

NAVnet

TZ
touch



Black Box
Model: TZTBB

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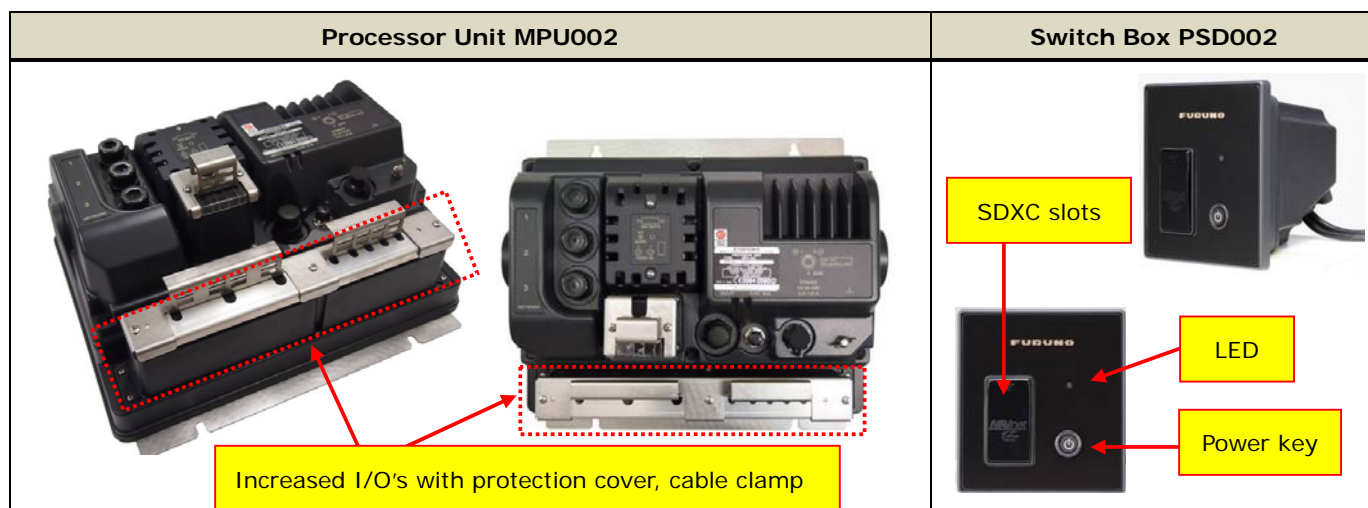
1. Model: TZTBB

The NavNet TZTBB is the Black Box (or “BB”) solution for our NavNet TZtouch series. As boat console spaces are getting wider, sometimes 14” or 15” screens are not big enough to fill the space. The new NavNet TZTBB Black Box MFD provides the scalability to meet the display requirements of any size vessel demanding larger screens, while maintaining the high-performance standards set by the TZT9 and TZT14. The TZTBB also incorporates the multi touch user-interface, as well as an increased number of I/O's.

2. Overview

2-1. Outlook

The TZTBB is comprised of two major components: an MPU002 processor unit and a PSD002 switch box. The processor is based on the TZT14 architecture with increased I/O's. The switch box incorporates a power key for turning the system on/off, (2) SDXC slots for loading charts and software, an LED status indicator, and a built-in buzzer for alarm/acknowledgement sounds. By connecting a multi touch monitor (supplied separately), enhanced multi touch operation is available on much larger display sizes. Unlike conventional BB models, a dedicated control unit is not supplied or required for operation, since full control can be achieved through the use of a multi touch monitor. The TZTBB MFD utilizes a modified version of the standard TZtouch software with a dedicated UI to achieve full system control.




Note:

- (1) Multi touch monitors supplied separately. See Section 4 of this guide for product specifications and other details regarding multi touch monitors.
- (2) See Section 3-2 for system control/operation using a mouse or trackball (w/clickable wheel).

2-2. Specifications

(1) Standard Equipment/Components

Comprised of	Models	Remarks	Carton
Processor Unit	MPU002	-	 <p>L (540)</p> <p>W (430)</p> <p>H (450)</p> <p>13.94 kg</p>
Switch Box	PSD002	-	
Includes:	5 m power cable	10 A, same cable as TZT9/14	
	MJ-A3SPF0017-050ZC		
	3 m network cable	Water proof connector, same cable as MFD8/12 and TZT9/14	
	MOD-WPAS0001-030+		
	2 m multi cable	Same cable as MFD8/12/BB and TZT9/14	
	FRUDD-18AFFM-L180		
	Installation materials and accessories		All items are packed in one box.

(2) Product Specifications & Side-by-Side Comparison

General	TZTBB	TZT14	TZT9
LCD Size	-	14.1-inch wide	9-inch wide
Resolution(s)	Supporting both wide and non-wide : 1280 x 720 (Wide – 16:9) 1280 x 800 (Wide – 16:10) 1280 x 960 (Non-Wide – 4:3) 1280 x 1024 (Non-Wide – 5:4) * (1)	1280×800 (WXGA)	800×480 (WVGA)
Brilliance	-	900 cd/m ²	
Touch Screen	-	Available (Multi touch, up to two contact points)	
Chart	Same as TZT9/14	MapMedia mm3d format (Same charts as NavNet 3D)	
Chart Storage	Same as TZT9/14 * (2)	SDXC Cards (SD, SDHC, or SDXC)	
Wireless LAN	USB-type Built-in * (3), (4)	Built-in	
Language	Same as TZT9/14	English (USA), English (UK), French, Spanish, Germany, Italian, Portuguese, Swedish, Danish, Norwegian, Finish, Greek, Chinese, Japanese	
Environment	Same as TZT9/14	-15°C to +55°C (Built-in Wireless LAN: 0°C to +55°C)	
Protection Level	Processor Unit: IP22 Switch Box: IP56 (front), IP22 (rear)	IP56 (IP22 with connector boot)	
Power Consumption	38.4 W	60 W	42 W

Note:

- (1) See Section 4-3 for detailed descriptions of resolutions.
- (2) Optional SD, SDHC, and/or SDXC cards for chart storage (supplied separately).
- (3) A USB-type Wireless LAN module (WLAN-USB-01-C) is inserted into one of the USB ports at the factory. See Section 5-3 for details.
- (4) The built-in Wireless LAN for the TZTB is approved for use in the US (FCC), Canada (IC), Europe (CE), Australia/New Zealand, and Japan only. Use an external router (supplied separately) for use in other areas. The Chinese version does not have Wireless LAN built-in.

I/O	TZTB	TZT14	TZT9
LAN	3 ports (100 BASE-TX)	3 ports (100 BASE-TX)	1 port (100 BASE-TX)
CAN bus	1 port	1 port	
NMEA0183	No port	No port	
USB	6 ports (USB2.0) * (1)	1 port (USB2.0)	
Video Input (Composite)	2 ports (RCA)	2 ports (RCA)	
DVI-D Output	2 ports (Clone Mode) * (2)	1 port	
Power Output for DRS	No port (PSU012/013 required) * (3)	No port (PSU012/013 required)	
SD Card Slots (Front)	2 slots for SDXC (optional) * (4)	2 slots for SDXC (optional)	

Note:

- (1) Five (5) USB ports are available on the I/O board and one (1) USB port is inside the TZTB processor unit. The internal USB port can be used to connect an optional USB-HDD. See Section 5-7 for more information.
- (2) Extended mode is not available as a display option. See Section 5-6 for details.
- (3) Radar power is supplied via an external power supply. The PSU012 is required for DRS2D/4D/4A/6A/12A and the PSU013 is required for DRS25A.
- (4) SD slots are available on the PSD002 switch box.

Feature(s)	TZTB	TZT9/14
Points	30,000 points 20 characters for name per point 64 characters for comment per point	
Routes	200 routes w/500 points 20 characters for name per point 64 characters for comment per point	
Tracks	30,000 points	
ARPA	30 targets for display	
AIS	100 targets for display	

(3) Comparison with MFDDB

General	TZTBB	MFDDB
Resolution(s)	Supports wide and non-wide aspects: 1280 x 720 (16:9) 1280 x 800 (16:10) 1280 x 960 (4:3) 1280 x 1024 (5:4)	Supports only non-wide aspect: 800 x 600 (SVGA) 1024 x 768 (XGA) 1280 x 1024 (SXGA)
Touch Screen Capability	With optional multi touch monitor	-
Chart	MapMedia mm3d format	MapMedia mm3d format
Chart Storage	SDXC Cards (SD, SDHC, or SDXC)	Internal HDD
Wireless LAN	USB-type Built-in	N/A
Language	English (USA), English (UK), French, Spanish, Germany, Italian, Portuguese, Swedish, Danish, Norwegian, Finish, Greek, Chinese, Japanese	English (USA), English (UK), French, Spanish, Germany, Italian, Portuguese, Swedish, Danish, Norwegian, Finish, Dutch, Greek, Chinese, Japanese
Environment	-15°C to +55°C (Built-in Wireless LAN: 0°C to +55°C)	Processor Unit: 0°C to +45°C Control Unit: -15°C to +55°C
Protection Level	Processor Unit: IP22 Switch Box: IP56 (front) IP22 (rear)	Processor Unit: IP20 Control Unit: IP56 (front) IP20 (rear)
Consumption	38.4 W	104 W (no DRS connected)

I/O	TZTBB	MFDDB
LAN	3 ports (100 BASE-TX) - All 3 ports for sensors	4 ports (100 BASE-TX) - 2 ports for MCU002 - 2 ports for sensors
CAN bus	1 port	1 port
NMEA0183	No port	3 ports
USB	6 ports (USB2.0)	4 ports (USB2.0)
Video Input (Composite)	2 ports (RCA)	4 ports (BNC)
DVI-D Output	2 ports (Clone Mode)	2 ports (Extended Mode)
Power Output for DRS	No port (PSU012/013 required)	1 port (Up to DRS12A)
SD Card Slots	2 slots for SDXC (in PSD002 switch box)	2 slots for SD (in MCU001 control unit)

Feature(s)	TZTBB	MFDDB
Points	30,000 points 20 characters for name per point 64 characters for comment per point	2,000 points 13 characters for name per point 64 characters for comment per point

Routes	200 routes w/500 points 20 characters for name per point 64 characters for comment per point	200 routes w/100 points 13 characters for name per point 64 characters for comment per point
Tracks	30,000 points	10,000 points
ARPA	30 targets for display	30 targets for display
AIS	100 targets for display	100 targets for display

3. TZTBB Operations – User Interface

3-1. Basic User Interface

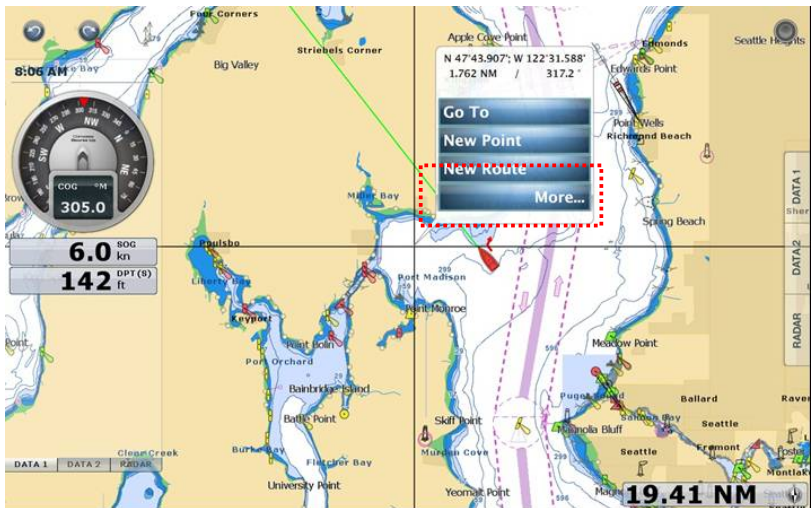

The TZTBB supports the same multi touch user interface as the TZT9 & TZT14, but it has been optimized for full-touch operations with the following unique UI changes:

- (1) RotoKey™ items and contextual menus appear at a tapped spot on the display
- (2) Slider bar for making adjustments
- (3) Virtual Home key icon added to display

(1) RotoKey™ Items and Contextual Menus

When connecting to a large monitor, it can be difficult to select RotoKey™ items or contextual menu items when they are only shown at the right side of the screen. The TZTBB offers the ability to view RotoKey™ items and contextual menus at a tapped spot on the display. The following table describes the differences between the TZTBB and TZT9/14.

