



NavNet TZtouch FAQ

Furuno USA, Inc

v6.1

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1. NavNet TZtouch System Overview

Q1.SYS What is the NavNet TZtouch product range?

NavNet TZtouch MFDs are available in two sizes: the 9-inch TZT9 and the 14-inch TZT14, both utilizing a widescreen monitor format. A Black Box system based on similar hardware to the TZT14 will be announced later in 2012.

Q2.SYS How many NavNet TZtouch MFDs are allowed in one network?

Any combination of up to six (6) TZtouch MFDs are allowed in one network.

Q3.SYS How many Digital Radar Sensors (DRS) can be installed in one network?

Up to two (2) DRS Radars can be installed and controlled in one network. You can set the Radar Antenna Source independently on each MFD so that you can have one MFD using the first Radar and another MFD using the second Radar.

Q4.SYS How is the DRS Radar antenna powered?

Unlike NavNet 3D, the Radar DRS antenna is not powered by the TZtouch MFD. A dedicated Radar power supply (PSU012 for 2, 4, 6 and 12kW Radar or PSU013 for 25kW Radar) must be used. This new system design allows the DRS Radar to be independent of the MFD for maximum redundancy.

Q5.SYS How many Fish Finders can be installed in one network?

Up to two Network Fish Finders can be installed and controlled in one network. For example, both a DFF1 and DFF3 can be installed, with the operator selecting which one is enabled as the echo sounder source. This allows the vessel to instantly select the optimal echo sounder source for a particular fishery or geographic region.

Q6.SYS Can I connect multiple data sensors to the network?

Multiple sensors of the same type (i.e. two GPS Sensors) may be connected to the system for redundancy purposes. When multiple sensors providing independent but redundant data are connected, the installer can define the preferred sensor during installation (from the "Initial Setup" menu). Preferred sensor selections are global settings, as they will be used and displayed by all MFDs in a network. All other sensors providing redundant information will be used as "back-up" sensors. TZtouch will automatically "Switch" and utilize these back-up sensors in the event that a failure occurs with the preferred sensor. When the preferred sensor becomes available, TZtouch will automatically switch back without operator manipulation.

Q7.SYS Does NavNet TZtouch have a "Demo" mode?

All TZtouch MFDs come with a pre-recorded demo file for the Seattle area for play back of Radar (with overlay capability) and Fish Finder. When in "demo" mode, the vessel icon will be fixed to the Seattle area to allow the radar overlay to display correctly. There is also a new "slideshow" feature that displays some of the various features and viewing options available to TZtouch.

Q8.SYS What is the NavNet TZtouch memory capacity?

All TZtouch MFDs have a ruggedized internal compact flash for storing the software and user data (points, routes and tracks). Unlike NavNet 3D, charts are not installed on the internal memory (with the exception of the world base maps and a demo area for Seattle). Charts are read directly from the SD-Card slots located in the front of the MFD. Please refer to the "NavNet TZtouch Charts" section of this FAQ for more information about Chart Management in TZtouch.

Q9.SYS What information is shared over the NavNet network?

Radar, Sounder, IP Camera, Points, Routes, Tracks, and System Settings are all shared via Ethernet on the TZtouch network. Unlike NavNet 3D, navigation data (i.e. Lat/Lon, SOG, COG, Time, etc.) is not shared over the network and each TZtouch MFD must be connected to the NMEA2000 Backbone. This new network design allows full redundancy of the system. Please refer to the “NavNet TZtouch Ports and Connection” section of this FAQ for more information on NMEA2000.

Q10.SYS Does NavNet TZtouch use Power Synchronization?

Power ON synchronization is not available on TZtouch. Unlike NavNet 3D, the TZtouch network does not use the Power Synchronization Signal, meaning that any regular HUB/Switch can be used in place of the HUB101. The customer must power ON each TZtouch MFD manually using the Power ON button. However, Power OFF synchronization is available. When powering OFF a TZtouch MFD, the customer will be able to choose to power off the individual MFD or all the MFDs on the network.

Note: Sleep Mode is not available on TZtouch. If you want to save power, simply turn off the MFD(s) you are not using.

Q11.SYS Does a NavNet TZtouch MFD need to be set as a Master?

TZtouch is a “master-less” system regarding network and settings configuration, making the system fully redundant. However, one TZtouch MFD must be set as the “Chart Master” so that MFD can share its SystemID over the network. For more information on the Chart Master and SystemID, please refer to the “NavNet TZtouch Charts” section of this FAQ.

