to countersink into the connecting cable at hand can be purchased from GAMMA. The available 5 V version has slightly higher power consumption.



TECHNICAL DATA

Image sensor:	1/4"
Lens angle (objective) H/D:	92°/118° pinhole button
Auto electronic exposure:	1/50 -1/100000
Minimum illumination:	1 LUX F: 1.2
Automatic brightness control:	3 levels
Entrance pupil diameter objective:	0,8 -1,2 mm
Resolution horizontal:	470 TV lines
Power supply:	8 -12 V
Power consumption:	65 mA
Dimensions:	29 x 25 x 10 mm
Options:	Button available in 2 different sizes (Please indicate when ordering): big 20mm or small 15mm; color black

COLOR / B/W CAMERA SERIES V WITH ILLUMINATION REGULATED AUTOMATIC FILTER SWITCH

TSE 5001

SPECIAL FEATURES

This new camera type contains an illumination controlled IR filter removal mechanism; the IR filter being pulled away from the chip by a small electric motor when switching from color to b/w mode.



TECHNICAL DATA:

Image sensor:	1/3" I CCD image sensor (ExView HAD)
Effective pixels:	752 (H) x 582 (V)
Synchronization:	internal / external
Horizontal resolution:	450 TV lines
Minimum illumination:	0.01 Lx (at video output 50%, AGC=ON +39dB, F1.4) 0.5 Lx (at video output 50%, AGC=ON +24dB, F1.4)
S/N ratio:	50 dB (AGC=OFF)
AGC:	+ 39dB max. (Analog 24dB + digital 15dB) selectable 8 modes by Jumper land setting (maximum +48 dB)
Electronic iris/shutter:	E. Iris ON: 1/50 1/30,000sec/ OFF: 1/50sec.
White balance:	ATW ON (2600°K..9000°K) / OFF (3200°K) / 5600°K BLC
BLC:	On (Center) /OFF selectable
Power requirements:	DC +12V +/-10%
Pinhole Tele Lens:	10mm
Weight:	approx. 37 g
Temperatures:	operation: 0 to + 40 deg. C under Rh 20 -80%
Board size:	32 x 32 mm + 42 x 42 mm (without the mountings)
Digital zoom:	standard 4x
Remote control:	RS 232C/TTL Interface

HIGH RESOLUTION CCD MINI CAMERA SERIES II COLOR WITH SEPARATE CAMERA HEAD

TSE 5008

SPECIAL FEATURES:

This new generation of high resolution cameras is based on the latest color CCD chip technology. The small dimensions of the lens holder, with camera chip separated with a cable or flexible band from the main board, and low power consumption, recommend this type of camera for flexible container construction. Because of the different types of lenses and camouflage, installation possibilities in all fields of application are possible where regular cameras fail.

A small audio amplifier with a highly sensitive microphone and connecting cable to countersink into the connecting cable at hand can be purchased from GAMMA. The power consumption of the available 5 V version is slightly higher.



TECHNICAL DATA

Image sensor:	1/3" CCD image sensor
Lens angle (objective) H/D:	85°/125° pinhole
Auto electronic exposure:	1/50 -1/120,000 sec.
Minimum illumination:	0.05 Lux @ F1.2 5600°K
Automatic brightness control:	3 levels
Entrance pupil diameter objective:	0,8 -1,2 mm
Resolution pixel:	512 x 492 NTSC, 512 x 582 PAL / 600 TV lines
Power supply:	8.5 – 13.5 V DC
Power consumption:	65 mA
Dimensions:	29 x 25 x 10 mm
Lens system:	Pinhole standard
Options:	On request different camouflaged pinhole lenses can be manufactured

PAN & TILT FOR COVERT INSTALLATIONS

TSE 5106

TSE 5106A - MINI FRONT PIVOT PAN & TILT UNIT

The TSE 5106a is Gamma's miniature front pivot pan & tilt unit for operation on 12Vdc systems drawing ~10mA. It is suitable to move the weight of 'lipstick' cameras with lenses and moves at around 6° /second at 12Vdc.

