OPERATION MANUAL

HE-881Ⅱ

HONDEX™
by HONDA ELECTRONICS

INTRODUCTION

Thank you very much for purchasing our product.

■ Please be sure to read this operating manual carefully and understand the contents before the actual operation in order to keep your safety.

■ Please store this manual safely at the convenient place so that you can read it when needed.

■ Please pass this manual to new owner when you resell or give this unit to someone else.

■ We are not responsible for any physical injuries and property damages under product liability (PL) law by wrong usage or any other operations not described in this manual.

DEFINITION OF SYMBOL MARK [CAUTION FOR SAFETY]

⚠ DANGER : Incur the accident resulting in the death or serious injuries unless you keep the descriptions.

⚠ WARNING : Be in danger of incurring the accident resulting in the death or serious wound unless you keep the descriptions.

⚠ CAUTION : Be in danger or incurring the slight wound to human or damage to other physical property unless you keep the descriptions.

- Do not reproduce a part or all of contents described in this manual.
- Please understand that the unit may differ from the contents described in this manual due to the specification changes etc.
- Please inform us if you see any errors and/or unclear descriptions in this manual.

TABLE OF CONTENTS

BASIC OPERATION

SOUNDER OPERATION

REFERENCE MATERIAL

CAUTION ON SAFETY *(BE SURE TO READ THIS)*

This section explains the important cautions in order to prevent the users and surrounding people from physical injuries and property damages.

1. CAUTION ON SAFETY

⚠ DANGER

● High voltage is used for the unit inside.

　No one besides authorized personnel should disassemble or modify the unit.

　If not followed, it may result in electronic shock.

　※Please be sure to consult with the local dealer for any repairs.

⚠ WARNING

● Install the unit firmly.

　If not, it may cause the accidents such as human injuries.

● Do not use the information displayed on the screen for navigation.

　It causes the marine accidents and incidents.

　※Be sure to use the official marine charts for navigation judgement.

● Do not operate the unit while piloting the vessel.

　It causes the marine accidents and incidents.

　※Be sure to confirm the surrounding safety before the usage.

● Do not put the power on in the presence of flammable materials.

　It causes the fire.

● Do not use the power supply besides the specified one.

　It causes the firing and heating.

● Do not disassemble and modify the unit.

　It causes the firing, electronic shock, and injury.

● Do not operate the unit with wet hands.

　It causes the electronic shock and damage.

● Disconnect the power cable in the case of problem, smoke, and fire.

　It causes the firing and electronic shock.

　Be sure to contact the local shop or customer support.

> ⚠ **CAUTION**

● Do not install the unit where rain or spray dashes hit directly.
It causes the firing and electronic shock.

● Do not install the unit at heated places.
It causes the firing from the increase of internal temperature, injury, and electronic shock.

● Use the earthing.
Noise influence can be prevented by firm earthing.

● Away from direct sun light.
It causes the difficulty of future vision and heat problem.

2. HANDLING OF CABLE

> ⚠ **WARNING**

● Be sure to use the specified power supply cable.
It causes firing and heating.

● Do not leave the power plug after its removal.
It causes firing and heating if the plug gets wet.

● Be sure to wire the cables for safety pilot.
The improper wiring causes the accident.
※Do not put the heavy object on cables or bend cables excessively.

● Do not disassemble or modify the cables.
It causes firing, heating, or electronic shock.

● Do not use damaged cables.
It causes firing or electronic shock.

> ⚠ **CAUTION**

● Do not pull out the cable when disconnecting the plug.
The cable damage causes firing and electronic shock.
※Be sure to hold and pull the plug itself for the removal.

● Do not put any pressure on cables when installing the unit.
It causes line cut and shortage.

3. HANDLING OF TRANSDUCER AND WATER TEMP SENSOR

⚠ **DANGER**

● Any works on the vessl are very unstable and risky.

Installation/maintenance of transducer and water temp sensor should be handled after landing the vessel on ground or fixing the vessel at shipyard etc.

⚠ **CAUTION**

● Be sure to ventilate well inside the vessel when installing the transducer at the bottom of vessel. Volatile gas from solvent etc causes the toxic symptoms.

● Water proof treatment is required for Thru-Hull installation.
If not, it causes the marine accident.
※It is not allowed for aluminum vessels due to the risk of corrosion.

● Do not operate the electronic tools with wet hands.
It causes electronic shock.

● Do not remove the transducer plug when the power is ON.
It causes electronic shock.

4. TFT LCD PANEL

● TFT LCD panel is made with high precision technology. Therefore, the effective pixel is over 99%, and pixel loss and continuous lighting pixel exist 0.01% or more.
Please understand this specifications.

CAUTION OF OPERATION

1. Power OFF when Starting Engine

Battery voltage varies when the engine starts. It may cause some damage onto the unit. Set the power OFF when starting the engine.

2. Power Supply 10.8~30V

Operate the unit within the range of DC 10.8~30V.

3. Organic Solution is Prohibited

Do not clean the unit with organic solution like thinner or alcohol etc because most parts are made with plastic. For heavy dirt, soak the soft cloth in synthetic detergent and clean it after wring.

4. Take Note of Important Data

The unit is not desgined for storing the data permanently. Important data should be recorded on the notebook etc.

5. Lubricant and Anticorrosive are Prohibited

Do not use lubricant and anticorrosive. Chassis and gasket are damaged.

6. Use Designated Transducer

Be sure to use the designated transducer to ensure proper operation and compatibility.

FEATURE

- Crystal clear precision display with VGA color LCD.

- Auto shift/gain functions allow easy operation even for beginner.

- Display style can be selected from portrait / landscape.

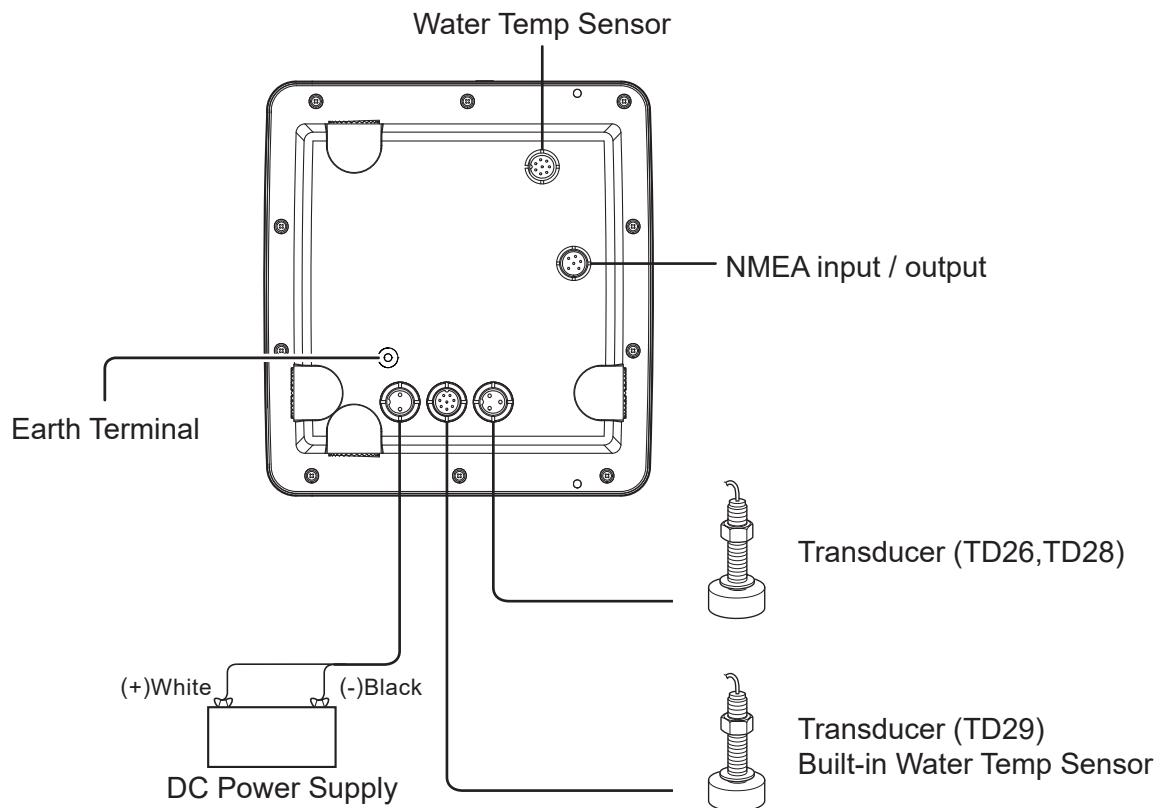- Compact design allows easy installation.

DESCRIPTION

1. FRONT VIEW OF MAIN UNIT
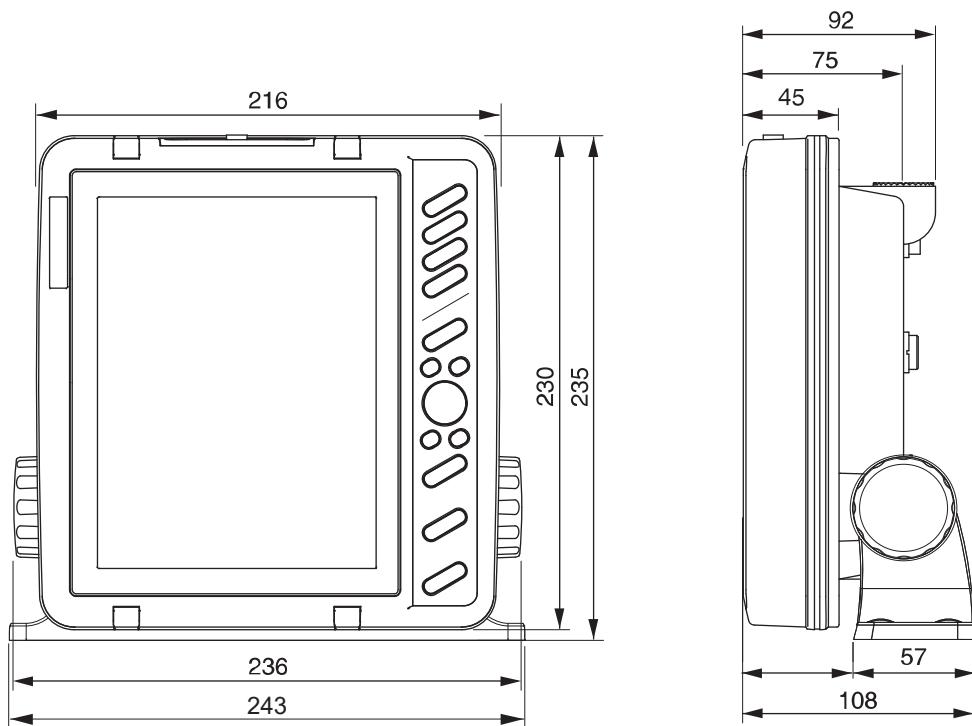
- RANGE (p10)
  Set the displayed depth range.
- GAIN-1 (p12)
  Adust the sensitivity of right side display
  when selecting dual freq display.
- GAIN-2 (p13)
  Adjust the sensitivity of left side display.
- SHIFT (p11)
  Move the displayed depth range.
- CLUTTER (p14)
  Set the clutter.
- MENU (p7)
  Display menu.
- SET (p7)
  Execution button for selection.
- CLR (p7)
  Cancel the menu.
- ZOOM (p14)
  Display each mode (Normal, Bottom Lock,
  Auto-Expansion, and Manual Expansion)

- DIRECTION (Up/Down/Left/Right) (p7)
  When opening the menu, it moves the selected
  item and change the set-up.
  When not opening the menu, Up/Down key
  moves the cursor on the screen.
  Left/Right key adjusts the contrast.
- USER Ⓐ Ⓑ (p8)
  Shortcut keys
- BRIGHT (p8)
  Adjustment of display brightness.
- POWER (p7)
 Power ON/OFF.

