NCR-333
NAVTEx RECEIVER

INSTRUCTION MANUAL

For further information, contact:

Japan Radio Co., Ltd.

URL:  http://www.jrc.co.jp

Marine Service Department
Telephone:  +81-3-3492-1305
Facsimile:  +81-3-3779-1420
e-mail:  tmso@jrc.co.jp

AMSTERDAM Branch
Telephone:  +31-20-658-0750
Facsimile:  +31-20-658-0755
e-mail:  service@jrceurope.com

SEATTLE Branch
Telephone:  +1-206-654-5644
Facsimile:  +1-206-654-7030
e-mail:  marineservice@jrcamerica.com

DEWLN  ISO 9001, ISO 14001 Certified

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Preface

Thank you for purchasing NCR-333 NAVTEX Receiver.

The NAVTEX receiver automatically receives NAVTEX service broadcasts supplied in English and other optional languages.

- Be sure to read this manual for full comprehension before using the equipment.

- Save this manual near at hand for quick reference in the future. Make use of this manual when experiencing operation difficulties.
Before Operation

Concerning the symbols

This manual uses the following symbols to explain correct operation and to prevent injury or damage to property. The symbols and descriptions are as follows. Understand them before proceeding with this manual.

⚠️ WARNING
Indicates a warning that, if ignored, may result in serious injury or even death.

⚠️ CAUTION
Indicates a caution that, if ignored, may result in injury or damage to property.

Examples of symbols

⚠️ The △ symbol indicates caution (including DANGER and WARNING). The illustration inside the △ symbol specifies the content of the caution more accurately. (This example warns of possible electrical shock.)

⛔ The ☞ symbol indicates that performing an action is prohibited. The illustration inside the ☞ symbol specifies the contents of the prohibited operation. (In this example disassembly is prohibited.)

● The ● symbol indicates operations that must be performed. The illustration inside the ● symbol specifies obligatory instructions. (In this example unplugging is the obligatory instruction.)
<table>
<thead>
<tr>
<th>WARNING</th>
<th>Do not disassemble or customize this unit. Doing so may cause fire, electrical shock or malfunction.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do not get this equipment wet or spill any liquids on or near this equipment. Doing so causes electrical shock or malfunction.</td>
</tr>
<tr>
<td></td>
<td>Do not use a voltage other than specified. Doing so may cause fire, electrical shock or malfunction.</td>
</tr>
<tr>
<td></td>
<td>Do not attempt to inspect or repair the inside of this equipment with the exception of qualified service personnel, as doing so may cause fire, electric shock or malfunction. If any malfunctions are detected, contact our service center or agents.</td>
</tr>
</tbody>
</table>
### Handling Precautions

<table>
<thead>
<tr>
<th>CAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not use this equipment for anything other than specified. Doing so may cause malfunction or damage to persons.</td>
</tr>
<tr>
<td>Do not adjust the trimmer resistors or the trimmer capacitors on the PCB unit. Doing so may cause malfunction or damage to persons. They are preset at the factory.</td>
</tr>
<tr>
<td>Do not install this equipment in a place other than specified or in one with excessive humidity, steam, dust or soot. Doing so may cause fire, electric shock, malfunction or damage to persons.</td>
</tr>
<tr>
<td>Do not place this equipment anywhere vibration or impact is likely to occur. Doing so may cause a fall or damage to property and persons.</td>
</tr>
<tr>
<td>Do not place any objects on this equipment. Doing so may cause a fall, malfunction or damage to property and persons.</td>
</tr>
<tr>
<td>Leave installation of this equipment to our service center or agents. Installation by an unauthorized person may lead to malfunction.</td>
</tr>
</tbody>
</table>
External Views

NCR-333 NAVTEX Receiver

NAW-333 NAVTEX Antenna
NBG-319 Power Supply Unit

NBG-320 Power Supply Unit
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Appendix  LOCATION & TIME SCHEDULE FOR NAVTEX COAST STATIONS

   Environmental information
1. GENERAL

1.1 Outlines

The NAVTEX NCR-333 function receives and displays the various types of information broadcast at frequencies of 518 kHz, 490 kHz and 4209.5 kHz, such as: navigational warning, meteorological warning, search and rescue information, and other types of information. NCR-333 also provides the function that selects information type and coast station for intended uses.

1.2 Features

- Receiving NAVTEX broadcasts
  
  NCR-333 receives NAVTEX broadcasts automatically on 518 kHz, 490 kHz, and 4209.5 kHz.

- Large screen allows comfortable visibility
  
  NCR-333 has a 5.7-inch LCD screen display with clear visibility. It also provides three different character sizes of display, and can be selected at your convenience.

- Message saving function
  
  NCR-333 can store up to 200 message identification codes for 70 hours. Moreover, the stored message of each channel can be saved up to 50 messages permanently.

- Automatically receiving station setting function
  
  NCR-333 can select receiving stations automatically on GPS position data is valid.

- Permanent storage of data settings
  
  NCR-333 can set and store the message type and seashore station that receive to internal memory. The data, therefore, does not need to be re-set, even after power has been turned off.

- Dual voltage supply input
  
  NCR-333 can be used on wither 24 VDC or 12 VDC vessels.

- Self-diagnosis Function
  
  NCR-333 has automatic self-diagnosis function. This function allows easy maintenance and high system reliability.

- Connection to external equipment
  
  NCR-333 can be used with the JRC Total Navigator (ECDIS) and external serial printers.
## 1.3 Components

### 1.3.1 Standard Components

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Type</th>
<th>Quantity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NAVTEX Receiver</td>
<td>NCR-333</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Tapping screws</td>
<td>MPTG31659</td>
<td>1</td>
<td>4 tapping screws</td>
</tr>
<tr>
<td>3</td>
<td>Instruction manual</td>
<td>7ZPJD0304C</td>
<td>1</td>
<td>Present volume</td>
</tr>
<tr>
<td>4</td>
<td>Operation card</td>
<td>7ZPJD0306A</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Antenna cable</td>
<td>7ZCJD0251</td>
<td>1</td>
<td>0.5 m</td>
</tr>
</tbody>
</table>

### 1.3.2 Options

<table>
<thead>
<tr>
<th>No.</th>
<th>Options</th>
<th>Type</th>
<th>Quantity</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NAVTEX Antenna</td>
<td>NAW-333</td>
<td>1</td>
<td>Whip antenna for NCR-333</td>
</tr>
<tr>
<td>2</td>
<td>Power supply unit</td>
<td>NBG-319</td>
<td>1</td>
<td>12 / 24V DC input</td>
</tr>
<tr>
<td>3</td>
<td>Power supply unit</td>
<td>NBG-320</td>
<td>1</td>
<td>100/220V AC Manual Setting</td>
</tr>
<tr>
<td>4</td>
<td>External printer</td>
<td>DPU-414</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Printer cable</td>
<td>7ZCJD0254A</td>
<td>1</td>
<td>D-sub 9-pin 1.5 m</td>
</tr>
<tr>
<td>6</td>
<td>Printer cable</td>
<td>7ZCJD0270B</td>
<td>1</td>
<td>D-sub 9-pin 10 m</td>
</tr>
<tr>
<td>7</td>
<td>Printer power cable</td>
<td>7ZCJD0257B</td>
<td>1</td>
<td>1.5 m</td>
</tr>
<tr>
<td>8</td>
<td>Printer connection kit</td>
<td>7ZXJD0076</td>
<td>1</td>
<td>7ZCJD0257B and 2-pin terminal block</td>
</tr>
<tr>
<td>9</td>
<td>Printer paper</td>
<td>6ZCAF00252A</td>
<td>1</td>
<td>112mm x φ50mm 25m x1</td>
</tr>
<tr>
<td>10</td>
<td>NAVTEX buzzer</td>
<td>CGC-300B</td>
<td>1</td>
<td>External buzzer</td>
</tr>
<tr>
<td>11</td>
<td>DMC</td>
<td>NCH-321A</td>
<td>1</td>
<td>Distress Message Controller</td>
</tr>
<tr>
<td>12</td>
<td>External buzzer</td>
<td>7ZXJD0074</td>
<td>1</td>
<td>1.5 m cable and 2-pin terminal block</td>
</tr>
<tr>
<td>13</td>
<td>Data connection kit</td>
<td>7ZXJD0075</td>
<td>1</td>
<td>1.5 m cable and 3-pin terminal block</td>
</tr>
<tr>
<td>14</td>
<td>Console mount kit</td>
<td>MPBC39314</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>External printer</td>
<td>NKG-91</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Printer paper</td>
<td>7ZPJD0384</td>
<td>1</td>
<td>58mm x φ50mm 25m x1</td>
</tr>
<tr>
<td>17</td>
<td>Wall mount kit</td>
<td>MPBP31446</td>
<td>1</td>
<td>For NKG-91</td>
</tr>
</tbody>
</table>
1.3.3 Configuration

- System Block Diagram
1.4 Outline

- Outline Drawing of NCR-333 NAVTEX Receiver

Unit: mm
Mass: approx. 2.1 kg
Outline Drawing of NAW-333 NAVTEX Antenna

Unit: mm
Mass: approx. 0.3 kg
- Outline Drawing of NBG-319 Power Supply Unit

![Outline Drawing of NBG-319 Power Supply Unit](image)

Unit: mm  
Mass: approx. 0.9 kg

- Outline Drawing of NBG-320 Power Supply Unit

![Outline Drawing of NBG-320 Power Supply Unit](image)

Unit: mm  
Mass: approx. 3.3 kg
- Outline Drawing of DPU-414 Printer

Unit: mm
Mass: approx. 0.7 kg
- Outline Drawing of NKG-91 Printer

- Flush mount type

- Wall mount type

Unit: mm
Mass: approx. 0.8kg

Unit: mm
Mass: approx. 1.5kg
2. INSTALLATION DIAGRAM

Notes:

Leave installation of this system to our service center or agents. Installation by an unauthorized person may result in malfunction.
3. PART NAMES AND FUNCTIONS

3.1 NCR-333 NAVTEX Receiver

- Front view

LCD Panel

For further information, refer to “Front view” and “4. DISPLAY”.

A: Key Panel

USER Key
Displays the screen assigned to this key.
Refer to “6.3.3.5 USER KEY” about the setting of USER key.

MENU Key
Displays the “Main Menu”.

Buzzer

CLR Key
Clears input errors or cancel operations.
Turns off the buzzer sound.

DIMMER Key
Adjusts the back light brightness of the LCD.

Power Off
Turns the power off with pressing the PWR/CONT key and the DIM key at the same time.

DISP Key
Changes the screen, refer to “4. DISPLAY”.

Up, Down, Left, Right Key
Moves the cursor, scrolls the display screen, and selects the item.

ENTER Key
Determines selection of an item and fixes a setup.

* Key
 Displays the small window.

POWER/CONTRAST Key
Turns the power ON. Adjusts the contrast of the LCD while power is turned on.
- Rear view

Protective cover
To connect the antenna cable and the power cable, remove this cover.

External equipments connector
ECDIS, external buzzer, and MPD (Multi purpose display) cables are connected to the connector.

Printer/Maintenance connector
Serial printer and Maintenance PC cables are connected to the connector.
### Rear panel (Terminal)

#### Terminal Number and Name Description

<table>
<thead>
<tr>
<th>Terminal Number</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ANT</td>
<td>Connect an antenna cable.</td>
</tr>
<tr>
<td>2</td>
<td>ANT +</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ANT -</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>BK</td>
<td>Connect the key lines leading from the transmitter.</td>
</tr>
<tr>
<td>5</td>
<td>BK +</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BK -</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>RXA</td>
<td>Connect the INS / External GPS cable for serial communication.</td>
</tr>
<tr>
<td>8</td>
<td>RXB</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>DATA IN</td>
<td>Connect the isolated signal ground cable for serial communication.</td>
</tr>
<tr>
<td>10</td>
<td>DATA OUT</td>
<td>Connect the isolated signal ground cable for serial communication.</td>
</tr>
<tr>
<td>11</td>
<td>TXA</td>
<td>Connect the INS cable for serial communication with INS.</td>
</tr>
<tr>
<td>12</td>
<td>TXB</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>12/24V DC IN</td>
<td>Connect the power supply cable. The voltage range of the power supply between 10.0 and 35.0 VDC.</td>
</tr>
<tr>
<td>14</td>
<td>GND</td>
<td>This terminal is for electrical grounding to the vessel.</td>
</tr>
</tbody>
</table>
Display indicators

Station selection mode

- "AUTO MODE" is selected for coast station selection.
- "MANUAL MODE" is selected for coast station selection.

SORT

Displays the sorting order of the message list. Refer to "6.2.7.2 Message list 1".

Display title

The title of the current screen

Save message

This message has been saved.

Unread message

Unread message is stored.

Check mark

Refer to "6.2.7.2 Message list 1".

Arrow mark

'A' 'V' marks are displayed on the top/bottom line when the display screen is able to scroll upward/downward.

Status bar

Displays alarm, received message type and other status

Receiving message

The channel number is displayed while receiving message on the channel.

NAVTEX Alarm

is displayed while NAVTEX alarm has occurred. Refer to "6.3.5.2 NAVTEX alarm".

SAR message

When a search and rescue (SAR) message is received with the buzzer sound.

Alarm message

When an alarm message (MSG TYP: A,B,L) is received with the buzzer sound.

Unread message

Unread messages exist.

GPS position data

is displayed while external GPS position data has input.
4. DISPLAYS

4.1 Displays

Each time the DISP key is pressed, the screen is switched in the order below:
Message text -> Message list 1 -> Message list 2 -> Selected message list -> Position/date -> ...
After NCR-333 is started, a message text screen is displayed.

4.1.1 Message text screen

Message text screen displays the text of the received message.
This screen is displayed after NCR-333 is turned on, or after receiving a message.

Title Bar
The following items are displayed.

ID: ID number of the message text
FREQ: Received channel frequency
LINES: The total line of the message text
DATE: Received date (DD/MM/YY)
TIME: Received time (UTC)

Cursor position
LINE: 10 / 18
(a) Cursor line position
(b) Total line

Scroll Bar
The cursor position on the message text is indicated.
4.1.2 Message list 1 screen

Message list 1 screen displays the list of the stored messages. This screen is displayed by indicating ID, FREQ, LINES, DATE (DD/MM/YY), TIME, STATION and Message Type of each message. Move the cursor up/down to select the message, and press the **ENT** key to display the message text.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>LINES</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4209.5</td>
<td>15</td>
<td>04/06/09</td>
<td>12:34</td>
</tr>
<tr>
<td>STATION</td>
<td>YOKOHAMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG TYPE</td>
<td>NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KA04</td>
<td>518</td>
<td>10</td>
<td>04/06/09</td>
<td>10:34</td>
</tr>
<tr>
<td>STATION</td>
<td>KUSIRO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG TYPE</td>
<td>NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA07</td>
<td>490</td>
<td>20</td>
<td>04/06/09</td>
<td>09:34</td>
</tr>
<tr>
<td>STATION</td>
<td>YOKOHAMA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG TYPE</td>
<td>NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KCT0</td>
<td>490</td>
<td>12</td>
<td>04/06/09</td>
<td>05:34</td>
</tr>
<tr>
<td>STATION</td>
<td>KUSIRO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG TYPE</td>
<td>ICE REPORTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KH13</td>
<td>518</td>
<td>5</td>
<td>04/06/09</td>
<td>05:34</td>
</tr>
<tr>
<td>STATION</td>
<td>KUSIRO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSG TYPE</td>
<td>LORAN MESSAGE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DATA:321/600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Cursor position**

Data: 321 / 600

(a) Cursor data position

(b) Total data

**Scroll bar**

The cursor position on the total message data is indicated.

