

labradar LX



QUICK USER GUIDE AND SAFETY WARNING



Developed by  INFINITION

Download the full user manual online



www.mylabradar.com



Based on limits specified by the Federal Communication Commission (FCC) on Radio Frequency (RF) emissions in a general population environment, continued exposure to radiation should be avoided within 0.2 meter in front of the radar. Radiation levels outside this region fall within regulations of 1 mW/cm² and are not considered safety hazards.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Declaration of conformity (EU)

Hereby, Infinition declares that this product is in compliance with the RED products directive from the European Union 2014/53/EU. The full text is available on request at www.mylabradar.com

Declaration of conformity (UK)

Hereby, Infinition declares that this product is in compliance with the relevant statutory requirements. The full text is available on request at www.mylabradar.com

ISED Canada compliance

This device contains license-exempt transmitter(s)/ receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Battery disposal: Contact your local authorities for proper disposal of the device / battery and follow applicable local laws and regulations.



Warning: No operator serviceable parts inside the radar unit. Please refer servicing to service qualified personnel at an Authorized Labradar service center.

Unauthorized repair or modification may permanently damage your equipment and void your product warranty and void your authority to operate this device under part 15 regulations.

GENERAL SAFETY INSTRUCTIONS

1. Do not place the Labrador LX on an unstable stand or surface as it may fall resulting in serious damage.
2. The Labrador LX is operated using the internal battery, it is possible to charge the battery by plugging the USB port in an appropriate USB power source.
3. Do not allow any objects to rest on the USB cord or place the Labrador LX where the USB connection will be subjected to stress.
4. Do NOT plug in, turn on or attempt to operate an obviously damaged unit.
5. Do not alter, open, puncture or modify the device.
6. No operator serviceable parts inside the Labrador LX unit, therefore, you should always refer servicing to a recognized service center by qualified staff.



This device contains an internal LiPO battery.
Disposal of the product is subject to local authorities.



Warning: Failure to follow the warnings could result in an accident resulting in death or other serious injury.

Weapon safety warnings

Properly inspect your firearm before using it. It is your responsibility for understanding and complying with applicable regulations before using any firearm (rifle, handgun, bow, crossbow, etc.)

Inspect your environment before firing and understand your target and the surroundings. Always make sure that your projectile will be stopped effectively, improper use of a firearm can lead to property damage, injury or death.

Always keep the weapon pointed in a safe direction, keep your finger off the trigger until you are ready to fire.

Firearms should be unloaded and securely stored when not in use. Wear shooting glasses, ear protection and other required safety equipment. Avoid alcoholic beverages or drugs when shooting or handling a weapon.

Always be alert, avoid distractions and always stay aware of your surroundings.

Always position your Labrador LX in a safe position to avoid damaging the unit.

Do not manipulate your Labrador LX while handling your weapon as it could cause distraction or reduce awareness of your shooting environment which could lead to serious injury or death.

Battery warning

The device uses a Lithium-Ion battery.

Follow the guidelines below, failure to do so can result in a shortened battery life span or risk of causing damage to the device: fire, chemical burn, electrolyte lead and/or injury.

- Do not expose the device or batteries to fire, explosion or another hazard.
- Do not disassemble, modify, puncture, repair or damage the device or batteries.
- Do not remove or attempt to remove the battery without proper qualifications and instructions.
- Do not immerse the device or batteries in water or other liquids.
- Do not leave the device exposed to a heat source or in a high temperature environment for long period of time without supervision.
- Do not leave the device exposed to the heat of the sun in an unattended vehicle or in any other closed environment.
- Do not operate or store the device for an extended period outside of the specified temperature range of operation and storage listed in the manual.
- Do not use any other power or data cable than the one provided by Labrador in the product box.

Software license Agreement

BY USING THIS DEVICE, YOU AGREE TO BE BOUND BY THE FOLLOWING TERMS AND CONDITIONS OF THE SOFTWARE LICENSE AGREEMENT PLEASE READ THIS AGREEMENT CAREFULLY.

Arts, Sciences et Technologies Infinition Inc. grant you a limited license to use the software embedded in this device ("the software") in binary executable form in the normal operation of the product. Title, ownership rights and intellectual property rights in and to the software remain in Infinition and or its third-party providers.

You acknowledge that the software is the property of Infinition and or its third-party providers and is protected under the United States of America copyright laws and international copyright treaties. You further acknowledge that the structure, organization, and code of the Software, for which source code is not provided, are valuable trade secrets of Infinition and/or its third-party providers and that the Software in source code form remains a valuable trade secret of Infinition and/or its third-party providers. You agree not to decompile, disassemble, modify, reverse assemble, reverse engineer, or reduce to human readable form the Software or any part thereof or create any derivative works based on the Software. You agree not to export or re-export the Software to any country in violation of the export control laws of the United States of America or the export control laws of any other applicable country.

WARRANTY

Arts, Sciences et Technologies Infinition Inc. warrants all Labrador LX products to be free of defects in material and workmanship. This warranty will remain in effect for a period of one year from the date of purchase.

