



**DAY / NIGHT VISION
RIFLESCOPE
DN 463**

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

IMPORTANT INFORMATION

Read prior to activation.

DN 463 is a sophisticated electronic device. To operate it properly, please read this manual carefully. Ignoring operation procedures described in this manual will void your warranty.

- **NEVER** disassemble the unit. This device contains a source of high voltage, which may be hazardous to your health.
- **NEVER** open objective lens of an active unit in bright light, including daylight. In the daytime objective lens must be covered by caps. A tiny hole in each cap provides enough light for daytime testing.
- **NEVER** aim active unit at intense light sources, such as lights, headlamps, campfires, the Moon, etc.
- **NEVER** reverse the polarity of a battery.
- **NEVER** connect the unit to external power sources.
- **ALWAYS** remove battery 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.

Precautions

DN 463 is a sophisticated precise optical instrument equipped with electronics. It should be handled with due care:

- Unit contains fragile components. Avoid impacts, dust, moisture and sharp changes of temperature.
- Do not touch the optical surfaces other than for cleaning. Doing so may damage the anti-reflection coating.
- Clean optical surfaces with professional lens cleaning supplies.
- Use only a soft clean cloth to clean the exterior of the device.
- Keep away from sources of heat, such as heating appliances, sunlight or central heating.
- Switch off the unit and remove the battery during the extended periods of non-operation.
- Do not keep the device at temperatures higher than 60°C (140°F).
- Do not apply excessive force or pressure to the lens assembly, movable parts and thread connections.
- Small dark and/or light points may be seen in the field of view due to considerable optical magnification of the eyepiece. This does not affect the operational capabilities of the device.

CONTENTS

1.	FEATURES	3
2.	DELIVERY SET	5
3.	SPECIFICATIONS	6
4.	OPERATING INSTRUCTIONS	7
5.	GUIDELINES FOR OPERATION	7
6.	BATTERY INSTALLATION	9
7.	OPERATING INSTRUCTIONS	10
8.	SIGHTING DN463	12
9.	MIL-DOT RETICLE	15
10.	TECHNICAL INSPECTION	17
11.	TECHNICAL MAINTENANCE	18
12.	USING THE ADDITIONAL WEAVER RAIL	18
13.	USE OF THE PRESSURE SWITCH MODULE	19
14.	STORAGE	19
15.	TROUBLE SHOOTING	20
16.	WARRANTY	23
17.	CUSTOMER SUPPORT	25
18.	ACCEPTANCE CERTIFICATE	26



DN463 shown on an assault rifle

1. FEATURES

- Three readily available configurations of illuminated red-on-green reticles that are able to be switched at a moment's notice
- Functions with one AA (1.5V) or CR123A (3V) battery
- Accurate internal front lens focus adjustment
- Lightweight and highly durable; manufacturing employs carbon plastic and other modern technologies
- High magnification of 4x
- Close observational range of 8 meters
- IPX6 rating against water intrusion
- Shockproof with the use of heavy recoil ammunition (.375 H&H, .416 Rigby, .50 cal.), up to 6000 joules
- Vertical positioning of the battery ensures an uninterrupted power supply when firing
- The image intensifier tube is protected against excessive light exposure
- Incremental reticle brightness adjustment
- The reticle will blink as a warning 15-30 minutes before the device shuts down automatically as a low battery indicator

- Stabilized power supply for optimal consumption, ensuring no shift of the aiming point under a continuous power draw or drop in temperature
- Fast start-up
- Ergonomic design; the adjustment controls are located on top
- Precision internal windage/elevation adjustment MOA per click
- Built-in high-power PULSE hazard free IR illuminator with beam focus
- Remote control with secure attachment
- Additional MIL-STD-1913 side weaver rail for accessories
- Flip-up objective lens cover
- Stylish carrying case

DN463/ is a complex electro-optical device designed using innovative technology.

We strongly recommend reading and following all the instructions carefully before turning on the riflescope.

Not following the instructions and guidelines outlined in this instruction manual can cause damage to the device, as well as voiding any applicable warranty.