4.1.3 Message list 2 screen

The message list 2 displays more message indexes than the message list 1, by indicating only ID, FREQ, LINES, DATE (DD/MM/YY), and TIME of each message. Move the cursor up/down to select the message, and press the **ENT** key to display the message text.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>LINES</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4209.5</td>
<td>15</td>
<td>09/06/04</td>
<td>12:34</td>
</tr>
<tr>
<td>IB02</td>
<td>490</td>
<td>20</td>
<td>09/06/04</td>
<td>11:34</td>
</tr>
<tr>
<td>IC03</td>
<td>4209.5</td>
<td>12</td>
<td>09/06/04</td>
<td>10:34</td>
</tr>
<tr>
<td>ID04</td>
<td>518</td>
<td>5</td>
<td>09/06/04</td>
<td>10:34</td>
</tr>
<tr>
<td>IE05</td>
<td>518</td>
<td>30</td>
<td>09/06/04</td>
<td>10:34</td>
</tr>
<tr>
<td>IF06</td>
<td>518</td>
<td>12</td>
<td>09/06/04</td>
<td>09:34</td>
</tr>
<tr>
<td>IG07</td>
<td>490</td>
<td>15</td>
<td>09/06/04</td>
<td>09:34</td>
</tr>
<tr>
<td>IH08</td>
<td>490</td>
<td>11</td>
<td>09/06/04</td>
<td>09:34</td>
</tr>
<tr>
<td>II09</td>
<td>4209.5</td>
<td>10</td>
<td>09/06/04</td>
<td>09:34</td>
</tr>
<tr>
<td>KJ10</td>
<td>490</td>
<td>20</td>
<td>09/06/04</td>
<td>05:34</td>
</tr>
<tr>
<td>KK11</td>
<td>518</td>
<td>20</td>
<td>04/06/04</td>
<td>05:34</td>
</tr>
<tr>
<td>KL12</td>
<td>518</td>
<td>14</td>
<td>03/06/04</td>
<td>05:34</td>
</tr>
<tr>
<td>KK13</td>
<td>518</td>
<td>10</td>
<td>02/06/04</td>
<td>05:34</td>
</tr>
<tr>
<td>KN14</td>
<td>518</td>
<td>7</td>
<td>01/06/04</td>
<td>05:34</td>
</tr>
<tr>
<td>KO15</td>
<td>518</td>
<td>12</td>
<td>28/05/04</td>
<td>01:34</td>
</tr>
<tr>
<td>DATA:321/600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.1.4 Select message list screen

Select message list screen displays the list of the selected messages. This screen is displayed by indicating ID, FREQ, LINES, DATE (DD/MM/YY), TIME, STATION and Message Type of each message.
Move the cursor up/down to select the message, and press the ENT key to display the saved message text.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>LINES</th>
<th>DATE</th>
<th>TIME</th>
<th>STATION</th>
<th>MSG TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4209.5</td>
<td>15</td>
<td>04/06/09</td>
<td>12:34</td>
<td>YOKOHAMA</td>
<td>NAVIGATIONAL WARNINGS</td>
</tr>
<tr>
<td>KA04</td>
<td>518</td>
<td>10</td>
<td>04/06/09</td>
<td>10:34</td>
<td>KUSIRO</td>
<td>NAVIGATIONAL WARNINGS</td>
</tr>
<tr>
<td>IA07</td>
<td>490</td>
<td>20</td>
<td>04/06/09</td>
<td>09:34</td>
<td>YOKOHAMA</td>
<td>NAVIGATIONAL WARNINGS</td>
</tr>
<tr>
<td>KCTO</td>
<td>490</td>
<td>12</td>
<td>04/06/09</td>
<td>05:34</td>
<td>KUSIRO</td>
<td>ICE REPORTS</td>
</tr>
<tr>
<td>KH13</td>
<td>518</td>
<td>5</td>
<td>04/06/09</td>
<td>05:34</td>
<td>KUSIRO</td>
<td>LORAN MESSAGE</td>
</tr>
</tbody>
</table>

4.1.5 Position/date screen

Position/date screen displays time, position, navigational data (SOG, COG, HDG, and ROT) when GPS data is valid.
These parameters are not displayed when no GPS data.

- **Position**: 89° 59.999’ N 179° 59.999’ E
- **Date / time**: 31/12/04 (DD/MM/YY)
- **Time**: 23:59 (UTC)
- **SOG**: 102.2KT
- **COG**: 359.9°
- **HDT**: 359.9°
- **ROT**: +127.1°/MIN
- **Navigational data**: 21/ 93
4.1.6 Setup screen

To display “Main menu”, press the **MENU** key.
Refer to “6.3 MAIN MENU” for NCR-333 settings.
5. INSTALLATION

5.1 Installation

5.1.1 Selection of location

The NAVTEX NCR-333 is designed so that it can be installed on either a desk, a wall, or the ceiling of the vessel. Select an installation location that satisfies the criteria listed on the followings.

WARNING

- The installation location should be free from direct sunlight.
- The length of the grounding wire should be minimized.
- The installation location should also be: free from excessive heat, moisture, and vibration; in case of installation on the ceiling, free from the stagnant heat as well as the above, and; in case of installation near a window, free from salt water spray as well as the above.
- The distance from the magnetic compass should be at least 1 meter.
- The antenna cable, power cable, and grounding wire should be routed so as not to be in close proximity with transmitter, radar, and other sources of electronic noise, as well as the cables of these external units.

5.1.2 Mounting

Mount the NCR-333 on a table top, a bulkhead, or a ceiling by using the mounting base. Opening the case is not necessary for mounting.

And keep a clearance for the maintenance (refer to figure below).

The mounting procedure is as follows;

- Loose the two knobs to remove the mounting base.
- Mount the mounting base on the selected location.
- Install the case on the mounting base by securing the two knobs.

![Mounting Base (Bottom View)](image)

Space required for receiver installation
6. OPERATION

6.1 Menu Tree

[Diagram of menu tree with keys and options listed]

- [DISP] Key
- [POS/TIME]
- [SELECT MSG LIST]
- [MSG LIST 2]
- [MSG LIST 1]
- [Power ON]
- [MSG VIEW]
- [MENU]
- [CLR]
- [MENU]
- [ENT]
- [MENU]
- [CLR]
- [MENU]
- [ENT]

MAIN MENU

1. RX STATION
   1. RX MODE
   2. OPERATING FREQ.
   3. AUTO MODE SETTING
   4. MANUAL MODE SETTING
   5. EDIT STATION NAME

2. MESSAGE TYPE
   1. MSG TYPE

3. DISPLAY
   1. CONTRAST
   2. DIMMER
     - MAXIMUM
     - TYPICAL
     - MINIMUM
     - ALARM
   3. BUZZER
     - ALARM MSG
     - RECEIVED MSG
     - NAVTEX ALARM
     - CLICK
   4. LOCAL TIME
   5. USER KEY SETTING
   6. POS/TIME DISP. SET

4. NAVTEX
   1. CHARACTER SIZE
   2. CDR DISP SETTING
   3. MESSAGE SCROLL
   4. MESSAGE SPEED
   5. PRINTER PROPERTY
     - DATA OUT
     - DATA FORMAT
     - BAUDRATE
     - FLOW CONTROL
     - PRINT DIRECTION
   6. INS MSG OUTPUT SETTING
   7. PRINT MSG OUTPUT SETTING

5. MAINTENANCE
   1. SELF DIAGNOSIS
   2. LCD DIAGNOSIS
   3. SELF DIAGNOSIS LOG
   4. NAVTEX ALARM
   5. STATUS
   6. PORT MONITOR
     1. PORT SELECTION
     2. PORT LOG

6. LANGUAGE
   - PROGRAM
   - LANGUAGE
   - OPTION
6.2 Basic Operation

6.2.1 Turning ON the power

Holding down the [PWR/CONT] key turns on the power, the starting screen appears, and then the self-diagnosis screen appears for 15 seconds later. After diagnosis is finished, message text screen appears.

**Caution**

Check the main power supply of a switchboard, and a cable connection of NCR-333 NAVTEX Receiver when the power cannot be turned on.

**Note**

Self-diagnosis can be canceled when the [CLR] key is pressed. A message text screen is displayed.

6.2.1.1 Start up (Normal)

When all the results of self-diagnosis are 'OK', the result screen is displayed for about 5 seconds. And then the result screen changes to the latest message test screen automatically.

**Note**

Self-diagnosis screen

The latest message text screen
6.2.1.2 Start up (Abnormal-1)

When any result of self-diagnosis is “NG”, a message text screen does not change automatically. And the caution sentence as shown in the following figure is displayed on the self-diagnostic screen. In this case, press the CLR key. The latest message text screen appears.

**Caution**

When “NG” is in a result, be sure to carry out self diagnosis in the “MAIN MENU” after displaying the message text screen. Check the detailed result of the “NG” item. (Refer to “6.3.5.1 Self diagnosis”)

![Message Screen](image)

6.2.1.3 Start up (Abnormal-2)

When the result of “ROM CHECK” is “NG”, the sub screen may be displayed as shown in the following figure.

Be sure to select “[START]” on the sub screen. In this case, although NCR-333 operates, the screen cannot display in languages other than English.

- [START]: The latest message text screen is displayed.
- [INST]: The software installation screen is displayed.

When the installation screen is displayed, press and hold the PWR/CONT and DIM keys simultaneously until the power is turned off. Turn on the power, and restart the NCR-333.

**Caution**

Contact our service center or agents.

![Message Screen](image)
6.2.1.4 Start up (Abnormal-3)

When the following screen is displayed, press and hold the PWR/CONT and DIM keys simultaneously until the power is turned off.

Caution
Contact our service center or agents.

6.2.2 Turning OFF the power

Press and hold the PWR/CONT and DIM keys simultaneously for one second until the power is turned off.
6.2.3 Backlight adjustment

Brightness of display can be adjusted in 4 levels.
The display is medium-intensity brightness at starting.

To change the brightness, press the DIM key.
Maximum -> Medium -> Minimum -> Turn off the light -> Maximum ->...

Notes
The brightness becomes the brightest in the following case;
- Failure alarm is occurred. ("NAVTEX ALARM" screen appears.)
- After reception of “Navigational warnings” message (Message type “A”)
- After reception of “Meteorological warnings” message (Message type “B”)]
- After reception of “Search and rescue information, and pirate attack warnings” (Message type “D”)
- After reception of “Navigational warnings (Additional to letter “A”)” message (Message type “L”)

6.2.4 Contrast adjustment

Contrast of view area can be adjusted in 13 levels.

To change the contrast, press the PWR/CONT key. Contrast of View area is changed each time the PWR/CONT key is pressed.
6.2.5 Alarm

To stop the buzzer sound, press the CLR key. Similarly, to stop the external buzzer sound (option: CGC-300B), press the CLR key.

An alarm buzzer beeps in the following case:
- Failure alarm is occurred. ("NAVTEX ALARM" screen appears.)
- After reception of "Search and rescue information, and pirate attack warnings" (Message type "D")
- After reception of "Navigational warnings" message (Message type "A")
- After reception of "Meteorological warnings" message (Message type "B")
- After reception of "Navigational warnings (Additional to letter "A")" message (Message type "L")
- After reception of other messages

Refer to “6.3.3.3 Buzzer settings” for a setup of alarm buzzer.

6.2.6 Screen switching

To change the display screen, press the DISP key.
6.2.7 Displaying the message

6.2.7.1 Message text

After starting this equipment, the latest message text screen is displayed. Additionally, the latest message text screen is displayed just after reception of message while opening any screen.

The number of lines of the message text screen is changed as follows;
- Character size "Normal": The message text of 16 lines is displayed at the maximum.
- Character size "Medium": The message text of 13 lines
- Character size "Large": The message text of 10 lines

Refer to “6.3.4.1 Character size setting” about change of character size.

Fig.6-1 Message text screen
The message type and the message identification codes are as follows.

The message identification codes displayed on upper-left side of the message text screen (“IA01” in the above example) indicates the message type. These codes consist of four alpha-numeric characters which denote the coast station originating the message, the message type and the report number.

a. First character
   The coast station that has transmitted the message is assigned by a character from A to Z.

b. Second character
   This character identifies the type of message.
   - [A] Navigational warnings
   - [B] Meteorological warnings
   - [C] Ice reports
   - [D] Search and rescue information, and pirate attack warnings
   - [E] Meteorological forecasts
   - [F] Pilot service messages
   - [G] AIS
   - [H] LORAN-C messages
   - [J] SATNAV messages
   - [K] Other electronic navaid messages
   - [L] Navigational warnings (Additional to letter “A”)
   - [V - Y] Special services
   - [Z] QRU (No messages on hand)

c. Third and fourth characters
   These characters denote the report number assigned to the message by the coast station where the message originated.

The four-character identification code is stored in memory only when the message is received at a character error rate (CER) of 33 % or less. When an incoming message has the same identification code as one already stored message at CER of 4 % or less in memory (about 70 hours), it will not be displayed and stored. The above, however, does not apply to report number ‘00’. For report number ‘00’, the code is not held in memory and messages are displayed and stored each time they are received when the stations are selected.

Notes

After receiving the search and rescue [D] message will display the detailed screen of search and rescue information message until the alarm buzzer is stopped.
Press the CLR key to display the newest message after stopping the alarm buzzer.

a. Clear the unread mark
The message text is displayed after the message has been received.
Unread mark on the status bar shows unread messages has been received.

Procedures

1) If the ENT key is pressed, the caution sentence disappears, and this message changes to read message. If all messages are read messages, the "☑" mark of status bar is cleared.

Notes

- Unread messages can also be checked on the message list 1 or 2.
  (Refer to “6.2.7.2” or “6.2.7.3”)
  Be sure to clear the unread mark after reading a message.
b. Read the message

**Screen scrolling 1**
The ‘▲’ (‘▼’) mark is displayed when the message text scroll downward (upward) is available.

**Procedures**

1) To move the cursor up/down to the next line, press the ▲▼ key. (Cursor scrolls one by one in the message text.)

2) To scroll the next page of the message text downward (upward) when cursor is on the bottom (top) line, press the ▼▲ key.

**Screen scrolling 2**
To skip to the next / previous message text screen is available.

**Procedures**

1) To display to the previous / next screen, press the ◀▶ key.

c. Read the other message

**Read the new message**
The new message can be displayed on the message text screen.

**Procedures**

1) Press the key. The sub screen appears.

2) Select the “[NEXT MSG]”, and press the ENT key.

3) The new message is displayed.

**Notes**
- “[NEXT MSG]” can be selected when there is new message.

**Read the old message**
The old message can be displayed on the message text screen.

**Procedures**

1) Press the key. The sub screen appears.

2) Select the “[PREV. MSG]”, and press the ENT key.

3) The old message is displayed.

**Notes**
- “[PREV.MSG]” can be selected when there is old message.
d. Save the message

**Save the message**
The currently open message can be saved. The saved message is permanently stored in the data memory.

**Procedures**

1) Press the *key*. The sub screen appears.

2) Select the "[SAVE MSG]", and press the **ENT** key.

3) "ARE YOU SURE?" is displayed. Select the "[OK]", and press the **ENT** key. ("NOW SAVING..." is displays on the sub screen.)

   To return to the sub screen (SET UP), select "[CANCEL]" and press the **ENT** key.

4) After message saving has been completed, press the **ENT** key or the **CLR** key.

**Notes**
- The message that is not saved (the stored message) is automatically erased from the data memory about 70 hours after receiving.
- 50 messages of an average length of 500 characters can be saved in each channel.

---

**The message cannot be saved**
When the saved message in the data memory is full, the sub screen is displayed as shown in the following figure, and the status bar shows which channel cannot be saved ( mark).

Refer to "c. Put a check mark" (6.2.7.2 Message list 1) for explanation of the display of the status bar.

Save again after unsaving the unnecessary message in message list when unable to save a message.
e. Print the message

Print the message
The currently open message can be printed when having connected the external printer.

Procedures

1) Press the key. The sub screen appears.

2) Select the “[PRINT OUT]”, and press the ENT key.

3) “ARE YOU SURE?” is displayed. Select the “[OK]”, and press the ENT key. (“NOW PRINTING...” is displayed on the sub screen.)

   To return to the sub screen (SET UP), select “[CANCEL]” and press the ENT key.

4) After message printing has been completed, press the ENT key or the CLR key.

Notes

- To stop printing, press the CLR key while printing.
- “[PRINT OUT]” cannot be selected when “DATA OUT” of “PRINTER PROPERTY” has set up "OFF". Refer to “6.3.4.5 External printer settings”.

The message cannot be printed
When printing is unable, the sub screen is displayed as shown in the following figure.

In this case, check the followings;
- The connection between the external printer and NCR-333.
- “PRINTER PROPERTY” settings. (Refer to “6.3.4.5 External printer settings”)
- Confirm the external printer. (Paper out, etc...)

6-11
**f. Output the message from an external port**

The data of currently opened message text can be output to the connected the external equipment (ECDIS, etc).

### Procedures

1) Press the *key. The sub screen appears.