2. REAR VIEW OF MAIN UNIT / DESCRIPTION

Water Temp Sensor

NMEA input / output

Earth Terminal

Transducer (TD26,TD28)

(+)White   (-)Black

DC Power Supply

Transducer (TD29)
Built-in Water Temp Sensor

- Transducer (3P)－TD26,TD28 ※
- Transducer (8P)－TD29 ONLY ※
- DC Power Supply (2P)
- Earth Terminal
- Water Temp Sensor
- NMEA input / output

※ Do NOT connect 2pcs transducers to main unit.

HOW TO OPERATE MENU

Menu

Change the set-up with [MENU] / [DIRECTION] / [SET] / [CLR] keys.

MENU   SET

DIRECTION

DIRECTION

CLEAR
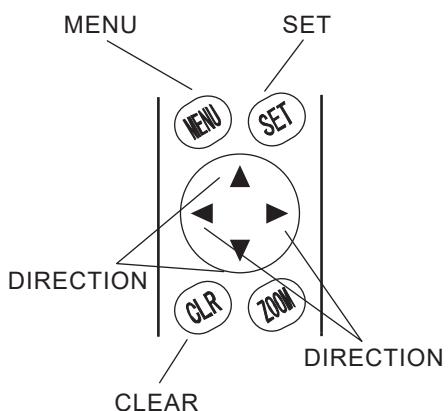
1 [MENU] key

• Press MENU key to display Menu 1.

• Press MENU key again to display Menu 2.

• Press MENU key again to display Menu 3.

• Press MENU key again to close the menu.

• Press MENU key to return to the previous display for ► MENU below.

▪ MENU1：FISH MARK

▪ MENU2：TEMP ALARM/DEPTH ALARM/UNIT_SET

▪ MENU3：ADJUST

2 [DIRECTION] Up/Down key

• Press Up key to move the selected item.

• When the selected item is at the top, press Up key to move to the bottom.

• Press Down key to move downward.

• When the selected item is at the bottom, press Down key to move to the top. The selected item in blue color can be changed.

3 [DIRECTION] Left/Right key

• Press Left/Right key to change the set-up. Set-up is effective right after selecting the change.

• On water temp/depth alarm display, press right key to show alarm set-up display.

4 [SET] key

• SET key needs to be pressed to activate Display style (Portrait / Landscape) and initialization. After activating the change, normal display will appear automatically.

5 [CLR] key

• Press CLR key to cancel from any menu display.

POWER ON / OFF

Power

| Brightness | Press&Hold Power ON button to activate. |
| | Press OFF button to turn off the power. |

Power

Caution : Set the power OFF when starting the engine because the unstable variation of battery voltage level may cause the problems into unit.
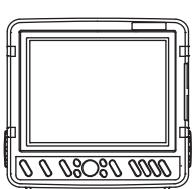
PICTURE STYLE (PORTRAIT / LANDSCAPE)

Portrait / Landscape

Display view can be selected for different installation environment.
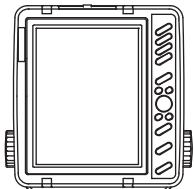
Portrait   Landscape

SCREEN BRIGHTNESS

Brightness Adjustment

◄BRIGHT►   Brightness

ON /OFF POWER   Power

Press BRIGHT button to adjust the brightness.

USER KEY

USER KEY

Frequently used functions can be assigned to user keys.
This is a convenient function that allows you to operate the function quickly by simply pressing the user key without opening the menu screen.

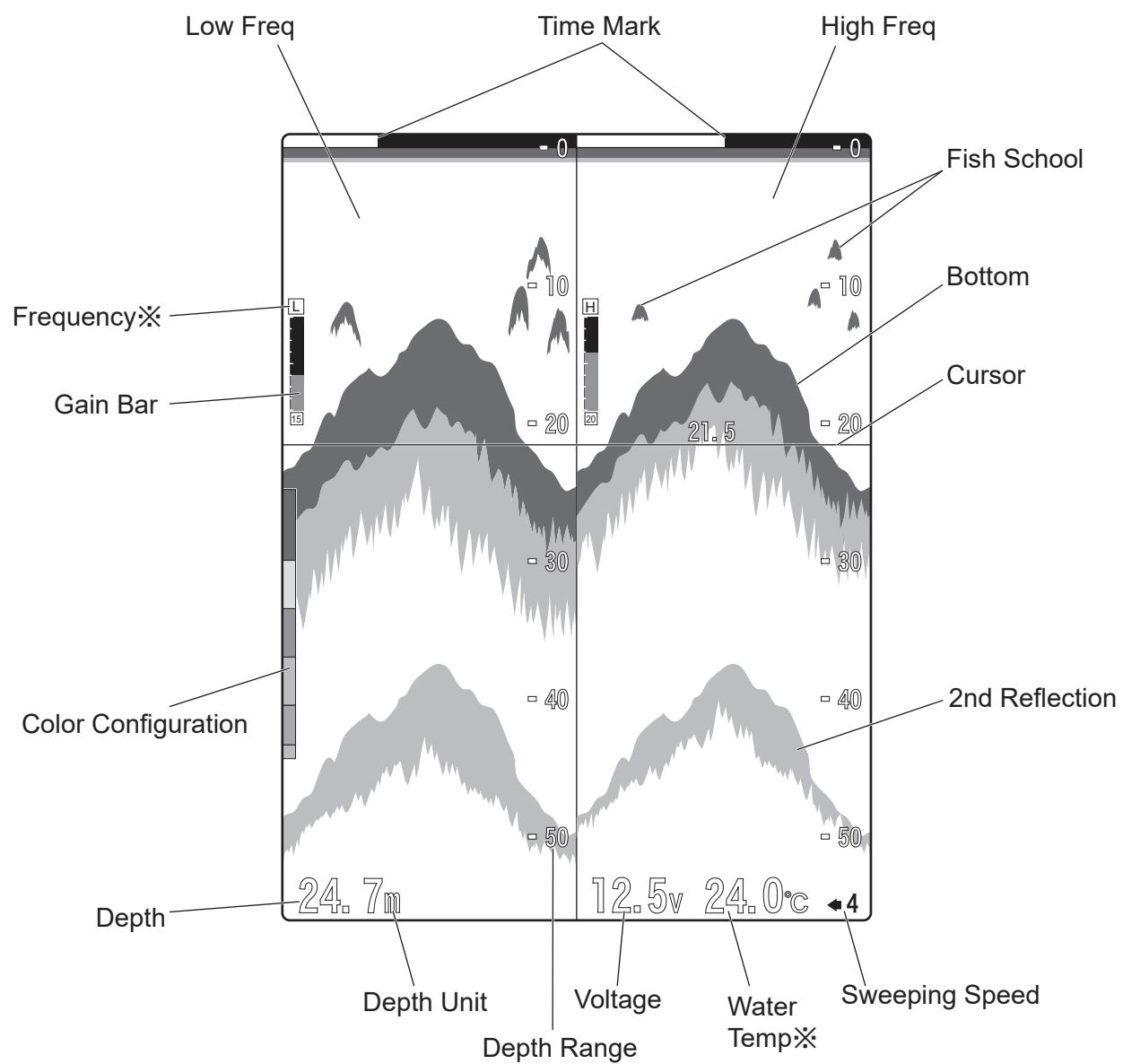Press A or B key to activate the selected short-cut function.
Pop up box will disappear automatically 2 sec later after the set-up.

[REGISTER USER KEY]

1   Go to underlined MENU.

2   Press&Hold A or B key for 2 sec to assign the function.

3   After the beep sound, A or B is shown on the left side of the selected menu.

SOUNDER SCREEN

Example : Low Freq - High Freq Display

Low Freq   Time Mark   High Freq

Fish School

Frequency※

Bottom

Gain Bar

Cursor

Color Configuration

2nd Reflection

Depth

24.7m   12.5v   24.0°c   ◀4

Depth Unit   Voltage   Water Temp※   Sweeping Speed

Depth Range

※ Frequency

- Main unit has single frequency.   No indication.
- Main unit has dual frequencies.   L : Low Freq H : High Freq

※ Water temperature

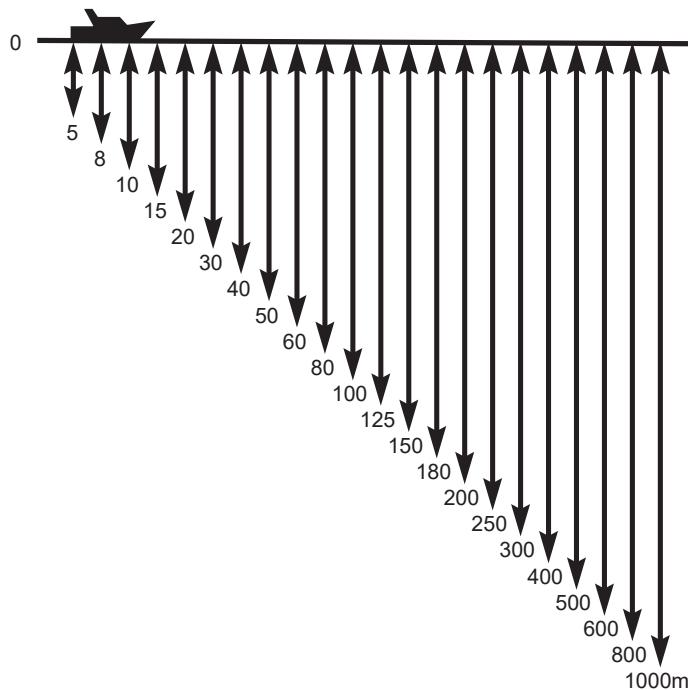Water temp appears when connecting to either TD29 transducer or water temp sensor.

