



**CATALOG**  
2016





**PULSAR**  
IMAGE.QUALITY

# CATALOG 2016

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# QUANTUM

XQ19 / XQ38 / XQ50

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TECHNOLOGY



	Magnification	Distance	Field of view
XQ19	1.6x ■ 6.4x	■ 775 yds	■ 19.5°
XQ38	3.1x ■ 12.4x	■ 1475 yds	■ 9.8°
XQ50	4.1x ■ 16.4x	■ 1970 yds ■ 7.5°	



### ⚡ Long viewing range

Actual range of detection of a human figure in the field (human has outerwear, in the field against the background of the forest) for the Quantum varies from 515 to 1870 yds, depending on the model.

### ⚡ Rangefinding reticle

Quantum has a stadiametric rangefinder performed in the shape of rangefinding reticle which enables distance measuring to observed objects with known height (deer - 1,7m; boar - 0,7m; hare - 0,3m) with a sufficient precision.

### ⚡ Wide range of operation temperatures

Quantum imaging scopes are effective for the use in low temperatures (-13°F) 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).

\* - 77331, 77332, 77333 models

### ⚡ Color palettes

Quantum XD/XQ offers a choice of 6 color palettes for captured by objective lens image, monochrome (usual "hot white", "hot black") and color highlighting the hottest and coldest areas with different colors.



### High image frequency

Due to the high image frequency (50 Hz) it is comfortable to use thermal camera dynamically (during rapid moving of observer or object of observation).

### ⚡ Display off

When it is necessary to temporarily stop observation the user can apply DISPLAY OFF function. It provides the necessary level of camouflage (no light from the eyepiece of the device) between observation sessions as well as the fast restart of observation (when display is turned off, all other systems are working; for normal operation it is enough just to power on the display again). Function is not available in 77326 model.





## ⚡ Video output

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

## ⚡ Calibration

The Quantum offers three calibration modes: silent manual mode ("M"), automatic ("A") and semiautomatic ("H"). The "A" mode implies calibration without user participation (process initiation (actuation of the shutter) takes place automatically). In the "H" mode the user decides on his own if calibration is required based on the image quality. Button "Cal" is pressed in this mode. Manual calibration ("M") is carried out by pressing the button when the lens cap is closed. The "M" mode is recommended for hunting due to silent operation.

## ⚡ User interface

Actual information about the status of the thermal imaging device, depicted in the form of blue icons and numbers, is located on the data panel in the lower portion of the screen, and does not interfere with the image observed. When switching between various functions (digital zoom, color inversion, brightness/contrast settings), the respective large sized icon appears in the right upper portion of the screen.

## ⚡ Self-contained power supply

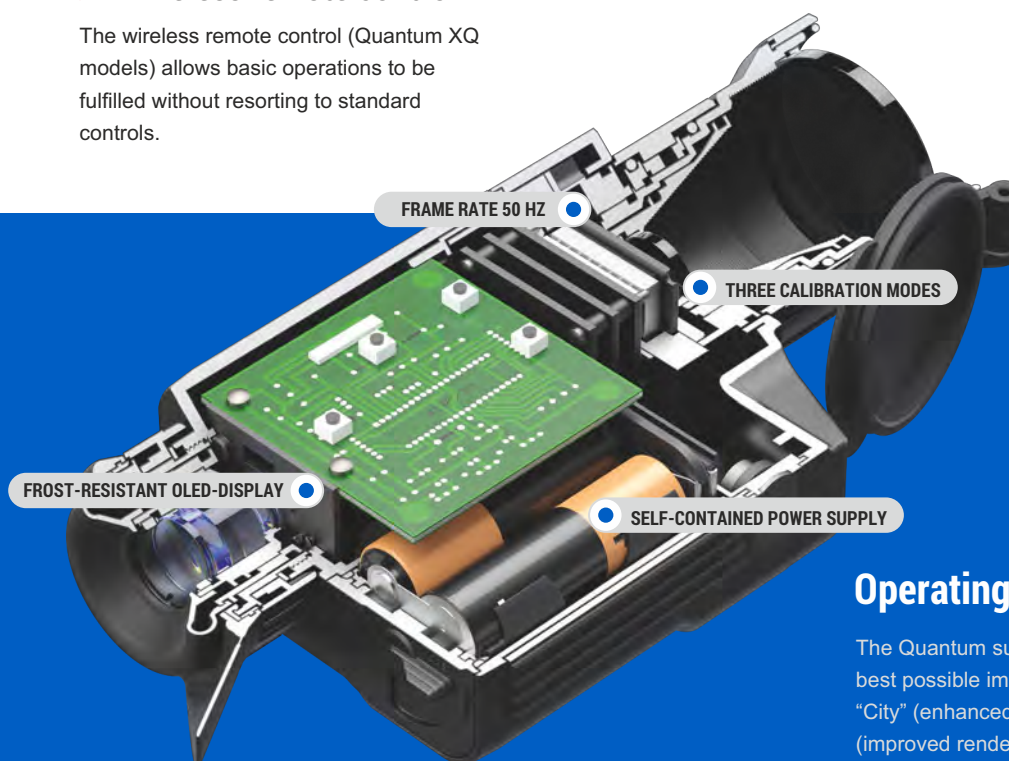
The Quantum is powered with four AA (rechargeable) batteries. The batteries are stored in a container which is then placed in a battery compartment of the unit.

## ⚡ Wireless remote control

The wireless remote control (Quantum XQ models) allows basic operations to be fulfilled without resorting to standard controls.

## ⚡ Power saving mode

Disabling the video output module in the Quantum series thermal scopes increases self-contained operating time on a set of batteries or external power supply.



## External power supply

Unit's operating time can be significantly increased thanks to the use of external power supplies (for example, Pulsar EPS3I/EP5) that can be connected with a special jack. When used in frosty weather, the power supply can be stored under the clothes.

## Operating modes

The Quantum suggests three operating modes, each designed to deliver best possible image in specific viewing conditions. The modes are as follows: "City" (enhanced contrast), "Forest" (low contrast) and "Identification" (improved rendering of hot objects' details).

SKU	77331	77332	77333	77318	77319	77329	77326
Model	XQ19	XQ38	XQ50	XD19A	XD38A	XD50A	LD19A
Objective lens	F19/1.2	F38/1.2	F50/1.2	F19/1.2	F38/1.2	F50/1.2	F19/1.2
Microbolometer, resolution, pixels @ pixel pitch, μ	384x288 @ 17	384x288 @ 17	384x288 @ 17	384x288 @ 25	384x288 @ 25	384x288 @ 25	384x288 @ 25
Frame rate, Hz	50	50	50	50	50	50	9
Magnification, x	1.6 – 6.4	3.1 – 12.4	4.1 – 16.4	1 – 4	2 – 8	2.5 – 10	1 – 2
Field of view,°, horizontal & vertical (without zoom)	19.5x14.7	9.8x7.4	7.5x5.6	26.8x20.8	14.2x10.8	11x8.3	26.8x20.8
Range of detection, yds	775	1475	1970	515	1005	1200	515
Dimensions, inch	7x3.4x2.3	7.9x3.4x2.3	8.1x3.4x2.3	7x3.4x2.3	7.9x3.4x2.3	8.1x3.4x2.3	7x3.4x2.3
Weight (without batteries), oz	11.3	12.3	15.2	11.3	12.3	15.2	11.3

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# APEX

XD38 / XD50 / XD75

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	Magnification	Distance	Field of view
<b>XD38A</b>	1.5x  6x	 1040 yds	 14.4°
<b>XD50A</b>	2x  8x	 1370 yds	 11°
<b>XD75A</b>	3x  12x	 1750 yds	 7.2°

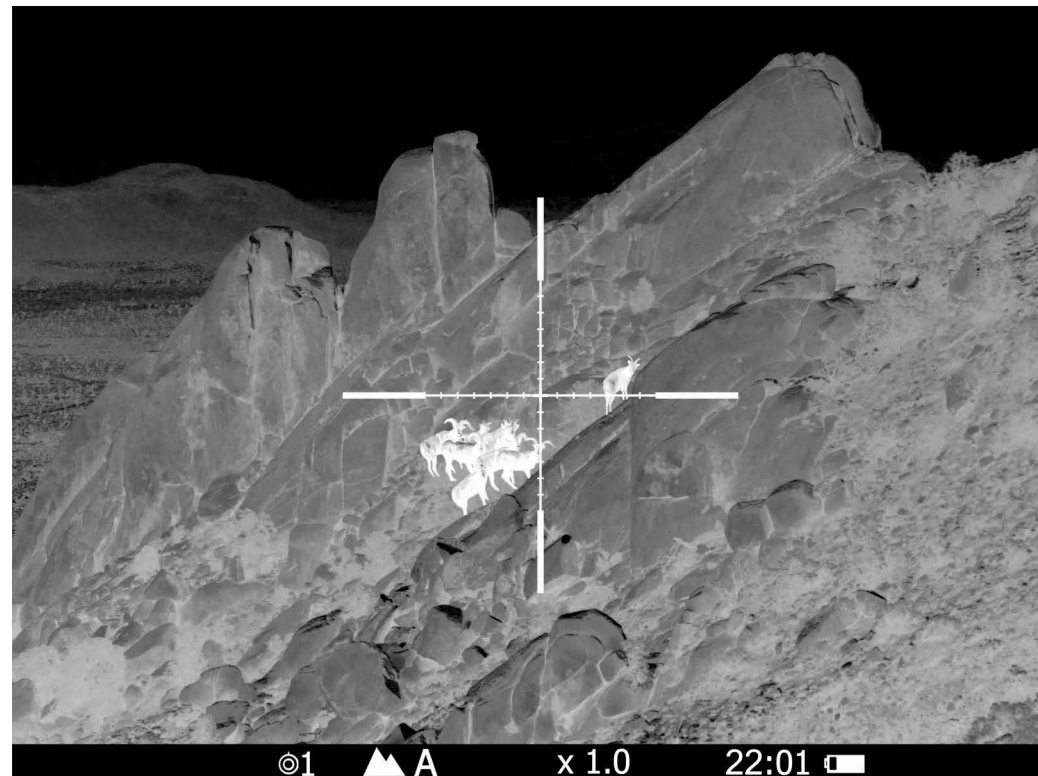


### ⚡ “Picture-in-Picture” function

“Picture-in-Picture” function provides shooter with a possibility to display an additional image region on the screen which contains 2x magnified image of a target and reticle. This allows seeing image in the aiming area in a more detailed way. Additional region (precise aiming frame) is situated in the top center part of the screen above the reticle. Occupying merely 1/10 of the total screen area additional image region allows simultaneous use of total field of view for observation.

### ⚡ Zeroing with «Freeze» function

Standard for Pulsar digital riflescopes “one shot zeroing” in Apex models is complemented by an even more convenient zeroing function - “Freeze”: after making a zeroing shot it is enough to save a frame of a target in the memory of the riflescope and align reticle with point of impact looking at this frame without the necessity of keeping full immobility of a weapon.



### ⚡ Selectable reticles

A reticle is electronically displayed on the screen and is permanently located in the plane of target image. The Apex internal memory contains 10 reticles of various shapes and applications.



### More than 1000 yards target detection

Depending on the model Apex riflescopes provide hunting game detection (wild boar, moose, deer, or bear) at distances of 1000 yards and more. Apex riflescopes employ a new technology of programmed improvement of object detection IRIS (Increased Recognition and Detection Software).

### ⚡ 3 types of zeroing parameters memorization

The software allows the user to save in riflescope's memory three points of impact for three various distances (types of weapon or cartridges), and each option allows the use of a dedicated reticle.





