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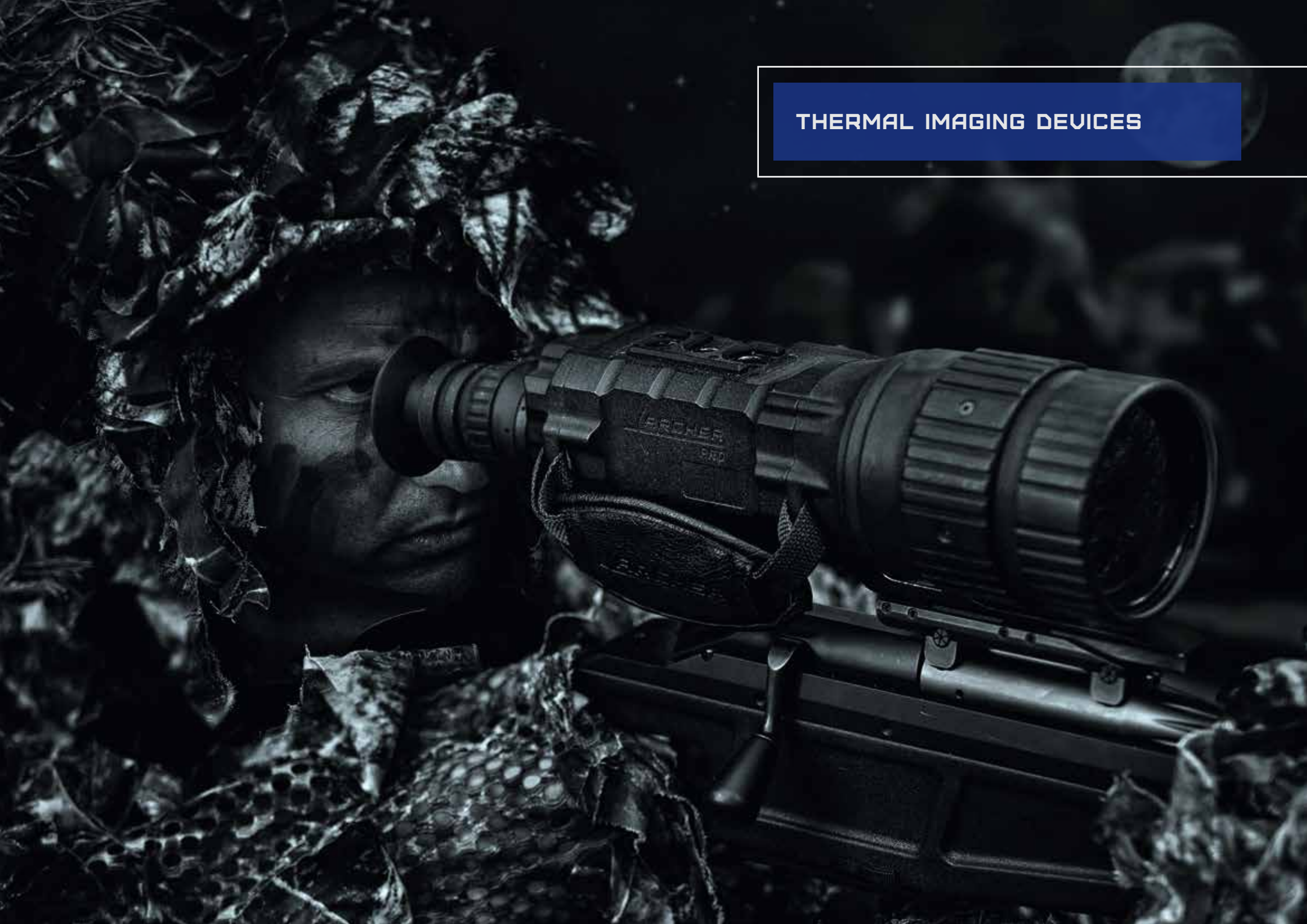


THERMAL IMAGING DEVICES

thermal imaging sighting system
ARCHER TSA-7

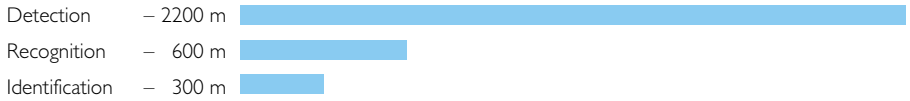
Thermal imaging sight ARCHER TSA-7 is the latest development of "Thermal Vision Technologies" company. High-performance capabilities, excellent operating capacities, wide functionality – these are distinctive features of thermal imaging sighting system ARCHER TSA-7.

Key advantage of ARCHER TSA-7 is a ballistic calculator: it is capable to consider atmospheric conditions (received from the built-in weather station or entered manually), wind of any direction and speed of 10 m/s, derivation, angle of sight and the Coriolis force. Temperature of dustpowder is also considered together with susceptibility factor (automatically or manually). Moreover, the complex automatically remembers adjustment conditions for a specific cartridge and enters firing corrections under other conditions. Both standard (G1, G7) and specific drag functions (based on Lapua Radar Data or generated by external ballistic programs) are supported in ARCHER TSA-7.

Laser rangefinder of 1550 nm range, integrated in thermal sight, allows to accurately measure distance on the distant range.

Optical system characteristics and unique functions make a device an indispensable tool for a wide range of use with any weapon, including large caliber sniper rifles and machine guns.

MAN SIZED TARGET
(75 mm objective)



The device is equipped with a highly sensitive passive receiver of far infrared band (LWIR). ARCHER TSA-7 has a built-in colour high-resolution micro display and an eyepiece with diopter adjustment.

Several set colour schemes and sensitivity settings allow to choose the necessary display option depending on the tasks performed.

Thermal imaging sighting system ARCHER TSA-7 has a serial interface for programming and remote control, option of downloading and editing target reticles, ballistics table for every type of programmed arms. The device is equipped with sensors of ambient light and proximity, angle of sight, level of horizon, constant monitoring of distance shot. A built-in recording module allows to take photos and shoot video in several modes.

The design comes in a shockproof waterproof plastic housing with conveniently arranged controls. Power is supplied via quick detach battery cassette, cassette of 4 AA type batteries (lithium batteries or rechargeable batteries) or external power supply.

FEATURES

- Integrated laser rangefinder.
- Built-in compass and accelerometer.
- Built-in weather station.
- Windage calculation.
- Automatic compensation for changing of adjustment conditions.
- Ballistic table development.
- USB interface for programming and device control.
- Bluetooth interface for connection of the external weather station and device control.
- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Built-in video module.
- Manual and automatic calibration of the detector.
- Automatically predicted impact point.

- Thermal imaging sight ARCHER TSA-7.
- Rechargeable batteries cassette – 2 pcs.
- AA type batteries cassette – 1 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Cable adapter.
- Blind.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR				
Technology	Uncooled VOx Microbolometer			
Resolution	336 x 256		640 x 512	
Pixel size	17µ			
Operating wavelength	7.5-13.5 µm			
Sensitivity	<25 mK			
OPTICS				
Objective	50 mm	75 mm	50 mm	75 mm
Objective F number	F/1.0			
Field of view	6.5° x 5.0°	4.4° x 3.4°	12.5° x 10.0°	8.3° x 6.4°
Focusing range	10 m ÷ ∞			
Eye relief	50 mm			
Diopter correction	-6 ÷ +2			
RANGEFINDER				
Max.distance measured by LRF	2500 m			
LRF wavelength	1550 nm			
BALLISTIC COMPUTER				
Max. measurable distance	2500 m			
Drag functions	G1, G7, multi BC or user defined			
Calculation time	200 msec			
ELECTRONICS				
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)			
Video output	PAL or NTSC, programmed			
Display	AMOLED, 800 x 600			
Interface	USB			
OPERATING PARAMETERS				
Starting time	3 sec			
Temperature range	-30°C ÷ +55°C			
Operating time, no less than	5 h			
Operating time from redundant power supply, no less than	8 h			
Dimensions (L x W x H)	*objective 50 mm* 268 x 114 x 117 mm		*objective 75 mm* 283 x 120 x 117 mm	
Weight	1.5 kg		1.6 kg	
Protection class	IP67			

thermal imaging sight
ARCHER TSA-9

TSA-9/50 NSN: 5855-61-012-0802
TSA-9/75 NSN: 5855-61-012-0803
TSA-9/100 NSN: 5855-61-012-0805

ARCHER TSA-9 is the best sight in its series. Extremely long distances and severe conditions won't be an obstacle to keep accurate shooting anymore. Advanced functionality and new software of the sight will be excellent assistants in performing the most complex tasks.

Having kept excellent technical specifications of its predecessors, ARCHER TSA-9 has received a wide range of significant advantages. Sight electronics is equipped with a set of sensors and communication tools that widen the functionality and operating capabilities and improve usage of the device.

MAN SIZED TARGET
(100 mm objective)

Detection	– 2450 m
Recognition	– 650 m
Identification	– 330 m

The sight is equipped with a highly sensitive passive receiver of far infrared band (LWIR) with resolution and sensitivity within 20-30 mK.

Several modifications of the lens (50 mm, 75 mm and 100 mm) provide a possibility to choose a sight model that best meets the objective. All models have a manual focus for comfortable and effective usage of the device.

A built-in colour high-resolution micro display together with an eyepiece with diopter adjustment provide a high-quality image of aiming reticles and a minimal step of their movement during adjustment fire. Aiming reticles are implemented in automatic reverse functions for saving reticles' contrast and automatic scaling depending on the enlargement range. Reticle coordinates can be adjusted both in clicks and in centimeters.

A ballistic calculator allows to compensate changing of atmospheric conditions, temperature of dustpowder and windage. The device is equipped with sensors of ambient light and proximity, angle of sight. Thermal imaging sight ARCHER TSA-9 has a serial interface for programming and remote control, option of downloading and editing target reticles, ballistics table for every type of programmed arms.

A built-in recording module allows to take photos and shoot video in several modes.

The data is read via wired (USB) interface. The device has a sealed multipurpose connector for power charging, video output and device control.

The design comes in a shockproof waterproof plastic housing with pumped inert gas resistant to corrosive environment. Conveniently arranged controls are protected from accidental use. Two quick detach battery cassette and rechargeable battery allow to blindly change power supply.

