



AVENGER

Night Vision Monocular



USER'S MANUAL

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PARTS OF THE MONOCULAR



CAUTION:

This product contains natural rubber latex, which may cause allergic reactions! The FDA has noted an increase in the number of reported deaths that are associated with an apparent sensitivity to natural latex proteins. If you are allergic to latex, it is a good idea to learn which products contain it and strictly avoid exposure to those products.

The information provided in this manual is intended for familiarization with the product only. The contents may undergo further changes with no commitment by Armasight to notify customers of any updates.

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1. DESCRIPTION AND DATA

DESCRIPTION

The Armasight Avenger is a high-tech, tough, and durable night vision monocular that delivers great performance at the lowest possible cost. Packed with high-tech features, the Avenger is a unit that is equally at home with the hunter as it is with the professional security officer or law enforcement professional. The Armasight Avenger can be mounted in front of a camcorder or camera for night photography.

The Armasight Avenger can be equipped with high-performance Gen 2+ and Gen 3 IITs including Green phosphor or Armasight's "Quick Silver" and "Ghost" IITs, which provide users with natural B&W night vision displays.

The Armasight Avenger is a night vision workhorse that will exceed the performance requirements of the most demanding professionals or casual night vision users.

FEATURES

- 3X magnification
- Automatic brightness control
- Single-switch knob operation
- Powered by a single CR123A or AA battery
- Adaptable for use with cameras
- Built-in Infrared illuminator
- Weapon-mountable (with optional adapter)
- Water and fog-resistant
- Limited two-year warranty

SPECIFICATIONS *

Generation	2+ or 3
Magnification	3x
Lens system	50mm; F/1.2
Field of view (°)	18
Focus range (m)	1 to infinity
Diopter adjustment (dpt)	+5 to -5
Power Supply *	1x CR-123 Lithium (3V) or 1x AA (1.5V) battery
Battery life w/o IR (hours)	Up to 60
Environmental Rating	Water and fog-resistant
Lens material	Glass
Operating temperature (°C)	-40 to +50
Dimensions (mm/in)	210 x 75 x 60 / 8.2 x 2.9 x 2.3
Weight (kg/lbs)	0.65 / 1.4

* Armasight reserves the right to modify these specifications at any time without notice to the customer.

** Any AA or CR123 type rechargeable batteries with voltage from 1.2V to 3.0V can be used.

STANDARD COMPONENTS DESCRIPTION

1) Armasight Avenger Monocular

Night vision monocular.

2) Objective Lens Cap

The objective lens cap protects the objective lens from physical damage and allows operational testing of the device in daylight.

3) Eye Cup

The rubber eye cup protects the eyepiece and provides comfort for the user.

4) CR123A Lithium Battery

3V CR123A lithium battery supplies power to the unit.

5) User Manual

The user manual contains a full description of the device and accessories, information about controls, installation, maintenance and troubleshooting procedures.

6) Carrying Case

The carrying case is used to store and carry the Avenger monocular and accessories.

OPTIONAL COMPONENTS DESCRIPTION

1) IR850 Detachable Long Range Infrared Illuminator w/IRAV Adapter (Part# ANKI000024)

Long-range infrared illuminator. Provides greater viewing capabilities when the environment has little or no ambient light.

2) IR850W Detachable Wide Angle Adjustable X-Long Range Infrared Illuminator w/IRAV Adapter (Part# ANKIW000024)

A detachable LED extra long-range infrared illuminator with wide-angle adjustable beam (2 to 30 degrees).

3) Camera Adapter #47 (Part# ANAM000016)

An adapter with step down ring that allows the Spark to be attached to any 35 mm SLR camera or 8 mm camcorder.

4) Universal Camera Adapter Kit (Part# ANKIC00160)

Allows the Avenger to be attached to a variety of camera systems. Includes UCA #45 and IRAV Adapter.

5) QRM Kit (Part# ANKIQ00160)

Small arms adapter that allows the Avenger to be mounted on a weapon using Picatinny Mil 1913 rail. The kit includes Quick Release Weapon Mount #26 and IRAV Adapter.

6) Extended Rail Adapter #85 (Part# ANAM000045)

Dovetail Weaver Picatinny Rail Adapter Extends 7.5" to 11.5" Tactical Scope Mount.

7) Hard Shipping/Storage Case (Part# ANHC000001)

A protective case used for the shipping/ storage of the Avenger monocular and accessories.