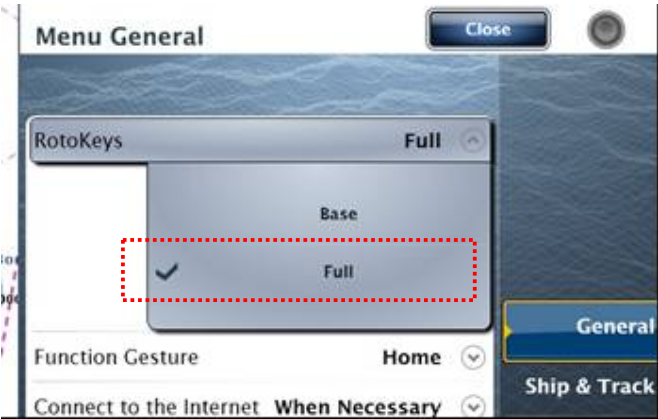
Items	TZTBB	TZT9/14
RotoKey™	Appears as a blue menu at a tapped spot on the display (See examples below)	Appears at the right side of the screen in gold (after pressing the RotoKey™)
Contextual Menus		Appears at the right side of the screen in blue (after tapping somewhere on the screen)
Pop-up Window	Appears at a tapped spot with RotoKey™ items and contexts	Appears at a tapped spot

Pop-up window and contextual menus	"More..." indication
	
After tapping on the screen, three selections appear at the tapped spot in a pop-up window. Tap [More...]. To view the full contents of the RotoKey™ menu.	After pressing [More...], additional selections become visible. (*)

***Note:** To show full items at the tapped spot after pressing [More...], it is recommended to set the RotoKey™ items to be fully shown as shown at right.

[Menu] – [General] – [RotoKeys] – [Full]

With [Base] selected in RotoKey menu, not all the items will appear even after pressing [More...]. Long press the context to show all the items.



Here are some additional examples of these contextual menus in other screen modes.

Pop-up window and contextual menus	"More..." indication

(2) Slider Bar

In addition to Pinch-to-Zoom capability, a slider bar has been implemented for zooming capability.



To show and operate the slider bar:

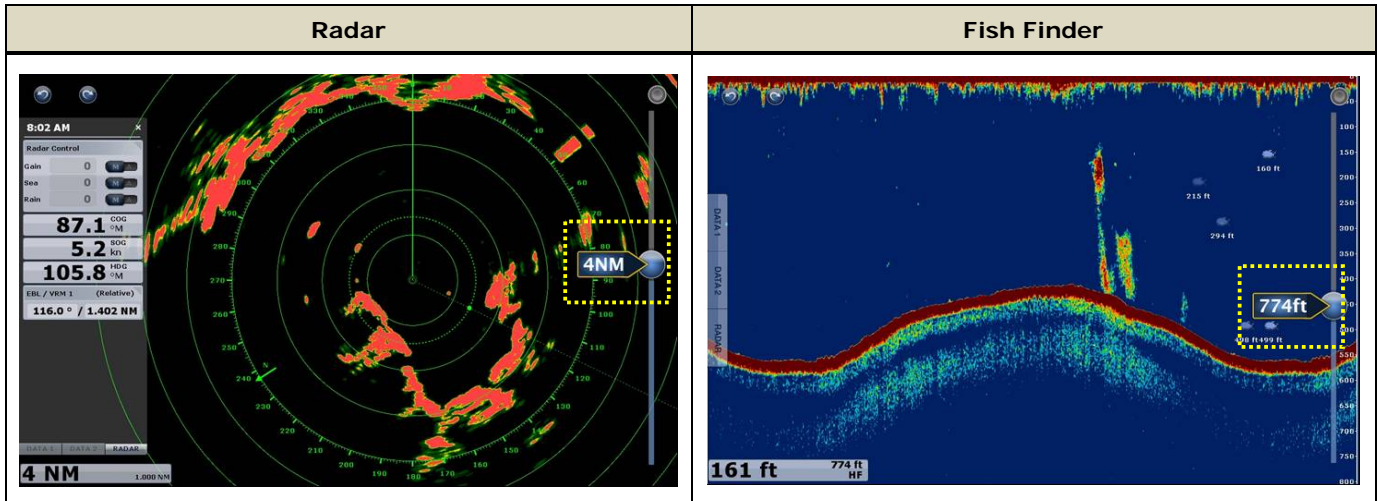
1. Tap the number in the range box, so the slider bar appears.
2. Grab the ball on the slider and shift it up and down to dynamically zoom the chart in/out.
3. To zoom-in/out in smaller increments, simply tap the bar above or below the ball.

Note:

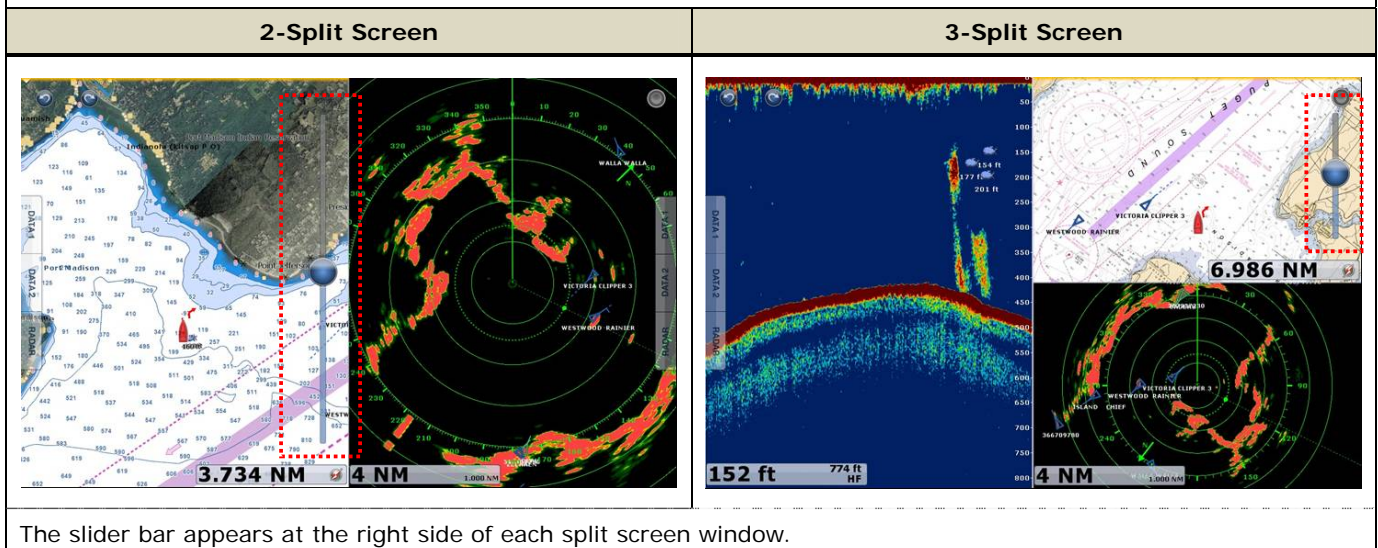
In the Plotter and Weather screen, the range box consists of number (range scale) and compass icon. Tap the number to show the slider bar and tap the compass icon to change the orientation between North-Up and Head-Up.

Note

Here are some additional examples of the slider bar in other screen modes.



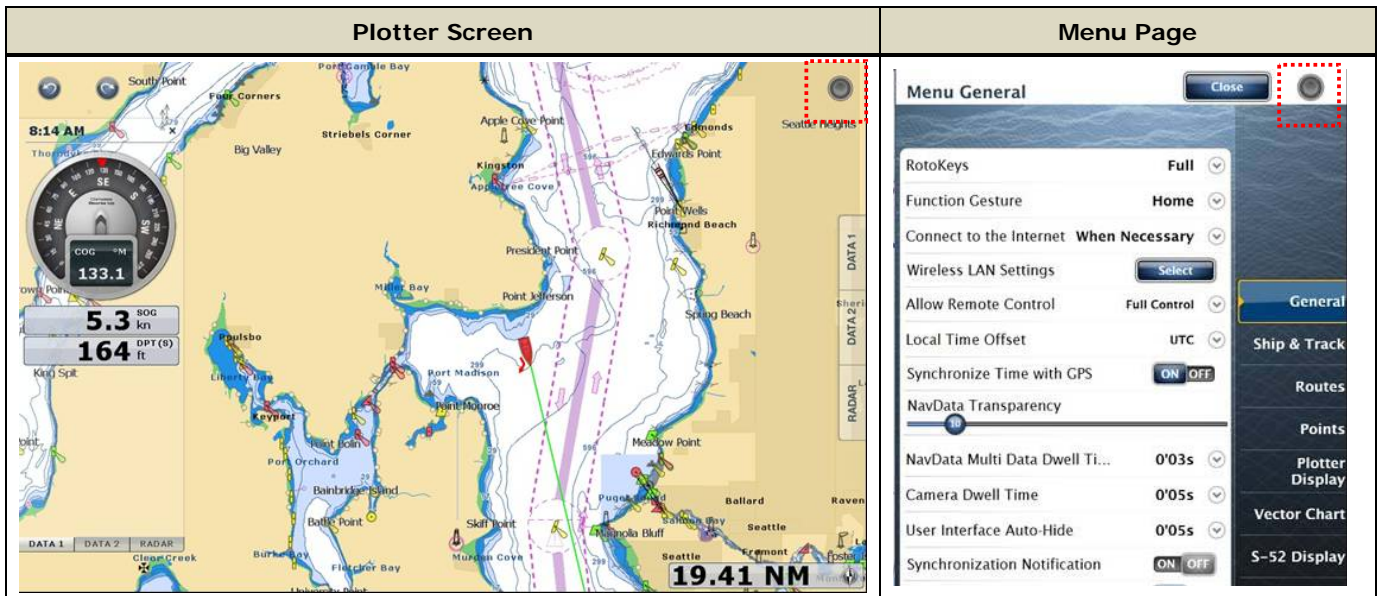
The current range scale appears on the slider bar next to the ball.