## ⚡ Display Off function

Apex has display shut down function which has to be used in the cases of short breaks during the process of observation for preventing disclosure of the shooter by the light from the eyepiece. When display is turned off all other systems are fully functional which allows instantaneous activation of the riflescope.

## ⚡ Operating modes

The Apex offers three operating modes, each designed to deliver the best possible image in specific viewing conditions: "Rocks" (enhanced contrast), "Forest" (low contrast) and "Identification" (improved rendering of hot objects' details).

## ⚡ External power supply

Operation time can be significantly increased with the help of external power supplies (e.g., Pulsar EPS3, EPS3I, EPS5). When used in frosty weather, the power supply can be stored under the clothes.

## ⚡ Video out

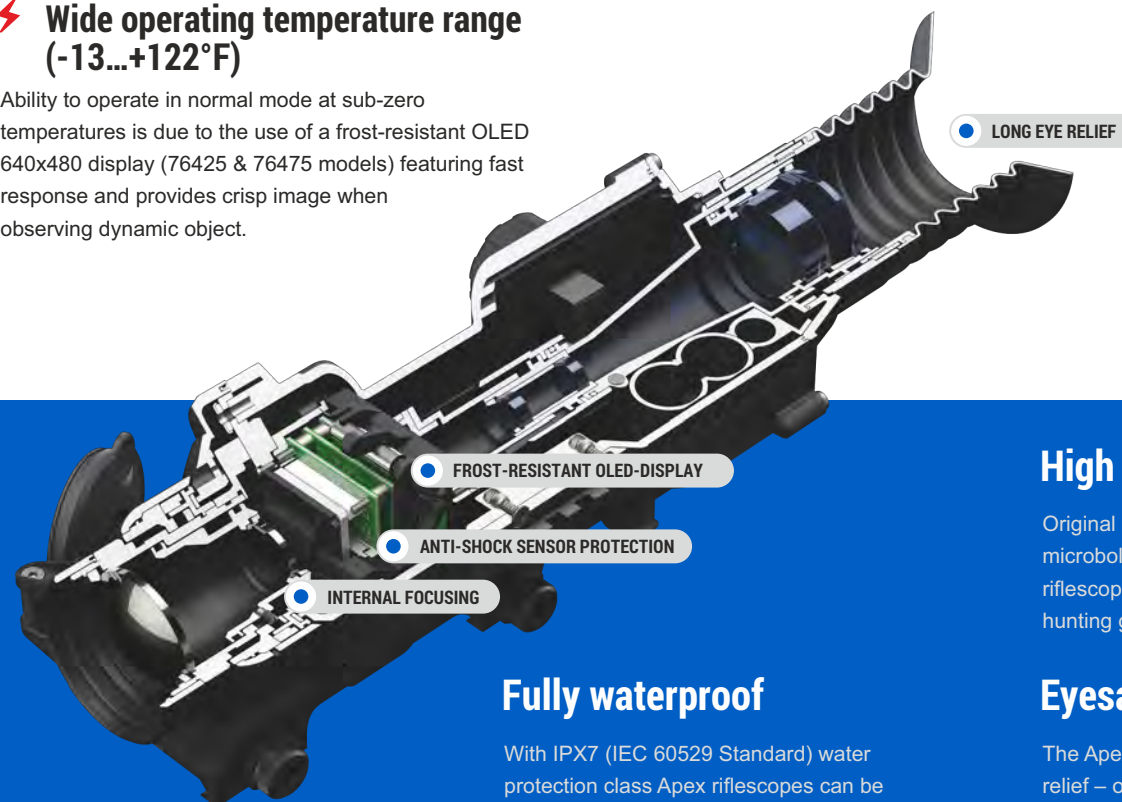
The Apex thermal sights are equipped with a Video Out jack enabling real time video recording with the use of external recording equipment.

## ⚡ Wireless remote control

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

## ⚡ Wide operating temperature range (-13...+122°F)

Ability to operate in normal mode at sub-zero temperatures is due to the use of a frost-resistant OLED 640x480 display (76425 & 76475 models) featuring fast response and provides crisp image when observing dynamic object.



## High shock resistance

Original shock and vibration protection of microbolometer array allows using Apex riflescopes on large caliber up to .375 rifled hunting guns and on smooth-bore and air rifles.

## Eyesafe eye relief

The Apex thermal sights feature a 67 mm eye relief – one of the best parameters in its class. The greater is the eye relief the less traumatic is the use of the scope, especially on hunting weapons with considerable recoil.

## Fully waterproof

With IPX7 (IEC 60529 Standard) water protection class Apex riflescopes can be operated in the conditions of precipitation of any intensity and withstand a short underwater submersion.

SKU	7641	76425	76426	76475	76476
Model	XD38A	XD50	XD50A	XD75	XD75A
Objective lens	F38/1.2	F50/1.2	F50/1.2	F75/1.4	F75/1.4
Microbolometer resolution, pixels @ pixel pitch, μ	384x288 @ 25	384x288 @ 25	384x288 @ 25	384x288 @ 25	384x288 @ 25
Frame rate, Hz	50	50	50	50	50
Magnification, x	1.5 – 6	2 – 4	2 – 8	3 – 6	3 – 12
Field of view, °, horizontal & vertical (without zoom)	14.4x10.8	11x8.2	11x8.2	7.2x5.4	7.2x5.4
Range of detection, yds	1040	1370	1370	1750	1750
Dimensions, inch	13.2x3.1x2.9	13.5x3.1x2.9	13.5x3.1x2.9	15x3.1x2.9	15x3.1x2.9
Weight (without batteries & mount), oz	21.2	24.7	24.7	27.2	27.2

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# CORE

FXD50

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## ⚡ Night time shooting advantages

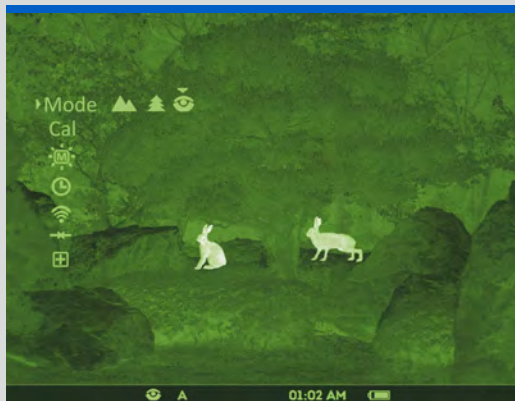
Night time shooting with Core coupled with day optic riflescope has a number of positive moments. Such operational characteristics of day optics as significantly larger (in comparison to classic night vision or thermal riflescopes) eye relief, ordinary reticle, variable magnification are preserved.

## ⚡ Green OLED display

The image is displayed on the green OLED screen in order to ensure comfortable perception and low eye fatigability of observer.

## ⚡ Wide operating temperature range (-13 ... +122°F)

Ability to operate in normal mode at sub-zero temperatures is due to the use of a frost-resistant OLED 640x480 display featuring fast response and provides crisp image when observing dynamic object.



## Quick transformation

Core FXD50/ FLD50 is a combination of thermal imaging monocular and front attachment for day riflescope or observation device. Replaceable eyepiece included in the package allows quick transformation in the course of several seconds.



## ⚡ Fully waterproof

With IPX7 (IEC 60529 standard) water protection class Core thermal imaging devices can be operated in the conditions of precipitation of any intensity and withstand a short underwater submersion.

## ⚡ Point of impact stability

Precision optics, original design and software ensure POI stability when attachment is in use. Hunter does not need to make any corrections to position of day scope's reticle when mounting Core.





## ⚡ Calibration

The Core offers three calibration modes: silent manual mode ("M"), automatic ("A") and semiautomatic ("H"). The "A" mode implies calibration without user participation (process initiation (actuation of the shutter) takes place automatically). In the "H" mode the user decides on his own if calibration is required based on the image quality. Button "Cal" is pressed in this mode. Manual calibration ("M") is carried out by pressing the button when the lens cap is closed. The "M" mode is recommended for hunting due to silent operation.

## ⚡ User interface

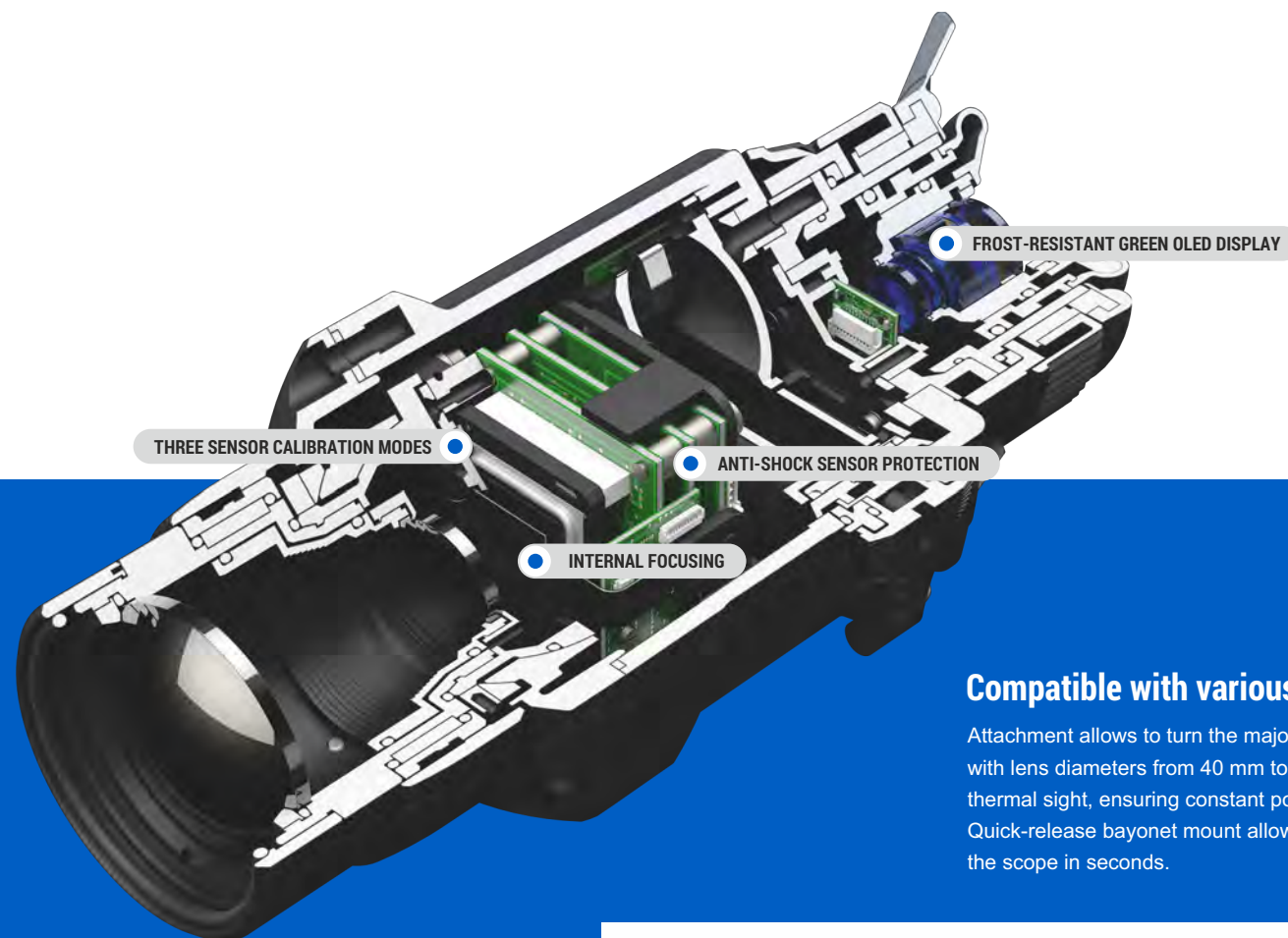
Actual information about the status of the thermal imaging device, depicted in the form of blue icons and numbers, is located on the data panel in the lower portion of the screen, and does not interfere with the image observed. When switching between various functions (digital zoom, colour inversion, brightness/ contrast settings), the respective large sized icon appears in the right upper portion of the screen.

