

Frequency ranges:

- 24 - 42 Mhz (60 W)
- 300 - 500 Mhz (60 W)
- 800 - 900 Mhz (30 W)
- 900 GSM (30 W)
- 1800 GSM (30 W)
- 3G GSM (30 W)

Jammer Unit

- Weight: 23,5 kg
- Size: 56x35x23 cm
- Voltage: 24 V
- Runtime: 90 min minutes.
- . Continous output power: 220 W
- Environmental

Tempreture: -10 - + 60°C

Humidity: 5- 80%

- Max gain per channel: +/- 2 dB

- Charge: Regulated AC charger

Other features:

MilSpec Pelicase

Components (in separate Pelicases):

Jammer unit

Antenna set.

Battery pack (2)

The design makes it possible to operate on EOD robot, inside/outside of vehicle, stand alone.

Fraquency ranges and communication window can be ordered according to buyer's specifications. The modules can later be changed, expanded, the output power modified. Modules can be operated independently.

Ready for operation: 3 mins max.

Please contact us for additional information and references

Q-Guard 4 Band Disabler - DATA SHEET

Protection abilities

- ✓ **ACOUSTIC ISOLATION** - The system provides the ultimate solution in the area where cellular communications frequently cause nuisance, either through loud rings indicating incoming calls or loud conversations by subscribers. Q-Guard is the most suitable for executive offices, board rooms, conference centers, corporate headquarters, libraries, cinemas, religious places, concert halls, exclusive restaurants, educational institutions, etc.
- ✓ **BREACH OF SECURITY POLICY** - Cellular phones and WLAN/BlueTooth devices are innocent looking, but they enable continuous transmission of voice/data even in places where such communication is prohibited. Mobile phones and BlueTooth devices are so small that it's almost impossible to track a person conducting a conversation and spot the misuse.
- ✓ **ACCIDENTAL EAVESDROPPING** - Many cellular phones and BlueTooth headsets dial the last number called by simply hitting one button. In many instances, people press this button by mistake and thereby initiate a call unintentionally. Such incidents may lead to transmission of confidential information over the air.
- ✓ **INTENTIONAL EAVESDROPPING** - As various cellular protocols enable a skilled technician to remotely activate a specific cellular phone as a bugging device, other technologies, like WLAN/BlueTooth, has there own protocols which could be used to collect information from a prohibited zone and send it to anywhere, even to the Internet.

Q-Guard PROVIDES THE ULTIMATE SOLUTION TO THE PROBLEMS ABOVE

Main technical parameters:

Frequency band (4 of these):

- GSM 900	930 ~ 960 MHz
- GSM 1800	1805 ~ 1880 MHz
- 3G	2110 ~ 2170 MHz
- WLAN/BlueTooth	2400 ~ 2438 MHz
- DECT	1880 ~ 1900 MHz

Nominal operation range: up to 10-20 m

RF power (optional):

- GSM 900	0 ~ 4 W
- GSM 1800	0 ~ 4 W
- 3G	0 ~ 4 W
- WLAN/BlueTooth	0 ~ 1,5 W
- DECT	0 ~ 1,5 W

Consumption: 6V DC, 5A / 230 V, 50/60Hz AC

Output: 4 SMA (female), 50 Ω

Dimensions: 200 x 150 x 45 mm (250 with antenna)

Weight: 560g

Interface: Wired remote control (On/Off)

Cooler: Automatic fan

Basic Design:

- GSM 900, GSM 1800, 3G, WLAN/BlueTooth
- Rubber duck omnidirectional antenna
- 230 V AC power supply (with socket wire)
- Wired remote control (On/Off)



Functional description

Q-Guard, our newest product, developed by our specialists to fulfil the role of protection of offices and negotiations. The device transmits low power radio signals, cutting-off communications between end devices (handy, NIC, etc) and central units (base station, router, etc). Ordering the equipment, the user has to select 4 bands from the listed frequencies in which he would like to use the Q-Guard.

This jammer does not interfere with any communications except the selected ones within the quiet zone and naturally does not interfere with communications outside the regulated area.

The system utilizes a unique transmission method that confuses the receiving circuits of end devices as if no central unit was within the service area.

Upon activating Q-Guard, all devices within the selected zone and frequency bands will indicate "NO SERVICE" (in case of cellulars) or "NO SIGNAL" (in case of WLAN or BlueTooth). Consequently, all communications already in progress within the defined area will be cut-off and the wireless link will be lost. In case of cellulars/BlueTooth, when activated, incoming calls are handled as if the cellular handset was switched OFF and calls may be routed into a voice mailbox.

When Q-Guard is turned off, all devices will automatically re-establish communications with their network in a few seconds and provide the same services were available before entering the protected zone.

Installation and operation

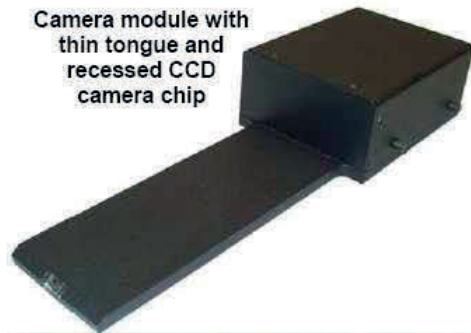
Q-Guard installation and operation are simple and straightforward, even somebody with non professional technical experience will be able to do it. The easy to use controls enable quick calibration of coverage area and selection of frequency bands. The Q-Guard will not expose the persons in the room in which it is installed to any health hazards. The total amount of RF energy in the room is considerably lower then the radiation to which the user of a regular cellular telephone is exposed when using a cellular phone close to his head.

ZISTOS PORTABLE VIDEO SYSTEMS **UNDER-THE-DOOR CAMERA**
Extending Your Vision

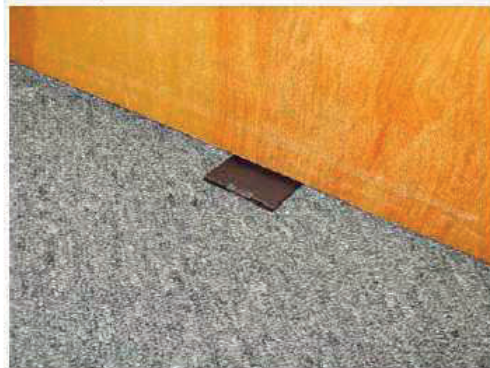
Zistos' Under-the-Door Camera is a valuable extension of the Tactical System offering a safe and covert look into rooms that are locked and/or barricaded.

Camera Features:

- Very high resolution, miniature CCD camera chip provides excellent video image quality
- Requires only a ¼-inch door-to-floor clearance
- Detachable pole with universal joint affords safe deployment and easy operation well outside the "danger zone"
- Wide angle prism sees entire room vertically from top to bottom
- Pans the entire room horizontally by swiveling the camera module via the extension pole
- Direct video cable attach (sans pole) an on-site option for static surveillance situations
- Inconspicuous in appearance and cushioned for silence to ensure stealth
- Compatible through *VisionFlex™* with all existing and future *WalkAbout™* systems



Camera module with thin tongue and recessed CCD camera chip



Inconspicuous tongue slips underneath any door with ≥ ¼" clearance



Telescopic pole with universal joint ensures safe and easy operation outside the "danger zone"

Under-the-Door Camera Construction:

- CCD camera chip recessed into tongue for protection
- Durable die cast aluminum housing
- Rugged, weatherproof enclosure
- Pole and camera module store in

VIDEO ENHANCEMENT AND MINIATURE CAMERA

EV9 Video Image Enhancer



The EV9 Image Enhancer electronically processes any incoming video signal for maximum image quality. It transforms hard to distinguish scenes into brilliant and crisp images. It minimises effects caused by poor atmospheric conditions such as fog, rain and flare from the sun making it ideal for surveillance in poor weather. Its ability to eliminate glare from vehicle headlights and street lamps allows the user to identify otherwise obscured number plates and persons or objects indistinguishable in back lit areas. With 10 windows it allows a range of local enhancement according to application. Running off a standard 12V DC input, the EV9 Image Enhancer is simple to operate and can be used in conjunction with both live video feeds and pre-recorded tapes.

MCC8 Miniature Camera



Currently the thinnest camera on the market at only 8mm diameter, the MCC8 offers superior performance and high quality images. This 1/4" colour CCD camera giving more than 470 lines resolution can be used in conjunction with microwave transmitting/receiving equipment allowing unlimited applications.

Each camera is supplied with approximately 1 metre of connecting cable and connectors for video and power, or optional with 20 metres.

Portable Network Surveillance Camera

Instantly set-up wireless IP-based video surveillance



Applications:

- Perimeter surveillance around a mobile asset/terrorist target
- Tactical covert surveillance for hostage barricades
- Surveillance for sting operations: warehouses, loading docks, depots
- Border security/VIP security
- Construction site safety and security
- Video and lighting support for disaster management scenarios
- Event security for large and small venues
- Optional Gamma Radiation Sensor available



PNSC-A-PTZ model

Portable Network Surveillance Camera (PNSC)

The PNSC is a self-contained, battery-operated, wireless network camera in a single, rugged carry case. The built-in wheels and handle in the case make the PNSC easy to transport.

The PNSC includes an internal rechargeable battery, a telescoping pole, two adjustable tilt/swivel brackets, and either a manual focus day/night camera or a remote-controlled PTZ (Pan/Tilt/Zoom) day/night camera—both of which are infrared illuminated. Either camera attaches to the telescoping pole, which raises the camera up to 78" high and mounts securely to the case. All items conveniently store within the case.

The PTZ model contains a remote-controlled PTZ camera, allowing the operator to pan 360° continuously, tilt from -45° to +90° and adjust the field-of-view from 5.6° to 51° (10X optical zoom). The more affordable IR model contains a day/night camera with a varifocal lens, which allows the field of view to be manually adjusted from 16° to 36°.

Both the IR and PTZ models provide invisible IR illumination for covert surveillance in dark surroundings. At low ambient light levels, the camera automatically switches to BW mode with the infrared illuminator on. At higher ambient light levels, the camera automatically switches to color mode with the infrared illuminator off.



PNSC-A-IR model

The PNSC transmits video on a wireless 802.11 network, either connecting to an existing structured network or creating its own standalone network. The video can be viewed and recorded by a PC connected to this network running the supplied application program. The PNSC can be programmed to generate motion alarm events based on changes in video image content.



The PNSC is suitable for a wide range of applications including surveillance, disaster management and industrial safety/security.

Features & Benefits:

- Cost-effective solution
- No external power or wires required
- Easy to transport and deploy – sets up in 5 minutes!
- Rugged, weather proof design
- Viewable on a PC or Laptop
- Can support up to 6 PNSC's per network
- Rechargeable battery – powers system for up to 30 hours (with illumination off)
- Field configurable
- Motion alarm capable
- Records video on PC
- Available with white light illumination
- Supports audio with addition of microphone
- Can be hard wired if desired
- Compatible with other portable video tools from Zistos
- Optional Gamma Radiation Sensor available

Optional Gamma Radiation Sensor

Detect the presence of a radioactive threat. Add a radiological alarm to any or all cameras in the network with the factory installed radiation sensor.

Features:

- Simple to use. The sensor is embedded in the case. No setup required.
- User programmable high level alarm threshold.
- Current gamma level is continuously reported on the camera image.
- High sensitivity, low response time.

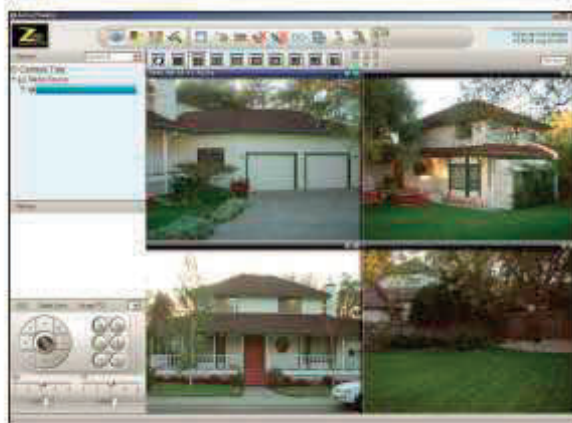
Detectable Materials:	Specifications:
Cesium (Cs-137)	Sensitivity >60cps ($\mu\text{Sv/hr}$)
Cobalt (Co-60)	Response Time <2sec
Iridium (Ir-192)	Accuracy +/- 20%
Americium (Am-241)	



Screen shot of single camera showing a radiation alarm.

A Typical PNSC System

Dynamically deploy standalone video surveillance cameras around a perimeter.



Screen shot of quad view from PNSC.



Computer requirements: Intel core 2 Duo 2.4GHz or faster, at least 2GB of RAM, Video card with NVidia 7600 chipset or newer with at least 256MB of RAM, 801.11 b/g wireless network adapter. Operating systems supported - Windows XP sp2, Windows 2003 Server, Windows Vista Enterprise or Business only.

ZISTOS | PORTABLE VIDEO SYSTEMS | **Order Info/PNSC Specifications**

Part Number Scheme PNSC - A - IR - P

Ordering Examples:
 PNSC-A-PTZ for the wireless PTZ Camera (NTSC)
 PNSC-A-IR-P for the wireless Day/Night Camera (PAL)

P for PAL version, blank for NTSC
 IR for the Day/Night Camera
 PTZ for the PTZ Camera
 A = wireless; W = wired

Options


PNSC-GAMMA: Gamma Detection
 Detects the presence of a radioactive threat. Factory installed.

BAT-7: Spare Internal Battery
 A second battery allows one battery to be charging while the other is operating the PNSC.

PNSC-ILL-WL: White Light Illuminator
 Adds supplemental visible illumination to events or rescue/disaster scenes.

Only compatible with the IR model, not the PTZ model.

Reduces battery run time.



System

System Components	Quick connect telescoping pole (raising camera to 6.5ft); Adjustable camera tilt/swivel bracket; Adjustable pole tilt/swivel bracket; Battery Charger; Whip antenna; 6ft antenna cable; PC program; Case with integrated battery, electronics and wireless transmitter
Case Size	22" x 15" x 8" (56cm x 38cm x 20cm); Waterproof when closed
Weight	46 lbs (21kg)
Temperature Range	-20°C to +50°C
No. of PNSC Per Network	Up to 6; Performance depends upon wireless signal strength

Cameras

PNSC Model	Infrared	PTZ
Type	Day (color) / night (BW); Automatically switches to night mode at dusk or day mode at dawn	PTZ (Pan/Tilt/Zoom) day (color) / night (BW); Automatically switches to night mode at dusk or day mode at dawn
Remote Pan	None	360° continuous pan, adjustable speed
Remote Tilt	None	-45° to +90° (digital flip)
Lens	16°-36° FOV	5.6°-51° FOV (10X optical zoom)
Resolution	768 x 494 (NTSC); 752 x 582 (PAL)	
Lux	.004 color; .0001 BW	.7 color; .02 BW
Illumination Type	850nm (slight glow) 940nm (invisible) - available upon request	850nm (slight glow)
Illumination Angle	60°	30°
Illumination Range	150ft (45m)@840nm; 75ft (23m)@940nm	150ft (45m)

Wireless		Battery	
Frequency	2.4GHz, 802.11 b/g	Type	12V Lead-acid
Antenna	12" omni-directional whip antenna; 6ft antenna cable supplied; Antenna can be mounted directly to the case or on the pole	Charge Time	6 hours
Range	1000ft+ (300M+) line-of-sight; Range is highly dependent upon environment	Power Input for Charging	60W; 90-264VAC; (For the PAL version, order the power cord adapter separately at no charge, part number PCA-XX, where XX is the country code.)
		Run Time	15 hrs with illuminator on; 30 hours with illuminator off; (IR version); 8 hours with light on; 30 hours with light off (white light version)

External Connectors

Camera Input	12 position metal waterproof connector for coil cord to camera and illuminator
Battery Output	Marine/vehicle auxiliary power connector for operating the white light version of the PNSC. Sealed with hinged cap when not in use or in transport; Unregulated 12V battery voltage output
A/V Connector	6 position metal waterproof connector for video out & microphone in; Audio processor amplifies low sounds and limits loud sounds
Antenna Connector	N-type female; Capped when not in use
Network	Waterproof RJ45 for a hard wired CAT5 cable connection; Tethered cap when not in use; Usage requires operating an internal switch, which disables wireless operation

PC Monitoring Station

PC Requirements	Not supplied; See requirements on previous page
Application Program	Supplied with each PNSC; Allows for system setup and configuration; Can view all cameras independently or simultaneously; Reports alarm conditions received by the PNSC's
Alarm Conditions Reported	(1) Programmable motion detector for each camera; (2) Optional Radiation sensor programmable threshold reached; (3) Low battery condition

Recon ZRS-XT

The Recon Scout Robot XT (model ZRS-XT) is a miniature, infrared illuminated, water resistant, two wheeled, robotic camera for tactical video surveillance and remote video inspection.

