labradar LITE

User Manual

v.2.0

Developed by INFINITION

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IMPORTANT SAFETY INSTRUCTIONS

1. Carefully read all of the instructions provided and save them for later use. Read all warnings and instructions marked on the LabRadar.
2. Do not place the LabRadar on an unstable stand or surface as it may fall resulting in serious damage.
3. The LabRadar must be operated either by 6 AA batteries or by plugging the USB cord into an appropriate power source.
4. Do not allow any objects to rest on the USB cord or place the LabRadar where the USB connection will be subjected to stress.
5. Do NOT plug in, turn on or attempt to operate an obviously damaged unit.
6. No operator serviceable parts inside the LabRadar radar unit. Please refer servicing to service qualified personnel.
7. Remove batteries when storing the unit.
8. Safely dispose of exhausted batteries immediately.
9. Keep batteries out of reach of small children.

NOTES:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference;
2. This device must accept any interference received, including interference that may cause undesired operation of the device.

TABLE OF CONTENT

Important safety instructions 3

1. General.....6

2. Microwave safety warning 6

3. Specifications.....7

4. Operation..... 7
   - 4.1 Buttons definitions.....8
   - 4.2 Configuration menu definitions 9
   - 4.3 Using the LabRadar.....12
     - 4.3.1 Aligning the radar 13
     - 4.3.2 Armed Mode (Orange indicator) 14
     - 4.3.3 Armed View mode (Orange indicator) 15
     - 4.3.4 Review Mode (Blue indicator) 15
       - 4.3.4.1 Managing results in Review mode.....16
     - 4.3.5 Screensaver.....16
     - 4.3.6 Battery Installation 16
     - 4.3.7 Memory.....16
     - 4.3.8 USB Port 16
     - 4.3.9 Downloading Data.....17
     - 4.3.10 Recording Projectile Velocities.....17
     - 4.3.11 Series and Shot Navigation.....17
   - 4.4 Display details.....18

5. Maintenance.....19

6. USB Connector Specification 19

7. SD Card Connector.....19

8. Trigger Input Connector.....19

9. Range 20

10. Firmware upgrade.....21

Warranty 22

Trouble shooting 23

1. GENERAL

LabRadar utilizes the latest technological advances in Doppler Radar to obtain the velocity of your projectile. Your unit contains a transmitter and a receiver with sophisticated software that processes the Doppler signal to immediately provide you with the velocity of your projectile. LabRadar captures the event after the sound impulse from the firearm being used. The system also contains an alternate mode (Doppler) that allows it to capture velocities of projectiles fired from other systems with a less audible response. Since radar signals travel at the speed of light LabRadar is able to accurately detect velocities at sub-sonic, trans-sonic and supersonic speeds. Unlike traditional chronographs that are highly susceptible to variances in lighting conditions, bullet glint, sub-sonic bow waves LabRadar is accurate in virtually any condition.

LabRadar is positioned besides the shooter, not downrange. The shooter aligns the radar using a built-in sighting notch with the target he intends to shoot. Ideally, LabRadar should be positioned to the side of the shooter's muzzle. You should position your firearm no greater than 18" from the side of the radar. If you are shooting a firearms that may discharge debris that could strike the radar it may be best to move the firearm slightly forward so the muzzle, cylinder gap, ejecting cases or other discharge will not damage your LabRadar. Upon firing the shot, the radar unit will begin recording and will continually track the bullet, reporting numerous velocities along its path. Based upon the large amount of data gathered from the tracked projectile the muzzle velocity will also be determined.

2. MICROWAVE SAFETY WARNING

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/cm^2 and are not considered safety hazards. When setting up the antenna, special care should be taken to avoid situations where the antenna radiates towards individuals. The antenna should be positioned such that bystanders are located behind the antenna. Always turn the antenna transmitter off during periods of inactivity. Direct visual contact with the front of the Labradar when transmitting should be avoided at all times.

3. SPECIFICATIONS

Description	Specification
Power Requirement	6 AA Batteries or USB powered, 800mA
Frequency range of operation	24.080 to 24.168 GHz 8MHz channel steps
Nominal Transmitting Power	4.84 dBm
Antenna Gain	22 dBi
Transmitter Stability	±2 ppm
Beamwidth	7.6° x 18.5° (Transmit)
Dimension	29cm x 26cm x 6cm (2.1 lbs)
Mounting Hole Thread:	1/4x20
Velocity Range:	65 - 3900 feet per second
Memory Type/Capacity:	SD, SDHC Card 32Gb max.
Minimum Time Between Shots:	2 seconds
Accuracy:	+/-0.1% (+/-1 m/s @ 1,000 m/s)
Operating Temperature	-10 °C to 40 °C (14 °F to 104 °F)
Environmental conditions	Indoor / Outdoor

Assembled in Canada
Made in Canada

4. OPERATION

A USB cord is provided for connection to a computer. The USB cord is used to power the radar and access data on the SD card.

