

# FURUNO

# INSTALLATION MANUAL

COLOR VIDEO PLOTTER GD-1700C  
COLOR VIDEO PLOTTER GD-1710C  
VIDEO PLOTTER GD-1700

---

***NAVnet***



**FURUNO ELECTRIC CO., LTD.**  
NISHINOMIYA, JAPAN



# SAFETY INSTRUCTIONS



## WARNING



**ELECTRICAL SHOCK HAZARD**  
Do not open the equipment unless totally familiar with electrical circuits and service manual.

Only qualified personnel should work inside the equipment.

**Turn off the power at the switchboard before beginning the installation.**

Fire or electrical shock can result if the power is left on.

**Be sure that the power supply is compatible with the voltage rating of the equipment.**

Connection of an incorrect power supply can cause fire or equipment damage. The voltage rating of the equipment appears on the label above the power connector.



## CAUTION



Ground the equipment to prevent electrical shock and mutual interference.

**Observe the following compass safe distances to prevent interference to a magnetic compass:**

|                                    | Standard compass | Steering compass |
|------------------------------------|------------------|------------------|
| GD-1700/1700C                      | 0.65 m           | 0.45 m           |
| GD-1710C                           | 0.50 m           | 0.30 m           |
| Memory card<br>IF unit<br>(option) | 0.90 m           | 0.60 m           |

# TABLE OF CONTENTS

---

|                                                  |            |
|--------------------------------------------------|------------|
| <b>EQUIPMENT LISTS .....</b>                     | <b>iii</b> |
| <b>SYSTEM CONFIGURATIONS.....</b>                | <b>iv</b>  |
| <br>                                             |            |
| <b>1. DISPLAY UNIT INSTALLATION.....</b>         | <b>1</b>   |
| 1.1 Mounting Considerations .....                | 1          |
| 1.2 Mounting.....                                | 2          |
| <br>                                             |            |
| <b>2. WIRING.....</b>                            | <b>5</b>   |
| 2.1 Wiring .....                                 | 6          |
| 2.2 How to Connect a PC.....                     | 8          |
| <br>                                             |            |
| <b>3. INITIAL SETTINGS.....</b>                  | <b>9</b>   |
| 3.1 How to Access the Installation Menu .....    | 9          |
| 3.2 Network Setup.....                           | 10         |
| 3.3 Navigation Data Source .....                 | 12         |
| 3.4 Setting up GPS Receiver GP-310B/320B.....    | 14         |
| 3.5 Setting up Data Ports .....                  | 15         |
| 3.6 Remote Controller Setting.....               | 17         |
| 3.7 Mounting the Memory Card Interface Unit..... | 18         |
| <br>                                             |            |
| <b>PACKING LIST.....</b>                         | <b>A-1</b> |
| <b>OUTLINE DRAWINGS .....</b>                    | <b>D-1</b> |
| <b>INTERCONNECTION DIAGRAM.....</b>              | <b>S-1</b> |

# EQUIPMENT LISTS

## Standard supply

| Name                    | Type       | Code No.    | Qty   | Remarks                                                                    |
|-------------------------|------------|-------------|-------|----------------------------------------------------------------------------|
| Display Unit            | GD-1700    | —           | 1     | GD-1700                                                                    |
|                         | GD-1700C   | —           |       | GD-1700C                                                                   |
|                         | GD-1710C   | —           |       | GD-1710C                                                                   |
| Remote Controller Set   | RMC-100    | —           | 1 set |                                                                            |
| Installation Materials* | CP03-22600 | 000-080-009 | 1     | Cable assy. MJ-A3SPF0013-035<br>Cable assy. MJ-A6SPF0003-050<br>CP03-22601 |
| Accessories*            | FP03-09301 | 008-522-970 | 1 set |                                                                            |
| Spare Parts*            | SP03-13901 | 000-080-008 | 1set  |                                                                            |

\*: See the back of this manual for details.

## Optional supply

| Name                       | Type                  | Code No.    | Remarks                                            |            |
|----------------------------|-----------------------|-------------|----------------------------------------------------|------------|
| Rectifier                  | PR-62                 | 000-013-484 | 100 VAC                                            |            |
|                            | PR-62                 | 000-013-485 | 110 VAC                                            |            |
|                            | PR-62                 | 000-013-486 | 220 VAC                                            |            |
|                            | PR-62                 | 000-013-487 | 230 VAC                                            |            |
| External Buzzer            | OP03-136              | 000-086-443 |                                                    |            |
| Signal Cable               | MJ-A6SPF0012-050      | 000-134-424 | For navigator, 5 m                                 |            |
|                            | MJ-A6SPF0012-100      | 000-133-817 | For navigator, 10 m                                |            |
|                            | MJ-A6SPF0007-100      | 000-125-237 | For compass, 10 m                                  |            |
|                            | MJ-A6SPF0011-050      | 000-132-244 | w/6P connector, 5 m                                |            |
|                            | MJ-A6SPF0011-100      | 000-132-336 | w/6P connector, 10 m                               |            |
|                            | MJ-A7SPF0007-050      | 000-144-418 | w/7P connector, 5 m, for external buzzer, PC, NMEA |            |
|                            | MJ-A6SRMD/TM11AP8-005 | 000-144-463 | Conversion cable for HUB                           |            |
|                            | MJ-A6SPF0014-010      | 000-144-421 | 1 m                                                | For NavNet |
|                            | MJ-A6SPF0014-050      | 000-144-422 | 5 m                                                |            |
|                            | MJ-A6SPF0014-100      | 000-144-423 | 10 m                                               |            |
|                            | MJ-A6SPF0014-200      | 000-144-424 | 20 m                                               |            |
|                            | MJ-A6SPF0014-300      | 000-144-425 | 30 m                                               |            |
| RAM Card                   | 00RAM02MC-004         | 004-371-790 | 2 MB                                               |            |
| Chart Card                 | —                     | —           | Specified when ordering                            |            |
| Remote Controller Set      | RMC-100               | 000-089-885 |                                                    |            |
| Modification kit for C-map | MODEL17*2/C-MAP       | 008-525-200 | See modification instruction E42-00005-x           |            |
| Memory card interface unit | CU-200-NAV            | 000-081-567 | w/two chart card slots                             |            |

\_\_\_\_\_

The number of display units which may be installed depends on the number of network sounder connected. For a system incorporating three or more products, a “hub” is required to process data.

For two network sounders: one radar and two plotters, or four plotters

The diagram illustrates the NavNet 2 system components and their connections. The central component is the **Display Unit**, which includes models GD-1700C, GD-1710C, and GD-1700. It is connected to several optional components (indicated by dashed lines) and standard components (indicated by solid lines).

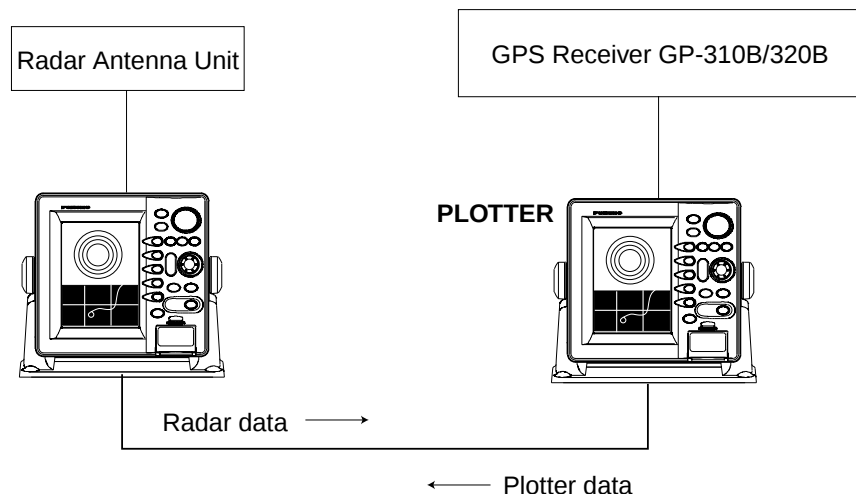
- Antenna Unit** (ex. MODEL 1722/1722C) is connected to the Display Unit via a dashed line.
- GPS Receiver** GP-310B/320B is connected to the Display Unit via a dashed line.
- Echo sounder Navigator** is connected to the Display Unit via a dashed line.
- Echo sounder External buzzer PC** is connected to the Display Unit via a dashed line.
- Memory card interface unit CU-200** is connected to the Display Unit via a dashed line.
- Remote Controller RMC-100** is connected to the Display Unit via a dashed line.
- Other NavNet Unit** (Model 1722, etc.) is connected to the Display Unit via a dashed line.
- Network Sounder** ETR-6/10N and ETR-30N is connected to the Display Unit via a dashed line.
- 12 VDC** power source is connected to the Display Unit via a solid line.
- Rectifier PR-62** is connected to the Display Unit via a solid line.
- 100/110/115/220/230 VAC, 1φ, 50/60 Hz** power source is connected to the Display Unit via a solid line.

Legend:

