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NAVnet**TZ**
touch XL**NAVnet****TZ3**
touch**NAVnet****TZ2**
touch

NavNet Command Center

Integration with Third-Party Devices via Ethernet
(5th Edition)

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1. Integration with Third-Party Partners

The NavNet TZT2BB, TZtouch3, and TZtouchXL series MFDs can be integrated with third-party partners' devices via **Ethernet – HTML**.

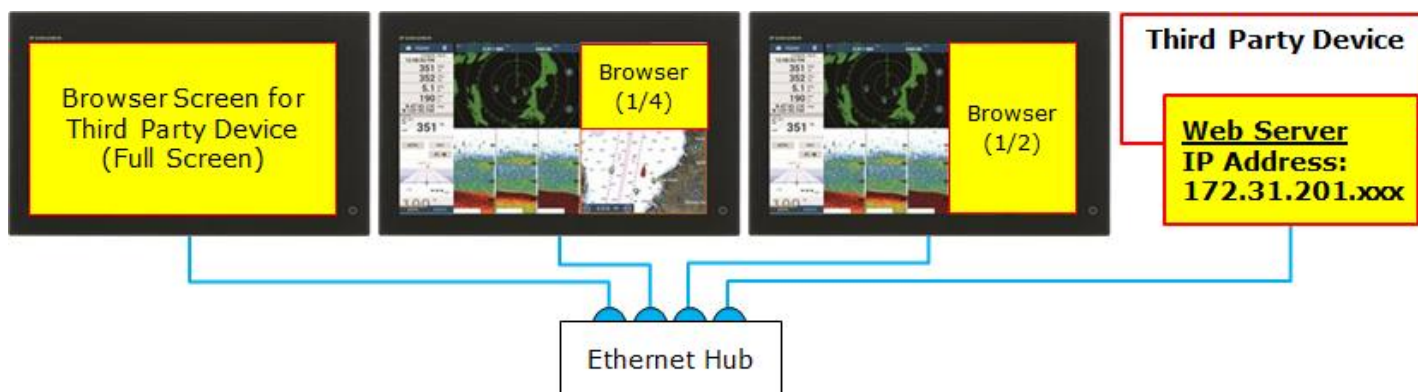
Series / Model	Software Version Requirement
NavNet TZtouchXL: TZT10X/13X/16X/22X/24X/BBX	Initial Version
NavNet TZtouch3: TZT9F/12F/16F/19F	V1.xx or v2.01 and later
NavNet TZtouch2: TZT2BB	V7.01 and later
NavNet TZtouch2: TZTL12F/15F	Not Compatible
NavNet TZtouch: TZT9/14/BB	Not Compatible

Notes:

- (1) The TZTL12F and TZTL15F from NavNet TZtouch2 series MFDs are **NOT** compatible with this feature. Only the **TZT2BB** is compatible from the NavNet TZtouch2 series models.
- (2) For the TZT9F/12F/16F/19F and TZT2BB, supported partners are different depending on the software versions.

Network Overview

MFDs are networked with third-party devices via Ethernet. These compatible devices have built-in web servers. The MFDs access these devices browsers to show images from them and control the networked devices.



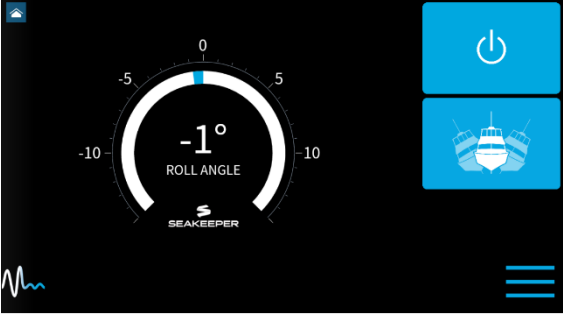
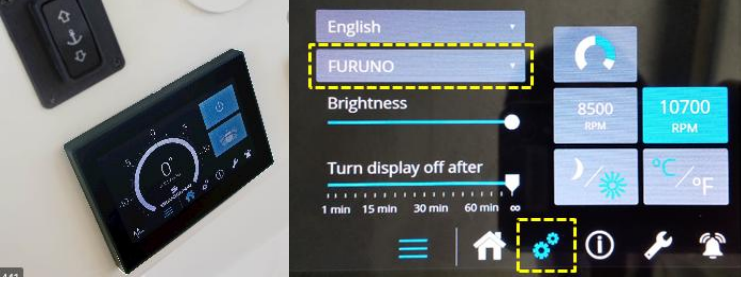

