FURUNO

NAVnet NAVnet
TZ touch   *TZ touch2*

iOS and Android™ Apps Guide
(Edition 6)

1. Apps for NavNet TZtouch and NavNet TZtouch2

This document describes the overview of the apps for **NavNet TZtouch model TZT9/14/BB** and **NavNet TZtouch2 model TZTL12F/15F**.

	NavNet Remote	NavNet Viewer	NavNet Controller
Compatible with...	NavNet TZtouch (TZT9/14/BB) NavNet TZtouch 2 (TZTL12F/15F) *(1) Version 4.01 or later for NavNet Remote app		
Descriptions	Remote desktop app, which shows TZT9/14/BB screen images on iOS/Android™ devices. Remote operation over the device screen is also available.	Multi-function app for: - Sensor indicators - Fish Finder - Alarm synchronization - Setting data reader/writer	Remote controller for TZT9/14/BB and TZTL12F/15F: The display can be wirelessly controlled with a scroll pad, cursor pad, and some dedicated keys on the app.
Icons			
Tested Devices (iOS)	iPad, iPhone, and iPod touch		
Tested Devices (Android™)	Samsung Galaxy S III (GT-I9300, Android™ 4.1.2), Samsung GalaxyTab3-7' (SM-T210, Android™ 4.1.2), Xperia S (LT26i, Android™ 4.0.4), Nexus7 (ME370T, Android™ 4.3), etc. * (2)		
Languages	English and Japanese		
Price	Free of charge		

Note:

(1) The TZTL12F/15F version should be v4.01 or later to be compatible with the NavNet Remote app.

**(2) Apps may not work properly on some Android™ devices.**

2. Network with NavNet TZtouch

2-1   Compatible Apps

The NavNet TZtouch model TZT9/14/BB is compatible with the **NavNet Remote**, **Viewer**, and **Controller** apps.

2-2   Networking with iOS Devices via Built-in Wireless LAN

iOS devices can be wirelessly connected to the TZT9/14/BB built-in wireless LAN as shown below. This method is called **ad-hoc** mode, meaning a point-to-point connection. A maximum of **five (5) iOS devices** can be connected to the TZT9/14/BB built-in wireless LAN. Internet access with the TZT9/14/BB is not available using this configuration.
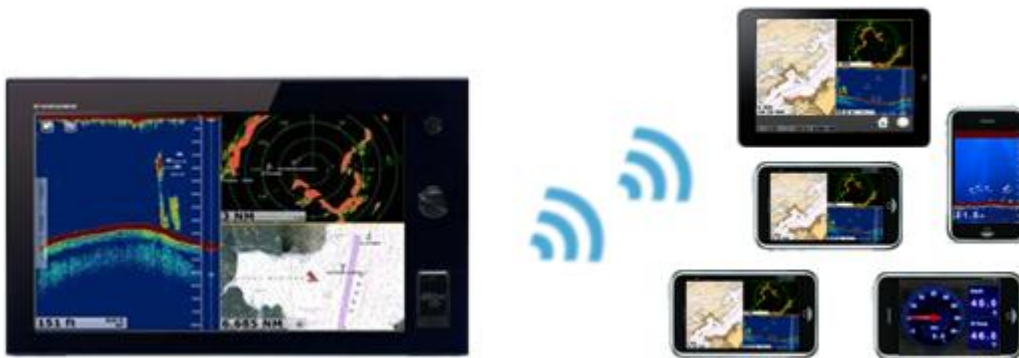
When there are two (2) displays in the network, a maximum of ten (10) iOS devices can be connected as follows.

Note:

(1) To be able to connect five (5) iOS devices, the TZT9/14 software should be **v2.01** or later. All the TZTBB units have been installed with v2.02 or later at factory since the launching of the product.

(2) The built-in wireless LAN is approved for use in the US (FCC), Canada (IC), Australia/New Zealand, China, and Japan only. Use an external router (local supply) for use in other areas.

2-3   Networking with iOS Devices via Router

iOS devices can be connected to the TZT9/14/BB via a router as follows. For router setup procedures, see **Section 2-5**.
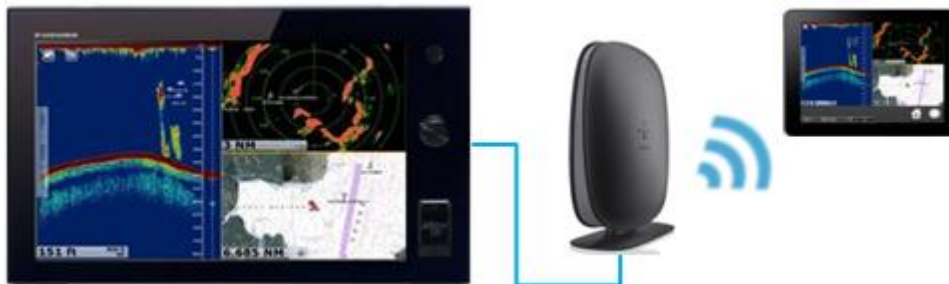
2-4   Networking with Android™ Devices via Router Only

Android™ devices can be connected to the TZT9/14/BB via a router only.

2-5   Router Setting – Summary

Set the router as follows and connect iOS and Android™ devices to the TZT9/14/BB network.

Setting 1	**(Mandatory)**	Fix the IP address of a router to **192.168.252.2** to **192.168.252.99** (e.g. 192.168.252.**2**).
Setting 2	**(Mandatory)**	Set the Subnet Mask to **255.255.255.0**.
Setting 3	**(Mandatory)**	Activate the **DHCP** server function.
Setting 4	(**Mandatory)**	Set the security mode to **other than Open or Disabled**.
Setting 5	**(Recommended)**	Set the wireless channel to **Auto**, instead of fixing to one channel. * (1)
Setting 6	**(Recommended)**	Rename the router's SSID to easily find the router with an iOS device. ** (2)
Setting 7	**(If necessary)**	Change the router's Password. ** (2)

Note:

* (1) Setting the router's wireless channel to Auto will have an effect on avoiding signal conflicts between many wireless devices.

** (2) The original SSID and password are usually stated on a sticker pasted on a router.

For details on setting, see the **Sales Bulletin FSB15-0015**.

3. Network with NavNet TZtouch2

3-1 Compatible Apps

The TZTL12F/15F has been compatible with the **NavNet Viewer** and **Controller** apps since the initial version. To be compatible with the **NavNet Remote** app, the version should be **v4.01** or later.

