

NAVTEX Receiver

NCR-333

Instruction Manual

JRC *Japan Radio Co., Ltd.*

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



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



The \bullet symbol indicates operations that must be performed. The illustration inside the \bullet symbol specifies obligatory instructions. (In this example unplugging is the obligatory instruction.)

Handling Precautions

WARNING



Do not disassemble or customize this unit. Doing so may cause fire, electrical shock or malfunction.



Do not get this equipment wet or spill any liquids on or near this equipment. Doing so causes electrical shock or malfunction.



Do not use a voltage other than specified. Doing so may cause fire, electrical shock or malfunction.



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.

Handling Precautions

CAUTION



Do not use this equipment for anything other than specified.
Doing so may cause malfunction or damage to persons.



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.



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.



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.



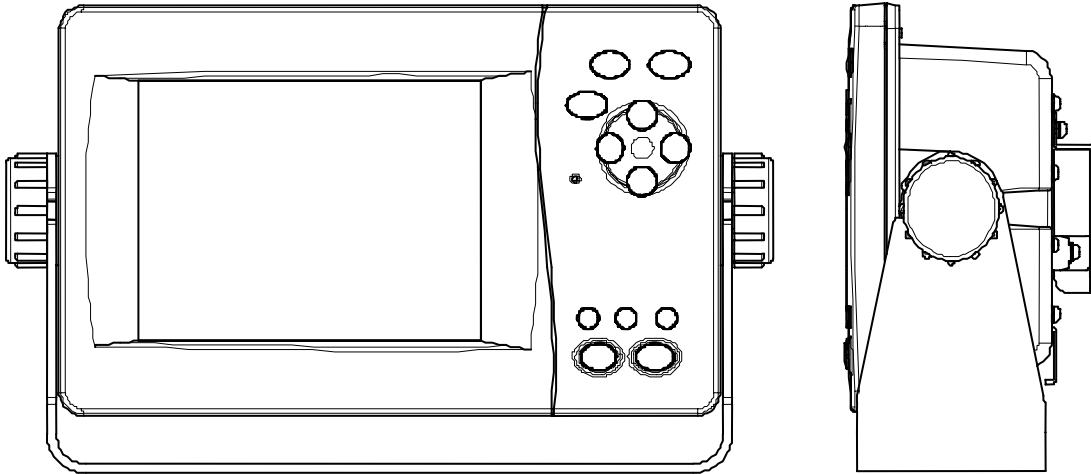
Do not place any objects on this equipment.
Doing so may cause a fall, malfunction or damage to property and persons.



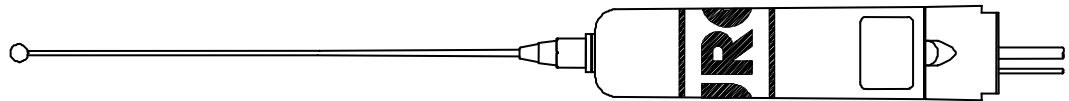
Leave installation of this equipment to our service center or agents.
Installation by an unauthorized person may lead to malfunction.

External Views

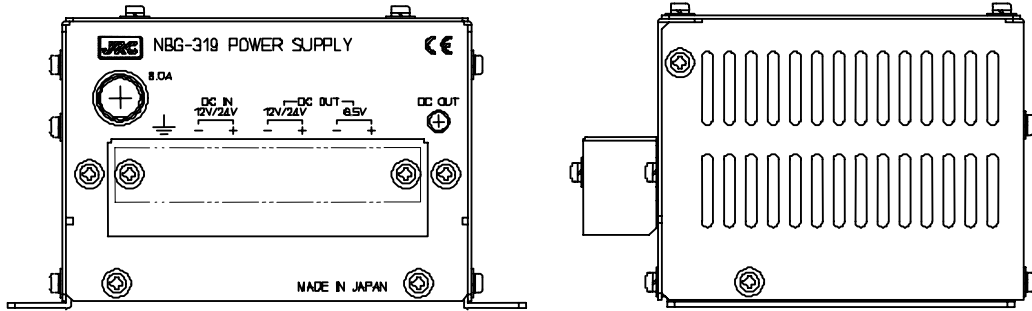
NCR-333 NAVTEX Receiver



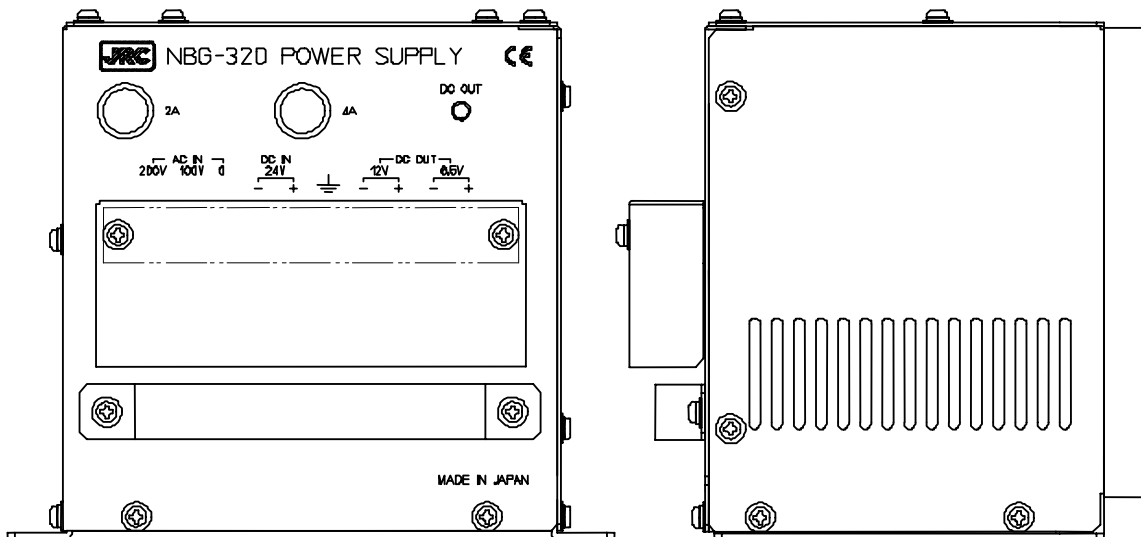
NAW-333 NAVTEX Antenna



NBG-319 Power Supply Unit



NBG-320 Power Supply Unit



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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 V_{DC} or 12 V_{DC} 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

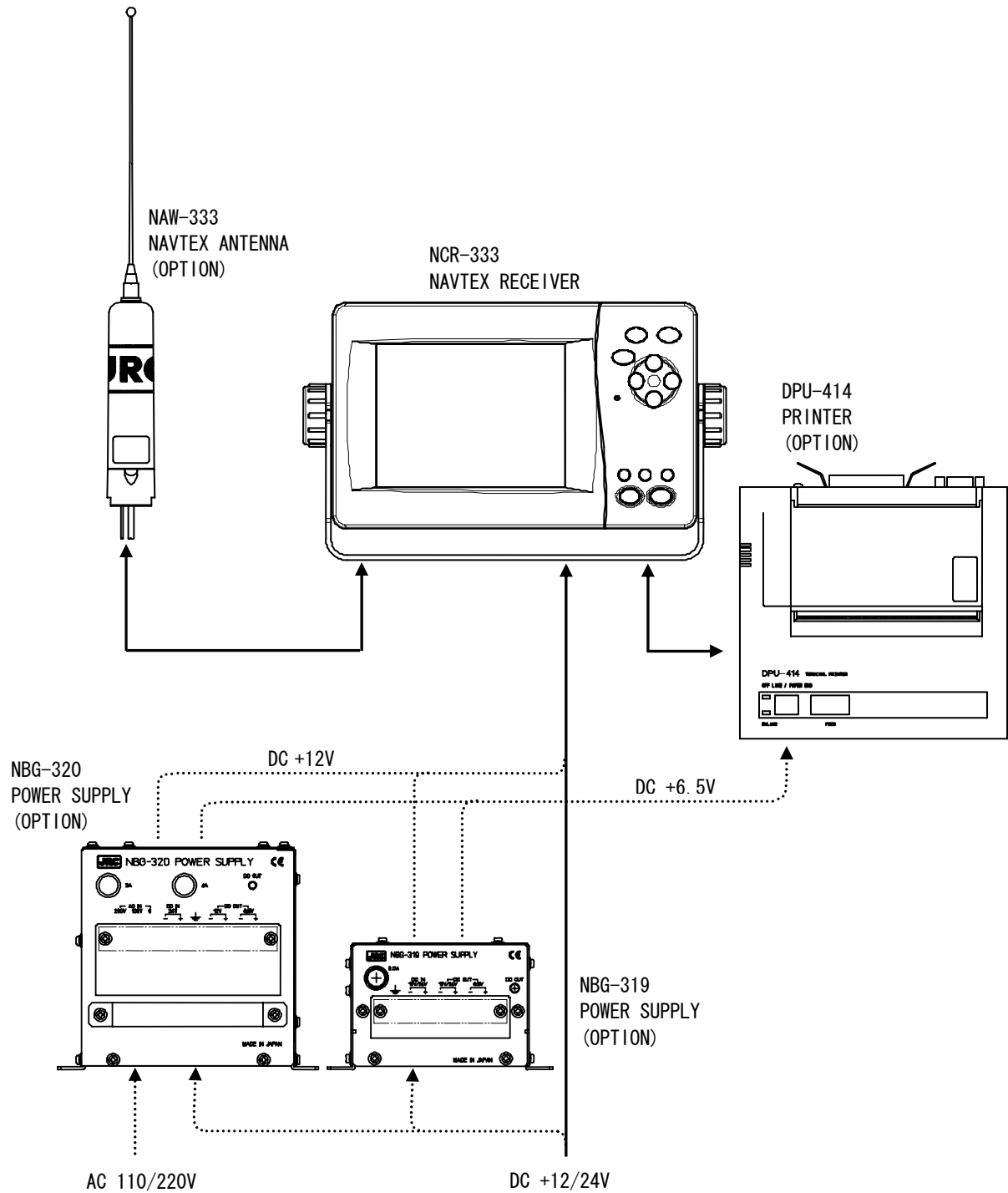
No.	Name	Type	Quantity	Remarks
1	NAVTEX Receiver	NCR-333	1	
2	Tapping screws	MPTG31659	1	4 tapping screws
3	Instruction manual	7ZPJD0304	1	Present volume
4	Operation card	7ZPJD0306	1	
5	Antenna cable	7ZCJD0251	1	0.5 m

1.3.2 Options

No.	Options	Type	Quantity	Remarks
1	NAVTEX Antenna	NAW-333	1	Whip antenna for NCR-333
2	Power supply unit	NBG-319	1	12 / 24V _{DC} input
3	Power supply unit	NBG-320	1	100/220V _{AC} Manual Setting
4	External printer	DPU-414	1	
5	Printer cable	7ZCJD0254	1	D-sub 9-pin 1.5 m
6	Printer cable	7ZCJD0270	1	D-sub 9-pin 10 m
7	Printer power cable	7ZCJD0257B	1	1.5 m
8	Printer connection kit	7ZXJD0076	1	7ZCJD0257B and 2-pin terminal block
9	Printer paper	6ZCAF00252A	1	112mm x ϕ 50mm 25m x1
10	NAVTEX buzzer	CGC-300A	1	External buzzer
11	DMC	NCH-321A	1	Distress Message Controller
12	External buzzer connection kit	7ZXJD0074	1	1.5 m cable and 2-pin terminal block
13	Data connection kit	7ZXJD0075	1	1.5 m cable and 3-pin terminal block
14	Console mount kit	MPBC39314	1	

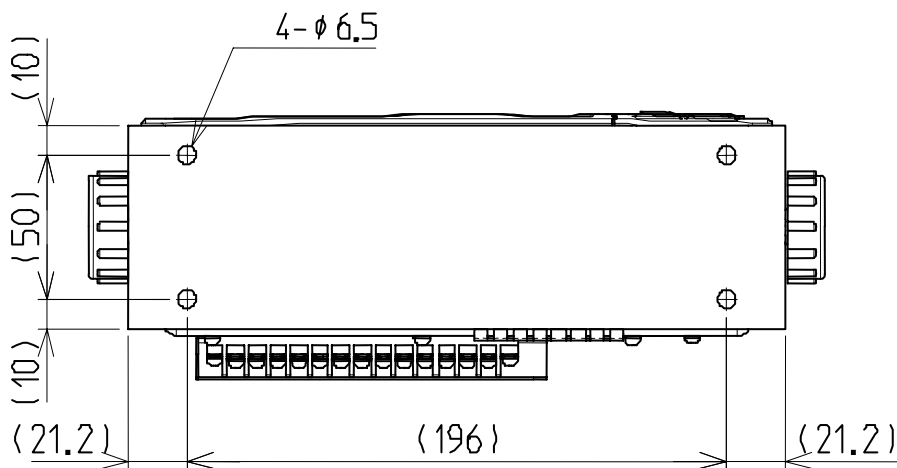
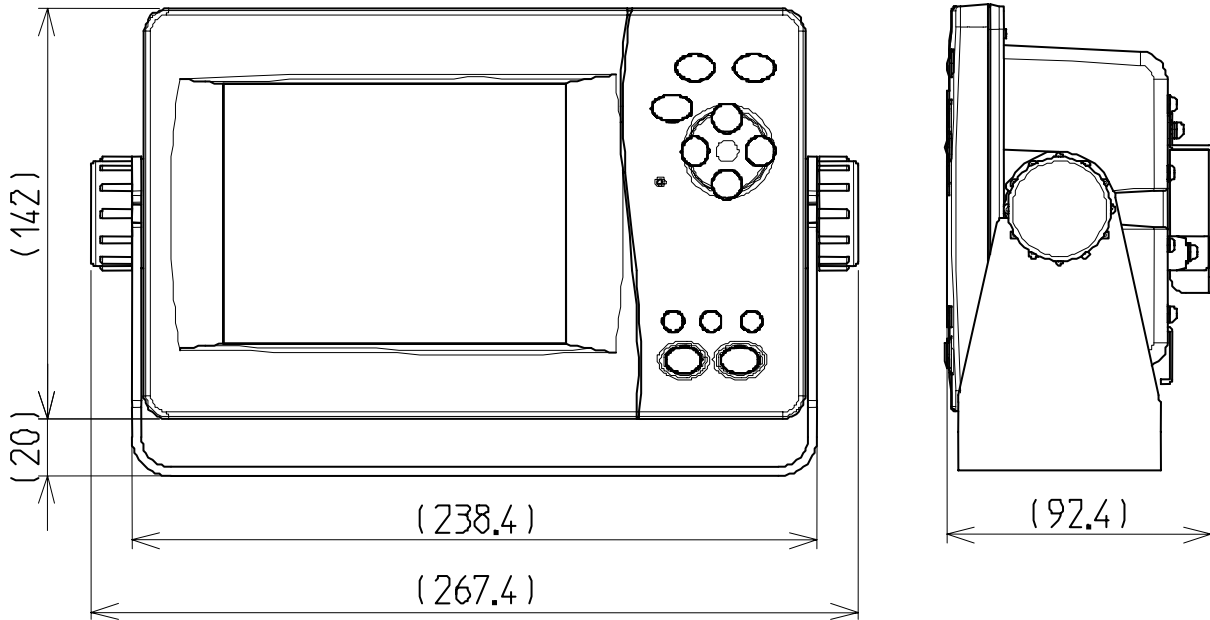
1.3.3 Configuration

