



**LRM 1200 / LRM 1500**  
**LRM 1500SPD**

**LASER RANGE FINDER MONOCULAR**



**10. QUALITY CERTIFICATE**

The LRM 1200 / LRM 1500 / LRM 1500SPD has passed the quality inspection.

Production date \_\_\_\_\_

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

Quality Inspector signature \_\_\_\_\_

Purchase date \_\_\_\_\_

Salesman \_\_\_\_\_

Quality Assurance Seal \_\_\_\_\_

**Features of the LRM 1200 / LRM 1500 / LRM 1500SPD  
Laser Rangefinder Monocular**

- Latest digital circuitry allows targeting through most types of glass
- 'Last Target' measurement
- Meters/Yards display
- Last 10 measurements recall
- Selectable reticle shape (+ or □)
- Target quality indicator
- Speed detector (MPH/KMH only in LRM 1500SPD model)

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**BEFORE USE CAREFULLY READ ALL THE INSTRUCTIONS!**

**FAILURE TO OBEY THE INSTRUCTIONS WILL VOID THE WARRANTY!**

**1. BRIEF DESCRIPTION**

**LRM 1200 / LRM 1500 / LRM 1500SPD Laser Rangefinder Monocular** is advanced Laser Range Finder system that provides instant distance and speed (SPD modification) measurement consistently and accurately. The outstanding optics delivers a sharp, clear image under all conditions. LRM utilizes a revolutionary digital design, which outperforms any other product in its class and price range.

The unit sends invisible eye safe laser beam pulses to a target. The returned pulses are captured by the digital circuitry. The time difference between emitted and received pulses works as an input data for the calculations determining the distance to the target.

**9. CUSTOMER SUPPORT**

Should you experience any difficulties with your Newcon Optik product, please 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 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 site: <http://www.newcon-optik.com>

The defective products should be shipped to:

From USA only: 2331 Superior Ave. Cleveland, OH 44114

From all other countries: 105 Sparks Ave., Toronto ON, M2H 2S5, CANADA

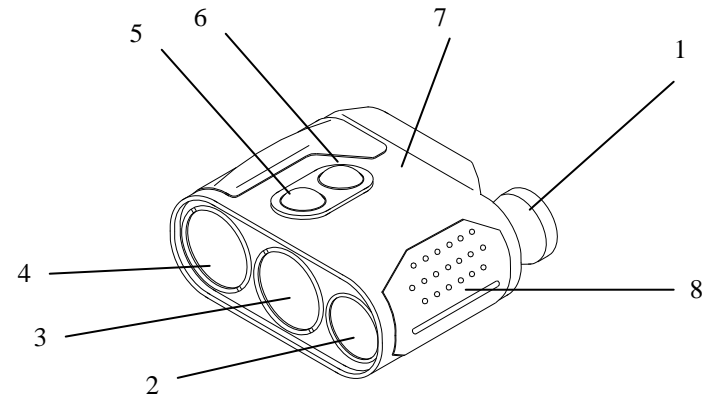
## 8. WARRANTY

**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 manufacturing. Should your Newcon product proves being 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:*

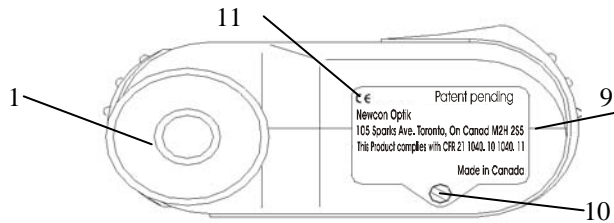
**NEWCON** is not responsible for warranty service should the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, damage caused by disasters such as fire, flood, lightning, improper electrical current, or service other than 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 check or money order made out to NEWCON OPTIK for the amount of \$15.00 to cover shipping and handling. This covers products shipped in the USA or Canada only.

## 2. APPEARANCE OF THE DEVICE



1 – Eyepiece; 2 – Objective lens; 3 – Laser emitting lens  
4 – Receiver lens; 5 – Mode button; 6 – Action button;  
7 – Body of the device; 8 – Rubber grip

**Fig. 1**



1 – Eyepiece; 9 – Battery compartment cover; 10 – Screw;  
11- Identification label

**Fig. 2**

### **3. SUPPLIED ACCESSORIES**

LRM is supplied in the following assembly:

- Device	1 pc.
- Carrying case	1 pc.
- Neck strap	1 pc.
- User's manual	1 pc.
- Warranty card	1 pc.
- 9V battery (optional)	1 pc.

### **7. TROUBLESHOOTING**

*The range-measuring mode does not work.*

Press the Action button again.

