Night Vision Scope

User Manual

V 6.0

Information

Product Information:

Name	Night Vision Scope
Model	E50-II Plus (The 3rd Version)
App Name	NVPlayPro
WiFi Name	E50IIP@XXXXXXXXXX
WiFi Password	12345678
App Information	www.wanney.com/download
Upgrade	www.wanney.com/download
New Manual	www.wanney.com/download
Your Suggestion	www.wanney.com/Contact-Us
The Common Q&A	www.wanney.com/Contact-Us
Company	Wanney Corporation
Website	www.wanney.com
Zeroing Step Equivalent	0.16604 MOA (For Zeroing)

Dear customers! We warmly remind you that you must abide by local laws and regulations when purchasing and using our products, and you are not allowed to use our products to violate the law under any circumstances. A few countries prohibit the use of Night Vision devices, High-Power Flashlight, Lasers and other products. Please be sure to follow them.

Declaration

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Original manufacture is abbreviated as Company.

Without the written permission of Company, no units or individual shall copy or translate part or all of the contents of the manual without authorization, and shall not disseminate for the purpose of profit-making in any way, including electronic, photocopy, recording, etc.

The product specifications and information mentioned in this manual are for reference only, and no further notice will be given if the content is updated. This manual is only used as guidance, and the statement is made without any form of guarantee.

Thanks for your attention to Company's night vision scope (hereinafter as NVDevice). To ensure a better night vision experience, please read the instructions carefully and follow them before using the NVDevice.

Catalog

1. About NVDevice 1
   1.1 Function 1
   1.2 Packing list 1
   1.3 Product 2
2 How to use 3
   2.1 Assembly 4
   2.2 Power and adjusting 4
   2.3 Display Information and Keyboard 5
   2.4 Zeroing and Ballistic Calculation 9
   2.5 Recharging 15
3 Mobile APP 15
4. Fast Range Assist 16
   4.1 Range Finder 16
   4.2 Fast Aiming 20
5. Parameters 21
6. Attention and Disclaimer 22
Appendix A 23

1. About NVDevice

1.1 Function

The NVDevice can be used for observing or hunting in dark environments. It is widely used in predator hunting, hog hunting, patrol and rescue.

1.2 Packing list

- Night Vision Scope
- Adapter
- Clean Cloth
- Wrench
- User Manual
- USB Cable
- Certificate
- [redacted]

1.3 Product

Outline: Figure 1.1 and Figure 1.2 are the outline for NVDevice.

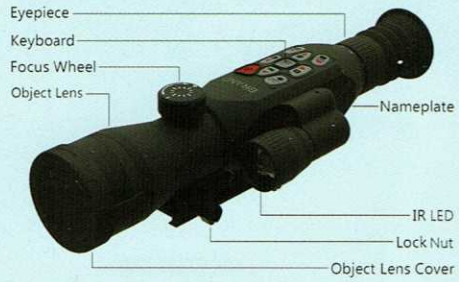
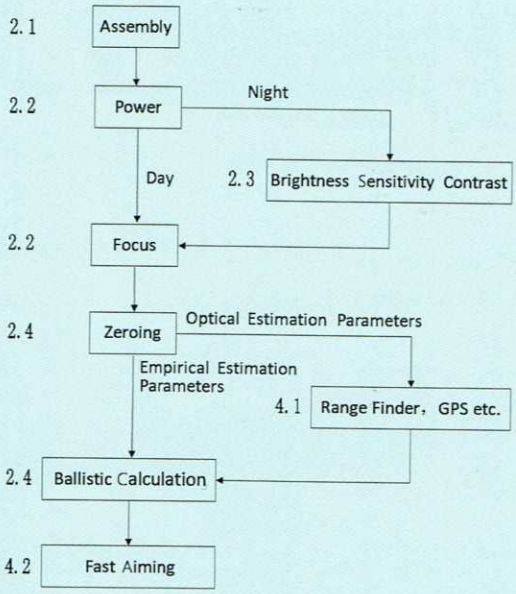


Figure 1.1

Figure 1.2

2 How to use

Usage flow chart:



2.1 Assembly

Mount the scope solidly to the picatinny rail base, using recommended torque specs from the base manufacturer. Then remove the objects lens cover.