— 9 —

1. RANGE SET-UP

Depth (Display Range)

【DEPTH】

Depth range is set. The set-up range varies depending on the frequency.
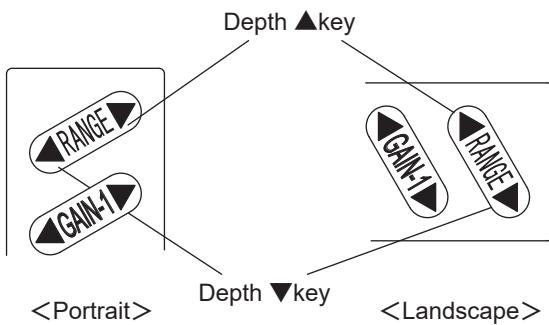Please refer to the following image for each frequency.

0
5
8
10
15
20
30
40
50
60
80
100
125
150
180
200
250
300
400
500
600
800
1000m

1 [Shallow Range Direction]

Press ▲key for shallower range.

2 [Deep Range Direction]

Press ▼key for deeper range.

Depth ▲key

RANGE ▼
▲GAIN-1▼

▲GAIN-1▼
▲RANGE▼
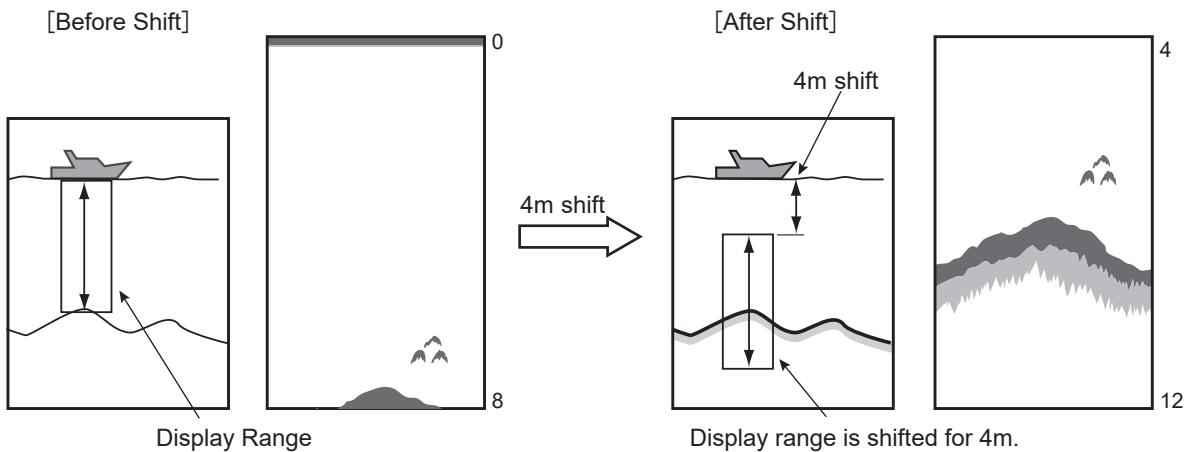
Depth ▼key

＜Portrait＞   ＜Landscape＞

2. DISPLAY RANGE SHIFT

Shift (Display Range)

[Shift (Display Range)]

Possible to shift the starting position of depth (display range). For example, the depth is 4~12m when shifting 4m for 0~8m depth (display range).
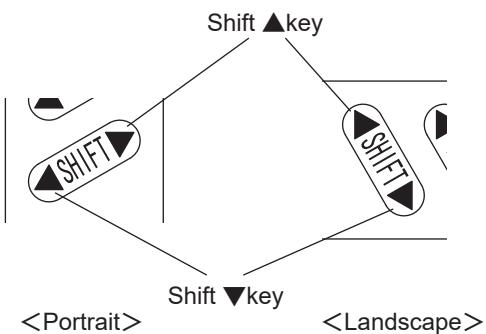
[Before Shift]

[After Shift]

0

4

4m shift

4m shift

8

12

Display Range

Display range is shifted for 4m.

1 【Shallow Direction】
Press ▲key for shallower direction.

2 【Deep Direction】
Press ▼key for deeper direction.

Shift ▲key

SHIFT

SHIFT

Shift ▼key

<Portrait>   <Landscape>

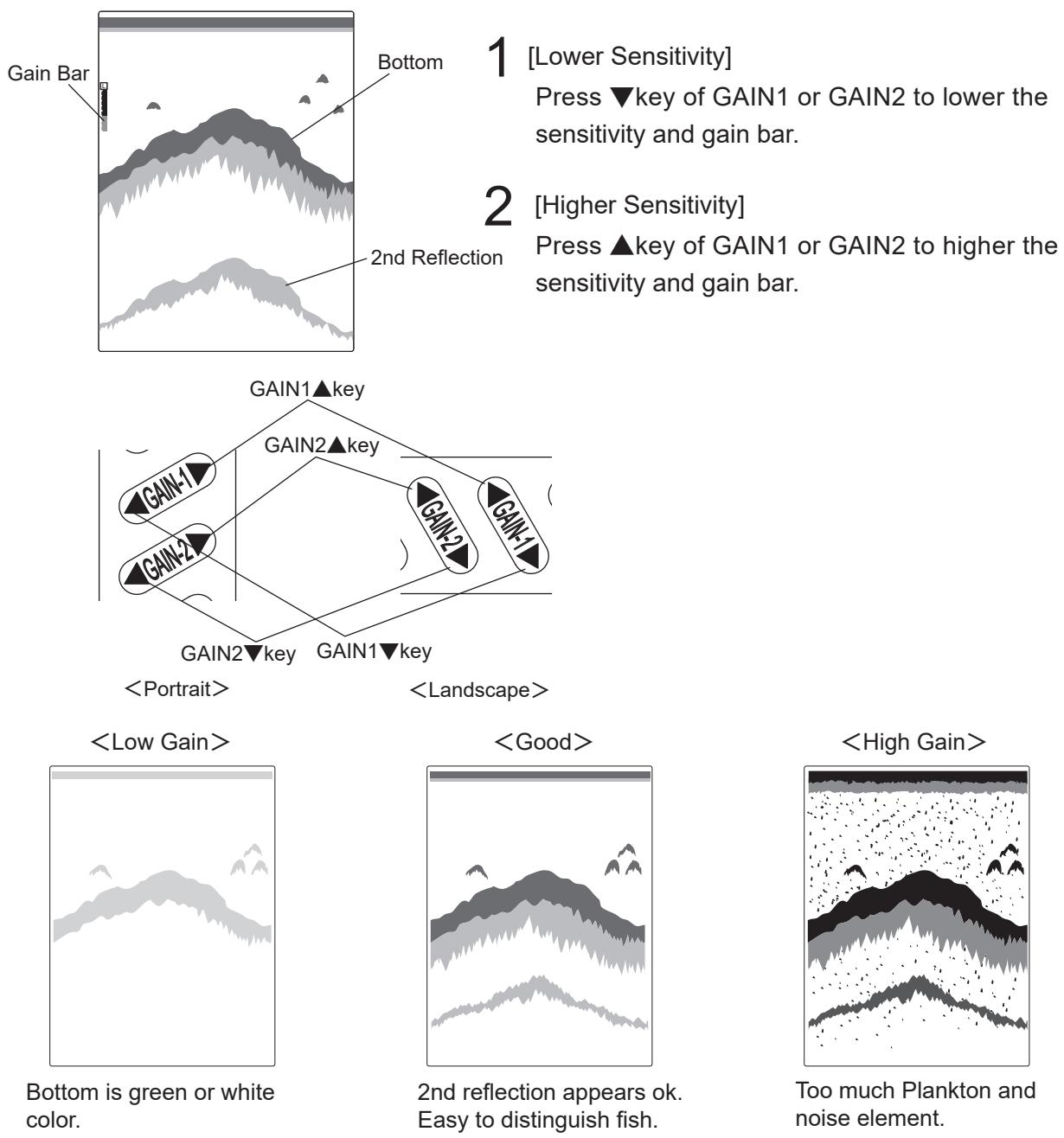## Single Frequency Display

Operation for single frequency display.

※ Both keys, [GAIN1] and [GAIN2], changes the sensitivity.

※ Select single or dual frequency display from menu.

※ Dual frequency is selected for default set-up. (when the unit supports dual frequency)

[Gain]

Adjust the gain to distinguish the sea bottom and fish school. (0~31 : 32 steps of sensitivity level)
Optimum sensitivity is to have 2nd reflection of sea bottom and red color bottom.

[2nd Reflection]

1st reflection is first reflected sound from sea bottom. 2nd reflection is the sound reflected from the sea surface and reflected again from the sea bottom. Usually, 2nd reflection is located twice deeper than sea bottom(1st reflection).

Gain Bar

Bottom

2nd Reflection

1 [Lower Sensitivity]

Press ▼key of GAIN1 or GAIN2 to lower the sensitivity and gain bar.

2 [Higher Sensitivity]

Press ▲key of GAIN1 or GAIN2 to higher the sensitivity and gain bar.

GAIN1▲key

GAIN2▲key

GAIN2▼key   GAIN1▼key

＜Portrait＞   ＜Landscape＞

＜Low Gain＞	＜Good＞	＜High Gain＞
Bottom is green or white color.	2nd reflection appears ok. Easy to distinguish fish.	Too much Plankton and noise element.

Dual Frequency Display

For dual frequency display, GAIN1 is for right diplay, and GAIN2 is for left display.

GAIN2 — Gain Bar — **GAIN1**

<Low+High>

1 Adjust the sensitiviy of left display with GAIN2 key.
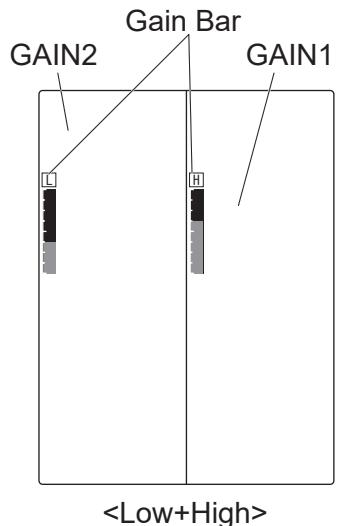
[Lower Sensitivity]
Press GAIN2 ▼key to lower the sensitivity and gain bar.