2) Select the "[DATA OUT]", and press the ENT key.

3) Select the port which outputs message data.
   - SEL-DATA OUT: The message data is outputted from a "DATA OUT" port.
   - SEL-DISP OUT: The message data is outputted from a "DISP" port.

4) “ARE YOU SURE?” is displayed. Select the "[OK]", and press the ENT key. ("NOW OUTPUTTING..." is displayed on the sub screen.)

   To return to the sub screen (SET UP), select "[CANCEL]" and press the ENT key.

5) After message outputting has been completed, press the ENT key or the CLR key.

### Notes

- To stop outputting, press the CLR key while outputting.
### 6.2.7.2 Message list 1

Press the `DISP` key several times. The list of the currently stored messages appears. This list shows a receiving station and a message type for each message.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>LINES</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4209.5</td>
<td>15</td>
<td>28/12/05</td>
<td>12:34</td>
</tr>
<tr>
<td>STATION: YOKOHAMA</td>
<td>MSG TYPE: NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- "LINES" and "TIME" are not displayed when character size has been selected "LARGE". (Same applies to the message list 2 and a select message list)

Fig.6-2 Message list 1

The number on the left side of `DATA` shows the message number of the present cursor position. The right side number shows the total number of messages.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4.2</td>
<td>28/12/05</td>
</tr>
<tr>
<td>STATION: YOKOHAMA</td>
<td>MSG TYPE: NAVIGATIONAL WARNINGS</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

- "LINES" and "TIME" are not displayed when character size has been selected "LARGE". (Same applies to the message list 2 and a select message list)
a. Select a message

**Screen scrolling 1**

The ‘▼’ (▲) mark is displayed when the message list 1 scroll downward (upward) is available.

**Procedures**

1) To move the cursor up/down to the next line, press the ▲▼ key. (Cursor scrolls one by one in the message list 1.)

2) To scroll the next page of the message List 1 downward (upward) when cursor is on the bottom (top) line, press the ▼▲ key.

3) To read a message text, move the cursor to the message and press the ENT key.

**Screen scrolling 2**

Skipping to the next / previous message text screen is available.

**Procedures**

1) To display to the previous / next screen, press the ◀► key.

**Notes**

Selecting "[PGUP]" or "[PGDN]" of the sub screen can also scroll the message list 1 screen similarly to the above procedures. To display the sub screen, press the ▼ key.

- [PGDN]: Previous screen
- [PGUP]: Next screen
b. Sort messages

To search messages quickly, messages can be sorted.

**Procedures**

1) Press the * key. The sub screen appears.

2) Select the “LIST”, and press the ENT key. The items of “LIST” appear.

3) The items of “LIST” are as follows:
   - SORT: The stored messages are displayed
     - DATE: in the order of the date received in reverse
     - STATIONS: in the order from the receiving station “A”
     - NAVAREA: in the order from the NAVAREA “I”
     - MSGTYP: in the order from the message type “A”
     - UNREAD: in the order of the date received in reverse (unread messages)

4) Select “SORT” item, and then select “REVERSE” item.

5) Select the [OK], and press the ENT key. Sorting message starts.

6) After message sorting has been completed, press the ENT key or the CLR key.

**Rearrange the order of message conversely**

**Procedures**

1) Press the * key. The sub screen appears.

2) Select the “REVERSE”, and press the ENT key.
   - ON: The order of reverse is on.
   - OFF: The order of reverse is off.

3) The order of the message currently displayed is rearranged conversely, and title of ‘SORT’ is highlighted.
c. Put a check mark (Save/Unsave/print/output more than one message at the same time)

Each checked message can be saved (printed or output) at the same time.

**Procedures**

1) Press the **[ ]** key. The sub screen appears.

2) Select the “[CHECK]”, and press the **ENT** key. The sub screen is closed, and the message list 1 changes to the check screen. The check screen highlights the "CHECK" on the display title. The number of check marks is displayed on the status line.

3) Select the message for checking, and press the **ENT** key. The “✓” is displayed on a line with cursor. This mark means having checked the message.

4) Press the **ENT** key and put a check to other messages. When all messages check, press the **[ ]** key, select the “[SELECT ALL]”, and press the **ENT** key.

5) Press the **CLR** key, to display the sub screen. Select "SAVE MENU", "PRINT MENU", or "PORT MENU" in the auxiliary screen. To save, print or output messages at the same time, refer to the procedure of d), e) and f).

If the **CLR** key is pressed on the sub screen, “EXIT WITHOUT SETTING” is displayed in the sub screen. If “O.K.” is selected, the check marks are removed and the display screen returns to the message list 1 screen.
d. Save messages

**Save one message**
The selected message can be saved.

**Procedures**
1) Move cursor to the message to save.
2) Press the * key. The sub screen appears.
3) Select the “SAVE MENU”, and press the ENT key.
4) Select the “[SELECT MSG]” in the sub screen of “SAVE MANU”.

**Notes**
- Select an item in the same procedure as “d. Save the message - 3)” (p.6-10) after the above procedure.

5) The “” mark on the saved message line shows the message has saved completely.

**Save messages at the same time**
The messages which are put the check mark can be saved at the same time.

**Procedures**
1) Continued from Procedure 5) of “c. Put a check mark”.
2) Select the “SAVE MENU”, and the ENT key. In addition, when the following characters are displayed,

   ![Image of screen showing characters]

   It means that the checked number is exceeded the number which can be saved in the memory.

   RX1--OV: RX1(518kHz) cannot be saved any more to the memory.
   RX2--OV: RX2 (490 kHz)
   RX3--OV: RX3 (4209.5 kHz)
   RX12-OV: RX1 and RX2
   RX13-OV: RX1 and RX3
   RX23-OV: RX2 and RX3
   RX123OV: RX1, RX2 and RX3

   In this case, messages still can be put a check, however, the messages cannot be saved.
3) Select the “[CHECK MSG]”, and the ENT key.
To clear to all check marks, select “[RESET CHECK]” and press the ENT key.

**Notes**
- Select an item in the same procedure as “d. Save the message - 3)” (p.6-10) after the above procedure.

4) The “” mark on the saved message line shows the message has saved completely.
e. Unsave the saved message

If the message is unsaved from the message list, “☐” mark displayed on the message list 1 or select message list will also be deleted.

**Caution**

The unsaved message will be deleted from the message list, if it is stored **more than 70 hours.**

**Unsave one message**
The selected message can be unsaved.

**Procedures**
1) Move cursor onto the message to unsave.
2) Press the * key. The sub screen appears.
3) Select the “UNSAVE MENU”, and press the ENT key.
4) Select the “[SELECT MSG]” in the sub screen of “UNSAVE MENU”.
5) After message unsaving has been completed, the selected message is unsaved from the message list and the “☐” mark is deleted from the message list 1 or select message list. In addition, the message that is unsaved after stored for 70 hours will be deleted from the message list.

**Unsave messages at the same time**
The messages which are put the check mark can be unsaved at the same time.

**Procedures**
1) Put check marks in the same procedure as "c.Put a check mark" of “6.2.6.2 Message list 1.”
2) Press the * key. The sub screen appears.
3) Select the “UNSAVE MENU”, and press the ENT key.
4) Select the “[CHECK MSG]”, and the ENT key.
5) If the ENT key is pressed after selecting “[RESET CHECK]”, all check marks are cleared.
6) After message unsaving has been completed, the selected message has been unsaved from the message list and the “☐” mark is deleted from the message list.
The message that is unsaved after stored for 70 hours will be deleted from the message list.
f. Print messages or the information on equipment

Print one message
The selected message can be printed.

Procedures
1) Move cursor onto the message to print.
2) Press the * key. The sub screen appears.
3) Select the “PRINT MENU”, and the ENT key.
4) Select the “[SELECT MSG]” in the sub screen of “PRINT MENU”.

Notes
- Select an item in the same procedure as “e. Print the message - 3)” (p.6-11) after the above procedure.

Print messages at the same time
The messages which are put the check mark can be printed at the same time.

Procedures
1) Continued from Procedure 5) of "c. Put a check mark". (The sub screen is displayed.)
2) Select the “PRINT MENU”, and the ENT key.
3) Select the “[CHECK MSG]”, and the ENT key.
   To clear to all check marks, select “[RESET CHECK]” and press the ENT key.

Notes
- Select an item in the same procedure as “e. Print the message - 3)” (p.6-11) after the above procedure.
Print the information on equipment
The list of stored messages and the setting status can be printed.

**Procedures**

1) Press the \( \text{[}] \) key. The sub screen appears.

2) Select the “PRINT MENU”, and press the \( \text{ENT} \) key.

3) Select the “[LIST]” or “[STATUS]”, and press the \( \text{ENT} \) key.
   - [LIST]: The list of stored messages is printed.
   - [STATUS]: The setting status is printed. The contents of “6.3.5.3 Setting status of the NAVTEX receiver” are printed.

4) Printing starts. After printing is completed, close the sub screen.

Print messages at the same time
The stored messages can be printed at the same time according to type, station and channel.

**Procedures**

1) Press the \( \text{[}] \) key. The sub screen appears.

2) Select the “PRINT MENU”, and the \( \text{ENT} \) key.

3) Select the “BATCH PRINT”, and press the \( \text{ENT} \) key.
   The sub screen of “BATCH PRINT MENU” appears.

4) Select the following message type for printing.
The “SELECT MSG” can select the message printing by the receiving channel, receiving station, message type.
   - [ALL STORED MSG]: All stored messages are printed.
   - [ALL SAVE MSG]: All saved messages are printed.
   - SELECT MSG: The messages of the conditions selected from the following three items are printed.
     - CHANNEL: The receiving channel is selected from ‘518kHz’, ‘490kHz’, ‘4209.5kHz’ or ‘ALL’.
     - STATION: The receiving station is selected from ‘A’ to ‘Z’, or ‘ALL’.
     - MSG TYP: The message type is selected from ‘A’ to ‘Z’, or ‘ALL’.

5) To start printing, select item and press the \( \text{ENT} \) key.
   “ARE YOU SURE?” is displayed on the sub screen, if the \( \text{ENT} \) key is pressed after selecting “[ALL STORED MSG]” or “[ALL SAVE MSG]”.
   When in “SELECT MSG”, “ARE YOU SURE?” is displayed on the sub screen, if the \( \text{ENT} \) key is pressed after selecting “MSG TYP”.

**Notes**

- Select an item in the same procedure as “e. Print the message - 3)” (p.6-11) after the above procedure.
**Output messages from an external port**

**Output one message**
The external serial port outputs the selected message's data from DATA OUT port.

**Procedures**
1) Move cursor to the message to output.
2) Press the * key. The sub screen appears.
3) Select the “PORT MENU”, and the ENT key.
4) Select the “[SEL-DATA OUT]” or “[SEL-DISP OUT]” in the sub screen of “PORT MENU”.

**Notes**
- Select an item in the same procedure as “f. Output the message from an external port - 3)” (p.6-12) after the above procedure.

**Output messages at the same time**
The messages with the check mark can be output at the same time.

**Procedures**
1) Continued from Procedure 5) of "c. Put a check mark". (The sub screen is displayed.)
2) Select the “PORT MENU”, and the ENT key.
3) Select the “[CHK-DATA OUT]” or “CHK-DISP OUT”, and the ENT key.
   To clear to all check marks, select “[RESET CHECK]” and press the ENT key.
   - CHK-DATA OUT: Message data outgoing from ECDIS or INS port.
   - CHK-DISP OUT: Message data outgoing from DISP port.

**Notes**
- Select an item in the same procedure as “f. Output the message from an external port - 3)” (p.6-12) after the above procedure.
6.2.7.3 Message list 2

Press the DISP key several times. The list of the currently stored messages appears.
This list displays more messages on a screen than the message list 1 by not displaying “STATION” and “MSG TYPE”.

- Selecting of each message, scrolling, saving, and the printing method are carried out in the same procedure as the message list 1.
  Refer to the operation procedure of the message list 1.

- The message list 2 does not display “*” mark which shows the saved message. When you confirm that the message was saved, display and check the message list 1 or the select message list.
### 6.2.7.4 Select message list

Press the `DISP` key several times. The list of the messages that is currently selected appears. Only the list of messages selected by "Message list 1" or "Message list 2" is displayed.

<table>
<thead>
<tr>
<th>ID</th>
<th>FREQ</th>
<th>LINES</th>
<th>DATE</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA01</td>
<td>4209.5</td>
<td>15</td>
<td>28/12/05</td>
<td>12:34</td>
</tr>
<tr>
<td>STATION: YOKOHAMA</td>
<td>MSG TYPE: NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KA04</td>
<td>518</td>
<td>10</td>
<td>28/12/05</td>
<td>12:33</td>
</tr>
<tr>
<td>STATION: KUSHIRO</td>
<td>MSG TYPE: NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EA07</td>
<td>490</td>
<td>20</td>
<td>28/12/05</td>
<td>12:32</td>
</tr>
<tr>
<td>STATION: YOKOHAMA</td>
<td>MSG TYPE: NAVIGATIONAL WARNINGS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KC10</td>
<td>490</td>
<td>12</td>
<td>27/12/05</td>
<td>18:30</td>
</tr>
<tr>
<td>STATION: KUSHIRO</td>
<td>MSG TYPE: ICE REPORTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KH13</td>
<td>518</td>
<td>5</td>
<td>27/12/05</td>
<td>18:29</td>
</tr>
<tr>
<td>STATION: KUSHIRO</td>
<td>MSG TYPE: LORAN MESSAGE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig.6-4 Select message list**

**Notes**

- Selecting of each message, scrolling, saving, and the printing method are carried out in the same procedure as the message list 1.
- Refer to the operation procedure of the message list 1 about operation.
a. Select the displayed message

The displayed message can be selected.

**Procedures**

1) Press the key. The sub screen appears.

2) Select the “FILTER”, and press the ENT key.
   The items of “FILTER SET” appear.

3) The messages displayed on the select four items.
   (Items: channel, navarea, message, and msg id.)
   Press the ▲▼ key to select, and press the ENT key.

   - **CHANNEL**: The display channel is selected from ‘518kHz’, ‘490kHz’, ‘4209.5kHz’ or ‘ALL’.
   - **NAVAREA**: The display NAVAREA is selected from ‘I’ to ‘XVI’ or ‘ALL’.
   - **MESSAGE**: The display message is selected from ‘SAVED’, ‘UNSAVED’ or ‘ALL’.
   - **MSG ID**: The display msg ID is selected from ‘A’ to ‘Z’, ‘0’ to ‘9’ or ‘?’(ALL).

4) Select the [OK], and press the ENT key. Selecting message starts.
6.3 MAIN MENU

Main menu displays menu items for setting, and maintenance, etc. To display the Main menu, press the MENU key during operation.

![Main Menu](image)

**Fig.6-5 Main menu**

**Procedures**

1. Press the ▲▼ key to select the menu item.

2. When the ENT key or the ▶ key is pressed, the menu screen of selected item is displayed.

**Notes**

Previous screen is displayed when the CLR key is pressed. (Such as message text display or message list 1, etc).

The outlines of menus are as follows:

1. RX STATION: Displays the menu for selecting receiving stations (See 6.3.1)
2. MESSAGE TYPE: Displays the menu for selecting message types (See 6.3.2)
3. DISPLAY: Displays the menu for setting the display unit. (See 6.3.3)
4. NAVTEX: Displays the menu for setting the NAVTEX receiver. (See 6.3.4)
5. MAINTENANCE: Displays the maintenance menu. (See 6.3.5)
6. LANGUAGE: Selects the menu display language. (See 6.3.6)
[EXIT]: Return to the previous screen (Such as message text display or message list 1, etc.)
6.3.1 RX STATION screen

To display RX STATION menu screen, select 1. RX STATION.

1. Press the ▲ ▼ key to select the menu item.
2. When ENT key or ▶ key is pressed, the menu screen of selected item is displayed.
   - When cursor is on the item 1 and 2, cursor moves to the right side of “:”
   - When cursor is on the item 3 and 4, the menu screen of item 3 and 4 appears.

