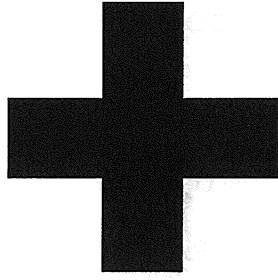


MF/HF Radio Equipment

JSS-296

Instruction Manual

JRC *Japan Radio Co., Ltd.*



CAUTIONS AGAINST HIGH VOLTAGE

Radio and radar devices are operated by high voltages of anywhere from a few hundred volts up to many hundreds of thousands of volts. Although there is no danger with normal use, it is very dangerous if contact is made with the internal parts of these devices. (Only specialists should attempt any maintenance, checking or adjusting.)

There is a very high risk of death by even a few thousand volts, in some cases you can be fatally electrocuted by just a few hundred volts. To circumvent accidents, you should avoid contact with the internal parts of these devices at all costs. If contact is inevitable as in the case of an emergency, you must switch off the devices and ground a terminal in order to discharge the capacitors. After making certain that all the electricity is discharged, only then can you insert your hand into the device. Wearing cotton gloves and putting your free hand in your pocket, in order not to use both hands simultaneously, are also very good methods of shock prevention.

Quite often, an injury occurs by secondary factors, therefore it is necessary to choose a sturdy and level working surface. If someone is electrocuted it is necessary to thoroughly disinfect the affected area and seek medical attention as soon as possible.

Cautions concerning treatment of electrocution victims

When you find an electrocution victim, you must first switch off the machinery and ground all circuits. If you are unable to cut off the machinery, move the victim away from it using a non-conductive material such as dry boards or clothing.

When someone is electrocuted, and the electrical current reaches the breathing synapses of the central nervous system inside the brain, breathing stops. If the victim's condition is stable, he or she can be administered artificial respiration. An electrocution victim becomes very pale, and their pulse can be very weak or even stop, consequently losing consciousness and becoming stiff.

Administration of first aid is critical in this situation.

First aid

☆Note points for first aid

Unless there is impending danger leave the victim where he or she is, then begin artificial respiration. Once you begin artificial respiration, you must continue without losing rhythm.

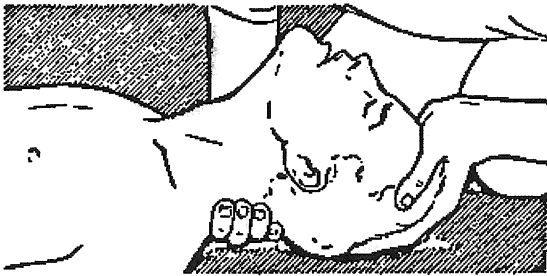
- (1) Make contact with the victim cautiously, there is a risk that you may get electrocuted.
- (2) Switch off the machinery and then move the victim away slowly if you must.
- (3) Inform someone immediately (a hospital or doctor, dial emergency numbers, etc.).
- (4) Lay the victim on his or her back and loosen any constrictive clothing (a tie, or belt).
- (5)
 - (a) Check the victim's pulse.
 - (b) Check for a heartbeat by pressing your ear against the victim's chest.
 - (c) Check if the victim is breathing by putting the back of your hand or face near the victim's face.
 - (d) Check the pupils of the eyes.
- (6) Open the victim's mouth and remove any artificial dentifrice, food or chewing gum. Leave the mouth opened and flatten the tongue with a towel or by putting something into the mouth to prevent the victim's tongue from obstructing the throat. (If he or she is clenching their teeth and it is difficult to open the mouth, use a spoon or the like to pry open the mouth.)
- (7) Continually wipe the mouth to prevent the accumulation of saliva.