- System Block Diagram



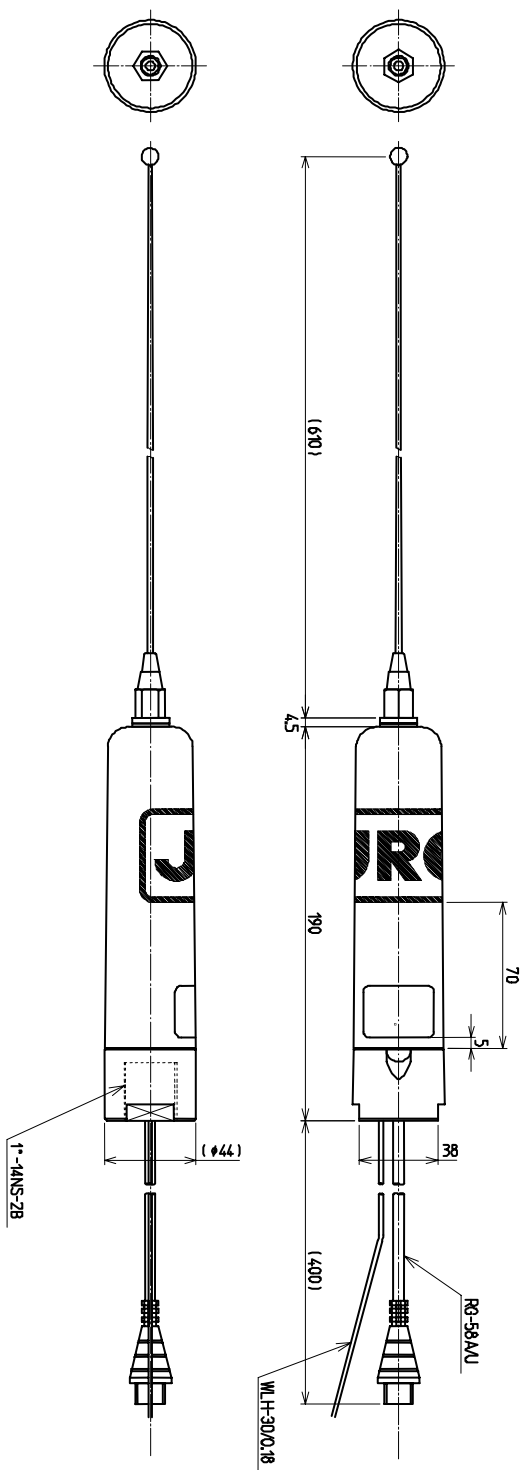
1.4 Outline

- Outline Drawing of NCR-333 NAVTEX Receiver



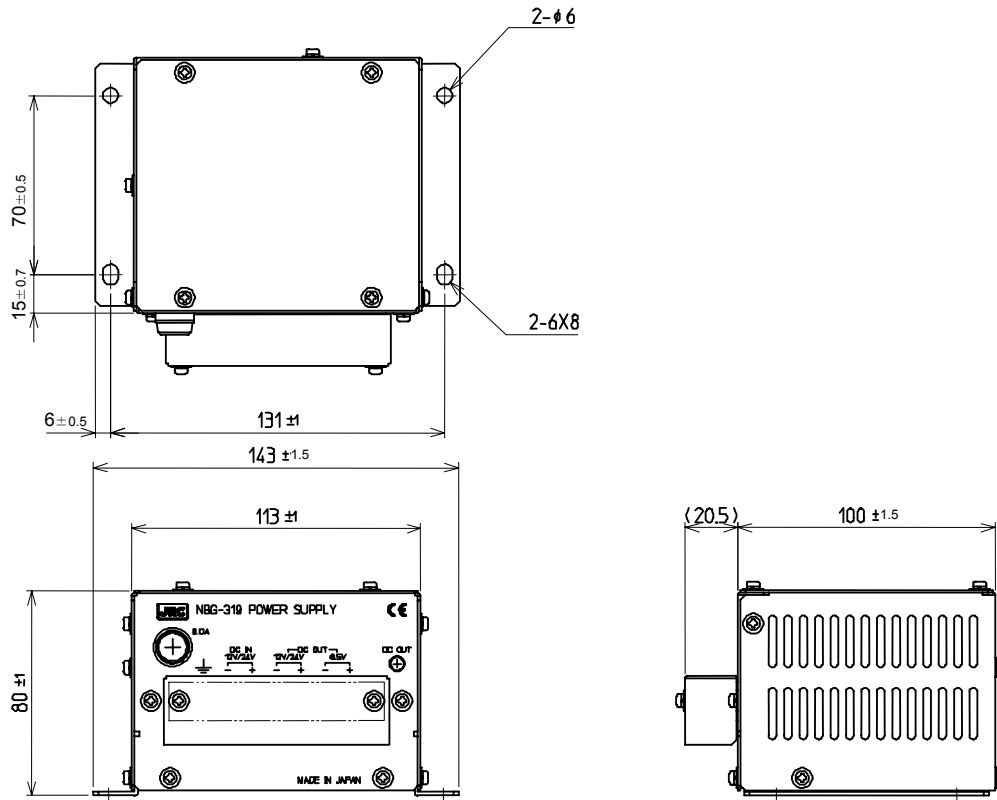
Unit: mm
Mass: approx. 2.1 kg

• Outline Drawing of NAW-333 NAVTEX Antenna



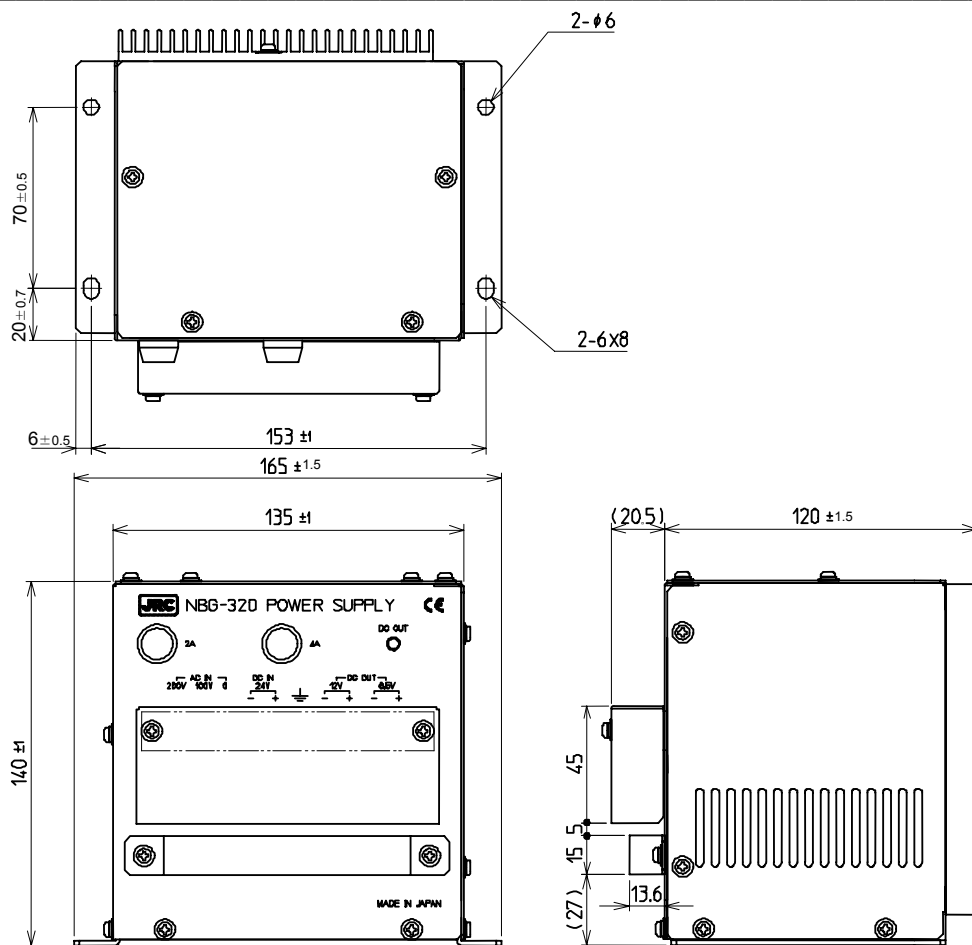
Unit: mm
Mass: approx. 0.3 kg

• Outline Drawing of NBG-319 Power Supply Unit



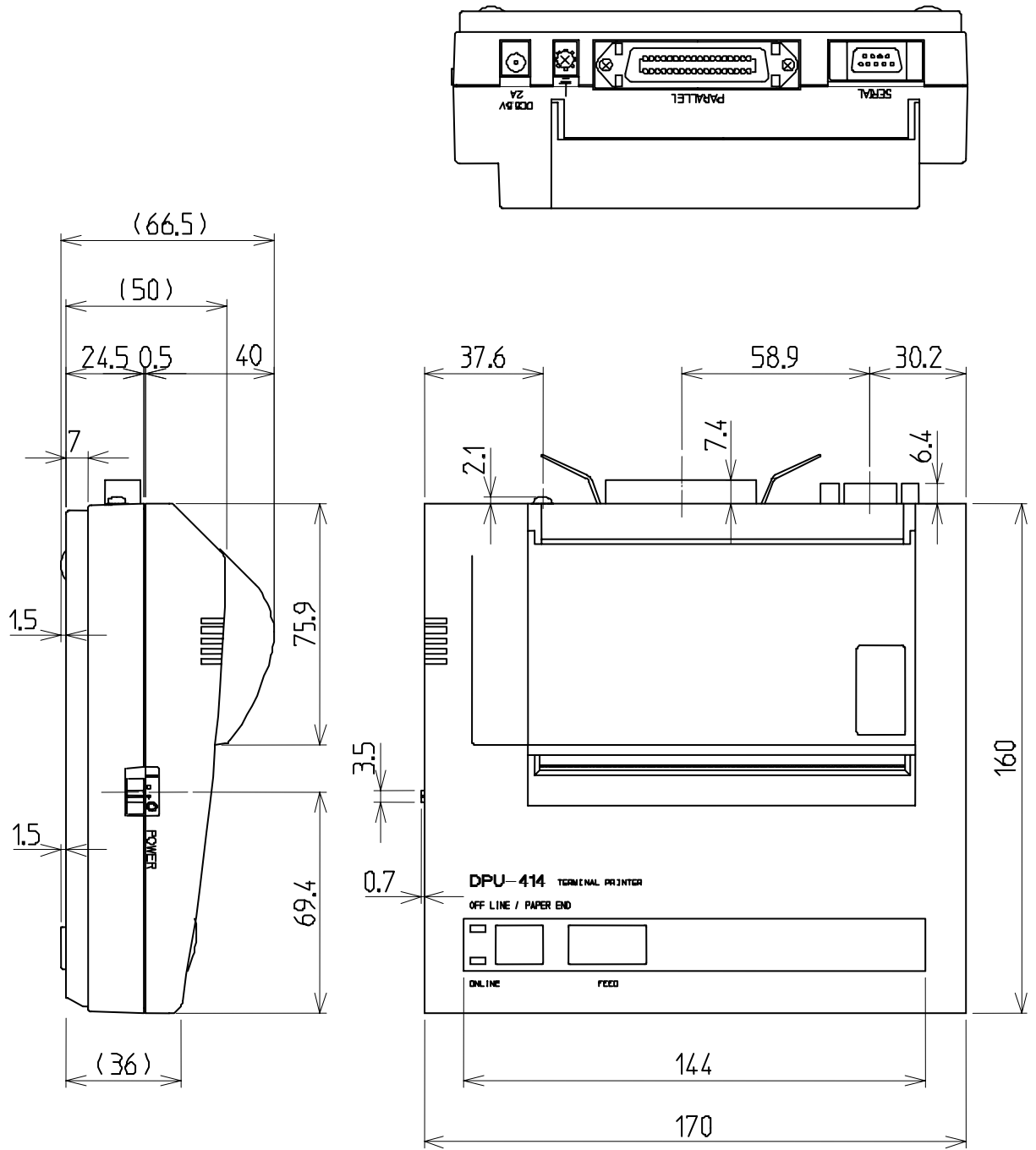
Unit: mm
Mass: approx. 0.9 kg

• Outline Drawing of NBG-320 Power Supply Unit



Unit: mm
Mass: approx. 3.3 kg

• Outline Drawing of DPU-414 Printer



Unit: mm
 Mass: approx. 0.7 kg

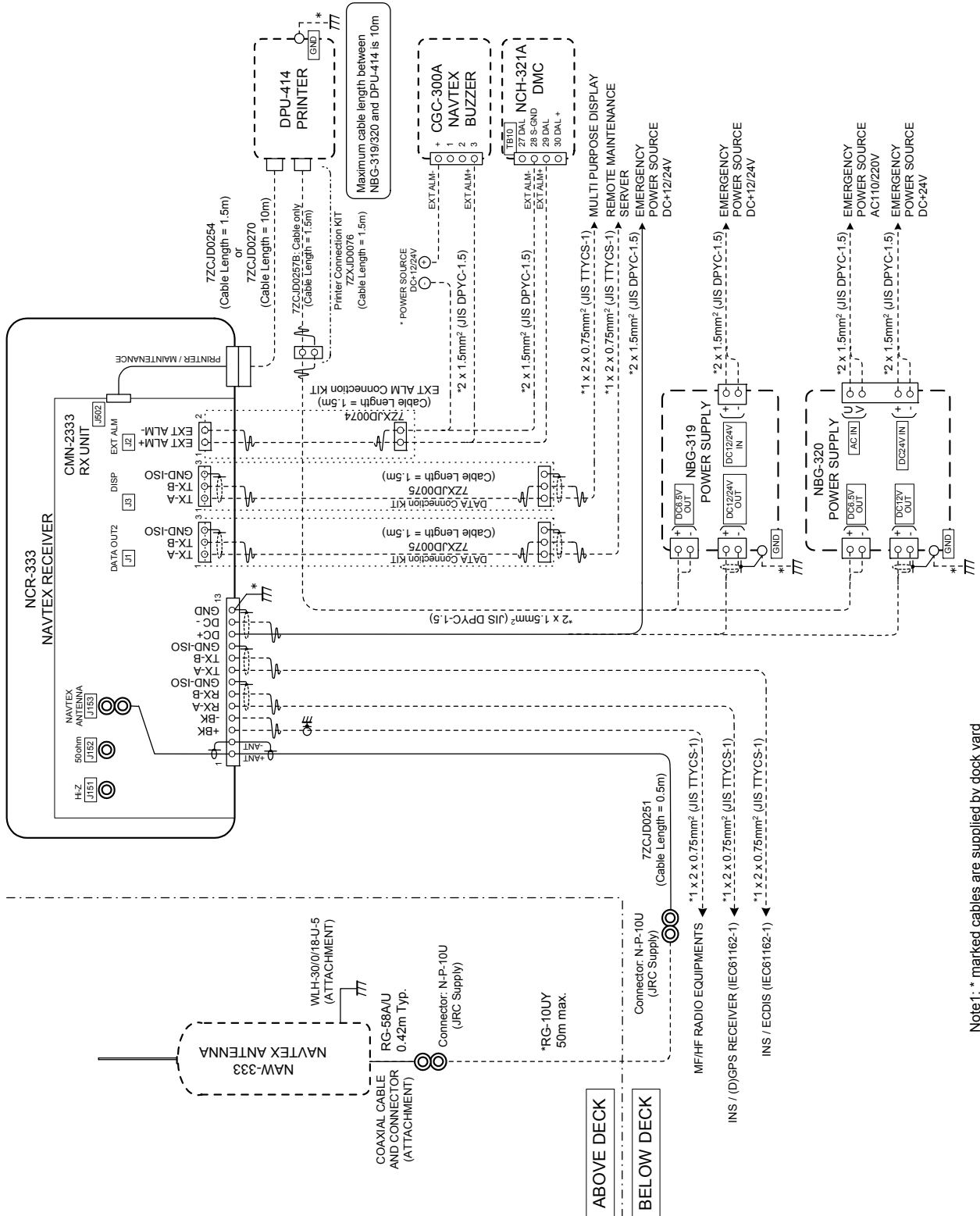
2. INSTALLATION DIAGRAM

Notes:

CAUTION



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

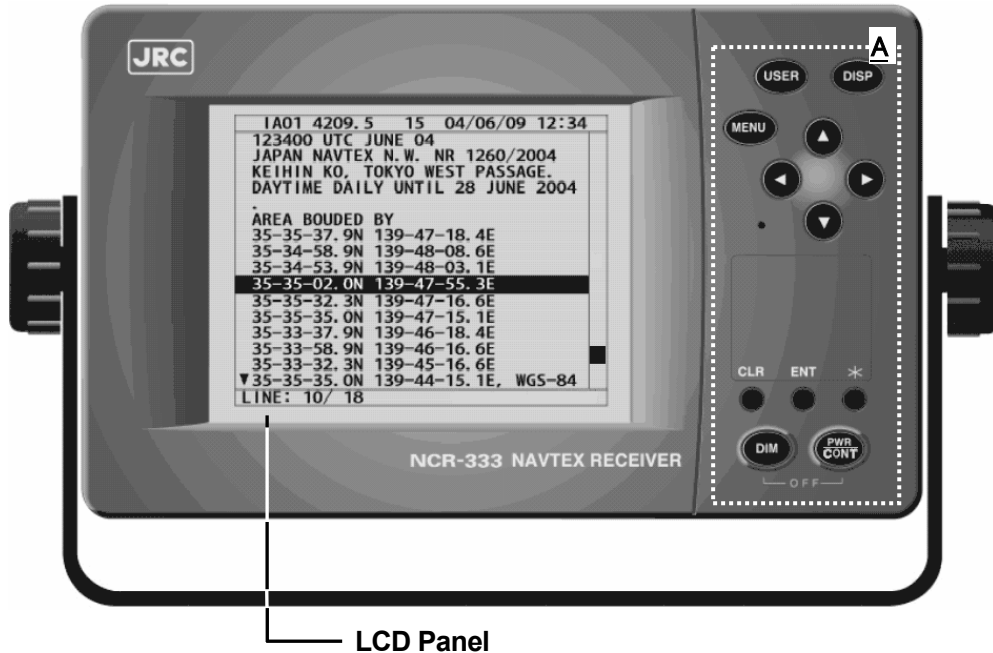


Note1: * marked cables are supplied by dock yard
 Note2: ----- marked components are optional