2. PREPARATIONS FOR OPERATION

WARNING:

The Avenger night vision monocular is designed for several years of reliable service. To ensure trouble-free performance, please follow these instructions :

- **Do not** activate the device in daylight unless the protective lens cover is fitted securely over the objective lens. If the device is ON, do not direct the device at bright light sources, such as car headlights, camp fires, street lights, etc., as this will cause damage to the device.
- **Do not** perform operational checks in daylight unless the front lens cap is fitted securely over the lens, and even then, the device should only be ON for the few seconds it takes to establish correct operation.
- **Do not** open the body of the device or otherwise disassemble it.
- **Do not** drop or otherwise impact the device.
- **Do not** expose the device to moisture or extreme temperatures.
- **Do not** touch the lens. Clean optical parts with a clean, soft cloth, and only use professional lens cleaners designed for use with optics.
- **Do not** forget to remove the battery if the device is to be stored for **more than 3 days**.
- **Always** turn the device OFF when it is not being used.

WARNING:

Consider the following information and restrictions in order to avoid damaging the device and to ensure a long service life and failure-free operation:

- Performance of the device in nighttime conditions depends on the level of ambient light in the environment. Some light (moonlight, starlight, etc.) is required for the device to provide an image.
- The level of ambient light is reduced by the presence of clouds, shade, or objects that block natural light (buildings, trees, etc.).
- The device loses its effectiveness when operated in shadowed areas.
- The effectiveness of the device is adversely affected by weather conditions such as rain, snow, sleet, and fog, as well as environmental conditions such as smoke or dust.
- The device resolution level is reduced in environments with very low light sources. The visibility will degrade significantly under starlight conditions, particularly in low contrast environments such as deserts, large areas of uniform vegetation, etc.
- The device is equipped with a protection system that will automatically disable the image intensifier tube when the illuminance level stays above 40 lux for over 10 seconds.

BATTERY INSTALLATION

Install the CR123A battery as follows:

- 1) Unscrew the battery compartment cap on the front side of the monocular's body.
- 2) Insert the CR123A battery into the battery compartment in accordance with polarity markings.
- 3) With the battery adapter installed, screw the battery cap back on securely.



Install the AA battery as follows:

- 1) Unscrew the battery cap.
- 2) Remove the battery adapter from the cap.
- 3) Insert the AA battery into the battery compartment in accordance with polarity markings.
- 4) Screw the battery cap back on securely.



TRIPOD INSTALLATION

The Avenger can be connected to a tripod. To mount the tripod with the Avenger device, screw the tripod into the 1/4" threaded socket located on the Avenger's body.

NOTE:

The unit may be badly damaged if the tripod collapses or falls over. Remove the unit from the tripod if it is not within your reach.

3. OPERATION INSTRUCTIONS

CONTROLS

The Avenger is designed to meet the needs and requirements of various users. With the help of the controls, each user can individually set the unit to the most effective and desirable position. The Avenger unit's controls and indicators are shown and detailed further, below.

Function Switch. This switch controls the power supply to the unit and built-in infrared illuminator. The switch has three positions:

- 1) OFF position — the unit is off.
- 2) ON position — the unit is on (IIT powered). Turn the unit on by turning the switch from OFF to ON.
- 3) IR position — the unit is on, and the IR illuminator is activated. Activate the IR illuminator by turning the switch from ON to the IR position.

Lens Focus. This control focuses the objective lens. Adjust the lens for the clearest, sharpest image.

Diopter Adjustment. This control focuses the eyepiece. Use it to get the clearest image possible on the IIT screen.

IR Activity Indicator. A PERMANENT RED GLOW in the eyepiece viewing area indicates that the IR illuminator is operating.

Low Battery Indicator. A FLASHING RED LIGHT in the eyepiece viewing area indicates that the battery is low.

TESTING PROCEDURES

CAUTION:

Do not test the scope in daylight conditions for more than 10 minutes, even with the protective lens cap on.

To perform an operational check in daylight or in an illuminated room, follow these steps:

- 1) Verify that the battery is inserted into the battery compartment in accordance with polarity markings on the monocular's body.
- 2) Verify that the objective lens is securely closed.

3) **Without** removing the protective lens cap, activate the unit. While looking through the eyepiece of your unit, observe the scene. Verify that the green light indicating correct IIT operation is illuminated.

FOCUSING

To focus your Avenger Monocular, perform the following steps:

- 1) Adjust the diopter. Turn the diopter adjustment ring clockwise until it stops. While looking through the eyepiece, observe the scene and slowly begin turning the diopter adjustment ring counterclockwise until the image becomes clear and sharp.
- 2) Adjust the lens' focus. To focus your monocular at different distances, rotate the objective lens.