2. NavNet TZtouch Ports and Connections

Q1.CON Can a standard Ethernet Hub/Switch be used for NavNet TZtouch?

Yes, a regular 100Mbps HUB or Switch can be used with 2-pair or 4-pair Ethernet cable. Note that we highly recommend using quality shielded cable.

IMPORTANT: *Do not use a Router as a HUB/Switch. Routers typically have a DHCP server that will conflict with the IP addresses used on the TZtouch network!*

For small networks, the HUB integrated into the TZT14 may be used to connect up to three (3) network sensors. For larger installations, we recommend an external HUB, because the internal HUB of the MFD is disconnected when the MFD is powered OFF. This prevents information from any network sensor connected to that MFD from being shared over the network when the MFD is powered OFF.

Q2.CON Does NavNet TZtouch have a NMEA0183 port?

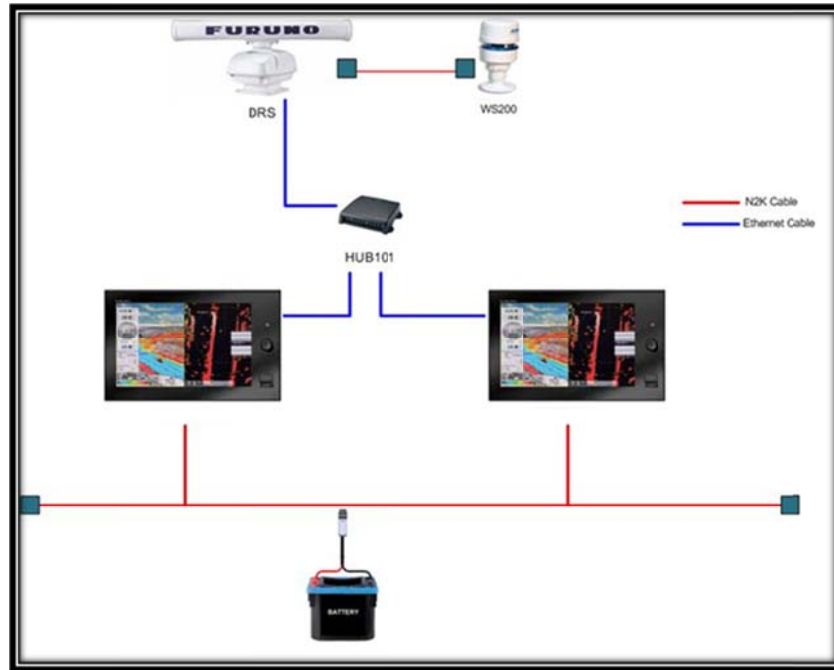
TZtouch does NOT have any NMEA0183 ports. TZtouch only uses Ethernet or NMEA2000 to exchange information. For retrofit installations using NMEA0183 sensors, a small NMEA0183 to NMEA2000 converter (Part Number IF-NMEA2K2) can be used to bridge the data. Injecting NMEA0183 data to the entire NMEA2000 network makes this data available to the entire system. Not using an MFD to bridge the NMEA0183 data is a new system design that prevents loss of data in the event an MFD is accidentally powered off or fails.

Q3.CON How are NMEA2000 sensors connected?

Each TZtouch MFD has one NMEA2000 connector (“Device Net” style connector) on the back. In addition, all DRS Radar sensors have one CanBUS port (Terminal

Block connector) where selected Furuno sensors (i.e. GP330B, SC30, WS200, PB200) can be connected without running another NMEA2000 cable up the mast.

IMPORTANT: Unlike NavNet 3D, all TZtouch MFDs **MUST** be connected to the same NMEA2000 backbone. However, the TZtouch MFDs NMEA2000 and DRS CanBUS ports cannot be connected together:



Note: When NavNet 3D and TZtouch are connected on the same Network, this rule does not apply, and the **NMEA2000 backbone should only be connected to the NavNet 3D Master MFD**. Please refer to the “NavNet TZtouch Compatibility” section of this FAQ for more information.

Q4.CON Is it possible to terminate the CanBUS in the DRS?

A termination resistor is provided with each DRS Radar. In most cases, this resistor will be required when connecting Furuno CanBUS Devices to the DRS. It must be inserted into the appropriate terminals inside the DRS when installing the system.

Q5.CON How many CanBUS sensors can be connected directly to the DRS?