3-2 Networking with iOS/Android™ Devices via Built-in Wireless LAN Only

iOS and Android™ devices can be wirelessly connected to the TZTL12F/15F built-in wireless LAN only. A maximum of **five (5) devices** can be connected to the TZT9/14/BB built-in wireless LAN. Internet access with the TZTL12F/15F is **NOT** available using this configuration.
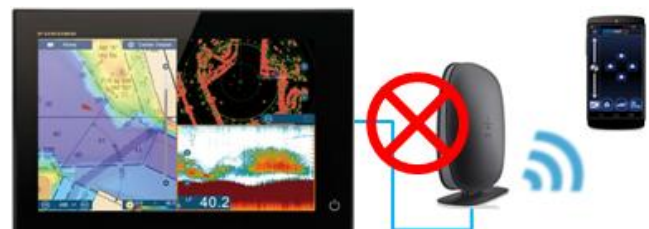

When there are two (2) displays in the network, a maximum of ten (10) iOS devices can be connected as follows.
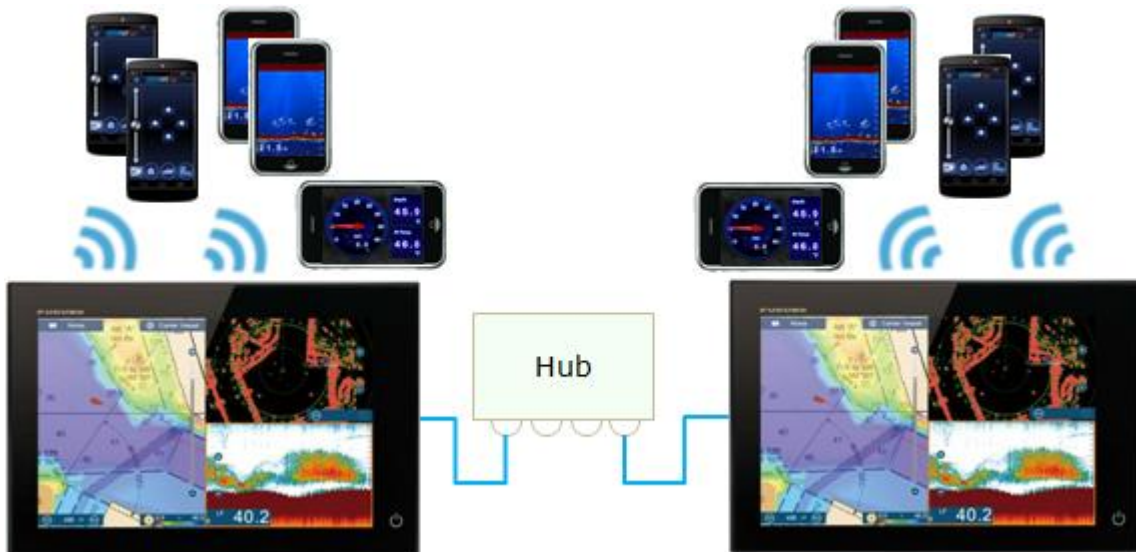
Notes:

(1) Wireless connection via a router is NOT available yet.

(2) The built-in wireless LAN is approved for use in the US (FCC), Canada (IC), Europe (CE), Australia/New Zealand, China, and Japan only.

4. Tips on Wireless Network

When using a **vessel's wireless router, limit the number of** devices to preferably three (3) or less running the apps at a time. Only one TZT9/14/BB or TZTL12F/15F unit in any network may be connected to an existing wireless LAN. The speed and performance of the apps may be noticeably slower than the point-to-point configurations in **Section 2-2** (TZT9/14/BB) and **Section 3-2** (TZTL12F/15F).

Internet access for weather and chart unlock codes is available.

When there are multiple TZT9/14/BB or TZTL12F/15F units in the network, it is preferable to mix the configuration as shown at right. This will allow both direct connections to a display as well as Internet Access.
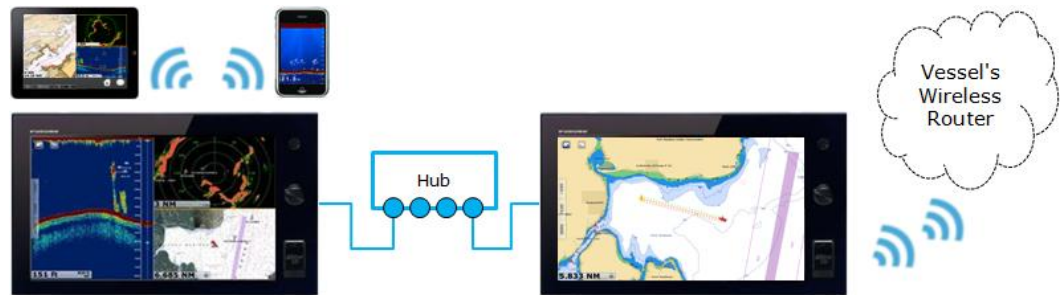
5. Wireless LAN Settings

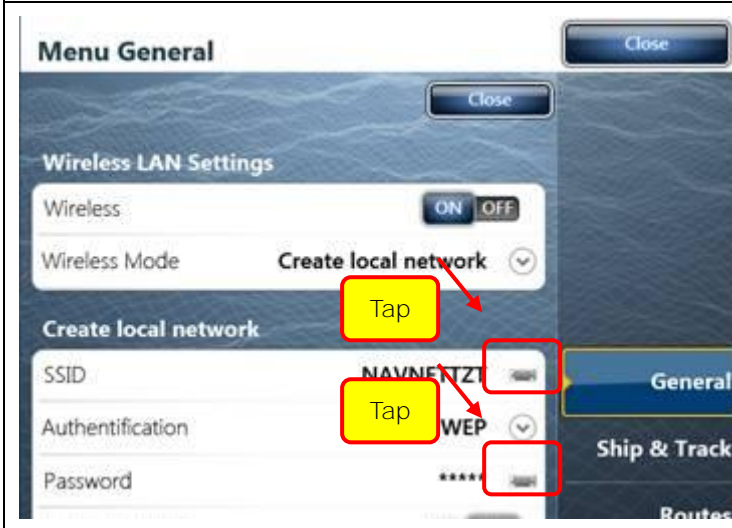## 5-1 Settings on Model TZT9/14/BB and TZTL12F/15F

In order to wirelessly connect iOS devices to the TZT9/14/BB and TZTL12F/15F and Android™ devices to the TZTL12F/15F, proceed to the following settings. Each step is described with screenshots from TZT14.
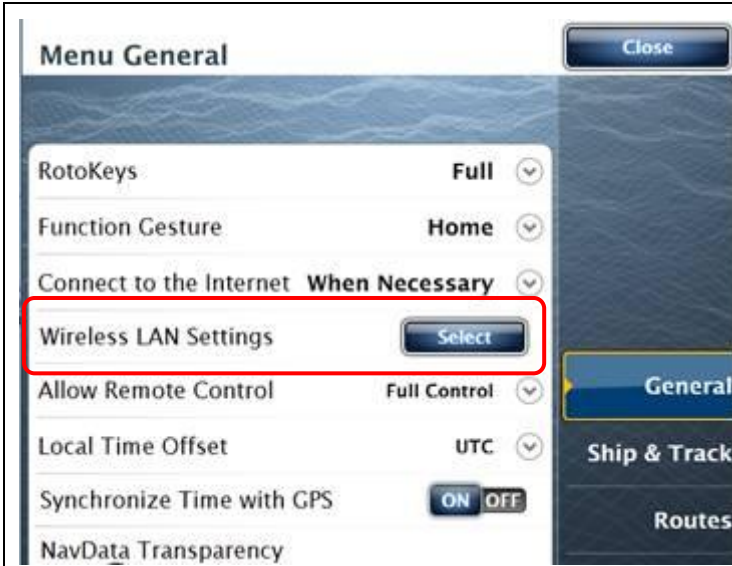
|	
[Menu]/[Setting] – [General] – [Wireless LAN Setting]	Wireless: ON (TZT9/14/BB only) Wireless Mode: Create local network Authentication: WEP (TZT9/14/BB only) Network Status / Local Network: ON
	SSID and Password: To change the default SSID and password, Set the Network Status to OFF and set your own SSID and password.

IMPORTANT NOTE: When wireless connection is made via the built-in wireless LAN...