OPERATION IN NIGHTTIME CONDITIONS

CAUTION:

Avoid exposing the goggles to bright light sources. Bright light emitted by fires, automobile headlights, lanterns, projectors, etc. will damage your Avenger.

- 1) Visually estimate the illuminance level in the viewing area. Operation of the device with the objective lens cap removed is safe when the illuminance level is less than 1 lux; at an illuminance level of 1 lux, you will barely be able to read a newspaper, even after your eyes have adapted to the low level of light.
- 2) Verify that the battery is inserted into the battery compartment in accordance with the polarity markings on the monocular's body.
- 3) Remove the front lens cap.
- 4) Activate the unit. After a momentary delay, green light indicating correct IIT operation will appear.
- 5) Observe the scene and focus your Avenger.
- 6) Turn the unit OFF when you are finished using it. The green glow will disappear from the eyepiece.
- 7) Secure the objective lens cap over the objective lens

IR ILLUMINATOR OPERATION

CAUTION:

Do not forget that light emitted from the IR illuminator light is invisible to the naked eye; however, it can be easily detected by other night vision devices.

Infrared illuminators are used in areas where the level of light is not sufficient for surveillance. An IR illuminator can provide an extra source of infrared light, which, although invisible to the naked eye, can greatly enhance the performance of night vision devices. Turn on the IR illuminator when working in total darkness.

Remember that the beam emitted by your IR illuminator will lose its brightness over distance.

You can activate the IR illuminator of your monocular by turning the switch from ON to the IR position. A red indicator light will appear when the IR illuminator is turned on.

Turn off the IR illuminator by turning the switch from the IR position to OFF.

4. IR850 LONG RANGE IR ILLUMINATOR (OPTIONAL)

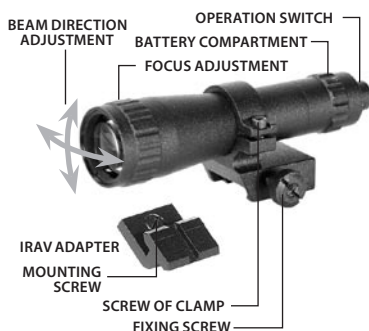
The IR850 is a removable infrared illuminator that can be installed on the rail of the night vision unit for the purpose of enhancing the unit's performance and long-distance observation.

IR850 ILLUMINATOR INSTALLATION

To install the IR illuminator on your Avenger, perform the following:

To install the IR illuminator on your Avenger, do the following:

- 1) Secure the IRAV adapter to the monocular. Twist the mounting screw of the adapter into the threaded hole in the body of the monocular.
- 2) Loosen the screw on the IR850 mount.
- 3) Place the IR850 on the rail of adapter.
- 4) Tighten the fixing screw.



IR ILLUMINATOR OPERATION

The Armasight IR850 runs on a single CR123A battery. To install the battery, unscrew the battery compartment cap and insert the battery in accordance with the unit's polarity markings. Screw the battery compartment cap back onto the device.

To turn the IR850 on, rotate the operation switch into the ON position.

To adjust the power of the beam emitted by the IR850, rotate the illuminator operation switch.

To focus the IR beam and change the field of coverage, slightly rotate the IR illuminator lens.

To adjust the IR spot position in the field of view, perform the following:

- 1) Loosen the screw on the clamp of the IR illuminator mount.
- 2) Turn on the sight and IR illuminator.
- 3) Carefully move the lens of IR850 up and down, as well as side-to-side, and observe the IR spot position through the eyepiece of the night vision weapon sight.
- 4) Once the IR spot is focused in the center of the field of view, tighten the screw of the clamp.

5. MAINTENANCE PROCEDURES

The Avenger should always be stored in the supplied packaging, particularly in heated and ventilated rooms. To keep the device operational, please follow the instructions listed below regarding preparations for storage. The battery should be stored separately from the unit and be inserted into the battery compartment **only** when the device is being prepared for use. The presence of both acids and alkalis' near the monocular is not recommended.

When stored, the Avenger should be protected from exposure to direct sunlight or extreme temperatures.

MONOCULAR CLEANING PROCEDURES

- 1) Gently remove any dirt from the monocular's body using a clean, soft cloth.
- 2) Wipe external surfaces down (with the **exception** of optical surfaces) with a clean cloth moistened with pure water.
- 3) Dry all wet surfaces with a different clean, dry cloth.
- 4) Using a lens brush, carefully remove any dirt from the optical surfaces.

5) To avoid scratches, optical surfaces must be cleaned using a clean cotton swab that has been slightly dampened with pure alcohol. The glass should be wiped in circular motions starting from the center and moving out towards the edge, without touching the barrel. Change the cotton swab as soon as it becomes dirty.

