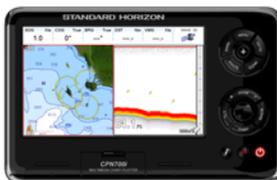


# ***STANDARD HORIZON***

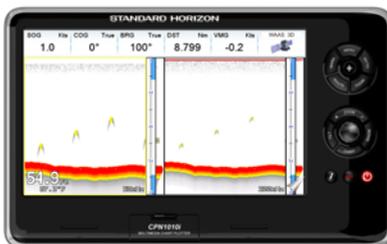
## **FF525 50/200kHz BLACK BOX FISH FINDER**



### **Operation Manual for:**



**CPN700i**



**CPN1010i**

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**For older GPS Chart Plotters, the manual is available for download at [www.standardhorizon.com](http://www.standardhorizon.com) or by contacting Marine Product Support at 800-767-2450 ext 6800.**

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**CONTAINS FCC-ID: CU9-6658001**  
**CONTAINS IC: 10307A-6658001**

*This device complies with Part 15 of the FCC limits for Class A digital devices. This equipment generates, uses and can radiate radio frequency energy and, if not installed or used in accordance with the instructions may cause harmful interference with radio communications.*

*There is no guarantee that interference will not occur in a particular instance. If this equipment does cause harmful interference to other equipment, try to correct the problem by relocating the equipment.*

*Consult an authorized STANDARD HORIZON dealer or other qualified service technician if the problem cannot be corrected. Operation is subject to the following conditions: (1) This device cannot cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.*



#### CAUTION

- *The FF525 contains dangerous high-voltage circuits which only experienced technicians can handle.*
- *STANDARD HORIZON will not be liable for errors contained herein, or for incidental or consequential damages in connection with the performance or use of this material.*
- *Because we frequently update our software and applications, the pictures shown through this Owner's Manual may be slightly different from what you see.*



#### WARNING!

*When plugging in or unplugging a transducer to the FF525 make sure power is turned off.*

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# 1 - INTRODUCTION

This manual provides basic information in becoming familiar with the advanced functions of the FF525 before you start using it combined with the STANDARD HORIZON CPN Series Chart Plotters.

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## 1.0 CONVENTIONS USED

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Any menu operation and functions activation in this Operation Manual is related to the 7inch CPN700i and 10inch CPN1010i Multimedia Chart Plotters models with software capable to operate with FF525. Whenever it is necessary, a note has been inserted for those models with operational differences.

For general operations (as power up sequence, brightness control, keys and touchscreen operations, changing pages and customizing Page Soft Keys, and so on...) please refer to the Multimedia CPN Series Chart Plotters CPN700i/CPN1010i Owner's Manual.

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## 1.1 GENERAL INFORMATION

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### 1.1.0 PRODUCT SUPPORT INQUIRIES

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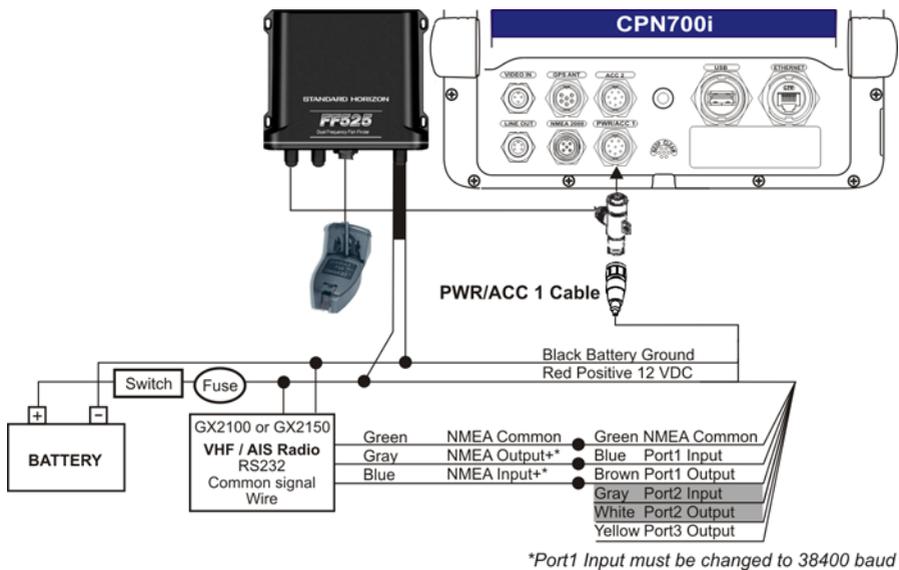
If you have any questions or comments:

- USA customers should contact STANDARD HORIZON at 714-827-7600 or by email [marinetech@yaesu.com](mailto:marinetech@yaesu.com).
- UK customers should contact STANDARD HORIZON at 01962 866667 or by email [marinesales@standardhorizon.co.uk](mailto:marinesales@standardhorizon.co.uk).
- European customers should contact their local dealer or distributor for support.