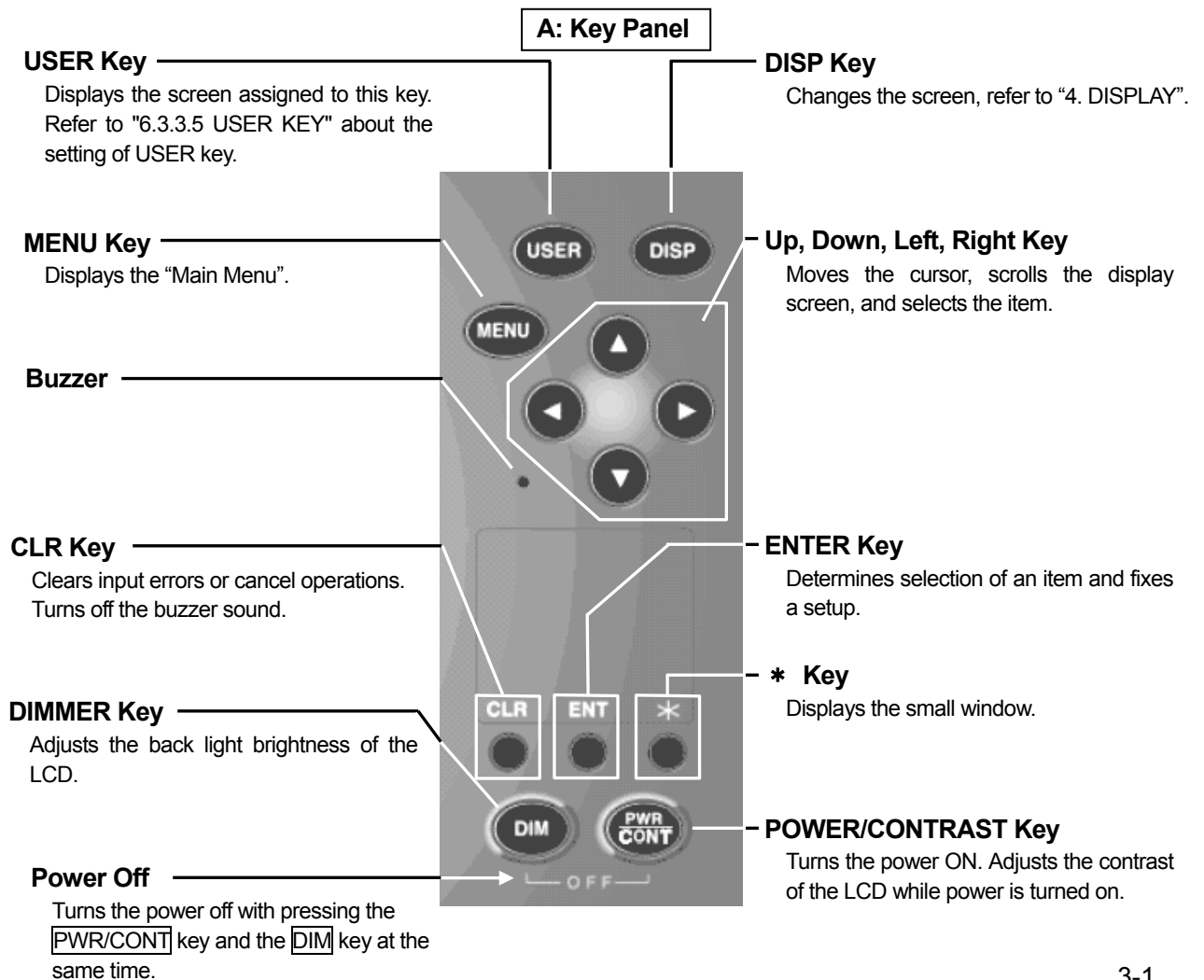
3. PART NAMES AND FUNCTIONS

3.1 NCR-333 NAVTEX Receiver

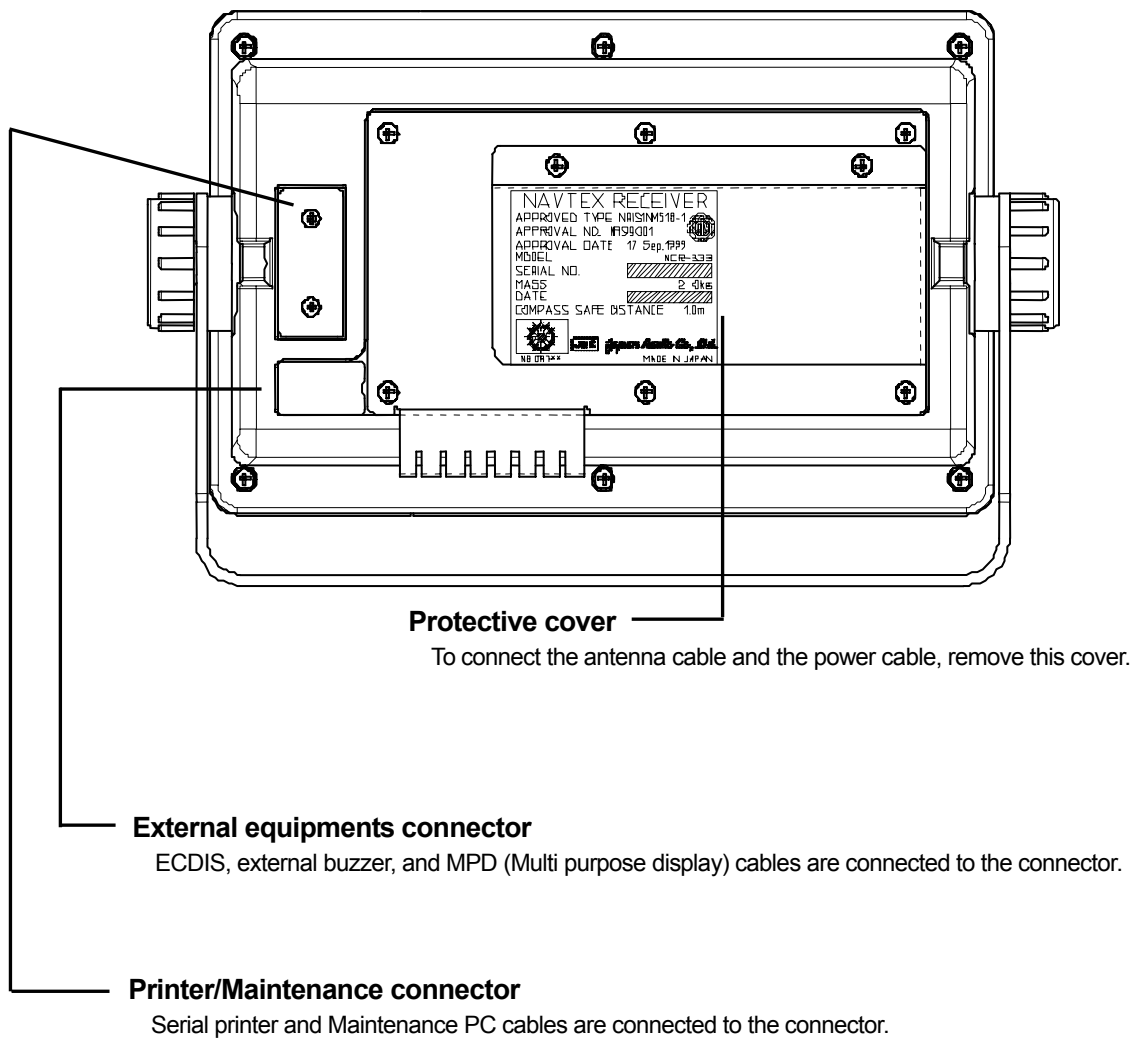
● Front view



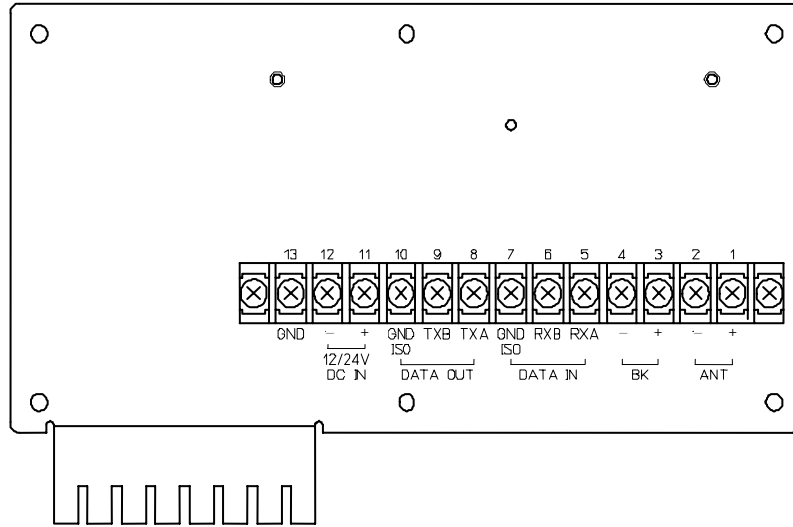
For further information, refer to “● Display indicators” and “4. DISPLAY”.



● Rear view



● Rear panel (Terminal)



Terminal Number and Name			Description
1	ANT	ANT +	Connect an antenna cable.
2		ANT -	
3	BK	BK +	Connect the key lines leading from the transmitter.
4		BK -	
5	DATA IN	RXA	Connect the INS / External GPS cable for serial communication.
6		RXB	
7		GND ISO	Connect the isolated signal ground cable for serial communication.
8	DATA OUT	TXA	Connect the INS cable for serial communication with INS.
9		TXB	
10		GND ISO	Connect the isolated signal ground cable for serial communication.
11	12/24V DC IN	+	Connect the power supply cable. The voltage range of the power supply between 10.8 and 35.0 V _{DC} .
12		-	
13	GND		This terminal is for electrical grounding to the vessel.

● Display indicators

AUTO / MAN **Station selection mode**
AUTO: "AUTO MODE" is selected for coast station selection.
MAN: "MANUAL MODE" is selected for coast station selection.

V III NAVAREA No.
 The NAVAREA number is displayed with position data input.

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
 '▲' '▼' 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

MSG LIST	SORT		MSG TYPE	NAVAREA No.
ID	FREQ	LINES	DATE	TIME
IA01	4209.5	15	04/06/09	12:34
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
EKA04	518	10	04/06/09	10:34
STATION : KUSIRO				
MSG TYPE: NAVIGATIONAL WARNINGS				
IA07	490	20	04/06/09	09:34
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
KC10	490	12	04/06/09	05:34
STATION : KUSIRO				
MSG TYPE: ICE REPORTS				
KHT3	518	5	04/06/09	05:34
STATION : KUSIRO				
MSG TYPE: LORAN MESSAGE				
KP16	518	9	04/06/09	01:34
STATION : KUSIRO				
DATA: 321/342				

Receiving message
 The channel number is displayed while receiving message on the channel.
518kHz **490kHz** **4209.5kHz**

NAVTEX Alarm
 'ALR' 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
 "GPS" 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:

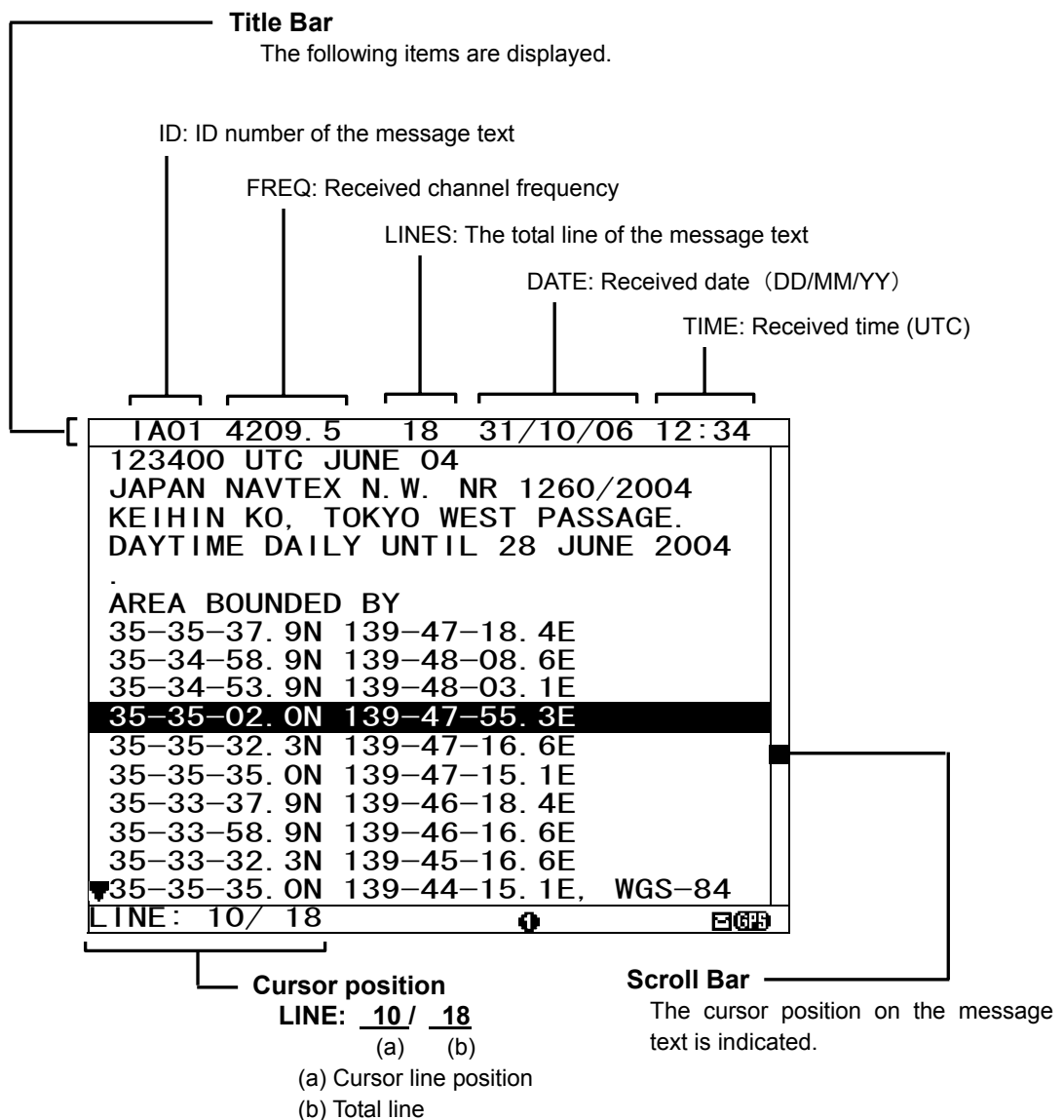
Message text -> Message list 1 -> Message list 2 -> Save message list -> Position/date -> ...

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.



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.

MSG LIST 1 SORT:MSG TYPE						Auto V III
ID	FREQ	LINES	DATE	TIME		
▲ IA01	4209.5	15	04/06/09	12:34		
STATION : YOKOHAMA						
MSG TYPE: NAVIGATIONAL WARNINGS						
KA04	518	10	04/06/09	10:34		
STATION : KUSIRO						
MSG TYPE: NAVIGATIONAL WARNINGS						
IA07	490	20	04/06/09	09:34		
STATION : YOKOHAMA						
MSG TYPE: NAVIGATIONAL WARNINGS						
KC10	490	12	04/06/09	05:34		
STATION : KUSIRO						
MSG TYPE: ICE REPORTS						
☑ KH13	518	5	04/06/09	05:34		
STATION : KUSIRO						
MSG TYPE: LORAN MESSAGE						
DATA: 321 / 600						Auto V III

Cursor position
DATA: 321 / 600
(a) (b)

(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.

MSG LIST 2 SORT:MSG TYPE						Auto V III
ID	FREQ	LINES	DATE	TIME		
▲ IA01	4209.5	15	09/06/04	12:34		
IB02	490	20	09/06/04	11:34		
IC03	4209.5	12	09/06/04	10:34		
ID04	518	5	09/06/04	10:34		
IE05	518	30	09/06/04	10:34		
IF06	518	12	09/06/04	09:34		
IG07	490	15	09/06/04	09:34		
IH08	490	11	09/06/04	09:34		
II09	4209.5	10	09/06/04	09:34		
KJ10	490	20	09/06/04	05:34		
KK11	518	20	04/06/04	05:34		
KL12	518	14	03/06/04	05:34		
☑ KH13	518	10	02/06/04	05:34		
KN14	518	7	01/06/04	05:34		
▼ KO15	518	12	28/05/04	01:34		
DATA: 321 / 600						Auto V III

4.1.4 Save message list screen

Save message list screen displays the list of the saved 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.

SAVE MSG	SORT: MSG TYPE				GPS III
ID	FREQ	LINES	DATE	TIME	
▲ IA01	4209.5	15	04/06/09	12:34	
STATION : YOKOHAMA					
MSG TYPE: NAVIGATIONAL WARNINGS					
KA04	518	10	04/06/09	10:34	
STATION : KUSIRO					
MSG TYPE: NAVIGATIONAL WARNINGS					
IA07	490	20	04/06/09	09:34	
STATION : YOKOHAMA					
MSG TYPE: NAVIGATIONAL WARNINGS					
KC10	490	12	04/06/09	05:34	
STATION : KUSIRO					
MSG TYPE: ICE REPORTS					
KH13	518	5	04/06/09	05:34	
STATION : KUSIRO					
▼	MSG TYPE: LORAN MESSAGE				
DATA: 21/ 93					GPS

4.1.5 Position/date screen

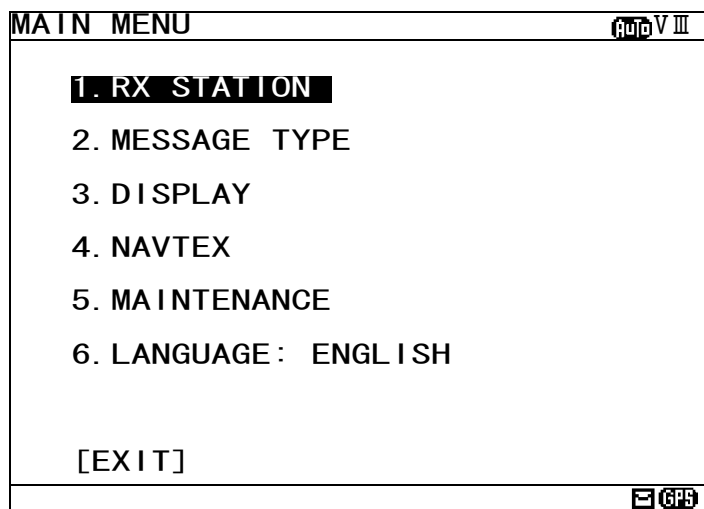
Position/date screen displays time, position, navigational data (SOG, COG, HDG, and ROT) when GPS data is valid.

These parameters are not displayed when no GPS data.

POS/TIME	SORT: MSG TYPE		GPS III
Position	<p>89° 59.999' N</p> <p>179° 59.999' E</p>		
Date / time	TIME 23:59 (UTC)	SOG: 102.2KT	Navigational data
	DATE 31/12/04 (DD/MM/YY)	COG: 359.9° HDT: 359.9° ROT: +127.1° /MIN	
			GPS

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.

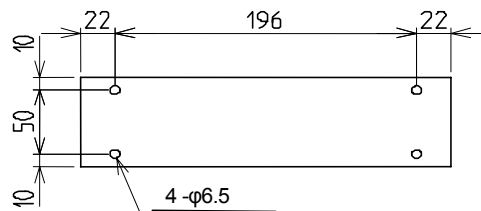
5.1.2 Mounting

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.

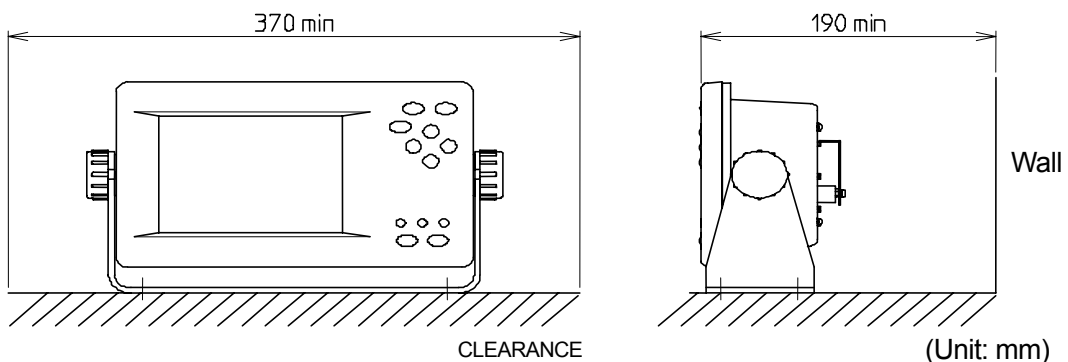
And keep a clearance for the maintenance (refer to figure below).