The outlines of Menus are as follows:

1. RX MODE: Select “AUTO” or “MANUAL” as the receiving station selection method. (See 6.3.1.1)
2. OPERATING FREQ.: Select receiving channels. (See 6.3.1.2)
3. AUTO MODE SETTING: Displays the menu screen by automatically selecting the receiving station in each NAVAREA (Navigation area). (See 6.3.1.3)
4. MANUAL MODE SETTING: Displays the menu screen for selecting the receiving station regardless of NAVAREA. (See 6.3.1.4)
5. EDIT STATION NAME: Edit the receiving station name in each NAVAREA. (See 6.3.1.5)
6.3.1.1 Receiving mode setting (RX MODE)

The automatic select mode and the manual select mode for RX station:

- AUTO: Automatic select mode
  When normal GPS position data is inputted, the position and NAVAREA of a ship are automatically specified, and the message of the receiving station in the NAVAREA is received.
  (The GPS mark is displayed on the status bar.)

**Notes**

“AUTO” can be operated only when the GPS data is inputted.

- MANUAL: Manual select mode
  Regardless of the NAVAREA, messages are received according to the station selection settings of each channel.

**Notes**

The information of code number “00” is always received when the stations are selected, displayed and stored automatically regardless of the setting.
(Refer to “6.2.7.1 Message text”.)

6.3.1.2 Receiving channel setting (OPERATING FREQ.)

A receiving channel selection

Press the ▲▼ key and select the following items:
- RX1 (518 kHz)/ RX2 (490 kHz)/ RX3 (4209.5 kHz)
- RX1 / RX2
- RX1 / RX3

RX1 (518kHz) is always selected.
6.3.1.3 Automatic receiving station selection (AUTO MODE SETTING)

To display AUTO MODE SETTING screen, select 3.AUTO MODE SETTING from RX STATION menu (6.3.1).

Select the receiving station of each channel for every NAVAREA.

The items of the receiving station selection screen (auto mode) are as follows;
- NAVAREA: Select the NAVAREA (I - XX I).
- FREQUENCY: Select the channel (RX1 (518k), RX2 (490k), RX3 (4209.5k)).
- SELECT ALL: Select all the stations from A to Z.
- A: A message is received.
- A message is not received.
- Receiving station A – Z: Select receiving stations from A to Z

**Notes**
- When GPS data is inputted, the receiving station in NAVAREA is automatically displayed in the selection screen. Otherwise, the stations in NAVAREA I are displayed first.
**a. Select receiving stations**

Select the receiving station of each channel for every NAVAREA. All stations of initial setting are "A message is received: ■".

**Procedure**

1) Select **NAVAREA**, and press the **ENT** key.
   - Cursor moves to the right side of ": " (on a number).

2) Press the **▲ ▼** key and select the number of NAVAREA.
   - And then, press the **ENT** key.
   - The cursor moves to the lower line (on the “FREQUENCY”).

3) Select **FREQUENCY**, and press the **ENT** key.
   - Cursor moves to the right side of ": “ (on the “RX1”).

4) Press the **▲ ▼** key and select a channel.
   - RX1 (518K): 518 kHz
   - RX2 (490K): 490 kHz
   - RX3 (4209.5K): 4209.5 kHz

5) Press the **▲ ▼ ← →** key to select a receiving station for setting.
   - Pressing the **ENT** key switches alternately between “■ ” and “ □ ”.
   - If the “SELECT ALL” is “■ ”, all station (A-Z) settings changes to “ □ ”.

<table>
<thead>
<tr>
<th>Station (Auto)</th>
<th>NAVAREA: XI</th>
<th>FREQUENCY: RX1 (518K)</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: JAYAPURA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: AMBON</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: SINGAPORE</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D: MAKASSAR</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E: JAKARTA</td>
<td>R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Selection of all stations

<table>
<thead>
<tr>
<th>Station (Auto)</th>
<th>NAVAREA: XI</th>
<th>FREQUENCY: RX1 (518K)</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: JAYAPURA</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: AMBON</td>
<td>O</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C: SINGAPORE</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D: MAKASSAR</td>
<td>Q</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E: JAKARTA</td>
<td>R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Selection of each station
b. Cancel settings

When the CLR MENU DISP USER key is pressed while setting up “a. Select receiving stations”, the information screen (the sub screen) as shown in the following figure is displayed.

Select “OK” or “CANCEL”.

OK: Canceling the receiving station settings, and the screen changes according to the pressed key.

CANCEL: The information screen is closed. Continue the receiving station settings.

c. Set up the next channel (or NAVAREA)

After a setup of a channel (or NAVAREA) finishes, the next channel (or NAVAREA) can be set up continuously.

Procedures

1) Press the ▲ ▼ key for selecting FREQUENCY (or NAVAREA) and press the ENT key.
   Cursor moves to the right side of “:“.

2) Press the ▲ ▼ key and select the number of NAVAREA.
   And then, press the ENT key.

3) Select a receiving station in the same procedures as “a. Select receiving stations”.

---

6-30
d. Save (or Clear) settings

Save (or clear) the settings on the sub screen after setting up.

**Procedures**

1) Press the * key. The sub screen appears.
   Cursor is on the [CLEAR].

2) Press the ▼ key and select the following items.

3) **Save settings**
   Select the [OK], and press the ENT key.

   **Clear only settings of the screen that is currently open**
   Select the [CLEAR], and press the ENT key.
   The receiving station settings of the screen that is currently opened are restored to its former state, and the cursor returns to NAVAREA.

   **Clear all settings**
   Select the [ALL CLEAR], and press the ENT key.
   All the receiving station settings are restored to its former state, and the cursor returns to NAVAREA.

   **Continue setting up**
   Select the [CANCEL], and press the ENT key.
   This sub screen is closed.

4) To start save process, select [OK].
   Then, “SAVE OK” is displayed on the sub screen.

   Press the ENT or CLR key.
   RX STATION menu screen appears.

---

**STATION (AUTO) SET**

**SAVE CHANGES TO THIS SETTING?**

- [CLEAR]
- [ALL CLEAR]
- [OK]   [CANCEL]

**NOW SAVING...**

- [OK]   [CANCEL]

**SAVING is completed**

- [OK]   [CANCEL]

**SAVE OK**

- [OK]   [CANCEL]

---

6-31
6.3.1.4 Manual receiving station selection (MANUAL MODE SETTING)

To display MANUAL MODE SETTING screen, select 4. MANUAL MODE SETTING from RX STATION menu (6.3.5).

Select the receiving station of each channel. There is no setup of NAVAREA.

![The receiving station selection screen (Manual mode setting)](image)

The items of the receiving station selection screen (manual mode) are as follows;

- **FREQUENCY:** Select the channel (RX1 (518K), RX2 (490K), RX3 (4209.5K)).
- ☑ SELECT ALL: Select all the stations from A to Z.
  - ○: A message is received.
  - □: A message is not received.

- Receiving station A – Z: Select receiving stations from A to Z

**Notes**

When this screen is displayed, the receiving station of RX1 is displayed first.

**a. Select receiving stations**

Start with selection of "FREQUENCY".

Carry out the procedure from section 3) to 5) of p.6-29 “a. Select receiving stations”

**b. Cancel settings**

Carry out “b. Cancel settings” of p.6-30.

**c. Set up the next channel**

Carry out the procedure from section 1) to 3) of p.6-30 “c. Set up the next channel (or NAVAREA)”.

**d. Save (or Clear) settings**

Carry out the procedure from section 1) to 4) of p.6-31 “d. Save (or Clear) settings”.

6-32
6.3.1.5 Edit the receiving station name (EDIT STATION NAME)

To display EDIT STATION NAME screen, select **EDIT STATION NAME** from RX STATION menu (6.3.1).

Edit the receiving station name of each channel for every NAVAREA.

| NAVAREA  | FREQUENCY | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| XI       | RX1 (518K)| JAYAPURA | AMBON | SINGAPORE | MAKASSAR | JAKARTA | BANGKOK RADIO | NAHA | MOJI | YOKOHAMA | OTARU | KUSHIRO/DANANG | HONG KONG | SANYA | GUANGZHOU | FUZhou | MEILUNG | SHANGHAI | DALIAN | SANDAKAN | SANDAKAN | SHANGHAI | Dalian | SANDAKAN | SANDAKAN | SANDAKAN | SANDAKAN | SANDAKAN | SANDAKAN |

The items of the edit the receiving station name screen are as follows;
- NAVAREAs: Select the NAVAREA (I - XX I).
- FREQUENCY: Select the channel (RX1 (518k), RX2 (490k), RX3 (4209.5k)).
- Edit the receiving station name A – Z: Select receiving station name from A to Z.

**Notes**

- The number of the maximum characters of a receiving station name is 14 characters.
a. Edit the receiving station name

Select the receiving station name to edit of each channel for every NAVAREA.

**Procedure**

1) Select NAVAREA and press the ENT key.
   Cursor moves to the right side of ":" (on a number).

2) Press the ▲▼ key and select the number of NAVAREA.
   And then, press the ENT key.
   The cursor moves to the lower line (on the “FREQUENCY”).

3) Select FREQUENCY, and press the ENT key.
   Cursor moves to the right side of ":" (on the “RX1”).

4) Press the ▲▼ key and select a channel.
   RX1 (518K): 518 kHz
   RX2 (490K): 490 kHz
   RX3 (4209.5K): 4209.5 kHz

5) Press the ▲▼◄► key to select the receiving station name for editing.
   Select from A to 2, and press the ENT key.
   Cursor moves to the right side of ":" (on a receiving station name).

- Press the ▲▼ key and select a setting character.
  Display on the character to setting on middle of the screen.
- Press the ◄► key and select editing character.
- Press the key and insert a space.
- Press the CLR key and delete a cursor character.
- Press the ENT key and set the receiving station name.
  Cursor moves to from A to 2.

**Selection of NAVAREA**

<table>
<thead>
<tr>
<th>Selection of NAVAREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAVAREA: X1</td>
</tr>
<tr>
<td>FREQUENCY: RX1 (518K)</td>
</tr>
<tr>
<td>A: BUSHEHR N</td>
</tr>
<tr>
<td>B: HAMALA O</td>
</tr>
<tr>
<td>C:                P</td>
</tr>
<tr>
<td>D:                Q</td>
</tr>
<tr>
<td>E:                R</td>
</tr>
</tbody>
</table>

**Selection of “A” station**

<table>
<thead>
<tr>
<th>Selection of “A” station</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAVAREA: XI</td>
</tr>
<tr>
<td>FREQUENCY: RX1 (518K)</td>
</tr>
<tr>
<td>A: KAYAPURA N</td>
</tr>
<tr>
<td>B: AMBON O</td>
</tr>
<tr>
<td>C: SINGAPORE P</td>
</tr>
<tr>
<td>D: MAKASSAR Q</td>
</tr>
<tr>
<td>E: JAKARTA R</td>
</tr>
</tbody>
</table>

**Selection of NAVAREA**

<table>
<thead>
<tr>
<th>Selection of NAVAREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAVAREA: XI</td>
</tr>
<tr>
<td>FREQUENCY: RX1 (518K)</td>
</tr>
<tr>
<td>A: JAYAPURA N</td>
</tr>
<tr>
<td>B: AMBON O</td>
</tr>
<tr>
<td>C: SINGAPORE P</td>
</tr>
<tr>
<td>D: MAKASSAR Q</td>
</tr>
<tr>
<td>E: JAKARTA R</td>
</tr>
</tbody>
</table>

**Selection of NAVAREA**

<table>
<thead>
<tr>
<th>Selection of NAVAREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAVAREA: X1</td>
</tr>
<tr>
<td>FREQUENCY: RX1 (518K)</td>
</tr>
<tr>
<td>A: JAYAPURA N</td>
</tr>
<tr>
<td>B: AMBON O</td>
</tr>
<tr>
<td>C: SINGAPORE P</td>
</tr>
<tr>
<td>D: MAKASSAR Q</td>
</tr>
<tr>
<td>E: JAKARTA R</td>
</tr>
</tbody>
</table>
b. Cancel settings

When the **CLR** **MENU** **DISP** **USER** key is pressed while setting up “a. Edit the receiving station name”, the information screen (the sub screen) as shown in the following figure is displayed.

Select “OK” or “CANCEL”.

**OK:** Canceling the edit the receiving station name settings, and the screen changes according to the pressed key.

**CANCEL:** The information screen is closed. Continue the edit the receiving station name settings.

![Information Screen](image)

---

c. Set up the next channel (or NAVAREA)

After a setup of a channel (or NAVAREA) finishes, the next channel (or NAVAREA) can be set up continuously.

**Procedures**

1) Press the **▲ ▼** key for selecting **FREQUENCY** (or **NAVAREA**) and press the **ENT** key.

   Cursor moves to the right side of ":".

2) Press the **▲ ▼** key and select the number of NAVAREA.

   And then, press the **ENT** key.

3) Select a receiving station in the same procedures as “a. Edit the receiving station name”.

---

6-35
d. Save (or Clear) settings

Save (or clear) the settings on the sub screen after setting up.

**Procedures**

1) Press the * key. The sub screen appears. Cursor is on the **ALL CLEAR**.

2) Press the ▼ key and select the following items.

3) **Save settings**
   Select the [OK], and press the ENT key.

   **Clear all settings**
   Select the [ALL CLEAR], and press the ENT key.

   All the receiving station settings are restored to its former state, and the cursor returns to **NAVAREA**.

   **Continue setting up**
   Select the [CANCEL], and press the ENT key. This sub screen is closed.

4) To start save process, select [OK]. Then, “SAVE OK” is displayed on the sub screen.
   Press the ENT or CLR key. RX STATION menu screen appears.
6.3.2 Receiving message type settings (MESSAGE TYPE SETTING)

To display MESSAGE TYPE SETTING menu screen, select 2. MESSAGE TYPE SETTING.

The items of the receiving message type selection screen are as follows:

- **FREQUENCY:** Select the channel (RX1 (518k), RX2 (490k), RX3 (4209.5k)).
- **SELECT ALL:** Select all the messages from A to Z.
- A message is received.
- A message is not received.
- Receiving message A – Z : Select receiving message from A to Z

**Fig.6-9 MESSAGE TYPE menu screen**

<table>
<thead>
<tr>
<th>MSG TYPE</th>
<th>FREQUENCY: RX1 (518K)</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: NAV WARNINGS</td>
<td>N: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>B: MET WARNINGS</td>
<td>O: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>C: ICE REPORT</td>
<td>P: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>D: SEARCH &amp; RESCUE</td>
<td>Q: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>E: MET FORECAST</td>
<td>R: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>F: PILOT SERVICE</td>
<td>S: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>G: AIS</td>
<td>T: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>H: LORAN</td>
<td>U: [SPARE]</td>
<td></td>
</tr>
<tr>
<td>I: [SPARE]</td>
<td>V: SPECIAL</td>
<td></td>
</tr>
<tr>
<td>J: SATNAV</td>
<td>W: SPECIAL</td>
<td></td>
</tr>
<tr>
<td>K: OTHER NAVAID</td>
<td>X: SPECIAL</td>
<td></td>
</tr>
<tr>
<td>L: NAV WARNINGS</td>
<td>Y: SPECIAL</td>
<td></td>
</tr>
<tr>
<td>M: [SPARE]</td>
<td>Z: QRU (NO MSG)</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

Navigational warning [A], Meteorological warning [B], Search and rescue information/piracy and armed robbery [D], Navigational warning (additional) [L] are obliged to receive a message. These message types setting cannot be changed.

**a. Select receiving message types**

Start with selection of “FREQUENCY”.
Carry out the procedure from section 3) to 5) of p.6-29 “a. Select receiving stations”.

**b. Cancel settings**

Carry out “b. Cancel settings” of p.6-30.

**c. Save (or Clear) settings**

Carry out the procedure from section 1) to 4) of p.6-31 “d. Save (or Clear) settings”.

6-37
6.3.3 DISPLAY setting menu (DISPLAY SET)

To display DISPLAY SET menu screen, select 3.DISPLAY from MAIN MENU (6.3).
Display form, a buzzer, etc. can be set up on this screen.

1. Press the ▲ ▼ key to select the menu item.
2. When ENT key or ▶ key is pressed, the menu screen of selected item is displayed.
   - When cursor is on the item 1-4 and 6, cursor moves to the right side of "="
   - When cursor is on the item 5, the menu screen of item 5 appears.

