NEWCON™ OPTIK

SPECIAL OPTICAL EQUIPMENT

GSA CONTRACT GS-07F-0486M

NCAGE CODE: L0076

ISO 9001:2000 SGS

Newcon Optik was established for the purpose of producing and supplying the market with state-of-the-art optical systems, Canadian-based R&D and manufacturing and worldwide distribution.

With our manufacturing and R&D capabilities, the highest standards of quality and customer satisfaction are assured. Competitive pricing and other key success factors have led to Newcon Optik's acceptance, success and respect in the international marketplace.

Newcon Optik 's trademark is recognized throughout the world and the company is acknowledged as a leading brand name in all the key sectors and markets on a global level, including in numerous

military, law enforcement, search and rescue, surveillance, hunting, camping, and marine professional sectors in all corners of the world. Our dealer networks span 5 continents. Up to 90% of our products support professionals in 60 countries.

Newcon supplies four major product lines:

Laser Rangefinders and Speed Detectors:

- OEM MODULES for system integrators.
- Binoculars and monoculars rangefinders for homeland security, recreational and professional use.
- Laser speed detectors for Law Enforcement.

Night Vision:

- Aviation Systems
- Ground Systems
- Weapon Systems
- Image Intensifier tubes

Image Stabilized Binoculars:

- Gyro stabilized binoculars
- Mechanically stabilized binoculars

Laser Aimers and Illuminators:

- Visible and infrared

Manufacturing

Headquarter and manufacturing facility in Toronto, Canada. Since 1992 it is the home of innovation in research, design and manufacturing excellence. A Canadian hi-tech success!

Although most of our R&D, manufacturing and assembly is done in Canada, globalization allows Newcon Optik to source high-quality, competitively priced components from acknowledged leaders in the optical industry throughout the world. Our success is based on three key factors:

OUR PEOPLE:
Our dedicated R&D team is focused on setting the standard of innovation in design. The highly trained specialists working in our state of the art manufacturing facilities in Canada, make sure our entire design, assembly and testing process delivers superior electro-optical products. Our manufacturing processes use the most advanced technologies available in laser technology, night vision and optical testing. In-house modern SMT production for speedy prototyping and large quantity production.

QUALITY:
Cutting-edge technologies, modern machinery and testing equipment enable us to manufacture complex optical, electronic, and precise mechanical parts for the devices designed to operate under the most extreme conditions. All products undergo a triple quality assurance inspection. Newcon Optik is certified to ISO 9001:2000 standards.

SERVICE:
Full service is provided by factory-trained technicians and engineers at our facility in Toronto, Canada, where all necessary spare parts are kept in stock to expedite repairs and maintenance. For prompt shipment we keep over a million dollars worth inventory at our warehouse.

Sales & Marketing

We produce systems that meet and exceed all applicable rigorous industry standards, including military standards. All products are covered by a comprehensive one year warranty. Commitments to the highest quality standards, reliable delivery schedule, competitive pricing, and client satisfaction have made Newcon Optik an internationally recognized market leader of specialty optics.

NEWCON OPTIK
Leader in Laser Ranger Finder technology as well as state-of-the-art day and night optical systems

VISION IS OUR MISSION!

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Image Intensifier Tubes

Night Vision Devices

Day / Night Devices

Infrared Illuminator / Aimers

Thermal Imagers

Laser Rangefinders

Laser Range Finder Modules

Stabilized Binoculars

Specialty Daytime Optics

Tube grades specifications

Part number	NC107663IF	NC10xxxx *	NCSDxxxx*	NC06xxxx *	NCXTxxxx *	N306xxxx *	N3XTxxxx
Generation	2	2+	2+	2+	2+	3	3
Grade	2	2+	SD – Standard Definition	HD – High Definition	XT – eXTra performance	HD – High Definition	XT – eXTra performance
Photocathode sensitivity:							
- integral, μA/lm	300	200-340	340-500	500-600	600-700	1,200-2,100	1,200-2,100
- with filter KS-17, μA/lm	150	120	180	220	280	700	700
- spectral at λ=850 nm, mA/W	20	12	18	35	45	120	120
Resolution, min, lp/mm	30-36	32-40	40-45	45-57	57-64	45-57	57-64
Signal-to-noise ratio	3.2	8-12	12-16	16-20	18-22	18-24	20-24
Modulation transfer function (MTF), at spatial frequency, lp/mm:							
2.5	0.9	0.75	0.86	0.89	0.88	0.89	0.88
7.5	0.6	0.48	0.58	0.68	0.72	0.68	0.72
15	0.25	0.20	0.28	0.40	0.50	0.40	0.50
Mean time before failure (MTBF), h	2,000	3,000	7,000	10,000	10,000	10,000	10,000

Tubes individual specifications ***

Tube model / Specifications	Generation 2+									Generation 3			
	NC107663IF	NCxx4322	NCxx4329IC	NCxx4329IF	NCxx4329SC	NCxx4331SC	NCxx3631IC	NCxx3631IF	NC064331_25	N3064322	N3064329IC	N3064331SC	N3063631IC
Light gain, min, fl/fc	5×10^4	2×10^4	2.5×10^4							2.5×10^4			
Dark background brightness, max, cd/m²		1.2×10^{-3}	1×10^{-3}			1.5×10^{-3}				0.5×10^{-3}			
Voltage, V	2.8 ± 0.8												
Current consumption, mA, max	35	20	16							25			
Dimensions, mm	ø76×63	ø43×22.5	ø43×29.4			ø43×31.1	ø36.7×31.1		ø43×31.1	ø43×22.5	ø43×29.4	ø43×31.1	ø36.7×31.1
Weight, g	326	50	90				80		75	50	90		80
Keep time, years	12	15								10			
Photocathode type	S-25 (multialkali)									GaAs			
Photocathode operating diameter, mm	25	18							25	18			
Image magnification	1												
Material of input window	FOE**	Glass C95-2								Glass A54-1			
Material of output window	FOE** direct flat	Glass C95-2	FOE** inverting concave	FOE** inverting flat	FOE** direct concave	FOE** direct concave	FOE** inverting concave	FOE** inverting flat	FOE** inverting flat	Glass C95-2	FOE** inverting concave	FOE** direct concave	FOE** inverting concave
Contact type	Plates	Flexible				Plates			Flexible	Flexible		Plates	
Typical equipment using this type of tubes	AN/PVS4 AN/TVS5	NVS7 NVS7/HD NVS4 DN510	AN/PVS5			PVS7B	PVS14 PVS6 PVS9 NVS14		NVS7/WA	NVS7/HD	PVS5	PVS7B PVS7D	PVS14 PVS6 PVS9 NVS14

* 'x' symbol stands for any alphanumerical symbol
** FOE – Fibre Optical Element
*** Customized production in accordance with customer's specification is possible

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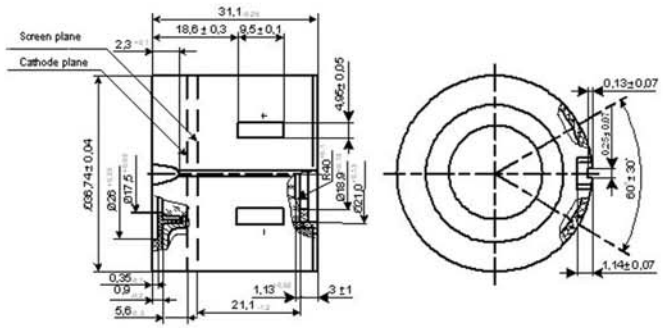
Small Generation 2+/3 image intensifier series with direct image transfer.

These tubes have a microchannel plate, a multialkali metal (Gen. 2+) or GaAs (Gen.3) cathode, a yellow-green color screen, and a built-in power supply. Input window is made of flat surface glass; output window is made of a concave 180° rotation fiber-optical element.

This type of tubes complies with all relevant military standards and specifications.



'Slim' ANVIS inverting tube is compatible with AN/PVS 6, 9, 14 and many other devices

SPECIFICATIONS				
	NC063631IC	NCXT3631IC	N3063631IC	N3XT3631IC
Grade	HD	XT	HD	XT
Photocathode operating diameter, mm	18	18	18	18
Photocathode material	S-25	S-25	GaAs	GaAs
Resolution, lp/mm	51-54	57-64	45-57	57-64
Photocathode sensitivity, μA/lm	500-600	600-750	1,200-2,100	1,500-2,100
Light gain, minimum	25,000	25,000	25,000	25,000
Image magnification	1	1	1	1
Dark background brightness, max, cd/m^2	1.5x10^{-3}	1.5x10^{-3}	0.5x10^{-3}	1.5x10^{-3}
Signal-to-noise ratio	16-20	18-22	18-24	20-24
Current consumption, max, mA	16	16	25	25
Voltage, V	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8
Weight, g	80	80	80	80
Mean time before failure, hours	10,000	15,000	10,000	10,000
Storage time, years	15	15	15	15

Environmental resistance	
Sinusoidal vibration (vibration strength):	
Frequency range, Hz	1-500
Acceleration, m/s^2 (g)	50 (5)
Mechanical shocks:	
Shock, m/s^2 (g)	5,000 (500)
Operating temperature range, °C	-50 ... +55

