

10. QUALITY CERTIFICATE

The LRB 7X50 / LRB 7x50 SPD is suitable for use.

Production date _____

Serial number _____

Quality Inspector signature _____

Purchase date _____

Salesman _____

Shop stamp

Newcon International Ltd. © 1998-2003 Printed in Canada



Operation Manual



**LRB 7x50 /
LRB 7x50 SPD**

LASER RANGE FINDER BINOCULAR

In USA: 3310 Prospect Ave. Cleveland, OH 44115
In Canada: 1183 Finch Ave. W., Suite 302, Toronto, ON M3J 2G2
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** subject the unit to impact while operating or being transported
- **NEVER** transport the unit without the case
- **NEVER** disassemble the unit. This device contains high voltage components, which may be hazardous to you!
- **NEVER** reverse the polarity of a battery
- **ALWAYS** remove batteries when not in use for long periods of time
- **ALWAYS** store in a warm dry place when not in use

9. 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 1-877-398-6666. 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

INTERNET: <http://WWW.NEWCON-OPTIK.COM>

The defective products should be shipped to:

In USA: 3310 Prospect Ave. Cleveland, OH 44115

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

International: 1183 Finch Ave. W., Suite 302, Toronto, ON M3J 2G2,
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 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, 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 USA or Canada only.

Features of the LRB 7X50 Laser Range Finder Binocular

- Latest digital circuitry allows targeting through most types of glass
- 'Last Target' measurement
- Meters/Yards display
- Last 10 readings recall
- Selectable reticule shape (+ or □)
- Target quality indicator
- Speed Finder (On LRB 7x50 SPD only)

CONTENTS

1. Brief description
2. Appearance of the device
3. Supplied accessories
4. Technical characteristics
5. Operation instructions
 - 5.1. Preparing the device for operation
 - 5.2. Distance measuring procedure
6. Storage and maintenance instructions
7. Trouble shooting
8. Warranty
9. Customer Support
10. Quality certificate

BEFORE USE CAREFULLY READ ALL THE INSTRUCTIONS!

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

1. BRIEF DESCRIPTION

LRB 7X50 (SPD) Laser Range Finder Binocular is an advanced Laser Range Finder system that provides instant distance measurements consistently and accurately. The stereoscopic device provides convenient observation with both eyes. The user can measure the distance to an object without losing sight of the target. Therefore, the LRB 7X50 (SPD) substitutes a need for two separate devices (binocular and range finder) combining both requirements in a single device.

The outstanding optics provide a sharp, clear image under all conditions. LRB 7X50 (SPD) is utilizing a revolutionary digital design, which is outperforming any other product in its class and price range.

The unit sends invisible, eye safe laser beam pulses to the target. The returned beams are captured by the digital circuitry. The time differential allows us to calculate the distance to the target.

7. TROUBLE SHOOTING

The range measuring mode does not work.

Press the Action Button again.

Check that the batteries are installed properly. Check the charge of the batteries. Replace if they are weak.

How can I clear last reading before making next measurement?

Direct the unit's 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 channels of the device. Due to manufacturing imperfections in the production process of the LCD, small black dots, scratches and other blemishes might be visible. Those blemishes are strictly regulated for maximum allowed number, size and location. It does not degrade the product's performance.

Range measurement cannot be obtained.

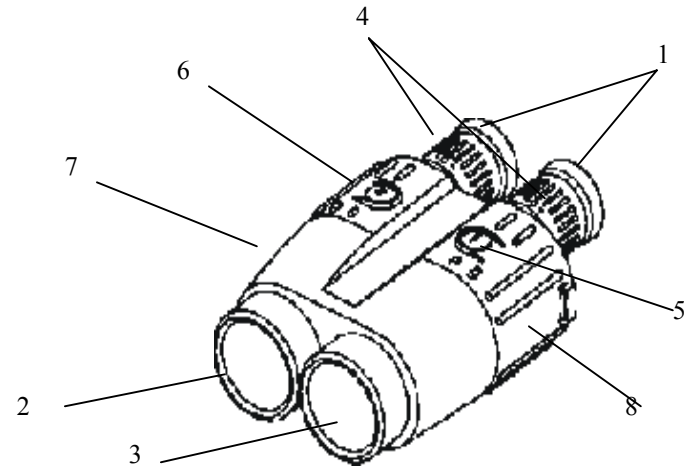
- Check if range detection mode is activated (message READY appears on the LCD display)
- Check if Active Button is pressed
- Make sure that neither your hand nor finger is blocking objective lenses (Laser emitting lens or Receiver lens).
- Check if the unit is steady while pressing Action button.

