

# **FURUNO**

## **OPERATOR'S MANUAL**

*COLOR GPS PLOTTER*

MODEL **GP-7000**

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# IMPORTANT NOTICES

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- This manual is intended for use by native speakers of English.
- No part of this manual may be copied or reproduced without written permission.
- If this manual is lost or worn, contact your dealer about replacement.
- The contents of this manual and equipment specifications are subject to change without notice.
- The example screens (or illustrations) shown in this manual may not match the screens you see on your display. The screen you see depends on your system configuration and equipment settings.
- Store this manual in a convenient place for future reference.
- FURUNO will assume no responsibility for the damage caused by improper use or modification of the equipment (including software) by an unauthorized agent or a third party.
- When it is time to discard this product it must be done according to local regulations for disposal of industrial waste. For disposal in the USA, refer to the Electronics Industries Alliance (<http://www.eiae.org/>).



# SAFETY INSTRUCTIONS

## **WARNING**



**Do not open the equipment.**

Hazardous voltage which can cause electrical shock, burn or serious injury exists inside the equipment. Only qualified personnel should work inside the equipment.

**Do not disassemble or modify the equipment.**

Fire, electrical shock or serious injury can result.

**Immediately turn off the power at the switchboard if the equipment is emitting smoke or fire.**

Continued use of the equipment can cause electrical shock.

**Do not operate the equipment with wet hands.**

Electrical shock can result.

**Use the proper fuse.**

Fuse rating is shown on the power cable. Use of a wrong fuse can result in damage to the equipment.

**Do not maneuver the vessel based on the depth indication alone.**

Grounding may result.

## **CAUTION**

**Do not use the equipment for other than its intended purpose.**

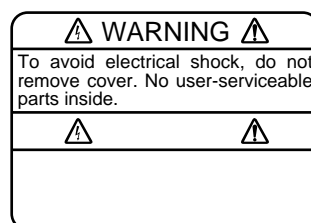
**No one navigation device should ever be solely relied upon for the navigation of a vessel.**

Always confirm position against all available aids to navigation, for safety of vessel and crew.

### About the TFT LCD

The TFT LCD is constructed using the latest LCD techniques, and displays 99.99% of its pixels. The remaining 0.01% of the pixels may drop out or blink, however this is not an indication of malfunction.

**A warning label is attached to the equipment. Do not remove the label. If the label is missing or illegible, contact a FURUNO agent or dealer.**



Name: Warning Label (1)  
Type: 86-003-1011-1  
Code No.: 100-236-231

# FOREWORD

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Congratulations on your choice of the FURUNO GP-7000 COLOR GPS/PLOTTER. We are confident you will see why the FURUNO name has become synonymous with quality and reliability.

For over 50 years FURUNO Electric Company has enjoyed an enviable reputation for innovative and dependable marine electronics equipment. This dedication to excellence is furthered by our extensive global network of agents and dealers.

This equipment is designed and constructed to meet the rigorous demands of the marine environment. However, no machine can perform its intended function unless installed, operated and maintained properly. Please carefully read and follow the recommended procedures for operation and maintenance.

## Features

The GP-7000 provides a totally integrated GPS receiver and color video plotter.

The GPS receiver tracks up to 13 satellites (GPS: 12, WAAS: 1) simultaneously, and an 8-state Kalman filter ensures optimum accuracy in determination of vessel position, course and speed.

- C-MAP NT+ and MAX chart card (SD) is available.
- Comprehensive navigation data displays.
- Bright 7-inch color TFT LCD with brilliance control.
- Automatic coastline chart loading.
- Position display in latitude and longitude, Loran C TD.
- Alarms: Arrival, Anchor Watch, Cross-track Error, Speed, Grounding, Depth, Temperature.
- Man overboard feature records latitude and longitude coordinates at the time of man overboard.
- “Highway” display provides graphic presentation of ship’s track and is useful for monitoring cross track error.