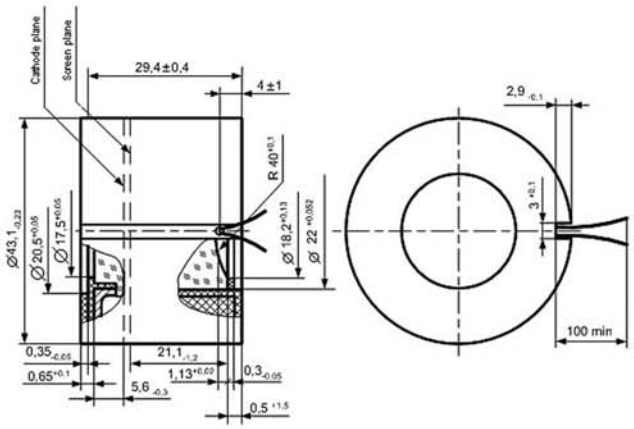
Modulation transfer function		
Frequency, lp/mm	HD grade	XT grade
2.5	0.89	0.88
7.5	0.68	0.72
15.0	0.40	0.50

Field of view cleanness					
Zone Number	Circular zone Dimensions, mm	Maximum diameter of defects			Accepted total area of defects, mm^2
		Neglected	Accepted		
			Diameter, mm	Quantity	
1	0 - 9.0	0.06	0.12	1	0.10
2	9.0 - 14.5	0.08	0.18	1	0.20
3	14.5 - 18.0	0.10	0.20	2	0.35

Small size Generation 2+/3 image intensifier with inverse image transfer.

These tubes have a microchannel plate, a photocathode made of multialkali metal (Gen. 2+) or GaAs (Gen.3), a yellow-green color screen, and a built-in power supply. Input window is made of flat surface glass; output window is made of concave 180° rotation fibre optic element.

This type of tubes complies with all relevant military standards and specifications.



'Fat' ANVIS inverting tube compatible with DN 482 and many other devices

SPECIFICATIONS				
	NC064329IC	NCXT4329IC	N3064329IC	N3XT4329IC
Grade	HD	XT	HD	XT
Photocathode operating diameter, mm	18	18	18	18
Photocathode material	S-25	S-25	GaAs	GaAs
Resolution, lp/mm	51-54	57-64	45-57	57-64
Photocathode sensitivity, μA/lm	500-600	600-750	1,200-2,100	1,500-2,100
Light gain, min	25,000	25,000	25,000	25,000
Image magnification	1	1	1	1
Dark background brightness, max, cd/m^2	$1.5x10^{-3}$	$1.5x10^{-3}$	$1.5x10^{-3}$	$1.5x10^{-3}$
Signal-to-noise ratio	16-20	18-22	18-24	20-24
Current consumption, max, mA	16	16	25	25
Voltage, V	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8
Weight, g	85	85	85	85
Mean time before failure, hours	10,000	10,000	10,000	10,000
Storage time, years	15	15	15	15

Environmental resistance	
Sinusoidal vibration (vibration strength):	
Frequency range, Hz	1-500
Acceleration, m/s^2 (g)	50 (5)
Mechanical shocks:	
Shock, m/s^2 (g)	5,000 (500)
Operating temperature range, °C	-50 ... +55

Modulation transfer function		
Frequency, lp/mm	HD grade	XT grade
2.5	0.89	0.88
7.5	0.68	0.72
15.0	0.40	0.50

Field of view cleanness					
Zone Number	Circular zone Dimensions, mm	Maximum diameter of defects			Accepted total area of defects, mm^2
		Neglected	Accepted		
			Diameter, mm	Quantity	
1	0 - 9.0	0.06	0.12	1	0.10
2	9.0 - 14.5	0.08	0.18	1	0.20
3	14.5 - 18.0	0.10	0.20	2	0.35

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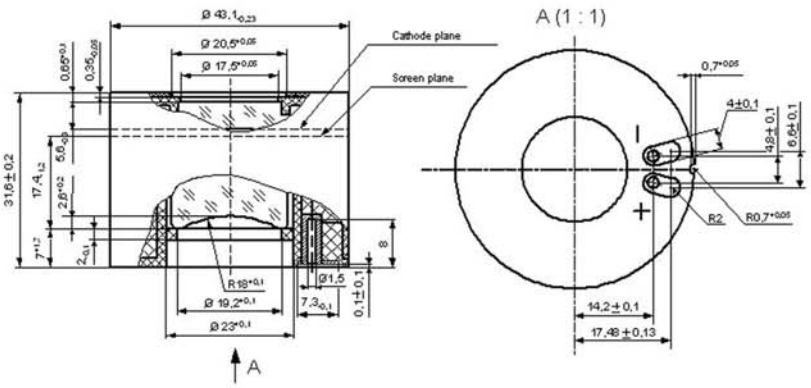
Small size Generation 2+/3 image intensifier series with direct image transfer.

These tubes have a microchannel plate, a photocathode made of multialkali metal (Gen. 2+) or GaAs (Gen.3), a yellow-green color screen, and a built-in power supply. Input window is made of flat surface glass; output window is made of a concave fiber optic element with straight image transfer.

This type of tubes complies with all relevant military standards and specifications.



ANVIS tube is compatible with AN/PVS 7 and many other devices

SPECIFICATIONS				
	NC064331SC	NCXT4331SC	N3064331SC	N3XT64331SC
Grade	HD	XT	18	XT
Photocathode operating diameter, mm	18	18	GaAs	18
Photocathode material	S-25	S-25	45-57	GaAs
Resolution, lp/mm	51-54	57-64	1,200-2,100	57-64
Photocathode sensitivity, μA/lm	500-600	600-750	25,000	1,500-2,100
Light gain, minimum	25,000	25,000	1	25,000
Image magnification	1	1	$0.5x10^{-3}$	1
Dark background brightness, max, cd/m^2	$1.5x10^{-3}$	$1.5x10^{-3}$	18-24	$0.5x10^{-3}$
Signal-to-noise ratio	16-20	20-23	30	18-24
Current consumption, max, mA	25	25	2.8 ± 0.8	30
Voltage, V	2.8 ± 0.8	2.8 ± 0.8	90	2.8 ± 0.8
Weight, g	90	90	10,000	90
Mean time before failure, hours	10,000	15,000	15	10,000
Storage time, years	15	15		15

Environmental resistance	
Sinusoidal vibration (vibration strength):	
Frequency range, Hz	1-500
Acceleration, m/s^2 (g)	50 (5)
Mechanical shocks:	
Shock, m/s^2 (g)	5,000 (500)
Operating temperature range, °C	-50 ... +55

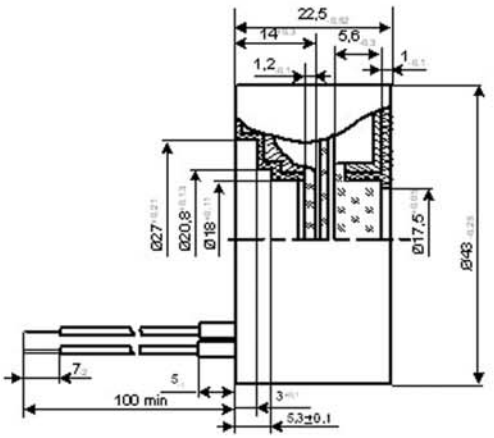
Modulation transfer function		
Frequency, lp/mm	HD grade	XT grade
2.5	0.89	0.88
7.5	0.68	0.72
15.0	0.40	0.50

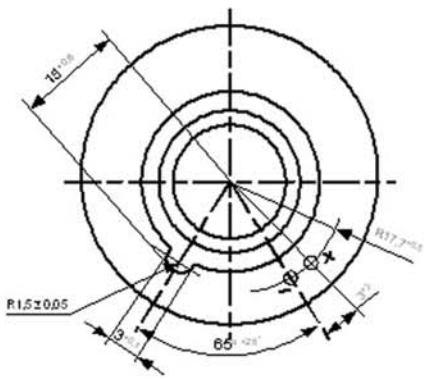
Field of view cleanness					
Zone Number	Circular zone Dimensions, mm	Maximum diameter of defects			Accepted total area of defects, mm^2
		Neglected	Accepted		
			Diameter, mm	Quantity	
1	0 - 9.0	0.06	0.12	1	0.10
2	9.0 - 14.5	0.08	0.18	1	0.20
3	14.5 - 18.0	0.10	0.20	2	0.35

Small size Generation 2+/3 image intensifier tubes with direct image transfer.

The tube has a microchannel plate, a photocathode made of multialkali metal (Gen. 2+) or GaAs (Gen.3), a yellow-green color screen, a built-in wrap-around power supply, and flat surface glass input and output windows.

This type of tubes complies with all relevant military standards and specifications.





Compatible with most of NVS7 series goggles.

