

# AirLite™ GPS

User Manual and Specifications. Last edit June 2, 2023 by James Wiebe

## INTRODUCTION

Thanks for purchasing the AirLite GPS from Radiant Instruments! This incredibly small GPS receiver provides lots of useful information along with great features:

- Geographic coordinates as determined by GPS
- Directions to user set Points Of Interest
- Absolutely accurate Time from GPS
- Distance
- Mileage
- Speed
- Altitude
- Compass
- Crystal clear LCD screen
- GPS lock time as little as 2 seconds! (Hot Start Mode)
- Backlight
- Keychain attachment
- Rechargeable USB battery
- ~10 hour operation time on a single charge
- Included charging cable

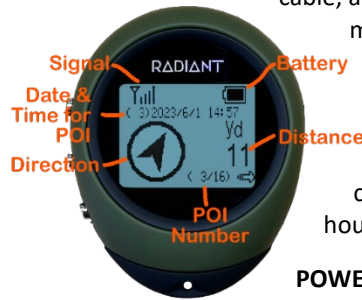
It's obviously a great companion for anyone who is adventurous. Use it when outdoors. Of course, it works best with a clear view of the skies.



**We strongly recommend that you get to know this product before taking it on your adventure. While small, it is loaded with features.**

### BEFORE USE

The package includes the GPS, along with a USB charging cable, a keychain lanyard and this manual. Before use, charge the GPS with the cable. While charging, the LED backlight is on. It will turn off automatically after a full charge, which can take up to 4 hours.



### POWER ON AND OFF

- Press and hold the **MIDDLE** button for 3 seconds to power the unit on.
- Press and hold for 3 seconds to power off.
- No matter the operational mode, a 3 second hold on the **MIDDLE** button always controls the power.

- After powering on, the unit takes a couple of minutes to get a cold start GPS lock. Conversely, a warm start (with recent usage close to your current location) will lock onto the current position in less than a minute. A hot start (last recent usage very close to your current position) takes 2 seconds!

## OPERATIONAL SCREENS & MODES

Tapping either the **TOP** or **BOTTOM** button rotates through the six screens & modes of operation. We'll explain each mode in detail:

1. **DIRECTION AND INFO SCREEN.** This is also known as the **HOME SCREEN**. This mode shows a direction vector and other basic info.
  - a. Battery charge status
  - b. Signal strength
  - c. POI Record Date and Time.
  - d. Direction
  - e. Distance
  - f. POI Number

The battery charge status is provided in the upper right corner of the display.

Signal strength from the GPS constellation is in the upper left corner. 1 bar indicates that 3 satellites are captured, 2 bars indicate that 4 satellites are locked, 3 bars indicate that 5 satellites are locked, while 4 bars indicate that 6 or more satellites are being received.

*Tip: For proper operation, you need 2 or more signal strength bars!*

The Date and Time for the current POI was entered is shown, using a 24 hour format.

*Tip: This is NOT the current date and time! It is a time stamp from when the POI was entered. In the screen example, we are using POI #3, which was created (or entered) on June 1 at 14:57. By knowing when we created a POI, it helps us keep track of what we are doing!*

Direction is shown using the arrow and circle pointer.

*Tip: For proper operation, you must be moving and holding the AirLite GPS in front of you. The arrow is relative to your direction of movement! If you see a “chasing tail” circle instead, you need to be moving in relation to a POI.*

Distance to your current POI is shown either in yards, miles, or kilometers, depending on your setup.

Finally, the bottom of the screen shows the Point Of Interest (POI) that you have selected. As there are 16 possible points, the user has selected the third one in the sample screen.

*Tip: Before setting out on your journey, you must set a Point Of Interest. If you are simply out hiking, setting the POI at your starting point will give you a valid POI to return to!*



## 2. DISTANCE AND ELAPSED TIME SCREEN.

When on this screen, press the middle button briefly. A small human icon will appear beside the signal bars, and AirLite will start to calculate elapsed mileage and distance. At any point, press the middle button briefly, trip recording will stop.

*Tip: When trip recording is in progress, the walking man will appear to the immediate right of the signal strength indicator.*

## 3. LATITUDE AND LONGITUDE SCREEN.

Here you will see your current latitude and longitude.

*Tip: If you don't see anything, you don't have a GPS satellite lock.*



## 4. SPEED AND ALTITUDE SCREEN.

Your current speed and altitude is shown.

*Tip: If you don't see anything, you don't have a GPS satellite lock.*

## 5. TIME SCREEN.

The current time is shown.

*Tip: If you don't see anything, you don't have a GPS satellite lock.*

*Tip: You can adjust your time zone in the SETTINGS.*

*Tip: This time is from the GPS constellation, and it is really accurate.*

## 6. SETTINGS SCREEN

Press the center button quickly, and you can enter the sub-settings screens. The sub-settings are:

- Language
- Backlight
- Time Zone
- Measure Unit
- Clear POI
- Cold Start
- Reset Default



By tapping the top bottom, you can rotate through the various sub-settings. To change anything, tap the center button and the sub-setting screen will highlight. Then tap the top button to rotate through the various available values.

For instance, let's change the Backlight.

- First, go the main Settings Screen.
- Then, tap the middle button. This will enter the sub-settings selection process.
- Then, tap the top button repeatedly until it says Backlight.
- Then, tap the middle button one time. The Backlight will turn Bold.
- Then, tap the top button repeatedly until the value you desire is on the screen.
- Then, tap the middle button once to confirm your selection.
- After a few seconds, the unit will automatically revert to the home screen.

