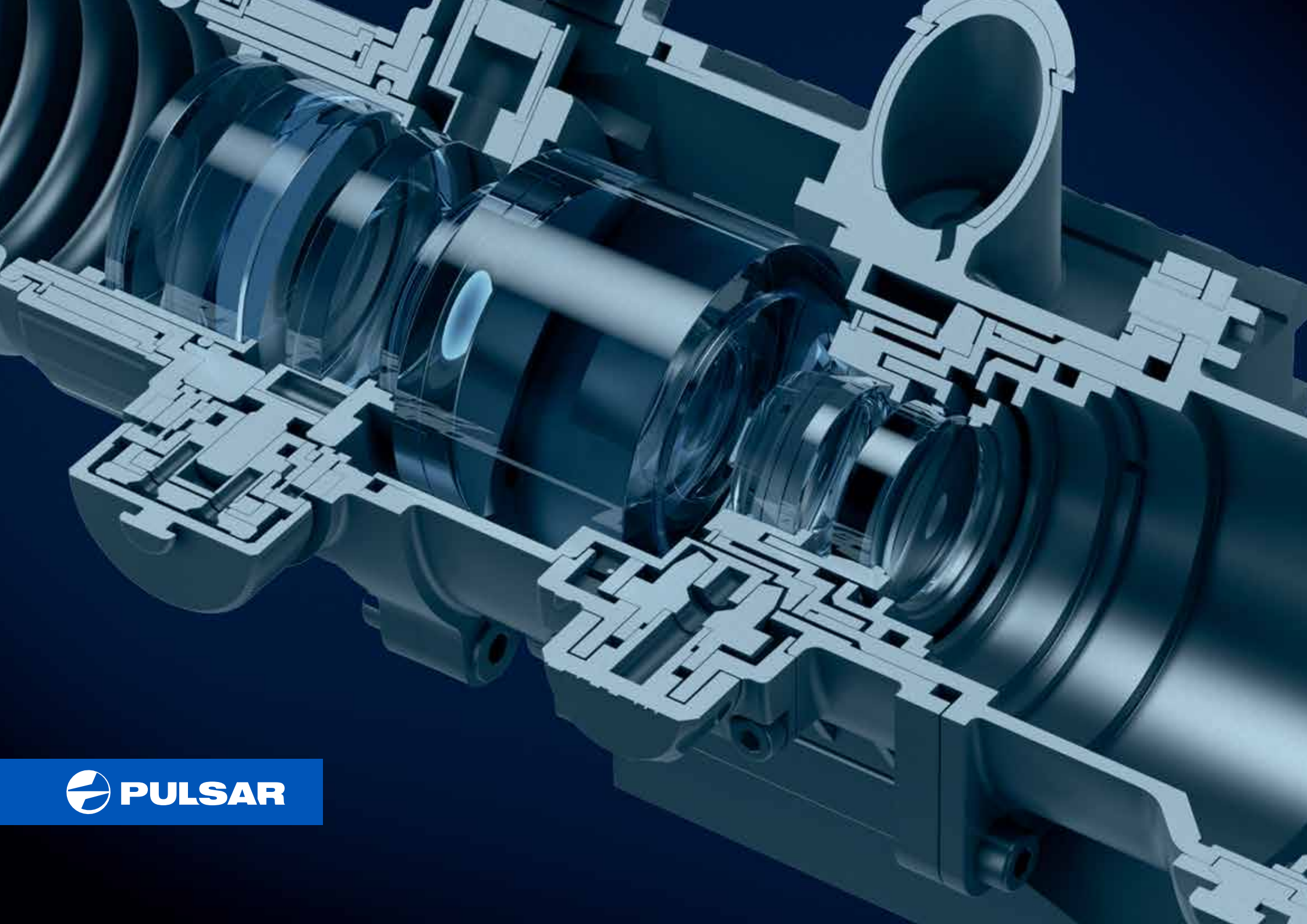
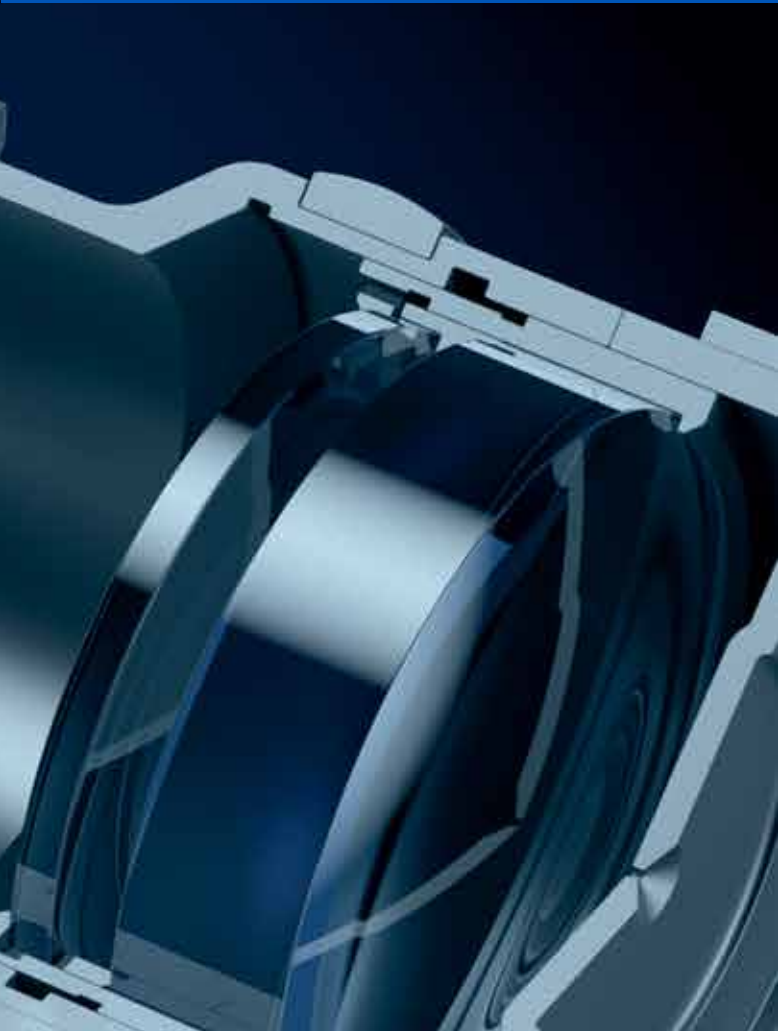




 **PULSAR**  
2014 CATALOG



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THERMAL IMAGING DEVICES

# QUANTUM

Quantum HD 38 | Quantum LD 38  
Quantum HSQ 19 | Quantum LSQ 19

- Long Viewing Range
- Germanium Lens with Internal Focusing
- Wide Range of Operation Temperature (-20...+50°C)
- Effective Operation in Fog or Smoke Conditions
- High Contrast Frost-resistant OLED Display
- Constant Image Quality Across the Entire Field of View
- User Sensor Calibration
- Brightness and Contrast Settings
- User Choice of Modes "White Hot"/ "Black Hot"

- Quick Start-up
- External Power Supply Availability
- Video Out (video Recording Capability)
- Weaver MIL-STD-1913 Rail to Install Accessories (Video Recorder, External Power Supply etc.)
- Partially rubberized nylon composite body
- Two ¼ Inch Sockets
- Lightweight and Compact Dimensions



# DESCRIPTION

## SUFFICIENT OPTICAL MAGNIFICATION

Optical magnification of the Quantum series units varies from 2x to 2.1x. Models Quantum HD38 and LD38 are additionally outfitted with two power digital zoom.

