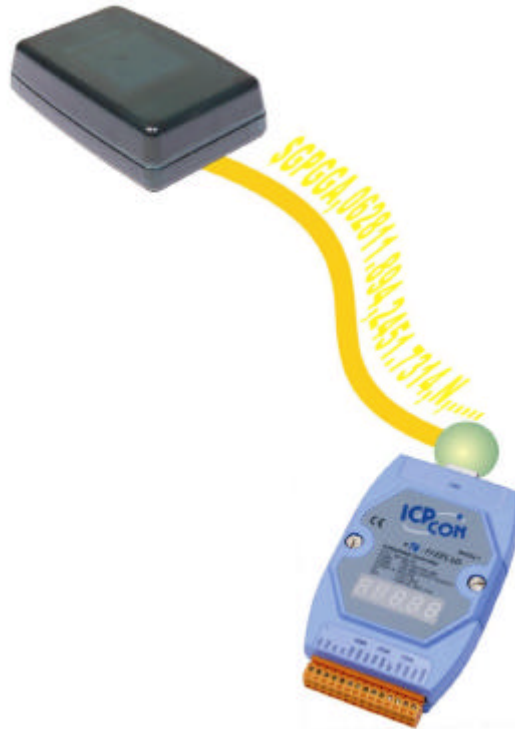# GPS functions for I-7188XA introduction

◆ void Get_NMEA(int ComPort, char *NMEAmsg, char *buf)

This function allows you to receive the NMEA 0183 sentence using the I-7188XA.

The argument ComPort is the Com port of the I-7188XA that connects to the GPS receiver, e.g. 1,2,3 or 4. The argument *NMEAmsg decides which kind of NMEA 0183 sentence you will receive; you should enter the sentence formatter e.g. "$GPGGA". The argument *buf is the NMEA 0183 sentence and is decided by the argument *NMEAmsg. If you input "$GPGGA", then you will receive the GGA sentence as follows:

$GPGGA,062816.894,2451.7314,N,12100.9174,E,1,03,07.9,-0016.2,M,16.2,M,,*78

You can handle the *buf depending upon your application. Refer to the GPSDEMO.C & GPS_GSM.C for the usage of this function.

◆ void Get_Field(int Field, char *pkg, char *buf)

This function allows you to obtain the specific GPS information, such as UTC, latitude etc from the NMEA 0183 sentence and use the *buf from the previous function, Get_NMEA

The sentence is comma delimited. For instance; the GGA sentence has 14 fields. The argument Field decides which data you'll receive from *pkg.

$GPGGA,<1>,<2>,<3>,<4>,<5>,<6>,<7>,<8>,<9>,<10>,<11>,<12>,<13>,<14>*hh.
<1> UTC, hhmmss format
<2> Latitude, ddmm.mmmm format (leading zeros will be transmitted)
<3> Latitude hemisphere, N or S
<4> Longitude, dddmm.mmmm format (leading zeros will be transmitted)
<5> Longitude hemisphere, E or W
<6> GPS quality indication 　　　0=Fix not available,　　　　　　　1=Non-differential GPS fix available, 　　　2=Differential GPS (DGPS) fix available,　6=Estimated
<7> Number of satellite in use, 00 to 12 (leading zeros will be transmitted)
<8> Horizontal of precision dilution, 0.5 to 99.9
<9> Antenna height above/below mean sea level, -9999.9 to 99999.9 meters
<10> Meters (antenna height unit)
<11> Geoidal height, -999.9 to 9999.9 meters
<12> Meters (Units of geoidal separation)
<13> Differential GPS (RTCM SC-104) data age, number of seconds since last valid RTCM transmission (null if non-DGPS)
<14> Differential reference station ID, 0000 to 1023 (leading zeros will be transmitted, null if non-DGPS)

Refer to GPSDEMO.C & GPS_GSM.C for the usage of this function.

◆ Before using the above functions, ensure that you have included the header file GSM.H in your program. You should also insert GSM.LIB in your *.PRJ file when you compile this program.