

ATN Night Raven

NIGHT VISION BINOCULAR



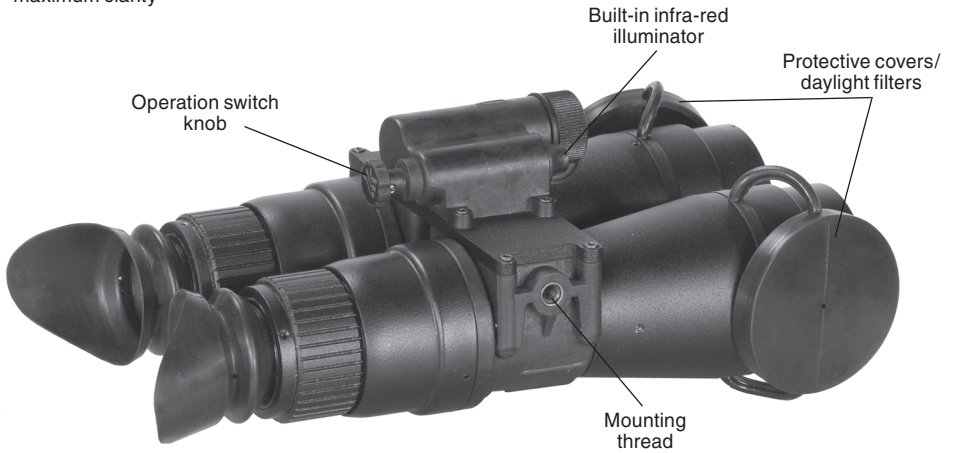
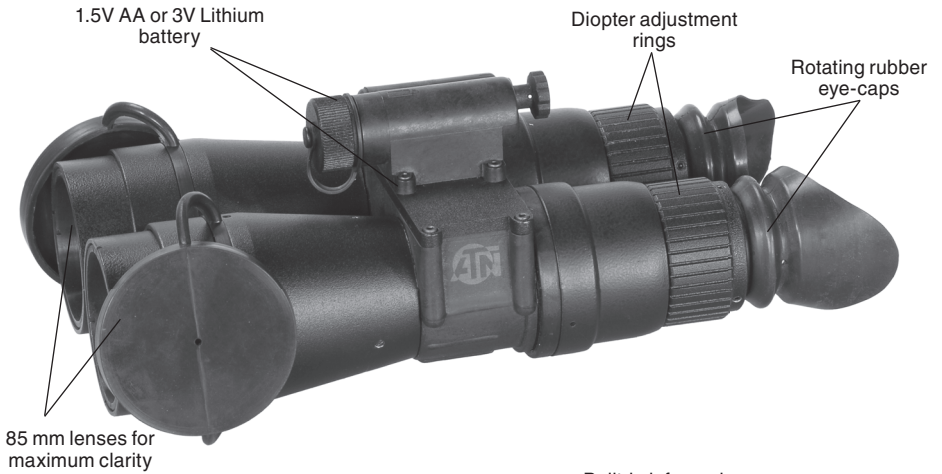
NIGHT RAVEN OPERATOR'S MANUAL (REV. 3, OCTOBER 2010)

u s e r ' s g u i d e

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**AMERICAN
TECHNOLOGIES
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OPTIONAL ACCESSORIES



CAUTION:

THIS PRODUCT CONTAINS NATURAL RUBBER LATEX WHICH MAY CAUSE ALLERGIC REACTIONS.

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FEATURES

- High Quality light intensifier tubes
- Super fast lens systems provides the user with a clear and sharp image
- Built-in Infra-Red illuminators lets you see even in total darkness
- Rugged and versatile design
- Simple, easy to operate control
- Camera/camcorder-adaptable
- Flexible carrying case
- Uses one AA or one Lithium battery
- Weather resistant
- Two year warranty

SPECIFICATIONS

Magnification	3X
Lens System	85mm, F1:1.7
Field of view	12°
Diopter adjustment	±5
Range of Focus	50 m to infinity
Power Supply	1.5V AA or 3V CR123A Lithium battery
Battery Life	60 hours (30 hours w/IR illuminator)
Operating Temperature	-40°C to +50°C
Storage Temperature	-50°C to +70°C
Weather resistant	Yes
Dimensions	210x75x135 mm (8.2" x 2.9" x 5.3")
Weight	1.3 kg (2.8 lb)

* ATN reserves the right to change the above specifications at any time without notice

APPLICATION

The Night Raven is rugged and lightweight night vision binocular. It utilizes multicoated optics specially coated to gather light to provide bright and clear images. Couple these optics with state of the art quality image intensifier tubes and the Night Raven is an excellent binocular. The Night Raven is an amazing combination of versatility, performance, and price.

