



## Operation Manual



**NIGHT VISION WEAPON SCOPE**

# **NVS 4**

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** disassemble the unit. This device contains high voltage, which may be hazardous to your health!
- **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 daytime operation. It is allowed to turn on the unit at daytime, but caps must cover the lenses.
- **NEVER** aim active unit at intense light sources (i.e. lights, headlamp, campfires, the moon, etc.)
- **NEVER** reverse the polarity of a battery
- **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 4 is aiming optical-electronic weapon scope, intended for shooting gun with the side mount at night time or 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.

**Some of the typical activities where NVS 4 will be useful:**

- Military
- Law enforcement
- Security

## **Features**

- Suitable for a variety of infantry AK 47 variants and machine guns.
- Supplied with East Block side mount or a custom mount
- Precise internal Windage/Elevation adjustments
- Lit ballistic reticle with adjustable brightness intensity
- Automatic brightness protection

## Precautions

NVS 4 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 is allowed only with professional camera lens cleaning supplies.
- Use only a soft clean cloth to clean the exterior of the device.
- 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 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

## 2. DELIVERY SET

NVS 4 is supplied with the following components:

	Quantity
NVS 4 unit	1
Wrench	1
Soft case	1
Napkin	1
Manual	1
Warranty registration card	1

\*Exact delivery set and accessories included are subject to the terms of specific contract.

### 3. SPECIFICATIONS

	NVS4	NVS4/5x
Typical range at starlight, m	350	500
Image Intensifier tube	2+	2+
Magnification, x	4	5
Field of view under eye relief 40 mm, deg	6.3	6
Exit pupil diameter, mm	6	6
Mount	East European	East European
Battery	AA, 1pc	AA, 1pc
Supply voltage, V	1,5	1,5
Continuous operation time under standard conditions, h	10 -30, depends on battery type	10-30, depends on battery type
Overall dimensions	207x176x79	220x198x100
Weight, kg	0.9	1.25
List of recommended weapons	AK47, AK74, AK74M, AK101, AK102, AK105, AK107, AK108, AN94, AS, BSS.	AK47, AK74, AK74M, AK101, AK102, AK105, AK107, AK108, AN94, AS, BSS. PKM, SVD

## 4. DESIGN

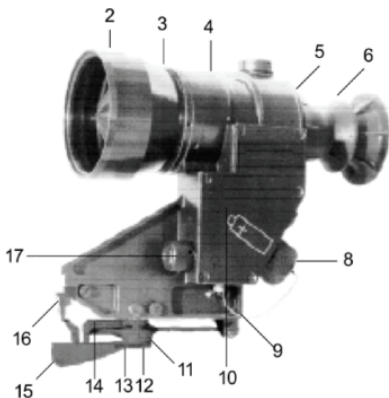


Figure 1. Sight (left side view) without cap and light filter.

### Figure 1.

- |   |                               |
|---|-------------------------------|
| 2 – Lens                                      | 3 – Fitting part              |
| 4 – Scope housing                             | 5 – Clip                      |
| 6 – Eye-shield                                | 8 – Battery compartment cover |
| 9 – Lead                                      | 10 – Scope housing cover      |
| 11 – Washer                                   | 12 – Stop screw               |
| 13 - Latch                                    | 14 – Lock lever               |
| 15 – Handle                                   | 16 – Bracket                  |
| 17 – Reticle brightness adjustment hand wheel |                               |



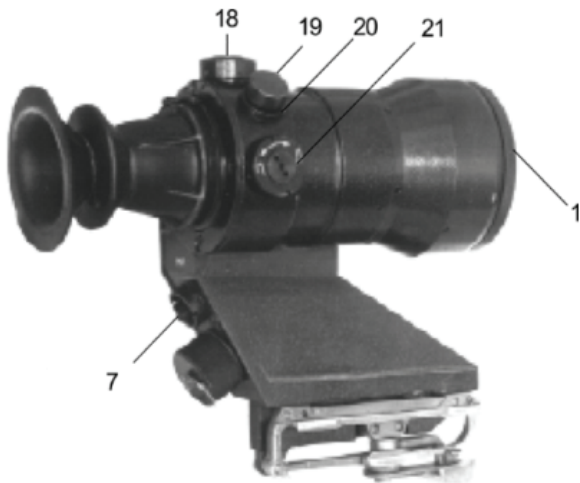


Figure 2. Sight (right side view)

Figure 2.

