NMEA 2000®

MAKE SURE PRODUCTS YOU BUY ARE NMEA 2000 CERTIFIED

The National Marine Electronic Association's NMEA 2000 is a very robust and solid industry standard that allows boaters to use products from many different manufacturers on the same network. NMEA 2000 is not a proprietary standard that was created by one manufacturer. Marine electronic and electrical manufacturers, including computer companies, universities and the US Coast Guard Research and Development Center collaborated on the NMEA 2000 Standards Committee to create an "Open" network environment for the entire marine industry to use.

The foundation for NMEA 2000 is Controller Area Network (CAN). CAN was invented by the auto industry and today is the ubiquitous communication protocol in your automobiles. The CAN advantage is the built-in system for priority of messages, thereby guarantying the most critical message on the network will always get through to its destination. The NMEA 2000 Standards Committee comprised of global manufacturers continues its work as new technologies emerge. Many companies around the world are developing products to the NMEA 2000 Standard, which is built on a proven and reliable communication system. NMEA 2000 can exchange data between multiple manufacturers' equipment simultaneously.

NMEA 2000 Certified Products

For the first time in the marine electronics industry, the National Marine Electronics Association is testing and certifying products for the NMEA 2000 network. In order for different manufacturers to build products for the "Open' NMEA 2000 network, the marine electronics industry created a common set of behavior characteristics for each product. They are actually software messages that provide a mechanism of commonality among equipments. The characteristics provide the foundation that allows products to communicate with each other and make sure everything interoperates and communicates on the network.

For products to operate properly on the NMEA 2000 network, they must be "NMEA 2000 Certified." There is no middle ground. Some manufacturers market their products as "NMEA 2000 compatible" or "NMEA 2000 compliant" or that they "work with NMEA 2000." These **are not** certified products. They have not been tested and probably won't work on a NMEA 2000 network; they may even disrupt the network.

Only "NMEA 2000 certified" products meet the rigorous and mandatory software requirements. The certification process tests equipment to ensure the products meet the conditions established in the NMEA 2000 Standard. NMEA 2000 defines the message formats for transmitting electronic information amongst products. NMEA 2000 also defines certain messages that all products must implement and use correctly. These required messages are what make it possible to add devices to the backbone and use them with little or no configuration required. Only those manufacturers that have passed the NMEA certification tests can use the NMEA 2000 logo and market their products as

NMEA 2000 Certified. Check the NMEA website on a regular basis for updates on NMEA 2000 Certified Products.

http://www.nmea.org/content/nmea_standards/certified_produ.asp

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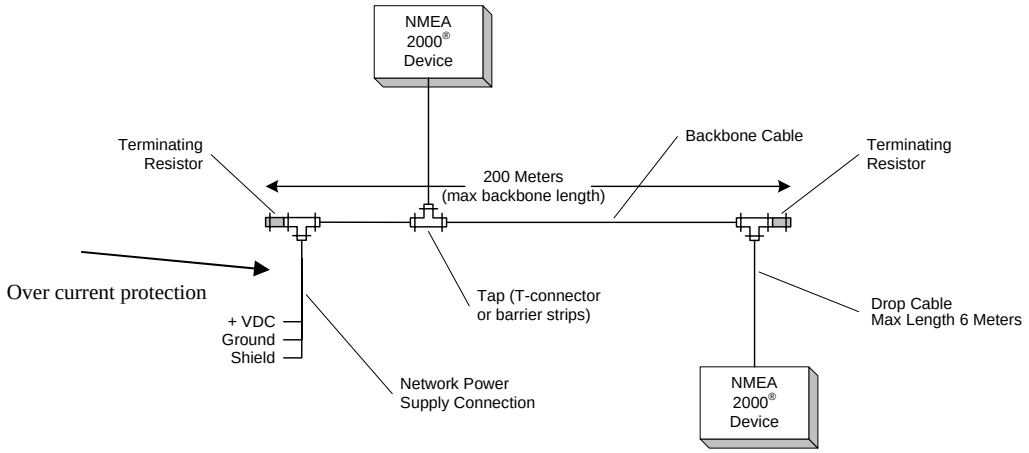
NMEA 2000 Backbone

NMEA 2000 is a communication system that uses a common “backbone” to provide communication between two and 50 attached devices. With a proper choice of cables, the backbone can be as long as 200 meters while maintaining a data rate that is over 50 times as fast as NMEA 0183, an earlier and different communication standard developed by the association.

NMEA 2000 cables and connectors are standardized. To be an NMEA 2000 network, the cables and connectors must be “Approved” by NMEA. Beware of “knock offs” of the NMEA 2000 cable and connector system, because they may not be able to provide the data rate, amperage and voltage needed. In addition, the connectors may not hold up to the waterproof, pull strength and vibration requirements of the standard.

The goal of the standardized system is to provide an extremely robust and proven cable and connector system that carries power and data in the same cable construction. This simplifies installation for adding or subtracting a device from the network. It also allows for a substantial reduction in the number of wires on a boat, and for easy installation of future products. As with electronic devices, there is no middle ground—either cables or connectors are “Approved” or they’re not. You can check the NMEA website for approved cables and connectors.
http://www.nmea.org/content/nmea_standards/certified_produ.asp



Simplistic NMEA 2000 Network

NMEA 2000 Installation

Since this is “networking,” NMEA recommends using a dealer who has been trained by NMEA and is familiar with installing NMEA 2000 networks. NMEA has trained a number of dealers around the country and continues to offer courses for dealers.

Check the NMEA website for an updated list of NMEA 2000 trained dealers.
http://www.nmea.org/content/nmea_standards/certified_produ.asp

The National Marine Electronics Association is a non-profit membership organization promoting operational and boating safety by creating and maintaining industry standards and providing technical education for dealers. NMEA serves the public interest with more than 500 members worldwide, including manufacturers, private and government organizations, dealers, equipment operators, and other concerned organizations.