



## Operation Manual



**NIGHT VISION SCOPE**

**NZT-1M2**

105 Sparks Ave., Toronto, ON, M2H 2S5, Canada

# IMPORTANT INFORMATION

## Read prior to activation

You have just purchased a complicated electronic device. To operate it properly, please read this manual carefully. Here are some common Precautions that must be noted.

- **NEVER** expose the opened objective lens of an active unit in daylight. At daytime objective lens must be covered by caps. There is a tiny hole in the cap to provide enough light for day time operation.
- **NEVER** aim active unit at intense light sources (i.e. lights, headlamps, campfires, the Moon, etc.)
- **NEVER** reverse the polarity of a battery
- **NEVER** disassemble the unit
- **NEVER** connect the unit to external power sources
- **ALWAYS** remove batteries when not in use for a long period
- **ALWAYS** keep the objective lenses covered when not in use
- **ALWAYS** store in a warm dry place when not in use

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**Thank you for purchasing NZT 1M2**

**Please read all the instructions carefully prior to use.**

**Failure to follow the instructions may void the warranty.**

## **1. Overview**

The night vision scope NZT-1M2 is an observational optico-electronic monocular device intended for examining distant objects and orientation at nighttime conditions. The unit utilizes an image intensifier which amplifies available moonlight, starlight or man-made light. The viewer was designed to be easy to use, and provide many years of operation.

Some of the typical activities where the NZT-1M2 Night Vision Telescope will be useful:

- wildlife observation
- night time photography
- security
- boating
- search and rescue
- law enforcement

## 1.1 Features

- The NZT-1M2 telescope is camera adaptable. It is attachable to Pentax screw type cameras or to other cameras through an optional adapter. It allows to use any lenses with working length of 45.5 mm and screw type thread;
- A self-contained AP-7 Infra Red illuminator with adjustable focus and angle is included. It allows observations in total darkness (i.e basement or cave);
- One stage image intensifier tube with multi alkaline photocathode ensures observation at 1/4 moon and better conditions;
- The eye piece allows Dioptric adjustment for the eyes of the viewer;
- Soft rubberized eye piece makes the viewing more comfortable;
- Standard and commonly available 9V battery ensure nonstop operation of the device for no less than 10 hours.

## 1.2 Warning

After transportation or keeping the device at temperature lower than  $-15^{\circ}\text{C}$  ( $5^{\circ}\text{F}$ ), the device must be warmed up to ambient temperature, from  $-10^{\circ}\text{C}$  ( $14^{\circ}\text{F}$ ) to  $+40^{\circ}\text{C}$  ( $104^{\circ}\text{F}$ ), relative humidity of 80% max. at  $20^{\circ}\text{C}$  ( $68^{\circ}\text{F}$ ).

## 1.3 Precautions

NZT-1M2 is a sophisticated precision optical instrument equipped with electronics.

Therefore, it should be handled with due care.

- Keep your device away from direct sunlight, impacts, dust, moisture, and sudden changes of temperatures.
- Do not touch the optical surfaces with fingers. Doing so may damage the anti-reflection coating.
- Cleaning of optical surfaces is possible only with professional camera lens cleaning supplies.
- To clean the exterior of the device, use only a soft clean cloth.
- Do not take the cover off the lens if not necessary.
- Keep away from heating appliances and central heating.
- Make sure to switch off the unit during periods of non-operation and when storing the device for long period of time.
- Do not apply superfluous efforts at work with lens assembly, agile elements and thread connections.
- Due to considerable optical magnification of the eye-piece some small structures inside the tube coating in the form of dark and/or white points may be seen in the field of view which does not affect the serviceability of the device.
- The resolving power (resolution) may change in the direction from the center towards the perimeter of the field of view. This is an inherent feature of the image tube type utilized in the device. We would recommend to place the scene of observation in the center of the field of view

## 2. Delivery set

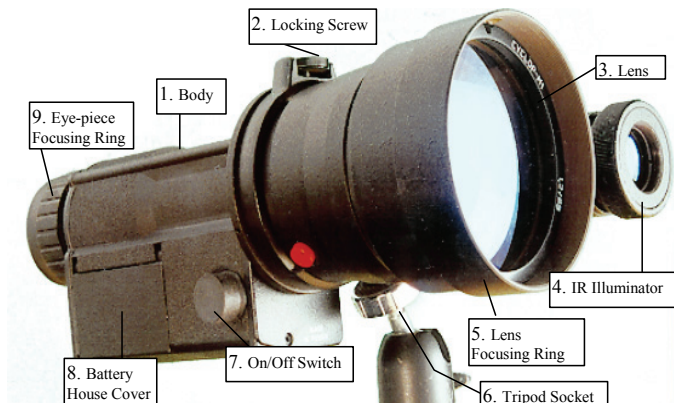
NZT-1M2 supplied with the following components:

|                            | Quantity |
|----------------------------|----------|
| NZT-1M2 unit               | 1        |
| Case                       | 1        |
| Carrying strap             | 1        |
| Lens caps                  | 1        |
| AP-7 I/R illuminator       | 1        |
| AP-7 lens cover            | 1        |
| Tripod doubler             | 1        |
| Lens cloth                 | 1        |
| Camera adapter             | 1        |
| Byonet adapter (optional)  | 1        |
| Manual                     | 1        |
| Warranty Registration Card | 1        |