The slider bar appears at the right side of each split screen window.

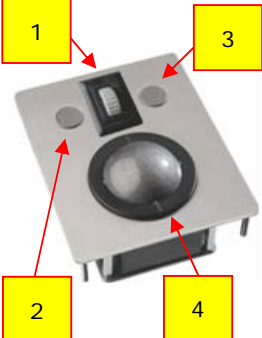

(3) Virtual Home Key Icon

A virtual home key icon has been added to the top-right of the screen, as shown in the following screenshots. Tap the icon to go to the Home page.



3-2. What Can You Do With a Mouse/Trackball with Wheel?

The NavNet TZTBB includes a pre-installed HID driver for connecting a generic HID-mouse (USB-mouse), or a trackball with a wheel. You can use this feature to operate the TZTBB from a remote place on the boat, or for installations with non-touch monitors. The below table outlines how each of these components work with the TZTBB:

Components	Functions	
 <p>Sample: LTSX50 (from NSI, Belgium)</p>	<p>Acts as the RotoKey™ of TZT9/14:</p> <p>(1) Rotate to zoom in/out.</p> <p>(2) Push to show RotoKey™ items in gold at the right side of the screen as shown at right.</p> <p>(3) Select RotoKey™ items or contextual menus</p>	
	<p>2. Left-click</p>	<p>Single tap, drag/scroll with trackball</p>
	<p>3. Right-click</p>	<p>Acts as Function Gesture:</p> <p>Right-click to activate preset functions in [Menu] – [General] – [Function Gesture].</p>
	<p>4. Trackball</p>	<p>Select a spot to be tapped, drag/scroll with left-click</p>

Limitations and Notes

The NavNet TZTBB software is optimized for the multi touch user interface. Although most operations are available with a mouse/trackball and wheel, there are some limitations that should be taken into consideration:

1. Limitation in 3D Mode – Pan/Tilt

You can switch the display to 3D mode by selecting [3D Mode] from the context menu. However, **you will not be able to pan/tilt the chart using a mouse**. Sliding the screen with two fingers is the only way to pan/tilt it. The chart will be displayed at the default angle when in 3D mode, as shown at the right. If you have previously panned/tilted the chart with two fingers, the screen will remain in the previously-set angle/view. This is the only function that is inaccessible when using a mouse/trackball.



2. Note on Active Window

When in split screen mode, placing the cursor on a different screen will not activate the window. To activate a window, left-click on the screen or mode that you wish to activate.

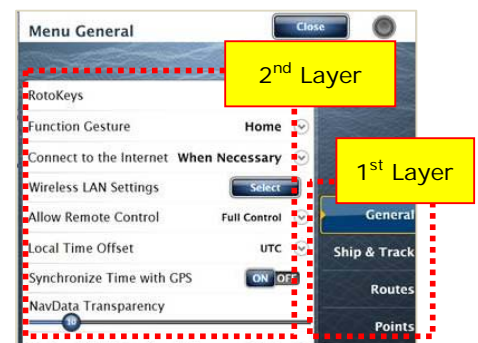
3. Note on "+" Cursor

The "+" cursor is displayed at the tapped spot on the screen in the Plotter, Radar, Fish Finder and Weather page modes. Placing or moving the cursor does not show the "+" cursor. Left-click on the mouse to show pop-up windows in place of tapping the screen.



4. Note on Menu – Second Layer

The first layer of the Menu can be scrolled using the RotoKey™ or mouse wheel, while the RotoKey™ is not used for the second layer. Left-click and drag the mouse to scroll the second layer of the Menu, as you would with a single finger, or click the arrow keys at the top or bottom of the layer.



5. Note on Cursor Operation and Touch Operation

While a cursor is in motion, touch operations are unavailable. When you switch to touch operation, discontinue use of the mouse/trackball cursor operation.

4. About Monitors and TZTBB Supporting Resolutions

4-1. Required Specifications of Multi Touch Monitors for TZTBB

When selecting an optional multi touch monitor for use with the TZTBB, the specifications below should be noted:

1. Must be compatible with DVI-D input

* Like the TZT9 & TZT14, the TZTBB outputs images via DVI-D.

2. "Capacitive" type multi touch monitors are recommended rather than "Optical" type.

* Capacitive touch monitors offer a better sense of multi touch control compared to optical touch monitors. Capacitive monitors give you full control of the TZTBB at your fingertips!

3. USB interface for multi touch

* Multi touch commands are communicated via USB between the TZTBB and a monitor, like the TZT9 and TZT14.

* Windows 7 compatible monitors are equipped with a USB interface for multi touch.

4. No dedicated driver installation required for multi touch function

* The TZT9, TZT14 and TZTBB will not accept an external driver to be installed. A dedicated driver cannot be installed on the TZT9/14/BB.

* When selecting a multi touch monitor, be sure **the multi touch interface is available without installing a dedicated driver.**

* Some monitors may require the installation of dedicated drivers for the multi touch interface. If you connect such a monitor to the TZTBB, images will appear; however, multi touch capabilities will not function properly.

4-2. Introducing Tested Monitors at FEC




Several brands and models of multi touch monitors have been thoroughly tested throughout the TZTBB development process. Some of these displays are introduced with screenshots below.

Hatteland Display

Series-X: HD 17T21 (17"), HD 19T21 (19"), and HD 24T21 (24" Wide)

In the following example, three TZTBB processors are connected to 17", 19" and 24" wide monitors. The TZTBB images are properly scaled on both wide and non-wide aspect ratios.

<http://www.hatteland-display.com/index.php>

HD 17T21 (17")	HD 19T21 (19")	HD 24T21 (24" Wide)
		

Olorin (Sweden)
VL221D (22" Wide)

The "VL221D" consists of several part numbers according to specifications. The monitor shown at right is the "VL22176SPCAP," with a sunlight readable AR film (550 cd).

<http://www.olorin.com/images/userfiles/products/431.pdf>



Sharp
PN-L702B (70" Wide)

The Sharp "PN-L702B" is not designed for marine use, but has been used at boat shows to demonstrate the TZTBB for visitors. This monitor uses "optical" touch technology.

http://www.sharp-world.com/products/professional-monitors/products/pn-l802b_l702b_l602b/index.html



Yokohama International Boat Show 2012



Boot Dusseldorf 2013



Miami International Boat Show 2013

4-3. TZTBB Supporting Resolutions

The TZTBB has the following native resolutions built-in, supporting both **wide** and **non-wide** aspect ratios.

No	Pixels	Aspect Ratio
(1)	1280 x 720	Wide – 16:9
(2)	1280 x 800	Wide – 16:10
(3)	1280 x 960	Non-Wide – 4:3
(4)	1280 x 1024	Non-Wide – 5:4

The horizontal resolution is fixed to 1280 pixels, while the vertical resolution adjusts to accommodate multiple different aspect ratios. The following illustration compares all the native resolutions for the TZTBB.



Comparison – Native Resolutions

(1) 1280 x 720 (Wide, 16:9)

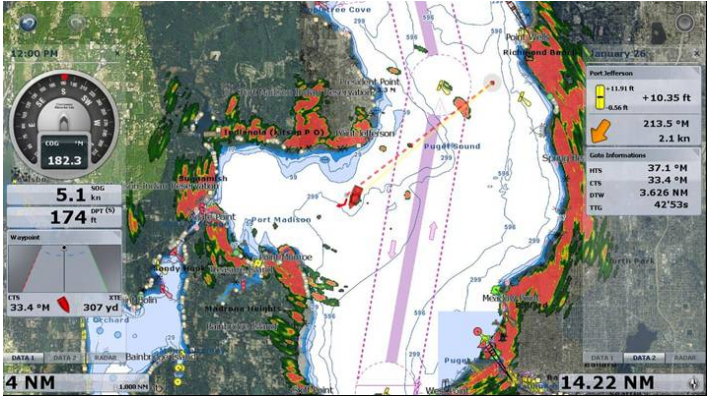

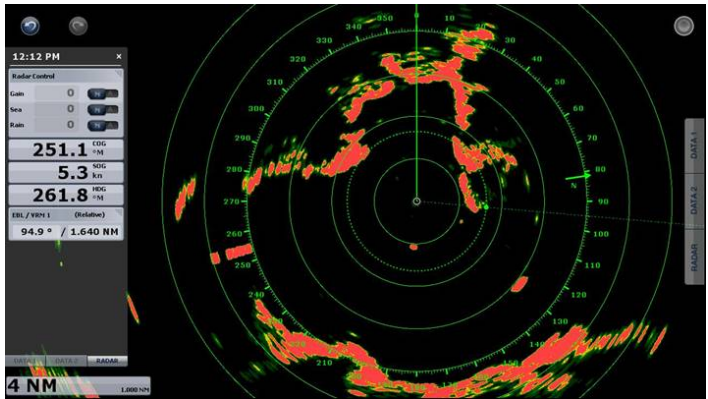
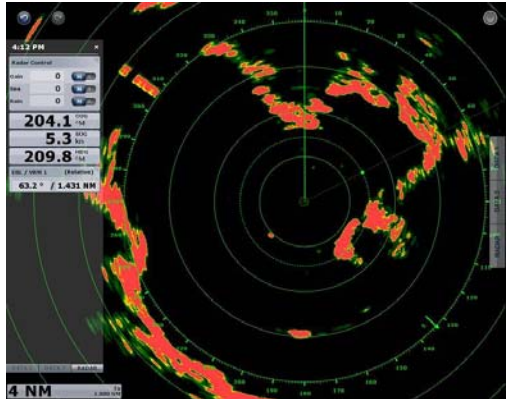
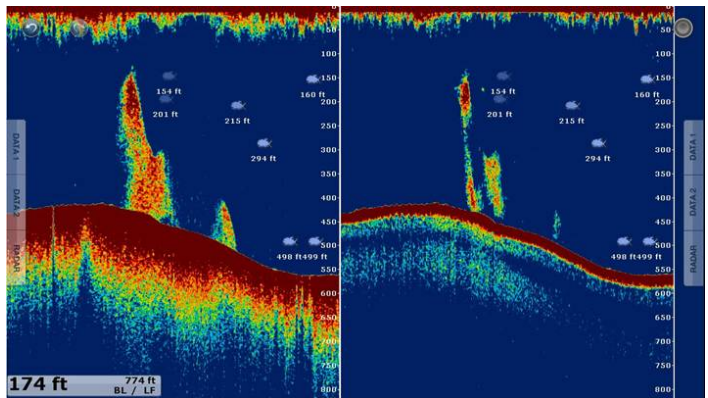
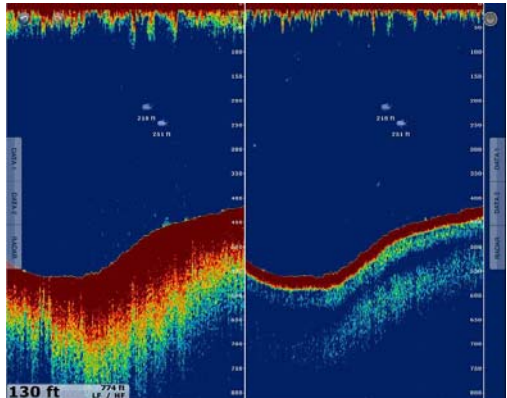
(2) 1280 x 800 (Wide, 16:10)