The total number of sensors that can be connected to the DRS port is dependent upon the sum of their power consumption. The DRS port can supply a maximum of one ampere (20 LEN) to the connected Furuno CanBUS sensors:

- SC30 = 10 LEN
- GP330B = 3 LEN
- WS200/PB200 = 13 LEN

Q6.CON Is the CanBUS port on the DRS a standard NMEA2000 Port?

Only Furuno (or Furuno approved) CanBUS devices can be connected to the CanBUS Port of the DRS. Memory limitations do not allow the DRS to support all NMEA2000 PGNs, especially proprietary PGNs that may be required to program and configure other manufacturer’s sensors. The DRS CanBUS Port is currently compatible with the SC30, GP330B, WS200 and PB200.

Q7.CON Does a DRS need to be powered “ON” for the CanBUS port to be active?

Power must be supplied to the DRS in order for the NMEA2000 information to be

processed. The DRS may be in either Transmit or Standby modes of operation. If the DRS is powered from a separate breaker and the DRS is powered OFF while the MFD are ON, no data will be passed through the DRS CanBUS port.

Q8.CON Does TZtouch use the same Power Supply Units (PSU) as NavNet 3D?

The PSUs for NavNet 3D and TZtouch are the same. However, a modification must be done inside the PSU when connected to a TZtouch network: a jumper must be inserted on J7 to disregard the power synchronization signal, which is not used by the TZtouch network.

Q9.CON Can Engine, Tank and Fuel data be displayed on the TZtouch MFD?

Yes, certain engine, tank and fuel data (up to 4) in NMEA2000 format may be displayed on any MFD in the Network. The currently accepted data is as follows:

- Engine Speed (Revolutions) (PGN 127488)
- Engine Boost Pressure (PGN 127488)
- Engine Oil Pressure (PGN 127489)
- Engine Temperature (PGN 127489)
- Engine Temperature Status (PGN 127489)
- Engine Warning Status (PGN 127489)
- Fuel Tank (PGN 127505)
- Fuel Flow (PGN 127488 & 127489)

Note: The instance number is used to “map” the engine, tank and fuel flow data. Instance 0, 1, 2 and 3 must be used (instance 0 corresponds to engine number 1).

3. NavNet TZtouch Compatibility

Q1.COMP Are NavNet 3D networks compatible with NavNet TZtouch?

It is possible to add one or multiple TZtouch MFD(s) to an existing NavNet 3D network. In this case, **TZtouch should only be connected to the NavNet 3D network using an Ethernet port** (do NOT connect TZtouch to the NMEA2000 network in this scenario). All Data Source settings must be adjusted from NavNet 3D (data source selection is disabled on TZtouch when connected to a NavNet 3D network). When NavNet 3D and TZtouch are connected on the same network, sensor data (Radar, sounder, etc.) is shared. The Active Route is automatically synchronized between TZtouch and NavNet 3D, however the Points and Planning Routes are not.

Note: the SystemID will be different on the NavNet 3D MFDs and TZtouch MFDs, even if connected to the same network. However, it is possible to link one NavNet 3D SystemID with one TZtouch system ID, similar to the process for linking a NavNet 3D SystemID to a MaxSea TimeZero serial number.

Q2.COMP Are NavNet 3D DRS and Sounder modules compatible with TZtouch?

TZtouch is compatible with all existing DRS Radars and DFF1/DFF3 fish finders. A software update for the DRS must be performed by a Furuno dealer to be compatible with TZtouch in order to support Auto-IP. As described above in Q8.CON a jumper must also be installed inside the Power Supply Unit. Additionally, DIP switches inside the DFF1/DFF3 may need to be adjusted (“Down-Up-Up-Down” to have a fixed IP address).

Q3.COMP Are NavNet 1/vx2 systems compatible with NavNet TZtouch?

It is not possible to connect NavNet 1 or vx2 display to a TZtouch network. Additionally, BBFF1/BBFF3 black box sounders are not compatible with TZtouch.

Q4.COMP Will NavNet TZT9/TZT14 MFDs fit in NavNet 3D MFD holes?

TZtouch footprints are slightly smaller than the corresponding NavNet 3D MFDs.

Q5.COMP Will NavNet TZtouch and MaxSea TimeZero Explorer be compatible?