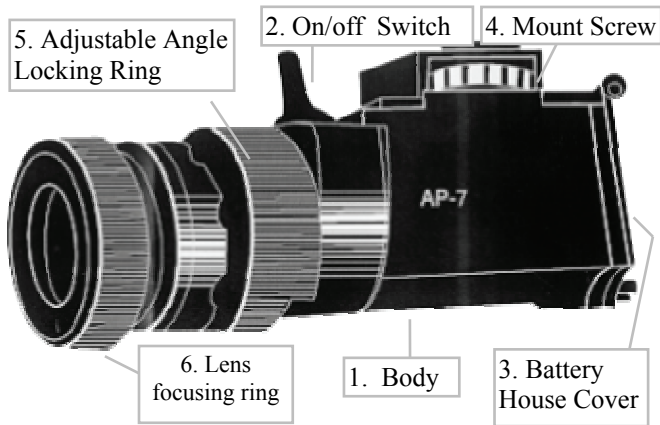
### 3. Specifications

|                         |                                 |
|-------------------------|---------------------------------|
| Magnification, x        | 2.4                             |
| Field of view, degrees  | 15°                             |
| Lens aperture           | 1.5                             |
| Dyoptric correction     | ± 5                             |
| Operating illuminations | From moon light to star's light |
|                         |                                 |
| Power supply;           |                                 |
| Scope                   | 9V                              |
| AP-7 I/R Illuminator    | 3V 2xAA                         |
| Battery life, hours     | 10                              |
| Dimensions, mm          | 100×120×260                     |
| Weight, kg              | 1.1                             |

## 4. Design



|                             |                         |
|-----------------------------|-------------------------|
| 1 – Body                    | 2 – Locking screw       |
| 3 – Lens                    | 4 – IR Illuminator      |
| 5 – Lens focusing Ring      | 6 – Tripod socket       |
| 7 – On / Off switch         | 8 – Battery house cover |
| 9 – Eye-piece focusing ring |                         |



**Pic. 2**

|                                   |                        |
|-----------------------------------|------------------------|
| 1- Body                           | 2 - On / off switch    |
| 3 - Battery house cover           | 4 - Mount screw        |
| 5 - Adjustable angle locking ring | 6 - Lens focusing ring |

## 5. Operation Instructions

### **WARNING!**

**Never operate your night vision device at daylight without the lens cover on! Never direct the lens to bright light!**

#### 7.1 Pre-starting procedures

Unpack the device. In order to install the battery, open battery house cover (8), and install the battery.

Check the functioning of the device by switching it on (click switch 7) and looking through eye-piece (9). If power supply and the batteries are O.K., you will see greenish lit screen. If the screen is not lit, check the batteries. Replace the batteries if necessary. If everything works, now is a great time to fill the warranty card.

Note: The scope will remain on for up to several minutes after releasing the ON button. This is normal.

#### 7.1 Testing of operation

The scope can be switched on by short pushes on the button (7) during 1-2 seconds. The lens cap must be on the lens (3).

Direct the device on an object placed within 10-20 m from the viewer. Turning the eye-piece (9) and the lens (3) try to achieve the sharpest image on the screen of the image tube.

## **7.1 Operation at night**

### **AT MOON LIGHT**

Take off the lens cover from the lens (3). Turn on the device using switch (7). Turning the eye-piece (9) adjust to achieve the most clear image on the screen. Then obtain the most clear-cut image of the object focusing with ring (5). Repeat the steps of focusing if necessary.

As a battery saving measure, the unit has an automatic delayed shut off. When brightness of the image is being lowered, press the switch again. If brightness of the screen is decreasing, replace the batteries. Take out the batteries during long periods of non-operation.

### **AT INSUFFICIENT AMBIENT ILLUMINATION**

At insufficient ambient illumination use the AP-7 Infra/Red illuminator. Attach AP-7 Infra/Red illuminator unit using the mount screw (4) to the tripod socket of the telescope lens NZT, then switch on AP-7 (2). Focusing of the beam is done by rotation of the lens ring (6). The angle of the beam can be adjusted as well (5).

## 6. USING WITH CAMERA

*(Refer to camera diagram page 12)*

To use a camera with the NZT-1M2, use a camera with Pentax Screw type thread. Adapters for most other cameras should be available in your local camera store.

A camera adapter is supplied with your night vision scope.

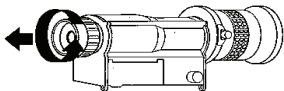
### **Photography**

When using the NZT-1M2 for photography, you are not supposed to obtain the same quality of pictures as taken in the daytime. But you will have the possibility to get an image of the object that normally could not be seen in the dark by the naked eye.