INFINITION, INC., warrants that Labrador LX is manufactured to be free from defects in material and workmanship for a period of one (1) year from date of purchase by the original purchaser for non-commercial use. Any other use of this product voids the warranty. INFINITION, INC., at its option, will repair or replace without charge, or refund the purchase price of any product which fails during the warranty period because of defects in material or workmanship found upon examination by INFINITION, INC. This warranty does not cover any failures caused by abuse, mishandling, failure to follow the operating instructions, alteration(s) or accident. Damage caused by bullet impacts, gunfire debris or ejecting materials are not covered by warranty. To make a claim under this warranty, the original purchaser must contact Infinition Inc. by phone or email. The unit should be properly packaged with the shipping charges prepaid. All claims must be made within thirty (30) days after the product failure. All claims must be accompanied by proof of date of purchase. Prior to returning any item, call or email for a Return Authorization Number. Items returned without the authorization number will be rejected and returned to the sender. Infinition will not be responsible for any lost shipments or other liabilities.

IN NO EVENT SHALL INFINITION BE LIABLE IN A CLAIM FOR BREACH OF WARRANTY FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. SOME STATES (AND COUNTRIES AND PROVINCES) DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.



DEVICE SUPPORT AND REPAIR REQUEST:

Go to **www.labradar.com** and follow the latest instructions for device support and repair.

QUICK SETUP GUIDE

KEYPAD AND PORTS

The Labrador LX is equipped with an array of buttons to provide different functions:



1. Power ON/OFF
2. Scroll Up
3. Scroll Down
4. Enter/Navigate results
5. Settings
6. Delete Series/Shot
7. Arm / Disarm
8. USB C Port
9. External Trigger input

Settings Menu – page1

New Series



New Series Generated

Acquisition



Mode

Rifle
Handgun
Archery

1575 – 5003 ft/s
591 – 1608 ft/s
66 – 623 ft/s



X-Distance

Measurement at specific distance

Calculated VX and PFX



Trigger Level

Min - Quiet
Med - Default
Max - Loud

Airsoft, Rimfire, Suppressor
Normal mode
Noisy Environment

Projectile



Weight

Bullet weight

Used for PF



Caliber

Caliber size

Informational
used for CD

Meteo



Temperature

Current Temperature

Temperature at shooting site









Baro. Pressure

Barometric pressure









Barometric pressure at shooting site

Settings Menu – page2

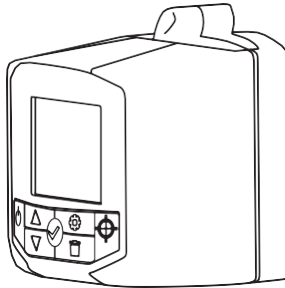
Units

	Velocity	m/s – ft/s	Metric / Imperial
	Distance	meters, feet, yards	Metric / Imperial
	Weight	grams - grain	Metric / Imperial
	Caliber	Millimeter – Inch	Metric / Imperial
	Temperature	Celsius - Fahrenheit	Metric / Imperial
	Baro. Pressure	Millibar - Kilopascal	Metric / Imperial

System

	TX Channel	1 - 2	Ch1: 60.200Ghz , Ch2:61.440Ghz
	Date	yyyy/mm/dd	Current Date
	Time	HH:mm	24-hour format - Current Time
	Screensaver	Seconds	0 = Always OFF xx= Time for the screen to go in battery save mode
	Language	English - French	Application language
	Erase All	All acquired information (Series and Shots) will be deleted	
	Factory Reset	All (Series, Shots and parameters) will be deleted	
	About	Version Information - FW, HW, BLE, Certification, Licensing	

MAIN SETTINGS



MODE (Velocity)



Rifle (1575 to 5003 fps)



Handgun (591 to 1608 fps)



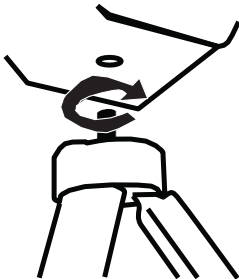
Archery (66 to 623 fps)

Trigger Level









High Med Low

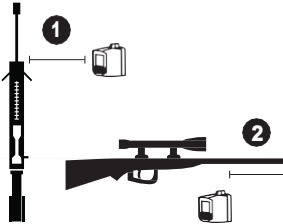
MOUNTING ON TRIPOD



MULTIPLE DEVICES

			Recommended TX channel spacing
Lane 1			1
Lane 2			2
Lane 3			1

RIFLE GUIDELINES



Position the radar behind the Muzzle exit, so it does not get blasted directly by the rifle.

For optimal results and precision, The distance between the barrel and the Labrador LX should be between 0.1m to 0.5m (4" to 20"), same for the distance between the Muzzle exit and the radar. Out of this range, measurements can still be shown but the precision on the measurement will ultimately be affected.

For quiet rifles, a shorter distance is recommended for proper shot detection.