## CONTROLS

Main control functions (turning on and off the unit, sensor calibration, colour inversion/digital zoom) are activated with the buttons on the upper panel. The size and location of the buttons are customised for comfortable use both with a gloved or bare hand.

## QUICK START-UP

The Quantum is ready to operate in less than 10 seconds after it is turned on.

## EXTRA OPTIONS

The Quantum's menu includes brightness/contrast settings, running time setup and video output signal selection. All information on operation mode including battery level information is shown on a high contrast OLED display on the data panel under the image.

## VIDEO OUTPUT

All Quantum models are equipped with an analog video output to enable connection of external recording equipment or transmitting image to the display.

## WIDE RANGE OF OPERATION TEMPERATURES

Quantum monoculars are effective for the use in low temperatures (-20°C) thanks to the frost-resistant OLED display employed in the unit (image remains the same as when viewing at positive temperature of the surrounding atmosphere).



## SELF-CONTAINED POWER SUPPLY

The Quantum is powered with four AA (rechargeable) batteries. The batteries are stored in a container which is then placed in a battery compartment of the unit.

## EXTERNAL POWER SUPPLY

Operation time of the unit can be significantly increased thanks to the use of external power supplies (for example, Pulsar EPS3/EPS5) that can be connected with a special jack. When used in frosty weather, the power supply can be stored under the clothes.

## LED INDICATION

A LED indicator shows current operating status of the thermal imaging scope: the LED indicator means the unit is on; colour changes to red when battery level is low; after that the unit still keeps working for about 30 minutes before the batteries are completely exhausted.

## BODY

Partially rubberized nylon composite body featuring extra durability ensures secure grip of the unit.





DIGITAL NIGHT VISION RIFLESCOPES

# DIGISIGHT

Digisight N750 | Digisight N550  
Digisight N770

- Great Image Quality and Resolution
- Large Caliber Shockproof
- Built-in Eye-Safe Laser IR Illuminator with Three-Step Power Adjustment
- High Resolution OLED / LCD Display
- Long Eye Relief (67 mm)
- 1.5x Zoom
- Built-In & External Power Supply Options

- Wireless Remote Control
- Water- and Dust Resistant
- Additional Weaver MIL-STD-1913 Rail for Accessories
- Video Output
- Nylon Composite Housing



# DESCRIPTION



## **BUILT-IN LASER IR ILLUMINATOR**

The internal eye-safe laser IR illuminator three-step power adjustment provides artificial illumination that improves image quality under insufficient levels of natural illumination.

## **RETICLE INVERSION**

This feature switches the central point of the aiming reticle between red-on-gray and green-on-gray.

## **LONG EYE RELIEF**

The Digisight riflescopes feature a 67 mm eye relief – one of the best parameters in its class.

## **WIDE OPERATING TEMPERATURE RANGE**

Featuring a frost-resistant OLED display (Digisight N750 & N770 models), these digital night vision riflescopes can operate in normal mode at sub-zero temperatures. This provides fast response and crisp images when observing dynamic objects.

## **RIFLE MOUNT**

The mounting holes in the base of the riflescope enable the mount to be installed in one of multiple positions. This choice (depending on the rifle type, anthropometric data of a shooter, etc.) helps the user to ensure the most suitable position on a riflescope.

## **EXTERNAL POWER SUPPLY**

Operating time can be significantly extended by using high-capacity external power supply units attached to the Digisight via an external power jack. During continued use in freezing weather, the external power supply units can be stored under the clothes.

## **WIRELESS REMOTE CONTROL**

The Digisight N750 includes a wireless remote control, on-and-off and zoom functions.

## **VIDEO OUT**

The Digisight N750 is equipped with a jack, enabling connection of external video recording sources.

## **CONVENIENT DISPLAY OF SERVICE INFORMATION**

Information about operating status is displayed on a dedicated data panel; it is located in the lower portion of the screen and does not hinder observation.





DIGITAL NIGHT VISION FRONT ATTACHMENTS

# FORWARD

Forward DFA75

- Fast and Easy Conversion of a Day Optical Sight into a Night Vision Rifle Scope
- Quick and Easy Mounting and Adjustment
- Suitable for Use with the Majority of Daylight Sights with 42, 50 & 56 mm Lens Diameters
- Long Viewing Range
- Removable Eye-Safe Laser IR Illuminator
- High Resolution OLED Display
- Convertible into a 10x Hand-Held Digital NV Monocular

- Wide Range of Operating Temperature
- Various Image Set-Up Options (Brightness, Contrast Set-Up, Sensitivity Enhancement)
- Wireless Remote Control
- Self-Contained & External Power Supply Options
- Nylon Composite Housing
- Lightweight





# DESCRIPTION

## BUILT-IN LASER IR ILLUMINATOR

The Digital NV DFA is outfitted with a detachable Laser IR Illuminator complying with Class 1 laser safety. The DFA75 features a laser IR Illuminator operating in the covert IR range (915 nm), invisible to the unaided human eye.

## FORWARD AS NV ATTACHMENT

To install the Forward DFA onto the front optical bell of a day telescopic sight, specially designed mounting assemblies (bought separately) are used. The assemblies are the adapters with various diameters with a set of reducing rings (the rings can be used as necessary depending on the diameter of the optical bell). The adapter is permanently attached to the optical bell of a telescopic sight. This allows the Forward DFA attachment to be quickly installed in front of the lens for nighttime shooting. When the attachment is not used, the adapter accommodates a protective cap that covers the lens of an optical sight in the daytime.

## VIDEO OUTPUT

Enables real time video recording to external devices and transmitting video signal to a screen.

## WIRELESS REMOTE CONTROL

The wireless remote control allows basic operations to be fulfilled without resorting to standard controls.



## WIDE OPERATING TEMPERATURE RANGE

Ability to operate in normal mode at sub-zero temperatures is due to the use of a frost-resistant OLED display featuring fast response and provides crisp image when observing dynamic object.

## EXTERNAL POWER SUPPLY

Operating time can be significantly extended by using high-capacity external power supply units attached to the Forward via an external power jack. During continued use in freezing weather, the external power supply units can be stored under the clothes.

## EXTENDED FUNCTIONALITY

The main menu includes a number of functions such as: one shot zeroing, brightness, contrast and sensitivity set-up, clock setup, video output signal selection etc.