The SD card is used to both store data from series and for firmware updates.

A LED is used to indicate the status of the radar:

LED status	Description
Off	Unit is Off.
Blue	Unit is powered On, not transmitting.
Orange	Unit is powered On, transmitting (Armed).
Flashing orange	Unit is powered On, transmitting, system will stop transmitting shortly (within 10 seconds) if no trigger is detected.

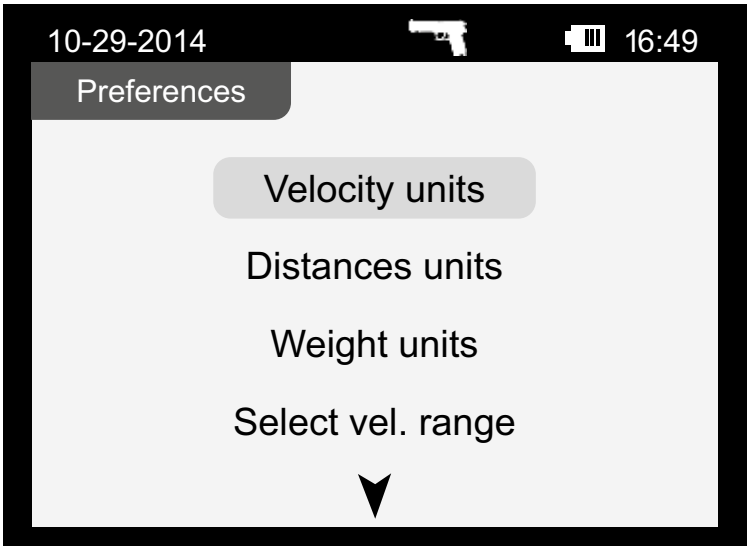
4.1 BUTTONS DEFINITION

The LabRadar is equipped with an array of buttons each used for a different function:

1. Display / Parameters
2. Series
3. Delete
4. Up
5. Enter
6. Down
7. Power
8. Arm
9. SD Card
10. USB Connector / External Trigger connector
11. Battery Compartment
12. Sighting Notch
13. LED Indicator
14. Internal acoustic trigger sensors (2x)

4.2 CONFIGURATION MENU DEFINITIONS

When the Display/Parameters button is pressed, a menu appears. The following options are available:



Menu selection	Description
Velocity Units	Change the units used when displaying velocity measurements, the user can choose from the following units: • Feet per second (fps); • Yards per second (yps); • Miles per hour (mph); • Meters per second (m/s); • Kilometers per hour (Km/h).
Distances units	Change the units used when displaying distance measurements, the user can choose from the following units: • feet (ft); • yards (yd); • meters (m).
Weight units	Change the units used to enter the weight of the projectile, the user can choose from the following units: gram (g); grain (gr).

Select vel. range	Select the velocity range for measurements by the LabRadar. Each velocity range is specified to weapons type as a reference: • Rifle (1600 fps to 3900 fps) • Handgun (600 fps to 1600 fps) • Archery (66 fps to 600 fps)
Set proj. offset	Input the maximum distance between the gun's muzzle and the side of the radar to optimize the precision of the measurements. • 6" offset: Muzzle should be between 1-6" from the side of the Labradar. • 12" offset: Muzzle should be between 7-12" from the side of the Labradar. • 18" offset: Muzzle should be between 13-18" from the side of the Labradar.
Set distances	Specify the distances at which the velocity measurements are made. Dx1 to Dx5. The values can be selected in increments of one (1). After you select your first distance, press enter button and the second distance can be selected. Repeat and select five (5) different distances. Note: Select the five distances that are between the muzzle and target, or the maximum range that the projectile can be tracked. The distances Dx1- Dx5 should be set in ascending order. i.e. 10, 20, 30, 40, 50. The Power Factor is calculated using the Velocity at Dx1. The user should set Dx1 according to the standard distance where they want the PF to be calculated.
Proj. Weight	Set the projectile's weight of the next shot. This value is used in some calculations (Power Factor, Kinetic Energy) and written on the file on the SD Card for future reference.
Arm time	Change the amount of time the radar stays in transmission before it stops transmitting automatically. This count will be reset each time a trigger is received. You can select between 10 - 300 seconds in increments of 10 seconds. During the last 10 seconds of the selected armed time the LED will begin to flash, warning you that the armed time is about to expire. If the LED turns blue and you wish to continue, press the armed button one time and it will return to the armed mode (orange). If the screensaver engages and the armed light is still orange the shot will be recorded. The longer the armed time, the quicker the batteries will be depleted.