# 2 - CONNECTING THE FF525

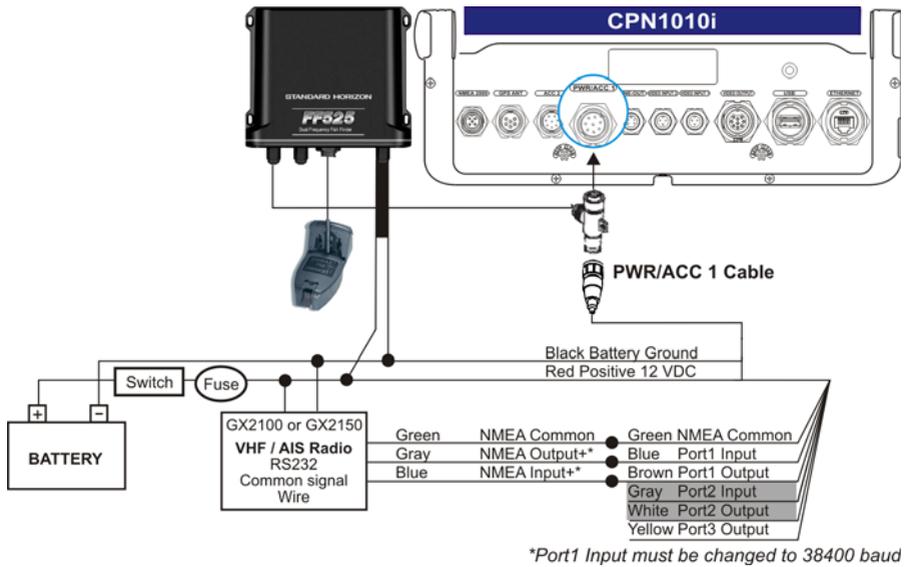
The FF525 must be properly installed according the following instructions to get the best possible performance. For more information on installation please see the FF525 Installation Manual.

## 2.0 CPN700i



⚠ Gray and White wires should not be connected to other devices when the FF525 is connected.

## 2.1 CPN1010i



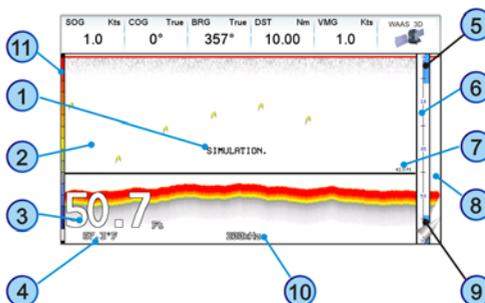
⚠ Gray and White wires should not be connected to other devices when the FF525 is connected.

# 3 - OPERATION

## 3.0 UNDERSTANDING THE FISH FINDER PAGE

The display on CPN Series Chart Plotters shows a history of time of the echoes received by the transducer. The CPN Series Chart Plotters have a menu that allows adjustments to receiver sensitivity, Depth Range and Scrolling Speed of the Fish Finder display.

- 1 Warning message
- 2 Fish Finder window
- 3 Digital Depth
- 4 Water temperature
- 5 Shallow Alarm Bar
- 6 Range Bar
- 7 Variable Depth Marker (VDM)
- 8 A-Scope
- 9 Deep Alarm Bar
- 10 Transmit Frequency
- 11 Color Bar



The following is a brief description of terms listed in the previous Figure:

### 1 Warning Message

Flashing label that is turned On when the echo sounder is in Simulation mode.

The following is the list of the Warning messages:

- SHALLOW WATER ALARM
- DEEP WATER ALARM
- HIGH WATER TEMP ALARM
- LOW WATER TEMP ALARM
- WATER TEMP RATE ALARM
- FISH SPOT
- NO DATA, problem with connection between CPN and Fish Finder Tee Cable

### 2 Fish Finder window

Graphic presentation of sonar soundings recorded as a continuous bottom scrolling across the screen from right to left. Such recordings represent the image of the water beneath your boat, items appear as they pass under your transducer; the items on the

right side of the screen are closer to you than those on the left. The correct interpretation of the Fish Finder page allows retrieving useful information about what is under the boat.

**3 Digital Depth**

Readout of the current bottom depth.

**4 Water Temperature**

Readout of the current water temperature returned by the temperature sensor included in DST520, DST521, DST523, DST525, DST526, DST527, DST528A.

**5 Shallow Alarm Bar**

Located on the right side of the Range Bar, the Shallow Alarm Bar shows the range outside of which the depth measurement will trigger a Shallow Alarm.

**6 Range Bar**

Vertical graduated bar, located along the right side of the screen. It is a scale which reflects the depth of the area being displayed.

**7 Variable Depth Marker (VDM)**

Horizontal line on the Fish Finder page window with a depth label. Move the ShuttlePoint knob Up or Down to change the position of the VDM. The label displays the depth of the cursor position. The VDM can be moved to any location pinpointing the depth of a target.

**8 A-Scope**

Real time representation of fish and bottom features passing through the beam of the transducer, drawn as column of horizontal lines whose length and hue is proportional to the echo strength returned. The color of the echo strength depends on the selected display color. When the default palette is selected, the strongest sonar returns will be shown as red and weaker returns will be shown blue.

**9 Deep Alarm Bar**

Bar located on the left side of the Range Bar, showing the portion of the Echogram currently represented in the zoomed window (on the left part of the screen). It is turned On selecting the Echosounder Split page.

**10 Transmit Frequency**

Shows the selected depth transmit frequency. As a reference, 200kHz selection is normally used to see targets in depth up to 400 ft, and 50kHz is used in water over 400 ft.

**11 Color Bar<sup>1</sup>**

Colored scale located on the left side of the screen that shows the colors used in the Fish Finder page to represent the echoes strength. The color on the top of the bar FF525 represents the maximum echo strength, while the color on the bottom of the bar represents the minimum echo strength.

