



Article Number - 00035-2012

Date - 11th May 2012

Article applies to – All Digital Yacht AIS Products with USB connection

ISSUE: Using OpenCPN Navigation Software with Digital Yacht AIS Units

OpenCPN, the popular Open Source Navigation Software package, has a very good AIS implementation and all of Digital Yacht’s AIS products that feature a USB interface can be used with it; both our range of receivers and transponders. It is also possible to connect AIS units that only have an NMEA0183 output to OpenCPN, by using Digital Yacht’s NMEA to USB interface ([P/No ZDIGUSBNMEA](#)) and this Tech Note is applicable to this type of installation as well.

OpenCPN is available for Windows PC, Macs and LINUX PCs – for more information click [here](#).

USB Drivers

All USB devices require a suitable driver to be installed on the computer that they are connected to. The driver tells the computer what the device is capable of doing and how to talk to it. All of Digital Yacht’s products that have a USB interface are supplied with the “Digital Yacht Software and Driver CD-Rom” and on this CD are all the drivers for the popular operating systems.

Also on the CD and the Support section of our website (<http://www.digitalyacht.co.uk>), is a complete set of Tech Notes and Manuals that explain how to install the drivers, which is not covered by this Tech Note.

The table below shows which operating systems need drivers to be installed from the CD, which can automatically download them from the internet (if an internet connection is present) and which ones already have the relevant driver pre-installed.

Products	Win XP	Win Vista/7	Mac OSX	LINUX
AIS Receivers				
AIT250 + AIT1000 Transponders				
AIT2000 Transponder				
USB to NMEA Adaptor				

Key to Icons: CD Install Download from Internet Pre-Installed

If you have Windows Vista or Windows 7, it is always worth trying to connect a USB device when you have an internet connection as the driver install is automatic and takes just a minute or so to complete.

If you are doing a Windows Vista or Windows 7 install on the boat with no internet connection, make sure you have the Digital Yacht CD-Rom with you and install from the CD.

Installation on LINUX and also with the new AIT2000 on Macs, is really easy as the driver is already pre-installed in the Operating System's kernel. Just plug it in and within seconds it works.

OpenCPN Setup

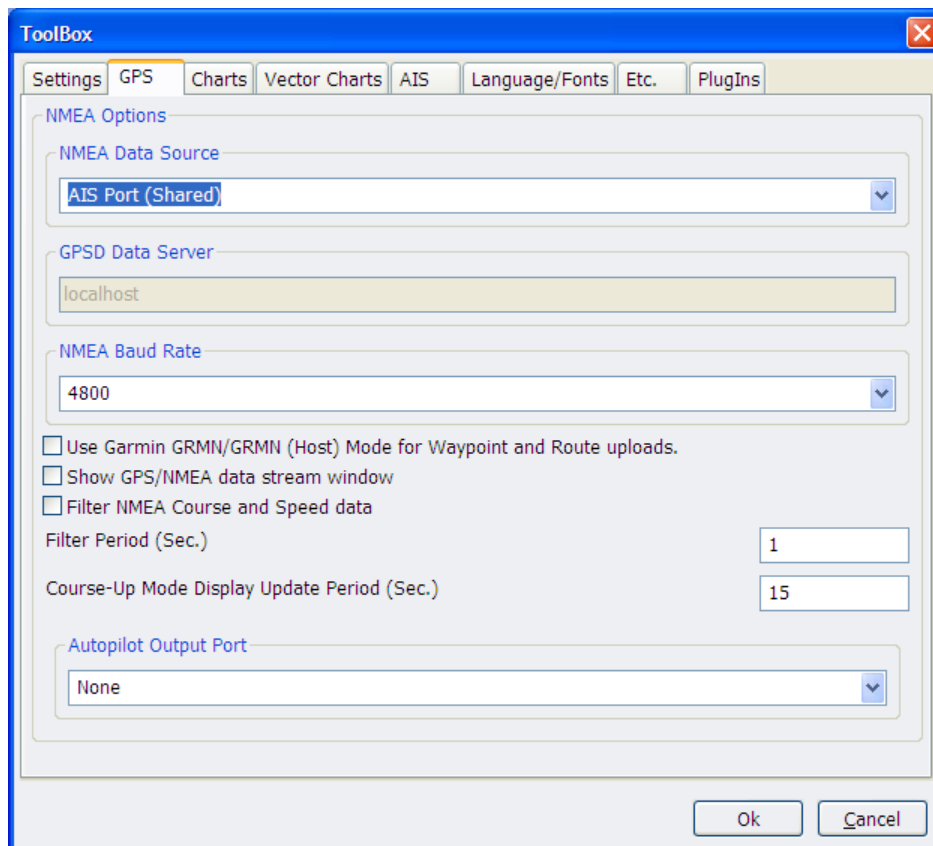
The setup of OpenCPN is pretty much identical for Windows, Mac and LINUX installs and the following process is applicable for all three Operating System. Any differences are clearly highlighted.