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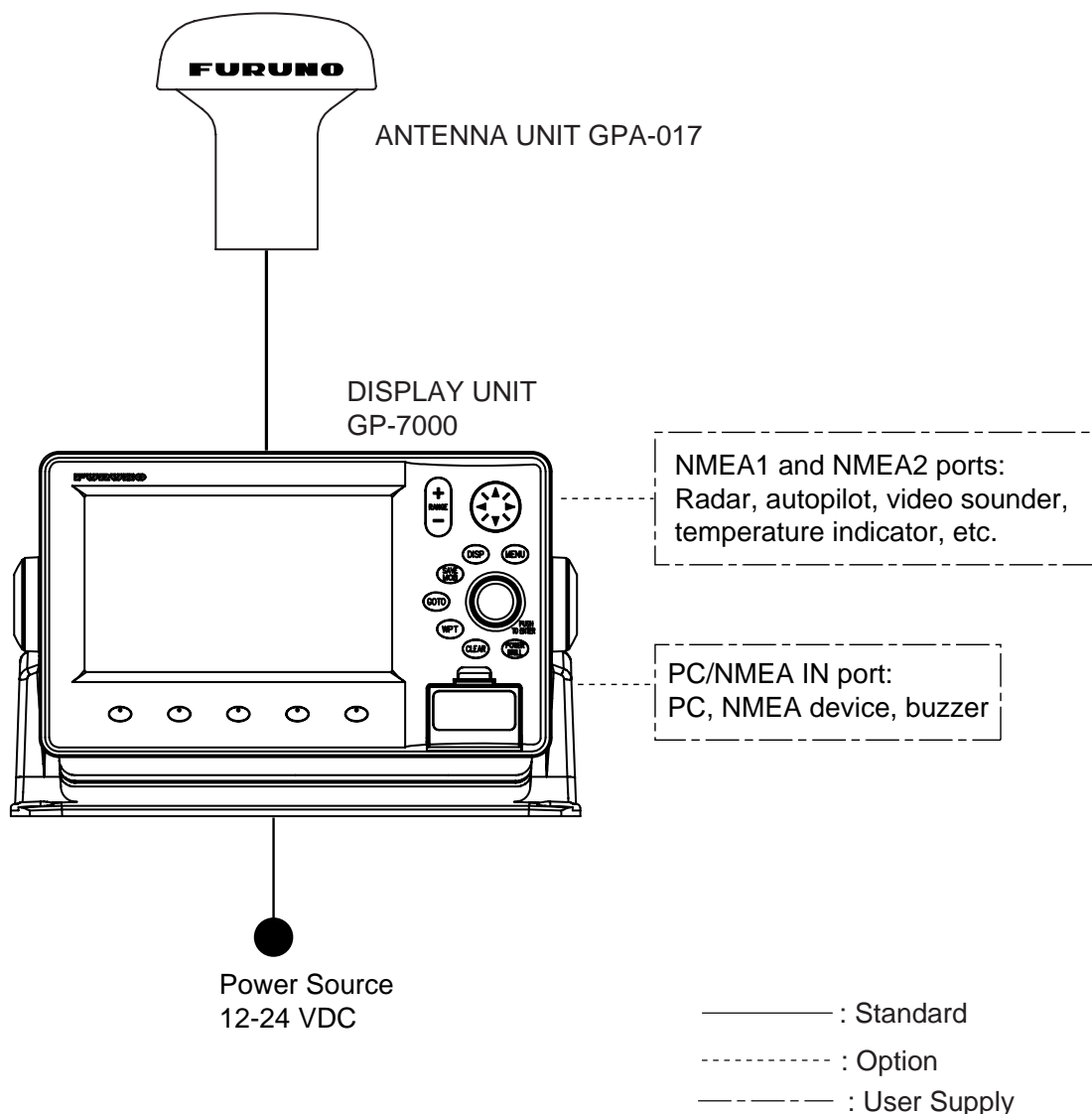
|  |             |
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### **Notice for SDTM Card**

We confirmed that the following brands of SD<sup>TM</sup> cards can be used for uploading/downloading data. For SD<sup>TM</sup> cards other than listed below, we have not yet confirmed if they are compatible with GP-7000/F.

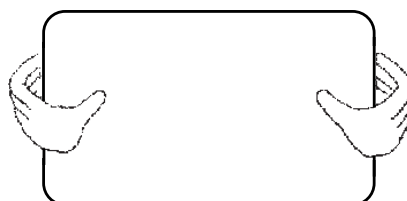
- |                    |                  |
|--------------------|------------------|
| • Kingstone        | • Panasonic      |
| • Hagiwara Sys-com | • Toshiba        |
| • Viking           | • PQI            |
| • LEXAR            | • Power Quotient |
| • EP Memory        | • ADTEC          |
| • /O DATA          | • buffalo        |
| • SANDISK          |                  |

# SYSTEM CONFIGURATION



## How to remove the hard cover

Place your thumbs at the center of the cover, and then lift the cover while pressing it with your thumbs.



