HYFIX
SPATIAL INTELLIGENCE

# GEO-PULSE


## RTK Receiver and Signal booster

The GEO-PULSE is a cost-effective GNSS antenna and RTK receiver offering precise vehicle location for applications like ride-share, fleet monitoring, and navigation apps. It features a high-quality triple-frequency patch antenna that can be roof-mounted or dashboard-installed, matching the performance of much more expensive antennas. Using an internal dual-ban GNSS receiver that connects via Bluetooth and Wi-Fi, the GEO-PULSE provides 10cm or better accuracy when RTK fixed. The free iOS and Android app enables easy connection to the GEODNET RTK Network. Its built-in sensor fusion and IMU ensure reliable tracking in challenging environments such as under canopies, bridges, and tunnels. Comes with a dash mount system.

**Repeater Function:**

The HYFIX GEO-PULSE has a secondary RF re-radiation port that can be used to improve GPS/GNSS signal performance internal to the cabin of the vehicle. Third party devices such as dashcams will more consistent GPS / GNSS performance without any modification or data connection to GEO-PULSE. Unlike cheap GPS repeaters, the GEO-PULSE re-radiates all constellations and has a programmable gain element to optimize the in-vehicle signal performance.

**3rd Party Mobile App Integration:**

The versatile GEO-PULSE provides high-accuracy RTK-based location to 3rd party mobile applications in a wide range of ways. These include:

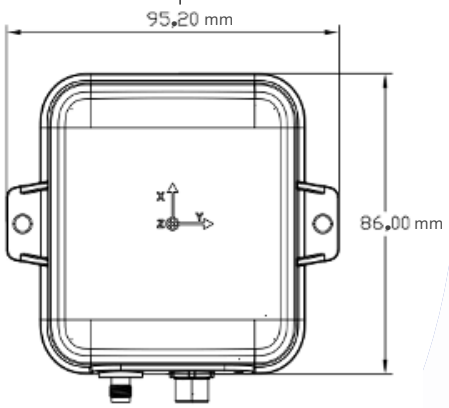
- Mock Location (Android)
- Made For Apple Certification (iOS, expected in Q1 2025)
- Full Custom Integration

**Specs**

| | |
|---|---|
| Default GNSS Constellation | GPS + GLONASS + Galileo + BDS + QZSS |
| Number of concurrent GNSS | 4 + QZSS |
| Function(s) | RTK + DR (integrated IMU) |
| Horizontal Position Accuracy | Autonomous : 1m<br>RTK : <0.1m + 1ppm |
| DR Position Error (with speed) | <2 % of distance traveled without GNSS |
| DR Position Error (without speed) | <4 % of distance traveled without GNSS |
| Velocity Accuracy | 0.03 m/s |
| Accuracy of 1PPS signal | 20 ns |
| Convergence time | RTK : < 10s |
| TTFF (with GEODNET) | Full Cold Start: 5 s |
| TTFF (without GEODNET) | Full Cold Start: 26 s<br>Warm Start: 16 s<br>Hot Start: 1 s |
| Sensitivity | Acquisition: -145 dBm<br>Tracking: -165 dBm<br>Reacquisition: -157 dBm |
| Dynamic Performance | Maximum Altitude: 10000 m<br>Maximum Velocity: 500 m/s<br>Maximum Acceleration: 4g |
| Nav. Update Rate | 1 Hz/ 10 Hz |
| Raw Data Update Rate | GNSS: 1Hz<br>IMU: 100 Hz (max) |

**Supported Bands**

| | |
|---|---|
| GPS/QZSS | L1 C/A, L5 |
| GLONASS | L1 |
| Galileo | E1, E5a |
| BDS | B1I,B2a |
| | L5 (1176.45 MHz) |




**Physical & Electrical**

| | |
|---|---|
| Weight | <200g |
| Power | <0.9W |
| Power Supply | USB-A |