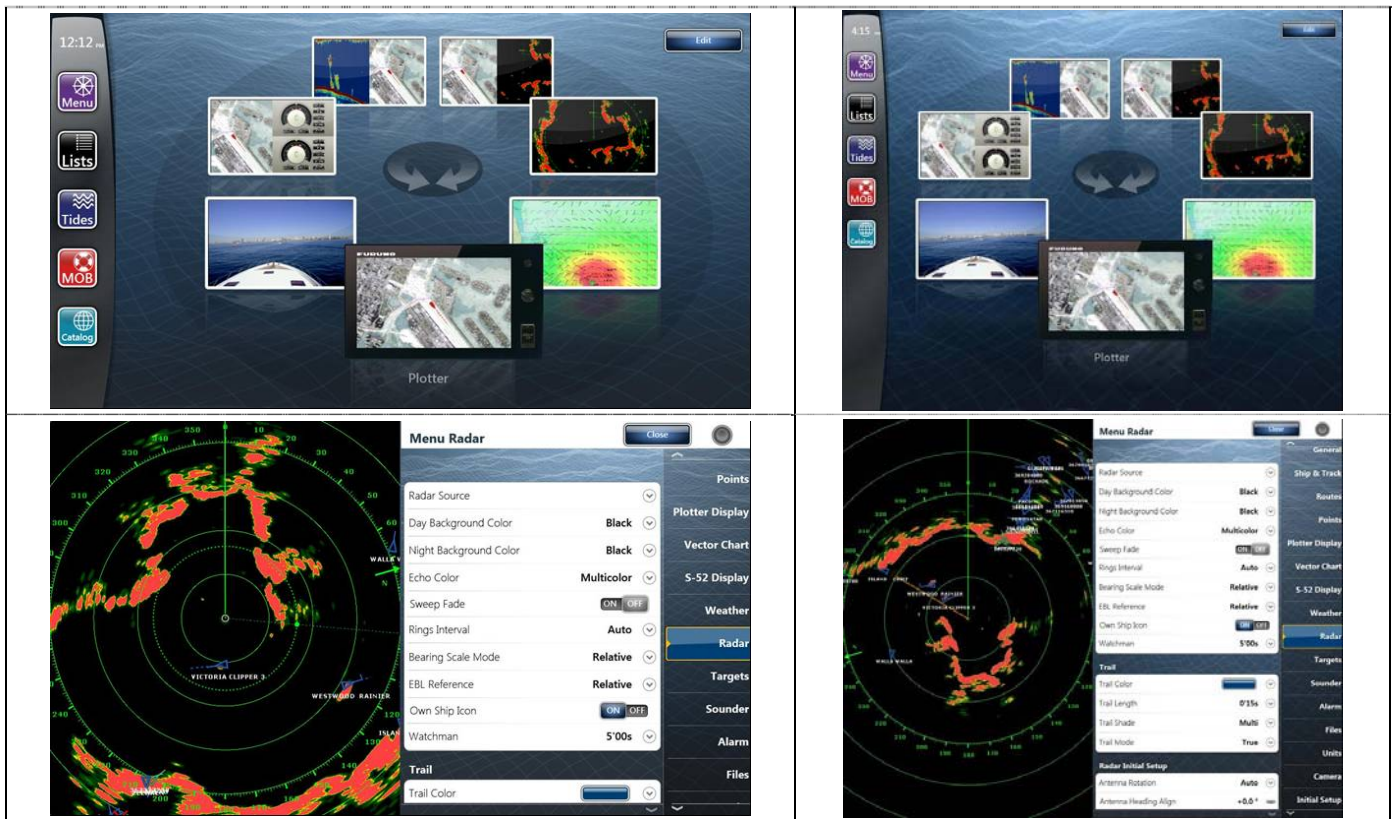
(3) 1280 x 960 (Non-Wide, 4:3)

(4) 1280 x 1024 (Non-Wide, 5:4)

The TZTBB automatically selects one of the resolutions above and outputs images to the monitor by scaling according to the monitor's resolution. Example: if the TZTBB is connected to a monitor with a resolution of 1920 x 1080 (16:9), the TZTBB automatically selects and displays 1280 x 720 pixels on the screen by scaling the native resolution.

The following screenshots represent a comparison of wide and non-wide screen resolutions. Different aspect ratios, screen sizes and resolutions provide slightly different screen layouts.

<p>Native Wide Resolution</p> <p>1280 x 720 (16:9)</p>	<p>Native Non-Wide Resolution</p> <p>1280 x 1024 (5:4)</p>
<p>Displayed on 24" wide monitor (1920 x 1080) by scaling</p>	<p>Displayed on 19" monitor (1280 x 1024)</p>
	
	
	



Tips: Non-Wide Images with NavNet Remote App

When non-wide monitors are connected to the TZTBB, both edges of the NavNet Remote app will appear blank on the iOS device due to the iOS device having a different aspect ratio than the TZTBB. The following screenshots demonstrate various iPad screen layouts when connected to a TZTBB with both wide and non-wide monitors.

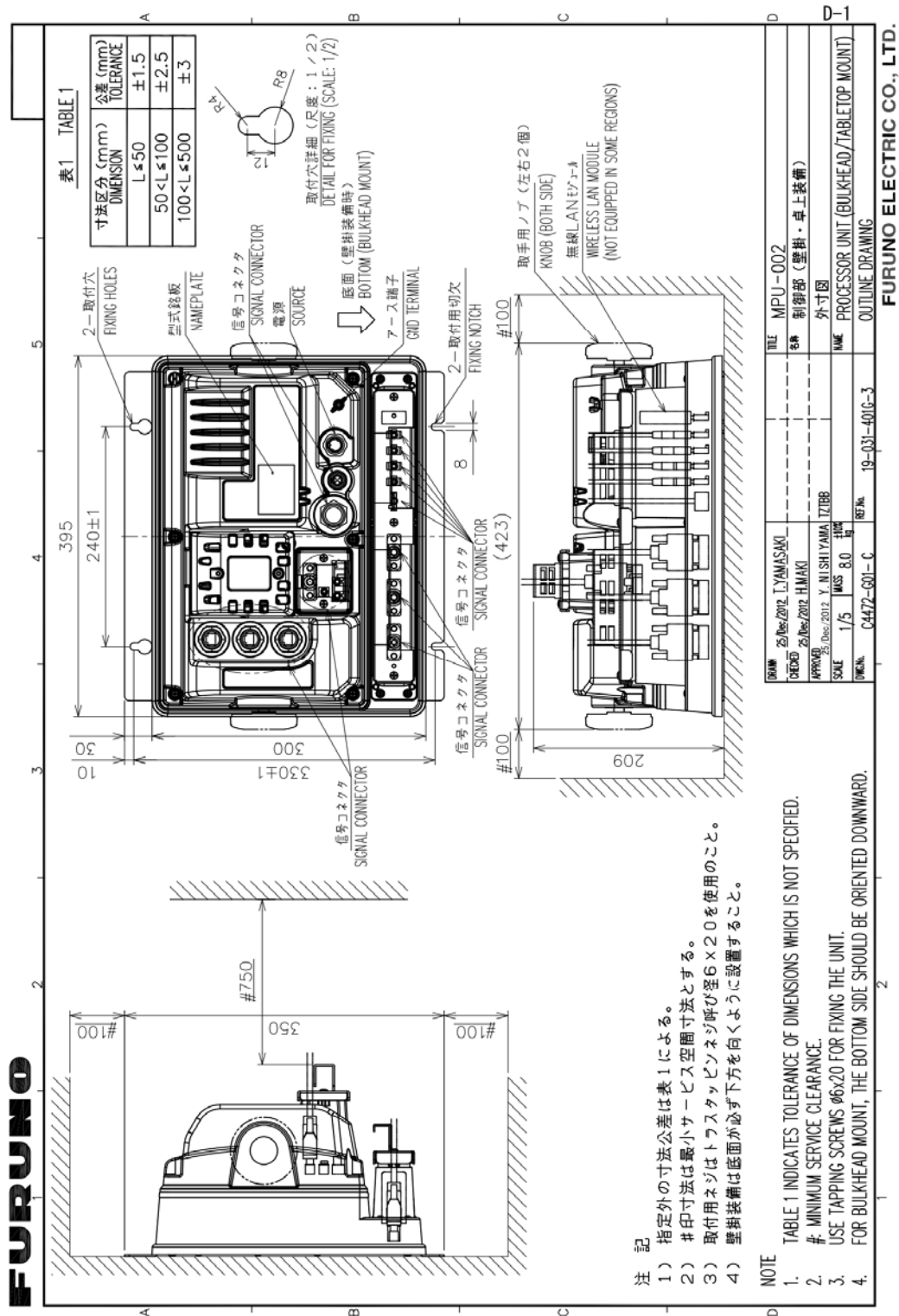
TZTBB w/19" Non-Wide Monitor	iPad – TZTBB w/Non-Wide	iPad – TZTBB w/Wide
<p>TZTBB connected to a 19" non-wide monitor (aspect ratio 5:4). TZTBB screen images are shown on both iPad and iPhone</p>	<p>The TZTBB images fit on the iPad screen. However, the NavNet Remote app's icons overlap the screen image.</p>	<p>When the TZTBB is connected to a wide-screen monitor, the NavNet Remote app appears as shown above.</p>

(iPad and iPhone are trademarks of Apple Inc.)

