GGA - Global Positioning System Fix Data

This is one of the sentences commonly emitted by GPS units.

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

```
                                                  11
        1          2       3 4        5 6 7  8   9  10 |  12 13  14   15
        |          |       | |        | | |  |   |   | |   | |   |    |
  $--GGA,hhmmss.ss,ddmm.mm,a,ddmm.mm,a,x,xx,x.x,x.x,M,x.x,M,x.x,xxxx*hh<CR><LF>
```

Field Number:

1. UTC of this position report, hh is hours, mm is minutes, ss.ss is seconds.
2. Latitude, dd is degrees, mm.mm is minutes
3. N or S (North or South)
4. Longitude, dd is degrees, mm.mm is minutes
5. E or W (East or West)
6. GPS Quality Indicator (non null)
   - 0 - fix not available,
   - 1 - GPS fix,
   - 2 - Differential GPS fix (values above 2 are 2.3 features)
   - 3 = PPS fix
   - 4 = Real Time Kinematic
   - 5 = Float RTK
   - 6 = estimated (dead reckoning)
   - 7 = Manual input mode
   - 8 = Simulation mode
7. Number of satellites in use, 00 - 12
8. Horizontal Dilution of precision (meters)
9. Antenna Altitude above/below mean-sea-level (geoid) (in meters)
10. Units of antenna altitude, meters
11. Geoidal separation, the difference between the WGS-84 earth ellipsoid and mean-sea-level (geoid), "-" means mean-sea-level below ellipsoid
12. Units of geoidal separation, meters
13. Age of differential GPS data, time in seconds since last SC104 type 1 or 9 update, null field when DGPS is not used
14. Differential reference station ID, 0000-1023
15. Checksum

The number of digits past the decimal point for Time, Latitude and Longitude is model dependent.

Example:

$GNGGA,001043.00,4404.14036,N,12118.85961,W,1,12,0.98,1113.0,M,-21.3,M*47