**☆If the victim has a pulse but is not breathing
("Mouth to mouth" resuscitation) Figure 1.**

- (1) Place the victim's head facing backward (place something under the neck like a pillow).
- (2) Point the chin upward to widen the trachea.
- (3) Pinch the victim's nose, take a deep breath, then put your mouth over the victim's mouth and exhale completely, making sure that your mouth completely covers the victim's mouth. Then remove your mouth. Repeat this routine 10 to 15 times per minute (holding the nostrils).
- (4) Pay attention to the victim to notice if he or she starts to breath. If breathing returns, stop resuscitation.
- (5) If it is impossible to open the victim's mouth, put something like a plastic straw or vinyl tube into one of the nostrils then blow air in while covering the mouth and the other nostril.
- (6) Occasionally, when the victim comes back to consciousness, they immediately try to stand up. Prevent this and keep them in a laying position. Give them something warm to drink and be sure that they rest (do not give them any alcohol).

Administering artificial respiration by raising the head.

①



- (1) Raise the back of the head, then place one hand on the forehead and place the other hand under the neck. →①
Most victims open their mouth when doing this, making "mouth to mouth" resuscitation easier.

②



- (2) Cover the victim's mouth by opening your mouth widely, then push your cheek against the victim's nose, →②
or pinch the victim's nose to prevent air from leaking out of it. →③

③



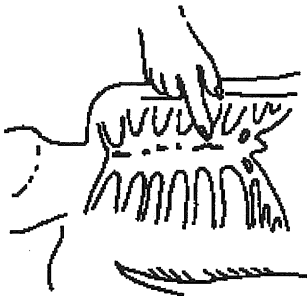
- (3) Completely exhale into the lungs.
Exhale into the lungs until the chest is inflates. You have to blow as rapidly as possible for the first 10 times.

**☆If the victim has no pulse and is not breathing
(Heart massage in combination with artificial respiration.) Figure 2**

If the victim has no pulse, his or her pupils are dilated, and if you cannot detect a heartbeat, the heart may have stopped, beginning artificial respiration is critical.

- (1) Put both hands on the diaphragm, with hands on top of each other keeping both arms straight. (If your elbows are bent, you cannot push with as much power.) Press the diaphragm with your body weight until the chest sinks about 2 cm (about 50 times per minute).
- (2) If administering first aid when alone:
Perform the heart massage about 15 times then blow in twice. Repeat this routine.
If administering first aid with two people:
One person performs the heart massage 5 times, and the other person blows air in once. Repeat this routine. (Heart massage and "mouth to mouth" resuscitation used together.)
- (3) Constantly check the pupils and the pulse, if the pupils become normal and the pulse steadies, keep them in a laying position and give them something warm to drink, be sure that they rest (do not give them any alcohol.). In any case you have to entrust major decision making to a doctor. Having understanding people around is essential to the victim's recovery from the mental shock of electrocution.

①



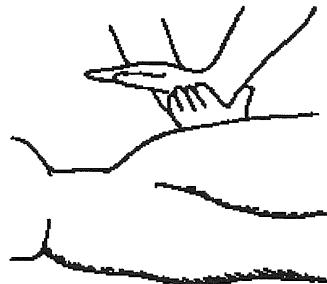
②



③



④



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Preface

Thank you for purchasing JRC MF/HF Radio Equipment model JSS-296.

- For best operation and performance results, read this manual thoroughly before use.
- Keep this manual in a convenient place for future reference. 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 reading 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 is a general caution.)



The \circ symbol indicates that performing an action is prohibited. The illustration inside or next to the \circ 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 the obligatory operation. (In the example, unplugging is the obligatory operation.)

Concerning warning labels

A warning label is pasted to the top cover of this product.
Do not remove, damage, or modify the label.

Handling Precautions

WARNING



Do not disassemble or modify this unit. Doing so may cause fire, electrical shock, or failure.



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



If you remove a unit, be sure to store it in a non-conductive bag. If you wrap it up with materials such as aluminum foil, the back-up power supply may short circuit and the ICs may be damaged.



There are no user-serviceable parts inside this equipment. Inspection or maintenance by unauthorized persons may result in fire or electric shock. For inspection and maintenance, contact JRC or its authorized agents.

Handling Precautions

CAUTION



Do not use this equipment in an environment other than that specified. Doing so may cause failure or malfunction.



Do not turn the trimmer resistors or trimmer capacitors on the PCB unit (they are preset at the factory). Doing so may cause failure or malfunction.