SPECIFICATIONS				
	NC064322	NCXT4322	N3064322	N3XT4322
Grade	HD	XT	HD	XT
Photocathode operating diameter, mm	18	18	18	18
Photocathode material	S-25	S-25	GaAs	GaAs
Resolution, lp/mm	51-54	57-64	45-57	57-64
Photocathode sensitivity, μA/lm	500-600	600-750	1,200-2,100	1,500-2,100
Light gain, minimum	25,000	25,000	25,000	25,000
Image magnification	1	1	1	1
Dark background brightness, max, cd/m^2	1.5x10^{-3}	1.5x10^{-3}	1.5x10^{-3}	1.5x10^{-3}
Signal-to-noise ratio	16-20	18-22	18-24	20-24
Current consumption, max, mA	16	16	25	25
Voltage, V	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8	2.8 ± 0.8
Weight, g	50	50	50	50
Mean time before failure, hours	10,000	10,000	10,000	10,000
Storage time, years	15	15	15	15

Environmental resistance	
Sinusoidal vibration (vibration strength):	
Frequency range, Hz	1-500
Acceleration, m/s^2 (g)	50 (5)
Mechanical shocks:	
Shock, m/s^2 (g)	5,000 (500)
Operating temperature range, °C	-50 ... +55

Modulation transfer function		
Frequency, lp/mm	HD grade	XT grade
2.5	0.89	0.88
7.5	0.68	0.72
15.0	0.40	0.50

Field of view cleanness					
Zone Number	Circular zone Dimensions, mm	Maximum diameter of defects			Accepted total area of defects, mm^2
		Neglected	Accepted		
			Diameter, mm	Quantity	
1	0 - 9.0	0.10	0.15	1	0.10
2	9.0 - 14.5	0.12	0.25	2	0.20
3	14.5 - 18.0	0.15	0.35	2	0.50

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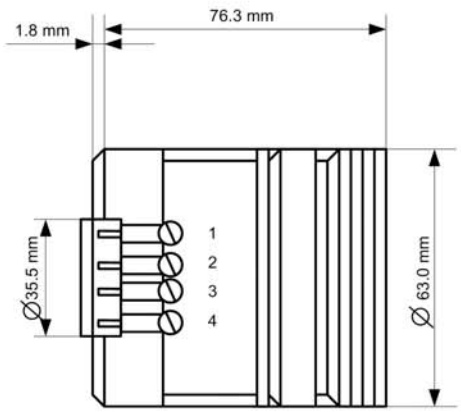
The NC107663IF enhanced image intensifier tube can boost performance of such well known systems as AN/PVS-4 weapon sight, M-32/M36 passive night vision elbow, AN/TVS-5 weapon sight, and other devices equipped with the original MX 9644 tube to the new levels. This tube is fully compatible with their optical, mechanical and electrical interfaces and can be installed by maintenance personnel via the routine tube replacement procedure.

This tube will extend operational life of the unit and upgrade its performance to the levels of the systems currently procured for military use. The tube comprises a fiber optic faceplate, a microchannel plate (MCP) current amplifier, and a phosphor screen.

Advanced automatic brightness control covers over five orders of magnitude of input illumination providing constant output image brightness. Manual brightness adjustment is also available.

Sophisticated power supply has built-in photocathode protection against bright light exposure.

The tube complies with all relevant military standards and specifications.



25 mm inverting tube
Compatible with AN/PVS 4,
AN/TVS 5 and many other devices

FEATURES:

- Improved range performance
- Higher photo response, resolution and S/N ratio
- Long operational life
- Instantaneous flash response recovery
- Auto brightness control
- Bright light protection

SPECIFICATIONS	
Photocathode operating diameter	**24.5 mm**
Resolution	**30-36 lp/mm**
Photocathode sensitivity	**220-650 µA/lm**
Signal-to-noise ratio	**3-10**
EBI, max	**2.5×10^{-11} lm/cm^2**
Light gain, @2 x10-^{6} fc	**50,000-90,000 fl/fc**
Tube life	**2,000 h**
Input current	**35 mA**

Battle-tested NVS 14 night vision monocular meets any military or law enforcement observational need under the darkest conditions. This model is in service with many militaries around the world. The device is manufactured with Gen. 2+ or Gen. 3 standard ANVIS-size image intensifier tube. Extreme durability combined with crisp, clear image have created its impeccable reputation. NVS 14 is one of the smallest and lightest products of this type, while it is made of durable materials to meet military specifications.

NVS 14 can be hand held, mounted on a weapon, head or helmet, including PASGT helmet. An optional afocal lens turns monocular into 3x night vision sight.

Head mount enables user to flip the monocular from left to right eye or turn upright for unobstructed vision. In Auto mode NVS 14 automatically switches off when turned upright. When the unit is head/helmet mounted this feature eliminates a chance of the user being detected by greenish gleam on the face and extends battery life.

Two monoculars with a dual mount adapter form wide angle goggles. With optional add-on afocal lenses this combination becomes night vision binoculars. Video camera adaptable.

The newest NVS 14-3 is the first mass produced 3rd generation night vision device built without US components and, thus, it is not subject to the US export restrictions.

NVS 14
Monocular

NVS 14
Binoculars

Connected to video camera

Mounted on
a weapon

SPECIFICATIONS	NVS 14 with 1x lens	NVS 14 with afocal 3x lens
Image intensifier tube (IIT)	18 mm, Gen. 2+ or Gen. 3	
Magnification	1x	3x
Field of view	40º	13º
Objective F number	F1.17	F1.5
Objective focal length	27.5 mm	82.5 mm
Focus range	0.25 m - infinity	2 m - infinity
Exit pupil	25 mm	
Eye relief	30 mm	
Dioptre adjustment range	+5 to - 6	
Battery	1 AA or 1 CR123	
Battery life	Over 40 h without IR, over 20 h with IR	
Low battery indicator	√	
IR ON indicator	√	
Waterproof 1 m/30 minutes or up to 20 m (optional)	√	
Dimensions	118x48x69 mm	206x63x69 mm
Weight	300 g	540 g

Model	NVS14 HD	NVS14 HDX	NVS14 XT	NVS14-3 HD	NVS14-3 XT
Generation	2+			3	
IIT model	NC063631IC	NC063631IC	NCXT3631IC	N3063631IC	N3XT3631IC
IIT resolution	51-54 lp/mm	54-57 lp/mm	57-64 lp/mm	45-57 lp/mm	57-64 lp/mm

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NVS 6 Aviator Night Vision Goggles

The NVS 6 aviator night vision goggles feature binocular viewing and were designed specifically for use by helicopter pilots during night flight missions. Whether the mission involves fixed or rotary wing aircraft, flight crews can now benefit from the NVS 6 aviator system, specifically adapted to their needs. The goggles allow the aviator to navigate at the nap of the earth, flying off, landing and other operations that are practically impossible or extremely dangerous at night without the use of A light source.

Improved situational awareness and system performance, in addition to ergonomic and technological enhancements, will benefit both law enforcement and civil operators. Adjustable 25 mm eyepieces provide improved eye relief enabling excellent viewing regardless of the eyepiece positioning. Ergonomically designed interface controls including interpupillary adjustments and vertical, fore-aft, and tilt adjustments allow improved viewing of the entire system field of view (40 degrees). The lightweight binocular can be mounted to a variety of aviator helmets.

FEATURES:

- Advanced Gen. 2+ or Gen. 3 tubes
- Stereo vision
- Flip up / Flip down button release
- Vertical and fore-and-aft adjustments
- Quick detachment
- Automatic brightness control
- Lightweight

OPTIONAL ACCESSORIES:

- Class A/B (minus blue) and leaky green filters

SPECIFICATIONS		
Image intensification tube type	**Gen. 2+**	**Gen. 3**
Resolution at optimal light level	**1.1 cy/mr**	**1.1 cy/mr**
Light gain	**min 35,000**	**min 35,000**
IIT resolution, min	**57-64 lp/mm**	**57-64 lp/mm**
ITT signal to noise ratio	**18-22**	**20-24**
Magnification	**1x**	
Field of view	**40°**	
Objective lens	**27 mm, F 1.23**	
Focus range	**0.25 m - infinity**	
Exit pupil / Eye relief	**On-Axis: 14 mm @ 25 mm distance**	
	Full-field: 6 mm @ 25 mm distance	
Dioptre adjustment range	**-5...+2**	
Interpupillary adjustment range	**52 mm ... 72 mm**	
Vertical adjustment range	**18 mm - standard (25 mm - optional)**	
Fore-and-aft adjustment range	**27 mm**	
Tilt adjustment range	**min 10°**	
Power supply	**2xAA**	
Operational temperature range	**-32°C ... +52°C**	
Dimensions, WxHxD, with mount	**126 x 128 x 130 mm**	
Weight	**0.550 kg**	

The battle-tested NVS 7 goggles meet all military or law enforcement requirements for night observation. This type of goggles is in service in 42 militaries around the world. A variety of models is available to satisfy any user needs. Waterproof, lightweight and compact - this advanced system is also the most affordable at the world market.

NVS 7 equipped with improved Gen. 2 tubes provides tactical characteristics equivalent to the 3rd generation models at a much lower price.

NVS 7-3 is the first mass produced 3rd generation goggles built without US components. It is not subject to US export regulations.

Optional 3x or 5x afocal easy-to-attach lenses further extend the viewing capability.