NIGHT VISION RIFLESCOPES

# PHANTOM

Phantom 3x50 MD | Phantom 4x60 MD

- Fine Image Quality and Resolution
- Multi-Reticle or Switchable Two-Color Mil-Dot Reticle Options
- 50 Cal. Ready
- Nitrogen Purged Optical Path
- Rugged and Water-Resistant to IPX6 Standard
- Stabilized Power Supply Unit
- Functions with One AA (1.5V) or CR123A (3V) Battery
- Low Battery Indicator

- Instant On Function
- Internal Focus Adjustment
- Ergonomic Design and Easy-to-Use Interface
- Remote Control with Secure Attachment
- Additional Weaver MIL-STD-1913 Rail for Accessories
- Manufacturing Employs Composite Plastic and Other Modern Technologies
- Flip-Up Objective Lens Cover

GEN 2+  
GEN 3

# DESCRIPTION

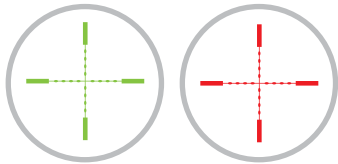


## NITROGEN PURGED OPTICAL PATH

The Phantom's housing is rugged and reliable due to its construction of high-grade, glass-filled, plastic composite. The unit can operate in any weather condition. Unique for Night Vision, its nitrogen-purged optical channel prevents fogging caused by temperature drops or high humidity.

## MIL-DOT RETICLE

The standard Phantom features a red-on-green reticle with brightness control. The Phantom MD features a selectable, two-color, red-on-green or green-on-red reticle MilDot reticle. Blinking reticle indicates that the battery should be placed be within the 15-30 minutes.



## REMOTE CONTROL

The included remote control has three buttons to duplicate the on-and-off function of the device and IR illuminator. The third button is intended for a quick start-up of the rifle scope and the IR illuminator works only when the button is kept pressed. This function is very convenient when constant observation is not required or you just want the IR on momentarily.

## BUILT-IN IR ILLUMINATOR

The Phantom has a powerful removable IR illuminator offering a variable beam from spot to flood.

## INTERNAL FOCUSING

The Phantom's focusing mechanism operates via a positive click-stopped focus wheel on the right side of the housing that allows focusing from 8m to infinity. The focusing provides clear images at extremely short distances, as well as optimizing quality at all distances within the rifle scope's effective working range.

## PROTECTIVE LENS CAP

A soft rubber cap with a pinhole for testing in daylight is securely attached to the housing of the Phantom 4x60 Gen 3 Rifle scope and protects the lens from water, scratches, and chips when the scope is not in use. When using the rifle scope, simply slide the lens cap back along the side of the housing.

## WEAVER 7/8" RAIL

The Phantom is equipped with a weaver 7/8" rail on the left side of the body, allowing for mounting of additional accessories (IR flashlight, DSAS, lasers, etc.).

## POWER SUPPLY

The Phantom can be powered with either a 1 AA (1.5V) or 1 CR123A lithium battery. The stabilized voltage of the power supply system ensures correct operation, even when the battery is nearly depleted and also prevents reticle brightness changes. Vertical positioning of the battery compartment enhances reliability of energy supply when recoil occurs during shooting.

## GLOW OF TUBE'S SCREEN

The Phantom (Gen.2+ models) are equipped with image intensifier tubes with various glow of the screen – regular green or black and white (model Phantom BW) with enhanced contrast.





NIGHT VISION RIFLESOPES

# SENTINEL

Sentinel GS 2x50

- Lightweight and Extremely Durable Titanium Body
- Switchable Two-Color Range Finding Reticle or Two-Color Mil-Dot Reticle options
- Variable Reticle Brightness Adjustment
- Built-In IR Illuminator with Focusable Beam
- Precision Internal Windage/Elevation Adjustment

- Vertical Positioning of the Battery Ensures Uninterrupted Power Supply when Shooting
- Low Battery Indicator in GS (CF-SUPER GEN) Models
- Stabilized Power Supply
- Weaver MIL-STD-1913 Accessory Rail
- Remote Control with Secure Attachment

**CF-SUPER**  
**GEN 2+**

# DESCRIPTION



## TWO - COLOR ULTRA-FINE RANGE-FINDING RETICLE

The Sentinel's reticle has a brightness control option and a range-finding scale to facilitate adjustment when shooting at different distances, provided the shooter knows the size of the target. Initially, the riflescope should be sighted at a known range (50m) on the central cross-hair. Distance is determined by placing a target with known width (specific value depends on riflescope's model) between the marks of the ranging chevrons. If the target fits between the marks, the user should make the vertical adjustment according to the mark. Thus, users can make adjustments when shooting at distances of 12, 25, 50 and 100m. The reticle color can also be switched at any time from green-on-green to red-on-green to optimize performance depending on the contrast of the target/surrounding vegetation.



## BUILT-IN IR ILLUMINATOR

The Sentinel is equipped with a powerful IR illuminator offering a variable beam from spot to flood.

## INTERNAL FOCUSING

The Sentinel's advanced optical system employs an internal focusing mechanism (from 5m to infinity) with definite click-stop focus positions. The focusing provides clear images at extremely short distances, as well as optimizing quality at all distances within the riflescope's working range.

## PROTECTIVE LENS CAP

The protective lens cap is securely attached to the body to prevent it being lost and can be slid back down the body when observing or shooting.

## WEAVER 7/8" RAIL

The Sentinel is equipped with a weaver 7/8" rail on the left side of the body, allowing for mounting of additional accessories (IR flashlight, DSAS, lasers, etc.).

## STABILIZED POWER SUPPLY UNIT

The stabilized voltage of the power supply prevents reticle shift and drop in reticle brightness and guarantees the tube's and IR-illuminator's proper operation, even when the batteries are nearly empty. The batteries are positioned vertically, which enhances reliability of energy supply when recoiling.

## REMOTE CONTROL

The remote control has 3 buttons to duplicate the "on/off" function of the device and IR illuminator. The third button is intended for a quick start-up of the riflescope and IR illuminator (the device works only when the button is kept pressed). This function is extremely convenient when constant observation is not required or the IR illuminator is on momentarily.





DIGITAL NIGHT VISION SCOPES

# RECON

Recon 750 | Recon 750R

- Sensitive CCD Array
- High Light Transmission Lens
- Video Output
- Built-In Video Recorder(R Models)
- Resistant to Bright Light Exposure
- Multi-Color Screen Selection
- Contrast Gain Function
- Built-In «Stealth» Laser IR Illuminator (Recon 770/770R Models)

780 nm

# DESCRIPTION

## CONTROLS AND BASIC FUNCTIONS

The Recon Digital Night Vision Monocular has a built-in IR illuminator, an on-and-off button, and a selection of display modes. The display color mode comes in a variety of colors which includes: black and white; black and white with increased contrast; green (simulates image in a tube-based night vision device); and red (helps the eyesight adapt to night conditions after using the night vision device). The screen brightness can be adjusted, to provide optimal imaging performance in various lighting.