2. DELIVERY SET

DN463

Carrying case

Pressure switch

IR Illuminator

User Manual

Warranty card



3. SPECIFICATIONS

Model	DN463
Magnification, x	4
Objective lens, mm	60 mm , F / 1.68
Generation	Gen. 3
Image Intensifier Tube	N3XT4322
Resolution, lines/mm, min.	57
Field of View, deg	9
Light amplification	35,000
Maximum recognition/viewing range at normal nighttime conditions – 0.05 lux (1/4 moon), m//yd	600/800//656/875
Diopter setting, D	±3.5
Close-up range, m	8
Battery type	1xAA or 1xCR123A
Battery life without IR, hr (AA/CR123A)	15/25
Battery life with IR, hr (AA/CR123A)	5/8
Eye relief distance, mm	50
Water intrusion rating	IPX6
Operating temperature range	-30C to +40C
Dimensions, mm	
Length	275
Width	95
Height	103
Weight, g	1,249

4. OPERATING INSTRUCTIONS

DN463/ night vision riflescope is intended for observation and hunting at dusk or during night time hours. When operated in conditions without artificial sources of light, it is a passive device. However, in environments of absolute darkness the built-in IR illuminator provides viewing ability. DN463/ is a very capable night vision device, and equally serves the amateur or professional for:

- Night observation and hunting
- Patrolling and safeguarding
- Search and rescue

5. GUIDELINES FOR OPERATION

DN463/ has been designed for extensive usage. To ensure longevity and performance, it is necessary to adhere to the following:

- Under illuminated conditions measuring more than 1 lux (deep dusk), do not power on the riflescope with the objective lens cap open and do not point the product towards a direct light source! Daylight, vehicle headlights, flame, sun or similar light sources can irreversibly decrease its performance.

- Some examples of common illuminated conditions:

Conditions	Natural illumination in the field, lux
No moon, cloud cover	10^{-4} (0.0001)
Starry sky, no moon, clear	10^{-3} (0.001)
Quarter moon, clear	0,05
Full moon, clear	0,38≈0.4
Deep dusk	1.0
Dusk	10
Cloudy weather	500

- When using in bright conditions (early morning or late evening), do not leave the device on with the objective lens cap open for more than 30 minutes.
- Continuous observation of bright stationary objects can cause the electronic-optical converter to fade, leading to the appearance of dark spots in the field of vision.
- Do not forget to turn off the scope after each use!
- Store with the lens cap on, in the accompanying carrying case.
- The scope has been reinforced with an IPX6 rating against water intrusion and can be used in inclement weather; however, it is not intended for full submersion.
- Attempting to disassemble or repair the scope will void the warranty!
- Clean the scope's optical surfaces only if necessary, and use caution. First, remove (by blowing or carefully wiping off) any dust or sand particles. Then proceed to clean by using a

soft cotton tissue and alcohol or a cleaning solution approved for use with multicoated lenses. Do not pour the solution directly onto the lens!

- The scope can be used in operating temperatures, ranging from -30°C to $+40^{\circ}\text{C}$. However, if it has been brought indoors from cold temperatures, do not turn it on for 3 to 4 hours.
- If the riflescope is unable to mount onto the rifle securely, or if there are doubts about the mounting system, see a qualified gunsmith. Using the weapon with a poorly mounted scope can lead to inaccurate target shooting!
- To ensure reliable performance, it is recommended to carry out regular technical inspections of the unit.

6. BATTERY INSTALLATION

- Unscrew the cap **(1)** of the battery compartment counter-clockwise.
- Install one AA (1.5V) or CR123A (3V) battery, so that the (+) and (-) match the markings on the body of the unit.
- Tighten the cap **(1)**.

