

ICDISTRIBUTION LIMITED PARTNERSHIP.
Tel: 662-8107029 fax: 662-8107478 <http://www.icdistribution.net>

NMEA messages

GGA – Global Positioning System Fix Data

Time, position and fix related data for a GPS receiver.

*\$GPGGA,hhmmss.dd,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,v,ss,d,d,h,h,M,g,g,M,a,a,xxxx*hh<CR><LF>*

GLL – Geographic Position – Latitude/Longitude

Latitude and Longitude, UTC time of fix and status.

*\$GPGLL,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,hhmmss.dd,S,M*hh<CR><LF>*

GSA – DOP and Active Satellites

GPS receiver operating mode, satellites used in the navigation solution reported by the GGA sentence, and DOP values.

*\$GPGSA,a,b,xx,xx,xx,xx,xx,xx,xx,xx,xx,xx,xx,xx,p,p,h,h,v,v*hh<CR><LF>*

GSV – Satellites in view

Number of satellites in view, satellite ID (PRN) numbers, elevation, azimuth, and SNR value.

The maximum information for each message is four satellites. Additional messages up to a maximum of eight is sent as needed. The satellites are in the PRN number order.

Only the SNR (signal to noise ratio) value is available until a position fix is attained. The elevation and azimuth angles are also added after a fix. Note that there CAN be “theoretical” satellites in the GSV message. These are the satellites with known angles (elevation, azimuth), but for some reason, e.g. due to an obstruction, have not been found by CT5530. The SNR value for these satellites are set to zero.

Please notice that as all viewable satellites are reported, the amount of satellites may occasionally be exceed the number of receiver tracking channels, 12.

*\$GPGSV,n,m,ss,xx,ee,aaa,cn,.....,xx,e ee,aaa,cn*hh<CR><LF>*

RMC – Recommended Minimum Specific GNSS Data

Time, date, position, course and speed data.

*\$GPRMC,hhmmss.dd,S,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,s,s,h,h,ddmmyy,d,d,<E|W>,M*hh<CR><LF>*

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VTG – Course Over Ground and Ground Speed

Course and speed

*\$GPVTG,h.h,T,m.m,M,s.s,N,s.s,K,M*hh<CR><LF>*

ZDA – Time and Date

Outputs the current UTC time and date. Unlike other messages, the time outputted by this message is bound to CT5530's internal realtime clock (RTC) and thus it is updated even when navigation fix is unavailable. The RTC time is maintained also while the module is in sleep mode.

*\$GPZDA,hhmmss.dd,ddmmyyyy,xx,yy*hh*

PFST,FOM – Position figure of merit

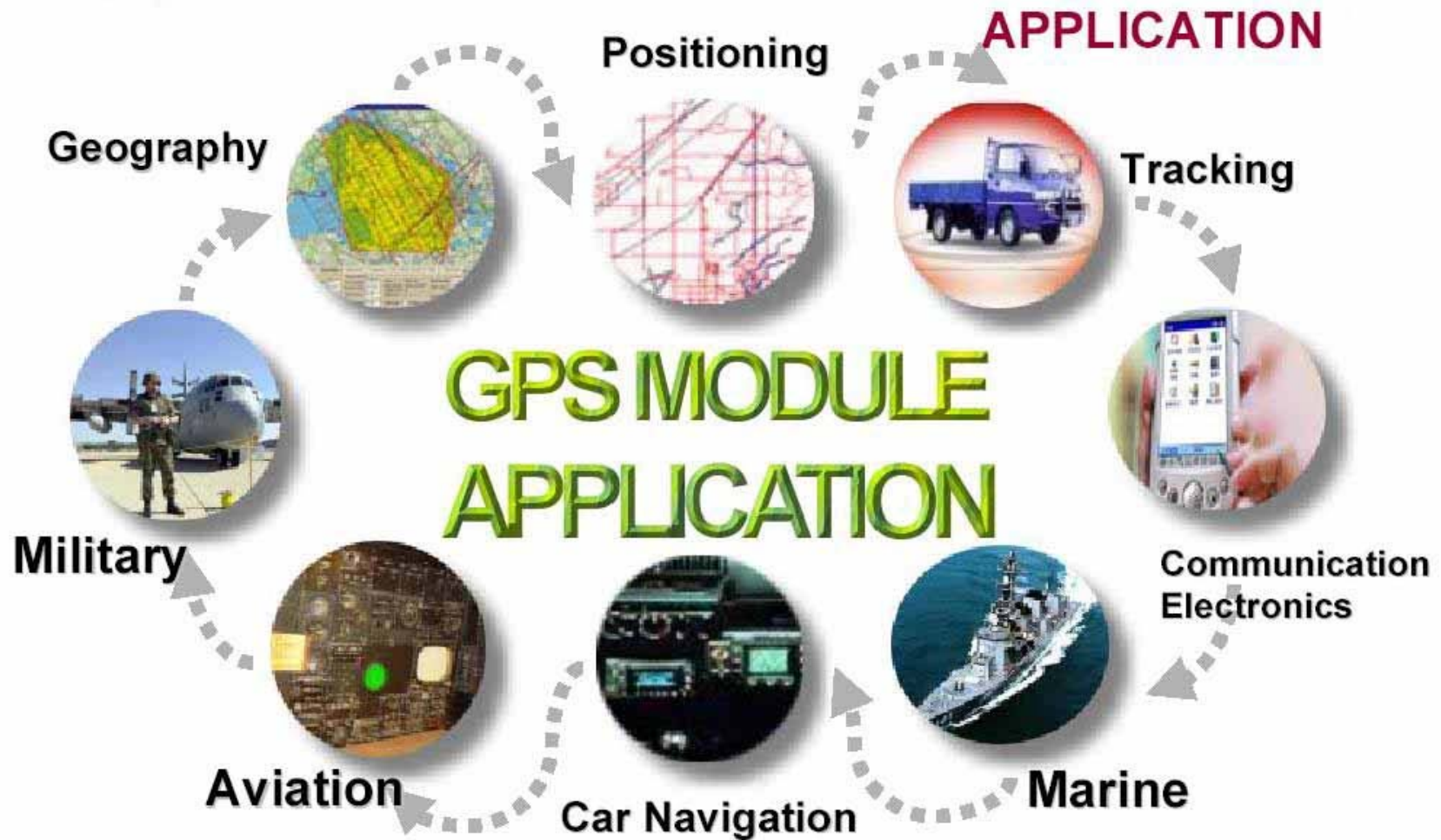
Figure of merit (FOM) value for the position fix. Indicates the accuracy of the position in meters. The FOM value cannot be calculated before at least one fix has been made with more than four observations (five satellites, or four satellites and an altitude aid); before that a value of “-1” is reported, indicating that FOM is not available yet. After this the FOM value is always available. The only exception being the altitude aiding modes, when a fix has been calculated using three satellites.

*\$PFST,FOM,n*hh<CR><LF>*

PFST,PPS – PPS signal

The pulse per second message. Indicates the parameters of the PPS pulse that will shortly be outputted. Outputs the current GPS time and timing correction term for the coming PPS pulse.

*\$PFST,PPS,wwww,ttttt,n,xxxx*hh <CR><LF>*



Recommendations Only

Positioning

- **GGA – Global Positioning System Fix Data**
- **RMC – Recommended Minimum Specific GNSS Data**
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Tracking

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Communication electronics

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Marine

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Car navigation

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Aviation

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Military

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Geography

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