The Night Raven night vision binocular is a complex optic-electronic system for individual use. The device consists of the objective lenses assembly, eyepieces and the body. The body contains an image intensifier tubes assembly with an integrated high voltage power source and the battery housing.

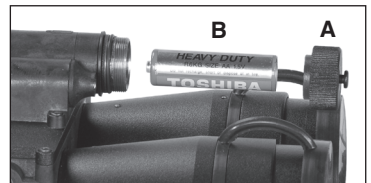
Objective lens protective covers is intended to protect the objective lenses from dust and scratches. It also acts as a daylight filter, allowing you to test the scope in daylight or other bright light situations. The pinhole in the center of the protective cover allows the user to check the operation ability of the device in daylight conditions.

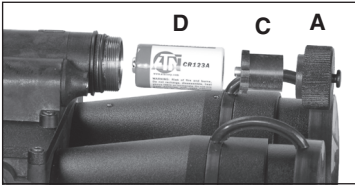
NOTE: Do not test the scope in daylight conditions even with the daylight filter/lens caps on for more than ten (10) minutes.

BATTERY INSTALLATION

Install standard AA battery in battery housing as follows:

1. Unscrew the battery cap (A).
2. Insert AA battery (B), observing the polarity as indicated.
3. Replace the battery cap and screw cap hand tight.

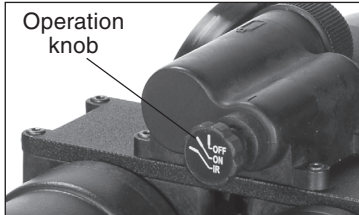




Install CR123A battery in battery housing as follows:

1. Unscrew the battery cap(A).
2. Screw the CR123 battery adapter(C) in to the cap.
3. Insert the battery(D), observing the polarity as indicated.
4. Replace the battery cap and screw cap hand tight.

OPERATION



- Take the binocular out of the case.
- Rotate operation knob from “OFF” position to “ON” position to turn the unit on. The protective lens covers shall be attached to the lens. **Do not turn the unit on in daytime without the protective lens caps on.** You should see green glow in the eyepieces.
- Observe the scene and adjust the diopter for optimal image clarity.

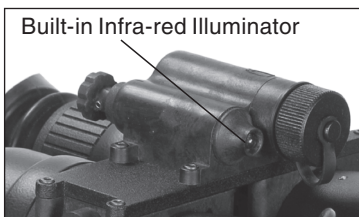
- You may now enter a dark environment or simply shut the lights off in order to darken the room.
- Next, remove the lens cap/daylight filters. Adjust the diopters. Remember that focusing range starts from 50 m.
- To turn the unit off, rotate the operation knob from “ON” to “OFF” position.

FOCUSING

To focus the Night Raven you will need to make the diopter adjustment. Simply turn the diopter adjustment rings clockwise until it stops. Then, while looking the object through the oculars on an object, slowly turn the diopter adjustment rings back counter clockwise until the grain on the image becomes sharp.

NOTE: We suggest that you focus the diopter during daylight with the filter on.

BUILT-IN INFRA-RED ILLUMINATORS



Infra-red illuminator, or IR illuminator, are common to night vision. The IR light greatly enhances the performance of the Night Raven while remaining almost invisible to a naked eye.

To turn the built-in IR on, draw and rotate the operation knob to “IR” position.

It is important to remember that the IR illuminator is simply an infra-red light source, and like any light source, it may lose its effectiveness over a great distance.

450 mW INFRA-RED ILLUMINATOR (OPTIONAL)

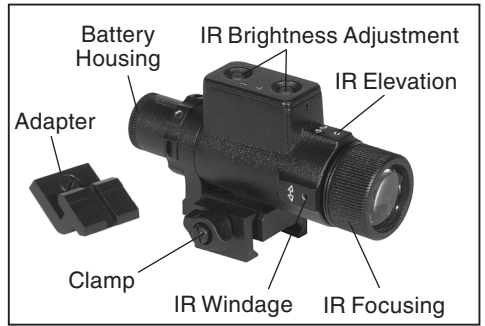
The 450 mW IR Illuminator is powered by a separate battery. To install the battery unscrew the cap and insert the battery with the polarity order shown on the body of the IR450. To install the 450mW IR Illuminator onto the binocular screw the adapter into the thread on the binocular body. Install IR450 onto the adapter’s rail and fix the clamp.

