



Welcome

Thank you for purchasing our GPS module! Follow these step-by-step instructions to set up your module quickly and ensure it operates correctly.

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What's Included

- 1x Trace GPS Module for AJAX
- 1x Cellular Antenna
- 1x GPS Antenna
- 1x LiPo Backup Battery
- 1x Quick Start Guide

Before You Begin

Check Package Contents:

Ensure all items listed in the "What's Included" section are present and undamaged.

Requirements:

Power Supply: A 12V DC power supply with a maximum output of 1A.

Internet Access: A network connection via Ethernet is required for initial setup.

Ajax Hub: Ensure your Ajax Hub is powered on and operational.

Windows PC: Required for network setup and configuration.

Safety Precautions:

- Handle the module with care to avoid static damage.
- Do not expose the module to moisture, extreme temperatures, or direct sunlight.

Hardware Installation

Place the Module:

Position the **Trace GPS Module for AJAX** in a stable and secure location, ensuring it is not exposed to moisture or extreme temperatures.

Connect the GPS Antenna:

Attach the GPS antenna securely to the GPS port on the module. Position the antenna where it has a clear view of the sky for optimal signal reception.

Connect the Cellular Antenna:

Attach the cellular antenna securely to the designated port on the module.

Connect the Ethernet Cable:

Plug one end of the Ethernet cable into the module's Ethernet port. Connect the other end to a router or network switch.

Power Up the Module:

Connect the 12V 1A power supply to the power port on the module. Once powered, verify that the **CHR light flashes white**, indicating the module is operating correctly.

Do Not Connect the Backup Battery Yet:

The LiPo backup battery will be connected during a later step.

Connecting to the Network

Download Required Software:

- On your **Windows PC**, navigate to <https://www.tracebytested.com.au/software-download>.
- Download and install the following:
 - Npcap**: Ensure you have the correct version.
 - Trace Tool**: The software required for configuring your module.
- Once installed, open the **Trace Tool**.

Detect the Module:

- In the **Trace Tool**, wait for the **Devices Available** tab to display your GPS module.
- If no results are shown, click **Refresh** to scan again.
- If no device is found, please refer to the Troubleshooting page for further assistance.

Enter Ajax Login Credentials:

- Once the module appears under **Devices Available**, enter the Ajax login credentials connected to the hub you want to link this module to.

Note: You can reset these credentials at any time if you decide to link the module with a different hub.

Verify Successful Connection:

- After entering the correct Ajax login credentials, the **Trace Tool** will display a success message.
- Once successful, you may disconnect the Ethernet cable.

Restart the GPS Module:

To apply the changes, press the **Reset** button on the module **once**. Refer to Figure 1 for the location of the reset button.

Powering the Module with Backup Battery

Check Battery Polarity:

- Before connecting the battery, ensure the **positive side** of the lead is on the **Right**. (Figure 2)
- Refer to the polarity markings printed on the PCB for guidance.
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Connect the LiPo Backup Battery:

- Attach the LiPo backup battery securely to the battery port. Ensure the connection is snug but do not force it.

Verify Battery Connection:

- Once the battery is connected, check that the **CHR light flashes white**, confirming that the backup battery is properly connected.

Battery Charging:

- The module is designed to charge the battery while connected to the main power.
- Once the battery is fully charged, the **CHR light will remain solid**.

Test Battery Operation (Optional):

- To test the backup functionality, temporarily disconnect the 12V power supply.
- Verify that the module continues operating using the backup battery.

Reconnect Main Power:

- Reconnect the 12V power supply once testing is complete to ensure the module operates using the primary power source.

Testing with Ethernet Connection

Prepare the Module:

- Ensure the GPS antenna, 12V power supply (or backup battery), and Ethernet cable are properly connected to the module.

Wait for Connection:

- Leave the module connected and wait between **60 seconds to 2 minutes** to ensure it connects to the internet and the GPS antenna calibrates correctly. Connection time depends on internet speed.

Trigger a Panic Event:

- Use your preferred method to trigger a panic event (e.g., SpaceController, Keypad, Button, or the Ajax app).

Receive the Panic Notification:

- You should receive a panic notification within **1-20 seconds**, depending on internet speeds.

Note: For the first triggered event, it is normal for the GPS data to be blank due to initial calibration. This will resolve itself within the next 2 panic presses.