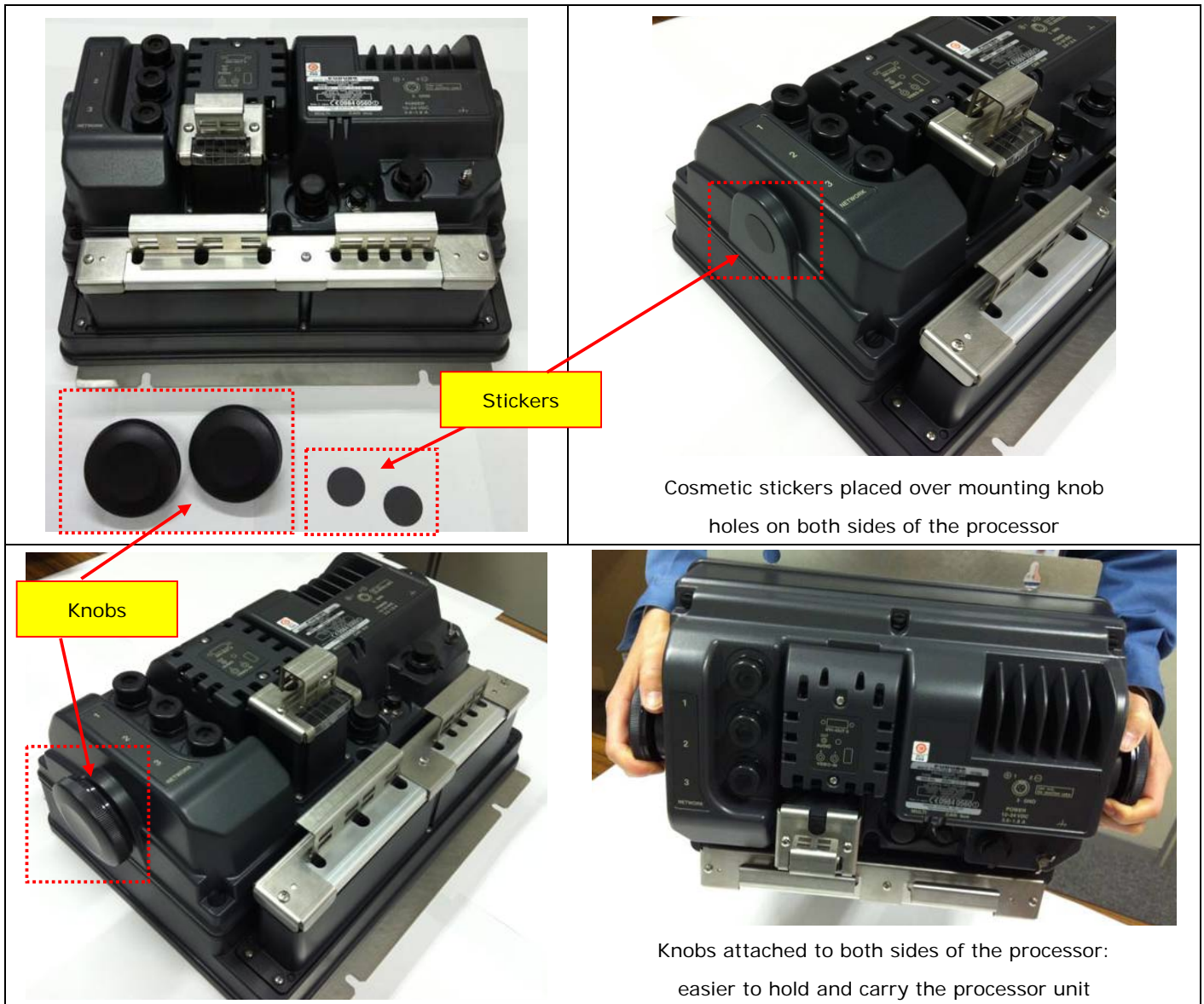
5. Installing TZTTBB

5-1. Dimensions

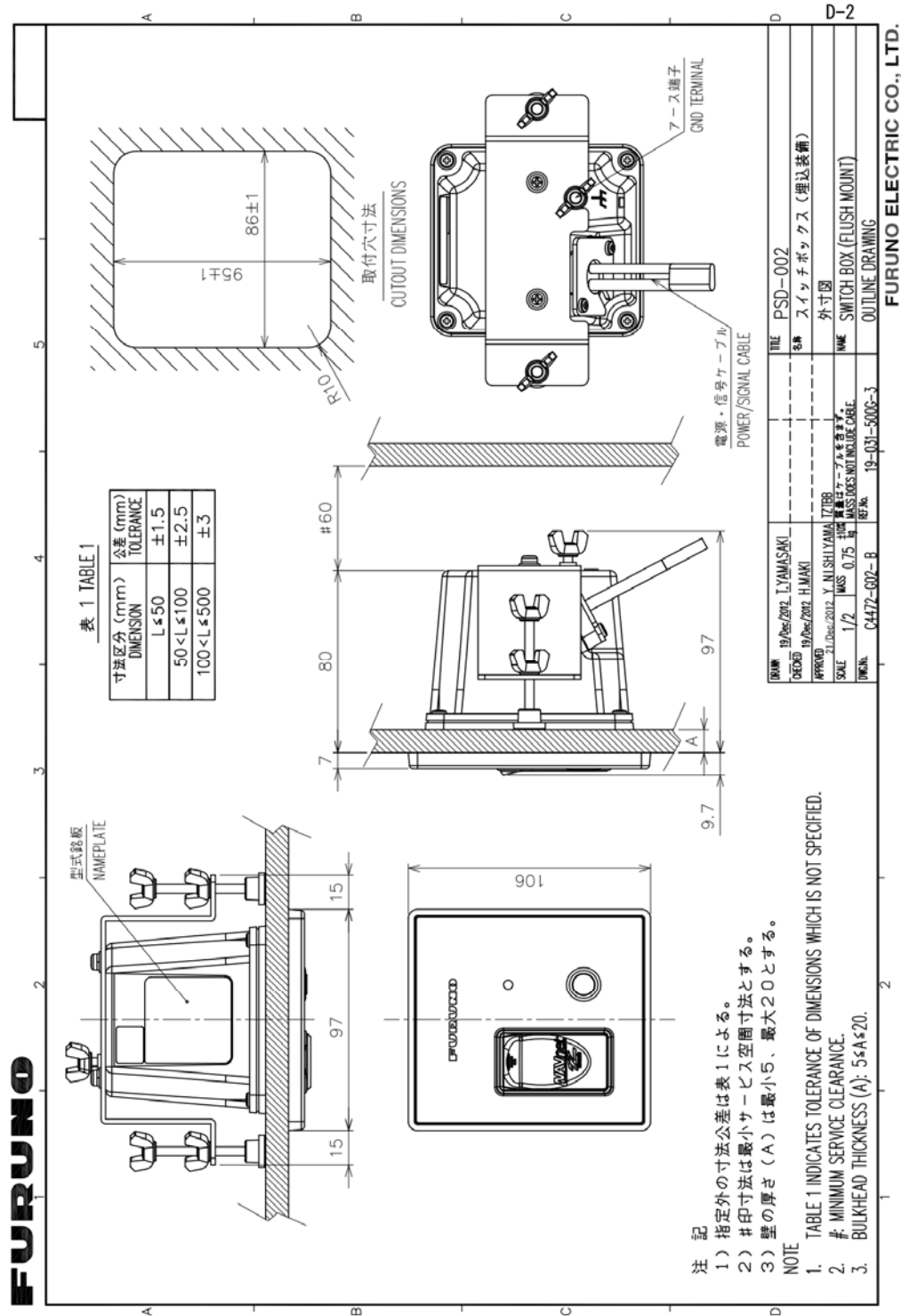
(1) Processor Unit MPU002



Note: The TZTBB is supplied with a pair of mounting knobs and two cosmetic “cover-up” stickers. The knobs can be attached to both sides of the processor unit, either for mounting or for holding and transporting the TZTBB processor unit. When the knobs are not necessary, the two “cover-up” stickers can be placed over the holes, as shown below.



(2) Switch Box PSD002



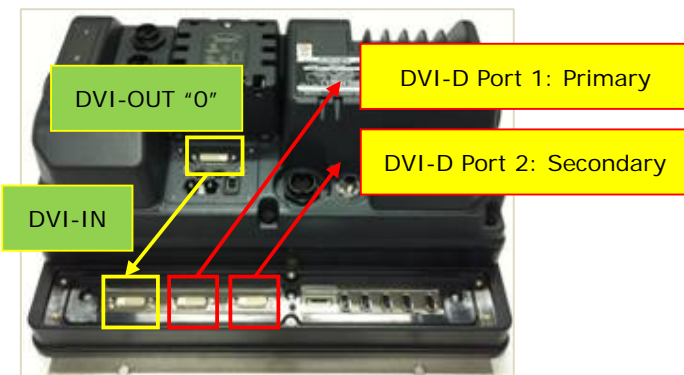
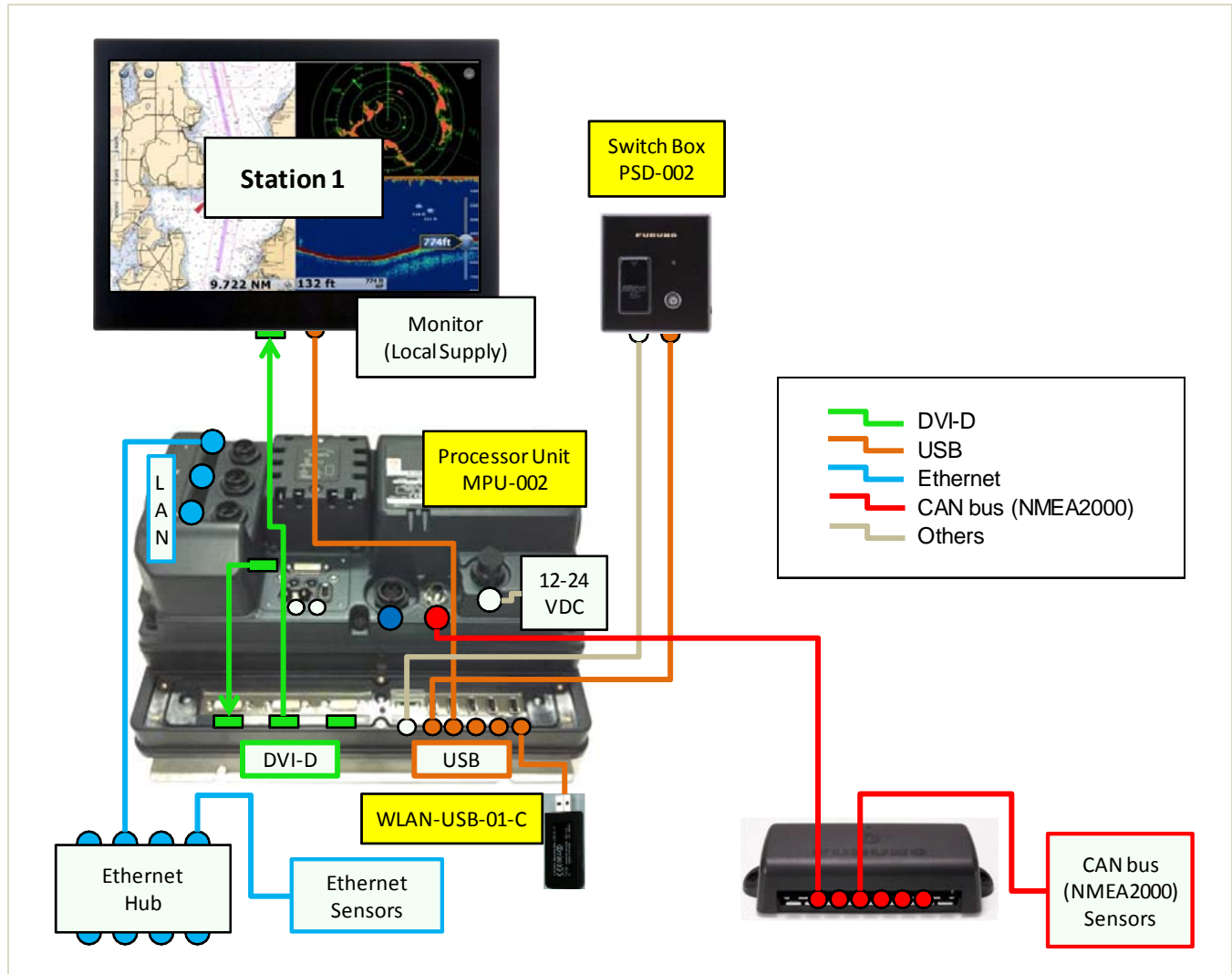
5-2. Compatible Sensors

The TZTBB is compatible with all of the same sensors (DFF Fish Finders, DRS Radars, GP330B, etc.) used for NavNet 3D and the TZT9/14.