7. OPERATING INSTRUCTIONS

- Install the batteries according to the directions in the section entitled “BATTERY INSTALLATION”.
- Enter a dark environment.
- Remove the objective lens cap by sliding it up on top of the objective lens **(2)**.
- Turn on the unit by turning the selector switch **(3)** to the “ON” position; you will see the screen light up green.
- The scope can also be checked in an illuminated area, but this is meant solely for testing the device; the lens cap **(2)** must tightly cover the objective lens.
- To adjust the brightness of the red reticle, turn knob **(4)**.
- To select one of the three types of the reticles, press button **(5)**.
- Choose a remote stationary object to observe, at a distance of about 100 m.
- Turn the focusing knob **(6)** to “100”, it will settle into a notch.
- Observe the object through the scope and turn the diopter focus knob **(7)** until the image appears crisp.
- If necessary, turn on the IR illuminator by turning the selector switch **(3)** to “IR” position. To mount the IR Illuminator, unscrew and remove the plug **(12)** and screw the IR clockwise.

- Turn the knob of the IR illuminator **(8)** until you get a focused IR spot.
- After making these adjustments, no further tuning of the diopter is required, regardless of distance or other factors; perfect the image quality using only the knob for the objective lens **(6)** and that for the IR illuminator **(8)**.
- When finished, turn off the riflescope by turning the selector switch (3) to the “OFF” position and close the objective lens cap **(2)**.

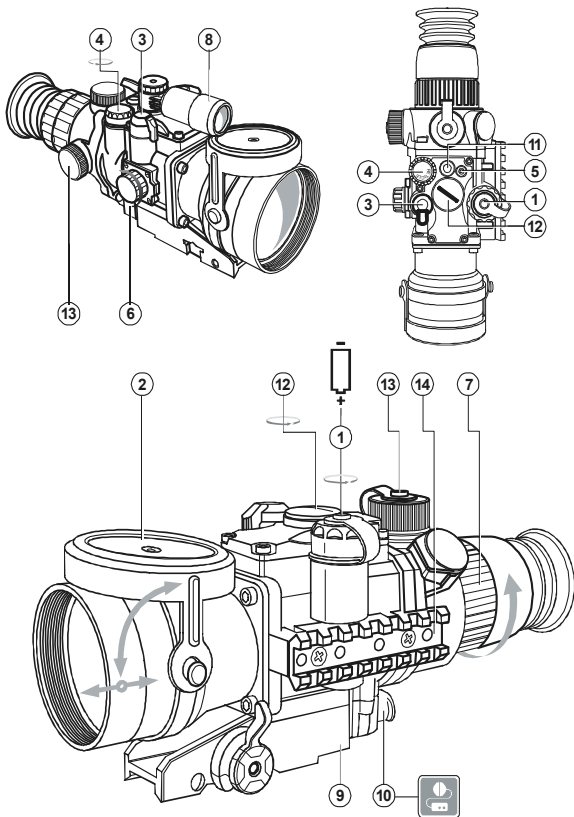
- It is possible to mount the scope onto the firearm using a special bracket **(9)**; after the initial mounting is performed, it is important to follow further mounting instructions in the section entitled “SIGHTING DN463”.
- The riflescope can be turned on instantaneously with either the remote control housed in its bracket **(10)** or by button **(11)**.

8. SIGHTING DN463

Sighting in of the scope should be done at operating temperatures, by following the order of these steps:

- Mount the rifle with the scope installed on a bench rest.
- Make sure that no sources of light are visible through the scope's field of vision.
- Set a target at a distance of about 100m; the light levels around the target should not exceed 1 lux.
- Remove the objective lens cap **(2)**, by sliding it up on top of the objective lens.
- Turn on the scope by turning the selector switch **(3)** to the “ON” position.
- Aim the firearm at the target using the mechanical sight.
- Adjust the scope according to the steps in the section entitled “OPERATING INSTRUCTIONS”.
- Turn the objective lens focusing knob **(6)** until you get a crisp image of the target.
- Set the desired reticle brightness level by turning knob **(4)**.
- If the center of the reticle crosshairs and the target center do not line up, remove the covers protecting the windage / elevation adjustment knobs.