[Higher Sensitivity]
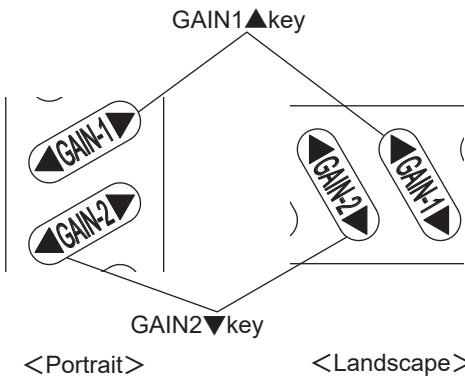Press GAIN2 ▲key to higher the sensitivity and gain bar.

2 Adjust the sensitiviy of right display with GAIN1 key.

[Lower Sensitivity]
Press GAIN1 ▼key to lower the sensitivity and gain bar.

[Higher Sensitivity]
Press GAIN1 ▲key to higher the sensitivity and gain bar.

GAIN1▲key

GAIN2▼key

<Portrait>   <Landscape>

3. CLUTTER

Clutter

Fish school and bottom are displayed with the set-up of reflected echo strength and color tone. "Clutter" easily distinguishes the fish school by erasing the color from weakest reflection such as plankton or dirts under the water.

● Clutter set-up

Each time pressing CLUTTER▲ key, erase the color of weakest reflection.
Each time pressing CLUTTER▼ key, re-activate the color of strong reflection.

Clutter▲key

＜Portrait＞   ＜Landscape＞
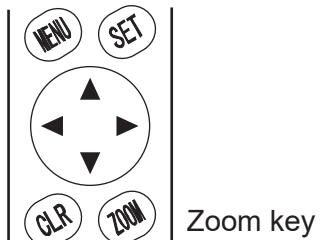
Clutter▼key
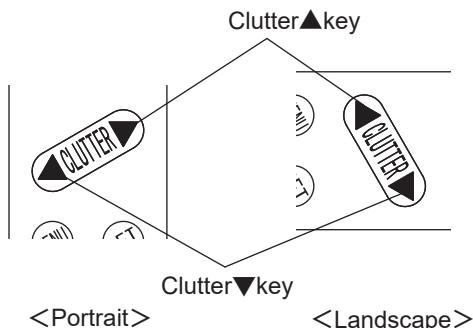
4. ZOOM

Expansion Mode

[Expanded Display]

Expanded display appears on the left side.
When selecting dual frequency mode, the expanded display applies the right frequency.

Zoom key

● Press ZOOM button to change the mode.

There are 3 different zoom selections:
bottom lock expansion, automatic expansion, and manual expansion)
Expansion range mark appears when selecting auto and manual expansion.

5. EXPANSION AREA

Expansion Area

Possible to move the expansion area to either sea surface / bottom sides.
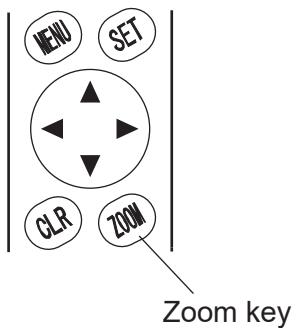
※ [ZOOM] area can be only used during manual expansion mode.

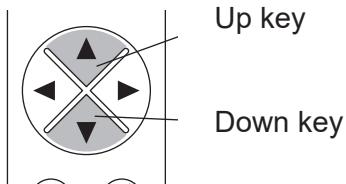※ Expansion ratio can be selected from x2, x4, x8.

※ x4 is factory set-up.

1 Press ZOOM key to set to manual expansion.

2 Press Up/Down key or GAIN-2 key to move the expansion area (green expansion mark area) up/down.
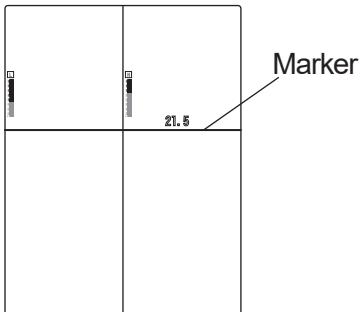
※Press ZOOM key to cancel the expansion display.

Zoom key

6. MARKER

Marker

Up key

Down key

● Press Down key to show the marker line moving downward.
Press Up key to move the line upward.
The depth of marker line appears on the line.

Marker

21.5

SET FROM MENU

＜MENU 1＞

1. SWEEP

Sweep

[Sweeping Speed]

Sounder display consists of the consecutive latest image (image beneath the vessel)
at the right edge and keep shifting the past image to the left side. Sweeping speed is the speed
to shift the image. Whole display appears differently with this set-up value.

[Relation between Sweeding Speed and Sounding Rate]

Sweeping speed can be selected. The following is the reference of sounding rate
for each set-up.

Menu Set-up	Sweep Speed / Sounding Rate
x2, x3, x4	
4	1／1
3	1／2
2	1／4
1	1／8
Freeze	Freeze

↑ Fast

↓ Slow

● Set-up the sweeping speed of Menu1.

2. A-MODE

A-Mode

A-Mode appears on the right screen.
A-Mode band changes depending on the strength of reflected echo signal.

ON ： A-Mode ON
OFF ： A-Mode OFF

3. AUTO RANGE / SHIFT

Auto Range / Shift

● Set-up Auto Range / Shift of Menu1.

Range ： Range is automatically adjusted for optimized bottom location (lower half area).

Shift ： Automatic shift (display range movement) is applied for bottom location (lower half area).

OFF ： Cancel Auto Range and Auto Shift.

4. AUTO RNG MAX DEP.

Auto Rng Max Dep.

Set-up the max. depth when using auto range.

● Set-up max. depth for auto range of Menu1.

30m,50m,100m,200m,300m, 500m, 1000m

5. EXP. RATE

Exp. Rate

[Expansion Ratio]

Expansion ratio can be selected from 2x / 4x / 8x.

● Set-up the expansion ratio of Menu1. (2x / 4x / 8x)

6. AUTO GAIN

Auto Gain

Set the optimized gain automatically for better image presentation.

● Set-up the auto gain of Menu1.
  LOW：Lower sensitivity set-up.
         Suitable for 2nd/3rd reflection or
         bottom hardness judgement.
  HIGH：Higher sensitivity set-up.
         Suitable for detecting bait fish or
         higher sensitivity.
  OFF ：Cancel the auto gain set-up.

7. C-ECHO

C-Echo

Reduce the desynchronized noise such as other fishfinder, electronic noise, air bubble, and mechanical noise.

- Set-up the clean echo of Menu1.
  （OFF・LOW・HIGH）

Caution : Clean echo may erase small fish reflection as well as small noise.

8. OUTPUT POWER

Output Power

Select from 2 levels of output power. (Low / High)

- Set-up the output power of Menu1.
  （LOW・HIGH）

9. STC

STC

Reduce the sensitivity of shallow water area less than approx.100m and present the clear image by eliminating the noise signal such as plankton and air bubbles.

- Set-up STC of Menu1.
  （OFF・ON）

10. FISH MARK

FISH MARK

Three types of fish marks will be displayed depending on the strength of echo reflection.

- Set-up fish mark and fish mark adj of Menu1.

  Fish marks will appear more frequently when a positive value is selected.

  ※Restricted conditions when activating FISH MARK
  - Output power : HIGH
  - STC : ON
  - SWEEP : STOP, 4, x2, or x4

＜MENU 2＞

1 . BACKGROUND

Background

Visual image of display looks differently by surrounding brightness. It is easier to see the image by selecting the background color from 4 different colors.

- Set-up background color of Menu2. (black, dark blue, blue, white)

2 . COLOR CONFIG.

Color Config.

Reflected signal of sound wave is converted into 17 ranks of digital signal according to the strength of response. Color configuration is the color set-up for 16 ranks except background color.

Fishfinder image is shown by the the color configuratoin. The displayed color shows the strength of reaction. Also, specific reaction can be emphasized by changing the color configuration.

1 Select the color config of Menu2. (6 patterns: 1~6)

3 . TEMP GRAPH

Temp Graph

Water temp graph appears. It's easy to see the fishing points by knowing the variation of water temperature and tide change.

※ Either TD29 transducer or optional water temp sensor is required for water temp graph.

- Set-up TEMP GRAPH of Menu2.
  - ON ：Enable
  - OFF ：Disable

4 . FISH ALARM

Fish Alarm

Alarm is ON when the fish is detected.

- Set-up Fish Alarm of Menu2.
  - S ：High sensitivity mode to detect small /big fish schools.
  - L ：Low sensitivity mode to detect only big fish schools.
  - OFF ：Fish alarm is OFF.

Caution : Fish alarm may react to the objects other than fish.
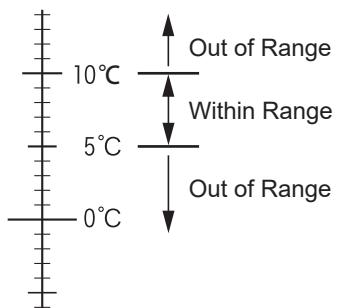
5 . TEMP ALARM

Temp Alarm

Alarm is ON within or exceeding the range of 2 different water temp.
※ Either TD29 transducer or optional water temp sensor is required for water temp alarm.

e.g) Water temp1 : 5℃
　　 Water temp2 : 10℃

10℃ — Out of Range
　　　 Within Range
5℃ —
0℃ — Out of Range

1 Go to water temp alarm of Menu2.

2 Press right key to display the set-up of water temp alarm.
Set-up the alarm condition.

Within Range : Alarm is ON within the range of 2 selected temp.
Temp display blinks.

Out of Range : Alarm is ON outside the range of 2 selected
temp. Temp display blinks.

OFF 　　 : Temp alarm is OFF.

3 Set-up the water temp1 and temp2.

6 . DEPTH ALARM

Depth Alarm

Alarm is ON within or exceeding the range of 2 different depth (Depth Set1, Depth Set2).

● Go to depth alarm of Menu2.

・ Press right key to display the set-up of depth alarm.
Set-up the alarm condition.

Within Range : Alarm is ON within the range of 2 selected
depth.

Out of Range : Alarm is ON outside the range of 2 selected
depth.

OFF 　 : Depth alarm is OFF.

・ Set-up the depth1 and depth2.

e.g.)