NVS 7

NVS 7 mounted on a helmet

SPECIFICATIONS						
Field of view	40°					
Eye relief	25 mm					
Objective focal length	27.5 mm					
Objective F / T numbers	F 1.2 / T 1.25					
Magnification	1x					
Interpupillary distance	57-73 mm					
Focus range	0.25 m - infinity					
Dioptre correction	±5					
Battery	2 AA					
Battery life	Over 80 h without IR; over 30 h with IR					
Low battery indicator	√					
IR ON indicator	√					
Momentary IR button	-					
Waterproof (1 m, 30 minues)	√					
Dimensions	150x120x55 mm					
Weight	480 g					
Model	NVS7-2/SD	NVS7-2/HD	NVS7-2HDX	NVS7-2/XT	NVS7-3/HD	NVS7-3/XT
Generation	2+	2+	2+	2+	3	3
IIT model	NCSD3631IC	NC063631IC	NC063631IC	NCXT3631IC	N3063631IC	N3XT3631IC
IIT resolution	40-45 lp/mm	51-54 lp/mm	54-57 lp/mm	57-64 lp/mm	45-57 lp/mm	57-64 lp/mm

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The battle-tested NVS 7 binoculars, based on the popular NVS 7, are eminently suitable for defense, marine and rescue operations under the darkest conditions.

Standard 4x or 8x objective lens can be easily replaced by a 1x, 3x or 5x lens. This upgrade leaves intact goggles' durability, water resistance and nitrogen filling. The optional 8x catadioptric lens with large aperture makes NVS 7/8x binoculars a unique device for long range observation at night. For additional convenience 8x lens has a tripod socket.

NVS 7/4x is the smallest and the lightest night vision binoculars with uncompromising optical characteristics in its class.

NVS 7/4x

NVS 7/8x

Configuration Tube model	NVS 7/4X HD or XT	NVS 7/8X HD or XT
Image intensifier tube (IIT)	18 mm Gen. 2+ or Gen. 3	18 mm Gen. 2+ or Gen. 3
IIT resolution	51-54 lp/mm (HD); 57-64 lp/mm (XT)	51-54 lp/mm (HD); 57-64 lp/mm (XT)
Magnification	4x	8x
Interpupillary distance	57-73 mm	57-73 mm
Field of view	10°	5°
Objective lens focal length	100 mm	216.4 mm
Eye relief	25 mm	25 mm
Focus range	10 m - infinity	20 m - infinity
Dioptre correction	±5	±5
Objective F number	1.5	2.0
Battery	2 AA batteries	
Battery life	Over 80 hours without IR, over 30 hours with IR	
Tripod socket ¼"	-	V
Dimensions	165x120x70 mm	240x130x130 mm
Weight	0.690 kg	1.470 kg

Model	NVS 7/4X WA	NVS 7/8X WA
Image intensifier tube (IIT)	25 mm Gen. 2+	25 mm Gen. 2+
IIT model	NC064331_25	NC064331_25
IIT resolution	45-64 lp/mm	45-64 lp/mm
Magnification	4x	8x
Interpupillary distance	57-73 mm	57-73 mm
Field of view	15°	7.5°
Objective focal length	100 mm	216.4 mm
Eye relief	15 mm	15 mm
Focus range	10 m - infinity	20 m - infinity
Dioptre correction	±5	±5
Objective F number	1.5	2.0
Battery	2 AA batteries	
Battery life	Over 80 hours without IR, over 30 hours with IR	
Tripod socket ¼"	-	V
Dimensions	165x120x70 mm	240x130x130 mm
Weight	0.690 kg	1.470 kg

Our 3x and 5x afocal lenses are designed to increase magnification of 1x night vision systems and, thus, dramatically improve detection range and enhance viewing.

NVS 3x and NVS 5x feature F/1.5 optics and mounts to the objective lens of various standard Mil. Spec. night vision devices.

The lenses are sturdy, compact, lightweight and can be snapped (using adapters) or threaded onto objective lens.

NVS 14 with attached 3x lens

NVS 7 with attached 5x lens

ACCESSORIES:

- Soft carrying case
- Lens cover
- Threaded lens cover
- Lens assembly

Model	NVS 3x	NVS 5x
Magnification	3x	5x
Field of view	13°	7.5°
Objective lens focal length	55 mm	56 mm
Focus range	20 m - infinity	25 m - infinity
Objective F number	1.5	1.5
Dimensions	70x68x88 mm	50x56x93 mm
Weight	228 g	270 g

3x/5x lens are compatible with	
NVS 7-2/SD	NVS 14-2/HD
NVS 7-2/HD	NVS 14-2/HDX
NVS 7-2/HDX	NVS 14-2/XT
NVS 7-2/WA	NVS 14-3/HD
NVS 7-2/XT	NVS 14-3/XT
NVS 7-3/HD	
NVS 7-3/XT	

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NVS 8 is a unique long-range night vision surveillance device: a combination of a modern image intensifier tube, bright FMC optics and advanced electronics enables observation at up to 2.5 km at night. The exceptional observation range makes NVS 8 irreplaceable for border protection, especially at sea or in the desert, long-range night reconnaissance, and wild life observation.

As a powerful optical instrument NVS 8 uncovers its full potential when mounted on ships, stationary observation points or moving platforms of any kind. Its design enables photo shooting and videorecording by most commercial cameras.

FEATURES:

- Long observation Range (2,500 m at low light levels)
- High image quality across the screen
- Unique fast optics enables high light transmission
- Bright light cut-off
- Automatic protection from lateral or frontal light sources
- Automatic brightness control with manual override (optional)
- Low power consumption
- Heavy-duty telescopic tripod

SPECIFICATIONS	
Image intensifier tube	**NC064322**
IIT type	**Gen. 2+, 18 mm**
Magnification	**9x**
Field of view	**3.83°**
Objective lens focus length / F number / T number	**204 mm / F1.0 / T1.4**
Angular resolution at ambient illumination $5x10^{-3}$ lx	**50 seconds of arc**
Dioptre adjustment	**±4**
Eye relief	**50 mm**
Exit pupil	**4.5 mm**
Reticle scale-division value	**5 mils**
Voltage	**3 V**
Power supply	**2xAA batteries**
Battery life	**Over 80 h**
Operating temperature	**-40°C ... +55°C**
Relative humidity	**Up to 98 %**
Dimensions	**400x250x240 mm**
Weight, net / with tripod / gross	**12 kg / 25 kg / 40 kg**

Compact and lightweight Night Witness monocular is designed for low light observation and photo/video surveillance. It is the most versatile night vision system for law enforcement and rescue teams, professional photographers, coast guard, etc. Sturdy water- and corrosion-proof body made from light aluminum and titanium alloys guarantees long trouble-free operation. Replaceable humidity collector filled with desiccant substantially improves monocular reliability in rapidly changing environment.

Night Witness is distinguished by its handy modular design along with an intelligent control system. It is offered in two versions: 1.25x and 5x.

This monocular can be enhanted with professional lenses made by Sigma, Canon, Nikon and other manufacturers. It can be also attached to CCTV, photo and video cameras by the means of professional optical adapters.

Unique design effectively protects image intensifier tube from bright light. Intelligent TTL sensor measures the illumination level directly on photocathode surface and shuts off power faster and more reliably than the autogating mechanism of many other expensive image intensifier tubes.

With 1x lens

Rear view

Attached to video camera

SPECIFICATIONS		
Magnification	**1x**	**5x**
Focal length / F number	**25 mm/ F1.4**	**100 mm/ F1.7**
Field of view	**40°**	**10.5°**
Focus range	**3 m - infinity**	
Image intensifier tube	**18 mm, Gen. 2+ or Gen. 3, 51 – 64 lp/mm**	
Lens mount	**C-mount, 1" – 32 TPI**	
Eyepiece		
Focal length	**20 mm**	
Eye relief	**16 mm**	
Exit pupil	**7 mm**	
Diopter adjustment range	**-4 ... +4**	
Power supply	**1xAA or external power supply 3.5-15 V, 50 mA**	
Battery life at 20°C	**10 hours (5 hours with infrared illuminator)**	
Operational / Storage temperature range	**-40°C ...+55°C / -40°C ... +65°C**	
Relative humidity	**up to 98%**	
Dimensions	**104x70x45 mm**	**220x70x60 mm**
Weight with battery	**550 g**	**390 g**
Tripod socket	**standard 1/4", 20 TPI**	

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DN 482/483 is a modern multi-purpose night vision weapon scope built to fit the most demanding military specifications. Large quantities of DN 482/483 are in service in several militaries around the world. This scope is easy to service and maintain.

This model uses standard image intensifier tubes, available from leading American and European manufacturers. The body of the scope is made of lightweight composite materials.

Available with 4x and 6x objective lenses.

DN 482 - 4x

DN 482 - 6x

DN 482 on a sniper rifle

DN 482 on a AR-15 type rifle

FEATURES:

- Long observation range
- Various weapon mounts are available (including European side mount)
- Shockproof, built for use with heavy recoil weapons
- Automatic brightness control
- Illuminated mil-dot reticle with adjustable brightness
- Reticle color (red or yellow) selection
- Long eye relief
- Accurate windage /elevation adjustment with audible clicks
- Lightweight reinforced plastic body
- Powerful infrared illuminator (optional)
- Camera/video adapter (optional)

SPECIFICATIONS

Model	DN 482/483 4x	DN 482/483 6x
Magnification	3.7x	6.1x
Field of view	10°	6.25°
Objective lens, focal length / F number	100 mm / F 1.5	165 mm /F 2.0
Eye relief	45 mm	
Dioptre correction	-4 ... +3	
Image intensifier tube (IIT)	ANVIS type Gen. 2+ (DN 482) / Gen. 3 (DN 483)	
Battery	2xAA	
Battery life	Over 60 h	
Operating temperature range	-40°C ... +55°C	
Relative humidity	up to 98%	
Dimensions	265x85x75	355x110x91
Length w/o eye cup	220 mm	310 mm
Weight	0.83 kg	1.1 kg

The NVS 22 is a high-resolution night vision add-on attachment that represents the latest developments in tactical night vision weapon sight technology.