The outlines of menus are as follows;

1. CONTRAST: Adjust the contrast of this display. (See 6.3.3.1)
2. DIMMER: Set up the brightness level of this display. (See 6.3.3.2)
3. BUZZER: Select buzzer ON/OFF. (See 6.3.3.3)
4. LOCAL TIME: Input local time. (See 6.3.3.4)
5. USER KEY SETTING: Assign the often used function for the USER key (See 6.3.3.5)
6. POS/TIME DISP. SET: Set up the display of the POSITION/TIME screen. (See 6.3.3.6)
6.3.3.1 Contrast adjustment (CONTRAST)

When 1. CONTRAST is selected, CONTRAST is ready to be entered. To adjust the contrast, press the ▲ ▼ key, and then press the ENT key.

| 1. CONTRAST : 10 |

The adjustment of the contrast
- “1” is the darkest.
- “13” is the lightest.
The initial setting is “7”.

6.3.3.2 Back light settings (DIMMER)

Brightness can be changed into four levels (Maximum, Typical, Minimum and off) by pressing the DIM key. These brightness levels are set up in this item.
The increase value of the brightness at the time of alarm generating can be changed from +1 to +9.

Select 2.DIMMER, and press the ENT key. Cursor moves to the right side of “:”. Number and brightness is changed when the ▲ ▼ key is pressed, and then press the ENT key.

Press the ENT key after setting up to "ALARM". All setting values are saved.

| 2. DIMMER |
| - MAXIMUM : 10 |
| - TYPICAL : 8 |
| - MINIMUM : 4 |
| - ALARM : +2 |

Notes

"MAXIMUM" should enter the largest numerical value and “MINIMUM” should enter the smallest numerical value.

6.3.3.3 Buzzer settings (BUZZER)

When 3.BUZZER is selected, each buzzer functions can be set enable (ON) or disable (OFF) as followings.

Press the ▲ ▼ key and select the “ON” or “OFF”.
Press the ENT key after setting up to “CLICK”. All buzzer settings are saved.

| 3. BUZZER : ON |
| - ALARM MSG : ON |
| (FOR MESSAGE TYPE : A, B, L) |
| - RECEIVED MSG : ON |
| - NAVTEX ALARM : ON |
| - CLICK : ON |

BUZZER: OFF: All buzzer functions are disabled.
ON: Each buzzer function as shown below can be enabled.
ALARM MSG: When a message (A, B and L) is received.
RECEIVED MSG: When a message (other than A, B and L) is received.
NAVTEX ALARM: When a failure alarm occurs.
CLICK: When a key is pressed.

Caution

When search and rescue message (D) is received, buzzer sounds. The SAR buzzer sound can not be set to “OFF (disable)".
6.3.3.4 Time Difference setting (LOCAL TIME)

"LOCAL TIME" can set up time difference to UTC.

When "ON" is selected, "(LT)" is displayed in the POSITION/TIME screen. The time of the POSITION/TIME screen displays the numerical value which added time difference to UTC. When "OFF" is selected, "(UTC)" is displayed.

1. Select 4.LOCAL TIME, and press the ENT key. Cursor moves to the right side of ".:.
2. Press the ▲▼ key and select the "ON" or "OFF", and then press the ENT key. The cursor moves to the lower line.
3. Press the ▲▼ key and select "+ (add) " or "- (sub)". Next, input the numerical value within the range of 00:00 to 12:00. (-12:00 to +12:00)
   To save the "LOCAL TIME" settings, cursor should press the ENT key on the rightmost position (minute).

Procedure:

4. LOCAL TIME : ON
   (TIME DIFFERENCE) : +09:00

Notes:

The setup time difference is displayed on the POSITION/TIME screen.
6.3.3.5 Assigning to the USER key (USER KEY SETTING)

The USER key can be assigned to the often used function (screen).
Select 5. USER KEY SETTING, and press the ENT key. USER KEY SETTING screen appears.

Press the ▲ ▼ key and select from “A” to “Z”, and then press the ENT key. “USER KEY” setting is saved.
“▼” mark is displayed on the bottom line when the USER KEY SETTING screen is able to scroll downward.
“▲” mark is displayed on the top line when the USER KEY SETTING screen is able to scroll upward.
To display DISPLAY menu screen, press the CLR.

Refer to the following table about selectable items:

<table>
<thead>
<tr>
<th>Title</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>A MESSAGE LIST1</td>
<td>MESSAGE LIST 1 screen is displayed.</td>
</tr>
<tr>
<td>B MESSAGE LIST2</td>
<td>MESSAGE LIST 2 screen is displayed.</td>
</tr>
<tr>
<td>C SELECT MESSAGE LIST</td>
<td>SELECT MESSAGE LIST screen is displayed.</td>
</tr>
<tr>
<td>D POSITION/TIME</td>
<td>POSITION/TIME screen is displayed.</td>
</tr>
<tr>
<td>E RX STATION SETTING MENU</td>
<td>AUTO MODE SETTING screen (RX STATION menu) is displayed.</td>
</tr>
<tr>
<td>F AUTO MODE SETTING</td>
<td>MANUAL MODE SETTING screen (RX STATION menu) is displayed.</td>
</tr>
<tr>
<td>G MANUAL MODE SETTING</td>
<td>MESSAGE TYPE SETTING screen is displayed.</td>
</tr>
<tr>
<td>H MESSAGE TYPE SETTING MENU</td>
<td>DISPLAY menu screen is displayed.</td>
</tr>
<tr>
<td>J USER KEY SETTING</td>
<td>This screen (USER KEY SETTING) is displayed.</td>
</tr>
<tr>
<td>K NAVTEX SETTING MENU</td>
<td>NAVTEX menu screen is displayed.</td>
</tr>
<tr>
<td>L MAINTENANCE MENU</td>
<td>MAINTENANCE menu screen is displayed.</td>
</tr>
<tr>
<td>M SELF DIAGNOSIS</td>
<td>SELF DIAGNOSIS screen (MAINTENANCE menu) is displayed.</td>
</tr>
<tr>
<td>N NAVTEX ALARM</td>
<td>NAVTEX ALARM screen (MAINTENANCE menu) is displayed.</td>
</tr>
<tr>
<td>O STATUS</td>
<td>STATUS screen (MAINTENANCE menu) is displayed.</td>
</tr>
<tr>
<td>P PORT MONITOR</td>
<td>PORT MONITOR screen (MAINTENANCE menu) is displayed.</td>
</tr>
<tr>
<td>Q STATION NAME</td>
<td>EDIT STATION NAME menu screen is displayed.</td>
</tr>
<tr>
<td>Y PRINT</td>
<td>Printing is started if the USER key is pressed on the screen which can print the external printer. Printing is stopped if the CLR key is pressed during printing.</td>
</tr>
<tr>
<td>Z NON USE</td>
<td>The USER key cannot be used.</td>
</tr>
</tbody>
</table>
### 6.3.3.6 POSITION/TIME screen settings (POS/TIME DISP.SET)

"POS/TIME DISP.SET" can set up the item displayed on the POSITION/TIME screen.

POSITION/TIME screen can be displayed selecting items of "position (POS)", "time (TIME)", and "navigational information (NAV)".

| 6. POS/TIME DISP. SET(1) | POS | (2) : TIME/NAV |

#### Procedure

1. Select 6.POS/TIME DISP. SET(1), and press the ENT key. Cursor moves to the right side of ":".

2. Press the ▲ ▼ key and select the "POS", "TIME" or "OFF", and then press the ENT key. This item is displayed on the upside of the POSITION/TIME screen.

3. The cursor moves to the lower line "(2)". Press the ▲ ▼ key, and then press the ENT key. This item is displayed on the downside of the POSITION/TIME screen.

#### Notes

- The setup time difference is displayed on the POSITION/TIME screen. When you have selected "OFF", cursor ends the setup of this item, without moving to the lower line "(2)" and pressing the DISP key does not display the POSITION/TIME screen.

- When "OFF" is selected, only the item of (1) is displayed on POSITION/TIME screen.
- When "TIME" (or "POS") is selected, this item is displayed on the downside of the POSITION/TIME screen.
- When "TIME/NAV" (or "POS/NAV") is selected, time is displayed on the left side, and navigational information is displayed on the right side of the POSITION/TIME screen.

#### Ex) The following figure is an example when selecting "POS" and "TIME/NAV".

(1): POS
(2): TIME/NAV
6.3.4 NAVTEX setting menu (NAVTEX)

To display NAVTEX SET menu screen, select 4.NAVTEX from MAIN MENU (6.3). Character size, printer setting, etc. can be set up on this screen.

![Fig.6-12 NAVTEX SET menu screen](image)

**Procedures**

1. Press the ▲▼ key to select the menu item.
2. When ENT key or ▼ key is pressed, the menu screen of selected item is displayed.

**Notes**

- To return to the MAIN MENU menu screen, press the CLR key or ▼ key.
- If the ▼ key is pressed when cursor is on the right side of “:”, cursor returns on the item.

The outlines of menus are as follows;

1. CHARACTER SIZE: Select the character size (See 6.3.4.1)
2. CER DISP. SETTING: Add “CER” to the end of message (See 6.3.4.2)
3. MESSAGE SCROLL: Set up the message scroll function (See 6.3.4.3)
4. MESSAGE SPEED: Select the scrolling speed (See 6.3.4.4)
5. PRINTER PROPERTY: Set up the external printer connection (See 6.3.4.5)
6. INS MESSAGE OUTPUT SETTING: Set up the external equipment output msg (See 6.3.4.6)
7. PRINT MESSAGE OUTPUT SETTING: Set up the external printer output msg (See 6.3.4.7)
6.3.4.1 Character size setting (CHARACTER SIZE)

Displayed character can be changed into three sizes.

Select 1.CHARACTER SIZE, and press the ENT key. Cursor moves to the right side of ".:.
Press the ▲▼ key, and then press the ENT key.
If the ENT key is pressed, the selected character size is saved, and the displayed character is changed.

| 1. CHARACTER SIZE : NORMAL |

The initial setting is “NORMAL”.

NORMAL: The normal character size: 13x9 dots
MEDIUM: The medium character size: 16x9 dots
LARGE: The large character size: 20x16 dots

6.3.4.2 CER setting (CER DISP.SETTING)

A message text can add “CER(\(^{(*)}\) to the end of message.
Select 2.CER DISP. SETTING, and press the ENT key. Cursor moves to the right side of ".:.
Press the ▲▼ key and select the “ON” or “OFF”, and then press the ENT key. This setting is saved

| 2. CER DISP. SETTING : ON (CER : CHARACTER ERROR RATE) |

The initial setting is “OFF”.

ON: “CER” is displayed on the end of message.
OFF: “CER” is not displayed.

\(^{(*)}\): Character Error Rate

(When CER DISP.SETTING is set “ON”)

| IA01 4209.5 15 04/06/09 12:34 |
| 123400 UTC JUNE 04 |
| JAPAN NAVTEX N.W. NR 1260/2004 |
| KEIHIN K0, TOKYO WEST PASSAGE |
| DAYTIME DAILY UNTIL 28 JUNE 2004 |
| 35°35'-02.0N 139°47'-55.3E, WGS-84 |
| (END OF MESSAGE) |
| CER : 3.5% |
| LINE: 18/18 |

(When CER DISP.SETTING is set “OFF”)

| IA01 4209.5 15 04/06/09 12:34 |
| 123400 UTC JUNE 04 |
| JAPAN NAVTEX N.W. NR 1260/2004 |
| KEIHIN K0, TOKYO WEST PASSAGE |
| DAYTIME DAILY UNTIL 28 JUNE 2004 |
| 35°35'-02.0N 139°47'-55.3E, WGS-84 |
| (END OF MESSAGE) |
| LINE: 18/18 |
6.3.4.3 Automatic scrolling setting (MESSAGE SCROLL)

When character size has been selected “LARGE”, a message text can be automatically scrolled on a screen.

Select 3.MESSAGE SCROLL, and press the ENT key. Cursor moves to the right side of ":".
Press the ▲ ▼ key and select the “ON” or “OFF”, and then press the ENT key. This setting is saved

| 3. MESSAGE SCROLL : ON |

The initial setting is “ON”
ON: A message text scroll.
OFF: A message text does not scroll.

6.3.4.4 Scrolling speed adjustment (MESSAGE SPEED)

The speed of automatic scrolling can be changed into three levels.

Select 4.MESSAGE SPEED, and press the ENT key. Cursor moves to the right side of ":".
Press the ▲ ▼ key and select the “ON” or “OFF”, and then press the ENT key. This setting is saved

| 4. MESSAGE SPEED : NORMAL |

The initial setting is “NORMAL”.
SLOW: A character scrolls at the slowest speed.
NORMAL: A character scrolls at the normal speed.
FAST: A character scrolls at the fastest speed.
6.3.4.5 External printer settings (PRINTER PROPERTY)

Serial port (RS-232C: MAINTENANCE/PRINTER) conditions can be set up when connecting external printer.

Select 5.PRINTER PROPERTY, and press the ENT key. Cursor moves to the right side of ".".
After setting up to "FLOW CONTROL", press the ENT key. All settings are saved.

```
5. PRINTER PROPERTY
  - DATA OUT : MANUAL
  - DATA FORMAT : ON
  - BAUDRATE : 4800BPS
  - FLOW CONTROL : NONE
  - PRINT DIRECTION : UPRIGHT
```

The explanations of each item are as follows;

1) DATA OUT
   The data output method for printer is set up.
   Press the ▲▼ key and select the following items. If the ENT key is pressed, Cursor moves to the lower line.
   OFF: The message is not outputted to the external printer.
   AUTO: After receiving a message, the data is automatically outputted to the external printer.
   MANUAL: The data of the selected message is outputted to the external printer.

2) DATA FORMAT
   The output data format is set up.
   Press the ▲▼ key and select the following items. If the ENT key is pressed, Cursor moves to the lower line.
   ON: The header and footer are added to a message text.
   OFF: Only a message text is printed.
   (The example of printing)
   
   \[------ 518kHz NAVTEX MESSAGE ------]
   ZCZC IA01
   TEST MESSAGE
   NNNN
   \[------ END OF MESSAGE CER = 0.0% ------]\n
3) BAUDRATE
   Baudrate (bits/sec) is set up.
   Press the ▲▼ key and select the following items. If the ENT key is pressed, Cursor moves to the lower line.
   Baudrate can be selected from "4800", "9600", and "38.4K" BPS.

4) FLOW CONTROL
   The flow control is set up.
   Press the ▲▼ key and select the following items. If the ENT key is pressed, Cursor moves to the lower line.
   NONE: The flow control is not performed.
   HARD: The flow control is performed.

5) PRINT DIRECTION
   Print direction is set up.
   Press the ▲▼ key and select the following items. If the ENT key is pressed, all settings are saved.
   UPRIGHT: Upright printing (Set up when DPU-414 is connected.)
   INVERT: Inverted printing (Set up when NKG-91 is connected.)

The initial settings are as follows. Set up as follows when DPU-414 is connected.
If NKG-91 is connected, please change PRINT DIRECTION into INVERT.

```
DATA OUT : MANUAL
DATA FORMAT: ON
BAUD RATE: 4800BPS
FLOW CONTROL: NONE
PRINT DIRECTION: UPRIGHT
```
6.3.4.6 External equipment message output settings (INS MSG OUTPUT SETTING)

INS port (DATA OUT) message output conditions can be set up when connecting external equipment.

<table>
<thead>
<tr>
<th>STATION</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
<tr>
<td>490k:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
<tr>
<td>4.2M:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MSG TYPE</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
<tr>
<td>490k:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
<tr>
<td>4.2M:</td>
<td>ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
</tr>
</tbody>
</table>

The items of the station and message type selection screen are followings;

- Station A to Z and message type A to Z of outputted messages via INS port.
  - “SELECT ALL” : Select all the station or msg type from A to Z.
  - “A” to “Z” display : Messages are outputted via INS port.
  - “–” display : Messages are not outputted via INS port.

Navigational warning [A], Meteorological warning [B], Search and rescue information/piracy and armed robbery [D], Navigational warning (additional) [L] are obliged to receive a message. These message types setting cannot be changed.

**Notes**

- Press the ▲▼◄► key to select station and message type for setting.
  - Pressing the ENT key switches alternately between “(A-Z)” and “–”.
  - Select the “SELECT ALL” and press the ENT key, settings changes to all.

**a. Select stations and message type**

**b. Cancel settings**

When the CLR MENU DISP USER key is pressed while setting up “a. Select receiving stations and message type”, the information screen (the sub screen) as shown in the following figure is displayed.

Select “OK” or “CANCEL”.

- OK: Canceling the receiving station settings, and the screen changes according to the pressed key.
- CANCEL: The information screen is closed. Continue the station and message type settings.