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)



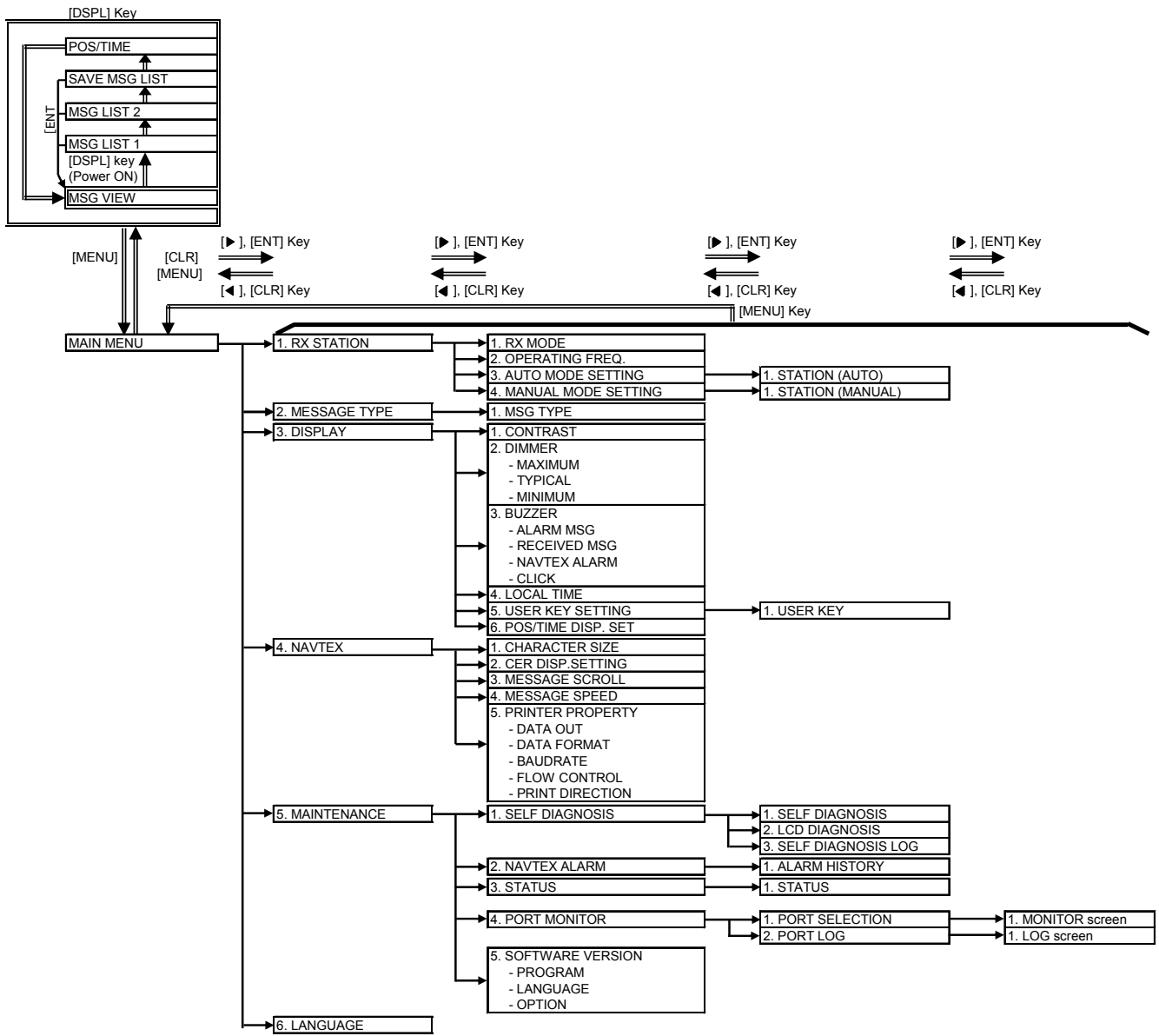
CLEARANCE

(Unit: mm)

Space required for receiver installation

6. OPERATION

6.1 Menu Tree



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.

```
* NOW LOADING. . .  
  
NCR-333  
  
NAVTEX RECEIVER  
  
VERSION 1.00
```

Starting screen



```
* SELF-DIAGNOSING. . .  
  
ROM CHECK: OK  
  
RAM CHECK: OK  
  
ANT CHECK: OK  
  
LOOP TEST:  
  
- PRESS 'CLR' KEY TO EXIT -
```

Self-diagnosis screen

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 text screen automatically.

```
* SELF-DIAGNOSING. . .  
  
ROM CHECK: OK  
  
RAM CHECK: OK  
  
ANT CHECK: OK  
  
LOOP TEST:  
  
- PRESS 'CLR' KEY TO EXIT -
```

Self-diagnosis screen

5 sec.
later



```
TA01 4209.5 15 04/06/09 12:34  
123400 UTC JUNE 04  
JAPAN NAVTEX N. W. NR 1260/2004  
KEIHIN KO. TOKYO WEST PASSAGE.  
DAYTIME DAILY UNTIL 28 JUNE 2004  
  
AREA BOUNDED BY  
35-35-37.9N 139-47-18.4E  
35-34-58.9N 139-48-08.6E  
35-34-53.9N 139-48-03.1E  
35-35-02.0N 139-47-55.3E  
35-35-32.3N 139-47-16.6E  
35-35-35.0N 139-47-15.1E  
35-33-37.9N 139-46-18.4E  
35-33-58.9N 139-46-16.6E  
35-33-32.3N 139-45-16.6E  
35-35-35.0N 139-44-15.1E, WGS-84  
LINE: 10/ 18
```

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”)

```
* SELF-DIAGNOSING...  
  
ROM CHECK: OK  
  
RAM CHECK: OK  
  
ANT CHECK: OK  
  
LOOP TEST: NG  
  
PLEASE CARRY OUT 'SELF-DIAGNOSIS'  
IN MAINTENANCE MENU.  
[PRESS 'CLR' KEY]
```

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.

```
* SELF-DIAGNOSING...  
  
ROM CHECK: NG  
  
*LANGUAGE DAT. ERR*  
STARTING NAVTEX?  
OR  
RE-INSTALL  
[START] [INST]  
LOOP TEST: OK  
PLEASE CARRY OUT 'SELF-DIAGNOSIS'  
IN MAINTENANCE MENU.  
[PRESS 'CLR' KEY]
```

[Option language data error]

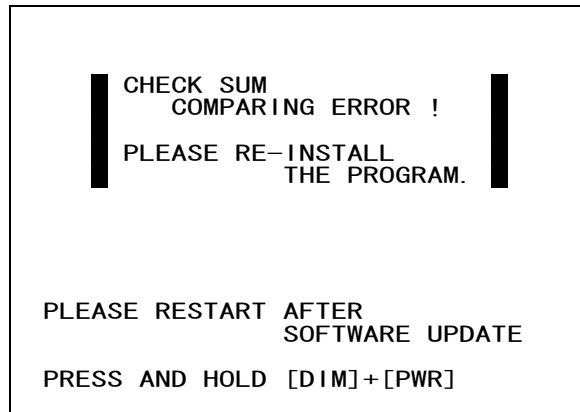
```
*OPTION DAT. ERR*  
STARTING NAVTEX?  
OR  
RE-INSTALL  
[START] [INST]
```

6.2.1.4 Start up (Abnorma-3)

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

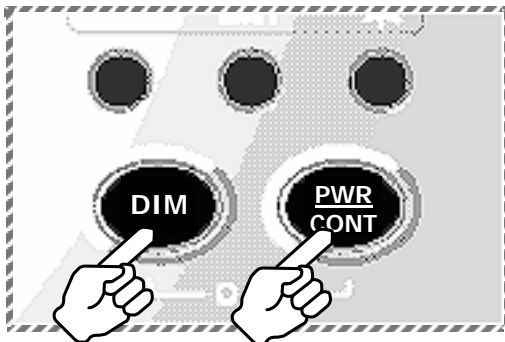
Caution

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.

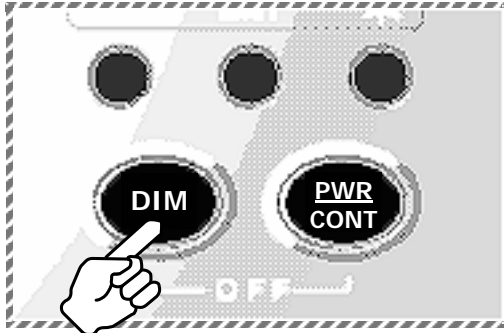


6.2.3 Backlight adjustment

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

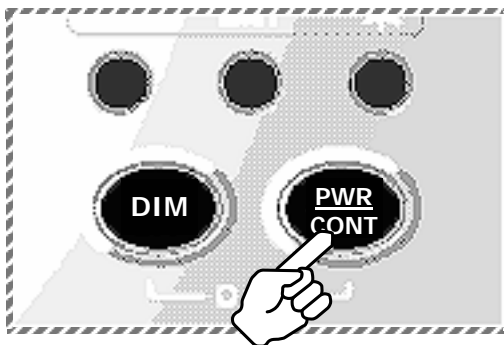
The brightness becomes the brightest in the following case;

- 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-300A), press the **CLR** key.

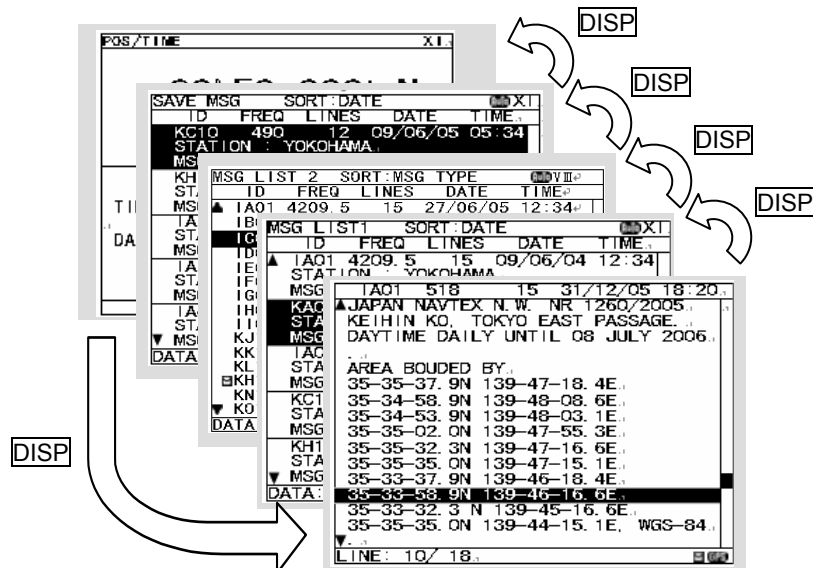
An alarm buzzer beeps in the following case;

- 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.

```
IA01 518 15 31/12/05 18:20
▲JAPAN NAVTEX N. W. NR 1260/2005
KEIHIN KO, TOKYO EAST PASSAGE.
DAYTIME DAILY UNTIL 08 JULY 2006
.
AREA BOUDED BY
35-35-37. 9N 139-47-18. 4E
35-34-58. 9N 139-48-08. 6E
35-34-53. 9N 139-48-03. 1E
35-35-02. 0N 139-47-55. 3E
35-35-32. 3N 139-47-16. 6E
35-35-35. 0N 139-47-15. 1E
35-33-37. 9N 139-46-18. 4E
35-33-58. 9N 139-46-16. 6E
35-33-32. 3 N 139-45-16. 6E
35-35-35. 0N 139-44-15. 1E, WGS-84
▼
LINE: 10/ 18
```

The number on the left side of DATA shows the line number of the present cursor position. The right side number shows the total number of lines.

(Character size: Normal)

```
IA01 4209.5 18 31/12/05 18:20
▲JAPAN NAVTEX N. W. NR 1260/2005
KEIHIN KO, TOKYO EAST PASSAGE.
DAYTIME DAILY UNTIL 08 JULY 2006
.
AREA BOUDED BY
35-35-37. 9N 139-47-18. 4E
35-34-58. 9N 139-48-08. 6E
35-34-53. 9N 139-48-03. 1E
35-35-02. 0N 139-47-55. 3E
35-35-32. 3N 139-47-16. 6E
35-35-35. 0N 139-47-15. 1E
35-33-37. 9N 139-46-18. 4E
▼35-33-58. 9N 139-46-16. 6E
LINE: 13/ 18
```

(Character size: Medium)

```
IA01 4.2 31/12/05
▲JAPAN NAVTEX N. W.
NR 1260/2005
KEIHIN KO, TOKYO
EAST PASSAGE.
DAYTIME DAILY
UNTIL 08 JULY 2006
.
AREA BOUDED BY
35-35-37. 9N 139-47
▼-18. 4E
L: 9/ 18
```

(Character size: Large)

Fig.6-1 Message text screen

Notes

- 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.

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.**

a. Clear the unread mark

The message text is displayed after the message has been received.

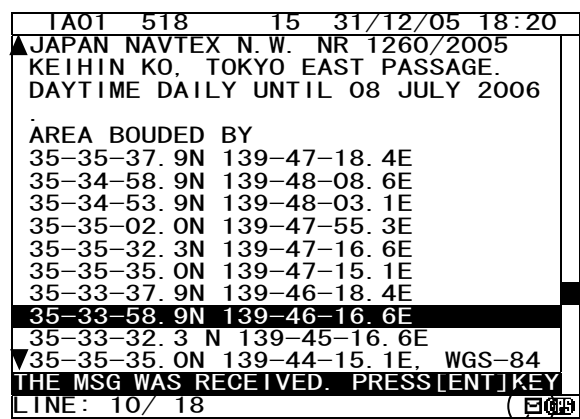
Unread mark on the status bar shows unread messages has been received.

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.



Caution sentence

Unread mark

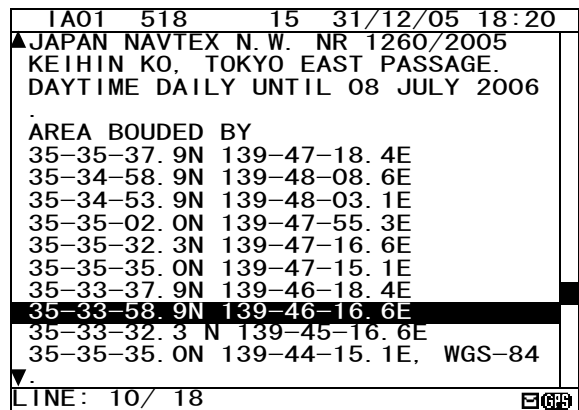
b. Read the message

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.

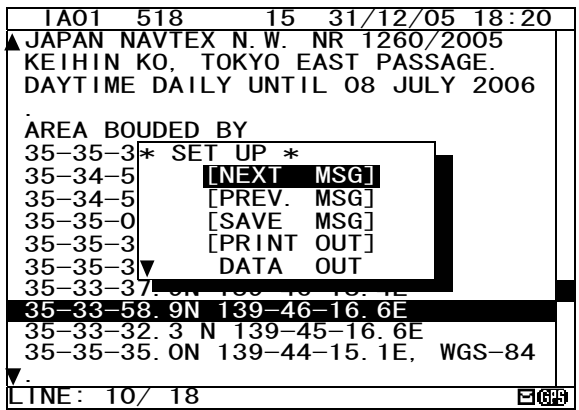
c. Read the other message

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

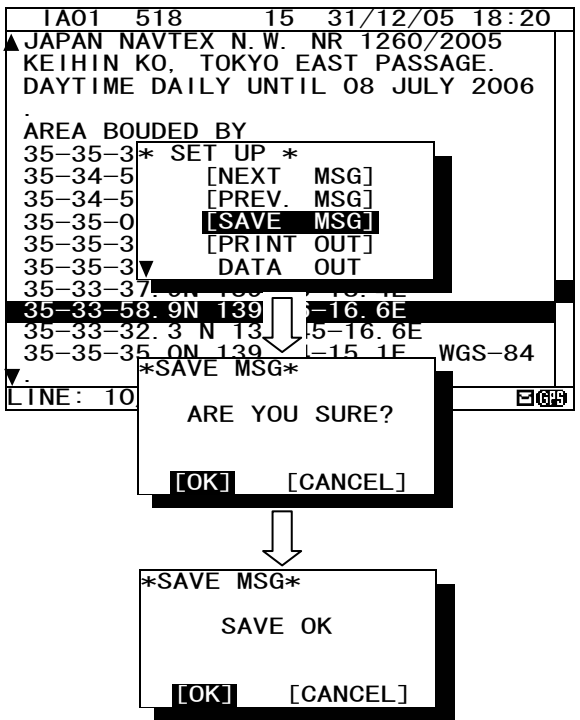
Save the message

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

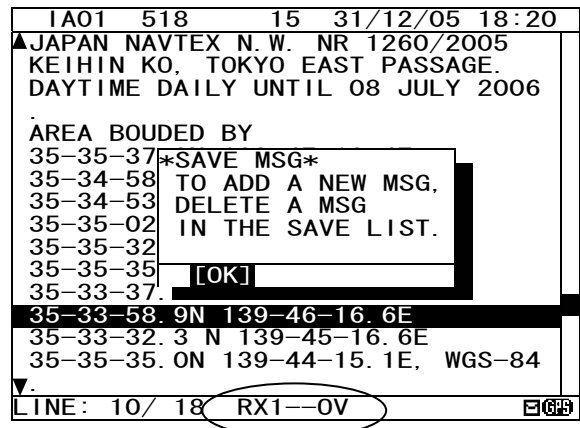
- The message that is not saved (the stored message) is automatically erased from the data memory about 70 hours after receiving.
- 50 messages of an average length of 500 characters can be saved in each channel.

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 (**O** 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 deleting the message in save message list when unable to save a message.



e. Print the message

Print the message

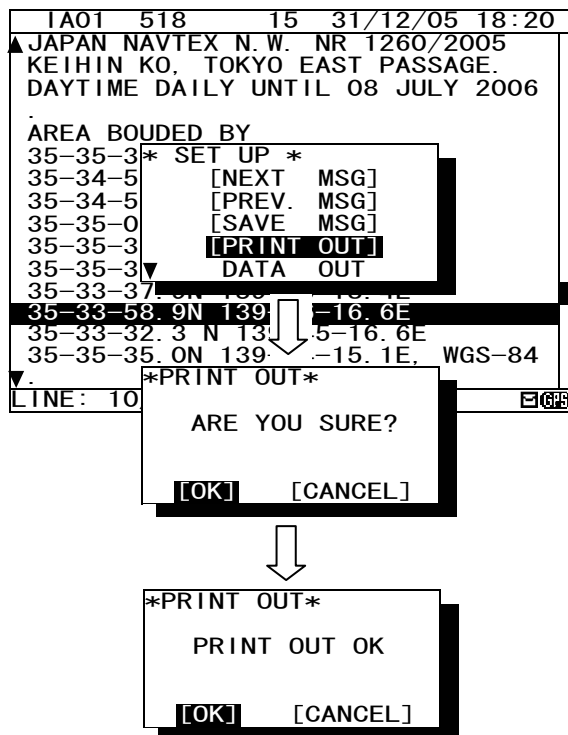
The currently open message can be printed when having connected the external printer.