6. STORAGE AND MAINTENANCE INSTRUCTIONS.

Precautions: LRB 7X50 (SPD) is a sophisticated precision optical instrument equipped with electronics. Therefore, it should be handled with due care.

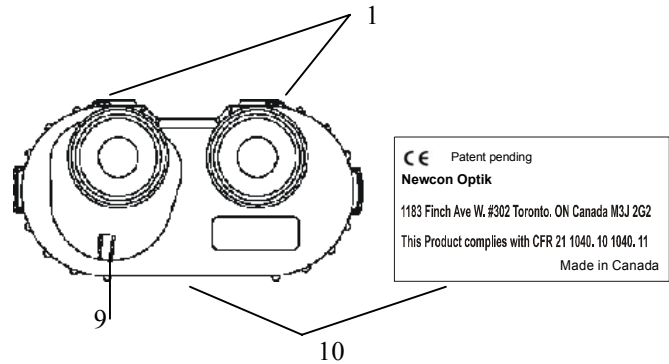
- Keep your device away from direct sunlight, impact, dust, moisture, and sudden changes of temperature.
- Do not touch the optical surfaces with fingers. Doing so may damage the anti-reflection coating.
- Avoid shocks and sharp jolts.
- Clean optical surfaces with professional camera lens cleaning supplies.
- To clean the exterior of the device, use a soft clean cloth.
- Keep away from heating appliances and central heating.
- Remove the batteries when storing the device for long period of time.
- Do not apply unnecessary force to the lens assembly, agile elements and thread connections.
- Only the manufacturer should perform repair work.

2. APPEARANCE OF THE DEVICE



1 – Eyepieces; 2 – Objective Lens / Emitting Lens
3 – Objective Lens / Receiver Lens; 4 – Dioptic Correction Ring;
5 – Mode Button; 6 – Action Button; 7 – Body of the Device;
8 – Rubber Grip

Fig. 1



1 – Eyepieces; 9 – Interpupillary distance adjustment lever
 10- Identification Label (Located on the Bottom)

Fig. 2

3. SUPPLIED ACCESSORIES

LRB 7X50 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.

- **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.

The displayed statistical qualification of the reflected signal characterizes variation in expected accuracy of measurements. At qualification **HIGH** the accuracy of measurements is stated as $\pm 1\text{m}$ or $\pm 0.1\%$. At lower rates of statistical qualification the expected accuracy may marginally degrade.

Please note: this is an optional feature.

The display presents message **LOW BAT** – 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 levels above 7 volts.

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

Alkaline or lithium type of batteries capable to sustain current drain up to 150 ma should be used for powering the System.

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

NOTE: After changing a battery the recall stack should be cleared by exercising the **CL** mode.

OVER 100 – allows to ignore targets closer than 100m. Useful when looking through bush.

Please note: this is an optional feature on early designs. Latest version includes automatic “Last Target” selection that renders obsolete the requirement for a separate manual mode selection.

c. Reflection

Distance measuring procedure includes instant statistical processing of the package of single measuring sessions. Qualitative result of the statistical processing is presented on the Display as a message **TARGET REFLECTION (5)**. There are four statistical qualifications of the reflected signal:

- **NO TARGET REFLECTION** – when a reflected signal isn’t received. Numerical display shows 4 dashes in the distance displaying area;
- **TARGET REFLECTION LOW** – when the number of steady received reflected signals is just enough to make acceptable conclusion about the distance;

4. TECHNICAL CHARACTERISTICS

1. Optics	
Observation	Binocular
Magnification, x	7
Objective Lens, mm	50
Exit Pupil Diameter, mm	7.1
Eye Relief, mm	25
Field of View	5°
Axial Resolution, ”	6
Image tilt, maximum	
- Horizontal	60”
- Vertical	30”
Type of coating	Fully multi-coated optics
Interpupillary Distance, mm	58-72
Diopter Adjustment range	±4
Reticule	Corresponds to laser direction and approx. size of the laser on target

