



DIGISIGHT ULTRA LRF

Digital Riflescopes

N450 | N455

USER MANUAL

ENGLISH / FRANÇAIS / DEUTSCH / ESPAÑOL / ITALIANO / РУССКИЙ



Riflescope Digisight Ultra N450 LRF / N455 LRF	1-13	ENGLISH	▶
Viseur Digisight Ultra N450 LRF / N455 LRF	14-26	FRANÇAIS	▶
Zielfernrohr Digisight Ultra N450 LRF / N455 LRF	27-40	DEUTSCH	▶
Visor Digisight Ultra N450 LRF / N455 LRF	41-53	ESPAÑOL	▶
Cannocchiale Digisight Ultra N450 LRF / N455 LRF	54-67	ITALIANO	▶
Прицел Digisight Ultra N450 LRF / N455 LRF	68-80	РУССКИЙ	▶

Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Attention - l'emploi de commandes, réglages ou performances de procédure autres que ceux spécifiés dans ce manuel peut entraîner une exposition à des rayonnements dangereux.

Vorsicht – wenn andere als die hier angegebenen Bedienungs- oder Justiereinrichtungen benutzt oder andere Verfahrensweisen ausgeführt werden, kann dies zu gefährlicher Strahlungsexposition führen.

Atención! La utilización de controles, ajustes o parámetros de procedimiento distintos de los aquí indicados puede provocar una exposición a radiaciones peligrosas.

Attenzione – in caso di utilizzo di dispositivi di comando o di regolazione di natura diversa da quelli riportati in questa sede oppure qualora si seguano procedure diverse vi è il pericolo di provocare un'esposizione alle radiazioni particolarmente pericolosa.

Внимание – использование других не упомянутых здесь элементов управления и настройки или других методов эксплуатации может подвергнуть Вас опасному для здоровья излучению.



1. Specifications

MODEL DIGISIGHT ULTRA	N450 LRF	N455 LRF
SKU (without mount)	76627X	76628X
SKU (with Weaver mount)	76627	76628
SKU (with Weaver QD112 mount)	76627Q	76628Q
OPTICAL CHARACTERISTICS		
Generation	Digital	
Magnification	4.5x-18x	
Objective lens focus, mm	50	
Focal ratio, D/f'	1:1.2	
Field of view (horizontal), °/m@100m	6.2 / 10.9	
Eye relief, mm	50	
Diopter eyepiece adjustment, diopter	+3/-5	
Min. focusing range, m	5	
Detection range, animal 1.7 m high, m/ y	550/601	500/546
RETICLE		
Click value, mm per 100 m	10 (at 4.5x) / 2.5 (at 18x)	
Click range (H/V), mm per 100 m	2000 (± 100 clicks)	
ELECTRONIC CHARACTERISTICS		
Sensitivity of riflescope, no more, mW ¹	1.5×10 ⁻⁵	
Sensitivity of riflescope, no more, mW ²	5.5×10 ⁻⁵	
Sensor type / Resolution, pixels	HD CMOS/1280x720	
Display Type / Resolution, pixels	AMOLED/1024x768	
DETACHABLE IR ILLUMINATOR		
Type / Wavelength, nm	LED/ 850	LED/ 940
LASER RANGEFINDER		
Wavelength, nm	905	
Max. measuring distance, m / y	1,000 / 1093	
Measurement accuracy, m / y	1	
VIDEO RECORDER		
Video / photo resolution, pixel	1024x768	
Video recording / photo format	.mp4 / .jpg	
Built-in memory	16 GB	
WI-FI CHANNEL		
Frequency	2.4 GHz	
Standard	802.11 b/g	
Line-of-riflescope reception range, m	15	
OPERATIONAL CHARACTERISTICS		
Operating voltage, V	3.0 - 4.2	
Battery Type / Capacity / Output Voltage	Li-Ion Battery Pack IPS 7A / 6400 mAh / DC 3.7 V	
External power supply	MicroUSB type B (5 V)	
Operating time on IPS7 Battery at t=22 °C, h ³	6	
Max. recoil power on rifled weapon, Joules	6000	
Max. recoil power on smooth-bore weapon, caliber	12	
Degree of protection, IP code (IEC60529), with installed battery	IPX7	

MODEL DIGISIGHT ULTRA	N450 LRF	N455 LRF
OPERATIONAL CHARACTERISTICS		
Operating temperature, °C / °F	-25...+50 / -13...+122	
Dimensions (without mount), mm / inch	370 x 142 x 74 / 14.6 x 5.6 x 2.9	
Weight (without mount), kg/ oz	1.1 / 38.8	

1 - Wavelength 780 nm, resolution 25 lines/mm

2 - Wavelength 915 nm, resolution 25 lines/mm

3 - In minimum consumption mode at subzero temperatures, the capacity of the battery (or batteries) is significantly reduced, causing a decrease in operating time.

2. Package Contents

- Digisight Ultra LRF riflescope
- Carrying case
- Battery Pack
- Battery Charger
- DC adapter
- MicroUSB cable
- IR illuminator protective cover
- IR illuminator connector plug
- Mount (with screws and hex-nut wrench) *
- Quick start guide
- Lens-cleaning cloth
- Warranty sheet

* Some models are supplied without mount.

3. Description

Digisight Ultra LRF riflescopes are designed for observation and shooting in twilight or nighttime. In complete darkness (no stars or the Moon) use of the built-in IR Illuminator with 850 nm or 940 nm wavelength is recommended.

The riflescope is equipped with a built-in laser rangefinder with a range of up to 1000 m and a measurement accuracy of ± 1 m.

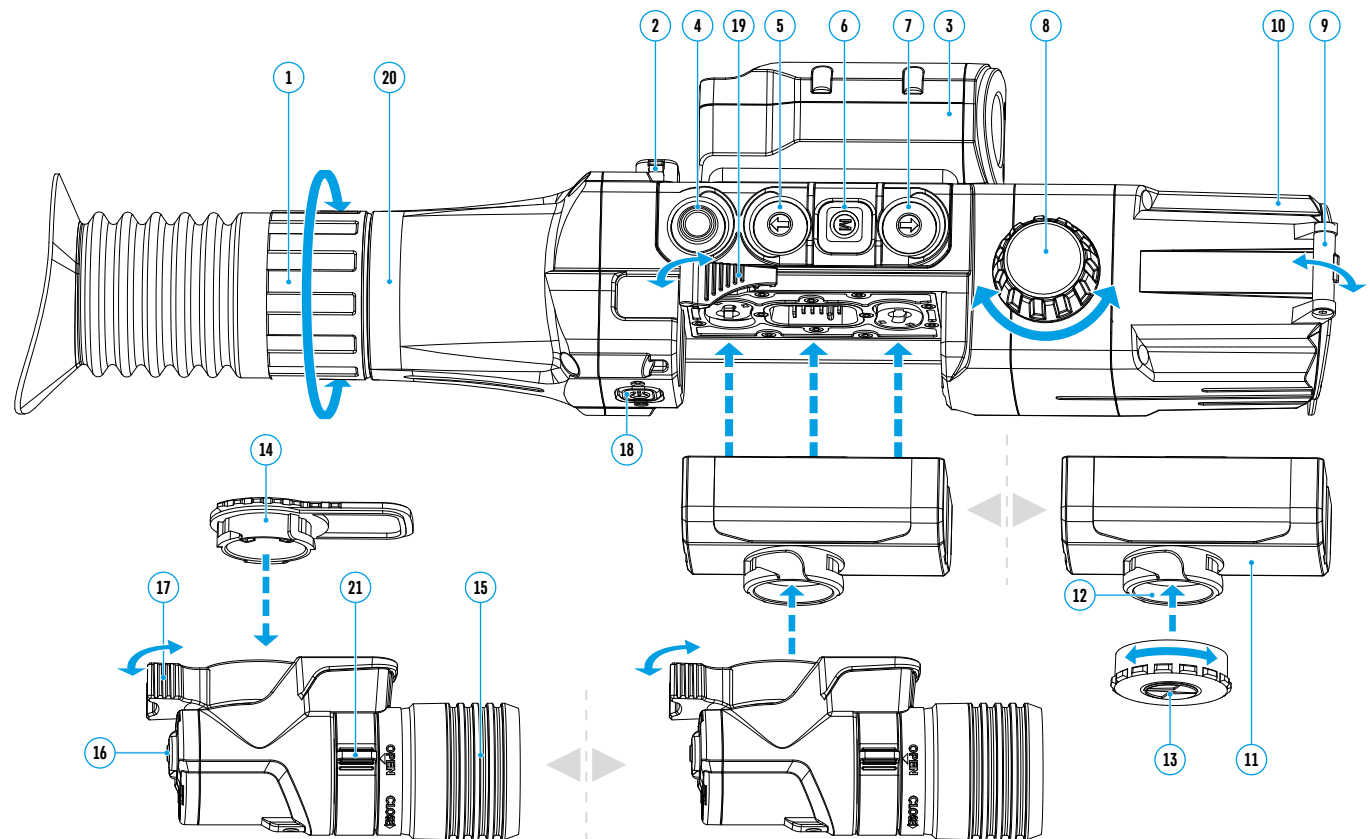
The **Digisight Ultra LRF** is a versatile device designed for a wide range of professional and amateur applications such as hunting, sports shooting, night video recording and observation.