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

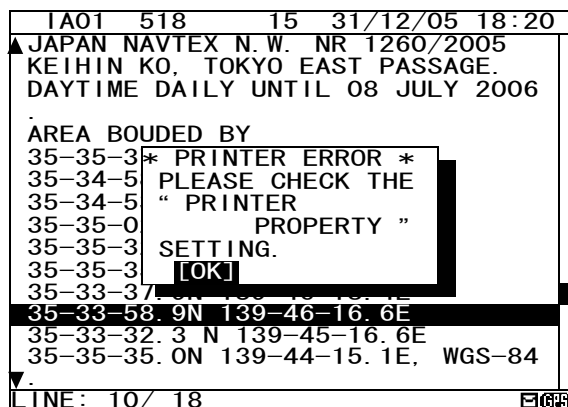
- To stop printing, press the **[CLR]** key while printing.
- "[PRINT OUT]" cannot be selected when "DATA OUT" of "PRINTER PROPERTY" has set up "OFF". Refer to "6.3.4.5 External printer settings".

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...)



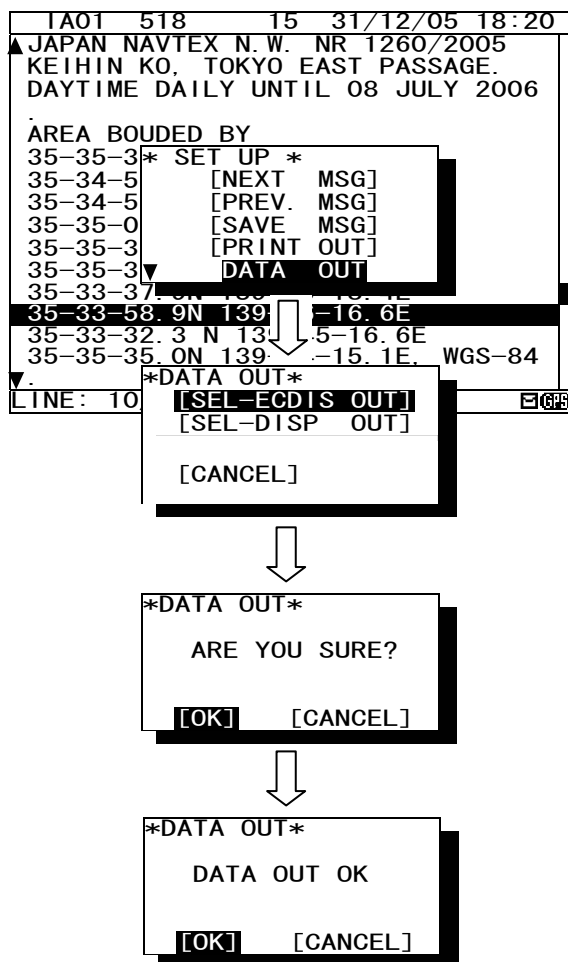
f. Output the message from an external port

The data of currently open message text can be output with connection the external equipment (ECDIS, MPD).

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.

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.

MSG LIST1	SORT:DATE			APP XI
ID	FREQ	LINES	DATE	TIME
▲ IA01	4209.5	15	09/06/04	12:34
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
KA04	518	10	09/06/04	10:34
STATION : KUSIRO				
MSG TYPE: NAVIGATIONAL WARNINGS				
IA07	490	20	04/06/09	09:34
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
KC10	490	12	04/06/09	05:34
STATION : YOKOHAMA				
MSG TYPE: ICE REPORTS				
KH13	518	5	09/06/04	05:34
STATION : KUSIRO				
▼	MSG TYPE: LORAN MESSAGE			
DATA: 329/438				GPS

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.

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.

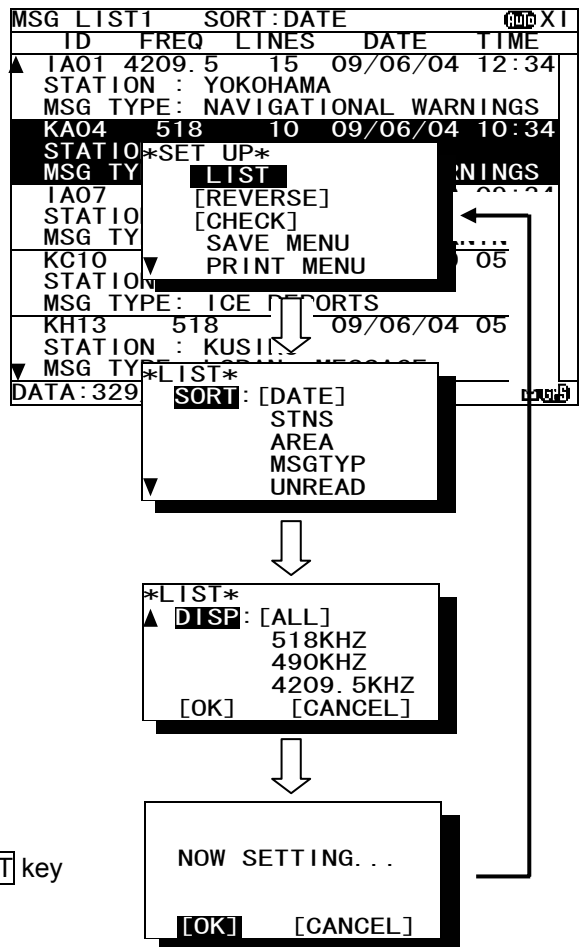
- [PGDN]: Previous screen
- [PGUP]: Next screen

b. Sort messages

To search message quickly, messages can be sorted.

Procedures

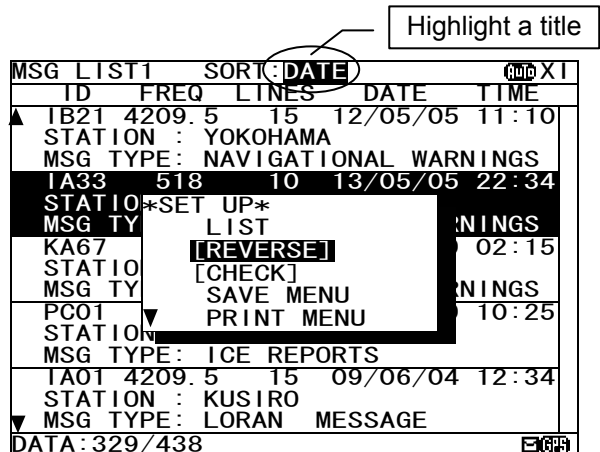
- 1) Press the **[*]** key. The sub screen appears.
- 2) Select the "LIST", and press the **[ENT]** key. The items of "LIST" appear.
- 3) The items of "LIST" are as follows;
 - SORT: The stored messages are displayed
 - DATE: in the order of the date received in reverse
 - STNS: in the order from the receiving station "A"
 - AREA: 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)
 - DISP: The messages displayed on the selected channel.
 - ALL: All the messages are displayed.
 - 518KHZ: Only 518 kHz messages are displayed.
 - 490KHZ: Only 490 kHz messages are displayed.
 - 4209.5KHZ: Only 4209.5 kHz messages are displayed.
- 4) Select "SORT" item, and then select "DISP" 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.
- 3) The order of the message currently displayed is rearranged conversely, and title of 'SORT' is highlighted.



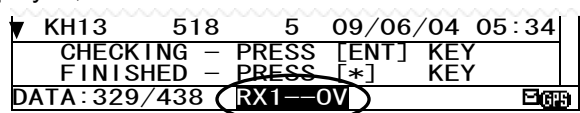
c. Put a check mark (Save/print/output more than one message at the same time)

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.

In addition, when the following characters are displayed,



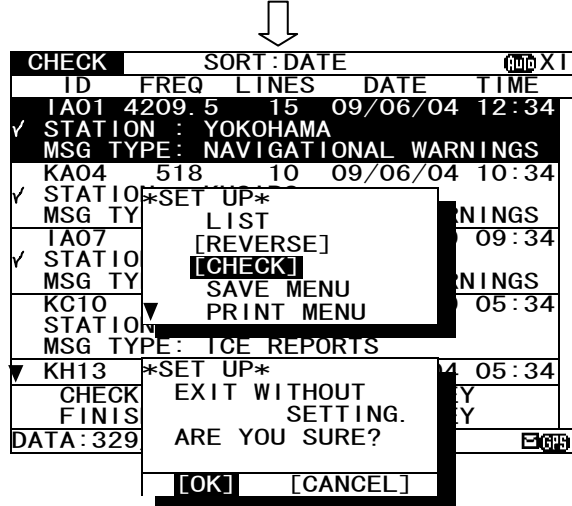
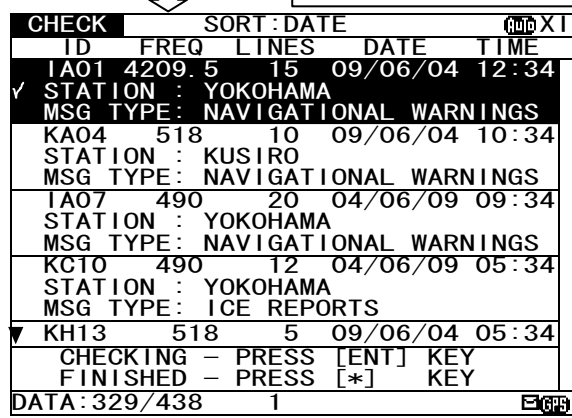
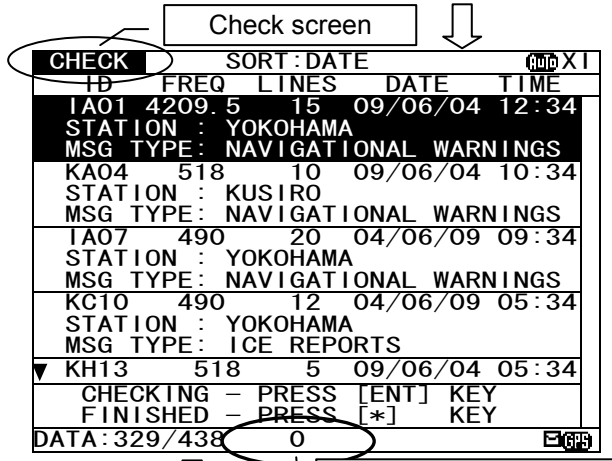
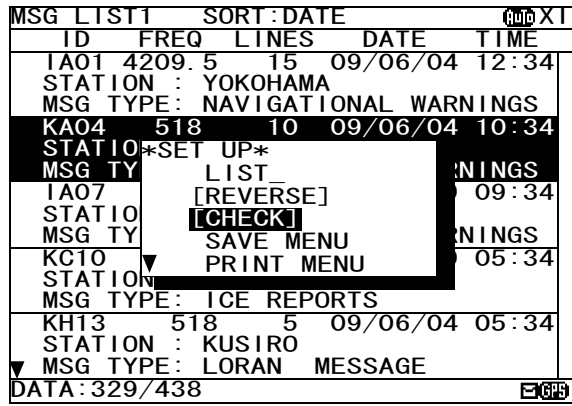
It means that the checked number exceeded the number which can be saved in the memory.

- RX1--OV:** The message of 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 printed or data can not be output.

- 5) Press the **[*]** 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.

MSG LIST1	SORT:DATE				Ⓢ XI
ID	FREQ	LINES	DATE	TIME	
IA01	4209.5	15	09/06/04	12:34	
STATION : YOKOHAMA					
MSG TYPE: NAVIGATIONAL WARNINGS					
KA04	518	10	09/06/04	10:34	
STATION:*SET UP*					
MSG TY	LIST				WNINGS
IA07	[REVERSE]				09:34
STATION	[CHECK]				
MSG TY	SAVE MENU				WNINGS
KC10	PRINT MENU				05:34
STATION					
MSG TYPE: ICE REPORTS					
KH13	518	5	09/06/04	05:34	
STATION : KUSIRO					
MSG TYPE: LORAN MESSAGE					
DATA:329/	*SAVE MENU*				Ⓢ
[SELECT MSG]					
[CHECK MSG]					
[RESET CHECK]					
[CANCEL]					

To display to previous screen, select "[CANCEL]".

Save messages at the same time

The messages which 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.
- 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.

CHECK	SORT:DATE				Ⓢ XI
ID	FREQ	LINES	DATE	TIME	
IA01	4209.5	15	09/06/04	12:34	
✓	STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS					
✓	KA04	518	10	09/06/04	10:34
STATION:*SET UP*					
MSG TY	LIST				WNINGS
IA07	[REVERSE]				09:34
STATION	[CHECK]				
MSG TY	SAVE MENU				WNINGS
KC10	PRINT MENU				05:34
STATION					
MSG TYPE: ICE REPORTS					
✓	KH13	518	5	09/06/04	05:34
STATION : KUSIRO					
MSG TYPE: LORAN MESSAGE					
DATA:329/438	*SAVE MENU*				Ⓢ
[SELECT MSG]					
[CHECK MSG]					
[RESET CHECK]					
[CANCEL]					

MSG LIST1	SORT:DATE				Ⓢ XI
ID	FREQ	LINES	DATE	TIME	
IA01	4209.5	15	09/06/04	12:34	
Ⓢ	STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS					
KA04	518	10	09/06/04	10:34	
Ⓢ	STATION : KUSIRO				
MSG TYPE: NAVIGATIONAL WARNINGS					
IA07	490	20	04/06/09	09:34	
Ⓢ	STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS					
KC10	490	12	04/06/09	05:34	
STATION : YOKOHAMA					
MSG TYPE: ICE REPORTS					
KH13	518	5	09/06/04	05:34	
STATION : KUSIRO					
MSG TYPE: LORAN MESSAGE					
DATA:329/438					Ⓢ

e. Print messages or the information on equipment

Print one message

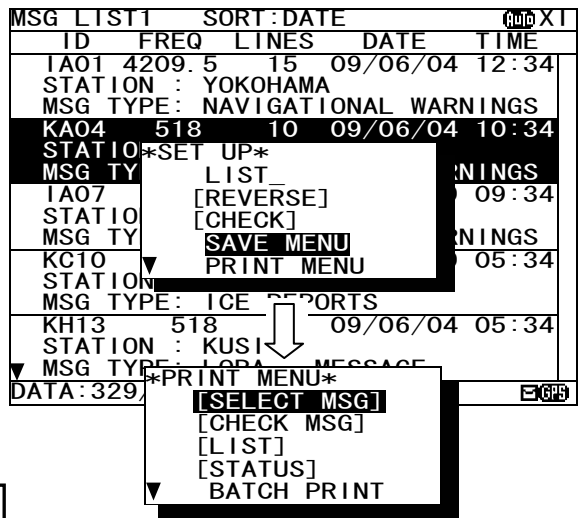
The selected message can be printed.

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

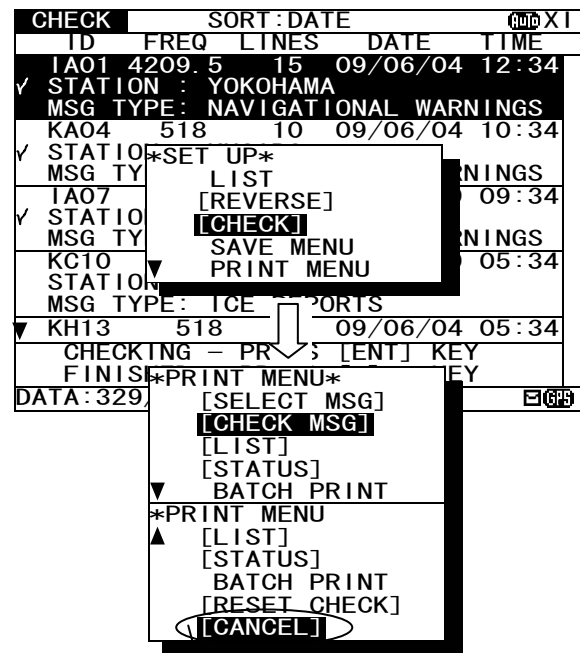
The messages which put the check mark can be printed at the same time.

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.



To display to previous screen, select "[CANCEL]".

Print the information on equipment

The list of stored messages and the setting status can be printed.

Procedures

- 1) Press the **[*]** key. The sub screen appears.
- 2) Select the “[LIST]” or “[STATUS]”, and press the **[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.
- 3) Printing starts. After printing is completed, close the sub screen.

```
*PRINT MENU*  
[SELECT MSG]  
[CHECK MSG]  
[LIST]  
[STATUS]  
BATCH PRINT
```

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 **[*]** key. The sub screen appears.
- 2) Select the “BATCH PRINT”, and press the **[ENT]** key.
The sub screen of “BATCH PRINT MENU” appears.
- 3) 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’.
- 4) To start printing, select item and press the **[ENT]** key.
“ARE YOU SURE?” is displayed on the sub screen, if the **[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 **[ENT]** key is pressed after selecting “MSG TYP”.

```
*PRINT MENU*  
[SELECT MSG]  
[CHECK MSG]  
[LIST]  
[STATUS]  
BATCH PRINT
```



```
*BATCH PRINT MENU*  
[ALL STORED MSG]  
[ALL SAVE MSG]  
*BATCH PRINT MENU*  
SELECT MSG  
CHANNEL: 4209.5  
STATION: A  
MSG TYP: L
```

Notes

- Select an item in the same procedure as “e. Print the message - 3)” (p.6-10) after the above procedure.

f. Output messages from an external port

Output one message

The external serial port output the selected message's data.

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".

MSG LIST	SORT:DATE				Auto XI
ID	FREQ	LINES	DATE	TIME	
IA01	4209.5	15	09/06/04	12:34	
STATION : YOKOHAMA					
MSG TYPE: NAVIGATIONAL WARNINGS					
KA04	518	10	09/06/04	10:34	
STATION:*SET UP*					
MSG TY	[REVERSE]				NING
IA07	[CHECK]				09:34
STATION	SAVE MENU				
MSG TY	PRINT MENU				NING
KC10	PORT MENU				05:34
STATION					
MSG TYPE: ICE	PORTS				
KH13	518		09/06/04	05:34	
STATION : KUSI					
MSG TY	*PORT MENU*				
DATA:329	[SEL-DATA OUT]				GPS
	[SEL-DISP OUT]				
	[CHK-DATA OUT]				
	[CHK-DISP OUT]				
	[RESET CHECK]				

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.

CHECK	SORT:DATE				Auto XI
ID	FREQ	LINES	DATE	TIME	
IA01	4209.5	15	09/06/04	12:34	
✓	STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS					
KA04	518	10	09/06/04	10:34	
✓	STATION:*SET UP*				
MSG TY	[REVERSE]				NING
IA07	[CHECK]				09:34
✓	STATION	SAVE MENU			
MSG TY	PRINT MENU				NING
KC10	PORT MENU				05:34
STATION					
MSG TYPE: ICE	PORTS				
✓	KH13	518	09/06/04	05:34	
CHECKING - PR [ENT] KEY					
FINISH *PORT MENU* KEY					
DATA:329	[SEL-DATA OUT]				GPS
	[SEL-DISP OUT]				
	[CHK-DATA OUT]				
	[CHK-DISP OUT]				
	[RESET CHECK]				

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”.