- : Option
- : Standard

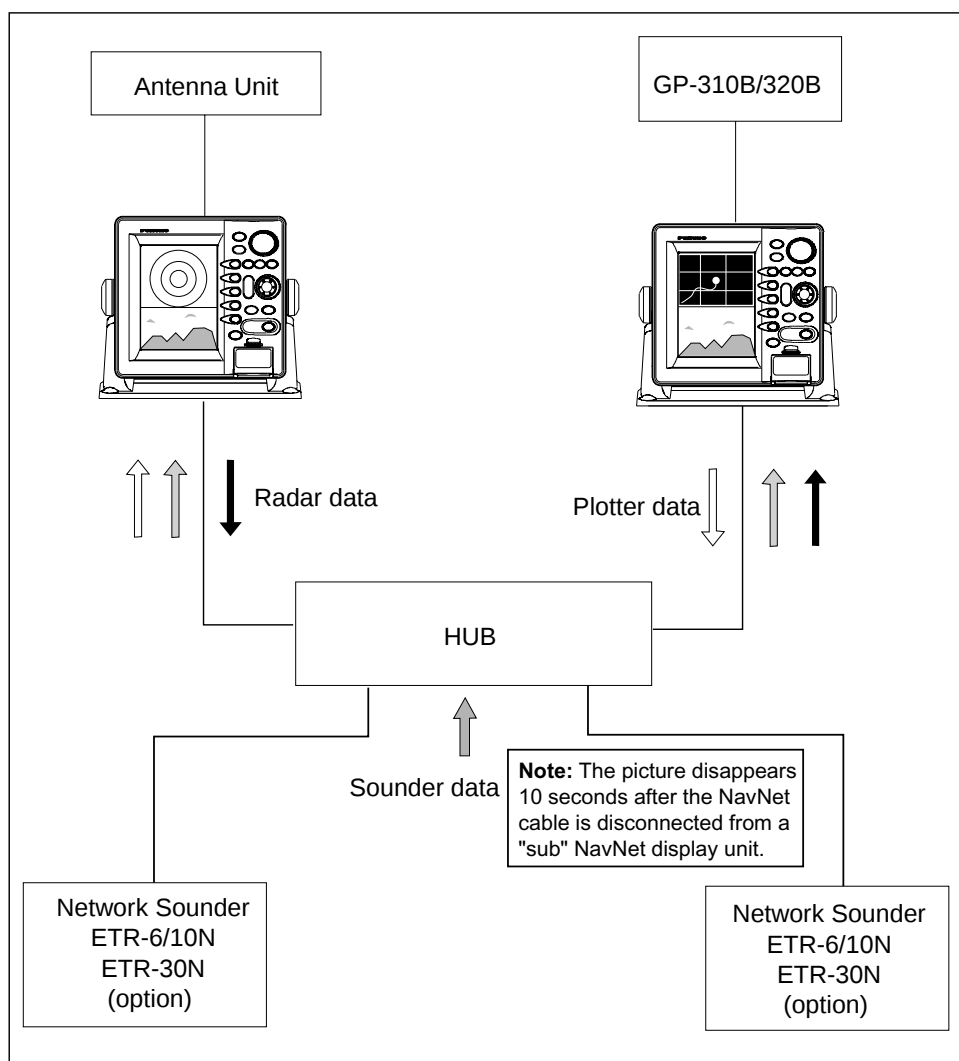
iv

## Two-unit NavNet system



*Two-unit NavNet system*

## Three-or-more-unit NavNet system (Max. 4 display units)



*Three-or-more-unit NavNet system*

# 1. DISPLAY UNIT INSTALLATION

---

## 1.1 Mounting Considerations

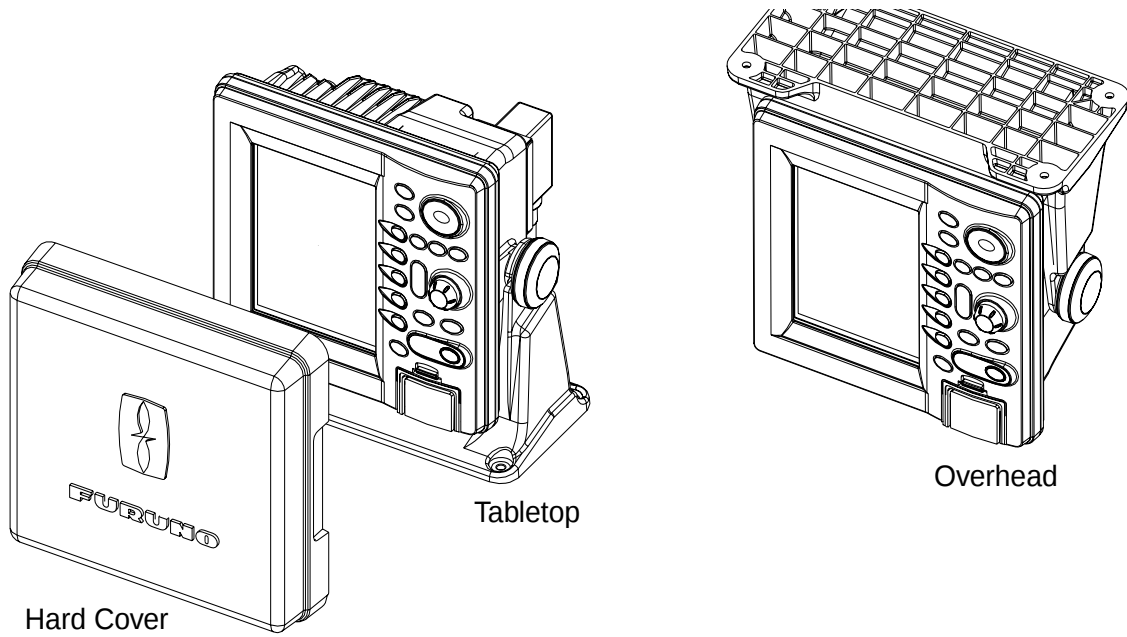
When selecting a mounting location for the display unit keep the following in mind:

- The display unit can be installed on a tabletop, on the overhead or flush mounted in a console or panel.
- Keep the display unit out of direct sunlight because heat can build up inside it.
- The temperature and humidity at the mounting location should be moderate and stable.
- Locate the unit away from exhaust pipes and vents.
- The mounting location should be well ventilated.
- Mount the unit where shock and vibration are minimal.
- Keep the unit away from electromagnetic field generating equipment such as a motor, generator.
- For maintenance and checking purposes, leave sufficient space at the sides and rear of the unit and leave slack in cables.
- A magnetic compass will be affected if the display unit is placed too close to it. Observe the following compass safe distances to prevent disturbance to the magnetic compass:  
GD-1700/1700C: Standard, 0.65 m, Steering, 0.45 m.  
GD-1710C: Standard, 0.50 m, Steering, 0.30 m.

## 1.2 Mounting

### 1.2.1 Tabletop and overhead mounting

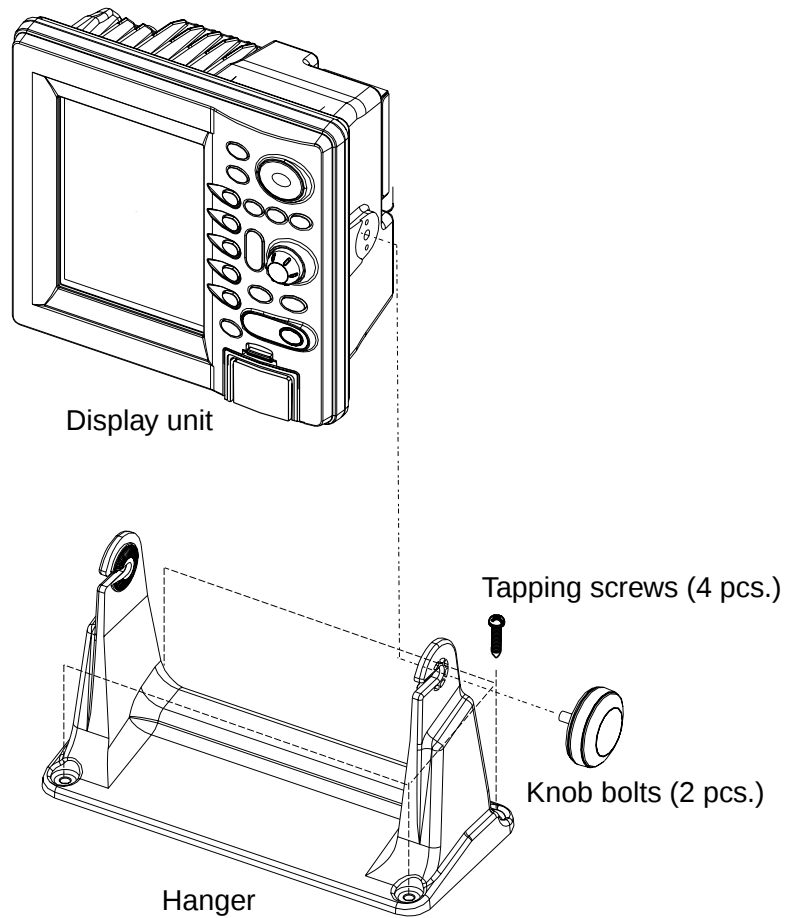
Below are tabletop and overhead mounting methods.



*Tabletop, overhead mounting of display unit*

### **Tabletop, overhead mounting procedure**

1. Fix the hanger by four tapping screws.
2. Screw knob bolts in display unit, set it to hanger, then tighten knob bolts.
3. Attach hard cover to protect LCD.

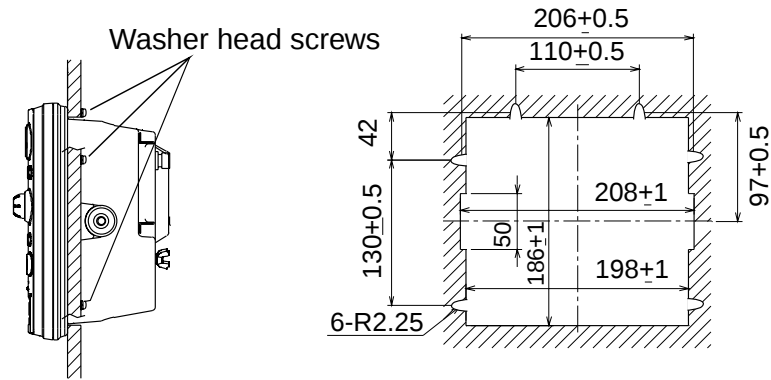


*How to mount the display unit*

## 1.2.2 Flush mounting

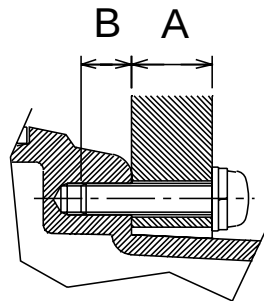
The display unit can be mounted in a panel or console, using the supplied washer head screws.

1. Prepare a cutout in the mounting location whose dimensions are as shown below.
2. Fix the display unit with four washer head screws (M4X20).
3. Attach hard cover to protect LCD.



*Flush mounting of display unit*

**Note:** Use supplied washer head screws when the thickness of the bulkhead is from 11 to 14 mm. For bulkhead which exceeds 14 mm in thickness the length of the washer head screws (local supply) should be bulkhead thickness ("A" below) plus  $7.3 \pm 1.5$  mm. Also the length of "B" in the figure below should be max. 7 mm.



*Fixing screw, side view*

## 2. WIRING

All wiring are terminated at the rear of the display unit.

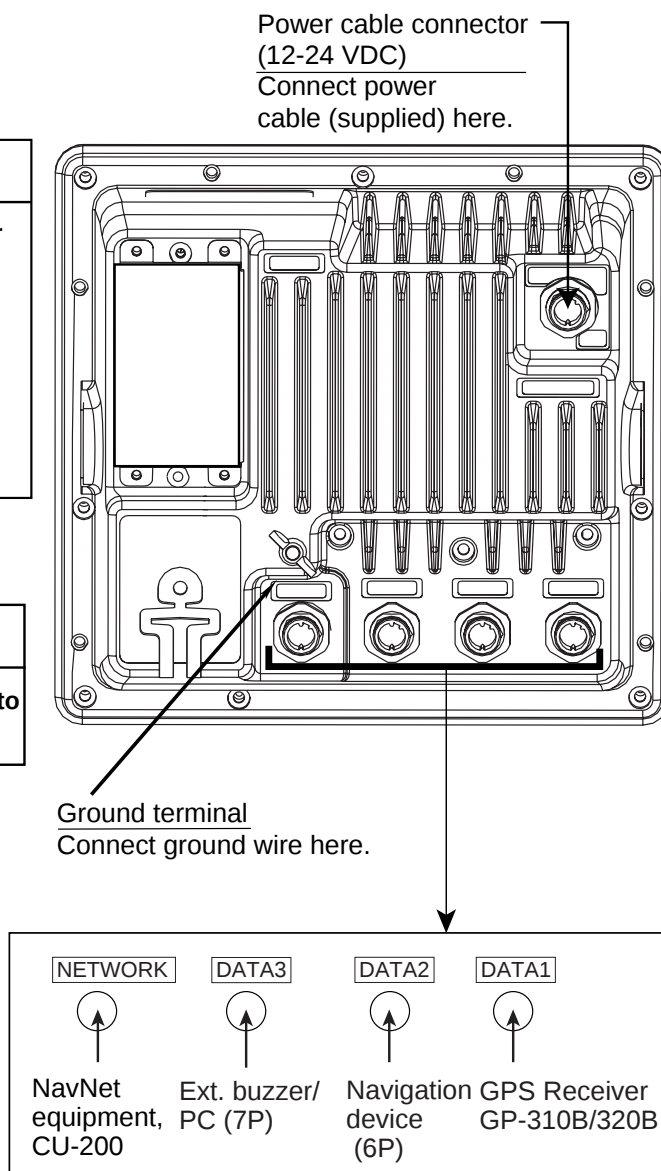
**⚠ CAUTION**

The power cable is shipped with 5 A fuse. Replace the fuse on the power cable with a 3A fuse if the condition mentioned below applies.  
Also, attach 3A label to the fuse cover on the power cable.

