

# NIGHT OPERATORS

USER MANUAL

## PVS-14 PRO

Gen 2+ autogated analog night vision monocular with manual gain, 50 degree field of view, 624 helmet mount and J-arm.

⚙ ANALOG GEN 2+

△ 50 DEGREE FOV

💧 IP67

REV 1.1



## CONTENTS

|    |                      |    |
|----|----------------------|----|
| 01 | Specifications       | 04 |
| 02 | In The Box           | 06 |
| 03 | Know Your Unit       | 07 |
| 04 | Fitting The Battery  | 08 |
| 05 | Mounting             | 09 |
| 06 | Operation            | 11 |
| 07 | Care And Storage     | 15 |
| 08 | Troubleshooting      | 16 |
| 09 | Warranty And Support | 17 |

Read this before you take the unit out. The five rules on the next leaf prevent almost every failure we see. Everything after them is detail.

---

## READ FIRST

Five rules. Four of them protect the tube, and the tube is the unit.

### THE FIVE RULES

1. **Never point it at the sun, a laser, or any bright light while powered on.** This burns the tube permanently and is not covered by warranty.
2. **Keep the lens cap on** whenever you are not looking through it, especially in daylight.
3. **Take the battery out for storage.** A leaking cell destroys the battery compartment.
4. **Do not open the housing.** No user serviceable parts, and it voids your warranty.
5. **Do not touch the glass** with your fingers.

---

## 01 SPECIFICATIONS

|                                        |                                    |                                 |
|----------------------------------------|------------------------------------|---------------------------------|
| INTENSIFIER<br><b>Gen 2+ autogated</b> | FIELD OF VIEW<br><b>50 degrees</b> | POWER<br><b>1x AA or CR123A</b> |
| WATER RESISTANCE<br><b>IP67</b>        | WEIGHT<br><b>210g</b>              | GAIN CONTROL<br><b>Manual</b>   |

Every number in the table on the next leaf is measured against this housing. Where a figure carries a tolerance, that tolerance is part of the figure.

---

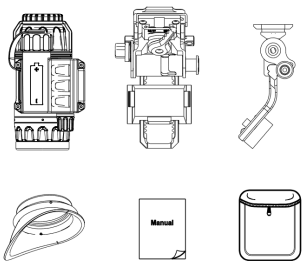
## 01 SPECIFICATIONS

CONTINUED

|                       |                                                                  |
|-----------------------|------------------------------------------------------------------|
| Image intensifier     | Gen 2+ autogated                                                 |
| Phosphor screen       | P43 or P45                                                       |
| Field of view         | 50 degrees, plus or minus 2                                      |
| Magnification         | 1x, plus or minus 0.05x                                          |
| Optical distortion    | 2 percent                                                        |
| Relative illumination | Greater than 70 percent                                          |
| Gain control          | Manual                                                           |
| Focus range           | 250mm to infinity                                                |
| Diopter adjustment    | +2 to -6                                                         |
| Eye relief            | 25mm                                                             |
| Exit pupil            | 14mm                                                             |
| Power                 | 1x CR123A or 1x AA                                               |
| Infrared illuminator  | 930nm, 20mW                                                      |
| Safety features       | Low voltage alarm, strong light protection, flip-up auto shutoff |
| Runtime               | Approximately 15 hours                                           |
| Weight                | 210g without battery                                             |
| Operating temperature | -20C to +45C                                                     |
| Water resistance      | IP67                                                             |

## 02 IN THE BOX

- PVS-14 PRO monocular
- G24 helmet mount
- J-arm mount
- Eyecup
- Carrying case



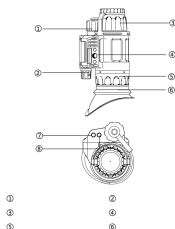
WHAT SHIPS WITH THE UNIT

Check this against your order confirmation as soon as the parcel arrives. If anything is missing or damaged in transit, email us straight away and keep the packaging.

### NO BATTERY IS INCLUDED

Cells cannot travel with the unit, so the AA or CR123A is yours to supply. Nothing is missing from your parcel.

### 03 KNOW YOUR UNIT

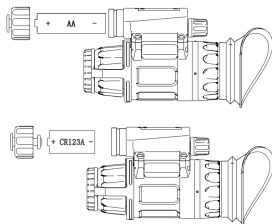


COMPONENT IDENTIFICATION

- 1 Battery cap
- 2 Power switch and gain knob
- 3 Objective lens
- 4 Mounting interface
- 5 Eyepiece and diopter ring
- 6 Eyecup
- 7 Infrared illuminator
- 8 Ambient brightness sensor

## 04 FITTING THE BATTERY

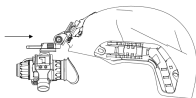
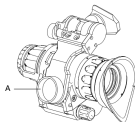
One AA or one CR123A. Both perform the same. AA is easier to find in the field, CR123A holds up better in the cold.



TOP, AA DIRECT. BOTTOM, CR123A WITH THE ADAPTER

- 01** Unscrew the battery cap anticlockwise and remove it.
- 02** **AA cell:** Insert it directly, matching the orientation marked on the housing.
- 03** **CR123A cell:** fit the supplied adapter onto the cap first, then insert.
- 04** Screw the cap back down until it seats fully. That seal is what gives you the IP67 rating.