Screensaver	Select the idle time before the screen is turned OFF, this is an energy saving feature. The device will continue to operate while the screen is turned off, pressing a button or triggering the unit will wake up the screen.
Trigger Source	Select the source of the event triggering the measurement. The user can select from the following: • Trigger : Use the internal microphones built in the product's enclosure or an external Trigger device. • Doppler : Uses the Signal returned from the projectile to Trigger the unit: (Use of this mode should be considered with large projectiles travelling at slow speed only). Do not use this mode for Firearms, it will affect the precision of the measurements.
Trigger Level	Select the sensitivity of the system to detect the trigger event. Use Level 1 unless other shooters nearby are triggering your LabRadar. The user can select level 1 (more sensitive) through 8 (Less sensitive). This setting affects: • The Internal acoustic trigger level; • The External trigger level; • The Doppler trigger level;
TX Channel	Select the frequency of transmission of the Radar. In order to use multiple radars close to each other, use a different frequency for each radar. Failure to do so may result in bad operation of the radar. For contiguous Labradar, try to use at least a 2 channels separation.
TX Power	(US, Canada, Australia/New Zealand models only) Select the LabRadar transmitting power. (Standard or Low). While Standard power offers a longer range measurement range, the Low power mode can be useful and perform better on shorter or indoor shooting ranges and on ranges where object create signal reflections. Due to foreign government restrictions, the European Union model is restricted to the Low power setting.
System Date	Set the system Date.
System Time	Set the system Time.
About	View the radar's information (Serial Number, Firmware version, etc.)
Factory Reset	Return the Labradar configuration to the initial factory values.

4.3 USING THE LABRADAR

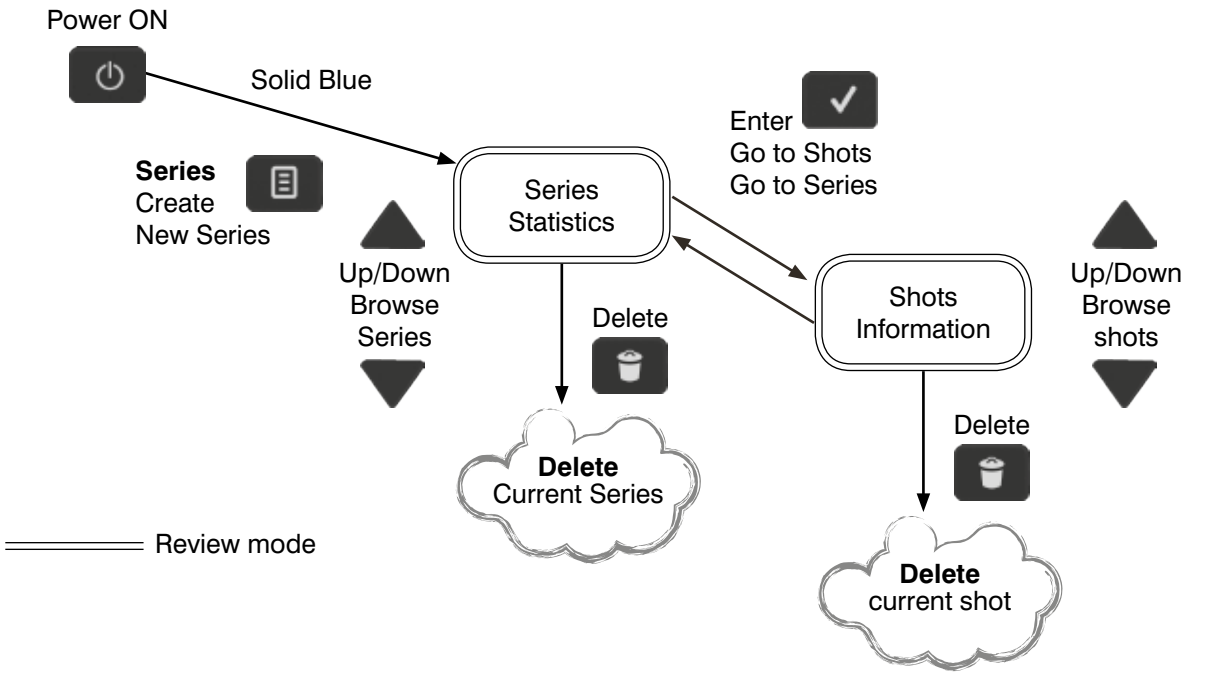
Turn on the LabRadar by pressing the Power Button. You will see a blue light to indicate the unit is on. The series information will appear.

If you want to create a new series, press the Series button and confirm that you want to start a new series by pressing the enter button. If you want to continue recording shots in the last created series, skip the New Series creation and continue to the next step.