- Your plotter is GD-1700C/1710C (24 V)
- Your plotter is GD-1700 (12/24 V)

**⚠ CAUTION**

**⚡** Ground the equipment to prevent interference.



*Display unit, rear view*

## 2.1 Wiring

### Power cable

Connect the power cable to the POWER connector. If the GD-1700C/1710C is to operate from 24 VDC power or the GD-1700 is used, replace the power fuse with a 3A fuse (supplied) and attach the “3A fuse label” to the fuse cover on the power cable.

### Earth terminal

Connect the earth wire (local supply, IV-2sq) between the earth terminal and ship's ground.

### Data ports (DATA1 – DATA3)

External equipment may be connected to these ports as below.

| DATA1 (7P)                                                                         | DATA2 (6P)                                | DATA3 (7P)                                                       |
|------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------|
| NMEA 0183 (IN/OUT)<br>GPS Receiver<br>GPS-310B/320B, navaid,<br>echo sounder, etc. | NMEA 0183 (IN/OUT)<br>Navaid, radar, etc. | NMEA 0183 (IN/OUT)<br>External buzzer,<br>PC, echo sounder, etc. |

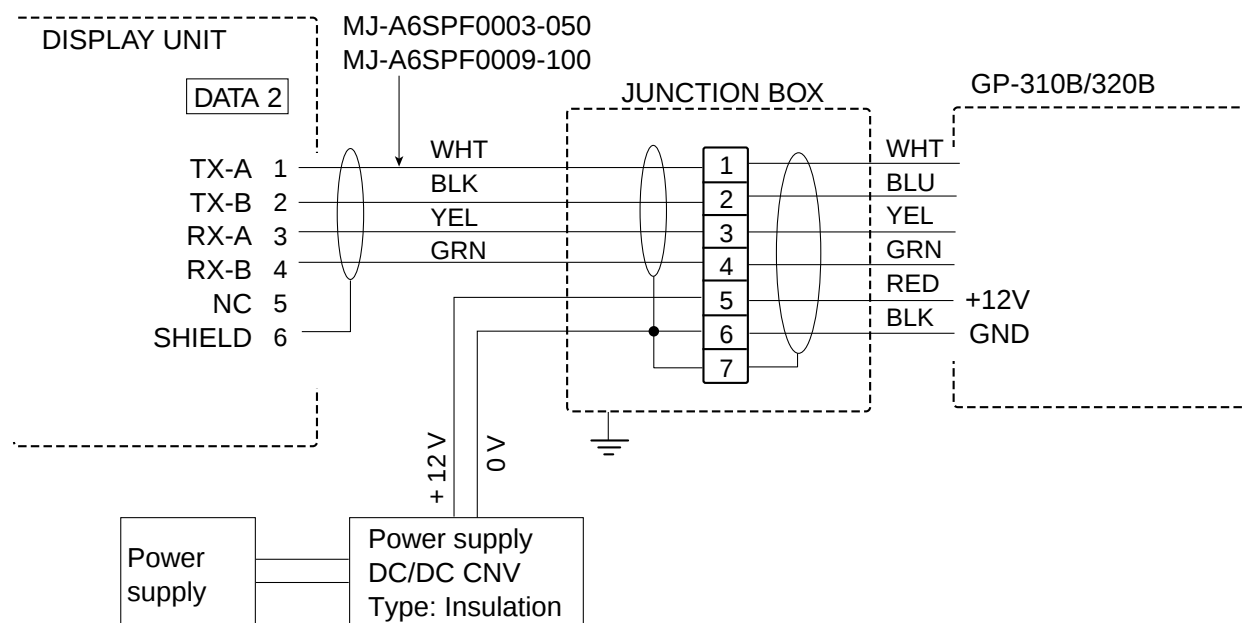
This equipment can receive the following NMEA 0183 format sentences from external equipment.

- Own ship's position: GGA>RMC>RMA>GLL
- Ship's speed: RMC>RMA>VTG>VHW
- External waypoint: RMB>WPL>BWR>BWC
- Heading (True): HDT>HDG>HDM
- Course: RMC>RMA>VTG
- Depth: DPT>DBT
- Temperature: MTW
- Time: ZDA
- Other ship's information: TTM
- Insight satellite information: GSV
- Wind speed and angle: MWV>VWT>VWR

You will need the optional NMEA cable to connect with other equipment.

## **Connecting GP-310B/320B to DATA2 port**

The GPS Receiver GP-310B/320B is usually connected to the DATA 1 port, however it may also be connected to the DATA 2 port as shown below. A junction box and optional cable MJ-A6SPF0003-050 or MJ-A6SPF0009-100 are required.



*How to connect GP-310B/320B to DATA 2 port*

## **NETWORK port**

Other NavNet equipment should be connected to the NETWORK port, with the optional NavNet cable. Available equipment are shown below.

| Radar                                                                                                                                                | Plotter                       | Network Sounder      | Other                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------|-----------------------------------------------------------|
| MODEL1722/1732/<br>1742/1762/1752/1722C/<br>1732C/1742C/1762C/1752C/<br>1723C/1733C/1753C/1763C/<br>1833/1933/1943/1823C/<br>1833C/1933C/1943C/1953C | GD-1700/1700C/<br>1710C/1900C | ETR-6/10N<br>ETR-30N | HUB (used when more than two NavNet units are connected.) |

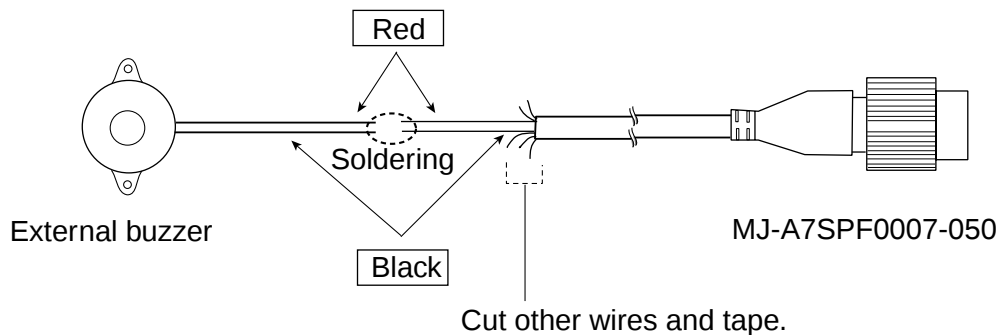
## External buzzer OP03-136 (option)

The optional external buzzer provides a louder alert when the guard alarm is violated. You will need the external buzzer kit (Type OP03-136, Code no. 000-086-443).

A season goes away slowly along the highway,

Further, you will need the optional cable assy MJ-A7SPF0007-050 (w/7P connector, 5 m, code no. 000-144-418).

1. Attach the MJ-A7SPF0007-050 cable assy (option) to the DATA 3 port at the rear of the display unit.
2. Shorten the XH connector of the external buzzer cable with appropriate length.
3. Solder the cables made at step 2 with MJ-A7SPF0007-050 cable as shown below.

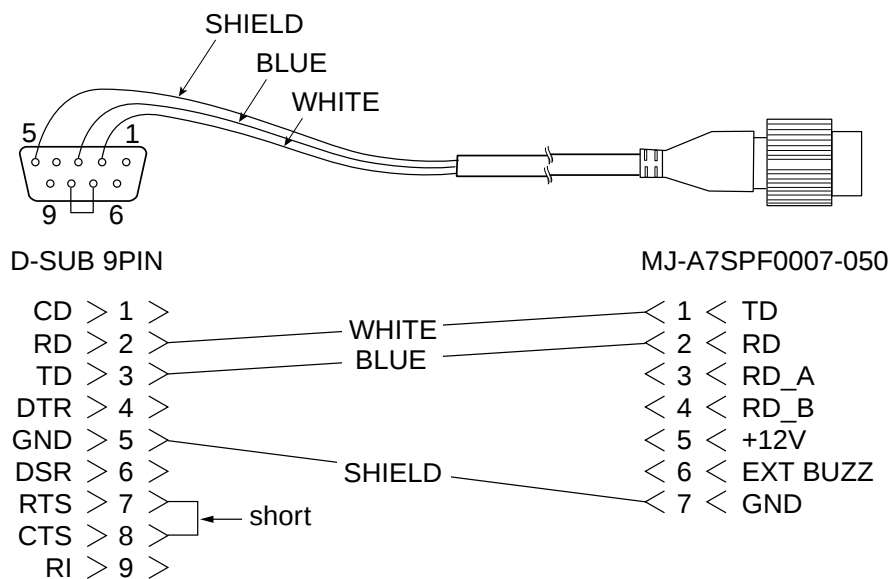


*Connection of external buzzer*

4. Fasten the buzzer with the double-sided tape or two tapping screws (3X15 or 3X20, local supply).

## 2.2 How to Connect a PC

To connect a pc, prepare the optional cable assy MJ-A7SPF0007-050 and D-sub 9 pins plug (local supply) and connect them as follows.

