

**What are the NMEA Messages?
What are they good for?
Which ones can I turn ON and OFF**

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Synopsis:

The MobileMapper CE Network Generation software has a nifty new feature that allows you to turn on and off NMEA sentences and to change the frequency that they are delivered to an application. In reality, most of the information in the sentences is repeated in most of the other sentences. And some of the information is really not needed every second.

It is possible to greatly reduce the number of characters, amount of data that an application must sift through with no apparent change in accuracy, responsiveness or function.

NMEA Sentence	Mark's Recommendation	Description and Notes
GGA	1 sec	Provides 3D location and accuracy data: Time, Lat, Lon, Quality (fix, DGPS, RTK, Float...), number of SVs, HDOP, Altitude, geoid difference (important for ArcPAD). Needed if you want elevation, I would leave ON with 1 second interval.
GLL	OFF	Geographic Lat/Lon. No elevation, lat/lon repeated from GGA so I would turn off.
GSA	20 second	GPS DOP and active satellites. Includes list of USED SVs, PDOP, HDOP, VDOP and fix status (none, 2D or 3D).
GSV	20 seconds	Satellites in View shows data about the satellites that the unit might be able to find based on its viewing mask and almanac data. It also shows current ability to track this data. One GSV sentence only provides data for 4 satellites so there may be 3 sentences for the full information. It is reasonable for the GSV sentence to contain more satellites than GGA might indicate since GSV may include satellites that are not used as part of the solution. Typically GSV + GSA will generate an accurate sky plot as GSV lists SVs that are NOT part of a solution. I think that GSA and GSV set to 30 seconds is plenty fast as the SV's don't move very quickly through the sky.
RMC	OFF or 1 min	It includes the time, date and Magnetic Declination.
RRE	OFF	Residual error for solution. A rough goodness of fit for solution. I thought that this message only applied to RTK solutions, however it may have some meaning for DGPS/WAAS.
VTG	OFF	Includes course (current travel direction), course direction, Magnetic North declination, speed over ground
ZDA	OFF	UTC Date and Time with local time zone offset in hours and minutes.

Your results may differ.