(1) Set Wireless Mode to [Create local network] for iOS/Android™ devices to access the TZT9/14/BB or TZTL12F/15F, and to [Connect to existing LAN] to access the Internet.
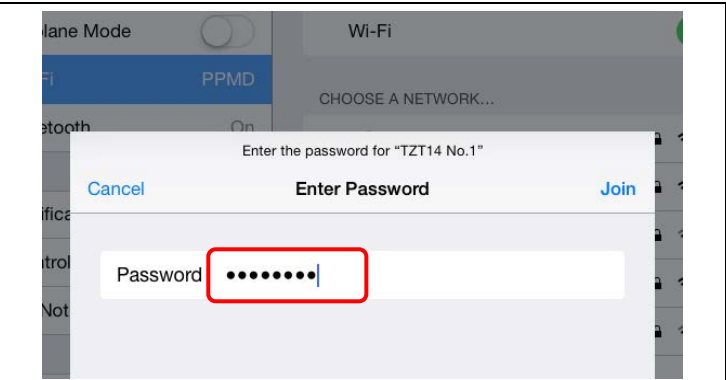
(2) The SSID name and password are always in **upper case letters**. Ensure to enter the password in upper case on iOS devices. <u>**DO NOT FORGET TO USE CAPS WHEN TYPING THE PASSWORD INTO YOUR iOS DEVICE!**</u>

## 5-2   Wi-Fi Settings on iOS/Android™ Devices

After the display (TZT9/14/BB and TZTL12F/15F) settings are ready, connect an iOS/Android™ device as follows. Each step is described with screenshots from an iPad.
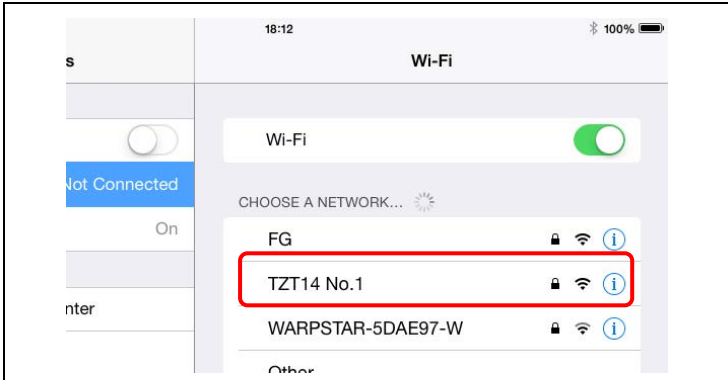
(1) Select the SSID of the display. In this example, [TZT14 No.1] is the SSID of the TZT14 to be connected.	(2) Enter the password of the display. In this example, the password for the display is set to [12345678]. If letters are used in the password, ensure to enter them in **upper case**.
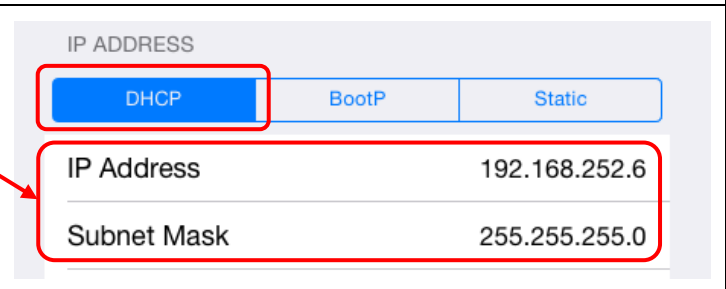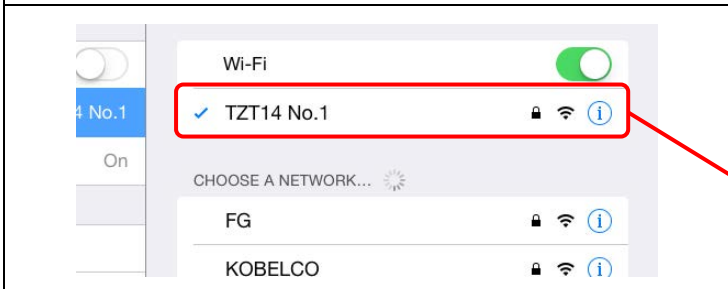
A check mark will appear when the wireless LAN connection is made. To confirm the connection, tap the SSID to verify that an IP address of [**192.168.xxx.xxx**] and subnet mask [**255.255.255.0**] are shown in the DHCP tab. In this example, the IP address of [**192.168.123.6**] is automatically assigned to the iOS device.

5-3   Setting for Connection to an Existing Wireless LAN

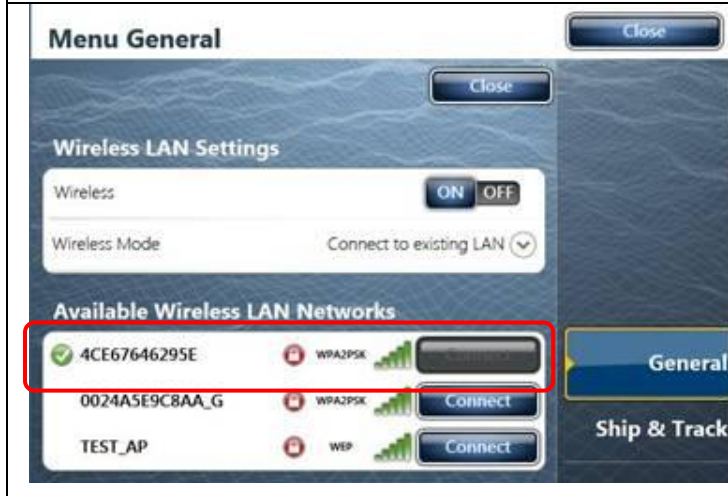The following settings allow the TZT9/14/BB and TZTL12F/15F to connect to an existing wireless LAN as described in **Section 4**. The SSID and the password of the existing wireless LAN router must be known for TZT9/14/BB, TZTL12F/15F, and iOS/Android™ devices. The menu steps are similar to the procedures for local network shown in **Section 5-1**. Each step is described with screenshots from TZT14.

|	
[Menu]/[Settings] – [General] – [Wireless LAN Setting]: Tap Select.	Wireless: ON Wireless Mode: Connect to existing LAN
	Choose the desired network, if there is more than one available. Enter the router password if encrypted. Note that the router SSID must be set to broadcast with the TZT9/14/BB and TZTL12F/15F.

5-4   Connecting iOS/Android™ Devices to a Router
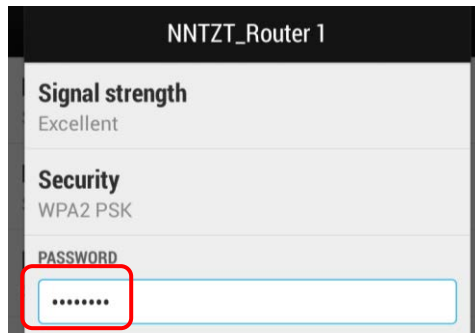
When iOS/Android™ devices are networked with the TZT9/14/BB via a router, set up the device as follows. Each step is described with screenshots from an Android device.

In this example, the router SSID is set to [**NNTZT_Router 1**].

(1) On an Android™ device, find the SSID [NNTZT_Router 1] or the name you set for your router.
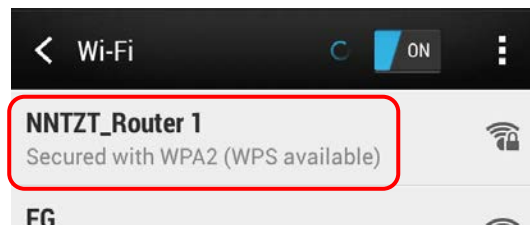
(2) Select [NNTZT_Router 1] and enter its password.