Recon Scout Robot XT Features:

- Adds remote video monitoring to *any* existing system
- Suitable for tactical or EOD missions
- Highly rugged, throw-able with a 1500G force rating
- Always lands on wheels - self-rights upon moving
- Controlled remotely with a simple joystick
- Low light BW camera and built in *IR illumination* works in total darkness
- Constructed with a titanium shell and cast urethane wheels
- Water resistant to a depth of 1.75" (45mm). Safe to use in rain, mist and fog (**ZRS-XT only feature**)
- Equipped with aggressive wheels and larger motors for higher speed (**ZRS-XT only feature**)



Recon Scout Robot XT



Recon Scout Controller

Recon Scout Controller Features:

- Compatible with any WalkAbout or Video Monocle System
- Simple joystick operation
- Draws power from the WalkAbout

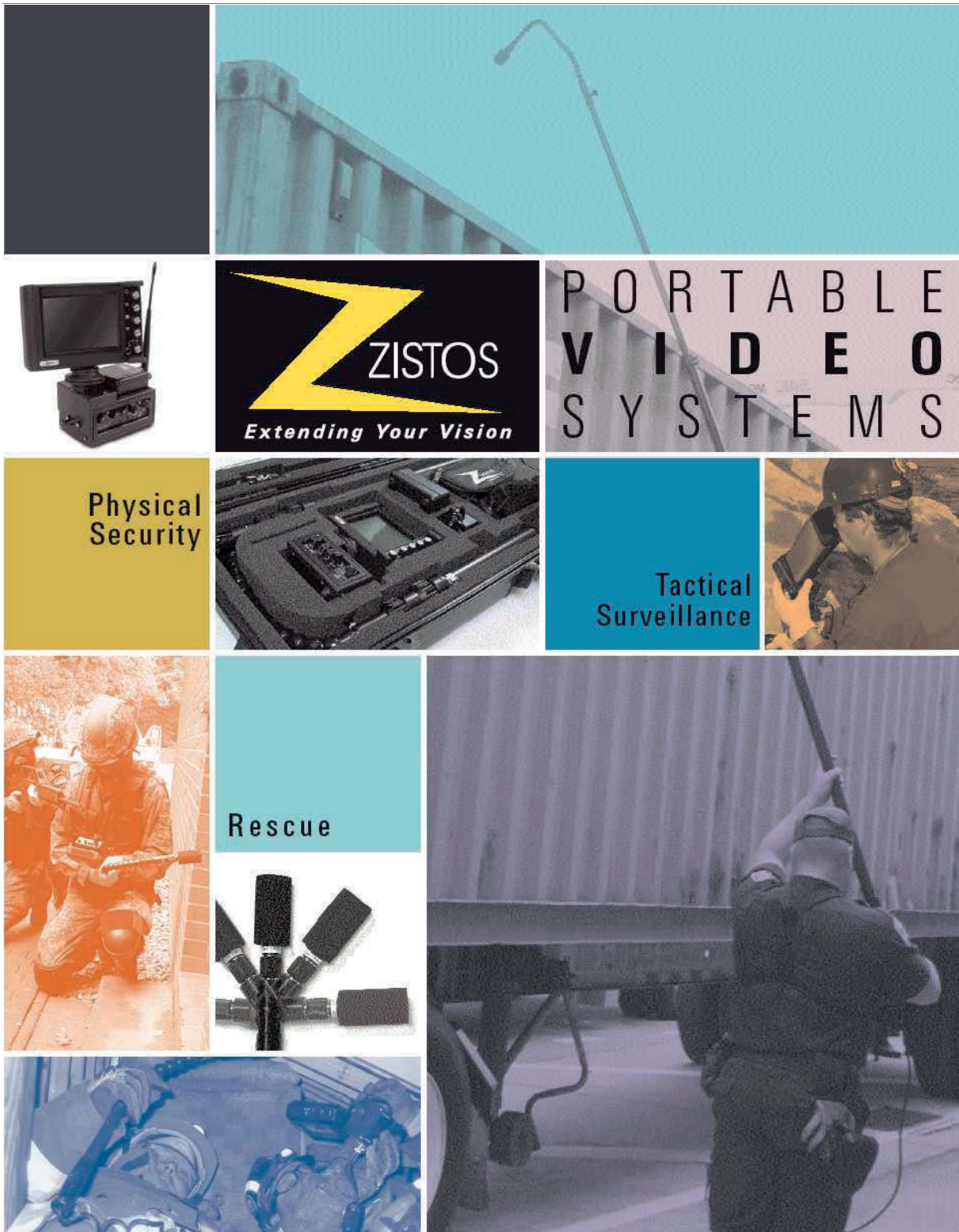
Recon Scout Controller specifications

Size:	7.5" (190 mm) x 3.5" (89 mm) x 2" (51 mm)
Weight:	1.25 lbs. (.57 kg)

Recon Scout Robot specifications

Physical		Camera		RF	
Weight:	1.2 lb (.54 kg)	Type:	BW CCD (NTSC only)	Indoor range:	100' (30M)
Length:	8.0 in (20.3 mm)	Resolution:	600 lines	Outdoor range:	300' (91M)
Width:	7.3 in (18.5 mm)	Lux:	.0003	Video frequency:	433 Mhz ²
Wheel diameter:	4.5 in (114 mm)	FOV:	60 degrees	Command frequency:	75.57 MHz ²
				RF level:	250mw
Battery specifications:			Performance		
Type:	Lithium ion	Speed:	1.5 fps (.45 MPS)		
Charge time:	2 hours	Drop shock resistance:	30' (9.1M) vertical		
Run time on full charge:	60 min – stationary	Throw shock resistance:	120 ft (31.4M) horizontal		
	50 min - moving	Operating temperature range:	20 F (-6 C) to 140 F (60 C)		

- 1) The Recon Scout Robot XT is sold as a kit (ZRS-XT), including a Recon Scout Robot (RSR-XT), Robot Scout Controller (RSC) and a Scout Battery Charger (RSB). Product Warranty Note: This product is warranted to be free from material and workmanship defects for a period of one year.
- 2) To order an alternate frequency robot kit, add "-A" to the PN (ZRS-XT-A) to specify video/control frequencies of 445MHZ / 75.41MHZ or add "-C" to the PN (ZRS-XT-C) to specify video/control frequencies of 439MHZ / 75.45MHZ.





Our Mission

Zistos is committed to the design, manufacture and sale of leading edge, portable video inspection solutions that enhance the safety and effectiveness of tactical, rescue and search efforts. We feel it is our distinct privilege to have as our primary customer base those organizations dedicated to serving and protecting the public.

Extending Your Vision

Zistos is a privately owned business specializing in portable video inspection products that are in use throughout the law enforcement, fire and rescue, military, corrections and industrial sectors. More than simply designing and marketing video-based products, Zistos is adept at developing and implementing complete vision solutions that not only increase job effectiveness but also enhance the safety of those who by their occupation are exposed to potentially dangerous situations.

We further ensure your needs and expectations are fully satisfied by promptly turning customer requests and recommendations for new and enhanced uses of our products into practical solutions. All design and final manufacturing are performed in-house, ensuring tight control over both product execution and final outgoing quality.

And as the need for portable vision systems continues to grow, so too will Zistos by continuing to serve and expand in the markets that rely upon our unique solutions.

Sectors Served

Zistos' diverse line of portable video solutions has been adopted by the law enforcement, military, fire/rescue and physical security sectors. Customers relying on Zistos products range from large departments within major cities and all branches of the US Military to small town municipalities.

MILITARY

Zistos Systems are in use throughout all branches of the US Military over a wide variety of applications ranging from routine vehicle inspection at critical checkpoints to remote thermal imaging for undisclosed operations within the Special Forces. The Military insists on only the best tools, and Zistos provides the performance and reliability required by those who can't afford to settle for anything less.



LAW ENFORCEMENT

For Law Enforcement applications, nothing is more beneficial than a tool that provides safety to dedicated protectors who, by the very nature of the dangerous job they perform, are often placed in harm's way. Zistos furnishes that key element of safety by offering visual dominance in hazardous situations while maintaining safety through distance. The various components that comprise a Zistos **Tactical System** collectively afford a safe look into inaccessible or simply "unknown" areas where it might be otherwise fatal to enter prior to visual assessment. Zistos' high resolution cameras, wide variety of extension poles and accessories are optimized for real-world tactical scenarios where safety and survivability is paramount.

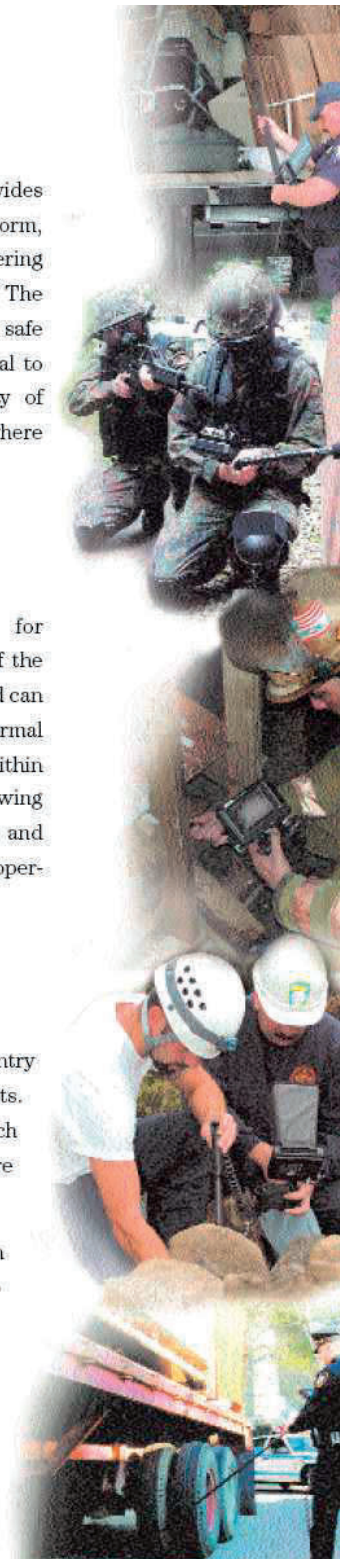
FIRE/RESCUE

Fire/Rescue units rely upon the inherent configurability of Zistos systems for collapsed structure rescue and accident victim extrication. Where time is clearly of the essence, the ability to instantly adapt a Zistos **Rescue System** to the situation at hand can equate to saving lives in a deadly race against time. Articulating poles and optional thermal imaging cameras are indispensable components that can help locate victims from within and outside of a collapse when severe rubble and debris obscure conventional viewing techniques. Additionally, Zistos products are designed for maximum portability and robustness to be easily transported to the scene yet stand up to the rigors of rescue operations. No other system is as portable, adaptable and reliable as Zistos.

PHYSICAL SECURITY

Zistos' **Vehicle Search Systems** provide security countermeasures at vehicle entry points and other vulnerable areas of facilities that are highly attractive to terrorists. Searches are conducted far more efficiently and thoroughly at vehicle checkpoints such as tunnels, bridges, parking lots, vehicle entry gates, borders and any other area where vulnerability may exist.

Zistos' inherently configurable **Vehicle Search System** allows the undercarriage, on top of, under the hood, and in the cargo and passenger areas of all vehicle types to be thoroughly inspected by simply swapping modular components. The uses for Zistos search systems are virtually endless and include potential targets such as power facilities, chemical plants, water treatment plants, port harbors, public stadiums, financial institutions, etc. Zistos search systems are equally invaluable tools for performing security sweeps in search of concealed contraband and weapons.



All About

VisionFlex™ is a unique design philosophy developed by **Zistos** that forms the foundation for all of our portable video products. The core focus is flexibility without compromise. In other words: a modular “socket set” of portable vision tools to ensure complete flexibility and compatibility while adhering to all of the other critical design criteria that factor into overall tool value.

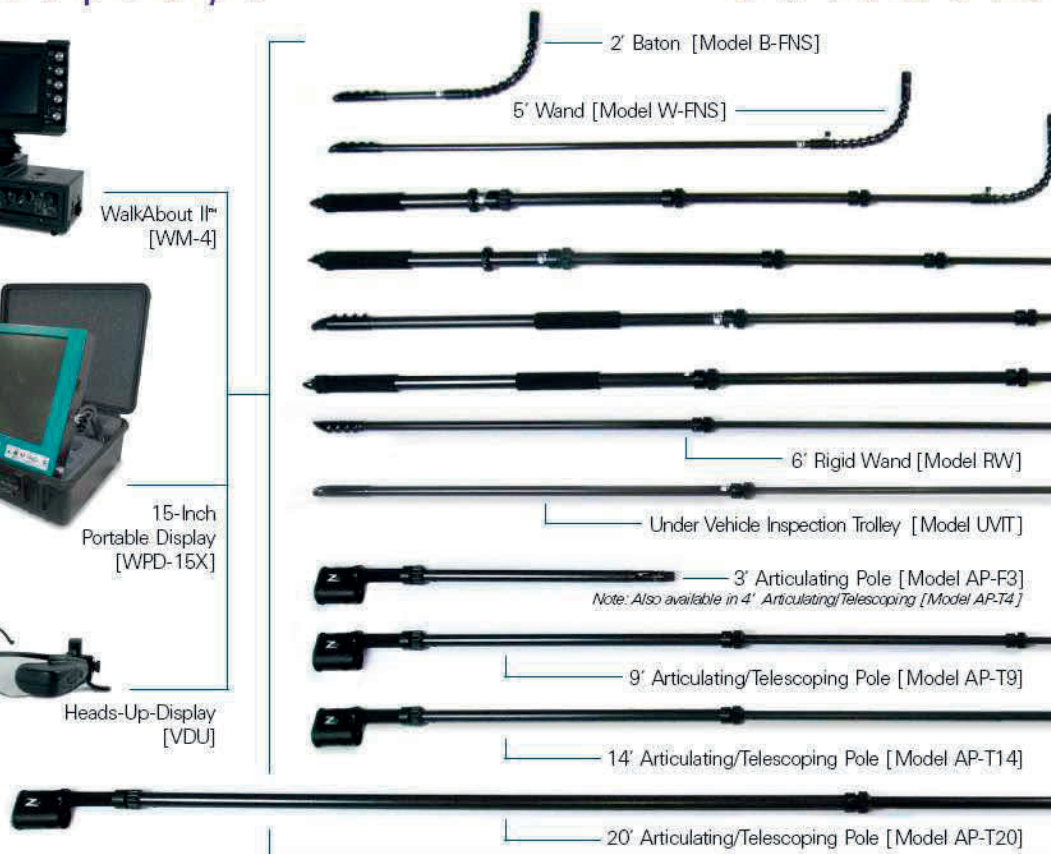
Whether the application is for law enforcement, rescue, military or security, the inherent adaptability of **VisionFlex™** guarantees that Zistos vision equipment brought to the site is going to work effectively under all possible conditions is through **VisionFlex™**.