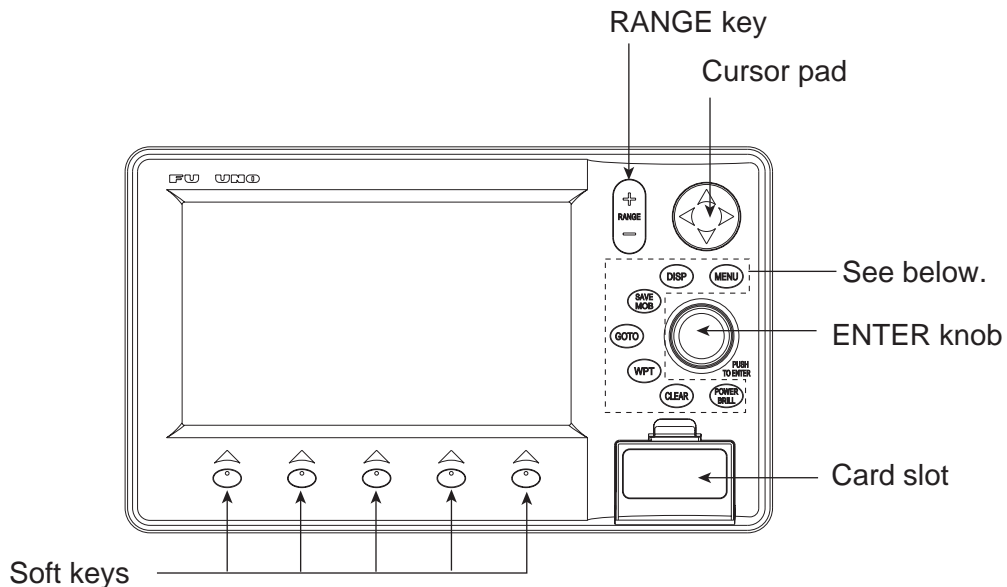
This GPS receiver complies with Canadian standard RSS-210 (Low Power License-Exempt Radio communication Devices).  
 Operation is subject to the following two conditions:  
 (1) this device may not cause interference, and  
 (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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# 1. OPERATIONAL OVERVIEW

This chapter acquaints you with the basics of your unit—from turning on the power to the soft key menu operation.

## 1.1 Display Unit Controls



- Opens the DISPLAY MODE menu. → DISP
- Opens the menu. → MENU
- Enters waypoint or MOB mark. → WPT / MOB
- Brief press: Sets/releases the destination. → TLL / GOTO
- Long press: Outputs the TLL data. Shows the route list. → ROUTE
- Closes the menu and window. Silences audible alarm. → CLEAR
- POWER BRILL
- Brief press: Turns power on./Shows the brilliance setting window.
- Long press: Turns power off.

*Display unit, front view*

## 1.2 Loading an SD™ Chart Card

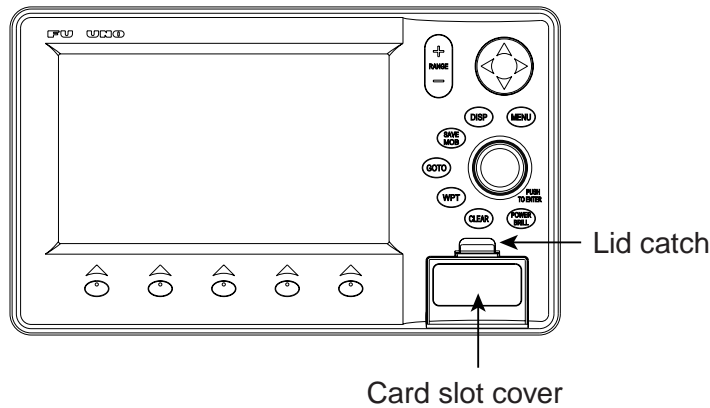
Your unit reads C-MAP NT+™ /NT MAX™ charts, stored on SD™ cards. Insert the appropriate chart card for your area before turning the power on to show chart data automatically.

**Note 1:** Static electricity can be passed through your fingers to a card and destroy the contents of the card. To prevent this, always touch a metallic object, such as a steel desk, before handling an SD™ card.

**Note 2:** Do not insert or remove a card while the power is on. This may cause the equipment to freeze.

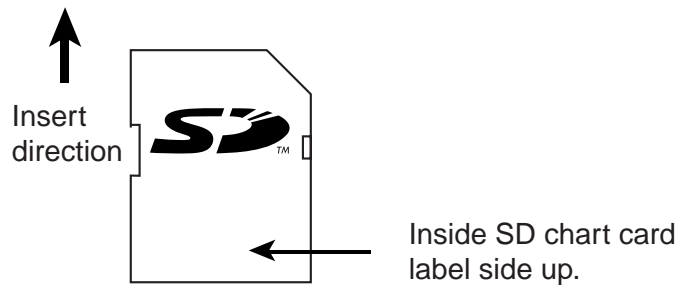
**Note 3:** SD Logo is a trademark.