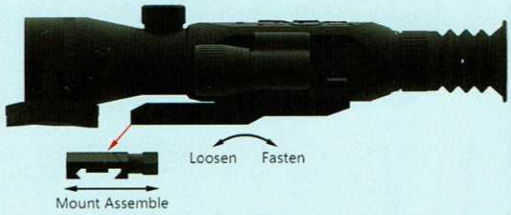


Figure 2.1

2.2 Power and adjusting

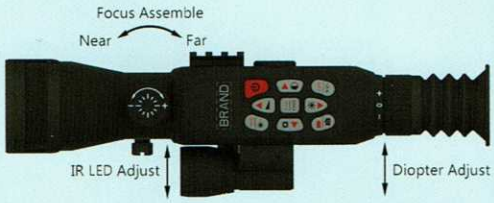


Figure 2.2

Note: The IR flashlight beam is able to be adjusted to a wide beam for close targets, or a narrow beam for far targets.

- Power Switch.

Power On: Press the power button in 2 seconds.
Power Off: Press the power button in 2 seconds, the "POWER OFF" countdown is displayed in the screen.
Forced shutdown: Press the power button in 12 seconds.

- Diopter and Focus Adjusting

Ensure the objective lens and IR lens clean.
Adjust the eye diopter until you can see screen information clearly.

2.3 Display Information and Keyboard

The display information corresponds to scope functions. Functions can be opened or changed by keyboard.

- Display Information

When turned on, the screen is displayed as shown in Figure 2.3, and the information is listed in the table following Figure 2.3.

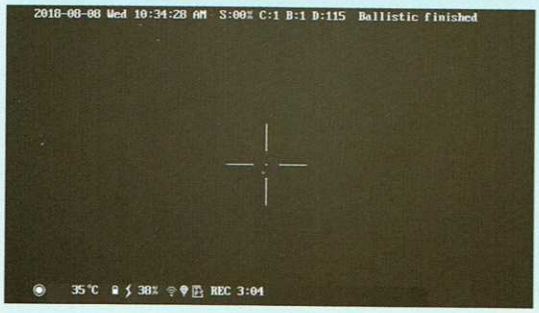


Figure 2.3

Information	Description	Information	Description
2018-08-08	Date	Wed	Week
10:34:28	The 12 hours time	AM	AM/PM
S:00%	Sensitivity	C:1	Contrast
B:1	Brightness	D:115	Image Parameters
Ballistic	Control Information		Record Status
35℃	Temperature		Battery Status
	Recharge Symbol	38%	Battery Percentage
	WiFi Symbol		Positioning Symbol
	TF Card Symbol	REC 3:04	Record time or Errors
		Reticle	

● Keyboard

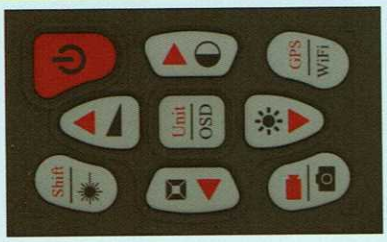


Figure 2.4

First: Turn on scope, adjust brightness, sensitivity and contrast by click , and .
Then decide whether to use other functions according to needs.

Function Button				
	Red Button (Long Press)		Black Button (Short Press)	
1		Power	N/A	N/A
2	GPS	Positioning	WiFi	WiFi
3	Shift	Shift		Laser
4		Record		Photo
5		Reticle Up		Sensitivity
6		Reticle Left		Digital Zoom
7		Reticle Right		Contrast
8		Reticle Down		Brightness
9	Unit	Unit Switching	OSD	Cursor/Menu

Buttons are multifunctional:

1. Black icon function:
Click button to access the function, on/off or level change.

2. Red icon function:
Power, press in 2 seconds, turn on/off NV Device.
Long press in 12 seconds, forced shutdown.
GPS , and Unit , long press then enter functions.