## ⚡ Operating modes

The Core suggests three operating modes, each designed to deliver best possible image in specific viewing conditions. The modes are as follows: "Rocks" (enhanced contrast), "Forest" (low contrast) and "Identification" (improved rendering of hot objects' details).

## ⚡ Wireless remote control

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



### Compatible with various day optics

Attachment allows to turn the majority of day sights with lens diameters from 40 mm to 56 mm into a thermal sight, ensuring constant position of POI. Quick-release bayonet mount allows remove it from the scope in seconds.

### Core as alternative to thermal sight

Attachment can become a better alternative to a night vision / thermal scope in the case when optics mounts do not ensure quick mounting and/ or recurrent installation of optics to a correct position. Use of the attachment does not require from a hunter a change in weapon holding position or in style of shooting. Small weight and size simplify controls and do not influence the balance of the rifle significantly.

SKU	76456
Model	FXD50
Objective lens	F50/1.2
Microbolometer resolution, pixels @ pixel pitch, $\mu$	384x288 @ 25 $\mu$
Frame rate, Hz	50
Magnification in monocular mode / attachment mode, x	2.8 – 5.6 (2x digital zoom) / -
Range of detection, yds	1310
Recommended magnification of the day scope (sight), x	Up to 4
Power supply, V / battery type	6 / 2xCR123A
Dimensions, inch	7.5x2.6x2.4
Weight, without batteries, oz	14.1

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# DIGIFORCE

860RT / X970 / 860VS

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	Wi-Fi	Video Recorder	Magnification
860RT	Yes	Yes	x6 x12
970X	No	No	x4 x8
860VS	No	No	x6.5



## ⚡ Updatable software

User can update device's software when the Digiforce 860RT acquires new software functions.

## ⚡ Integrated video recorder

Digital NV Digiforce RT is equipped with integrated recording module that allows recording or photographing during observation. Photos and videos are stored in the memory of the device and can be uploaded either via MiniUSB to PC or via Wifi to mobile device.

## GENERATION DIGITAL

Employment of digital technologies is one of the top priorities for the development of NV devices by Yukon Advanced Optics Worldwide. Digital devices possess certain unbeatable advantages and extended functionality which lets them find applications not only in the hunting market, but also in wildlife observation, law enforcement and security markets:

### Protection against bright light sources

Digital NV devices can be turned on in the daytime without the fear of being damaged either immediately or in the long term. They are not damaged by car headlights or street lighting.

### Long-life performance

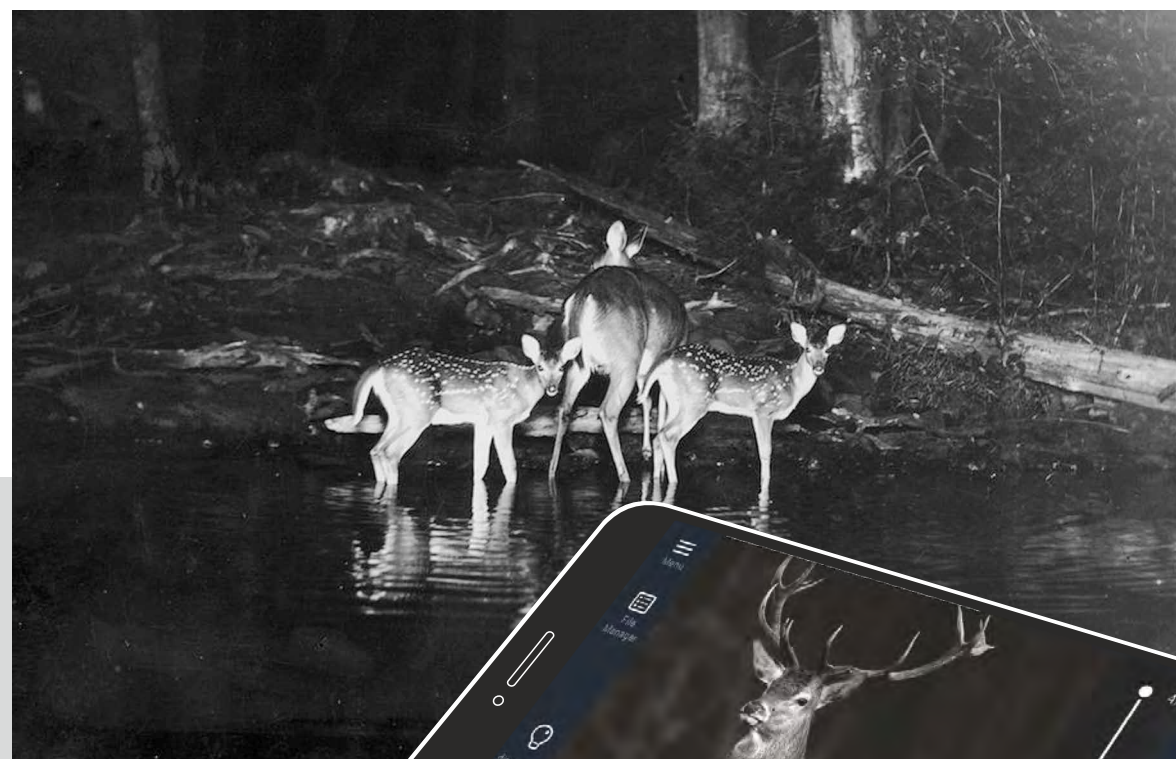
Average life of a CCD array is 25000 hours, which is up to twice as much as the best image intensifier tubes.

### Signal reception and transmission

Digital NV devices are well-suited for image recording with integrated or external recording equipment.

### Effective use with "invisible" IR Illuminators

As opposed to image intensifier tube based devices, digital NV equipment features advanced efficiency when used with IR Illuminators operating higher up the near infrared spectrum (more than 900nm), which are generally invisible to the naked eye.



## Digiforce RT. Real time video streaming

Integrated Wifi module enables real time video streaming on a smartphone or tablet, dedicated mobile application enables simultaneous real time video streaming to internet.

## Device control

Using a dedicated mobile application (available for iOS and Android), it is possible to control device remotely via Wifi interface.

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ANDROID APP ON  
**Google play**





## ⚡ Integrated IR illuminator

Digital night vision devices Digiforce are equipped with two types of IR illuminators: LED illuminator with 805 nm wavelength and eye-safe laser with 915 nm wavelength. Both illuminators have 3-stage power adjustment. Digiforce X970 model operates in invisible infrared spectral range and allows virtually concealed observation.

## ⚡ Protection against bright light sources

Digital NV devices can be turned on in daylight without the fear of being damaged either immediately or in the long term. They are not damaged by car headlights or street lighting. For cases when the device is used during the day Digiforce has a light filter in the objectives cover, it reduces the amount of light getting into the objective, decreases brightness and increases contrast of image making observation more comfortable.

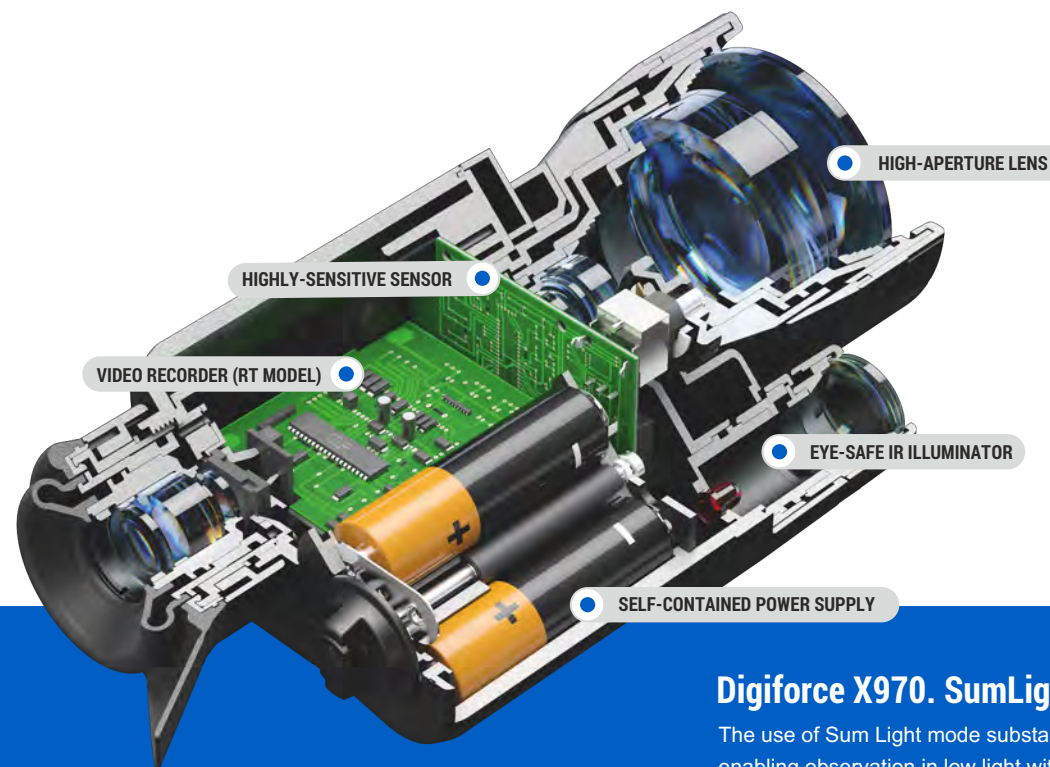
## ⚡ External power supply

Operation time can be significantly prolonged by using high-capacity external power supply units. During extended use in freezing weather, the external power supply units can be stored under the operators' clothes via an included extension lead.



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## ⚡ Mounts

The Digiforce night vision scopes are equipped with an original mount fitting which combines a ¼ inch 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.

## Digiforce X970. SumLight™ function

The use of Sum Light mode substantially increases sensitivity of the sensor thus enabling observation in low light without using the IR Illuminator.

SKU	78093	78097	78099
<b>Model</b>	<b>860RT</b>	<b>860VS</b>	<b>X970</b>
Sensor, type / resolution, pix.	CMOS / 640x480	CMOS / 640x480	CCD / 752x582
Display, type / resolution, pix.	LCD / 640x480	LCD / 640x480	OLED / 640x480
Magnification, x	6 ... 12	6.5	4 ... 8
Sensitivity of device, mW (wavelength 780 / 915 nm)	$3.8 \cdot 10^{-5} / 1.1 \cdot 10^{-4}$	$4.4 \cdot 10^{-5} / 2.2 \cdot 10^{-4}$	$1.7 \cdot 10^{-5} / 5.5 \cdot 10^{-5}$
Built-in Flashlight, type / wavelength, nm	LED / 810	LED / 810	Laser / 915
Detection / Recognition range (human figure), yds, built-in IR on	300 / 160	300 / 160	490 / 330
Self-contained power supply, V / Battery type	4 – 6.3 / 4xAA	4 – 6.3 / 4xAA	4 – 6.3 / 4xAA
External power supply, V	5 (MicroUSB)	8 - 15	8 - 15
Operating temperature, °F	+5 ... +113	+5 ... +113	-13 ... +122



# DIGISIGHT

N550A / N960 / LRF N960

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NIGHT VISION



	FOV	Rangefinder	Magnification
N550A	5°	No	x4.5 x6.75
N960	6.5°	No	x4.5 x6.75
LRF N960	6.5°	Yes	x3.5 x14



## ⚡ 3 types of zeroing parameters memorization

The riflescope has the function of saving three user's zeroing profiles in the memory (for different types of weapons or ammunition), in each case a different reticle can be applied. In addition to that, in Digisight N960 / LRF N960 models each profile allows zeroing for five different distances.



