

# ATN Night Spirit

NIGHT VISION MONOCULAR



NIGHT SPIRIT USER'S GUIDE (REV. 3, AUGUST 2010)

## *u s e r ` s   g u i d e*


**Important Export Restrictions!** Commodities, products, technologies and services contained in this manual are subject to one or more of the export control laws and regulations of the U.S. Government and they fall under the control jurisdiction of either the US Department of State or the US BIS-Department of Commerce. It is unlawful and strictly prohibited to export, or attempt to export or otherwise transfer or sell any hardware or technical data or furnish any service to any foreign person, whether abroad or in the United States, for which a license or written approval of the U.S. Government is required, without first obtaining the required license or written approval from the Department of the U.S. Government having jurisdiction. Diversion contrary to U.S. law is prohibited.



**AMERICAN  
TECHNOLOGIES  
NETWORK  
CORP.**



## OPTIONAL ACCESSORIES

 <p>GOGGLE KIT W/1X LENS Item #ACMNNSTPGK</p>	 <p>INFRA-RED ILLUMINATOR IR450 KIT Item # ACMUIR45B7</p>	 <p>5X LENS Item #ACMNNSTLS05</p>
 <p>PICATINNY MOUNT ADAPTER W/1X LENS Item #ACMNNSTPCWM</p>	 <p>SCOPE ADAPTER MOUNT W/1X LENS Item #ACMNNSTPAFDT</p>	 <p>CAMERA-ADAPTER Item #ACMUCA05</p>

## CAUTION:

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

**Register your product warranty online at [www.atncorp.com/warranty](http://www.atncorp.com/warranty)**

The information in this manual furnished for information use only, is subject to change without notice, is not to be construed as a commitment by ATN Corp.

ATN Corp. assumes no responsibility or liability for any errors or inaccuracies that may appear in this book.

©2010 ATN Corp. All right reserved.

# FEATURES

---

- High Quality light intensifier tube
- Super fast lens system provides the user with a clear and sharp image
- Built-in Infra-Red illuminator lets you see even in total darkness
- Interchangeable lenses for different magnification
- Rugged and versatile design
- Single switch knob operation
- Camera/camcorder-adaptable
- Weapon mountable
- Head mountable for hands-free usage
- Flexible carrying case
- Uses one AA or Lithium battery
- Weather resistant

# SPECIFICATIONS

---

Magnification .....	3X (optional 5X)
Lens System .....	50mm F1:1.2
Field of view .....	18°
Diopter adjustment .....	±5
Range of Focus .....	3m to infinity
Power Supply .....	1.5V AA or 3V CR123A Lithium battery
Battery Life .....	30 hours (15 hours w/IR illuminator)
Operating Temperature .....	-40°C to +50°C
Storage Temperature .....	-50°C to +70°C
Weather resistant .....	Yes
Dimensions .....	210x75x60 mm (8.2" x 2.9" x 2.3")
Weight .....	0.65kg (1.4 lb)

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

# APPLICATION

---

The Night Spirit is rugged and lightweight night vision monocular. 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 Spirit is an excellent compact pocket scope. The Night Spirit is an amazing combination of versatility, performance, and price.

The Night Spirit night vision monocular is a complex electro-optical system for individual use. The device consists of the objective lens assembly, eyepiece and the body. The body contains an image intensifier tube assembly with an integrated high voltage power source and the battery housing.

Objective lens protective cover is intended to protect the objective lens 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.

The headgear of goggle kit secures the goggles to the user's head for night viewing, and provides freehand support for use with a weapon, protective mask or other purposes. It is adjustable and cushioned.

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

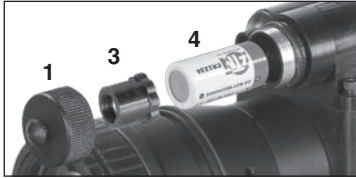
# BATTERY INSTALLATION

---



## Install standard AA batteries as follows:

1. Unscrew the battery cap[1].
2. Insert AA battery[2], observing the polarity as indicated.
3. Replace the battery cap and screw cap hand tight.



## Install CR123A batteries as follows:

1. Unscrew the battery cap[1].
2. Screw the CR123 battery adapter[3] in to the cap.
3. Insert the battery[4], observing the polarity as indicated.
4. Replace the battery cap and screw cap hand tight.

# OPERATION

---

Take the monocular out of the case.