1. Push down the lid catch to open the card slot cover.



*Card slot cover*

2. Insert appropriate SD™ chart card label side up to any slot.



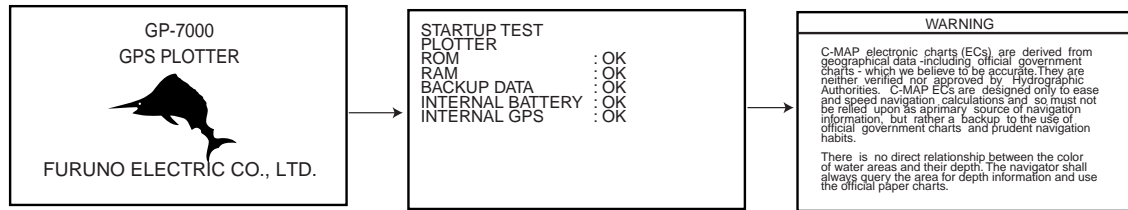
*SD™ chart card*

3. Press the center of the lid catch to close the card slot cover, to protect the chart drive. (Keep the slot cover closed at all times.)

## 1.3 Turning the Power On/Off

### Turning the power on

Press the [POWER/BRILL] key until you hear a click and a beep. When the unit is turned on, it proceeds in the sequence shown in the figure below.



In about 30 seconds the last-used display appears. You can go to the last-used display faster by pressing any key when this screen appears.

#### *Start-up sequence*

- Note 1:** The example screens shown in this manual may not match the screens you see on your display. The screen you see depends on your system configuration and equipment settings.
- Note 2:** If the message "SYSTEM HAS FAILED START UP TEST. PLEASE CONTACT A LOCAL FURUNO REPRESENTATIVE FOR REPAIR. PRESS ANY KEY TO CONTINUE." appears, contact your dealer for advice.
- Note 3:** At the very first time you turn on your unit, the simulation mode window appears. Choose YES or NO as appropriate and push the [ENTER] knob.

The equipment takes 90 seconds to find its position when turned on for the very first time. Thereafter it takes about 12 seconds to find position each time the power is turned on. The message "NO FIX", which means the equipment is now finding its position, appears at the bottom of the plotter display immediately after turning the power on. When the GPS receiver finds its position, "NO FIX" changes to "2D" or "3D" to show that position data is now accurate.

### Turning the power off

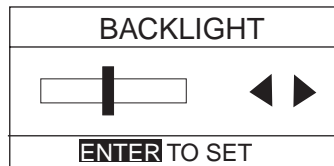
Press and hold the [POWER/BRILL] key until the screen goes blank (about four seconds).

## 1.4 Adjusting Brilliance and Contrast

You can adjust display brilliance and contrast as shown below.

1. Press the [POWER/BRILL] key momentarily.

The BACKLIGHT window appears.



*Backlight window*

2. Rotate the [ENTER] knob to adjust.

Rotate clockwise to raise the setting or counterclockwise to decrease it.

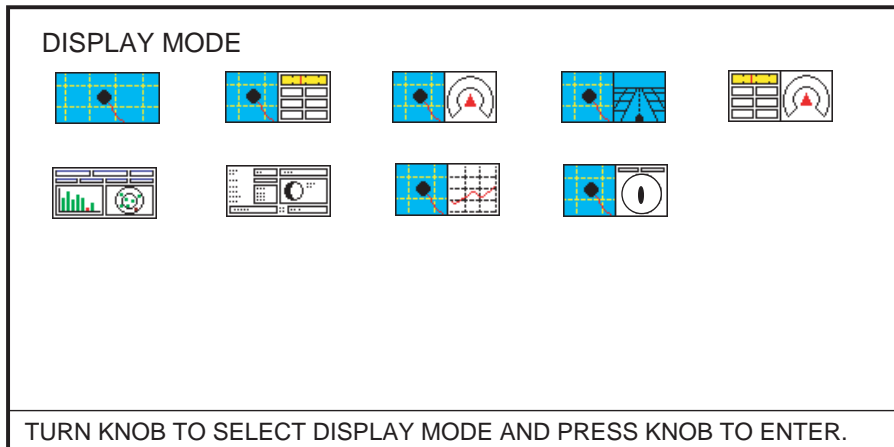
To escape from this window without adjusting, press the [CLEAR] or [POWER/BRILL] key, or wait three seconds to let the equipment close it automatically.

3. Press the [ENTER] key to close the window.

## 1.5 Selecting a Display

Nine screen displays are available as shown figure in below.