FEATURES

- Built-in compass and accelerometer.
- USB interface for programming and device control.
- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Built-in video module.
- Manual and automatic calibration of the detector.
- Semi-automatically predicted impact point.
- Windage calculation.
- Automatic compensation for changing of adjustment conditions.
- Ballistic table development.

DELIVERY SET

- Thermal imaging sight ARCHER TSA-9.
- Rechargeable batteries cassette – 2 pcs.
- AA type batteries cassette – 1 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Cable adapter.
- Blind.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR						
Technology	Uncooled VOx Microbolometer					
Resolution	336 x 256			640 x 512		
Pixel size	17µ					
Operating wavelength	7.5-13.5 µm					
Sensitivity	<50 mK					
OPTICS						
Objective	50mm	75mm	100mm	50mm	75mm	100mm
Objective F number	F/1.0					
Field of view	6.5° x 5.0°	4.4° x 3.4°	3.3° x 2.5°	12.5° x 10.0°	8.3° x 6.4°	6.2° x 5.0°
Focusing range	10 m ÷ ∞					
Eye relief	50 mm					
Diopter correction	-6 ÷ +2					
BALLISTIC COMPUTER						
Max. measurable distance	2500 m					
Drag functions	G1, G7, multi BC or user defined					
Calculation time	200 msec					
ELECTRONICS						
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)					
Video output	PAL or NTSC, programmed					
Display	AMOLED, 800 x 600					
Interface	USB					
OPERATING PARAMETERS						
Starting time	3 sec					
Temperature range	-30°C ÷ +55°C					
Operating time, no less than	5 h					
Operating time from redundant power supply, no less than	8 h					
Dimensions (L x W x H)	*objective 50 mm* 270 x 99 x 110 mm		*objective 75 mm* 302 x 106 x 112 mm		*objective 100 mm* 312 x 106 x 121 mm	
Weight	1.3 kg		1.75 kg		1.8 kg	
Protection class	IP67					

thermal imaging sight
ARCHER TSA-11

TSA-11/40 NSN: 5855-61-012-0801

ARCHER TSA-11 is the newest sight specially designed for the usage on small tactical arms. The peculiarity of the thermal sight is its small size and an objective with a fixed focus that provides a sharp image from 25 m to infinity. However, the device has maintained all operational advantages of ARCHER sights, like: flexible configuration mode, editable target reticles, profiles for different types of arms and ammunition. The device has a mechanical selector switch, which allows not only to switch the device "by touch", but immediately select one of the preset operating modes. The device can be equipped with 40 mm objective with fixed focus or 50 mm objective with manual focusing mechanism.

MAN SIZED TARGET
(50 mm objective)

Detection	– 1500 m
Recognition	– 380 m
Identification	– 190 m

The sight is equipped with a highly sensitive passive receiver of far infrared band (LWIR) with sensitivity less than 30 mK.

A built-in colour high-resolution micro display together with an eyepiece with diopter adjustment provide a high-quality image of aiming reticles and a minimal step of their movement during adjustment fire. Aiming reticles are implemented in automatic reverse functions for saving reticles' contrast and automatic scaling depending on the enlargement range.

ARCHER TSA-11 is equipped with sensors of ambient light and proximity and has a serial interface for programming and remote control. A built-in recording module allows to take photos and shoot video in several modes. The device has a multipurpose jack for charging, video output and device programming.

The design comes in a shockproof waterproof plastic housing with pumped inert gas resistant to corrosive environment. Conveniently arranged controls are protected from accidental use. Batteries are charged in a device with the help of a built-in recharger.

There is also a mounting for installing additional equipment and a hand strap for comfortable and secure holding of the device while using it as an observation instrument.

The sight ARCHER TSA-11 can be used with any type of tactical arms.

FEATURES

- Option of downloading target reticles with automatic reverse and scaling.
- Ballistics table.
- Electronic level.
- Profiles for different arms and ammunition.
- Built-in photo- and video module.
- USB interface for programming and device control.
- 1.5x optical magnification.
- 2x, 3x, 4x digital zoom.
- Different color schemes for the image refinement.
- Operative adjustment of sensitive sensor parameters with the help of preset modes.
- Ambient light sensors for automatic adjustment of display brightness.
- A proximity sensor for switching a display off while removing user's face from the device.
- Manual and automatic calibration of the detector.

DELIVERY SET

- Thermal imaging sight ARCHER TSA-11.
- AA type rechargeable batteries – 4 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Cable adapter.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR				
Technology	Uncooled VOx Microbolometer			
Resolution	336 x 256		640 x 512	
Pixel size	17μ			
Operating wavelength	7.5-13.5 μm			
Sensitivity	<30 mK			
OPTICS				
Objective	40 mm		50 mm	
Objective F number	F/1.0			
Field of view	7.8° x 6.2°	6.5° x 5.0°	15.5° x 12.4°	12.5° x 10.0°
Focusing range	25 m ÷ ∞			
Eye relief	50 mm			
Diopter correction	-6 ÷ +2			
ELECTRONICS				
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)			
Video output	PAL or NTSC, programmed			
Display	AMOLED, 800 x 600			
Interface	USB			
OPERATING PARAMETERS				
Starting time	3 sec			
Temperature range	-30°C ÷ +55°C			
Operating time, no less than	5 h			
Operating time from redundant power supply, no less than	8 h			
Dimensions (L x W x H)	232 x 95 x 88 mm		260 x 95 x 90 mm	
Weight	0.75 kg		1 kg	
Protection class	IP67			

thermal imaging clip-on
ARCHER TCN-11

A compact pre-lens thermal imaging clip-on ARCHER TCN-11 is intended for use with daylight optical sights. The frequence of a daylight sight is from 3x to 8x.

It is difficult to overestimate the ease of use of this device paired with daytime optics: now a day sight is always on a rifle, and high image quality allows to solve tasks even in extreme weather conditions not breaking the adjustment of an optical sight.

Fixed focus of the objective relieves from the necessity of image focusing.

A clip-on can be controlled by remote control which also serves as an external power supply. The device is equipped with a quick detached mount on a Picatinny rail. Power is supplied via 4 AA type batteries (lithium batteries or rechargeable batteries).

MAN SIZED TARGET
(50 mm objective)

Detection	– 1500 m
Recognition	– 380 m
Identification	– 190 m

FEATURES

- Electronic level and angle of sight sensor.
- Built-in photo- and video module.
- USB interface for programming and device control.
- 1x optical zoom.
- 2x, 3x, 4x digital zoom.
- Different color schemes for the image refinement.
- Operative adjustment of sensitive sensor parameters with the help of preset modes.
- Ambient light sensor for automatic adjustment of display brightness.
- Manual and automatic calibration of the detector.

DELIVERY SET

- Thermal imaging sight ARCHER TCN-11.
- AA type rechargeable batteries – 4 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Cable adapter.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR				
Technology	Uncooled VOx Microbolometer			
Resolution	336 x 256		640 x 512	
Pixel size	17µ			
Operating wavelength	7.5-13.5 µm			
Sensitivity	<30 mK			
OPTICS				
Objective	40 mm		50 mm	
Objective F number	F/1.0			
Field of view	7.8° x 6.2°	6.5° x 5.0°	15.5° x 12.4°	12.5° x 10.0°
Focusing range	25 m ÷ ∞			
Eye relief	50 mm			
Diopter correction	-6 ÷ +2			
ELECTRONICS				
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)			
Video output	PAL or NTSC, programmed			
Display	AMOLED, 800 x 600			
Interface	USB			
OPERATING PARAMETERS				
Starting time	3 sec			
Temperature range	-30°C ÷ +55°C			
Operating time, no less than	5 h			
Operating time from redundant power supply, no less than	8 h			
Dimensions (L x W x H)	155 x 95 x 88 mm		210 x 100 x 85 mm	
Weight	0.75 kg		1.08 kg	
Protection class	IP67			

thermal imaging binocular
ARCHER TGX-3/75

Thermal imaging binocular ARCHER TGX-3/75 is a modern compact optical device. High-performance capabilities of the optical system, an extended set of functions and ergonomic design of ARCHER TGX-3/75 make it an indispensable device for a wide range of applications.

MAN SIZED TARGET
(75 mm objective)

Detection	–	2200 m
Recognition	–	600 m
Identification	–	300 m

Digital thermal device ARCHER TGX-3/75 is designed for monitoring and observing areas in limited visibility conditions: poor lighting, smoke, fog, objects hidden by vegetation or merged with underlying terrain. The device is equipped with a highly sensitive passive receiver of far infrared band (LWIR) with resolution and sensitivity within 20-30 mK. A binocular has two built-in colour high-resolution micro displays and eyepieces with diopter adjustment and the ability to adjust the distance between the eyes.

Several set colour schemes allow to choose the necessary display option depending on the tasks performed.

An optical circuitry of ARCHER TGX-3/75 provides 3x digital zoom (using a detector with 640 x 512 resolution) or 6x digital zoom (using a detector with 336 x 256 resolution).

Operation modes, device status, battery discharge are indicated on the display of the device. There are also modes of brightness and contrast control.

The device is equipped with sensors of proximity that much reduce the risk of disclosure.

The design of ARCHER TGX-3/75 comes in a shockproof waterproof plastic housing with conveniently arranged controls. Power is supplied via 6 AA type batteries (lithium batteries or rechargeable batteries).

FEATURES

- USB interface for programming and device control.
- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Manual and automatic calibration of the detector.

DELIVERY SET

- Thermal imaging binocular ARCHER TGX-3/75.
- AA type rechargeable batteries – 6 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Neck strap.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR		
Technology	Uncooled VOx Microbolometer	
Resolution	336 x 256	640 x 512
Pixel size	17µ	
Operating wavelength	7.5-13.5 µm	
Sensitivity	<30 mK	
OPTICS		
Objective	75 mm	
Objective F number	F/1.0	
Field of view	4.4° x 3.4°	8.3° x 6.4°
Focusing range	5 m ÷ ∞	
Eye relief	50 mm	
Diopter correction	-6 ÷ +2	
ELECTRONICS		
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)	
Video output	PAL or NTSC, programmed	
Display	AMOLED, 800 x 600	
Interface	USB	
OPERATING PARAMETERS		
Starting time	3 sec	
Temperature range	-30°C ÷ +55°C	
Operating time, no less than	5 h	
Operating time from redundant power supply, no less than	8 h	
Dimensions (L x W x H)	215 x 146 x 104 mm	
Weight	1.3 kg	
Protection class	IP67	

An optical circuitry of ARCHER TGX-3/75 provides 3x digital zoom (using a detector with 640 x 512 resolution) or 6x digital zoom (using a detector with 336 x 256 resolution).

thermal imaging binocular ARCHER TGX-8/75

TGX-8/75 NSN: 5855-61-012-0800

Thermal imaging binocular ARCHER TGX-8/75 is an ultramodern compact optical device, designed for monitoring and observing areas in limited visibility conditions: poor lighting, smoke, fog, objects hidden by vegetation or merged with underlying terrain. A distinctive feature of this binocular is an integrated compact laser rangefinder of 1550 nm range that allows to accurately measure distance on the distant range.