PREPARATION FOR STORAGE

When preparing your Avenger for storage, perform the following steps:

- 1) Verify that the monocular is operating in accordance with all previously specified procedures.
- 2) Remove the battery from the battery compartment.
- 3) Clean the monocular and all accessories.
- 4) Place all components into the storage case.

CAUTION:

Each component of the unit should be thoroughly dried before placing them into the storage case.

6. TROUBLESHOOTING

Common problems that may occur with your monocular or the detection and viewing tests, as well as actions you can take to correct them, are listed below in the Troubleshooting Table. **This table does not list all of the malfunctions that may occur with your device.** If you experience a malfunction of the device that is **not** listed in this table, please contact Armasight or your Avenger retailer.

NOTE:

Before you use this table, be sure you have performed all normal operational safety, care and handling checks and procedures.

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	ACTION
The monocular does not turn on.	Inspect for a missing, defective or improperly installed battery.	Replace the battery or install it properly.
<i>If these actions fail, please contact Customer Support.</i>		
Poor image quality.	Check if the eyepiece and lens are focused.	Focus the ocular and lens.
	Check if the lens is greasy, fogged or dirty.	Thoroughly clean the surface of the lens.
<i>If the problem persists, please contact Customer Support.</i>		
Light is visible through the eyecup.	Check the exit pupil distance value.	Press the eyecup to your face.
	Check the resilience of the eyepiece.	If the eyecup is defective, please contact Customer Support.
Diopter adjustment cannot be performed.	Check to see if the diopter adjustment ring is deformed or broken.	If the diopter adjustment ring is damaged, please contact Customer Support.
IR illuminator does not turn on.	Turn the IR illuminator on in a dark area with the monocular on. Visually estimate if the observed scene is illuminated.	If the IR illuminator does not turn on, please contact Customer Support.

ARMASIGHT PRODUCT WARRANTY REGISTRATION CARD

PRODUCT INFORMATION

Product Name _____ Purchased From _____

Purchase Date _____ Product Serial # _____

CUSTOMER INFORMATION

Name _____

Address _____

City _____ Country _____ Zip _____

Day Phone # _____ Home Phone # _____

E-mail address _____

.....
Customer Signature Required

7. WARRANTY INFORMATION

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of two (2) years from the date of purchase. In the event that a defect covered by the below warranty occurs during the applicable period stated above, Armasight, at its discretion, will either repair or replace the product; such action on the part of Armasight shall be the full extent of Armasight's liability, and the Customer's sole and exclusive repair. This warranty does not cover a product if it has (a) been used in ways other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer of by any party other than Armasight without prior written consent of Armasight; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either Armasight or the Armasight 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 Armasight. Armasight shall not be responsible for any defects or damage that in Armasight's view are a result from the mishandling, abuse, misuse, improper storage or improper operation of the device, including use in conjunction with equipment that 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 enforced unless the customer notifies Armasight 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

Armasight 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. Armasight'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 Armasight 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 Armasight and the Customer; Armasight's obligations under this Agreement extend solely to the Customer. Armasight's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to Armasight by the customer or customer's dealer. Armasight 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, Armasight must receive a completed Product Warranty Registration Card for each unit, or the Customer can complete a warranty registration on our website, at www.armsight.com. Please complete the included form and immediately mail it to our Service Center:

Armasight Inc.
815 Dubuque Avenue
South San Francisco, CA 94080
United States of America

OBTAINING WARRANTY SERVICE

To obtain warranty service on your unit, the End-user (Customer) must notify the Armasight service department via email. Send any requests to service@armsight.com to receive a Return Merchandise Authorization number (RMA). When returning any device, please take in the product to your retailer, or send the product, postage paid and with a copy of your sales receipt, to Armasight Corporation's service center at the address listed above. All merchandise must be fully insured with the correct postage; Armasight will not be responsible for improper postage or merchandise that becomes lost or damaged during shipment. When sending product back, please clearly write the RMA# on the outside of the shipping box. Please include a letter that indicates your RMA#, the Customer's Name, a Return Address, reason for the return, Contact information (valid telephone numbers and/or an e-mail address), and proof of purchase 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. The End-user/ Customer is responsible for postage to Armasight for warranty service. Armasight will cover return postage/ shipping after warranty repair to the End-user/ Customer only if the product is covered by the aforementioned warranty. Armasight will return the product after warranty service by domestic UPS Ground service and/ or domestic mail. Should any other requested, required or international shipping methods be necessary, the postage/ shipping fee will be the responsibility of the End-user/ Customer.



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