(3) Check that the connection is established. To confirm the connection, tap the SSID to verify that an IP address [192.168.252.x] is assigned. In this example, the IP address of [192.168.252.**3**] is automatically assigned to the device.
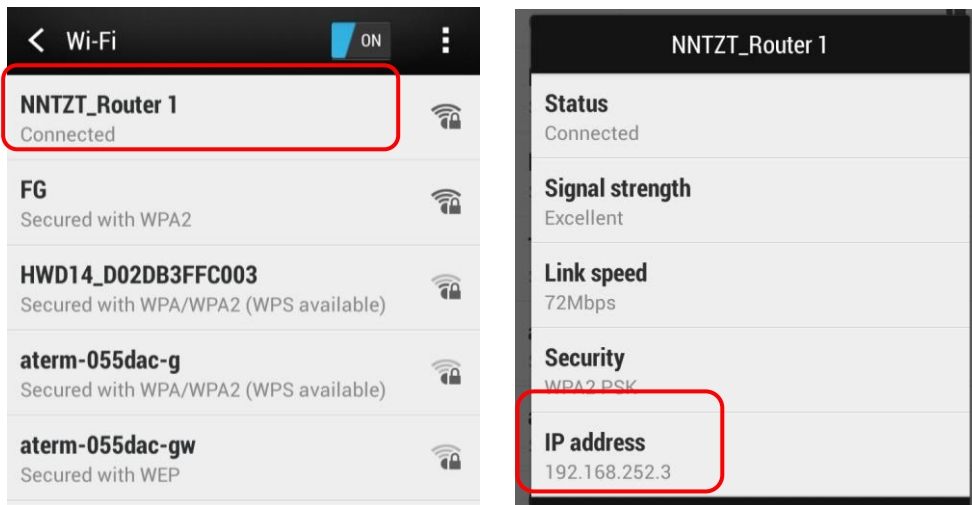
5-5 Launching Apps

After making all of the settings above, launch the NavNet apps on the iOS/Android™ device.

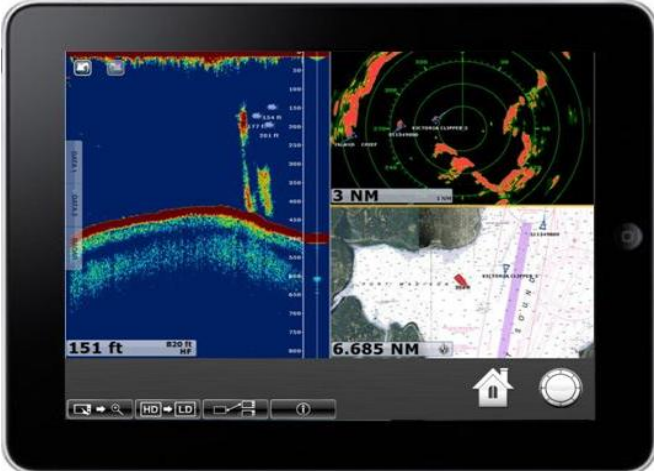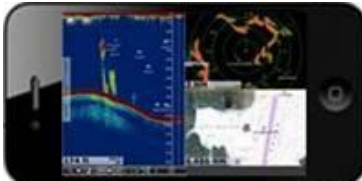# 6. NavNet Remote App

6-1 Overview

The NavNet Remote app displays the MFD screen images on an iOS/Android™ device screen. Remote operation from iPad and Android™ devices (over 7″) is also available.

Sample Image – iPad	Sample Image – iPhone / iPod touch
	  Note: (1) The screen mode is **landscape** only. (2) Operations are not available from iPhone, iPod touch, or small Android™ devices (under 7″). These small devices are for viewing only. (3) **While the "Pinch To Zoom" functi**on is supported, the dual-tap gesture (to access functions) and rotation with two fingers (to change orientations) that are available on the MFD are not supported with the NavNet Remote App.

Tips:

Depending on the screen resolution of a connected device, NavNet Remote app images may not fit in full screen. As an example shown at right, when MFD images are shown on an iPhone 5, both edges of the screen will be blank in order to make the TZT9/14/BB images fit on the device's wider screen.

6-2 Icons for Operations and Settings

Icons at the bottom of the screen support operations as described below.

Icons	Descriptions
	These icons act as the Home key (left) and RotoKey ™ (right) respectively. Note that these icons are available on the iPad only.
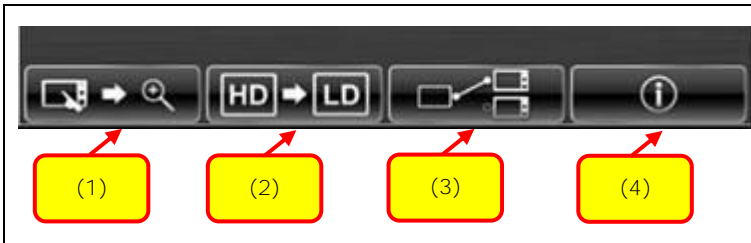
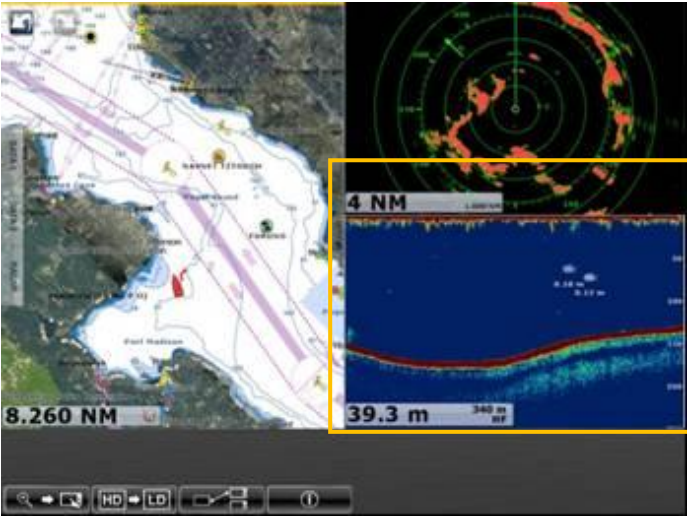|	
(1) (2) (3) (4)	Each setting is accessible from icons located at the bottom of the screen as shown in (1) to (4).

<table>
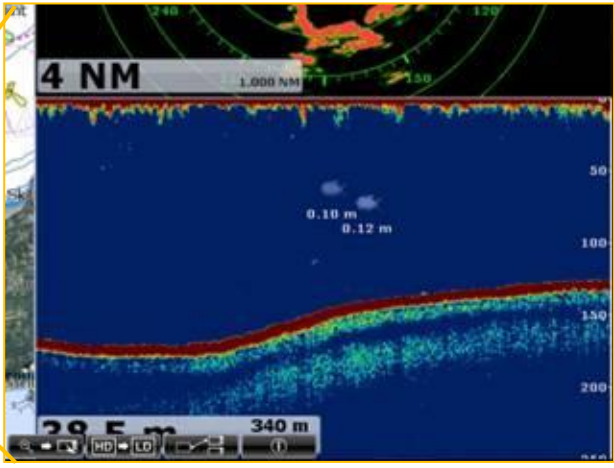<tr><td colspan="2" align="center">(1) Operation Mode and Digital Zoom Mode</td></tr>
</table>

Icons	Descriptions
	This icon appears when in Operation Mode, which enables you to control the MFD from the iPad and Android™ device screen. Tap this icon to change it into the Digital Zoom Mode. Note that this icon is for iPad and Android™ (over 7″) devices only because operations are not available with iPhone, iPod touch, or smaller Android™ (under 7″) devices.
	This icon appears when in the Digital Zoom Mode, which provides the ability to view only. Tap this icon to change it back to the Operation Mode.