High-performance capabilities of optical system, an extended set of functions and ergonomic design of ARCHER TGX-8/75 make it an indispensable device for a wide range of applications.

MAN SIZED TARGET
(75 mm objective)

Detection	– 2200 m
Recognition	– 600 m
Identification	– 300 m

The device is equipped with a highly sensitive passive receiver of far infrared band (LWIR) with resolution and sensitivity within 20-30 mK. A binocular has two built-in colour high-resolution micro displays and eyepieces with diopter adjustment and the ability to adjust the distance between the eyes.

Several set colour schemes allow to choose the necessary display option depending on the tasks performed.

An optical circuitry of ARCHER TGX-8/75 provides 3x digital zoom (using a detector with 640 x 512 resolution) or 6x digital zoom (using a detector with 336 x 256 resolution).

Operation modes, device status, battery discharge are indicated on the display of the device. There are also modes of brightness and contrast control.

The device is equipped with sensors of proximity that much reduce the risk of disclosure.

The design of ARCHER TGX-8/75 comes in a shockproof waterproof plastic housing with conveniently arranged controls. Power is supplied via 6 AA type batteries (lithium batteries or rechargeable batteries).

Due to high-tech electronics unit excellent functional capacities of the device are realized by minimal dimensions and power consumption.

FEATURES

- USB interface for programming and device control.
- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Integrated laser rangefinder.
- Built-in compass and accelerometer.
- Built-in video module.
- Manual and automatic calibration of the detector.

DELIVERY SET

- Thermal imaging binocular ARCHER TGX-8/75.
- AA type rechargeable batteries – 6 pcs.
- Redundant power supply RBP-8.
- Charger 220V.
- Vehicle charger 12V.
- USB cable.
- Neck strap.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR		
Technology	Uncooled VOx Microbolometer	
Resolution	336 x 256	640 x 512
Pixel size	17μ	
Operating wavelength	7.5-13.5 μm	
Sensitivity	<30 mK	
OPTICS		
Objective	75 mm	
Objective F number	F/1.0	
Field of view	4.4° x 3.4°	8.3° x 6.4°
Focusing range	5 m ÷ ∞	
RANGEFINDER		
Max.distance measured by LRF	2500 m	
LRF wavelength	1550 nm	
ELECTRONICS		
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)	
Video output	PAL or NTSC, programmed	
Display	AMOLED, 800 x 600	
Interface	USB	
OPERATING PARAMETERS		
Starting time	3 sec	
Temperature range	-30°C ÷ +55°C	
Operating time, no less than	5 h	
Operating time from redundant power supply, no less than	8 h	
Dimensions (L x W x H)	215 x 146 x 104 mm	
Weight	1.65 kg	
Protection class	IP67	

thermal imaging monocular
ARCHER TMA-30M, TMA-55M

TMA-55M NSN: 5855-61-012-0799

Digital tactical thermal imaging device ARCHER TMA-30M/55M – new monoculars of TMA series. The device is equipped with high-aperture lens with a manual focus and proximity sensors that much reduce the risk of disclosure.

The device is equipped with a highly sensitive passive receiver of far infrared band (LWIR). ARCHER TMA-30M/55M has a built-in colour high-resolution micro display and an eyepiece with diopter adjustment.

MAN SIZED TARGET
(55 mm objective)

Detection	– 1720 m
Recognition	– 430 m
Identification	– 215 m

Several set colour schemes allow to choose the necessary display option depending on the tasks performed.

An optical circuitry of ARCHER TMA-30M/55M provides 2x digital zoom (using a detector with 640 x 512 resolution) or 4x digital zoom (using a detector with 336 x 256 resolution).

Operation modes, device status, battery discharge are indicated on the display of the device. There are also modes of automatic and manual brightness and contrast control.

The design of ARCHER TMA-30M/55M comes in a shockproof waterproof plastic housing with conveniently arranged controls. Power is supplied via 4 AA type batteries (lithium batteries or rechargeable batteries). Due to high-tech electronics unit excellent functional capacities of the device are realized by minimal dimensions and power consumption.

FEATURES

- USB interface for programming and device control.
- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Manual and automatic calibration of the detector.
- Analog video output with a possibility of switching off.

DELIVERY SET

- Thermal imaging monocular ARCHER TMA-30M/55M.
- Video/charge adapter.
- AA type rechargeable batteries – 6 pcs.
- Hand strap.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR				
Technology	Uncooled VOx Microbolometer			
Resolution	336 x 256		640 x 512	
Pixel size	17µ			
Operating wavelength	7.5-13.5 µm			
Sensitivity	<30 mK			
OPTICS				
Objective	30 mm		55 mm	
Objective F number	F/1.0			
Field of view	9.5° x 7°	18° x 14°	6° x 4.7°	11.4° x 8.8°
Focusing range	2 m ÷ ∞		5 m ÷ ∞	
Eye relief	50 mm			
Diopter correction	-6 ÷ +2			
ELECTRONICS				
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)			
Video output	PAL or NTSC, programmed			
Display	AMOLED, 800 x 600			
Interface	USB			
OPERATING PARAMETERS				
Starting time	3 sec			
Temperature range	-30°C ÷ +55°C			
Operating time, no less than	5 h			
Operating time from redundant power supply, no less than	8 h			
Dimensions (L x W x H)	*objective 30 mm* 138 x 71 x 101 mm		*objective 55 mm* 165 x 71 x 101 mm	
Weight	0.5 kg		0.65 kg	
Protection class	IP67			

thermal imaging monocular
ARCHER TMQ-19, TMQ-20

ARCHER TMQ-19/20 is a digital ultra-compact thermal imaging device.

Small dimensions of this device allow comfortable use of the monocular, having set it on a headgear or helmet. The device is used by emergency services and special units in urban conditions or on short distances indoors.

The device ARCHER TMQ-19/20 is equipped with a lens of focal length of 19 mm or 20 mm, focused in the range from 10 m to infinity.

MAN SIZED TARGET
(20 mm objective)

Detection	–	650 m
Recognition	–	160 m
Identification	–	80 m

An optical circuitry of ARCHER TMQ-19/20 provides 0.5x digital zoom (using a detector with 640 x 512 resolution) or 1x digital zoom (using a detector with 336 x 256 resolution).

Operation modes, device status, battery discharge are indicated on the display of the device. There are also modes of automatic and manual brightness and contrast control.

The design of ARCHER TMQ-19/20 comes in a shockproof waterproof plastic housing with conveniently arranged controls. Power is supplied via 1 CR123 battery. There is also an option to connect an external power supply.

Due to high-tech electronics unit excellent functional capacities of the device are realized by minimal dimensions and power consumption.

ARCHER TMQ-19 is designed for tasks when minimal weight and dimensions are crucial. Meanwhile the monocular TMQ-19 is on a level with other models both by functional characteristics and by image quality.

FEATURES

- USB interface for programming and device control.
- 2x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Manual calibration of the detector.
- Option to connect an external power supply.
- Analog video output with a possibility of switching off.

DELIVERY SET

- Thermal imaging monocular ARCHER TMQ-19/20.
- Video/charge adapter.
- 1 CR123 battery.
- Hand strap.
- User's manual.
- Case.
- Bag.

TECHNICAL CHARACTERISTICS

DETECTOR				
Technology	Uncooled VOx Microbolometer			
Resolution	336 x 256		640 x 512	
Pixel size	17μ			
Operating wavelength	7.5-13.5 μm			
Sensitivity	<30 mK			
OPTICS				
Objective	19 mm		20 mm	
Objective F number	F/1.1		F/1.0	
Field of view	17° x 13°	32° x 26°	16.3° x 12.5°	31.2° x 24.9°
Focusing range	10 m ÷ ∞			
Eye relief	50 mm			
Diopter correction	-6 ÷ +2			
ELECTRONICS				
Frame rate	9/25 Hz (PAL) 8/30 Hz (NTSC)			
Video output	PAL or NTSC, programmed			
Display	AMOLED, 800 x 600			
Interface	USB			
OPERATING PARAMETERS				
Starting time	3 sec			
Temperature range	-30°C ÷ +55°C			
Operating time, no less than	2 h			
Operating time from redundant power supply, no less than	10 h			
Dimensions (L x W x H)	*objective 19 mm* 95 x 48 x 50 mm		*objective 20 mm* 110 x 65 x 60 mm	
Weight	0.2 kg		0.27 kg	
Protection class	IP67			

ballistic computer
ARCHER BCA-01

ARCHER BCA-01 is an autonomous ballistic computer designed for calculating corrections for the chosen type of weapon / ammunition, depending on the distance to the target and weather conditions. The device is equipped with a laser rangefinder, a weather station, a digital compass and an inclinometer. Special software that works on different platforms (OS Windows, Android, iOS) is used for device parameterization. The device is installed on the day sight in such a way that the display of ballistic computer is in sight of the operator. It allows to conveniently read corrections data and other measured parameters.

FEATURES

- Distance measurement.
- Temperature, humidity and pressure measurement.
- Measurement of angular direction.
- Drag functions support.
- Changing of adjustment conditions count.
- Bluetooth interface for device programming and connection of the external data sources: a weather station, an anemometer and a remote controller.
- Color AMOLED display.
- Laser target designator.
- Quick detached mount.