For Language, your choices are English or Chinese. Your unit comes preset to English.

For Backlight, your choices are 5S, 10S, 30S, 60S, and infinite. Your unit comes preset to 5 Seconds.

*Tip: selecting infinite will use a lot of power and shorten useful operational time.*

For Time Zone, you can choose +12 to -12 vs standard GPS time.

*Tip: for EDT, select -4. For CDT, select -5. For MDT, select -6. For PDT, select -7.*

For Measure Unit, your choices are Kilometers or Miles.

*Tip: The unit will automatically display some distance values in fractional miles or yards.*

For Clear POI, the unit will give you the ability to clear all 16 POIs simultaneously.

For Cold Start, the unit will give you the ability to force a Cold Start. This is handy if you travel a long distance without using the unit, then turn it on.

For Reset Default, you can force the unit back to the factory settings.

**HOW TO ENTER AND SAVE A POI** .You will need to be on the **HOME SCREEN**.

Briefly tap the Middle Button. As you do it repeatedly, you'll see the POI selection number go through all 16 POI entries, from 1 through 16.

If a POI already has something stored in it, the Date and Time stamp will appear for that entry. If nothing is stored, then the Date and Time stamp will not appear.

Keep tapping that middle button until you've come to the POI number you want to use.

Press and hold the Bottom Button for 3 seconds.

Then pressing the Top Button or the Bottom Button repeatedly and quickly, you can roll through all of the available digits to change. This includes the last digits which are N for North lat, E for East long, W for West long, and S for South lat. (Latitude, Longitude.)

If you want to change anything, tap the Middle Button repeatedly to select the value you want.

To save the location into a POI, press and hold the Bottom Button for 3 seconds.

*Really Big Tip: To avoid getting lost, you MUST save a relevant POI before starting the trip. This simply means setting the starting position as a POI before you begin hiking. Turn the unit on, let it get a GPS lock, then save the current position into a POI.*

#### **HOW TO USE AS COMPASS**

This is easily done by creating a POI at the north pole. As I write this manual, I entered 90.00.00.N into the unit for a POI. It doesn't matter what the East / West entry is.

I saved these lat/long coordinates into POI location number 2. I could have selected any POI location, of one through sixteen.

Immediately after saving the North Pole POI, AirLite GPS reported to me that my POI (2) was 3607 miles away. It's good to know that the North Pole is that far from my office!

As I went walking around outside, the arrow always pointed north. I kept the AirLite GPS in front of me, aligned with my body. The arrow responded within 2 to 3 yards of any directional change I made. It flipped around and pointed exactly North.

## HOW TO USE FOR AIRCRAFT NAVIGATION

This unit is effective and fun as a GPS backup.

For a sample trip, I decided to go to airport M66, Hillsboro, KS, my hometown. I went to [www.airnav.com](http://www.airnav.com) and saw that the latitude / longitude for M66 is

38-20-29.6550N 097-12-49.9400W

(You can always pull information from a Google map as well.)

These values were saved into the unit as a POI as follows:

38 20' 29.7 N

097 12' 49.9 W

And after saving, AirLite GPS immediately told me I was 42.7 miles from M66. I walked around for a minute, and the arrow pointer always pointed towards M66, my hometown, Hillsboro.

## AIRLITE GPS SPECIFICATIONS

RECEIVER. Type L1, C/A code; 51 channel acquisition; 14 channel tracking.

Radiant Technology LLC / <http://www.radiantinstruments.com> / [support@radiantinstruments.com](mailto:support@radiantinstruments.com) / REV 6/5/2023

MAXIMUM UPDATE RATE. 10 hertz.

DISPLAY. 128 x 64 high contrast LCD dot matrix. Blue backlight.

DIMENSIONS. 65 x 52 x 21 mm (2.56 x 2.05 x 0.83 in)

WEIGHT. 39.6 grams (1.4 oz)

POSITION ACCURACY. 10 meters (2 meters if WAAS corrected)

VELOCITY ACCURACY. 0.1 meter per second.

HEIGHT ACCURACY. Not specified.

TIME TO FIX. Hot: 5 seconds average; Warm: 40 seconds average; Cold: 2 minutes average.

BATTERY. 390 Ma Lithium battery.

POWER. ~70 Ma (acquisition); ~30 Ma (tracking)

BATTERY TIME. ~10 hours (operational tracking). ~4 hours to charge.

TEMPERATURE. -20 to +55C (operational).

HUMIDITY. Up to 80%, non-condensing.

**WARRANTY:** Your new Radiant Technology product carries a one-year warranty, from the end user invoice date. Please contact [support@radiantinstruments.com](mailto:support@radiantinstruments.com) should your

product need warranty service. There is an additional charge for international warranty service.

This warranty service includes the following:

- Any failed unit will be repaired or replaced;
- Any battery will be replaced if a full charge does not provide at least five hours of usage on full bright screen;

### DISCLAIMER:

While Radiant Technology has taken care to ensure the accuracy of the information contained herein it accepts no responsibility for the consequences of any use thereof and reserves the right to change the specification of goods without notice. Radiant Technology accepts no liability for the correct, incorrect, or erroneous use of the device, including the failure of the device to perform as expected. **If you do not agree to these terms, please discontinue use of the product.**

### RETURN / REFUND INFORMATION:

If ordered directly from us: Must be returned in new, uninstalled, resalable condition within 14 days after receipt. Ship to Radiant Technology LLC, PO Box 20690, Wichita KS 67208.

If ordered from any of our distributors or resellers: Their Terms and Conditions apply. Check with them.