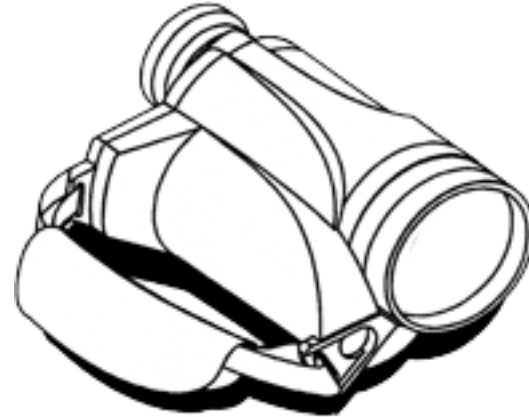


OPERATION MANUAL



NIGHT VISION SCOPE **MB-3**

Newcon International Ltd. © 1998-2003 Printed in Canada

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ATTENTION!

IMPORTANT INFORMATION

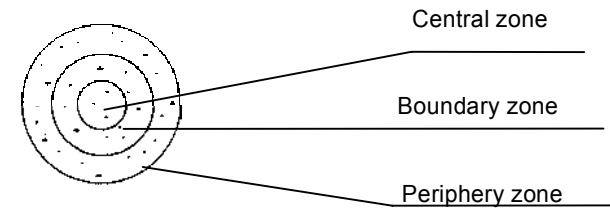
Read prior to activation

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. (Note: 1st generation units will still remain active for a few minutes after switching the unit off). 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. It is allowed to turn on the unit at daytime, but the lenses must be covered by caps.
- **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

Image quality of the object, which is being observed when an image intensifier is functioning, depends mainly upon operating characters of this image intensifier.

Due to this fact black spots, which are inherent in the image intensifier, may be seen in the field of view of a viewing device. Field of view is shown below.



Permissible defects, which may be seen in the field of viewing device, are given in the table

Type of black spots	Zone	Size of black spots, mm	Number of spots
Immovable	Central (circle of diameter 5.5 mm)	Up to 0.073 From 0.073 to 0.150 From 0.150 to 0.294	Not limited 5 1
	Boundary (circle of diameter 5.5-9.0 mm)	From 0.073 to 0.150 From 0.150 to 0.294 From 0.294 to 0.400	10 3 1
	Periphery (circle of diameter 9.0-11.0 mm)	Not limited	Not limited
Moving	Entire field (circle of diameter 11.0 mm)	From 0.150 to 0.294	1

9. ACCEPTANCE CERTIFICATE

NIGHT VISION DEVICE MB-3

Serial Number _____

Model MB-3 _____

corresponds to technical conditions ADSH 3.807.020 TU and is admitted for use.

Place for seal Date of production - _____

Quality inspector _____

(Signature)

- **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 MB-3 NIGHT VISION DEVICE.
PLEASE DEMAND TO CHECK THE DEVICE FOR PROPER
OPERATION WHEN BUYING IT. PLEASE READ ALL THE
INSTRUCTIONS CAREFULLY BEFORE USING.**

1. OVERVIEW

MB-2 Night Vision scope is a sophisticated optico-electronic observation device designed to allow observations of personnel and orientation in nighttime conditions. The unit is utilizing an image intensifier, which amplifies available moonlight, starlight or man-made light. The viewer was designed to be easy to use, convenient to carry and provide many years of operation.

THE SOLE OBLIGATION OF NEWCON UNDER THIS LIMITED WARRANTY SHALL BE TO REPAIR OR REPLACE THE COVERED PRODUCT, IN ACCORDANCE WITH THE TERMS SET FORTH HEREIN. NEWCON EXPRESSLY DISCLAIMS ANY LOST PROFITS, GENERAL, AND SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM BREACH OF ANY WARRANTY, OR ARISING OUT OF THE USE OR INABILITY TO USE ANY NEWCON PRODUCT.

8. 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. Our operating hours are 9am-5pm, Monday - Friday, standard East time.