5-3. Interconnection

(1) Single Station

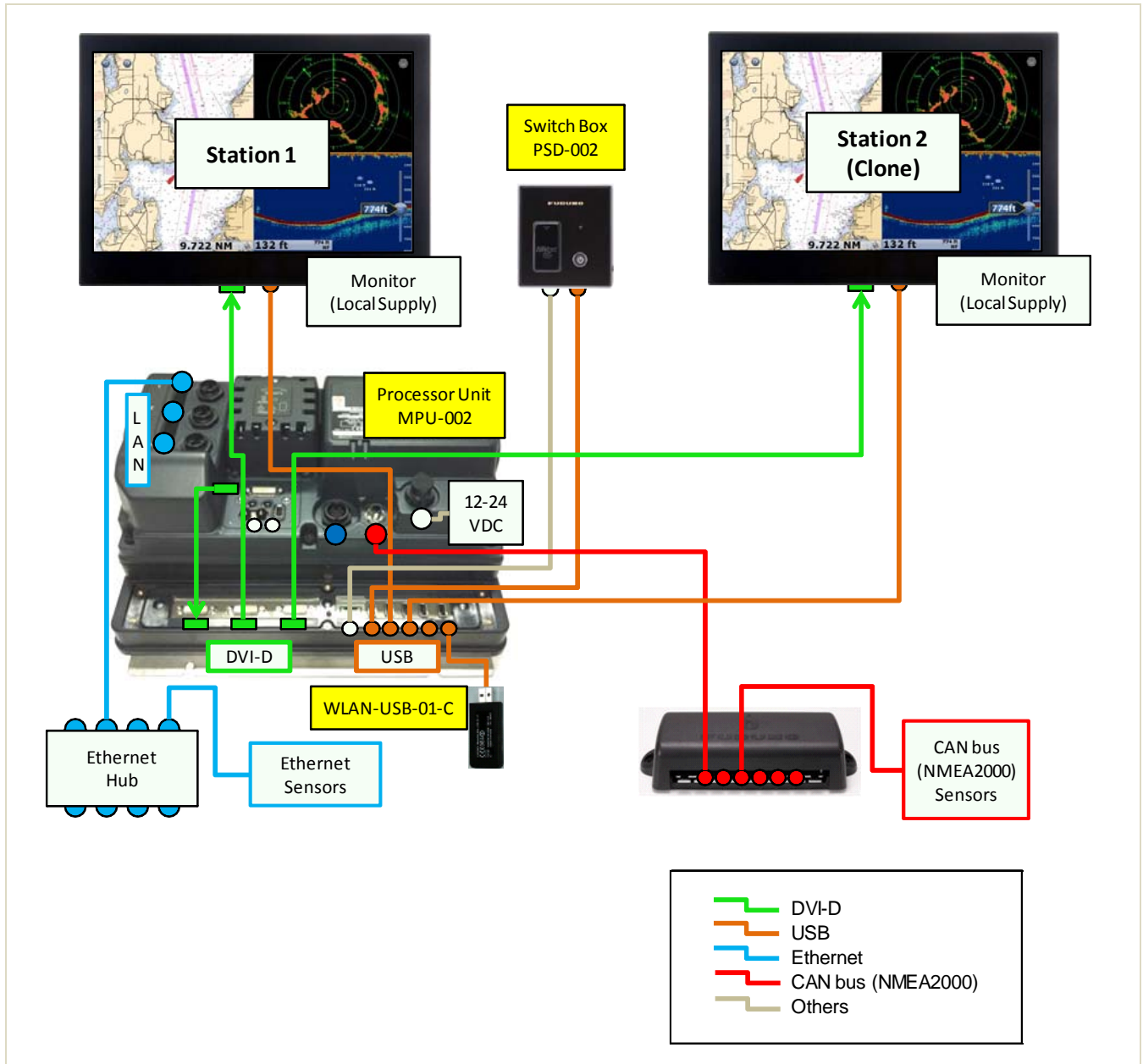
The following diagram represents a single station TZTBB installation: One processor with one monitor.



Note: The TZTBB includes four (4) DVI-D ports. The DVI-D ports on the bottom I/O board function as a DVI splitter. The DVI-D images are output from DVI-OUT "0" and provided to the DVI-IN. These images are split into both DVI-D Port 1 and Port 2. See the following examples for dual station configurations.

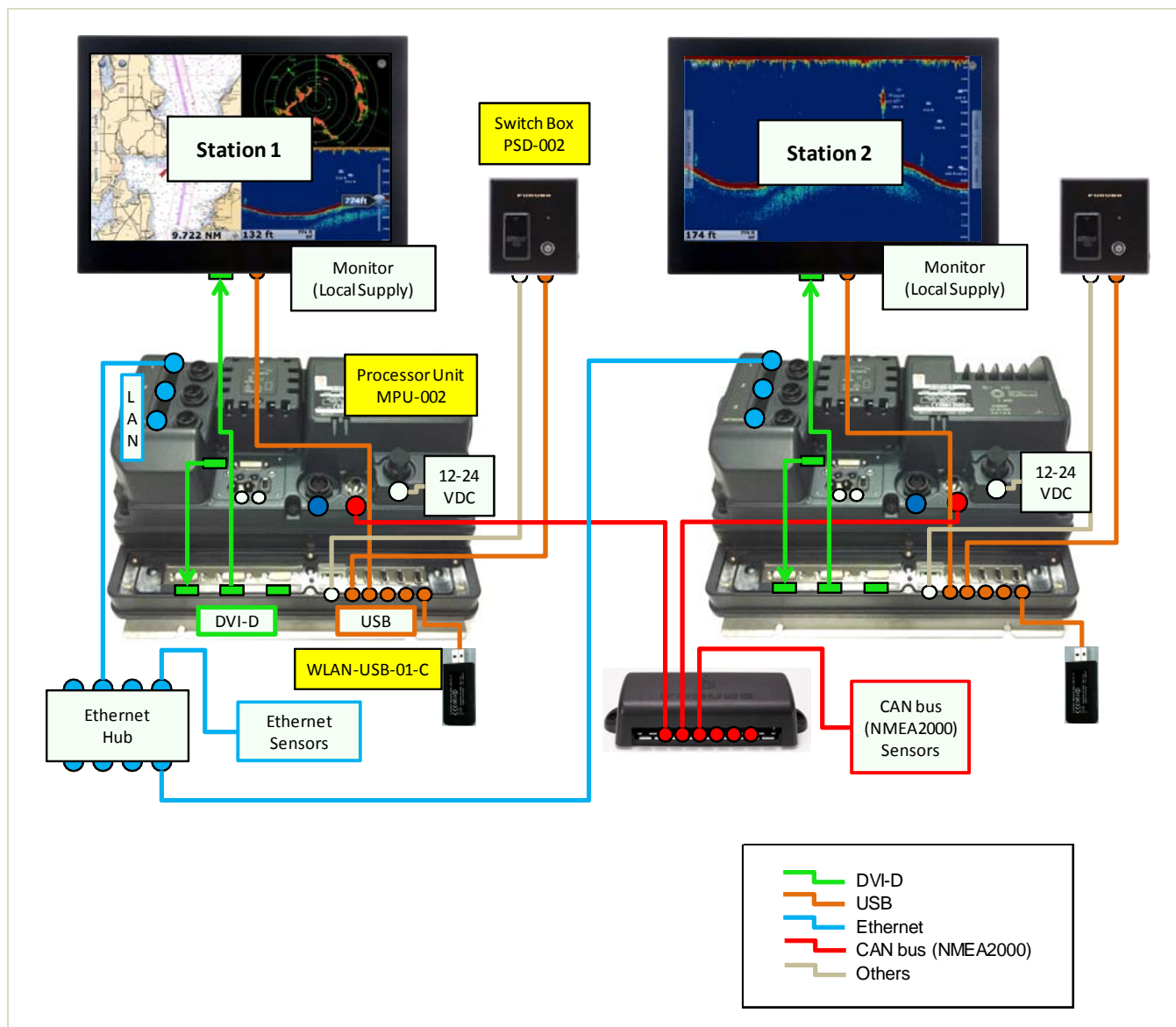
(2) Dual Station – One Processor (Clone Mode)

The following diagram represents a dual station TZTBB installation: One processor unit (MPU002) and switch box (PSD002) with two monitors. In this configuration, the monitors are in “clone” mode. Images displayed on Station 2 will be identical to those displayed on Station 1. Extended mode is not available on the TZTBB. For additional details on clone mode, please see Section 5-6.