MSG LIST2					SORT: DATE		ⓂⓂⓂⓂⓂⓂ
ID	FREQ	LINES	DATE	TIME			
▲ IA01	4209.5	15	27/06/05	12:34			
IB02	490	20	27/06/05	11:34			
IC03	4209.5	10	27/06/05	10:34			
ID04	518	5	27/06/05	10:34			
IE05	518	30	27/06/05	10:34			
IF06	518	12	27/06/05	09:34			
IG07	490	15	27/06/05	09:34			
IH08	490	11	27/06/05	09:34			
II09	4209.5	10	27/06/05	09:34			
KJ10	490	20	27/06/05	05:34			
KK11	518	20	26/06/05	05:34			
KL12	518	14	25/06/05	05:34			
KH13	518	10	24/06/05	05:34			
KN14	518	7	21/06/05	05:34			
▼ KO15	518	12	28/05/05	01:34			
DATA: 321/429					ⓂⓂⓂⓂⓂⓂ		

(Character size: Normal)

MSG LIST2					SORT: DATE		ⓂⓂⓂⓂⓂⓂ
ID	FREQ	LINES	DATE	TIME			
▲ IA01	4209.5	15	27/06/05	12:34			
IB02	490	20	27/06/05	11:34			
IC03	4209.5	10	27/06/05	10:34			
ID04	518	5	27/06/05	10:34			
IE05	518	30	27/06/05	10:34			
IF06	518	12	27/06/05	09:34			
IG07	490	15	27/06/05	09:34			
IH08	490	11	27/06/05	09:34			
II09	4209.5	10	27/06/05	09:34			
KJ10	490	20	27/06/05	05:34			
KK11	518	20	26/06/05	05:34			
▼ KL12	518	14	25/06/05	05:34			
DATA: 321/429					ⓂⓂⓂⓂⓂⓂ		

(Character size: Medium)

MSG LIST2				ⓂⓂⓂⓂⓂⓂ
ID	FREQ	DATE		
▲ IA01	4.2	27/06/05		
IB02	490	27/06/05		
IC03	4.2	27/06/05		
ID04	518	27/06/05		
IE05	518	27/06/05		
IF06	518	27/06/05		
IG07	490	27/06/05		
IH08	490	27/06/05		
▼ II09	4.2	27/06/05		
D: 321/429				ⓂⓂⓂⓂⓂⓂ

(Character size: Large)

Fig.6-3 Message list 2

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.
- 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 save message list.

6.2.7.4 Save message list

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

SAVE MSG	SORT:DATE			ⓂⓂⓂⓂⓂ
ID	FREQ	LINES	DATE	TIME
▲ IA01	4209.5	15	28/12/05	12:34
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
KA04	518	10	28/12/05	12:33
STATION : KUSHIRO				
MSG TYPE: NAVIGATIONAL WARNINGS				
☐ IA07	490	20	28/12/05	12:32
STATION : YOKOHAMA				
MSG TYPE: NAVIGATIONAL WARNINGS				
KCT0	490	12	27/12/05	18:30
STATION : KUSHIRO				
MSG TYPE: ICE REPORTS				
KH13	518	5	27/12/05	18:29
STATION : KUSHIRO				
▼ MSG TYPE: LORAN MESSAGE				
DATA: 21/ 37				ⓂⓂⓂⓂⓂ

"Ⓜ" mark is not displayed on this screen.

Fig.6-4 Save 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.
- The save message list does not display "Ⓜ" mark which shows the saved message.

a. Delete the saved message

If the message is deleted from the save message list, “☒” mark displayed on the message list 1 will also be deleted.

Caution

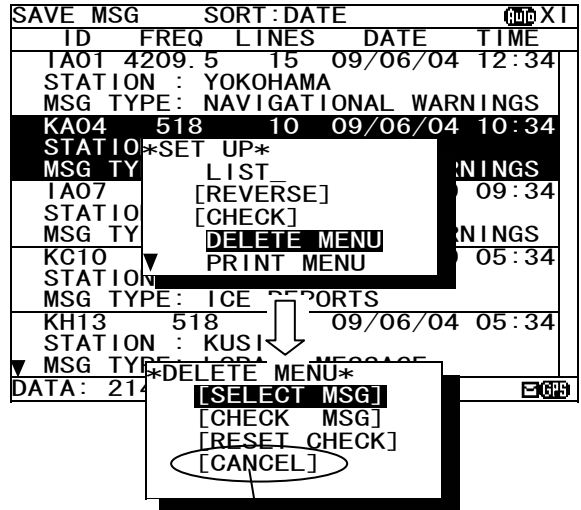
The message is deleted after stored for 70 hours, and the message is deleted from the message list 1 and 2.

Delete one message

The selected message can be deleted.

Procedures

- 1) Move cursor onto the message to delete.
- 2) Press the **[*]** key. The sub screen appears.
- 3) Select the “DELETE MENU”, and press the **[ENT]** key.
- 4) Select the “[SELECT MSG]” in the sub screen of “DELETE MANU”.
- 5) After message deleting has been completed, the selected message is deleted from the save message list and the “☒” mark is deleted from the message list 1.
In addition, the message is deleted after stored for 70 hours, and the message is deleted from the message list 1 and 2.



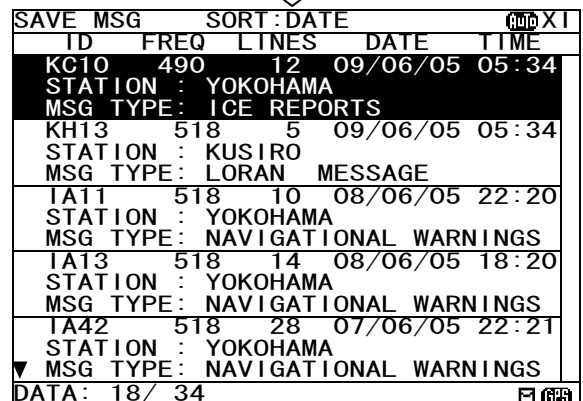
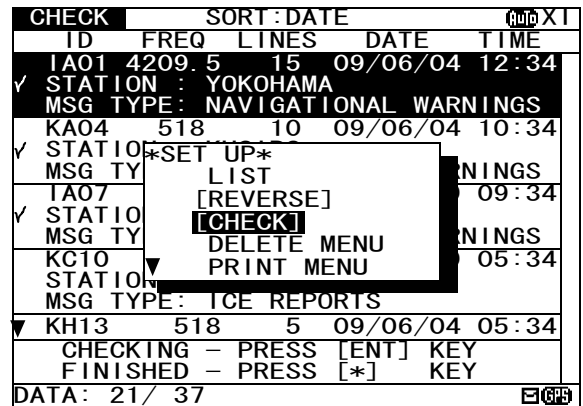
To display to previous screen, select “[CANCEL]”.

Delete messages at the same time

The messages which put the check mark can be deleted 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 “DELETE MENU”, and press the **[ENT]** key.
- 5) Select the “[CHECK MSG]”, and the **[ENT]** key.
- 4) If the **[ENT]** key is pressed after selecting “[RESET CHECK]”, all check marks are cleared.
- 5) After message deleting has been completed, the selected message has deleted from the save message list and the “☒” mark is deleted from the message list 1.
The message is deleted after stored for 70 hours, and the message is deleted from the message list 1 and 2.



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.

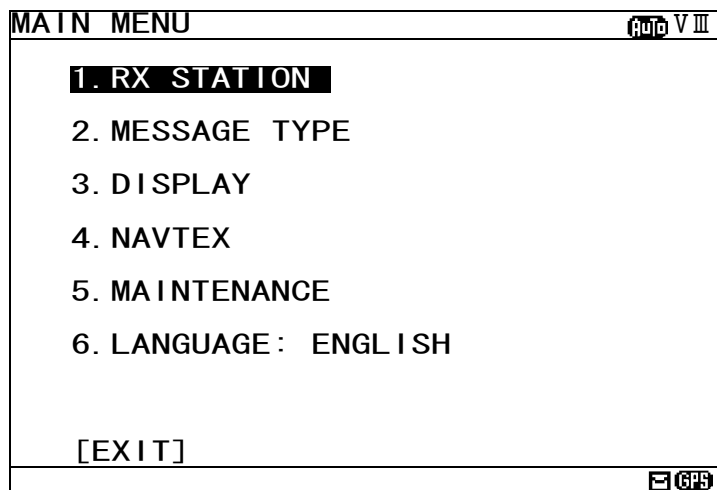


Fig.6-5 Main menu

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**.

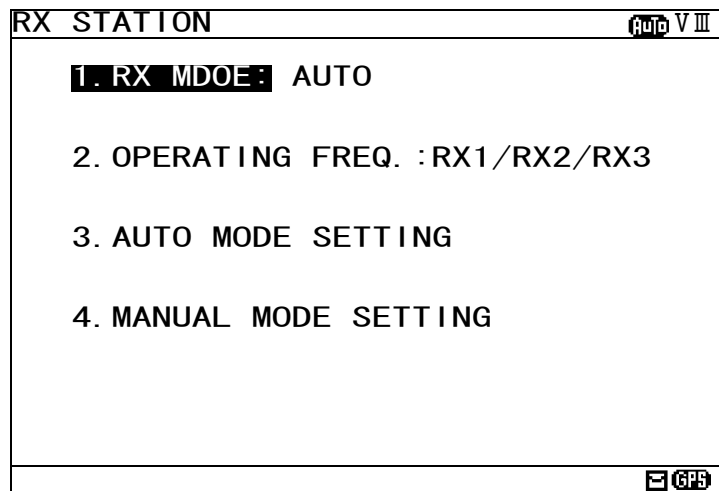


Fig.6-6 RX STATION menu screen

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.
 - 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.

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 ":" of item 1 and 2, cursor returns on the item 1 and 2. (**1.RX MODE**, **2.OPERATING FREQ.**)

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) |

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 selected 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, 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.

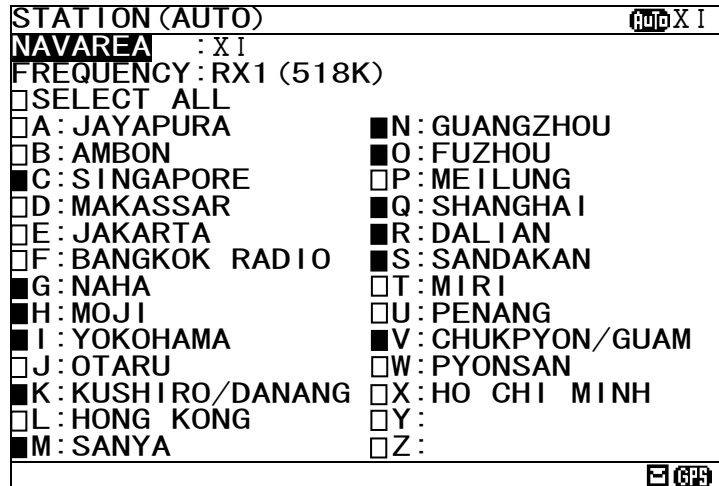


Fig.6-7 The receiving station selection screen (Auto mode setting)

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

- NAVAREA: Select the NAVAREA (I - XVI).
- 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

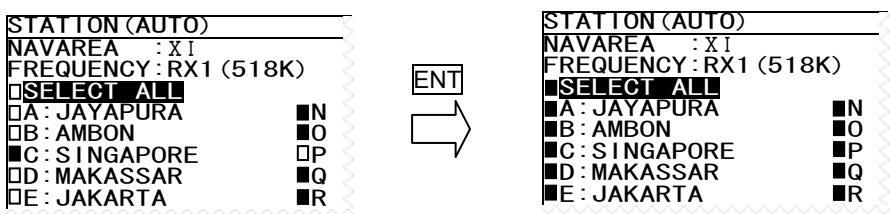
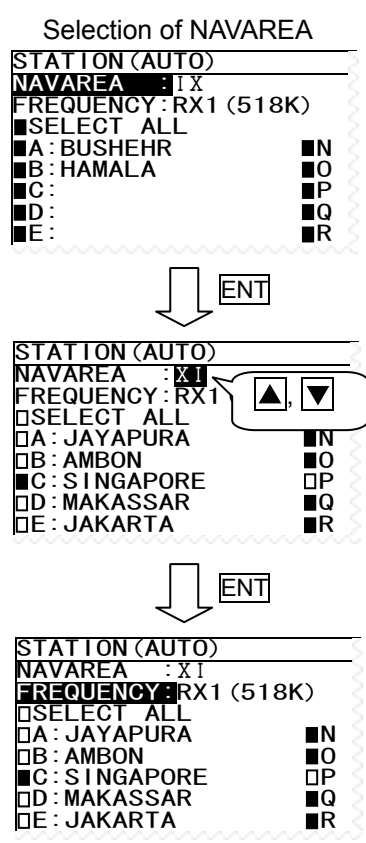
- When GPS data is inputted, the receiving station in your NAVAREA is automatically displayed in the selection screen. Otherwise, the stations in NAVAREA1 are displayed first.

a. Select receiving stations

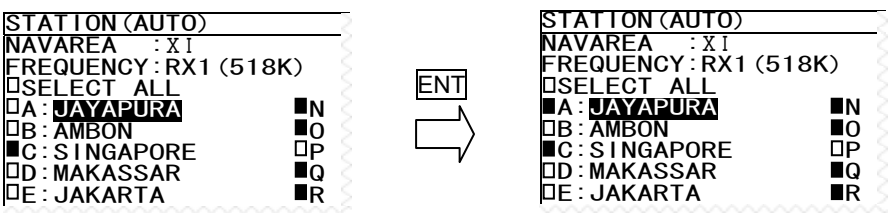
Select the receiving station of each channel for every NAVAREA.
 All stations of initial setting are "A message is received: ■"

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 "SELSC T ALL" is "■", all station (A-Z) settings changes to "■".



(a) Selection of all stations



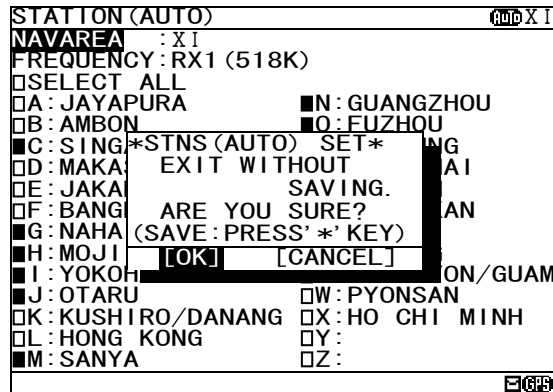
(b) Selection of each station

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, 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”.

d. Save (or Clear) settings

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

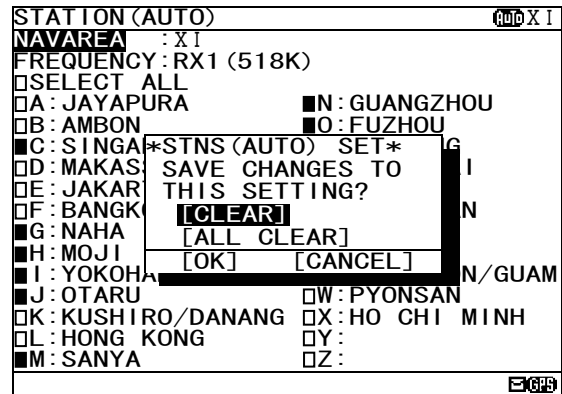
Procedures

- 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 open 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

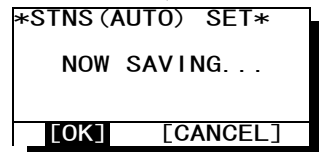
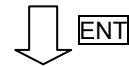
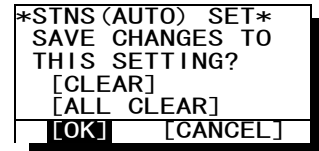
Select the **[CANCEL]**, and press the **[ENT]** key.

This sub screen is closed.

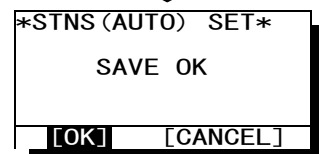
- 4) To start save process, select **[OK]**.
Then, "SAVE OK" is displayed on the sub screen.

Press the **[ENT]** or **[CLR]** key.

RX STATION menu screen appears.



Saving is completed



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.

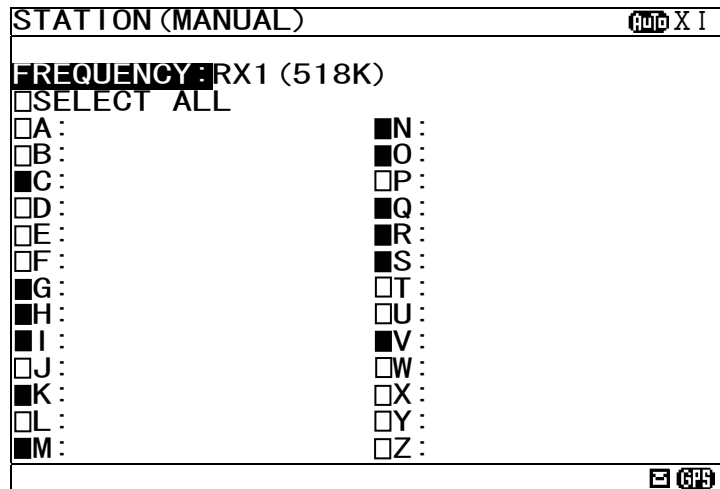


Fig.6-8 The receiving station selection screen (Manual mode setting)

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.6-28 "a. Select receiving stations"

b. Cancel settings

Carry out "b. Cancel settings" of p.6-29.

c. Set up the next channel (or NAVAREA)

Carry out the procedure from section 1) to 3) of p.6-29 "c. Set up the next channel (or NAVAREA)".

d. Save (or Clear) settings

Carry out the procedure from section 1) to 4) of p.6-30 "d. Save (or Clear) settings".