Out of Range
Alarm
Within Range
Alarm
Out of Range

Depth 10m (depth1)
Depth 15m (depth2)
Alarm
Alarm
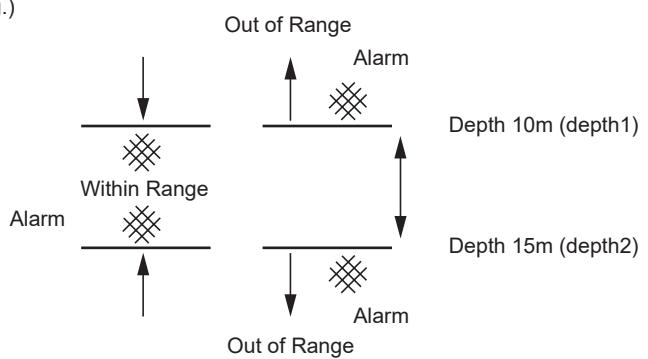
7 . UNIT_SET

Unit Setting

· Temp Unit － Select one type.
· Depth Unit － Select one type.

● Set-up each unit of Menu2.

8 . PULSE LENGTH

Pulse Length

Basic set-up is normal for pulse length, but it is possible to select the pulse length.
Selecting "LONG" means 2 times longer pulse than normal.

● Set-up pulse length of Menu2.
（NORM・LONG）

9 . BTM HARDNESS

BTM HARDNESS

Select ON to show bottom hardness graph.
Level 0~20 to show the level of sea floor hardness. Higher value means stronger reflection from the hard bottom.

● Set-up BTM hardness of Menu2.
ON ：USE
OFF ：NO USE

＜MENU 3＞

1 . SUPER RANGE

> ### Super Range
>
> Depth range of whole past image changes automatically according to the current depth (displayed depth range on screen) if changed any.
>
> - Set-up super range of Menu3.
>   - ON ：USE
>   - OFF ：NO USE

2 . DISPLAY

> ### Display
>
> Possible to select dual frequency display as follows.
>
> ※ This function is not for single frequency transducer.
>
> - Set-up display of Menu3.
>   - L : Low frequency display on whole screen
>   - H : High frequency display on whole screen
>   - L+H :
>   - Low freq for left and High freq for right half display
>   - H+L :
>   - High freq for left and Low freq for right half display
>
> < "L+H" >
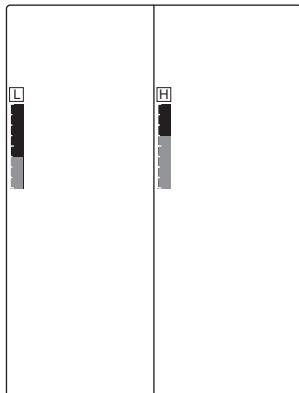
3 . ADJUST

> ### Adjust
>
> - Water Temp Correction － Correct the water temp.
> - Voltage Correction － Correct the voltage.
>
> - Set-up each unit of Menu3.

4 . DEPTH DIGIT

> ### Depth Digit
>
> Select the display size of depth digit.
>
> - Set-up the depth digit of Menu3.
>   - (OFF, S, M, L)

5 . SCALE LINE

Scale Line

Horizontal line (scale line) appears on the screen.

● Set-up scale line of Menu3.

ON　: USE

OFF　: NO USE

6 . SIMULATION

Simulation

Simulation mode set-up.

Operational practice is possible without connecting to transducer.

1 Set-up Simulation of Menu3.

ON　: USE

OFF　: NO USE

※ DEMO sign appears.

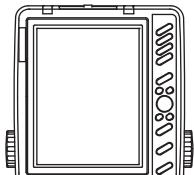※ Select OFF when returning to normal mode.

Caution : Information appears on the simulation mode is not actual image.
This is only used for operational practice or demonstration purpose.

7 . PICTURE STYLE (PORTRAIT / LANDSCAPE)

Picture Style

Display view can be selected for different installation environment.
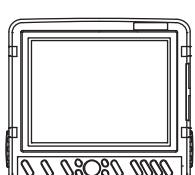
Portrait　　　Landscape

1 Set-up Picture Style of Menu3.

8 . INITIAL ALL

Initial All

Initialize all the set-up except display style.

1 Go to Initialize of Menu3.

2 Press Set key to execute initialization.

MENU LIST AND FACTORY SET-UP

MENU1

Menu Item		Set-up Value	Factory Set-up
1. SWEEP		STOP, 1, 2, 3, 4, x2, x3, x4	4
2. A-MODE		OFF, ON	OFF
3. AUTO RNG/SFT		OFF, RNG, SFT	OFF
4. AUTO RNG MAX DEP.		30m,50m,100m,200m,300m,500m,1000m	500m
5. EXP. RATE		x2, x4, x8	×4
6. AUTO GAIN		OFF, L, H	OFF
7. C-ECHO		OFF, L, H	L
8. OUTPUT POWER		LOW, HIGH	HIGH
9. STC		OFF, ON	ON
10. FISH MARK	1. FISH MARK	OFF,ON,ON(cm),OFF(cm),ON(inch),OFF(inch)	OFF
	2. FISH MARK ADJ	-6,-5,-4,-3,-2,-1,0,+1,+2,+3,+4,+5,+6	0

MENU2

Menu Item		Set-up Value	Factory Set-up
1. BACK GROUND		Black, Dark Blue, Blue, White	Blue
2. COLOR CONFIG.		1, 2, 3, 4, 5, 6	2
3. TEMP GRAPH		OFF, ON	OFF
4. FISH ALARM		OFF, S, L	OFF
5. TEMP ALARM	1. ALARM SET	OFF, IN RANGE, OUT RANGE	OFF
	2. TEMP SET1	0.0℃～40.0℃	15.0℃
	3. TEMP SET2	0.0℃～40.0℃	20.0℃
6. DEPTH ALARM	1. ALARM SET	OFF, IN RANGE, OUT RANGE	OFF
	2. DEPTH SET1	2m～500m	10m
	3. DEPTH SET2	2m～500m	50m
7. UNIT_SET	1. TEMP UNIT	℃, ℉	℃
	2. DEPTH UNIT	m, ft, fa, br	m
8. PULSE LENGTH		NORM, LONG	NORM
9. BTM HARDNESS		OFF, ON	OFF

MENU3

Menu Item		Set-up Value	Factory Set-up
1. SUPER RANGE		OFF, ON	OFF
2. DISPLAY		50, 200, 200-50, 50-200	50-200
3. ADJUST	1. TEMP. CORRECT	-3.0℃～+3.0℃	0.0℃
	2. VOLT. CORRECT	-2.0V～+2.0V	0.0V
4. DEPTH DIGIT		OFF, S, M, L	M
5. SCALE LINE		OFF, ON	OFF
6. SIMULATION		OFF, ON	OFF
7. PICTURE STYLE		PORT, LAND	PORT
8. INITIAL ALL			

DIMENSIONAL DRAWING

1. MAIN UNIT

Unit:mm
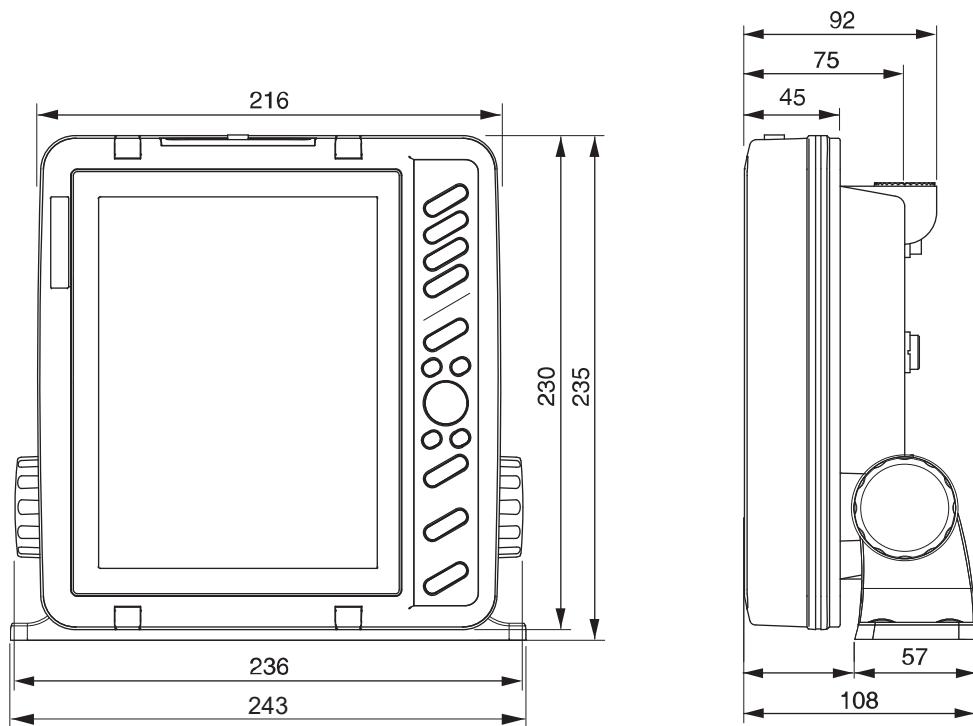
2. BRACKET
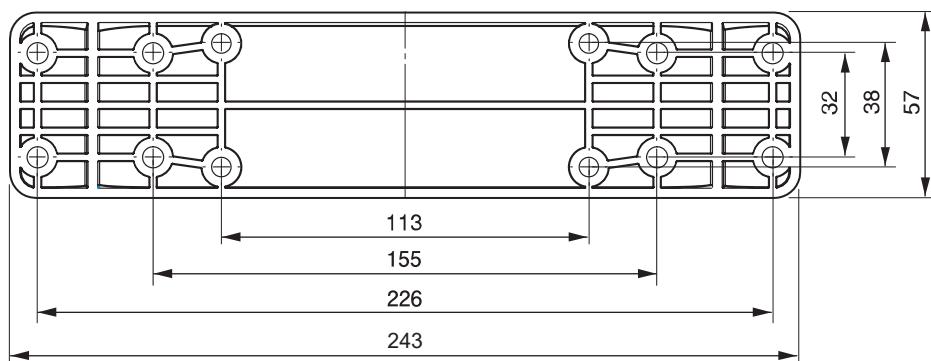
CONNECTION WITH MAIN UNIT

Water Temp Sensor

NMEA input / output

Earth Terminal

Transducer (TD26,TD28)