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**!** Color Bar is displayed only if the Fish Finder is in 16 colors (not 256 colors) mode. Refer to Par. 4.0 FISH FINDER COLOR to change the color.

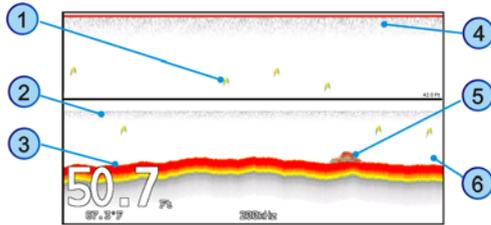
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## 3.1 FISH FINDER DISPLAY

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- ① Fish
- ② Thermocline
- ③ White Line
- ④ Surface Clutter
- ⑤ Structures
- ⑥ Bottom Echo Profile



### ① Fish

Fish are usually represented by small dots on the display when using 200kHz and by arches when using 50kHz.

### ② Thermocline

Are the zones where two layers of different water temperatures meet. The greater the temperature differential, the denser the thermocline shows on the screen. Thermoclines are represented as horizontal stripes of noise. They are very important for fishing since often many species of game fish like to suspend in, just above, or just below the thermoclines.

### ③ White Line

The White Line shows the difference between hard, soft bottoms and even distinguishes between fish and structures located near the bottom. In this way it is easier to tell the difference between a hard and soft bottom and even to distinguish fish and structures located nearby the bottom.

### ④ Surface Clutter

Appears like noise at the top of the screen extending many feet below the surface. It's caused by many things, including air bubbles, bait fish, plankton and algae.

### ⑤ Structures

Generally, the term "structure" is used to identify objects like wrecks and weeds rising from the bottom.

### ⑥ Bottom Echo Profile

Bottom profile recorded by the FF525. When the echo sounder is set in Auto Range mode, the bottom is kept in the lower half in the display.

## 3.2 DISPLAYING THE FISH FINDER PAGE

This section explains how to show the Fish Finder display pages.

1. Press the **MENU** key, tap on **Fishfinder**. In the bottom of the page the available selections appear.
2. Tap on the right or left bottom arrow to scroll the Desktop Icons to display the desired icon. From the left:
  - **FULL 200kHz** opens the Fish Finder 200kHz Full page
  - **FULL 50kHz** opens the Fish Finder 50kHz Full page
  - **200kHz & CHART** opens the Fish Finder 200kHz page on the right side and the Chart page on the left
  - **50kHz & CHART** opens the Fish Finder 50kHz page on the right side and the Chart page on the left
  - **DUAL** opens the Fish Finder 200kHz page on the right side and the 50kHz page on the left
  - **ZOOM 200kHz** opens the Fish Finder 200kHz Zoom page
  - **ZOOM 50kHz** opens the Fish Finder 50kHz Zoom page
  - **AUTO** opens the Fish Finder 50/200kHz Zoom page.
3. Tap on the desired display. See the example below. All Fish Finder page options are shown in the following paragraphs.

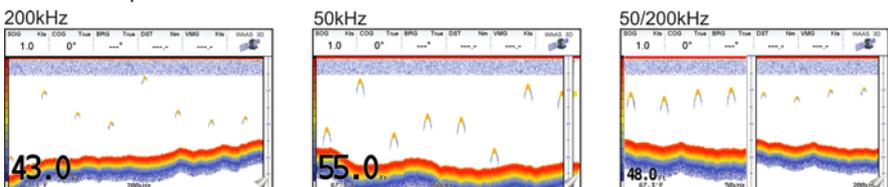


### 3.2.0 AUTO FULL PAGE

When this page is selected, the FF525 automatically changes the transmit frequency to show depths. Automatic switching occurs when depth of water is less than 400 ft (200kHz) and greater than 400 ft (50kHz).

### 3.2.1 200kHz FULL, 50kHz FULL AND 50&200kHz DISPLAY PAGES

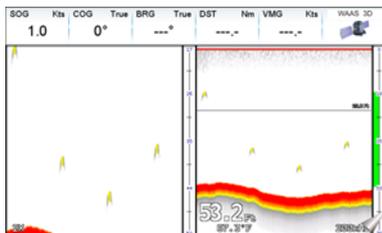
Allows the user to setup the CPN Series Chart Plotters display to show 200kHz, 50kHz or 200/50kHz split screen Fish Finder.



### 3.2.2 200kHz AND 50kHz ZOOM PAGES

---

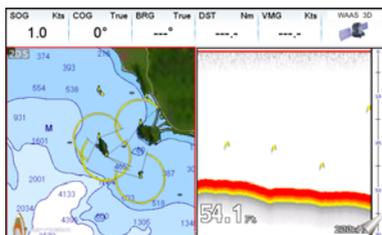
Allows the user to zoom into the 200kHz or 50kHz Fish Finder display to show detail of the area selected by the VDM (Variable Depth Marker). Referring to the image below, the left display shows the zoomed display and the right display shown the unzoomed display. To select the area to be zoomed in move the ● ShuttlePoint knob Up or Down which moves the VDM line. To zoom In or Out, press the **ZOOM** or **ZOOM** keys. The zoom ranges are 2x and 4x the normal Fish Finder display.



### 3.2.3 200kHz AND 50kHz FISH/CHART PAGES

---

Selects the display to show the Chart page on the left half of the screen and the Fish Finder on the right half of the screen. 200kHz or 50kHz Fish Finder can be selected on the right half of the display.