2. Range Finder	
Type	Class 1 eye safe, 905nm
Measuring Range, m	20-1,512
Accuracy, m	$\pm 1 \pm 0.1\%$
Resolution, m	1
Measurement time, sec	<1
Meters/Yards display	Yes
Last 10 readings recall	Yes
Reticule shape (+ or □)	Optional
Target quality indicator	Optional
Scan Mode	Yes
Speed Finder	LRB 7x50 SPD only
3. Miscellaneous	
Battery	Standard 9v
Battery capacity	>3000
'Low Battery' Indicator	Yes
Covering	Rubberized
Construction	Water resistant
Tripod thread	1/4"x20
Operational Temperature	
Range	-30 / +55°C
Storage Temperature Range	-45 / +85°C 65
Shock, g	5 – 500
Vibration, Hz	210x150x80
Dimensions, mm	1.300
Weight, kg	

- REC 0 will show instead of REC10
 - If a position is empty then 4 dashes (----) will be displayed
 - After REC 0 the demonstration will restart with REC 1, REC2, and so on
- 2) If the last measurement was that of speed, then the speed will show in REC1; the distance of the vehicle will show in REC2 and so on.
- 3) The self test procedure was completed properly if:
- The square and cross reticle are flashing alternately
 - The lightening power symbol, reticle , square, 7 segment numbers, KMH and MPH segments on the screen are visible.

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

KMH/MPH – units of speed measurement: km/hour or miles/hour (3). Please note: only on LRB 7x50 SPD.

Shape of the reticle: cross shape or rectangular shape (2). Please note: this is an optional feature.

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 within the System and may be recalled any time.

5.2.6 Mode Selection State

Correct Order of Modes

LRB 7x50	LRB 7x50 SPD
Y	MPH
M	KMH
+	+
□	□
REC ¹	Y
CLR	M
	SELFTEST ³
	REC ²
	CLR

1) REC1 shows the value of the last measurement, REC 2 the previous measurement and so on.

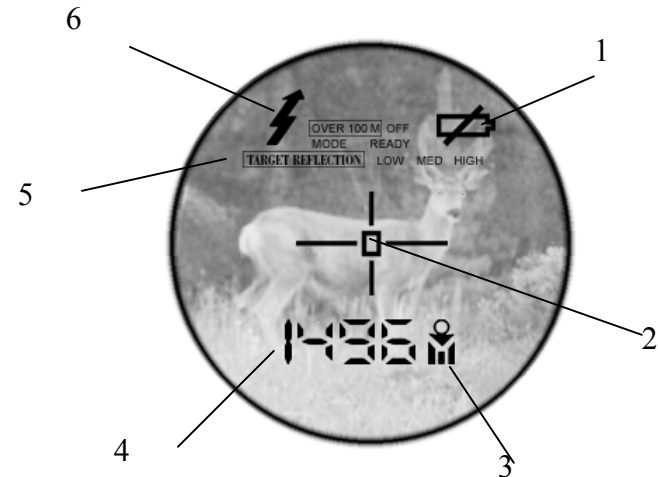
b. Mode selection state

Pressing MODE button (5) (fig. 1) when the System is in READY mode brings the System to the Mode selecting state. Pressing the Mode button can sequentially scan the Modes. The Mode under selection is being 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, which are displayed as follows (refer to fig.3):

5. OPERATION INSTRUCTIONS

Liquid Crystal Display (LCD)



- 1 – Low Battery Indicator; 2 – Reticule (cross or rectangular selectable);
- 3 – Units of Measurement (Yards, Meters, KMH, MPH or Degrees); 4 – Measurement Result;
- 5 – Target Quality Indicator (optional); 6 – Laser Active Indicator

Fig. 3

5.1. Preparing the Device for Operation

- Unbolt a screw and open battery compartment cover at the bottom of the device.
- Insert one 9V battery (sold separately) into the battery compartment observing correct polarity.
- Close up the battery compartment cover, tighten the screw.

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

- Take off lens caps
- Look through the eyepieces (1) (fig. 1).
- Adjust interpupillary distance by turning lever (9) (fig. 2) until two images converge into one
- Make dioptic correction individually for each eye by rotating rubber rings (4) (fig. 2) of each eyepiece

Now your unit is ready for operation as a conventional 7x binocular (passive state).

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 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.

If the Action button (6) is held (pressed) for more than 3 seconds the System automatically enters **SCANNING** mode. This feature is not available on all versions.

At this mode the System repetitively performs distance measuring and displaying. The time interval between measurements is approximately 1 second.

The maximum measuring range for most objects will be 1512m. 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 path) provides optimal results.

Bad weather conditions (rain, fog, snow, mist) will reduce the maximum measured range.

Bright sunny days will reduce performance as well

While the unit will work through many glass types, measuring through glass will affect the results.