White paper

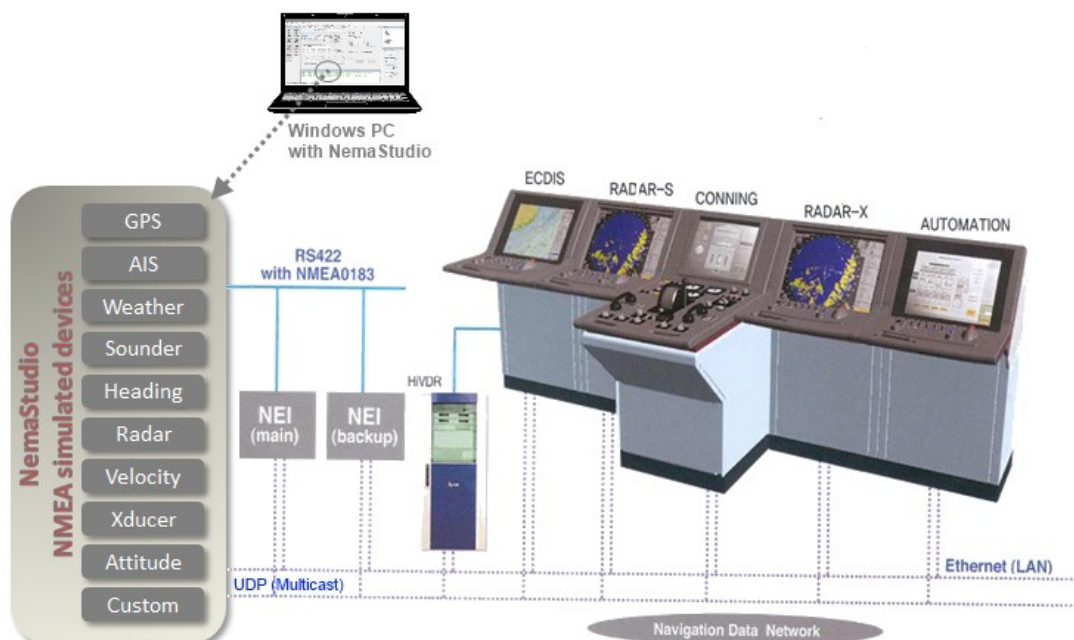# NemaStudio from Sailsoft

Introduction:

NMEA 0183 is a widely used standard in the marine industry enabling electronic communication between different navigation and communication systems onboard a vessel in a standardized way. It is an essential technology that facilitates communication between various sensors, navigation equipment, and other devices that are used in the marine industry. However, setting up and testing NMEA 0183 connections can be a challenging task for marine professionals. The NMEA 0183 simulator from Sailsoft Netherlands is a valuable tool that can help simplify this process and provide a range of benefits to users.

Examples of test and simulation configurations with NemaStudio

A few advantages of using the NMEA 0183 Simulator (named NemaStudio)from Sailsoft:

Simplifies Testing: The NMEA 0183 simulator from Sailsoft Netherlands provides a user-friendly interface that enables marine professionals to test and verify NMEA 0183 connections easily. The simulator enables users to dynamically simulate different types of data streams, such as GPS, AIS, and wind information, which can help in testing different equipment configurations and settings. The simulator can also generate different types of error messages to help users identify and troubleshoot issues quickly.

Cost-Effective: The NMEA 0183 simulator from Sailsoft Netherlands is a cost-effective alternative to physical NMEA 0183 equipment. The simulator can be used to test and verify NMEA 0183 connections without the need for expensive equipment, such as GPS receivers, AIS transceivers, and other devices. This can help marine professionals save money on equipment costs, especially when testing different equipment configurations, software and settings.

Time-Saving: The NMEA 0183 simulator from Sailsoft Netherlands can help marine professionals save time when testing and verifying NMEA 0183 connections. The simulator provides a range of tools and features that can help users simulate different data streams, identify errors, and troubleshoot issues quickly. This can help reduce the time required to set up and test NMEA 0183 connections, which can be particularly beneficial when working with tight schedules or deadlines.

Versatile: The NMEA 0183 simulator from Sailsoft Netherlands is a versatile tool that can be used for a range of applications. The simulator can simulate different types of data streams, such as GPS, AIS, and weather information, which can be useful for testing different equipment configurations and settings. The simulator can also be used to generate different types of error messages to help users identify and troubleshoot issues quickly.

Conclusion:

The NMEA 0183 simulator from Sailsoft Netherlands is a valuable tool that can help marine professionals simplify the process of testing and verifying NMEA 0183 connections. The simulator provides a range of benefits, including simplifying testing, cost-effectiveness, time-saving, and versatility. By using the NMEA 0183 simulator, marine professionals can ensure that their equipment is working correctly and avoid costly errors and downtime.

Simulated NMEA 0183 sentences by device/sensor:

simulated device/sensor	NMEA0183 sentences output
GPS	$GPGLL,$GPRMC,$GPVTG,$GPZDA, $GPGGA,$GPGSA,$GPGSV,$GPXTE, $GPRMB,$GPDTM
Weather sentences(Wind drection, Wind speed,Water temperature	$WIMWD,$WIMWV,$WIVWR,$WIVWT, $IIMWD,$IIMWV,$IIVWR,$IIVWT, $WIMTW, $IIMTW
Depth sounder	$SDDBT,$SDDPT,$SDDBK,$SDDBS, $IIDBT,$IIDPT,$IIDBK,$IIDBS
Velocity (speed)	$VWVHW,$VWVLW,$VDVBW, $IIVHW,$IIVLW,$IIVBW
Heading	$HCHDG,$HEHDT, $HEHDM, $TIROT, $IIHDG,$IIHDT, $IIHDM, $IIROT
Radar(ARPA)	$RATLL, $RATTM,$IITLL, $IITTM
Transducer	$IIXDR, $WIXDR
Attitude (optional)	Proprietary Ashtec and Furuno
Custom sentences(owner defined)	Yes
Optional Checksum	Yes
Transmit interval timer control	0.0-59.9 seconds
Separate position update timer control	Yes (for GPS and AIS) 0.0-59.9 seconds
I/O monitor trace screen	Separate panel, can be docked, floating or hidden, can be frozen
Position accuracy in output	2-5 decimal digits user adjustable
DGPS flag option	Yes
Course and speed adjustable with	Yes

keyboard arrow keys	
"Satellites in view" selectable	Yes
"Satellites used" selectable	GPS 1-32, WAAS 33-64
Speed unit	Knots, KM/hr
Speed range	0-1000 Knots or KM/hr
Range settings adjustable for controls	Yes
Optional logging	Yes
Automatic mode	Yes
Navigate mode	Yes
UDP/IP support	Yes
Serial ports	Unlimited, auto availability detect
Multiplex output of multiple instruments over same port	Yes
Send output from multiple instruments to different ports simultaneously	Yes
User Interface	Flexible panels, can be docked, hidden or float, tabbed instrument and target forms
AIS Class A sentences	Message 1, Message 5 (!AIVDM, !AIVDO)
AIS Class B sentences	Message 14, Message 18, Message 19, Message 24 (!AIVDM, !AIVDO)
AIS Base station sentences	Message 4 (!AIVDM)
AIS SAR Aircraft sentences	Message 9 (!AIVDM, !AIVDO)
AIS Aid to Nav sentences	Message 21 (!AIVDM)
Text file editing support	Yes

Trial limits	500 sentences per run
Unlimited trial period	Yes
Playback logged scenario	Yes
Start/Stop/Close all buttons	Yes

For more Information: https://www.sailsoft.nl