4. Features

- HD-sensor 1280x720
- Enhanced nighttime sensitivity
- Over 500 m (547 yards) nighttime viewing range
- Variable magnification from 4.5x to 18x
- Built-in laser rangefinder with a measurement range of up to 1000 m (1094 yards)
- Wide field of view
- "Picture-in-Picture" mode
- B-pack power system: high capacity quick release rechargeable batteries
- Video recording
- Updatable Firmware
- 10 shapes/ 9 color reticles
- Precise zeroing with "Zoom Zeroing"
- Invisible long-range IR Illuminator (Digisight Ultra N455 LRF)
- 5 individual shooting profiles / 50 shooting distances
- Stream Vision app integration with iOS and Android devices
- Live streaming and internet recording via the Stream Vision app
- Wi-Fi remote view via the Stream Vision app
- Heavy caliber recoil rating: 12 gauge, 9.3x64, .375H&H
- Increased windage and elevation adjustment ranges
- Extreme operating temperatures (-25 ... + 50 °C)
- SumLight™ enhanced sensitivity software
- IPX7 waterproof rating
- Side incline and elevation angle indication
- Suitable for daytime use
- Instant power up
- External power supply adaptable

5. Components and Controls

1. Diopter adjustment ring
2. MicroUSB port
3. Rangefinder
4. **REC** button
5. **DOWN** button
6. **MENU** button
7. **UP** button
8. Lens focus knob
9. Lens cover
10. Lens
11. Battery Pack
12. IR illuminator connector
13. IR illuminator connector plug
14. IR illuminator cover
15. IR illuminator
16. **IR** button
17. IR illuminator lever
18. **ON/OFF** button
19. Battery install lever
20. Eyepiece
21. IR-illuminator lens lock knob
22. Mount



6. Button Operation

Controls	Operating mode	First brief press	Subsequent brief presses	Long press
ON/OFF (18) ⏻	Riflescope off	Power riflescope on	-	Power riflescope on
	Display off	Turn display on	-	Turn riflescope off
	Riflescope on, Quick menu, Main menu	-	-	Turn display off / Turn riflescope off
REC (4) ⊙	Riflescope on, video mode	Start video recording	Pause video recording	Switch video / photo modes
	Riflescope on, video mode, recording on	Pause video recording	Start video recording	Stop video recording
	Riflescope on, photo mode	Take a photograph	-	Switch video / photo modes
DOWN (5) ⬇	Riflescope on	Activate discrete zoom	-	PIp on/off
	Quick menu	Decrease value	-	-
	Main menu	Navigate downwards / leftwards	-	-
MENU (6) M	Riflescope on	Enter quick menu	-	Enter main menu
	Quick menu	Navigate upwards	-	Exit quick menu
	Main menu	Confirm / Enter menu items	-	Exit main menu items / Exit main menu
UP (7) ⬆	Riflescope on	Turn on rangefinder	Measure distance	Activate / Deactivate SumLight™ mode
	Rangefinder on	Measure distance	-	Activate scan mode
	Rangefinder - scan mode	Deactivate scan mode	-	Deactivate rangefinder
	Quick menu	Increase value	-	-
	Main menu	Navigate upwards / rightwards	-	-
IR (16)	Riflescope on, Quick menu, Main menu	Turn on IR illuminator	Switch IR power level	Turn off IR illuminator

7. Operation Features

The riflescope has been designed for long-term use. To ensure durability and full performance, keep to the following guidelines:

- Before use, make sure that you have installed and fixed the mount according to the instructions of the **Mount installation** section.
- Turn the riflescope off after use.
- **Attempts to disassemble or repair the scope will void the warranty!**
- The riflescope can be used in a wide range of temperatures. If it has been brought indoors from cold temperatures, do not turn it on for 2 to 3 hours. This will prevent external optical surfaces from fogging.
- If the scope is unable to mount onto the rifle securely (without backlash, strictly along the trunk line), or you have doubts about the mounting system, see a qualified gunsmith.
- Using a rifle with a poorly mounted scope can lead to inaccurate target shooting!
- To ensure reliable performance, prevent and address the causes of premature wear or element failure, it is recommended to carry out regular technical inspections of the unit.
- To ensure optimal image in the daytime, the lens cover with integrated filter must be closed.

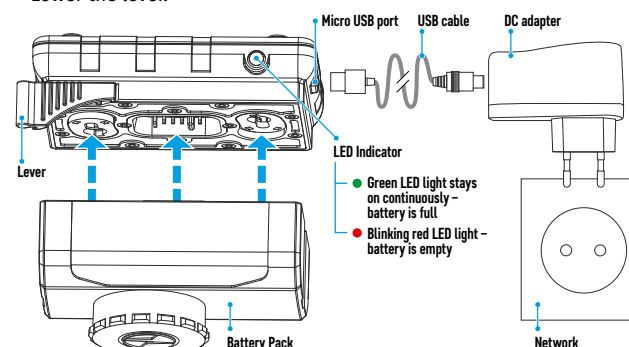
8. Using the Battery Pack

The riflescopes are supplied with a rechargeable Li-Ion Battery Pack IPS 7A.

Before first use, the battery should be charged.

Battery Charging

- Lift the lever of the charger.
- Remove the protective cover from the Battery Pack.
- Install the Battery Pack into the charger.
- Lower the lever.



Upon installation, a green indicator on the charger will start to glow and begin flashing *:

- once, if the battery charge ranges from 0 to 50%;
- twice, if the battery charge ranges from 51 to 75%;
- three times, if the battery charge ranges from 76 to 99%;
- if the indicator lights green continuously, the battery is fully charged. The battery can be disconnected from the charger;
- if the indicator of the charger lights **red** continuously upon battery installation, probably the battery's charge level is lower than acceptable (the battery has been long in deep discharge). Keep the battery in the charger for a long time (up to several hours), remove and re-insert it. If the indicator starts blinking green, the battery is good. If it keeps lighting red, it's defective. **Do not use the battery!**
- Connect the micro-USB plug of the USB cable to the port of the charger.
- Connect the USB cable to the DC adapter.
- Plug the DC adapter into a 100-240V socket, and the battery will begin charging.
- Remove the full battery from the charging platform by lifting the lever.

Removing the infrared illuminator installed on the IPS 7A battery is optional, and the infrared illuminator only works in conjunction with the riflescope.

