GPS Location Integration into Google Maps

The GNSS enabled family of Siretta Industrial Modems provide GPS position information in the Decimal Minutes format which is presented as ddmm.mmmm for latitude and dddmm.mmmm for longitude. When integrating in to your application using Google Maps to display your position you must provide the information in the Decimal Degrees format which is presented as dd.dddd for latitude and dd.dddd for longitude.

The AT command AT$GPSACP will return the lat/long position information in the Decimal Minutes format:

GPSACP lat is in the format ddmm.mmmm
GPSACP lon is in the format dddmm.mmmm

Position Information Conversion

This position information can easily be converted into Google Maps compatible lat/long readings as shown below:

Strip the dd from the message i.e.

ddmm.mmmm

Which becomes

variable1 = dd
variable2 = mm.mmmm
variable3 = variable2 / 60

Rejoin values to make dd.dddd

dd.dddd = variable1.variable3

i.e. Latitude / Longitude for the Siretta office from NMEA GGA message to lat/lon!

Lat: ddmm.mmmm: 5123.1355 (N)
Lat: dd + mm.mmmm: 51 + 23.1355
Lat: dd + dd.dddd: 51 + (23.1355 / 60) 0.38559
Lat: dd.dddd: 51.38559

Lat: 51.38559 (As this is north it is positive, south is negative)

Long: dddmm.mmmm: 00058.4350 (W)
Long: ddd + mm.mmmm: 000 + 58.4350
Long: ddd + dd.dddd: 000 + (58.4350 / 60) 0.9739
Long: ddd.dddd: 000.9739

Long: -000.9739 (As this is west it is negative, east is positive)

Display on Maps API

Now to get this into Google maps:

Go to http://maps.google.com and type the following in to the search box: 51.38559, -000.9739

Then hit ‘Search Maps’ and you get the Siretta office!!

For direct access to Google Maps use the URL below:

http://maps.google.com/maps?q=51.38559+-000.9739

For direct access to Multimap use the following URL:
http://www.multimap.com/map/browse.cgi?lat=51.38559&lon=-000.9739&scale=5000