Do not install the equipment in a place near water or in one with excessive humidity, steam, dust or soot. Doing so may cause fire, electric shock, or failure.



Do not get this equipment wet or spill any liquids on or near this equipment. Doing so may cause electrical shock or failure.



Do not place this equipment anywhere vibration or impact is likely to occur. Doing so may cause a failure or injury.



Do not place anything on top of this equipment. Doing so may cause fire or failure.



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



Be sure to turn OFF the printer's power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



Just after printing, the temperature of the printing head is high. Do not touch the printing head until the temperature goes down. Doing so may cause a burn or an injury.



Do not touch any part of the cutter. Doing so is potentially dangerous.

DISTRESS CALLS

NCT-196N

There are three methods of transmitting a distress call. These methods are described below in order of ease of use, with the easiest first.

Transmitting Distress Calls 1

Procedure

1. Open the cover on the left and press **DISTRESS** .
The following screen is displayed.

DISTRESS CALL	Transmissible
▶ Address	: XXXXXXXXX
Nature	: UNDESIGNATED DIST
Dist-position	: 12° 34' N 123° 45' E
Dist-UTC	: 01:26
Dist-telecomm	: J3E TEL
End of sequence	: EOS
Call TX/RX freq	: 2,187.5 / 2,187.5 kHz

Note • If stop the distress transmission, press **STOP** .

2. Press **DISTRESS** for 3.5 seconds continuously.

Note • If stop the distress transmission, release **DISTRESS** .

3. The following screen is displayed and the distress transmission is started.
If a printer is connected, it prints out the distress message.
The distress message is transmitted for 5 times successively.

DISTRESS CALL	Transmitting
TX frequency	: 2,187.5 kHz
TX date&time	: 06.Sep.2001(Thu) 01:26
	1/5

Note • If break the distress transmission, press **STOP** .

4. When the distress transmission is completed, the screen is displayed as follows for a few seconds.

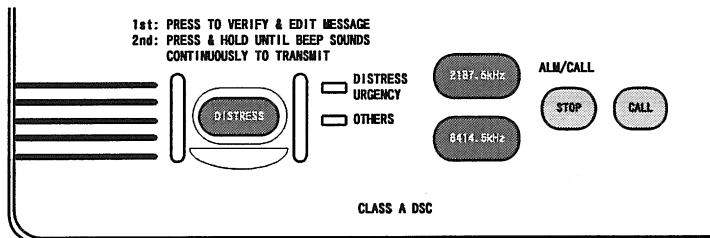
DISTRESS CALL	Send Completed
TX frequency	: 2,187.5 kHz
TX date&time	: 06.Sep.2001(Thu) 01:27
	5/5

5. The distress transmission is repeated at random intervals of 3.5 to 4.5 minutes.
On completion of the transmission, the screen is changed as follows. And the distress transmission is repeated when the displayed time has counted down to zero.

DISTRESS CALL	2,187.5 kHz
NEXT DISTRESS CALL : AFTER 3.0 min	

Transmitting Distress Calls 2

Front panel



Procedure

1. Press **2187.5kHz** or **8414.5kHz**.
2. Open the cover on the left and press **DISTRESS**.
The following screen is displayed.

```

DISTRESS CALL          Transmissible
Address                : XXXXXXXXXX
Nature                 : UNDESIGNATED DIST
Dist-position          : 12° 34' N 123° 45' E

Dist-UTC               : 01:26
Dist-telecomm          : J3E TEL
End of sequence        : EOS
Call TX/RX freq: 2,187.5/ 2,187.5 kHz
    
```

Note • If stop the distress transmission, press **STOP**.

3. Press **DISTRESS** for 3.5 seconds at least.

Note • If stop the distress transmission, release **DISTRESS**.

4. The following screen is displayed and the distress transmission is started.
If a printer is connected, it prints out the distress message.
The distress message is transmitted for 5 times successively.

```

DISTRESS CALL          Transmitting
TX frequency           : 2,187.5 kHz
TX date&time           : 06.Sep.2001(Thu) 01:26
                                                                1/5
    
```

Note • If break the distress transmission, press **STOP**.