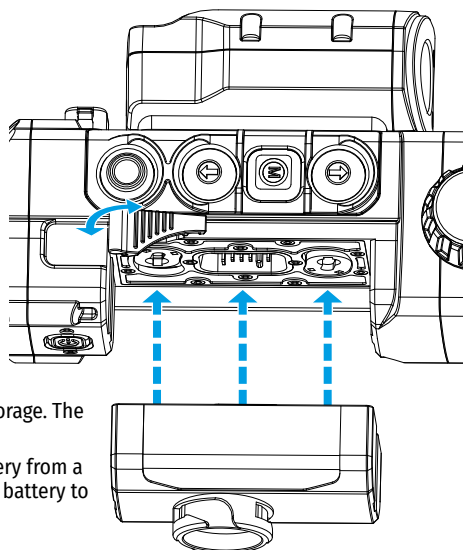
* If the charger is not connected to a power supply, the indicator shows the current state of charge of the battery for 15 seconds. When the power is connected, the indicator shows the current state of the battery and the process of its charging.

Install the battery in the riflescope



- Remove the protective cover from the Battery Pack.
- Raise the battery installation lever (19). Install the battery all the way into the slot on the riflescope body so that the groove on the IR illuminator connector is on top.
- Fix the battery by clicking riflescope's lever.
- Make sure the battery is installed correctly by turning the riflescope on by double pressing the **ON/OFF** button (18) briefly. An image will appear on the display.

Safety measures

- When charging, always use the charger supplied with the riflescope. The use of any other charger may irreparably damage the Battery Pack or the charger and may cause fire.
- The battery should be partially charged for long term storage. The recommended charge level is in range of 50% to 70%.
- Do not charge the battery directly after moving the battery from a cold to a warm environment. Wait 30-40 minutes for the battery to reach room temperature.
- During charging, do not leave the battery unattended.
- Do not use the charger if its construction has been altered or damaged.
- The battery should be charged at an air temperature of 0 °C ... + 45 °C.
- Otherwise, lifespan of the battery will decrease significantly.
- Do not leave the Battery Pack with a charger connected to the power line longer than 24 hours after full charge.
- Do not expose the battery pack to high temperature or to a naked flame.
- Do not submerge the battery.
- Do not connect external device with a current consumption that exceeds permitted levels.
- The Battery Pack is brief circuit protected. However, any situation that may cause short-circuiting should be avoided.
- Do not disassemble or deform the battery.
- Do not expose the battery to shocks and drops.
- When using the battery at low temperatures, the battery capacity decreases, this is normal and not a defect.
- Do not use the battery at the temperatures above those shown in the table – this may decrease battery's life.
- Keep the battery out of the reach of children.



9. External Power

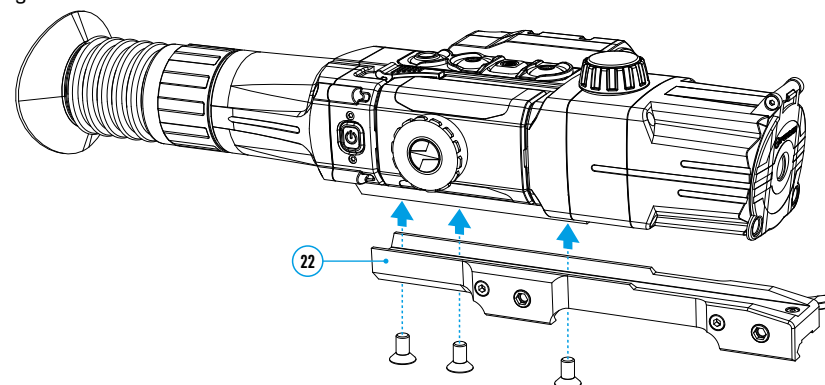
- The riflescope can be powered with an external power supply such as Power Bank (5 V).
- Connect the external power supply to the microUSB port (2) of the riflescope.
- The riflescope switches to operation from external power supply, and the IPS5 Battery Pack will begin slowly charging.
- The display will show the battery icon  with charge level as a percentage.
- If the riflescope is operated from an external power supply, but the IPS 7A battery is not connected, an icon  will be displayed.
- When the external power supply is disconnected, the riflescope switches to the internal battery pack without powering off.

Attention! Charging Power Bank IPS 7A batteries at air temperatures below 0 °C can result in reduced battery life. When using external power, connect Power Bank to the switched-on riflescope, which have worked for several minutes.

10. Operation

MOUNT INSTALLATION

Before using the riflescope you need to install a mount (may not be included). The mounting holes in the base of the riflescope enable the mount to be installed in one of the multiple positions to provide comfortable operating.



- Attach the mount (22) to the base of the riflescope using a hex-nut wrench and screws.
- The mount can be installed using either three or two screws, depending on the chosen position of the mount.
- Choosing the position of the mount helps to ensure the correct eye relief, depending on the type of weapon.
- Install the riflescope with the mount on the rifle and check if the position is suitable for you, then remove it.
- Unscrew the screws halfway, apply some thread sealant onto the thread of the screws and tighten them fully. Let the sealant dry for the time specified in the instructions. The riflescope is ready to be installed on a rifle and to be zeroed.
- Before using the riflescope on the hunt, follow instructions in the [Zeroing](#) section.

POWERING ON AND IMAGE SETUP

- Open the lens cover (9).
- Press the **ON/OFF** button (18) to turn on the riflescope. In a few seconds an image will appear on the display.
- To turn off the display while operating the riflescope, press and hold down the **ON/OFF** button (18) longer than one second.
- Turned off display will show the "Display off" message.
- To turn on the display, press the **ON/OFF** button (18) briefly.
- To turn off the riflescope, press and hold down the **ON/OFF** button (18) longer than three seconds. Display will show the "Display off" message and a countdown from 3 to 1 sec, and will turn off upon countdown expiration.
- Rotate the diopter adjustment ring (1) to see a crisp image of the aiming reticle and the status bar icons. Once this adjustment is done, there is no need to rotate the diopter adjustment ring for distance or any other conditions.
- Rotate the lens focus knob (8) to see a crisp image of the object observed.
- Adjusting the brightness and contrast of the display, enabling smooth digital zoom is described in the [Quick Menu Features](#) section.
- After use, turn off the riflescope by long pressing the **ON/OFF** button (18).

TURNING ON THE LASER RANGEFINDER AND ITS MODES

The **Digisight Ultra LRF** is equipped with a built-in laser rangefinder that allows you to measure the distance to the observed object with an accuracy of 1 meter.

Single measurement mode

- Turn on the riflescope by pressing the **ON/OFF** button (18) briefly.
- Activate the rangefinder by pressing the **UP** button (7) briefly. The red rangefinder reticle and the **PIP** window with the riflescope reticle (if **PIP** was turned off before turning on the rangefinder) appears.
- Aim at the object. To measure the distance to the object once, press the **UP** (7) button briefly.
- The measurement results appear on the display in the upper right corner.
- The rangefinder disconnects after 3 seconds of inactivity.

Scan Mode:

- Turn on the riflescope by pressing the **ON/OFF** button (18) briefly.
- Activate the rangefinder by pressing the **UP** button (7) briefly. The red rangefinder reticle and the **PIP** window with the riflescope reticle (if **PIP** was turned off before turning on the rangefinder) appears.
- Activate the scan mode by long pressing the **UP** button (7) to continuously measure the distance to the object of observation.
- The display will continuously display the measurement results in the upper right corner.
- Turn off the scan mode by pressing the **UP** button (7) briefly or turn off the rangefinder by long pressing the **UP** button (7).