Example of digital-zoom on the iPad:
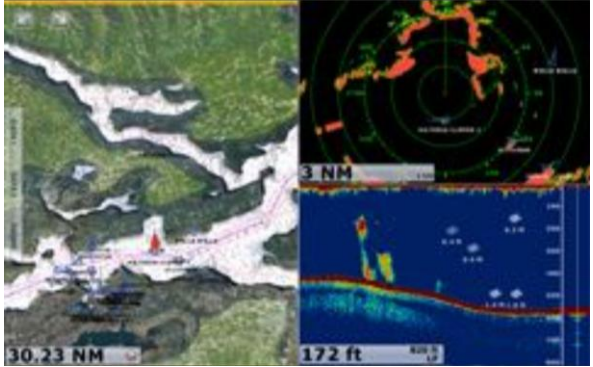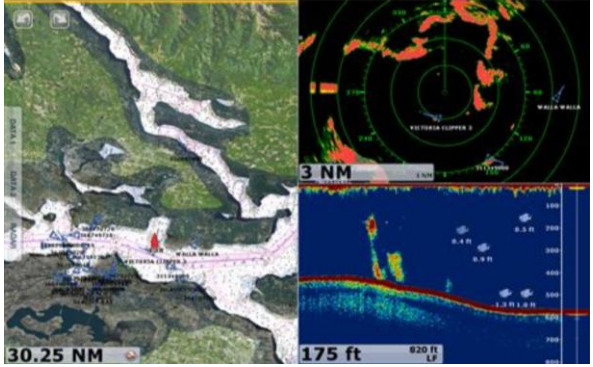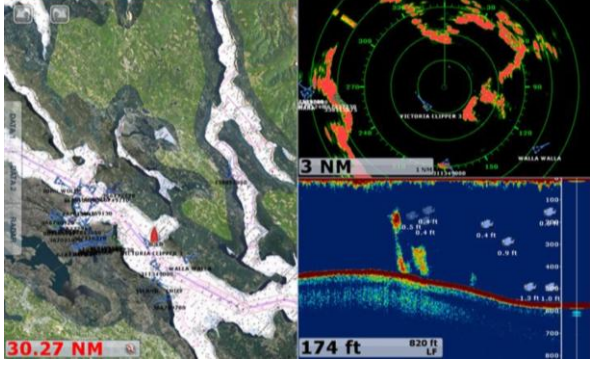
Original Screen

(No Home or RotoKey ™ icons)

Digitally Zoomed

<table>
<tr><td align="center">(2) Picture Quality</td></tr>
</table>

The picture quality settings can be set directly from the top page with the dedicated icon. [**LD**] setting provides a faster response, but a decrease in resolution on the device. [**HD**] setting provides better resolution, but response time may decrease. [**SD**] is combination of the two with faster response than [**HD**] and an increase in resolution from [**LD**]. Tap the icon to switch between the screen definitions.

Icons and Descriptions	Screen Samples
LD → SD **LD: Low Definition –** This icon shows that the screen is in Low Definition. Though the screen image resolution decreases, operational response is faster than the other settings. This is an excellent option when using an iPad or large Android™ device as a remote control. Tap this icon to change it into the Standard Definition screen.	
SD → HD **SD: Standard Definition –** This icon shows that the screen is in Standard Definition. The operational response is better than the [HD]. To view and operate using an iPad or Android™ tablet screen, the [SD] setting is recommended. Tap this icon to change it into the High Definition screen.	
HD → LD **HD: High Definition –** This icon shows that the screen is in High Definition. Response in operation may decrease compared with the lower definition. If you want to view the screen images without operation, this is the recommended setting. Tap this icon to change it into the Low Definition screen.	

6-3   Number of Devices that can be used with the NavNet Remote App

A maximum of **five (5) devices** can be connected to one (1) MFD for the **NavNet Remote app v1.0.5.8 or later**.