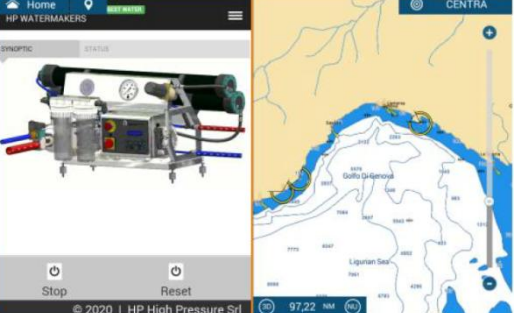



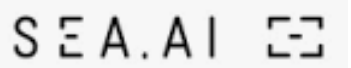
See [Section 2](#) for compatible devices from third-party partners and communications overview and [Section 3](#) for network requirements.













2. Compatible Partners and Devices

The following table shows the currently available and supported partners and their devices with the TZT10X/13X/16X/22X/24X/BBX, TZT12F/16F/19F, and TZT2BB. Other partners are planned to be added with the future software update.

No	Manufacturer / System	System Overview	Communications	Compatible NavNet MFDs
1	<p>QUICK https://www.quickitaly.com/en/home/</p> 	<p>Quick SpA offers a gyro stabilizer, thruster, windlass, battery charger, etc., which are controlled via the system called QUICK Nautical Network (QNN). The browser page on MFDs can activate the gyro stabilizer, roll up the anchor, operate the thruster, monitor the battery, and engage in other available actions on the browser page.</p>  <p><i>E.g., Windlass operation screen</i> (Hyperlink – about product)</p>	<p>Communications via static IP: 172.31.201.11</p> <p>Assign the static IP to the QNN webserver for NavNet MFDs.</p> 	<p>NavNet TZtouchXL TZT9F - V1.09 and later TZT12F/16F/19F - V1.08 and later TZT2BB - V7.01 and later</p>
2	<p>Lumishore https://www.lumishore.com/</p> 	<p>Lumishore offers LED lighting for boats. The web server called Lumi-Link Command Center allows you to control LED colors and brilliance on networked MFDs.</p>  <p><i>E.g., LED operation window shown on MFD</i> (Hyperlink about Lumi-Link)</p>	<p>Communications via static IP: 172.31.201.4</p> <p>Insert the dedicated SD card for NavNet MFDs to their webserver Lumi-Link Command Center and assign the static IP.</p> 	<p>NavNet TZtouchXL TZT9F - V1.09 and later TZT12F/16F/19F - V1.08 and later TZT2BB - V7.01 and later</p>
3	<p>Victron Energy https://www.victronenergy.com/</p> 	<p>Victron Energy offers battery chargers, inverter, battery monitors, etc. The web server models called GX series allow you to monitor the battery status and operate chargers on networked MFDs.</p>  <p><i>E.g., Battery monitor window</i></p>	<p>Communications via static IP: 172.31.201.12</p> <p>Connect NavNet MFDs to the GX series web server and assign the static IP. For settings, consult with a local representative of Victron.</p> 	<p>NavNet TZtouchXL TZT9F - V1.09 and later TZT12F/16F/19F - V1.08 and later TZT2BB - V7.01 and later</p>