Completion and Recommendations:

- You are now successfully set up!
- We recommend waiting at least **60 seconds between panic presses** to avoid duplicate events, especially in cases of slower internet connections.

Testing with Cellular Connection

Disconnect Ethernet and Restart:

- Disconnect the Ethernet cable from the module.
- Press the **Reset** button once, as shown in **Figure 1**, to restart the module and switch to cellular operation.

Prepare the Module:

- Ensure the GPS antenna, 12V power supply (or backup battery), and cellular antenna are properly connected.

Wait for Cellular Connection:

- Wait **10 seconds** after the reset with the Ethernet disconnected. The GPS module will automatically switch to cellular mode, and the **STAT light** will illuminate.
- A few seconds after the **STAT light** illuminates, the module will attempt to connect via the SIM card. The **NET light** will start to flash once the SIM network is initiated and will continue to flash while the module is operational.

Trigger a Panic Event:

- Use your preferred method to trigger a panic event (e.g., Space Controller, Keypad, Button, or the Ajax app).

Receive the Panic Notification:

- You should receive a panic notification within **1-20 seconds**, depending on cellular signal strength and internet speeds.

Note: For the first triggered event, it is normal for the GPS data to be blank due to initial calibration. This will resolve itself within the next 2 panic presses.

Completion and Recommendations:

- You are now successfully set up for cellular operation! We recommend waiting at least **60 seconds between panic presses** to avoid duplicate events, particularly in areas with weaker cellular signals.

Troubleshooting

No Device Detected in the Trace Tool:

- Ensure the Ethernet cable is connected directly to the modem, not the PC.
- Check the Ethernet port lights on the GPS module:

Solid Green: Indicates the module is powered but not connected to Ethernet.

Orange: Indicates the Ethernet connection is active.

- If the green light is not present, please contact support.
- Reset the module by pressing the **Reset** button once and wait **60 seconds** for it to boot correctly.
- Press the **Refresh** button on the Trace Tool, and the module should be found.

No GPS Data in Panic Notifications:

- Ensure the GPS antenna provided with the module is securely connected.
- If using your own antenna, ensure it is an **active antenna** capable of GPSM.
- Position the GPS antenna with a clear view of the sky.
- Wait for the GPS module to calibrate (this may take up to **2 minutes** for the first connection).
- Trigger another panic event after calibration completes.

No Internet or Cellular Connection:

For Ethernet:

- Ensure the Ethernet cable is properly connected to both the module and the modem.

For Cellular:

- Ensure the SIM card is active, inserted correctly, and has sufficient data allowance.

- Ensure a cellular antenna is connected correctly and fit for purpose. If necessary, upgrade to a stronger antenna or use a longer cable to position it in a location with better signal strength.
- Check that the **STAT** and **NET** lights indicate proper operation:

STAT light: Illuminates when cellular mode is enabled.

NET light: Flashes when connected to the cellular network.

- Restart the module by pressing the **Reset** button.

Delayed or Missing Notifications:

- Check your internet connection speed and reliability (Ethernet or cellular).
- Confirm that the module's Ajax hub credentials were entered correctly in the Trace Tool.
- Test your internet connection speeds if possible. Slow or laggy speeds may result in duplicate or missing responses.

Battery Issues:

- Ensure the LiPo backup battery is securely connected with the correct polarity.
- Verify that the **CHR light** flashes during charging and remains solid when fully charged.
- If the battery does not charge, check the 12V power connection or replace the battery.

Duplicate Panic Notifications:

- Avoid triggering panic events within **60 seconds** of each other to prevent duplicate notifications.
- Test your internet connection speeds if possible. Slow or laggy speeds may also result in duplicate responses.

Email or Password Is Incorrect When You Press Apply:

- This error indicates that there is no user registered with AJAX using those login credentials.
- The email or password entered is incorrect.
- The user does not have an AJAX hub or is not linked to a hub.

- The user is not an admin and does not have the required permissions. Ensure the user has the appropriate access level, which can be configured in the AJAX app.

How to Reset Credentials on GPS Module to Re-Use:

- Connect the module to the same network as your computer.
- Open the Trace Tool, scan for the device, and once found, hit the **Reset Settings** button.
- Enter the new login credentials and apply them.

