



National Marine Electronics Association

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July 17, 2012

NEW VERSION OF NMEA 0183 RELEASED

*Latest changes to electronics interfacing standard
create major improvements in boating safety*

SEVERNA PARK, MD—The National Marine Electronics Association (NMEA) has released a significantly updated version of NMEA 0183, its well-known standard that enables the interfacing of marine electronics. Version 4.10 will improve boating safety and navigation through updates and expansions of various electronic communications “sentences” pertaining to a number of navigation and communications devices, including Galileo satellite receivers and Automatic Identification Systems (AIS).

NMEA 0183 defines electrical requirements, data transmission protocol and timing, and specific sentence formats for a 4800-baud serial data bus. Version 4.10 impacts shipboard, non-shipboard and land-based equipment as well as networks for maritime and other industry use. The standard has been expanded to include the new Galileo Global Navigation Satellite System (GNSS). Many of the existing GNSS sentences have been extended to accommodate Galileo and future GNSS improvements.

Version 4.10 replaces V 4.00, created in 2008. The new version is backward-compatible to V 2.00.

Continued advancements in AIS technology from the ITU (International Telecommunication Union) have resulted in enhancements to a number of AIS sentences as well as the development of new ones. NMEA has worked closely with the IEC (International Electrotechnical Commission) Technical Committee 80 Working Group 15 (AIS) to include the latest AIS updates in Version 4.10.

The NMEA, in cooperation with the U.S. Coast Guard and RTCM (Radio Technical Commission for Maritime Services), has established in Version 4.10 standardized wire coding labels for NMEA signal wiring to differentiate between the NMEA 0183 “talker” and “listener” connections. In addition, a new wiring diagram illustrates device connection options.

“For over 30 years, the NMEA has developed and maintained standards that are essential to the marine electronics industry all around the world,” said Bruce Angus, NMEA interim executive director. “Technology and usage of electronics change quickly, and the NMEA staff, in conjunction with a group of dependable industry professionals, ensure that the standards updates keep pace to meet the needs, performance, and safety requirements of millions of boaters and commercial mariners.”

Specifically, updates to the GNSS sentences include:

- GBS, GNSS Satellite Fault Detection
- GGA, Global Positioning System Fix Data
- GMP, GNSS Map Projection Fix Data
- GNS, GNSS Fix Data
- GRS, GNSS Range Residuals
- GSA, GNSS DOP and Active Satellites
- GST, GNSS Pseudorange Error Statistics
- RMC, Recommended Minimum Specific GNSS Data

AIS sentence updates:

- ABK, AIS Addressed and Binary Broadcast Acknowledgment
- ABM AIS Addressed Binary and Safety Related Message
- ACA, AIS Regional Channel Assignment Message
- AIR, AIS Interrogation Request
- BBM, AIS Broadcast Binary Message
- MEB, Message Input for Broadcast, Command

New sentences:

- GFA, GNSS Fix Accuracy and Integrity
- HBT Heart beat

NMEA 0183 Version 4.10 can be downloaded from www.nmea.org.

Founded in 1957, the NMEA has led the way in establishing technical standards for data exchange in marine electronics, with the widely accepted NMEA 0183 data protocol, NMEA 2000® and certification standards for marine electronics technicians. NMEA standards and programs focus on ensuring that the boating consumer is provided with reliable products and professional service. For more information, visit the NMEA website at www.NMEA.org or call 410-975-9425.