1. Press the [DISP] key to show the DISPLAY MODE screen.



*Display mode screen*

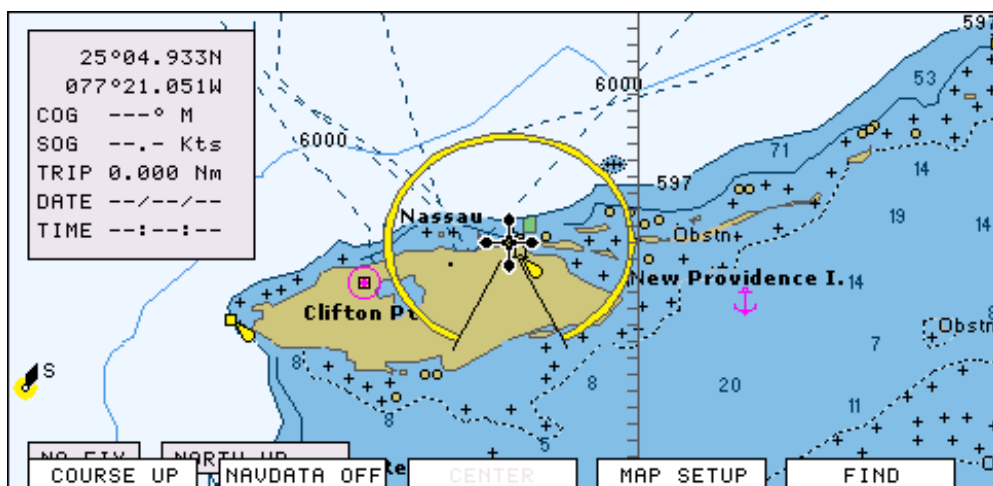
2. Use the cursor pad or [ENTER] knob to select a mode.

To escape from the display mode screen without changing the display mode, press the [DISP] key.

3. Press the [ENTER] knob to set the new display mode.

## 1.6 Soft Keys

The soft keys, their labels displayed at the bottom of the screen, provide for one-touch execution of a desired function, and their label and function change according to the display in use. When you turn on the power, the soft keys do not appear. To show the soft keys, press any soft key. To access a soft key function, press the appropriate soft key within five seconds after accessing them.



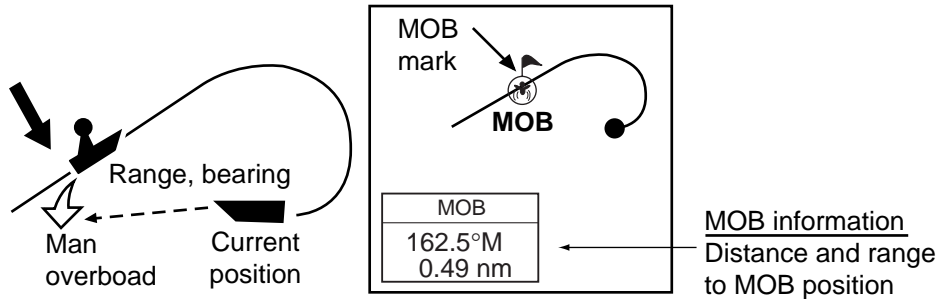
*Soft keys*

The soft keys disappear after five seconds. If you want to erase them earlier, press the [CLEAR] key.

## 1.7 MOB Mark

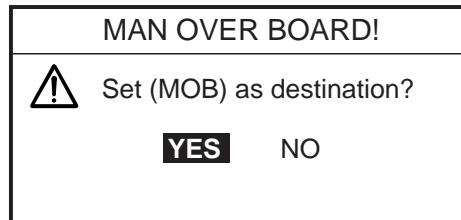
### 1.7.1 Entering the MOB mark, setting MOB as destination

The MOB (Man Overboard) mark functions to mark man overboard position. You can inscribe this mark from any mode.



*MOB concept*

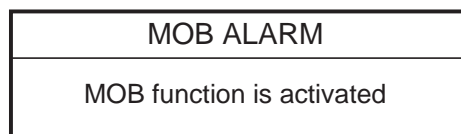
1. Press and hold down the [MOB/WPT] key immediately for about three seconds when someone falls onboard, to show the display below.



*MOB message window*

2. Confirm that YES is selected, and then press the [ENTER] knob to set the MOB position as the destination. (Choose NO to mark position as a waypoint.)

If you select the MOB position as the destination, the MOB ALARM window appears. Push the [ENTER] knob to erase it and then the following message appears on the display.



*MOB ALARM window*

Distance and bearing to the MOB position are shown in the MOB data box when the cursor is placed on the MOB mark.

|   |               |
|---|---------------|
| FIX →  MOB                              |               |
| <b>33°07.674N</b><br><b>132°51.766W</b> |               |
| DST                                     | BRG           |
| <b>1.14 nm</b>                          | <b>187° M</b> |

*MOB data box*

## 1.7.2 Deleting the MOB mark

1. Operate the cursor pad to place the cursor on the MOB mark, and then press the STOP soft key to cancel the navigation to the MOB mark.
2. Press the DELETE soft key to show the confirmation window.
3. Choose "YES", and then press the [ENTER] knob to delete the MOB mark.