MaxSea TimeZero Explorer can be connected to a TZtouch network; however, the Chart Server and Route/Waypoint synchronization will not be available initially. The following features that will be available upon release are:

- Chart License sharing (link one TZtouch SystemID with one MaxSea TZ Explorer Serial Number).
- Navigation Data from the TZtouch network (GPS, Speed, Heading, etc.).
- Radar Work Space and Radar Overlay (with full control of the DRS Radar).
- DFF1/DFF3/FCV1150 compatibility with optional PBG or Sounder module.
- Route and Waypoint exchange through SD-Card.

Q6.COMP Can I connect a NavPilot 500 to NavNet TZtouch?

You have to use the IF-NMEA2K2 in “High Speed mode” (38.4KBPS). Connect the NMEA0183 output of the IF-NMEA2K2 to the NavPilot input (for navigation data) and connect the NMEA0183 input of the IF-NMEA2K2 directly to the second NMEA0183 port of the PG500R (to have access to fast heading).

Q7.COMP Can I use Heading from the PG500R for Radar Overlay?

The PG500R must be set-up to output heading at 100ms (10Hz) using a baud rate of 38.4KBPS. The NavPilot must also be set-up to listen for navigation data and heading at 38.4KBPS.

Q8.COMP Does NavNet TZtouch support AIS data over NMEA2000?

Yes. In fact, to use a legacy NMEA0183 only AIS receiver, it must be converted to NMEA2000 (using the IF-NMEA2K2) in order to work with TZtouch.

4. NavNet TZtouch Charts

Q1.CHART Are NavNet vx2 Charts compatible with NavNet TZtouch?

No, TZtouch uses the same charts as NavNet 3D (.mm3d charts). Like NavNet 3D, TZtouch is preloaded with the entire U.S. NOAA charts in .mm3d format. Free high resolution satellite photos are available for the USA coastline as well. For areas outside of the U.S, worldwide MapMedia .mm3d Charts are available for purchase. These MapMedia charts are available in Vector or Raster formats (Raster format available in selected areas only). MapMedia .mm3d Vector charts are based on C-Map by Jeppesen or Navionics data. It is important to note that Jeppesen and Navionics vector data is converted into MapMedia .mm3d format for use with TZtouch. Therefore, Jeppesen or Navionics Chart products, such as C-MAP NT, C-MAP 4D, Navionics Platinum, Navionics Silver, etc., are NOT compatible with TZtouch. A complete .mm3d chart catalog is available online on www.mapmedia.com

Q2.CHART Which charts are preloaded in TZtouch systems sold in North America?

Each TZtouch MFD comes pre-loaded with a 64GB SD-Card containing Raster charts, Vector charts and Bathymetric Data (3D), covering the USA coastline. Additional C-MAP by Jeppesen Vector charts in .mm3d format, covering North America, are also preloaded on the SD-Card and can be unlocked by purchasing the corresponding Unlock Code(s).

High-Resolution Satellite photos do not come preloaded; however, they will be available at no charge when downloaded from the Furuno USA or MapMedia

website. Furuno USA has two 64GB SD-Cards available for purchase, containing High-Resolution satellite photos for the USA:

- TZT-SAT-SD1 - 64GB SD-Card covering the USA coastline, excluding Gulf of Mexico, the Rivers and the Great Lakes.
- TZT-SAT-SD2 - 64GB SD-Card covering Gulf of Mexico, the Rivers and the Great Lakes (USA).

Note: You will need one SD-Card per MFD

Q3.CHART How are new charts installed in NavNet TZtouch?

Each TZtouch MFD has two SD-Card slots accessible from the front panel. A 64GB SD-Card containing preloaded data will be loaded in the left slot of every TZtouch MFD supplied in North America. The right slot can be used for a second SD card with additional charts or Satellite Photos (as mentioned above).

It is important to understand that each MFD only reads charts from the local SD-Card slot. When updating chart data, each SD-Card must be updated with the new data.

Q4.CHART Can the USB port be used to read charts?

Yes, the USB port located on the back of the TZtouch display can be used to read charts from an External USB Hard Drive or Jump Drive/Flash Drive.

Q5.CHART How are charts outside the USA unlocked in NavNet TZtouch?

Before purchasing charts, one MFD needs to be set as the “Chart Master” on the network (from the “Initial Setup” menu). That MFD will share its SystemID (identifier) with all the other MFDs on the network. When ordering a chart, the SystemID must be provided along with the chart part number. An unlock code can then be generated and issued. The Unlock Code can be entered manually using the on-screen Virtual Keyboard, using an SD-Card (containing an unlock file) or automatically via Internet download. The same unlock code will work on all MFDs having the same SystemID.