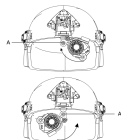
## 05 MOUNTING



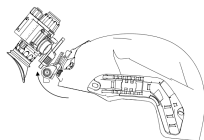
TOP, SEAT ON THE J-ARM AND TIGHTEN SCREW A. BOTTOM, SLIDE INTO THE HELMET MOUNT UNTIL IT LOCKS

- 01** Seat the monocular on the J-arm and tighten the clamp screw marked **A**. Snug is enough. Overtightening marks the housing.
- 02** Slide the J-arm dovetail into the G24 helmet mount in the direction of the arrow until it locks.
- 03** Set the fore and aft position so the eyepiece sits close to your eye without touching your brow, then lock it.
- 04** Set the height and tilt so the image is centred when you look straight ahead.
- 05** **Pull on the unit to confirm it is locked** before you move.

### SWAPPING EYES AND FLIPPING UP



PRESS BUTTON A, THEN ROTATE TO THE OTHER EYE



FLIPPED UP. POWER CUTS AUTOMATICALLY

Press the release button marked **A** and rotate the unit until it stops in the opposite eye position. Press the same button to swap back. Flipping the unit up on the helmet cuts power automatically, and flipping it back down restores it.

---

## 06 OPERATION

- 01 **Power on.** Turn the switch to ON. Turning further clockwise increases gain.
  - 02 **Set the diopter.** Rotate the eyepiece ring until the grain of the screen itself is sharp. Set this once for your eyesight and leave it alone.
  - 03 **Focus the objective.** Rotate the objective ring until the scene is sharp. Refocus whenever your working distance changes.
  - 04 **Set gain.** Use the lowest setting that gives you a usable picture. High gain all the time shortens tube life and washes out detail.
  - 05 **Infrared, only if you need it.** In near total darkness press the switch once. Press again to turn it off.
  - 06 **Power off.** Turn the switch to OFF. Remove the battery if you are storing the unit.
-



CORRECTLY FOCUSED VIEW, LEFT EYE AND RIGHT EYE POSITIONS

**INFRARED GIVES AWAY YOUR POSITION**

The beam is invisible to the naked eye but it is a floodlight to anyone else running night vision. Use it only when the unit cannot form an image on its own, and expect to be seen when you do.

 **THE INDICATOR LIGHT MEANS TWO DIFFERENT THINGS**

There is one indicator and it does two jobs. Learn the difference.

| INDICATOR | MEANING                    | WHAT TO DO                                      |
|-----------|----------------------------|-------------------------------------------------|
| Solid     | Infrared illuminator is ON | Nothing. Press the switch again to turn it off. |
| Flashing  | Battery is low             | Roughly two hours left. Swap the battery.       |

**AUTOMATIC PROTECTIONS**

| FEATURE                        | BEHAVIOUR                                                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>Flip-up shutoff</b>         | Powers down when rotated more than 90 degrees up, and resumes when flipped back down. Hold the switch more than 5 seconds to disable. |
| <b>Strong light protection</b> | On by default at power up. Protects the tube when bright light enters the view. Hold the switch more than 5 seconds to disable.       |

---

## 07 CARE AND STORAGE



- Blow loose grit off the lens before any wipe
- Use lens tissue with lens fluid, circular motion from the centre out
- Wipe the body with a barely damp cloth, then dry it
- Store near 25C, humidity under 40 percent
- Store with the battery removed and the cap fitted



- Use paper towel, clothing or any abrasive cloth on the glass
- Wipe the demist shield while it is wet
- Wipe grit across the lens. That is how coatings get scratched
- Store it damp, or anywhere hot
- Leave a battery in during long storage

## 08 TROUBLESHOOTING

| SYMPTOM                        | CHECK                                                     | ACTION                                                                            |
|--------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------|
| Will not power on              | Battery orientation and charge. Cap threads and contacts. | Replace or reseal the battery. Clean the threads.                                 |
| Powers off by itself           | Is it flipped up past 90 degrees?                         | That is the flip-up shutoff working. Flip it back down.                           |
| Indicator flashing             | Battery charge.                                           | Low battery. Roughly two hours left.                                              |
| Dim or grainy image            | Gain setting and available light.                         | Raise gain, or switch on infrared in near total darkness.                         |
| Will not come sharp            | Dioptr first, then objective. Fog or dirt on either lens. | Reset the diopter on the screen grain, then focus the objective. Clean the glass. |
| Picture dips near bright areas | Strong light protection engaging.                         | Normal. It is protecting the tube. Avoid bright sources.                          |
| Infrared will not come on      | Test in a dark room against a close surface.              | If nothing happens, email support.                                                |

## 09 WARRANTY AND SUPPORT

|                                                                                                                           |                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|  STANDARD WARRANTY<br><b>3 months</b>      |  WITH OPERATOR CARE<br><b>Up to 12 months</b> |
|  SUPPORT<br><b>info@nightoperators.com</b> |  ONLINE<br><b>nightoperators.com</b>          |

Your unit is covered for **3 months from delivery** as standard. If you bought **Operator Care**, coverage extends to **12 months**. We sell direct, so warranty and support come straight from us with no dealer in between. Have your order number ready.

### NOT COVERED

- Tube damage from the sun, lasers or other bright light sources while powered on
- Any damage after the housing has been opened
- Corrosion from a battery left in during storage
- Physical damage from drops or crushing

---

## NIGHT OPERATORS

We sell direct, so support comes straight from us with no dealer in between.



SUPPORT

**info@nightoperators.com**



ONLINE

**nightoperators.com**

---

Night Operators PVS-14 PRO user manual, revision 1.1. Specifications may change without notice as the product is updated. The current version of this manual is always available at [nightoperators.com](https://nightoperators.com).

---