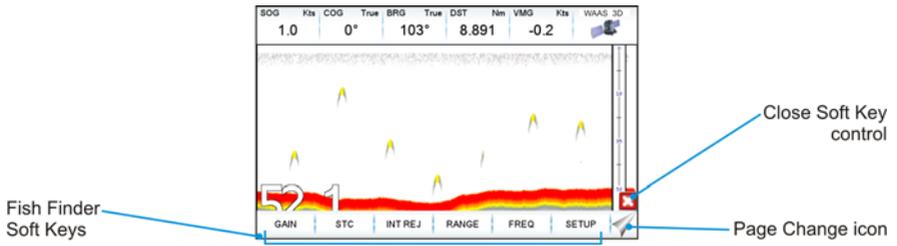
When Fish/Chart page is selected, you will notice one of the windows will have a red border around it. This red border indicates which window the CPN Series Chart Plotter has the focus on, meaning if the ● ShuttlePoint knob or a finger is tapped to moved the cursor on window will move. The focus may be changed to the other window by tapping the desired screen: the red border around the window is moved from active window to the other. With the focus on the Chart page the cursor may be moved and all chart menus can be selected. When focus is on the Fish Finder window the Variable Range Marker can be moved to see the depths of targets and Fish Finder menus can be accessed.

---

## 3.3 FISH FINDER SOFT KEYS

---

When a Fish Finder page is selected, tapping anywhere on the screen brings up the Soft Keys. The main functions to adjust the Fish Finder are shown on the Soft Keys labels.



### The **GAIN** Soft Key

Tapping on the **GAIN** Soft Key shows the Manual Gain window:



Tap on **+** or **-** to reach the desired value, then tap on **OK** (the Manual Gain window disappears).

### The **STC** Soft Key

Tapping on the **STC** Soft Key shows the Sensitivity Time Control window:



Tap on **+** or **-** to reach the desired value, then tap on **OK** (the STC window disappears).

### The **INT REJ** Soft Key

Tapping on the **INT REJ** Soft Key shows the Interference Rejection window:



Tap on **+** or **-** to reach the desired value, then tap on **OK** (the Interference Rejection window disappears).

### The **RANGE** Soft Key

Tapping on the **RANGE** Soft Key shows the Range window:



The range window allows to adjust the Shift and Depth value. Tap on the relative **+** or **-** to reach the desired value, than tap on **OK** (the Range window disappears).

**The **FREQ** Soft Key**

Tapping on the **FREQ** Soft Key shows the Frequency window:

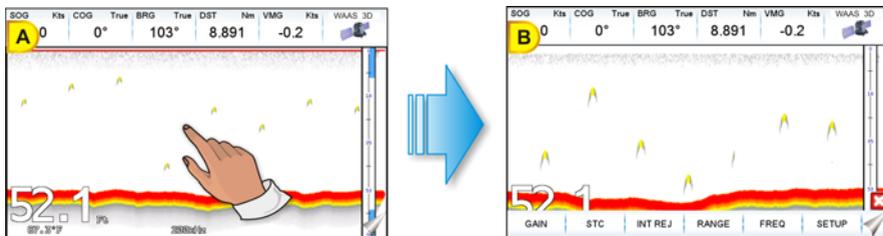


Tap on **+** or **-** to reach the desired value, than tap on **OK** (the Frequency window disappears).

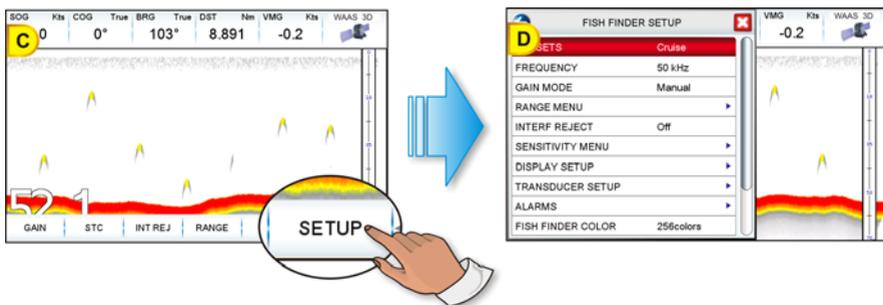
# 4 - FISH FINDER SETUP MENU

This section explains how to show the Fish Finder Setup menu and describe the Fish Finder Setup menu sub-options. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen (see A) to show the Soft Keys (see B):



2. Tap on the **SETUP** Soft Key (see C). The following menu appears (see D).



! To see additional items, tap under bar or move the ShuttlePoint knob down or turn the rotary knob.

3. Tap on the item you want.
4. Press the **CLEAR** key or tap on **X** to exit the menu.

## 4.0 FISH FINDER COLOR

Allows you to choose the Fish Finder color between 16 and 256 colors. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.

2. Tap on the **SETUP** Soft Key.
3. Tapping on **FISH FINDER COLOR** selects the Fish Finder color between **16 colors** and **256 colors**. The menu disappears and a Warning window is momentarily be shown *Please wait, the system will now apply the new setting.*

## 4.1 PRESETS

To simplify menu selections, the FF525 has two presets that can be easily selected for fishing or cruising. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tapping on **PRESETS** selects between **Fish** and **Cruise**.
4. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

**!** For Gain and Gain Offset settings refer to Sensitivity menu. For Range and Shift settings refer to Range menu (see Par. 4.4).