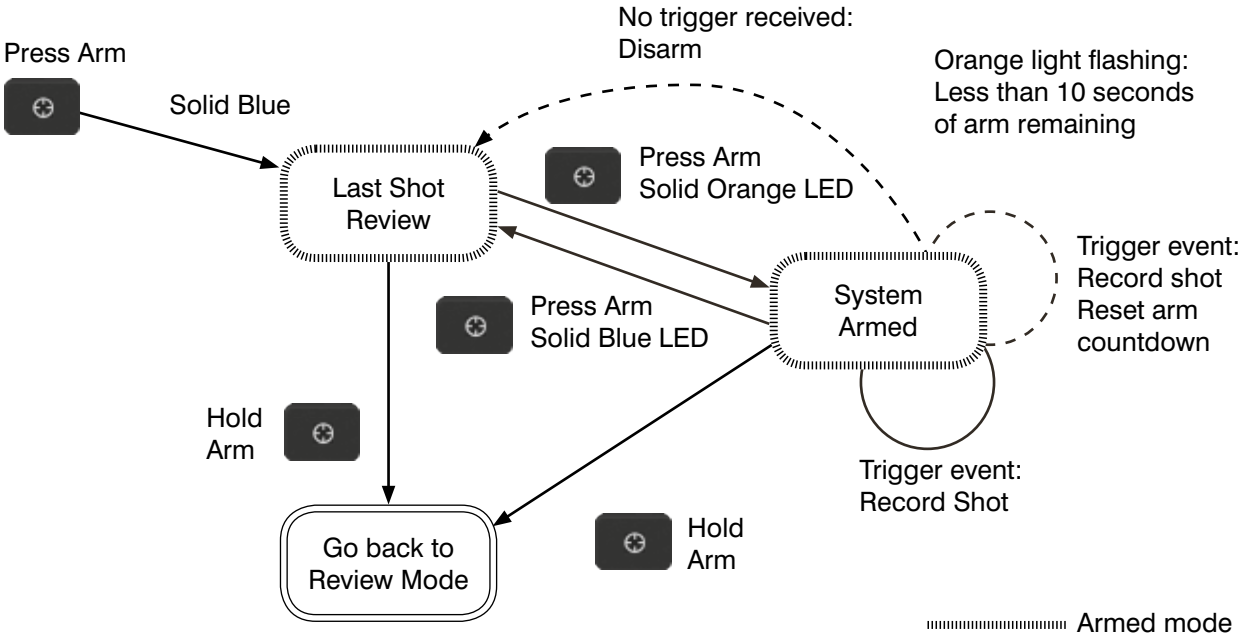
To start recording shots in the last created series, press the Arm button twice and the light will change from blue to orange. The radar is now armed and you are ready to shoot. When you are finished shooting, you can press and hold the Arm Button to return to the series information. The light will change from orange to blue. You can also wait for the Arm Time that you have preset to expire. Then press and hold the Arm Button until you return to the series information. You can create a new series from this view.

Please refer to the following diagram for more details about navigating the LabRadar interface.

REVIEW MODE



ARMED MODE

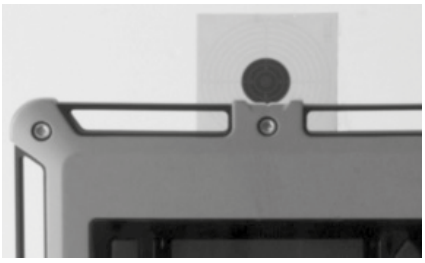


4.3.1 ALIGNING THE RADAR

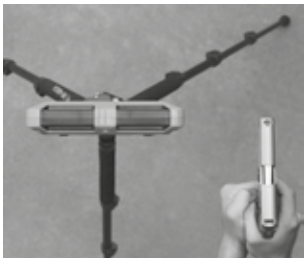
Locate a suitable position for your LabRadar and position it within 18 inches to either side of the muzzle of your firearm. The unit contains a ¼ inch x 20 threaded plate on the base of the unit for mounting on a standard tripod. To properly align the radar look through the sighting notch located in the top center of the unit and aim the radar at the target that you will be shooting at. Make sure it is in a stable position to insure that there is no movement after you align it with your target.

Place the LabRadar in a position where it will not be impacted by ejecting cartridge cases, muzzle debris/blast or other items. THE LABRADAR SHOULD BE PROTECTED FROM WEAPONS WITH MUZZLE BRAKES. PLACE THE LabRadar IN A POSTION SO IT IS NOT DIRECTLY IMPACTED BY THE MUZZLE BLAST. A BARRIER BETWEEN THE MUZZLE AND LABRADAR TO PROTECT THE SYSTEM CAN ALSO BE USED.

Firearms with suppressors or that have a very low muzzle blast such as 22 LR may need to be moved closer to the side of the radar and the muzzle even with, or behind the LabRadar.


Sight alignment

Riffle muzzle break position


Handgun position top view

Handgun position

4.3.2 TRIGGER SETTINGS WHEN ARMING THE LABRADAR

While in the Preferences menu: <u>if you selected Trigger as the Trigger Source</u>

With the radar turned ON, press the ARM button until the radar indicator turns Orange. The unit is now in armed mode.