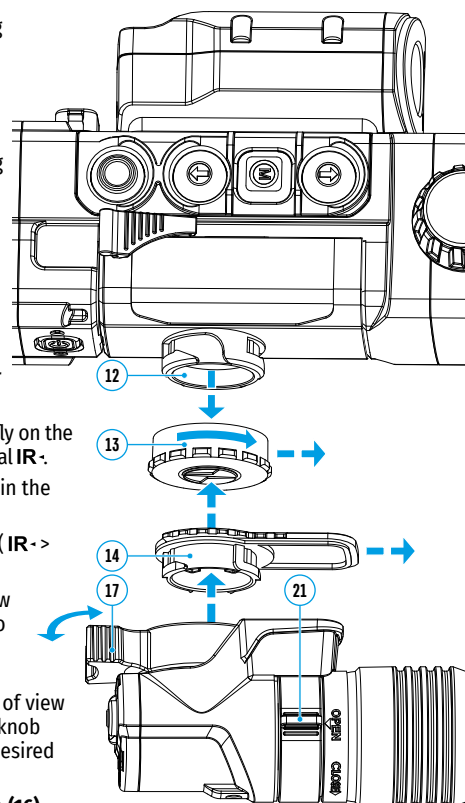
Additional settings / rangefinder functions are available in the LRF submenu of the main menu.

IR ILLUMINATOR

The riflescope is equipped with an IR Illuminator featuring a wavelength of 940 nm or 850 nm which provides significant increase in observation range in lowlight conditions and in the darkness.

Installing the IR illuminator

- Remove the IR illuminator connector plug (13) by turning the plug clockwise and pulling in the opposite direction from the battery.
- Lift the IR illuminator lever (17), remove the IR illuminator cover (14).
- Place the illuminator tightly onto the IR illuminator connector (12), lower the lever (17).
- Make sure that the IR Illuminator is mounted and connected to the riflescope – the icon (IR) will disappear on the display.
- To activate the IR illuminator, press the **IR** button (16) briefly on the edge of the illuminator. IR power level upon start is minimal **IR**.
- IR Illuminator icon with respective power level is shown in the bar status.
- To switch between power levels press the **IR** button (16) (**IR** → **IR** → **IR** → **IR**) successively and briefly.
- To adjust the position of the light spot in the field of view of the sight, turn the IR-illuminator lens lock knob (21) to the **OPEN** position.
- By moving the lens of the IR illuminator with your hand, adjust the required position of the light spot in the field of view of your sight. After successful adjustment, turn the lock knob (21) in the **CLOSE** direction while aiming the lens in the desired direction to lock the IR illuminator lens.
- To deactivate the IR Illuminator, hold down the **IR** button (16) – the **IR** icon will disappear from the display.



Removing the IR illuminator

- To remove the illuminator, raise the lever (17).
- Install the plug (13).
- The status bar will show an icon of the disconnected IR Illuminator IR.

Notes

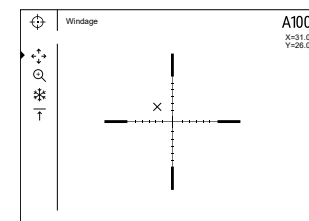
- Upon turning the IR off, power level is not saved in the riflescope's memory.
- IR Illuminator is not focusable.
- IR Illuminator's heat sink becomes hot. It is a functional and constructive feature; it is not a defect.

11. Zeroing

The riflescope features two zeroing methods – “one shot” zeroing and using **FREEZE** function. Zeroing should be done at operating temperatures, by following these steps:

- Mount your rifle with the riflescope installed on a bench rest.
- Set a target at a certain distance.
- Adjust the riflescope according to the instructions of section **Powering on and image setup**.
- Select zeroing profile (see option **Zeroing profile** in section **Main Menu Features**)
- Aim the firearm at the target and take a shot.
- If the point of impact does not match the aiming point (center of the riflescope's reticle), hold down **MENU** button (6) to enter the main menu.
- Enter submenu **Zeroing** with a short press of **MENU** button (6).
- Add a new zeroing distance at which you are zeroing (see option **Zeroing** => submenu **Add new distance** in section **Main Menu Features**).
- Additional menu for zeroing parameters setup appears on the display
- An auxiliary cross X appears in the center of display, and coordinates of the auxiliary cross X and Y appear in the top right corner.
- Enter **Windage/Elevation** submenu with a short press of **MENU** button (6).
- Holding the reticle at the aiming point, move the auxiliary cross horizontally or vertically with **UP** (7) / **DOWN** (5) buttons until the auxiliary cross matches the point of impact. Switch between movement directions of the auxiliary cross from horizontal to vertical with a short press of **MENU** button (6).
- **Attention!** Not to hold the reticle at the aiming point, you can use the **FREEZE** function – freezing the zeroing screen (see option **Zeroing** => submenu **Operating the Distances** => submenu **Zeroing Parameters Settings** => submenu **Freeze** in section **Main Menu Features**).
- Exit **Windage/Elevation** submenu with a long press of **MENU** button (6).
- Save the new position of the reticle with a long press of **MENU** button (6). A message “Zeroing coordinates saved” confirms successful operation. The reticle will now move to the point of impact.
- Exit the submenu, take another shot – the point of impact should now match the aiming point.

Note: To re-zero at any distance select the desired distance, press **MENU** button (6) briefly and enter **Zeroing Parameters Settings** submenu with another short press of **MENU** button (6).



12. Discrete Digital Zoom

The riflescope functionality allows you to quickly increase the base magnification (please refer to the **Magnification** line in the specifications table) by two times or four times, as well as to return to the base magnification. To operate the discrete digital zoom, press successively the **DOWN (10)** button.

13. SumLight™ Function

The **SumLight™** function substantially increases sensitivity of the CMOS array in lowlight conditions thus enabling observation in low light without using the IR Illuminator.

- Activate the **SumLight™** function by long pressing the **UP (7)** button.
- by long pressing the **UP (7)** button, deactivate this function.
- **SumLight™** icon (on or off) is shown in the status bar.

Attention! Upon activation of the **SumLight™** function, noise level in the picture increases, frame rate lowers, image slows down - if the riflescope rapidly moves from one side to the other, the picture may be blurred; such effects are not defects. On the riflescope display glowing white dots (pixels) can be seen, the number of dots may increase when **SumLight™** is turned on. This is due to the operating peculiarities of the function and is not a flaw.

Attention! Due to peculiarities of AMOLED display technology, after switching between various reticles, you may notice on the riflescope's display semitransparent white lines of the previous reticle. They may appear if a new reticle does not contain elements (such as lines, circles, bars etc.) of the previous reticle. After a while, the "ghost image" becomes less noticeable. The appearance of "ghost images" on the display after repeatedly changing the reticle is not a defect and is not considered as a warranty case.

14. Status Bar



The status bar is located in the lower part of the display and shows information on the actual operating status of the riflescope, including:

1. Actual zeroing profile.
2. Zeroing distance (distance is not shown before zeroing is done).
3. SumLight™ (on/off).
4. IR connection status / IR Illuminator's power level (for example, level 3).
5. Full magnification value.
6. Microphone
7. Wi-Fi connection status.
8. Auto shutdown function.
9. Current time
10. Battery charge level (if the riflescope is powered by the Battery Pack) or
 - External battery power indicator (if the riflescope is powered by an external power supply) or
 - Battery charge with current level in per cent (if battery is installed or it is being charged by external power supply).

The status bar shows the distance value selected in the quick menu. Also, after zeroing at different distances, the distance value selected from the quick menu is displayed. If one distance is zeroed, it is displayed.

15. Quick Menu Features

The quick menu allows users to manage the riflescope's settings (display brightness and contrast, continuous digital zoom) and change zeroing distance (if several are available) in the current zeroing profile.

- Enter the quick menu with a brief press of the **MENU** button **(6)**.
- To toggle between the functions below, press the **MENU** button **(6)** briefly.
 - **Brightness** - press the **UP (7)** and **DOWN (5)** buttons to change display brightness from 0 to 20.
 - **Contrast** - press the **UP (7)** and **DOWN (5)** buttons to change image contrast from 0 to 20.
 - **Digital zoom** - press the **UP (7)** and **DOWN (5)** buttons to change the value of the digital zoom from 4.5 to 18. Change step for digital zoom is 0.1.
- To exit the quick menu, press and hold down the **MENU** button **(6)**.
- Automatic exit takes place in 3 sec of inactivity.