## 1.8 Menu Operation

Most operations are carried out from the menu bar. The menu bar is opened or closed with the [MENU] key. Menus and options may be selected by rotating the [ENTER] knob or operating the cursor pad. However, this manual describes operating procedure using the [ENTER] knob.

### Using the [ENTER] knob

1. Press the [MENU] key to show the menu bar.



*Menu bar*

2. Rotate the [ENTER] knob to choose a menu title and then push the [ENTER] knob to show the menu.

For example, choose GENERAL to display the GENERAL menu.

| LANGUAGE         | English  |
|------------------|----------|
| KEYPAD BEEP      | Off      |
| PALETTE          | Normal   |
| TIME LINE        | Infinite |
| TIME REFERENCE   | UTC      |
| TIME FORMAT      | 12hour   |
| DATE FORMAT      | MM-DD-YY |
| AUTO INFO        | On All   |
| SHIP ICON        |          |
| SHIP OFFSET      | Off      |
| WIND GRAPH       | True     |
| UNITS OF MEASURE |          |

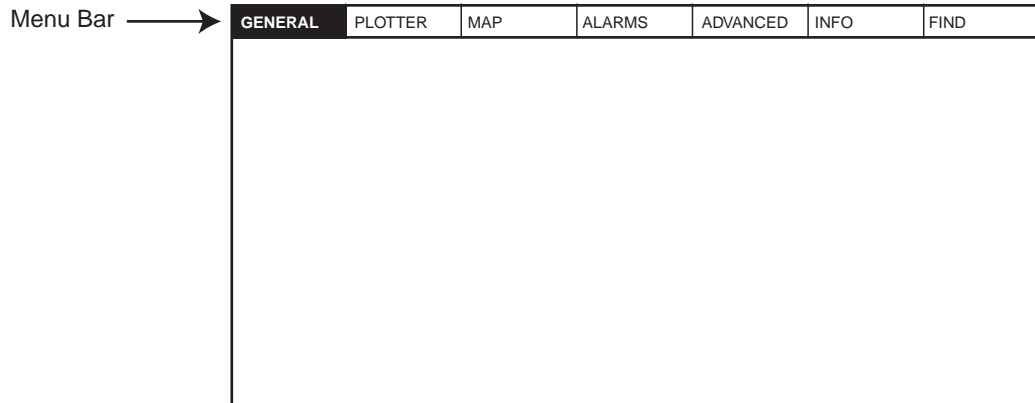
*General menu*

## 1. OPERATIONAL PVERVIEW

3. Rotate the [ENTER] knob to choose an item and then push the [ENTER] knob.  
For example, choose LANGUAGE.
4. Rotate the [ENTER] knob to choose the option desired and then press the [ENTER] knob.  
To cancel, press the [CLEAR] key.
5. To close all menus and option windows, press the [MENU] key.  
To close option windows one by one, press the [CLEAR] key.

### Using the cursor pad

1. Press the [MENU] key to show the menu bar.



*Menu bar*

2. Press ◀ or ▶ on the cursor pad to choose a menu title and then press ▼ to show the corresponding menu.

For example, choose GENERAL to display the GENERAL menu.

| ▲                |                |
|------------------|----------------|
| <b>LANGUAGE</b>  | <b>English</b> |
| KEYPAD BEEP      | Off            |
| PALETTE          | Normal         |
| TIME LINE        | Infinite       |
| TIME REFERENCE   | UTC            |
| TIME FORMAT      | 12hour         |
| DATE FORMAT      | MM-DD-YY       |
| AUTO INFO        | On All         |
| SHIP ICON        |                |
| SHIP OFFSET      | Off            |
| WIND GRAPH       | True           |
| UNITS OF MEASURE |                |

*General menu*

3. Press ▼ to choose an item and then press ► to show its option window.  
For example, choose LANGUAGE.
4. Press ▼ to choose an option and then press ► to close the window.  
To cancel, press ◀.
5. To close all menus and option windows, press the [MENU] key.  
To close option windows one by one, press the [CLEAR] key.

## 1.9 Simulation Mode

The simulation mode, which is for use by service technicians for demonstration purposes, provides simulated operation to help acquaint users with the functions of the unit. All keys are operative.

“SIMUL” appears at the bottom of the display when the simulation mode is active.

Own ship's mark moves from the default or selected position at the speed and course set.