At no time should equipment be sent back to Newcon without following the instructions of our technical support department. Newcon accepts no responsibility for unauthorized returns.

To locate the NEWCON Authorized Dealer call:

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

E-mail: newconsales@newcon-optik.com

Internet: www.newcon-optik.com

The defective products should be shipped to:

In USA: 3310 Prospect Ave. Cleveland, OH 44115

In Canada or overseas: 1183 Finch Ave. W., Suite 302, Toronto, ON. M3J 2G2 CANADA

7. WARRANTY

NEWCON OPTIK warrants this product against defects in material and workmanship for one year from the date of the original date of consumer's purchase, but no more than 18 months from the date of delivery being indicated and stamped on the acceptance certificate purchase. Should your NEWCON product prove defective during this period, please bring the product securely packaged in its original container or an equivalent, along with proof of the date of original purchase, to your NEWCON Dealer. NEWCON will, repair (or at its option replace), 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 to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, damage caused by disasters such as fire, flood, and lightning, improper electrical current, or service other than by a NEWCON Authorized Service. Postage, insurance, or shipping costs incurred in presenting your NEWCON product for warranty service are your responsibility. Please include a cheque or money order made out to NEWCON OPTIK for the amount of US\$10.00 to cover shipping and handling.

NEWCON OPTIK may replace any product that has been discontinued or is out of stock, by another current product of comparable value and function. NEWCON OPTIK DISCLAIMS ANY WARRANTIES, EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, EXCEPT AS EXPRESSLY SET FORTH HEREIN.

Some of the typical activities where the MB-2 will be useful: boating, search and rescue, law enforcement, wildlife observation, security.

Features

- Totally waterproof construction.
- Will float on the water if accidentally dropped.
- Nitrogen purged optics, to prevent fogging
- One stage image intensifier tube with Multi alkaline photocathode and image tube gain of no less than 500 times ensures observation at 1/4 moon and better conditions;
- High quality wide-angle lens.
- The built in infra red illuminator allows observations in total darkness (i.e. basement or cave);
- The internal lens with focusing mechanism ensures adjustment for sharpness for both near and remote objects;(optional)
- The eye piece allows Dyoptric adjustment for the eyes of the viewer;
- Soft rubber eye-cap protects from the disturbing lateral light and occasional impacts, thus making surveillance more comfortable;
- Standard and commonly available AAA-batteries ensure operation of the device of no less than 10 hours;
- Two switch buttons ensure separate switching of the night vision device and the IR LED illuminator, thus providing economic use of batteries' power;
- Original compact design and ergonomic shape make the device handy and comfortable to hold with one hand

Warning!

After transportation or keeping the device at temperature lower than -25°C (-13°F), the device must be warmed up to ambient temperature, from -20°C (-4°F) to +40°C (104°F) during 2-3 hours.

Precaution

MB-3 is a 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.

If the view still does not seem in focus, clean the lenses; they could be foggy or dusty.

Unit flashes

It is normal for the unit to flash within the first 2 minutes of activation. If the flashing continues afterwards the following is a possible cause: bright environment (even with the cap closed!)

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 is allowed to turn it ON again.

Visibility decreases and / or disappears.

Bright light sources (moon, projectors or headlights) may cause visibility to degrade or even completely disappear. 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 of the unit.

5.3. Operation at night

AT MOON LIGHT

Take off the lens cover (8). Turn on the device using switch (4). Turning the eye-piece focusing lever (3) adjust to achieve the most clear image on the screen. Then obtain the most clear-cut image of the object focusing with ring(2) Repeat the steps of focusing if necessary.

AT INSUFFICIENT AMBIENT ILLUMINATION

Activate switch (4) for switching on the device. Press button (5) for switching on IR illuminator. Direct the device on the object to be viewed.

If brightness of the screen is decreasing, replace the batteries.
Take out the batteries during long time periods of non-operation of the device.

6. TROUBLESHOOTING

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.

The image does not appear in focus.