**INS MSG SET**

EXIT WITHOUT SAVING.

ARE YOU SURE?
(SAVE : PRESS ‘*’ KEY)
[OK][CANCEL]
c. Save (or Clear) settings

Save (or clear) the settings on the sub screen after setting up.

**Procedures**

1) Press the * key. The sub screen appears. Cursor is on the [ALL CLEAR].

2) Press the ▼ key and select the following items.

3) **Save settings**
   Select the [OK], and press the ENT key.

   **Clear all settings**
   Select the [ALL CLEAR], and press the ENT key. All the settings are restored to its former state.

   **Continue setting up**
   Select the [CANCEL], and press the ENT key. This sub screen is closed.

4) To start save process, select [OK]. Then, “SAVE OK” is displayed on the sub screen.
   Press the ENT or CLR key.
   NAVTEX menu screen appears.
### 6.3.4.7 External printer message output settings (PRINTER MSG OUTPUT SETTING)

Serial port (RS-232C: MAINTENANCE/PRINTER) message output conditions can be set up when connecting external printer. The external printer message output settings can be operated when the DATA OUT of 5.PRINTER PROPERTY is “AUTO” setting.

The items of the receiving station and message type selection screen are followings;

- Station A to Z and message type A to Z of outputted messages via printer port.
  - “SELECT ALL” : Select all the station or msg type from A to Z.
  - “A” to “Z” display : Messages are outputted via printer port.
  - “–” display : Messages are not outputted via printer port.

#### The items of the receiving station and message type selection screen are followings;

<table>
<thead>
<tr>
<th>STATION</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k: A–DEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>490k: A–DEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>4.2M: –BCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MSG TYPE</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>490k: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>4.2M: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
</tbody>
</table>

#### Notes

Navigational warning [A], Meteorological warning [B], Search and rescue information/piracy and armed robbery [D], Navigational warning (additional) [L] are obliged to receive a message. These message types setting cannot be changed.

#### a. Select stations and message type

Carry out “a. Select stations and message type” of p.6-43.

#### b. Cancel settings

Carry out “b. Cancel settings” of p.6-43.

#### c. Save (or Clear) settings

Carry out the procedure from section 1) to 4) of p.6-44 “c. Save (or Clear) settings”.

---

**PRINT MSG OUTPUT SETTING**

<table>
<thead>
<tr>
<th>STATION</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k: A–DEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>490k: A–DEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>4.2M: –BCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MSG TYPE</th>
<th>SELECT ALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>518k: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>490k: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
<tr>
<td>4.2M: ABCDEFGHIJKLMNOPQRSTUVWXYZ</td>
<td></td>
</tr>
</tbody>
</table>
6.3.5 MAINTENANCE menu (MAINTENANCE)

To display MAINTENANCE menu screen, select 5.MAINTENANCE from MAIN MENU (6.3). Users can check current status of the system by the menu.

1. Press the ▲ ▼ key to select the menu item.
2. When ENT key or ▶ key is pressed, the menu screen of selected item is displayed.
   - When cursor is on the item 1-4, cursor moves to the right side of “:“.
   - When cursor is on the item 5, the menu screen of item 5 appears.

Notes
- To return to the MAIN MENU screen, press the CLR key or ◀ key.
- If the ▶ key is pressed when cursor is on the right side of “:“, cursor returns on the item.

The outlines of menus are as follows;
1. SELF DIAGNOSIS: Perform self diagnosis test. (See 6.3.4.1)
2. NAVTEX ALARM: Display alarm logs for disorders. (See 6.3.4.2)
3. STATUS: Display current status of NAVTEX setting. (See 6.3.4.3)
4. PORT MONITOR: Display serial data of each port. (See 6.3.4.4)
5. SOFTWARE VERSION: Display versions of software installed in NCR-333. (See 6.3.4.5)
6.3.5.1 Self diagnosis (SELF DIAGNOSIS)

NCR-333 can be self-diagnosed.

Select 1. SELF DIAGNOSIS, and press the ENT key. SELF DIAGNOSIS screen appears.

```
1. SELF DIAGNOSIS                                START
   1. SELF DIAGNOSIS  : START
   ROM                : GOOD
   RAM                : GOOD
   SIO                : GOOD
   PS                 : GOOD
   ANTENNA CHECK      : GOOD
   518kHZ OVER ALL TEST: GOOD
   490kHZ OVER ALL TEST: GOOD
   4209.5kHZ OVER ALL TEST: GOOD

THE QUICK BLOWN FOX JUMPS OVER
THE LAZY DOG. 123456789.. ? () =/+-:

2. LCD DIAGNOSIS                        : CANCEL

3. SELF DIAGNOSIS LOG
```

When character size has been selected “NORMAL”, these character strings are displayed.

Procedure

1. Press the ▲▼ key in order to select the item to diagnose.

2. When the ENT key is pressed, the menu screen of selected item appears.
   Pressing the ▶ key can display the same.
   - When cursor is on the item 1 or 2, cursor moves to the right side of “:”
   - When cursor is on the item 3, the menu screen of item 3 appears.

Notes

- To return to the MAINTENANCE screen, press the CLR key or ▼ key.
- If the ◄ key is pressed when cursor is on the “START” of the item 1 or 2, cursor returns on the item 1 or 2. (1. SELF DIAGNOSIS or 2. LCD DIAGNOSIS)

The outlines of menus are as follows;

1. SELF DIAGNOSIS: NCR-333 is diagnosed. (See a))
2. LCD DIAGNOSIS: LCD panel is diagnosed. (See b))
3. SELF DIAGNOSIS LOG: The diagnostic result log of the item 1 is displayed. (See c))
a. The Diagnosis of equipment (SELF DIAGNOSIS)

**Procedure**

1) Select **1. SELF DIAGNOSIS** and press the **ENT** key. Cursor moves to the right side of ":".

2) Press the **▲ ▼** key and select the following items:
   - **START**: Self diagnosis is started. However, the diagnostic results are not printed.
   - **ST-PRTN**: Self diagnosis is started. After self diagnosis is completed, the diagnosis results are printed.
   - **CANCEL**: Self diagnosis is not started. Cursor returns to **1. SELF DIAGNOSIS**.

3) Select the "START" or "ST-PRTN", and then press the **ENT** key.
   - Self diagnosis starts by the "ROM" test and is ended by the "4209.5 kHz over all test".
   - During diagnosis, "SELF DIAGNOSIS" of screen title repeats blink.
   - The buzzer sounds at the last of diagnosis, and check that the buzzer sounds normally. Press **CLR** key to stop the beeping.

```
<table>
<thead>
<tr>
<th>1. SELF DIAGNOSIS : START</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROM          : GOOD</td>
</tr>
<tr>
<td>RAM          : GOOD</td>
</tr>
<tr>
<td>SI0          : GOOD</td>
</tr>
<tr>
<td>PS           : GOOD</td>
</tr>
<tr>
<td>ANTENNA CHECK : GOOD</td>
</tr>
<tr>
<td>518kHz OVER ALL TEST : GOOD</td>
</tr>
<tr>
<td>490kHz OVER ALL TEST : GOOD</td>
</tr>
<tr>
<td>4209.5kHz OVER ALL TEST: GOOD</td>
</tr>
</tbody>
</table>
```

"OVER ALL TEST" takes about 15 seconds per test.
Whenever one test (OVER ALL TEST) is completed, character string as shown in the following figure is displayed. When "*" is displayed in a character string, the test result is NG.

```
<table>
<thead>
<tr>
<th>1. SELF DIAGNOSIS : START</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROM          : GOOD</td>
</tr>
<tr>
<td>RAM          : GOOD</td>
</tr>
<tr>
<td>SI0          : GOOD</td>
</tr>
<tr>
<td>PS           : GOOD</td>
</tr>
<tr>
<td>ANTENNA CHECK : GOOD</td>
</tr>
<tr>
<td>518kHz OVER ALL TEST : GOOD</td>
</tr>
<tr>
<td>490kHz OVER ALL TEST : GOOD</td>
</tr>
<tr>
<td>4209.5kHz OVER ALL TEST: GOOD</td>
</tr>
<tr>
<td>THE QUICK BLOWN FOX JUMPS OVER THE LAZY DOG. 123456789. , ? ( ) /=+-:</td>
</tr>
</tbody>
</table>
```

**Caution**

When the result of the malfunction is displayed, contact our service center or an agency as soon as possible after referring to troubleshooting of Chapter 7.

The list of diagnosis items

<table>
<thead>
<tr>
<th>Diagnosis Items</th>
<th>Explanation</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROM</td>
<td>The data memory and the program memory are checked. When the program memory is abnormal (NG), [1] is displayed, and when the data memory is abnormal, [2] is displayed.</td>
<td>Replace CMJ-501N.</td>
</tr>
<tr>
<td>RAM</td>
<td>The memory for temporarily storage is checked.</td>
<td></td>
</tr>
<tr>
<td>SI0</td>
<td>Serial interfaces are checked. When the 'ECDIS/GPS' port is abnormal (NG), [1] is displayed, and when the 'Maintenance/Printer' port is abnormal, [2] is displayed, and when the 'DISP' port is abnormal, [3] is displayed.</td>
<td></td>
</tr>
<tr>
<td>PS</td>
<td>The power supply part is checked.</td>
<td></td>
</tr>
<tr>
<td>ANTENNA CHECK</td>
<td>The DC voltage of the NAVTEX antenna is checked.</td>
<td>Replace CMN-2333.</td>
</tr>
<tr>
<td>518kHz OVER ALL TEST</td>
<td>Internal receiver (RX1) is checked.</td>
<td></td>
</tr>
<tr>
<td>490kHz OVER ALL TEST</td>
<td>Internal receiver (RX2) is checked.</td>
<td></td>
</tr>
<tr>
<td>4209.5kHz OVER ALL TEST</td>
<td>Internal receiver (RX3) is checked.</td>
<td></td>
</tr>
</tbody>
</table>
b. The diagnosis of LCD panel (LCD DIAGNOSIS)

**Procedure**

1) Select **2. LCD DIAGNOSIS**, and press the **ENT** key. Cursor moves to the right side of ":".

2) Press the ▲ ▼ key and select the following items;
   - **START**: Diagnosis is started.
   - **CANCEL**: Diagnosis is canceled, and cursor returns to **2. LCD DIAGNOSIS**.

3) Select the "START", and press the **ENT** key.
   This diagnosis blinks the viewing area every 2 seconds. (White -> Black -> White-> ...)

c. Self diagnosis log (SELF DIAGNOSIS LOG)

**Procedure**

1) Select **3. SELF DIAGNOSIS LOG**, and press the **ENT** key. SELF DIAGNOSIS LOG screen appears. The newest result is displayed on this screen.

2) To display the next old result, press the ▼ key. (Up to last 10 results)

The diagnosed time is displayed when external GPS receiver is connected.
"--/--/----:--:--" is displayed when time is not able to be acquired. (External GPS receiver is not connected.)

To print a result to the external printer, press the * key in order to display the sub screen.
Select the "[PRINT OUT]", and press the **ENT** key. Printing is started.

To stop printing, press the **CLR** key while printing.

To return to the SELF DIAGNOSIS screen, select the "[CANCEL]" and press the **ENT** key.
6.3.5.2 NAVTEX alarms (NAVTEX ALARM)

To display NAVTEX ALARM screen, select 2.NAVTEX ALARM from MAINTENANCE menu (6.3.5).
In the NAVTEX ALARM screen, the present alarm is displayed.
On the ALARM HISTORY screen, the alarm which occurred in operation can be displayed from the latest one
to a maximum of 20 affairs.

![NAVTEX ALARM screen](image)

To print the NAVTEX alarms to the external printer, press the *key in order to display the sub screen.
Select the “[PRINT OUT]”, and press the ENT key. Printing is started.

To stop printing, press the CLR key while printing.

To return to the NAVTEX ALARM screen, select the “[CANCEL]” and press the ENT key.

**Notes**

- To return to the MAINTENANCE screen, press the CLR key or key.
- "NO DATA" is displayed when NAVTEX alarm has not occurred.

![NAVTEX ALARM screen](image)
a. Alarm history (ALARM HISTORY)

This screen displays a history of alarms which occur while the power is on. It displays the alarm history from the most recent one maximum 20 lines.
To return to the NAVTEX ALARM screen, press the CLR key or ▼ key.

1) To display the next old result, press the ▼ key.
- ▼ mark is displayed on the bottom line when the alarm history screen is able to be scrolled downward.
- ▲ mark is displayed on the top line when the alarm history screen is able to be scrolled upward.
- Press the ▲ ▼ key and scroll the viewing area.

The time of an alarm occurred and is restored is displayed when external GPS receiver is connected.
"--/--/-- --:--" is displayed when time is not able to be acquired. (External GPS receiver is not connected.)

The display of the alarm is described.
Alarm message: 001, V, antenna malfunction
1 2 3
1: The alarm number (refer to the following table)
2: The alarm condition -> “V”: Healthy status, “A”: Alarm is occurring
3: Alarm’s description text (refer to the following table)

The list of NAVTEX alarm

<table>
<thead>
<tr>
<th>Alarm No.</th>
<th>Alarm's description text</th>
<th>The contents of unusual detection</th>
</tr>
</thead>
<tbody>
<tr>
<td>004</td>
<td>Receiver malfunction</td>
<td>Unusual detection at the RX</td>
</tr>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>Self diagnosis failure</td>
</tr>
<tr>
<td>006</td>
<td>General failure</td>
<td>Unusual detection at the power supply part</td>
</tr>
<tr>
<td>051</td>
<td>Antenna malfunction</td>
<td>Unusual detection of antenna power supply</td>
</tr>
<tr>
<td>052</td>
<td>Flash memory error</td>
<td>The data in a memory is broken.</td>
</tr>
<tr>
<td>053</td>
<td>Rx unit modem error</td>
<td>Unusual detection at the modem part</td>
</tr>
<tr>
<td>054</td>
<td>Printer error</td>
<td>External printer has malfunction</td>
</tr>
<tr>
<td>055</td>
<td>EXT SIO output error</td>
<td>Unusual detection at the &quot;DISP&quot; output port</td>
</tr>
<tr>
<td>056</td>
<td>Receiver 1 malfunction</td>
<td>Unusual detection at the RX1</td>
</tr>
<tr>
<td>057</td>
<td>Receiver 2 malfunction</td>
<td>Unusual detection at the RX2</td>
</tr>
<tr>
<td>058</td>
<td>Receiver 3 malfunction</td>
<td>Unusual detection at the RX3</td>
</tr>
</tbody>
</table>

2) To print the NAVTEX alarms to the external printer, press the * key in order to display the sub screen.
Select the "[PRINT OUT]", and press the ENT key. Printing is started.
[PRINT OUT]: Printing is started.
[CANCEL]: Diagnosis is canceled, and the sub screen is closed.
6.3.5.3 Setting status of the NAVTEX Receiver (STATUS)

To display STATUS screen, select 3 STATUS from MAINTENANCE menu (6.3.5).
The setting information of NCR-333 is displayed on the screen.

---

The setting information of each items are as follows;
- 518 (490, 4209.5) kHz DISABLED STATION:
  The alphabet of stations which does not receive is displayed.
- 518 (490, 4209.5) kHz DISABLED MESSAGE TYPE:
  The alphabet of message type which does not receive is displayed.
- N OF STORED MSG: The number of the stored messages is displayed. Starting from the left, 518k, 490k, and 4209.5 kHz are displayed. When the number of the stored messages is the maximum, it is displayed as "FULL".
- N OF SAVE MSG: The number of the saved messages is displayed. Starting from the left, 518k, 490k, and 4209.5 kHz are displayed. When the number of the saved messages is the maximum, it is displayed as "FULL".
- INS MSG OUTPUT SETTING:
  The alphabet of stations and msg type which does not output ins is displayed.
- PRINT MSG OUTPUT SETTING:
  The alphabet of stations and msg type which does not output printer is displayed.

---

Notes

- To return to the MAINTENANCE screen, press the CLR key or key.

---

Press the key in order to display the sub screen.

To print the setting status to the external printer, select the "[PRINT OUT]", and press the ENT key.
To stop printing, press the CLR key while printing.

To output the status data to serial ports, select the "[DATA OUT]", and press the ENT key.
To stop outputting press the CLR key while data outputting.

