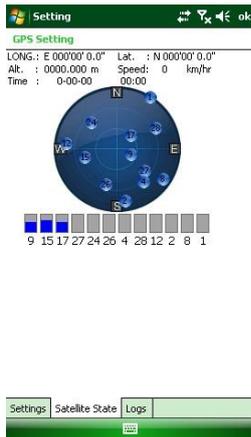


While the Global Positioning System (GPS) is incredibly reliable, it is not infallible and should not be relied upon entirely. The system relies on very weak signals from multiple satellites and just like any signals in the radio frequency spectrum they can be subject to disruption.

In general terms the factors which are most likely to cause disruption are:



1. Signal loss - the receiver relies on line of sight communication with multiple satellites. The more satellites a GPS receiver can "see" the greater the accuracy and reliability of the system.
2. General conditions of the Ionosphere and troposphere.
3. Shielding and reflections from obstructions including mountains and large rock surfaces.
4. Orbital errors (also known as ephemeris errors) - inaccuracies of the satellite's reported location.

With the above factors in mind, the nature, integrity and positioning of the GPS receiver and its associated antenna is extremely important. While the GPS engines built into small portable devices such as mobile phones, PNAs and indeed the **GliderGuider** are extremely convenient; they can never be as reliable as a good quality avionics instrument – with a properly installed external antenna.

Most GPS receivers, including that built into the **GliderGuider** provide GPS Position and GPS Altitude. GPS Position is generally extremely accurate and while GPS Altitude is equally accurate with respect to height above the ground the GPS system knows nothing of the pressure on the day and therefore should not be relied upon solely with regard to airspace.

Use of the **GliderGuider** standalone, using the internal GPS engine is certainly possible and brings considerable advantages in terms of spatial awareness. However, in view of all of the factors outlined above, we strongly recommend that due consideration be given to integrating the unit with an external instrument such as a Variometer, Flight Recorder or FLARM unit. For this reason we offer a purpose built Power & Data Interface cable which is available at a special discount rate – when purchased together with a **GliderGuider**.

For more on this subject please refer to the [SafetySense Leaflet No.25](#) published by the UK CAA.