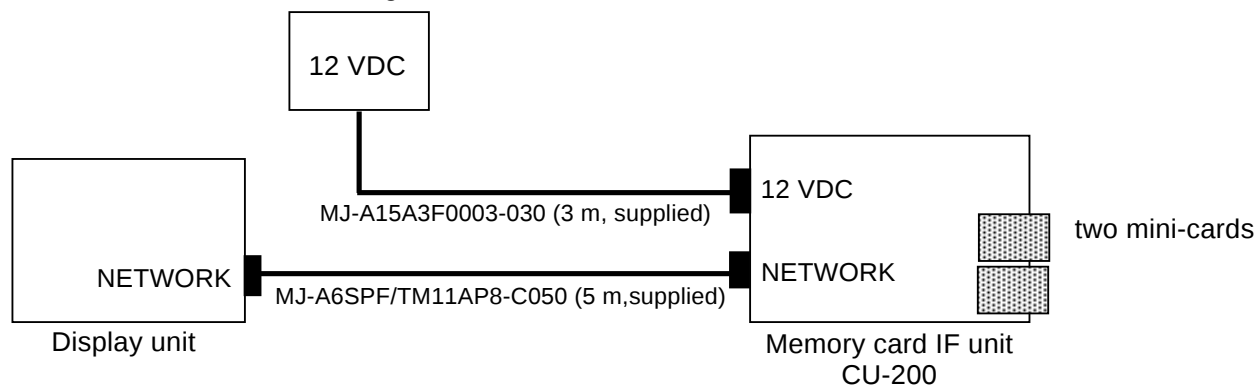


*How to modify cable assy. MJ-A7SPF0007-050 for connection of pc*

## 2.3 Connection of CU-200 (option)

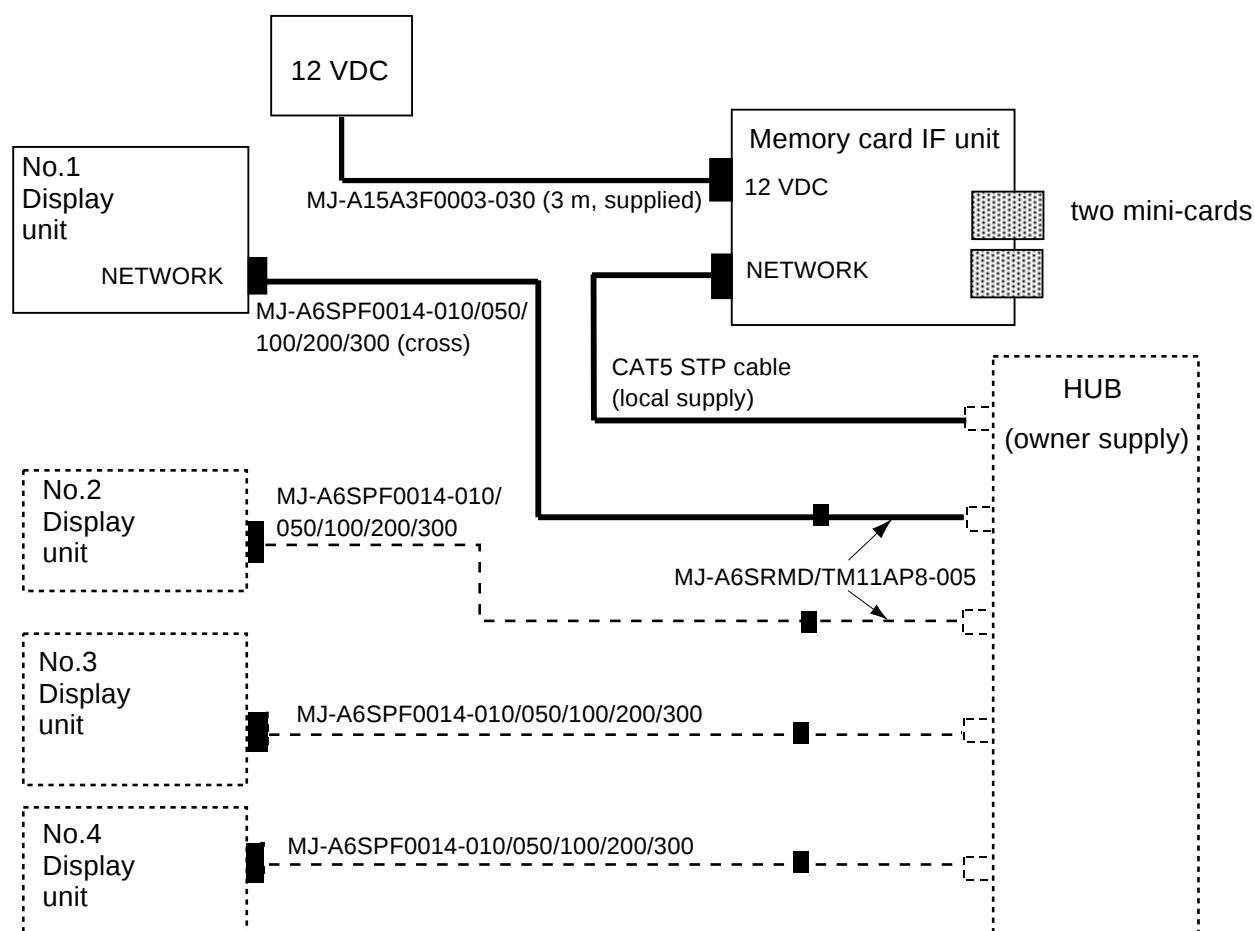
### 1) Connection between one display unit and one memory card IF unit

Connect as shown in the figure below.



### 2) Connection between one memory card IF unit and multiple display units

Prepare optional cable MJ-A6SPF0014-010/050/100/200/300 (1, 5, 10, 20 or 30 m) and MJ-A6SRM-D/TM 11AP8-005. Also, procure HUB and CAT5 STP cable locally. Connect as shown in the figure below.



# 3. INITIAL SETTINGS

The equipment is set up from the installation menu, which you may access as below.

## 3.1 How to Access the Installation Menu

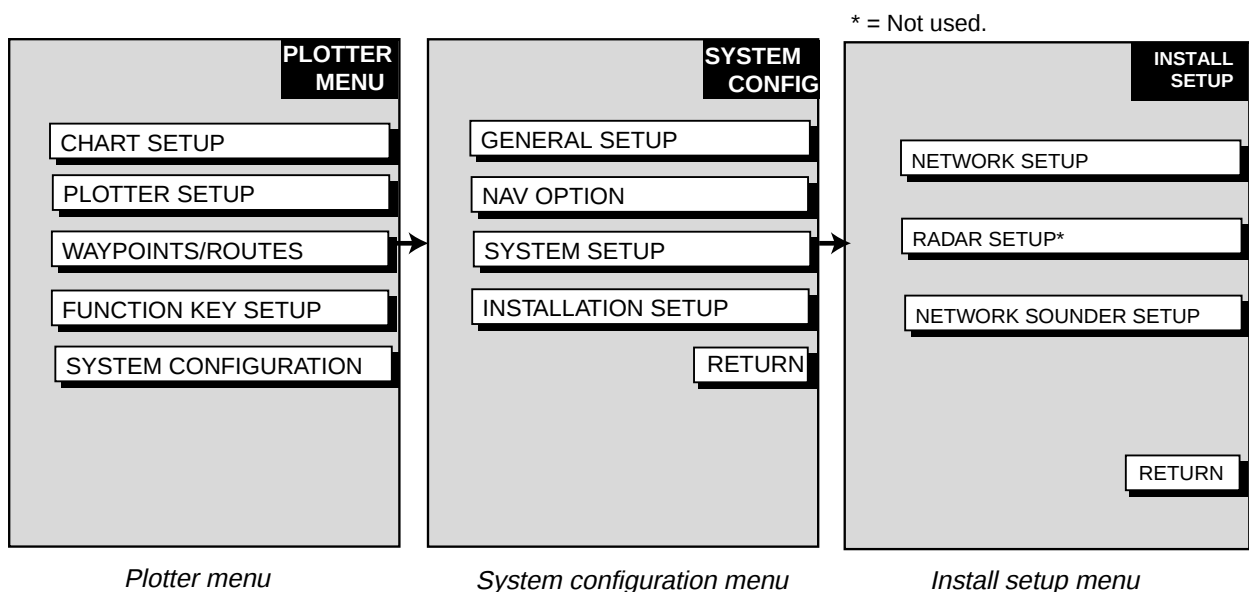
This paragraph shows you how to access the installation menus, which you will need to do to set up the equipment.

1. Press the [POWER/BRILL] key with a touch-and-release action while pressing and holding down the [MENU] key. Release the [POWER/BRILL] key when you hear a beep.
2. Release the [MENU] key when the message “STARTING INSTALLATION MODE” appears.

**Note:** You are asked if you want to start the simulation mode, which provides simulated operation of the equipment, the first time you turn on the power or you turn on the power after clearing the memory. Push the [ENTER] knob to start the simulation mode, or press the [CLEAR] key to start normal operation. For further details about the simulation mode, see the operator’s manual.

START  
SIMULATION MODE?  
YES ... PUSH ENTER KNOB  
NO ... PUSH CLEAR KEY  
TO SKIP.

3. Press any key to show the plotter screen.
4. After the plotter display appearance, press the [MENU] key followed by the SYSTEM CONFIGURATION soft key to show the SYSTEM CONFIG menu.
5. Press the INSTALLATION SETUP soft key to display the INSTALL SETUP menu.



Menus

## 3.2 Network Setup

Complete the procedure below if other NavNet equipment is connected.

1. Open the INSTALL SETUP menu.
2. Press the NETWORK SETUP soft key.

| NETWORK<br>SETUP                            |        |
|---------------------------------------------|--------|
| ► IP ADDRESS<br><b>172.031.014.001</b>      |        |
| HOST NAME<br><b>PLOTTER.</b>                | EDIT   |
| RADAR SOURCE<br><b>RADAR...</b>             |        |
| CHART SOURCE*<br>-----1<br>-----1<br>-----1 |        |
| SOUNDER SOURCE<br><b>SOUNDER.</b>           |        |
| SUBNET MASK<br><b>255.255.000.000</b>       |        |
| GATEWAY ADDRESS<br><b>000.000.000.000</b>   | RETURN |
| OFFSET PORT NUMBER<br><b>10000</b>          |        |

*Network setup menu*

3. Select menu option and press the EDIT soft key. For example, select HOST NAME.

| HOST NAME        |
|------------------|
| <b>P</b> LOTTER_ |

*Host name window*

4. Use the cursor pad to select location and rotate the [ENTER] knob to set alphanumeric character.
5. Press the ENTER soft key to finish.
6. Repeat steps 3-5 for other items, referring to the table on the next page for details.
7. Press the [MENU] key to finish.

\*: For the CHART SOURCE setting, the card drive 1 or 2 on the optional CU-200 can be selected by the 1/2 soft key. "-1" or "-2" is also displayed for other device (for example, RADAR-1 or PLOTTER-1), but these numbers may be ignored.

| Item               | Description                                                                                                                                                                                                                                                                                            | Default Setting                                                                       |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| IP ADDRESS         | This address is assigned at the factory. Change the address (last three digits; 001 to 254) when like models are connected directly or through the hub. Do this before connecting this equipment to other equipment or hub to distinguish them. Do not set the same IP address for multiple equipment. | <b>Monochrome:</b><br>172. 031. 014. 001                                              |
|                    |                                                                                                                                                                                                                                                                                                        | <b>Color:</b><br>172. 031. 014. 001<br>(GD-1700C)<br>172. 031. 014. 005<br>(GD-1710C) |
| HOST NAME          | Set the name for your display unit to distinguish it from others in the NavNet system. Be sure not to use the same name as other NavNet equipment.                                                                                                                                                     | PLOTTER                                                                               |
| RADAR SOURCE       | Enter name of radar source.                                                                                                                                                                                                                                                                            | RADAR                                                                                 |
| CHART SOURCE       | Enter name of equipment which is to function as the chart source. (Max. three units) The driver names of the memory card interface unit (option) are MCDRIVE-1 (left side) and MCDRIVE-2 (right side).                                                                                                 | None                                                                                  |
| SOUNDER SOURCE     | Enter the host name of the network sounder ETR-6/10N or ETR-30 to use for the video sounder display. Erase the host name, with the [CLEAR] key, when no network sounder is connected.                                                                                                                  | SOUNDER                                                                               |
| SUBNET MASK        | Not used. Reserved for future use.                                                                                                                                                                                                                                                                     | 255.255.000.000                                                                       |
| GATEWAY ADDRESS    |                                                                                                                                                                                                                                                                                                        | 000.000.000.000                                                                       |
| OFFSET PORT NUMBER |                                                                                                                                                                                                                                                                                                        | 10000                                                                                 |