- Using live ammunition, take 3 or 4 control shots, continually aiming at the same hit point on the target (you may also use a laser bore sighter and align the laser point to the center of the cross hairs).
- Examine the target and determine if the aiming point coincides with point of impact, if you determine it's necessary to make corrections, you will need to adjust your aiming point. To move it downwards and to the left, turn the knob (**13**) counter clockwise, in the directions Down and Left respectively, the aiming point moves upwards and to the right; keep in mind that one click of the knob corresponds to a 12mm shift of the hit point at a distance of 100m.
- Check the accuracy of your adjustments by firing another 3 or 4 control shots.
- The scope should now be zeroed-in for the specified distance.



9. MIL-DOT RETICLE

Your night vision riflescope DN463 has a Mil-Dot reticle installed which helps you determine distance to the target if you know its actual size.

The Use of a Mil-Dot reticle:

- Viewing the target through the riflescope place the edge of one post against one edge (top, bottom, or either side) of the target so that the crosshair extends along either its width or height.
- Using the dots, measure along the crosshair to the opposite edge of the target.
- Once the measurement of the target has been estimated in mils, use the following formula to determine the range:

<u>The Measured object's width or height in Yards x 1000</u> Object's Width or Height in Mils or	=	Range in yards
<u>The Measured object's width or height in Meters x 1000</u> Object's Width or Height in Mils or	=	Range in Meters
<u>The Measured object's width or height in Yards x 1000</u> Object's Width or Height in Mils or	=	Range in Meters
Example: <u>1.33 yards x 1000</u> = <u>1330</u> 2.5 mils 2.5	=	532 Yards

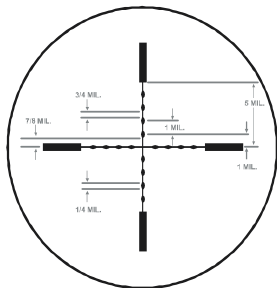
- When making windage/elevation adjustments please note that one click of the riflescope's adjustment equals to:

For the model DN463:

0.4235 MOA;

0.4435"/100 yds;

1.232cm/100m



1 mil (millirad) equals 3.6 inches at 100 yards or 36 inches at 1,000 yards, or 10 centimeters at 100 meters or 1 meter at 1,000 meters.

1 millirad (1 mil) = 0.001 of the distance = 3.4377 MOA

10. TECHNICAL INSPECTION

It is recommended to inspect the riflescope before every use. Make sure to check for the following:

- Visually inspect the unit is free from any physical damage; cracks, dents or signs of corrosion disqualify it from proper use.
- Check the sturdiness and proper fit of the mounting system.
- Ensure the condition of the objective lens, eyepiece and the IR illuminator are free of cracks, grease spots, dirt, water stains and other residue before use.
- Visually inspect the condition of the battery and the battery compartment; the battery should be free of electrolyte and oxidation residue, especially where the battery makes contact with metal.
- Verify the proper function of the following; selector switch **(3)**, reticle brightness knob **(4)**, reticle selector button and the instant power-on button **(11)**.
- Verify the smoothness of the objective lens focusing mechanism **(6)**, diopter focusing knob **(7)** and the IR illuminator knob **(8)**.

11. TECHNICAL MAINTENANCE

Technical maintenance should be done no less than twice a year, and is comprised in the following steps:

- Clean the outside metallic and plastic surfaces from dust, dirt and moisture; wipe the scope with a soft cotton tissue, lightly coating it with gun oil or petroleum jelly.
- Clean the battery compartment's electric contact points using an oil-free solvent.
- Inspect the eyepiece lens, the objective lens and the IR illuminator and gently blow off any dust and sand, and clean using lens cleaner and a soft cloth; see section entitled "GUIDELINES FOR OPERATION".

12. USING THE ADDITIONAL WEAVER RAIL

The scope has a built-in additional weaver rail mount **(14)** housed on the left portion of the body. This will allow the mount of additional devices, such as:

- IR75, LAM 10, LAM 2, LAM 3

13. USE OF THE PRESSURE SWITCH MODULE

DN463/ is supplied with a remote-control console. The console has three buttons:

- **“ON”** button turns on/off the riflescope (fixed when pressed).
- **“IR”** button turns on/off the built-in IR Illuminator (fixed when pressed).
- **“Quick start”** button - quick start-up of the riflescope and IR illuminator (the device works only when the button is kept pressed). After this button is released, the riflescope turns off, IR Illuminator and reticle go out.