The radar is now transmitting and waiting for an appropriate Trigger to be received. The unit will remain in Armed mode until either:

The unit is manually disarmed by pressing the arm button or;

The unit is disarmed automatically as it has not received a Trigger for a while. This time corresponds to the Arm Time in the Configuration Menu ***(See Section 4.2)***

***** Once the light begins to flash, you will have 10 seconds to fire the shot before the Arm Time has expired.

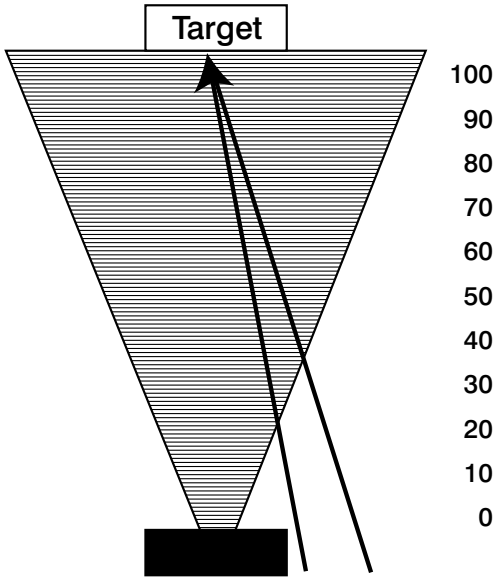
After a successful shot, the Shot number will be increased by 1 and the resulting measurements will be displayed on-screen.

While in the Preferences menu: <u>If you selected Doppler as the Trigger Source</u>

With the radar turned ON, press the ARM button until the radar indicator turns Orange. The unit is now in armed mode.

The radar is now transmitting and waiting for an appropriate Trigger to be received. The trigger in this mode is your projectile entering the radar beam. The unit will remain in Armed mode until the unit is manually disarmed by pressing the arm button, or the unit is disarmed automatically as it has not received a Trigger for a while. This time corresponds to the Arm Time in the Configuration Menu ***(See Section 4.2)***

***** Once the light begins to flash, you will have 10 seconds to fire the shot before the Arm Time has expired.



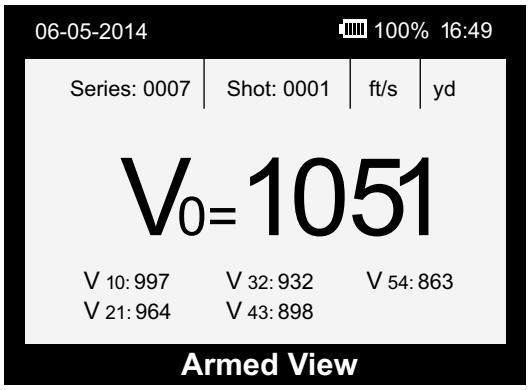
While using the Doppler Trigger mode, the velocity reported as V0 will be the point where the projectile entered the radar beam. While the velocity will be correct, the velocity at each reported distance will need to be adjusted. For instance, if the V0 velocity is obtained at 20 feet, the velocity reported at V40 will actually be the velocity at 20 feet. The closer the radar to your projectile launch point, the quicker it enters your beam making the V0 closer to the actual V0. This occurs only when using the Doppler Trigger.

When using the Internal Trigger as your trigger source, the Vo distance is the actual V0 velocity.

Last shot review mode (Blue indicator)

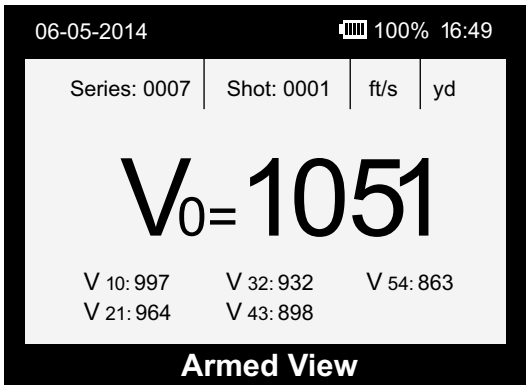
If the system is armed and is then disarmed (either manually or automatically), the indicator turns blue and the Last shot is displayed on screen as show here:

Repeatedly press the Display button to switch between views of individual shots. These views provide Kinetic Energy (Ke), Power Factor (PF) and muzzle/downrange velocities.



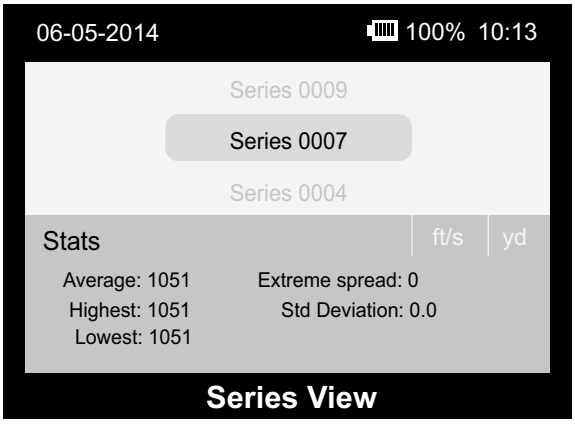
4.3.3 ARMED VIEW MODE (Orange indicator)

When the system is armed, the indicator turns Orange. The last shot of the current series is displayed and if a Trigger is received, the system will display the new shot on screen. The screen displayed is identical to the Last shot review.