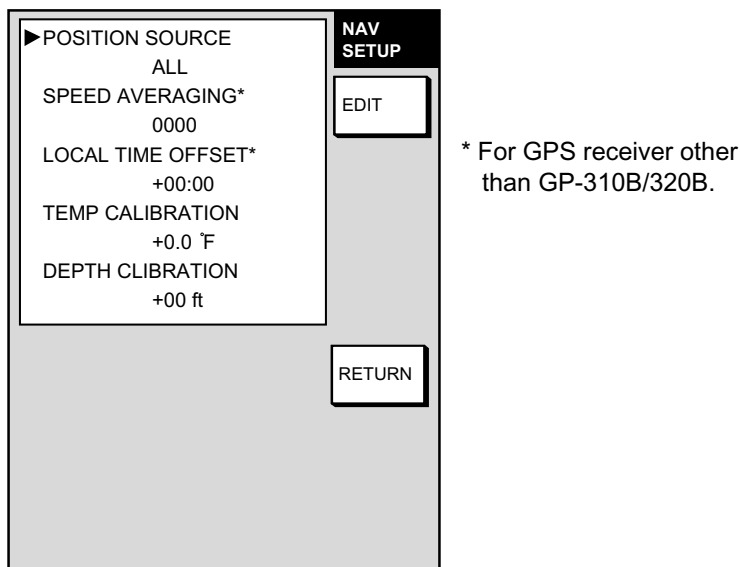
NavNet equipment IP address and host name default settings

| Model                              | IP ADDRESS      | HOST NAME |
|------------------------------------|-----------------|-----------|
| MODEL1722/1732/1742/1752/1762      | 172.031.003.004 | RADAR     |
| MODEL1722C/1732C/1742C/1762C/1752C | 172.031.003.001 | RADAR     |
| MODEL1823C/1833C/1933C/1943C/1953C | 172.031.003.003 | RADAR     |
| MODEL1723C/1733C/1753C/1763C       | 172.031.003.005 | RADAR     |
| MODEL1833/1933/1943                | 172.031.003.002 | RADAR     |
| GD-1900C                           | 172.031.003.003 | PLOTTER   |
| GD-1700C/GD-1700                   | 172.031.014.001 | PLOTTER   |
| GD-1710C                           | 172.031.014.005 | PLOTTER   |
| CU-200 (option)                    | 172.031.014.100 | MCDRIVE   |

### 3.3 Navigation Data Source

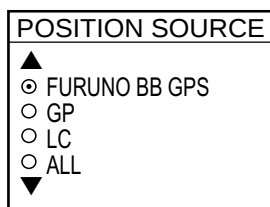
The NAV SOURCE SETTINGS menu mainly selects the source of nav data. For navigator other than the FURUNO GP-310B/320B, speed averaging and local time offset (to use local time instead of UTC time) are also available from this menu.

1. Press the [MENU] key.
2. Press the SYSTEM CONFIGURATION, NAV OPTION and NAV SOURCE SETTING soft keys to display the NAV SETUP menu.



*Nav setup menu*

3. Select POSITION SOURCE and press the EDIT soft key.



*Position source window*

4. Select FURUNO BB GPS, GP, LC or ALL as appropriate and press the ENTER soft key.

**FURUNO BB GPS:** GPS Receiver GP-310B/320B

**GP:** GPS navigator (via NETWORK, DATA 1 or DATA 2 port)

**LC:** Loran C (via NETWORK, DATA 1 or DATA 2 port)

**ALL:** Multiple navaid connection (via NETWORK, DATA 1 or DATA 2 port)

5. For GPS receiver other than the GP-310B/320B you may adjust speed averaging and use local time as follows:
  - a) Choose desired item and press the EDIT soft key.
  - b) Use the cursor pad to select location and rotate the [ENTER] knob to set value. For time, use the +<- ->- soft key to switch from plus to minus and vice versa.
  - c) Press the ENTER soft key.

**Speed Averaging:** Calculation of ETA is based on average ship's speed over a given period. If the period is too long or too short calculation error will result. Change this setting if the ETA readout seems wrong. The range of adjustment is 0-9999(sec).

**Local Time Offset:** GPS uses UTC time. If you would rather use local time enter the time difference between it and UTC. The range of offset is -13:30 to +13:30 and the default setting is zero (no offset). This setting is not necessary if the difference time is entered at the GPS navaid connected.

**Temp Calibration:** Offsets NMEA water temperature (-40°F to +40°F)

**Depth Calibration:** Offsets NMEA depth data (-15 ft to +90 ft)

6. Press the RETURN soft key followed by the [MENU] key to finish.

## 3.4 Setting up GPS Receiver GP-310B/320B

Set up the GPS Receiver GP-310B/320B as follows:

1. Press the [MENU] key.
2. Press the SYSTEM CONFIGURATION, NAV OPTION and GPS SENSOR SETTINGS soft keys.

The image shows a GPS setup menu on a screen. The menu is divided into two main sections. The left section contains a list of configuration items, each with a value: LOCAL TIME OFFSET (+00:00), GEODETIC DATUM (WGS-84), POSITION SMOOTHING (000 second(s)), SPD/CSE SMOOTHING (005 second(s)), GPS SPEED AVERAGING (060 second(s)), LATITUDE OFFSET (0.000'N), LONGITUDE OFFSET (0.000'E), DISABLE SATELLITE (---), LATITUDE (45°35.000' N), LONGITUDE (125°00.000' W), ANTENNA HEIGHT (005 m), GPS FIX MODE (2D/3D), and COLD START (NO). The right section contains three soft keys: EDIT, GPS STATUS, and RETURN. The title 'GPS SETUP' is displayed in the top right corner.

| GPS<br>SETUP                         |               |
|--------------------------------------|---------------|
| ▶ LOCAL TIME OFFSET<br>+00:00        | EDIT          |
| GEODETIC DATUM<br>WGS-84             | GPS<br>STATUS |
| POSITION SMOOTHING<br>000 second(s)  |               |
| SPD/CSE SMOOTHING<br>005 second(s)   |               |
| GPS SPEED AVERAGING<br>060 second(s) |               |
| LATITUDE OFFSET<br>0.000'N           |               |
| LONGITUDE OFFSET<br>0.000'E          |               |
| DISABLE SATELLITE<br>---             |               |
| LATITUDE<br>45°35.000' N             |               |
| LONGITUDE<br>125°00.000' W           |               |
| ANTENNA HEIGHT<br>005 m              | RETURN        |
| GPS FIX MODE<br>2D/3D                |               |
| COLD START<br>NO                     |               |

*GPS setup menu*

3. Select ANTENNA HEIGHT and press the EDIT soft key.

The image shows a window titled 'ANTENNA HEIGHT'. Inside the window, the value '005 m' is displayed, with the first '0' highlighted by a cursor.

| ANTENNA HEIGHT |
|----------------|
| 005 m          |

*Antenna height window*

4. Enter the height of the GPS antenna unit above sea surface. Use the cursor pad to select digit and rotate the [ENTER] knob to set value. The default height is 5 m.
5. Press the ENTER soft key.
6. Choose and set other items as appropriate, referring to Chapter 5 of the operator's manual.
7. Press the [MENU] key to close the menu.

## 3.5 Setting up Data Ports

Setup the data ports according to the equipment connected to them as follows.

1. Press the [MENU] key to open the menu.
2. Press the SYSTEM CONFIGURATION, SYSTEM SETUP and PORT SETUP soft keys.
3. Press the GPS/NMEA PORT soft key for DATA 1 port, NMEA PORT soft key for DATA 2 port or PC/NMEA/EXT. BUZZ PORT soft key for DATA 3 port as appropriate. One of the following displays appear depending on your selection.

| GPS/<br>PORT                                                                                                                                                                                                                                                                                                                                                               | NMEA<br>PORT                                                                                                                                                                                                                                                                                                                               | NMEA<br>PORT                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>► FURUNO GPS SENSOR<br/>YES</p> <p>OUTPUT FORMAT<br/>NMEA0183 Ver. 2.0</p> <p>LAT/LON FORMAT<br/>DD° MM.MMM'</p> <p>OUTPUT DESTINATION<br/>NO</p> <p>WIRING INFORMATION</p> <p>TD-A &gt;1&gt;---WHITE<br/>TD-B &gt;2&gt;---BLUE<br/>RD-A &gt;3&gt;---YELLOW<br/>RD-B &gt;4&gt;---GREEN<br/>+12V &gt;5&gt;---RED<br/>GND &gt;6&gt;---BLACK<br/>FG &gt;7&gt;---SHIELD</p> | <p>► FURUNO GPS SENSOR<br/>NO</p> <p>OUTPUT FORMAT<br/>NMEA0183 Ver. 2.0</p> <p>LAT/LON FORMAT<br/>DD° MM.MMM'</p> <p>OUTPUT DESTINATION<br/>NO</p> <p>WIRING INFORMATION</p> <p>TD-A &gt;1&gt;---WHITE<br/>TD-B &gt;2&gt;---BLUE<br/>RD-A &gt;3&gt;---YELLOW<br/>RD-B &gt;4&gt;---GREEN<br/>NC &gt;5&gt;---<br/>FG &gt;6&gt;---SHIELD</p> | <p>► NMEA OUTPUT FORMAT<br/>NMEA Ver. 2.0</p> <p>BAUD RATE<br/>4800 bps</p> <p>BIT LENGTH<br/>8 bits</p> <p>STOP BIT<br/>1 bit</p> <p>PARITY<br/>NONE<br/>(CONTROL: Xon/Xoff)</p> <p>WIRING INFORMATION</p> <p>TxD &gt;1&gt;---WHITE<br/>RxD &gt;2&gt;---BLUE<br/>RD-A &gt;3&gt;---YELLOW<br/>RD-B &gt;4&gt;---GREEN<br/>+12V &gt;5&gt;---RED<br/>EXT BUZZ &gt;6&gt;---BLACK<br/>GND &gt;7&gt;---SHIELD</p> |
| <p>EDIT</p> <p>SELECT SNTNC</p> <p>RETURN</p>                                                                                                                                                                                                                                                                                                                              | <p>EDIT</p> <p>SELECT SNTNC</p> <p>RETURN</p>                                                                                                                                                                                                                                                                                              | <p>EDIT</p> <p>SELECT SNTNC</p> <p>RETURN</p>                                                                                                                                                                                                                                                                                                                                                               |
| PORT 1 port                                                                                                                                                                                                                                                                                                                                                                | PORT 2 port                                                                                                                                                                                                                                                                                                                                | PORT 3 port                                                                                                                                                                                                                                                                                                                                                                                                 |

GPS/NMEA, NMEA and PC/NMEA/EXT. BUZZ port setup menus

4. Select item and press the EDIT soft key.
5. Set option referring to the tables on pages 16 and 17.
6. To select NMEA data sentences to output, press the SELECT SNTNC soft key.

| SELECT<br>SNTNC                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>► AAM --</p> <p>APB ON</p> <p>BOD --</p> <p>BWR# ON</p> <p>DPT* --</p> <p>GGA --</p> <p>GLL ON</p> <p>GTD --</p> <p>MTW --</p> <p>RMA --</p> <p>RMB ON</p> <p>RMC ON</p> <p>VHW --</p> <p>VTG ON</p> <p>WPL --</p> <p>XTE --</p> <p>ZDA ON</p> <p>HDT --</p> <p>HDG --</p> <p>MWV --</p> <p>TTM --</p> |
| <p>ON/OFF</p> <p>RETURN</p>                                                                                                                                                                                                                                                                               |

# = BWR for rhumb line, BWC for great circle

\* = DBT for NMEA 0183 Version No. 1.5

Data sentences for NMEA 0183 version no. 2

7. Select sentence and press the ON/OFF soft key to show ON (output) or “ - - ” (no output) as appropriate.
8. Press the ENTER soft key.
9. Press the RETURN soft key followed by the [MENU] key to finish.