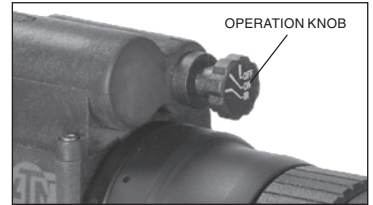
Rotate the operation knob from “OFF” position to “ON” position to turn the unit on. The protective lens cover shall be attached to the lens. Do not turn the unit on in daytime without the protective lens cap on. You should see green glow in the eyepiece.

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 filter. Adjust the front lens focusing. You should not have to readjust the diopter. Remember that focusing range starts from 3 m.

To turn the unit off, rotate the operation knob from “ON” to “OFF” position.



# FOCUSING

---

To focus the Night Spirit first you will need to adjust the diopter. Simply turn the diopter clockwise until it stops. Then, while looking through the diopter at an object, slowly turn the diopter 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.

Next focus the front lens until the image and the grain become both sharp. When you are in low-light conditions and the daylight filter is off, you may focus the front lens to receive sharp image, the diopter should not be adjusted.

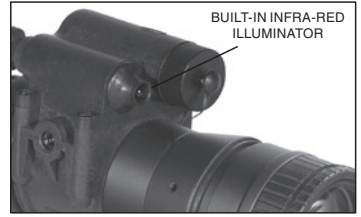
**NOTE:** The front lens should be readjusted as you view objects at different distances.

# BUILT-IN INFRA-RED ILLUMINATOR

Infra-red illuminators, or IR illuminators, are common to night vision. The IR light greatly enhances the performance of the Night Spirit 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.



## FLIP-UP HEADSET (OPTIONAL)

The headgear of goggle kit secures the goggles to the user's head for night viewing, and provides freehand support for use with a weapon, protective mask or other purposes. It is adjustable and cushioned.

### OBJECTIVE LENS REPLACING

Replace the standard 3X objective lens of Night Spirit to the 1X lens for using with headgear.

**CAUTION:** Make sure that the unit is turned off.

Unscrew the standard 3X objective lens and screw 1X lens to the free place.

### FITTING THE HEADGEAR

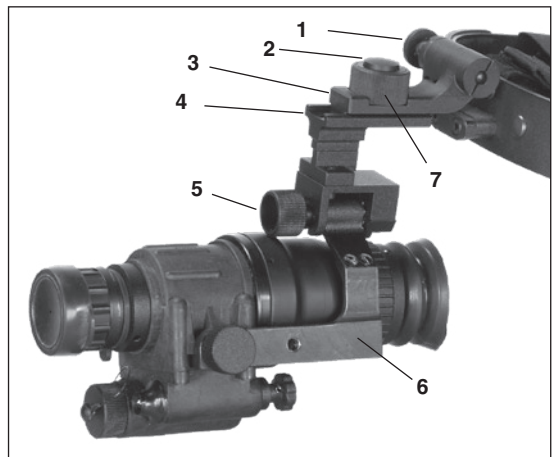
1. Fit the headgear to your head size. Adjust the headgear first before attaching the Night Spirit to it.
2. Loosen all the straps and place the headgear on your head.
3. Tighten the straps until the headgear fits firmly.
4. Remove the already adjusted headgear from your head.



Now you are ready to mount the Night Spirit on to your headgear.

### UNIT INSTALLATION AND ADJUSTMENT

1. Push button [2] and insert the bracket [4] of the transfer piece [6] to the rail of the headset [3].
2. Adjust an estimated eye relief. There are two threaded holes [9] in the transfer piece. Change position of fixation thumb-screw [8] to other hole for eye relief adjustment.
3. Install the Night Spirit onto the transfer piece. Screw the fixation thumb-screw [8] of the transfer piece into the mount hole [10] of unit body.
4. Choose the angular position of unit for right or left eye. Loosen the angular fixation knob [5]. Adjust monocular angular position. Tighten the fixation knob.
5. Place the headgear with Night Spirit onto your head.



6. Loosen the knob [7] and move the unit along the rail [3] for precise eye relief adjustment. Fixate the knob [7] in the needed position.

If you need increase the eye relief of your goggles additionally, you can displace the bracket on the top of transfer piece.

