
[What's New](#) | [Products](#) | [Support](#) | [Site Map](#) | [How to Buy](#)

[Shop](#) | [Contact Us](#)

**Support**

[Home](#) > [Support](#) > [FAQs](#) > How is the checksum calculated in NMEA 0183?

[FAQs](#)

[Software Updates](#)

[Manuals](#)

[Product Registration](#)

[GPS Interface Specs](#)

[Warranty](#)

[Out-of-Warranty](#)

Q. How is the checksum calculated in NMEA 0183?

A. The checksum is the 8-bit exclusive OR (no start or stop bits) of all characters in the sentence, including the "," delimiters, between -- but not including -- the "\$" and "*" delimiters.

The hexadecimal value of the most significant and least significant 4 bits of the result are converted to two ASCII characters (0-9, A-F) for transmission. The most significant character is transmitted first.

[TOP](#)

Copyright 1996-2003 Garmin Ltd. or its subsidiaries
[Privacy Statement/Terms of Use](#)