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

*How can I clear last reading before making next measurement?*

Direct the unit LCD reticle at the new target, press the Action button. The new reading will appear.

*There are black dots in the image.*

A LCD (Liquid Crystal Display) is installed in the optical channel of the device. Due to manufacturing imperfections in the production process of the LCD, small black dots, scratches and other blemishes may be visible. These blemishes are strictly regulated for maximum allowed number, size and location. It does not degrade the product performance.

*Range measurement cannot be obtained.*

- Check if range detection mode is activated (message READY appears on the LCD display)
- Check if Action button is pressed
- Make sure that neither your hand nor finger is blocking objective lens, laser emitter lens or receiver lens.
- Hold the unit firmly (avoid hand tremor) while you are pressing the Action button.
- Check if the target is within the measuring range of the device.

**6. STORAGE AND MAINTENANCE INSTRUCTIONS.**

**Precautions:** LRM is a sophisticated precision optical instrument equipped with electronics. Therefore, it should be handled with due care.

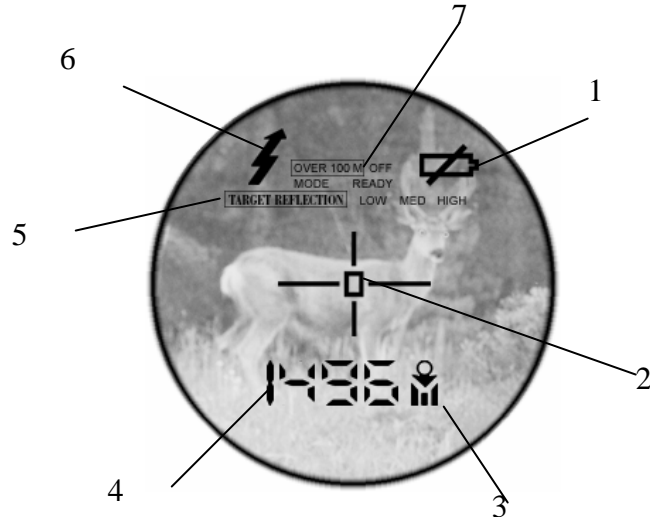
- Keep your device away from direct sunlight, impacts, dust, moisture, and sudden changes of temperatures.
- Do not use the device at temperatures higher than 50°C (122°F).
- Do not touch the optical surfaces with fingers. Doing so may damage the anti-reflection coating.
- Avoid shocks and sharp jolts.
- Cleaning of optical surfaces is allowed with professional camera lens cleaning supplies only.
- To clean the exterior of the device, use a soft clean cloth.
- Keep away from heating appliances and central heating.
- Remove the battery when storing the device for long time.
- All repair works must be performed by an authorized service only.

**4. TECHNICAL CHARACTERISTICS**

1. Optics	Magnification, x	7
	Objective lens, mm	25
	Exit pupil diameter, mm	3.6
	Field of view	8°
	Type of coating	Fully multi-coated optics
2. Range Finder	Type	Class 1, eye safe, 905nm
	Measuring range, m	
	- LRM 1200	20 – 1,200
	- LRM 1500, LRM 1500SPD	20 – 1,500
	Accuracy, m	± 1
	'Last Target' measurement	Yes
	Meters/Yards display	Yes
	Last 10 readings recall	Yes
3. Speed Detection	Model LRM 1500SPD only	Yes
	- Speed range, KMH, MPH	5 – 400
	- Accuracy, KMH or MPH	± 1
4. Misc.	Battery	9 V
	'Low Battery' indicator	Yes
	Tripod thread	¼" x 20
	Operational temperature range	-25 / +50°C (-13 / +122°F)
	Storage temperature range	-45 / +85°C (-49 / +185°F)
	Weight without battery, g	420
	Dimensions, mm	120 x 122 x 60

## 5. OPERATION INSTRUCTIONS

### Liquid Crystal Display (LCD)



- 1 – Low Battery indicator; 2 – Reticle (cross or rectangular selectable);  
3 – Units of measurement (Yards, Meters, KMH, MPH); 4 – Measurement result;  
5 – Target quality indicator (optional); 6 – Laser Active indicator  
7 – Over 100 m indicator (optional).

**Fig. 3**

The displayed statistical qualification of the reflected signal characterizes variation in expected recurrence of measurements. At qualification **HIGH** each consequent measurement of the same target will give you the same result with accuracy of  $\pm 1m$ . At lower rates of statistical qualification the expected recurrence may degrade.