(+)White   (-)Black

Transducer (TD29)
Built-in Water Temp Sensor

DC Power Supply

(Example)
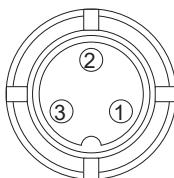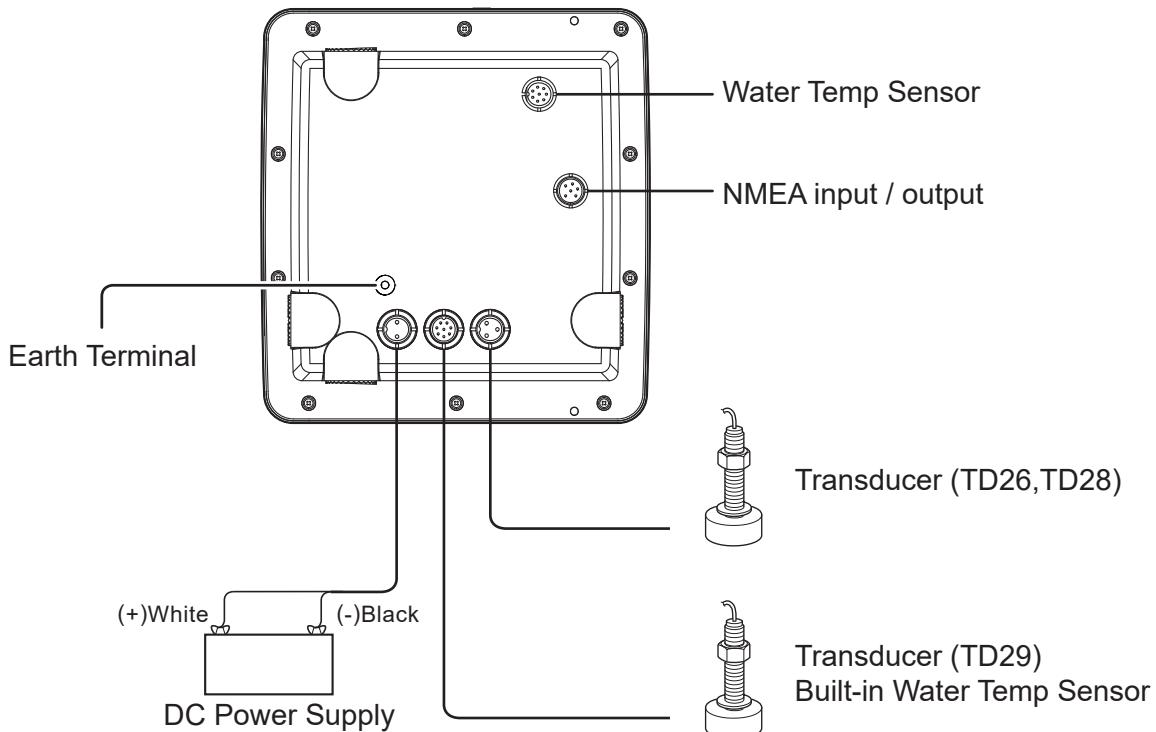
TD Line Info

1. Connector 3P for Transducer ※
   1 . Transducer
   2 . Shield
   3 . Transducer

3P Spec	
1	Black
2	Shield
3	White

※Do NOT connect 2pcs transducers to main unit.

(Example)

TD Line Info

2. Connector 8P for Transducer－TD29 ONLY ※
   1 . N/A
   2 . Water Temp Sensor(+)
   3 . Transducer
   4 . Shield
   5 . Transducer
   6 . TD.Type
   7 . N/A
   8 . Shield + GND

8P Spec	
1	—
2	Yellow
3	White
4	Shield
5	Black
6	Orange
7	—
8	Shield + BLUE
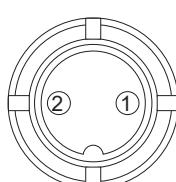
3. Connector for Power Supply
   1 . Power Supply(+)10.8〜30V
   2 . Power Supply(-)
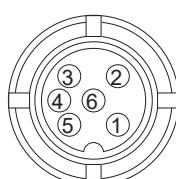
4. Connector for External Input/Output
   1 . GND   **5.** Data Output
   2 . Data Input(-)   **6** . DC 12V(200mA) Output
   3 . Data Input(+)
   4 . N/A

This is connector image when looking at the main unit.

＊Unit Side View

MAIN UNIT INSTALLATION

⚠ WARNING

● Install the unit firmly.

　If not, it may cause the human injuries.

　※ Install the unit correctly according to the following instruction.

1. Procedure of Installation

＜Installation of Unit＞

　Fix the unit with enclosed screws by using bracket holes (4 locations).

　Refer to the picture below.

Caution : When selecting Portrait style, install the unit after jointing the bracket at the bottom.

・ Display Style

　Select the display style and put rubber ring on the unit jointing the bracket
　(2 hole locations).

・ Positioning

　Fix the unit with mounting bracket and fixation spot. Put the mark.

　※ Leave some room in the backside of unit for cable connections.

・ Installation of Bracket

　Fix it with enclosed screws by using 4 holes on the bracket.

　※ The cutting slits for both edges of bracket face to front side.

・ Installation of Unit

　Refer to the picture below and fix the unit.

< Bracket Installation >
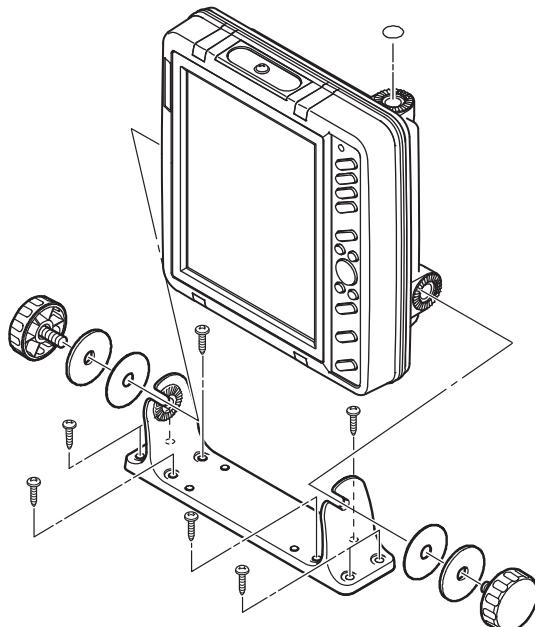
BUILT-IN INSTALLATION

> ⚠ **WARNING**
>
> ● Install the unit firmly.
>   If not, it may cause the human injuries.
>   ※ Be sure to follow the instruction below and official installation method.

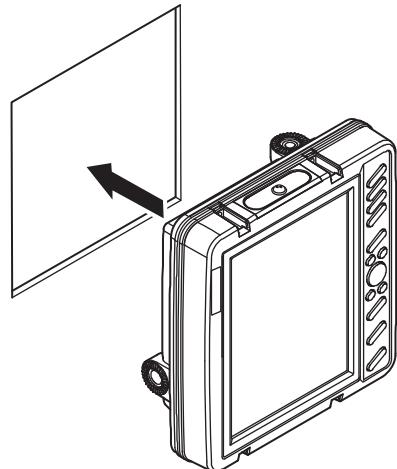**1.** Fix the unit by using 4 holes on the front panel.
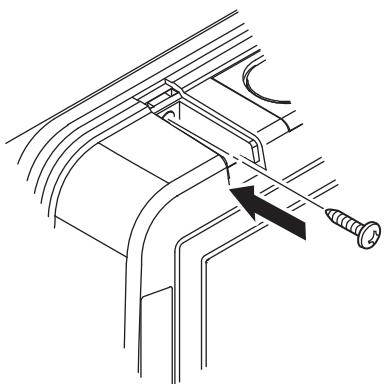
Cover for built-in installation (4pcs)
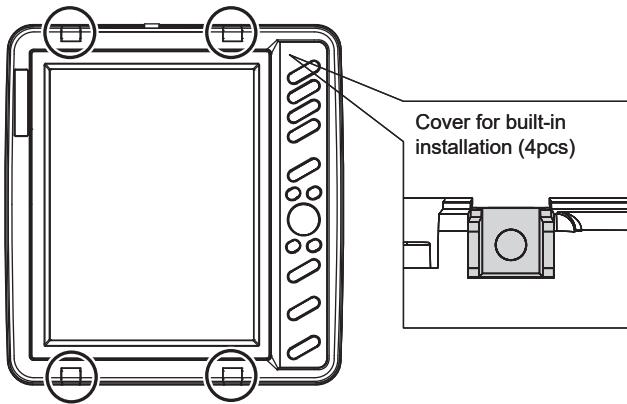
2. Remove the cover for built-in installation.
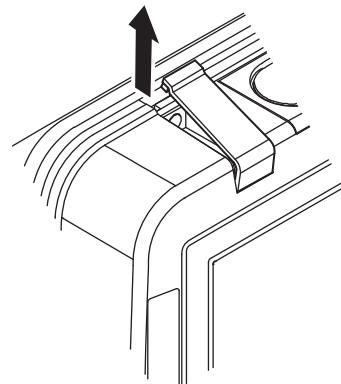
3. Pull the cover for removal.
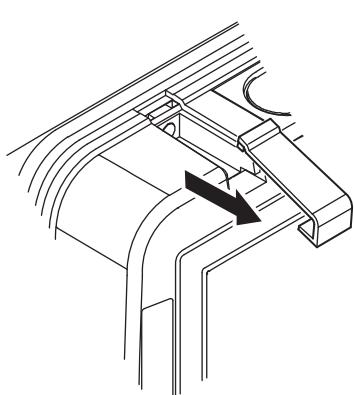
4. Install the unit into the space.

5. Use 4 × 30 screw for fixation.

6. Put the covers back. (4pcs)
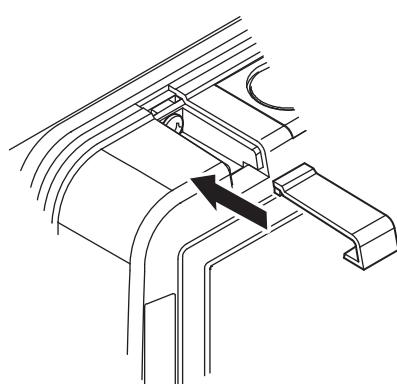
TRANSDUCER INSTALLATION

> ## ⚠ DANGER
>
> ● Any works on the vessel are very unstable and risky.
>   Installation/maintenance of transducer should be handled after landing the vessel on ground or fixing the vessel at shipyard etc. If not, it may cause serious injuries.

> ## ⚠ WARNING
>
> ● Be sure to ventilate well inside the vessel when installing the transducer at the bottom of vessel. Volatile gas from solvent etc causes the toxic symptoms.
> ● Water proof treatment is required for Thru-Hull installation.
>   If not, it causes the marine accident.
> ● Do not operate the electronic tools with wet hands.
>   It causes electronic shock.

