

OPTIX



SPECIAL
PRODUCTION





dipl. eng. Ivan Cholakov
OPTIX Co. CEO

"When you can't choose between two evenly balanced courses of action to take, choose the bolder."

General W. J. Slim

A stylized, handwritten signature in white ink, appearing to read 'Ivan Cholakov'.



Established in 1998 as a 100% private company OPTIX Co specializes in design and manufacturing of optical components, opto-mechanical and opto-electronic assemblies and devices for military and law enforcement applications. Competently applying the modern technologies, OPTIX Co executes the entire production cycle – from design and implementation of prototypes to serial production of components, assemblies and devices.

The production meets all European and international standards – DIN, MIL, ISO, BS. The contemporary design and high technical characteristics of the products put OPTIX among the leading companies in the optical, medical and defense industry. The company is awarded the manufacturer and supplier NCAGE code 001BU in the NATO codification system.

OPTIX Co is the only company in Bulgaria, which develops and manufactures a full range of special optical devices and systems for the army and police forces:

- Thermal surveillance and sighting systems;
- Night vision goggles and binoculars;
- Day, night and thermal sights for small arms;
- Day and night security systems and equipment;
- Completely integrated surveillance systems;
- Special equipment for measurement and testing.

A guarantee for the high quality products is a well developed service base, which is in accordance with the international standards.

OPTIX Co won numerous competitions for production and delivery of high technology mobile surveillance and security systems for patrol of the National border of Bulgaria.

The Bulgarian peacekeeping troops abroad are equipped with night vision and thermal imaging devices persistent to the harsh weather conditions which are developed and manufactured by the company.

In 2011 got into operation a strategic project of the Republic of Bulgaria related to monitoring and protecting of the Black Sea frontier – “Blue” border. The integrated system was built and is maintained by ATO Consortium, whose member is OPTIX Co.

OPTIX is currently delivering thermal and night vision systems to more than 20 countries around the world