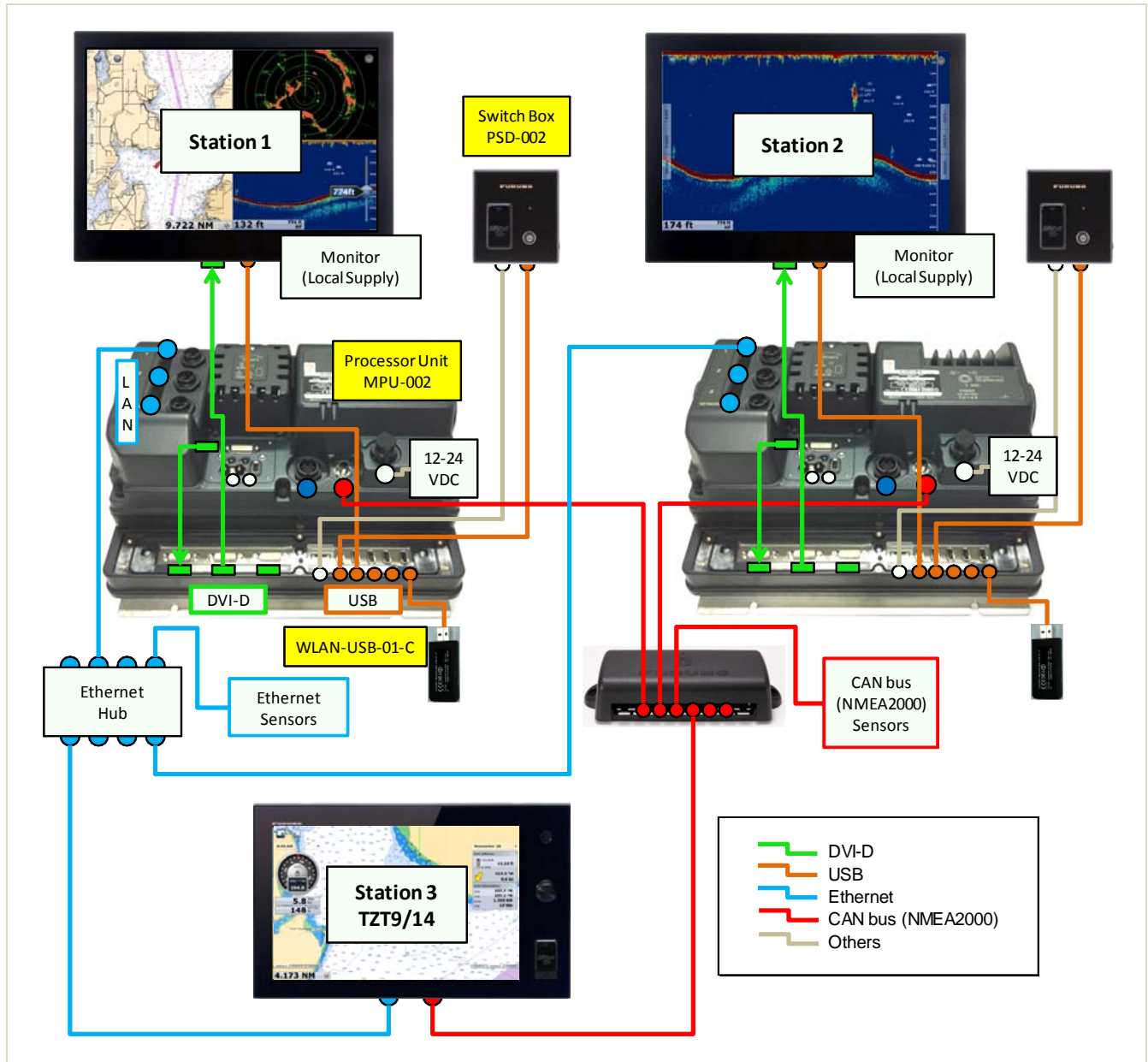
(3) Dual Station – Two Processors

The following diagram represents a dual station TZTBB installation: Two processor units (MPU002) and switch boxes (PSD002) with two monitors. In this configuration, both monitors are independent of each other, allowing full system control on each display, simultaneously.



(4) Multiple Stations – TZTBB and TZT9/14

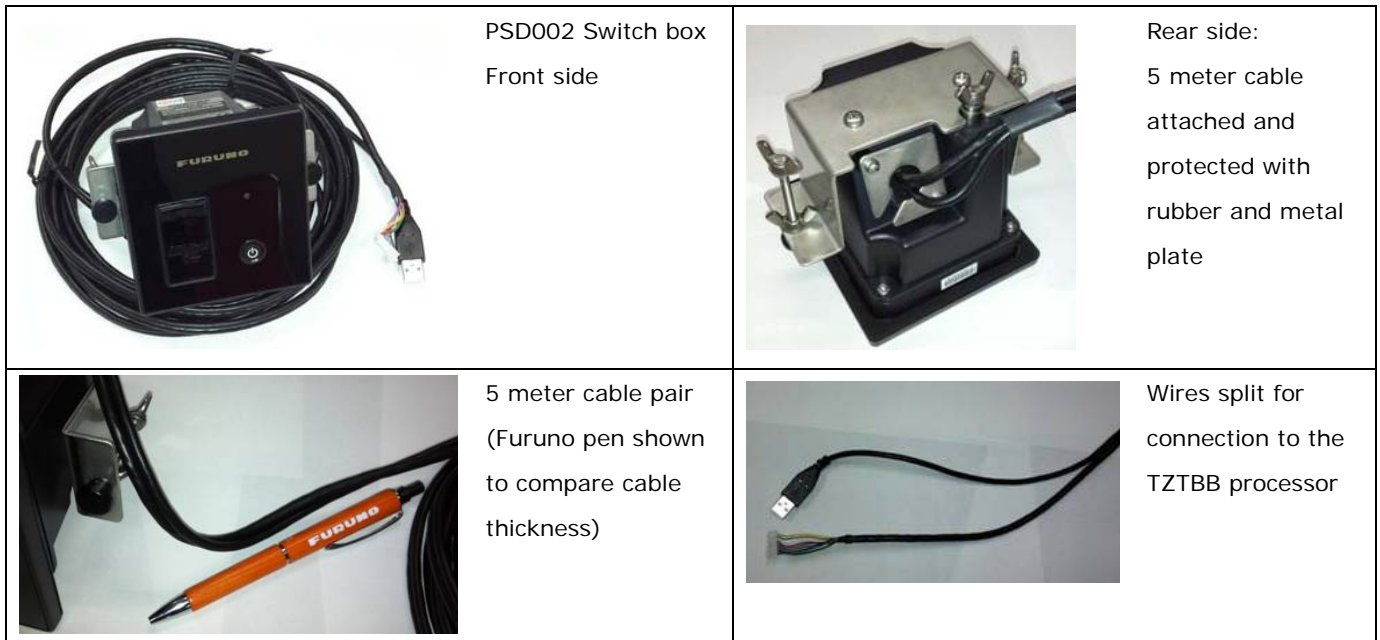
The TZTBB can be networked via Ethernet and CAN bus (NMEA2000) in a multi-station network with the TZT9 and TZT14 as shown in the following diagram.



(5) Notes

Switch Box PSD002:

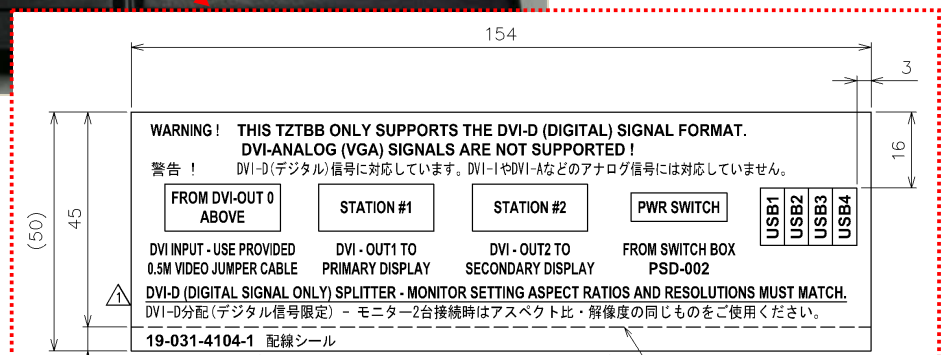
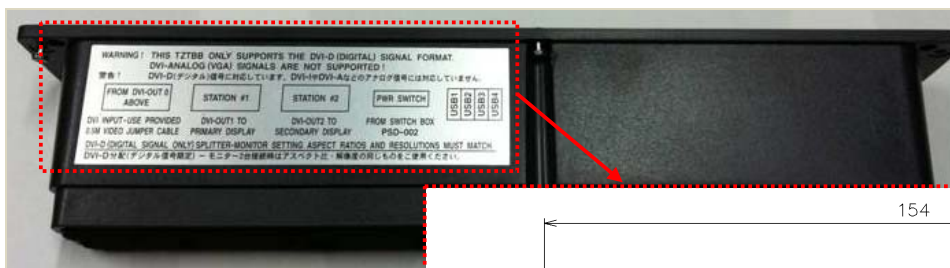
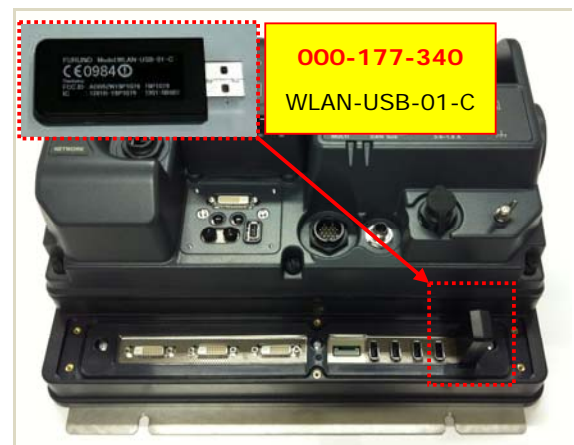
The PSD002 is supplied with a 5 meter cable attached to the rear panel and protected with rubber and metal plate. The 5 meter cable pair consists of a USB cable for the SDXC card reader and a power cable for the on/off switch. These cables can be split at the processor end for installation purposes.



Processor Unit MPU002:

(1) A USB-type Wireless LAN module (WLAN-USB-01-C) is inserted into one of the USB ports at the factory as shown at right. Note that the Chinese version of the TZTBB does not include a pre-installed Wireless LAN.

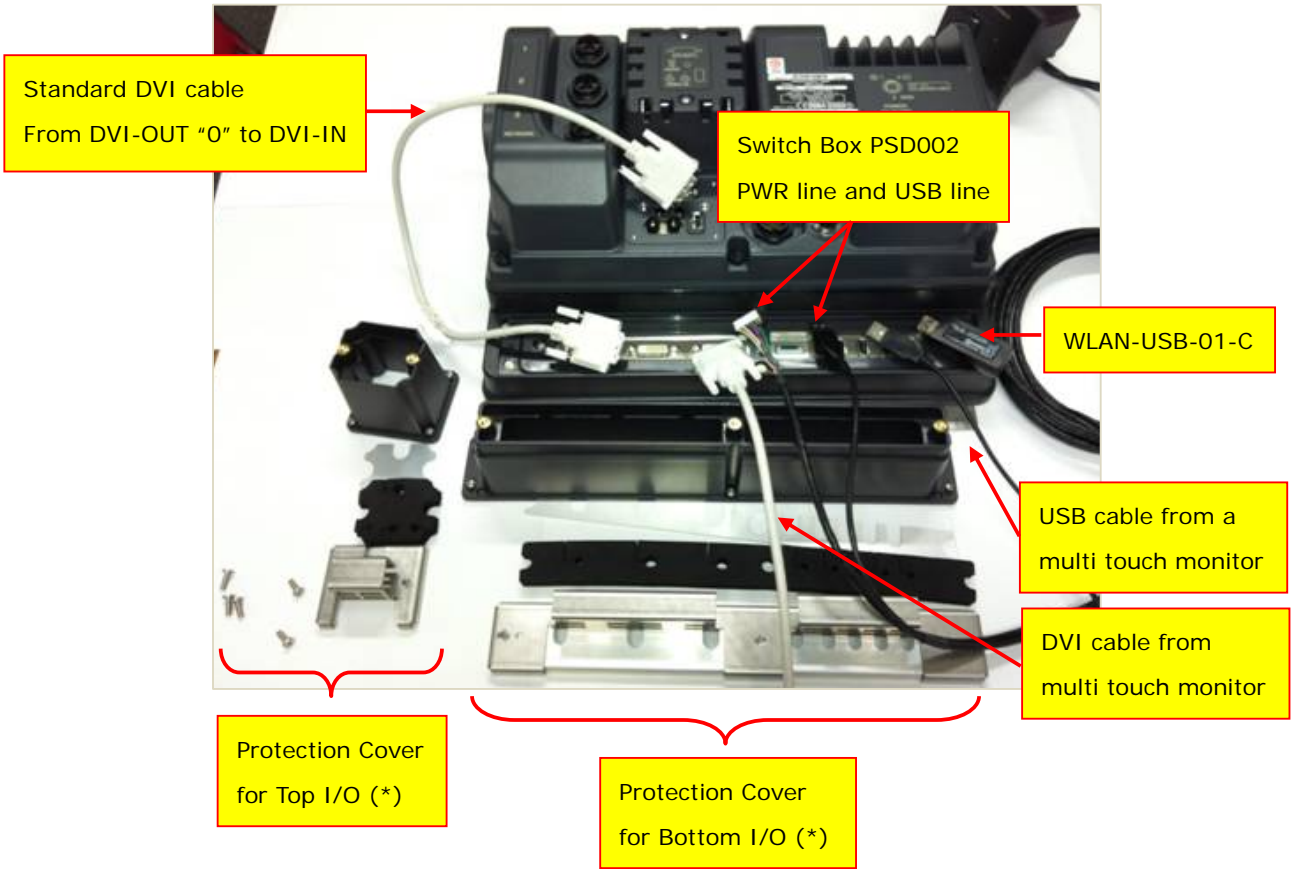
(2) A WARNING sticker on the protection cover for the bottom I/O board outlines the correct interconnection procedures. Remember to use DVI-D cables, not RGB, when installing a TZTBB.