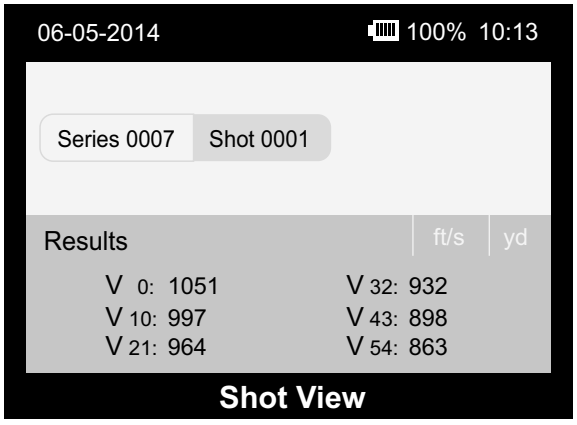


4.3.4 REVIEW MODE (Blue indicator)

The review mode allows the user to navigate through all the results available in the LabRadar. When turned ON, the LabRadar starts in Review mode. To access the Review mode from the Last shot review or the Armed view, the user should hold the arm button for 2 seconds. The Review mode display should look like this:



Series Statistics Display



Series Individual Shot Data Display

4.3.4.1 MANAGING RESULTS IN REVIEW MODE

First, make sure you are in the Review Mode as show above, then:

- To navigate through the results, use the UP and DOWN arrows.
- To make a new Series press the Series button and confirm your choice by using the up/down arrows and pressing Enter.
- To delete a series press the Delete button and confirm your choice by using the up/down arrows and pressing Enter. ***WARNING: this action is irreversible.***
- To access individual shots, first select your series with the arrows, then press Enter.
- To delete a Shot press the Delete button and confirm your choice by using the up/down arrows and pressing Enter. ***WARNING: this action is irreversible.***

4.3.5 SCREENSAVER

If the display screen turns off, press any key, except power, to turn the display on.

4.3.6 BATTERY INSTALLATION

Open the battery compartment by sliding the door toward the base of the Labradar. Install six (6) AA alkaline or Lithium batteries in the battery compartment. When not in use remove the batteries. To conserve your batteries you should keep the Armed time setting at a minimum and the Screensaver time at a minimum. It is advisable to have a spare set of batteries available.

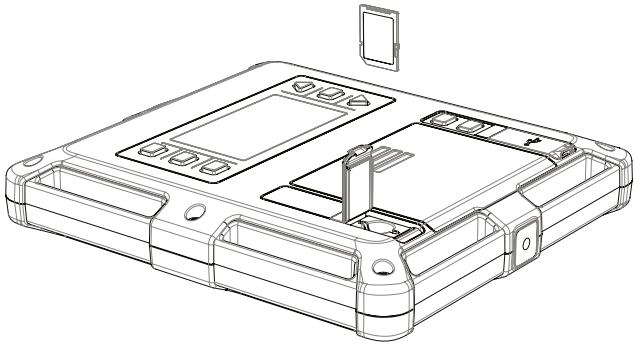
* The unit can also be powered by a USB power supply through the USB port. 5V @ 1A is required. Remove the batteries when not in use. When using the USB port be sure not to put stress on the micro USB connection. AA batteries are not required when using an external power supply.

4.3.7 MEMORY

The use of SDHC cards of known brandings is recommended. SDXC cards will not work in that device.

With the unit turned off insert a SD Card with sufficient memory to record the shots you anticipate taking. Should you need to remove the SD Card always turn the power off prior to removing the SD Card. Make sure the SD Card is clean and free of debris before inserting. Keep the SD slot cover in place to protect it from dust, moisture, etc. Micro USB are not recommended.

If no SD Card is inserted, the system will record the shots in its internal memory. As this memory space is limited, you can only get advanced reports published when using a SD card.



Gently insert the SD card with the electrical contacts towards the inside of the unit. Do not force the card into the slot.

4.3.8 USB PORT

Make sure the USB port is clean and free of debris. Keep the USB cover in place to protect it from dust, moisture, etc. When using the USB port be sure not to put stress on the connection.

4.3.9 DOWNLOADING DATA

** You need an SD card in your device before you can download any data.*

You can access the data by connecting a USB cable on the LabRadar to a computer. The computer should recognize the LabRadar as a Mass Storage Device and display the files available on the SD Card. Alternatively, the user can turn OFF the LabRadar and remove the SD card to read it in a memory card reader (Fastest).