Much More Than Modular While modularity is inarguably better than dedicated tools for a myriad of reasons, Zistos portable video equipment is superior to other modular alternatives. **VisionFlex™** offers the inherent flexibility and adaptability of modularity — yet adds to that all of the other important design considerations for portability, functionality, reliability, safety, ergonomics and cost effectiveness that determine overall value. In discerning head-to-head evaluations with other modular and non-modular video equipment, Zistos with **VisionFlex™** technology is the preferred choice.

Displays



Extensio



Accessories



VisionFlex™

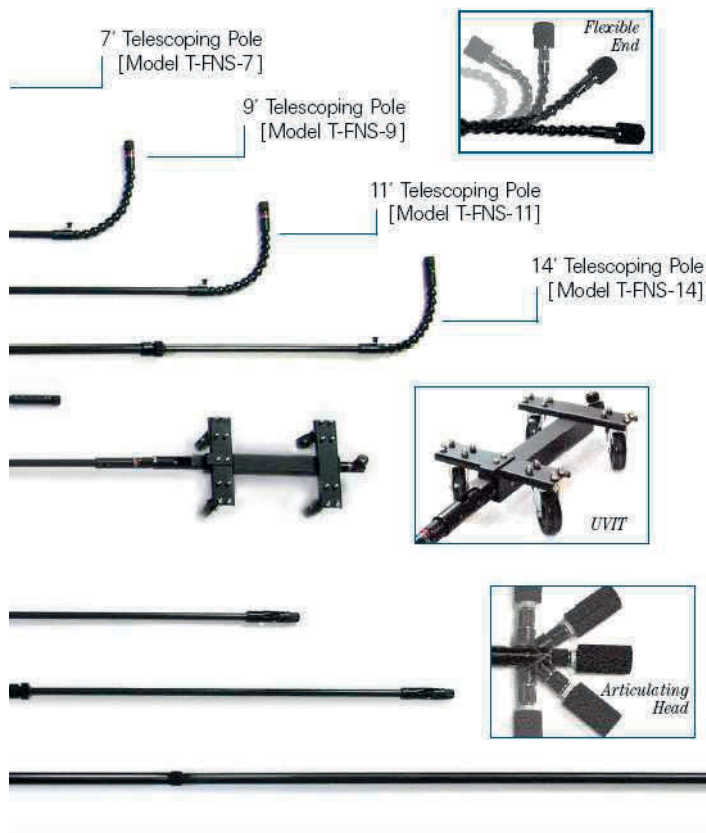
VisionFlex™ Features & Benefits:

- All system components and accessories are modular and, therefore, fully interchangeable
- Ensures total compatibility of all components throughout the entire Zistos product line
- Forward and backward compatible designs insulate against equipment obsolescence
- No sacrifice in functionality or performance compared to dedicated tools
- Quick time to market of new customer-driven designs

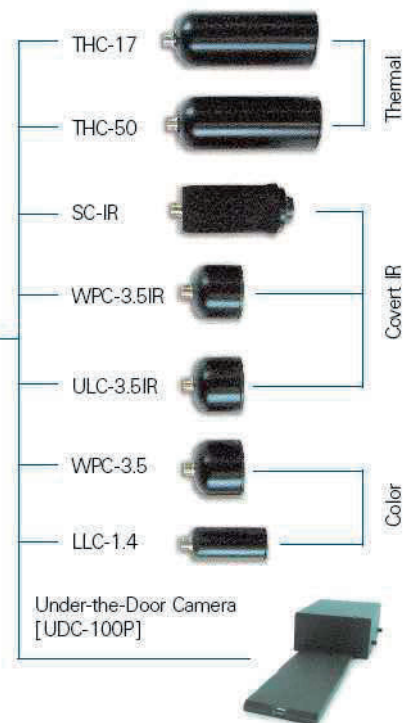


- Considerable cost savings over equivalent capability from multiple dedicated tools
- Components are lightweight for portability yet rugged enough to withstand continued use under rigorous, real-world conditions
- Cost-effective and affordable to public and private entities
- Quick and easy conversion to instantly adapt to the situation at hand

T e l e s c o p i n g P o l e s



C a m e r a s

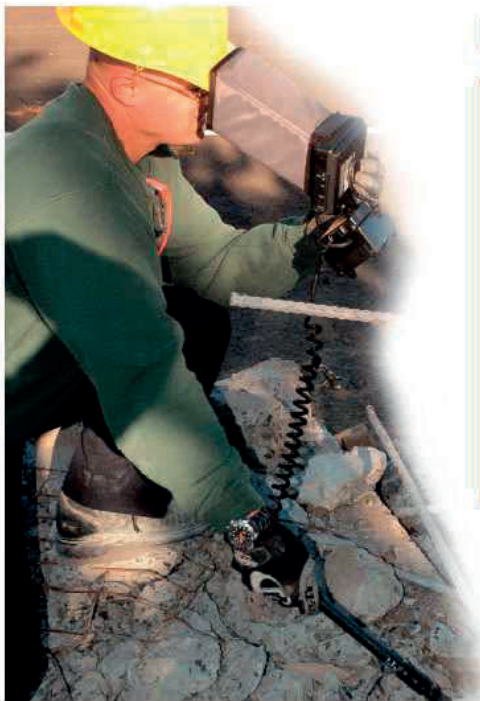


F i b e r s c o p e s & B o r e s c o p e s



These are extremely useful additions to any WalkAbout™ system in order to gain access into very small recesses where a typical camera head on a pole simply will not fit. These come in a variety of lengths and can be rigid or flexible,

with the flexible version having the option of two or four way articulation that maneuvers the tip remotely from the grip. An optional light source provides illumination to the area surrounding the tip in low light conditions.



Rescue Systems

Zistos' popular **Rescue System** provides visual and audio assessment for collapsed rescue and victim extrication scenarios. With the introduction of a family of articulating poles optimized for use in and outside of a collapse, Zistos has dramatically improved the overall effectiveness of rescue related missions.



The articulating pole offers the advantage of panoramic vision with the simple twist of the grip. Superior visual and audio quality helps find and pinpoint the location of trapped victims where time is of the essence.

FEATURES

- Perfect tool for use both inside and outside of a collapse
- Superior video and audio quality
- Articulating pole with tactile feedback helps pinpoint victim location
- Modularity allows the option to easily add thermal imaging capability
- Extremely rugged and weather resistant to withstand rigorous use.
- Ultra sensitive audio module allows rescue team to also listen for signs of trapped victims



Tactical Surveillance Systems

The **Tactical Surveillance System** is used to maintain visual dominance while gathering intelligence in potentially dangerous situations. The system is easy to transport to the scene and is field configurable to instantly adapt to any tactical scenario as it unfolds.



A high resolution, infrared illuminated camera and audio module at the end of a 9-foot articulating pole provide covert video and audio from areas where it may be far too risky to enter prior to visual verification. The silent articulating pole allows the camera to pan 180° with the simple twist of the grip. The entire system is rugged and weather resistant, ensuring reliable operation in all tactical situations.

FEATURES

- Modular design also allows system expansion into vehicle search applications
- Provides safe distance from which to view dangerous situations
- Ultra sensitive, infrared illuminated camera allows covert vision in total darkness
- Optional under the door camera invaluable for barricade situations
- Noiseless, articulating pole silently pans 180°

Vehicle Search Systems

Zistos® Deluxe Vehicle Search System provides comprehensive inspection of all vehicle types and areas including: the undercarriage, wheel wells, engine compartment, cabin, on top of and in the cabin and cargo areas. The inclusion of an under vehicle trolley, 14-foot extension pole and 2-foot flexible baton in one easily transportable case offers the advantage of exploring the otherwise difficult to reach or inaccessible areas where contraband and IED devices may be hidden.



FEATURES

- Perfect tool for vehicle checkpoints at vulnerable locations
- Comprehensively search all areas of any vehicle from top to bottom
- Safe — no need for ladders, crawlers or other devices linked to accidents
- Far better image detail than mirrors or alternative video systems
- Completely weather resistant to withstand the elements

System Packaging

Packaging is a key consideration at Zistos. Our portable video systems are designed so that all system components are conveniently and safely stored in rugged yet portable cases. These cases are fitted with custom foam inserts that house the relevant components for a specific application system. And additional space is provided to accommodate system expansion when complete.



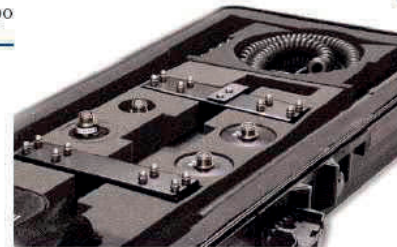
Tactical Surveillance System shown

RECOMMENDED SYSTEMS BY APPLICATION

- WA-TSW-A9 Tactical Surveillance System
- WA-RW-A9 Rescue System
- WA-VSWD14 Deluxe Vehicle Search System
- WA-PSW-A9 Building Search System
- WA-P-T50W-A9 Thermal Imaging System

FEATURES

- Recommended systems only a starting point
- Modularity allows for custom system configuration and expansion
- All system components conveniently stored in rugged yet portable case



Vehicle Search System shown

Specialty Items

Zistos offers many options to enhance the overall capability and effectiveness of our systems. And **VisionFlex™** guarantees that these specialty items can be purchased with new systems or be subsequently added to existing systems as the need develops or budgets become available.

HEADS UP DISPLAY

Zistos' personal Video Display Unit (VDU) offers another level of stealth in tactical applications by minimizing the glow associated with larger LCD displays. In situations where it is absolutely necessary to maintain maximum covert status, the head worn VDU offers a high quality image via a miniature display mounted to glass frames, thereby allowing the dominant eye to remain free to look elsewhere.



UNDER-THE-DOOR CAMERA KIT

Zistos offers a state-of-the-art camera that gains visual access into rooms with closed, locked or barricaded doors. Employing a tiny yet very high resolution CCD camera chip, the tongue of the UDC-100P is able to covertly slip underneath any door with only a 1/4" clearance to feed a detailed video signal into any Zistos WalkAbout™ system. A telescopic pole that attaches to the back of the camera unit serves the dual purpose of providing the operator a constant safe distance from the door throughout the surveillance mission while allowing the camera to pivot horizontally to pan the entire room. At no time is the operator required to be in the "danger zone" directly in front of the door—the possible difference between life and death.



WIRELESS VIDEO TRANSMISSION

The video signal from any WalkAbout™ can be wirelessly transmitted to another WalkAbout™ or any other Zistos display through our optional WalkAbout™ transmitter and TagAlong™ receiver. Remote viewing capability with other team members has enormous value in tactical, rescue and physical security applications alike.



THERMAL IMAGING SYSTEM

Zistos has combined the power of thermal imaging along with the many benefits of remote video inspection. The modularity of **VisionFlex™** allows the thermal camera to attach to any of our extension poles for obtaining thermal images in areas where it is unsafe, inconvenient or simply impossible to go.



FEATURES

- Sees heat signatures through smoke in light or total darkness
- Proven thermal technology in a rugged housing
- Color camera included in addition to thermal camera
- Articulating pole affords thermal imaging into other wise inaccessible areas

AUDIO/VIDEO RECORDING

All Zistos WalkAbout™ models have a composite audio/video out jack that allows for recording of that signal to any VCR or DVR that accepts composite video as an input. Zistos can furnish a DVR or provide guidance on which models best suit your recording requirements.

ULTRA LOW LIGHT COVERT CAMERA

Our premier Infrared Illuminated Camera provides extraordinary performance in complete darkness and under extremely low light conditions. Touting an impressive LUX rating of 0.00003, the ULC-3.5IR covert camera approaches night vision capability with the added benefit of integrated infrared LEDs to furnish invisible light in situations of total darkness. This is an ideal addition to the tactical system.



All About VisionFlex™

VisionFlex™ is a unique design philosophy developed by Zetron from the best of all of our video systems products. The core focus is flexibility without compromise. In other words: A modular "socket set" of portable video tools to ensure complete flexibility and compatibility while adhering to all of the other critical design criteria that factor into overall tool value.

Whether the application is for law enforcement, rescue, military or security, the inherent adaptability of VisionFlex™ guarantees that Zetron video equipment brought to the site is going to work effectively under all possible conditions is through VisionFlex™.

Much More Than Modularity While modularity is frequently touted as the desired goal for a variety of video equipment, VisionFlex™ offers the inherent flexibility and adaptability of modularity — you add to that all of the other important design considerations for portability, functionality, reliability, safety, ergonomics and cost effectiveness that determine overall value. In discerning head-to-head evaluations with other modular and non-modular video equipment, Zetron's VisionFlex™ technology is the preferred choice.

VisionFlex™ Features & Benefits

- All system components and accessories are modular and therefore, help maintain quality
- Ensure total compatibility of all components throughout the entire Zetron product line
- Forward and backward compatible designs lend to rugged equipment designed to last
- No assembly or disassembly or performance compared to dedicated tool
- Quick time to market of new customer-driven designs

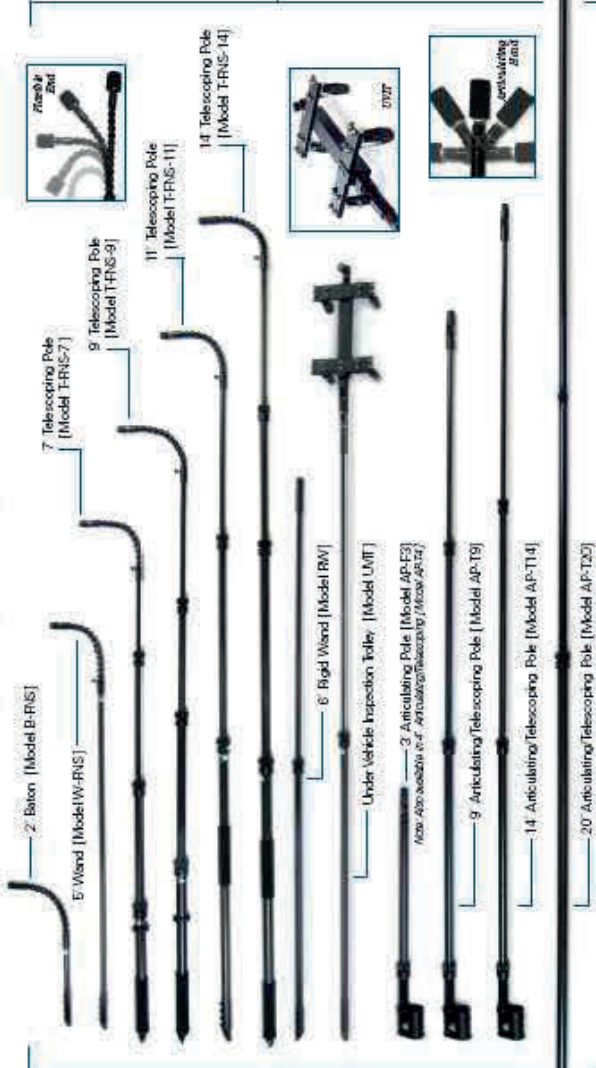


- Considerable cost savings over equivalent capability from multiple dedicated tools
- Components are lightweight for portability yet rugged enough to withstand continued use under rigorous, real-world conditions
- Cost-effective and adaptable to public and private entities
- Quick and easy conversion to instantly adapt to the situation at hand

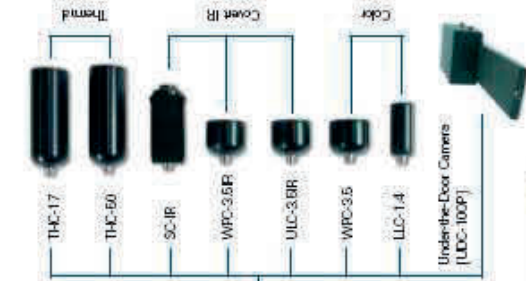
Displays



Extension Poles



Cameras



Accessories



Fiberscopes & Borescopes

These are extremely useful with the flexible version having the option of two or four way articulation that maneuvers the tip very small recesses where a typical camera head on a pole simply will not fit. These come in a variety of lengths and can be rigid or flexible, light conditions.