5. When the distress transmission is completed, the screen is displayed as follows for a few seconds.

DISTRESS CALL	Send Completed
TX frequency	: 2,187.5 kHz
TX date&time	: 06.Sep.2001(Thu) 01:27
	5/5

6. The distress transmission is repeated at random intervals of 3.5 to 4.5 minutes.

On completion of the transmission, the screen is changed as follows. And the distress transmission is repeated when the displayed time has counted down to zero.

DISTRESS CALL	2,187.5 kHz
NEXT DISTRESS CALL : AFTER 3.0 min	

Transmitting Distress Calls 3

The NCT-196N enables an operator to create and edit messages for transmission.

Procedure

1. Confirm that the "DSC watching" screen is displayed.

```
DSC watching 06.Sep.2001(Thu) 01:26
12° 34' N 123° 45' E SPEED:12.4KT at 01:26

Self-ID = XXXXXXXXXX [UTC]
```

2. Press **MENU**.

The "MENU #1-EDIT&CALL" screen is displayed.

```
MENU #1-EDIT&CALL      Select no._
▶ 1.Individual call
  2.Acknowledgement call
  3.Distress call
  4.Distress relay call
  5.Auto/semi-auto call
  6.All ships call
  7.Group call
  8.Area call
  9.Position request
 10.Polling call
 11.Test call
```

Use **▲** and **▼** to scroll the screen.

3. Press **3** and then **ENT** to select "3. Distress call".

The "Distress Call" screen is displayed as follows. Then setup these items except for "Address" and "End of sequence" properly.

```
DISTRESS CALL      Transmissible
▶ Address          : XXXXXXXXXX
Nature            : UNDESIGNATED DIST
Dist-position     : 31° 00' N 135° 00' E
Dist-UTC          : 01:26
Dist-telecomm     : J3E TEL
End of sequence   : EOS
Call TX/RX freq   : 2,187.5/ 2,187.5 kHz
```

Use **▲** and **▼** to scroll the screen.

4. Open the cover on the left and press **DISTRESS** for 3.5 seconds at least.
5. The following screen is displayed and the distress transmission is started.
If a printer is connected, it prints out the distress message.
The distress message is transmitted for 5 times successively.

```
DISTRESS CALL      Transmitting
TX frequency       : 2,187.5 kHz
TX date&time       : 06.Sep.2001(Thu) 01:26
1/5
```

Note • If break the distress transmission, press **STOP**.

6. When the distress transmission is completed, the screen is displayed as follows for a few seconds.

DISTRESS CALL	Send Completed
TX frequency	: 2,187.5 kHz
TX date&time	: 06.Sep.2001(Thu) 01:27
	5/5

7. The distress transmission is repeated at random intervals of 3.5 to 4.5 minutes.
On completion of the transmission, the screen is changed as follows. And the distress transmission is repeated when the displayed time has counted down to zero.

DISTRESS CALL	2,187.5 kHz
NEXT DISTRESS CALL : AFTER 3.0 min	

Receiving Distress Calls

When a distress call is received, the "DISTRESS/URGENCY" LED lights up in red and the alarm tone sounds. Up to 20 received distress calls are automatically stored in memory for future confirmation.

Note

The distress messages are automatically deleted 48 hours after they have been received in order to prevent unnecessary distress message relay transmission. Thus the distress messages more than 48 hours old cannot be displayed but it is a proper transaction.

ATTENTION

When a distress call is received, inform the ship's captain or officer in charge and log the distress call. There are legal repercussions if such a procedure is not followed. Furthermore if a distress call is received, make contact immediately according to "DSC Alert Response Procedures".