3. To adjust reticle aiming position, long press "Shift" in 10 seconds, then "NOW ZEROING" is displayed on screen, press or click "▲", "◀", "▼", "▶", reticle can be controlled up / left / down / right. When no key is pressed in 8 seconds, the current status will be stored automatically.

4. Special Combination Function:
For more details about keyboard operation, refer to Appendix A.
Notice:

1) TF card: Do not power off or take out the TF card when recording is on, otherwise the TF Card or video files maybe damaged. When the TF card formatting is completed, the screen will display "Format success", or error information.

2) WiFi: Once WiFi is on, it cannot be turned off until the scope is turned off.

3) Altitude: When turning on GPS, the real-time datum, ballistics is calculated automatically. There are two optional units: Meter and Yard. Long press "Unit", unit changes.

4) Temperature, "℃" for Centigrade, "℉" for Fahrenheit. Long press "Unit". Datum is involved in ballistic calculation automatically.

5) Ballistic settings refer to page 11.

2.4 Zeroing and Ballistic Calculation

Sighting in your scope before using is necessary. At this time, you can decide whether to use ballistic trajectory or not according to your needs. Ballistic calculation can also be done at a later time.
Notice: When the cursor is moved relative to the background, the cursor is always in the middle of the screen and the background is moved.

● Zeroing

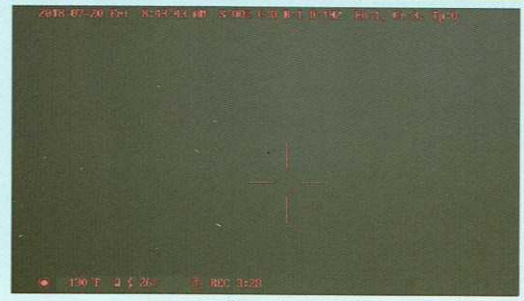


Figure 2.5

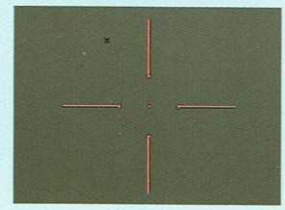


Figure 2.6

Zeroing steps:

1) Setting "Cursor X" and "Cursor Y" to (0,0): long press "Shift" in 10 seconds, then "NOW ZEROING" is displayed on screen, press or click "▲", "◀", "▼", "▶" to move cursor.

2) Set a target 50 meters (the Metric system) or 50 yards (the Imperial system) away.

3) Shoot a shot at the target.

4) Setting zero point "X" to bullet drop point: long press "Shift" in 10 seconds, until "NOW ZEROING" is displayed on screen, press "▲", "◀", "▼", "▶" to move cursor.

The setting will be stored automatically in 8 seconds and zeroing is finished.

5) Shoot at target again to confirm the scope zeroing is accurate, if not，repeat step 4 again.

Ballistic Calculation: Refer to the next section.

Range Estimation: Fast range assist refer to chapter 4.

● Ballistic Calculation

Click OSD to enter ballistic menu, there are two types of unit menus available:

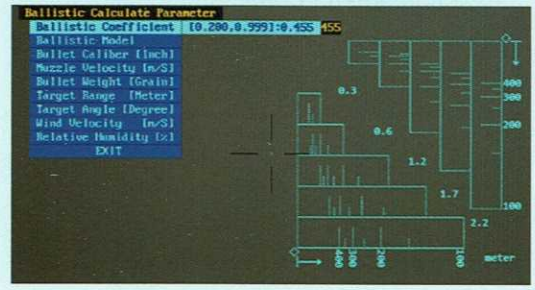


Figure 2.7 The Metric Ballistic Menu

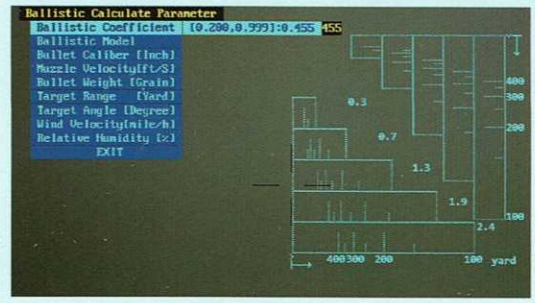


Figure 2.8 The Imperial Ballistic Menu

	Input mode	British	British Range	Metric	Metric Range
Ballistic Coefficient	Manually		[0.200,0.999]		[0.200,0.999]
Ballistic Model	Manually		[G1,G8]		[G1,G8]
Bullet Caliber	Manually	Inch	[.200,.500]	Inch	[.200,.500]
Muzzle Velocity	Manually	ft/S	[0900,5000]	m/S	[0300,1500]
Bullet Weight	Manually	Grain	[020,800]	Grain	[020,800]
Target Range	Manually	yard	[100,999]	meter	[100,900]
Target Angle	Manually	degree	[Dn-90,Up+90]	degree	[Dn-90,Up+90]
Wind Velocity	Manually	mile/h	[L-35,R+35]	m/S	[L-15,R+15]
Relative Humidity	Manually	%	[000,100]	%	[000,100]
Altitude	Automatically	yard		meter	
Temperature	Automatically	°F		℃	

Temperature and altitude are measured automatically. The other parameters are set manually. Five bullet parameters are provided by the ammunition manufacturer. Once the parameters are modified, they will be stored automatically, and do not need to be re-entered later. Other parameters refer to Notes.

Exit ballistic menu, "[redacted]" jumps to the corrected position after ballistic calculation, then shoot with "[redacted]" aiming at target immediately.

Notice:

1) Bullet caliber, adopting international common Imperial units. For example, .500 inch equals 12.7mm.

2) Bullet weight, unit grains.

3) Target range, input according to the optical ranging results described in section 4.1.

4) Target angle, which corresponds to the slope angle of the target, is automatically measured by the gyroscope inside. Figure 2.9 is an example of the target angle. If the target is higher than the NVDevice, the angle is >0, otherwise the angle is <=0. The screen zero point (as described later) aiming at the target, in Figure 2.10, [-2] means the target is 2 degrees lower than the scope. The value is measured in real-time by internal gyroscope, and the value should be input manually.

Figure 2.9

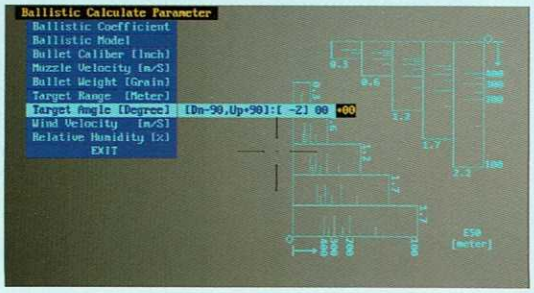


Figure 2.10

5) Wind Velocity

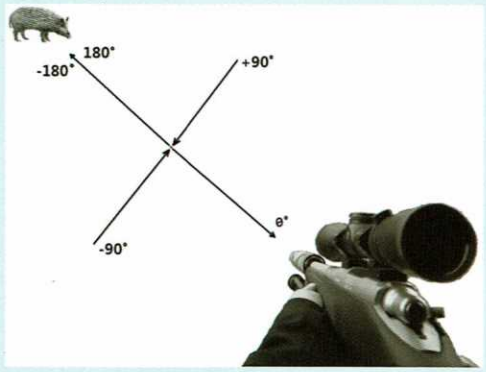


Figure 2.11

The wind direction is shown in Figure 2.11.

- Half speed wind, wind velocity = actual wind speed/2, wind direction ∈ [-30,-60], [-120,-150], [30,60], [120,150] degree.

- Full speed wind, wind velocity = actual wind speed, wind direction ∈ [-60,-120], [60,120].
- Downwind and headwind, Ignored.