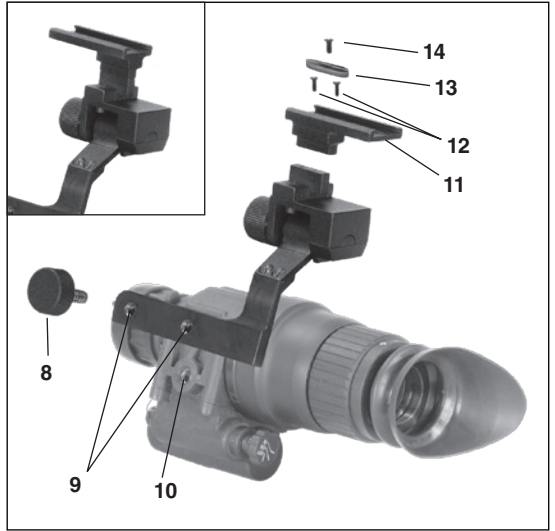
7. Unscrew the screw [14] and detach the end-cap [13] from the bracket of transfer piece.

8. Unscrew the 2 screws [12] and detach the bracket from the transfer piece.

9. Turn the bracket 180 degrees.

10. Screw the 2 screws [12] back into place.

11. Put the end-cap [13] on to the place. Screw the screw [14] in to the place.



## FLIP-UP MECHANISM

The Night Spirit headset has a flip-up mechanism. Push the button [1] on the side of mount and lift the unit up until the unit fixates in the top position. Push same button to lower Night Spirit to viewing position.

**WARNING:** It is critical that the goggles be turned off manually before placing them in the flipped up position in order to avoid detection by the enemy.

## PICATINNY MOUNT ADAPTER WITH 1X LENS (OPTIONAL)

The Night Spirit may be mounted behind a variety of daytime night vision compatible holo/reflex sights (i.e. EOTech or Aimpoint) utilizing the Picatinny mount adapter with 1x lens.

**WARNING:** Do not use non-night vision compatible sights. May cause damage to night spirit. This damage is not covered by warranty.

To mount Night Spirit perform the following:

1. Replace the standard 3X objective lens of Night Spirit to the 1X lens for using with headgear.
2. Mount the cleat to the body of Night Spirit.
3. Loosen the clamping knob on the weapon mount. Position the monocular mount onto the weapon's mounting rail, behind daytime sight adjust the fore/aft position of the monocular as necessary by loosening the clamping knob and repositioning the weapon mount on the rail. Tighten by turning the clamping knob.
4. Align the monocular and the weapon mount. Slide the monocular rearwards until the alignment boss aligns with the alignment groove on the weapon mount. Push until the monocular locks into the weapon mount.

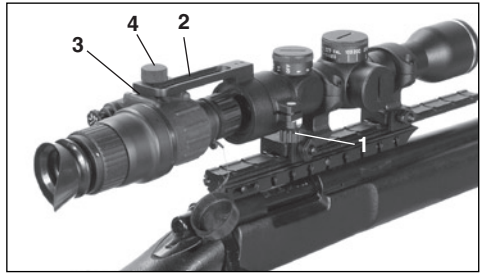


# SCOPE ADAPTER MOUNT WITH 1X LENS

## (OPTIONAL)

The Night Spirit may be mounted to a variety of daytime scopes/telescopes utilizing the Scope Adapter Mount.

1. Replace the standard 3X objective lens of Night Spirit to the 1X lens for using with headgear.
2. Loosen the adapter fixing screws [1].
3. Put the insert into the adapter (ATN supplies inserts of different sizes for their coupling with 38 mm to 43 mm eyepieces).
4. Now attach the monocular to the bracket [2] and tighten fixation knob [4].
5. Push a daytime riflescope or telescope eyepiece into the adapter attached to the monocular, making sure a small space is left between the scope eyepiece and the monocular front lens.
6. Tighten the adapter screw [1] securely.



**WARNING:** Do not use with illuminated reticle daytime scopes. May cause damage to night spirit. This damage is not covered by warranty.

# 450 MW INFRA-RED ILLUMINATOR (OPTIONAL)

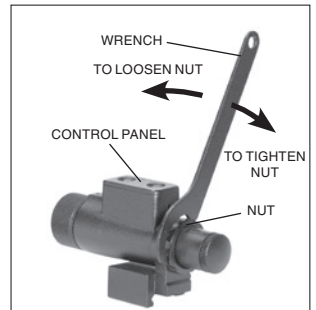
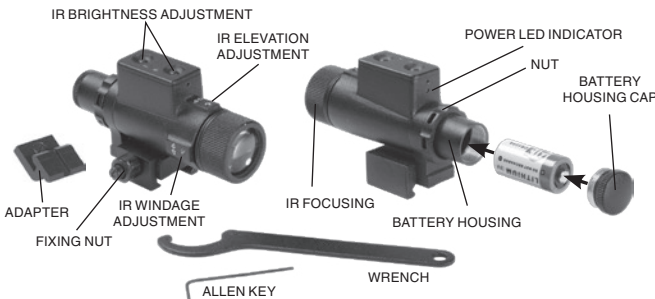


Infra-red (IR) Illuminators are common for night vision technology. The IR light greatly enhances the performance of your device, while remaining almost totally invisible to the naked eye. Staying in the dark, switch on your night vision device. If the visibility is low, you may use ATN IR450 to improve the situation. Still, you should remember that the IR illuminator is just a source of infrared light so the greater is the chosen range of observation, the lesser its brightness becomes.

