NMEA 2000 /NMEA 0183 Simulator
Users' Guide

Connecting the Hardware

Connect the USB cable to the hardware. The simulator is USB powered and it's NMEA2000 and NMEA0183 are is galavanicaly isolated from your computer. Connect the other end of the USB cable to computer running Windows™ OS. Windows™ 7 or higher is recomended. Windows™ 10 will find and install automaticlay the drivers to emulate serial port on your computer.

Go to Device Manager and note the new ComPort number that was just installed. If you have multiple ComPorts listed in the device manager, unplug and plug back the simulator and note the number of the serial port that just dissapeared and appeared again.
Connect the NMEA2000 M12 Connector to properly setup and powered NMEA2000 Network.

For information about how to setup simple NMEA2000 network look at this video:
https://www.youtube.com/watch?v=U4jAxINtF5w

Pin #	Pin Designator	Pin Type	Function
1	SHIELD	Power	NMEA 2000 Shield Connection
2	NET-S	Power	NMEA 2000 Power Supply Positive
3	NET-C	Power	NMEA 2000 Ground
4	NET-H	Comms	NMEA 2000 CAN High Signal
5	NET-L	Comms	NMEA 2000 CAN Low Signal

Table 1: NMEA 2000 M12 Connector

If you need to simulate NMEA0183, then connect the NMEA0183 port to your device as fillows:
Rx+ and Rx- of the simulator respectively to Tx+ and Tx- of your device,

Tx+ and Tx- of the sumulator respectively to Rx+ and Rx- of your device.
If you would like to simulate only NMEA2000 or only NMEA0183, you can connect just the connector of the apropriate network type.

Configuring the Software

Download thee sotware [here](). Unzip and launch the simulator software. Select Tools -> Options, then under the NMEA2000 or NMEA0183 tab, select the ComPort number that was noted to apear in the device manager. Select the appropriate boud rate. The same ComPort can be simultaniously selected for NMEA2000 or NMEA0183 simulation in the respective tabs, or you can choose to simulate just NMEA2000 or just NMEA
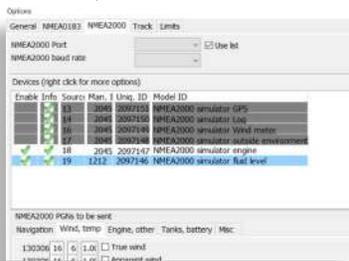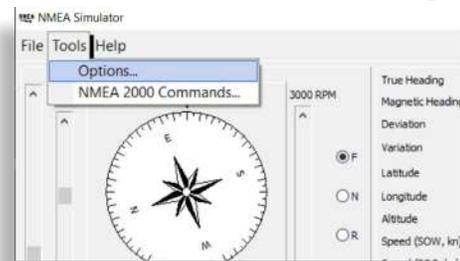
0183 data.

Use right click to enable or disable different simulated devices, or add and configure custom devices.
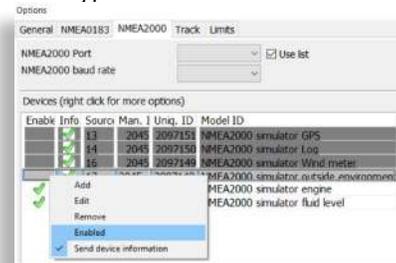
NMEA Simulator can also simulate your own NMEA2000 devices. You can define new custom device for NMEA Simulator in the dialog box shown above to match your real device. To enable address claiming, check "Address claiming" under device definition. If you do not enable "Address claiming" be carefull to define device source address to be different than the address pn any other device on your bus. Otherwise there could be a conflicting addresses, leading to failure of your NMEA2000 network to comunicate.

Follow a track

NMEA Simulator can follow a track you have recorded with your navigation software. Currently there is only support for OpenCPN .gpx track or route, Nobeltec VNS and Admiral track formats. Send us a sample of your track format, if you would like it added to the future versions of the simulator software.

You can run multiple NMEA Simulator instances with different options by starting the simulator software with command line option:

> NMEA_Simulator -options ‹path_to_options_file/optionsfile.ini›

Command line options

> *-options ‹path_to_options_file/optionsfile.ini›*

Start simulator by saving all settings to "some_name .ini" file. If the file does not exist, it will be created and current default options will be copied to it.

You can use definition %PROGDIR% to point NMEA_Simulator.exe location. e.g.

> *-options %PROGDIR%\some_name.ini*

Starts the simulator with by applying the configuration in "some_name.ini"

> *-RunStartDelay ‹run_delay_in_ms›*

Set NMEA Simulator to "run mode" after a given delay. Minimum delay is 100 ms.