## BUILT-IN IR ILLUMINATOR

Digital night vision scopes Recon are supplied with various IR Illuminators including laser IR Illuminators complying with Class 1 laser safety (including the "invisible" 915 nm and long range 780 nm model) as well as LED based 805 nm Illuminators.

## RECON R SERIES

The Recon R series is designed with a built-in recorder, enabling video recording and image capturing during observation. It is compact and easy to operate the video recorder's controls, which are designed specifically for nighttime operation. The Recon R series devices also have a motion function for video recording that starts automatically as soon as moving objects appear in the field-of-view.



## VIDEO OUT

The Recon is equipped with a jack that allows the user to connect to any external video recording source, as well as a TV set; which can be used for stationary viewing.

## MOUNTS

The Recon monoculars are equipped with an original mount fitting which combines a 1/4" tripod socket (to enable mounting on a tripod) and a Mil - STD 1913 weaver short rail to enable mounting different accessories including auxiliary IRs, sound amplification and other systems.





NIGHT VISION SCOPES

# CHALLENGER

Challenger G3 1x21 | Challenger GS 1x20 | Challenger GS 2.7x50  
Challenger GS 3.5x50 | Challenger GS 4.5x60

- Lightweight and Extremely Durable Compact Body
- Water and Dust Resistant
- Built-in IR Illuminator
- Flexible Carrying Case
- High Contrast Optics
- Dual Mounts & Tripod Socket
- Hand-Held & Hands-Free Use
- Single Switch Button Operation





# DESCRIPTION



## BUILT-IN IR ILLUMINATOR

The Challenger Night Vision Monoculars are equipped with built-in IR illuminators that vary in design:

- The devices without visual magnification (1x) and Challenger G2+ 2x42 are equipped with an energy-conserving wide-angled IR illuminator optimized for the head mount that can be used in lowlight (for map reading, use in dark, closed rooms).
- All other Challenger units feature a powerful IR illuminator for observation at insufficient levels of illumination at a distance above the average.

## CONTROLS

The Challenger operates with the help of a single switch, which activates the device and the built-in IR illuminator. The switch's design prevents the IR illuminator from accidental activation.

## MOUNT

Equipped with two diametrically-positioned tripod sockets, the Challenger can be fixed on the head mount for observation with the right and left eyes. The Challenger can also be mounted on a tripod with a 1/4" tripod socket.

## EYEPIECE

The device is outfitted with a new five-lens eyepiece that minimizes distortion on the edges of the field-of-view and increases sharpness and contrast of the image. A soft, rubber eyecup conceals the light emission from the tube, permitting a user to stay unnoticed.

## BODY

The Challenger's metal and plastic housing ensures extra durability and reliability. The Challenger is also protected against water and dust, which increases long-lasting operation.





NIGHT VISION BINOCULARS & GOGGLES

# EDGE

Edge GS 1x20 | Edge GS 2.7x50

- Lightweight and Compact
- CF-Super or Gen 2+ Tube Inside
- Multi-Coated Lenses
- High Resolution Through the Field of View
- Built-In Automatic Bright Source Protection
- Reinforced Fiberglass Body
- Built-In IR Illuminator with Variable Power
- Flexible Carrying Case
- Hand-Held & Hands-Free Use

CF-SUPER  
GEN 2+  
GEN 3

# DESCRIPTION

## BUILT-IN IR ILLUMINATOR

The Edge Night Vision Binoculars are equipped with built-in IR illuminators that has a gradual power control function:

-Devices without the visual magnification (1x) are equipped with an energy-conserving, wide-angled and short range IR illuminator optimized for the head mount which can be used in lowlight (for map reading and in dark closed rooms).

-The Edge GS 2.7x50 & 2.7x50 L Night Vision Binoculars feature more powerful IR illuminators (805 nm LED & 780 nm eye-safe laser respectively) for observation at insufficient levels of illumination at a distance above average.

## TUBE PROTECTION

The Edge GS series features an image intensifier tube protection system. In the event the luminance threshold level is exceeded, the current feed to the tube automatically is reduced or ceased. This allows the user to reach the highest tube performance.

## CONTROLS

The Edge Night Vision Binoculars are easy in operation. The device and IR illuminator operate by pressing buttons (ON and IR respectively) located on the upper surface of the body. Additionally, the Edge binoculars are equipped with a gradual IR illuminator power adjustment function. The wheel-shaped power control is located next to the IR illuminator activation button.

## WEAVER 7/8" RAIL

A weaver rail is fixed on top of the Edge GS 2.7x50 & 2.7x50L models. It is used to enable attachment to additional accessories like the IR Flashlights.



## HEAD MOUNT

The Compact Head Mount is designed for joint use with the Edge GS 1x20 or Edge G2+ 1x21 Night Vision Goggles. This allows for hands-free operation in partial and complete darkness. The Head Mount ensures stable positioning in front of the user's eyes, even while it is in fast motion (pacing, running, abrupt movements). There is minimal protrusion of the suspension point, which helps to reduce fatigue and the load that is placed on the operator's neck if it is used for a long period of time.

## BODY

The Edge's metal and plastic housing ensures extra durability and reliability. The Edge is also protected against water and dust, which increases long-lasting operation.





BINOCULARS

# EXPERT

Expert VMR 8x40 | Expert VM 8x40 Marine

- Progressive Porro II Prism Design
- Three Viewing Modes via Switchable Built-In Filters
- Nitrogen Purged Optical Channel
- Fully Encased Optical System Protected by Flat Exterior Lenses
- Ergonomic Eyepieces
- Exclusive Eclipse-M Lens Caps
- Durable Fiber Reinforced Composite Body

- Anti-Reflection Coating Based on True Color™ Vacuum Technology
- Noticeable Bright Yellow Inserts in the Binocular's Body (Marine Version)
- Protective Rubber Grip Pads (VMR Version)



# DESCRIPTION

## VIEWING MODES

The VM Marine Binoculars also boast switchable internal filters to enhance viewing experience. This feature is extremely helpful in foggy conditions or bright light. They work by polarizing the incoming light, cutting out some of the spectrum. Changing the viewing modes is as simple as moving a switch on the bottom of the binoculars.

Observation in Reflection Reduction Mode neutralizes or minimizes the dazzling effect of light bouncing back from non-metallic, highly reflective surfaces (water, snow, ice or glass) as well as may assist in observing through some of them (car windows).

Contrast Mode featuring the yellow light tint helps in twilight, haze or fog for enhancing the image with brighter and contrasting spectrum.



## DESIGN FEATURES

The Expert's solid, yet very light, glass-filled plastic body safely encases the internal moving parts. Nitrogen filling prevents lenses from fogging. With a water and dustproof, extra durable system, the Expert features a IP67 weather resistant rating (IEC 60259). Comfortable to use and carry, the Expert is surprisingly light and compact for the performance level it provides.