Login / Account User Error:

- The login credentials must be from a registered **AJAX USER** account.
- This device will not work for **COMPANY** or **INSTALLER** accounts for now.

Still Having Issues?

- Refer to the **FAQ and Support** section at <https://www.tracebytested.com.au/contact-4>.
- **Contact our support team via email or phone for further assistance.**

Figure 1.

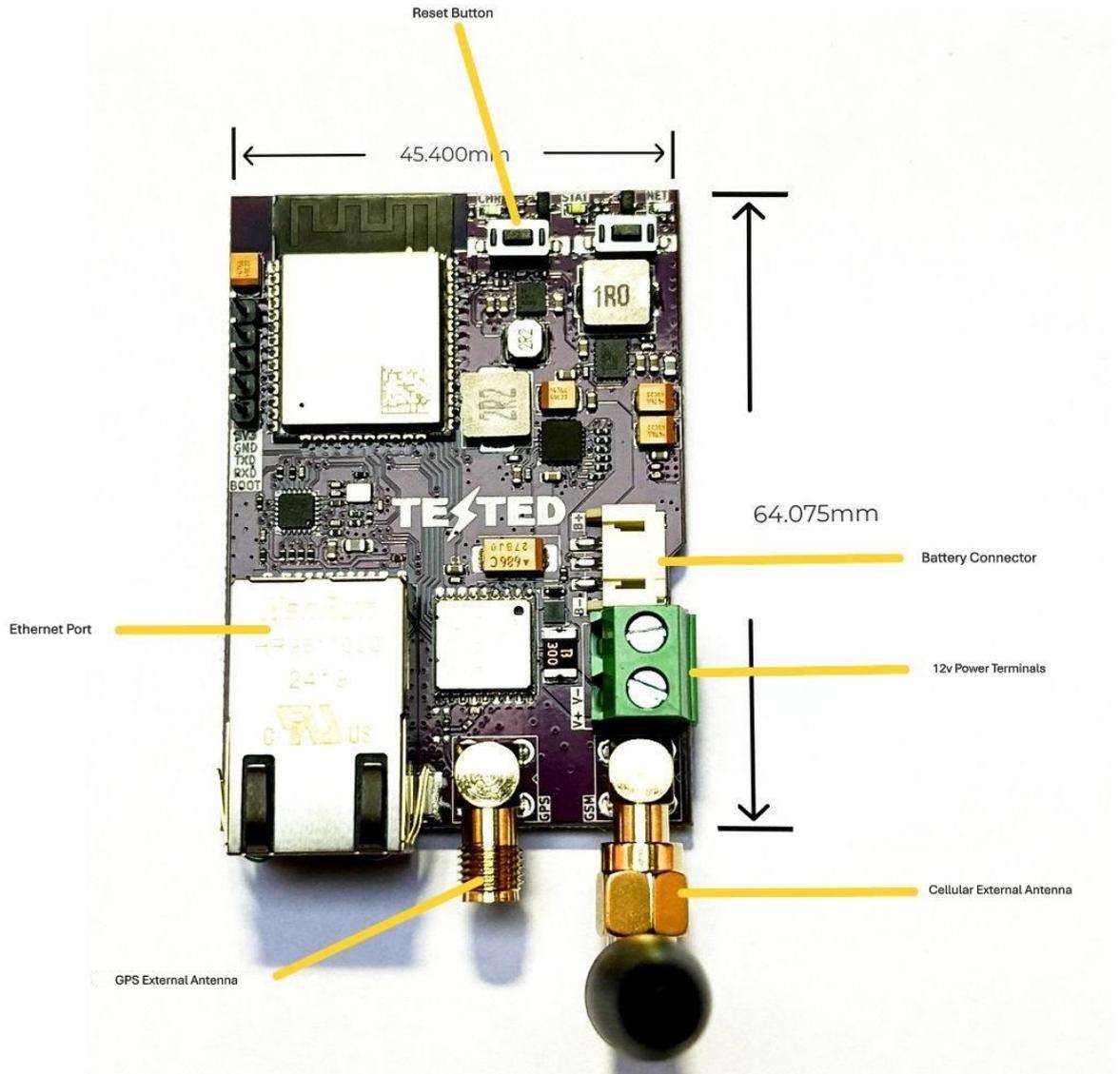


Figure 2.

