

PVS-7 Night Vision Goggle Manual





Product Features:

The PVS7 multifunctional night vision goggle is a new product developed based on the latest optoelectronic technology. This night vision adopts high-performance second-generation/third-generation image intensifiers and features excellent performance, small size, light weight, a full-metal shell, adjustable interpupillary distance, clear imaging, simple operation, and high cost-effectiveness. It has the characteristic that the magnification can be changed by replacing the objective lens (or connecting a magnifying lens). This night vision has a built-in infrared auxiliary light source and an automatic strong light protection system.

This night vision is highly practical and can be applied to military observation in unlit environments at night, border and coastal defense reconnaissance, public security surveillance, evidence collection, anti-smuggling by customs, etc. It is an ideal device for public security departments, armed police forces, special police forces, and patrol guards.

Technical Specifications:

Model: PVS-7

Image Intensifier Level: Super Second Generation / Third Generation

Magnification: 1X (or 3X/5X/6X optional)

Resolution (line pairs, lp/mm): 57-64 / 64-72

Cathode Surface Type: P43 (Green), P45 (White Phosphor) / GaAs (Yellow Green)

Signal-to-Noise Ratio (dB): 20-25 / 28-32

Optical Sensitivity ($\mu\text{A}/\text{lm}$): 700-900 / 850-1200

Mean Time Between Failures (hours): 10,000

Field of View (degrees): 50 \pm 2

Interpupillary Distance Range: 59-71mm

Eyepiece Diopter Adjustment Range (diopters): +5 / -5

Lens System: F1.2, 25mm

Optical Coating: Multi-layer Composite Broadband Ultra-vacuum Ion Anti-reflection Coating
 Objective Lens Adjustment Range (meters): 0.25--∞
 Automatic Strong Light Protection: Highly Sensitive, Ultra-fast, Broadband Detection
 Auxiliary Light Source Wavelength: 850nm
 Night Vision Image (Optional): 800-line Video
 Flip Detection: All-solid-state Non-contact Automatic Attitude Recognition
 Dimensions (mm) (including the eyecup): 160x130x60
 Material: Full Aeronautical Aluminum Alloy
 Net Weight (g) (including the eyecup): 435
 Power Supply Voltage (V): 2.6-4.2V
 Battery Type (V): CR123A x1(or AAx2)
 Working Time (hours): 80 (Infrared not turned on), 40 (Infrared turned on)
 Operating Temperature (°C): -40/+50
 Relative Humidity: 5%-98%
 Waterproof Grade: IP65 (or IP67 optional)

1. Battery Installation:

As shown in Figure ①, insert two AAA batteries (Refer to the polarity markings on the batteries) into the battery compartment of the night vision device. Then, align the battery cover with the threads of the battery compartment and turn it clockwise. Tighten it to complete the battery installation.



2. Power On

As shown in Figure ②, rotate the operation switch one position clockwise. Turn the knob until it points to the "ON" position, and the system will be powered on. At



this time, the system starts to operate, and the image tube lights up. (When rotating clockwise successively, the positions are: ON/IR/AUTO). In the IR position, the infrared auxiliary light source is turned on; in the AUTO position, the system enters the automatic mode.

3. Eyepiece Adjustment

Select a target with moderate ambient brightness

and adjust the eyepiece without opening the objective lens cover. As shown in Figure ③, rotate the eyepiece handwheel clockwise or counterclockwise to match the diopter of the human eye. When the clearest target image can be observed through the eyepiece, the eyepiece adjustment is completed. Different users need to readjust according to their own eyesight conditions. Push the eyepiece towards the middle or pull it outwards to change the distance of the eyepiece.



4.Objective Lens Adjustment

The purpose of adjusting the objective lens is to clearly see objects at different distances. Before adjusting the objective lens, please adjust the eyepiece according to the aforementioned method. When adjusting the objective lens, please select a relatively dark ambient target. As shown in Figure ④, open the objective lens cover, aim at the target, and rotate the objective lens focusing handwheel clockwise or counterclockwise until the clearest ambient image is seen, completing the objective lens adjustment. When observing targets at different distances, the objective lens needs to be readjusted according to the aforementioned method.



5.Working Modes

The operation switch of this product has four positions, with a total of four modes. In addition to the power-off (OFF) mode, there are three working modes: "ON", "IR", and "AT", corresponding to the normal working mode, the infrared auxiliary lighting on mode, and the automatic mode respectively, as shown in Figure ②.

6.Infrared Mode

When the ambient illumination is extremely low (in a completely dark environment) and the night vision device cannot observe a clear image, turn the operation switch one more position clockwise. As shown in Figure ②, the system enters the "IR" mode. At this time, the built-in infrared auxiliary lighting of this product is turned on to ensure normal use in a completely dark environment. Note: In the infrared mode, if encountering similar equipment, the target is likely to be exposed.

7Automatic Mode

The automatic mode is different from the "IR" mode. The automatic mode activates the ambient detection sensor, which can detect the ambient illumination in real time and control the operation of the system with reference to the ambient illumination. In an extremely low or completely dark environment, the system will automatically turn on the infrared auxiliary lighting. When the ambient illumination can meet the normal observation requirements, the system will automatically turn off the "IR". When the ambient illumination reaches 40-100Lux, the entire system will automatically turn off to protect the photosensitive core components of the night vision device from being damaged by strong light.