TECHNICAL CHARACTERISTICS

Max. measurable distance	2500 m
Drag functions	G1, G7, multi BC or user defined
Calculation time	200 msec
Unit of correction	MIL, MOA, cm/100m, inch/100y
Rangefinder LRF	1550 nm, max. 3000 m
Compass	± 0.25°

BUILT-IN WEATHER STATION	
Pressure measurement range	300…1100 hPa
Temperature measurement range	-40°C ÷ +85°C
Humidity measurement range	0…100% rel. humidity
Display	AMOLED, 96x96
Interfaces	USB, BLUETOOTH LE
Power supply source	2 CR-123A batteries
Operating time	8-10 h
Starting time	3 sec
Temperature range	-30°C ÷ +55°C
Pressure range	300 ÷ 100 hPa
Angular direction range	angle of sight: ± 80° incidence angle: ± 90°
Dimensions (L x W x H)	105 x 94 x 64 mm
Weight	0.45 kg
Protection class	IP67

THERMAL IMAGING DEVICES.
ADDITIONAL EQUIPMENT AND ACCESSORIES

ADDITIONAL EQUIPMENT

Display module DCM-12

Display module DCM-12 is intended for use as an electronic dashboard for vehicles. The feature of the device is the ability to display video from surveillance cameras (day and thermal imaging). All necessary information is concentrated in the field of driver's view.

By its functions, DCM-12 device combines a specialized calculator, a high-resolution display and a remote control united in a reinforced housing.

Display module DCM-15

Display module DCM-15 is intended for use as a tool of information reflection and control of one or several video sources.

By its functions, DCM-15 combines a high-resolution display and a remote control device, united in a reinforced housing.

Field display module FDM-102 (10"), FDM-72 (7")

Field display module FDM-102 (10"), FDM-72 (7") is designed for use in field conditions with thermal imaging devices Archer. The module is used for remote monitoring and control of the situation in combat conditions and also for practical trainings on Archer devices. Video information from the screen of the connected device is displayed on the monitor. Field display module FDM also has a built-in battery that allows to power the connected Archer devices if it is necessary.

Remote display RDC-02

Remote display RDC-02 is intended for use as a backup instrument of information reflection and control of ARCHER devices. By its functions, RDC-02 combines a micro display with a lens and a remote control.

The display connects to ARCHER devices via two-cables digital interface SDI that provides power supply, the digital video stream transmission and reverse control commands transfer to the main unit.

The remote display RDC-02 can be mounted on a headgear or helmet. It relieves the operator from the necessity to hold the device in hands and allows a remote use of the device ARCHER, for instance, from a secured place.

Display RDC-02 has an option to connect an external power source, for example, RBP-8, that essentially prolonges the battery life of the complex.

Redundant power supply RBP-8

External battery unit RBP-8 is designed for secured power supply of ARCHER devices at ambient temperatures -30°C ÷ +55°C, relative humidity no more than 95% at 25 ± 10°C, atmospheric pressure of 690 to 790 mm Hg.

Voltage converter 12/24

Voltage converter is used for power source adjustment (in this case the board network of armored vehicles = 36V DC) to the level that allows to safely use this source to charge or power a connected device (14V DC).

Battery charger CRG-6

The automatic battery charger CRG-6 can simultaneously charge from 1 to 6 batteries. A built-in microprocessor unit fully controls battery charging mode and can also identify the defective elements.

Remote control panel RMC

Remote control series ARCHER RMC is designed for the integrated use of panels with portable devices ARCHER and provides remote control of their key functions. RMC panels are equipped with two interfaces – wired and wireless. The design of ARCHER RMC allows for installation on Picatinny rail or any other chosen place with the help of a special strap.

ADDITIONAL EQUIPMENT

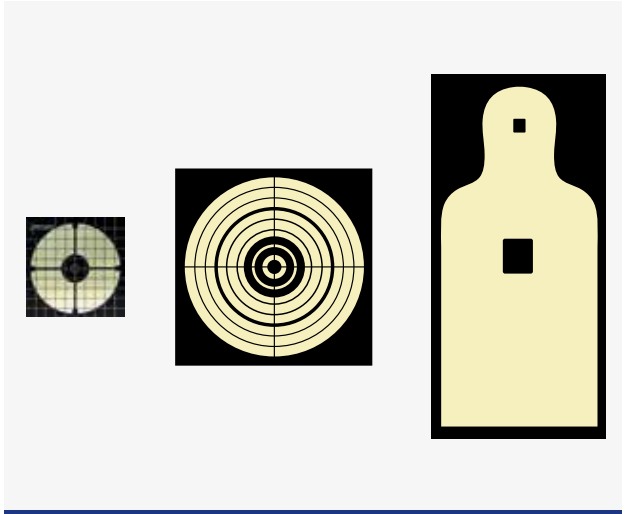
Shockproof cases with supports

Tactical bags

Eyecups

Specific batteries

Optics cleaners



Thermal imaging targets

Side bracket for Dragunov sniper rifle

Bracket for PK machine gun

B&T bracket

A.R.M.S QD35 bracket

A.R.M.S LD19 bracket

ARCHER Monolit bracket

NIGHT VISION

night vision monocular
ARCHER NVMA-14

NVMA-14 is the first representative of a new night vision line produced under the trade name Archer. Archer NVMA-14 is a multiuse mini-monocular designed in a tough, compact, and ergonomic composite housing that meets IP67 protection level requirements and can withstand dust, rain, high humidity, and temperature extremes, and still provide unsurpassed levels of performance. The device is equipped with manual variable gain control for selecting the image brightness level depending on ambient light levels in the environment.

The monocular Archer NVMA-14 is the most versatile of all night vision devices: its compact size and lightweight make it ideal for head mounting that allows the unit to be worn as a mono-goggle for hands free operation. The competitive advantage of Archer NVMA-14 is a possibility to use the monocular in conjunction with IR reticle projector as a sight for short-range use.

The other most noteworthy feature of this device is an autogated Gen 3 image tube that provides far superior performance in all light conditions.

Archer NVMA-14 is a high-standard night vision device that will meet the requirements of the most demanding user.

FEATURES

- Compact, rugged design
- Weapon mountable
- Head or helmet mountable for hands-free usage
- Auto brightness control
- Bright light cut-off
- Ergonomic, simple, easy to operate controls
- Utilizes single CR123A lithium battery
- Adaptable for use with cameras
- Built-in infrared illuminator with pivotal flood lens

DELIVERY SET

- Night vision monocular Archer NVMA-14
- Tactical bag
- One lithium battery CR123A
- Battery adapter CR123A 3V / AA 1.5V
- Lens tissue
- Head set (magnet)
- Helmet adapter (magnet)
- Sacrificial window
- Demist shield
- Helmet mount for Wilcox with magnet
- Bridge with flip-up "eye"
- User's manual

TECHNICAL CHARACTERISTICS

MODEL	NVMA-14
Generation	III
Resolution	60-64 lp/mm
Magnification	1x standard (3x, 5x, 8x optional)

OPTICS	
Objective lens	27 mm
Objective F number	F/1.2
Field of view (FOV)	40°
Focus range	0.25 m ÷ ∞
Exit Pupil Diameter	14 mm
Eye relief	25 mm
Diopter adjustment	-6 ÷ +2 dpt

FUNCTIONAL FEATURES	
Manual Gain Control	Yes
Bright Light Cut-off	Yes
Automatic Shut-off System	Yes
Infrared Illuminator	Yes (built-in with flood lens)

OPERATING PARAMETERS	
Power Supply	CR123 Lithium 3V (1), or AA Alkaline 1.5V (1), or any AA or CR123 type rechargeable batteries with voltage from 1.2V to 3.2V (1)
Battery Life	up to 60 hours
Operating Temperature	-40°C ÷ +50°C
Storage Temperature	-50°C ÷ +70°C
Dimensions	120 x 49 x 69 mm
Weight	0.4 kg
Protection	IP67

night vision goggles
ARCHER NVGA-7, NVGA-15

A series of night vision goggles Archer is presented by a compact but rugged bi-ocular Archer NVGA-7 and a dual-channel night vision goggle system Archer NVGA-15. Archer goggles are perfect hands-free units that meet a wide array of specification requirements. Built in a tough and ergonomic composite housing with the highest grade optics and with simple, reliable electronics, night vision goggles Archer give bright and clear night vision images.

Both Archer NVGA-7 and Archer NVGA-15 are equipped with high-performance Gen 3 image tubes.

Bi-ocular Archer NVGA-7 has proven itself in combat due to its rugged, ergonomic design. It is equipped with Manual Gain Control (MGC) that gives a user the ability to adjust the brightness of the image tube in order to achieve the image highest quality under varying light conditions. It also has a built-in IR illuminator as a light source in complete darkness. Archer NVGA-7 can be either hand-held or head-mounted and helmet-mounted.

The dismounted goggle can also be used as an excellent long range viewer (with optional optical magnifier).

A dual-channel night vision goggle system Archer NVGA-15 utilizes two image intensifier tubes. This dual tube design provides increased depth perception and outstanding clarity. NVGA-15 is equipped with automatic brightness control, bright light shut-off circuitry, and a spot/flood built-in IR illuminator. LED indicators displayed on the screen of the eyepiece are assigned to alert the user of a low battery or to indicate that the IR is turned on.

For hands-free use, it can be worn on the included flip-up head mount or optional universal helmet mount, both of which have a built-in mechanism that will automatically turn the unit off when it is flipped up.

Night vision goggles Archer both NVGA-7 and NVGA-15 withstand the toughest environments and can cope with any challenging task. Archer goggles are the exceptional choice for hands-free usage for the casual user right through to the most demanding professional.