Bring the inspected object to the center of the image. Turning the eye-piece focusing lever (3) adjust to achieve the clearest image on the screen. Then obtain the most clear-cut image of the object

2. COMPONENTS

MB-3 is supplied with the following components:

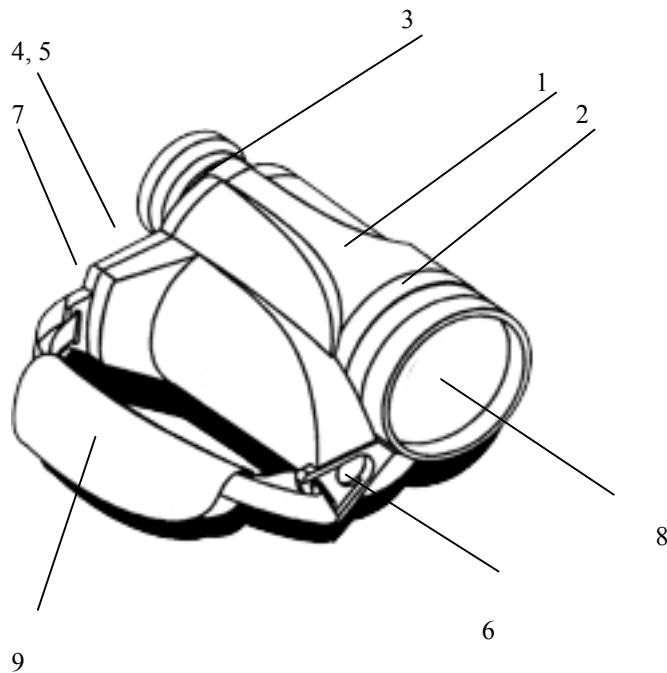
NAME	QUANTITY
MB-3 N.V	1
Carrying strap	1
Case	1
AAA batteries (optional)	2
Manual	1
Warranty Registration Card	1

3. SPECIFICATIONS of MB-3

Magnification, X	2.5 ±0.2
Field of View, angl., degrees, not less.....	26
Minimum Focus Range, m.....	0.8
Operating illumination.....	from moon light to star's light
Resolving Power, angl., seconds, not more..	
at full moon.....	200
at stars light and 1/4 of full moon.....	350
Dyoptric Compensation, Dptr., no less.....	±4
Integral illuminator Working Wave Length, mm	780-880
Power Supply.....	3V (2 AAA)
Dimensions, mm, not more.....	106X151X74
Weight. kg, not more.....	0,5

NOTE : As the design is being continuously improved some descriptions may differ from those given above.

4. CONSTRUCTION



- 1- Body
- 2- Lens Focusing Ring
- 3- Eye-piece Focusing Lever
- 4- Switch Button for the Scope
- 5- IR Illuminator Switch
- 6- IR Illuminator
- 7- Battery House Cover
- 8- Lens Cover
- 9- Carrying Strap

5. OPERATION INSTRUCTIONS

WARNING!

NEVER OPERATE YOUR NIGHT VISION DEVICE IN DAYLIGHT AREAS WITHOUT THE LENS COVER ON! NEVER DIRECT THE LENS IN THE DIRECTION OF BRIGHT LIGHT!

5.1 Pre-starting procedures.

1. Unpack the device. In order to replace the batteries unscrew battery house cover (7) and replace the batteries observing the polarity indicated; close cover (7). First, make sure the lens caps (8) are closed: Check the functioning of the device by switching it on (click switch 4) and looking through eye-piece (3). 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. You can find the unit's serial number on eyepiece focusing ring (3) or lens focusing ring (2).

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

NOTE: Since the unit is tightly sealed to remain waterproof, lever (3) will not rotate easily.

5.2. Testing of operation

Turn on the device-using switch (4). Lens cap (8) must be on. Direct the device on an object placed within 40-50 m from the viewer. Turning the eye-piece (3) try to achieve the sharpest image on the screen of the image tube. For close focusing rotate the front lens (2)

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