	FISH	CRUISE
Gain	Auto	Auto
Range mode	Auto	Auto
Gain offset	0%	10%
Shift	0	0
STC	Short	Short
Noise level	2	4
Scrolling Speed	10	10
Fish Symbols	Echo	Echo
A-Scope	On	On
Surface Declutter	4	4

## 4.2 FREQUENCY

Allows you to choose the frequency among Auto, 50kHz, 200kHz or 50&200kHz when single frequency page is selected. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **FREQUENCY**.



4. Tap on the desired frequency.
5. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

## 4.3 GAIN MODE

Allows you to choose the Gain Mode. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tapping on **GAIN MODE** selects between **Auto Mode** and **Manual Mode**:
  - **Auto Mode**  
Allows the Fish Finder to automatically adjust receiver Gain depending on water depth.
  - **Manual Mode**  
Allows the user to change the Gain manually to fine tune the FF525's receiver.
4. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

## 4.4 RANGE MENU

Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **RANGE MENU**. A popup window will be shown with the available options **Range Mode**, **Depth** and **Shift**.



4. Tap on the desired item (see the following paragraphs).
5. When the item you want has been selected, press the  key or tap on  to exit the menu.

#### 4.4.0 RANGE MODE

---

- **Manual**  
Used to set the Depth Range (from the surface) the Fish Finder display will show.
- **Auto Range**  
The Fish Finder automatically determines the Range to keep the bottom visible in the lower bottom of the screen. In this mode, Shift is always set to 0.
- **Bottom Lock**  
The Bottom Lock function keeps the screen display locked onto a certain Range around the bottom. Let's say the bottom is 400 ft and the Bottom Lock Range is set to display 30 ft around the bottom, the screen (instead of displaying from 0 ft to e.g. 450 ft) will display only a Range of 30 ft around the bottom, e.g. from 380 ft to 410 ft.

#### 4.4.1 DEPTH

---

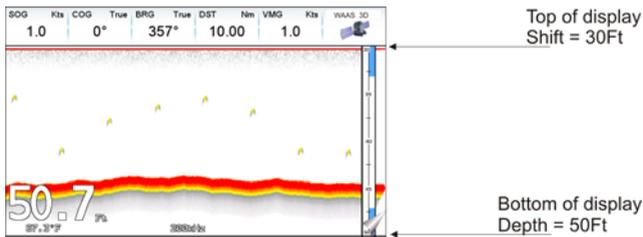
Moves the display from showing the bottom to the depth value entered.

#### 4.4.2 SHIFT

---

Shifts the display from the bottom of the transducer to the depth value entered.

**Example:** Your vessel is in about 57 ft of water, however there is fish suspended in 35 ft of water. You want to display to 10 ft area around the fish. Shift would be set to 30 ft and Depth would be set to 40 ft shown in the following example.



## 4.5 INTERFERENCE REJECTION

---

Turns On or Off a filter to remove noise from other Fish Finder or Depth Sounders. Select the Fish Finder page then follow the procedure below:

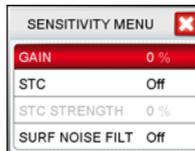
1. Tap anywhere on the screen.

2. Tap on the **SETUP** Soft Key.
3. Tapping on **INTERF REJECT** selects between **On** and **Off**.
4. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

## 4.6 SENSITIVITY MENU

All settings in the Sensitivity menu are related to the selected Fish Finder transmit frequency (50kHz or 200kHz). Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **SENSITIVITY MENU**. A popup window will be shown with the available options **GAIN**, **STC**, **STC STRENGTH** and **SURF NOISE FILT**.



4. Tap on the desired item (see the following paragraphs).
5. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

### 4.6.0 GAIN

Allows you to control the Sensitivity of the unit's receiver from 0 to 100%. To see more detail, increase the receiver Sensitivity by selecting a higher Gain percentage. If there is too much detail or if the screen is cluttered, lowering the Sensitivity may increase the clarity of the display.

**!** When the Gain Mode option is set to Auto, the receivers Gain cannot be changed. When the Gain Mode option is set to Manual, the Gain can be manually adjusted. When switching from Automatic to Manual Mode, the Gain + Offset value is copied into the Manual Gain setting of the receiver.

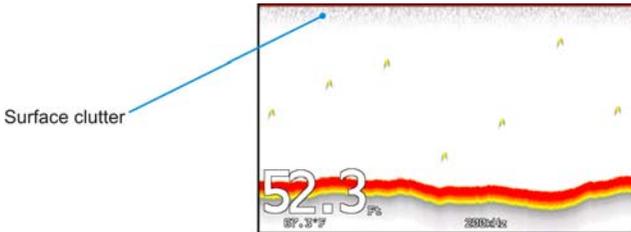
### 4.6.1 STC (SENSITIVITY TIME CONTROL)

The STC function attenuates echoes from surface down to the specified STC depth by changing the sensitivity of the receiver, decreasing it near the surface and gradually increasing it as the depth increases. STC impacts bottom finding so it can be particularly useful to track a rocky sea bottom distinguishing it from mud in suspension over it. For example when close to rivers outlet to the sea (consider to use at same time also Dual Frequency mode and White Line for an easier identification of real sea bottom), as well as to solve issues in false bottom detection when in presence of significant surface clutter (reading shallow, example 3 ft).