*Contents of GPS/NMEA PORT and NMEA PORT menus*

| Item                  | Description                                                                                                                                       | Settings                                | Default Setting           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------|
| FURUNO GPS Sensor     | Selects whether the GPS Receiver GP-310B/320B is connected to the GPS/NMEA port or not.                                                           | Yes, No                                 | Yes (PORT1)<br>No (PORT2) |
| Output Format         | Selects NMEA output version of GPS sensor.                                                                                                        | NMEA Ver. 1.5,<br>NMEA Ver. 2.0         | NMEA Ver. 2.0             |
| Lat/Lon Format        | Selects latitude/longitude format to output.                                                                                                      | DD°MM.MM',<br>DD°MM.MMM,<br>DD°MM.MMMM' | DD°MM.MMM'                |
| Output Destination    | Selects whether to output route (data sentence RTE) and waypoint data (data sentence WPL) when destination is set.                                | Yes, No                                 | No                        |
| SELECT SNTNC soft key | Selects data sentence(s) to output. Select sentence with the cursor pad and press the ON/OFF soft key to show ON or “ - - ” (OFF) as appropriate. |                                         |                           |

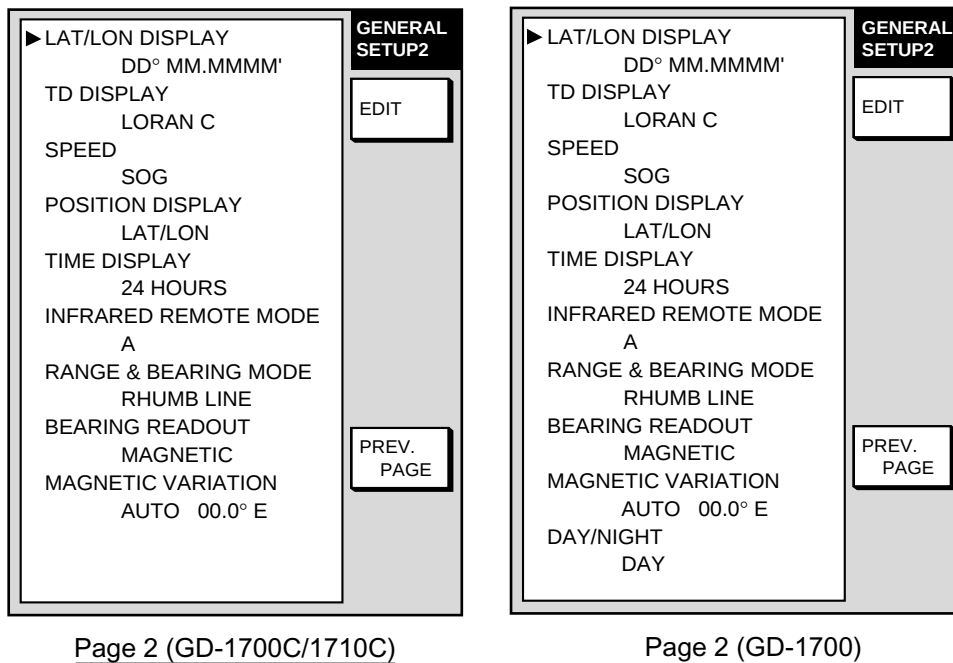
*Contents of PC/NMEA/EXT. BUZZ PORT menu*

| Item                  | Description                                                                                                                                       | Settings                        | Default Setting |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------|
| NMEA Output Format    | Selects NMEA output format for PC.                                                                                                                | NMEA Ver. 1.5,<br>NMEA Ver. 2.0 | NMEA Ver. 2.0   |
| Baud Rate             | Sets baud rate.                                                                                                                                   | 4800, 9600,<br>19200 (bps)      | 4800(bps)       |
| Bit Length            | Sets character length.                                                                                                                            | 8 bits, 7 bits                  | 8 bits          |
| Stop Bit              | Sets number of stop bits.                                                                                                                         | 1 bit, 2 bits                   | 1 bit           |
| Parity                | Sets parity bit.                                                                                                                                  | Even, Odd, None                 | None            |
| SELECT SNTNC soft key | Selects data sentence(s) to output. Select sentence with the cursor pad and press the ON/OFF soft key to show ON or “ - - ” (OFF) as appropriate. |                                 |                 |

## 3.6 Remote Controller Setting

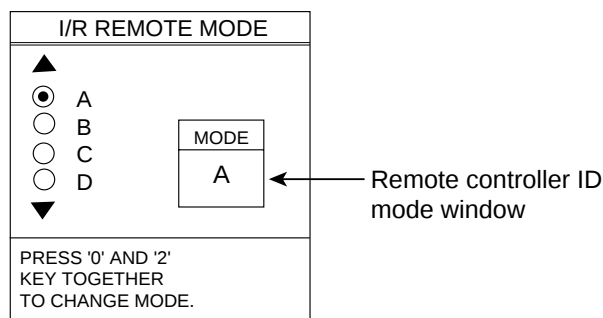
A remote controller can be set exclusively for use with a specific display unit, in the case of multiple NavNet display units. Set the remote controller ID mode desired on the menu and attach appropriate label (supplied with accessories) to the remote controller and display unit.

1. Press the [MENU] key, followed by SYSTEM CONFIGURATION soft key and GENERAL SETUP soft key to show the GENERAL SETUP menu.
2. Press the NEXT PAGE soft key.



*GENERAL SETUP menu, page 2*

3. Select INFRARED REMOTE MODE, then press the EDIT soft key to show the I/R REMOTE MODE window.
4. Point the remote controller toward the display unit, and press any key on the remote controller. The remote controller ID mode appears in the MODE window. In the example below the remote controller mode is "A."



*I/R REMOTE MODE window*

5. Press the [0] and [2] keys together on the remote controller to change the remote controller ID mode setting among A, B, C and D.
6. Operate the cursor pad to set the same display ID mode for the display unit as you did for the remote controller.
7. Press the ENTER soft key, then press the [MENU] key to close the menu.

## 3.7 Mounting the Memory Card Interface Unit

The memory card interface CU-200 enables to use more two chart cards.

Type: CU-200-NAV

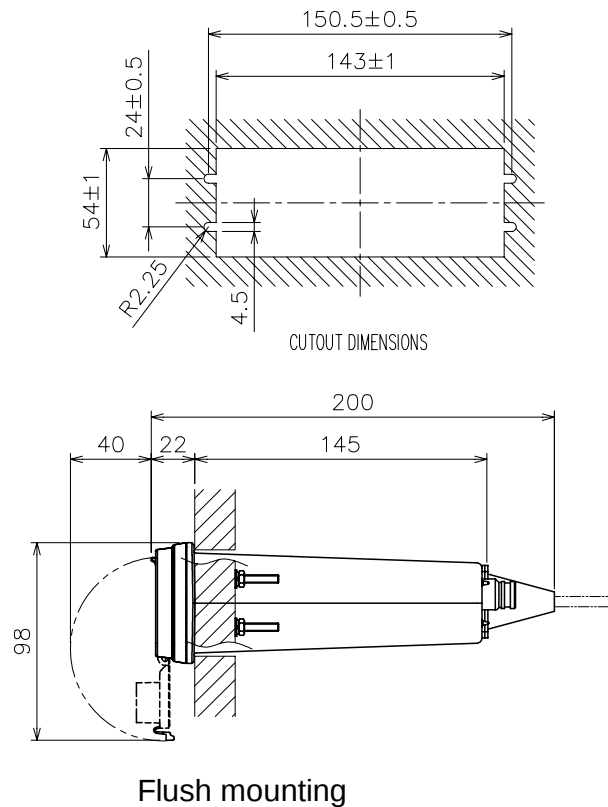
Code: 000-081-567

| Name                  | Type                     | Code No.    | Qty |
|-----------------------|--------------------------|-------------|-----|
| Memory card interface | CU-200                   | 000-081-569 | 1   |
| Cable assy            | MJ-A6SPF/TM11AP<br>8C050 | 000-146-289 | 1   |
| Cable assy            | MJ-A15A3F0003-030        | 000-145-513 | 1   |
| Threaded rod          | M4X5                     | 000-147-539 | 4   |
| Hex. nut              | M4                       | 000-863-106 | 4   |
| Flat washer           | M4                       | 000-864-126 | 4   |
| Spring washer         | M4                       | 000-864-256 | 4   |

### Flush mounting

This unit can be flush-mounted in a panel with the standard installation materials.

1. Prepare a cutout in the mounting location, referring to the outline drawing at the end of this manual.
2. Screw in the threaded rods to the flange of the front panel of the unit securely by hands.
3. Set the unit to the cutout.
4. Insert the flat washer, spring washer and nut in that order for each rod and fasten the nuts.



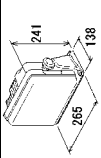
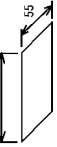
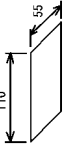
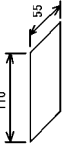
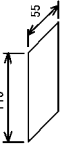
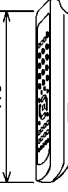
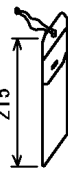
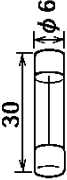
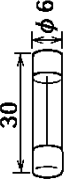
### **Desktop mount**

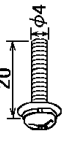
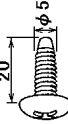
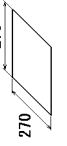
For desktop mount, the optional desktop mount kit FP03-10201 (Code No.: 008-539-530) is required.

| <b>Name</b>        | <b>Type</b>   | <b>Code No.</b> | <b>Qty</b> |
|--------------------|---------------|-----------------|------------|
| Mounting bracket   | 19-023-3081-0 | 100-316-250     | 1          |
| Self-tapping screw | 5x20          | 000-802-081     | 4          |
| Screw              | M4x10         | 000-881-145     | 4          |

1. Put the mounting bracket 19-023-3081 on the unit.
2. Fix the mounting bracket to the unit with four screws.
3. Mount the above assembly on a desktop with four self-tapping screws.