6.3.2 Receiving message type settings (MESSAGE TYPE SETTING)

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

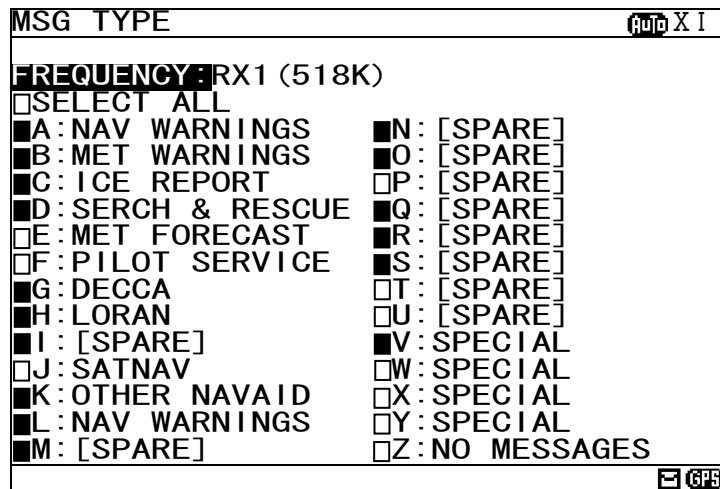


Fig.6-9 MESSAGE TYPE menu screen

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

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.6-28 "a. Select receiving stations".

b. Cancel settings

Carry out "b. Cancel settings" of p.6-29.

c. Save (ro Clear) settings

Carry out the procedure from section 1) to 4) of p.6-30 "d. Save (or Clear) settings".

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.

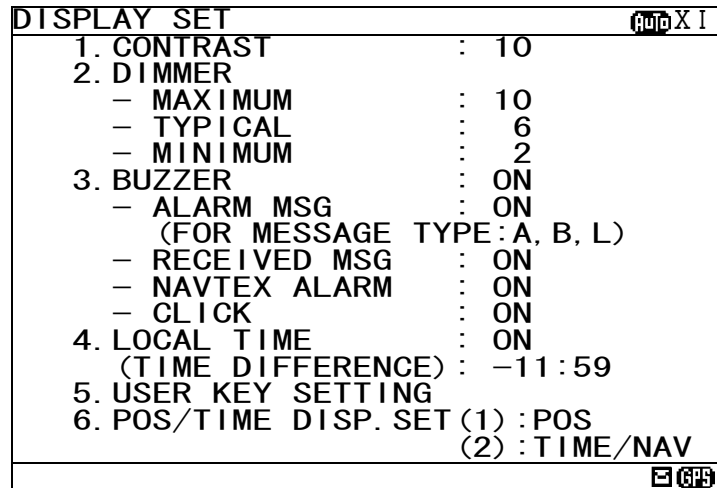


Fig.6-10 DISPLAY SET menu screen

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.
 - 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.

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 ":" of item 1-4 and 6, cursor returns on the item 1-4 and 6. (**1.CONTRAST**, **2. DIMMER**,)

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 Brightness 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.

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 "MINIMUM". All setting values are saved.

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

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 |
```

ON: A buzzer is sounded.
OFF: A buzzer is not sounded.

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, "(LOCAL)" 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.

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

Procedure

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).

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.

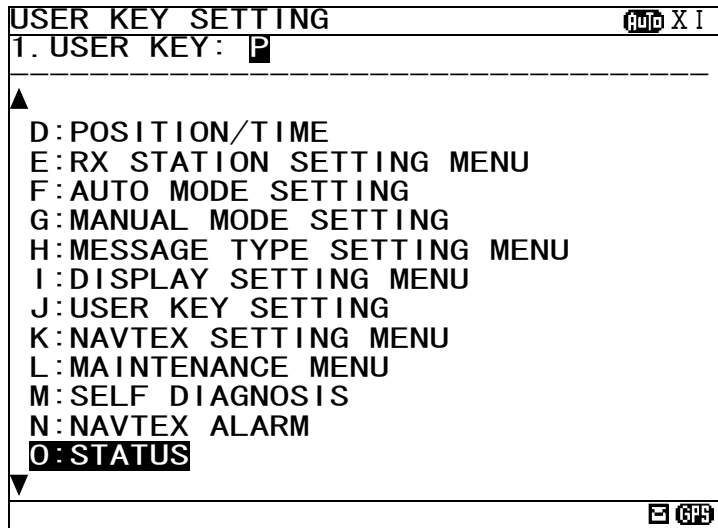


Fig.6-11 USER KEY SETTING screen

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;

	Title	Explanation
A	MESSAGE LIST1	MESSAGE LIST 1 screen is displayed.
B	MESSAGE LIST2	MESSAGE LIST 2 screen is displayed.
C	SAVE MESSAGE LIST	SAVE MESSAGE LIST screen is displayed.
D	POSITION/ITME	POSITION/TIME screen is displayed.
E	RX STATION SETTING MENU	RX STATION menu screen is displayed.
F	AUTO MODE SETTING	AUTO MODE SETTING screen (RX STATION menu) is displayed.
G	MANUAL MODE SETTING	MAMUAL MODE SETTING screen (RX STATION menu) is displayed.
H	MESSAGE TYPE SETTING MENU	MESSAGE TYPE SETTING screen is displayed.
I	DISPLAY SETTING MENU	DISPLAY menu screen is displayed.
J	USER KEY SETTING	This screen (SER KEY SETTING) is displayed.
K	NAVTEX SETTING MENU	NAVTEX menu screen is displayed.
L	MAINTENANCE MENU	MAINTENANCE menu screen is displayed.
M	SELF DIAGNOSIS	SELF DIAGNOSIS screen (MAINTENANCE menu) is displayed.
N	NAVTEX ALARM	NAVTEX ALARM screen (MAINTENANCE menu) is displayed.
O	STATUS	STATUS screen (MAINTENANCE menu) is displayed.
P	PORT MONITOR	PORT MONITOR screen (MAINTENANCE menu) is displayed.
Y	PRINT	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.
Z	NON USE	The USER key cannot be used.

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.

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)".

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.

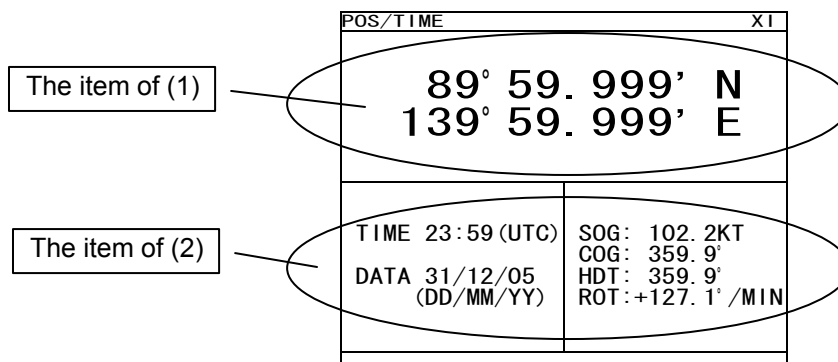
(1): POS, The selectable items of "(2)" are as follows.
OFF, TIME, TIME/NAV

(1): TIME, The selectable items of "(2)" are as follows.
OFF, POS, POS/TIME

- 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.

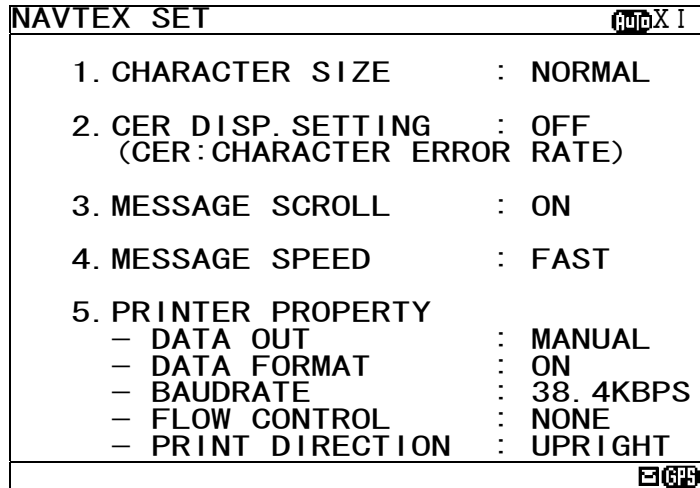


Fig.6-12 NAVTEX SET menu screen

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.
(**1.CHARACTER SIZE**, **2. CER DISP.SETTING**,)

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)

6.3.4.1 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 KO, TOKYO WEST PASSAGE.
DAYTIME DAILY UNTIL 28 JUNE 2004
35-35-02. ON 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 KO, TOKYO WEST PASSAGE.
DAYTIME DAILY UNTIL 28 JUNE 2004
35-35-02. ON 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 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% -----
```

Header

Footer

(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

INVERT: Inverted printing

The initial settings are as follows. Set up as follows when DPU-414 is connected.

```
DATA OUT:      MANUAL
DATA FORMAT:   ON
BAUD RATE:     4800BPS
FLOW CONTROL:  NONE
PRINT DIRECTION: UPRIGHT
```

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.

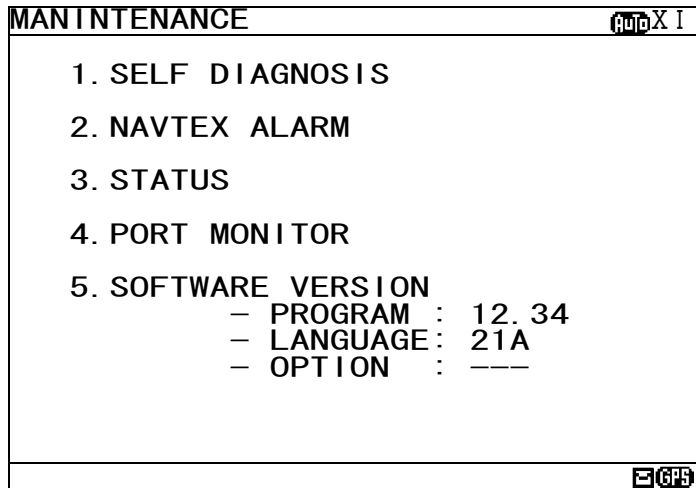


Fig.6-13 MAINTENANCE menu screen

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.
 - 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.
(**1.CHARACTER SIZE**, **2. CER DISP.SETTING**,)

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.

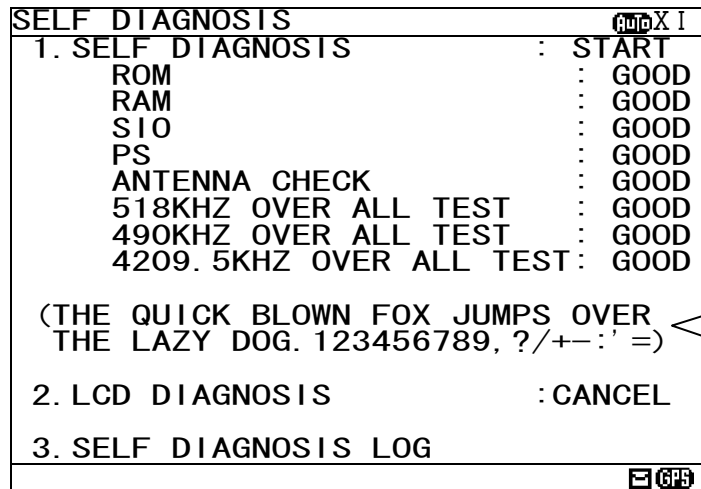


Fig.6-14 SELF DIAGNOSIS screen

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.

```

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

"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.