[Installation Method]

The following installations can be applied. Please refer to each instruction.
　1．Inside-Hull
　2．Thru-Hull

※ These methods prohibit the use of aluminum vessels for the risk of corrosion.
※ Be careful about the following points when using the method 1 and 3.

No protruding object in front of transducer such as screw out deck plate and drain.　　Transducer
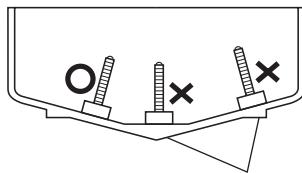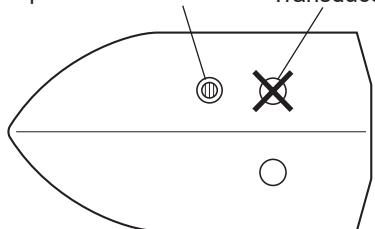
Do not install the transducer at the locations having obstruction like keel etc.

1. INSIDE-HULL

※ Effective for FRP vessels with single hull layer of 10mm or less.

※ Size and shape vary for each transducer.

Look for the best picture location before the fixation by putting adequate water on the transducer surface and vessel bottom followed by pressing the transducer onto the vessel bottom.

（1）Polish the adhesive surface (transducer bottom surface and vessel bottom) well with sandpaper (#240 or around) and alcohol in order to remove oil, water, and dirt on the surface.

（2）Put silicon bond on the adhesive surface (transducer bottom surface and vessel bottom) and press firmly for the bonding so that no air bubble is contained inside.
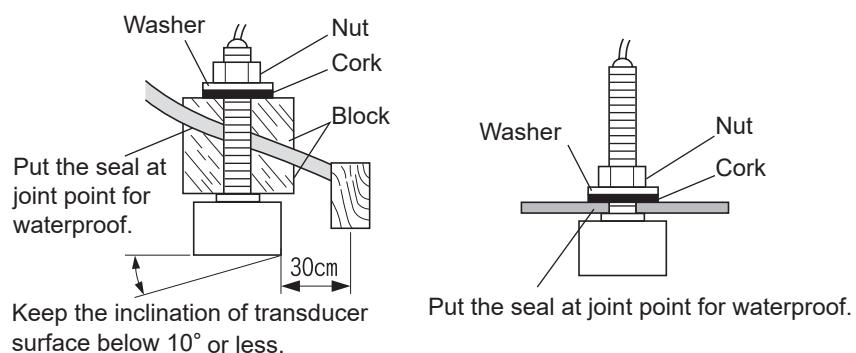

Bond — Vessel Bottom — Transom

Single Layer (10mm or less) vessel bottom
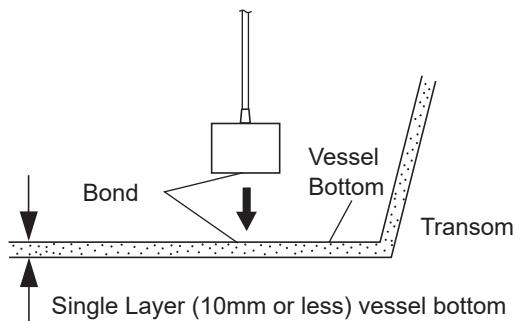
2. THRU-HULL

（1）Make hole of $\varphi 25$ at the vessel bottom. (Alminum vessels are not subject to the installation for the risk of corrosion.)

（2）Insert the screw part of transducer into the hole and fix it with 1pc cork washer, 1pc washer, and 1pc nut. (Extra cork washer is for spare.)

※ Execute the waterproof care for the junction part.

For tilted hull, use a block etc to face directly to the vessel bottom.
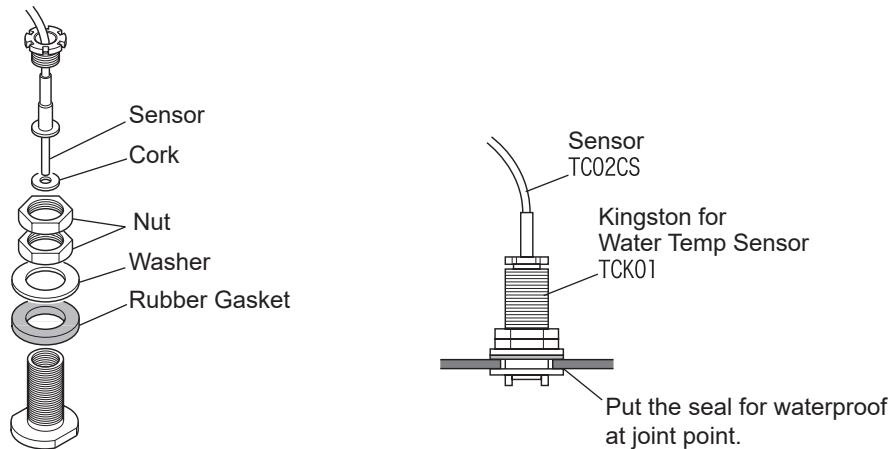
※ Size and shape vary for each transducer.

Washer — Nut — Cork — Block

Put the seal at joint point for waterproof.

30cm

Keep the inclination of transducer surface below 10° or less.

Washer — Nut — Cork

Put the seal at joint point for waterproof.

WATER TEMP. SENSOR INSTALLATION

⚠ DANGER

● Any works on the vessel are very unstable and risky.
   Installation/maintenance of water temp sensor should be handled after landing the vessel on ground or fixing the vessel at shipyard etc. If not, it may cause serious injuries.

● Do not operate the electronic tools with wet hands.
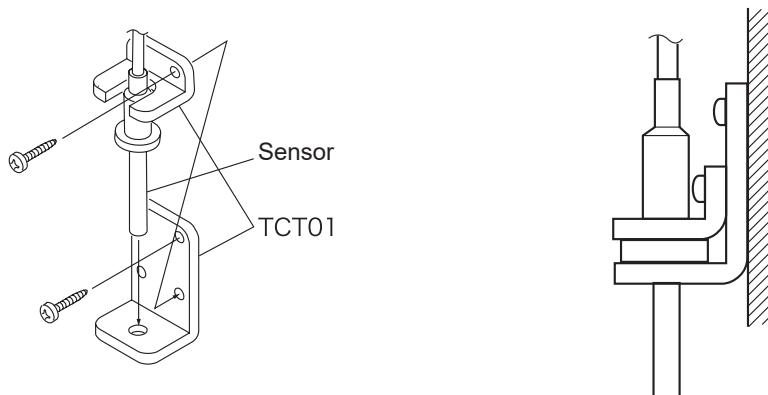   It causes electronic shock.

[Installation of Thru-Hull Water Temp Sensor (15m)]

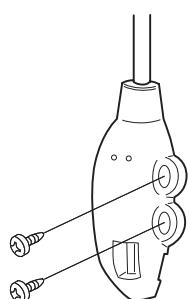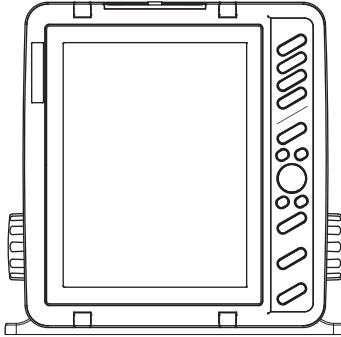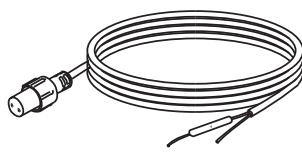   ※ The use of this sensor is prohibited for aluminum vessels due to the risk of corrosion.

Sensor
Cork
Nut
Washer
Rubber Gasket

Sensor
TC02CS

Kingston for
Water Temp Sensor
TCK01

Put the seal for waterproof
at joint point.

[Installation of Transom Water Temp Sensor]

   TC02ES

Sensor
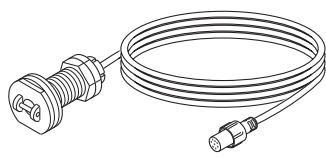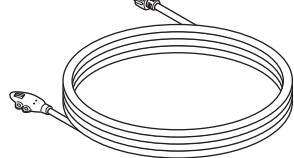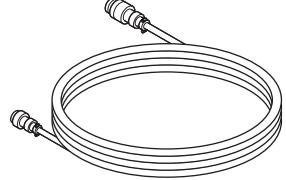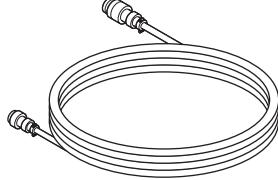
TCT01
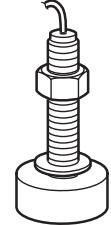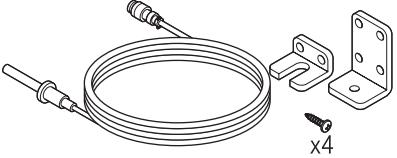
   TC03-05, TC03-10

STANDARD CONFIGURATION

Main Unit

Bracket 1pc
Clamping Knob 2pcs
Rubber Washer 2pcs
Bracket Washer 2pcs

Screws for Main Unit and Bracket	Screw for Buit-in Installation
5 × 20 SUS × 4pcs	4 × 30 SUS × 4pcs

Power Supply Cable	Transducer
(DC06)2P 2m	Each specs is different for selected transducer.

OPTIONS

Thru-Hull Water Temp Sensor (TC02C + TCK01) (8P 15m)	Transom Water Temp Sensor (TC02E + TCT01) (8P 15m)	Transom Water Temp Sensor TC03-05 (8P 5m) TC03-10 (8P 10m)

x4

| Extension Cable for Water Temp Sensor (EK11) (8P-8P 3m)	Extension Cable for Transducer EK02 (3P-3P 3m) EK03 (3P-3P 10m)

1. Theory of Fish Finder

● Theory of fishfinder is same as echo among hills.