This unit mounts on the same MIL-STD-1913 rail (or its extension) in front of a daytime scope, thus eliminating a need for the boresight adjustment. With NVS 22 switching between day and night modes takes a few seconds and requires no tools.

Wide exit pupil makes this device compatible with most existing daytime riflescopes. NVS 22 has field of view wider than that of most daytime riflescopes, therefore the unit does not bring any additional limitations during nighttime aiming.

NVS 22 is designed without cathadioptric lens to ensure the brightest and sharpest image possible, still it is compact and lightweight. This advanced durable unit is irreplaceable for those, who need round the clock performance.

FEATURES:

- Mounts in front of a daytime riflescope on a Picatinny rail leaving boresight intact
- Brings no limitations to riflescope's functionality
- Takes full advantage of fast optics combined with modern image intensification technology
- Optimized for sniper rifles
- Waterproof (IP 54)
- Equipped with internal focus adjustment mechanism
- Optional infrared illuminator

NVS 22 shown on a sniper rifle model

SPECIFICATIONS	
Magnification	**1x**
Field of view	**8º**
Objective lens focal length / F number	**110 mm / F1.6**
Image intensifier tube	**18 mm, Gen. 2+ or Gen. 3**
IIT resolution	**57-64 lp/mm**
Magnification of day scope, recommended	**3-5x**
Magnification of day scope, maximum	**20x**
Battery	**2xAA**
Battery life	**60 h**
Operational temperature	**-50ºC … +55ºC**
Relative humidity	**up to 98%**
Dimensions	**235x98x80 mm**
Weight	**0. 870 kg**

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The world's first integrated day/night binoculars make round the clock observation possible: from bright sunny day through misty twilight to total darkness with one BDN 14x50.

True wide-angle fast lenses coupled a with high-quality image intensifier tube create an outstanding observational device. A turn of a lever switches BDN between day and night modes.

Ergonomic, lightweight, compact, weather and shockproof, BDN binoculars are the best of its kind.

SPECIFICATIONS	Day	Night
Magnification	**14x**	**5x**
Field of view	**4.7°**	**14.7°**
Objective lens	**50 mm**	
Dioptre adjustment	**±5**	
Image intensifier tube (IIT)	**Gen. 2+ or Gen. 3**	
Operating temperature range	**-40°C ... +55°C**	
Battery	**2xAA**	
Battery life	**65 h (without IR) or 18 h (with IR)**	
Dimensions	**235x168x74 mm**	
Weight	**1.5 kg**	

A unique universal day / night riflescopes of DN 5 series feature two interchangeable eyepieces for day and night use. Replace daytime eyepiece with a night vision and the scope is ready for action, no re-zeroing or tools are required!

DN 510 features 3x-6x variable magnification, while DN 532 is offered with either 7x or 11x. With optional IR illuminator these scopes enable shooting in total darkness.

DN 532 night vision eyepiece can also be used as a stand alone 1x night vision monocular. With an add-on NVS Lens 3x the monocular turns into a 3x observation device.

Built-in windage and elevation adjustment mechanism, matte-black body finish and water resistant design make these scope indispensable when 24/7 operation ability is required.

DN 532

DN 532 Night Time Eyepiece

APPLICATIONS:

- Night surveillance / Hunting
- Police / Law Enforcement
- Patrol / Search and Rescue

DN 510 on a rifle

FEATURES:

- Interchangeable day / night eyepieces - keep rifle zeroed day and night
- Vision range is 400-1000 m and 100-250 m in total darkness (with optional IR illuminator)
- Night eyepiece also works as a standalone 1x monocular (or 3x with optional lens DN 532 only)
- Unique high-quality day/night optics (100 mm / F1.5 or 66 mm / F2.0)
- Wide field of view
- Wide range of focus adjustment
- Accurate internal windage / elevation adjustment knobs with tactile audible clicks and true 1/4 MoA step
- Water resistant
- Optional powerful IR illuminator (35, 75 or 200 mW)

SPECIFICATIONS	DN 510	DN 532-7x	DN 532-11x
Objective focus length / F number	100 / F2.0	100 / F1.5	166 / F2.0
Magnification (day/night)	3.0x-6.0x / 3.7x-7.3x	7.0x / 3.7x	11.2x / 6.0x
Field of view(day/night)	10.0є - 5.2є	3.7є / 7.4є	2.3є / 4.6є
Objective lens diameter	50 mm	66 mm	83 mm
Eye relief	45 mm	60 mm	60 mm
Diopter adjustment	- 4 ...+ 2		
Battery	1xCR123 Lithium		
Voltage	3 V		
Battery life minimum	40 h		
Length	340 mm	360 mm	440 mm
Weight (day/night)	0.97 kg / 1.10 kg	0.99 kg / 1.05 kg	1.17 kg / 1.23 kg
Operating temperature range	-40°C ... + 50°C		
Relative humidity	up to 98%		
Image intensifier tube			
Type	Gen. 2+, 18mm		Gen. 3, 18mm
Photosensitivity	550 µA/lm		1,200 µA/lm
Light gain	30,000x		35,000x
Resolution, min	45 lp/mm		

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NVS 10MG is a unique integrated day/night weapon scope. User can switch between day and night modes, eliminating the need to carry separate night and day scopes. No re-zeroing is required when switching between day and night mode.

The scope fits various weapons, including machine guns, antitank guns, grenade launchers, etc. This scope features an adjustable lit ballistic reticle. The reticle can be changed (at the factory) to match the particular weapon/ammunition combination.

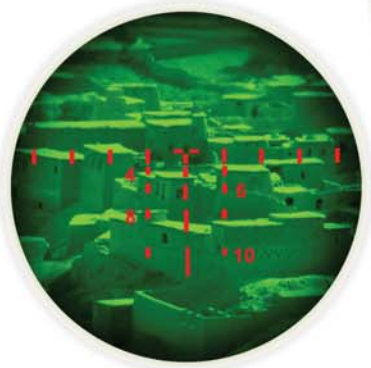
FEATURES:

- Fits a variety of weapons, including M16, AK-47, Carl Gustaf Grenade Launcher, RPG, various machine guns
- Can be supplied with weaver mount (MIL-STD-1913), East Block side mount or a custom mount
- Accurate internal windage/elevation adjustment mechanism
- Lit ballistic reticle with adjustable brightness
- Automatic brightness protection

ACCESSORIES:

- Carrying case
- Manual
- Warranty card

NVS 10MG with East European side mount



Various ballistic reticles are available

NVS 10MG on Picatinny rail

SPECIFICATIONS	
Magnification	**4x**
Field of view	**9° (day) - 14°(night)**
Objective lens focal length / F number	**108 mm / F1.5**
Objective lens diameter	**72 mm**
Focus range	**50 m – infinity**
Eye relief	**50 mm**
Exit pupil diameter	**9 mm**
Windage/elevation adjustment range	**±34 MoA**
Windage/elevation step	**0.7 MoA**
Image intensifier tube	**18 mm, Gen. 2+ or 3**
Battery	**2xAA**
Battery life	**60 h**
Operation temperature range	**-55°C ...+55°C**
Storage temperature range	**-55°C ... +70°C**
Dimensions	**308x190x95 mm**
Weight	**1.8 kg**

Give your night vision device a performance boost with an IR illuminator! These compact infrared "flashlights" provide illumination visible only through night vision devises.

A typical 1st generation night vision device with an illuminator outperforms 2nd or 3rd generation night vision devices used without one at a fraction of the cost. Night vision devices of 2nd or 3rd generation equipped with IR illuminator deliver a drastically improved observation distance and image resolution.

IR beam can be either focused for longer viewing distance or widened over an observation area.

IR 75 illuminator

IR 400 illuminator

IR 200 illuminator

FEATURES:

- Long illumination range
- Adjustable illumination angle
- Variable output power settings
- Shockproof water resistant body
- Standard batteries
- Can be installed on many night vision devices
- Compact
- Lightweight

SPECIFICATIONS			
Models	**IR 75**	**IR 200**	**IR 400**
Emitter type	**IR diode (eye safe)**	**IR laser (not eye safe)**	**IR laser (not eye safe)**
Output power	**75 mW**	**200 mW**	**400 mW**
Wavelength	**805 nm**	**820 nm**	**820 nm**
Beam angle	**5° - 20°**	**4° - 16°**	**1° - 15°**
Power supply	**3 V**	**3 V**	**6V**
Battery	**2x AA or 1xCR123**	**2x AA**	**2x CR123**
Battery life	**7 h**	**5 h**	**2 h**
Tripod socket	**¼"**	**¼"**	**-**
Operating temperature range		**-40°C ... +55°C**	
Weight	**132 g**	**110 g**	**200 g**
Dimensions	**120x40x25 mm**	**Ø22x200 mm**	**Ø40x165 mm**

The unique infrared or visible laser light instruments of the LAM series provide an instant aiming dot for accurate firing. A sturdy waterproof metal body houses powerful long-range lasers. LAM 10M is an eye-safe aimer that reaches targets 200 meters away. LAM 10M 3A and LAM 2 IR use a more powerful non eye-safe laser that reaches targets as far as 2 kilometers away.

