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**Defence & Security
Products Division**

NEW

PNP-MTHD/PNP-MTHDE

The world's smallest, lightest most versatile
HIGH DEFINITION THERMAL IMAGING zoom monoculars
with DVR option



PNP-MTHD

The world's smallest, lightest
and **most versatile Thermal Imaging** night
vision monocular

Pyser-SGI Limited is one of the world's leading manufacturers of Night Vision products.

Over the many years of our experience in the design, development and manufacture of night

vision monoculars we have worked closely with British, other NATO and non-NATO Armed Forces, Special Forces and Police Special Forces in order to produce the products and features required for today's and tomorrow's threat situations.

The PNP-MTHD monocular range is the result of such close co-operations and is a state of the art world beating product which is complemented by a wide range of specially developed accessories enabling the user to perform a huge variety of missions based on just one sensor platform --- PNP-MTHD.

Designed, developed and manufactured in Britain by Pyser-SGI to ISO 9001 quality levels the PNP-MTHD is the world's smallest and lightest thermal imaging monocular. It uses an advanced glass reinforced polymer main body with a centre of mass as far to the rear as possible to minimise neck strain during prolonged operations. Two CR123 batteries, for light weight, give up to 7 hours' continuous operation. High quality IR optics are used for maximum image quality and the entire monocular body, electronics and optics are filled with dry nitrogen for ultimate reliability in all missions.

The unique Near Eye OLED display always produces a large crisp image right in front of the eye and overcomes the "tunnel vision" problem common in inferior designs.

This gives an image having an apparent angle of view of 35° horizontally, which is similar to that of the human eye and therefore considerably aids speed and clarity of target acquisition. When head/helmet worn in the 17mm lens option model the image as seen by the user is 1:1 ratio to actual size, thereby enhancing judgements of distance and safety of manoeuvre. The 25mm and 35mm give Search & Rescue capability with a 1.5 & 2x optical magnification respectively. All models accept the optional 3x rapid-attach magnifier lens which produces 3x, 4.5x and 6x basic optical magnification for the three models in addition to the 2x and 4x digital zoom function incorporated as standard.

Usable hand held, helmet mounted, head mounted or tripod mounted, the PNP-MTHD does everything. This includes optional anti-mist filters and adaptors for



attaching instantly to camcorders, DSLR cameras and CCTV cameras for total darkness surveillance. You can even power the PNP-MTHD directly from a vehicle cigarette lighter socket (via optional Pyser adaptor) 6v supply and take the live PAL video directly to any compatible recording device or transmitter at the same time as viewing with the naked eye.

For security and convenience the PNP-MTHD monocular on its helmet or head mount auto switches off when flipped up and auto switches on with no switch resetting needed when flipped back down again. Shuttered rubber eyecups are also available which simply screw on without needing to remove the normal soft fold-back eyecup. For added security an icon inside the 27mm eye relief eyepiece illuminates to warn against a low battery charge situation.

All accessories can be used with no tools required for attachment, adjustment or operation.

PNP-MTHD

The world's smallest, lightest most versatile Thermal Imaging monocular – and the best.



Technical Specifications

Thermal Image		Controls	
Detector	Amorphous Silicon Microbolometer 7-14 microns wavelength Uncooled 640 x 480 pixel array High Definition 17 micron pixel pitch 25Hz or 9Hz (optional) refresh rate		On/Off Polarity White hot / Black hot Electronic zoom 1x, 2x and 4x ratio Screen brightness Automatic flip up / switch off, flip down / switch on when used on helmet or head mount with no re-set needed
Display	Advanced OLED 852 x 600 pixels SVGA Monochrome 35° apparent image horizontal angle of view	Power	2 x CR123 Lithium batteries (give up to 7 hours' continuous operation)
Optics	High quality IR objective lenses Fully coated eyepiece optics 25mm glass aperture 27mm eye relief Dioptre adjustment -6 to +3	Input/Output	Single multipin socket for: PAL video out for recording or transmission. External power via battery power module
Focal lengths		Physical	
	Actual field of view	Model	Length Height Width Weight w/o batteries*
17mm	36° x 29° (639 x 479 mils) 1x magnification	17mm	96mm 74mm 53mm 295g
25mm	25° x 19° (444 x 337 mils) 1.5x magnification	25mm	112mm 74mm 53mm 325g
35mm	18° x 14.5° (320 x 240 mils) 2x magnification	35mm	123mm 77mm 55mm 340g
Detection Distances* (Human sized target)		Please note: E variant (DVR) add 19mm to height and 155g to weight	
Human	17mm lens 25mm lens 35mm lens	Tripod mount	Standard ¼" UNC thread
Detection:	625m 920m 1280m	Construction	Moulded glass filled polymer main body
Recognition:	315m 460m 640m	Environmental	
Identification:	160m 230m 320m	Waterproof	Water resistant to 1m for 30 min
*without using electronic zoom		Temperature	Operation -20°C to +55°C Storage -40°C to +65°C
Note: All specifications are nominal			

PNP-MTHDE High Definition Thermal Imaging monocular with DVR



PNP-MTHDE has an identical specification to PNP-MTHD but is fitted with a 32GB Digital Video Recorder (DVR). The DVR is powered up only when required to conserve power. Recording at 25fps with capacity for up to 120 hours, PNP-MTHDE offers an added level of post activity analysis, vital in both operational and training scenarios. The DVR is very simple to operate and easy to download via USB connector.

