

Application Note: GPS Troubleshooting

Scope

ALL DEVICES

Overview

GPS tracking devices rely on a good quality, consistent GPS signal in order to deliver useful, accurate and continuous data as expected. This application note covers the symptoms and some potential causes of poor GPS reception, plus offers advice about how to resolve or avoid GPS issues.

Related Documents

The following documents are recommended reading to accompany this application note:

- AT240, AT200, AT210 & AT110 User Guides
- AT240, AT200, AT210 & AT110 Installation Guides

These documents can be obtained from:

<http://www.gps-telematics.co.uk/downloads.htm>

Symptoms of Poor GPS Reception

- Erratic, incorrect or inaccurate speed and location data
- Gaps in journey data (and no missing packets, based on MSN)
- False tow alerts

Potential Causes

INSTALLATION ISSUES

- **INCORRECT DEVICE ORIENTATION** – check ‘sky-side’ of device or antenna and ensure it is installed as per the installation guide. Note that some antennas are designed for installation on glass (e.g. AE003) and should be ‘sticky side up’ whereas other antennas are designed to be mounted under the dashboard (e.g. AE001, AE005) and should be mounted ‘sticky side down’.
- **POOR DEVICE LOCATION** – all devices (or antennas) should be installed in the best possible position for GPS reception. They may work well enough when placed in a glovebox or footwell, but the risk of GPS related issues will be much reduced if installed in a position with an optimum ‘view’ of the sky. Ensure that there are no metallic or conductive materials between the device/antenna and the vehicle windscreen. Try to avoid placing devices/antennas near to other RF equipment such as mobile phone hands-free equipment, satellite navigation equipment and PMR radios etc. It is also advisable to avoid placing devices/antennas near to loudspeakers to avoid interference breakthrough on the vehicle audio.

Secure the device properly, to ensure that it stays in the chosen position/location.

- **CONNECTOR / CABLE DAMAGE** – for devices with external GPS antenna (AT110, AT210), check the connectors for damage that may have occurred during installation or during other vehicle maintenance work. Check for excessive movement in the connectors by GENTLY pushing from side to side. Any movement indicates connector damage and the device will have to be returned to Astra Telematics for repair. Similarly, check the antenna cables for kinks, cuts or tight bends which can damage the cable and cause signal attenuation.

VEHICLE ISSUES

- **ATHERMIC / THERMAL GLASS WINDSCREENS** – vehicles with athermic glass often have a small area which can be used to place GPS antennas for better performance / sensitivity. Try to place the device or antenna in the appropriate location for best results.