7. NavNet Viewer App
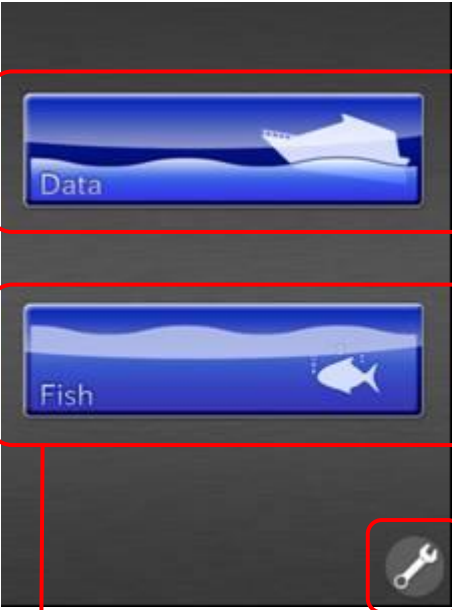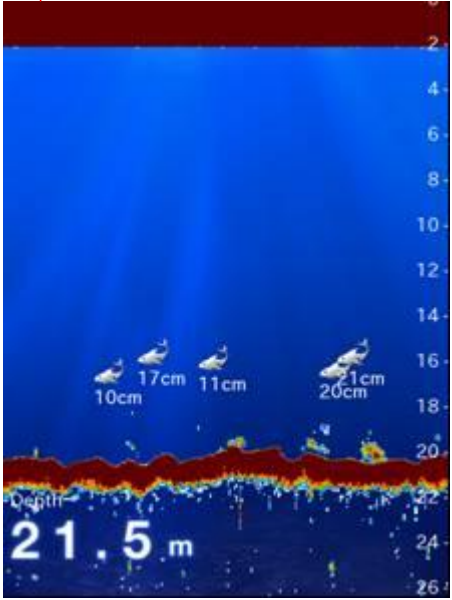
7-1   Overview

The NavNet Viewer App is a multi-function app that utilizes the sensor data running through the Ethernet and NMEA2000 network of the TZT9/14/BB and TZTL12F/15F. As shown in the following drawing, sensor data available on the network is wirelessly transferred to the iOS/Android™ device.
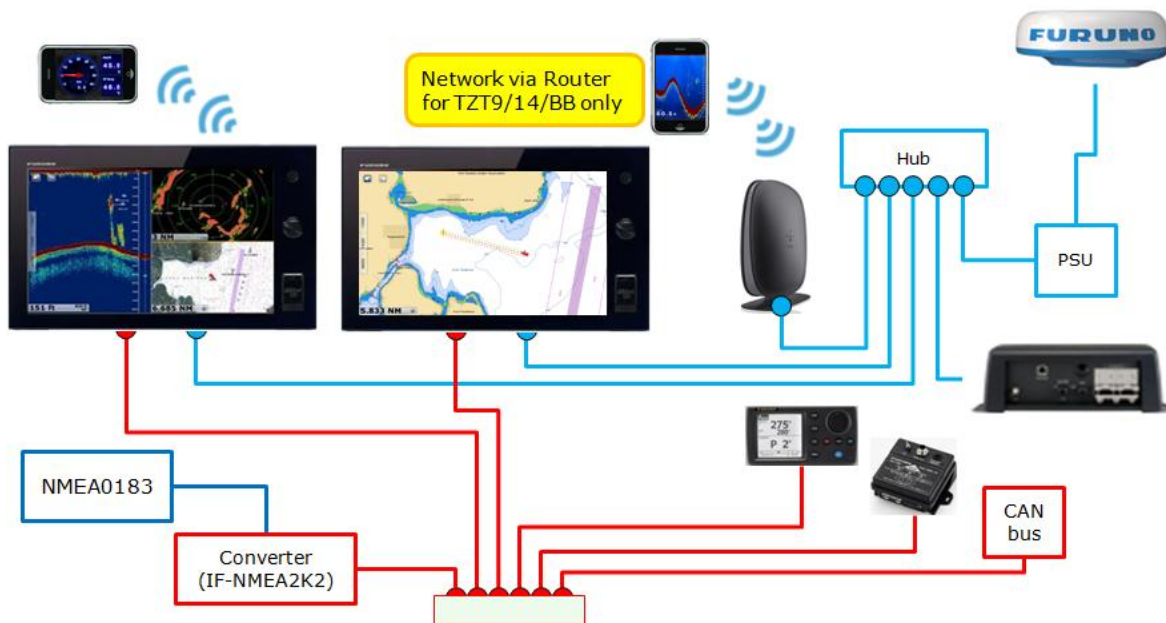
Note:

Connection via router is for TZT9/14/BB only as described in **Section 2-3** and **2-4**. In the TZTL12F/15F network, ensure to connect iOS/Android™ devices to one of the TZTL12F/15F units.

Home Page

Data Page: Instrument indicator

See **Section 7-3** for details.

Fish Page: Fish Finder

See **Section 7-4** for details.

Settings page

See **Section 7-5** for details.

In the Data and Fish pages, four icons pop up by tapping the screen for quick access to Home, Data, Fish, and Settings pages.

Note:

(1) Both portrait and landscape images are available.

(2) Depending on the screen resolution of a connected device, NavNet Viewer app graphic images may not fit in full screen.

7-3 Sensor Indicator

Navigation data runs through the Ethernet and NMEA2000 network of the TZT9/14/BB and TZTL12F/15F. iOS/Android™ devices wirelessly receive this information and display the data in instrument windows. The graphic images are based on the layout found in the model RD-33.

(1) Top Page – Instrument Indicator

Multiple graphic patterns are preset in Fishing, Sailing, Ship, Navigation, Environment, and Engine pages.

The Custom page allows for a maximum of eight (8) graphic patterns to be shown on the iOS/Android™ screen, according to the user's preference.

(2) Instrument by Category

The following graphics are preset. Available data in the network is transferred to iOS/Android™ devices and shown on each page.

Fishing	Sailing	Ship
Navigation	**Environment**	**Engine**

Note:

(1) Display designs of these preset graphics are not customizable.

(2) A maximum of four (4) engines can be displayed, same as on the TZT9/14/BB.

(3)   Full Display vs. Single Display

Full Display	Single Display

In the full display, all graphics are shown on one page. Double-tapping one of the graphics changes the screen mode into a single display. To show another instrument graphic in the single display, just swipe the screen right to left or left to right.

(4)   Portrait vs. Landscape

Portrait	Landscape
In the full display mode, two graphics are shown. In the single display mode, the graphic is scaled down compared with landscape.	In the full display mode, four graphics are shown. In the single display mode, a large instrument graphic is shown.

(5)   Dark vs. Light

Two color designs are selectable from Dark and Light in the Settings page. The default setting is Dark.