## ⚡ Digisight N960. Rifle inclination angle

When rifle is inclined horizontally for an angle of more than 5 degrees a warning sign appears – compound arrows with indication of direction and incline level. The more lines are in the compound arrow the greater is the angle of side incline.

## ⚡ Digisight LRF N960. THD & AoE functions.

In the conditions of changeable landscape, when shooting from high stands it is recommended to use THD (True Horizontal Distance) measuring mode – in this mode rangefinder, taking into account angle of shooter's elevation relative to a target (AoE; its value is also displayed on the screen) calculates true horizontal distance to an object.

## ⚡ Selectable reticles

A reticle is electronically displayed on the screen and is permanently located in the plane of target image. The Digisight's internal memory contains reticles of various shapes and applications. The central part of the reticles is illuminated; color can be changed from red to green. The color of the main part can be switched from black to white.



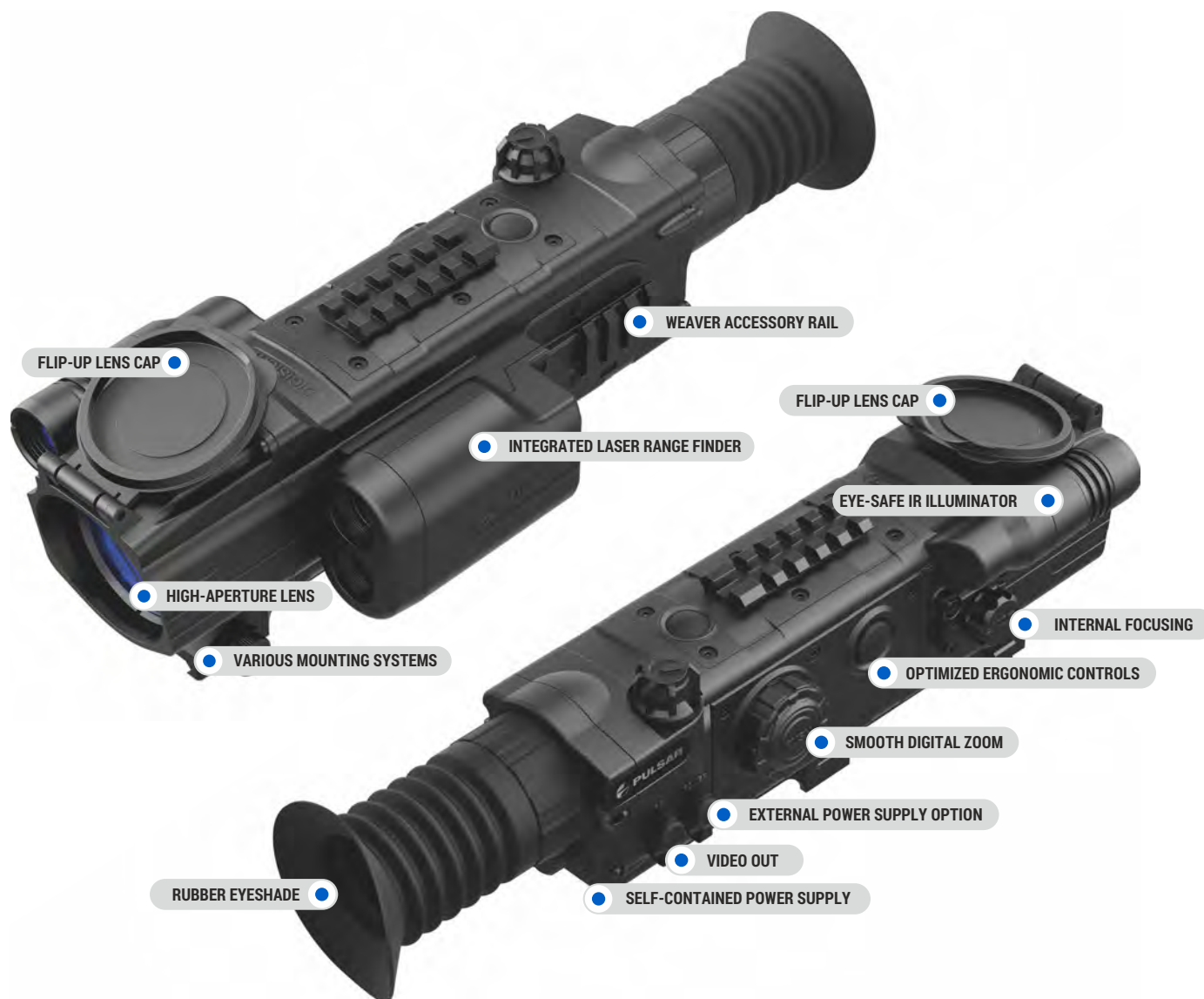
## Digisight LRF N960. Integrated laser rangefinder

Extra precise shooting requires an exact knowing of distance. Integrated laser rangefinder with range up to 400m allows to measure distance in single measuring mode and in scanning mode with precision up to  $\pm 1$  meter (yard).

## ⚡ High shock resistance

The Digisight riflescopes feature high shock resistance and can be used with rifled hunting weapon for such cartridges as 9.3x64, .30-06, .300, .375. etc, and with smooth-bore and airsoft weapon.





## ⚡ Eyesafe eye relief

The Digisight riflescopes feature a 67 mm eye relief – one of the best parameters in its class. The greater is the eye relief the less traumatic is the use of the scope, especially on hunting weapons with considerable recoil.



## ⚡ 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.

## ⚡ Energy saving modes. Automatic shutoff function

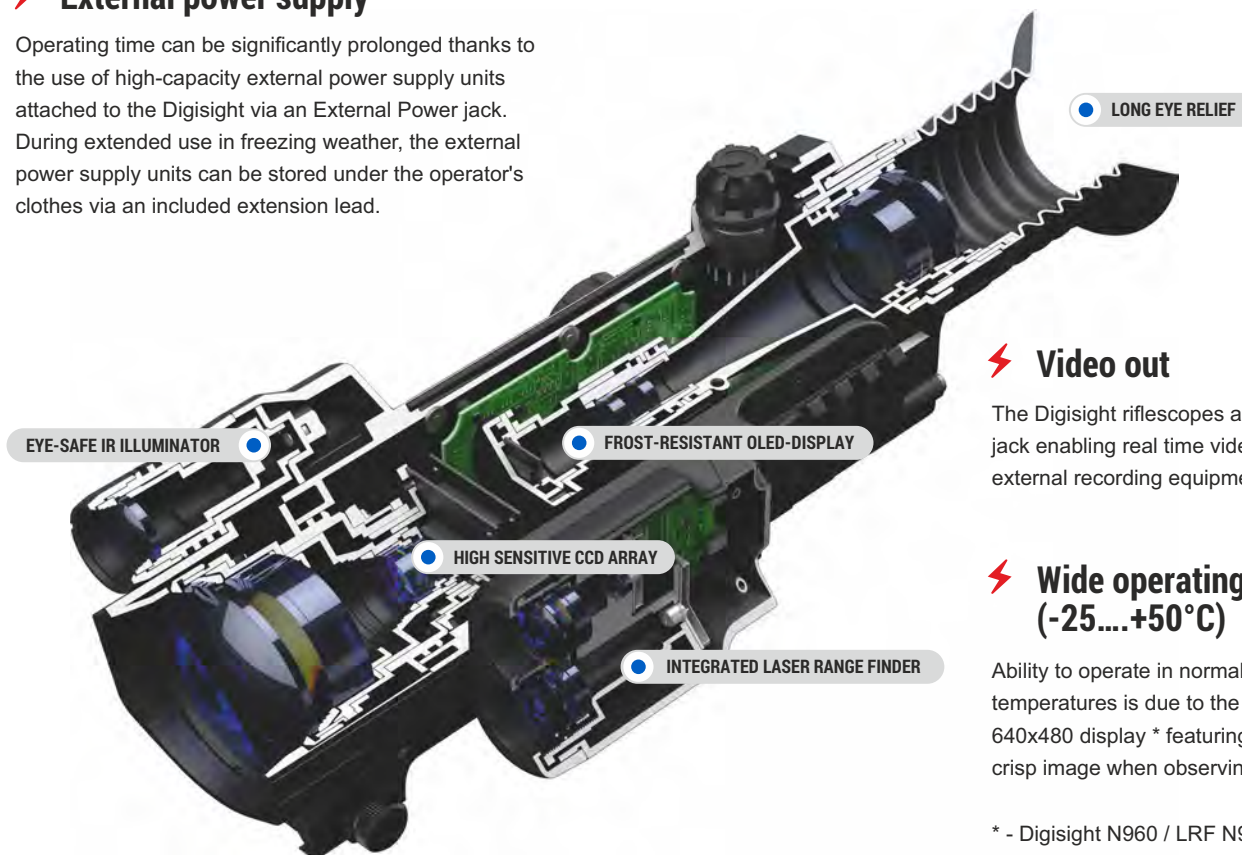
When a weapon with a Digisight N960 / LRF N960 is in inclined position of 70° vertically and 30° horizontally (for more than 10 seconds) in any direction the riflescope will turn off. For energy saving and cases when video from the riflescope is not recorded there is also a possibility to turn off video out module. Both these functions can be activated in the menu of the riflescope.

## ⚡ Wireless remote control

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

## ⚡ External power supply

Operating time can be significantly prolonged thanks to the use of high-capacity external power supply units attached to the Digisight via an External Power jack. During extended use in freezing weather, the external power supply units can be stored under the operator's clothes via an included extension lead.



## ⚡ Video out

The Digisight riflescopes are equipped with a Video Out jack enabling real time video recording with the use of external recording equipment.

## ⚡ Wide operating temperature range (-25....+50°C)

Ability to operate in normal mode at sub-zero temperatures is due to the use of a frost-resistant OLED 640x480 display \* featuring fast response and provides crisp image when observing dynamic object.

\* - Digisight N960 / LRF N960 models

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SKU	76316A	76336	76338
Model	N550A	N960	LRF N960
Magnification, x	4.5 / 6.75	3.5 – 14	3.5 – 14
Field of View,°, horizontal	5 (on 4.5x)	6.5 (on 3.5x)	6.5 (on 3.5x)
Built-in rangefinder	no	no	yes
Built-in IR-illuminator, type / wavelength, nm	LED / 810	LED / 810	LED / 810
Spectral sensitivity at a wavelength of 780 / 915 nm, mW	$\leq 3 \cdot 10^{-5} / 1,5 \cdot 10^{-4}$	$\leq 1,7 \cdot 10^{-5} / 5,5 \cdot 10^{-5}$	$\leq 1,7 \cdot 10^{-5} / 5,5 \cdot 10^{-5}$
Detection/Recognition range, yds, built-in IR on (object 1.7 m high)	430 / 270	500 / 330	500 / 330
Operating temperature, °F	+14 ... + 122	-13 ... + 122	-13 ... + 122
Dimensions, inch	13.4x3.7x3.7	13.4x3.7x3.7	13.4x4.4x3.7





# FORWARD

DN55

**DIGITAL**  
NIGHT VISION



## ⚡ Simple mounting

In order to install the Forward onto the front optical bell of a day telescopic sight or spotting scope, it is necessary to use specially designed mounting assemblies. Permanently attached to the optical bell, the adapter allows quick installation of Forward in front of the lens for nighttime use. When the attachment is not used, the adapter accommodates a protective cap that covers the lens of a day sight or spotting scope in the daytime.

## ⚡ Forward DN55 as observation device

The new Pulsar 5x30 Monocular (#71011) included in the package can be attached to the Forward DN digital module and used as a 5x power night vision device. Along with this, the Pulsar 5x30 is a fully-functional observation device.