16. Main Menu Features

- Enter the main menu with a long press of the **MENU** button **(6)**.
- Press the **UP (7)** and **DOWN (5)** buttons to toggle between the main menu items.
- Main menu navigation is cyclical: as soon as the last menu item of the first tab is reached, first menu item of the second tab starts.
- Enter a submenu of the main menu with a brief press of the **MENU** button **(6)**.
- Exit the submenu with a long press of the **MENU** button **(6)**.
- To exit the main menu, press and hold down the **MENU** button **(6)**.
- Automatic exit from the main menu takes place in 10 sec of inactivity.
- Upon exit from the menu the cursor location is memorized only for the duration of the working session (i.e. until the riflescope is turned off). Upon restarting the riflescope and entering the menu the cursor will be located on the first menu item.

General structure of the menu

The menu includes two tabs. To toggle between the tabs, press the **UP (7)** and **DOWN (5)** navigation buttons – when the last menu item of the 1st tab is reached, you move to the first menu item of the 2nd tab and vice versa.













Tab 1

Level 1	Level 2	Level 3	Level 4	Note	
Zeroing profile				Firearm	
Icon brightness					
Reticle setup	Reticle type				
	Reticle color				
	Reticle brightness				
Zeroing	Distance # 1	Zeroing parameters settings	Windage/ elevation		
			Magnification		
			Freeze		
			Name distance		
	Change primary distance				
	Delete distance				
	...				
	Distance # N				
	Add new distance				
				On/off	
Wi-Fi				On/off	
Rangefinder	Reticle type			Rangefinder reticle selection	
	Target position angle			On/off	
	True distance			On/off	

Tab 2

Level 1	Level 2	Note
General settings	Language	
	Date	
	Time	
	Units of measure	
	Default settings	
	Format	
Microphone		On/off
Accelerometer	Auto shutdown	On/off
	Side incline	On/off
Wi-fi settings	Password	
	Access level setup	Owner / guest
Device information		

Menu Contents and Description

Zeroing profile 	<p>This item of the main menu allows you to select one of five profiles to use. Each profile allows you to configure and save the following parameters:</p> <ol style="list-style-type: none"> 1. A set of zeroed distances; 2. Reticle color 3. Reticle type <p>Different profiles can be used when using the riflescope on different weapons or when shooting with different bullets.</p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Enter the Zeroing profile submenu by pressing the MENU button (6) briefly. • Use the UP (7) and DOWN buttons (5) to select one of the zeroing profiles (marked with the letters A, B, C, D, E). • Confirm your selection by pressing the MENU button (6) briefly. <p>The name of the selected profile appears in the status bar at the bottom of the display.</p>
Icon brightness 	<p>This feature of the main menu allows you to adjust the brightness of the graphical user interface (graphic design of all menu items, status bar, screen, as well as display screen savers).</p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Use the UP (7) and DOWN (5) buttons to select a submenu . • Press the MENU button (6) briefly. • Press the MENU (6) button briefly to enter menu item • Use the UP (7) and DOWN (5) buttons to set the desired brightness level (of the menu and status bar icons) from 1 to 10. • Press the MENU (6) button briefly to confirm.
Reticle setup 	<p>This main menu item allows you to select the reticle shape, color and brightness.</p> <p>Reticle type </p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Use the UP (7) and DOWN (5) buttons to select the Reticle setup submenu. Press the MENU button (6) briefly. • Use the UP (7) and DOWN (5) buttons to select the Reticle type menu item. Press the MENU button (6) briefly. • Select the desired reticle shape out of the list of reticles with the UP (7) and DOWN (5) buttons. The reticle type changes as the cursor goes down the reticle list. • Press the MENU (6) button briefly to confirm. <p>Full reticle catalogue is available online: www.pulsar-vision.com</p> <p>Reticle color </p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Use the UP (7) and DOWN (5) buttons to select the Reticle setup submenu. Press the MENU button (6) briefly. • Use the UP (7) and DOWN (5) buttons to select the Reticle color menu item. Press the MENU button (6) briefly. • Use the UP (7) and DOWN (5) buttons to select one of the color items for the reticle: <ul style="list-style-type: none"> - black/red (black reticle, red cross) - white/red (white reticle, red cross) - black/green (black reticle, green cross) - white/green (white reticle, green cross) - red (red reticle) - green (green reticle) - yellow (yellow reticle) - blue (blue reticle) - orange (orange reticle) • Press the MENU (6) button briefly to confirm. <p>Reticle brightness </p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Use the UP (7) and DOWN (5) buttons to select the Reticle setup submenu. Press the MENU button (6) briefly. • Use the UP (7) and DOWN (5) buttons to select the Reticle brightness menu item. Press the MENU button (6) briefly. • Set the desired reticle brightness (from 0 to 10) with UP (7) and DOWN (5) buttons. • Press the MENU (6) button briefly to confirm.
Zeroing 	<p>Add new distance </p> <p>To zero your riflescope, you need to set a zeroing distance first. You can zero your riflescope at any distance ranging from 1 to 910 m (955 yards).</p> <ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Select submenu Zeroing  and enter it by pressing the MENU button (6) briefly. • Press the MENU button (6) briefly to enter the Add new distance  submenu. • Set the values for each digit with the UP (7) and DOWN (5) buttons. To switch between digits, press the MENU button (6) briefly. • Having set the desired distance, press and hold down the MENU button (6) to save it and go to the shooting screen. • The distance you set first becomes a primary distance – shown with icon  on the right to the distance value. <p>Note: max. number of zeroing distances is 5 for each profile.</p>

Zeroing



Operating the distances

100m ---- ►0◀

200m ---- +7.0

- Press and hold the **MENU** button **(6)** to enter the main menu.
 - Select a menu item and enter it by pressing the **MENU** button **(6)** briefly – the zeroed distances are displayed.
- The values (for example, +7.0) shown on the right of the distance values, stand for the number of clicks along the Y axis, at which the reticle position at other distances differs from the reticle position in the primary distance.

Zeroing Parameters Settings



To re-zero at any distance, select the desired distance and press briefly **MENU** button **(6)**.

Select submenu option **Zeroing Parameters Settings** and enter it with a short press of **MENU** button **(6)**. Zeroing screen, which allows the change of zeroing coordinates, will appear.

Windage/Elevation



The **Windage/Elevation** additional menu item allows you to adjust reticle position. For a detailed description of reticle adjusting, refer to the section **Zeroing**.

Magnification



This menu item allows you to use digital zoom while zeroing, that reduces the click value and improves accuracy of zeroing.

- Enter submenu **Magnification** with a short press of **MENU** button **(6)**.
- Select a discrete digital zoom value (i.e. 9x) with **UP (7)** / **DOWN (5)** buttons.
- Confirm your selection with a short press of **MENU** button **(6)**.

Freeze



The feature of the function is that there is no need to constantly keep the riflescope at the point of aiming.

- Move the cursor to the **Freeze** function with **UP (7)** / **DOWN (5)** buttons.
- Align the reticle with the point of aiming and press **MENU (4)** or **ON/OFF** button **(18)** briefly. A screenshot will be taken, an icon will appear.
- Go to **Windage/Elevation** submenu and adjust the position of the reticle (please refer to section **Zeroing**).
- Select **Freeze** submenu item again and briefly press **MENU (4)** or **ON/OFF** button **(18)** - the image will “unfreeze”.

Name Distance



- Enter submenu **Name Distance** with a short press of **MENU** button **(6)**.
- Select values for each digit with **UP (7)** / **DOWN (5)** buttons. Switch between the digits with a short press of **MENU** button **(6)**.
- Confirm your selection with a long press of the **MENU** button **(6)**.

Change Primary Distance



- Select a **non-primary distance** and enter the submenu for operating the distance with a short press of **MENU** button **(6)**.
- Select **Change Primary Distance** item .
- Press **MENU** button **(6)** briefly.
- Icon next to the selected distance confirms the change of primary distance.