To return to the STATUS screen, select the "[CANCEL]" and press the ENT key.
6.3.5.4 Port monitor (PORT MONITOR)

Select 4. PORT MONITOR, and press the ENT key. PORT MONITOR screen appears.

Select the port for monitoring. It can check whether data is normally outputted from the port. In addition, the displayed data can be stored temporarily to be rechecked.

[PORT MONITOR screen]

Fig. 6-18 PORT MONITOR screen

**Procedure**

1. Press the ▲▼ key in order to select the items.

2. When the ENT key is pressed, the menu screen of selected item appears.
   Pressing the ▶ key can display the same.
   - When cursor is on the item 1, cursor moves to the right side of "":".
   - When cursor is on the item 2, the menu screen of item 2 appears.

**Notes**

- To return to the MAINTENANCE screen, press the CLR key or ◀ key.
- If the ▶ key is pressed when cursor is on the right side of ":" of the item 1, cursor returns on the item 1. (PORT SELECTION)

The outlines of menus are as follows;

1. PORT SELECTION: Select the port to check the serial in/output data. (See a. The check of in/output data)
2. PORT LOG: The data stored temporarily is displayed. (See c. Port log)
a. The check of in/output data (PORT SELECTION)

Procedure
1) Select PORT SELECTION, and press the ENT key. Cursor moves to the right side of ":".

2) Press the ▲ ▼ key and select the following items;
   OFF: The monitoring of each port does not carry out.
   GPS IN: Input data of the GPS port
   DISP IN: Input data of the DISP (Option) port
   DISP OUT: Output data of the DISP (Option) port

3) Example - Select the “GPS IN”, and press the ENT key.
   PORT MONITOR menu screen changes to the data display screen.

- When neither the GPS receiver nor MPD is connected to the port of “GPS IN” and “DISP IN”, nothing is displayed on the data display screen.

b. Store the displaying data temporarily

Procedure
1) Press the * key. The sub screen appears.

2) Select the “[START]”, and press the ENT key. Storing of the displaying data is started.
   During storing, the following is displayed on the screen title.
   “NOW LOGGING...”

Notes
- When the MENU, DISP or USER key is pressed, storing of the displaying data is stopped.
- Data is recordable to two screens.
- Data is stored until the power is turned off.

3) For canceling, select the “[STOP]” and press the ENT key.
   The sub screen is closed, and storing of the displaying data is stopped.
c. Port log (PORT LOG)

Procedure

1) Select PORT LOG and press the ENT key. PORT LOG screen appears.
   The data stored in the PORT MONITOR is displayed on this screen.

2) "▼" mark is displayed on the bottom line when the PORT LOG screen is able to be scrolled downward.
   "▲" mark is displayed on the top line when the PORT LOG screen is able to be scrolled upward.
   Press the ▲▼ key and scroll the viewing area.

Press the ▼ key. The sub screen appears.

To print the setting status to the external printer, select the "[PRINT OUT]", and press the ENT key.
To stop printing, press the CLR key while printing.

To output the status data to serial ports, select the "[DATA OUT]", and press the ENT key.
To stop outputting, press the CLR key while data outputting.

To return to the PORT LOG screen, select the "[CANCEL]" and press the ENT key.

Notes

- All the character strings displayed on the PORT LOG screen are printed.
6.3.5.5 Software version (SOFTWARE VERSION)

When MAINTENANCE menu screen is displayed, the present software version is displayed on the item 5. To display the MAIN MENU, press the CLR key.

The explanations of each item are as follows;
- PROGRAM: Program version is displayed.
- LANGUAGE: Language version is displayed.
- OPTION: Option language version is displayed.
When the option language is not installed, "--.--" is displayed.

6.3.6 The display language setting (LANGUAGE)

To select the display language, select 6.LANGUAGE from MAIN MENU (6.3). Press the ▲▼ key and select the language. When the ENT key is pressed, menu screens are displayed in the selected language.

6. LANGUAGE : ENGLISH

When the language data is already installed, the language name is displayed as follows.
- FRENCH
- PORTUGUESE
- ITALIAN
- SPANISH

When the option language is already installed, the option language name is displayed.

The initial setting is “ENGLISH”.

**Notes**

In case the language setting is selected except for “ENGLISH”, the character size is only medium.
7. MAINTENANCE AND INSPECTION

The performance and longevity of this equipment depend on careful maintenance. To maintain the best performance, the following periodic inspections are highly recommended.

⚠️ CAUTION

- Keep the power supply voltage within the specified value (10.8 - 35Vdc).
- Know the condition of normal status when the equipment is properly functioning. Keep comparing the current status to the normal status to immediately detect any malfunctions.
- Use the printer paper as specified by JRC. The use of any other unspecified paper may cause printing density blurs, abnormal paper feed, much dust, resulting in the damage of the printer.

⚠️ WARNING

- Do not attempt to inspect or repair the inside of this equipment with the exception of qualified service personnel, as doing so may cause fire, electric shock or malfunction. If any malfunctions are detected, contact our service center or agents.
- Use only specified fuses. The use of other fuse may cause fire and/or damage.
  - The fuses are used for NBG-319 or NBG-320. The power switch on the power distribution panel must be turned off during replacing a fuse. Remove the cap of the front panel, and then exchange fuses.

7.1 General Maintenance and Inspection

Below are listed general maintaining and inspecting items, which can be done with usual tools and apparatus.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>Maintenance and inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cleaning</td>
<td>Gently clean the surface of the panel, switches, and cover with soft cloth or silicon oil. No oil is needed because this unit has no moving mechanisms inside.</td>
</tr>
<tr>
<td>2</td>
<td>Looseness of parts</td>
<td>Inspect for looseness and correctly tighten the following: Screws, nuts and connectors.</td>
</tr>
</tbody>
</table>
7.2 Periodic Inspection

Regarding the functions for performing self-diagnosis and monitoring the system status, please refer to "6.3.5 Maintenance Menu"

7.2.1 Confirming the RX station and Message type

To check the receiving station and message type, please refer to 6.1.3 and 6.3.2. Be sure to set up the receiving station and message type correctly.

7.2.2 Confirming the Alarm Status

With referring 6.3.5.2, confirm that failure alarm is not occurring. If any alarm occurs, check the cause of the alarm. NCR-333 Alarm Table is followings.

### NCR-333 Alarm Table

<table>
<thead>
<tr>
<th>Alarm No.</th>
<th>Indication</th>
<th>Alarm Occurrence Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>After carrying out self-diagnosis, NCR-333 detected</td>
</tr>
<tr>
<td>006</td>
<td>General failure</td>
<td>that the input voltage was abnormal.</td>
</tr>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>After carrying out self-diagnosis, NCR-333 detected</td>
</tr>
<tr>
<td>051</td>
<td>Antenna malfunction</td>
<td>that the output voltage of antenna terminal was low voltage.</td>
</tr>
<tr>
<td>004</td>
<td>Receiver malfunction</td>
<td>After carrying out self-diagnosis, NCR-333 detected</td>
</tr>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>that the receiver 1 (518kHz) could not receive</td>
</tr>
<tr>
<td>056</td>
<td>Receiver 1 malfunction</td>
<td>because of abnormalities.</td>
</tr>
<tr>
<td>004</td>
<td>Receiver malfunction</td>
<td>After carrying out self-diagnosis, NCR-333 detected</td>
</tr>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>that the receiver 2 (490kHz) could not receive</td>
</tr>
<tr>
<td>057</td>
<td>Receiver 2 malfunction</td>
<td>because of abnormalities.</td>
</tr>
<tr>
<td>004</td>
<td>Receiver malfunction</td>
<td>After carrying out self-diagnosis, NCR-333 detected</td>
</tr>
<tr>
<td>005</td>
<td>Built in self test failure</td>
<td>that the receiver 3 (4209.5kHz) could not receive</td>
</tr>
<tr>
<td>058</td>
<td>Receiver 3 malfunction</td>
<td>because of abnormalities.</td>
</tr>
<tr>
<td>006</td>
<td>General failure</td>
<td>The input voltage is low level.</td>
</tr>
<tr>
<td>053</td>
<td>Rx unit modem error</td>
<td>The receiver 1 (518kHz) could not receive because of</td>
</tr>
<tr>
<td>056</td>
<td>Receiver 1 malfunction</td>
<td>internal MODEM failure.</td>
</tr>
<tr>
<td>053</td>
<td>Rx unit modem error</td>
<td>The receiver 2 (490kHz) could not receive because of</td>
</tr>
<tr>
<td>057</td>
<td>Receiver 2 malfunction</td>
<td>internal MODEM failure.</td>
</tr>
<tr>
<td>053</td>
<td>Rx unit modem error</td>
<td>The receiver 3 (4209.5kHz) could not receive because of</td>
</tr>
<tr>
<td>058</td>
<td>Receiver 3 malfunction</td>
<td>internal MODEM failure.</td>
</tr>
<tr>
<td>051</td>
<td>Antenna malfunction</td>
<td>The output voltage of antenna terminal is low voltage.</td>
</tr>
<tr>
<td>052</td>
<td>Flash memory error</td>
<td>The flash memory data is abnormal.</td>
</tr>
<tr>
<td>054</td>
<td>Printer error</td>
<td>External printer is abnormal.</td>
</tr>
<tr>
<td>055</td>
<td>EXT SIO output error</td>
<td>“DISP” output port is abnormal.</td>
</tr>
</tbody>
</table>
# 7.3 Trouble Shootings

## 7.3.1 Trouble Shootings

<table>
<thead>
<tr>
<th>Symptom of Error</th>
<th>Possible Cause or Cause of Fault</th>
<th>Countermeasures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power is not supplied when the power switch is pressed.</td>
<td>Power is not distributed from the inboard distribution panel.</td>
<td>Supply power from the distribution panel.</td>
</tr>
<tr>
<td></td>
<td>Power is not supplied from the power supply unit or NCR-333.</td>
<td>Check that the wiring of the power unit is correct. Check that the output voltage of the power unit or NCR-333 is correct.</td>
</tr>
<tr>
<td></td>
<td>Power that the power unit supplies is out of range.</td>
<td>Replace the power unit.</td>
</tr>
<tr>
<td></td>
<td>The fuses in the Power Supply Unit (Option) are blown out.</td>
<td>Check that the wiring is correct and replace the fuses.</td>
</tr>
<tr>
<td></td>
<td>The power supply cable is broken.</td>
<td>Replace the power supply cable.</td>
</tr>
<tr>
<td></td>
<td>The controller switch is broken.</td>
<td>Replace the CMD-953 circuit board.</td>
</tr>
<tr>
<td></td>
<td>The LCD malfunctions.</td>
<td>Replace the LCD.</td>
</tr>
<tr>
<td></td>
<td>The control unit malfunctions.</td>
<td>Replace the CMJ-501N circuit board.</td>
</tr>
<tr>
<td></td>
<td>No alarming sound is generated.</td>
<td>Replace the CMD-953 circuit board.</td>
</tr>
<tr>
<td></td>
<td>The control unit malfunctions.</td>
<td>Replace the CMJ-501N circuit board.</td>
</tr>
<tr>
<td></td>
<td>The illumination does not light.</td>
<td>Replace the CMJ-501N circuit board.</td>
</tr>
<tr>
<td></td>
<td>The LCD malfunctions.</td>
<td>Replace the LCD.</td>
</tr>
<tr>
<td>No NAVTEX message is received.</td>
<td>The polarity or antenna cable is incorrect.</td>
<td>Check if the polarity is correct and connect it.</td>
</tr>
<tr>
<td></td>
<td>Neither the receiving station nor the message type is selected correctly.</td>
<td>Refer to “6.3.1” or “6.3.2”.</td>
</tr>
<tr>
<td></td>
<td>The NAVTEX antenna (NAW-333) is damaged.</td>
<td>Replace the NAW-333.</td>
</tr>
<tr>
<td></td>
<td>The following alarm number appears: 004. Internal receiver 1, 2 or 3 is broken.</td>
<td>Replace the CMN-2333.</td>
</tr>
<tr>
<td>Sensor data (external GPS, gyro, and rate-of-turn) cannot be loaded.</td>
<td>The polarity of the serial cable is incorrect.</td>
<td>Check if the polarity is correct and connect it.</td>
</tr>
<tr>
<td></td>
<td>The interface between the sensor and NCR-333 is incorrect.</td>
<td>Check if the interface is correct before its connection.</td>
</tr>
<tr>
<td></td>
<td>The sentence that the sensor generates is not supported by the NCR-333.</td>
<td>Check the output command and the version.</td>
</tr>
<tr>
<td></td>
<td>The serial format (baud rate, etc.) does not meet the setting of the controller.</td>
<td>Check the serial format of the sensor.</td>
</tr>
<tr>
<td></td>
<td>The sensor (GPS, gyro, rate-of-turn indicator) malfunctions.</td>
<td>Replace the sensor.</td>
</tr>
</tbody>
</table>

---

**WARNING**

Do not attempt to inspect or repair the inside of this equipment with the exception of qualified service personnel, as doing so may cause fire, electric shock or malfunction. If any malfunctions are detected, contact our service center or agents.

For reference, this section presents a troubleshooting guideline for finding defective sections.
<table>
<thead>
<tr>
<th>Symptom of Error</th>
<th>Possible Cause or Cause of Fault</th>
<th>Countermeasures</th>
</tr>
</thead>
<tbody>
<tr>
<td>The external printer does not print</td>
<td>The external printer is not ON.</td>
<td>Turn on the external printer.</td>
</tr>
<tr>
<td></td>
<td>The printer power is not turned on.</td>
<td>Check the printer power cable.</td>
</tr>
<tr>
<td></td>
<td>Printer property (printer settings) is incorrect.</td>
<td>Refer to “6.3.4.5”.</td>
</tr>
</tbody>
</table>

### 7.3.2 Maintenance Units

Maintenance units for repair are followings.

<table>
<thead>
<tr>
<th>No.</th>
<th>Unit Name</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RX UNIT</td>
<td>CMN-2333</td>
</tr>
<tr>
<td>2</td>
<td>DPU</td>
<td>CMJ-501N</td>
</tr>
<tr>
<td>3</td>
<td>KEYBOARD UNIT</td>
<td>CMD-953-1</td>
</tr>
<tr>
<td>4</td>
<td>NAVTEX ANTENNA</td>
<td>NAW-333-1</td>
</tr>
<tr>
<td>5</td>
<td>POWER SUPPLY UNIT</td>
<td>NBG-319</td>
</tr>
<tr>
<td>6</td>
<td>POWER SUPPLY UNIT</td>
<td>NBG-320</td>
</tr>
<tr>
<td>7</td>
<td>Whip Antenna</td>
<td>5ABBE00001 0.6 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fuses</th>
<th>No.</th>
<th>Unit Name</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5A Fuse</td>
<td>ULTSC 5A N1</td>
<td>For NBG-319</td>
</tr>
<tr>
<td>2</td>
<td>2A Fuse</td>
<td>MQ4 250V 2A N1</td>
<td>For NBG-320</td>
</tr>
<tr>
<td>3</td>
<td>4A Fuse</td>
<td>MQ2 125V 4A N1</td>
<td>For NBG-320</td>
</tr>
</tbody>
</table>

### 7.3.3 Spear parts for periodic maintenance

Spear parts for periodic maintenance are followings.

<table>
<thead>
<tr>
<th>No.</th>
<th>Unit Name</th>
<th>Code</th>
<th>Decline period</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LCD Unit</td>
<td>CCN-392</td>
<td>40,000 hours</td>
<td>5 years in continuous operation</td>
</tr>
<tr>
<td>2</td>
<td>Printer (Option)</td>
<td>DPU-414</td>
<td>Approx. 500,000 lines</td>
<td>When the thermal paper of 25m roll length is used, about 90 thermal papers can be used.</td>
</tr>
<tr>
<td>3</td>
<td>Printer (Option)</td>
<td>NKG-91</td>
<td>Approx. 100 million pulses</td>
<td>When the thermal paper of 25m roll length is used, about 500 thermal papers can be used.</td>
</tr>
<tr>
<td>4</td>
<td>Printer paper</td>
<td>6ZCAF00252A</td>
<td></td>
<td>For DPU-414</td>
</tr>
<tr>
<td>5</td>
<td>Printer paper</td>
<td>7ZPJD0384</td>
<td></td>
<td>For NKG-91</td>
</tr>
</tbody>
</table>
8. AFTER-SALES SERVICE

Warranty

- The warranty period is determined by JRC’s warranty regulations, but is normally one year from the date of purchase day. Additionally, the warranty except for the body text is submitted to contractual agreements.