This process assumes that you have;

- 1) Installed OpenCPN
- 2) Already installed the USB drivers for the Digital Yacht AIS or USB to NMEA adaptor
- 3) That the AIS is powered up and receiving targets
- 4) If the AIS is a transponder that you have configured it to output GPS data and it is currently receiving a GPS position fix

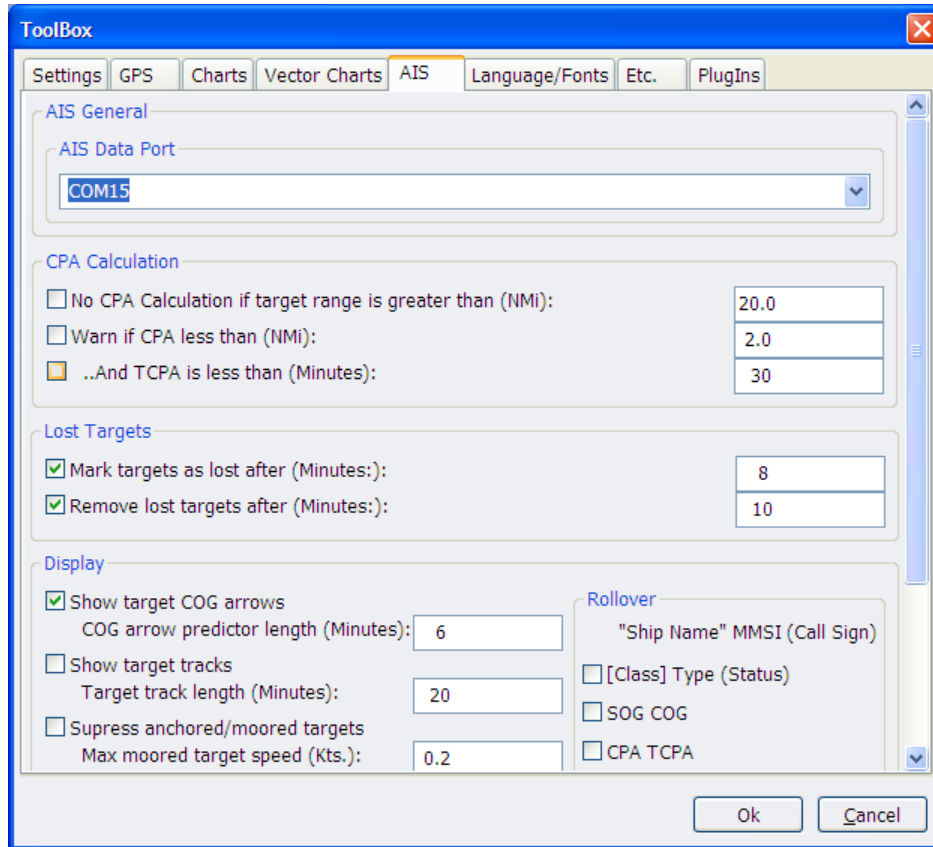
Run the OpenCPN program and click on the "Spanner" settings icon.

If you are using an AIS transponder and want OpenCPN to use the GPS from the transponder as its main GPS source, then select the GPS tab and set **NMEA Data Source** to "AIS Port (Shared)" as shown below.