The folder will be displayed as LBR. When LBR is opened you will see an Excel CSV file with a file name of SR001 (for series 1), etc. You will also see folder TRK. When you open this folder you will see file(s) Shot 1 Track (for shot 1), etc.

- SR--- Report displays all the information from that series number including date, time of each shot, muzzle and downrange velocities, high/low velocity, average, SD, ES, power factor, etc.
- Shot--- Track displays individual shot data including projectile flight time, velocity at additional distances not displayed on the radars display screen, SNR.

The data needs to be recorded while the SD card was in the device to be accessible later by USB.

The data recorded in the internal memory only (while there was no SD card inserted) cannot be accessed by USB. It is only viewable on the display screen.

4.3.10 RECORDING PROJECTILE VELOCITIES

Each shot is recorded in the sequence that it was fired in. The Series and Shots can be reviewed on LabRadar or on a PC at a later time.

Without an SD card inserted, the internal memory can record up to 100 Series of 100 Shots.

With an SD card inserted, the LabRadar provides the ability to record up to 9999 Series of 100 shots. The only other limitation is the space available on the SD card.

It is impossible to add shots to a previous series once another series has been started.

4.3.11 SERIES AND SHOT NAVIGATION

When the LabRadar detects a projectile the velocity is recorded in the currently selected Series. This causes the number of shot velocities in the Series to increase by 1. This will continue until the user creates a new Series. The first shot of that series will be shot 1 and will continue counting up until a new Series is created. If a shot from a series is deleted that shot number will not be filled in.

If the system is turned off, it will continue to record shots in the last series used when power is restored.

4.4 DISPLAY DETAILS

Battery Indicator Full Empty

There is an icon on the display of the LabRadar that indicates the battery condition. If the battery voltage becomes insufficient to operate, the system will shut down.

Radar Signal Strength Indicator

The signal strength indicator is located on the side of the measurements results of the last shot, either in the Armed View or the Last shot review mode. It gives an indication on the quality of the signal that is analyzed by the device. 5 bars = Best, 1 bar = Bad signal.

Error Message

If the LabRadar is receives a trigger event but does not detect valid projectile signal, the following message will be displayed on-screen: *"Acquisition error: could not track the projectile"*. The system will not record that shot, neither will it make any measurements. You will need to push the enter button to clear the error message.

Before trying again, check the following:

- The alignment of the radar unit.
- Confirm that a projectile went through the Labradar beam area
- Check your weapon to insure it operated properly and is safe to fire again
- In the event the unit is powered off or the battery is depleted, the shot data is stored on the SD card and no data will be lost.

Extreme Spread (ES)

The Extreme Spread, is the lowest velocity subtracted from the highest velocity of the current series.

Standard deviation- A number used to tell how measurements for a group are spread out from the average, or expected value. A low standard deviation means that most of the numbers are very close to the average. A high standard deviation means that the numbers are spread out.

Lowest: The lowest Velocity of the current Series.

Highest: The highest Velocity of the current Series.

Average: The average Velocity of all shots in the current Series.

5. MAINTENANCE

The LabRadar radar requires very little maintenance. Attention should however be paid to a few points:

- Keep the connectors clean from dirt and moisture to avoid corrosion and bad connections.
- Now and then wipe the radar enclosure with a soft and damp cloth.
- The circuits are protected by a plastic enclosure. Special attention should be paid when handling the radar to avoid damaging the plastic enclosure as it could result in performance degradation.

Warning: No operator serviceable parts inside the radar unit. Please refer servicing to service qualified personnel. Opening the enclosure voids the warranty.

6. USB CONNECTOR SPECIFICATION

Connector type: USB micro Type A female on unit

7. SD CARD CONNECTOR

Connector type: SD Card Socket (Standard)

8. TRIGGER INPUT CONNECTOR

Connector type: Stereo 1/8” audio jack with specific pinout. Do not connect any headphones or non LabRadar accessory to the audio jack as it is a proprietary accessory port. Failure to do so may result in damaging electronic equipment connected to it or the LabRadar and void your warranty.

Safety Information:

- Always keep the weapon pointed in a safe direction, and keep your finger off the trigger, until you are ready to shoot.
- Firearms should be unloaded and securely stored when not in use.
- Be sure of your target and backstop before you shoot.
- Wear shooting glasses and ear protection when you shoot.
- Don’t shoot at a hard surface or at water.
- Avoid alcoholic beverages or drugs when shooting or handling a weapon.
- The launching of any projectile involves risk of injury/death to persons and damage to property. You are responsible for any such actions and their consequences.
- Always place LabRadar in a safe position to avoid damage to the unit.

All these important safety rules **must** be followed at all times by persons handling any weapon.

