

NIGHT OPERATORS

USER MANUAL

PVS-31 PRO

Gen 2+ autogated dual tube analog night vision binocular with manual gain, 50 degree field of view, G24 helmet mount and external battery pack.

⚙️ ANALOG GEN 2+

👁️ DUAL TUBE

△ 50 DEGREE FOV

💧 IP67

REV 1.1



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Read this before you take the unit out. The five rules on the next leaf prevent almost every failure we see. With two tubes there is twice the value at risk from one careless moment in daylight.

READ FIRST

Five rules. Two tubes means twice the value behind every one of them.

THE FIVE RULES

1. **Never point it at the sun, a laser, or any bright light while powered on.** This burns both tubes permanently and is not covered by warranty.
2. **Keep the lens caps on** whenever you are not looking through it, especially in daylight.
3. **Take the batteries out for storage,** from the unit and the external pack.
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

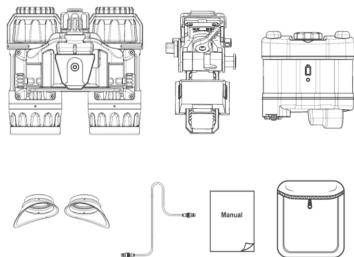
INTENSIFIER Gen 2+ dual	FIELD OF VIEW 50 degrees	POWER Onboard plus pack
RUNTIME 15 to 75 hours	WEIGHT 450g or less	ROLLOVER Automatic

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.

Configuration	Dual tube binocular
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 or less
Relative illumination	Greater than 70 percent
Gain control	Manual
Focus range	250mm to infinity
Diopter adjustment	+2 to -6
Eye relief	25mm or greater
Exit pupil	14mm or greater
Power	Onboard 1x CR123A or 1x AA, plus external pack taking 4x AA
Infrared illuminator	930nm
Rollover detection	Automatic. Powers off when flipped up or rotated sideways
Safety features	Low voltage alarm, strong light protection
Runtime	15 hours onboard, up to 75 hours with the external pack
Weight	450g or less without batteries
Operating temperature	-20°C to +45°C
Water resistance	IP67

02 IN THE BOX

- PVS-31 PRO binocular
- G24 helmet mount
- External battery pack
- Power cable
- Eyecups, pair
- Carrying case



TOP, BINOCULAR, HELMET BRACKET AND BATTERY PACK. BELOW, EYECUPS, CABLE AND CARRYING CASE

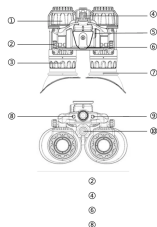
Check this against your order confirmation as soon as the parcel arrives. If anything is missing or damaged in transit, email us straight away and keep the packaging.

023 THE BATTERY PACK IS A HOLDER, AND NO BATTERIES ARE INCLUDED

The external battery pack is a **storage pack, not a rechargeable power pack**. It holds the batteries and connects to the binocular by a wire. You still supply the cells, and cells cannot travel with the unit, so none are in the box. Nothing is missing from your parcel.

You need one CR123A or one AA for the binocular itself, and four AA for the pack. Fit them before you go out, not in the dark.

03 KNOW YOUR UNIT



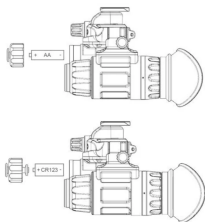
COMPONENT IDENTIFICATION, FRONT AND TOP VIEWS

- 1 Objective lenses
- 2 Interpupillary distance knob
- 3 Eyeieces and diopter rings
- 4 Power switch and gain knob
- 5 External power cable socket
- 6 Dovetail mounting interface
- 7 Eyecups
- 8 Infrared illuminator
- 9 Ambient brightness sensor
- 10 Battery cap

04 POWER

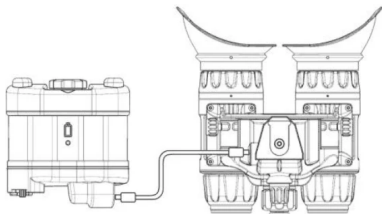
Run it from the onboard cell alone for about 15 hours, or add the external pack for up to 75. Most people wear the pack on the rear of the helmet, where it also balances the weight on your neck.