## GENERATION DIGITAL

Employment of digital technologies is one of the top priorities for the development of NV devices by Yukon Advanced Optics Worldwide. Digital devices possess certain unbeatable advantages and extended functionality which lets them find applications not only in the hunting market, but also in wildlife observation, law enforcement and security markets:

### Protection against bright light sources

Digital NV devices can be turned on in the daytime without the fear of being damaged either immediately or in the long term. They are not damaged by car headlights or street lighting.

### Long-life performance

Average life of a CCD array is 25,000 hours, which is up to twice as much as the best image intensifier tubes.

### Signal reception and transmission

Digital NV devices are well-suited for image recording with integrated or external recording equipment.

### Effective use with “invisible” IR Illuminators

As opposed to image intensifier tube based devices, digital NV equipment features advanced efficiency when used with IR Illuminators operating higher up the near infrared spectrum (more than 900nm), which are generally invisible to the naked eye.



## Day / night transformation

Forward DFA75 allows turning majority of day scopes with lens diameters ranging from 40 mm to 56 mm into a night vision riflescope, ensuring constant position of POI. Quick-release bayonet mount allows removing from the scope in seconds.

## ⚡ Conceptual advantages

Nighttime shooting with Forward coupled with day optical sight has a number of advantages. Such operational characteristics of day optics as significantly larger (in comparison to classic night vision riflescopes) eye relief, ordinary reticle, variable magnification are preserved. Forward can become a better alternative to a night vision riflescope in the case when mounts for mounting optics do not ensure quick mounting and/or recurrent installation of optics to a correct position. Use of the attachment does not require from a hunter a change in weapon holding position or in style of shooting.





### ⚡ Built-in IR illuminator

Forward DN55 is supplied with a removable laser IR Illuminator operating in the “invisible” range (915nm). The 915nm laser IR Illuminator complies with Class 1 laser safety, features focusable IR beam from spot to flood, three-step power adjustment.

### ⚡ Video out

The Forward DN55 is equipped with a Video Out jack enabling real time video recording with the use of external recording equipment.

### ⚡ External power supply

Operating time can be significantly prolonged thanks to the use of high-capacity external power supply units attached to the Forward via an External Power jack. During extended use in freezing weather, the external power supply units can be stored under the operator's clothes via an included extension lead.

### ⚡ Wireless remote control

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

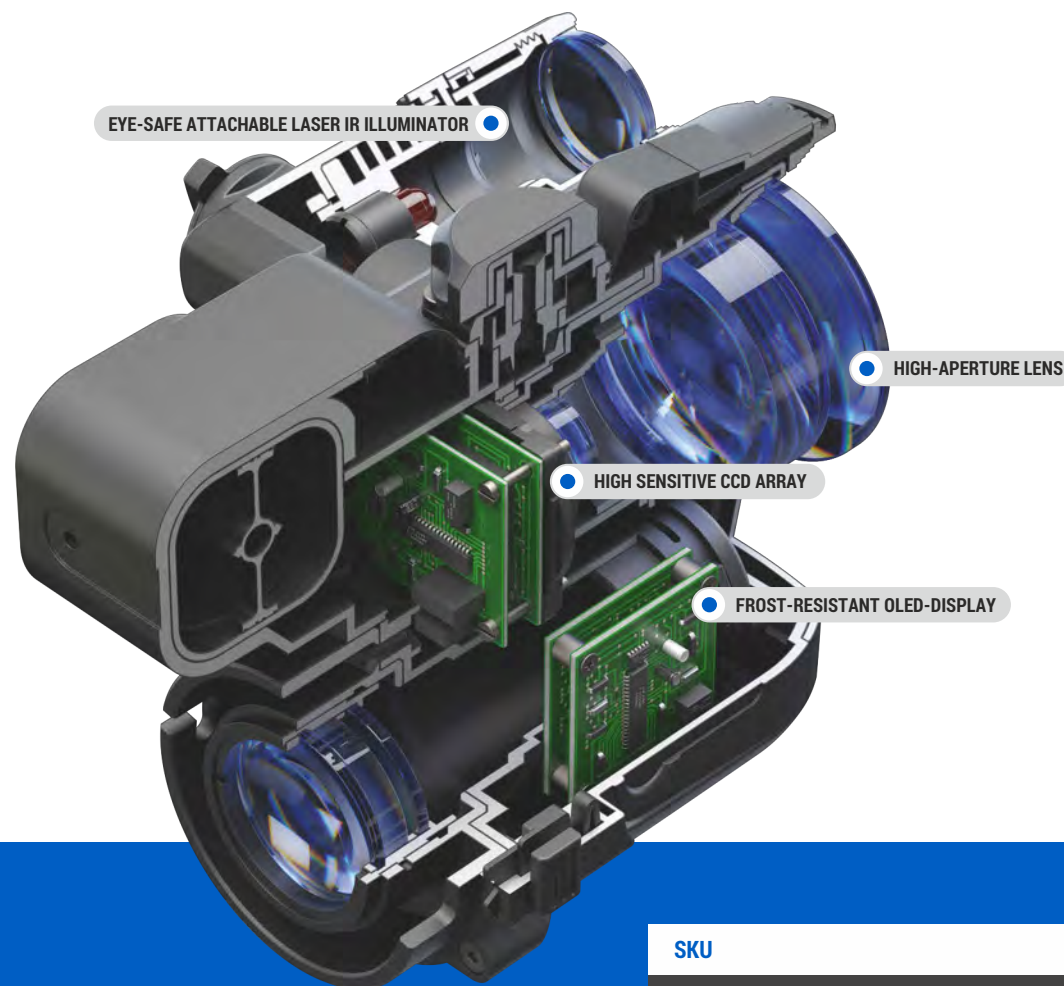
### ⚡ Wide operating temperature range

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.



**DIGITAL**  
NIGHT VISION

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



## ⚡ User interface

Current information about the status of the device, depicted in the form of blue icons and numbers, is located on the data panel in the lower portion of the screen, and does not interfere with the image observed. When switching between various functions, the respective large sized icon appears in the right portion of the screen.

SKU	78115
Model	DN55
Sensor Type / Resolution, pix	CCD / 500x582
Built-in IR Illuminator, type / wavelength, nm	Laser / 915
Recommended magnification of the day scope (sight), x	1.5 ... 8
Field of View,°, horizontal	5
Operating temperature, °F	-13 ... +122
Power Supply, voltage / battery type	3.7 ÷ 6 / 4xAA
Dimensions of the digital module, inch	6.1x3.2x4.6
Weight (without batteries), oz	19.7












# CHALLENGER

G3 Select 1x21 / GS 1x20 / GS 3.5x50 / GS 4.5x60

**ANALOG**  
NIGHT VISION



	Distance	Field of view	Weight
GS 1x20	 100	 36°	 0,3
GS 3.5x50	 185	 11°	 0,5
GS 4.5x60	 220	 9°	 0,7

## ⚡ Body

The body of metal and carbon-filled plastic is able to effectively withstand impact, moisture and dust which allows the units to be used in extreme conditions.

## ⚡ Eyepiece

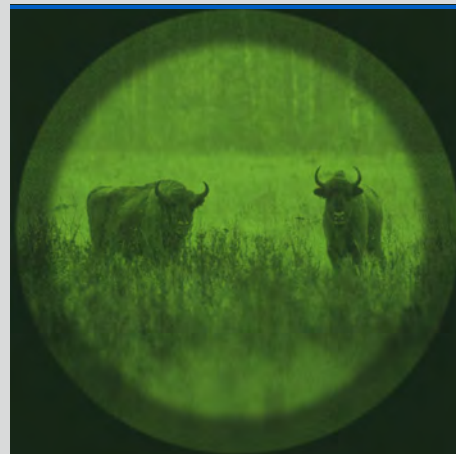
The Challenger night vision scopes are outfitted with a five-lens eyepiece that minimizes distortion across the edges of the field of view and increases image sharpness and contrast. A soft rubber eyecup conceals the light emission from the tube thus permitting a user to stay unnoticed.

## ⚡ Built-in IR illuminator

The Challenger night vision scopes are equipped with built-in IR illuminators which are various in design:

The devices without visual magnification (1x) are equipped with an energy-conserving wide-angled IR illuminator optimised for the use with the a Head Mount 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.



## CF-Super image intensifier tube

At the core of the Challenger GS line is a unique combination of specially designed R-Contact optics and the CF-Super Image Intensifier Tube, which provides the highest edge-to-edge resolution performance ever seen in a budget consumer NV product.





## CF-Super technology

Is based on the use of the image intensifier tube CF-Super/EP33SF-U (with a spherically shaped photocathode) and specially designed optics. There are several advantages:

### **Lack of distortion**

Stable and distortion free image both in the central and peripheral areas.

### **High resolution**

The CF-Super tube features, on average, 20% higher resolution than that in Gen. 1 units.

### **Constant image quality across the whole field of view**

CF-Super's resolution is notable for its consistency (resolution difference between the centre/edge does not exceed 20%, whilst centre/edge resolution ratio for Gen. 1 units is more than five times).

### **Effective field of view**

High resolution and geometric image precision provided by CF-Super based NV devices provides effective observation of an object located in any part of unit's field of view. Majority of Gen. 1 devices features decent image quality only in the centre of the imaging area.

## ⚡ Controls

All operations are carried out with the help of a single switch that sequentially turns on the unit and IR Illuminator.



## Holder group

Two diametrically positioned mounting rails with a ¼ inch tripod mount are used to attach to the Head Mount. Additional Weaver rail on the body is designed to install extra Pulsar IR Illuminator or other accessories.

## Head Mount

The Compact Head Mount is designed for joint use with the Challenger 1x models. 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.

SKU	74115	74095	74097	74098
Model	G3 Select 1x21	GS 1x20	GS 3.5x50	GS 4.5x60
Image tube generation	3	CF-Super I+	CF-Super I+	CF-Super I+
Magnification, x	1	1	3.5	4.5
Objective lens, mm	21	20	50	60
Angular field of view, degree	40	36	11	9
Max. Detection Range, yds	220	100	185	220
Head Mount included	yes	yes	no	no
Degree of protection (IEC 60529)	IP65	IP65	IP65	IP46
Weight, oz	12.5 (without head mount)	10.5 (without head mount)	17.6	24.7

**ANALOG**  
NIGHT VISION

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











# EDGE

G3 Select 1x21 / GS 1x20 / GS 2.7x50 / GS 3.5x50L

**ANALOG**  
NIGHT VISION



	Distance	Field of view
G2+ 1x21	 220	 40°
GS 1x20	 100	 36°
GS 2.7x50	 165	 13°
GS 3.5x50	 185	 11°

## ⚡ Body

The body of metal and carbon-filled plastic is able to effectively withstand impact, moisture and dust which allows the units to be used in extreme conditions.