HANDGUN GUIDELINES



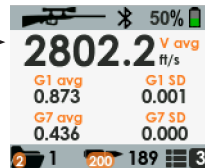
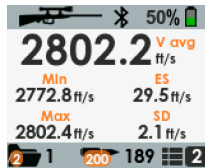
Position the radar behind the Muzzle exit, same as in rifle mode. For optimal results and precision, The distance between the barrel and the Labrador LX should be between 0.1m to 0.5m (4" to 20"), same for the distance between the Muzzle exit and the radar. Out of this range, measurements can still be shown but the precision on the measurement will ultimately be affected

For quiet rifles, a shorter distance is recommended for proper shot detection.

CURRENT SHOT VIEW

SERIES STATISTICS VIEW

BALLISTIC COEFFICIENT VIEW



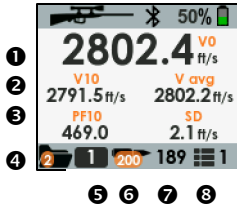
SHOT INFORMATION

First page. Display current shot information.

NAVIGATE
SHOTS OR SERIES OR PAGES

DELETE
SHOTS OR SERIES

SWITCH VIEW



1	SHOT VELOCITY
2	VELOCITY AT DISTANCE (VX)
3	POWER FACTOR (PF)
4	TOTAL NUMBER OF SERIES
5	SELECTED SERIE
6	TOTAL NUMBER OF SHOTS
7	SELECTED SHOT
8	PAGE NUMBER

STATISTICS INFORMATION

Second page



1	EXTREME SPREAD
2	STANDARD DEVIATION

BALLISTIC COEFFICIENT

Third page

G1 and G7 refer to standard drag models used to predict how a bullet or projectile will slow down as it travels through the air.



1	G1 BC: Flat-base, spitzer (pointed) bullet with a rounded nose, similar to older-style hunting bullets.
2	G7 BC: Boat-tail, spitzer bullet with a more aerodynamic profile.

DEVICE ARMING

(Ready to fire)

ARM THE SYSTEM



Solid orange:

Armed, waiting for shot detection

Flashing orange:

Shot detected:

- Valid signal detected, calculating solution, valid result will be displayed

First Startup:

1. Power ON the device
2. Set the mode of operation (Rifle, Handgun, Archery)
3. Set measurements parameters (Vx Distance, Projectile weight, Vel. Units, Dist. Units, Weight Units)
4. For BC measurement, meteo parameters MUST BE SET (Temperature and Baro. Pressure)
5. Position de radar in-line with the target (follow directions)
6. Arm the system

When ready, fire and watch your measurements appear on the screen.

You can use the mobile app to connect to the device, download it from your app Store.



App Store



Android Market

Important considerations:

- Mounting the device on a rifle is possible, but care should be taken to ensure that the radar will never cause instability or cause the firearm to be dangerous. It is the customer's responsibility to understand how to properly install and use the device when always mounted in a safe manner.
- Mounting has been tested with rifles up to 7.62mm, care should be taken to make sure the device does not get exposed to too much acceleration as damage may occur. Mounting the device on a firearm caliber larger than 7.62mm is not covered by the warranty.
- Shock absorbing mounting devices may be used alongside proper damping of the vibrations such that the device gets exposed to less vibrations and provide the best results possible.
- For larger calibers, it is the customer responsibility to evaluate the proper mounting method. Vibrations,
- shock or blast may affect velocity measurement capabilities or precision of the measurement. Thus, device performance may degrade accordingly, specifically, when mounted on a firearm. It is the customer's responsibility to look after these variables.

- The precision of the measurement is subject to environmental conditions such as, but not limited to:
 - Shape of the projectile
 - Trajectory of the projectile
 - Signal reflections or scattering in the environment.
 - Rain, snow, fog or other atmospheric conditions.
 - Blast
- To guarantee the best results, the device is to be mounted on a tripod isolated from the direct vibrations of the firearm body.

SPECIFICATIONS

Description	Specification
Power Requirement	5V USB 2.0A (Recommended)
Battery Type	LiPo (Lithium-ion Polymer)
Battery Capacity	3800 mAh
Frequency range of operation	61.220 to 61.440 GHz
Nominal Transmitting Power	19 dBm EIRP
Antenna Gain	Tx: 11dB Rx: Variable
Transmitter Stability	50ppm
Beamwidth	15 deg x 30deg (Tx)
Dimension	62mm x 70mm x 78 mm
Mounting Hole Thread	¼-20 standard tripod
Velocity Range	65 to 5000 fps
Memory Type/Capacity	Internal
Minimum Time Between Shots	≈1s – subject to firmware updates improvements
Accuracy	0.1% under optimal conditions
Operating Temperature	-10 to +40 °C (14 to 104 °F)
Charging temperature	0 to +45°C (32 to 113°F)
Storage temperature	-20 to -50 °C (-4 to 122 °F)
Environmental conditions	Indoor, outdoor



For Technical assistance, please contact:

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www.mylabradar.com