No	Manufacturer / System	System Overview	Communications	Compatible NavNet MFDs
4	<p>Shadow-Caster https://shadow-caster.com/</p> 	<p>Shadow-Caster, based in the US, offers LED lighting for boats. The web server called <u>SCM-MFD-BRIDGE</u> allows you to control LED colors and brilliance on networked MFDs.</p>  <p><i>E.g., LED operation window</i></p>	<p>Communications via static IP: 172.31.201.9</p> <p>The SCM-MFD BRIDGE with v4.10 and later software has the static IP address above by default.</p>  <p>Connect MFDs to the SCM-MFD-BRIDGE above.</p> <p><i>SCM-MFD-BRIDGE</i></p>	<p>NavNet TZtouchXL TZT9F - V1.09 and later TZT12F/16F/19F - V1.08 and later TZT2BB - V7.01 and later</p>
5	<p>SEAKEEPER https://www.seakeeper.com/</p> 	<p>Seakeeper offers a gyro stabilizer to stabilize the roll motion of the boat for a variety of boat sizes and types. The gyro starts running after turning the power on. While it generally takes over 30 minutes to get ready to stabilize the boat, the 5" touch display shows the RPM of the gyro to see the ready status of stabilization. MFDs help show the gyro RPM and turn on the stabilization function on a large screen.</p> 	<p>Communications via DHCP</p> <p>The LAN cable for a 5" display has the NMEA2000 connector at one end (for display) and RJ45 at the other (for generic Ethernet ports like NavNet MFDs).</p> <p>Make sure that the software version of the display is the latest.</p>  <p><i>E.g., 5" display (left) and settings window (right)</i></p>	<p>NavNet TZtouchXL NavNet TZtouch3 – V2.01 and later TZT2BB – V8.01 and later</p>
6	<p>HP WATERMAKER https://hpwatermaker.it/en/</p> 	<p>The HP WATERMAKER manufactures water maker products. Control of switches, valves, and settings is available on the MFD. Their website also introduces the procedures and some tips.</p>  <p><i>E.g., Water maker operation window (left screen)</i></p> <p>(Hyperlink – about product)</p>	<p>Communications via static IP: 172.31.201.17</p> <p>The 7" display has a web server. Set up the IP address above on their 7" display's setting window.</p> 	<p>NavNet TZtouchXL NavNet TZtouch3 – V2.01 and later TZT2BB – V8.01 and later</p>

No	Manufacturer / System	System Overview	Communications	Compatible NavNet MFDs
7	SEA.AI (ex. OSCAR) https://sea.ai/ 	SEA.AI, previously called OSCAR, offers a system to avoid collision utilizing cameras mainly for racing yachts. Dangerous targets are identified with a camera to generate an alarm. The MFD can be utilized to show the camera image and operate for zoom in/out, etc. <i>E.g., Dangerous target monitoring screen</i> 	Communications via static IP: 172.31.201.45 The processor has a web server. Assign the static IP address above. 	NavNet TZtouchXL NavNet TZtouch3 – V2.01 and later TZT2BB – V8.01 and later
8	Omnisense https://omnisense-systems.com/en/ 	The thermal camera (Model: Ulysses II) can be shown and controlled from the MFD for pan/tilt/zoom operation, etc. Note: Target tracking or camera lock on the plotter screen is not available, unlike with FLIR cameras. 	Communications via static IP: 172.31.201.20 (to 24) Set up the IP address above using a PC browser. When multiple cameras are to be networked, assign IP addresses in the range of 172.31.201.20 to 24. Connect to the MFD network from the connection box's port.	NavNet TZtouchXL NavNet TZtouch3 – V2.01 and later TZT2BB – V8.01 and later
9	BOENING B-MACS PE https://www.boeing.com/38.html?&L=1 	Boeing Automation offers ship automation to monitor and control a variety of systems onboard. <i>E.g., Monitoring screen</i> (Hyperlink – about product) 	Communications via DHCP AHD-CPG Chart Plotter Gateway works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
10	DOMETIC Seastar DMC https://www.dometic.com/en/outdoor 	DOMETIC offers an integrated management system of onboard equipment. Operation and monitoring of onboard equipment processed in their server is accessible via MFDs.	Communications via DHCP DCM works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
11	GROCO https://www.groco.net/ 	GROCO offers electrically controlled valve systems. Operation and status monitoring of valves are available via MFDs. (Hyperlink – about product)	Communications via DHCP G-Gate works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
12	JL AUDIO https://www.jlaudio.com/ 	JL AUDIO offers audio entertainment systems for boats. The browser page on MFDs shows their server to play music, etc. (Hyperlink- about product)	Communications via DHCP MMA-1-HTML works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – NOT supported TZT2BB – NOT supported