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Abbreviations

AM:	Amplitude Modulation. The carrier amplitude is modulated in accordance with the signal.
AMVER:	Automated Mutual-assistance Vessel Rescue System
ARQ:	Automatic Repeat Request
ASCII:	American Standard Code for Information Interchange
ATS:	Automatic Tuning Start
ATU:	Antenna Tuner
AUTO TELEX:	A kind of Telex communication. The line is automatically established by receiving a free signal transmitted from a coast station.
CFEC:	Collective Forward Error Correcting. A mode transmitting to many and unspecified stations.
CIRM:	Committee International Radio Maritime
COMSAR:	Sub-committee on Radio Communications and Search and Rescue
DIM:	Dimmer
DSC:	Digital Selective Calling
DTE:	Data Terminal Equipment
FEC:	Forward Error Correction System
GMDSS:	Global Maritime Distress and Safety System
GPS:	Global Positioning System
HF:	High Frequency

IMO:	International Maritime Organization
ITU:	International Telecommunication Union. Regulates the treaty and rules relating to the telecommunication of wire, wireless, land wires, marine, air and space. As internal machinery, there are WARC, CCIR, CCITT and others.
MF:	Medium Frequency (300 kHz to 3 MHz)
NBDP:	Narrow Band Direct Printing
NNSS:	Navy Navigation Satellite System
PC:	Personal Computer
RCC:	Rescue Coordinate Center
RR:	Radio Regulations
SAR:	Search and Rescue
SFEC:	Selective Forward Error Correcting. Destination is specified and transmitted in this mode.
SOLAS:	International Convention for the Safety of Life at Sea
SSB:	Single Side Band
UTC:	Universal Time Coordinated

1. INTRODUCTION

1.1 Outlines

The JSS-296 MF/HF Radio Equipment is designed for vessels navigating A2, A3 and A4 sea areas. It consists of mainly the JSB-196GM Radiotelephone, NFC-296 Antenna Tuning Unit (ATU), NCT-196N DSC/NBDP MODEM, NDZ-127J Data Terminal Equipment (DTE), NDF-268 Keyboard, and NAH-692 Power Amplifier, and it provides the optimum GMDSS system for the superior performance, compact, lightweight and highly efficient design of the units, which ensures easy operation for distress and safety calling as well as general communications.

1.2 Features

● Fully Complies with GMDSS Requirements

All the functions required by IMO resolutions A.804 (19) and A.806 (19) are equipped, and suitable for radio installations of vessels navigating A2, A3 and A4 sea areas.

● Inadvertent Distress Alert Protection

The DISTRESS button is protected by a cover to prevent inadvertent distress alert transmission.

● AC/DC Two-way Power Supply

The Power Supply equipped in the NAH-692 Power Amplifier is connected to both AC mains and auxiliary DC24V battery, and can switch them automatically.

● Selfcheck Function

A Built-in high grade selfcheck function centrally controlled using JSB-196GM Radiotelephone ensures easy maintenance.

● Built-in Dummy Load for ATU Selfcheck

The dummy load for checking the NFC-296 Antenna Tuning Unit (ATU) is built-in and not required to connect as extra unit.

● Outdoor Installable Antenna Tuning Unit

The NFC-296 Antenna Tuning Unit can be installed outdoors such as on deck, ensuring effective emission of transmitter power.

1.3 Components

1.3.1 Standard Components

No.	Component	Part name	Quantity	Remarks
1	MF/HF Radiotelephone	JSB-196GM	1	
1-1 Included Accessories				
1-1-1	Hand Set	NQW-213	1	
1-1-2	Power Cable	7ZCJD0043A	1	L=1m
1-1-3	Plug	5JCAS00029	1	
1-1-4	Connector	5JJA00034	2	
1-1-5	Terminals	5JDAH00084	2	14-8
1-1-6	Spare Fuse	5ZFEX00013	4	40A
1-1-7	Instruction Manual	7ZPJD0124	1	English
1-1-8	Quick Reference	7ZPJD0141	1	English
1-1-9	Packing List	7ZPJD0130A	1	
1-1-10	Register List	7ZPJD0065	1	
1-1-11	Return Envelope	6ZXJD00122	1	
1-1-12	Mounting Screws	MPTG30762	1	
2	DSC/NBDP MODEM	NCT-196N	1	
2-1 Included Accessories				
2-1-1	Power Cable	7ZCJD0139	1	L=3m
2-1-2	AF Cable	7ZCJD0071	1	L=1.5m
2-1-3	Control Cable	7ZCJD0072	1	L=1.5m
2-1-4	Terminals	5JTCD00220	2	1.25-8
2-1-5	Spare Fuse	5ZFCK00001	4	7.5A
2-1-6	Instruction Manual	7ZPJD0156	1	English
2-1-7	Quick Reference	7ZPJD0157	1	English
2-1-8	GMDSS Operating Guide	7ZPJD0135	1	English
2-1-9	Packing List	7ZPJD0159	1	
2-1-10	Register List	7ZPJD0065	1	
2-1-11	Return Envelope	6ZXJD00122	1	
2-1-12	Stuck Mount Kit	MPXP32000	1	
2-1-13	Mounting Screws	MPTG30762	1	
3	Data Terminal Equipment	NDZ-127J	1	
4	Keyboard	NDF-268	1	
5	Antenna Tuner	NFC-296	1	
6	Power Amplifier	NAH-692	1	

