TECHNICAL NOTES

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Article applies to - iNavConnect

ISSUE: Using iNavConnect, Raymarine Networks and Navionics App

Navionics Mobile Marine and Lakes is a powerful application for many popular Smart phones and wireless devices. It turns the mobile device into a full-featured portable chartplotter with instant access to the latest navigational charts from Navionics. PlotterSync is an enhanced capability allowing the wireless exchange of waypoints and routes between select Raymarine multifunction display systems and your Smartphone device.

To facilitate a simple and easy installation on-board a vessel, Digital Yacht have developed iNavConnect which is a dedicated wireless router, pre-configured and optimised to work on the Raymarine SeaTalk^{hs} network. Running directly from the boat's 12v or 24v DC supply, mounted in a rugged IP54 rated enclosure and designed to work "straight out of the box" with no additional configuration, iNavConnect provides an elegant solution for enabling wireless Waypoint and Route transfer between the Navionics App and the Raymarine network.

The following Raymarine products are compatible with PlotterSync and iNavConnect;

- o C-Series Widescreen (C90W,C120W, C140W)
- o E-Series Classic (E80, E120)
- o E-Series Widescreen (E90W, E120W, E140W)
- o G-Series Navigation System (GPM400 Processor)

SOLUTION:

iNavConnect should be connected to a spare connection on the Raymarine SeaTalk^{hs} network. This can either be at the SeaTalk^{hs} Network Switch via a standard RJ45 network cable (supplied with iNavConnect) or directly in to the back of an MFD unit via a SeaTalk^{hs} network cable.

Please ensure that you insert the network cable in to the dedicated network connector on the iNavConnect labelled "Navigation Network/LAN". The Network/LAN LED on the top of the iNavConnect should flash when correctly connected to an active SeaTalk^{hs} network.

On the following page, are connection diagrams showing how the iNavConnect can be connected to some typical Raymarine networks.