FEATURES

- Built-in Class 1 covert IR laser pointer
- Redundant dual-tube design
- True stereoscopic vision
- Lightweight & compact rugged goggle system
- Head or helmet mountable for hands-free operation
- Automatic brightness control
- Bright light cut-off
- Ergonomic, simple, easy to operate controls
- Built-in Infrared illuminator and flood lens
- Weather Resistant
- Adaptable for use with cameras

DELIVERY SET

- Night vision goggles Archer NVGA-7 / NVGA 15
- Tactical bag
- One lithium battery CR123A
- Lens tissue
- Neck lanyard
- Detachable X-Long range infrared illuminator
- User's manual

TECHNICAL CHARACTERISTICS

MODEL	NVGA-7	NVGA-15
Generation	III	
Resolution	60-64 lp/mm	
Magnification	1x standard (3x, 5x, 6x, 8x optional)	1x standard (3x optional)

OPTICS		
Objective lens	27 mm	19 mm
Objective F number	F/1.2	F/1.26
Field of view (FOV)	40°	51°
Focus range	0.25 m ÷ ∞	
Exit Pupil Diameter	15 mm	14 mm
Eye relief	15 mm	25 mm
Diopter adjustment	-6 ÷ +2 dpt	

FUNCTIONAL FEATURES	
Manual Gain Control	Yes
Automatic Brightness Control	Yes
Bright Light Cut-off	Yes
Automatic Shut-off System	Yes
Infrared Illuminator	Yes (built-in with pivotal flood lens)
IR Indicator	Yes (In FOV)
Low Battery Indicator	Yes (In FOV)

OPERATING PARAMETERS		
Power Supply	CR123 Lithium 3V (1), or AA Alkaline 1.5V (1), or any AA or CR123 type rechargeable batteries with voltage from 1.2V to 3.2V (1)	
Battery Life	up to 60 hours	up to 40 hours
Operating Temperature	-40°C ÷ +50°C	
Storage Temperature	-50°C ÷ +70°C	
Dimensions	165 x 120 x 61 mm	162 x 102 x 69 mm
Weight	0.49 kg	0.65 kg
Protection	IP67	

night vision sights

ARCHER NVSA-2.5, NVSA-4.5, NVSA-6

Archer NVSA-2.5, NVSA-4.5, NVSA-6 sights represent the apex of night vision technology, specially designed for the usage on small tactical arms. Having maintained all operational advantages of Archer night vision devices, NVSA-2.5, 4.5 and 6 encompass a host of other features, including wireless remote control, an automatic brightness control system, illuminated centered, red cross reticle for optimal contrast, the ability to mount to standard rail etc.

Fast IR sensitive optics coupled with quality image tubes of III Generation provide high resolution clear images for outstanding target acquisition and aiming capabilities. Archer night vision sights have multicoated all-glass lenses and an internally adjustable fine reticle that makes precise shot placement incredibly easy. The optical circuitry of NVSA provides 2.5x, 4.5x or 6x magnification.

The design of riflescopes comes in a dustproof waterproof housing with conveniently arranged controls. Complete with tactical rails for lasers or IR illuminators, Archer NVSA-2.5, NVSA-4.5, NVSA-6 sights are probably the most dependable, highest-performing weapon sights for shooting in dark environments that provide excellent observation and aiming for the most demanding shooters.

FEATURES

- Wide array of IIT configurations
- 2.5, 4.5x or 6x magnification
- Shock protected, all-glass IR transmission multicoated optics
- Bright light cut-off
- Illuminated reticle with brightness adjustment
- Wireless remote control included
- Detachable long-range infrared illuminator
- Waterproof design
- Quick release mount
- Mounts to standard weaver rails

DELIVERY SET

- Night vision sights Archer NVSA-2.5 / NVSA-4.5 / NVSA-6
- Tactical bag
- One lithium battery CR123A
- Battery adapter CR123A 3V / AA 1.5V
- Lens tissue
- AWReC (advanced wireless remote control)
- Detachable X-Long range infrared illuminator
- Picatinny adapter for AWReC
- User's manual

TECHNICAL CHARACTERISTICS

MODEL	NVSA-2.5	NVSA-4.5	NVSA-6
Generation		III	
Resolution		60-64 lp/mm	
Magnification	2.5x	4.5x	6x

OPTICS			
Objective lens	60 mm	108 mm	145 mm
Objective F number	F/1.35	F/1.54	F/1.8
Field of view (FOV)	16°	9°	7°
Focus range	70 m	10 m ÷ ∞	25 m ÷ ∞
Exit Pupil Diameter		7 mm	
Eye relief		45 mm	
Diopter adjustment		-4 ÷ +4 dpt	

FUNCTIONAL FEATURES			
Reticle Type	Crosshairs	Mil-dot	Crosshairs
Reticle Color	Red	Red on Green	Red
Windage & Elevation Adjustment		1/2 MOA	
Remote Control		Wireless	
Manual Gain Control		Yes	
Bright Light Cut-off		Yes	
Automatic Shut-off System		Yes	
Infrared Illuminator		Detachable Long Range IR	
Low Battery Indicator		Yes	

OPERATING PARAMETERS			
Power Supply		CR123 Lithium 3V (1)	
Battery Life		Up to 60 hours	
Operating Temperature		-40°C ÷ +50°C	
Storage Temperature		-50°C ÷ +70°C	
Dimensions	170 x 97 x 85 mm	220 x 100 x 80 mm	248 x 105 x 90 mm
Weight	0.75 kg	1.0 kg	1.1 kg
Protection		IP67	

night vision clip-ons
ARCHER NVCOA-M, NVCOA-L, NVCOA-XL

Extending the boundaries of night vision systems, Thermal Vision Technologies LLC has introduced the new line of Archer clip-ons. In order to satisfy the most demanding customer, the clip-ons are available in three modifications, different in size, weight and tasks performing: NVCOA-M, NVCOA-L and NVCOA-XL.

Designed for short-to-medium ranges, the most compact clip-on Archer NVCOA-M, intended to convert low-to-mid power daytime sights or binoculars (up to 6x magnification) to operate at night. It can be attached in front of a day rifle scope (using its quick release Picatinny mount) or directly onto the day scope (or binocular) objective lens with the included adaptor.

Archer NVCOA-M device is factory bore-sighted to better than 1MOA accuracy, that's why no alteration in zero is experienced. The clip-on is intended primarily for operating when field of view and ease of use is more important than high magnification.

Archer NVCOA-L is one of the most advanced night vision clip-on for long-range night shooting (up to 1000 m), and stands out from the competition when it comes to clarity, versatility, reliability, function and value.

Archer NVCOA-L is packed with innovative features like variable gain control, bright light shut-off and a wireless remote control. This night vision clip-on is designed to make long-range night shooting just as easy and accurate as daytime shooting in the same terrain.

Archer NVCOA-XL is a night vision unit that mounts in front of any existing day scope, converting the scope into a night vision-capable device with an extra-long viewing range of up to 1500 meters. Suitable for use with most commercial and military specification daytime scopes (up to 16x magnification), Archer NVCOA-XL can be mounted/dismounted on any standard Picatinny rail in seconds, with no special tools required.

It can be used with an advanced modular rangefinder with a wavelength of 905 nm in order to determine the exact distance between the observer and the target up to 2000 meters. Measurements are displayed on the rangefinder's indicators and in the FOV of any connected night vision device.

FEATURES

- Simple and quick conversion of any day scope into a night vision device
- Mounts in front of riflescope with no re-zeroing required
- Precise laser rangefinder capability
- Equipped with wireless remote control
- Variable gain control
- Low battery indicator
- Quick-release mount
- Bright light cut-off system
- Used with advanced modular rangefinder

DELIVERY SET

- Night vision clip-ons Archer NVCOA-M / NVCOA-L / NVCOA-XL
- Tactical bag
- One lithium battery CR123A
- Battery adapter CR123A 3V / AA 1.5V
- Lens tissue
- Special wrench
- AWReC (advanced wireless remote control)
- Detachable X-Long range infrared illuminator
- Picatinny adapter for AWReC
- Light-suppressor
- User's manual

TECHNICAL CHARACTERISTICS

MODEL	NVCOA-M	NVCOA-L	NVCOA-XL
Generation		III	
Resolution		60-64 lp/mm	
Magnification	1x (recommended to use with up to 6x day time optics)	1x (recommended to use with up to 12x day time optics)	1x (recommended to use with up to 16x day time optics)

OPTICS			
Objective lens	80 mm	108 mm	145 mm
Objective F number	F/1.2	F/1.54	F/1.8
Field of view (FOV)	12°	9°	7°
Focus range	10 m ÷ ∞	10 m ÷ ∞	25 m ÷ ∞
Exit Pupil Diameter	21 mm	40 mm	50 mm

FUNCTIONAL FEATURES	
Remote Control	Wireless
Manual Gain Control	Yes
Bright Light Cut-off	Yes
Automatic Shut-off System	Yes
Infrared Illuminator	Detachable Long Range IR Illuminator
Low Battery Indicator	Yes

OPERATING PARAMETERS			
Power Supply	CR123 Lithium 3V (1) or AA Alkaline 1.5V (1) or any AA or CR123 type rechargeable batteries with voltage from 1.2V to 3.2V (1)		
Battery Life	up to 60 hours		
Operating Temperature	-40°C ÷ +50°C		
Storage Temperature	-50°C ÷ +70°C		
Dimensions	180 x 80 x 80 mm	235 x 97 x 80 mm	304 x 104 x 94 mm
Weight	0.69 kg	0.91 kg	1.4 kg
Protection	IP67		

NIGHT VISION.
ADDITIONAL EQUIPMENT AND ACCESSORIES

ADDITIONAL EQUIPMENT

Reticle projector NRP

Remote control panel NRMC

3x objective

5x objective

ADDITIONAL ACCESSORIES

Tactical bags

Shockproof case with supports

Adapter for headset/helmet

QR riflescope brackets

Adapter for head/helmet

Adapter for helmet Wilcox

Adapter for monoculars

Adapter with headset

Bridge with flip-up "eye"

Bracket headset/helmet "prizma"

Camera adapter (universal)

Battery pack

Adapter for battery pack

Dual bridge

Flip-up adapter

Headset (magnet)

Helmet adapter (magnet)

IR Weaver

Special mount

Battery adapter CR123A 3V – AA 1.5V

Adapter for afocal 3x (AL-3),
5x (Al-5) (inside)

Adapter for afocal 3x (AL-3),
5x (Al-5) (outside)

Helmet mount
for Wilcox with magnet

New helmet adapter
for Wilcox

Demist shield

Sacrifical window

Camera adapter

Adapter for dovetail interface

SPECIFIC DEVICES

optoelectronic module
KAZHAN-3K10

Devices of KAZHAN series are multispectral optoelectronic devices intended for use as a part of surveillance, reconnaissance and fire control systems.

Depending on the model type, KAZHAN devices are used in stationary look-out stations; as a part of autonomous combat modules; on armored vehicles; as a part of shipboard surveillance and fire control systems.

KAZHAN has several detection channels (1-3) in different spectral bands (visible, SWIR, MWIR, LWIR) and a rangefinder channel.