The differences of other distances from the new primary distance are recalculated as per clicks.

Delete Distance



- Select the distance you wish to delete and enter the submenu for operating the distances with a short press of **MENU** button **(6)**.
- Select **Delete Distance** item.
- Select “Yes” in the appeared dialog box to delete a distance. “No” – to cancel deletion.

Attention! If the primary distance is deleted, the first distance on the list automatically becomes the new primary distance.

Wi-Fi



The riflescope has a function for wireless communication with external devices (smartphone or tablet) via Wi-Fi.

- To switch on the wireless module, enter the main menu.
- Use the **UP (7)** and **DOWN (5)** buttons to select menu item .
- By pressing the **MENU** button **(6)** briefly, activate or deactivate Wi-Fi.

The Wi-Fi operation is displayed in the status bar as follows:

CONNECTION STATUS

STATUS BAR INDICATION

Wi-Fi is off



Wi-Fi in the riflescope is being activated





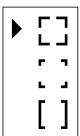







Wi-Fi is on, no connection with mobile device






Wi-Fi is on, mobile device connected



- The riflescope is recognized by an external device under the name “Digisight Ultra_XXXX LRF”, where XXXX are the four last digits of the serial number.
- After entering the password on the external device (for further details on setting a password, see **Wi-Fi Settings** subsection in the **Main Menu Features** section) and establishing the connection, the icon in the status bar changes to .
- Hold the **MENU** button **(6)** to exit the main menu.

Rangefinder 	Menu item RANGEFINDER allows you to set up built-in rangefinder's parameters.
	Reticle Type Selection of rangefinding reticle <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Enter submenu Rangefinder with a short press of MENU button (6). Enter submenu Reticle Type with a short press of MENU button (6). Select one of the three reticles with UP (7) / DOWN (5) buttons. Confirm selection with a brief press of MENU button (6). 
Target Position Angle 	Function TARGET POSITION ANGLE (TPA) allows you to see angle of target location (angle of elevation). When the function is activated, the angle is shown continuously in LRF stand-by mode in the top right corner of the display. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Enter submenu Rangefinder with a short press of MENU button (6). Select submenu TPA with UP (7) / DOWN (5) buttons. Turn TPA function on/off with a short press of MENU button (6).
True Distance 	Function TRUE DISTANCE (THD) allows the user to measure true horizontal distance to a target based on the angle of elevation. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Enter submenu Rangefinder with a short press of MENU button (6). Select submenu THD with UP (7) / DOWN (5) buttons. Turn THD function on/off with a short press of MENU button (6).
General settings 	This menu item allows you to set the following settings:
Language 	Interface language selection. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Press the MENU button (6) briefly to enter the General Settings submenu. Press the MENU button (6) briefly to enter the Language submenu. Use the UP (7) and DOWN (5) buttons to select one of the available interface languages: English, German, Spanish, French, Russian. Press the MENU button (6) to confirm.
Date 	Date setup. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Press the MENU button (6) briefly to enter the General Settings submenu. Enter the Date submenu by briefly pressing the MENU button (6). Date format is displayed as: YYYY/MM/DD (10/03/2019). Select the correct values for the year, month and day with a brief press of the UP (7) and DOWN (5) buttons. Switch between digits with a brief press of the MENU button (6). To save selected date and exit the submenu press and hold the MENU button (6).
Time 	Time setup. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Press the MENU button (6) briefly to enter the General Settings submenu. Press the MENU button (6) briefly to enter the Time submenu. Press the MENU button (6), press the UP (7) and DOWN (5) buttons to select the time format - 24 or PM/AM. Switch to hour setup with a press of the MENU button (6). Press the UP (7) and DOWN (5) buttons to select hour value. Switch to minute setup with a press of the MENU button (6). Press the UP (7) and DOWN (5) buttons to select minute value. To save selected date and exit the submenu, press and hold the MENU button (6).
Units of Measure 	Selection of units of measure. <ul style="list-style-type: none"> Press and hold the MENU button (6) to enter the main menu. Press the MENU button (6) briefly to enter the General Settings submenu. Enter the submenu Units of measure by pressing the MENU button (6) briefly. Press the UP (7) and DOWN (5) buttons to select the unit of measurement - meters or yards. To confirm, press the MENU button (6). Exit to the General settings submenu will take place automatically. <p>Note: unit of measurement is used both for the rangefinder and the zeroing distances. When changing the unit of measurement, distance titles change too.</p>

<div>General settings</div> <div></div>	<div>Default Settings</div> <div></div> <div><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Press the MENU button (6) briefly to enter the General Settings submenu.Enter the Default Settings submenu by pressing the MENU button (6) briefly.Use the UP (7) and DOWN (5) buttons to select “Yes” to restore default settings or “No” to cancel.Confirm your selection by pressing the MENU button (6) briefly.If “Yes” is selected, display will show “Return default settings?” and “Yes” and “No” items. Select “Yes” to restore default settings. If “No” is selected, action is canceled.<p>The following settings will be restored to their original values before changes made by the user:</p><table><tr><td>Operating mode of video recorder – video</td><td>Reticle selection from the riflescope’s memory - 1</td><td>Wi-Fi - disconnected + default password</td><td>Side incline – off</td></tr><tr><td>Display brightness - 10</td><td>Reticle color - black/red (black reticle, red cross)</td><td>Zoom - optical, digital zoom off</td><td>Auto shutdown - off</td></tr><tr><td>Display contrast - 10</td><td>Reticle brightness - 5</td><td>Unit of measurement - metric</td><td>SumLight™ - off</td></tr><tr><td>Zeroing profile - A</td><td>Interface language - English</td><td>PiP - off</td><td>IR illuminator – off</td></tr></table><p>Attention! After restoring default settings, date and time values, zeroing distance lists in profiles as well as the zeroing coordinates for each distance are saved.</p></div>	Operating mode of video recorder – video	Reticle selection from the riflescope’s memory - 1	Wi-Fi - disconnected + default password	Side incline – off	Display brightness - 10	Reticle color - black/red (black reticle, red cross)	Zoom - optical, digital zoom off	Auto shutdown - off	Display contrast - 10	Reticle brightness - 5	Unit of measurement - metric	SumLight™ - off	Zeroing profile - A	Interface language - English	PiP - off	IR illuminator – off
Operating mode of video recorder – video	Reticle selection from the riflescope’s memory - 1	Wi-Fi - disconnected + default password	Side incline – off														
Display brightness - 10	Reticle color - black/red (black reticle, red cross)	Zoom - optical, digital zoom off	Auto shutdown - off														
Display contrast - 10	Reticle brightness - 5	Unit of measurement - metric	SumLight™ - off														
Zeroing profile - A	Interface language - English	PiP - off	IR illuminator – off														
	<div>Format</div> <div></div> <div><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Press the MENU button (6) briefly to enter the General Settings submenu.Enter the Format submenu by pressing the MENU button (6) briefly.Use the UP (7) and DOWN (5) buttons to select “Yes” to format the memory card or “No” to cancel.<p>Attention! Formatting of the integrated memory card will irrevocably delete all saved files - before formatting, back up important files using an alternative carrier.</p></div>																
<div>Microphone</div> <div></div>	<div>In this menu item you can activate the microphone in the riflescope, designed to support the operation of the device with sound: recording video files with sound.</div> <div><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Use the UP (7) and DOWN (5) buttons to select Microphone menu item.By pressing the MENU button (6) briefly, turn on or turn off the microphone.</div>																
<div>Accelerometer</div> <div></div>	<div>Auto Shutdown</div> <div></div> <div><p>This item allows you to activate automatic shutdown, which recognizes whether your riflescope is in a non-operating position (tilt up or down at an angle of more than 70 °, right or left - at an angle of more than 30 °).</p><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Press the MENU button (6) briefly to enter the Accelerometer submenu.Press the MENU button (6) briefly to enter the Auto Shutdown submenu.Use the UP (8) and DOWN buttons (10) to select the time period (1 min, 3 min, 5 min) upon expiry of which the riflescope will automatically shut down, or select “Off” if you wish to deactivate Auto shutdown.Confirm your selection by pressing the MENU button (6) briefly.<p>Note: If the function is activated, the status bar shows an icon and shutdown time period as 1 min.</p></div>																
	<div>Side Incline</div> <div></div> <div><p>This item allows you to activate/deactivate the indication of horizontal (side) incline of the weapon. Side incline is indicated by “sector” arrows to the right and left of the reticle. Arrows show the direction in which you should move your rifle to eliminate side incline.</p><p>There are three levels of incline:</p><table><tr><td>- 5°-10° – one sector arrow;</td><td></td><td></td></tr><tr><td>- 10°-20° – two sector arrow;</td><td></td><td></td></tr><tr><td>- > 20° – three sector arrow.</td><td></td><td></td></tr></table><p>A side incline of less than 5° is not displayed.</p><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Press the MENU button (6) briefly to enter the Accelerometer submenu.Press the MENU button (6) briefly to enter the Side Incline submenu.By pressing the MENU button (6) briefly, turn on or turn off the incline indication.</div>	- 5°-10° – one sector arrow;			- 10°-20° – two sector arrow;			- > 20° – three sector arrow.									
- 5°-10° – one sector arrow;																	
- 10°-20° – two sector arrow;																	
- > 20° – three sector arrow.																	
<div>Wi-Fi Settings</div> <div></div>	<div>This menu item allows you to configure your riflescope's Wi-Fi.</div> <div>Password Setup</div> <div></div> <div><p>This submenu of the main menu allows you to set a password to access your riflescope from an external device. The password is used to connect an external device (i.e. smartphone) to your riflescope.</p><ul style="list-style-type: none">Press and hold the MENU button (6) to enter the main menu.Press the MENU button (6) briefly to enter the Wi-Fi Settings submenu.Use the UP (7) and DOWN (5) buttons to select Password Setup menu item. Press the MENU button (6) briefly.The default password “12345678” appears on the display.Use the UP (7) and DOWN (5) buttons to set the desired password (button UP (7) to increase value; button DOWN (5) to reduce). Switch between digits with a brief press of the MENU button (6).Save the password and exit the submenu by pressing and holding the MENU button (6).</div>																