No	Manufacturer / System	System Overview	Communications	Compatible NavNet MFDs
13	LUMITEC POCO https://www.lumiteclighting.com/ 	LUMITEC offers lighting systems for underwater and onboard. LEDs can be controlled on MFDs. (Hyperlink – about product)	Communications via DHCP Poco 3 Digital Lighting Control Module works as a webserver. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
14	Maretron MConnect https://www.maretron.com/ 	MConnect from Maretron offers operation and monitoring of onboard equipment. (Hyperlink – about product)	Communications via DHCP MBB300C works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
15	Onyx Marine https://www.onyxmarine.com/en 	Onyx Marine offers operation and monitoring of onboard equipment.	Communications via DHCP For details on web servers, contact a local representative of Onyx Marine.	NavNet TZtouchXL – NOT supported yet NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
16	Tecnoseal https://www.tecnoseal.it/eng/ 	Tecnoseal offers antifouling systems. Operation and monitoring status are available on MFDs. (Hyperlink – about product)	Communications via static IP: 172.31.201.19 For details on web servers, contact a local representative of Tecnoseal.	NavNet TZtouchXL – NOT supported yet NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
17	WhisperPower https://www.whisperpower.com/ 	WhisperPower offers management systems for generators, batteries, etc. (Hyperlink – about product)	Communications via DHCP WhisperCare router works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL – NOT supported yet NavNet TZtouch3 – V3.56 and later TZT2BB – V9.56 and later
18	CMC marine https://www.cmcmarine.com/ 	CMC marine offers boat control systems with fin stabilizers, thrusters, rudders, etc.	Communications via DHCP For details on web servers, contact a local representative of CMC marine.	NavNet TZtouchXL – V24.21 and later NavNet TZtouch3 – V3.70 and later TZT2BB – V9.70 and later
19	SEAKEEPER RIDE https://ride.seakeeper.com/ 	SEAKEEPER RIDE is a control system of roll and pitch installed on the transom. Launching the system and monitoring the operation status are available on MFDs.	Communications via DHCP The software Module works as a web server. Connect it to NavNet MFDs via DHCP. 	NavNet TZtouchXL – V24.21 and later NavNet TZtouch3 – V3.70 and later TZT2BB – V9.70 and later
20	VisuWorld https://visuworld.eu/en/home-en/ 	VisuWorld offers a monitoring system called VisuShip to connect the systems on modern yachts across all systems to display them on easy-to-understand graphical views. (Hyperlink – about product)	Communications via static IP: 172.31.201.15 For details on web servers, contact a local representative of VisuWorld.	NavNet TZtouchXL – V25.11 and later NavNet TZtouch3 – Not supported TZT2BB – Not supported

Tips – How do these partner devices communicate with MFDs?

Each partner device has a **built-in web server**, which the MFDs will access via Ethernet for data display and control in a **browser**. **These partner devices are assigned with a dedicated Class B IP address (172.31.201.xxx) by DHCP or a static IP address**, as shown in the table above. This connection allows MFDs to access the built-in browsers of networked devices. **Make sure to consult with representatives of each manufacturer for IP address configuration.**

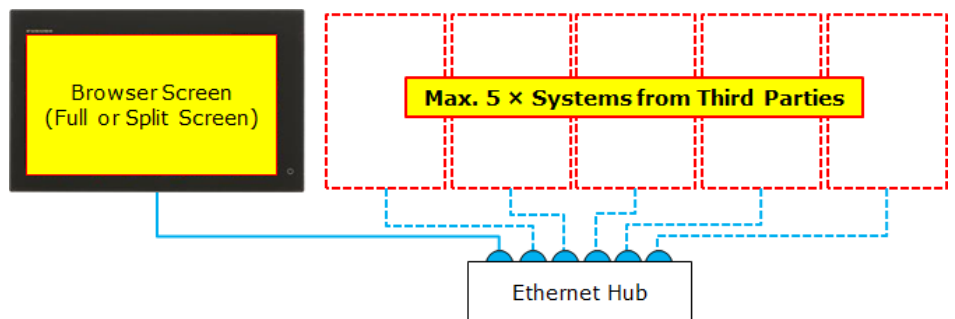
Tips – How are these partner devices detected by MFDs?