Both LAMs can be momentary turned on/off with a remote membrane switch, which can be attached to a convenient place on a rifle with Velcro tape. Using momentary switch saves battery life and decreases the time the shooter is seen through night vision devices.

A simple reliable mechanism enables precise windage and elevation beam adjustment. Both Picatinny and barrel mounts are available.

LAM 2 IR provides the utility and operational effectiveness of aimer and variable spot scene illuminator combined in one compact device, that can be quickly mounted on a weapon.

Short range mode of LAM 2 IR is designed for force on force training. Mechanical safety block protects user from unintended switch into non-eye-safe long range mode.

All models meet full military specifications. Compact but robust, precise and lightweight these aimers are the best choice for night missions.

LAM 2 IR

LAM 10M 3A

FEATURES:

- Full mil specs
- Compact, lightweight
- Quick release mount (LAM 2 only)
- Windage/elevation adjustment mechanism
- Remote membrane switch
- 'Laser On' warning indicator

ACCESSORIES:

- Case
- Weapon mount (MIL-STD-1913)
- Allen keys (LAM 10M only)

Illuminator

Laser aimer

SPECIFICATIONS	LAM 2 IR		LAM 10M	LAM 10M 3A
	Illuminator	Aimer		
Visibility distance	**2,000 m**	**2,000 m**	**>200 m**	**>1,000 m**
Beam divergence	**3-105 mrad**	**0.3 mrad**	**0.5 mrad**	
Wavelength	**850 nm**	**830-850 nm or 650 nm**	**830-850(IR) or 650 (visible)**	
Spot size at 100 m	**>10.5 m**	**30 mm**	**50 mm**	
Eye-safety	**Short range mode – eye-safe Long range mode – not eye-safe**		**Eye-safe**	**Not eye-safe**
Windage/elevation adjustment range	**±20 mrad**		**±20 mrad**	
Adjustment step	**50 mm/100 m (0.5 mrad)**		**50 mm/100 m (0.5 mrad)**	
Adjustment accuracy after 1000 shots	**0.5 mrad**		**0.1 mrad**	
Adjustment accuracy after 100 install/remove operations	**0.25 mrad**		**1.0 mrad**	
Battery	**CR123 Lithium**		**CR123 Lithium or AA**	
Battery life, hours of continuous work	**>10 h**		**>30 h**	**>10 h**
Operating temperature range	**-40°C ...+60°C**		**-40°C ...+60°C**	
Dimensions	**122x81x41 mm**		**113x45x32 mm**	**123x45x32 mm**
Weight	**0.300 kg**		**0.150 kg**	**0.170 kg**

TVS 7B Highly sensitive compact thermal vision goggles enable seeing in darkness by transforming invisible infrared radiation into visible image.

Some of the tasks suitable for the instrument:

- Search and rescue
- Surveillance, counter-terrorist measures
- Hunting and animals observation
- Industrial research and process control
- Inspection of thermal insulations in residential and industrial buildings
- Inspection of high voltage transmission lines

This unit has black hot or white hot image polarity. Image may be transferred to an external monitor via circular connector.

TVS 7B detects extremely small differences in temperature, so that user can distinguish people from their immediate surroundings. Unlike night vision devices the thermo vision units operate 24 hours a day, in daytime and at night, even in total darkness of enclosed space. Thermo vision scope enables aiming seeing through smoke or fog.

Modern uncooled bolometer array and electronic signal processing enables detecting temperature difference bellow 0.1°K.

SPECIFICATIONS	
Objective lens diameter	**25 mm**
Focal length	**25 mm**
Field of view	**11x8 degrees**
FOV	**19 m x14 m @ 100m**
Magnification	**1.7x or 3.4x (digital)**
Lens type	**Germanium**
Detection range, human	**475 m**
Detection range, car	**900 m**
Detector	**Amorphous silicon**
Sensor	**Uncooled Microbolometer**
Display resolution	**640x480**
Output resolution, format	**640x480, NTSC**
Thermal sensitivity	**<100 mk**
Spectral Response	**7-14 um**
Operating time on one set of batteries	**up to 5 hours**
Water resistant	**Yes**
Battery	**Lithium or rechargeable CR123 or external**
Dimensions	**157x60x78 mm**
Weight	**450 g**

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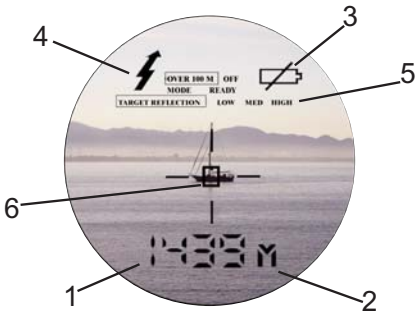
Laser Rangefinder Monocular series comprises three models suitable for a wide range of tasks from golfing to amateur hunting.

These systems provide instant distance and speed (SPD modification) measurements consistently and accurately. Optical channel provides sharp, clear image under all conditions.

All devices use the same ergonomic lightweight body with rubberized grip.

LRM 1500



LRM 1500SPY

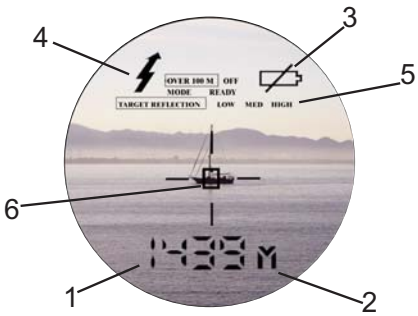
FEATURES:

1 - Measurement result
2 - Units of measurement (yards, meters)
3 - Low battery indicator
4 - Indicator of active laser
5 - Target quality indicator
6 - Reticle (cross or rectangular selectable)

SPECIFICATIONS	LRM 1200	LRM 1500	LRM 1500 SPD / SPY
Optics			
Magnification		**7x**	
Objective lens diameter		**25 mm**	
Field of view		**8°**	
Laser Type		**Class 1 eye-safe**	
Range Finder			
Measuring range, m	**20-1,200 m**	**20-1,500 m**	**20-1,500 m**
Accuracy	**± 1 m**	**± 1 m**	**± 1 m**
Meters/Yards display	√	√	√
Target quality indicator	√	√	-
Last 10 readings recall	√	√	√
Reticle shape selection (+ or □)	√	√	√
Automatic rain mode	√	√	√
'Best Target' measurement	√	√	√
Optional speed detector	-	-	√
Miscellaneous			
Battery		**9 V**	
Tripod socket		√	
Weight without battery		**420 g**	
Dimensions		**120x122x60 mm**	

LRB 7x50 laser rangefinder binoculars equipped with powerful eye-safe laser and FMC optics enable ranging targets up to a distance of 1,500 meters while providing a sharp clear image. A single advanced unit combines features of two optical devices in one ergonomic rubberised body.

Compact, lightweight and waterproof, LRB 7x50 binoculars measure distance in meters and yards, keep last 10 measurements in memory, feature target quality indicator and a variable reticle shape.



FEATURES:

1 - Result of measurement
2 - Units of measurement (yards, meters)
3 - Low battery indicator
4 - Indicator of active laser
5 - Target quality indicator
6 - Reticle (cross or rectangular selectable)

SPECIFICATIONS	
Optics	
Magnification	**7x**
Objective lens diameter	**50 mm**
Exit pupil diameter	**7 mm**
Eye relief	**25 mm**
Field of view	**5°**
Interpupillary distance	**58-72 mm**
Diopter adjustment range	**± 4**
Rangefinder laser type	**Eye safe 905nm**
Measuring range	**20-1,500 m**
Accuracy	**±1 m**
Resolution	**1 m**
Measurement time	**<1 sec**
Meters/Yards display	√
Last 10 readings recall	√
Reticle shape selection (+ or □)	√
Target quality indicator	√
Automatic rain mode	√
'Best Target' measurement	√
Miscellaneous	
Battery	**Standard 9V**
Battery capacity	**>2,500 shots**
Low battery indicator	√
Rubber armour	√
Water resistant design	√
Tripod socket	**¼"**
Dimensions	**210x150x80 mm**
Weight	**1.3 kg**

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Medium range laser rangefinder monocular family comprises four models: three of them use unified ergonomic lightweight black body with rubberized grip, while LRM 2000PRC uses the same body, but of camouflage colour. The models, identical in optics, deliver their outstanding features via advanced data processing algorithms implemented in electronics. All models measure distance to terrain features and still objects as well as speed of moving vehicles. Results can be displayed either in kilometers or in miles.