The wind direction is clockwise from 0° to -180°, wind velocity <0, counterclockwise from 0° to 180°, wind velocity >0. The actual wind speed is judged by experience, such as leaf, tree, dust and other reference materials moving with the wind. Downwind and headwind can be ignored in the effective range.

6) Relative humidity, judged by experience and the datum is not recorded.

2.5 Recharging

Figure 2.12

Remove cap on right side to allow charging cord to connect to charging port. The charging cord has a USB end and can be charged by 110v, 220v or by power bank.

3 Mobile APP

Please refer to the Information page.

4. Fast Range Assist

4.1 Range Finder

Range estimation is very important. We can estimate range by optical probabilistic ranging according to reference object. Reference heights of four normal hunting animals are listed as follow, such as bear, deer, boar and pheasant.

Figure 4.1 Bear

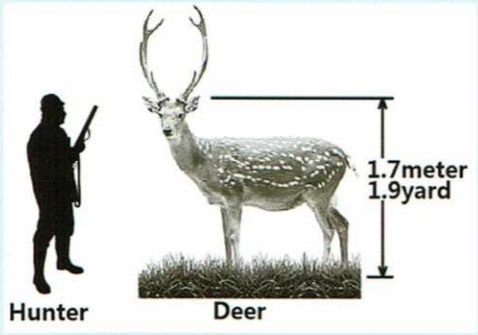


Figure 4.2 Hunter and Deer

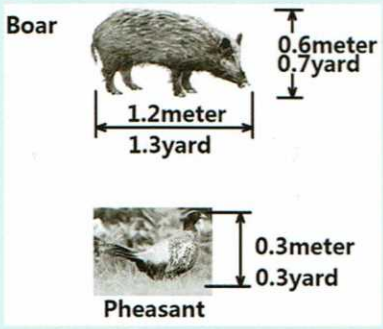


Figure 4.3 Boar and Pheasant

Press the OSD key to select the following interface.

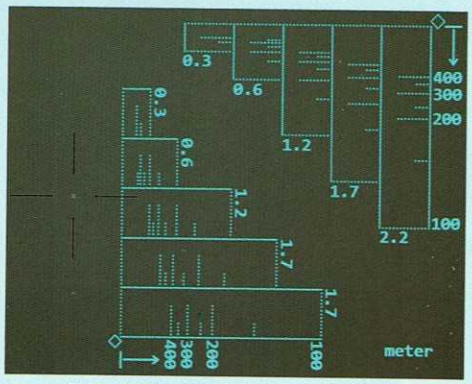


Figure 4.4 The Metric System Optical Scale

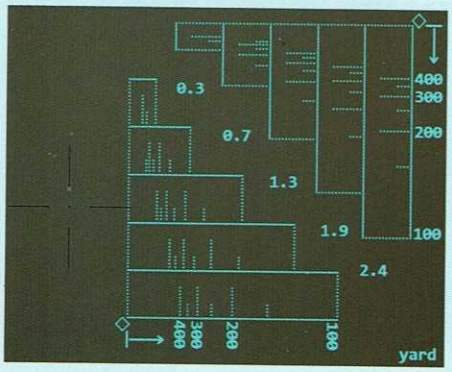


Figure 4.5 The Imperial System Optical Scale

, The vertical line corresponding to the lower left diamond is the starting line of the horizontal measuring scale.

, The horizontal line corresponding to the upper right diamond is the starting line of the vertical measuring scale.

, Optical proportion line, long line is 100, 200, 300, 400 and so on. Short line is 50, 150, 250, 350 and so on. Long lines have numerical labels, for example, the short line between 200 and 300, means 250.

Range Finder Steps:

1) Choose an object, such as a bear in Figure 4.1
2) Choose horizontal or vertical scale
3) Default bear height is 2.4 yards/2.2 meters, choose the 2.4 yard or 2.2 meter area, aligning the starting line of the vertical axis scale to the top of the bear
4) Look at the position of the bear's foot on the vertical axis. In the Imperial system, for example, if the bear's foot is at 250, it means the bear is 250 yards away
5) If the bear's foot is between 350 to 400, it means the bear is 375 yards away
6) In this way, the optical distance measurement is also the same. On the left or right side of the head or on the left and right side of the tail, use a horizontal axis ruler.