## ⚡ Controls

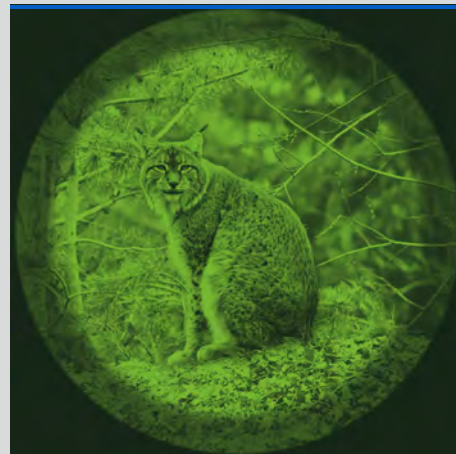
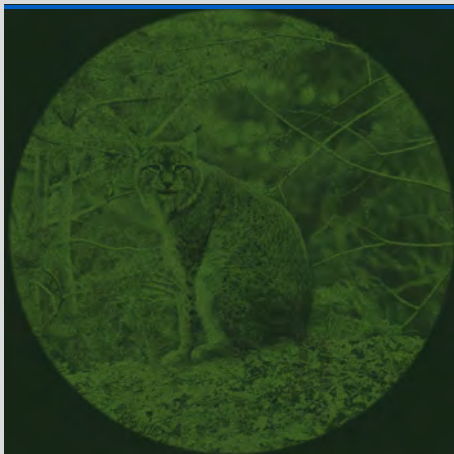
The Edge night vision binoculars are easy in operation. The device and IR illuminator are switched by pressing buttons (ON and IR respectively) located on the top of the body. Additionally, the Edge binoculars & goggles are equipped with a gradual IR illuminator power adjustment function. The wheel-shaped power controller is located next to the IR illuminator activation button.

## ⚡ Built-in IR illuminator

The Edge night vision binoculars are equipped with built-in IR illuminators with a gradual power control function:

Devices without the visual magnification (1x) are equipped with an energy-conserving wide-angled short-range IR illuminator optimized for the use with a Head Mount in lowlight (for map reading, use in dark closed rooms).

The Edge GS 2.7x50 and 3.5x50L 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 the average.



## Tube protection

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





## **⚡ CF-Super technology**

Is based on the use of the image intensifier tube CF-Super/EP33SF-U (with a spherically shaped photocathode) and specially designed optics. There are several advantages:

### **Lack of distortion**

Stable and distortion free image both in the central and peripheral areas.

### **High resolution**

The CF-Super tube features, on average, 20% higher resolution than that in Gen. 1 units.

### **Constant image quality across the whole field of view**

CF-Super's resolution is notable for its consistency (resolution difference between the centre/edge does not exceed 20%, whilst centre/edge resolution ratio for Gen. 1 units is more than five times).

### **Effective field of view**

High resolution and geometric image precision provided by CF-Super based NV devices provides effective observation of an object located in any part of unit's field of view. Majority of Gen. 1 devices features decent image quality only in the centre of the imaging area.

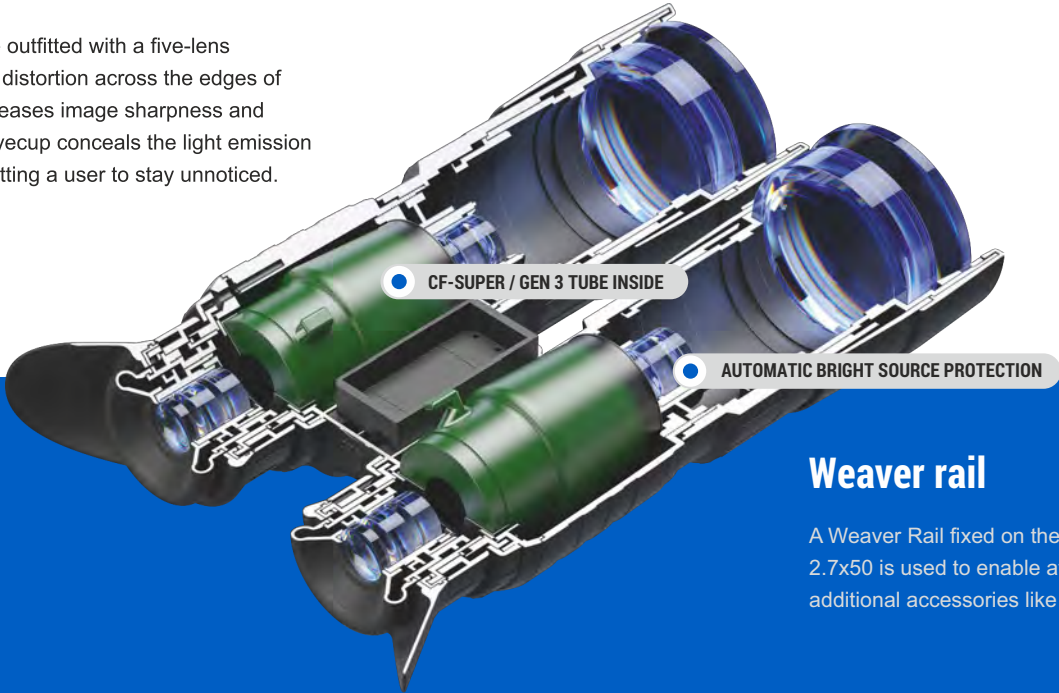


**ANALOG**  
NIGHT VISION

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

**⚡ Eyepiece**

The Edge binoculars are outfitted with a five-lens eyepiece that minimizes distortion across the edges of the field of view and increases image sharpness and contrast. A soft rubber eyecup conceals the light emission from the tube thus permitting a user to stay unnoticed.



**Weaver rail**

A Weaver Rail fixed on the top of the Edge GS 2.7x50 is used to enable attachment of additional accessories like IR Flashlights.

**Head mount**

The Compact Head Mount is designed for joint use with the Edge GS 1x20 or Edge G2+ 1x21B night vision goggles. 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.

SKU	75102	75095	75096	75099
Model	G3 Select 1x21	GS 1x20	GS 2.7x50	GS 3.5x50L
Image tube generation	3	CF-Super I+	CF-Super I+	CF-Super I+
Magnification, x	1	1	2.7	3.5
Objective lens, mm	21	20	50	50
Angular field of view, degree	40	36	13	11
IR Illuminator	LED 805 nm	LED 805 nm	LED 805 nm	Laser 780 nm
Max. Detection Range, yds	220	100	165	240
Dimensions, inch	6.4x4.4x2.4	6.4x4.4x2.4	8x4.8x2.5	233x4.8x2.8
Weight, oz	30 incl. head mount	30 incl. head mount	30	30





# PHANTOM

3X50 / 4X60

**ANALOG**  
NIGHT VISION

N<sub>2</sub>

Gen  
3



## ⚡ 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 be operated in any weather condition. Unique for night vision; nitrogen-purged optical channel prevents fogging caused by the temperature drops or high humidity.

## ⚡ Internal focusing

The 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 optimising quality at all distances within the rifle's working range.

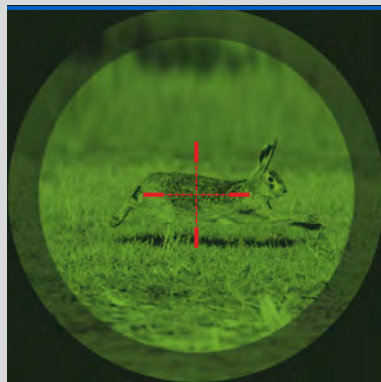
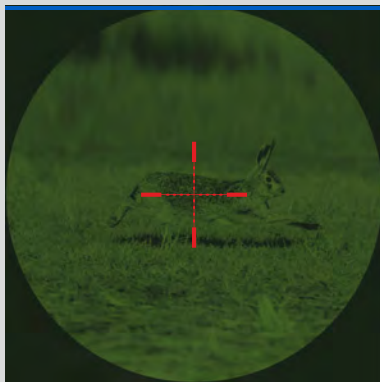
## ⚡ Fast start-up option

The rifle scope operates only when the fast start-up button is kept pressed. It's very convenient when you do not conduct permanent observation and need only a quick assessment of the situation.



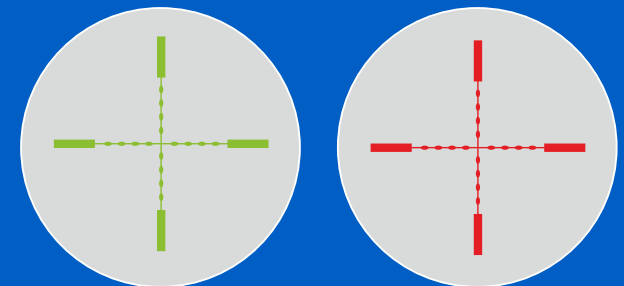
## ⚡ Attachable IR illuminator

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



## Selectable Reticle

The Phantom features a red-on-green or green-on-green Mil-Dot reticle with brightness control. If the reticle starts blinking this indicates that the battery should be replaced within 15-30 minutes.







## ⚡ Protective lens cap

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

## ⚡ Weaver 7/8" rail

A Weaver 7/8" rail on the left side of the body designed for mounting additional accessories (IR flashlight, DSAS, red dot laser).

## ⚡ Power supply

The riflescope can be powered both with a single AA (1.5V) or CR123A (3V) battery. The stabilized voltage of the power supply prevents reticle shift and drop in reticle brightness and guarantees proper operation of the tube and IR-illuminator, even when the batteries are nearly empty. The batteries are positioned vertically, which enhances reliability of energy supply when recoiling.

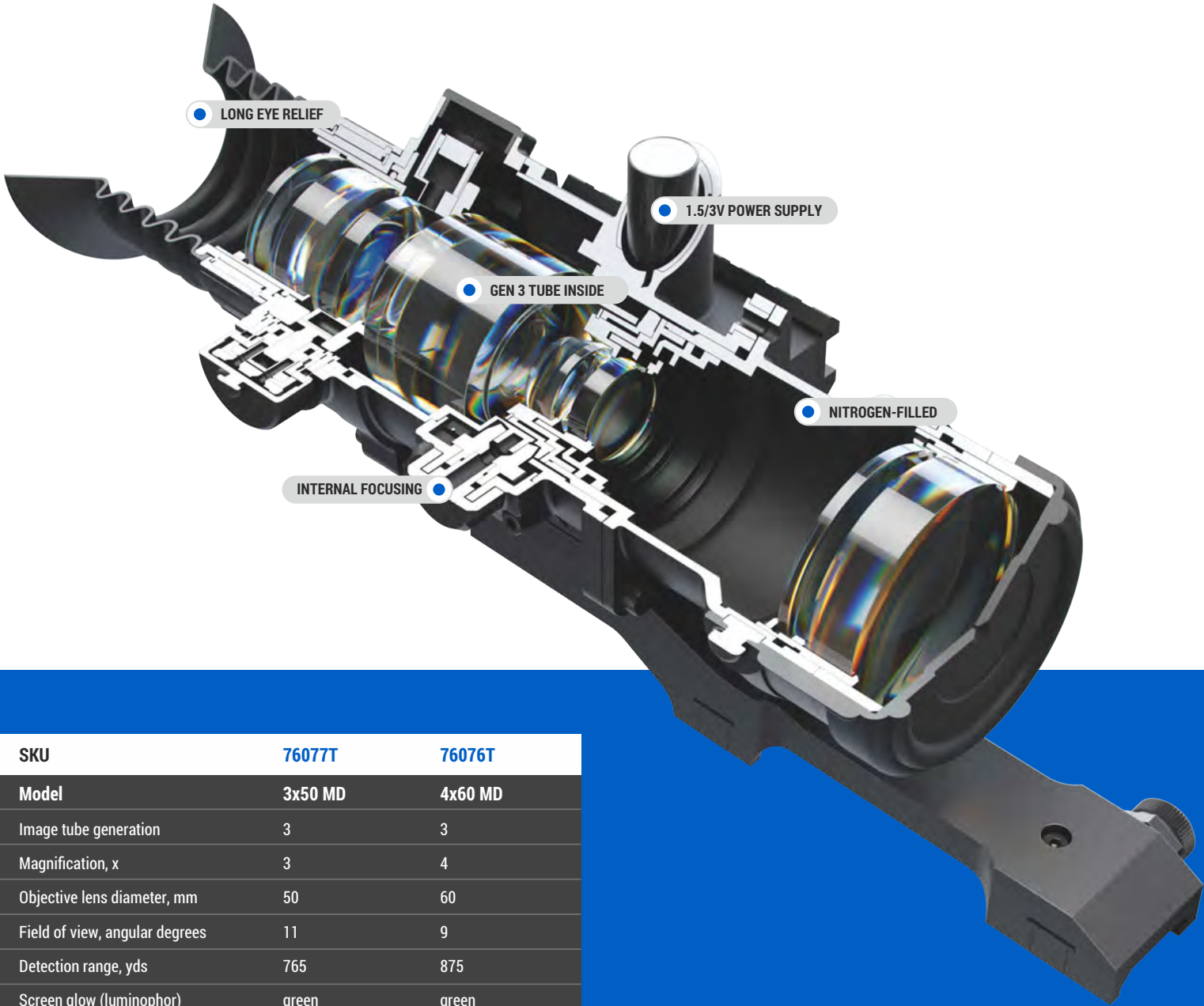
## ⚡ Remote control

The 3-button remote control (two duplicate the "On/Off" function) is helpful for tactical applications and can be mounted on any easy to reach part of the weapon. The third button is intended for an instant ON start-up of the riflescope.