Its default value is SHORT for the 200kHz frequency and MID for the 50kHz frequency. Such

values are good in most conditions. However when navigating in very shallow waters it may be necessary to switch it to Off, while in very deep waters with a lot of Surface Clutter it may be better to increase it to Mid or Long.

ⓘ In some situations it may be necessary to adjust the STC so the sounder can read through the surface noise and show the bottom. One indication that the STC needs to be changed is when the display intermittently changes the depth from the correct depth to a very shallow depth.



The STC can be changed from Short, Mid, Long and Custom.

- **STC Length**

This is the depth range which the STC operates. In custom mode it can be varied from 0 ft to 1000 ft (60 ft or 255 ft on previous software versions). In preset mode it's value is reported in the following table.

- **STC Strength**

It is the starting attenuation value of the STC. It acts by attenuating the Gain of the given percentage value. In custom mode it can be varied from 0% to 100%. The STC effect is maximum near the surface, to mitigate the Surface Clutter and it progressively diminishes to 0 at the selected STC depth.

- **Preset values table**

	OFF	SHORT	MID	LONG
<b>STC Depth (Ft)</b>	1	60	60	255
<b>STC Length</b>	0	10%	30%	57%

When in shallow water and the Fish Finder display is showing a bottom or digital readout deeper than the actual depth this situation may occur if STC is set to Long or Mid when the bottom is shallow. This issue may be resolved by adjusting the STC value to Short or even to Off in very shallow waters.

When in Deep Water the Fish Finder display is showing a very shallow bottom or digital readout this may happen because in conditions of strong Surface Clutter the Fish Finder may erroneously look on to the Surface Clutter. To solve this situation try to increase the STC to Long or to Custom increasing the STC length and strength.

When in Deep Water the Fish Finder doesn't see the bottom, this may happen because the bottom is out of range or is very near to the maximum depth that can be tracked by the Fish Finder. In the latter case this may happen if the bottom composition is soft as mud, if the sea conditions are bad, there are thermoclines or the water is full of suspended materials (silt, plankton). All these factors may affect considerably the performance of the Fish Finder to be able to see the bottom. In these cases change the Range Mode from Auto to Manual Range and manually adjust the depth range until the bottom echo becomes visible on the Fish Finder display.

## 4.6.2 SURFACE NOISE FILTER

An automatic filter that attempts to remove Surface Clutter that causes the screen to be filled up with strong return echoes just below the surface. It may seem that the same functionality could be achieved using on the STC control however there is main difference between such control in fact the STC control impacts the capability to detect and track the bottom and is not designed to cancel completely the surface noise, on the other side the Surface Noise Filter attempts to cancel completely the surface noise but it doesn't affect the capability to detect and track the bottom.

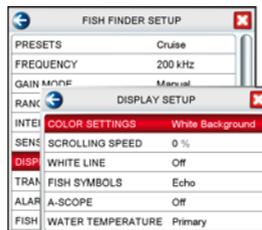
Filter gradually attenuates surface noises. The Surface Noise Filter has 9 settings: Off, 1, ..., 8. When set to 1 the Surface Noise is attenuated from surface down to a depth of 5 ft, increasing the Surface Noise increases the depth in which the Surface Noise is attenuated as well as the attenuation level increases; when the preset is set to 8 the attenuation is maximum and is applied from surface level down to a depth of 255 ft, as shown in the Surface Noise Filter Table reported below:

SURFACE NOISE FILTER DEPTH								
<b>Preset</b>	1	2	3	4	5	6	7	8
<b>Depth (Ft)</b>	5	10	15	20	30	60	130	255

## 4.7 DISPLAY SETUP

Allows the Fish Finder's display page appearance to be changed. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **DISPLAY SETUP**. A popup window will be shown with the available options **COLOR SETTINGS**, **SCROLLING SPEED**, **WHITE LINE**, **FISH SYMBOLS**, **A-SCOPE** and **WATER TEMPERATURE**.

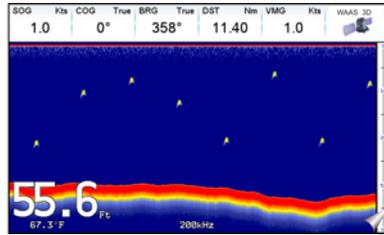
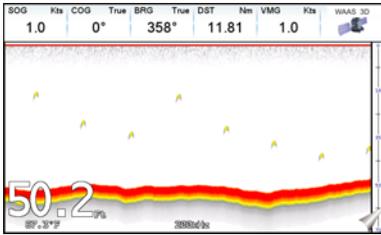


4. Tap on the desired item (see the following paragraphs).
5. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

## 4.7.0 COLOR SETTINGS

---

Allows you to change the color of the Fish Finder display from Blue Background (default), White Background, Black Background, Gray scale and Reversed Gray scale.



### 4.7.1 SCROLLING SPEED

---

Controls the rate the Fish Finder scrolls and updates the Fish Finder display.

### 4.7.2 WHITE LINE

---

Controls how the bottom type (hard or soft) is shown on the display. When the White Line is Off the bottom return will display as red. When the White Line is On it can be used to determine bottom hardness.

ⓘ The White Line option is not available in the 50 & 200kHz page.

---

### 4.7.3 FISH SYMBOLS

---

Controls the graphical representation of underwater-suspended targets.