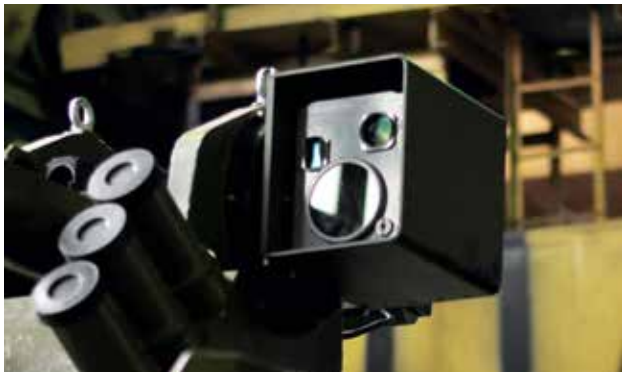
Digital processing unit as a part of OEM KAZHAN provides primary and secondary digital image processing; automatic target detection; target tracking; raw data recording; data transfer to a central observation post in digital and analog form.

KAZHAN devices are equipped with standard interfaces and can be easily integrated with other hardware.

TECHNICAL CHARACTERISTICS

THERMAL IMAGING CHANNEL	T5
Type of camera	uncooled
Detector	640 x 512 17μ 8-14μ
Sensitivity	< 30 mK
Focal length	100 mm
Objective F number	F/1.0
Angular field of view (H x V)	6.2° x 5.0°
Recognition / Identification (human)	2.8/0.7 km
Recognition / Identification (vehicle)	8.0/2.3 km

DAYTIME CHANNEL	C1
Type of camera	CMOS
Detector	1/4" CMOS 1280 x 1024 60fps
Lens focal length	3.5 ÷ 150.5 mm
Angular field of view (wide)	H : 45.92° x V : 38.2°
Angular field of view (narrow)	H : 2.7° x V : 1.8°
Sensitivity	chromatic image: 0.5 Lux/F1.4, monochromatic image: 0.05 Lux/F1.4



RANGE FINDER CHANNEL	R2
Maximum distance	3.5 km
Wavelength	1550 nm, safe for vision, invisible for night vision
Beam divergence angle	0.8 x 0.8 mrad
Measuring frequency	0.5 Hz
DIGITAL SIGNAL PROCESSING MODULE	**E1**
Formation of the auxiliary video information	aiming marks: textual and graphical
Movement detector	automatic detection of moving objects
Automatic target tracking	acquisition and tracking of an indicated target
Contrast / size / target speed	> 0.4 / 10x10 pixel / <150 pixel/sec
Digital image processing	combination of 2 channels by different algorithms
PERFORMANCE CHARACTERISTICS	
Protection class	IP67, ice protection
Operating temperature range	-30°C ÷ +55°C
Dimensions (L x W x H)	229 x 201 x 228 mm
Weight	8 kg

optoelectronic modules
KAZHAN-3K15, 3K22

Devices of KAZHAN series are multispectral optoelectronic devices intended for use as a part of surveillance, reconnaissance and fire control systems.

Depending on the model type, KAZHAN devices are used in stationary look-out stations; as a part of autonomous combat modules; on armored vehicles; as a part of shipboard surveillance and fire control systems.

KAZHAN has several detection channels (1-3) in different spectral bands (visible, SWIR, MWIR, LWIR) and a rangefinder channel.

Digital processing unit as a part of OEM KAZHAN provides primary and secondary digital image processing; automatic target detection; target tracking; raw data recording; data transfer to a central observation post in digital and analog form.

KAZHAN devices are equipped with standard interfaces and can be easily integrated with other hardware.

TECHNICAL CHARACTERISTICS

THERMAL IMAGING CHANNEL	T1	T2
Type of camera	uncooled	
Detector	640 x 512 17µ 8-14µ	
Sensitivity	< 30 mK	
Focal length	150 mm	25 ÷ 225 m
Objective F number	F/1.0	F/1.5
Angular field of view (H x V)	6.2° x 5.0°	25° x 20° ÷ 2.7° x 2.2°
Recognition / identification (human)	4.2 / 1.5 km	6.5 / 2.0 km
Recognition / Identification (vehicle)	10.0 / 3.6 km	16.0 / 5.0 km

DAYTIME CHANNEL	C1
Type of camera	CMOS
Detector	1/4" CMOS 1280 x 1024 60fps
Lens focal length	3.5 ÷ 150.5 mm
Angular field of view (wide)	H : 45.92° x V : 38.2°
Angular field of view (narrow)	H : 2.7° x V : 1.8°
Sensitivity	chromatic image: 0.5 Lux/F1.4, monochromatic image: 0.05 Lux/F1.4

RANGE FINDER CHANNEL	R5
Range	50-15000 m (on target with 85% coefficient of reflection)
	50-7000 m (on NATO standard target with 30% coefficient of reflection)
Wavelength	1550 nm, safe for vision, invisible for night vision
Beam divergence angle	0.3 mrad
Measuring frequency	10 Hz

DIGITAL SIGNAL PROCESSING MODULE	E1
Formation of the auxiliary video information	aiming marks: textual and graphical
Movement detector	automatic detection of moving objects
Automatic target tracking	acquisition and tracking of an indicated target
Contrast / size / target speed	> 0.4 / 10x10 pixel / <150 pixel/sec
Digital image processing	combination of 2 channels by different algorithms
INTERFACES	
Control	RS422, RS232 (optional Ethernet, CAN)
Video data (analog)	VGA, CVBS (PAL, NTSC)
Video date (digital)	HDMI (optional SDI , SDI-HD, Ethernet)
PERFORMANCE CHARACTERISTICS	
Protection class	IP67, ice protection
Operating temperature range	-30°C ÷ 55°C
Dimensions (L x W x H) **depending on component parts*	287 x 254 x 330 mm
Weight	18 kg 20 kg

optical reconnaissance system
CORDON-3

An optical reconnaissance system CORDON-3 is a multispectral modular-type optoelectronic device intended for use as a part of surveillance and reconnaissance systems.

The system CORDON-3 can be used both as a self-contained device with the use of a portable control panel RMC-03 and as a part of automated surveillance system.

CORDON-3 is easily integrated with other means of technical reconnaissance.

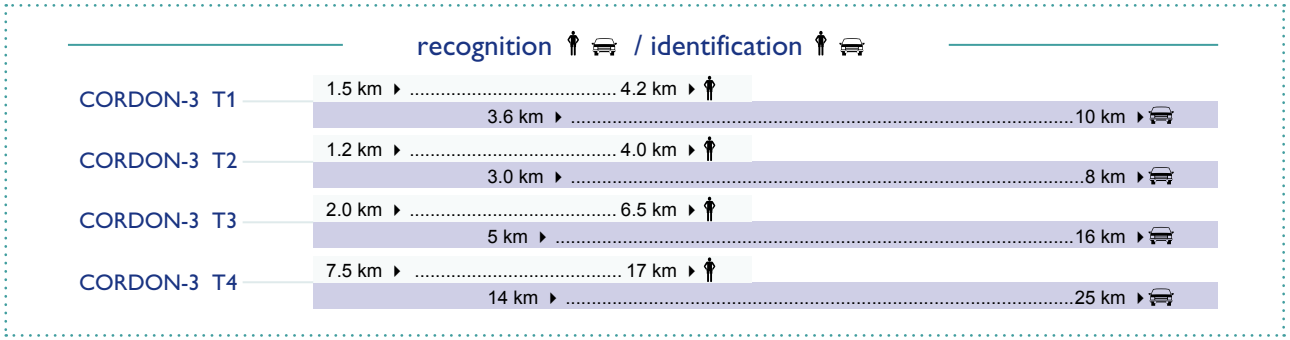
Its optical module consists of a thermal imaging camera, a day camera and a laser rangefinder.

CONFIGURATION

CORDON-3 XX.XX.XX.XX.xxx

Thermal imaging device	Camera	Rangefinde	Platform
T0 – missed	C0 – missed	R0 – missed	P0 – missed
T1 – 150	C1 – 5431	R1 – 200 M2	P1 – D48
T2 – 25-150		R2 – 241	P2 – D100 ISM
T3 – 25-225		R3 – 500	
T4 – 4600		R4 – 750	

OPTION	
i	Platform gyrostabilization
c	Circular turn of the platform (360°)
m	Movement detector
t	Target autotracking
b	Module of digital image processing
e	Module of digital video output interface
a	Ice protection



Electronic module of CORDON-3 provides primary and secondary digital image processing; automatic target detection; target tracking; raw data recording; data transfer to a central observation post in a digital form.

Cameras are installed on a pan-and-tilt gyrostabilized platform that provides cameras guidance in azimuth and angle of elevation in manual and semi-automatic or automatic patrolling mode. The platform is installed permanently or on a telescopic mast.

TECHNICAL CHARACTERISTICS

THERMAL IMAGING CHANNEL	T1	T2	T3	T4
Type of camera	Uncooled			Cooled
Detector	640 x 512 17µ 8-14µ			640 x 512 15µ 3-5µ
Sensitivity	< 30 mK			< 20mK
Focal length	150 mm	25 ÷ 150 mm	25 ÷ 225 mm	40; 150; 600 mm
Objective F number	F/1.0	F/1.4	F/1.5	F/4.0
Angular field of view (H x V)	4.2° x 3.3°	25° x 20° ÷ 4.2° x 3.3°	25° x 20° ÷ 2.7° x 2.2°	1.2° x 0.9°; 5° x 4° 17° x 13,6°
Recognition / Identification (human)	4.2 / 1.5 km	4.0 / 1.2 km	6.5 / 2.0 km	17.0 / 7.5 km
Recognition / Identification (vehicle)	10.0 / 3.6 km	8.0 / 3.0 km	16.0 / 5.0 km	25.0 / 14.0 km
Dimensions (L x W x H)	320 x 183 x 203 mm	280 x 142 x 160 mm	335 x 202 x 196 mm	–
Weight	7.5 kg	5.5 kg	7.7 kg	7 kg

DAYTIME CHANNEL	C1
Type of camera	CMOS
Detector	1/4" CMOS 1280 x 1024 60fps
Lens focal length	3.5 ÷ 150.5 mm
Angular field of view (wide)	H : 53.92° x V : 44.08°
Angular field of view (narrow)	H : 1.396° x V : 1.12°
Sensitivity	chromatic image: 0.5 Lux/F1.4, monochromatic image: 0.05 Lux/F1.4

RANGE FINDER CHANNEL	R1	R2	R3	R4
Maximum distance	3 km	6 km	10 km	18 km
Wavelength	1550 nm safe for vision, invisible for night vision			
Beam divergence angle	0.5 x 2.5 mrad		0.8 x 0.8 mrad	
Measuring frequency	0.5 Hz		0.5-10 Hz	
Dimensions (L x W x H) *depending on component parts	245 x 155 x 150 mm			
Weight	1.8 kg	2 kg	2.5 kg	4 kg

PAN-AND-TILT PLATFORM	P1	P2
Maximal load	8 kg	12 kg
Turning angle	±188°, optional 360°	
Inclination angle	+30° to -90°	
Turn angular rate	0.006°/sec – 100°/sec	
Inclination angular rate	0.003°/sec – 50°/sec	
Bridging distance of turn	0.006°	
Bridging distance of inclination	0.003°	
Weight	6 kg	9.5 kg

DIGITAL SIGNAL PROCESSING MODULE	
Formation of the auxiliary video information	aiming marks: textual and graphical. Full-color, transparency.
Movement detector	automatic detection of moving objects
Automatic target tracking	acquisition and tracking of indicated target
Contrast / size / target speed	> 0.4 / 10 x 10 pixel / <150 pixel/sec
Digital image processing	combination of 2 channels by different algorithms

PERFORMANCE CHARACTERISTICS	
Protection class	IP67, ice protection
Operating temperature range	-30°C ÷ 55°C

modular thermal imaging sighting system
ARCHER TC-100

ARCHER TC-100 is a modular-type thermal imaging sighting system, intended for use on a large caliber automatic weapon, anti-aircraft installations or an anti-tank guided weapon.