**ANALOG**  
NIGHT VISION

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SKU	76077T	76076T
Model	3x50 MD	4x60 MD
Image tube generation	3	3
Magnification, x	3	4
Objective lens diameter, mm	50	60
Field of view, angular degrees	11	9
Detection range, yds	765	875
Screen glow (luminophor)	green	green
Reticle	Mil-Dot	Mil-Dot
Dimensions, inch	10.9x3.7x4.1	12.6x3.7x4.1



 **PULSAR** | IMAGE.QUALITY

BINOCULARS



# EXPERT

VMR / VM MARINE

**DAYLIGHT**  
OPTICS



N<sub>2</sub>



## ⚡ Conception and constructive

Conceptually, the Expert binoculars were designed as a first-grade professional observation device based on an innovative Porro II prism system. An important feature of the Expert binocular is a one-piece fiberglass reinforced plastic body notable for advanced performance and durability, while reliably protecting the inner parts of the binoculars. Moreover, the one-piece body design is the very feature that allows the Expert to be considered as a platform for further development of the product series in terms of functionality which singles it out among other binoculars. Comfortable to use and carry, the Expert binoculars are surprisingly lightweight and compact for the performance level it provides

## ⚡ Reflection reduction mode

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).

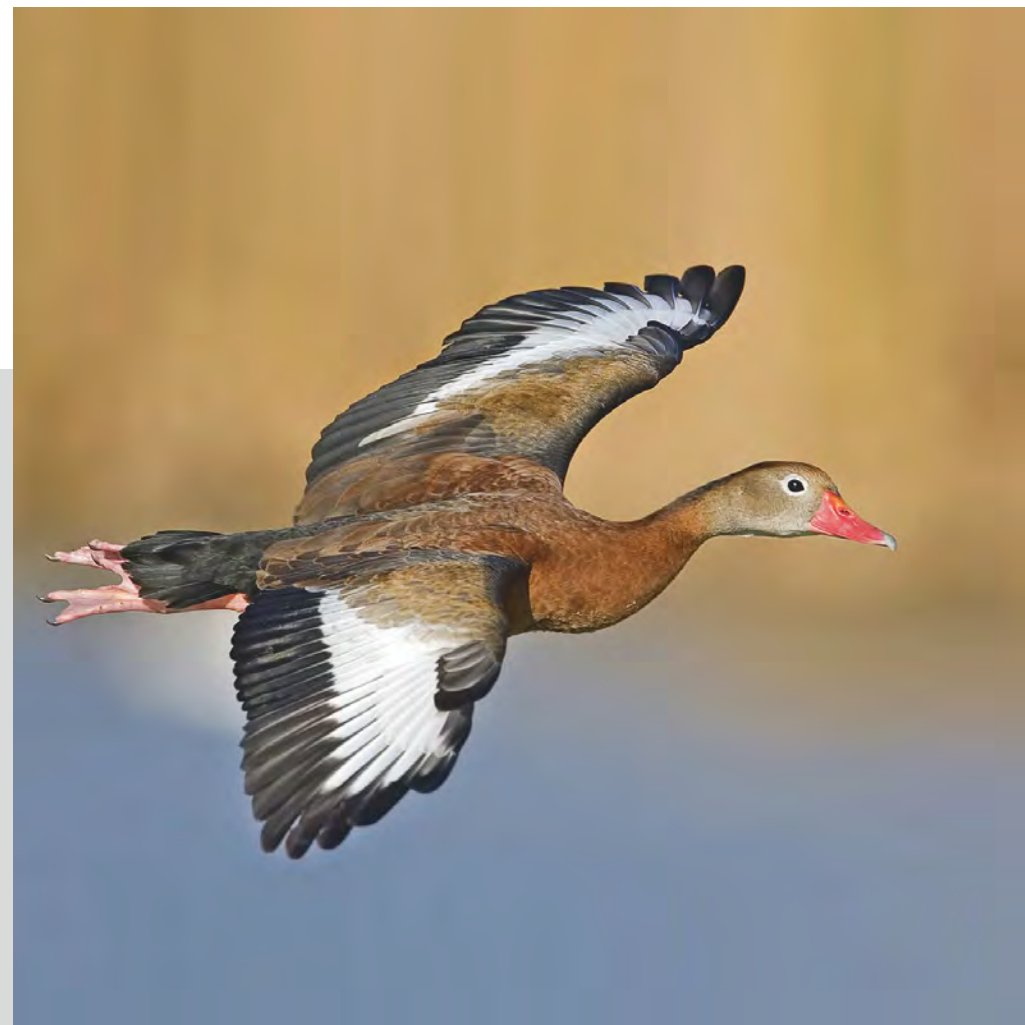


## ⚡ Contrast mode

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

## ⚡ Front safety glass

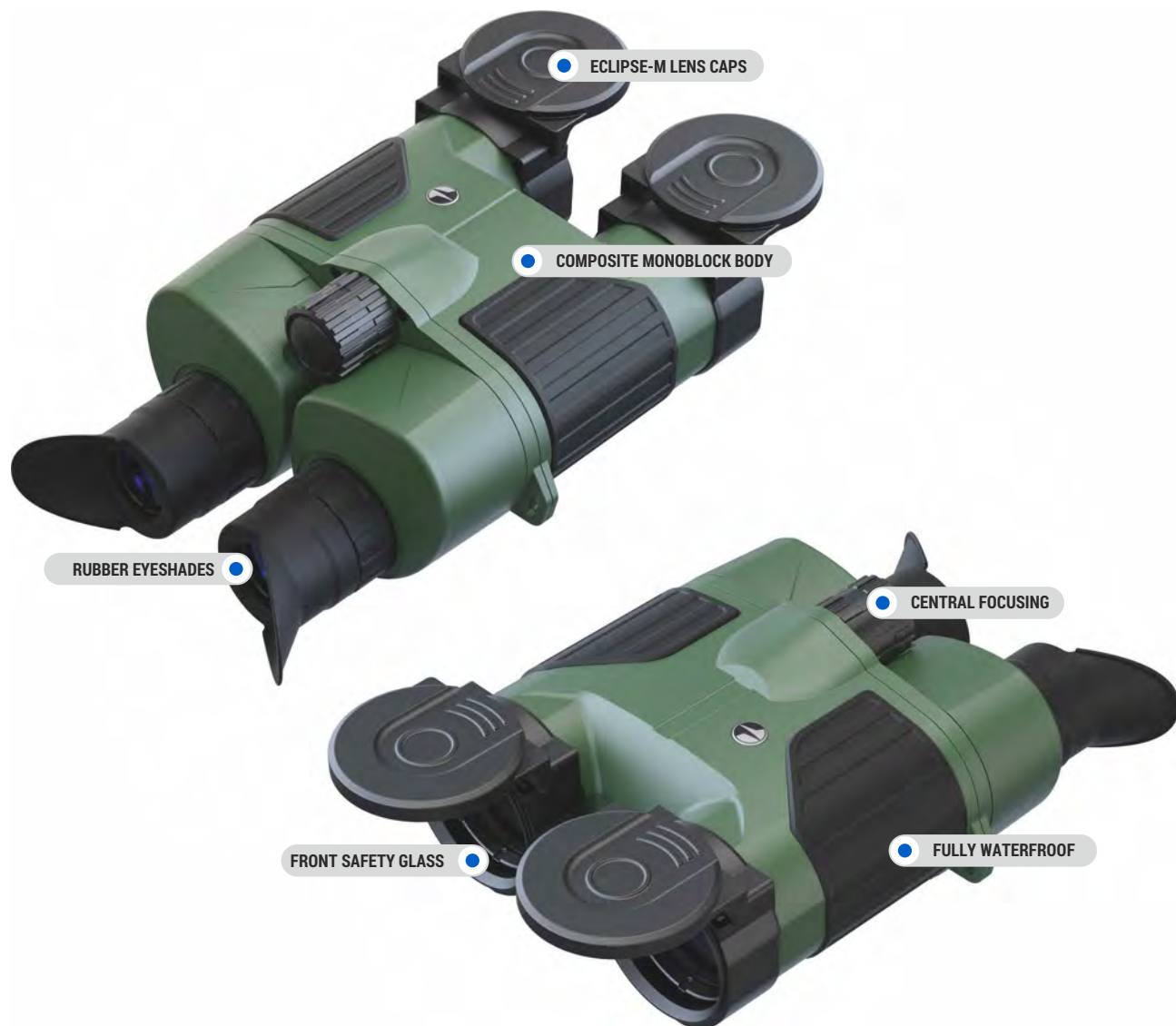
In front of the lenses there are stationary glasses which protect the lenses against scratches and chips that can be caused by a stroke, dust, moisture or dirt. Even if the binocular falls against a sharp object like a stone, for example, it will not be disabled and will retain its operability. The protective glass will take the hit; it may get broken but the lenses will not be damaged in any way.



## Viewing modes

The VM version boasts switchable internal filters to enhance viewing experience. Really helpful in foggy conditions, or bright light, they work by polarizing the incoming light or cutting out some of the spectrum. Changing the viewing modes is as simple as moving a switch on the bottom of the binocular.



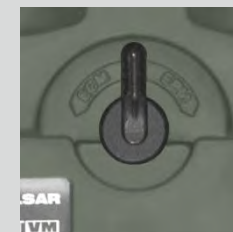


## ⚡ Fully waterproof

Nitrogen filling prevents lenses from fogging. Designed as a waterproof, extra durable system the binocular Expert complies with IP67 standards of water & dust resistance (IEC 60529).

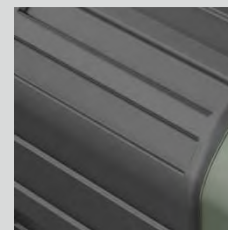
## ⚡ Eclipse-M lens caps

The lenses are covered with solid Eclipse-M lens caps caps. There is no need to remove them (so, they cannot be lost), you just flip them up or sideways (depending on the position of caps) thus protecting the lenses against rain drops or lateral flare light. If necessary, the caps can be left with lenses down.



## ⚡ Eyepieces

The only moving part of the body - eyepieces are setting interpupillary distance, while oblique eyecups maximize comfort and cut out peripheral light. The eyepieces are equipped with rubber eyeshades specially shaped to shield the eyes from lateral flare light.