Digital Video Recorder		Recording			
Encoding H.264 Input Channel 1 Ch. Input impedance 75 ohm Unbalanced Maximum Input 1.0Vp-p @ 75 Ohm Unbalanced Output Channel 1 Ch. Output impedance 75 ohm Unbalanced Composite PAL Maximum Output 1.0Vp-p @ 75 Ohm Unbalanced Memory 32Gb		Video Recording Resolution			
Controls		Format	PAL		
The DVR is controlled via four buttons located on top of the unit		4CIF	704x576		
DVR on/off, record, play and stop		2CIF	704x288		
		CIF	352x288		
		Format	high	normal	low
		4CIF	1800Kbps	1000Kbps	500Kbps
		2CIF	1200Kbps	800Kbps	400Kbps
		CIF	1000Kbps	600Kbps	300Kbps
		Video Recording Frame Rate			
		PAL 25,12,8,6,3,1 fps			
		Storage File system			
		FAT32. Recording time dependent on resolution, 40 hours to 120 hours.			

PNP-MTHD Thermal Night Vision Monocular

Part No.	Model Type PNP-MTHD
561-217*	PNP-MTHD with 17mm lens, 36° Horizontal fov 1x mag 25Hz, including pouch
561-225*	PNP-MTHD with 25mm lens, 25° Horizontal fov 1.5x mag 25Hz, including pouch
561-235*	PNP-MTHD with 35mm lens, 18° Horizontal fov 2x mag 25Hz, including pouch
561-317	PNP-MTHD with 17mm lens, 36° Horizontal fov 1x mag 9Hz, including pouch
561-325	PNP-MTHD with 25mm lens, 25° Horizontal fov 1.5x mag 9Hz, including pouch
561-335	PNP-MTHD with 35mm lens, 18° Horizontal fov 2x mag 9Hz, including pouch

PNP-MTHDE Thermal Night Vision Monocular with DVR

Part No.	Model Type PNP-MTHDE
561-217E*	PNP-MTHDE with 17mm lens, 36° Horizontal fov 1x mag 25Hz, incorporates Digital Video Recorder
561-225E*	PNP-MTHDE with 25mm lens, 25° Horizontal fov 1.5x mag 25Hz, incorporates Digital Video Recorder
561-235E*	PNP-MTHDE with 35mm lens, 18° Horizontal fov 2x mag 25Hz, incorporates Digital Video Recorder
561-317E	PNP-MTHDE with 17mm lens, 36° Horizontal fov 1x mag 9Hz, incorporates Digital Video Recorder
561-325E	PNP-MTHDE with 25mm lens, 25° Horizontal fov 1.5x mag 9Hz, incorporates Digital Video Recorder
561-335E	PNP-MTHDE with 35mm lens, 18° Horizontal fov 2x mag 9Hz, incorporates Digital Video Recorder

All PNP-MTHD/PNP-MTHDE- models are delivered in protective pouches, complete with 2 x CR123 Lithium batteries and full pictorial operating instructions.

Accessories for PNP-MTHD/PNP-MTHDE	
550-003F	Relay lens for use with CCTV camera, NSN 5836-99-366-5780
550-007	Shuttered eyeguard, NSN 6650-99-789-6513
550-006AM	Head harness for left and right eye use and accepts binocular bridge, NSN 6650-99-407-0566
550-006HM	Helmet mount, universal fitting for ballistic helmets for left and right eye use and accepts binocular bridge, NSN 5340-99-812-6225
560-010	Anti-mist filter for eyepiece, NSN 6650-99-731-1262
561-400	Clip-on 3x lens. Converts 1x to 3x, 1.5x to 4.5x and 2x to 6x
589-840-300	Camcorder/camera 30mm adaptor
589-840-305	Camcorder/camera 30.5mm adaptor, NSN 6650-99-412-0360
589-840-035	Camcorder/camera 35mm adaptor, NSN 6650-99-000-5183
589-840-040	Camcorder/camera 37mm adaptor, NSN 6650-99-595-0780
589-840-043	Camcorder/camera 43mm adaptor,
589-840-046	Camcorder/camera 46mm adaptor,
589-840-042	Camcorder/camera 49mm adaptor, NSN 6650-99-323-6896
589-840-041	Camcorder/camera 52mm adaptor, NSN 6650-99-329-3201
589-840-058A	Camcorder/camera 58mm adaptor, NSN 6650-99-180-7670
589-840-072	Camcorder/camera 72mm adaptor, NSN 6650-99-297-7873 Others available on request
560-015	Dioptre Locking Clamp (guarantees dioptre position when using DSLR/camcorder) Optical Modules to connect PNP-MT directly to a photographic camera body
589-840-400A	Nikon photographic module
589-840-401A	Canon photographic module
589-855	Lanyard
561-409S	External Battery Power Module fed by 6 Volts DC
561-410S	6 Volts DC Power Supply for 561-409 (UK)
561-411S	6 Volts DC Power Supply for 561-409 (EU)
561-401	Video Out Cable to phono plug
FBS-034	Small Hermetic Case, holds PNP-MTHD in its pouch
FBS-043	Medium Hermetic Case with custom made foam cut-outs
FBS-037	Large Hermetic Case with custom made foam cut-outs, NSN 6650-99-778-3635

*Export of this product from the UK is controlled under U.K. Export Licence Regulations. All goods are supplied under our standard conditions of trade. We reserve the right to amend design and specifications without prior notification

Visit our website on www.pyser-sgi.com for further information on the complete range of products available from Pyser-SGI Limited.



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