- **Echo** : shown as arches (echoes)
- **Icon + Echo** : shown as arches with the Fish icon
- **Icon + Echo + Depth** : shown as arches with the Fish icon and relative depth values
- **Echo + Depth** : shown depth values
- **Icon** : shown as Fish icons without the arches
- **Icon + Depth** : shown as Fish icons and their relative depth values (shown accordingly to currently selected depth unit)

### 4.7.4 A-SCOPE

---

Shows the real time display of the echo from the bottom.

### 4.7.5 WATER TEMPERATURE

---

Allows selection between:

- Primary: the temperature sensor in the depth transducer
- or
- Auxiliary: an external temperature sensor connected to the optional connection wires

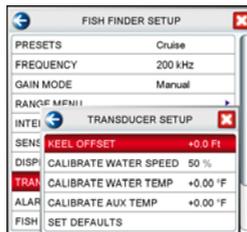
---

## 4.8 TRANSDUCER SETUP

---

This menu allows you to calibrate the speed through the water, water temperature and the keel/prop offset of the transducer. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **TRANSDUCER SETUP**. A popup window will be shown with the available options **KEEL OFFSET**, **CALIBRATE WATER SPEED**, **CALIBRATE WATER TEMP**, **CALIBRATE AUX TEMP**, and **SET DEFAULTS**.



4. Tap on the desired item (see the following paragraphs).
5. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

---

### 4.8.0 KEEL OFFSET

---

The keel offset can be set to cause the Fish Finder to display an offset depth below the keel or the actual water depth from the surface. To setup to show the depth below the keel, enter a negative depth value or a positive depth to show offset from the transducers face to the water surface.

---

### 4.8.1 CALIBRATE WATER SPEED

---

Used to calibrate the Water Speed readings from the transducer. Adjustment can be made from -10% to +10%.

---

### 4.8.2 CALIBRATE WATER TEMP

---

Used to calibration on the Water Temperature sensor in the transducer.

---

### 4.8.3 CALIBRATE AUX TEMP

---

Allows the calibration of the Auxiliary Temperature sensor connected to the optional connection wires.

#### 4.8.4 SET DEFAULTS

---

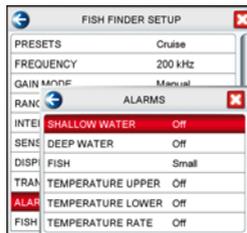
Restores the factory settings.

## 4.9 ALARMS

---

The Alarms menu allows you to define alarm settings for Shallow Alarm, Depth Alarm and Temperature Upper/Lower/Rate. To set an Anchor Alarm, enter in a shallow water and deep water value above and below your actual anchoring depth. The alarm will sound when the depth becomes shallower or deeper than the settings. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **ALARMS**. A popup window will be shown with the available options **SHALLOW WATER**, **DEEP WATER**, **FISH**, **TEMPERATURE UPPER**, **TEMPERATURE LOWER**, **TEMPERATURE RATE**.



4. Tap on the desired item (see the following paragraphs).
5. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

#### 4.9.0 SHALLOW WATER

---

Triggers an alarm when depth becomes shallower than the set depth.

#### 4.9.1 DEEP WATER

---

Triggers an alarm when depth becomes deeper than the set depth.

#### 4.9.2 FISH

---

The Fish Alarm can be set to detect and alert you depending on the size of fish. The options are: Off, Small, Medium, Big and Huge. The alarm sounds if the set size (or bigger) is detected.

### 4.9.3 TEMPERATURE UPPER

---

Triggers an alarm when the transducer reports a temperature above the set temperature.

### 4.9.4 TEMPERATURE LOWER

---

Triggers an alarm when the transducer reports a temperature below the set temperature.

### 4.9.5 TEMPERATURE RATE

---

Triggers an alarm when the transducer reports a temperature variation rate above the set temperature.

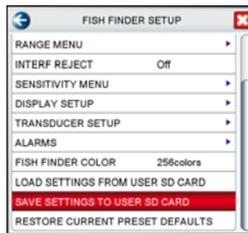
---

## 4.10 SAVE SETTINGS TO USER SD CARD

---

This option saves the complete set of Fish Finder settings to an optional User SD CARD. This is useful to avoid the user having to retune up Fish Finder after a RAM Clear operation or a software update. Select the Fish Finder page then follow the procedure below after inserting a User SD CARD into the slot.

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **SAVE SETTINGS TO USER SD CARD**.



4. When saving is complete tap on **OK**.

---

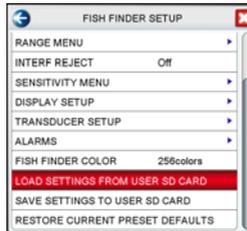
## 4.11 LOAD SETTINGS FROM USER SD CARD

---

This option loads the complete set of Fish Finder settings from the User SD CARD (memory

Card that may be used to backup the User Points and Tracks too). Select the Fish Finder page then follow the procedure below after inserting a User SD CARD into the slot.

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **LOAD SETTINGS FROM USER SD CARD**.



4. When loading is complete tap on **OK**.

---

## 4.12 RESTORE CURRENT PRESET DEFAULTS

---

This option restores the default values only for the current presets and does not affect the other presets. Select the Fish Finder page then follow the procedure below:

1. Tap anywhere on the screen.
2. Tap on the **SETUP** Soft Key.
3. Tap on **RESTORE CURRENTS PRESET DEFAULTS**.



4. When the item you want has been selected, press the **CLEAR** key or tap on **X** to exit the menu.

# 5 - OPERATION TIPS

*How can I set optimal operating parameters?*

Optimal operating parameters can be set accordingly with the intended use of the Fish Finder, to quickly get optimal operational parameters for fishing it may be best to select the Fish preset from the Fish Finder Setup menu, while for cruising it may be best to select the Cruise preset.