## FLAT LENSES

The first line of protection against extreme outside conditions – extra durable flat front lenses prevent the inner optics from scratches, dust and moisture.

## EYEPIECES

The Expert's adjustable eyepieces allow interpupillary movement, and its ergonomic eyecups maximize comfort and cut out extraneous light.



## LENS CAPS

The unit's Eclipse-M lens caps remain attached at all times, protecting the front optics from rain.

## EXPERT VMR 8x40

As compared to basic models, the Expert VMR 8x40 has a partially rubberized body.



## EXPERT VM MARINE

The distinctive feature of the binocular Expert VM 8x40 Marine is the yellow inserts of the lens caps and eyepiece areas. This special coloring makes the binoculars more visible.





LASER RANGEFINDING BINOCULARS

# EXPERT LRF

Expert LRF 8x40

- Supreme Light Transmission
- Realistic Colour Rendering
- Operation Possible in Freezing Conditions
- Wide Range of Symbols Brightness Settings
- Stable Position of Graphic Data in the Field of View
- Excellent Perception of On-Screen Symbols Under Any Conditions

- Single Measurement and Scan Modes (Meters/Yards)
- Low Power Consumption
- Low Battery Indicator
- Durable Fiber Reinforced Composite Body with Protective Rubber Grip Pads



# DESCRIPTION

## SELF-CONTAINED RANGEFINDER MODULE

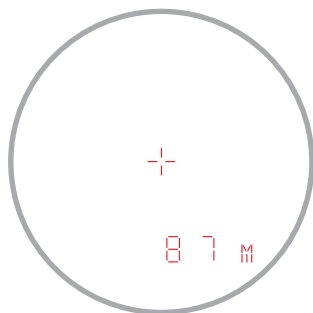
The emitter and receiver of the rangefinder module are located between the binocular's lenses separately from the optical channel and therefore does not impact high light transmission.

## HIGH TRANSMISSION FACTOR

The Expert LRF 8x40 Binocular features one of the best transmission factors among similar devices, ensuring a bright image, which can be seen especially well when conducting observation in cloudy weather--daytime or twilight. The patented on-screen data input system ensures the least amount of loss of light in the optical channel as compared to LCD-based display solutions.

## DISPLAYING INFORMATION

The reticle, letters and figures are displayed in the field-of-view as luminous red symbols. There are five gradual step adjustments that provide optimal brightness in any levels of illumination. The symbols can be seen clearly, both in the daytime and nighttime.



## REALISTIC COLOR RENDERING

The Expert LRF 8x40 Binocular ensures realistic color rendering of an image under observation. The unit also features noticeable cold blue tints in image rendering.



## OPERATION POSSIBLE AT EXTREME LOW TEMPERATURES

The Expert LRF 8x40 Binocular shows stable operation in freezing conditions (the unit was tested at a temperature of 30°C below zero multiple times). Unlike LCD-based display systems, other products show visible slowdown of imaging of graphic data in the field-of-view at below zero temperature.

## STABLE POSITION OF GRAPHIC DATA IN THE FIELD OF VIEW

The construction of the Expert LRF provides stable horizontal position of symbols in the field-of-view irrespectively of the mutual position of the eyepieces (interpupillary distance).

## ADVANCED IMAGE SHARPNESS

The image seen through the Expert LRF features high resolution (sharpness and ability to render image of small objects at large distances) in all zones of the field-of-view.

## LOW POWER CONSUMPTION

The Expert LRF 8x40 Binocular allows users to make up to 14,000 single measurements using one battery, which makes it one of the most effective units with a laser rangefinder in terms of energy consumption.



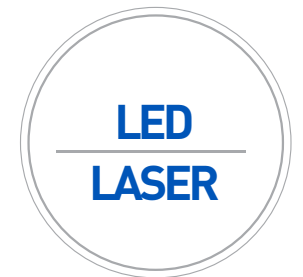


IR FLASHLIGHTS

# PULSAR

Pulsar L-808S | Pulsar L-915  
Pulsar - 805 | Pulsar - 940

- Increases Viewing Range in Extremely Dark Conditions
- Smooth Power Adjustment
- Variable Beam
- Adjustable IR Spot Position
- Attachment on Any NV Devices with a Weaver Rail or ¼ Inch Socket
- Laser Safety Class 1 – Eyesafe (Models L-808S / L-915)
- Low Battery Indicator
- Invisible to the Unaided Human Eye (915 & 940 nm Models)
- Compact and Lightweight





# DESCRIPTION

## FOCUSING

Pulsar's high-power IR flashlights include a variable beam that can be smoothly adjusted from narrow beam to flood. Unfocused beam illuminates larger areas; the narrow beam light ensures the longest possible viewing distance.

## IR SPOT POSITION

The design of Pulsar IR Flashlights allows spot position to be corrected in the field-of-view horizontally and vertically. To do this, loosen the ring fixing optical assembly, adjust the IR spot in the center of the field-of-the view (the night vision unit should be on) and tighten the ring again.

## POWER

Power is adjusted by rotating the wheel on the body next to the ON button. Adjustment of both power and the spot divergence angle helps achieve best illumination of an object in specific observation conditions.

## MOUNTING

Pulsar IR Flashlights are equipped with a weaver mount adaptable for a weaver rail on most modern night vision riflescopes and optical units, as well as hunting or sports and pneumatic weapons. The package also includes an adapter that allows flashlights to be attached to night vision units outfitted with a 1/4" tripod mount.

## INDICATION

When the IR Flashlight is on, the LED indicator located next to the battery container lights up. When the batteries are low, the indicator changes a color, the latter depending on the IR flashlight's model.



### Pulsar - 805 IR Flashlight

Featuring a weaver rail mountable to fit all Pulsar designs, the 805 IR Flashlight is equipped with focusable beam, adjustable collimation and smooth brightness control. Powered by 2AA batteries, it does not drain the internal power storage of a night vision device.

### Pulsar L-808S Laser IR Flashlight

The L-808S is the first in Pulsar's laser IR flashlight line to feature a Class 1 Laser Safety rating, while remaining one of the most powerful IR flashlights on the commercial market today. Though compact and lightweight (weighing less than half a pound), the Pulsar L-808S Laser IR Flashlight packs a punch. With a power emission of 125-250 mW and an IR wavelength of 780 nm, the L-808S provides greater viewing distance and brightness when attached on any night vision device with a 7/8 weaver rail or a 1/4" socket.

### Pulsar - 940 IR Flashlight

### Pulsar L-915 Laser IR Flashlight

The L-915 Laser IR Flashlight is invisible by the unaided eye and virtually undetectable from any distance, allowing users to easily enter or evacuate a situation unnoticed where stealth operation is vital.





#79102 **50 mm Weather Guard**

#79103 **60 mm Weather Guard**

The Weather Guard, attached in front of the objective lens of the Phantom or Sentinel Night Vision Riflescopes, will protect the objective lens against atmospheric precipitation (rain or snow).