Covert intelligence through-wall radar



prizn 200

Tactical advantage

prism 200 is a lightweight, durable and highly sophisticated through-wall radar. It is designed to provide police, special forces and the emergency services with accurate covert intelligence of the location and movement of people in situations where it would otherwise be impossible to gain such insight.

Using ultra-wide band radar, **prism 200** can see through brick, block and concrete walls, and doors, and over a range of up to 20 metres, providing comprehensive coverage of internal spaces. It can be used for the rapid evaluation of room occupancy or it can be used for more detailed intelligence gathering.

prism 200 is the most advanced portable through-wall radar system in the world for three significant reasons:

- Advanced signal processing highlights moving people and objects in complex environments
- The user interface is quick to respond, fast to load and intuitive to use
- Its ergonomics allow the operative to use it one-handed or two-handed

Covert intelligence

prism 200 has been designed for dangerous and life-threatening situations, where without invasive sensors it presents reliable information to the operative. Using highly sophisticated software, the unit can analyse radar signals and instantly filter out objects that are not moving behind a wall or door. This means that **prism 200** can be used in a range of different environments – even offices with their angular surfaces and metal objects, which act as a ‘hall of mirrors’ to standard radar equipment. This level of analysis means that users do not waste their valuable time in translating spurious data; they can focus their attention on what is most important – the people inside.

Easy to use

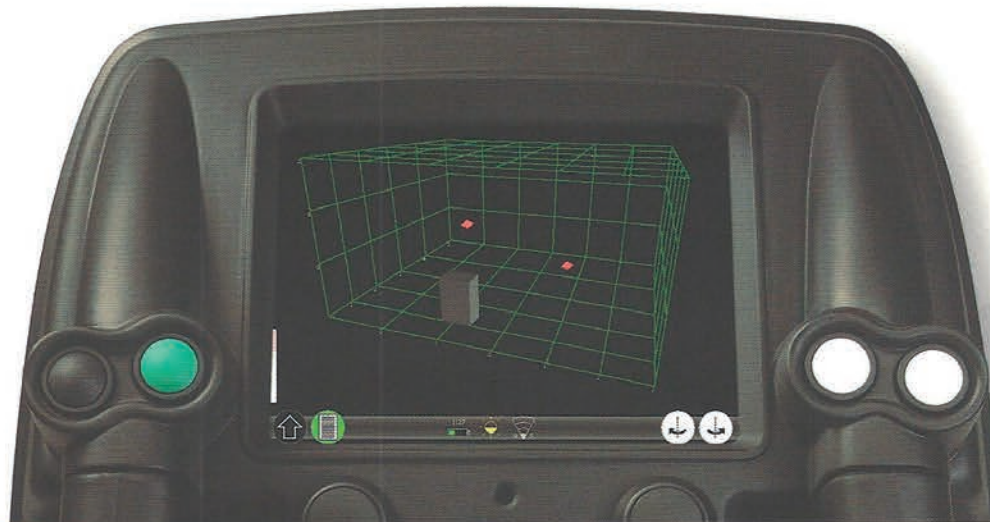
Whether police, special forces or emergency services, the people using **prism 200** need to be able to act quickly on the information presented. This means that the user interface is of critical importance and this is why it has been a focus of the product’s development.

Based around just four navigation buttons, the interface is structured in such a way that the user can quickly switch between views (front, plan and profile), as well as view the scenario within a 3D environment, which can be rotated to look at a room from various entry points. The display can also be switched from day to night mode, which means that **prism 200** has use in the widest possible range of real-life situations.

Laptop Application

This Windows based application provides the capability of remotely monitoring and recording the intelligence collected by **prism 200** and then displaying it on a laptop computer’s screen. This can be used by both operators and command staff to enhance the operational flexibility of the system.





Maximum range	Will detect personnel up to 20m
Field of view	120° horizontally and 90° vertically
Display	2D and 3D colour display with 640 x 480 resolution
Wall materials	Proven with: brick and block separated by a cavity; timber; cinder block; concrete block; 9" brick; reinforced concrete (subject to reinforcing bar spacing)
Frequency range	1.6–2.2 GHz
Resolution	30cm
Environmental	Rugged, IP68; operating temperature –20°C to 55°C
Transmit power	–10dBm per MHz average across the band
Dimensions and Weight	305 × 450 × 210mm; 5.7kg inc battery
Battery	4.5 hours' continuous use on a single charge (typically up to 24hrs standby)
Remote display	Laptop application for display, controls and recording
NATO Stock Number (NSN)	5840-99-679-8569

Highlights

- Advanced signal processing to highlight moving objects and people in cluttered environments
- Tough, durable, lightweight and waterproof casing
- Colour display with front, plan, profile and 3D views, easy to use menu
- TCP/IP interface for networking, laptop connection, remote monitoring and recording
- Battery powered, providing 4 hours' continuous use
- One-handed, two-handed or tripod operation

Cambridge Consultants

With over 20 years of experience in short-range radar technology, Cambridge Consultants has an excellent pedigree in harnessing the power of radar and designing it around real applications. The company initially used its technology to measure the thickness of arctic ice flows in the 1980s, before designing a range of missile scoring systems, which the company still develops and supplies in France, Italy, Australia and the USA. Cambridge Consultants has also used its radar technology in various automotive applications and, more recently, handheld through-wall radar.

Cambridge Consultants is a design and development company with offices in Cambridge, UK and Boston, USA. It uses a multi-disciplinary set of engineering and design skills to help organisations, both big and small, harness a broad range of technologies and develop next-generation products.





PNP-M

The world's smallest, lightest most versatile
night vision monocular and binocular system

NSN: 5855-99-855-1401



PNP-M

The world's smallest, lightest and **most versatile** 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.



Now available with tubes including FC (export licence exempt**) as well as standard licence HD High Definition, XD-4 and XR5.

XD-4 and XR5 models can also be supplied with Auto Gating and FC, HD, XD-4 and XR5 are available with green or black and white tubes.

**Does not require UK Export Licence but not available to countries on UN/EU/UK Embargo/Sanctions Lists.

The PNP-M monocular/binocular system 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-M.

Designed, developed and manufactured in Britain by Pyser-SGI to ISO 9001 quality levels the PNP-M is the smallest and lightest monocular in its class. It uses an advanced glass reinforced polymer body with a centre of mass as far to the rear as possible to minimise neck strain during prolonged operations, a single commercial "AA" battery for light weight which gives at least 40 hours operation, high quality multi element all-glass coated optics for maximum image quality and the entire monocular body, electronics and optics are filled with dry

nitrogen for ultimate reliability in all missions including down to 20 metres immersion.

ANVIS type image intensifiers are fitted including Photonis Autogated and non Autogated types in a range of performance levels up to typical Figures of Merit of 2016 for the most demanding missions and US Gen 3 tubes are also available if required.

Useable in hand held, helmet mounted, head mounted, monocular or binocular form using the quick fit binocular bridge as well as in quick mount/quick release throw lever Picatinny weapon mounted mode behind day sights, the PNP-M does everything. And this includes add-on magnifying lenses for monocular and binocular use, sacrificial and anti-mist filters, adaptors for attaching instantly to camcorders, SLR cameras, CCTV cameras and even spotting scopes for long distance high magnification surveillance. You can even power the PNP-M in both monocular and binocular form directly from a vehicle cigarette lighter socket or any 12v supply.

As well as the in-built IR illuminator there is an in-built daylight bright light photo sensor which prevents accidental operation of the monocular during daylight except when it is disabled for daylight training. This protection, of course, does not activate in darkness in the case of bright flashes, vehicle headlights even at very short distances, nor in street lighting or inside illuminated rooms. For security and convenience the PNP-M 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 a red LED inside the 27mm eye relief eyepiece illuminates when the IR diode is switched on and a yellow LED in the eyepiece warns against a low battery charge situation.

And of course all accessories can be used with no tools required for attachment, adjustment or operation.

PNP-M
The world's smallest, lightest most versatile monocular and binocular system – and the best.

Technical Specifications

Optical	Physical
Magnification: 1x	Dimensions 42 mm wide x 67 mm high x 107 mm long (with folded eyecup)
Field of view: 40 Degrees	Weight 263 gms without battery
Focus range (m): 0.25-infinity	278 gms with lithium "AA" battery
Objective focal length (mm): 25mm	288 gms with commercial "AA" battery
Objective F number: F1.19	Weight includes eyecup and lens cap
Dioptr adjustment: Minimum +3 to - 6	Tripod mount Standard 1/4" UNC thread
Eyepiece lens: 25mm glass aperture	Construction Moulded glass filled polymer
Eye relief 27mm	Eyeguard Contoured soft fold back rubber eyecup
Electrical	Environmental
Power source Single 1.5V "AA" battery or 1.5V "AA" format lithium type L91 (NSN 6135 01 333 6101) or 1.2V "AA" size rechargeable	Waterproof Immersion proof 20m 1hr, nitrogen filled
Battery life: In excess of 40 - 100 hours dependent on tube and battery type	Temperature Operation -45°C to +55°C Storage -51°C to +65°C
IR on indicator Red LED in eyepiece	
Low voltage indicator Yellow LED in eyepiece	



Monocular helmet and head mounts both allow right eye and left eye use adjustable in 5 axes : pitch, yaw, vertical, lateral and fore/aft with flip up/auto off/ and flip down/auto on and feature lens cap secure stowage point.

Binocular form using 2 PNP-Ms with quick attach/detach bridge kit needs no collimation and allows 60 to 97mm interpupillary adjustment with both 1x, 3x and 5x lenses. Binoculars on standard PNP-M helmet/head mount upper modules are adjustable in 5 axes : pitch, yaw, vertical, lateral and fore/aft.



H & K UMP with PNP-M and EOTECH

H & K 416 with PNP-M and EOTECH

H & K 417 with PNP-M and EOTECH



H & K G36C with PNP-M and EOTECH

H & K G36K with PNP-M and EOTECH

H & K G36E with PNP-M and EOTECH



F2000 with PNP-M and Aimpoint M4

FN SCAR with PNP-M and Trijicon

FN Minimi 7.62 with PNP-M and Trijicon

PNP-M uses the day sight aiming mark of any night vision compatible day sight with no need to adjust the zero of the day sight



Colt M4/C8 with PNP-M and EOTECH

A quick attach/release over-centre throw lever attaches mount to rail. PNP-M can be adjusted by user for optimum eye position without changing mount position on rail.



PNP-M fits to any SLR or CCTV camera, camcorder or spotting scope.

PNP-M Night Vision Monocular

Part No.	Model Type
560-007FC2	PNP-MFC lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401
560-007HD*	PNP-M HD lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401
560-007XD4*	PNP-M XD-4 lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401
560-007XD4A*	PNP-M XD-4A lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401
560-007XR5*	PNP-M XR5 lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401
560-007XR5A*	PNP-M XR5A (autogated) lightweight, compact Night Vision Monocular with 1x mag lens, NSN 5855-99-855-1401

FC, HD, XD-4, XD-4A, XR5 and XR5A products are available with Green or Black and White tubes. For Black and White add W after part number eg: 560-007 XD4AW has Black & White tube.

TUBE COMPARISON CHART				
Typical Values (Tube manufacturers data)	FC	HD	XD-4	XR5
Sensitivity (µA/Im)	500	550	700	800
Resolution (lp/mm)	45	51	64	72
Signal to Noise ratio	19	19	23	28
Figure of Merit (FOM) Typical	855	969	1472	2016

Accessories for PNP-M	
103-751M	3x magnification lens, NSN 6650-99-391-2185
103-753	5x magnification lens
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
589-997M*	Interface for fitting PNP-M to Picatinny rail, NSN 5340-99-574-0422
560-008	Bridge Kit, converts two PNP-Ms into binoculars, interpupillary distance 61-97mm, NSN 5340-99-934-5341
560-009	Sacrificial filter for objective lens, NSN 6650-99-997-5759
560-010	Anti-mist filter for eyepiece, NSN 6650-99-731-1262
	Optical Modules to connect PNP-M directly to a photographic camera body
589-840-400A	Nikon photographic module
589-840-401A	Canon photographic module
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
589-840-042	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	Dioptr Locking Clamp (guarantees dioptr position when using SLR/camcorder)
589-855	Lanyard
583-340	150mw illuminator, IR LED, wide, mid and narrow FOV, 805nm, attaches directly to PNP-MC, PNP-M and also compatible with NIM, PROMS and any night vision device. Effective distance up to 280 metres with Gen 2 and Gen 3 devices, NSN 5855-99-341-1382
589-997TM	IR illuminator mount, attaches to Picatinny rail
560-011	12v car cigarette plug/lead, 2 outputs (needs 560-012), powers PNP-M from vehicle, NSN 6150-99-343-1630
560-012	12v/1.5v plug to replace 1.5v battery and cap (two needed for PNP-M in binocular form)
560-013	Battery charger, including 4 rechargeable 'AA' batteries, NSN 6130-99-899-9358
FBS-034	Small Hermetic Case, holds PNP-M 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



PNP-MTHD/PNP-MTHDE

The world's smallest, lightest most versatile
HIGH DEFINITION THERMAL IMAGING zoom monoculares
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

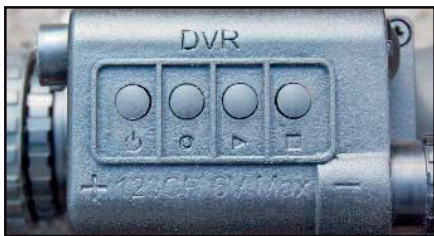
The world's smallest, lightest most versatile Thermal Imaging monocular – and the best.



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	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 1/4" 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
	Format PAL
	4CIF 704x576
	2CIF 704x288
	CIF 352x288
	Format high normal low
	4CIF 1800Kbps 1000Kbps 500Kbps
	2CIF 1200Kbps 800Kbps 400Kbps
	CIF 1000Kbps 600Kbps 300Kbps
Controls	Video Recording Frame Rate
The DVR is controlled via four buttons located on top of the unit	PAL 25,12,8,6,3,1 fps
DVR on/off, record, play and stop	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

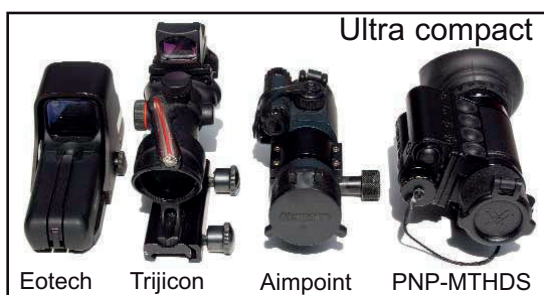
Part No.	Model Type PNP-MTHDE
561-217E*	PNP-MTHDE with 17mm lens, 36° Horizontal fov 1x mag 25Hz, incorporates Digital Video Recorder
561-225E*	PNP-MTHDE with 25mm lens, 25° Horizontal fov 1.5x mag 25Hz, incorporates Digital Video Recorder
561-235E*	PNP-MTHDE with 35mm lens, 18° Horizontal fov 2x mag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

PNP-MTHDS/PNP-MTHDES

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



- 640 x 480 17 μ m
- Choice of 1x, 1.5x or 2x magnification lenses
- Digital Zoom, 2x and 4x as standard
- User selectable 7 different reticles
- Live video output
- NON ITAR

PNP-MTHDS

The world's smallest, lightest and most versatile Thermal Imaging weapon sight

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-MTHDS weapon sight 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-MTHDS.