ONBOARD CELL



LEFT, AA DIRECT. RIGHT, CR123A WITH THE ADAPTER

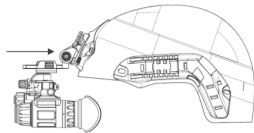
- 01 Unscrew the battery cap anticlockwise and remove it.
- 02 **AA cell:** insert it directly, matching the orientation marked on the housing.
- 03 **CR123A cell:** fit the supplied adapter onto the cap first, then insert.
- 04 Screw the cap back down fully. That seal is what gives you the IP67 rating.

EXTERNAL BATTERY PACK

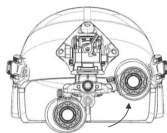
CONNECT THE PACK TO THE SOCKET ON THE BINOCULAR

- 01** Fit 4x AA cells into the pack in the marked orientation.
- 02** Connect the cable from the pack to the socket on the binocular.
- 03** Route the cable so it cannot snag and secure any slack.

05 MOUNTING



SLIDE THE DOVETAIL IN UNTIL IT LOCKS



MOUNTED, VIEWED FROM THE FRONT

- 01** Slide the dovetail into the G24 helmet mount in the direction of the arrow until it locks.
- 02** Set the fore and aft position so the eyecups sit close to your eyes without pressing on your face, then lock it.
- 03** Set the height and tilt so the image is centred when you look straight ahead.
- 04** **Pull on the unit to confirm it is locked** before you move.
- 05** Check the battery cable is clear of the mount and cannot be pulled when you turn your head.

06 OPERATION

- 01 **Power on.** Turn the switch to ON. Turning further clockwise increases gain.
 - 02 **Set your IPD first.** Adjust the knob until the two circles merge into one clean circle with no dark crescent at either edge.
 - 03 **Set the diopters.** One eye at a time, rotate each eyepiece ring until that screen's grain is sharp. Set once and leave it.
 - 04 **Focus the objectives.** Rotate each objective ring until the scene is sharp. Refocus when your working distance changes.
 - 05 **Set gain.** Use the lowest setting that gives you a usable picture.
 - 06 **Infrared, only if you need it.** In near total darkness press the switch once. Press again to turn it off.
 - 07 **Power off.** Turn the switch to OFF. Remove the batteries if you are storing the unit.
-



CORRECT IPD GIVES ONE CLEAN CIRCLE



FLIPPED UP. POWER CUTS AUTOMATICALLY

SET IPD BEFORE ANYTHING ELSE

If the two circles are not merged into one you will fight the unit the whole time you wear it, and it causes eye strain and headaches. Correct IPD gives a single crisp circle with no shadowing at the edges.

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.

▲ 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 or connect the pack.

AUTOMATIC PROTECTIONS

FEATURE	BEHAVIOUR
Rollover shutoff	Powers down when flipped up or rotated sideways past 90 degrees, and resumes in the working position. Hold the switch more than 5 seconds to disable.
Strong light protection	On by default at power up. Protects the tubes when bright light enters the view. Hold the switch more than 5 seconds to disable.

07 CARE AND STORAGE



- Blow loose grit off the lenses 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 batteries removed and caps 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 cells in the external pack during long storage

08 TROUBLESHOOTING

SYMPTOM	CHECK	ACTION
Will not power on	Batteries onboard and in the pack. Cable seated at both ends.	Replace or reseat the batteries. Reconnect the cable.
Powers off by itself	Is it flipped up or rotated sideways?	That is the rollover shutoff working. Return it to the working position.
Dark crescent at the edge	Interpupillary distance.	Adjust the IPD knob until the image forms one complete circle.
One side sharper than the other	That side's diopter and objective.	Set each side independently, diopter first, then objective.
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.
Runtime much shorter than expected	Is the external pack connected with fresh cells?	Onboard alone gives roughly 15 hours. Fit fresh cells in the pack.

09 WARRANTY AND SUPPORT

 STANDARD WARRANTY 3 months	 WITH OPERATOR CARE Up to 12 months
 SUPPORT info@nightoperators.com	 ONLINE nightoperators.com

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 batteries 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-31 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.