The complex consists of an optical unit TC-100, a control panel RMC-02 and a helmet-mounted display RDC-02.

A key peculiarity of ARCHER TC-100 is a modular construction with an optical remote-controlled unit that has none built-in display devices and minimum set of controls.

TECHNICAL CHARACTERISTICS

CAMERA TYPE	UNCOOLED
Detector	640 x 512; 336 x 256
Sensitivity	< 30 mK
Focal length	100 mm
Objective F number	F/1.0
Angular field of view (H x V)	6.2° x 5.0°
Recognition / Identification (human)	2900 / 700 m
Recognition / Identification (vehicle)	7000 / 1750 m
Optical zoom (fixed)	4x
Digital zoom	2x, 4x
Focusing range	10 m ÷ ∞
Click per 100 m, (vertical adjustment)	17 mm
Click per 100 m, (horizontal adjustment)	15.1 mm
Operating temperature range	-30°C ÷ 55°C
Setup time	3 sec
Memory card	8 Gb
Recording time	5 h
2-axis angle meter	±45° / ±15°
Dimensions (L x W x H)	270 x 177 x 125 mm
Weight	3.4 kg
Protection class	IP65

MAN SIZED TARGET (100 mm objective)

Detection	– 2450 m
Розпізнавання	– 650 m
Identification	– 330 m

VEHICLE SIZED TARGET (100 mm objective)

Detection	– 6000 m
Recognition	– 1750 m
Identification	– 900 m

modular thermal imaging sighting system
ARCHER TC-150

TECHNICAL CHARACTERISTICS

CAMERA TYPE	UNCOOLED
Detector	640 x 512; 336 x 256
Sensitivity	< 30 mK
Focal length	150 mm
Objective F number	F/1.0
Angular field of view (H x V)	4.2° x 3.3°
Recognition / Identification (human)	4200 / 1500 m
Recognition / Identification (vehicle)	10000 / 3500 m
Optical zoom (fixed)	4x
Digital zoom	2x, 3x, 4x
Focusing range	40 m ÷ ∞
Operating temperature range	-30°C ÷ 55°C
Setup time	3 sec
Dimensions (L x W x H)	396 x 183 x 222 mm
Weight	8 kg
Protection class	IP65

ARCHER TC-150 is a modular-type thermal imaging sighting system, intended for use on a large caliber automatic weapon, anti-aircraft installations or an anti-tank guided weapon.

The complex consists of an optical unit TC-150 and a control panel RMC-01. There are no controls on the optical unit. A key peculiarity of this sighting system is a modular construction with an optical remote-controlled unit TC-150 that has none built-in display devices.

MAN SIZED TARGET (150 mm objective)

Detection	– 3675 m
Recognition	– 975 m
Identification	– 495 m

VEHICLE SIZED TARGET (150 mm objective)

Detection	– 9000 m
Recognition	– 2625 m
Identification	– 1350 m

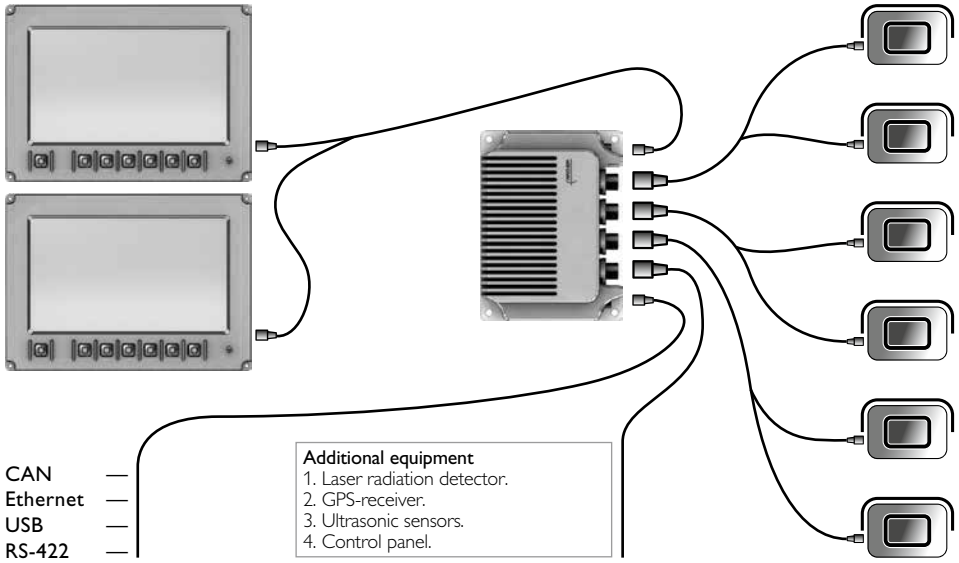
driving assistance and security system
CAYMAN K2CO24

Driving assistance system CAYMAN K2CO24 has been developed for active support of the vehicle (including armored vehicles, combat tanks, SP artillery mounts etc) in critical driving situations. The main purpose of the system is continious monitoring of the vehicle surroundings to detect potentially dangerous situations at an early stage and help drivers of tactical wheeled vehicles avoid accidents. Moreover, the system supports safe driving in total darkness when headlights are off.

The system is built with components that are more rugged to navigate unstructured environments.

CAYMAN K2CO24 consists of 4 hybrid cameras mounted on the body of the vehicle (in front, at the rear and on each side), providing a complete overview of the surroundings and keeping the vehicle from straying from its pathway or hitting the obstacles in its blind spot. Each camera has a daily channel with a high-quality CMOS detector and a thermal imaging channel equipped with a high-sensitivity passive long-range infrared receiver (LWIR) that makes possible to the driver to monitor the situation in all weather conditions.

The image from the cameras is reflected on the high-definition color display, which is installed in the cab of the vehicle. The system is powered by an onboard network of a vehicle with a voltage of 12-24V.



TECHNICAL CHARACTERISTICS

DETECTOR		
Technology	Uncooled VOx Microbolometer	
Resolution	336 x 256	640 x 512
Pixel size	17 μ	
Operating wavelength	7.5-13.5 μm	
Sensitivity	<30 mK	

OPTICS						
Objective	7.5 mm		14.25 mm		35 mm	
Objective F number	F/1.4		F/1.2		F/1.2	
Field of view (horizontal)	90.2°	45.1°	44°	22°	17.6°	8.8°
Field of view (vertical)	68.4°	34.2°	33.4°	16.7°	13.4°	6.6°
Focusing range	8 m ÷ ∞		10 m÷ ∞		10 m ÷ ∞	
Detection	300 m ± 15%		600 m ± 15%		1150 m ± 15%	
Recognition	75 m ± 15%		150 m ± 15%		250 m ± 15%	
Identification	40 m ± 15%		75 m ± 15%		180 m ± 15%	

ELECTRONICS	
Frame rate	25 Hz (PAL) / 30 Hz (NTSC)
Video output	PAL, NTSC
Display	TFT/LED, 800x600

TELEVISION MODULE	
Objective	2.8 mm (Wide FoV 109°x82°) ÷ 12 mm (Narrow FoV 22°x18°)
Minimum illumination	0.01 LUX (COLOR); 0.001 LUX (B&W)
Standard of outcoming signal CVBS	(720 x 576) PAL, NTSC

OPERATING PARAMETERS	
Starting time	3 sec
Temperature range	-30°C ÷ +65°C
Display dimensions (10") (L x W x H)	280 x 200 x 40 mm
Camera dimensions (L x W x H)	196 x 95 x 170 mm
Display weight	1.65 kg
Camera weight	3 kg
Protection level	IP67

The complex of reconnaissance and optical devices detection
SYCH 5K10

The complex is a multifunctional optoelectronic device designed for twenty-four-seven video monitoring of the terrain, aims searching and automatic detection of camouflaged optical aiming and tracking devices, determination of their coordinates and distance in difficult terrain and urban buildings conditions.

Providing an early and prompt detection of optical aiming devices and the fact of covert objects surveillance, the complex prevents a sniper attack or terrorist act at the stage of their preparation.

The complex SYCH 5K10 operates in two modes:

1. Passive mode. Exploration of territories and the surrounding environment with the help of television and thermal imaging modules in order to find and detect targets, measure the distance to them and determine the coordinates.

2. Active mode. Laser scanning of designated areas in order to search and automatically detect camouflaged optical aiming and tracking devices, measure the distance to them and determine the coordinates.

The complex makes possible to monitor the terrain and observe thermal objects in limited visibility conditions (poor lighting, smoke, fog), as well as to detect other passive and active heat sources hidden by vegetation. The detection of camouflaged optical aiming and tracking devices is made by their gleams, formed as a result of laser radiation reflection from their optical systems.

The complex includes an optoelectronic unit and thermal imaging module fixed on the pan-and-tilt platform and a tripod or bracket in case of mobile applications, and also a remote computer and an external battery. The optoelectronic unit consists of a television module, a laser module, a laser rangefinder, a GPS receiver, a digital compass, and a control unit.