# iNavConnect connected to Raymarine E Series Network (via switch)
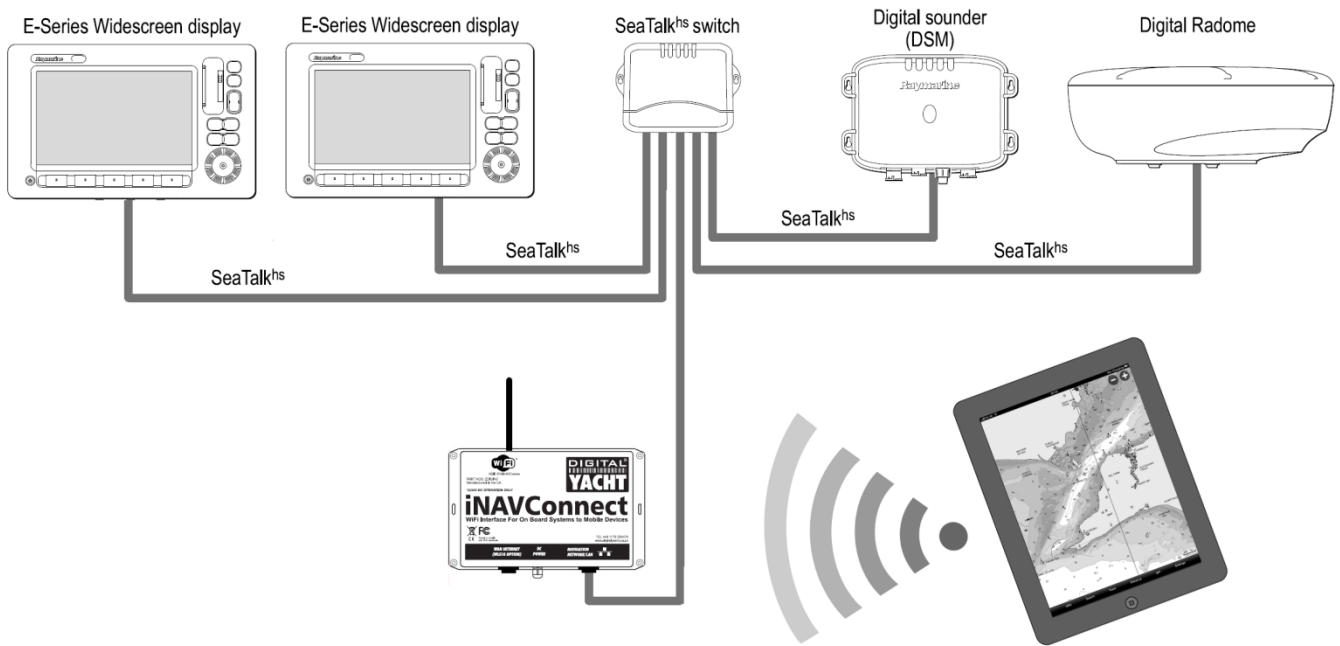
# iNavConnect connected to Raymarine C Series Network
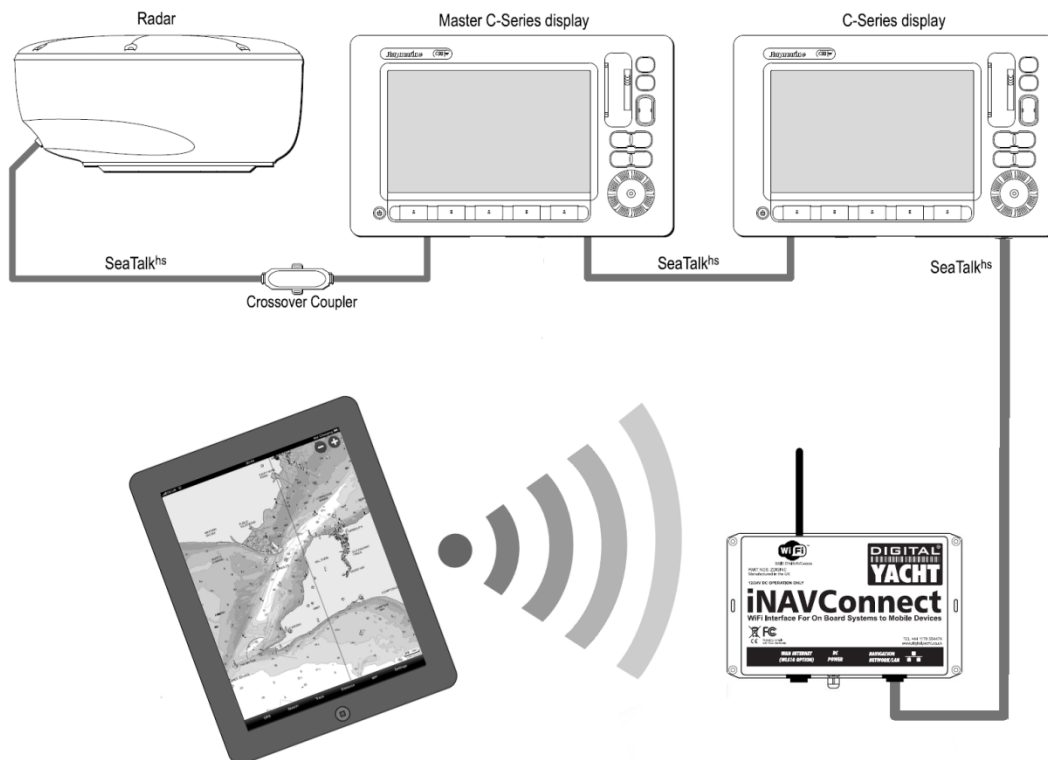
Connection Procedure

Once iNavConnect is wired to the Raymarine network, it is necessary to connect the wireless mobile device that is running the Navionics App to the iNavConnect wireless network. From the Wi-Fi connection manager on the mobile device, scan for available wireless networks (hotspots) and connect to the "iNavConnect" network using the normal automatic method (DHCP). The images below show this process being completed on an iPhone.
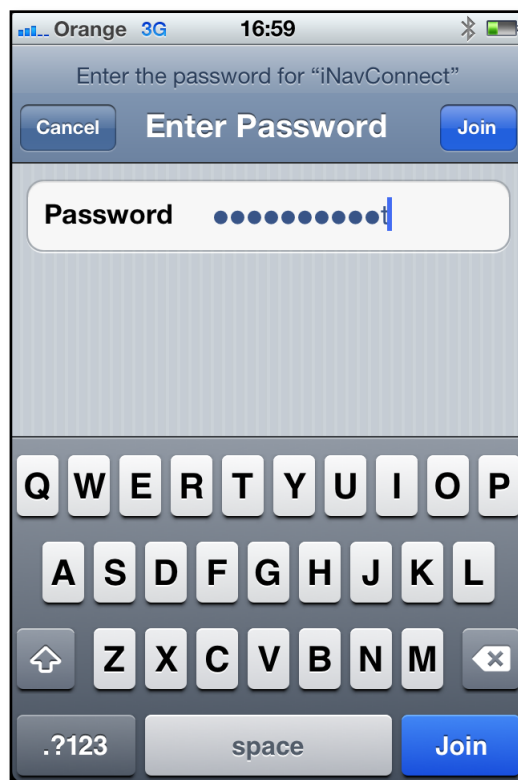
The default password for the iNavConnect product is "inavconnect" all lower case and the quotation marks are not part of the password.