1. Press the [MENU] key to display the menu bar.
2. Rotate the [ENTER] knob to choose ADVANCED and then push the [ENTER] knob.
3. Rotate the [ENTER] knob to choose GPS SIMULATION and then push the [ENTER] knob to show the following window.

| SIMULATION MODE | On          |
|-----------------|-------------|
| COURSE          | 007 M       |
| SPEED           | 001.0 Kts   |
| DATE            | Apr/02/04   |
| TIME            | 12:00:00 AM |
| CURSOR CONTROL  | Off         |
| SELECT POSITION |             |

*GPS simulation window*

4. Rotate the [ENTER] knob to choose SIMULATION MODE and then push the [ENTER] knob.
5. Rotate the [ENTER] knob to choose On and then push the [ENTER] knob.
6. Rotate the [ENTER] knob to choose COURSE and then push the [ENTER] knob.
7. Enter the course (Setting range: 0 to 359) by rotating the [ENTER] knob, pressing the ◀ or ►, and then press the SAVE soft key.  
To move the digit cursor, press the ◀ or ►.

**Note:** You can return the value to zero by pressing the CLR FLD soft key.

8. Enter SPEED, DATE and TIME.
9. Rotate the [ENTER] knob to choose CURSOR CONTROL and then push the [ENTER] knob.
10. Rotate the [ENTER] knob to choose On or Off as appropriate and then push the [ENTER] knob.  
When On is selected, you can set course value (◀ ►) and speed value (▲ ▼) on the plotter display.
11. Rotate the [ENTER] knob to choose SELECT POSITION and then push the [ENTER] knob.  
The plotter display appears.
12. Operate the cursor pad to place the own ship marker at the desired starting point.

## 1. OPERATIONAL PVERVIEW

9. Rotate the [ENTER] knob to choose CURSOR CONTROL and then push the [ENTER] knob.
10. Rotate the [ENTER] knob to choose On or Off as appropriate and then push the [ENTER] knob.  
When On is selected, you can set course value (◀ ▶) and speed value (▲ ▼) on the plotter display.
11. Rotate the [ENTER] knob to choose SELECT POSITION and then push the [ENTER] knob.  
The plotter display appears.
12. Operate the cursor pad to place the own ship marker at the desired starting point.
13. Push the [ENTER] knob.
14. Press the [CLEAR] key.

# 2. PLOTTER DISPLAYS

## 2.1 Presentation Modes

The plotter display mainly shows chart, ship's track, waypoints, and navigation data.

Three types of display presentations are provided for the normal plotter display: north-up, course-up and auto course-up. To change the mode, use the presentation mode selection soft key, which is the leftmost soft key.

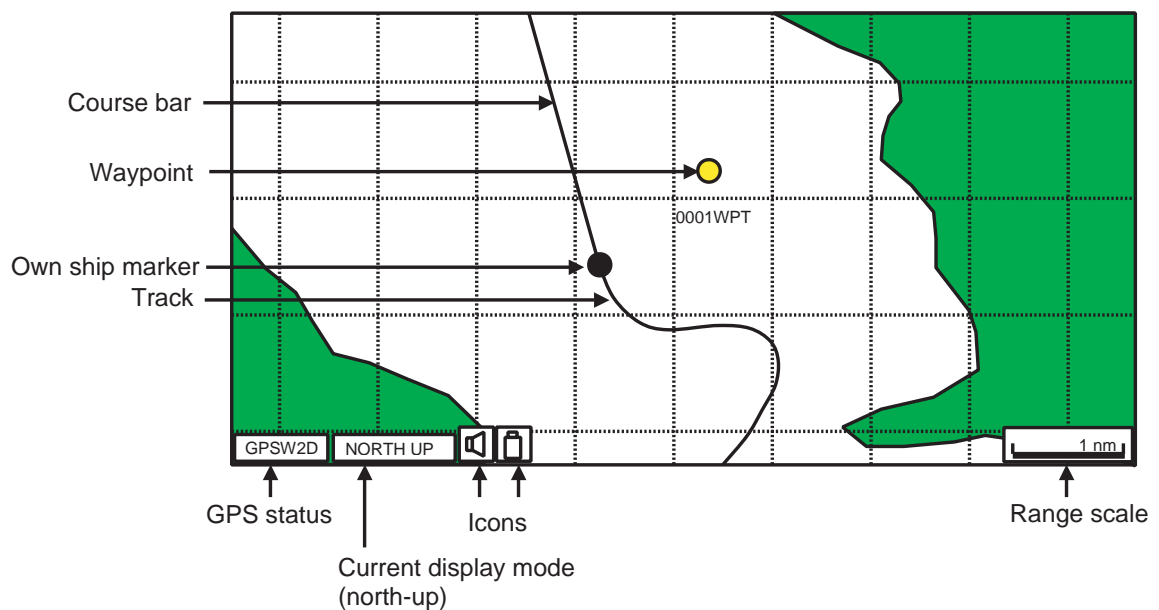
### 2.1.1 North-up

Press the NORTH UP soft key to show the north-up display. North (zero degree) is at the top of the display.

When the cursor is on: The own ship moves. (True motion)

When the cursor is off: The chart, waypoints and other marks move. (Relative motion)

To turn the cursor off, press the CENTER soft key.