Dark	Light
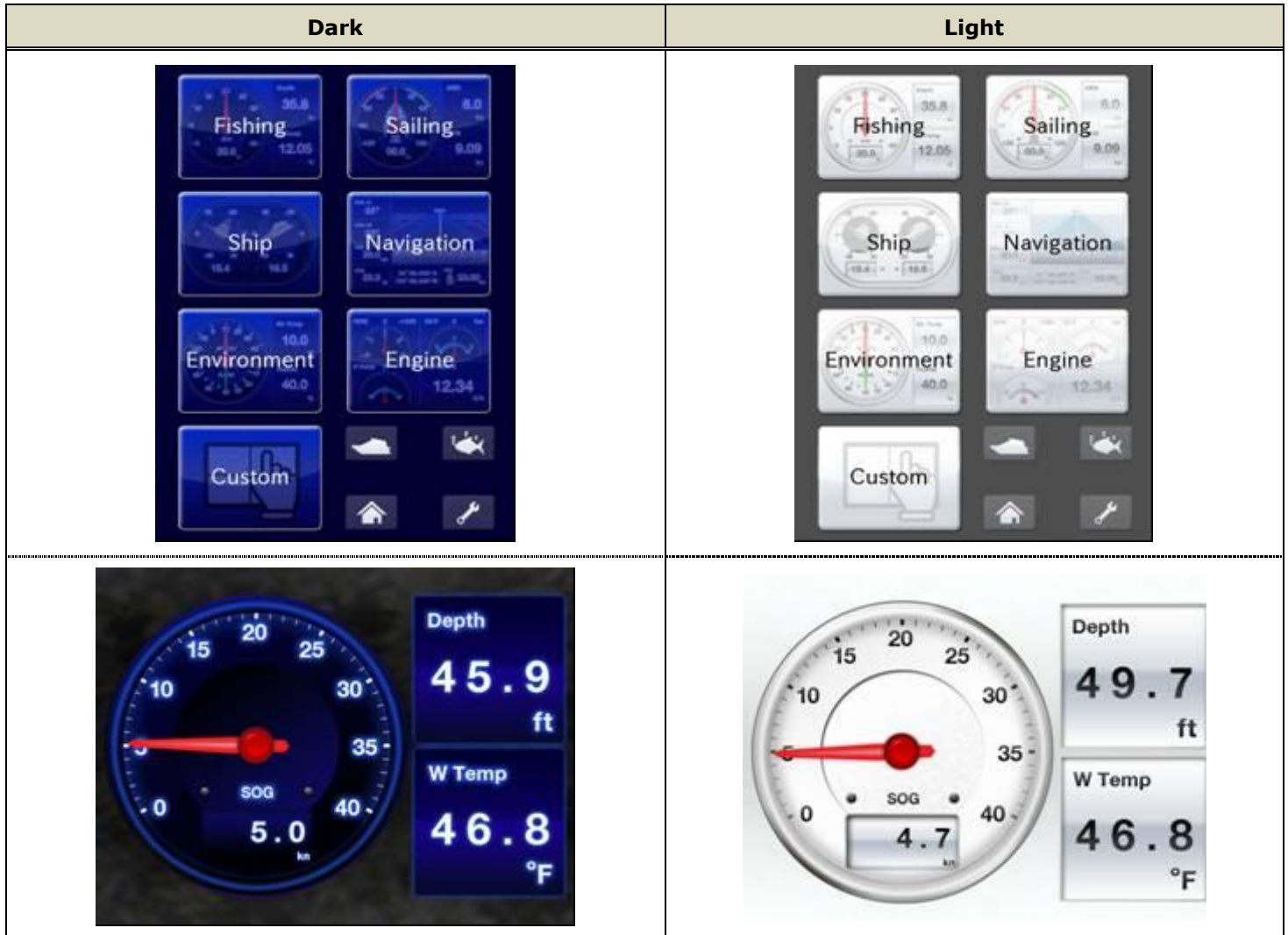
7-4   Fish Finder

When the DFF1/3, BBDS1, DFF1-UHD, or TZTL12F/15F (built-in Fish Finder) is available in the Ethernet network, **iOS/Android™ devices show Fish Finder echoes independent of the screen mode setting of the TZT9/14/BB**. In the following example, even if the TZT14 screen shows the full plotter display, the iPhone shows the Fish Finder display. Essentially, your smart phone becomes a second NavNet TZtouch/2 Fish Finder display, in your pocket!
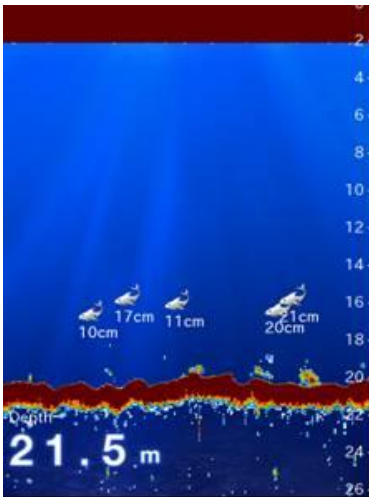
The Fish Finder screen consists of range scales and a depth data box. The display mode on the iOS/Android™ screen is always in **single-frequency**:

- When the **single-frequency mode** is selected in the TZT9/14/BB screen, **the iOS/Android™ device shows the same frequency echoes**. Zoom and Bottom Lock displays are not available on the iOS/Android™ screen.

- When the **Dual-Frequency mode (High + Low)** is selected in the TZT9/14/BB screen, **the iOS device shows the high frequency echoes**.

- When no Fish Finder is displayed in the TZT9/14 screen, **the iOS/Android™ device shows echoes according to the screen mode of the previously-opened Fish Finder display**. As an example, if the TZT9/14/BB was previously set to the low frequency mode, the iOS/Android™ device shows low frequency echoes.

Notes:

(1) **ACCU-FISH ™ –** With the NavNet Viewer app **v1.0.6.3** or later, fish icons appear when the ACCU-FISH ™ mode is ON at the TZT9/14 side.

The following functions are **NOT available** with iOS/Android™ devices.

(2) **Bottom Discrimination –** Even if the BBDS1/DFF1-UHD or TZTL12F/15F is networked, iOS/Android™ devices show fish echoes only.

(3) **Zoom, Bottom Lock screen –** iOS/Android™ devices always show echoes in a single screen.

(4) **Manual Range, Shift –** Echoes are always shown in the Auto range.
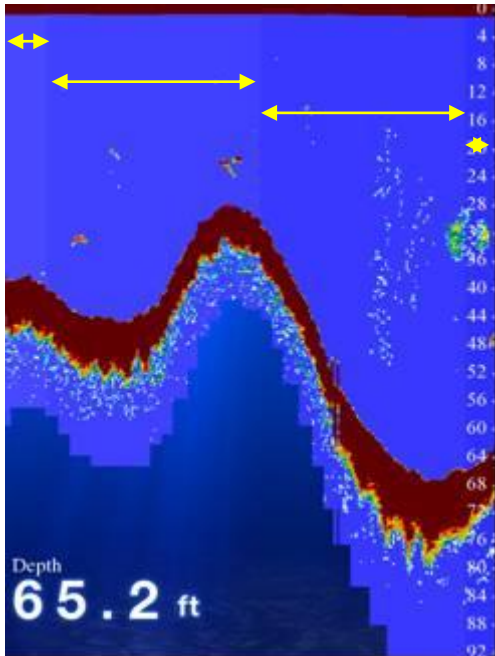
Portrait	Landscape

Fish Finder echoes can be shown in Portrait and Landscape screen modes. The Landscape images are scaled from the Portrait images.

(3) Back-scrolling Echoes

As you operate the Fish Finder on the TZT9/14/BB and TZTL12F/15F, the Fish Finder screen on iOS/Android™ devices can also be scrolled back to see the historical echoes.

(4) SST Shading

If a temperature sensor is available on the network, you can use this unique feature on the Fish Finder screen. The background color varies incrementally every 0.5 ℃, between 0 ℃ and 30 ℃. You can see the changes of temperatures during fishing.

In this example, you can see variable colors in the screen, showing changes in temperature.

This mode is selectable on the Settings page – [Fish] – [SST Shading] – [ON].

7-5 Alarm Synchronization

The alarms generated in the TZT9/14/BB can be transferred to iOS/Android™ devices with sound and/or vibration. In [Settings] – [Warning], select alarms to be transferred. As shown at left, selected items are highlighted in blue.

8. NavNet Controller App

8-1   Overview

The **NavNet Controller** app offers a wireless remote control option for the TZT9/14/BB (v3.12 or later) and TZTL12F/15F.

8-2   Number of Devices that can be used with the NavNet Controller App

A maximum of **five (5) devices** can be connected to one (1) TZT9/14/BB or TZTL12F/15F for the NavNet Controller app.

8-3   Operation Screens

The NavNet Controller app has two (2) main screens for operation: **scroll pad** and **touch pad** modes. Each screen mode has dedicated operation icons.