Ultrasonic wave transmitted from the transducer directly beneath the vessel is reflected at the sea bottom and received by transducer.
Fishfinder indicates the depth by calculating the round-trip time to distance.
Also, the unit shows the color image of fish school size/dentisy or sea floor condition according to the strength of reflected wave.
Ultrasonic wave runs at 1500m/sec inside the water. Therefore, the depth to fish school and sea bottom can be captured by calculating the round-trip time.
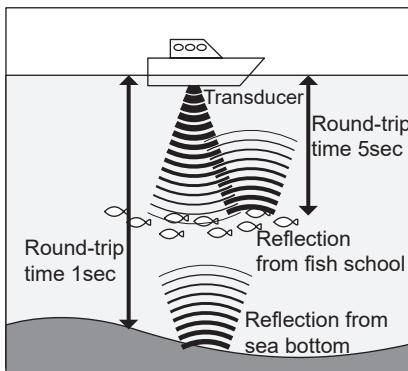
e.g.) 1sec is round-trip time from sea bottom.
    Round-trip distance = 1500m/sec x 1sec
                = 1500m
    The depth is half the size, so
            Depth = 1500m ÷ 2
                = 750m

0.5sec is round-trip time from fish school
Round-trip distance = 1500m/sec x 0.5sec
            = 750m

The depth is half the size, so
   Depth = 750m ÷ 2
            = 375m

● Display Method

Current image is shown at 1st line of right edge after processing the reflected wave of transmitted ultrasonic. The line image previously located at the right edge moves to one line to the left.
Keep executing this operation to create the cross section view.
Therefore, the latest image beneath the vessel is located at the right edge. More left side the image moves, more past image the screen shows.
You can assume that fishfinder screen shows the image from the side view. The sea floor shape can be only captured when sailing the vessel. No matter how the bottom is shaped, the image shows the flat bottom if the vessel is stopped.
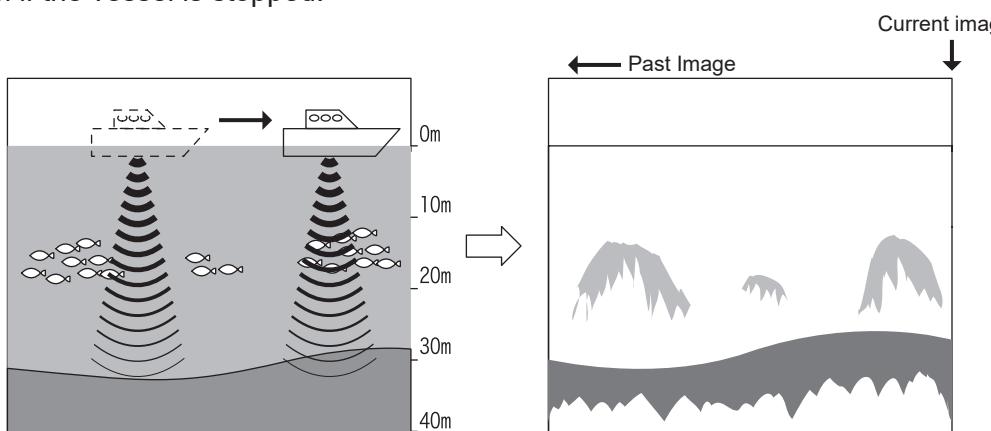
Caution : There is no relationship between vessel speed and image line speed.

2. Distinguish of Fish School

●Important tip is comparison between fish school image and actual fish

Possible to judge the fish type to some extent from the image of fish school. The shape of fish school changes even for same fish group by time (day/night, season, current change).
The important tip is to distinguish the fish type image and actual catch and look for the point.

3. Distinguish of Fish Quantity

●Distinguish fish quantity from density/size of fish school.

Higher density of fish school has stronger reflected wave. Therefore, the fish density can be seen from the color strength of image.
It is wrong that fish quantity is large for large image on the screen. Fish school located deeper area tends to appear bigger compared to the one at shallow water. This is because the width of transmitted wave becomes wider as it go deeper. The reflected ultrasonic wave becomes bigger as the distance (depth) gets further. The important tip to distinguish the fish quantity is to know fish school located at deeper water appears bigger.
Judge from size of fish school and color strength.
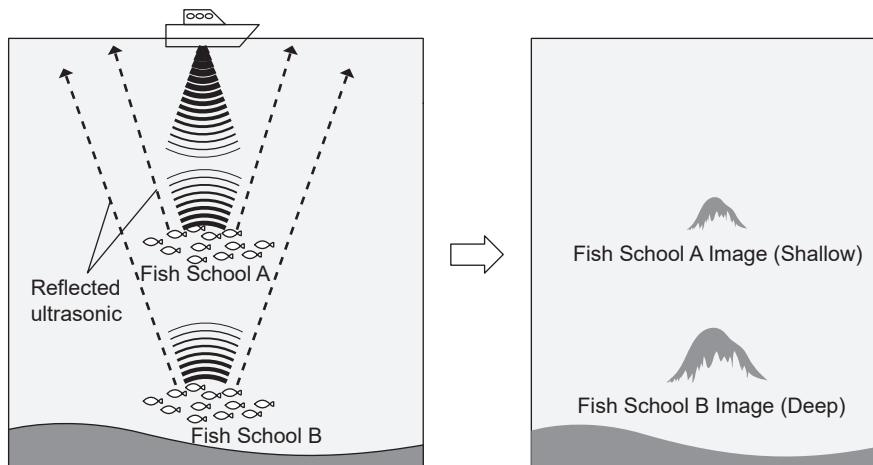
4. Distinguish of Sea Floor Condition

●There are many types of sea floor conditions such as rocky, sandy, or muddy.

The condition can be judged by the upper/lower width of sea floor image and 2nd echo. The reflection is stronger for hard bottom such as rocky area. The image width is thicker, and 2nd echo tends to appear.
On the other hand, the relfection is weaker for soft bottom such as sandy and muddy area. The image width is thinner, and it's harder to have 2nd echo.
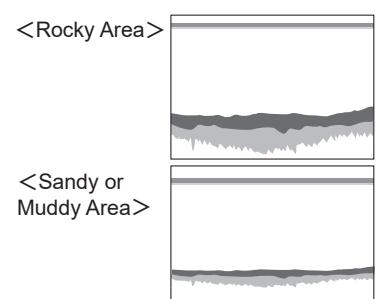
TROUBLE SHOOTING

● When the unit has any problems, please check the following points before returning the unit for repair.
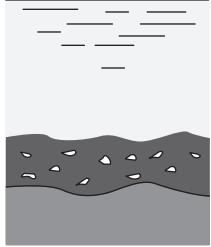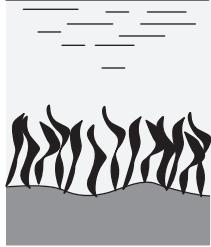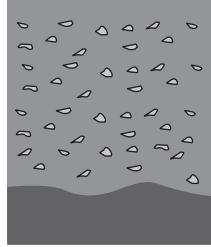
Symptom	Cause	Remedy
Power cannot be turned ON.	Voltage of battery is lower than standard value (10.8V).	Recharge the battery.
	Contact of power connector is poor.	Retighten it. Remove and clean the rust/dust. Replace it in the case of corrosion. • Replace the power cable. • Replace the connector on the unit.
	Wrong connection of power. Opposite polarity + - .	Check the polarity and connect it properly.
	Cut the wire insdie power cable.	Exchange to new power cable.
	Blown fuse.	Send it for repair.
No display on screen	Brightness is set to minimum level.	Adjust the brightness. (Refer to [SCREEN BRIGHTNESS] p8.)
Bottom or fish cannot be displayed at all.	Contact problem with transducer connector.	Retighten the connection. Remove/clean the rust/dust. Replace it in the case of corrosion. • Exchange transducer. • Send it for repair.
	＜Problem with Transducer＞ Check followings and replace it in the case of actual problems. 　1. It's normal if you hear the sound like "Bo Bo" from the surface of transducer. 　2. It's normal if rain like dots appears on the transducer surface after setting the sensitivity and depth to the max and rubbing the transducer surface.	
	Transducer is not immersed enough into the water.	Adjust the transducer installation so that it is always beneath water surface.
	Internal liquid is not enough inside the case.	Add enough liquid to immerse the transducer.
Image does not appear sometimes.	Transducer is not immersed enough into the water.	Adjust the transducer installation so that it is always beneath water surface.
	Problem with the transducer installation causes the image problem due to air bubbles at speeding the vessel.	Check the installation of transducer.
	Influence from other vessel causing air bubbles.	Move to other location or wait until air bubble disappears.

Symptom	Cause	Remedy
Bottom or fish school is not displayed well.	Too low sensitivity.	Increase the sensitivity. Or, set to auto gain (auto sensitivity control).
	Rubbish and weed attached on the transducer surface. Dirty bottom or liquid.	Remove the excrescence. Remove the dirt from bottom and exchange the liquid.
	Water and environmental conditions may cause the problem with image which is not problem at all. Too much sludge Lots of weeds Muddy and dirty locations Rapid current	
	Too high clutter.	Activate low reflection color. Refer to [CLUTTER] p14.
Too much noise	Too high sensitivity	Lower the sensitivity. Set to auto gain (auto gain control)
	Interference with other vessel's fishfinder.	Noise disappears after other vessel moves far away.
	Noise from engine.	Change the routing of cables such as transducer and power cables. (keep distance from the engine as far as possible.)

SPECIFICATIONS

Display	Display	8.4 inch Color LCD
	Number of Pixel	640×480
	Operating Voltage	DC10.8V～30V
	Power Consumption	14W
	Dimension	230(H)×243(W)×108(D)mm
	Weight	Approx. 1.7Kg
	Frequency	50/200kHz
	Output Power	600W or 1kW
	Depth Range	5～1500m
Function	Auto Range	OFF,Range,Shift
	Auto Gain	OFF,Low,High
	A－mode Display	OFF,ON
	Fish Alarm	OFF,S,L
	Water Temp Alarm	OFF,Within Range,Out of Range
	Depth Alarm	OFF,Within Range,Out of Range
	Expansion Mode	Bottom Lock,Auto Exp,Manual Exp
	Expansion Rate	x2, x4, x8
	Sweep Speed	STOP, 1, 2, 3, 4, x2, x3, x4
	Background Color	4 Colors (Black, Dark Blue, Blue, White)
	Color Configuration	6 Patterns
	Depth Unit	Meter,Feet,Fathoms,Brazas
	Super Range	OFF,ON
	Pulse Length	Normal,Long
	Clean Echo	OFF,Weak,Strong
	Output Power	Low,High
	Depth Digit	OFF,S,M,L
	Simulation Mode	OFF,ON
	Voltage Display	O
	Water Temp Display	TD29 or water temp sensor required
	Backlight	LED

※Specifications and appearance are subject to change without further notice.

HONDEX

by HONDA ELECTRONICS

HONDA ELECTRONICS CO., LTD.

20 Oyamazuka, Oiwa-cho, Toyohashi, Aichi 441-3193, Japan
TEL: +81-532-41-2512
https://en.honda-el.co.jp/product/marine