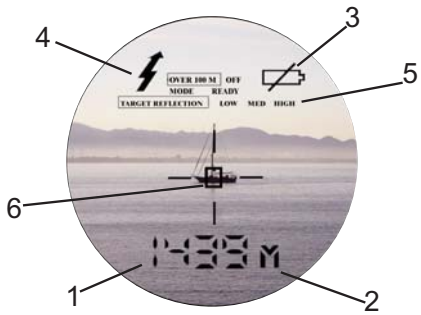
LRM 2000PRC

Additionally:

- LRM 2000PRO/2000PRC features a consumer-quality digital compass.
- LRM 2500/2500CTarget selection and gating algorithm (LRM 2500/2500CI only) dramatically improves
- reliability of measurement in unfavourable ranging conditions (rain, snow, bushes, wires, etc.)
- With a built-in high-quality digital compass and inclinometer LRM 2500CI instantly measures height, azimuth, and elevation.

FEATURES:

1 - Measurement result
2 - Units of measurement (yards, meters, km/h, mph, Mils, Degrees)
3 - Low battery indicator
4 - Indicator of active laser
5 - Target quality indicator
6 - Reticle (cross or rectangular selectable)



SPECIFICATIONS	LRM 2000PRO (PRC)	LRM 2500	LRM 2500CI
Optics			
Magnification		7x	
Objective lens diameter		25 mm	
Field of view		8°	
Range Finder			
Laser Type	Eye safe 905 nm	Eye safe 905 nm	Eye safe 905 nm
Distance measurement range	20-2,000 m	20-2,500 m	20-2,500 m
Azimuth measurement range	360°	-	6,400 mils / 360°
Elevation measurement range	-	-	±60°
Distance accuracy	±1 m	± 1 m	±1 m
Azimuth accuracy	±1°	-	±1°
Elevation accuracy	-	-	±1°
Distance resolution	1 m	1 m	1 m
Distance measurement time	0.5 sec	0.5 sec	0.5 sec
Elevation measurement time	-	-	0.1 sec
First / Last logic	√	√	√
Gating capability	-	100-2,500 m	100-2,500 m
Gating step	-	100 m	100 m
Meters/Yards display	√	√	√
Computer output	-	RS232	RS232
Last 10 readings recall	√	√	√
Reticle shape selection (+ or □)	√	√	√
Target quality indicator	√	√	√
Scan mode	√	√	√
Speed detector	√	√	√
Miscellaneous			
Battery		9V Lithium non-magnetic	
Low battery indicator		√	
Tripod socket		√	
Weight without battery		420 g	
Dimensions		120x122x60 mm	

Medium range laser rangefinder binoculars LRB 3000PRO and LRB 4000CI incorporate the latest achievements in optronics, laser technology and electronics in their design. These binoculars combine uncompromised optics with advanced data processing algorithms. Both models instantly measure distance and speed using the highly accurate time-of-flight delay method.

LRB 3000PRO measures azimuth with built-in consumer-quality digital compass. An advanced digital compass with inclinometer built into LRB 4000CI enables accurate height, azimuth, and elevation measurement.

LRB 4000CI also features RS-232 interface, that enables immediate data acquisition by computers or various GPS receivers. Gating algorithm implemented in LRB 4000CI dramatically improves reliability of measurement in unfavourable measurement conditions (rain, snow, bushes, wires, etc.)

Low power consumption (one battery lasts for over 5000 shots!), ergonomic rubber-armoured body, long eye relief, simple two-button operation, and wide objective lens make observation and distance measurement with these binoculars accurate and comfortable.

LRB 4000CI

LRB 3000PRO

SPECIFICATIONS	LRB 3000PRO	LRB 4000CI
Magnification	7x	7x
Objective lens	40 mm	50 mm
Exit pupil diameter	5.7 mm	7 mm
Eye relief	20 mm	25 mm
Field of view	6º	5º
Interpupillary distance	60-70 mm	58-72 mm
Diopter adjustment range	±4	±4
Laser type	Eye safe 905 nm	Eye safe 905 nm
Distance measurement range	20-3,000 m	20-4,000 m
Azimuth measurement range	6,400 mils / 360º	6,400 mils / 360º
Elevation measurement range	-	±60º
Distance measurement accuracy	±1 m	±1 m
Azimuth measurement accuracy	±1º	±1º
Elevation measurement accuracy	-	±1º
Range measurement time	0.5 sec	0.5 sec
Elevation measurement rate	-	0.5 sec
First / Last logic	√	√
Gating capability	-	100-4,000 m
Gating step	-	100 m
Meters/Yards display	√	√
Computer output	-	RS232
Last 10 readings recall	√	√
Reticle shape selection (+ or □)	√	√
Target quality indicator	√	√
Scan mode	√	√
Speed detector	√	√
Battery	9V Lithium non-magnetic	9V Lithium non-magnetic
Battery capacity, shots	>5,000	>5,000
Low Battery indicator	√	√
Rubber armour	√	√
Waterproof construction	√	√
Protection against non eye-safe lasers	√	√
Tripod socket	1/4"	1/4"
Dimensions	158x145x69 mm	210x150x80 mm
Weight	0.970 kg	1.300 kg

LRB 20000A Long Range LRF is a professional bi-ocular laser rangefinder designed for ground surveillance, target observation and distance measurement up to 20 km.

This rangefinder employs proven time-of-flight delay algorithm to ensure the highest accuracy and a single strong impulse to minimise exposure time.

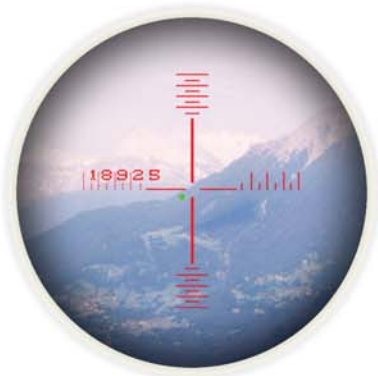
With an optional angular mount it can also measure horizontal angles and magnetic azimuth, and vertical angles. Result of distance measurement is displayed through the eyepiece and can be transferred for processing via computer output. Unit has a remote control button.

This robust rangefinder can benefit geological and engineering surveying, construction and repair works, maritime navigation, meteorology, and other activities that require accurate long range distance measuring.

FEATURES:

- Distance measurement up to 20 km
- First or last target selection
- Illumination for dark conditions
- Parallel port

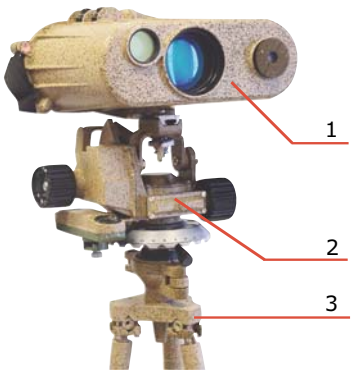
Rear view



ACCESSORIES:

- Framed lens
- Eye shield
- Coordinate converter
- Cables
- Rechargeable battery
- Software
- Special tools and spare parts
- Tripod (optional)
- Angular mount (optional)

SPECIFICATIONS:	
Magnification	**7x**
Field of view	**7°**
Distance measurement range	**100-20,000 m**
Range measurement accuracy	**±5 m**
Dioptre correction, visual channel	**± 5**
Dioptre correction, LED display	**-0.6 ... -1.5**
Laser wavelength	**1060 nm**
Pulse power	**15 mJ**
Minimum eye safe distance	**2,000 m**
Pulse width	**6 ns**
Beam divergence	**0.6 mrad**
Power supply	**12-14.5V DC or 22-29V DC**
Operating temperature range	**-40 ...+55°C**
Dimensions	**225x215x110 mm**
Weight, rangefinder only	**2.5 kg**
Weight, with case and accessories	**17 kg**



1 - Rangefinder
2 - Angular mount
3 - Tripod

LRB 21K and LRB 25000 are long range binocular laser rangefinders capable of measuring distance up to 21 km or 25 km accordingly utilizing time-of-flight delay algorithm and a single-pulse laser technology. The binoculars operate on 1540 nanometer lasers and are Class 1 eye-safe.

Result of measurement is displayed through the eyepiece and can be transferred for processing via computer port (RS232). LRBs have can be remotely activated and operated. These instruments have comprehensive digital display and variable range settings.

Compact and lightweight, designed to withstand to withstand wide range of environmental conditions, these binoculars are beneficial for topography, geodesy, marine navigation, highway and power line construction, airborne altimetry and location, meteorology and other professional activities.

FEATURES:
- First/Last target selection
- High fog/smoke penetration
- Invisible to night vision devices

LRB 25000

LRB 25000 with NVS 14 night vision monocular attached

LRB 21 K

SPECIFICATIONS:	LRB 21K	LRB 25 000
Laser Type	**Erbium Glass**	**Erbium Glass**
Wavelength	**1.54 mkm**	**1.54 mkm**
Pulse energy	**5-8 mJ**	**5-8 mJ**
Pulse duration at ½ width	**~25 ns**	**~30 ns**
Photo detector type	**Ge Avalanche**	**Ge Avalanche**
Measuring range	**50-21,000 m**	**60-25,000 m**
Accuracy	**± 2.5 m**	**± 5 m**
Gating range	**50-4,000 m**	**60-4,500 m**
Gating accuracy	**25 m**	**20 m**
Laser beam divergence (at 80% of power level)	**1.0 mrad**	**1.0 mrad**
Pulse repetition rate	**0.15 Hz**	**0.15 Hz**
Dioptre adjustment	**± 4**	**± 4**
Magnification	**7x**	**7.5x**
Field of view	**7.5°**	**5.5°**
Visual channel objective lens aperture	**50 mm**	**43 mm**
Operating temperature range	**-30°C … +60°C**	**-30°C … +60°C**
Protective filter against non eye-safe lasers	**Optional**	**Optional**
Tripod socket ¼"	**Optional**	**Optional**
Interface	**RS 232**	**RS 232**
Power supply	**DC 12V / NiCd battery**	**DC 12V / NiCd battery**
Dimensions	**200x210x90 mm**	**220x200x90 mm**
Weight	**1.95 kg**	**1.9 kg**

The LRF Modules use the same electronics and optics as rangefinder monoculars and binoculars. These modules can add various range finding capabilities to bigger systems: distance measurement (all modules), azimuth, elevation, and height measurement (CI modification), speed (MOD2 and MOD4CI). All modules support RS232 interface.