PACKING LIST

| NAME                             | OUTLINE                                                                               | DESCRIPTION/CODE No | Q'TY |
|----------------------------------|---------------------------------------------------------------------------------------|---------------------|------|
| ユニット UNIT                        |                                                                                       |                     |      |
| 指示器<br>DISPLAY UNIT              |    |                     | 1    |
| リモコンセット REMOTE CONTROLLER SET    |                                                                                       |                     |      |
| BATT (MN)                        |    | R6PKRCP-2           | 1    |
| SIZE AA BATTERY                  |                                                                                       | 000-142-527         |      |
| リモコン-Ⅱ(4)                        |    | 03-153-1317-2       | 1    |
| LABEL FOR REMOTE CONTROLLER      |                                                                                       | 100-292-842         |      |
| リモコン-Ⅱ(3)                        |    | 03-153-1316-2       | 1    |
| LABEL FOR REMOTE CONTROLLER      |                                                                                       | 100-292-832         |      |
| リモコン-Ⅱ(2)                        |    | 03-153-1315-2       | 1    |
| LABEL FOR REMOTE CONTROLLER      |                                                                                       | 100-292-822         |      |
| リモコン-Ⅱ(1)                        |    | 03-153-1314-2       | 1    |
| LABEL FOR REMOTE CONTROLLER      |                                                                                       | 100-292-792         |      |
| リモコン-ユニット                        |   | RMC-100             | 1    |
| REMOTE CONTROLLER                |                                                                                       | 000-144-471         |      |
| リモコンケース                          |  | 14-034-2075-1       | 1    |
| VINYL CASE FOR REMOTE CONTROLLER |                                                                                       | 100-292-801         |      |
| 予備品 SPARE PARTS                  |                                                                                       |                     |      |
| SP03-13901                       |                                                                                       |                     |      |
| ヒューズ                             |  | FG80 5A AC250V      | 3    |
| FUSE                             |                                                                                       | 000-549-022         |      |
| ヒューズ                             |  | FG80 3A AC250V      | 3    |
| FUSE                             |                                                                                       | 000-549-021         |      |

| NAME                               | OUTLINE                                                                             | DESCRIPTION/CODE No | Q'TY |
|------------------------------------|-------------------------------------------------------------------------------------|---------------------|------|
| 付属品 ACCESSORIES                    |                                                                                     |                     |      |
| FP03-09301                         |                                                                                     |                     |      |
| カード用ピン                             |    | 03-153-1311-0       | 1    |
| CARD REMOVER                       |                                                                                     | 100-292-130         |      |
| 工事材料 INSTALLATION MATERIALS        |                                                                                     |                     |      |
| CP03-22601                         |                                                                                     |                     |      |
| ワッシャー B                            |    | M4X20 SUS304        | 6    |
| WASHER HEAD SCREW                  |                                                                                     | 000-804-742         |      |
| プラスネジ                              |    | 5X20 SUS304 1.7     | 4    |
| +TAPPING SCREW                     |                                                                                     | 000-802-081         |      |
| 型紙                                 |    | 03-153-1313-0       | 1    |
| TEMPLATE SHEET                     |                                                                                     | 100-292-780         |      |
| ヒューズ                               |    | 03-153-1312-0       | 1    |
| FUSE LABEL                         |                                                                                     | 100-292-140         |      |
| その他工材 OTHER INSTALLATION MATERIALS |                                                                                     |                     |      |
| ケーブル組品MJ                           |    | MJ-A6SPF0003-050    | 1    |
| CABLE ASSY.                        |                                                                                     | 000-117-603         |      |
| ケーブル組品MJ                           |  | MJ-A3SPF0013-035    | 1    |
| CABLE ASSY.                        |                                                                                     | 000-129-613         |      |

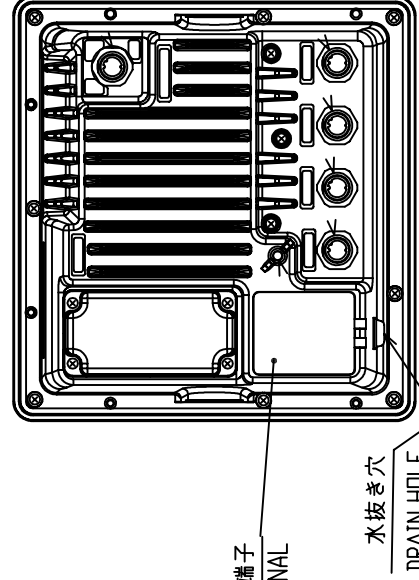
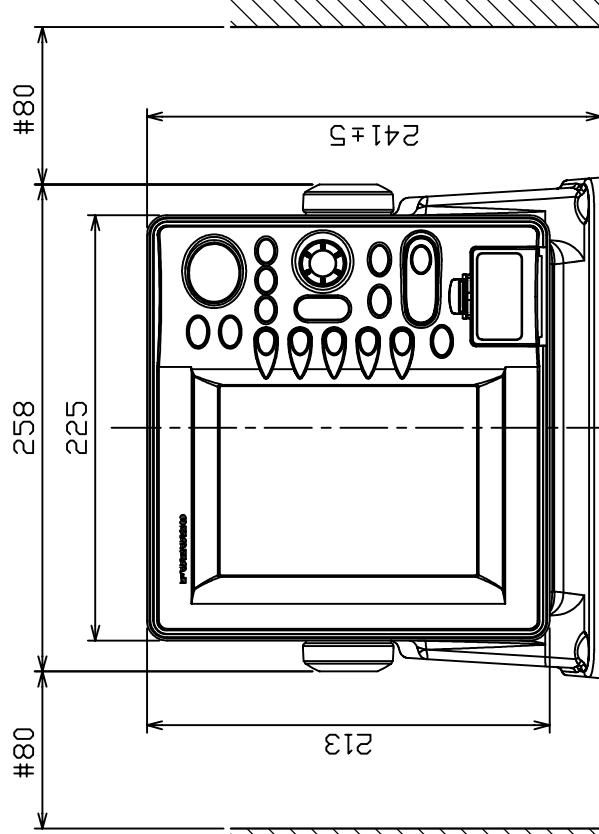
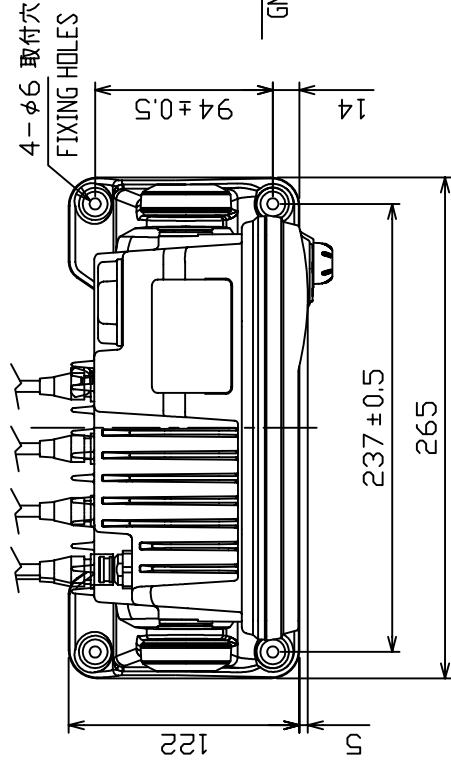
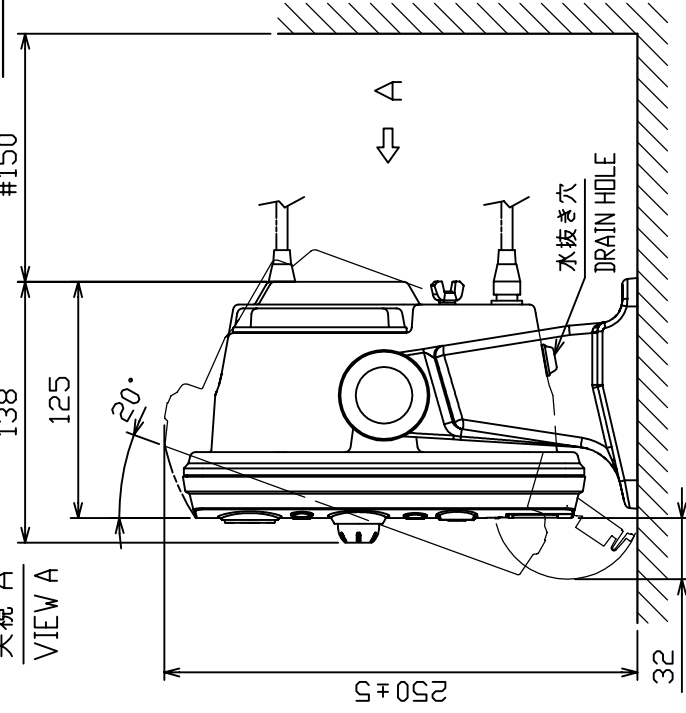


表 1 TABLE 1

| 寸法区分 (mm)<br>DIMENSION | 公差 (mm)<br>TOLERANCE |
|------------------------|----------------------|
| L ≤ 50                 | ±1.5                 |
| 50 < L ≤ 100           | ±2.5                 |
| 100 < L ≤ 500          | ±3                   |

| 型式<br>MODEL | 質量 (kg)<br>MASS |
|-------------|-----------------|
| GD-1700     | 3.2±10%         |
| GD-1700C    | 3.2±10%         |
| GD-1710C    | 3.0±10%         |

表 2 TABLE 2



注 記 1) #印寸法は最小サージス空間とする。

2) 指定外寸法公差は表 1 による。

3) 取付用ネジは + トラスタップピンネジ呼び径 5 × 2.0 を使用のこと。

NOTE

1. # MINIMUM SERVICE CLEARANCE.

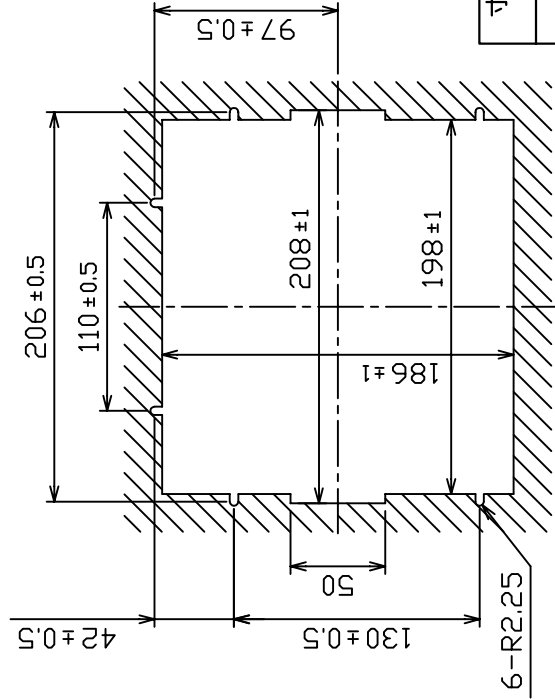
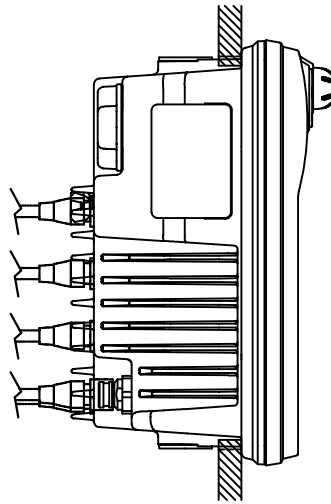
2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS WHICH IS NOT SPECIFIED.