Once you have successfully connected to the iNavConnect wireless network you should run the Navionics App. Always make sure that you are running the latest version of the App and it should be noted that early versions of the app (pre-2011) did not support the PlotterSync function and it may be necessary to repurchase the latest version. The way to tell if you have an older non-compatible version of the app is by looking at the Application Icon, the new compatible icon is on the left and the older non-compatible icon is on the right.

NEW   OLD
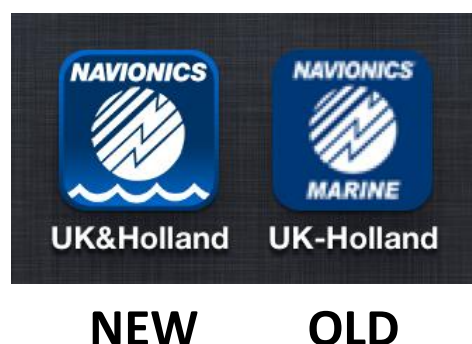
An important setting in the Navionics App that must be set to OFF in order for PlotterSync to work is the "Sync My Data" setting that allows your data to be stored on the Navionics webserver so that you can synchronise data between multiple mobile devices running the Navionics App. This is a useful feature for some customers but requires an internet connection and causes the PlotterSync function to become slow and un-usable when on the boat.

Many users assume that "Sync My Data" refers to the PlotterSync function and turn it on, but for correct PlotterSync operation it is **IMPORTANT** that the "Sync My Data" setting is set to OFF as shown in the image below.

Another IMPORTANT issue that can cause the PlotterSync function to become slow and unresponsive, is radar data on the network. When the Raymarine radar is transmitting, the amount of network traffic increases and takes priority over other less critical data such as route and waypoint transfer. This can result in routes and waypoints taking much longer to be synchronised with the Navionics App.

To ensure optimum PlotterSync performance, it is recommended that the radar is set to "Standby" mode (not transmitting), when you wish to transfer routes and waypoints between the Navionics App and the Raymarine network. In practice, it is very rare that you will want to start planning a new route and transferring data in the sorts of conditions where a radar is being used and relied upon.

When you run the Navionics App, any routes and waypoints that you have already created on the Raymarine MFDs will be automatically transferred to the Navionics App.

You should now be able to enter Routes and Waypoints (Markers) on the Navionics App and once saved, you will see them immediately appear on the Raymarine MFDs. It should be noted that when creating a route or editing an existing one on the Navionics App, that the transfer to the Raymarine MFDs will only occur after you save the route.

Any new routes and waypoints created or changes made to existing ones on the Raymarine MFDs will immediately appear on the Navionics App as soon as they are saved.

IMPORTANT if the "Reset Data and Settings" option is selected on any of the MFDs, when you next run the Navionics App, all Route and Waypoint data in the App will be deleted with no warning. It is recommended that you take a back up of all important Route and Waypoint in the Raymarine MFDs on to a Memory Card.

Route and Waypoint Limitations

The PlotterSync function works very well and is a quick, easy and fun way to plan routes on your Navionics App and for most customers will be a good route and waypoint management tool. However it does have some Route and Waypoint Size Limits which are important to understand if you like to keep large quantities of Routes and Waypoints on your Raymarine MFDs.

The Navionics App has the following Route and Waypoint Size restrictions;

- No single Route can have more than 50 waypoints
- Limited to 200 individual Waypoints (Markers)
- Unlimited number of Routes

The individual Waypoints (Markers) are waypoints that are not included in a route.

All waypoints that are included in a route are not affected by this limitation, so you could for example have 10 routes each with 50 waypoints in them without any problems.

If you try to connect the Navionics App to a Raymarine network that has more than 200 individual waypoints stored, you will see the warning shown in the left hand image below.

If you try to enter a Route on the Navionics App that has more than 50 waypoints, then you will see the warning shown in the right hand image below.