THERMAL SIGHT
IdentifieR-50



THERMAL SIGHT
IdentifieR-100



THERMAL MONOCULAR
DIANA IR



HANDHELD THERMAL CAMERA
EXVIZION XZ 100



UNCOOLED THERMAL CAMERA
MINION



UNCOOLED THERMAL CAMERA
GOLIATH



TWIN TUBE NIGHT VISION GOGGLES
DIANA TT



NIGHT VISION MONOCULAR
DIANA M40 **DIANA M50**



AVIATOR NIGHT VISION GOGGLES
DIANA A



SINGLE TUBE NIGHT VISION GOGGLES
DIANA



NIGHT VISION BINOCULARS
DIANA 3X **DIANA 5X**



NIGHT VISION BINOCULARS
DIANA 6X **DIANA 10X**



NIGHT VISION SIGHTS

ONS-3

ONS-4V/4M



NIGHT VISION ATTACHMENTS

NVA-8

NVA-75



RED DOT SIGHTS
MK-6 SERIES



DAY VISION SIGHTS

ODS-4M

ODS-6M



GRENADE LAUNCHER SIGHT

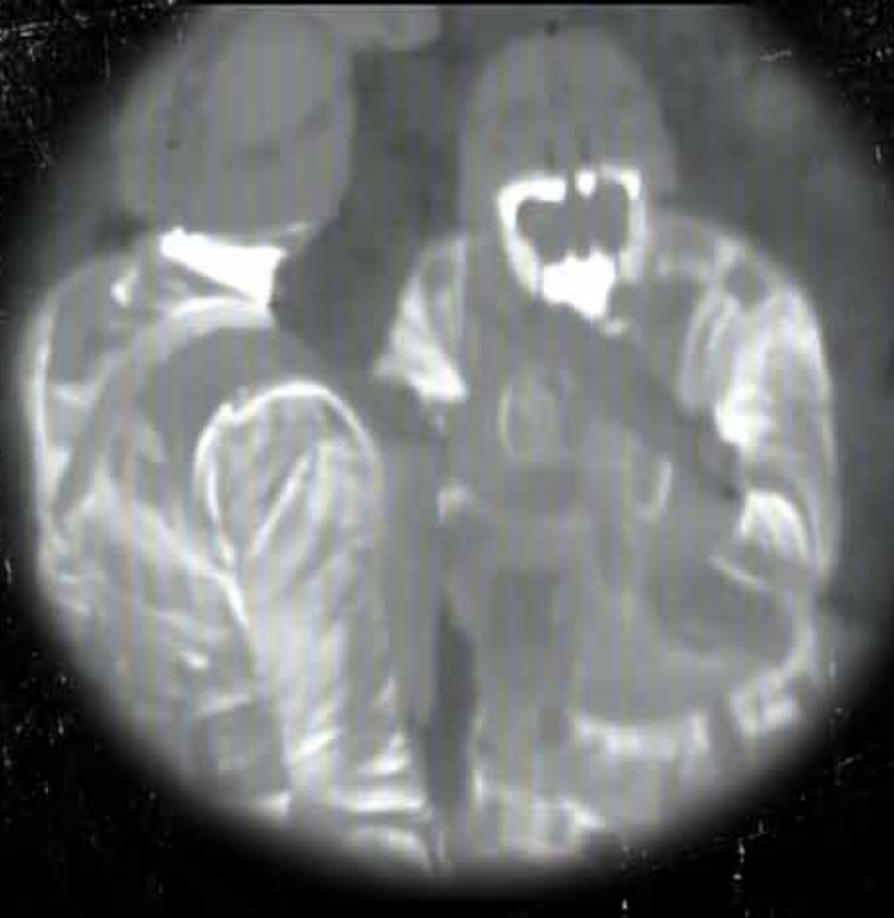
PGO-7 VU



Mobile Surveillance
Systems TERMA/TEROMA

Integrated systems for
monitoring and surveillance





THERMAL SIGHTS

IdentifieR SERIES

IdentifieR SERIES is the special operations, military and law enforcement professionals choice to enhance operational effectiveness and precision.

These all-weather thermal imaging devices cut through battlefield and environment obscurants to deliver crisp surveillance imagery and enable operatives to make quick decisions, enhancing mission effectiveness, maximizing operational capabilities, and improving officer safety.

IdentifieR SERIES relies on proven advanced microbolometer technology mounted in high-durable anti-reflex coated housing to withstand the difficult military actions. This technology provides state-of-the-art thermal

sensitivity and superb dynamic range. The extended range performance accordingly up to 1370 m / 2740 m is ideal for complex combat situations and most sniper applications. The dedicated BH / WH (black hot / white hot) toggle button gives the operator greater capabilities to detect more details depending on the scene contrast temperature.

The video output and the serial communication interface enable remote operation and provide a video signal for external viewing or recording, ideal for remote surveillance activities or military training.



A selection of exchangeable reticle designs with digital windage & elevation correction capability maintains high-precision boresight. The MIL-STD-1913 Picatinny mounting provides compatibility to a wide range of assault rifles and light machine guns and user needs (e.g. left- and right-handedness).



IDENTIFIER - 50



IDENTIFIER - 100



DIANA IR is a thermal imaging device designed to be used by the Special forces while executing a wide variety of Search and Rescue or other military operations, regardless of the environmental conditions - storm, dense fog, smoke, dust, snow or total darkness. The enhanced thermal monocular is based on a microbolometer made of amorphous silicon or vanadium oxide with a size of the sensitive element 25µm and temperature sensitivity <0,05°C or better. The optical elements of the objective lens are made of germanium with high-durable, anti-reflex coating to withstand even the harshest conditions of military operations. The image processing electronic control unit allows visualization in real time with 30

Hz frame rate and format 640x480 /NTSC/. The digital processing involves complex algorithms that increases the image quality and provides ultimate dynamic range. DIANA IR has a set of interfaces /serial, USB/ for remote control of the functions and an analogue video output. Dedicated BH/WH (black hot / white hot) toggle button gives operator greater capabilities to detect more details. The compact, ergonomic, multi-use design affords mission flexibility to be used as a thermal vision sight, thermal monocular mounted on a facemask or helmet interface mechanism or as a rugged hand-held thermal imager for a variety of surveillance, intelligence and covert operations.