Q6.CHART What happens if the MFD set as a Chart Master fails?

If the MFD set as “Chart Master” fails, the same “failover” system incorporated in NavNet 3D is implemented in TZtouch: the customer can power ON the other MFDs 30 times and still use the charts even if the Chart Master MFD is not available. A review of our standard reset procedure:

- When the MFD set as Chart Master is repaired within 30 days, everything goes back to normal as soon as the MFD originally set as chart master is put back on the network.
- If the MFD set as the Chart Master must be replaced, a new Chart Master needs to be designated and new unlock codes will be provided.

5. NavNet TZtouch Chart Plotter

Q1.PLOT What is the Minimum/Maximum Zoom Range?

The Zoom range on the TZtouch Chart Plotter is 150 feet to 5,000 nm, horizontally across the full MFD display.



Q2.PLOT How is vessel track handled in NavNet TZtouch?

Users can record up to 30,000 track points in total. The total distance of the track(s) will vary according to the track accuracy setting (the default setting is one point every 30 sec giving more than 10 days of continuous tracking). Users will be able to stop and start the track at their discretion. The track can be set to have a fixed color or a variable color according to parameters (Depth, SST, Speed, and Bottom Discrimination with BBDS1)

Q3.PLOT How many routes can be stored?

Up to 200 routes with up to 500 points per route may be stored. The TZtouch internal memory route storage is limited to 10,000 waypoints.

Q4.PLOT How many points can be stored?

Up to 30,000 points can be stored in the TZtouch Internal Memory.

Q5.PLOT How is Vessel Heading used in the NavNet TZtouch Plotter Modes?

TZtouch will use Heading information (when provided) to orient the boat icon. Additionally, a useful heading line can be enabled in the plotter mode as well.

Q6.PLOT How is weather displayed in NavNet TZtouch?

TZtouch can display weather information from a Sirius Real Time Satellite Weather receiver (BBWX1 or BBWX2) or from NavCenter (using GRIB Weather files). NavCenter is a free Internet weather service that can be accessed directly from an MFD when an Internet connection is available. If an Internet connection is not available on the MFD, any PC with an Internet connection can be used to download the GRIB file, which can be transferred to the MFD using an SD-Card.

Note: Only GRIB files downloaded from NavCenter or MaxSea TimeZero are supported. TZtouch does not support generic GRIB files. TZtouch customers must be registered on the www.NavCenter.com (or www.mytimezero.com) website to be able to download weather GRIB files directly from their MFD.

Q7.PLOT Is PBG (Personal Bathymetric Generator) available on NavNet TZtouch?

At this time, the PBG function is not planned for TZtouch MFDs. To use this feature, the user will have to connect a PC loaded with MaxSea TimeZero Explorer with the optional PBG module to the TZtouch network.

6. NavNet DRS Radars

Q1.DRS Do all DRS Radars have High Speed and Dual Range capabilities?

Yes, all DRS antennas (Domes and Open Arrays) automatically increase in speed from 24 to 36 to 48 rpm as range is decreased, depending on the selected Radar range. When the Radar is used in Dual Range, the antenna rotation is fixed at 24RPM. All Dome and Open Array DRS Radars have “True” Dual Range Radar capability, which provides simultaneous transmission of both short and long pulse. This allows for completely independent control of range, gain, sea clutter and rain clutter for two separate ranges on each MFD.

Q2.DRS How does the Radar Range and Chart Range work in conjunction?

By default, the Radar Range and Chart range are not linked in Overlay Mode. This means the user can zoom in/out on the chart (i.e. adjust the chart scale) without affecting the Radar range. It is possible to turn the Radar Overlay Range link ON. In this mode, the Chart scale and Radar range will be synchronized whenever either one is adjusted by the user.

Q3.DRS Can Radar Overlay and the stand-alone Radar use individual range?

Yes, it is possible to assign independent Radar range to the Radar Overlay and Radar display with only one antenna. This is possible due to the Dual Range functionality of the DRS. Note that when using independent range for the Chart Overlay and the Radar Display, the antenna rotation is fixed to 24RPM.

7. NavNet Fish Finders

Q1.FF What is the Heaving Compensation feature, and how does it work?

Heaving Compensation automatically removes vessel motion from the echo sounder in rough seas. This is usually displayed as a “Saw Tooth” distortion of the bottom image due to vertical vessel motion, even though the bottom may actually be flat. Heaving Compensation greatly enhances bottom fishing and bottom trend analysis without sacrificing critical details, as can occur when using a traditional Bottom Lock Echo Sounder Mode.