IR450 Infrared Illuminator can be mounted [4] with PS-22 onto the Picatinny Rail, Platform Ring, BAM system or on to the weapon bases.

IR450 Installation:

1. Attach the IR450 adapter to the Night Spirit. Screw the screw of adapter into the mounting thread of device.
2. Place the IR450 onto the rail of adapter. Screw the fixing nut of IR50 mount tightly.



The ATN IR450 is powered with one CR123A lithium battery. To install the battery unscrew the cap of the battery housing and insert the battery following the polarity arrows marked on the housing. Put the cap in place.

The IR-450 illuminator has a control panel with two buttons. To switch the IR illuminator on/off press “+” and “-” buttons simultaneously. When the IR illuminator is switched on you can see the green LED lit on the back side of IR450. 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 may need adjust the focusing of the IR beam to change the field of coverage. Do it by slightly rotating the IR lens. The windage and elevation screws help adjust the direction of the IR beam from the IR450 in order to focus on the scene observed in the viewfinder of your NVD. Use the included Allen wrench to rotate the adjusting screws until the IR beam is centered. Please remember the adjustments should be performed under night light conditions only.

## 5X LENS (OPTIONAL)

The additional 5X Lens for Night Spirit transform it to 5X night vision monocular.

To install 5X lens unscrew the objective lens of Night Spirit and screw 5X Lens instead of it.



## CAMERA ADAPTER (OPTIONAL)

To use your Night Spirit with a 35 mm 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 37 mm and 52 mm threads. If you need other sizes your local camera store should be able to help.



Remove the rubber eyecup from the Night Spirit.

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 Spirit's eyepiece.

Tighten the three set screws to fit snugly to the Night Spirit's eyepiece

You may need to focus the 35 mm camera or video camera in combination with the Night Spirit in order to get the sharpest possible image.

We suggest that you find an open space to work in. Focus the Night Spirit 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 Spirit'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 Spirit 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 cap/daylight filter on when not in use.
- The Night Spirit 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 cap on. Never use in daylight without the daylight filter lens cap on.**
- **Never point the Night Spirit 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.

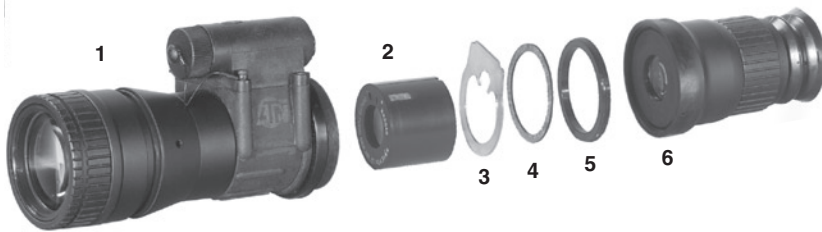
**S:** Adjust objective lens, and/or the eyepiece.

# 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 [6] from the case of device [1].
2. Unscrew the lock ring [5] from the case of device.
3. Extract the ring [4] from the case of device.
3. Extract the light guide [3] from the case of device.
4. Extract the tube [2] to be replaced from the case of device [1].
5. Introduce the new tube [2] into the case of device [1].
6. Set the light guide [3] onto the place in the case.
6. Set the ring [4] onto the place in the case.
7. Screw the lock ring [5] into the case of device.
8. Screw the eyepiece [6] into the case of device [1].



# 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](http://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](mailto: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 after warranty repair to end-user/customer 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.



For customer service and technical support, please contact  
**American Technologies Network Corp.**

**North American Office**

1341 San Mateo Avenue, South San Francisco, CA 94080  
phone: 800-910-2862, 650-989-5100; fax: 650-875-0129

**European Office**

The following countries can use our toll free number:

**00 800 9102-8620**

Austria, France, Germany, Holland, Italy, Spain, Sweden, Switzerland

For other countries, please use

**38 048-7770214 or 38 048-7770345**

**[www.atncorp.com](http://www.atncorp.com)**