**Please note:** this indicator is an optional feature, which may be not activated in your device.

The display presents **LOW BATTERY** warning, when voltage of the primary 9-Volt battery drops below 7.2 Volt. At this point the System is still functional but the battery should be replaced as soon as possible. The System can operate at the voltage level above 7 Volt. The System should be powered with Alkaline or Lithium type of batteries capable to sustain current drain up to 150 mA.

The System remains in the active displaying state for 10 seconds after pressing any of the operating buttons and afterwards it enters the passive low power state.

**OVER 100 m** indicator is reserved for the future development. It is not in use in the current configurations.

### c. Additional indicators

Distance measuring procedure includes instant statistical processing of the package of single measuring sessions. If there is more than one measured target in the field of view, the embedded software estimates the most probable one by calculating the number of reflected pulses multiplied by the target statistical weight. This mechanism allows automatic mitigation of the influence of obstacles like rain, flakes, trees, wires and so on.

Qualitative result of the statistical processing is presented on the Display as a message **TARGET REFLECTION (5)**. There are three statistical qualifications of the reflected signal:

- **TARGET REFLECTION LOW** – when the number of steady received reflected signals is just enough to make acceptable conclusion about the measured distance;
- **TARGET REFLECTION MED** - when the number of steady received reflected signals is in medium range and enough to make positive conclusion about the measured distance;
- **TARGET REFLECTION HIGH** - when the number of steady received reflected signals is qualified to be enough to make reliable conclusion about the measured distance.

### 5.1. Preparing the device for operation.

- Unbolt the screw (10) and open the battery compartment cover (9) (fig. 2).
- Insert one 9V battery (sold separately) into the battery compartment observing correct polarity.
- Close the battery compartment cover (9) and tighten the screw (10).

After changing the battery, it is recommended to run the **Clr** (CLEAR) mode (refer mode selection procedure).

### 5.2. Distance measuring procedure

#### a. Measuring state

When the Rangefinder is in the passive, low power state, the LCD Display is blank (transparent). Pressing any of the operating buttons activates the System and the Display. Initially the System always assumes READY mode of operation and the word READY appears on the Display. Pressing Action button (6) (fig. 1) at this point triggers a distance measuring session, and the result will be displayed in numerical form (4) (fig. 3) (if measurement is unsuccessful then four dashes '----' will appear in the numerical area). Please note that the target must be over 20m away.

**Optional scanning mode:** If the Action button (6) is held (pressed) for more than 3 seconds, the System automatically enters SCANNING mode. Being in this mode, the System repetitively performs distance measuring and displaying.

The time interval between measurements is approximately 1 second.

**Please note:** this feature is optional and not necessarily present in your device.

The maximum measuring range for most objects will be 1200m with LRM 1200 and 1512m with models LRM 1500 and LRM 1500SPD. The maximum measured distance will vary greatly depending on the reflectivity of the target, weather conditions and more.

Target reflectivity depends on its color, surface finish, shape etc. Bright colors are more reflective than darks. A polished surface is more reflective than a rough one. Larger targets are easier for distance measuring. Measuring a target faced at 90° (perpendicular to the laser beams propagation) provides optimal results. Bad weather conditions (rain, fog, snow, mist) reduce the maximum measured range. Bright sunny days will reduce performance as well. While the unit works through many glass types, measuring through glass will affect the results.

#### **b. Mode selection state**

Pressing MODE button (5) when the System is in READY mode brings the System to the Mode selecting state. By pressing the Mode button, you can sequentially scan the Modes. The Mode under selection is indicated on the Display by flashing of the selectable feature. The "flashing" feature can be selected by pressing the Action button (6). The System operates in the setting Modes that are displayed as follows (refer to fig.3):

**Y/M** – units of measurement: yards or meters (3).

**KMH/MPH** – units of speed measurement: km/hour or miles/hour (3).

**Please note:** the speed-measuring units exist in LRM 1500SPD only.

**Shape** of the reticle: cross shape or rectangular shape (2).

**rEC1** - recall function. Upon pressing the Action button (6) (fig. 1) the Display will sequentially show results of last 10 measurements, starting from the latest one. The number appearing after word "**rEC**" shows the number of the measurement counted back in the sequence. When the System is in inactive state the 10 previous measurements are stored inside the System and may be recalled any time.

**Clr** - clear data function: upon pressing the Action button (6) (fig. 1) the entire data from all previous measurements will be erased.

**Please note:** the recall stack should be cleared by exercising the **Clr** mode after changing a battery.

**Self-test (optional)** – checks the display by turning on all display segments during 5 seconds.

**Please note:** this feature is optional and not necessarily present in your device.