8.Head Mount Installation

First, rotate the device locking knob of the helmet mount counterclockwise to the end. Then, align the end of the universal fixture of the night vision device near the eyepiece with the device slot of the helmet mount. Press the anti-disengagement button of the device on the helmet mount firmly, and at the same time, push the night vision device along the device slot until the center of the anti-disengagement button moves to the middle part of the universal fixture. At this time, release the anti-disengagement button and rotate the device locking knob clockwise to lock the device. As shown in Figure ⑤.



After installing the night vision device, align the mount buckle of the helmet mount with the universal device slot of the soft helmet. Then, press the buckle button of the helmet mount and rotate the assembly of the night vision device and the helmet mount counterclockwise at the same time. When the connection base of the helmet mount fits completely with the universal device slot of the soft helmet, release the buckle button of the helmet mount to lock the product assembly on the soft helmet. As shown in Figure ⑥.

9.Head Mount Adjustment

To ensure the comfort of users when using this system, the helmet mount system is designed with a perfect fine-tuning structure to meet the needs of different users.

Up and down adjustment: Loosen the height locking knob of the helmet mount counterclockwise, slide the knob up and down, adjust the eyepiece of the product to the most suitable observation height, and rotate the height locking knob of the helmet mount clockwise to lock the height. As shown in the red diagram in Figure ⑦.



Left and right adjustment: Press the left and right adjustment push buttons of the helmet mount with your fingers, and you can slide the night vision device assembly horizontally. When adjusted to the most suitable position, release the left and right adjustment push buttons of the helmet mount, and the night vision assembly will lock in this position, completing the left and right horizontal adjustment. As shown in the green diagram in Figure ⑦. Front and back adjustment: When you need to adjust the distance between the eyepiece of the night vision device and the human eye, first rotate the device locking knob of the helmet mount counterclockwise, then slide the night vision device assembly back and forth. After adjusting to an appropriate position, rotate the device locking knob clockwise to lock the device, completing the front and back adjustment, as shown in the blue diagram in Figure ⑦.

10.Head Mount Flip

After the product has been worn, during actual use, if you do not need to use the night vision device temporarily, you can flip the night vision device onto the helmet. This will neither affect the current line of sight nor make it convenient for use at any time. When you need to observe with the naked eye, press the flip button of the helmet mount, and you



can flip the night vision assembly upwards. When the rotation angle reaches the 170-degree position, release the flip button of the helmet mount, and the system will automatically lock the flipped state; when you need to lower the night vision assembly for observation, you also need to press the flip button of the helmet mount first, and the night vision assembly will automatically return to the working position and lock in the working position. When flipping the night vision assembly onto the helmet, the night vision device system will automatically turn off. When returning to the working position, the night vision device will automatically turn on and work normally. As shown in Figure ⑧.

11.Objective Lens Replacement

This night vision device supports the replacement of objective lenses with different magnifications to meet the requirements of different observation distances (Note: The waterproof ability will decrease after replacing the objective lens). When replacing the objective lens, first rotate the objective lens counterclockwise to remove the objective lens installed on the night vision device, and then rotate the objective lens to be replaced clockwise and install it on the main unit of the night vision device.

12..Magnifier Installation

This night vision device not only supports the replacement of objective lenses with different magnifications but also supports the connection of a magnifier in series to change the observation magnification to meet the requirements of different observation distances. (When using the magnifier in series, there is no impact on the waterproof ability of the night vision device itself) Before connecting the magnifier in series, first open the original objective lens cover, and directly screw the magnifier with the corresponding diameter onto the front end of the original objective lens. This magnifier also supports direct multi-stage series connection, and the series connection method of the magnifier is the same as that of connecting the magnifier to the objective lens. This night vision device supports the series connection of a three-stage magnifier, with a maximum magnification of 6X.

Troubleshooting of Common Problems:

1.Not Lighting Up

a. Please check if the batteries are installed in the wrong direction. b. Check if the batteries have power. c. Confirm that the ambient light should not be too strong (it needs to be close to a nighttime environment).

2.Unclear Image

a. Check if the eyepiece and the objective lens are dirty. b. In a nighttime environment, check if the objective lens cover is opened (do not open the cover during the day). c. Confirm if the diopter of the eyepiece is adjusted properly (refer to the eyepiece diopter adjustment operation). d. Confirm if the objective lens focusing is adjusted properly (refer to the objective lens focusing operation). e. In a completely dark environment, confirm if the infrared auxiliary light source is turned on.

3.matic Detection Not Working Auto

a. In the automatic mode, when the automatic strong light protection does not work, please check if the ambient detection area is blocked. b. In the flipped state, if the night vision system does not automatically turn off, or when it is installed on the helmet and placed in the normal observation position, the system cannot turn on normally. Please check if the connection and fixation position between the helmet mount and the product is correct. (Refer to the head mount installation operation).

Precautions:**1. Protection Against Strong Light**

This night vision is designed with an automatic strong light protection device, which will automatically protect the system when encountering strong light. Although the strong light protection function can ensure that the product is not damaged by strong light to the greatest extent, repeated exposure to strong light will still cause cumulative damage. Therefore, please do not place the product in a strong light environment for a long time or repeatedly to avoid permanent damage to the product.

2. Moisture Prevention

This night vision device is designed with a waterproof function, and its maximum waterproof ability can reach IP67 (optional). However, a long-term humid environment will still slowly corrode the product and cause damage to it. Therefore, please store the product in a dry environment.

3. Use and Storage

This product is a high-precision optoelectronic product. Please operate it strictly according to the instructions for use. When not in use for a long time, please take out the batteries, store the product in a dry, ventilated, and cool environment, and pay attention to shading, dust prevention, and impact prevention.

4. If this product is damaged during use or due to improper use, please do not disassemble or repair it without permission. Please contact the dealer directly.