*What are preset modes?*

Preset modes are pre-defined settings of the Fish Finder operating parameters. You can use them to quickly set the Fish Finder in the most commonly used operating modes. These are:

- Cruise : sets Fish Finder in Full Auto mode with the Sensitivity settings (Gain Offset, Noise level and STC) optimized for displaying the bottom while underway.
- Fish : sets the Fish Finder in Full Auto mode with the Sensitivity setting optimized for fish finding.

*How can I restore the Fish Finder to factory default settings?*

While the Fish Finder page is shown, tapping anywhere on the screen brings up the Soft Keys: tap on the **SETUP** Soft Key and then tap on **TRANSDUCER** to select it. When the Transducer Setup menu appears tap on **SET DEFAULTS**. Note that this operation set all default settings, not only the working defaults.

*Can I always leave the Fish Finder in Full Auto (Auto Gain and Auto Range) mode?*

Yes, but note that the Full Auto mode suits the 90% of the cases, however in extreme situations the Auto modes may fail and thus it is necessary to switch to the Manual mode.

*What are extreme situations in which Auto modes may fail?*

When the bottom is very deep, at high boat speed, when the bottom is very shallow (< 5 ft), when the water is full of materials in suspension, with bad sea conditions.

*What should I do if the Auto modes fail?*

Failure of Auto modes can happen for various reasons. Hereafter you can find a range of possibilities.

*Auto Range fails in very shallow waters displaying a digital depth readout deeper than the actual value. What should I do?*

This usually happens if the STC is set to Long or Mid and the bottom is shallow or Short if the bottom is very shallow causing the Auto Range to hook to the second or third echo from the bottom (since in shallow waters the sound bounces more times back and forth the

surface to the bottom). Try decreasing the STC value to Short in shallow waters or to switch it to Very Short or Off.

*Auto Range fails, and the digital depth readout displays a very shallow reading. What should I do?*

This usually happens if the STC is Off or is set to a low value causing disturbance from Surface Clutter to be stronger than bottom echoes. Try increasing the STC value. As general rule STC has to be set as in shallow waters and Long in depth waters.

*Auto Range fails in very deep waters displaying a digital very shallow depth readout. What should I do?*

The Fish Finder capability to detect the bottom decreases as the bottom depth increase. If the bottom composition is soft as mud, if the sea conditions are bad, if there are thermoclines or the water is full of materials in suspension it can further decrease thus causing the digital depth readout to fail. When this happens the Auto Range algorithm also fails. To recover from this situation it is necessary to switch to Manual Range mode and to set the Manual Depth mode. When Manual Depth mode is selected the algorithm that calculates the digital depth readout searches for the bottom within the range manually selected by the user. At this point it is necessary to increase manually the Range until the bottom becomes graphically visible. If the echoes from the bottom are strong enough, the Fish Finder shall look to the bottom giving a correct depth reading and shall be possible to return in Auto Range mode. Please note that if one or more of the conditions that reduce the echoes from the bottom listed above is true the bottom may be not visible at all, in this situation a strong thermocline or Surface Clutter may be interpreted by the Fish Finder as the bottom.

*At a very shallow range upper half of the screen appears almost completely filled by the Surface Clutter. How can I eliminate it?*

This is normal in shallow waters. To clean up the Surface Clutter without degrading the digital depth readout algorithm functionality there are two modes:

1. If Surface Declutter = Off it is possible to set the STC value to custom setting the STC length to the same size of the Surface Clutter, and increasing the STC strength until the image on the screen cleans up. Please note that in very shallow waters it is usually better to switch to Manual Gain mode to reduce Gain fluctuation due to rapidly changing bottom conditions.
2. Using Surface Declutter, increase the Surface Declutter value until the Surface Declutter disappears completely.

*Why do I never see fish in the range between 0 to 2 ft?*

The minimum range of the Fish Finder is 2 ft. In this interval the Fish Finder can detect neither the bottom nor any target.

*How can I reduce the Surface Clutter?*

You can act by: properly setting the STC and also by increasing the Noise Level and reducing the Gain or the Gain Offset (if you are in Auto Gain mode). However please note that a strong attenuation of Surface Clutter may also reduce the capability to detect targets.

*The Fish Finder is in Auto Gain mode but the picture display too many small targets, what shall I do to reduce the screen clutter?*

Try increasing the Noise Level or decreasing the Gain Offset.

*In very shallow waters when the Auto Gain mode is selected there are fluctuations in the bottom profile width and its color representation. What should I do?*

In very shallow waters the environment situation (bottom/water condition) change very quickly thus causing the Auto Gain algorithm to create oscillations while trying to set optimal Gain value for each situation. To avoid this it is advisable to switch to Manual Gain mode and fine tune the Gain to a fixed setting.

*In very deep waters even setting the Gain to its maximum value I cannot see the bottom what shall I do?*

Try decreasing the Noise Level. If still the bottom is not visible there is nothing you can do, the bottom echo is simply too weak to be detected.

*The CPN Series Chart Plotter shows no data when viewing the Fish Finder page.*

This may be due to the FF525 having an issue. To confirm, listen to the depth transducer for the transmit pulse. If the pulse is not heard the FF525 is defective.

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## PLEASE NOTE

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