5-4. I/O – Cabling at I/O

The photos below demonstrate the proper I/O cabling procedures for single station TZTBB installations.

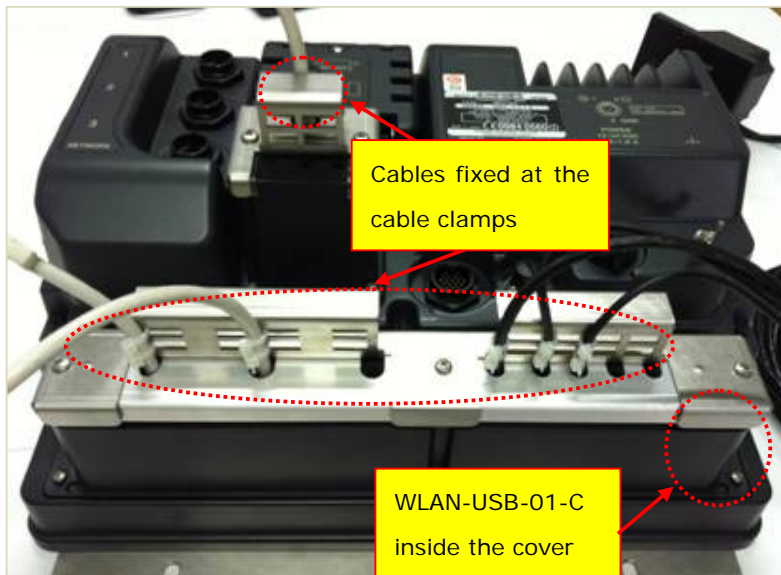
(1) Before Cabling



* **Note:** Protection covers consist of a case, sponge, metal plate, and cable clamp.

Protection Cover – Top I/O	Protection Cover – Bottom I/O
	

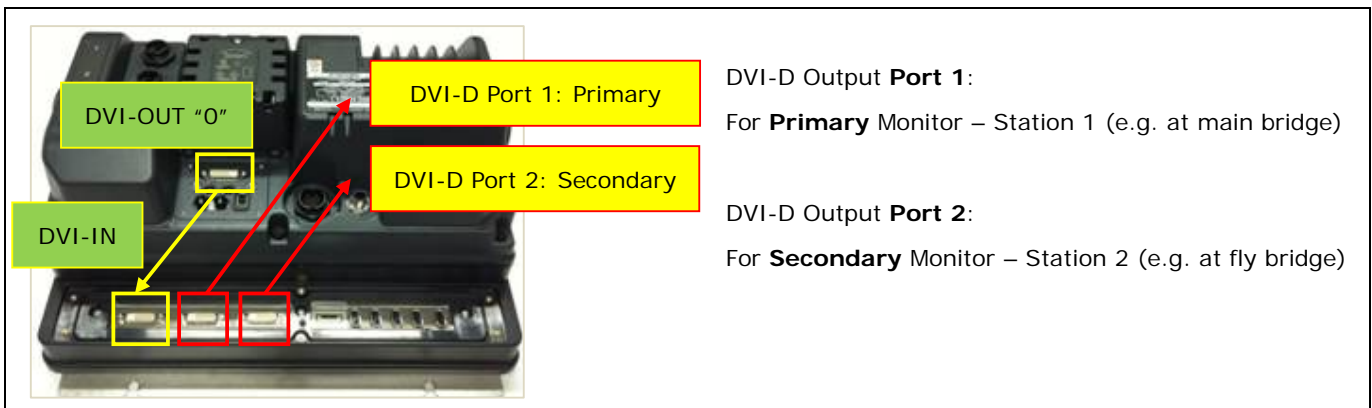
(2) After Cabling



All connectors and WLAN-USB-01-C are inserted into each port and protected with covers. The cables are secured into place with cable ties.

5-5. Clone Output from Two (2) DVI-D Ports

Note: the two (2) DVI-D output ports support "clone" mode only: In this mode, both monitors display the same image.



DVI-D Output **Port 1:**

For **Primary** Monitor – Station 1 (e.g. at main bridge)

DVI-D Output **Port 2:**

For **Secondary** Monitor – Station 2 (e.g. at fly bridge)

The aspect ratio and resolution of the monitor connected to Port 1 will also be applied to Port 2. To show images properly on both monitors, be sure the aspect ratios and resolutions of the two monitors match. The following examples demonstrate acceptable and unacceptable resolutions.

(1) Acceptable – Two monitors (same screen size) with same resolutions and aspect ratios

In this example, the same 24" wide Hatteland monitors (Series-X HD 24T21) are connected to the TZTBB. Both monitors properly scale and display the TZTBB images.



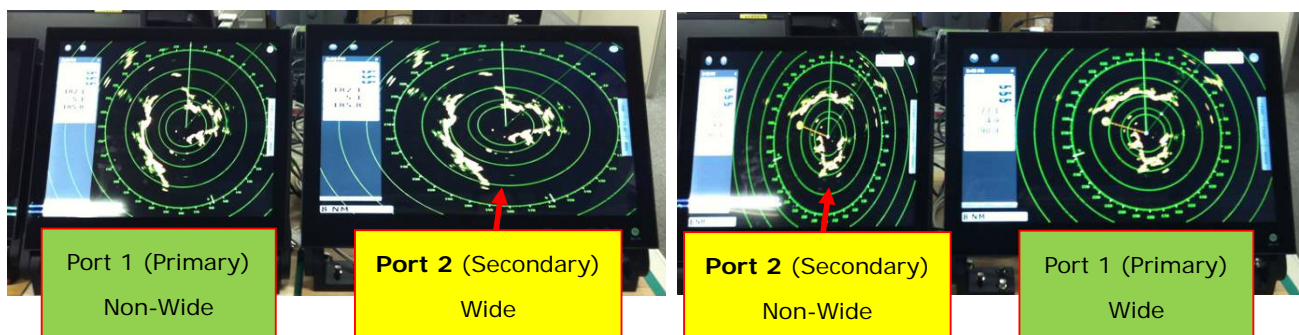
(2) Acceptable – Two monitors (different screen size) with same resolutions and aspect ratios

In this example, a Hatteland 17" monitor (HD 17T21) and 19" monitor (HD 19T21) are connected to the TZTBB. These monitors support the same resolution and aspect ratio, although screen sizes are different. Both monitors properly scale and display Plotter and Radar images in clone mode.



(3) Unacceptable – Two monitors with different resolutions and aspect ratios

When two monitors with different resolutions and/or aspect ratios are connected to the TZTBB, the secondary monitor (connected to DVI-D Port 2) will not be shown properly. In this example, a Hatteland 19" (HD 19T21, aspect ratio 5:4) and 24" wide (HD 24T21, aspect ratio 16:9) are connected to the TZTBB. The monitor connected to DVI-D Port 2 does not scale properly (Radar rings appear oval). This is because the resolution and aspect ratio of the primary monitor is also applied to the secondary monitor.

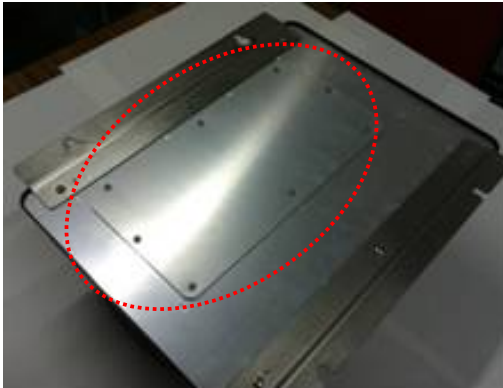



5-6. HDD Pocket



The TZT9/14/BB can read charts directly from a USB hard drive. For convenience, the TZTB processor unit (MPU002) has a space accessible from the rear panel for connecting and storing an option HDD with all of the chart files. The following photos show a generic USB HDD (shown at right) installed inside the MPU002.

Note: The HDD size should be **90 x 134 x 20 mm (W x H x D)** to fit in the case.



MPU002 rear side	HDD installed inside MPU002
	
The pocket is covered by a metal plate, which is attached to the processor with screws.	The USB-HDD can be installed with the USB cable connected to the internal USB port.

*** Note:** It is more convenient to use a USB-HDD with the cable running straight from the top side of the HDD than one with the cable running sideways.

	
USB cable running straight from the top (preferred)	USB cable running sideways

5-7. USB Ports

There are six (6) USB ports: five (5) ports on the I/O board and one (1) port inside the case for connecting an optional USB Chart HDD. These USB ports can be used as follows:

1	PSD002 (USB line)	4	Wireless LAN (USB type, inserted at factory)
2	Multi touch monitor (USB line)	5	Mouse or trackball device with wheel
3	Multi touch monitor (USB line), for clone	6	USB-HDD, connected to the internal USB port

6. Software Versions – TZX9/14 and TZXBB

The TZXBB is shipped with software v2.02 from the factory. There is no difference in functionality from the TZX9/14; however, the graphics driver for the TZXBB has been updated to v2.02 to be compatible with dual monitor installations. Future software revisions will be in common with all TZtouch models (TZX9, TZX14, TZXBB).

Models	Versions	Future Version
TZX9 and TZX14	v2.01	Common versions
TZXBB	v2.02	