Holding period of Service parts

- Keeping period of maintenance parts is ten years from the production is discontinued.

Before returning repair

If what appears to be a malfunction is detected, refer to “7.3 Troubleshooting” to check if the equipment is actually defective before requesting repair. If the defect persists, immediately stop operation and call our service center or agents.

- During the warranty period, our agencies or we will repair the malfunction without any fee, according to the specified procedure.
- After the warranty expires, we will repair the malfunction for a fee, if repair is possible. In this case, send the parts or we'll repair onboard in a specified port. The parts may be repaired in a plant if it’s unrepairable onboard.
- Item for notification
  Product name, type, manufactured data, serial number, information about the malfunction (the more detailed, the better), information about the alarm number and software version, your company or organization name, address and phone number.

Periodical maintenance recommendation

Performance of this equipment may degrade over time because parts wear out, although degradation depends on how this unit has been maintained. We recommend periodic professional maintenance checks in addition to daily maintenance.

Call our service center or agents for periodic professional maintenance (This maintenance requires a service charge).

Call our office or the nearest agency for detailed information about after-sales service.

[JRC offices or the nearest agency]
See the List of JRC offices or the nearest agency at the end of this manual.
9. SPECIFICATIONS

9.1 NAVTEX RECEIVER (NCR-333)

### 9.1.1 Receiver

1. Receiving frequency: 518kHz, 490kHz and 4209.5kHz
2. Receiving modulation: F1B
3. Sensitivity: CER ≤ 1x10^{-2} at 1uV (CER: Character Error Rate)
4. Antenna input:
   - 50 ohms for NAVTEX antenna
   - 50 ohms for wide-band antenna
   - High impedance for wire antenna

### 9.1.2 Operation panel

1. Type of display: 5.7-inch FSTN LCD, 320×240 dots
2. Keyboard: 12 keys
3. Back-light: For LCD and key board
4. Dimmer control: Bright, medium1, medium2, off (Selectable from keyboard)

### 9.1.3 Power supply

1. Input voltage: 12 / 24Vdc (+30%, -10%)
2. Power consumption: 9 W (at 24 Vdc input)

### 9.1.4 External interfaces

1. INS (Integrated Navigation System) communication ports: DATA IN / DATA OUT
   - One communication port meets the requirements of IEC 61162-1
     - Baudrate: 4800bps
     - Data bit: 8bits
     - Parity: none
     - Stop bit: 1bit
     - Flow control: none

2. External printer / maintenance port: PRINTER/MAINTENANCE
   - One communication port meets the requirements of RS-232C (D-sub 9pin).
     - Baud rate: User setting (4800 / 9600 / 38.4k bps)
     - Data bit: 8bits
     - Parity: none
     - Stop bit: 1bit
     - Flow control: User setting (Hard / None)

3. Remote maintenance data output port: DATA OUT2
   - One output port meets the requirements of IEC 61162-1

4. Photo mos relay terminals: EXT ALM
   - One port for external alarm device

5. Photo coupler terminals: BK
   - One port for 12VDC or 24VDC

6. MPD (Multi purpose display) communication port: DISP
   - One communication port meets the requirements of RS-485
9.1.5 Environmental condition

Durability and resistance to environmental conditions: protected from the weather (IEC 60945)

1. Equipment category: Protection against weather
2. Operating temperature: -15°C to +55°C (IEC 60945)
3. Storage temperature: -25°C to +75°C
4. Water resistance: IP22

9.1.6 Supported interface sentences

<table>
<thead>
<tr>
<th>Indication</th>
<th>Sentence format</th>
<th>Supported sentence formatters</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATA IN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC61162-1</td>
<td>RMC, GGA, GLL</td>
</tr>
<tr>
<td></td>
<td>(NMEA Ver 1.5 -2.3)</td>
<td>Longitude/Latitude</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time of Position</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Datum Reference</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Speed Over Ground (SOG)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Course Over Ground (COG)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heading</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rate of Turn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acknowledge alarm</td>
</tr>
<tr>
<td></td>
<td>IEC61097-6</td>
<td>NRM</td>
</tr>
<tr>
<td></td>
<td>(IEC61097-6</td>
<td>Request NAVTEX messages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Set NAVTEX mask</td>
</tr>
<tr>
<td>DATA OUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC61162-1</td>
<td>ALR</td>
</tr>
<tr>
<td></td>
<td>Set alarm state</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IEC61097-6</td>
<td>NRX</td>
</tr>
<tr>
<td></td>
<td>NAVTEX received message</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Set NAVTEX mask</td>
<td></td>
</tr>
</tbody>
</table>

9.1.7 Received message log

1. Stored message: Stores the 200 last received messages (*1). (Each channel)
2. Saved message: Stores the 50 stored messages (*1). (Each channel)

(*1): message ... 500 character long message

Stored messages are erased 70 hours after their reception.
The source of time for handling message ageing is RMC sentence from an external source (DATA IN).
When the data from the external source is not inputted, it is counted by the internal timer.
9.2 NAVTEX ANTENNA (NAW-333 - Option)

9.2.1 Electrical characteristics

(1) Receiving frequency: 518kHz, 490kHz and 4209.5kHz
(2) Bandwidth: 504kHz: ±20kHz
4209.5kHz: ±100kHz
(3) Consumption current: 6.5Vdc: 23mA (Typ.)
(4) Impedance: 50 ohms

9.2.2 Environmental condition

(1) Equipment category: Exposure to weather
(2) Operating temperature: -25°C to +55°C (IEC 60945)

9.3 POWER SUPPLY UNIT (NBG-320 - Option)

(1) Input voltage: 100-120 / 200-220 Vdc ±10%, 50/60Hz Single phase
24Vdc (+30%, -10%) (Back up power supply)
(2) Output voltage: Typ. 12Vdc ±10%
6.5Vdc ±10% (for External Printer)
(3) Maximum current: 1.5 A (24V)
2.0 A (6.5V)

9.4 POWER SUPPLY UNIT (NBG-319 - Option)

(1) Input voltage: 10.8 - 35Vdc
(2) Output voltage: 10.8 - 35Vdc
Typ. 6.5Vdc ±10% (for External Printer)
(3) Maximum current: 1.5 A (12 / 24V)
2.0 A (6.5V)
APPENDIX

LOCATION & TIME SCHEDULE FOR NAVTEX COAST STATIONS

Note: Based on status in 2012.
NAVAREA OF WORLD
LOCATION OF NAVTEX COAST STATIONS
### NAVAREA I

<table>
<thead>
<tr>
<th>Country</th>
<th>Coast station</th>
<th>Position</th>
<th>Range (nm)</th>
<th>Freq (kHz)</th>
<th>ID</th>
<th>Tx time (UTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Kostende Radio</td>
<td>51 11N 02 46E</td>
<td>50</td>
<td>516</td>
<td>T</td>
<td>0310.0,0710,1110,1510,1910,2310</td>
</tr>
<tr>
<td>Belgium</td>
<td>Kostende Radio</td>
<td>51 11N 02 46E</td>
<td>150</td>
<td>516</td>
<td>V</td>
<td>0330.0,0730,1130,1530,1930,2330</td>
</tr>
<tr>
<td>Estonia</td>
<td>Tallinn</td>
<td>59 27N 24 21E</td>
<td>250</td>
<td>516</td>
<td>U</td>
<td>0320.0,0720,1120,1520,1920,2320</td>
</tr>
<tr>
<td>France</td>
<td>Cross Corse</td>
<td>48 26N 05 03W</td>
<td>300</td>
<td>516</td>
<td>A</td>
<td>0300.0,0400,0800,1200,1600,2000</td>
</tr>
<tr>
<td>Germany</td>
<td>Pinneberg</td>
<td>53 40N 09 48E</td>
<td>250</td>
<td>518</td>
<td>S</td>
<td>0300.0,0700,1100,1500,1900,2300</td>
</tr>
<tr>
<td>Iceland</td>
<td>Saudanes</td>
<td>66 11N 18 57W</td>
<td>450</td>
<td>518</td>
<td>R</td>
<td>0250.0,0650,1050,1450,1850,2250</td>
</tr>
<tr>
<td>Iceland</td>
<td>Grindavik</td>
<td>63 49N 22 27W</td>
<td>450</td>
<td>518</td>
<td>X</td>
<td>0350.0,0750,1150,1550,1950,2350</td>
</tr>
<tr>
<td>Ireland</td>
<td>Valentia</td>
<td>51 56N 10 31W</td>
<td>400</td>
<td>518</td>
<td>W</td>
<td>0340.0,0740,1140,1540,1940,2340</td>
</tr>
<tr>
<td>Ireland</td>
<td>Malin Head</td>
<td>56 21N 07 20W</td>
<td>400</td>
<td>518</td>
<td>Q</td>
<td>0240.0,0640,1040,1440,1840,2240</td>
</tr>
<tr>
<td>Netherlands</td>
<td>Ned C-C</td>
<td>52 35N 04 16E</td>
<td>110</td>
<td>518</td>
<td>P</td>
<td>0230.0,0630,1030,1430,1830,2230</td>
</tr>
<tr>
<td>Norway</td>
<td>Rogaland Radio</td>
<td>58 38N 05 36E</td>
<td>450</td>
<td>516</td>
<td>L</td>
<td>0150.0,0550,0950,1350,1750,2150</td>
</tr>
<tr>
<td>Norway</td>
<td>Jelloyia</td>
<td>59 26N 10 36E</td>
<td>200</td>
<td>516</td>
<td>M</td>
<td>0200.0,0600,1000,1400,1800,2200</td>
</tr>
<tr>
<td>Norway</td>
<td>Orlandet</td>
<td>63 39N 09 32E</td>
<td>450</td>
<td>516</td>
<td>N</td>
<td>0210.0,0610,1010,1410,1810,2210</td>
</tr>
<tr>
<td>Sweden</td>
<td>Bjurköllub</td>
<td>64 27N 21 35E</td>
<td>300</td>
<td>516</td>
<td>H</td>
<td>0110.0,0510,0910,1310,1710,2110</td>
</tr>
<tr>
<td>Sweden</td>
<td>Gristlovshammar</td>
<td>56 23N 14 18E</td>
<td>300</td>
<td>518</td>
<td>J</td>
<td>0130.0,0530,0930,1330,1730,2130</td>
</tr>
<tr>
<td>Sweden</td>
<td>Grimenstol</td>
<td>57 06N 12 23E</td>
<td>300</td>
<td>518</td>
<td>I</td>
<td>0120.0,0520,0920,1320,1720,2120</td>
</tr>
<tr>
<td>UK</td>
<td>Collencoats</td>
<td>55 04N 01 27W</td>
<td>300</td>
<td>516</td>
<td>G</td>
<td>0100.0,0500,0900,1300,1700,2100</td>
</tr>
<tr>
<td>UK</td>
<td>Portpatrick</td>
<td>54 50N 05 07W</td>
<td>300</td>
<td>518</td>
<td>O</td>
<td>0220.0,0620,1020,1420,1820,2220</td>
</tr>
<tr>
<td>UK</td>
<td>Niton</td>
<td>50 35N 01 15W</td>
<td>300</td>
<td>516</td>
<td>E</td>
<td>0140.0,0440,0840,1240,1640,2040</td>
</tr>
<tr>
<td>UK</td>
<td>Niton</td>
<td>50 35N 01 15W</td>
<td>300</td>
<td>518</td>
<td>K</td>
<td>0140.0,0450,0850,1250,1650,2050</td>
</tr>
<tr>
<td>Faeroe (Denmark)</td>
<td>Tórshavn Radio</td>
<td>62 00N 08 48W</td>
<td>300</td>
<td>518</td>
<td>D</td>
<td>0300.0,0400,0800,1200,1600,2000</td>
</tr>
</tbody>
</table>

### NAVAREA II

<table>
<thead>
<tr>
<th>Country</th>
<th>Coast station</th>
<th>Position</th>
<th>Range (nm)</th>
<th>Freq (kHz)</th>
<th>ID</th>
<th>Tx time (UTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>France</td>
<td>Cross Corse</td>
<td>48 28N 05 03W</td>
<td>300</td>
<td>518</td>
<td>A</td>
<td>0200.0,0400,0800,1200,1600,2000</td>
</tr>
<tr>
<td>France</td>
<td>Guéssant</td>
<td>48 28N 05 03W</td>
<td>300</td>
<td>518</td>
<td>E</td>
<td>0140.0,0440,0840,1240,1640,2040</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>São Vicente</td>
<td>16 51N 25 00W</td>
<td>250</td>
<td>516</td>
<td>U</td>
<td>0320.0,0720,1120,1520,1920,2320</td>
</tr>
<tr>
<td>Portugal</td>
<td>Horta</td>
<td>38 31N 28 37W</td>
<td>640</td>
<td>518</td>
<td>F</td>
<td>0150.0,0450,0850,1250,1650,2050</td>
</tr>
<tr>
<td>Portugal</td>
<td>Monsanto</td>
<td>38 43N 09 11W</td>
<td>530</td>
<td>518</td>
<td>R</td>
<td>0250.0,0650,1050,1450,1850,2250</td>
</tr>
<tr>
<td>Senegal</td>
<td>Dakar</td>
<td>14 46N 17 20W</td>
<td>200</td>
<td>516</td>
<td>C</td>
<td>0200.0,0420,0820,1220,1620,2020</td>
</tr>
<tr>
<td>Spain</td>
<td>Coruna</td>
<td>43 22N 08 27W</td>
<td>400</td>
<td>518</td>
<td>D</td>
<td>0130.0,0430,0830,1230,1630,2030</td>
</tr>
<tr>
<td>Spain</td>
<td>Tarifa</td>
<td>36 02N 05 33W</td>
<td>400</td>
<td>518</td>
<td>G</td>
<td>0100.0,0500,0900,1300,1700,2100</td>
</tr>
<tr>
<td>Spain</td>
<td>Las Palmas</td>
<td>28 25N 16 20W</td>
<td>400</td>
<td>518</td>
<td>I</td>
<td>0120.0,0520,0920,1320,1720,2120</td>
</tr>
<tr>
<td>Spain</td>
<td>Las Palmas</td>
<td>28 25N 16 20W</td>
<td>400</td>
<td>518</td>
<td>A</td>
<td>0100.0,0400,0800,1200,1600,2000</td>
</tr>
<tr>
<td>Country</td>
<td>City/Station</td>
<td>Frequency</td>
<td>Power</td>
<td>Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------</td>
<td>-----------</td>
<td>-------</td>
<td>----------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algeria</td>
<td>Kiffan</td>
<td>36°46′N 03°15′E</td>
<td>200</td>
<td>518 E 00:10.0410,08:10.1210,16:10.2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>Baku</td>
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### NAVAREA XIX

| Norway     | Svalbard      | 78 03N 13 36E | 450        | 518       | A  | 0000, 0400, 0800, 1200, 1600, 2000 |
| Norway     | Bodø          | 67 16N 14 23E | 450        | 518       | B  | 0010, 0410, 0810, 1210, 1610, 2010 |
| Norway     | Vardo         | 70 22N 31 06E | 450        | 518       | C  | 0030, 0730, 1130, 1530, 1930, 2330 |

### NAVAREA XX

| Russia     | Murmansk      | 68 46N 32 58E | 390        | 518       | K  | 0140, 0540, 0940, 1340, 1740, 2140 |
| Russia     | Arkhangelsk   | 64 51N 40 17E | 390        | 518       | L  | 0150, 0550, 0950, 1350, 1750, 2150 |

### NAVAREA XXI

| Russia     | Tiksi         | 71 36N 126 50E | 300        | 518       | Q  | 0240, 0640, 1040, 1440, 1840, 2240 |
Declaration on toxic & hazardous substances or elements
of Electronic Information Products
Japan Radio Company Limited

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<td>船内装置 (Inboard Unit)</td>
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<tr>
<td>外部设备 (Peripherals)</td>
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〇:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量以下。(Indicates that this toxic, or hazardous substance contained in all of the homogeneous materials for this part is below the requirement in SJ/T11363-2006.)

✕:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。(Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T 11363-2006.)

RE: 中华人民共和国电子信息产品污染控制管理办法
Management Methods on Control of Pollution from Electronics Information Products of the People's Republic of China