The IR illuminator control buttons are located on its side. To switch the Digital IR illuminator on/off press “+” and “-” buttons simultaneously. When the IR illuminator is switched on

you can see the green LED lit. By pushing the buttons “+” and “-” you may adjust the IR brightness.

The IR beam is focusable to change the field of coverage. To change the beam width slightly turn the IR lens.

You could change the IR control panel fitting your needs. The screw-tool from the kit should be used for weakening the clamp located on the IR. Rotate the IR placing it in the most convenient position. Tighten the clamp with the screw-tool to fix the new position.



CAMERA ADAPTER (OPTIONAL)

To use your Night Raven with a 35mm camera or camcorder you will need the following:

- 1) If you plan to use a camcorder then your camcorder must have a MACRO feature. Most modern camcorders today have a MACRO feature built-in.
- 2) If you plan to use a 35mm camera, you will need a MACRO lens. If you don't have one, we advise that you contact your local camera store.
- 3) You may or may not need a STEP-UP or STEP-DOWN ring in order to adapt the camera adapter to your lens. NOTE: The camera adapter comes with 37mm and 52mm threads. If you need other sizes your local camera store should be able to help.

- Remove one of the rubber eyecups from the Night Raven
- Screw the camera adapter onto the front of the lens on your Video camera's lens or your 35mm camera's lens.
- Loosen the three set screws on the camera adapter.
- Place the camera adapter over the Night Raven's eyepiece.
- Tighten the three set screws to fit snugly to the Night Raven's eyepiece
- You may need to focus the 35mm camera or video camera in combination with the Night Raven in order to get the sharpest possible image.
- We suggest that you find an open space to work in. Focus the Night Raven so that the scene is at its sharpest. For best results you should disable the auto focus (if any) on either the 35mm camera or the video camera and manually focus the 35mm camera or the video camera. Once the image is sharp, then simply adjust the Night Raven's front lens to change focus.



** An important part to remember is that you are not taking a picture of an object that is far away from you, but you are actually taking a picture of a phosphorous screen of the Night Raven that is only 2-3 inches away.*

STORAGE AND CARE

- If the device will not be in use for extended period of time (more than 10 days) remove the battery.
- Avoid touching of lenses. If fingerprints or traces of dirt or dust appear, clean their surface with a Photographic lens cleaning tissue.
- Keep lens caps/daylight filters on when not in use.
- The Night Raven is not harmful to the user or the environment.
- Do not disassemble except to clean the front lens and eyepiece: **it will void your warranty.**

- Evaluate the scope functionality by looking through it in a lit environment **with the daylight filter lens caps on. Never use in daylight without the daylight filter lens caps on.**
- **Never point the Night Raven at a bright light source.**
- Adverse atmospheric conditions such as fog, smog, or haze and a lack of ambient light (moon or starlight) may diminish the effective viewing distance.
- If you use the rubber eyecaps for a long period of time, you may suffer skin inflammation. If you develop any symptoms, consult a doctor immediately.

TROUBLESHOOTING

Q: Flashes, flickers, or clicking occur while operating

S: If it occurs within the first five minutes of inserting new batteries, it is normal and the device will resume normal operation soon thereafter. If it occurs for more than 10 minutes, contact for service instructions.

Q: Dark spots on screen.

S: These are either cosmetic blemishes in the intensifier tube or dust particles.

Q: Screen becomes darker than at previous use.

S: Replace batteries. If problem persists, contact your dealer or other authorized service representative for service instructions.

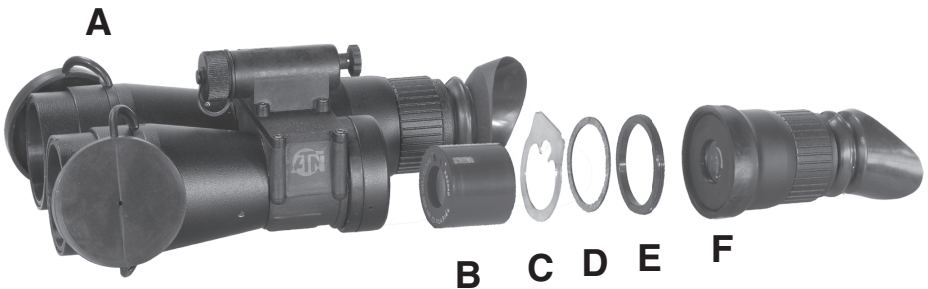
Q: Image not clear.