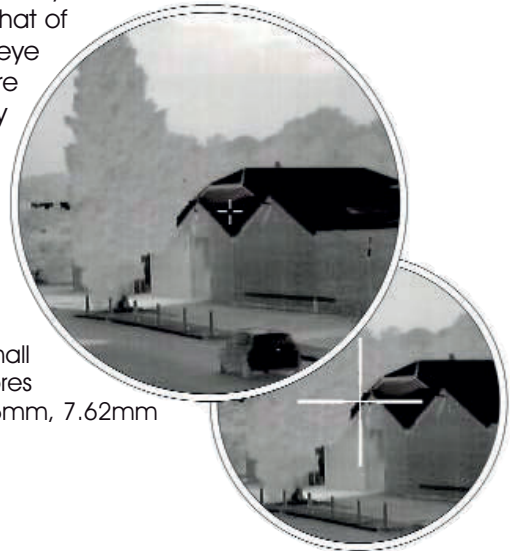
Designed, developed and manufactured in Britain by Pyser-SGI to ISO 9001 quality levels the PNP-MTHDS is the world's smallest and lightest thermal imaging weapon sight. Two CR123 batteries, for light weight, give up to 7

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.

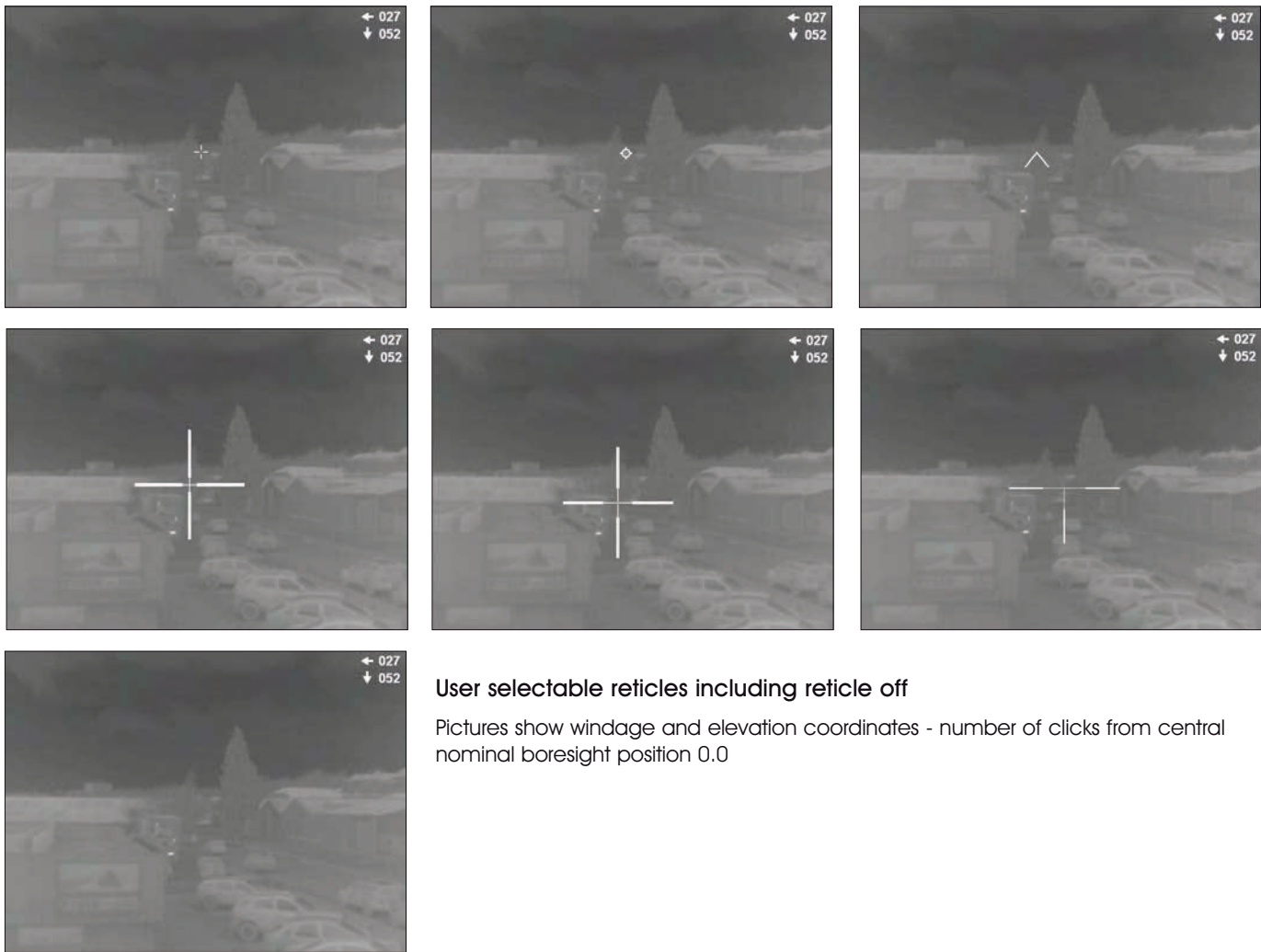
This gives an image having an apparent angle of view of 35° horizontally, which is similar to that of the human eye and therefore considerably aids speed and clarity of target acquisition.

PNP-MTHDS is designed for use on all small arms in calibres 4.6mm, 5.56mm, 7.62mm and 9mm.



Technical Specifications

Thermal Image				Controls				
Detector	Amorphous Silicon Microbolometer 7-14 microns wavelength Uncooled 640 x 480 pixel array High Definition 25Hz or 9Hz (optional) refresh rate			By single, intuitive push buttons. On/Off/NUC (additional NUC facility by remote pressure pad) Windage and Elevation (Windage and Elevation coordinates are displayed on screen) 1 mil per click (windage/elevation) 17mm 0.7 mil per click (windage/elevation) 25mm 0.5 mil per click (windage/elevation) 35mm Reticule choice 5 plus no reticule 2x and 4x - electronic zoom Polarity inversion (Black/hot : White/hot) Screen brightness +/- Battery indication on screen				
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) Single multipin socket for: PAL video out for recording or transmission. External power via battery power module				
Optics	High quality IR objective lenses Fully coated eyepiece optics 25mm glass aperture 27mm eye relief Dioptre adjustment -6 to +3			Physical				
Focal length	Field of view - Real			Model	Length	Height	Width	Weight w/o batteries*
17mm	36° x 29° (639 x 479 mils) 1x magnification			17mm	96mm	74mm	77mm	347g
25mm	25° x 19° (444 x 337 mils) 1.5x magnification			25mm	110mm	74mm	77mm	377g
35mm	18° x 14.5° (320 x 240 mils) 2x magnification			35mm	122mm	77mm	77mm	392g
Other focal lengths available on option Field of view - Apparent - 35° (620 x 465mils)				Please note: E variant (DVR) add 19mm to height and 155g to weight				
Detection Distances* (Human sized target)				Construction Moulded glass filled polymer main body				
Human	17mm lens	25mm lens	35mm lens	Environmental				
Detection:	625m	920m	1280m	Waterproof Water resistant to 1m for 30 min				
Recognition:	315m	460m	640m	Temperature Operation -20°C to +55°C				
Identification:	160m	230m	320m	Storage -40°C to +65°C				
*without using electronic zoom				Note: All specifications are nominal				



User selectable reticles including reticle off

Pictures show windage and elevation coordinates - number of clicks from central nominal boresight position 0.0

PNP-MTHDES High Definition Thermal Imaging weapon sight 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.

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

PNP-MTHDS High Definition Thermal Imaging Weapon Sight

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

PNP-MTHDES Thermal Night Vision Weapon Sight with DVR

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

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

Accessories for PNP-MTHDS	
550-007	Shuttered eyeguard, NSN 6650-99-789-6513
560-010	Anti-mist filter for eyepiece, NSN 6650-99-731-1262
561-401	Video Out Cable to phono plug
561-409S	External Battery Power Module fed by 6Volts DC
561-410S	6Volts DC Power Supply for 561-409 (UK)
561-411S	6Volts DC Power Supply for 561-409 (EU)
FBS-034	Small Hermetic Case, holds PNP-MTHDS in its pouch

TISI

Thermal Sight for Assault Rifles, SMGs and Machine Guns



Designed specifically for assault rifles, submachine guns, machine guns and sharpshooter roles, TISI represents cutting edge uncooled thermal night vision technology in a compact, low profile and lightweight weapon sight.

TISI is available with thermal detectors of either 384x288 or 640x480 resolutions and with a choice of optics giving either 3X or 5X basic magnification, horizontal angles of view of either 7 degrees (125 mils) or 12 degrees (210 mils) and detection ranges of up to 2760m (man) and 7000m (vehicle).

Standard Definition models (SD) also have a 2x electronic zoom giving a total of 6X or 10X magnification in addition to the basic 3X and 5X magnifications. High Definition models (HD) incorporate both a 2X and a 4X zoom giving total magnifications of 3X, 6X and 12X (HD 45 model) or 5X, 10X and 20X in the case of the HD 75 version

Rapidly attached with no tools to any Picatinny rail, TISI is



operational within eight seconds from switch on. Simple, intuitive push button controls make it an extremely easy sight to use while offering the user a fully featured advanced night sight.






Large diameter eyepiece optics with very long eye relief make TISI extremely user friendly for rapid target acquisition on all weapons and enhanced ease of use in particular in sharpshooter and machine gun roles.

Affordable and virtually maintenance free, it is the ideal choice for Special Forces, Police elite units and regular forces requiring the best in night vision sights.

TISI

Thermal Sight for Assault Rifles, SMGs and Machine Guns

Technical Specifications

<p>Thermal Image</p> <p>Detector</p> <p>High Definition Pitch 17µ Pixels 640x480 Detector AmSi microbolometer Spectral band 7-14µm NETD <45 mK @ 20°C ambient and 30°C scene temperature Refresh rate 25Hz</p> <p>Standard Definition Pitch 25µ Pixels 384x288 Detector AmSi microbolometer Spectral band 7-14µm NETD <45 mK @ 20°C ambient and 30°C scene temperature Refresh rate 25Hz</p>	<p>Performances</p> <p>High Definition (HD)</p> <table border="1"> <tr> <td>Human</td> <td>75mm lens</td> <td>45mm lens</td> </tr> <tr> <td>Detection:</td> <td>2760m</td> <td>1650m</td> </tr> <tr> <td>Recognition:</td> <td>1380m</td> <td>825m</td> </tr> <tr> <td>Identification:</td> <td>920m</td> <td>550m</td> </tr> </table> <p>Vehicle (Land Rover size)</p> <table border="1"> <tr> <td>Detection:</td> <td>7000m</td> <td>4200m</td> </tr> <tr> <td>Recognition:</td> <td>3500m</td> <td>2100m</td> </tr> <tr> <td>Identification:</td> <td>2300m</td> <td>1400m</td> </tr> </table> <p>Standard Definition (SD)</p> <table border="1"> <tr> <td>Human</td> <td>75mm lens</td> <td>45mm lens</td> </tr> <tr> <td>Detection:</td> <td>1900m</td> <td>1140m</td> </tr> <tr> <td>Recognition:</td> <td>950m</td> <td>570m</td> </tr> <tr> <td>Identification:</td> <td>630m</td> <td>380m</td> </tr> </table> <p>Vehicle (Land Rover size)</p> <table border="1"> <tr> <td>Detection:</td> <td>4760m</td> <td>2850m</td> </tr> <tr> <td>Recognition:</td> <td>2380m</td> <td>1425m</td> </tr> <tr> <td>Identification:</td> <td>1580m</td> <td>950m</td> </tr> </table>	Human	75mm lens	45mm lens	Detection:	2760m	1650m	Recognition:	1380m	825m	Identification:	920m	550m	Detection:	7000m	4200m	Recognition:	3500m	2100m	Identification:	2300m	1400m	Human	75mm lens	45mm lens	Detection:	1900m	1140m	Recognition:	950m	570m	Identification:	630m	380m	Detection:	4760m	2850m	Recognition:	2380m	1425m	Identification:	1580m	950m	<p>Right side Screen brightness</p> <p>Physical One piece high strength anodised black aluminium alloy body and lens assemblies. Quick release/attach Picatinny rail mount. Nitrogen purged.</p> <table border="1"> <tr> <td>TISI</td> <td>HD75</td> <td>HD45</td> </tr> <tr> <td></td> <td>SD75</td> <td>SD45</td> </tr> <tr> <td>Length mm</td> <td>225</td> <td>185</td> </tr> <tr> <td>Width mm</td> <td>85</td> <td>76</td> </tr> <tr> <td>Height mm</td> <td>94</td> <td>85</td> </tr> <tr> <td colspan="3">(inc Picatinny rail mount)</td> </tr> <tr> <td>Weight gm</td> <td>HD 1380</td> <td>SD 995</td> </tr> <tr> <td></td> <td>SD 1380</td> <td>SD 995</td> </tr> </table>	TISI	HD75	HD45		SD75	SD45	Length mm	225	185	Width mm	85	76	Height mm	94	85	(inc Picatinny rail mount)			Weight gm	HD 1380	SD 995		SD 1380	SD 995
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<p>Display Advanced OLED 852 x 600 pixels SVGA</p> <p>Optics High quality germanium F1.0 objective lens 75mm or 45mm focal length 5X magnification (75mm lens models) 3X magnification (45mm lens models)</p> <p>Horizontal field of view 75mm lens 8 Degrees 142 mils HD 7 Degrees 125 mils SD</p> <p>Horizontal field of view 45mm lens 13.7 Degrees 243 mils HD 12 Degrees 213 mils SD</p> <p>Focus 2.5 metres to infinity 45mm lens 5.0 metres to infinity 75mm lens</p> <p>Apparent field of view 26 degrees, 462Mils Fully coated eyepiece lens optics Dioptre adjustment +3 to -3 Eyepiece lens glass diameter 31mm Eye relief 50mm</p>	<p>Controls By single, simple, intuitive push buttons on right and left side of sight.</p> <p>Left side On/Off/NUC (additional NUC facility by remote pressure pad) Windage (right and left buttons) Elevation (up and down buttons) 0.20/0.19 mils per click (windage/elevation) HD75 0.32/0.30 mils per click (windage/elevation) HD45 0.18/0.17 mils per click (windage/elevation) SD75 0.30/0.28 mils per click (windage/elevation) SD45 Windage/elevation range +/- 128 clicks 2X electronic zoom - Standard Definition models 2X and 4X - electronic zoom High Definition models Polarity inversion (Black/hot : White/hot)</p>	<p>Power Supply 4x "AA" type L91 Lithium 1.5V or 4x "AA" Alkaline 1.5V or 4x "AA" Rechargeable 1.2V TISI Battery life HD75 up to 7 hours HD45 up to 7 hours SD75 up to 10 hours SD45 up to 10 hours (with L91/LF1500 type at 21°C)</p> <p>External 6v power in by Milspec socket Live PAL Composite Video out via same socket</p>																																																																		
  	<p>Ordering Information (All units are 25Hz refresh rate, 9Hz available on request) TISI is delivered in its soft black or DPM or Sand colour padded pouch, four "AA" Lithium L91 batteries and full operating illustrated instructions.</p> <table border="1"> <thead> <tr> <th colspan="3">High Definition</th> <th colspan="3">Standard Format</th> </tr> <tr> <th>Part No</th> <th>Description</th> <th></th> <th>Part No</th> <th>Description</th> <th></th> </tr> </thead> <tbody> <tr> <td>560-380</td> <td>TISI HD75 NSN 5855-99-151-6865</td> <td></td> <td>560-370</td> <td>TISI SD75 NSN 5855-99-155-8828</td> <td></td> </tr> <tr> <td>560-381</td> <td>TISI HD45 NSN 5855-99-709-1502</td> <td></td> <td>560-371</td> <td>TISI SD45 NSN 5855-99-226-6732</td> <td></td> </tr> </tbody> </table>	High Definition			Standard Format			Part No	Description		Part No	Description		560-380	TISI HD75 NSN 5855-99-151-6865		560-370	TISI SD75 NSN 5855-99-155-8828		560-381	TISI HD45 NSN 5855-99-709-1502		560-371	TISI SD45 NSN 5855-99-226-6732																																												
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<p>Optional Accessories 560-390 Remote pressure pad NUC switch 550-007T Shuttered eyeguard</p> 	<p>560-391 Cable, 6V in/Video out FBS-043 Medium hermetic case with custom made cutouts</p> 																																																																			

TISI-M

Two roles: Clip-On In-Line and Stand Alone
One Thermal Weapon Sight TISI-M



Designed specifically for assault rifles, submachine guns, machine guns and sharpshooter roles, TISI-M represents cutting edge uncooled thermal night vision technology in a compact, low profile and lightweight weapon sight, in either of its roles- stand alone with reticule on and in-line with reticule off.