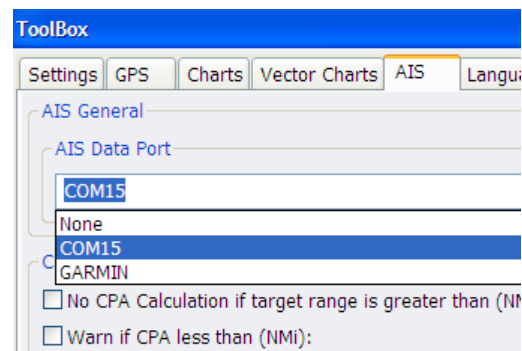


If you just have an AIS receiver and want to use an existing separate GPS connection then don't change the NMEA Data Source setting and keep the existing settings that you had before, assuming that the GPS position was already working correctly.

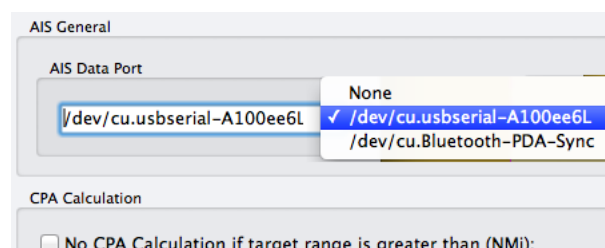
Now select the AIS tab and you will see the window shown below. Select the port that your AIS or USB to NMEA adaptor is connected. This varies slightly between the different operating systems.



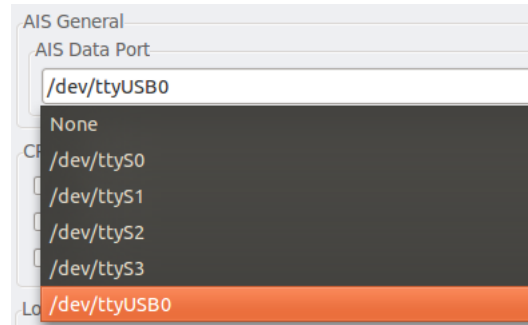
For Windows the drop down selection list will list COM ports and in this example we have selected COM15. To find out what COM port your AIS has been allocated by Windows you may have to run the Device Manager application and look in the "Ports (COM&LPT)" section. Refer to [Tech Note 00001-2010](#) for more info on this.



For Macs the drop down selection list will look like this and you are looking for a device with "usbserial" in its name. For more info on installing drivers on Macs please refer to [Tech Note 00013-2010](#)

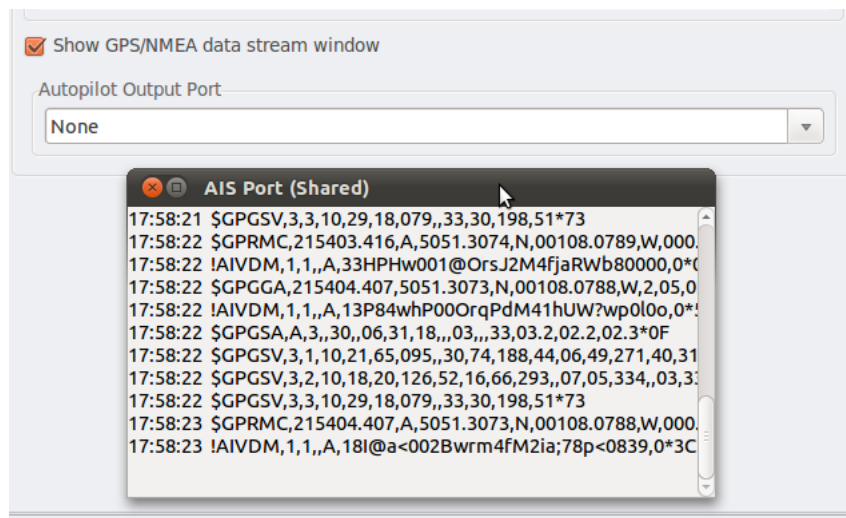


For LINUX the drop down selection list will look like this and you want to select the “/dev/ttyUSB0” device or similarly named device, not the “/dev/ttysX” devices which are conventional serial ports.



Once you have selected the correct port for your AIS, simply click the OK button to save your settings and you should start to see your boat’s position and all of the AIS targets on the chart.

If you want to view the raw NMEA 0183 data being received, tick the “Show GPS/NMEA data stream window” option on the GPS tab and you will see a screen similar to the one below.



The “\$GPxxx,xxx,.....*nn” type messages are from the GPS and the !AIVDM,xxxx.....*nn” type messages are from the AIS.

You should now have GPS and AIS data coming in to OpenCPN and installation is complete.