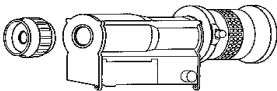
The user has a wide range of possibilities for experiments in the photography field by selecting different photo materials and changing of optics. Quality of pictures taken with a new lens or eyepiece may be estimated approximately by the object's image when observing through the view-finder of your SLR camera.

## Camera Diagram

1



2



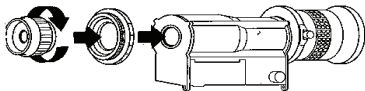
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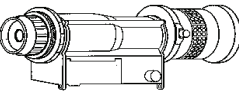
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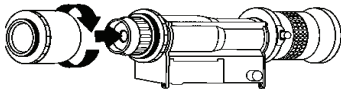
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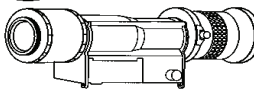
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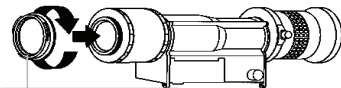
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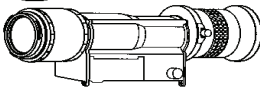
8



9

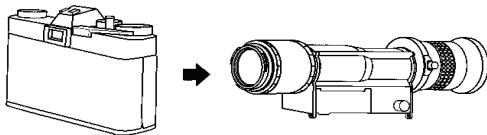


10



optional byonet adapter

11



## **7. TROUBLESHOOTING**

### **7.1 The scope does not work.**

Check that the batteries are installed properly.

Check the charge of the batteries. Replace if they are weak.

Do not use old batteries with new ones.

### **7.2 The image does not appear in focus.**

Bring the inspected object to the center of the image. Turning the eye-piece (9) adjust to achieve the clearest image on the screen. Then obtain the most clear-cut image of the object focusing with ring,(5). Repeat the steps of focusing if necessary

### **7.3 Image flashes**

It is normal for the unit to flash within the first 2 minutes of activation.

Continued flashing may be caused by bright light environment (even with the cap closed).

### **7.4 Condensation accumulates on the parts.**

It is O.K. to use the scope in cold. However, when the unit is brought from the cold into a warm environment, it has to warm up for up to 5 hours (not minutes!). Only then, it can be turned on again.

## **7.5 Visibility decreases and / or disappears.**

Bright light sources (moon, projectors or headlights) may result in visibility degradation or even complete disappearance. If this happens move the scope away from the light source immediately. The image should be restored in within 2 minutes.

Poor atmospheric conditions such as fog, haze or extremely dark environments, will decrease the visibility distance as well.

## **8. WARRANTY**

**NEWCON** warrants this product against defects in material and workmanship for one year from the date of the original purchase, but no more than 18 months from the date of manufacturing. Longer warranty is available, subject to the terms of the specific sales contract. Should your Newcon product prove to be defective during this period, please deliver the product securely packaged in its original container or an equivalent, along with the proof of the original purchase date, to your Newcon Dealer.

Newcon will repair (or at its option replace with the same or comparable model), the product or part thereof, which, on inspection by Newcon, is found to be defective in materials or workmanship.

*What This **Warranty Does Not Cover:***

NEWCON is not responsible for warranty service should the product fail as a result of improper maintenance, misuse, abuse, improper installation, neglect, damage caused by disasters such as fire, flooding, lightning, improper power supply, or service other than by a NEWCON Authorized Service.

Postage, insurance, and shipping costs incurred while presenting your NEWCON product for warranty service are your responsibility.

If shipping from North America, please, include a cheque or money order payable to NEWCON OPTIK for the amount of \$15.00 to cover handling and return shipping.

## 9. CUSTOMER SUPPORT

Should you experience any difficulties with your NEWCON OPTIK product, consult the enclosed manual. If the problem remains unresolved, contact our customer support department at (416) 663-6963 or toll free at 1-877-368-6666. Our operating hours are 9am-5pm, Monday - Friday, Eastern Standard Time. At no time should equipment be sent back to Newcon without following the instructions of our technical support department.

NEWCON OPTIK accepts no responsibility for unauthorized returns.

To locate NEWCON Authorized Dealer call:

Tel: (416) 663-6963 Fax: (416) 663-9065

Email: [newconsales@newcon-optik.com](mailto:newconsales@newcon-optik.com)

Web: [www.newcon-optik.com](http://www.newcon-optik.com)

The defective products should be shipped to:

**From the USA only:**

2331 Superior Ave. Cleveland, OH 44114

**From all other countries:**

105 Sparks Ave., Toronto, ON

M2H 2S5, CANADA

## 10. ACCEPTANCE CERTIFICATE

*NIGHT VISION DEVICE NZT-1M2*

Serial number: \_\_\_\_\_

Complies with all technical specifications and has passed the inspection.

Date of production: \_\_\_\_\_

Quality Inspector: \_\_\_\_\_

Quality Assurance Seal

NEWCON OPTIK™ 2010

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