THERMAL MONOCULAR DIANA IR

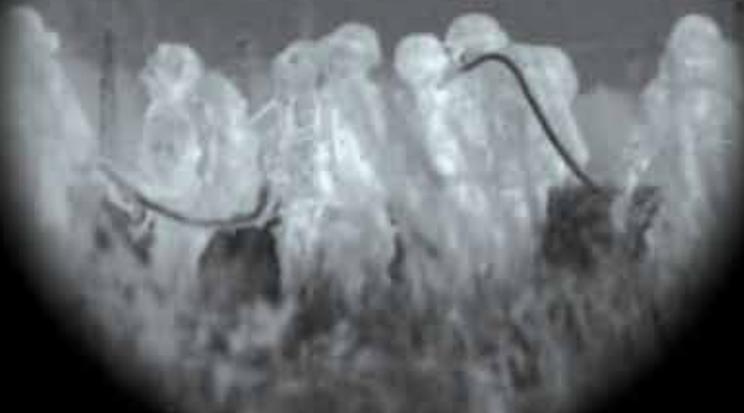
THERMAL MONOCULAR DIANA IR 3X



eXviZion is a unique portable uncooled mid-range thermal imaging handheld camera. The system enables detection of targets emitting energy in the infrared spectrum and allows the user to conduct surveillance in rain, fog and in total darkness, using passive mode (without additional backlight). The detector is a microbolometer made of amorphous silicon, with 640 x 480 active elements (pixels), providing full-frame image building with excellent resolution. The extended range performance up to 2000 m is ideal for complex combat situations and most sniper applications. The camera is designed with maximal operating convenience and the control buttons allow quick manipulation and setup of the modes. The independent remote control of eXviZion is provided by a serial interface (RS-232) connected to a custom software and an analogue video output. Integrated eye-guard with auto-shutter function eliminates the risk of operator exposure by preventing light emissions from the viewfinder.



HANDHELD THERMAL CAMERA EXVIZION XZ 100



UNCOOLED THERMAL CAMERA MINION

Minion is a portable thermal imaging camera designed for versatile application in the field of security systems, fire-precaution equipment, video surveillance of border areas, strategic zones and others. The camera enables 24 hours surveillance in total darkness and under severe weather conditions. The innovative optical system, the sensitive detector and the digital video processing provide superb-detailed image at any time during the day and night in a completely passive mode. The reliable mechanical design makes Minion suitable for any type of internal and external installation. Along with its accessories Minion includes a user software for remote control and setup of the main functions. Minion is an IP camera and can be used for an upgrade of any existing CCTV video surveillance IP network and controlled over a PC.



REGULAR IMAGE



THERMAL IMAGE



REGULAR IMAGE



THERMAL IMAGE



UNCOOLED THERMAL CAMERA GOLIATH

Goliath is a long range uncooled thermal vision camera, perfect for integration into security and observation systems. It allows 24-hours surveillance in total darkness and harsh weather conditions. A characteristic of the uncooled thermal imaging cameras is that they apply to monitoring of short ranges, as the maximum distance for detection of human figure rarely exceeds 600 m. Goliath surpass three times these values, offering unique and unusual for these types of cameras additional narrow field of view. This characteristic is result of the optical system which allows switching between two fields of view: wide and narrow. The advantages of Goliath are: lack of cryogenic cooler having a high consumption and expensive maintenance; significantly lower price; continuous operation.

REGULAR IMAGE



THERMAL IMAGE



REGULAR IMAGE



THERMAL IMAGE



TWIN TUBE NIGHT VISION GOGGLES DIANA TT

The twin tube night vision goggles offer a true stereoscopic image with extremely good perception in depth. The innovative wide exit pupils eliminate the need of interpupillary adjustment and allows the operator to use them in critical conditions. Available image intensifier tubes: 2+, 3rd Gen, XD-4, XR-5 and XR-5 ONYX.



AVIATOR NIGHT VISION GOGGLES DIANA A

The aviator night vision goggles DIANA A are specially designed for the helicopter pilots. They allow pilots to navigate at nap of the earth, flying off, landing and other operations that are practically impossible or extremely dangerous at night conditions without the use of illuminating resources.

DIANA A dramatically extended the operational mission capability of the helicopter crew: allow nonstop surveillance of the earth surface at heights not more than 60 m and velocity not more than 270 km/h with wide field of view – 41°, that considerably expand the opportunities of the air-patrolling, flight over bad or entirely not illuminated field, performing of night scouting, taking of investigation and search and rescue (SAR).



NIGHT VISION MONOCULAR DIANA M 40 DIANA M50



The unique night vision monoculars provide exceptional quality image resolution and high performance in extreme conditions. The ergonomic design allows easy and quick eye switch. They can be used in conjunction with red dot collimators. Available image intensifier tubes: 2+, 3rd Gen, XD-4, XR-5 and XR-5 ONYX.