9. RANGE

The LabRadar is a consumer level device that was designed for amateur use only. The performance of the units has been optimized to offer the most accurate results, but it is possible that some reading may not be accurate, hence it is the responsibility of the user to determine whether or not the readings are good or not to their satisfaction. Infinition and its subsidiaries will not be responsible for inaccurate readings.

In order to achieve the best accuracy possible, the user must use the product correctly and take care of some details:

- Make sure that the Labradar is aligned correctly with the target.
- Make sure that the position of the gun relative to the LabRadar is correct.
- Use a firing range that has no obstacles or obtrusions close to or in the line of fire. (Clear line of sight)
- Make sure that the parameters entered in the LabRadar configuration match you installation.

Due to microwaves signals nature, range performance of the LabRadar can differ depending on the environmental conditions:

- Temperature;
- Humidity;
- Particles in the air;
- Signal reflection on the ground, trees, wall and any other surface in the line of fire.
- Frequency channel used for transmission;
- Electrical Interference in the area;
- Etc.

In addition, the projectile's characteristics will also affect the range performance of the LabRadar, such as:

- Projectile's diameter;
- Projectile's tail design;
- Projectile's shape;
- Projectile's position while travelling in the air;
- Subparticles (ie. Sabot, wads);
- Etc.

Thus, it is a known fact that range performance can vary, even for the same bullet calibers depending on the manufacturer of the bullet, the model of the bullet, the firearm used to fire the bullet, the tail shape of the bullet, etc. Infinition and its subsidiaries cannot explicitly guarantee a range performance and thus will not be responsible for range performance difference between shots.

Estimated maximum range (Standard Power)

Projectile diameter	Maximum range
.223 (5.56mm)	40-60 yards
.308 (7.62mm)	80-100 yards
.355 (9mm)	100-130 yards

10. FIRMWARE UPGRADE

The LabRadar's firmware can be upgraded to the latest version at any time. Please check our website to check availability.

In order to upgrade your firmware:

- Download the latest version on our website;
- Copy the files to the LabRadar's empty SD Card;
- With the LabRadar turned OFF, insert the SD card in the LabRadar;
- Turn the unit ON;
- The Blue LED will blink and the LabRadar will restart;
- The firmware version will be displayed on the radar;
- The Firmware update file will be deleted from the SD card.

WARRANTY

Arts, Science and Technology Infinition Inc. warrants all Labradar 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 LabRadar 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 by reason of defect in material or workmanship found upon examination by INFINITION, INC. This warranty does not cover any failures caused by abuse, mishandling, failure to the follow the operating instructions, alteration(s) or accident. Damaged 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 LabRadar 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 sender. Infinition will not be responsible for any lost shipments or other liabilities.

THE RMA CAN BE REQUESTED BY CONTACTING THE FOLLOWING:

Canadian customers should return to:
Infinition Inc.
2965, rue des Prairies
Trois-Rivières (QC) Canada
G8V 1W4
service@mylabradar.com
819-693-6787

All others should return to:
Independent Solutions LLC
8221 W. Meadow Pass Ct
Wichita, KS 67205
U.S.A.
info@mylabradar.com
316-866-2525

CONSULT WITH PROPER GOVERNMENT AUTHORITIES BEFORE EXPORTING or IMPORTING THIS ITEM.

TROUBLE SHOOTING

Problem	Cause	Solution
Unit is not powered on	• No Power • Batteries Depleted • Power switched off	• Make sure that there are fresh, good batteries in the unit. • Press the power button to turn ON the unit.
Shot did not record	• System not aligned properly • Trigger event not detected • System not armed • Projectile too small • Excessive muzzle blast	• Make sure the system is aligned properly (see section 4.3.1) • Make sure that the system detects the firing event: The orange led should flash when a shot is fired. If it does not, try placing your firearm close to the sensors and adjusting the Trigger level in the Labradar Menu. • Make sure that the system is armed (orange led lit) when shooting. • Move muzzle farther from the unit, adjust the muzzle forward or backward.
Display goes black while shooting.	• Screensaver active	• The user can change the screensaver delay before it becomes active in the Labradar Menu. • Touch any button, except power or arm, to disengage the screensaver. • The muzzle blast may have been excessive, move muzzle farther from unit.
System will turn OFF and then back on when armed.	• Batteries depleted	• Make sure that there are fresh, good batteries in the unit.
System will not power ON	• Batteries depleted; • Power turned off	• Make sure that there are fresh, good batteries in the unit. • Check the USB power source if used, make sure it is providing enough power to the Labradar.

Rapid flashing blue light when I start the LabRadar. The SD card is incompatible, confirm it is 32 gb or less, Perform a full format of the card using FAT 32 or MS DOS in a Mac.

LabRadar turns off after shooting. Excessive muzzle blast or excessive reflection off nearby surfaces such as steel targets, etc.

labradar LITE

Visit us online: **mylabradar.com**

For Technical assistance, please contact :

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Infinition Inc.
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819-693-6787

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