1 – Lens cup with brightness filter	7 – Switch
18 – Vertical adjustment screw	19 – Cover of blow-out fitting
20 – Rubber gasket	21 – Horizontal adjustment screw

## 5. OPERATION INSTRUCTIONS

The scope is mounted on a weapon by means of clamp, which consists of bracket 16 (Fig.1, 2), lock screw 2, latch 13, lock lever 14, handle 15 and washer 11.

Mount the scope on a weapon in the following order:

- pull the handle 15;
- direct the scope from the rear side into aligning bar of a weapon and push the scope forward to stop;
- push the handle 15 up to its catching;
- check up the reliability of scope fastening

A swinging of the scope on a weapon is not affordable.

For reliable fastening of the scope, it is necessary to adjust the clamp in the following order:

- detach the scope from the weapon;
- unlock the latch 13;
- shift the handle 15 providing the reliable fastening;
- lock the latch 13;
- check the reliability of scope fastening again.

For mounting and checking the serviceability of the scope under daylight conditions do as follows:

- put the cup with light filter on the lens;

- remove the cover 8 and insert the battery as shown on the cover of scope;
- screw up the cover 8;
- turn on the switch 7.

In 3-4 seconds the eyepiece field of view should begin to gleam with yellow-green light and red aiming reticle;

- adjust the optimal contrast of aiming reticle by means of hand wheel 17;
- if reticle is switched on but is extinct with the lit screen, the battery should be replaced with operable one;

**Warning:** the reticle extinction indicates the discharge of battery.

The central peak of reticle is assigned for sighting. The vertical markers on each side of central peak can be used for lateral deflection at moving target or strong wind. The scope should be aligned to the weapon by means of zeroing. Zeroing is carried out in the daytime and with the light filter cap put on only, in the following order:

- set the target of approximately 1x1 m at the range 100 m;
- make the 3-4 shoots from rest at regular aiming of the peak to centre of target;
- determine the mean point of impact by holes placement.

If mean point of impact disagrees to aiming point more than by 3 cm the scope alignment is needed. Align the scope by mean of screws for vertical and horizontal adjustments. The turn by one click corresponds to shift of mean point of impact by 3 cm at the range of 100 m.

**Note:** If zeroing range is different, the value of click changes proportionally, for example:

- at range 50 m - 1.5 cm;
- at range 200 m - 6.0 cm.

**Example:** On the Fig.3 the mean point of impact is located above the aiming point by 15 cm and at the left by 20 cm. To shift the mean point of impact to target centre one should turn the vertical adjustment screw by  $15/3 = 5$  clicks down and the horizontal adjustment screw by  $20/3 = 7$  clicks to the right. Make the batch of check shooting.

Grouping of scope aimed shooting should not be worse than without the scope. No adjustment should be made after zeroing. When shooting a range exceeding 100 m you should keep zeroing but choose another aiming point corresponding to the distance to the target.



**Figure 3.**

## 6. MAINTENANCE

The device should be kept clean avoiding dust and dirt. The outer surfaces of the optical parts should be clean always.

**WARNING:** It is prohibited:

- to disassemble the scope;
- to switch on the scope without protective cap and light filter;
- to apply exceeding force to clamp;
- to use a battery of improper type;
- to keep a battery into an unused scope for a long time.

The device is the subject of following periodic maintenance procedure:

- clean the scope against dust, dirt and moisture;
- check out the contacts of power supply;
- wipe grease spots on optical surfaces by clean napkin; in case of significant pollution the alcohol can be used;

## **7. STORAGE**

The scope must be prevented against mechanical damages. The scope is to be stored in a heated room. Ambient temperature must be within the limits from 5 to 35°C.

Relative humidity must not exceed 85%. It is recommended to keep the scope in its caring case without a battery inserted.

## 8. TROUBLESHOOTING

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

Check that the battery is installed properly.  
Check the charge of the batteries. Replace if it is weak.

### **The image is degraded and blurred.**

Clean the lens with napkin. If the inner optics suffers from extended humidity send the scope to the manufacturer for drying and sealing.

### **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!)

### **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 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 device 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.

### **Reticle is absent or weak.**

Check the batteries.



## 9. 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.

## 10. 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

# 11. ACCEPTANCE CERTIFICATE

## *NIGHT VISION DEVICE NVS 4*

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

Complies with all technical specifications and has passed the inspection.

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

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

Quality Assurance Se

NEWCON OPTIK™ 2010

Printed in Canada

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