3. USE TAPPING SCREWS 5x2.0 FOR FIXING THE UNIT.

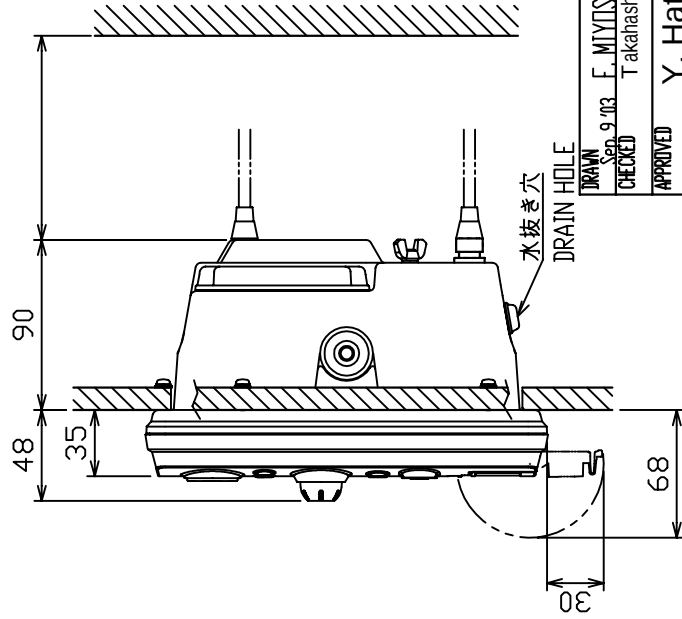
|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| DRAWN<br>9.03<br>F. MIYASHI            | TITLE<br>GD-1700/1700C/1710C                    |
| CHECKED<br>Takahashi T.                | 名前<br>指示部 (卓上装備)                                |
| APPROVED<br>Y. Hatai                   | 外寸図                                             |
| SCALE<br>1/4<br>MASS TABLE 2<br>表 2 参照 | NAME<br>DISPLAY UNIT (DESKTOP MOUNT)            |
| DWG No.<br>C4409-G01-C                 | 03-153-150G- 5/03-164-150G-0<br>OUTLINE DRAWING |

| 型式<br>MODEL | 質量 (kg)<br>MASS |
|-------------|-----------------|
| GD-1700     | 2.9±10%         |
| GD-1700C    | 2.9±10%         |
| GD-1710C    | 2.7±10%         |

表2 TABLE 2



取付穴寸法図 CUTOUT DIMENSIONS



注 記 1) #印寸法は最小サービス空間とする。  
2) 指定外寸法公差は表1による。  
3) 取付用ネジはセムスネジB M4×2.0を使用のこと。

壁の厚さ (A) は  $11 \leq A \leq 14$  とする。これ以外の壁に装備するとき、ネジの長さ (A+7.3)±1.5 とする。(セムスネジBを使用) 筐体にはネジ部を 7 mm 以上上れないこと。(B部)

## NOTE

1. # MINIMUM SERVICE CLEARANCE.

2. TABLE 1 INDICATES TOLERANCE OF DIMENSIONS

WHICH IS NOT SPECIFIED.

3. USE M4×2.0 SCREWS FOR FIXING THE UNIT.

BULKHEAD THICKNESS (A):  $11 \leq A \leq 14$ .

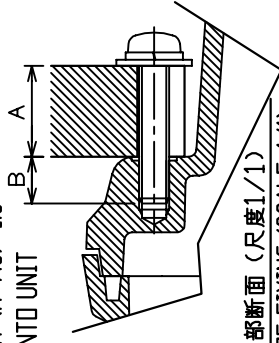
OTHERWISE SCREW LENGTH: (A+7.3)±1.5

DO NOT FASTEN SCREWS INTO UNIT

MORE THAN 7 mm (B).

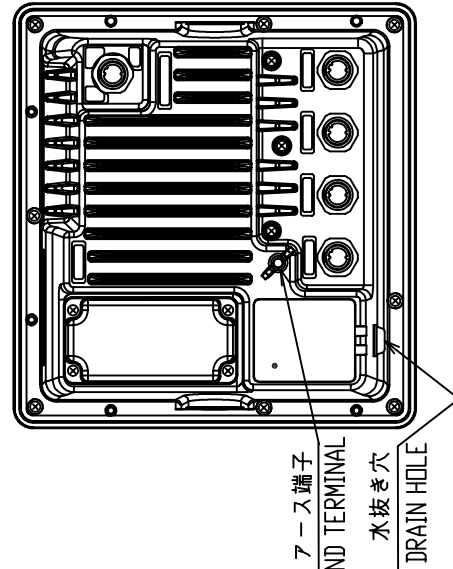
| 寸法区分 (mm)<br>DIMENSION | 公差 (mm)<br>TOLERANCE |
|------------------------|----------------------|
| $L \leq 50$            | ±1.5                 |
| $50 < L \leq 100$      | ±2.5                 |
| $100 < L \leq 500$     | ±3                   |

表1 TABLE 1



取付ネジ部断面 (尺度1/1)

DETAIL OF FIXING (SCALE: 1/1)



アース端子  
GND TERMINAL  
水抜き穴  
DRAIN HOLE

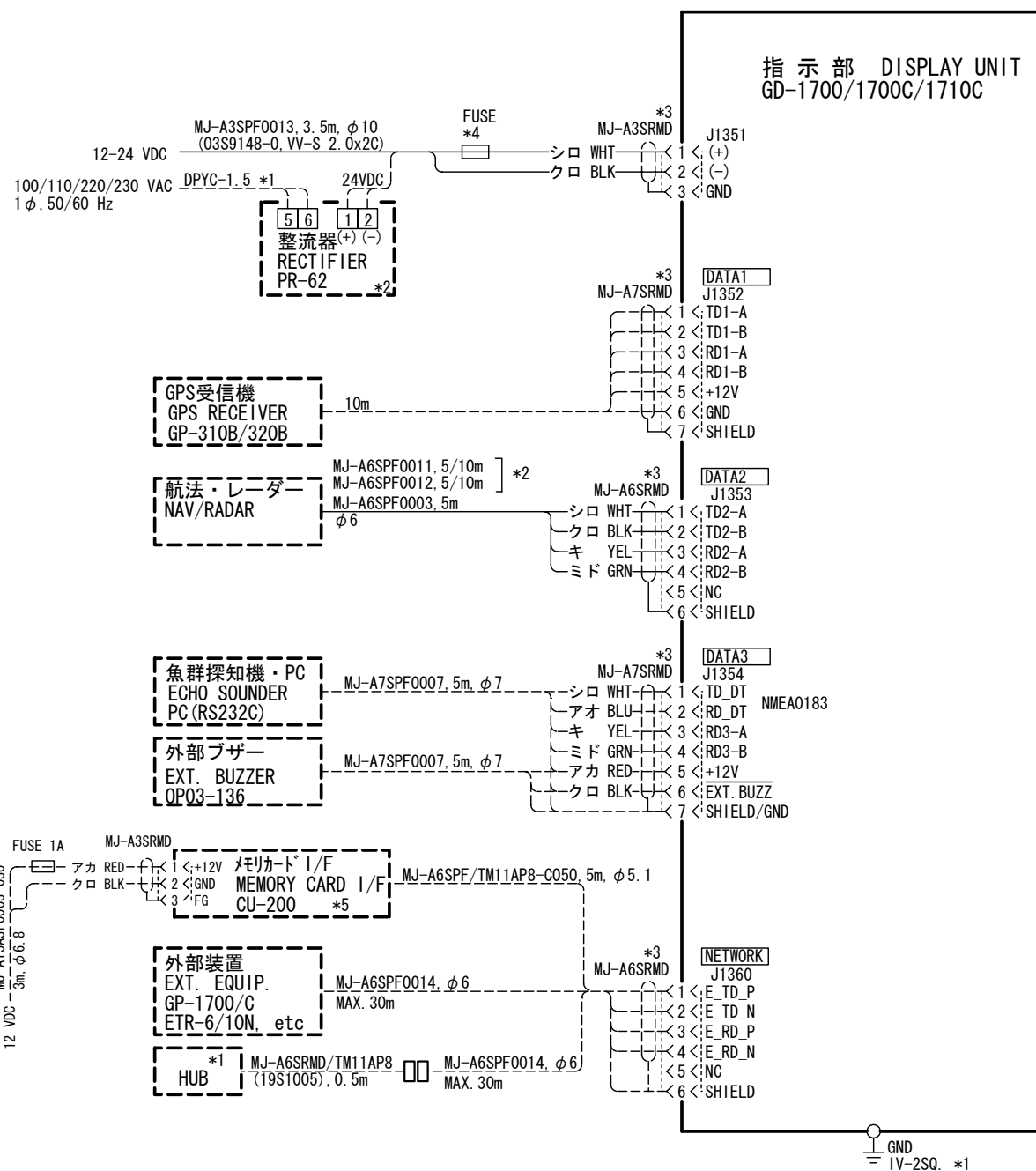
|                         |                             |                              |
|-------------------------|-----------------------------|------------------------------|
| DRAWN<br>No. 9/03       | DESIGNED<br>F. MIYOSHI      | TITLE<br>GD-1700/1700C/1710C |
| CHECKED<br>Takahashi T. | 名 前<br>指示部 (埋込装備)           |                              |
| APPROVED<br>Y. Hatai    | GD-1700C<br>GD-1700/C       | 外 寸 図                        |
| SCALE<br>1/4            | NAME<br>表2参照                | DISPLAY UNIT (FLUSH MOUNT)   |
| DWG. No.<br>C4409-G02-C | 03-153-160G-4/03-164-160G-0 | OUTLINE DRAWING              |

A

B

C

D



## 注記

- \*1) 造船所手配
- \*2) オプション。
- \*3) コネクタは工場にて取付済み。
- \*4) GD-1700C/1710CのDC12V仕様は5A。  
GD-1700/1700C/1710CのDC24V仕様とGD-1700のDC12V仕様は3A。
- \*5) 輸出仕様のみ。

## NOTE

- \*1. SHIPYARD SUPPLY
- \*2. OPTION.
- \*3. CONNECTOR PLUG FITTED AT FACTORY.
- \*4. 5 A: 12 VDC for GD-1700C/1710C.  
3 A: 24 VDC for GD-1700/1700C/1710C & 12 VDC for GD-1700.
- \*5. OVERSEAS SPECIFICATION ONLY.

|          |                        |       |                         |
|----------|------------------------|-------|-------------------------|
| DRAWN    | Apr. 1 '04 K. MIYAZAWA | TITLE | GD-1700/1700C/1710C     |
| CHECKED  | TAKAHASHI. T           | 名称    | ビデオプロッタ                 |
| APPROVED | Y. Hatai               |       | 相互結線図                   |
| SCALE    | MASS ±10%<br>kg        | NAME  | VIDEO PLOTTER           |
| DWG. No. | C4409-C01- F           |       | INTERCONNECTION DIAGRAM |



© **FURUNO ELECTRIC CO., LTD.**

9-52 Ashihara-cho,  
Nishinomiya, Japan

Telephone : 0798-65-2111  
fax : 0798-65-4200

All rights reserved.

Printed in Japan

PUB.No. IME-44090-H

( HIMA ) GD-1700/1700C/1710C

Your Local Agent/Dealer

FIRST EDITION : APR. 2001

H : APR. 13,2004



\*00080918502\*



\*IME44090H00\*