Wi-Fi Settings 	Access Level Setup 	<p>This submenu allows you to set required access level of the Stream Vision application to your riflescope.</p> <ul style="list-style-type: none"> - Access level Owner. The Stream Vision user has the complete access to all riflescope's functions. - Access level Guest. The Stream Vision user has the access only to the real time video stream from the riflescope. • Press and hold down the MENU button (6) to enter the main menu, select the Wi-Fi Settings menu item, then the Access level setup submenu. • Use the UP (7) and DOWN (5) buttons to select the access level. • To confirm the selection, press the MENU button (6). • To exit the submenu, press and hold the MENU button (6).
Device Information 		<ul style="list-style-type: none"> • Press and hold the MENU button (6) to enter the main menu. • Select the Device information submenu and briefly press the MENU button (6) to enter. • This item allows the user to view the following information about the riflescope: <ul style="list-style-type: none"> - Full name of the riflescope - SKU number - Serial number - Firmware version - Hardware version - Service information


17. Video Recording and Photography

Digisight Ultra LRF riflescopes feature video recording (photography) of the image being observed to the internal memory card.

Before using the functions of video recording and photography, please read the **Date setup**, **Time setup** menu items of the **Main Menu Features** section.

The built-in recorder operates in two modes:

- **Photo** (photography; in the top left corner of the display you can see a photography icon ). If estimated number of photos that can be saved to the Flash card is more than 100, message ">100" is shown.



- **Video** (video recording; in the top left corner of the display you can see an icon , total video time left in the format HH:MM:SS (hours : minutes : seconds)

When switched on, the riflescope is in the Video mode. Toggle between Video and Photo modes with a long press of the **REC (4)** button. Switching is cyclical (Video-> Photo-> Video...).

Photo mode. Photography .

- Switch to the Photo mode with a long press of the **REC** button **(4)**.
- Press the **REC** button **(4)** briefly to take a picture. The image freezes for 0.5 sec - a photo is saved to the internal memory.

Video mode. Video recording .

- Switch to the Video mode with a long press of the **REC (4)** button.
- Press the **REC** button **(4)** briefly to start video recording.
- Upon start of video recording icon  disappears, icon  and recording timer in the format MM:SS (minutes : seconds) appear instead.
- To pause video recording and then start (continue video recording), press the **REC** button **(4)** briefly.
- To stop video recording, press and hold the **REC** button **(4)**.
- Video files are saved to the built-in memory card:
 - After stopping video recording
 - Upon powering the riflescope off if recording was on;
 - When the memory card is overfilled during record ("Memory full" message appears on the display).

Notes:

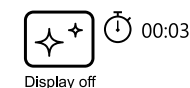
- You can enter and navigate the menu during video recording.
- Recorded videos and photos are saved to the built-in memory card of the riflescope in the format img_xxx.jpg (for photos); video_xxx. mp4 (for video). xxx - three-digit counter (for videos and photos).

- The counter for multimedia files cannot be reset.
- If a file is deleted from the middle of the list, its number is not taken by another file.
- When the counter is full, a new folder is created - img_xxxx, where xxxx is the folder counter.
- The maximum duration of a recorded file is five minutes. After this time expires a video is recorded into a new file. The number of recorded files is limited by the capacity of unit's internal memory.
- Check regularly the free capacity of the internal memory, move recorded footage to other storage media to free up space on the internal memory card.
- Graphic data (status bar, icons and other) are not shown in recorded video/ photo files.

18. Display Off Function

This function deactivates transmission of image to the display by minimizing its brightness. This helps prevent accidental disclosure. The riflescope and the built-in IR illuminator keep running.

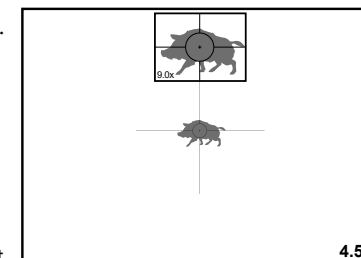
- When the riflescope is on, press and hold down the **ON/OFF** button **(18)** for 1-2 seconds. The display goes out, the "Display off" message appears.
- To turn on the display, press the **ON/OFF** button **(18)** briefly.
- If the **ON/OFF** button **(18)** is held down for more than 3 seconds, the display shows the "Display off" message with countdown, the device will turn off.



19. PiP Function

The **PiP** function (Picture in Picture) allows you to see a zoomed image simultaneously with the main image in a dedicated window.

- To turn on/off the **PiP** function, press and hold the **DOWN** button **(5)**.
- To change zoom ratio in the **PiP** window, press the **DOWN** button **(5)** briefly.
- Required digital zoom can also be set in the quick menu.
- The zoomed image is displayed in a dedicated window, with the full magnification being used.
- The rest of the image is displayed only with the optical magnification (digital magnification is off).
- When **PiP** is turned off, the display shows the full magnification set for the **PiP** mode.



20. Stream Vision

Digisight Ultra LRF riflescopes support **Stream Vision** technology, which allows you to stream an image from the display of your riflescope to a smartphone or a tablet PC via Wi-Fi in real time.

You can find further guidelines on **Stream Vision** online: www.pulsar-vision.com

Note: the **Stream Vision** application allows you to update the firmware features of your **Pulsar** device.

How to update instructions are as below:

1. Download free of charge **Stream Vision** App on [Google Play](#) or [App Store](#). Scan the QR codes or follow the links to download **Stream Vision** free of charge:



2. Connect your **Pulsar** device to your mobile device (smartphone or tablet).
3. Launch **Stream Vision** and go to section **My Devices**.
4. Select your **Pulsar** device and press **Check Updates**.