Scroll Pad Mode	Touch Pad Mode
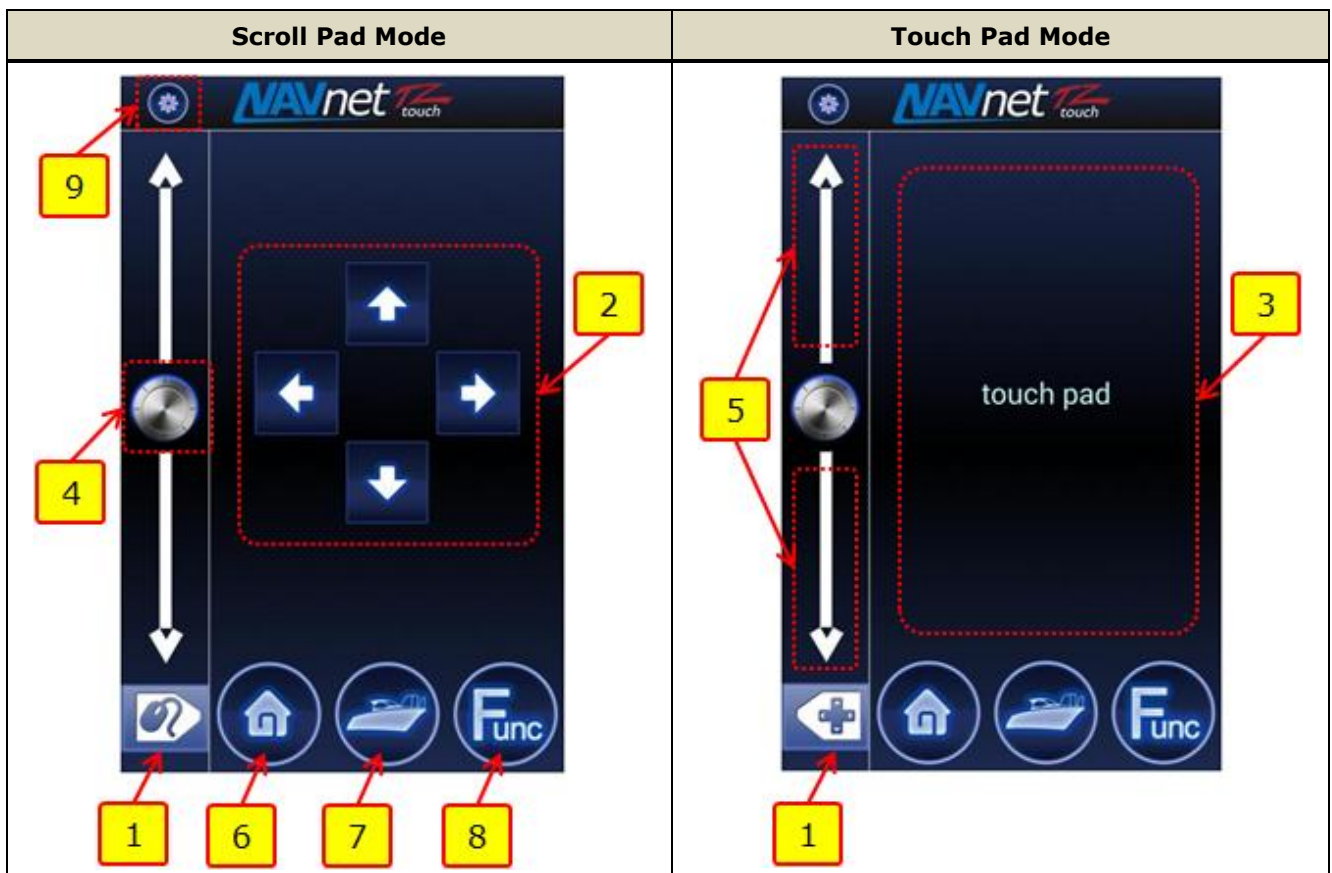
No	Icons/Pad	Descriptions	Comparison with Operation by...	
			MCU-002	Mouse
1	Mode Selection	Switches the screen mode between scroll pad and touch pad	[**CURS/SCRL**] key	-
2	Scroll Pad	Scrolls the Plotter, Radar, Fish Finder screens	Joystick operation under scroll mode	Drag
3	Touch Pad	Moves the cursor in any direction	Joystick operation under cursor mode	Moving the cursor
4	RotoKey™ (Press)	Acts as pressing the RotoKey™	[**ENT**] key	Pressing the wheel
5	Slider Bar	Acts as rotating the RotoKey™ for zooming in/out of the screen, etc.	[**-/▲** (UP)] key [**+/▼** (DOWN)] key	Rotating the wheel
6	Home	Opens the Home page	[**Home**] key	-
7	Center/Cancel	Acts as tapping [Center Vessel] (Plotter), [Center Radar] (Radar), and [Cancel History] (Fish Finder) icons Acts as cancel function	[**Center**] key [**Cancel**] key	-
8	Function	Acts as Function Gesture	[**FUNC**] key	Right-click
9	Setting	Opens the setting page	-	-

Note:

(1) The screen layout is fixed to portrait only.

(2) The RotoKey™ icon does <u>NOT</u> work on the TZTL12F/15F.

8-4 Setting Page

The setting page guides you to the following options.

Setting Page	No	Keys	Descriptions
	(1)	Network Config	Shows the IP address/(es) of TZT9/14/BB or TZTL12F/15F units on the network to connect the device to one of the selected units
	(2)	Application Config	Switches the position of the slider bar between left edge and right edge of the screen
	(3)	Power / Brilliance	Shows the brilliance control window of the TZT9/14/BB or TZTL12F/15F
	(4)	About	Shows the app version and end user license agreement

8-5   Limitations and Notes

(1) Limitation in Drag by Joystick

The touch pad has **NO "drag" function**. As an example, the guard zone setting of Radar, which requires to be adjusted by drag, will not be available with the NavNet Controller app. This operation should be made by touch on the screen.
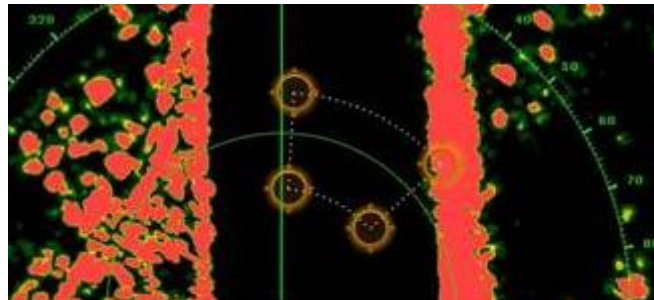

(2) Limitation in 3D Mode – Pan/Tilt

You can turn the screen mode into the 3D mode by selecting [3D Mode] from the contextual menu. However, **you cannot pan/tilt the chart with the app operation** because sliding the TZT9/14/BB or TZTL12F/15F screen with two fingers is the only way to pan/tilt. The chart in 3D is always in the default angle as shown at right. If you have paned/tilted the chart with two fingers before, the screen may remain at the previously-set angle.

(3) Note on Menu – Second Layer (TZT9/14/BB)

The first layer of the Menu can also be scrolled with the slider bar, but the second layer cannot. We recommend that the arrow icons at the top and bottom of the layer be pressed on the touch pad to scroll the second layer.
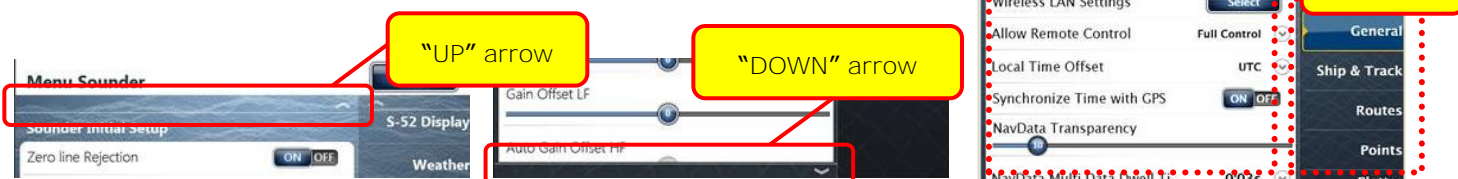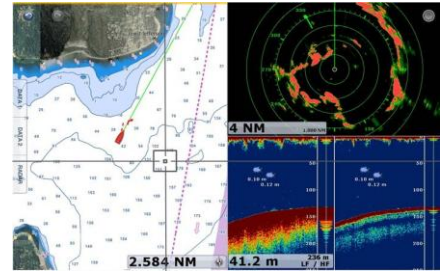

(4) Note on Virtual Keyboard

To enter characters and numbers with a virtual keyboard, use the touch pad. Place the cursor on a required key and tap on the touch pad.

(5) Note on Active Window

In the split screen mode, even if you place the cursor on a different screen, the window will not be active. Tap on the touch pad as you would tap on the TZT9/14/BB screen to activate it.

(6) Edge Swipe on TZTL12F/15F

The edge swipe function of the TZTL12F/15F is **NOT** accessible from the NavNet Controller app.

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History

Edition	Sales Bulletin	Date	Descriptions
1	FSB12-0010/R1	Dec. 12, 2012 Jan. 25, 2013	Initial release (some items revised later)
2	FSB13-0002	Jan. 24, 2013	App's functionalities changed after releasing TZT9/14/BB v2.01
3	FSB14-0007	Aug. 29, 2014	Android version of Controller app added Android version for NavNet Remote and Viewer apps added
4	FSB15-0012	Aug. 28, 2015	Descriptions on NavNet TZtouch2 added iOS version of Controller app added
5	FSB16-0001	Jan. 6, 2016	NavNet Remote and Viewer apps updated Refined with latest screenshots
6	FSB16-0027	Nov. 10, 2016	Descriptions on NavNet Remote app updated to have compatibility with TZTL12F/15F

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