SINGLE TUBE NIGHT VISION GOGGLES DIANA



The night vision goggles have perfect optical design that ensures a bright, clear and distortion free image with field of view more than 45 degrees. They can be equipped with an IR illuminator for additional light when used in complete darkness. Available image intensifier tubes: 2+, 3rd Gen, XD-4, XR-5 and XR-5 ONYX.



NIGHT VISION BINOCULARS DIANA 3X/5X/6X/10X

Night vision binoculars Diana are designed for terrestrial reconnaissance in natural starlight, moonlight illumination or total darkness. They have extremely high resolution and field of view detecting low-contrasting objects at a distance up to 3000m. Available image intensifier tubes: 2+, 3rd Gen, XD-4, XR-5 and XR-5 ONYX.



NIGHT VISION SIGHTS

ONS-3

ONS-3 is one of the most technologically advanced night vision weapon sights on the market.

The sight can be mounted on virtually any type of assault or sniper rifle and is suitable for a variety of military and law enforcement applications.

ONS-3 is engineered in accordance with the highest MIL standards



ONS-4V/4M

ONS-4V/4M are innovative high performance night vision weapon sights with adjustable brightness intensification. They achieve the highest quality image resolution and sharp contrast for varying light conditions. They can be offered with 2+, 3rd Gen, XD-4, XR-5 and XR-5 ONYX image intensifier tubes.



NIGHT VISION ATTACHMENTS



NVA-8



NVA-75

NVA-8 and NVA-75 are attachment devices that serve for the purpose of converting existing sniper rifles into fully functional night vision weapon systems in an extremely easy and quick transition.

They may become part of any existing rifle-scope system, which enables the equipment to be used in a wide range of tactical applications, ranging from standard assault rifles to the most precise and demanding long-range, large caliber rifles.

The attachments are engineered in accordance with the highest MIL standards.



RED DOT SIGHT MK-6 SERIES

MK-6 is a wide range reflex weapon sight, generally referred to as red dot weapon sight. In night mode the reticle is invisible to the naked eye but clearly visible when used in conjunction with night vision devices. It is virtually universal aiming system suitable for all sorts of small arms- assault rifles, mid-range rifles, shot guns, light-machine guns, sub-machine guns and hand guns. The MK-6 line is designed to meet the needs of military personnel, law enforcement officers, and civilians, MK-6 exists in four sub-models: S, M, L, XL.



DAY VISION SIGHTS

ODS-4M

ODS-6M

Lightweight and small-sized, these sights with battle proven ruggedness have four / six times magnification and are able to perform under extreme conditions.





GRENADE LAUNCHER SIGHT PGO-7 VU

This sight provides precise shooting with PG-7V, PG-7VL, PG-VTL grenade launcher by means of an optical scale. Suitable for aiming with KO-7V, OFG-7V, OG-7V grenades through an external mechanical scale.



Mobile Surveillance Systems TERMA/TEROMA

The Mobile Systems TERMA / TEROMA are autonomous thermal vision systems for surveillance and security of terrestrial, river and coastal areas.

The following main tasks by means of the Mobile Surveillance Systems are accomplished:

- Secret surveillance of the state borders for intruders, crimes and other violations in the border areas;
- Measuring of distances to the targets (up to 20 kilometers) during the surveillance;
- Reliably recording of all the gathered information on Digital Video Recorder;
- Implementing reliable and regular communications with the Border Police Headquarters when actions for detection and detention of intruders of the border regime are realized;
- Automatic visualizing over a digital map of the marked target;
- Automatic target acquisition;

The systems are based on duty - proven off - road vehicles.

The standard equipment can include: a surveillance system (IR camera, colour CCD camera, Laser Rangefinder, gyro stabilized pan & tilt device, Digital Magnetic Compass, GPS), a radar station, a system for processing the radar information, UHF radio apparatus and more.

The operator's control and managing of the sensors and the technical means for communications are carried out from separated comfortable operator's places, situated in the rear compartment of the vehicle.



Integrated systems for monitoring and surveillance

The integrated systems for monitoring and security of the frontiers provide all the necessary equipment for marine and terrestrial operations - to detect, identify and track maritime vessels and ground vehicles, illegally passing in the areas of their responsibility.

