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## Operation Manual

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**NIGHT VISION MONOCULAR**

**NVS 8**

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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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# 1. Overview

The night vision NVS 8 is a contemporary universal optic-electronic device, intended for examining objects and orientation at night or under dark conditions. The unit utilizes a generation 2 or better image intensifier tube, which amplifies available moonlight, starlight or man-made light. The device was designed to be easy to use, and provide many years of operation. NVS 8 is adapted for work with photo and video equipment in darkness.

## **Some of the typical activities where NVS 8 will be useful:**

- Law enforcement
- Wildlife observation
- Security
- Search and rescue
- Photography
- Marine operations

## Features

- Long Observation Range (over 1000 m at low light levels)
- Possibility to use the viewer under extremely low light levels ( $1 \times 10^{-3}$  lux – starlight or  $1 \times 10^{-4}$  lux on a cloudy night)
- High Image quality across the screen
- Unique high quality optics, with high light transmission
- High Light cut off
- Automatic protection from lateral or frontal light sources
- Automatic Brightness Control, with manual override
- Low Power Consumption
- Optional Biocular eye-piece allows observation with both eyes (reduces magnification by 1.42)

## Precautions

NVS 8 is a sophisticated precise 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 should only be performed 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 and remove the batteries during periods of non-operation and when storing the device for long period of time.
- Do not apply unnecessary pressure to the 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.

## 2. Delivery set

NVS 8 is supplied with the following components:

	Quantity
NVS 8	1
Camera adapter	1
Lens cap	1
Manual	1
Warranty registration card	1
Soft Case (Optional)	1
Tripod (Optional)	1
Battery (Optional)	1

### 3. Specifications

<b>Image Intensifier Tube</b>	<b>A</b>	<b>B</b>	<b>C</b>
Type	Gen. 2, 25 mm	Gen. 2, 25 mm	Gen. 2+, 18 mm
Photocathode sensitivity, nA/lm	240	350	600
Light Amplification	50000	30000	35000
Resolution, lp/mm	32	45	45
<b>Optical</b>			
Magnification, x	6.0	9.0	8.2
Field of View, deg	7.0	5.2	5.2
Objective lens	204mm, F-1.0, T-1.4		
Eye relief Distance, mm	45		
Dioptric Adjustment	+3,-4		
Focus range, m	0.6 - $\infty$		
<b>Electrical</b>			
Voltage, V	3		
Power Supply	2xAA batteries		
Batteries life, hours	50		
<b>Other</b>			
Working Temperature	-20 °C to +50 °C		
Relative humidity, %	Up to 98		
Dimensions, mm	370x250x240	370x250x240	400x250x240
Weight, kg	8.5	8.5	8.5

## 4. Operation Instructions

### **WARNING!**

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

#### 4.1. Prior to use

Unpack the device. In order to install the battery, first make sure the switch (1) is in the OFF position. Unscrew the battery house cover, and install fresh batteries. We recommend using alkaline system batteries which provide the best current stability during the life cycle. Observe the correct polarity indicated on the housing. Screw the battery house cover back on. Check the functioning of the device by switching it on and looking through eyepieces. (Make sure the lens cap is on while operating during the daytime). 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 it is a great time to fill the warranty card.

#### 4.2. Operation at night

- Remove the lens cap.
- Turn on the device. You will see greenish-lit screen. If the screen is not lit, check the batteries.
- Obtain the most clear-cut image of the object focusing with ring located behind the objective lens.

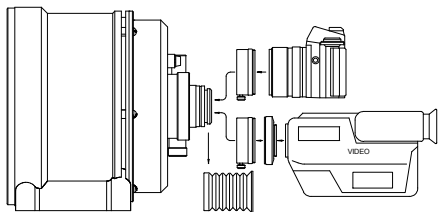
- After you finish using the device turn it off
- Close the lens cap.

*Warning! Don't direct the objective towards bright light sources: lamps, moon, fire, flashes, etc. It will lead to deterioration of the light amplification in the future.*

### **4.3. Using the camera/video adapter.**

The adapter consists of 2 rings:

- Camera adapter is 52x1 mm size. It will go into the filter thread of lenses for many cameras, like Nikon etc.
- Video adapter is 37 x 1mm. It will fit most Sony cameras and some other as well. If not, check with local camera store and/or camera manufacturer for proper step up/step down rings.



For the adapter using do the following steps:

- Remove carefully the rubber eyepiece.
- Screw tightly the adapter into the camera/video objective thread.

- Unscrew the ocular and set it in middle position.
- Set the adapter onto the ocular. Try to focus the assembled system with the objective rings on both NVS 8 and camera. If you fail to obtain clear image, remove the adapter and turn the ocular. Repeat this operation until you receive clear image. With the certain position of the ocular and objectives the system will be focused perfectly.
- Fix the adapter ring with the three stopping screws. All further focus adjustments should be made with NVS 8 objective ring only.
- Set diaphragm with 2.8 or 4 size on the objective of the device. If you use diaphragm number less than 2, the resolution deteriorates. Higher diaphragm numbers are recommended only for fast moving objects shooting.

*Additional notes:*

- Use photo film ISO 400 or better.
- It's recommended to use tripod for better picture quality.

## **5. TROUBLESHOOTING**

### **5.1. The device does not work**

Check that the battery is installed properly.

Check the battery charge. Replace if it is weak.

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

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

The image doesn't appear in focus. Bring the inspected object, if the view still does not seem in focus, clean the lenses; they could be foggy or dusty.

### **5.3. 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 caps closed!).

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

It is O.K. to use the unit in cold. However, when the unit is brought from the cold into a warm environment, it has to warm up for up to 2 hours (not minutes!). Only then can it be turned ON again. Visibility decreases and / or disappears.

## 6. 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.

## 7. 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

## 8. ACCEPTANCE CERTIFICATE

*NIGHT VISION DEVICE NVS 8*

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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