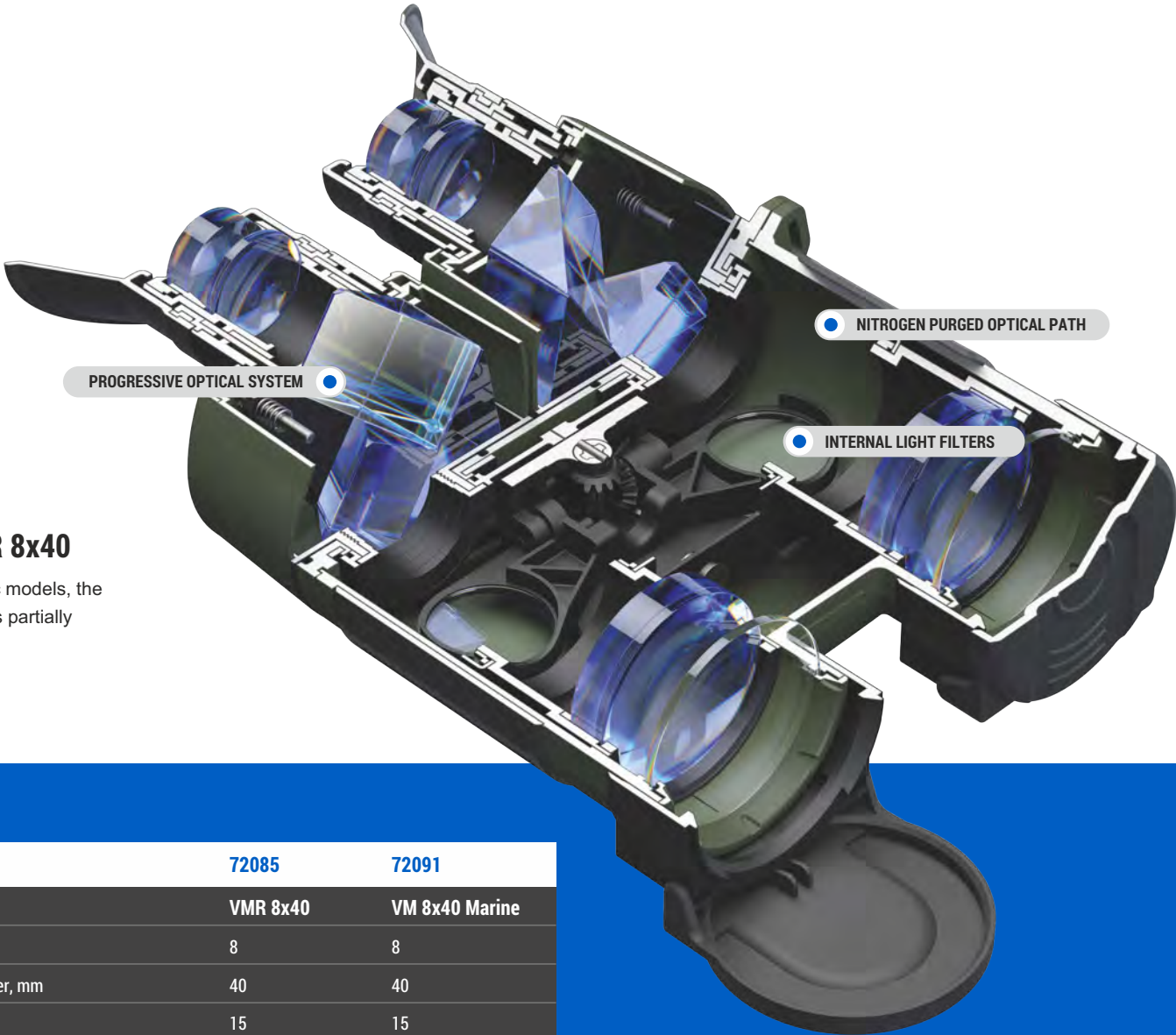




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**Expert VMR 8x40**

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



SKU	72085	72091
Model	VMR 8x40	VM 8x40 Marine
Magnification, x	8	8
Objective Lens Diameter, mm	40	40
Eye Relief, mm	15	15
Field of View, degree	8	8
Level of Protection, acc. to IEC 60529 Standard	IP67	IP67
Body color	Green	Black&Yellow
Rubber armouring	Yes	No
Dimensions, inch	7.9x5.4x3.1	7.9x5.4x3.1

**Expert VM Marine 8x40**

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.



# ACCESSORIES



**EXTRAS**

## INFRARED FLASHLIGHTS

### SKU 79071 **Pulsar - 805 IR Flashlight**

Weaver rail mountable to fit all Pulsar designs - the 805 IR features focusable beam, adjustable collimation and smooth brightness control. Powered by 2 AA batteries of its own it does not drain the internal power storage of a night vision device.

### SKU 79072 **Pulsar L - 808S Laser IR Flashlight**

Similar in mechanical system to the 805 model, the L-808S is a first step in developing line of the Pulsar's eye-safe laser IR flashlights. With an emission power higher than that of the diode design – the L - 808S is one of the most powerful IR flashlights in the market today. It provides greater viewing distance when used with analog (image intensifier tube based) and digital night vision devices.

### SKU 79076 **Pulsar - 940 IR Flashlight**

### SKU 79075 **Pulsar L - 915 Laser IR Flashlight**

Operates in the stealth IR range, invisible by the unaided eye. Intended for use with digital NV systems, it is not effective and sometimes even undetectable for an «analog» NV system.

### SKU 79074 **PULSAR - X850 IR Illuminator**

The most powerful in Pulsar line.

## COVER RING ADAPTERS

### SKU 79124 **DN 42 mm Cover Ring Adapter**

### SKU 79122 **DN 50 mm Cover Ring Adapter**

### SKU 79123 **DN 56 mm Cover Ring Adapter**

DN cover ring adapters are special mounting units, that enable installation of Forward DN/DFA and Core FLD/FXD attachments in front of the objectives of day optic devices (riflescopes, spotting scopes and binoculars). Adapters are supplied with a set of insert rings (the choice of the insert ring is defined by the outer diameter of the objectives housing of optic device on which the attachment is being installed; the correspondence table of housing's outer diameters and insert rings is given below).

After installation the adapter stays constantly on the objective of optic device which allows installing the thermal of digital attachment in front of the objective swiftly. During the day when the attachment is not used, adapter serves as the mount for the protective cover (included in the package), which protects the optics of day riflescope.

SKU	Pulsar-805	Pulsar-940	Pulsar L - 808S	Pulsar L - 915	Pulsar-X850
<b>Model</b>	<b>79071</b>	<b>79076</b>	<b>79072</b>	<b>79075</b>	<b>79074</b>
Emitter	LED	LED	Laser Diode	Laser Diode	LED
Range of equivalent power adjustment (min ... max), Mw	30 ... 200	30 ... 200	125 ... 250	125 ... 250	50 ... 350
Wavelength, nm	805	940	780	915	850
Range of beam divergence, degree	5.7 ... 10	5.7 ... 10	4.5 ... 7	4.5 ... 7	3 ... 9.5
Power supply, V	3 (2xAA)	3 (2xAA)	3 (2xAA)	3 (2xAA)	3 (2xAA)
Average operation time with one set of batteries, hour	2	2	14	5	2
Operating temperature, °F	-4 ... +104	-4 ... +104	-4 ... +104	-4 ... +104	-4 ... +104
Dimensions, inch	5.2x1.8x2	5.2x1.8x2	5.5x1.8x2	5.5x1.8x2	6x1.8x2
Weight (without/ with batteries), oz	4.9/6.7	4.9/6.7	5.6/7.4	5.6/7.4	6.2/7.7
Compatibility	All NV Dev.	Digital NV	All NV Dev.	Digital NV	All NV Dev.



## ⚡ POWER SUPPLIES / BATTERY PACKS

External power supplies are designed for the use with digital units and NV riflescopes, thermal imaging scopes. They feature greater capacity as compared to regular batteries which increases operation time of digital NV units and thermal imaging scopes several times.



### SKU 79113 **EPS3I Battery Pack**

The EPS3I (2.4Ah) has a rigid plastic case and can be installed on any devices outfitted with a Weaver rail or 1/4 inch tripod mount. Features an integrated LED battery level indicator.

### SKU 79112 **EPS5 Battery Pack**

The EPS5 (5Ah) is outfitted with a one meter cable which allows it to be placed under wear in freezing conditions and to prolong operating time (EPS3/EPS3I units are supplied with a extension cable).

### SKU 79117 **Pulsar DNV Battery Pack**

Battery Pack (supplied with a charger) is designed to fits into battery compartment and to power Forward DFA75, Forward DN55, all models of thermal imagers Quantum.

### SKU 79116 **Pulsar DNV Battery holder**

Pulsar DNV Battery holder can be used with thermal imagers Quantum and digital front attachments Forward. When the batteries get discharged it allows to replace them rather quickly.

SKU	79113	79112	79117
Model	EPS3I	EPS5	DNV Battery Pack
Battery Type	Li-Ion	Li-Pol	Ni-MH
Rated Capacity (Ampere-hour Rating), Ah	2.4	5	2,3
Nominal Voltage, V	12	12	4,8
Full charge time, hour	2	4	6
Battery discharge indicator	yes	no	no
Compatibility	Apex, Digisight, Digisight LRF, Quantum, Digiforce X		Quantum, Forward
Weight, oz	8.1	12.3	4.6

## ⚡ LENSES & LENS CONVERTERS

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

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



### SKU 79096 **NV50 1.5x Lens Converter**

### SKU 79097 **NV60 1.5x Lens Converter**

Fast aperture afocal attachments fixed in front of the lens that increase magnification of Phantom NV riflescopes 1.5 times retaining image quality.

## ⚡ DOS ADAPTERS

**SKU 79041 Challenger GS 1x20 DOS adapter**

**SKU 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 riflescope for night shooting. The reticle of the riflescope is perfect for aiming. The adapters come equipped with reducing rings to affix the night vision device onto day riflescope and provide 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.



## ⚡ OTHER ACCESSORIES

**SKU 79032 NV Compact Head Mount**

The NV Compact Head Mount allows hands-free operation of the night vision device and ensures its stable positioning even while in fast motion (pacing, running, abrupt movements). All adjustments of the head mount, such as 90 degrees raise of the unit, set the NV device's position in the "forward-backward" directions relative to the eyes are made by one hand.

**SKU 71012 Pulsar 5x30 Monocular**

The Pulsar 5x30 Monocular can be attached to the Forward DN/DFA digital NV (Core Thermal Imaging device) and used as a 5 power night vision (thermal imaging) scope. Along with this, the Pulsar 5x30 is a full-fledged observation device.

**SKU 79081 Pulsar Neck Strap**

The Pulsar neck strap is designed to be fixed to the devices which are equipped with 1/4 inch tripod socket. It can be used with thermal imagers Quantum, night vision devices Challenger etc. The length of the neck strap can be adjusted what makes it comfortable to carry both on the shoulder and the neck. The Pulsar neck strap ensures secure grip of the unit and prevents the device from slipping out from hands.

## RIFLE MOUNTS

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.

**SKU 79045 Digisight/Apex Weaver Rifle Mount**

Designated for installation of riflescope on hunting weapons, that are equipped with Weaver or Picatinny rails.

**SKU 79047 Digisight/Apex Prism 14/200 Rifle Mount**

Universal base for placing mounts of different manufacturers including EAW (Apel), Blaser, MAK and others.

**SKU 79048 Digisight/Apex Los/Dovetail Rifle Mount**

Allows installation of riflescopes on carbines «Los 7-1», «Los 4», «Bars 4-1» and other weapons manufactured in Russia and Europe, that have upper mount «dovetail».

**SKU 79046 Digisight/Apex MAK adapter**

Allows to equip the riflescopes with a monoblock mounts MAK (MAK Millmont, MAR Flex and others) for further installation on the weapon.

**SKU 79043 Challenger HS Adapter**

Standard for professional compact NV monocular, the HS adapter is used for mounting the Challenger GS 1x20/G2+ 1x21 behind a red-dot scope. The adapter is recommended for use with red-dot sights featuring night reticle luminescence mode.

**EXTRAS**