In order to utilize the new Heaving Compensation feature with TZtouch, you need to use a DFF1 or DFF3 Fish Finder with a Furuno SC30 Satellite Compass.

Q2.FF When will a CHIRP sounder solution be available for NavNet TZtouch?

A new Black Box sounder with Chirp capability will be introduced in late 2012.

8. Cameras, Video Inputs/Outputs and External Monitors

Q1.CAM What types of IP Cameras can be connected to NavNet TZtouch?

Only AXIS IP Cameras (www.axis.com) that support MPEG4 Video are compatible with TZtouch as a networkable video source.

Q2.CAM Can an OceanView Camera be controlled from NavNet TZtouch?

This functionality is planned for a software release in the near future.

Q3.CAM Can FLIR M-Series Camera be controlled from NavNet TZtouch?

This functionality is planned for a software release in the near future.

Q4.CAM How many IP Camera and analog video inputs are available?

Up to four IP Cameras and two composite inputs can be used. TZtouch allows you to display two cameras at the same time (either IP or Analog) as well as cycling automatically between various sources.

Q5.CAM Can analog video input be distributed in a network?

No. Unlike video from an IP camera, analog video can only be seen on the MFD that receives the composite video signal. When network IP Cameras (AXIS) are used, any MFD connected to the network can view the image.

Q6.CAM What is the video output for the NavNet TZtouch MFD?

TZtouch MFDs have a DVI-D video output on the back. The output resolution is fixed to 1280*800 for the TZT14 and 800*480 for the TZT9. Note that the DVI-D signal format has no analog data. Therefore, conversion from DVI-D to VGA (RGB) (15-pin plug) video is not possible unless a video converter is used.

Q7.CAM Can an external Touch Screen monitor be connected for remote control?

Any Touch Screen monitor that supports the video resolution of the MFD, and is Windows 7 Dual Touch compatible, can be connected to TZtouch via the DVI-D and USB port for remote control.

9. NavNet TZtouch and iOS Apps

Q1.iOS What is the difference between NavNet's "Viewer" & "Remote" Apps?

The "NavNet Remote" App, which is only available for the iPad, allows you to control and mirror the TZtouch display from your iPad. The "NavNet Remote" App is like carrying a TZtouch display with you everywhere on your boat where WiFi is available. Only one iPad can view and control the TZtouch display at a time. If another iPad attempts to connect to the MFD, it will be put on hold until the iPad currently connected exits the App.

The "NavNet Viewer" App is available for both the iPad and the iPhone. There is no limit to how many devices can be connected to the TZtouch display since the "NavNet Viewer" App is completely independent from what is displayed on the MFD. The "NavNet Viewer" offers various data screens, similar to the RD33, as well as an independent basic Fish Finder display (single frequency).

Q2.iOS Can the NavNet Viewer App be setup to display the Radar?

Only the "NavNet Remote" App (iPad only) can display the Radar image by mirroring and taking control of the TZtouch display.

Q3.iOS Are there Apps available for Android devices?

We plan to add support for Android devices in 2013.

Q4.iOS How do I connect an iPad to the NavNet TZtouch Display?

You must use the built-in WiFi interface of the TZtouch display to connect to an iOS device. To achieve the best performance with the "NavNet Remote" App (iPad only), we recommend you establish a "point-to-point" connection. This can be accomplished by configuring the MFD to create a WiFi network (Ad Hoc network). In this mode, the MFD becomes an Access Point (you can setup the network name

and password) to which the iPad can connect directly.

You can also configure the MFD to connect to an existing WiFi network. This is very useful if you already have an Access Point setup on your boat, especially if you have Internet available. Simply connect the MFD and your iPhone or iPad to the existing WiFi network. Since the TZtouch MFD and iOS device will be on the same network, you will be able to share data (using the “NavNet Remote” and “NavNet Viewer” App) as well as access the Internet (for Weather downloads). Please note that in this configuration, the “NavNet Remote” App performance is suboptimal due to a larger amount of data being exchanged between the iPad and the MFD (through the access point). The “NavNet Viewer” App performance will not be affected in this mode, as the bandwidth usage is very low.

Q5.iOS

Can I restrict access to the NavNet TZtouch MFD through WiFi?

TZtouch allows you to very easily turn ON and OFF the WiFi signal. In addition, you can customize the password when creating the network to prevent anybody in WiFi range from connecting to your TZtouch MFD.