

GPS Report Version 5 Format

This describes the version 5 format for the GPS reports. The 9601-DGS version 3.0.0 modems with line level may be set to use this by setting the remote message format to 3. For example “AT^RMF=3”. This new format has the HDOP and the VDOP. Like the version 3 format this takes 30 bytes which is the most bytes in SBD without additional charges. All of the values are stored as unsigned numbers.

Changes from version 4:

- Number was changed to be input bits and the alt_gv_course was changed to also include the output pins.

header (1 byte)

This is the number 5.

Input bits (1 byte)

Holds the current value for all of the input pins going into the modem. 0 is the emergency report level and 1 is the test level.

lng_lat_hdop_value (8 bytes)

dLLMMFFFlmmffHHHH

where:

d = latitude direction (0 North, 1 South)

l = latitude degrees

m = latitude minutes

f = latitude fraction minutes

L = longitude degrees with direction (<200 East, >200 West)

M = longitude minutes

F = longitude fraction minutes

H = horizontal dilution of precision which is set to always have 4 digits with the last 2 being decimal values.

pvv_date_time (8 bytes)

sMMDDYYYYHHmmSSTVVVV

where:

s = vertical velocity sign (1 positive, 0 negative)

M = month of year

D = day of month

Y = year

H = hour

m = minute of hour

S = second

T = tenths of seconds (hundredths of second is always a 0 because of time alignment)

VVVV = Last 4 digits in vertical velocity

alt_gv_course (8 bytes)

sCCCCCaAAAAAgGGGGGOO

where:

s = altitude sign (1 positive, 0 negative)

C = course in degrees with always 2 digits behind the decimal

a = altitude decimal place

A = altitude value

g = ground velocity decimal place

G = ground velocity value

O = 6 output pins. This number can range from 00 to 63 and each bit represents one pin value.

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vvd_vdop (2 bytes)

DVVVV

- First digit is the decimal place in the vertical velocity
- Next 4 digits are the VDOP value which is set to always have 4 digits with the last 2 being decimal values.

sat_used_vv1 (1 byte)

SSV

- First 2 digits number of GPS satellites used
- Last digit is the first digit in vertical velocity

Indicators (1 byte)

bit	Value
0	2D-Fix
1	Dead Reckoning
2	Valid Position Fix
3	ID Included
4	Emergency Alert
5	Motion sensor triggered report, 1 if triggered by motion sensor.
6	Unused
7	Unused

Note: Unused values may be changed. Applications should be written to take any binary values for these fields