#79096 **NV50 1.5x Lens Converter**

#79097 **NV60 1.5x Lens Converter**

Fast aperture afocal attachments fixed in front of the lens that increase magnification of Pulsar Night Vision Riflescopes (including Phantom, Sentinel GS/G2+) 1.5 times retaining image quality.



#79041 **Challenger GS 1x20 DOS Adapter**

#79042 **Challenger G2+ 1x21 DOS Adapter**

Combined with the Challenger GS 1x20 / Challenger G2+ 1x21 NV monocular adapters allow use of soft air guns with a day optical rifle scope for night shooting. The reticle of the rifle scope is perfect for aiming. The adapters come equipped with reducing rings to affix the night vision device onto day rifle scope and provides the benefit of various eyepiece diameters. To increase brightness of the image and range of shooting, additional Pulsar IR Flashlight can also be affixed on the adapter.



#79092 **Challenger GS 1x20 2x Lens Converter**

Afocal lens converter increasing the magnification of the Challenger GS 1x20 2 times.



#79111 **EPS3 Battery Pack**

#79112 **EPS5 Battery Pack**

External power supplies are designed for the use with digital units, night vision riflescopes and thermal imaging monoculars. They feature greater capacity as compared to regular batteries, which increases operation time of digital night vision units and thermal imaging monoculars several times. The EPS3 (2.4Ah) has a rigged plastic case and can be installed on any devices outfitted with a weaver rail or ¼ tripod mount. The EPS5 (5Ah) is outfitted with a 1 meter cable, which allows it to operate in freezing conditions and will prolong operation time (EPS3 unit is supplied with an extension cable).



#79032 **NV Compact Head Mount**

The NV Compact Head Mount is designed for joint use with the Challenger G2+ 1x21 night vision devices, Challenger GS 1x20 or other night vision devices with a similar bracket. This allows hands-free operation of the night vision device in partial and complete darkness. The Head Mount ensures stable positioning of a night vision device in front of the user's eyes, even while in fast motion (pacing, running, abrupt movements). The Head Mount is simple and convenient to use. Minimal protrusion of the suspension point reduces fatigue and load on the user's neck if operated for long periods of time. The Head Mount can also be paired with a camouflage cover. Combined with a night vision device, the NV Compact Head Mount is ideal for high-tech ranger games, night hiking etc.



#71011 **Pulsar 10x32 Monocular**

The Pulsar DFA 10x32 Monocular Attachment is designed to be mounted on the Pulsar Forward DFA Night Vision Attachment. This device converts the DFA75 into a 10x32 monocular. The combination of the monocular and the DFA75 creates a powerful 10x, high resolution device for observation in all lighting conditions.



#79048 **Digisight Los/Dovetail Rifle Mount**

Mounts for the Digisight riflescopes.



#79121 **42 mm Cover Ring Adapter**

#79122 **50 mm Cover Ring Adapter**

#79123 **56 mm Cover Ring Adapter**

The Cover Ring Adapters are designed to mount the Forward DFA on the bell of an optical sight in the nighttime. The Adapters have various mounting diameters with reducing rings. When the Forward DFA is not used, a cover (included) is attached to the adapter to protect lens of a daylight sight.

# SPECIFICATIONS

## DIGISIGHT

	MODEL	PL76312	PL76316	PL76315
Product name		<b>Digisight N750</b>	<b>Digisight N550</b>	<b>Digisight N770</b>
Generation		Digital	Digital	Digital
Magnification, x		4.5	4.5	4.5
Digital zoom, x		1.5	-	1.5
Objective lens		F50, 1.0	F50, 1.0	F50, 1.0
Field of view, angular degrees		5	5.5	5
Eye relief, mm		67	67	67
Built-In IR Flashlight, type		Laser	LED	Laser
Wavelength of Built-In IR Flashlights, nm		780	810	915
Resolution, lines per mm		55	50	55
Max. detection range, m **		600	450	450
Operating voltage, V / Battery type		3.7 ... 6 / 4xAA	3.7 ... 6 / 4xAA	3.7 ... 6 / 4xAA
External power supply, V / Consumption power, W		DC 9 ... 15 / 3	DC 9 ... 15 / 3	DC 9 ... 15 / 3
Operating temperature, °C		-20 ... +50	-10 ... +35	-20 ... +50
Dimensions, mm		340x95x94	340x95x94	340x95x94

## PHANTOM

	MODEL	—
MIL-DOT MODEL	PL76158BWT	
Product name		<b>Phantom</b>
Image Tube Type		4x60 BW
Generation		EPM66G-2-U-WPT
Magnification, x		2+
Objective lens diameter, mm		4
Field of view, angular degrees		60
Eye relief distance, mm		9
Resolution, lines/mm, min.		50
Max. detection range, m **		45
Diopter setting, D		700
Close-up range, m		± 3.5
Screen glow (luminophor)		8
Water intrusion rating (IEC 60529)		black&white
Dimensions, mm		IPX6
Weight without the mount, kg		320x95x103
		1

## CHALLENGER & EDGE NIGHT VISION

	MODEL	—	PL74096	PL74097	PL74098	—	PL75096
HEAD MOUNT KIT MODEL	PL74095	—	—	—	—	PL75095	—
Product name		<b>Challenger</b>	<b>Challenger</b>	<b>Challenger</b>	<b>Challenger</b>	<b>Edge</b>	<b>Edge</b>
Image tube type		<b>GS 1x20</b>	<b>GS 2.7x50</b>	<b>GS 3.5x50</b>	<b>GS 4.5x60</b>	<b>GS 1x20</b>	<b>GS 2.7x50</b>
Generation		EP33-SF-U	EP33-SF-U	EP33-SF-U	EP33-SF-U	EP33-SF-U	EP33-SF-U
Magnification, x		CF-Super	CF-Super	CF-Super	CF-Super	CF-Super	CF-Super
Objective lens, mm		1	2.7	3.5	4.5	1	2.7
Resolution, lines per mm		20	50	50	60	20	50
Angular field of view, degree		42	42	42	42	42	42
IR Illuminator		36	13	11	9	36	13
Max. detection range, m **		LED 805 nm	LED 805 nm	LED 805 nm	LED 805 nm	LED 805 nm	LED 805 nm
Min. focusing distance, m		90	150	170	200	90	150
Eyepiece adjustment, diopter		1	1.8	2	3.2	1	5
Eye relief, mm		±4	±4	±4	±4	±4	±4
Operating voltage, V		12	12	12	15	12	12
Operating temperature, °C		3 [CR123A]	3 [CR123A]	3 [CR123A]	3 [CR123A]	3 [2xAAA]	3 [2xAAA]
Degree of protection (IEC 60529)		-20 ... +40	-20 ... +40	-20 ... +40	-20 ... +40	-20 ... +40	-20 ... +40
Dimensions, mm		IP65	IP65	IP65	IP46	-	-
Weight of the unit, kg		163x79x57	202x79x57	234x79x57	255x108x75	163x113x60	203x122x65
Weight of the head mount, kg		0.3	0.5	0.5	0.7	0.65	0.85
		0.2	-	-	-	0.2	-