1.3.2 Options

No.	Component	Part name	Quantity	Remarks
1	Hand Microphone	NVT-133	1	Straight Cable (L=5m)
2	Hand Microphone	NVT-140	1	Curl Cable
3	Handset Holder	MPBP00127A	1	
4	AF Cable	7ZCJD0073	1	For NCT-196 (L=0.3m)
5	Control Cable	7ZCJD0074	1	For NCT-196 (L=0.3m)
6	Printer	NKG-800	1	For NCT-196

1.4 Configuration



WARNING



Do not disassemble or modify this unit. Doing so may cause fire, electrical shock, or failure.



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



CAUTION



Do not use this equipment in an environment other than that specified. Doing so may cause failure or malfunction.



Do not install the equipment in a place near water or in one with excessive humidity, steam, dust or soot. Doing so may cause fire, electric shock, or failure.



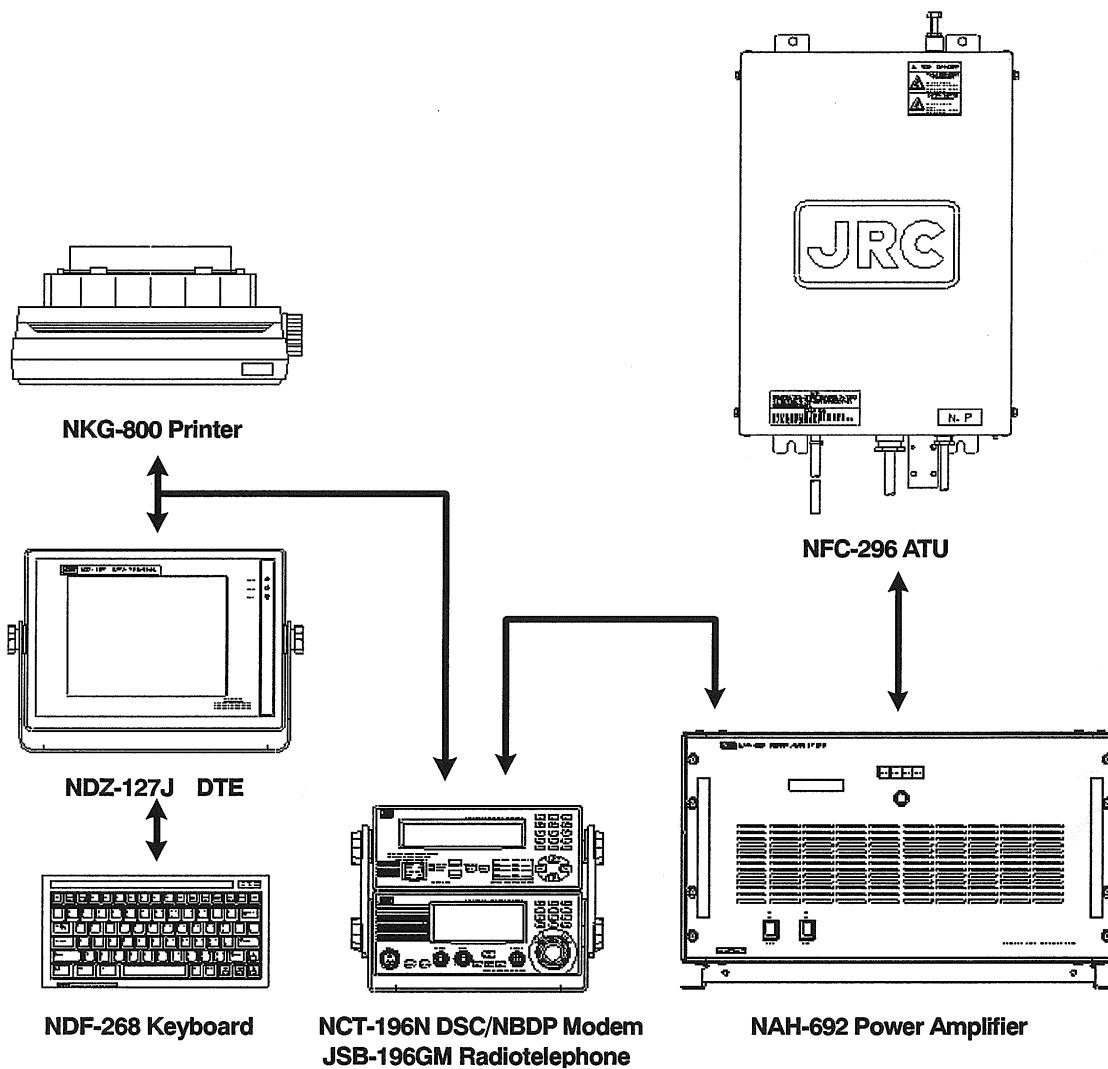
Do not get this equipment wet or spill any liquids on or near this equipment. Doing so may cause electrical shock or failure.