Important:

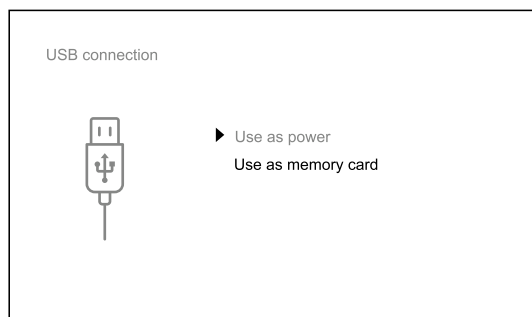
- if your **Pulsar** device is connected to the phone, please turn on mobile data (GPRS/3G/4G) on your mobile device to download an update;
 - if your **Pulsar** device is not connected to your phone, but it's already in the **My Devices** section, you may use Wi-Fi to download an update.
5. Wait for the update to download and install. **Pulsar** device will reboot and will be ready to operate.

21. Connecting to PC via USB

- Connect one end of the USB cable to the riflescope microUSB (2) port, and the other one to the port on your computer.
- Turn the riflescope on by pressing the **ON/OFF (18)** button (riflescope that has been turned off cannot be detected by your computer).
- In a few seconds the computer will detect your riflescope automatically; no drivers need to be installed.
- Two connection modes will appear on the display: **Memory card** (external memory) and **Power**.
- Use the **UP (7)** and **DOWN (5)** buttons to select the connection mode.
- Press the **MENU** button (6) briefly to confirm the selection.


Memory card

- Upon choosing this mode, the computer detects the riflescope as a flash card. This mode is designed to manage the files saved in riflescope's memory. The riflescope's functions are not available in this mode; the riflescope turns off automatically.
- If video recording was in progress when connection was made, recording stops and video is saved.



- When USB is disconnected from the riflescope in the USB Mass storage device mode, the riflescope remains OFF. Turn the riflescope ON for further operation.

Power

- Upon choosing this mode, your PC is used as an external power supply. The status bar shows icon . The riflescope continues operating and all functions are accessible.
- In **Power** mode the installed IR illuminator continues to function. Power change is available.
- The Battery pack installed in the riflescope is not being charged.
- When USB is disconnected from the riflescope in the Power mode, the riflescope keeps operating with Battery Pack, if available, and it has sufficient charge.

22. Technical Inspection

During the technical inspection, recommended before every use, check:

- External view of the riflescope (cracks, deep dents and corrosion are not allowed).
- Correct and reliable mounting of the riflescope on your rifle (clearances are not allowed).
- The state of objective lens, eyepiece, IR illuminator and rangefinder lens (cracks, grease spots, dirt, water stains and other residue are not allowed).
- Correct functioning of the controls.
- Smoothness of the objective lens focus knob and diopter eyepiece focus knob.
- The state of the Battery Pack and its charge level: signs of electrolyte leakage, corrosion of the riflescope and IR illuminator contacts are not allowed.

23. Technical Maintenance

Technical maintenance should be done at least twice a year, includes the following steps:

- Clean the outside metal and plastic surfaces from dust, dirt and moisture; wipe the scope with a soft lint free cloth.
- Inspect the eyepiece lens, the objective lens, IR illuminator and rangefinder; gently blow off any dust and sand, if necessary clean their outside surfaces.

24. Storage

Always store the riflescope in its carrying case in a dry, well-ventilated space. For prolonged storage, be sure to remove the Battery Pack.

Check the battery level, if necessary, charge it to the recommended level (50% - 70%).

25. Troubleshooting

The table shows a list of potential problems that may occur when using the scope. Carry out the recommended checks and troubleshooting steps in the order listed in the table. If there are defects that are not listed below, or if it is impossible to repair the defect yourself, the riflescope should be returned for repair.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
The riflescope will not turn on.	The Battery Pack is empty.	Charge the battery pack.
The riflescope will not operate on external power supply.	USB cable is damaged.	Replace USB cable.
	The external power supply is discharged.	Charge the external power supply (if necessary).
The reticle is blurred and cannot be focused with the diopter knob.	The diopter adjustment range is not enough for your eyesight.	If you wear glasses with a range of +3/-5, keep glasses on when looking through the eyepiece.
	Condensation on the external surface of the eyepiece lens.	Wipe the lens with a cloth.
Coloured lines appeared on display or image has disappeared.	The device was exposed to static electricity during operation.	After exposure to static electricity, the device may either reboot automatically, or require turning off and on again.
The image is too dark.	Brightness or contrast level is too low.	Adjust the brightness or contrast level.
With a crisp image of the reticle, the image of the observed target that is at least 30 m away is blurred.	Dust and condensate are covering the outside or inside optical surfaces.	Wipe the outside optical surfaces with a soft cotton cloth. Let the riflescope dry by leaving it in a warm environment for 4 hours.
The point of impact shifts after firing rounds.	The riflescope is not mounted securely or the mount was not fixed with thread sealant.	Check that the riflescope has been securely mounted. Make sure that the same type and caliber bullets are being used as when the scope was initially zeroed. If your riflescope was zeroed during the summer and is now being used in the winter (or the other way round), in the day or night, a slight shift of the aiming point is possible.
The riflescope will not focus.	Wrong settings.	Adjust the riflescope according to the instructions given in the section 10 Powering on and image setup . Check the surfaces of the eyepiece and objective lenses and clean them if necessary from dust, condensation, frost, etc. To prevent fogging in cold weather, you may apply a special anti-fog coverings (for example, as for corrective glasses).
	The riflescope is used in the daytime at long distances.	Check focusing in the nighttime.
Smartphone or tablet PC cannot be connected to the riflescope.	Password in the riflescope was changed.	Delete network and connect again inserting the password saved in the riflescope.
	There are too many Wi-Fi networks in the area where the riflescope is located which may cause signal interference. Problems described may arise in adverse weather conditions (snow, rain, fog etc.).	To ensure stable Wi-Fi performance, move the riflescope to an area with few or no Wi-Fi networks.
Image is over-exposed.	Use the riflescope with a closed lens cover.	

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
There are several light or black dots (pixels) on riflescope's display or sensor.	Presence of dots is caused by peculiarities of sensor or display production technology and is not a defect.	
IR illuminator is not functioning.	Examine the contacts in the IR Illuminator and riflescope port for contamination or coat. Clean carefully if necessary. Check their integrity. Check the contact area for debris. Clean if necessary.	
Barely visible texture which does not hinder detection range or efficiency of observation can be noticed on the display after the extra laser IR Illuminator (AL915) is activated.	This effect is due to the peculiarity of operation of IR Illuminators and it's not a defect.	
The rangefinder does not measure.	There is a foreign object before the lenses of the receiver or illuminator that prevents the passage of a signal.	Make sure the lenses are not covered with your hand or fingers. Check the lenses for dirt, frost, etc.
	Adverse weather conditions (rain, haze, snow).	
	During measurement, the riflescope is vibrating.	Hold the riflescope level during measurement.
	The distance to the object exceeds 1000 m (1094 yards) or the object is too small.	Select an object closer than 1000 m (1094 yards) or select a larger object for measurement.
	The reflection coefficient of the object is very low (for example, the leaves of trees).	Select an object with a higher reflection coefficient.
Big measurement error	Adverse weather conditions (rain, haze, snow).	
During operation, the riflescope is getting hot in the area of the rangefinder unit.	The metal part in the riflescope's body is a heat sink designed to withdraw heat from the electronic components during riflescope's operation. This ensures optimum temperature range for the electronic components.	Warm heat sink is normal and is not a defect.

The term of possible repair of the device is five years.

Electromagnetic compatibility.

This product complies with the requirements of European standard EN 55032: 2015, Class A.

Caution: Operating this product in a residential area may cause radio interference.

Attention! A license is required when exporting the **Digisight Ultra N450/N455 LRF** night vision digital rifle-scope outside your country.

Improvements may be made to the design of this product to enhance its user features. The current version of the User Manual can be found on the website: www.pulsar-vision.com