The TSE 5106a weighs 300 grams and is 13w x 6.5d x 10cmh with an angulation of:
Pan +/-45° - Tilt Up 15° - Tilt Down 40°.

Applications include covert hides in vehicles, signs, ornaments, walls etc.

When using a pinhole camera in combination with the TSE 5106a mini front pivot pan and tilt unit you can achieve a much wider viewing angle than you would with a static (non moving) pinhole camera.



TSE 5106B - FRONT PIVOT MICRO PAN UNIT

The TSE 5106b is a Gamma designed and manufactured miniature front pivot pan unit for operation on 12Vdc systems.

It is suitable for board or cylinder cameras with pinhole lenses as well as small conventional cameras up to 500g. Dimensions: 62w x 28d x 30mmh (excluding camera). Weight: 50 grams. The optical pivot point is 5mm forward of the front face of the device which will allow an additional 50° of horizontal field of view through a very small hole in the covert hide.

Applications include covert hides in vehicles, signs, ornaments, walls etc.

When using a pinhole camera in combination with the TSE 5106b front pivot unit you can achieve a much wider viewing angle than you would with a static (non moving) pinhole camera.



ZOOM CAMERAS

TSE 5104

TSE 5104 – CYLINDER CAMERA WITH 400% PAN AND TILT

The TSE 5104 is capable of an amazing 400° pan view and a tilt range of 20° up and 40° down. Don't hesitate to leave the TSE 5104 outdoors in any weather thanks to the pressurized & fully weatherproof housing.

Concealing the Sony 480/980, this cylindrical weatherproof {rated IP-68} Peri-cam made from black anodized aluminum, has been designed & built by Gamma and is 75mmd x 265mmh (weight 0.9kg).

It is easy to hide in light bollards, vent pipes, car seat head-rests etc thanks to the application of a telescope mirror allowing the camera to sit upright in a confined space without compromising viewing angle.

Gamma outfit these cameras with an internal Interface Board allowing telemetry to effect Zoom, Focus, Auto Focus, Night Shot, Auto Night Shot, Back Light and Power-up Preset on the 980 camera. The RS232 input allows full control of the camera via the Internet, P.C. etc.

The Schrader valve is utilized to prevent condensation related damage or interference by extracting the air from inside the TSE 5104 & purging it with dry nitrogen.

Features include a telescope mirror, optional mounting bracket, limit switches, tapped mounting holes at each end plus a single military connector.



LONGJOHN WIRELESS CONTROL SYSTEM

TSE 1007



In a revolutionary new design concept, TSE is introducing the new TSE 1007 serial camera wireless control system.

This addition to the already extensive range of TSE microwave video link control systems allows the user to enjoy serial data control over a video/telemetry link via a TSE protocol RS485 interface.

This major design development enables full serial and parallel control of single camera systems and the ability to access and command many of the new developments in camera technology. For instance, in conjunction with our TSE 1007 (Sony based) camera system, the user has control of 72x zoom, black and white/color change-over, IR capability, automatic focus, shutter speed, backlight compensation, field integration that allows images to be gathered at very low lux and many other functions. In addition, the TSE OWL-REM hand controller can be added to the system, enabling the user to have direct cable control of a camera via a patch box or to use the command structure through a remote communications link to enable the user to have proportional control of camera movement.

The TSE 1007 controller is also ruggedly designed for covert rural operations where rapid deployment and 12V battery operation is paramount. The essential keyboard functions are luminous.

As many as fourteen single or multi-camera outstations can be controlled from one TSE 1007 and the system is fully compatible with the TSE VT/VR range of microwave transmission modules.

This unique technological advance by TSE will allow operatives to move into a new world of handset, radio and GSM control of surveillance systems, with the REM-SOFT and ISDN CODEC solutions.

FEATURES

- Rugged and rapid deployment
- Microwave Links L, S, C or X Band
- Full Duplex control at VHF or UHF
- Compact cameras
- High zoom capabilities
- Serial data
- Windows software
- Weatherproof
- Membrane Keypad
- TFT screens
- 4 Outstation options
- 3 Camera options





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