Control of the complex operation modes and the parameters of all modules is performed from a remote computer by one operator. The remote computer monitor displays videos from the television and thermal imaging modules, an electronic map of the area indicating the location (coordinates) of the detected targets, operating modes and modules parameters. All received data of the distance and coordinates of the detected targets are automatically stored and transmitted to the command post and fire damage systems.

The scope of applications of SYCH 5K10 encompasses: the detection of snipers and camouflaged optical surveillance devices, security of special zones and territories, protection of objects of critical infrastructure, organization of anti-terrorist activity, providing the security of command posts and strong points, remote monitoring of terrorist (sniper) threats.

TECHNICAL CHARACTERISTICS

OPTOELECTRONIC UNIT	
TELEVISION MODULE	
Video sensor type	CMOS
Video sensor resolution	1280 x 720
Wide field of view (H x V)	63.7° x 47.9°
Narrow field of view (H x V)	2.3° x 1.7°
Illumination operating range	0.001…100000 lm
Detection range (man/vehicle)	3000 m / 9000 m
LASER MODULE	
Laser field (H x V)	0.1° x 1.7°
Spectral range of laser emitters	Infrared / Visible
Detection range of optical devices	up to 2000 m
LASER RANGEFINDER	
Wavelength	1550 nm
Radiation divergence	1 x 1 mrad
Measurement range	25 … 6000 m
Distance error	±1 m

PAN-AND-TILT PLATFORM	
Scanning mode	Auto / Manual
Turning angle	±180°
Inclination angle	-30° … +90°
Turn angular rate	0,006°/sec … 100°/ sec
Inclination angular rate	0,003°/ sec … 50°/ sec
Bridging distance of turn	0.006°
Bridging distance of inclination	0.003°
Power supply	12…30 V
Dimensions ((H x W x D)	265 x 174 x 138 mm
Weight	5.5 kg

THERMAL IMAGING MODULE	
Thermal sensor type	Uncooled microbolometer
Thermal sensor resolution	640 x 512
Objective	100 mm
Objective F number	F/1.0
Field of view	6.2° x 4.9°
Dimensions (Ø x L)	Ø115 x 250 mm
Weight	3.3 kg
Detection range (man/vehicle)	2500 m / 6000 m

REMOTE COMPUTER	
Type	Notebook
Core	intel® Core™ i5-520M
Operation memory	4 Gb
Memory	500 Gb
Operation system	Linux
Dimensions (L x W x H)	302 x 287 x 71 mm
Weight	3.7 kg

GENERAL PARAMETERS	
Connection interface	wire Ethernet (1000BASE-T), wireless (option)
Sensors interface	RS232 (RS485)
Power supply	24 V
Operating time	> 8 h
Power consumption	to 50 W
Operating temperature	-30°C … +60°C
Dimensions (L x W x H)	280 x 250 x 170 mm
Weight	3.5 kg
Protection level	IP66

portable device of reconnaissance, surveillance and optical devices detection
SYCH-H 6K10

SYCH-H 6K10 portable device is a binocular type multispectral optoelectronic device designed both for optical reconnaissance and observation of defined objects and targets at day and night time, and for searching and automatic detection of optical aiming and tracking devices camouflaged in the terrain folds, behind the windows of houses and vehicles.

SYCH-H 6K10 makes possible to monitor the terrain and observe thermal objects in limited visibility conditions (poor lighting, smoke, fog), as well as to detect other passive and active heat sources hidden by vegetation. Moreover, the device measures the distance and determines the coordinates of the detected targets, showing the received data on the built-in display. The display also reflects information about the operating modes of the device.

The complex includes an optoelectronic unit and thermal imaging module fixed on the pan-and-tilt platform and a tripod or bracket in case of mobile applications, and also a remote computer and an external battery. The device consists of a thermal imaging module, a television module, a laser module, a laser rangefinder, a GPS receiver, a digital compass, a control unit and a power supply. The laser module contains designators and an emitter in various spectral bands used for aligning and laser reconnaissance of determined areas in order to detect camouflaged optical aiming and tracking devices by their gleams formed as a result of laser radiation reflection from their optical systems. The control of operating modes and parameters of all modules is performed with the help of buttons on the device housing or using a removable unit of the eyepiece module.

Possibilities of application.

1. Mobile use.
1.1. Passive mode (video monitoring).
1.2. Scan mode.
1.3. Mode of the designator.

The combination of the above modes depending on the task.

2. Stationary use involves installation of the device on a motorized pan-and-tilt platform with the possibility of autonomous functioning (platform control is performed by the device following a timely-developed pattern), with alarm on the given conditions, and also full control from the control point.

2.1 Automatic scan mode: detecting and target classification, coordinate calculation of the detected objects with plotting on a terrain map.

2.2. Automatic passive monitoring mode: motion detection, analysis and identification of the object.

All received data of the detected targets can be recorded on the external media, and also transferred to the central control point and to the fire damage systems.

MAN SIZED TARGET – 2500 m

VEHICLE SIZED TARGET – 6000 m

FUNCTIONALITY

- Optical channel in the spectral range 7-14 microns.
- Optical channel in the spectral range 450-850 nm.
- Merging of two video streams in a multispectral image, "Fusion" mode.
- Digital zoom.
- Digital image stabilization.
- Video recording and video play (MJPEG, H264).
- Dual-band irradiation sensor (irradiation detector).
- Range finder with target selection.
- Laser radiation unit for "Scan / Designator mode".
- Inertia unit: Compass, accelerometer, gyroscope.
- GPS (GPS RTK):
  plug-in data storage for recording;
  plug-in display unit with a possibility of remote connection.
- Ability to manage and transfer video stream (based on RTP / RTSP protocols)
  through interfaces: Ethernet, Wi-Fi, 3G, 4G modems (connected to USB).
- Self-diagnosis mode.
- Ability to display 2D-3D topographic maps on the device display.
- Motion detector, object classifier based on the built-in image base.
- Digital video signing
- Videostream cipher function.

TECHNICAL CHARACTERISTICS

THERMAL IMAGING MODULE	
Thermal sensor type	Uncooled microbolometer
Thermal sensor resolution	640 x 512
Objective	100 mm
Objective F number	F/1.0
Field of view (H x V)	6.2° x 4.9°
Detection range (man/vehicle)	2500 m / 6000 m

TELEVISION MODULE	
Video sensor type	CMOS
Video sensor resolution	1280 x 720
Objective range	4.3 … 129 mm
Wide field of view (H x V)	63.7° x 47.9°
Narrow field of view (H x V)	2.3° x 1.7°
Illumination operating range	0.001…100000 lm

LASER MODULE	
Spectral range of laser emitter	Infrared
Spectral range of laser designators	Infrared / Visible
Detection range of optical devices	up to 2000 m

LASER RANGEFINDER	
Wavelength	1550 nm
Radiation divergence	1 x 1 mrad
Measurement range	25 … 6000 m

DISPLAY	
Display type	AMOLED
Display resolution	800 x 600 (1280 x 1024)

GENERAL PARAMETERS	
Connection interface	USB, RS422, Ethernet 1000mbps, Wi-Fi (2.4 – 5GHz MIMO 700mbps) , BT, CVBS
Video interface	CVBS, HDMI
Power supply type	batteries 18650 (6 pieces)
Power supply	22 V
Operating time	> 7 h
Operating temperature	-30°C … +50°C
Dimensions (L x W x H)	260 x 260 x 130 mm
Weight	3.5 kg
Protection level	IP67

surveillance camera
ARCHER TVC-3

FEATURES

- 2x, 3x, 4x digital zoom.
- Different color schemes for the image refinement.
- Manual and automatic calibration of the detector.

DELIVERY SET

- Surveillance camera TVC-3 installed in a pan-and-tilt unit.
- Display with a multipurpose mount.
- Wireless remote control.
- Connecting cables.

TECHNICAL CHARACTERISTICS

Detector FPA	336 x 256
Objective	40 mm
Spectral range	8-14 μm
Field of view	7.8° x 6.2°
Frame rate	30 Hz
Power supply	6-16 V
Dimensions (L x W x H)	320 x 217 x 170 mm
Operating temperature range	-30°C ÷ 55°C
Weight	2.5 kg
Protection class	IP65

A surveillance camera TVC-3 is included in the set for installing on various vehicles (cars, boats) and is used as a supporting security tool when driving.

Information is showed at the display of the device. The pan-and-tilt unit has a magnetic holder that ensures quick installation and removal of the surveillance camera. It also presupposes a stationary installation.

The device ensures all-round surveillance: 360° in azimuth and 90° in elevation.

There are two types of remote control: a compact model and a model attached to the control board with enlarged control buttons.

The surveillance camera TVC-3 is available in black and white colours.

Due to high-tech electronics unit excellent functional capacities of the device are realized by minimal dimensions, weight and power consumption.

MAN SIZED TARGET
(40 mm objective)

Detection	– 1280 m
Recognition	– 320 m
Identification	– 160 m

surveillance camera
ARCHER TVC-4

Surveillance camera TVC-4 is a new survey and search device intended for installing on various vehicles (cars, boats). The device can be used also as a supporting security tool when driving. A distinctive feature of this model from the previous one is a built-in rangefinder with a range of up to 2000 meters and a beam of 1.6 x 0.5 m to 1 km. One more benefit of TVC-4 is an advanced design of a pan-and-tilt platform with positioning accuracy of 0.0013°. A camera is controlled by wired or wireless remote control. The device also has a function of 2x, 3x, 4x digital zoom, different color schemes and sensitivity settings for the image refinement.

FEATURES

- 2x, 3x, 4x digital zoom.
- Sensitivity settings of the detector.
- Different color schemes for the image refinement.
- Manual and automatic calibration of the detector.

MAN SIZED TARGET
(40 mm objective)

Detection	– 1280 m	
Recognition	– 320 m	
Identification	– 160 m	

DELIVERY SET

- Surveillance camera TVC-4 installed in a pan-and-tilt unit.
- Display with a multipurpose mount.
- Wireless remote control.
- Connecting cables.

TECHNICAL CHARACTERISTICS

Detector FPA	336 x 256
Objective	40 mm
Spectral range	8-14 µm
Field of view	7.8° x 6.2°
Frame rate	30 Hz
Distance measured by rangefinder, max.	2000 m
Rangefinder's wavelength	1550 nm
Power supply	6-16V
Dimensions (L x W x H)	345 x 200 x 200 mm
Operating temperature range	-30°C ÷ 55°C
Weight	3.7 kg
Protection class	IP65

NOTES

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