TISI-M is available with thermal detectors of either 640 x 480 High Definition HD or 384 x 288 Standard Definition SD resolution with 25mm or 45mm optics giving detection ranges of up to 1650m (man) and 4200m (vehicle) depending on required choice of model.

All models have 1x magnification with High Definition models incorporating both a 2x and a 4x zoom giving total magnifications of 1x, 2x and 4x. Standard Definition models having a 2x electronic zoom giving a total of 1x or 2x magnifications.

Rapidly attached with no tools to any Picatinny rail, TISI-M is operational within eight seconds from switch on. Simple, intuitive push button controls make it an

extremely easy sight to use whilst offering the user a fully featured advanced night sight.

Large diameter eyepiece optics with very long eye relief make TISI-M extremely user friendly for rapid target acquisition on all weapons and enhanced ease of use, in particular in sharpshooter and machine gun roles.

It is equally effective to work as an in-line clip-on addition to a huge range of common optical weapon sights offering night vision capability without re-zeroing. Affordable and virtually maintenance free, it is the ideal choice for Special Forces, Police elite units and regular forces requiring the best in night vision sights.

The change to and from in-line/stand alone (with reticule) is effected by a simple but unique 2 button sequence by the user.

TISI-M

Thermal Sights for Assault Rifles, SMGs, Machine Guns, Stand Alone and In-Line Technical Specifications

Thermal Image	Performances	Physical																																																																		
<p>Detector</p> <p>High Definition</p> <p>Pitch 17µ Pixels 640x480 Detector AmSi microbolometer Spectral band 7-14µm NETD < 45 mK @ 20°C ambient and 30°C scene temperature Refresh rate 25Hz</p> <p>Standard Definition</p> <p>Pitch 25µ Pixels 384x288 Detector AmSi microbolometer Spectral band 7-14µm NETD < 45 mK @ 20°C ambient and 30°C scene temperature Refresh rate 25Hz</p> <p>Display</p> <p>Advanced OLED 852 x 600 pixels SVGA</p> <p>Optics</p> <p>Hard coated with anti reflective coatings High quality germanium F1.0 objective lens 45mm OR 25mm focal length 1x magnification</p> <p>Horizontal field of view 45mm lens</p> <p>13.7 Degrees 243 mils HD 12 Degrees 213 mils SD</p> <p>Horizontal field of view 25mm lens</p> <p>24.8 Degrees 440 mils HD 21.8 Degrees 387 mils SD</p> <p>Focus 1 meter to infinity 25mm lens 2.5 metres to infinity 45mm lens</p> <p>Fully coated eyepiece lens optics Dioptre adjustment +3 to -3 Eyepiece lens glass diameter 31mm for 25mm objective lens models 28mm for 45mm objective lens models Eye relief minimum 50 mm</p>	<p>High Definition HD</p> <table border="1"> <thead> <tr> <th>Human</th> <th>25mm lens</th> <th>45mm lens</th> </tr> </thead> <tbody> <tr> <td>Detection:</td> <td>917m</td> <td>1650m</td> </tr> <tr> <td>Recognition:</td> <td>510m</td> <td>825m</td> </tr> <tr> <td>Identification:</td> <td>305m</td> <td>550m</td> </tr> </tbody> </table> <p>Vehicle (Land Rover size)</p> <table border="1"> <tbody> <tr> <td>Detection:</td> <td>2292m</td> <td>4200m</td> </tr> <tr> <td>Recognition:</td> <td>1273m</td> <td>2100m</td> </tr> <tr> <td>Identification:</td> <td>764m</td> <td>1400m</td> </tr> </tbody> </table> <p>Standard Definition SD</p> <table border="1"> <thead> <tr> <th>Human</th> <th>25mm lens</th> <th>45mm lens</th> </tr> </thead> <tbody> <tr> <td>Detection:</td> <td>635m</td> <td>1140m</td> </tr> <tr> <td>Recognition:</td> <td>315m</td> <td>570m</td> </tr> <tr> <td>Identification:</td> <td>210m</td> <td>380m</td> </tr> </tbody> </table> <p>Vehicle (Land Rover size)</p> <table border="1"> <tbody> <tr> <td>Detection:</td> <td>1568m</td> <td>2850m</td> </tr> <tr> <td>Recognition:</td> <td>784m</td> <td>1425m</td> </tr> <tr> <td>Identification:</td> <td>523m</td> <td>950m</td> </tr> </tbody> </table> <p>Controls</p> <p>By single, simple, intuitive push buttons on right and left side of sight.</p> <p>Left side</p> <p>On/Off/NUC (additional NUC facility by remote pressure pad) Windage (right and left buttons) Elevation (up and down buttons) 0.32/0.30 mils per click (windage/elevation) HD45 0.61/0.57 mils per click (windage/elevation) HD25 0.30/0.28 mils per click (windage/elevation) SD45 0.54/0.50 mils per click (windage/elevation) SD25</p> <p>Windage/elevation range +/- 128 clicks 2x and 4x - electronic zoom High Definition models 2x electronic zoom - Standard Definition models Polarity inversion (Black/hot : White/hot)</p> <p>Right side</p> <p>Screen brightness</p>	Human	25mm lens	45mm lens	Detection:	917m	1650m	Recognition:	510m	825m	Identification:	305m	550m	Detection:	2292m	4200m	Recognition:	1273m	2100m	Identification:	764m	1400m	Human	25mm lens	45mm lens	Detection:	635m	1140m	Recognition:	315m	570m	Identification:	210m	380m	Detection:	1568m	2850m	Recognition:	784m	1425m	Identification:	523m	950m	<p>One piece high strength anodised black aluminium alloy body and lens assemblies. Quick release/attach Picatinny rail mount. Nitrogen purged.</p> <table border="1"> <thead> <tr> <th>TISI-M</th> <th>HD45</th> <th>HD25</th> </tr> </thead> <tbody> <tr> <td></td> <td>SD45</td> <td>SD25</td> </tr> <tr> <td>Length mm</td> <td>200</td> <td>185</td> </tr> <tr> <td>Width mm</td> <td>76</td> <td>76</td> </tr> <tr> <td>Height mm</td> <td>85</td> <td>85</td> </tr> </tbody> </table> <p>(inc Picatinny rail mount)</p> <table border="1"> <thead> <tr> <th>Weight g</th> <th>HD</th> <th>SD</th> </tr> </thead> <tbody> <tr> <td></td> <td>995</td> <td>920</td> </tr> <tr> <td></td> <td>995</td> <td>920</td> </tr> </tbody> </table> <p>Power Supply</p> <p>4x "AA" type L91 Lithium 1.5V or 4x "AA" Alkaline 1.5V or 4x "AA" Rechargeable 1.2V TISI-M Battery life HD45 up to 7 hours HD25 up to 7 hours SD45 up to 10 hours SD25 up to 10 hours (with L91/LF1500 type at 21°C)</p> <p>External 6v power in by Milspec socket Live PAL Composite Video out via same socket</p> <p>Environmental</p> <p>Water resistance 20m for 1 hour. Operating Temperature -40° to +60° Deg C</p>	TISI-M	HD45	HD25		SD45	SD25	Length mm	200	185	Width mm	76	76	Height mm	85	85	Weight g	HD	SD		995	920		995	920
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Length mm	200	185																																																																		
Width mm	76	76																																																																		
Height mm	85	85																																																																		
Weight g	HD	SD																																																																		
	995	920																																																																		
	995	920																																																																		

Ordering Information (All units are 25Hz refresh rate, 9Hz available on request)

TISI-M is delivered in its soft black, DPM or sand colour padded pouch, with four "AA" Lithium L91 batteries and fully illustrated instructions.

High Definition		Standard Definition	
Part No	Description	Part No	Description
560-490	TISI-M HD25	560-491	TISI-M SD25
560-492	TISI-M HD45	560-493	TISI-M SD45

Optional Accessories

560-390	Remote pressure pad NUC switch	560-391	Cable, 6V in/Video out
550-007	Shuttered eyeguard	FBS-043	Medium hermetic case with custom made cutouts





SCANMAX 25

Professional X-ray Scanning

**Large capacity X-ray scanner with
high resolution imaging**

Slimline

Large Capacity

Network/PC Link Option

High Resolution Imaging

SCANMAX 25

Large capacity X-ray scanner with high resolution imaging



The Scanna **SCANMAX 25** large capacity X-ray scanner sees inside your mail and provides instant on the spot confirmation of the contents of unusual or unexpected packages, providing you with security and peace of mind for your business.

Designed to be easy to use by non-technical staff the SCANMAX 25 combines a large inspection chamber with a slimline cabinet allowing you to examine volume mail, large parcels and briefcases in areas where space is at a premium.

SCANMAX 25 produces a clear colour image of a packet's contents which is displayed on-screen allowing you to distinguish easily between harmless items and malicious mail and instantly confirm a parcel's safety.

features and benefits

Rapid Screening.

Items are placed into the inspection chamber and a single button action produces a clear image of the contents in seconds.

Compact and Easy to Use.

The Scanmax 25 is especially designed for ease of use by non-technical staff and the front loading door and small footprint means it can be located virtually anywhere in the workplace.

Image Enhancements and Options.

Images are automatically enhanced for greater clarity with the option to be shown negative or inverted. There is also a 8 x zoom option and 3 colour options for highlighting medium and high density objects.

Safe and Secure.

Scanmax 25 uses very low level X-rays and conforms to all published international Electrical Safety and Radiation Standards and is issued with a certified Radiation Safety and Test report.

User Training.

Basic Operator Training and X-ray image recognition charts can be provided where required.

technical specifications

Power requirements

110/230V, 50/60 Hz

Physical Specifications

Height: 161.5cm (65.58")

Width: 43cm (16.93")

Depth: 61cm (24.02")

Net Weight: 170kgs (330lbs)

Inspection Chamber

Height: 53.5cm (21.06")

Width: 42cm (16.53")

Depth: 56cm (22.05")

Image Area

Depth: 54cm (21.25")

Width: 39.5cm (15.55")

Door Opening

53.5cm (21") x 34cm (13.6")

Shipping Specifications

Height: 112cm (45")

Width: 77cm (31")

Depth: 150cm (60")

Shipping Weight

250kgs





HX-IDS-MS-110

MEDIUM-RANGE
MULTISPECTRAL HANDHELD CAMERA

HX-IDS-MS-110 MEDIUM-RANGE MULTISPECTRAL HANDHELD CAMERA

HX-IDS-MS product family supporting professional defensive and safety applications. This device contains our engineers' more than 30 years of experience in infrared imaging; the most modern sensor technology used in Space*; the powerful DaVinci processor; a user-friendly software and moreover an easy to use mechanical construction.

The **HX-IDS-MS** devices can be used for military purposes, police, border surveillance and military reconnaissance also.

The integrated thermal camera is designed for use in harsh weather environments and operates in extreme light conditions. The technology provides the ability to detect, recognise, identify target and define its position through at night or even in foggy conditions. According to our experience the thermal imaging camera can help finding people even at daylight when they are hiding in the bush or in the woods.

Visible range colour imaging camera with parallel optical axis produces ultra-sharp images even from a distance of several kilometres. The 35x focus distance zoom optic supports detection during day time even with display of the images of the thermal imaging camera (optional). Due to extending visible wavelength the camera can produce high quality images (by extending visible wavelength) even in half-light.

The laser range finder (LRF) with parallel optical axis for 5.000m can detect exact position of the target. Its laser diode meets the international eye safety standards.

The three axis digital magnetic compass, which can be built in as an optional accessory, with the LRF and GPS belonging to the basic facilities can detect the GPS coordinates of the measured object in order to display it on the optional digital map.

The device can record one hour continuous video stream by either daylight or thermal camera and both

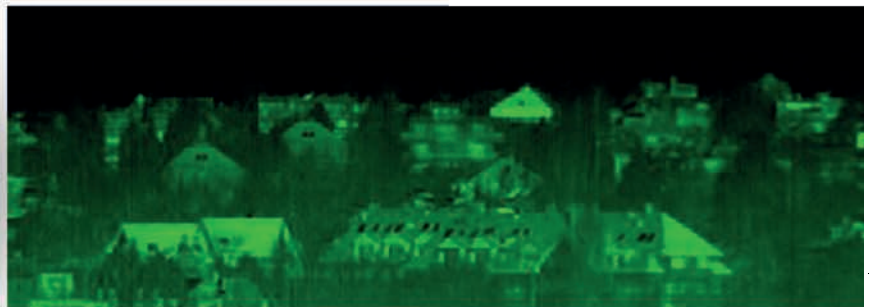
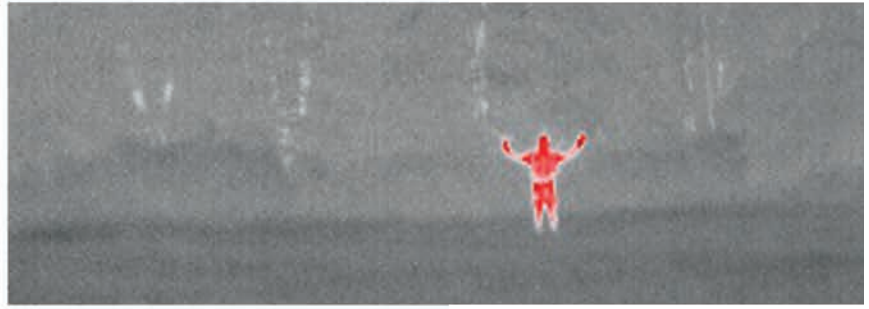


can record hundreds of images. The biocular finder can be adjustable to the user's eyes and equipped with an eyecup.

HX-IDS-MS camera is designed for use in harsh weather conditions and is equipped with cover and interface which meet the international standards. The exchangeable military category battery operates up to 4 hours.

Accessories are a carrying bag designed for use in harsh environmental conditions with power supply adaptor (230VAC) and cigarette lighter adaptor, a backup battery, cleaning equipment and a user guide.

The camera can be mounted on a standard tripod.



Options

Tripod, WLAN module, GPRS/3G module, DMC (Digital Magnetic Compass) module and 7" display image storage external unit.