MFDs have built-in files that identify networked partner devices. In the Service Menu - [UTILITY] - [ACCESS MANAGER], you can see unique files named [xxx (partner name). enc]. These files for partners in the table above are enclosed in the software installation packages. On updating the MFD to these software versions, these files will also be installed. These files define the IP addresses of partner devices and logo images (home screen icons) to be shown on the Home page. Customers can use the icons to create custom pages on the Home page.

3. Network Requirement and Setup Procedures

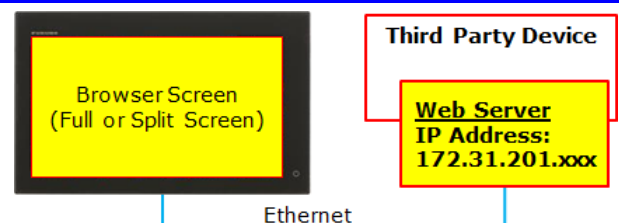
3.1. Network Overview

A maximum of five (5) third-party systems can be networked in the same NavNet MFD network.



3.2. Requirement of Partner Devices

Each partner device has a **built-in web server**, which runs the application to display and operate the device. MFDs access the server to control the application of the networked device.



To network with NavNet MFDs, make sure that partner devices are assigned with the dedicated IP addresses per manufacturer for static IP or with one of the IP addresses in the range of 172.31.201.xxx for DHCP, as shown in the table in [Section 2](#) and [Section 3](#): Consult with representatives of each manufacturer for IP address configuration.

3.3. Action and Operation on MFDs

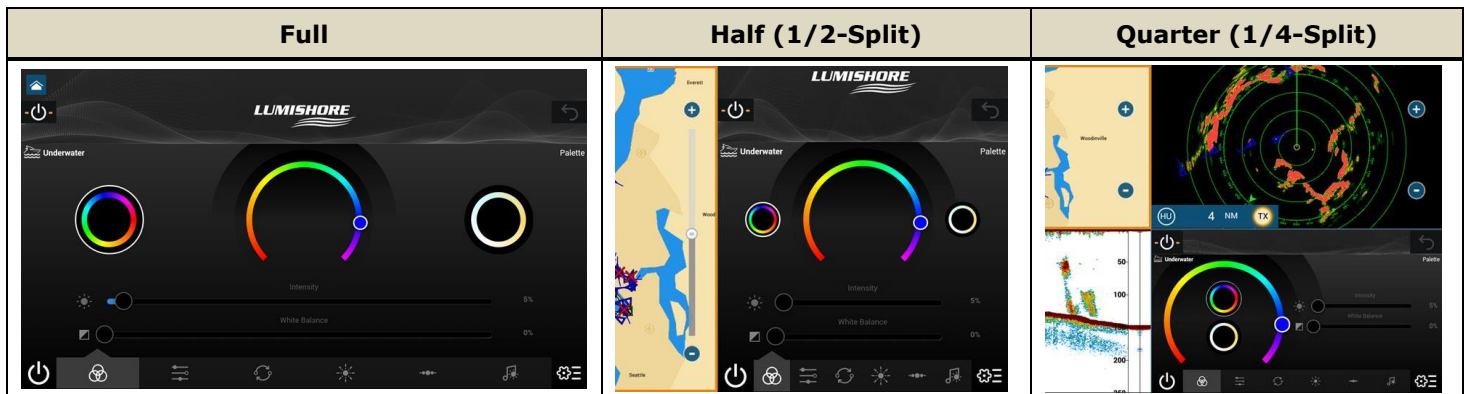
- (1) Update MFDs to the latest software versions to be compatible with target partners' devices.
- (2) Make sure that the target device is assigned with the dedicated IP address of 172.31.201.xxx.
- (3) Network MFDs with the device via Ethernet.
- (4) On the Home page, tap the [+] icon to create a new page and confirm that the icon of the partner device is shown.
- (5) Select the partner device to create the page.

E.g., Home Page – Icon from Lumishore

- (6) Operate the networked device by touch on the MFD screen.



Screen Images – Example from Lumishore



Notes:

- (1) Availability of half (1/2-split) and quarter (1/4-split) and sixth (1/6-split) pages depends on networked partner devices.
- (2) Some systems may take longer than others for the application to be displayed every time the browser page is open on MFDs.
- (3) Alarms generated on third-party devices are **NOT** shown on the Plotter, Radar, Fish Finder, etc. of MFDs.

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