The main functions of the integrated systems are:

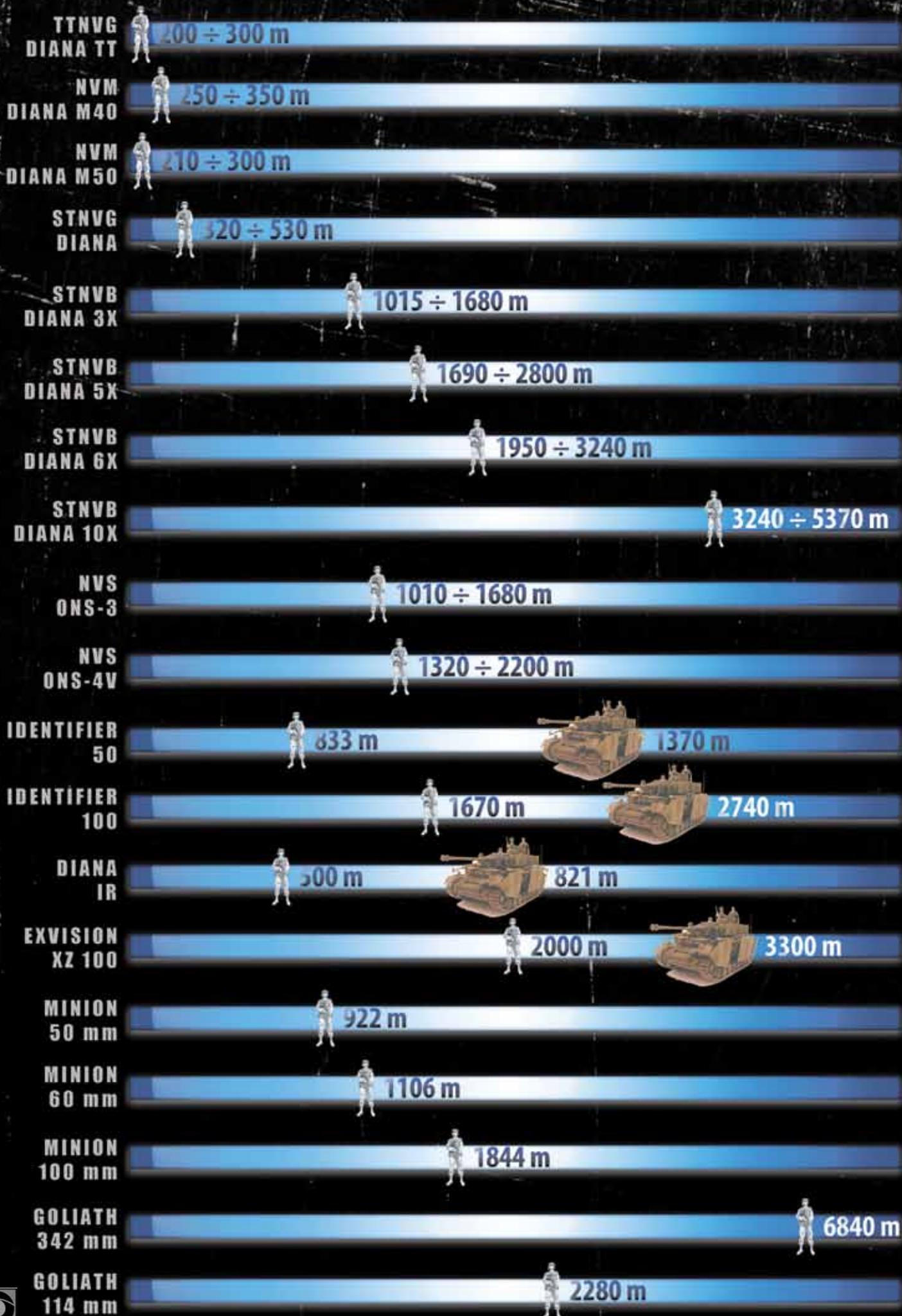
- Monitor, detect and track people and vehicles, illegally entering the areas of strategic sites or performing other offenses, detect signs of preparing of breaches;
- Control and monitor effectively the territories belonging to the countries;
- Increase the efficiency in the detection and interception of illegal immigration and all types of contraband;
- Increase the level of security and provide excellent protection against piracy and terrorist acts;
- Provide assistance to people in distress and assists operations in search and rescue (SAR);
- Include a reliable communication system for data exchanging, real time transmission of commands and video stream;
- Take appropriate and adequate countermeasures;
- Manage the accumulated database.