Do not place this equipment anywhere vibration or impact is likely to occur. Doing so may cause a failure or injury.

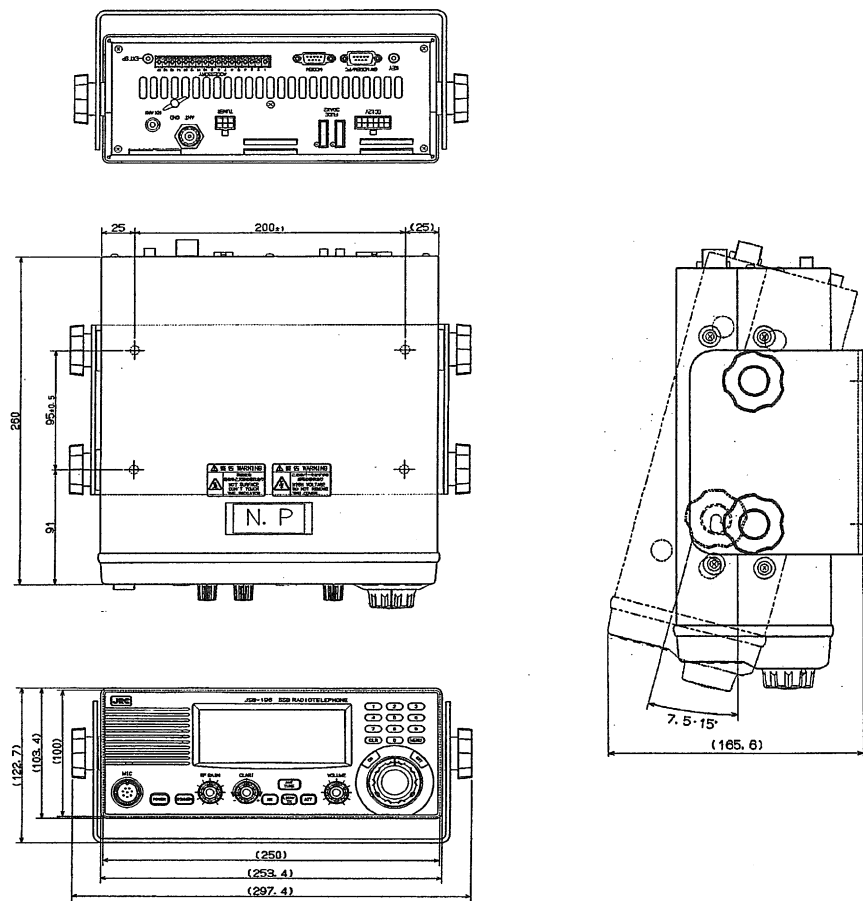


Do not place anything on top of this equipment. Doing so may cause fire or failure.