14. STORAGE

Always store the unit in its carrying case in a dry, well-ventilated space. For prolonged storage, remove the battery.

15. TROUBLE SHOOTING

Listed below are some potential problems that may occur when using DN463. Carry out the recommended checks and troubleshooting steps in the order listed. Please note that the table does not list all of the possible problems. If the problem experienced with the scope is not listed, or if the suggested action meant to correct it does not resolve the problem, please contact the manufacturer.

Problem	Possible cause(s)	Corrective action
The riflescope does not turn on.	The battery has been installed incorrectly.	Reinstall the battery with the correct polarity orientation
	The total battery charge is less than 2.0V.	Install fresh battery.
	Oxidized contact points in the battery compartment due to “leaky” batteries or contact points becoming exposed to a chemically-reactive solution.	Clean the battery compartment, focusing on the contact points.
The red reticle is blurred and cannot be focused with the diopter knob.	The diopter cannot be adjusted to your vision.	If you wear prescription glasses with a range of +/- 5, keep glasses on when looking through the eyepiece.
With a crisp image of the reticle, the image of the observed target that is at least 30 m away	Dust and moisture are covering the outside optical surfaces.	Clean the lens surfaces with a soft cotton tissue or cloth.

Problem	Possible cause(s)	Corrective action
With a crisp image of the reticle, the image of the observed target that is at least 30 m away is blurred.	Dust and moisture are covering the outside optical surfaces.	Clean the lens surfaces with a soft cotton tissue or cloth.
	Moisture is on the inside of the objective and the eyepiece lenses, or is on the optical surfaces of the electronic-optical intensifier and may be caused by the unit fogging up due to a rapid change in temperature; when the device is brought in from the cold into a warm environment, for example.	Let the riflescope dry by leaving it in a warm environment for 4 hours.
	The total battery charge is less than 2.0V.	Install fresh battery.
Distinct black dots or specs on the screen.	The dots on the screen are cosmetic blemishes in the intensifier tube and are a by-product of the manufacturing process; they do not in any way affect the life or performance of the unit, and if there is dust on the lens, please clean according to the instructions.	No need to take corrective action or return the device.

The scope or the IR illuminator do not turn off via the selector switch on the scope.	The scope is turned on via the remote control.	Turn off the scope and the IR illuminator using the remote control.
The aiming point shifts after firing rounds.	The riflescope is not mounted securely.	Check how securely the riflescope has been mounted and make sure that the same type and caliber bullets are being used as when the scope was initially sighted in; if your scope was sighted in during the summer, and is now being used in the winter (or the other way around), a small displacement of the aiming point is possible.
The riflescope does not focus.	Wrong settings.	Adjust the riflescope according to the instructions given in the section, entitled "OPERATING INSTRUCTIONS" and check the surfaces of the eyepiece and objective lenses and clean them if necessary from dust, condensation, frost, etc; to prevent fogging in cold weather, apply a special anti-fog solution.

16. 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 12 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.

17. 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

Web: www.newcon-optik.com

The defective products should be shipped to:

US Customers:

2331 Superior Ave. Cleveland, OH 44114

From all other countries:

105 Sparks Ave., Toronto, ON

M2H 2S5, CANADA

18. ACCEPTANCE CERTIFICATE

Image intensifier tube serial number:

	Minimum	Measured
Resolution, lines/mm	57	
Photocathode sensitivity, integral, $\mu\text{A}/\text{lm}$	600	
Light amplification	35,000	

NIGHT VISION RIFLE SCOPE DN463

Serial number:

The unit meets all technical specifications and has passed the quality assurance inspection.

Production date:

Quality Inspector:

Quality Assurance Seal