OPTIX Co designs and integrates the following equipment of the systems:

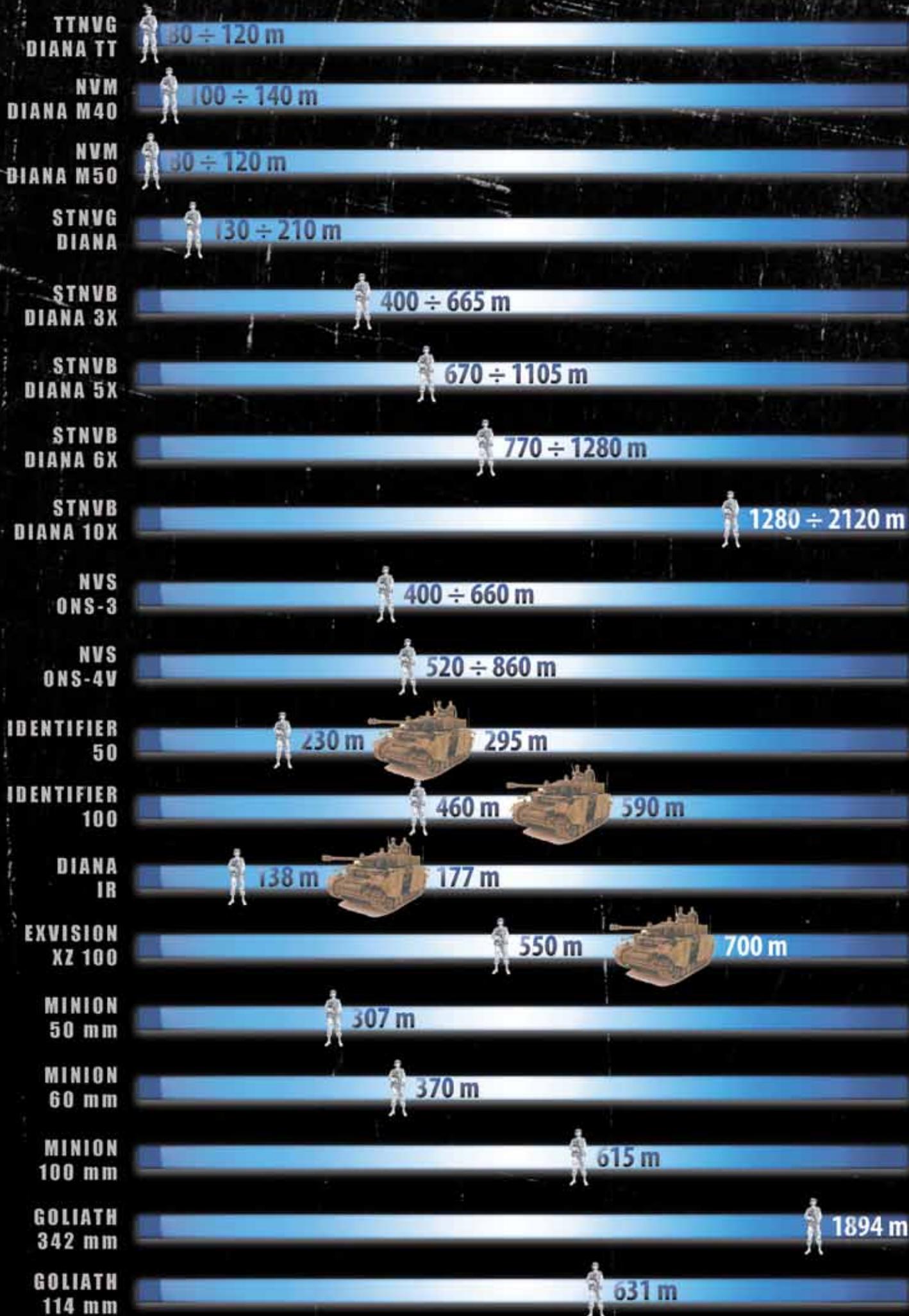
- fixed surveillance posts FSP
- electronic-optical equipment
- radar system
- administration and management software
- perimeter alarm security systems
- local protection system and access control system
- center for monitoring and control



DETECTION IMAGING PERFORMANCE



RECOGNITION IMAGING PERFORMANCE



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