S: Adjust objective lenses, and/or the eyepieces.

TUBE MAINTANANCE/REPLACEMENT

Tube maintenance/replacement is to be performed by qualified technicians only. These procedures attempted by non-qualified personnel will void warranty.

1. Unscrew the eyepiece (F) from the case of device (A).
2. Unscrew the lock ring (E) from the case of device.
3. Extract the ring (D) from the case of device.
3. Extract the light guide (C) from the case of device.
4. Extract the tube (B) to be replaced from the case of device (A).
5. Introduce the new tube (B) into the case of device (A).
6. Set the light guide (C) onto the place in the case.
6. Set the ring (D) onto the place in the case.
7. Screw the lock ring (E) into the case of device.
8. Screw the eyepiece (F) into the case of device (A).



2 YEAR PRODUCT WARRANTY

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of 2 (two) years from the date of purchase. In the event a defect that is covered by the foregoing warranty occurs during the applicable period stated above, ATN, at its option, will either repair or replace the product, and such action on the part of ATN shall be the full extent of ATN's liability, and the Customer's sole and exclusive remedy. This warranty does not cover a product (a) used in other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer or by any party other than ATN without prior written consent of ATN; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either ATN or the ATN dealer; or (e) merchandise that has been discontinued by the manufacturer and either parts or replacement units are not available due to reasons beyond the control of ATN. ATN shall not be responsible for any defects or damage that in ATN's opinion is a result from the mishandling, abuse, misuse, improper storage or improper operation, including use in conjunction with equipment which is electrically or mechanically incompatible with or of inferior quality to the product, as well as failure to maintain the environmental conditions specified by the manufacturer. **CUSTOMER IS HEREBY NOTIFIED THAT OPERATION OF THE EQUIPMENT DURING DAYLIGHT HOURS OR UNDER ANY EXCESSIVE LIGHT CONDITIONS MAY PERMANENTLY DAMAGE THE INTERNAL COMPONENTS OF THE UNIT AND SAID DAMAGE WILL NOT BE COVERED UNDER THIS WARRANTY.** This warranty is extended only to the original purchaser. Any breach of this warranty shall be waived unless the customer notifies ATN at the address noted below within the applicable warranty period.

The customer understands and agrees that except for the foregoing warranty, no other warranties written or oral, statutory, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply to the product. All such implied warranties are hereby and expressly disclaimed.

LIMITATION OF LIABILITY

ATN will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages or liabilities arising out of the use of this product. Operation and use of the product are the sole responsibility of the Customer. ATN's sole undertaking is limited to providing the products and services outlined herein in accordance with the terms and conditions of this Agreement. The provision of products sold and services performed by ATN to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any obligation toward any third party of legal entity outside ATN and the Customer; ATN's obligations under this Agreement extend solely to the Customer. **ATN's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to ATN by the customer or customer's dealer. ATN shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of a breach of warranty, a breach of agreement, negligence, strict liability or any other theory of liability.**

PRODUCT WARRANTY REGISTRATION

In order to validate the warranty on your product, ATN must receive a completed Product Warranty Registration Card for each unit or complete warranty registration on our website at www.atncorp.com. Please complete the included form and immediately mail it to our Service Center: ATN Corporation, 1341 San Mateo Avenue, South San Francisco, CA 94080.

Obtaining warranty service

To obtain warranty service on your unit, End-user must notify ATN service department by calling **800-910-2862** or **650-989-5100** or via e-mail service@atncorp.com to receive a Return Merchandise Authorization number (RMA).

When returning please take or send the product, postage paid, with a copy of your sales receipt to our service center, ATN Corporation at the address noted above. All merchandise must be fully insured with the correct postage; ATN will not be responsible for improper postage or, missing or damaged merchandise during shipment.

When sending product back, please clearly mark the RMA# on the outside of the shipping box. Please include a letter that indicates your RMA#, Name, Return Address, reason for service return, Contact information such as valid telephone numbers and/or e-mail address and proof of purchases that will help us to establish the valid start date of the warranty. Product merchandise returns that do not have an RMA listed may be refused or a significant delay in processing may occur.

Estimated Warranty service time is 10-20 business days. End-user/customer is responsible for postage to ATN for warranty service. ATN will cover return postage/shipping to continental USA end-users/customers after warranty repair only if product is covered by aforementioned warranty. ATN will return product after warranty service by domestic UPS ground and/or domestic mail. Any other requested, required or international shipping method the postage/shipping fee will be the responsibility of the end-user/customer.

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