4.2 Fast Aiming

Requirements in a short range.

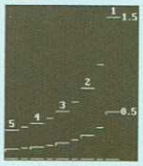
Figure 4.6 Fast Aiming

Horizontal scale. The center is zero point. Left 5 mils and right 5 mils.

Metric System, 100/200/300/400/500 meters aiming point.

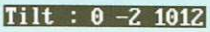
Imperial System, 100/200/300/400/500 yards aiming point.

All of the shooting points are calculated from Ballistic Menu.



Scale of an object 0.5/1.5 meters height at 100/150/200/250/300/350/400/450/500 meters in Metric System.

Scale of an object 0.5/1.5 yards height at 100/150/200/250/300/350/400/450/500 yards in Imperial System.



Real-time tilt parameters.

5. Parameters

Application	Hunting
Shell material	Aluminum Alloy and Others
Color	Black
Type	Scope
Focus	60 mm
Diopter	- 5 to +3
Distance	Full dark 300 Yards
WiFi	1080P
Resolution	1080P
TF Card	Max to 128GB
Optical Magnification	X4
Digital Zoom	X2
Working Temperature	-10 to 55 degrees
Storage Temperature	-20 to 60 degrees
Relative Humidity	90%, non-condensing
Battery	Lithium Ion
Battery Capacity	> 6000mAh
Recharge current	5 V / 1.5A
Battery Life	More than 6hrs
Net Weight	1060 g
Warranty	12 months

6. Attention and Disclaimer

Attention

- Please do not use scope under strong light.
- Try to avoid rain, fog, dust and corrosive gases.
- Avoid collision. Do not use scope after glass damage.
- Store at normal temperature.
- Avoid surface condensation caused by humidity change and clean up immediately after discovery.
- If scope is not used for a long time, please recharge it every 3 months to extend battery life.
- Do not remove TF card when scope is recording, it is recommended to power off scope before removing TF card.
- It is the user's responsibility for knowing and understanding laws in the area you are hunting.
- Always be aware of your surroundings and what is beyond your target.

Disclaimer

In order to protect the legitimate rights and interests of users, please read the instructions carefully before use and operation of the scope in accordance with the correct text terms. Once you start using the scope, we can deem that you have read, understood, approved and accepted instructions, descriptions, considerations and all the terms and contents. Users promise to use this product legally and bear the consequences. At any time, Company does not bear any joint liability.

Beyond the warranty period:

- Damage caused by improper use of the user (incorrect operation, immersion, breakage, impact, use in strong light).
- User disassembly.

Appendix A

Power, press " " in 2 seconds, turn on/off NVDevice.

Force shutdown, long press" " in 12 seconds, shutdown NVDevice.

1) WiFi, click "WiFi", WiFi turns on and cannot be turned off while scope is still on.
2) GPS, long press" GPS ", turn on/off positioning.
3) Laser, click " ", turn on/off laser indicator.
4) Shift, long press " Shift " in 10 seconds, enter zeroing function, see below.
5) Photo, click " ", Take a photo.
6) Record, long press " ", record start or stop.
7) Sensitivity, click " ", sensitivity from 00% to 100%.
8) Contrast, click " ", contrast from 0 to 4.
9) Brightness, click " ", brightness from 0 to 4.
10) Zoom, click" ", digital zoom function on/off, if on, the image is enlarged and no text information is on the screen, default off.
11) OSD Color, click "OSD", select cursor/character color and ballistic calculation menu (see below).
12) Cursor Move, long press " Shift " in 10 seconds, until "NOW ZEROING" is displayed on screen, press " ", " ", "", "" reticle can be controlled up / left / down / right.
13) Unit Conversion, long press " Unit ", units of altitude / temperature / ballistic / rangefinder can be changed.