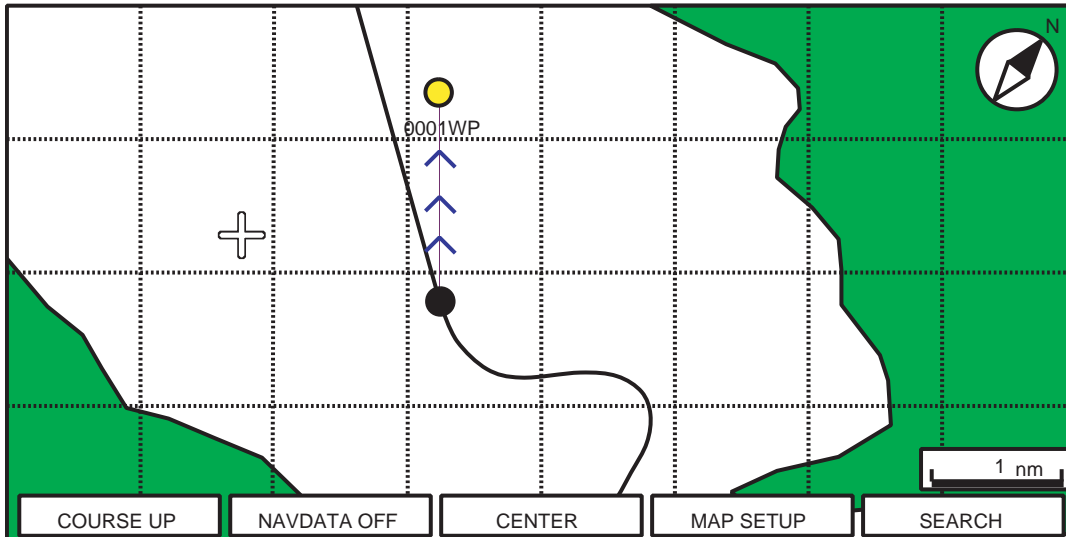


*Plotter display, north-up mode*

### 2.1.2 Course-up

Press the COURSE UP soft key to show the course-up display. When destination is set it is at the top of the screen, and the north mark appears at the upper right side of the screen and points to north.

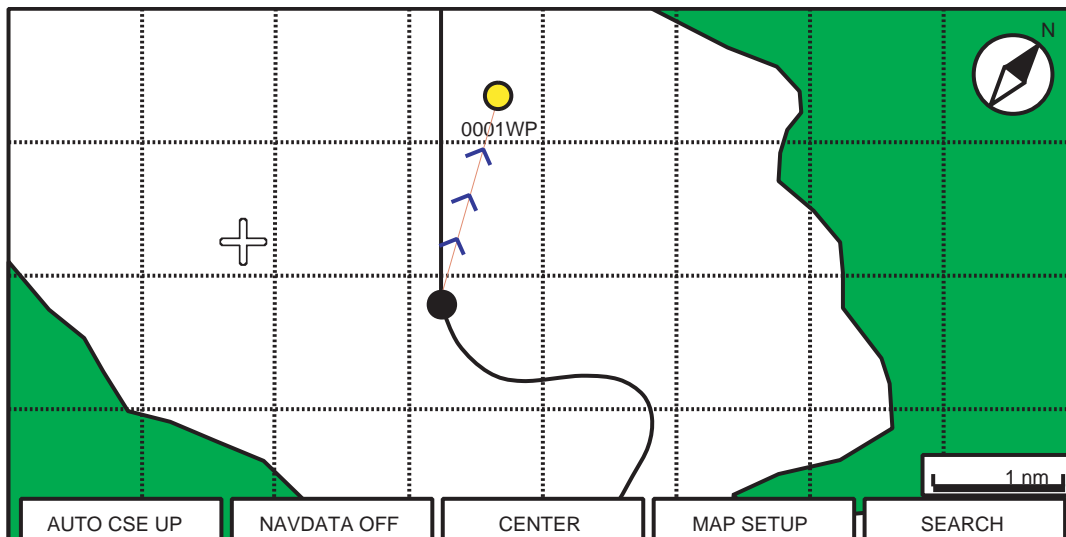
When destination is not set, the course is upward on the screen at the moment the course-up mode is selected.



*Plotter display, course-up mode*

### 2.1.3 Auto course-up

Press the AUTO CSE UP soft key to show the automatic course-up display. The course or heading is at the top of screen at the moment the course-up mode is selected. When own ship is off its intended course by 30° (default setting, this degree can be changed on NAVIGATION menu. For details, see chapter 8.) or more, it is automatically brought back to perpendicular.



*Plotter display, auto course-up mode*



















































































































































