## FORWARD DFA / DN

	MODEL	PL78114
Product name		<b>Forward DFA75</b>
Generation		Digital
Magnification, x:		1
- of the digital module		10
- when used with Pulsar 10x32 Monocular		F50, 1.0
Objective lens		50
Resolution, lines per mm		Laser / 915
Built-In IR Flashlight, type / wavelength, nm		3.7 ... 6 (4*AA)
Operating voltage, V		DC 9 ... 15 / 3
External power supply, V / Consumption power, W		-20 ... +50
Operating Temperature, °C		no
Pulsar 10x32 Monocular (#71011) Included		

## SENTINEL

	MODEL	PL76017T
MIL-DOT MODEL	—	—
Product name		<b>Sentinel</b>
Image Tube Type		<b>GS 2x50</b>
Generation		EP33-SF-U
Magnification, x		CF-Super I+
Objective lens diameter, mm		2
Field of view, °, at eye relief 50 mm		50
Focusing Range, m		13.5
Max. Detection Range, m **		5 ... inf.
Eye relief, mm		150
Diopter Adjustment, D		45
Resolution in the central part, lpm, min.		±3.5
Power Supply, V		42
Grade of water-resistance (IEC 60529)		3V (2xAA)
Dimensions, mm		IPX4
		256x90x100

## QUANTUM

MODEL	PL77301	PL77302	PL77309	PL77310
Product name	<b>Quantum HD38</b>	<b>Quantum LD38</b>	<b>Quantum HSQ19</b>	<b>Quantum LSQ19</b>
Type of microbolometer	UL 03 16 2 (α-Si)	UL 03 16 2 (α-Si)	UL 02 15 2 (α-Si)	UL 02 15 2 (α-Si)
Resolution of microbolometer sensor, pixel	384x288	384x288	160x120	160x120
Refresh rate, Hz	30	9	30	9
Spectral range, μm	7.7...13.2	7.7... 13.2	8.3 ...13.6	8.3 ...13.6
Magnification, x	2.1	2.1	2	2
Digital zoom, x	2	2	-	-
Range of detection	900	900	450	450
Display type	OLED WVGA	OLED WVGA	OLED WVGA	OLED WVGA
Display resolution, pixel	640x480	640x480	640x480	640x480
Field of view, HxV, degree	14.4x10.8	14.4x10.8	12x9	12x9
Eyepiece adjustment, dpnr	±5	±5	±5	±5
Power supply	4 ... 6 V / 4xAA	4 ... 6 V / 4xAA	4 ... 6 V / 4xAA	4 ... 6 V / 4xAA
External power supply	8.4 ... 16 V	8.4 ... 16 V	8.4 ... 16 V	8.4 ... 16 V
Video output signal	PAL / NTSC	PAL / NTSC	PAL / NTSC	PAL / NTSC
Operating temperature, °C	-20 ... +50	-20 ... +50	-20 ... +50	-20 ... +50
Dimensions, mm	200x86x59	200x86x59	177x86x58	177x86x58
Weight with batteries, kg	0.56	0.56	0.48	0.48

## RECON

MODEL	PL78023	PL78033
Product name	<b>Recon 750</b>	<b>Recon 750R</b>
Generation	Digital	Digital
Magnification, x	4	4
Objective Lens	50 mm, F/1.0	50 mm, F/1.0
Viewing Range, m**	3 ... 350	3 ... 350
Resolution, lines per mm	40	40
Built-In IR Illuminator, type	laser	laser
Wavelength of the Built-In IR Illuminator, nm	780	780
Power Supply, V	4.5 ... 6.5	4.5 ... 6.5
Battery Type	4xAA	4xAA
Video Output Signal	CCIR / EIA	CCIR / EIA
Camera res, pixel (CCIR/EIA)	500x582 / 510x492	500x582 / 510x492
Built-In Video Recorder	No	Yes
Operating Temperature, °C	-10 ... +45	-10 ... +45
Dimensions, mm	176x83x62	176x83x62
Weight, kg	0.4	0.42

## EXPERT VM/VMR

MODEL	PL72085	PL72091
Product name	<b>Expert VMR 8x40</b>	<b>Expert VMR 8x40 Marine</b>
Objective Lens Diameter, mm	40	40
Magnification, x	8	8
Eye Relief, mm	15.0	15.0
Exit Pupil, mm	5.0	5.0
Field of View, degree	8	8
Eyepiece Diopter Adjustment, diopter	±3.5	±3.5
Minimal Focusing Distance, m	5	5
Level of Protection, acc. to IEC 60529 Standard	IP67	IP67
Tripod Mount, inch	¼	¼
Dimensions, mm	200x136x80	200x136x80
Extra Viewing Modes Available	Yes	Yes
Body color	Green	Black&Yellow
Rubber armouring	Yes	No

## EXPERT LRF

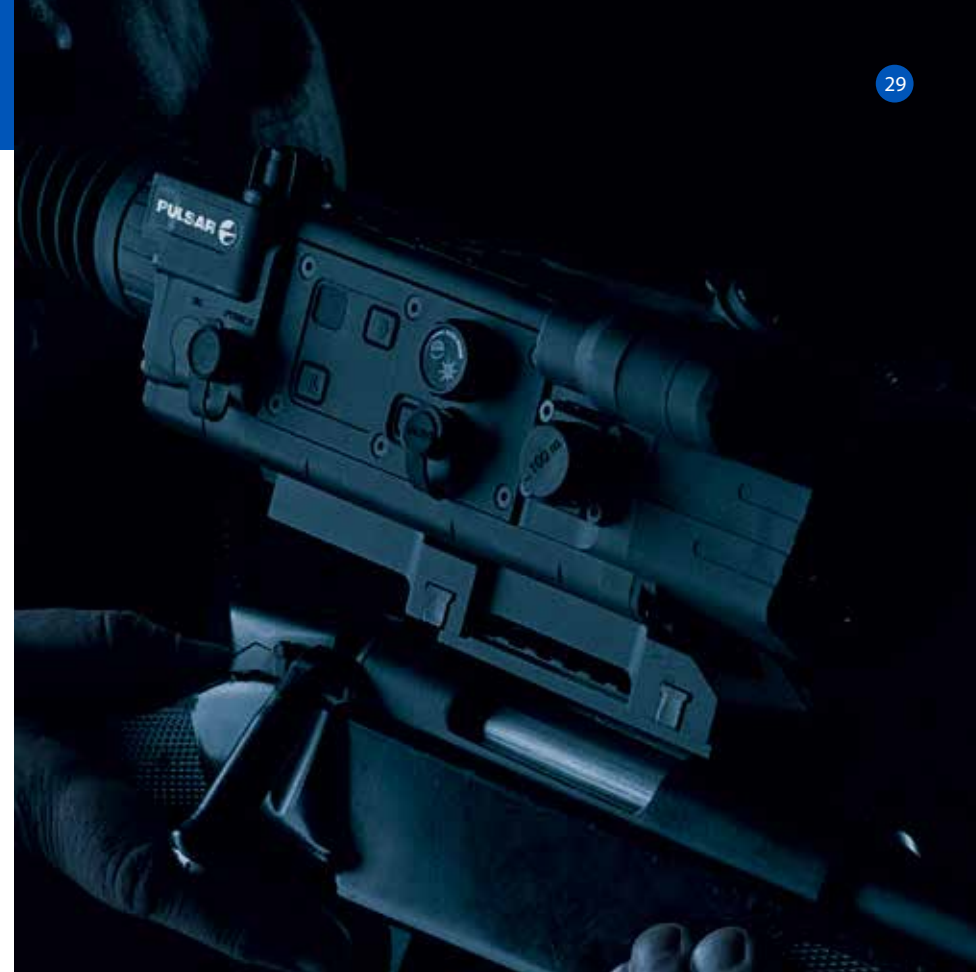
MODEL	PL77071
Product name	<b>Expert LRF 8x40</b>
Objective Lens Diameter, mm	40
Magnification, x	8
Eye Relief, mm	18
Exit Pupil, mm	5.0
Field of View, degree	6.5
Eyepiece Diopter Adjustment, diopter	±5
Measurement range, m	1000
Accuracy of range measurement, m	±1
Power supply / Battery	3V / CR123A
Battery Life, activations, at least	3000
Operating Temperature, °C	-30 ... +45
Level of Protection, acc. to IEC 60529 Standard	IPX4
Dimensions, mm	200x144x80
Weight, kg	0.94