The modules have a built-in computer interface, which enables immediate data acquisition by any system with standard serial interface as well as remote operation.

Depending on exact model, customer has a choice of various incorporated features, including, but not limited to gating capability, fast scan mode, speed measurement, object selection and more.

Typically a rangefinder module becomes a part of:

- Thermal imagers
- Day/night surveillance systems
- Airborne optical systems

LRF MOD 2/2 CI

LRF MOD 4CI

SPECIFICATIONS:	LRF MOD 2/2 CI	LRF MOD 4/4CI
Laser type	**905 nm, eye-safe**	
Measurement range	**16m - 2,500m**	**16m - 4,000m**
Distance measurement accuracy	**±1 m**	
Azimuth measurement range	**6,400 mils/ 360º**	
Elevation measurement range	**±60º**	
Azimuth measurement accuracy	**±1º**	
Elevation measurement accuracy	**±1º**	
Distance resolution	**1 m**	
Pulse repetition rate	**200 Hz**	
Pulse energy	**0.03 mJ**	
Measurement time	**0.5 s**	
Beam divergence	**2.5 mrad**	**1 mrad**
Power source	**9V DC**	
First / Last target logic	**+**	**+**
Gating capability	**+**	**+**
Interface	**RS232**	**RS232**
Dimensions with eyepieces	**-**	**230x160x82 mm**
Dimensions without eyepieces	**92x86x48 mm**	**180x160x82 mm**
Weight	**0.17 kg**	**0.955 kg**

The newest SIB 20X50M brings stabilizing technology one step further. This unique optical instrument utilizes a revolutionary patented mechanical system (no batteries!) to stabilize an image. The improved stabilization mechanism increases recognition range by five times.

SIB 20X50M is the only model in the world that provides resolution of three angular seconds in stabilization mode. Weight and size put these binoculars above competition. An observer can use SIB 20x50M at any moving or vibrating platforms such an aircraft, a land or marine vehicle.

FEATURES:

- Stabilized image
- Rigid construction
- Weather proof
- Surveillance under any motion condition
- No batteries required
- Wide angle image

SPECIFICATIONS	Newcon SIB 20x50M	CANON 15x50 IS*	FUJINON S-1640*
Magnification	**20x**	**15x**	**16x**
Objective lens diameter	**50 mm**	**50 mm**	**40 mm**
Eye relief	**11 mm**	**15 mm**	**12 mm**
Field of view	**3.2°**	**4.5°**	**3.4°**
Apparent field of view	**66°**	**67.5°**	**54.4°**
Resolution in the center	**2.8′**	**5.3′**	**10′**
Stabilization system	**Mechanical**	**Electronic**	**Mechanical-Gyro**
Delay for stabilization start	**0**	**0**	**1 minute**
Batteries	**Not required**	**2xAA**	**4xAA or 12CR5**
Cold temperature operations	**YES**	**Problematic**	**Problematic**
Compensation angle	**± 5°**	**± 0.7°**	**± 5°**
Mean time before failure	**50,000 h**	**3,000 h**	**2,000 h**
Dimensions	**217x158x59 mm**	**185x141x73 mm**	**200x210x96 mm**
Weight	**1.25 kg**	**1.25 kg**	**1.9 kg**

* Data for comparison only, product is not for sale.

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www.newcon-optik.com

Gyro Stabilized Binoculars incorporate gyroscopic image stabilization technology that enables user to observe distant objects from moving platforms without image resolution degradation caused by mechanical vibration or natural hand tremour.

Combining fully coated optics with high-speed gyro stabilizing system SIB 16x40WP binoculars are the ultimate instruments for long-range observation, tracking and surveillance.

SIB 16x40 WP

FEATURES:

- Wide angle image
- Stabilized image
- Rigid construction
- Weatherproof
- Surveillance under any motion condition
- Alternative external power supply

ACCESSORIES:

- Carrying case
- Strap
- Amber filters (optional)
- DC power regulator
- Night vision eyepiece (optional)
- Warranty card
- Manual

SPECIFICATIONS	Newcon SIB 16x40 WP
Magnification	**16x**
Angular field of view	**3.4°**
Minimum focus	**30 m**
Interpupillary adjustment	**58 mm - 72 mm**
Battery	**6xAA or 12V DC**
Angular velocity of panning in any direction	**0 - 6 degree/sec**
Stabilization range	**±5°**
Operating temperature range	**-30 ... +55°C**
Relative humidity (at +25°C)	**up to 100%**
Dimensions	**230x190x120 mm**
Weight (w/o batteries)	**2.40 kg**

AN series of binoculars, incorporating BAK-4 roof prisms and multi-coated lenses, delivers impressive light transmission and resolution for brilliantly clear vision.

Non-slip UV-resistant rubber armouring makes these binoculars comfortable to manipulate even in cold weather. They are waterproof and shockproof, feature military reticle and compass (AN 7x50 MC only) and adhere to the latest military standards.

Light and compact, these binoculars stand in line with the most modern warfare equipment.

AN 7x50MC
with compass

AN 8x30

FEATURES:

- Lightweight
- Nitrogen filled
- Long eye relief and large eye piece
- Rangefinder reticle
- Individual focusing or center focusing
- Illuminated compass (AN 7x50 MC only)

ACCESSORIES:

- Case
- Straps
- Manual
- Warranty card
- Lens cleaning cloth

SPECIFICATIONS	AN 8x30	AN 7x50 MC
Magnification	**8x**	**7x**
Objective lens diameter	**30 mm**	**50 mm**
Prisms	**BAK4**	**BAK4**
Coating	**FMC**	**FMC**
Field of view	**7.5°**	**7.5°**
Apparent field of view	**60°**	**52.5°**
F.O.V. @1000 m	**141 m**	**132 m**
F.O.V. @1000 yd	**423 ft**	**396 ft**
Exit pupil diameter	**3.8 mm**	**7.14 mm**
Brightness index	**13**	**51**
Interpupillary adjustment distance	**56-74 mm**	**56-74 mm**
Eye relief	**17 mm**	**23 mm**
Focus	**3 m - infinity**	**5 m - infinity**
Waterproof	**Yes**	**Yes**
Shockproof	**Yes**	**Yes**
Drop test, height	**1.8 m**	**1.8 m**
M22 Reticle	**Yes**	**Yes**
Illuminated compass	**No**	**Yes**
Operating temperature range	**–40°C ... +70°C**	**–40°C ... +70°C**
Dimensions	**160x48x123 mm**	**209x157x85 mm**
Weight	**0.560 kg**	**1.150 kg**

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The best optical technologies implemented in these binoculars provide an impressive light transmission and resolution thus delivering brilliantly clear vision. They are waterproof and shockproof, meeting all applicable military standards. Binoculars are nitrogen filled and hermetically sealed to secure instant fog-free observation even when moved from warm to cold environment.

Light and compact, they are perfectly comparable with the most modern warfare equipment.

FEATURES:

- Lightweight metal body with rubber armour for sure grip and great durability
- Specially designed shockproof prism system
- Fully broadband multi-layer coating optics
- The image is flat fielded, distortion free, and equally sharp from center to edge
- Long eye relief
- Nitrogen filled

AN 7x50 M22

AN 10x50 M22

ACCESSORIES:

- Case
- Straps
- Manual
- Warranty card
- Lens cleaning cloth

SPECIFICATIONS	AN 7x50 M22	AN 10x50 M22
Magnification	**7x**	**10x**
Objective lens diameter	**50 mm**	**50 mm**
Prisms	**BAK4**	**BAK4**
Optics coating	**FMC**	**FMC**
Field of view	**7.5°**	**6.5°**
Apparent field of view	**53°**	**65°**
F.O.V. @1000 m	**131 m**	**114 m**
F.O.V. @1000 yd	**393 ft**	**341 ft**
Exit pupil diameter	**7.14 mm**	**5 mm**
Brightness index	**51**	**25**
Interpupillary adjustment distance	**56-74 mm**	**56-74 mm**
Eye relief	**23 mm**	**18.5 mm**
Focus	**5 m - infinity**	**6 m - infinity**
Waterproof	**Yes**	**Yes**
Shockproof	**Yes**	**Yes**
Drop test, height	**1.8 m**	**1.8 m**
M22 reticle	**Yes**	**Yes**
Operating temperature range	**–40°C ... +70°C**	**–40°C ... +70°C**
Dimensions	**204x203x75 mm**	**210x186x75 mm**
Weight	**1.150 kg**	**1.550 kg**

NEWCON™ OPTIK

Authorized Dealer:

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