FEATURES

Uncooled thermal camera (7 μ m - 14 μ m)

Daylight camera (35x zoom)

Laser Range Finder (max. 5.000m)

Embedded GPS

Optional DMC (Digital Magnetic Compass)

Optional WLAN

MPEG-4 streaming

Videorecording (> 1hour)

Image recording (> 100 frame)

Biocular structure

IP65

Tripod adaptor

HX-IDS-MS-110 TECHNICAL SHEET



THERMAL CAMERA

SPECTRAL BAND	7µm - 14µm
SENSOR TYPE	Uncooled aSi FPA
RESOLUTION / PIXEL SIZE	384 x 288 pixel / 25µm x 25µm
NETD	< 50mK
MOTORIZED OPTICS	Ge+AR; f=75mm; F1.0
FOV (HOR x VER)	7.3° x 5.5°
DETECTIVITY (human: 0,6m x 1,7m) according to NATO STANAG	> 1200m
DETECTIVITY (vehicle: 2,3m x 2,3m) according to NATO STANAG	> 2300m

DAY & NIGHT COLOR CAMERA

SPECTRAL BAND	380nm – 780nm/1000nm
SENSOR TYPE	1/4 inch Super HAD CCD
RESOLUTION / PIXEL SIZE	768 x 576 pixel (440.000 pixels)
SENSITIVITY	0.50lux (1/50s); 0.01lux (1/3s & ICR off)
MOTORIZED OPTICS	35x optical zoom, f= 3.4mm...119mm; F1.4...F4.2
FOV (HOR x VER)	1.7° x 1.3°....55.8° x 41.9°
DETECTIVITY (human: 0,6m x 1,7m) according to Johnson criteria	> 3000m
DETECTIVITY (vehicle: 2,3m x 2,3m) according to Johnson criteria	> 5000m

LASER RANGE FINDER (LRF)

MEASURING RANGE	10m...5000m
TYPICAL MEASURING RANGE	1.0m x 1.0m; 10% albedo; VN=10km; 0.5s) 1350m
TYPICAL MEASURING RANGE	2.3m x 2.3m; 30% albedo; VN=10km; 1.0s) 2700m
LASER TYPE / WAVELENGTH	Diode Laser / 1.55µm
SECURITY	Class 1 (EN 60825-1:2007)

GPS

CHANNEL	GPS & QZSS L1 C/A, GLONASS L1OF 56
ACCURACY	2.5 m CEP; 5.0 m SEP
SENSITIVITY	(with inside active antenna) -162dBm
STARTUP TIME	(cold start) 30s

DIGITAL MAGNETIC COMPASS (OPTIONAL)

HORIZONTAL	(15)	360° / ±1.0°
PITCH, ROLL	(15)	±80° / ±0.5°

WLAN (OPTIONAL)

STANDARD	IEEE 802.11b/g
FREQUENCY	2.4GHz
BIT RATE	11Mbit/s, 54Mbit/s
RANGE	max. 1000m

GENERAL FEATURES

STARTUP TIME	<60s
VIDEORECORDING	>1 h
IMAGE RECORDING	>100 frame
WORKING TIME	>4 h
WORKING TEMPERATURE	-20°C...40°C
POWER	230V AC, 12V DC
MASS	<3.5kg

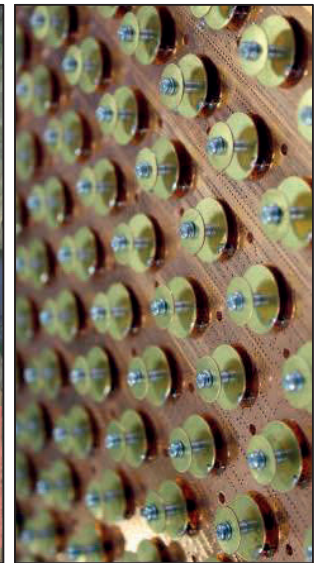
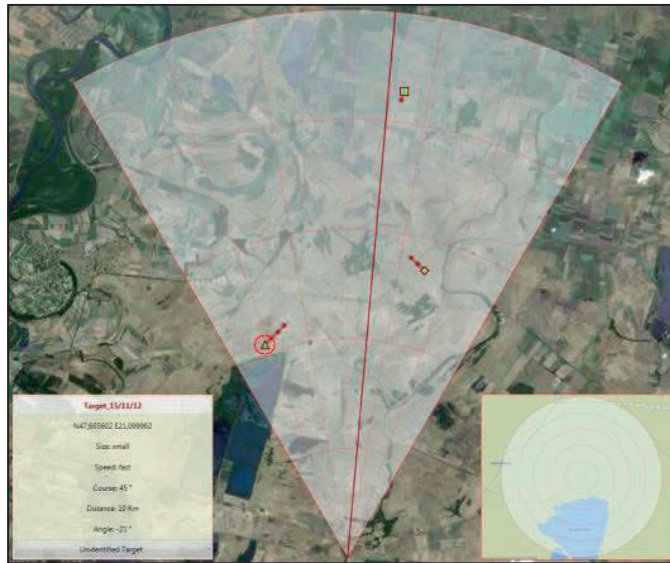
GUARANTEE

GUARANTEE	2 years
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SAKER

PORTABLE SURVEILLANCE SYSTEM



General description

SPSS – 1000 (Saker Portable Surveillance System) is a short range, portable versatile FMCW based locator system which is appropriate to locate any target moving on the ground or near to ground in the air, detecting the distance, direction, and velocity of the object. It is capable of observing borders, civil or military areas and buildings.

Architecture and Technology

The surveillance system is based on FMCW theory hence it is applicable to detect targets from large distance with relatively small output power (1W) and consumption. The light weight and mechanic construction facilitate the transportation and decrease the setup time of the unit. Thanks to its structure it could be used within specific environment including rain, fog, haze, wind or snow even in between extreme values of temperature, -25°C to +60°C and the unit is protected according to IP 65. All metallic parts have anti-corrosive and antirust protection, made of aluminum and steel without reflecting light. The MTBF of the equipment is at least 100 000 hours with the option of 24 hours a day of continuous operation.

The system is using 50 MHz sweeper configurable by the operator between 9.8 and 10.45 GHz. It is achievable by the locator to distinguish two different objects within the same azimuth assuming at least 50 m distance or 6° difference between them. Digital Signal Processing (DSP) is facilitated by high-speed and capacity Spartan6 LXT FPGA controlled ADC using FFT, manufactured with bonded and solid state industrial electrical components.

With the aid of the phase controlled antenna array the resulting antenna characteristic is adapted to control the scanning without turning the whole antenna. The shape of the total phase front is based on the radiation of the different phase-driven antenna elements to emerging the whole characteristic.

Displaying and software system

The required parameters of the observed area are transmitted via Ethernet connection, allowing remote control and monitoring. At startup the system is scanning for locating static objects and geological terrain which will be removed from the analysis, creating base image. Any object or discrete area could be removed manually by the operator. The observed range could be also set from 150m to 24 km. Maximum of 20 objects could be located and displayed at the same time. The radar has a tracking option to follow an object with the scanning of the environment and gathering more data from it. Main (preview) and auxiliary (zooming and tracking) digital maps are available to display the objects with the option of Track while scan. Name (could be modified), coordinates, size, type, velocity and direction are displayed and logged with the incoming events and alarms, saving every happening in the selected area. The whole data-stream is stored and available to invoke and displayed back to trace again. Several normal or military topographic maps could be used to facilitate the optimal surveillance, with online mode, downloading directly the required map or with offline mode, using and changing the map from database.

Main technical parameters

	Min	50MHz Sweep	Max
Working frequency	9.8 GHz	50 MHz sweep	10.45GHz
Output power	1 W	1 W	1W
Range of operation	150 m	User defined	24 km
Radial velocity detection	0 km/h	Continuous	< 150 km/h
Antenna type	Phase controlled		
Scanning angle	± 30° (on horizontal plane)		
Scanning accuracy	< 0.5°		
Gain	> 28 dB		
Polarization	Horizontal		
Separation of objects (resolution, range):	<20m@3km, <40m@6km, <80m@12km, <160m@24km		
Detection of objects (target size, range):	RCS~1m ² @8-12km, RCS~5m ² @12-26km, RCS>10m ² @15-24km		
Power supply:	10-36 V		
Power consumption:	< 80 W		
Dimensions/Weight:	700 x 680 x 250 mm		



HORUS peRISKop

So you want to see something from far away... or from above... or from the risky inside. You were already offered tons of grimly packaged high-tech bling for gazillion dollars, and you are still not sure. Everything seems to come with truckloads of optional accessories, mobile ground station vans, only in desperate need of a highly trained crew, a landing strip and some hangars. What if all this can be arranged in a much smaller package, at a fraction of the cost you may have seen so far?

Horus Periskop – keeper quality at throwaway prices.

HORUS UAV FEATURES

There are already a number of professional grade multicopter UAV systems available in the market today. However highly developed and sophisticated they are, most of them still suffer from some drawbacks, nobody seems to recognise the closer the Centre of Gravity is to the main rotor, the more maneuverable and predictable the aircraft is. In our case the main rotor is made up of six individual motors that still define a central plane where most of the weight should be. They also try to push a single design for a multitude of diverse payloads, which is simply not practical. We have developed a number of payload, airframe, powertrain, IMU combinations for various special purposes, because we are able to redefine and manufacture completely new designs and combinations within days. The featured configuration is already available in a number of sizes and power packages that could be used from small pocket still, thermal to large DSLR cameras, or speciality HD video applications and other surveillance payloads like RF surveillance and measurements. Learning to fly with them is a breeze, the various stabilization and autopilot functions make the whole experience much less of a nervous issue than you can imagine. Position/altitude/direction hold is part of the basic package, together with camera platform stabilization, video downlink and telemetry. What's more, the ground station (Control Box) is able to control the whole Horus Periskop line. Set-and-forget operation, separate crew for operating the craft and the camera, or one single person, it's up to you.

The general technical specifications of our UAVs are the following:

- Available frame sizes: 500-1650 mm (axis to axis)
- Available powertrain: 5000-14000 g of total thrust
- Payload capacity: 1-4 kg (5 kg as current absolute maximum)
- Endurance: 20-40 minutes, depending on payload weight
- AUV: 2-8 kg

The general ground station of the Horus Periskop line, the **Control Box**, has up to 28 remote control channels. It has IP67 protection when closed and transported, IP65 when open and operational. The video feed is built around a dual diversity receiver assisted by a proprietary Time Base Corrector system just to give you the smoothest, highest quality remote video with no dropouts. There are powered video-audio outputs to run an external monitor, an HMD or video glasses straight from the box. Both the receiver system and the controller have their own separate built in lithium batteries (12V, 7500mAh), giving you hours of hassle free operation. All remote functions will work to a minimum distance of 5km LOS, with amplifier or tracking antenna systems it could be pushed above 20km.



HORUS USV FEATURES

The main goal was to create a light surface robotic base without using tracks. Tracked vehicles are inherently heavy, hard to service and very inefficient at greater speeds. Also they have a fairly high COG, turn funny, scratch and mark all surfaces they touch. Our wheel based solution is easy to operate and maintain, light on its wheels on all types of off-road, paved and built-up terrain. It can crawl at a snails pace, but it can still keep up with a running man on rugged terrain. It will climb stairs and can negotiate 60°+ slopes on hard surfaces.

Our four wheel drive has independent motor and steering control which enables sideways crab motion, oversteered sharp turns, pinned down turns and sideways shuffle with counter rotating wheels. The unit has a CNC billet aluminium frame and capable of 15+ km endurance (could be doubled). The basic camera payload is PTZ head with visible & infrared illumination, but high resolution thermal camera, gas sensors, etc. are available, too.



Technical specifications

- Rigid axle coil spring suspension with articulating cantilever arms
- Extreme flexibility, 85°+ frame articulation between the axles
- Large caliber piggy-back shock absorbers with single/dual springs according to payload
- Motor-on-axle sensed brushless powertrain with active holding strength brakes
- Dual redundant powertrain, steering and remote control options, the vehicle can lose all functions on one axle and it still returns
- Wheelbase: 550 mm
- Total length and width: 800 mm, 420 mm
- Total height with current PTZ head: 380 mm
- Frame (TVP chassis) height: 280 mm
- Ground clearance at chassis: 140 - 170 mm
- Ground clearance at axles cage: 70 - 80 mm
- Total weight with current basic payload and batteries: 15 kg

GLOBERVER Strategic and Defense Research Development Ltd.

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GLOBSERVER Strategic and Defense Research Development Ltd.



ORION™ NJE-4000
NON-LINEAR JUNCTION EVALUATOR

* High Gain **ORION™** also available for specialized applications (restricted sale).



ORION™ NJE-4000

NON-LINEAR JUNCTION EVALUATOR

The ORION is a state-of-the-art Non-Linear Junction Detector for detecting hidden electronic devices. A Non-Linear Junction Detector uses electromagnetic energy to detect the presence of electronics, regardless of whether the electronic device is radiating, hard wired, or even turned off. The ORION quickly detects and locates hidden electronic devices and is designed for:

- Commercial security applications such as checking corporate boardrooms or offices for unauthorized or hidden electronics
- Searching secure areas for hidden or prohibited electronics
- Searching for contraband cell phones or other electronic contraband in prisons

Technical Advancements

- 1 **PATENTED FREQUENCY HOPPING FUNCTIONALITY** displays best response using multiple transmit frequencies across a wide operating band.
- 2 **ADVANCED DIGITAL SIGNAL PROCESSING ALGORITHMS** provides up to 18 dB increase in detection sensitivity.
- 3 **MANUAL OR AUTOMATIC POWER CONTROL** ranges from 14 milliwatts to 1.4 watts PEAK power Effective Radiated Power (ERP) (High Gain model available).
- 4 **SYNTHESIZED TRANSCIVER** provides frequency stability and agility to automatically search for clean operating frequencies (880–1,005 MHz; 902.2–927.8 MHz for USA).
- 5 **CIRCULARLY POLARIZED TRANSMIT AND RECEIVE ANTENNA** removes risk of missing a threat due to incorrect antenna polarization.
- 6 **AUDIO ALERTS** using wired or wireless headphones.



The patented technical advancements in the ORION are not paralleled in any other product in the world.



Ergonomic Advancements

- 1 **ANTENNA MOUNTED DISPLAY** tilts putting response information in line-of sight with the target.
- 2 **BALANCED, LIGHTWEIGHT DESIGN** with integrated transceiver, extension pole, antenna, and display.
- 3 **OPERATIONAL WEIGHT** is 3.7 lbs (1.7 kg). Carrying case is slightly larger than a briefcase.
- 4 **MINIMAL SETUP TIME (approximately 25 seconds)** including power-up and self test. Telescopic pole simply unfolds and extends; there are no pole sections or cables to connect.
- 5 **ALL TRANSMIT AND RECEIVE SIGNALS** are multiplexed onto a single concealed cable eliminating assembly and tangled cords. Wireless infrared headphones eliminate audio cables.
- 6 **REMOVABLE RECHARGEABLE BATTERIES** are included with an external charger. (Four batteries; 2.5 hours run time per battery).



ORION's tilting antenna-mounted display puts signal response information in the same line-of-sight as the target area being swept, allowing attention to remain focused on the target.

* High Gain ORION™ available

For specialized applications (restricted sale). Contact REI for more information.

OPERATIONAL MODES

Search 2 & 3 Mode

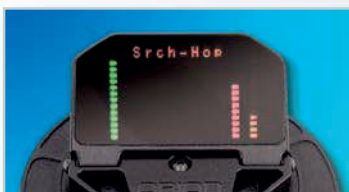
Provides evaluation of both 2nd and 3rd Harmonic returns. A Strong 2nd Harmonic (red) indicates electronic components while a Strong 3rd Harmonic (yellow) indicates corrosive (false) junctions.

- Search CW - continuous wave operation
- Search 2 & 3 - pulsing operation
- Search HOP - Frequency hopping operation (provides increased detection reliability)



Frequency Hopping (Srch-Hop) Mode

NLJD response for a specific target varies depending on NLJD transmit frequencies. The Frequency Hopping Mode hops across the ORION's entire operational transmit frequency range (880-1005 MHz, 625 possible frequencies; USA: 902.2-927.8 MHz, 125 possible frequencies) in less than 1.5 seconds, displaying the optimal response and transmit frequency.



The Frequency Hopping Mode quickly shows the frequency that produced the greatest response for a particular target, optimizing discrimination and detection.

ID Mode

Provides detection of non-linear junctions using an audible tone. This mode is optimized for long-range detection of non-linear junctions.

- Produces 1 kHz FM modulated tone
- Provides listening of 2nd & 3rd Harmonics



Using the ORION's audible tone to detect a junction takes advantage of the discrimination capability of the human ear.

Listen Mode

Provides detection and discrimination of non-linear junctions using demodulation for both 2nd and 3rd Harmonics.



This mode provides excellent discrimination functions by relying on audio characteristic sounds associated with non-linear junctions or active devices.

Additional Control Functions

Control functions are easily adjusted using the ORION keypad.

- Volume
- Transmit Power
- Frequency Selection
- Signal Processing Gain
- Trip Point Warning Settings
- Remote Control Option Available (RMO-4000)



Remote control port for optional RMO 4000 remote operation

Wireless Headphones

- 1 Wireless IR headphones eliminate cables that can interfere with search activities.
- 2 Headphones can be plugged into the main unit or the IR receiver.
- 3 Volume control is adjusted via the main unit.