```

1. SELF DIAGNOSIS      : START
  ROM                  : GOOD
  RAM                  : GOOD
  SIO                  : GOOD
  PS                   : GOOD
  ANTENNA CHECK       : GOOD
  518KHZ OVER ALL TEST:
  490KHZ OVER ALL TEST:
  4209.5KHZ OVER ALL TEST:
  (THE QUICK BLOWN FOX JUMPS OVER
  THE LAZY DOG. 123456789, ?/+:-: '=)
  
```

OVER ALL TEST:

"OVER ALL TEST" is the test which outputs a test signal from the inside of the circuit, and receives the signal from each receiver.

Test signal (Character strings):

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

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

Diagnosis items	Explanation	Corrective Action
ROM	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.	Replace CMJ-501N.
RAM	The memory for temporarily storage is checked.	
SIO	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.	
PS	The power supply part is checked.	
ANTENNA CHECK	Connection with NAVTEX antenna is checked.	Replace CMN-2333.
518KHZ OVER ALL TEST	Internal receiver (RX1) is checked.	
490KHZ OVER ALL TEST	Internal receiver (RX2) is checked.	
4209.5KHZ OVER ALL TEST	Internal receiver (RX3) is checked.	

b. The diagnosis of LCD panel (LCD DIAGNOSIS)

Procedure

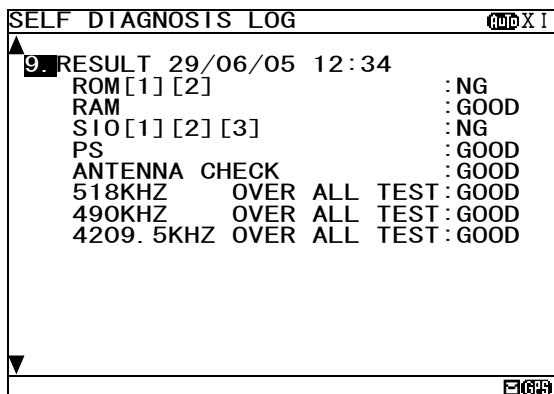
- 1) Select **2.LCD DIAGNOSIS**, and press the **[ENT]** key. Cursor moves to the right side of ":".
- 2) Press the **[▲]** **[▼]** key and select the following items;
 - START: Diagnosis is started.
 - CANCEL: Diagnosis is canceled, and cursor returns to **2.LCD DIAGNOSIS**.
- 3) Select the "START", and press the **[ENT]** key.
This diagnosis blinks the viewing area (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)

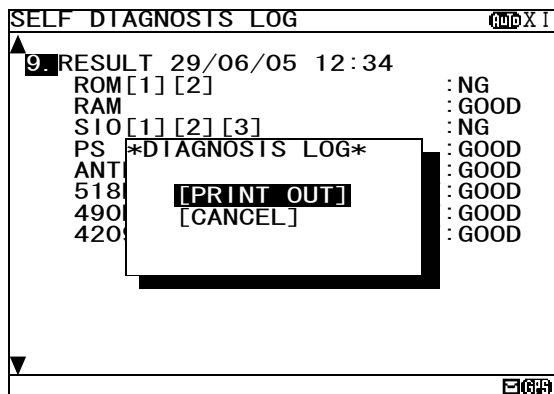
The diagnosed time is displayed when external GPS receiver is connected.
 "--/-- --:--" is displayed when time is not able to be acquired. (External GPS receiver is not connected.)



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.

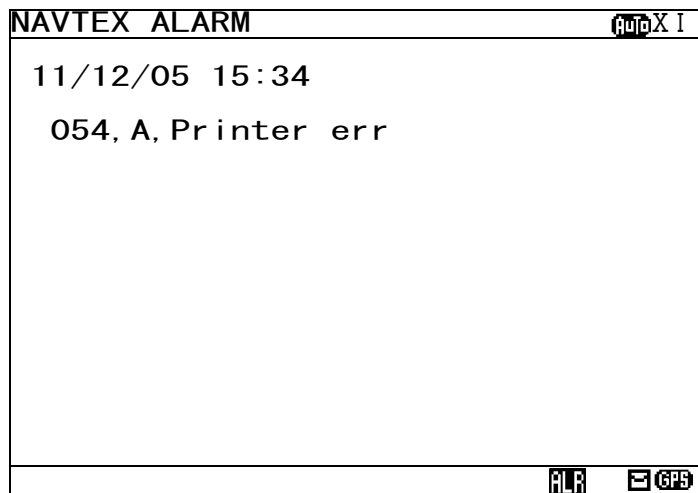


Fig.6-15 NAVTEX ALARM screen

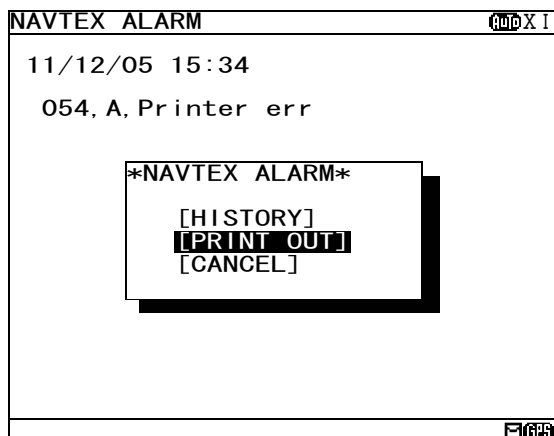
Notes

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

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.



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.

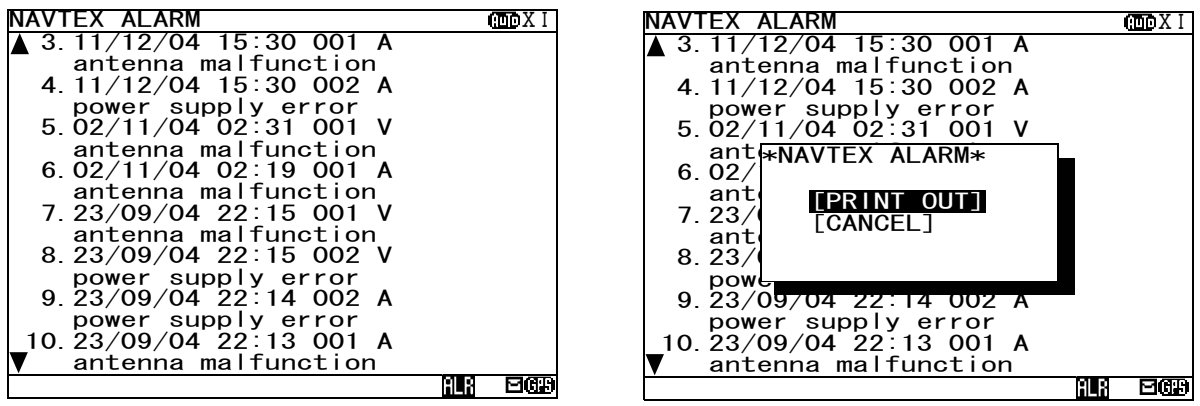


Fig.6-16 ALARM HISTORY screen

Procedure

- 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 scroll downward.
 - “▲” mark is displayed on the top line when the alarm history screen is able to scroll 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 malfufnction
 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

Alarm No.	Alarm’s description text	The contents of unusual detection
002	Receiver 1 malfunction	Unusual detection at the RX1
003	Receiver 2 malfunction	Unusual detection at the RX2
004	Receiver 3 malfunction	Unusual detection at the RX3
005	General failure	Unusual detection at the power supply part
006	Built in self test failure	Self diagnosis failure
051	Antenna malfunction	Unusual detection of antenna connection
052	Flash memory error	The data in a memory is broken.
053	Rx unit modem error	Unusual detection at the modem part
054	Printer error	External printer has malfunction
055	EXT SIO output error	Unusual detection at the “DISP” output port

- 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.

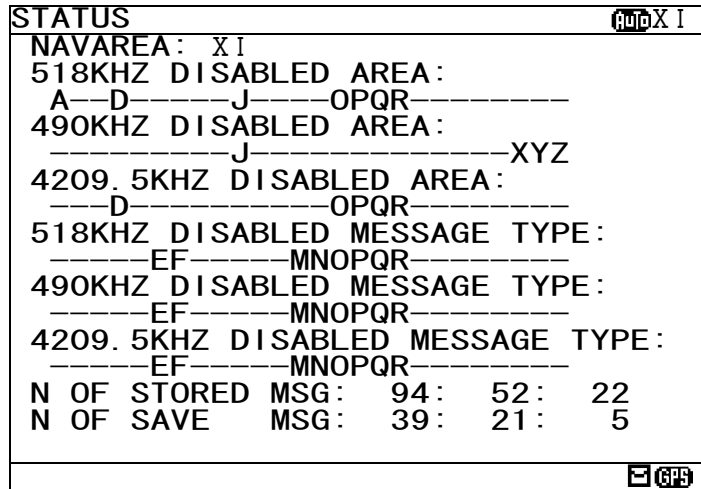


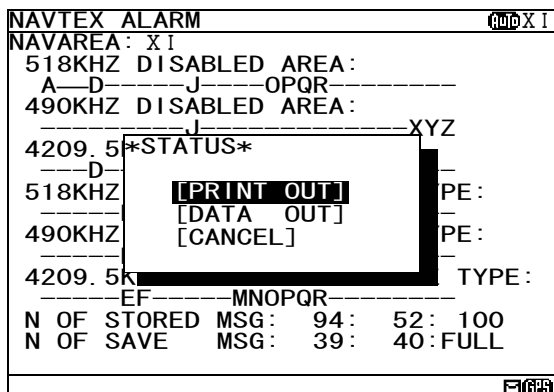
Fig.6-17 STATUS screen

The setting information of each items are as follows;

- 518 (490, 4209.5) kHz DISABLED AREA: 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".

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.

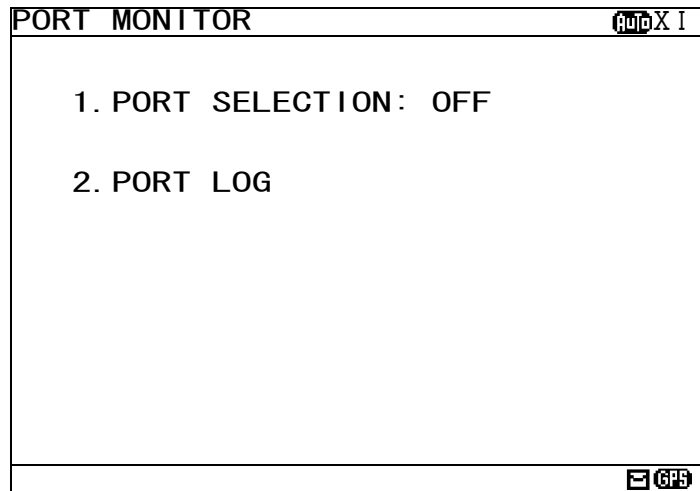


Fig.6-18 PORT MONITOR screen

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. (**1.PORT SELECTION**)

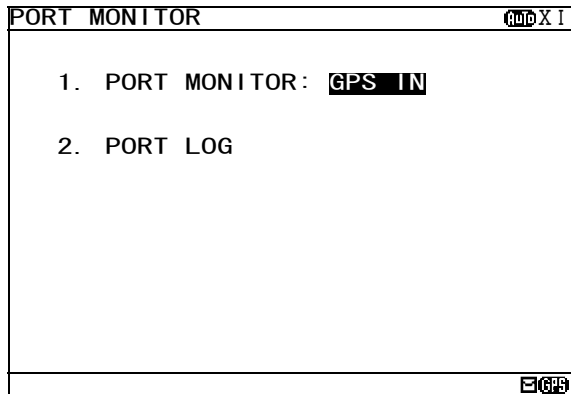
The outlines of menus are as follows;

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

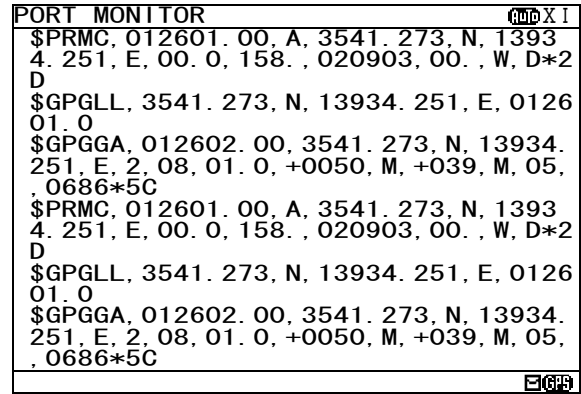
- 1) Select **1.PORT SELECTION**, and press the **ENT** key. Cursor moves to the right side of ":".
- 2) Press the **▲▼** key and select the following items;
 - OFF: The monitoring of each port does not carry out.
 - GPS IN: Input data of the GPS port
 - DISP IN: Input data of the DISP (Option) port
 - 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.



ENT



CLR



Notes

- 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.

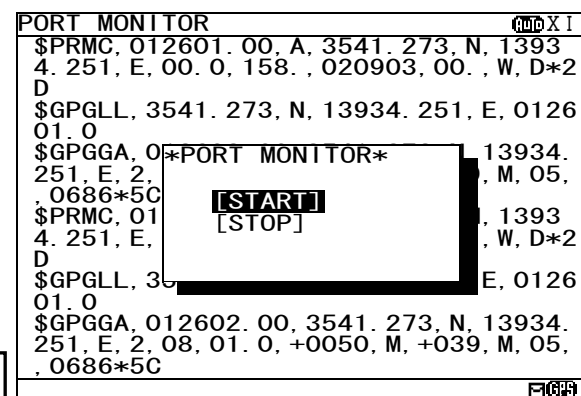
b. Store the displaying data temporarily

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 it turns off the power.

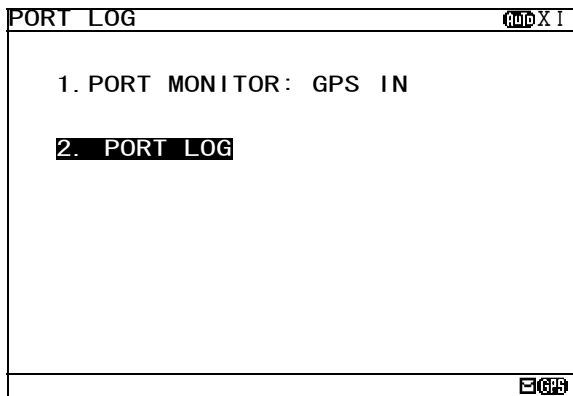


- 3) For canceling, select the "[STOP]" and press the **ENT** key.
The sub screen is closed, and storing of the displaying data is stopped.

c. Port log (PORT LOG)

Procedure

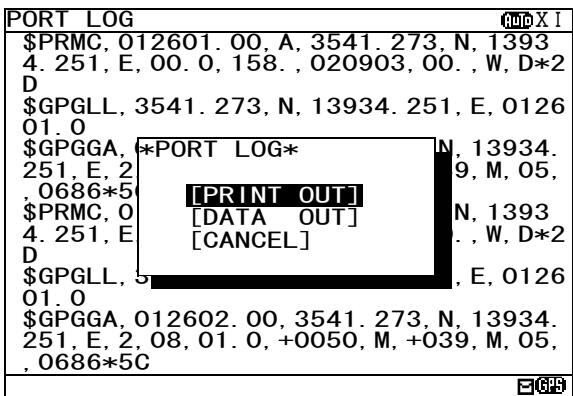
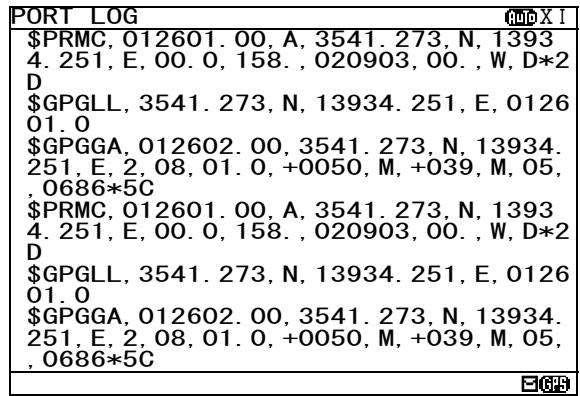
- 1) Select **2.PORT LOG**, and press the **[ENT]** key. PORT LOG screen appears.
The data stored in the PORT MONITOR is displayed on this screen.
- 2) “▼” mark is displayed on the bottom line when the PORT LOG screen is able to scroll downward.
“▲” mark is displayed on the top line when the PORT LOG screen is able to scroll upward.
Press the **[▲]** **[▼]** key and scroll the viewing area.



[ENT]



[CLR]



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.

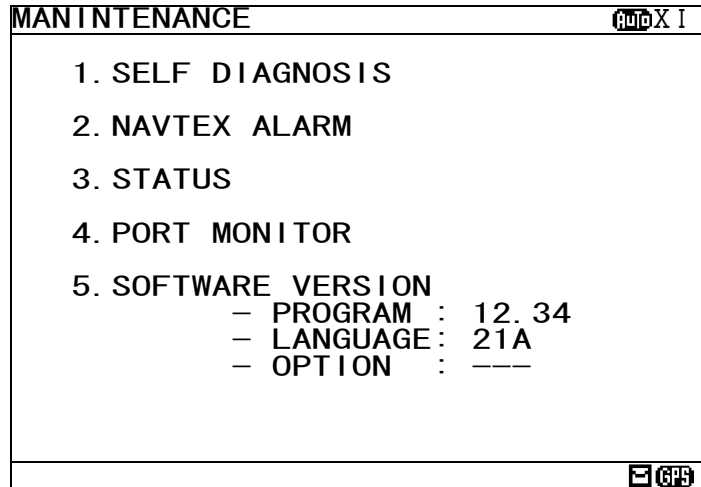


Fig.6-19 Maintenance manu screen

The explanations of each item are as follows;

- PROGRAM: Program version is displayed.
- LANGUAGE: Langage version is displayed.
- OPTION: Option langage 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".

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.

 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.

No.	Item	Maintenance and inspection
1	Cleaning	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.
2	Looseness of parts	Inspect for looseness and correctly tighten the following: Screws, nuts and connectors.

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

Failure alarm list (ALR sentence output)

Alarm No.	Indication	Alarm Occurrence Conditions
005 006	General failure Built in self test failure	After carrying out self-diagnosis, NCR-333 detected that the input voltage was abnormal.
006 051	Built in self test failure Antenna malfunction	After carrying out self-diagnosis, NCR-333 detected that the output voltage of antenna terminal was low voltage.
002 006	Receiver 1 malfunction Built in self test failure	After carrying out self-diagnosis, NCR-333 detected that the receiver 1 (518kHz) could not receive because of abnormalities.
003 006	Receiver 2 malfunction Built in self test failure	After carrying out self-diagnosis, NCR-333 detected that the receiver 2 (490kHz) could not receive because of abnormalities.
004 006	Receiver 3 malfunction Built in self test failure	After carrying out self-diagnosis, NCR-333 detected that the receiver 3 (4209.5kHz) could not receive because of abnormalities.
002 053	Receiver 1 malfunction Rx unit modem error	The receiver 1 (518kHz) could not receive because of internal MODEM failure.
003 053	Receiver 2 malfunction Rx unit modem error	The receiver 2 (490kHz) could not receive because of internal MODEM failure.
004 053	Receiver 3 malfunction Rx unit modem error	The receiver 3 (4209.5kHz) could not receive because of internal MODEM failure.
051	Antenna malfunction	The output voltage of antenna terminal is low voltage.
005	General failure	The input voltage is low level.
054	Printer error	External printer is abnormal.
055	EXT SIO output error	“DISP” output port is abnormal.

7. 3 Trouble Shootings

7.3.1 Trouble Shootings

⚠ 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.

Symptom of Error	Possible Cause or Cause of Fault	Countermeasures
Power is not supplied when the power switch is pressed.	Power is not distributed from the inboard distribution panel.	Supply power from the distribution panel.
	Power is not supplied from the power supply unit or NCR-333.	Check that the wiring of the power unit is correct. Check that the output voltage of the power unit or NCR-333 is correct.
	Power that the power unit supplies is out of range.	Replace the power unit.
	The fuses in the Power Supply Unit (Option) are blown out.	Check that the wiring is correct and replace the fuses.
	The power supply cable is broken.	Replace the power supply cable.
	The controller switch is broken.	Replace the CMD-953 circuit board.
Some dots are missing on the LCD.	The LCD malfunctions.	Replace the LCD.
	The control unit malfunctions.	Replace the CMJ-501N circuit board.
No alarming sound is generated.	The buzzer malfunctions.	Replace the CMD-953 circuit board.
	The control unit malfunctions.	Replace the CMJ-501N circuit board.
The illumination does not light.	The control unit malfunctions.	Replace the CMJ-501N circuit board.
	The LCD malfunctions.	Replace the LCD.
No NAVTEX message is received.	The polarity or antenna cable is incorrect.	Check if the polarity is correct and connect it.
	Neither the receiving station nor the message type is selected correctly.	Refer to "6.3.1" or "6.3.2".
	The NAVTEX antenna (NAW-333) is damaged.	Replace the NAW-333.
	The following alarm number appears: 002, 003, or 004. Internal receiver 1, 2 or 3 is broken.	Replace the CMN-2333.
Sensor data (external GPS, gyro, and rate-of-turn) cannot be loaded.	The polarity of the serial cable is incorrect.	Check if the polarity is correct and connect it.
	The interface between the sensor and NCR-333 is incorrect.	Check if the interface is correct before its connection.
	The sentence that the sensor generates is not supported by the NCR-333.	Check the output command and the version.
	The serial format (baud rate, etc.) does not meet the setting of the controller.	Check the serial format of the sensor.
	The sensor (GPS, gyro, rate-of-turn indicator) malfunctions.	Replace the sensor.

Symptom of Error	Possible Cause or Cause of Fault	Countermeasures
Sensor data (external GPS, gyro, and rate-of-turn) cannot be loaded.	The DPU (CMJ-501N) malfunctions.	Replace the CMJ-501N circuit board.
The external printer does not print	The external printer is not ON.	Turn on the external printer.
	The printer power is not turned on.	Check the printer power cable.
	Printer property (printer settings) is incorrect.	Refer to "6.3.4.5".

7.3.2 Maintenance Units

Maintenance units for repair are followings.

No.	Unit Name	Model	Note
1	RX UNIT	CMN-2333	
2	DPU	CMJ-501N	
3	KEYBOARD UNIT	CMD-953	
4	NAVTEX ANTENNA	NAW-333-1	ANTENNA for NCR-333
5	POWER SUPPLY UNIT	NBG-319	DC: +12/24Vdc
6	POWER SUPPLY UNIT	NBG-320	AC: 110/220Vac, DC: +12/24Vdc
7	Whip Antenna	5ABBE00001	0.6 m

Fuses

No.	Unit Name	Model	Note
1	5A Fuse	ULTSC 5A N1	For NBG-319
2	2A Fuse	MQ4 250V 2A	For NBG-320
3	4A Fuse	MQ2 125V 4A	For NBG-320

7.3.3 Spear parts for periodic maintenance

Spear parts for periodic maintenance are followings.

No.	Unit Name	Code	Decline period	Note
1	LCD Unit	CCN-392	40,000 hours	5 years in continuous operation
2	Printer (Option)	DPU-414	Approx. 500,000 lines	When the thermal paper of 25m roll length is used, about 90 thermal papers can be used.

8. AFTER-SALES SERVICE

Warranty

- Warranty period is one year from the purchase day.

Warranty

- 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 $\leq 1 \times 10^{-2}$ at 1 μ V (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) Key board : 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).
 - Baudrate : User setting (4800 / 9600 / 38.4k bps)
 - Data bit : 8bits
 - Parity : none
 - Stop bit : 1bit
 - Flow control : User setting (Hard / None)
- (3) Relay terminals **BK**
One port for Break in relay signal
- (4) Relay terminals **EXT ALR**
One port for external alarm device
- (5) Remote maintenance data output port **DATA OUT2**
One output port meets the requirements of IEC 61162-1
- (6) MPD (Multi purpose display) communication port **DISP**
One communication port meets the requirements of RS-485

9.2 NAVTEX ANTENNA (NAW-333 - Option)

9.2.1 Electrical characteristics

- | | |
|-------------------------|--|
| (1) Receiving frequency | : 518kHz, 490kHz and 4209.5kHz |
| (2) Bandwidth | : 504kHz : ± 20 kHz
4209.5kHz : ± 100 kHz |
| (3) Consumption current | : 7Vdc 13mA (Typ.) |
| (4) Impedance | : 50 ohms |

9.2.2 Environmental condition

- | | |
|---------------------------|------------------------------|
| (1) 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 $\pm 10\%$, 50/60Hz Single phase
: 24Vdc (+30%, -10%) (Back up power supply) |
| (2) Output voltage | : Typ. 12Vdc $\pm 10\%$
6.5Vdc $\pm 10\%$ (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 $\pm 10\%$ (for External Printer) |
| (3) Maximum current | : 1.5 A (12 / 24V)
2.0 A (6.5V) |

 **Cautions for Safety**

- Read the Instruction Manual before your use for safety in operation.
- Do not install this equipment in a place with water, wetness, vapor, dust and oily smoke. Otherwise, a fire, electric shock or failure may result.
- For the installation work for this equipment, request to JRC agents or dealers. The installation work done by any non-specialist personnel may result in an electric shock or failure.

Specifications may be subject to change without notice.

For further information, contact:



Since 1915

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: tmsc@m1.jrc.co.jp

AMSTERDAM Branch

Telephone: +31-20-658-0750
Facsimile: +31-20-658-0755
e-mail: jrc@jrco.nl

SEATTLE Branch

Telephone: +1-206-654-5644
Facsimile: +1-206-654-7030
e-mail: service@jrcoamerica.com

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CODE No.7ZPJD0304

01ETM

ISO9001, ISO14001 Certified