## IR FLASHLIGHTS

MODEL	PL79071	PL79076	PL79072	PL79075
Product name	<b>Pulsar 805</b>	<b>Pulsar 940</b>	<b>Pulsar L-808S</b>	<b>Pulsar L-915</b>
Emitter	LED	LED	Laser Diode	Laser Diode
Range of power adjustment (min ... max), mW	30 ... 200	30 ... 200	125 ... 250	125 ... 250
Wavelength, nm	805	940	780	915
Range of beam divergence, degree	5.7 ... 10	5.7 ... 10	4.5 ... 7	4.5 ... 7
Power supply, V	3 (2xAA)	3 (2xAA)	3 (2xAA)	3 (2xAA)
Average operation time with one set of batteries, hour	2	2	14	5
Operating temperature, °C	-20 ... +40	-20 ... +40	-20 ... +40	-20 ... +40
Dimensions, mm	132x45x52	132x45x52	140x45x52	140x45x52
Weight (without/with batteries), g	140/190	140/190	160/210	160/210
Compatibility	All NV Devices	Digital NV	All NV Devices	Digital NV

\* - the devices use these or similar tubes

\*\* - object 1.7x0.5 m, in normal nighttime conditions - 0.05 lux (quarter moon)





**Standard Gen 1**

**CF-Super**

## CF-SUPER

### CF-SUPER. WHAT IS IT?

The technology is based on the use of the image intensifier tube CF-Super/ EP33SF- U (with a sphere shaped photocathode) and specially designed optics.

### WHAT ARE THE ADVANTAGES?

**There are several:**

#### **Lack of Distortion:**

The image does not have distortion at the edge of the field-of-view, which is inherent in low-cost night vision devices using standard GEN 1 tubes. The image is in focus both in the central and peripheral areas.

#### **High Resolution:**

On average, the CF-SUPER tube features a 20% higher resolution than in the Gen. 1 units.

#### **Constant Image Quality Across the Field-of-View:**

CF-Super's resolution is notable for its consistency. While there is no peripheral focus that is available in the Gen 1 units. The resolution difference between the center/edge does not exceed 20%.

#### **Effective Field-of-View- Image is in Focus Across the Whole Imaging Area:**

The CF-Super based night vision devices have a high resolution and geometric image precision allowing for effective observation of an object located in any part of the unit's field-of-view. While there is not an image focus towards the periphery, the majority of Gen. 1 devices have a decent image quality located in the center of the imaging area.

Pulsar branded Night Vision Devices are based on the CF-Super technology that have a "GS" included in their names. Yukon Advanced Optics Worldwide have exclusive rights for the use of CF-Super technology. It is only available in Yukon and Pulsar branded products. The development is patent- protected.

# OUR TECHNOLOGIES

## LASER TECHNOLOGIES

Most of the new Yukon night vision devices are equipped with built-in laser IR Illuminators. The device is comparable to the IR Illuminators that uses LED diode. Additionally, laser illuminators are more effective because it provides a greater viewing range and a quality IR spot resulting in less-power consumption. Laser IR Illuminators generate a round, user-convenient spot in the field-of-view.

All of the Pulsar IR Illuminators comply with Class 1 laser safety according to the standard IEC 60825. The Class 1 includes lasers and laser systems, which are not able to produce radiation level that is considered hazardous to the human eye. Even in prolonged direct observation, Class 1 radiation is harmless to the eye. This means that Pulsar IR Illuminators can be safely used with optical observation device. The design of Pulsar Laser IR Illuminators is patented by Yukon Advanced Optics Worldwide.

## GENERATION DIGITAL

The employment of digital technologies is one of the top priorities of Yukon Advanced Optics Worldwide development of the Night Vision Devices. Our company has great experience in designing, manufacturing night vision devices and a number of patented solutions in this product segment.

In regards to the general image quality and digital night vision devices; regardless of their class, all are rapidly getting closer to the Gen. 2+ tube-based equipment. Additionally, all of the digital devices possesses unbeatable advantages and extended functionality, which lets them find application not only in the hunting market but also in the law enforcement market.

Some of the advantages are:

**Protection Against Bright Light Sources:**

Digital night vision devices can be readily turned on in daylight without the fear of damage.

**Long-Life Performance:**

The average life of a CCD array is 25,000 hours, which is 2-25 times longer than that of a standard image intensifier.

**Signal Reception and Transmission:**

Digital night vision devices are best suited for image recording on an integrated or external recording equipment without having to resort to photo adapters; image transmission to monitor; or outer video signal input.

**Effective Use with "Invisible" IR Illuminators:**

As opposed to tube-based devices, the digital vision equipment features advanced efficiency when used in conjunction with IR Illuminators working in long wave range (more than 900 nm) invisible to the naked eye.

Pulsar is continuously working on improving our digital devices including reducing power consumption, increasing sensitivity and widening the working temperature range.

## ON-SCREEN DATA INPUT SYSTEM

The Expert LRF 8x40 Binocular with a built-in rangefinder is the first Pulsar device using a special patented on-screen data input system. As opposed to traditional solutions (using large amount of optical components, complex adjustment methods and heavy loss of light etc.), our system is notable for being simple yet effective.

**Major advantages includes:**

- High light transmission ratio
- Compact size
- Suitable for operation in low temperatures
- Contrast and bright symbols
- Capability of input of various colors at the same time





[www.pulsarnv.com](http://www.pulsarnv.com)