ORION™ NJE-4000 NON-LINEAR JUNCTION EVALUATOR

ORION™ ADVANTAGES

FREQUENCY-HOPPING FUNCTIONALITY
INCREASES DETECTION RELIABILITY

REMOTE CONTROL PORT
ALLOWS USER TO OPERATE UNIT AT A DISTANCE WITH
COMPUTER SOFTWARE

LIGHTWEIGHT
BALANCED ERGONOMIC DESIGN FOR EASE OF USE

MINIMUM SETUP TIME
COVERT SETUP - QUICK, QUIET, EASY - NO CABLES, POLE
SECTIONS, OR BULKY TRANSCIEVER TO ASSEMBLE OR CARRY

WIDE OPERATING BAND
MULTIPLE OPERATING FREQUENCIES MINIMIZES POTENTIAL
INTERFERENCE ON SPECIFIC FREQUENCIES

PROGRAMMABLE DIGITAL SIGNAL PROCESSING
PROVIDES INCREASED SENSITIVITY

ANTENNA MOUNTED DISPLAY
FOR LINE-OF-SIGHT TARGET FOCUS

WIRELESS HEADPHONES AND GRAPHIC DISPLAY
FOR SIMULTANEOUS AUDIO AND VISUAL INFORMATION



TECHNICAL SPECS

TRANSMITTER

Frequency Bands: 880–1005 MHz in 200 kHz steps. USA: 902.2–927.8 MHz
Transmit Power: 14 milliwatts minimum, 1.4 watts PEAK power ERP (Effective Radiated Power)
Power Control: Manual or auto control with 30 dB range. Pulsed operation limits average output to meet USA FCC requirements

RECEIVER

Frequency Bands: Second Harmonic (1760–2010 MHz) or Third Harmonic (2640–3015 MHz)
Sensitivity: -133 dBm for both harmonics
DSP S/W Integration: Programmable between 6 and 18 dB gain in sensitivity performance
Receiver Bandwidth: 3 kHz

DISPLAY

Tilting Antenna-mounted Display
Bar Graph Display for transmit power level, 2nd harmonic level, 3rd harmonic level, data field display, for other information (operation mode, low battery, volume, DSP gain, etc.)

MECHANICAL

Extension Lengths: 16–51 in (40.6–129.5 cm)
Case Dimensions: 6.25 in x 14.9 in x 18.5 in
(15.9 cm x 37.8 cm x 47.0 cm)
Weights:
ORION Weight: 3.3 lbs (1.5 kg)
Orion Weight With Battery: 3.7 lbs. (1.7kg)
Case Weight Including ORION & Accessories: 12.8 lbs (5.8 kg)
Setup Time (including power-up self-test): 25 seconds

BATTERY

Input AC: 100–240 V, 50–60 Hz
Run Time: 3 hours per battery (typical)
Charge Time: 1 hour per battery
Batteries: (4 incl.) 7.2 V NiMH



TOOL KIT OPTION

- Borescope with built-in light and right-angle viewing for inspection of walls and furniture
- Combination stud finder and metal detector for non-destructive wall evaluation
- Rubber-tipped hammer to evaluate the stability of a junction under physical vibration



Tool Kit stows inside the ORION case for transport

- RF Wire Tracer and Multi-meter for evaluating miscellaneous wiring
- Multi-purpose geared screwdriver furnished with small drill bit for use with Borescope
- Miscellaneous Tools: pliers, wire cutters, Leatherman™, inspection mirrors, measuring tape, flashlight, UV light, UV pen, drill bits for walls

RCS-4000 ORION REMOTE CONTROL SOFTWARE OPTION

Allows User to control the ORION from a computer serial port.

- Keeps user at a safe distance when using the ORION in potentially hazardous environments
- Provides the ability to "lock" ORION functions and settings
- Can be used for pre-screening of suspicious packages prior to X-Ray
- Available with a heavy-duty tripod & mounting bracket for stabilizing the ORION



HIGH GAIN ORION AVAILABLE (HGO-4000)

High Gain model (HGO-4000) provides increased transmit power (approximately 3 watts ERP) for special applications. Authorized for use only by entities not restricted by US FCC regulations.

Defence & Security Products Division

PROMS

Portable Rapid deployment Observation
and Monitoring System



PROMS

Portable Rapid deployment Observation and Monitoring System

Capability

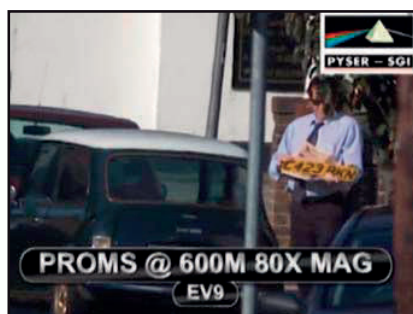
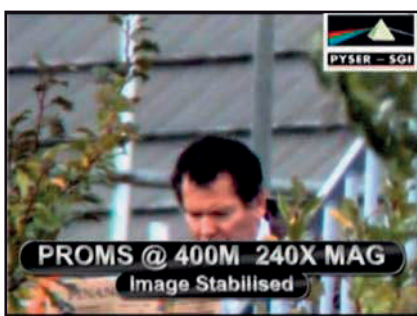
- Colour video display 80x to 720x optical zoom magnification, facial recognition to 3km
- 100% continuous optical zoom in two ranges 80x to 240x and 240x to 720x
- Video out for recording and radio transmission
- Monitor deployable up to 90m from sensor platform for secure stand-off
- Rapid deployable – Man portable – 20 kg approx in camo or black webbing backpack
- Additional optional zoom ranges 29x to 86x and 40x to 120x
- Optional zoom image intensified night vision on screen (to 540x) or naked eye use (to 240X).
- Optional image enhancement and electronic image stabilisation

		FoV Degrees*	FoV mils*	Zoom Magnification*
Colour Camera				
Ultra low zoom range	(O)	1.3 to 0.4	22 to 9	29x to 86x
Low zoom range	(O)	1.0 to 0.3	18 to 6	40x to 120x
Medium zoom range	(I)	0.5 to 0.2	9 to 3	80x to 240x
High zoom range	(I)	0.17 to 0.06	3 to 1	240x to 720x
II Camera				
Ultra low zoom range	(O)	1.7 to 0.6	30 to 10	23x to 65x
Low zoom range	(O)	1.3 to 0.4	24 to 8	30x to 90x
Medium zoom range	(I)	0.7 to 0.2	12 to 4	60x to 180x
High zoom range	(I)	0.2 to 0.08	4 to 1.4	180x to 540x
II Scope				
Ultra low zoom range	(O)	4.2 to 1.4	75 to 25	9x to 30x
Low zoom range	(O)	3.1 to 1.0	55 to 19	15x to 45x
Medium zoom range	(I)	1.5 to 0.5	27 to 9	28x to 80x
High zoom range	(I)	0.5 to 0.2	9 to 3	80x to 240x
* Nominal approximate values for indication purposes only				
I = Included in Proms Standard Specification O = Optional additional secondary optical modules				

Usage

The Portable Rapid deployment Observation Monitoring System (PROMS) is designed to cater for all static urban and rural surveillance operations. PROMS provides ultra long range Surveillance Target Acquisition using its combination of day or optional night sensor technology providing much higher times magnification than normal spotting scopes in service today.

PROMS is man portable and can be rapidly deployed 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 or the operator.





PROMS standard day use version Backpack and other standard accessories not shown



PROMS in night vision mode using NIM Night Intensification Module



PROMS with optional PNP-M Night Scope Module for naked eye image intensified operation



Close up of fine/coarse vernier pan/tilt adjustment



Rugged waterproof 6.4" LCD monitor with sunshade



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

Operation

Simply find a location, set up the primary optical module and the selected secondary optical module (high mag, medium mag or optional low or ultra low mags), connect the battery and monitor and pictures will be relayed in live video to the waterproof LCD monitor base station up to 90 metres away. Cables are supplied as standard for stand-offs of 10m, 80m and 90m. Use the coarse adjustment along with the finder scope to get on target, then target precisely using the fine vertical and horizontal micrometric knobs. 100% optical zooming and precise focussing are then available by simple manual controls.

Sensor platform quick releases from the low profile sniper type tripod and attaches to any full size tripod fitted with world standard 1/4" UNC thread while maintaining full use of the special coarse / ultra fine adjustment pan and tilt head.

Standard Specification (Day model. Day/Night model is identical but includes NIM image intensification module)

- Waterproof optical system with fully coated optics 80mm Ø objective lens
- Two secondary optical modules- high and medium magnification zoom ranges
- Ultra lightweight and rigid low profile tripod mounting with coarse and fine vernier pan/tilt control
- Digital high resolution waterproof colour low light CCD video camera, 1/3" CCD detector 0.02 Lux >540 TV lines 795 x 596 effective pixels PAL output
- 4 x 20 Finder Scope mounted on rail for left and right side mounting.
- High resolution 6.4" TFT rugged waterproof monitor with sunshade and video out via BNC.
- Camouflage cover for telescope and mount. (Black cover also available).
- Camouflage DPM protective back pack for all equipment rechargeable 12v battery and monitor station. (Black back pack also available).
- Flexible cable from telescope to control station 10 metres and 90 metres (interconnecting 10 and 80m cables).
- Rechargeable 12v battery. Useable charge 8-10 hours depending upon temperature and equipment used. Additional battery capacity available. Second battery fits into standard back pack.
- Two battery chargers – mains 220-240v and also 12v from vehicle cigarette lighter
- All connecting cables including 12v spur lead for optional accessory power
- Man portable, weighs 20Kg approx.



PROMS

Portable Rapid deployment Observation and Monitoring System

Key Optional Extras (See complete list in table below)

PROMS is already equipped as standard to accept all accessories as retro-fits with no modifications necessary

Night Vision on screen NIM Night Vision module using Gen2+, Gen2++, XD-4*, or XR5* image intensifier tubes. This module retrospectively converts Day Use PROMS to Day/Night version. See NIM technical leaflet for full details

Naked Eye Night Vision PNP-M Night Vision Monocular or PNG-M night vision goggle using Gen2+, Gen2++, XD-4*, or XR5* image intensifier tubes. See PNP-M and PNG-M technical leaflets for full details

Image enhancement EV9 electronic module for use in poor visibility/low light/fog/rain/smoke for real time electronic enhancement of poor quality video picture. Can also be used to improve quality of recorded video See EV9 technical leaflet for full details. Fits into its compartment in PROMS back pack

Electronic Image Stabilisation Plugs directly into PROMS and stabilises live video with no detectable processing delay. Ideal for use with PROMS and any other long focal length PAL system in windy conditions or when sensor is on unstable ground. Fits into its compartment in PROMS back pack. Consult us for details

Radio video transmission TX/RX modules Available to special order

Wide and Ultra Wide Angle video Two secondary optional modules are available giving lower magnifications (wider angles of view) Stowage cut-outs already provided in standard PROMS backpack for these.

Mains voltage and external 12v operation Mains transformer rectifier and 12v lead/plugset available to power PROMS and it's accessories without using it's battery- see table below

Ordering Information

820800	PROMS day use model
820803*	PROMS day/night use model with Gen 2+ night intensification
820804*	PROMS day/night use model with Gen 2++ HD night intensification
820810*	PROMS day/night use model with XD-4 night intensification
820806*	PROMS day/night use model with XR5 night intensification
820806A*	PROMS day/night use model with XR5A (autogated) night intensification
Accessories	
820800-01U	Mains Power Adaptor for PROMS, UK only (IEC cable supplied)
820800-01E	Mains Power Adaptor for PROMS, EU only (IEC cable supplied)
560-007XXX	PNP-M Night Vision Monocular (see models available)
589-100XXX	PNG-M Night Vision Goggles (see models available)
820800-02A	Electronic Image Stabilisation Unit, including cabling, to fit PROMS
820800-19	EV9 Image Enhancer, including PROMS cable assembly
820800-03	Additional Battery in black or green DPM pouch
820800-05A	Wheeled protective case to hold PROMS system in backpack
820800-06	Wheeled hard PROMS case, including foam cut-outs (to replace black or camouflage backpack)
820800-21	Ultra low secondary optical module (in addition to PROMS standard specification), nominal 29-86x, FOV (Day) 22 - 9 Mils
820800-11	Low secondary optical module (in addition to PROMS standard specification), nominal 40-120x, FOV (Day) 18 - 6 Mils
820800-08	Medium secondary optical module (included in PROMS standard specification), nominal 80-240x, FOV (Day) 9 - 3 Mils
820800-07	High secondary optical module (included in PROMS standard specification), nominal 240-720x, FOV (Day) 3 - 1 Mils
820800-12	Vehicle adaptor for PROMS, operates PROMS from 12v cigarette lighter socket
820800-14	PROMS video - USB port device and cable for recording direct to PC/laptop
820800-16	Low light waterproof monochrome camera for PROMS
820800-17	Full height tripod for PROMS

GLOBSERVER Strategic and Defense Research Development Ltd.





T-iC series

Featuring latest thermal imaging technology, the T-iC series from active photonics is the original in the Bi-Ocular segment for professionals.

Requirements from professional end users regarding the performance of thermal imagers are unlimited.

The new T-iC series does not only feature latest image processing algorithms to provide crisp images under difficult conditions, it also provides the following superior features:

The **powering concept** of the camera is based on latest LiFePo4 cells that provide up to more than 7 hours of continuous operation, 5000 charging cycles, charge inside camera connector, digital charge guard.

Permanent 8 hour **on board video recording** including real time seal.

Human detection up to 1450 meters.

Ultra large sized **internal binocular video system** for maximum image quality.

Electronic zoom for enhanced detection, recognition and identification ranges.

Rugged full rubber housing design for use under any condition.

DC-in / Video- out interface for long time surveillance.

Black hot / white hot and colored monochrome image modes.

Seeing is believing

By passively sensing infrared energy, the T-iC detects persons, obstacles and any kind of objects through smoke, in absolute darkness or hazy conditions.

T-iC models include maximum detection ranges available today.



Picture similar



T-iC thermal imaging cameras from active photonics provide all possible features one may need for surveillance and observation applications.



Above: High quality large binocular design.



Above: Integrated video recording SD memory card slot.



Left / right: Camera with attached wireless video transmitter.



right: Compact and durable transport case





T-iC specifications

General	T-iC 36/65
Dimensions	240X159X80 mm
Weight incl. batteries	ca. 1500g
Protection class	IP 67
Tripod mount	Yes
Drop test	1m
Sealings	Silicone / Neoprene
Display protection	Borosilicate glass
Front lens	High durability coating
Sensor	
Type	uncooled microbolometer (VOX)
Resolution	360x288
Response	8 - 14µm
Operation ambient temp.	-40°C – 80°C
Refresh rate	25Hz PAL
Sensitivity	0,05°C
Video signal	NTSC (Color)
ZOOM	2X
Polarity shift	yes, white hot / black hot
automatic cold finder	Yes
automatic heat finder	Yes
full color scheme	Yes
Lens	
Front lens protection	Germanium carbon coated
Field of view hxv / d	8° / 65mm
human detection	1450 m
car detection	4100 m
focussed range	3m - ∞
Electrical system	
Power supply	2 pcs. LiFePo4 batteries
Operation time (20°C)	>7hrs (with DVR >4,5hrs)
Operation time at -20°C	>5,5hrs
Recharging time	ca. 60 min.
Charging system	digital with charge guard
Boot up time	ca. 3sec.
Video display	
Type	Bi-Ocular LCD full scene view
Pixel	2 X 307200
Backlight / Frame rate	yes LED / permanent
Accessories	
Wireless video transfer	yes, 2,4 Ghz, 4 channel
External power supply	yes, 12/24 VDC / 230VAC
Carrying case	yes, safety case optional
Video OUT / DC-in Adapter	Yes, video grabber adapter
Camouflage package	Yes, full black

all data are reserved to be changed