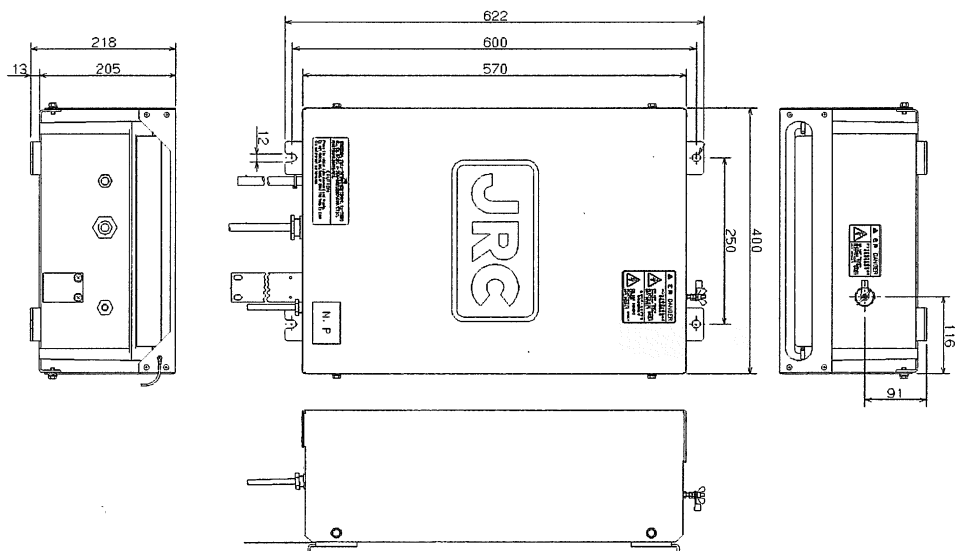
1.5 External View

● JSB-196GM Radiotelephone



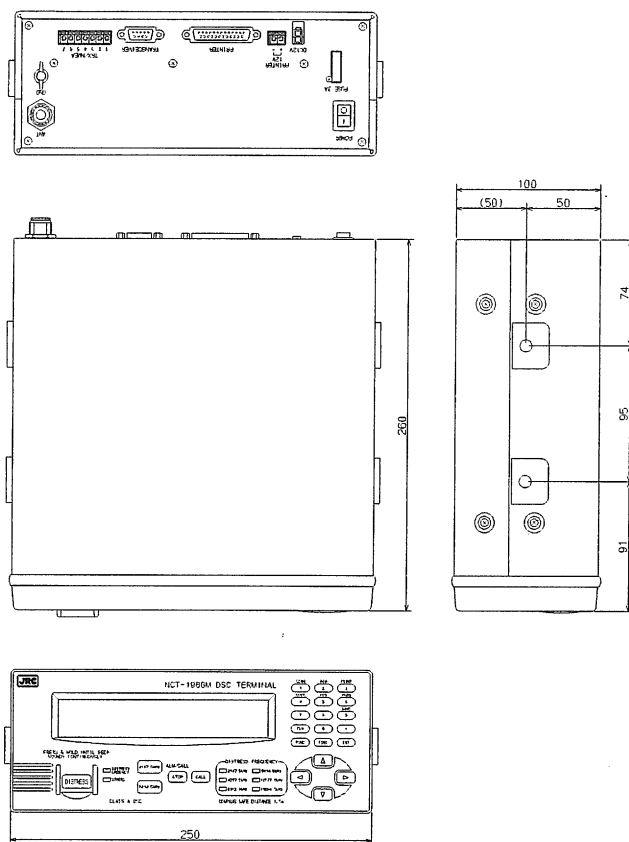
(Unit: mm)

● NFC-296 Antenna Tuner



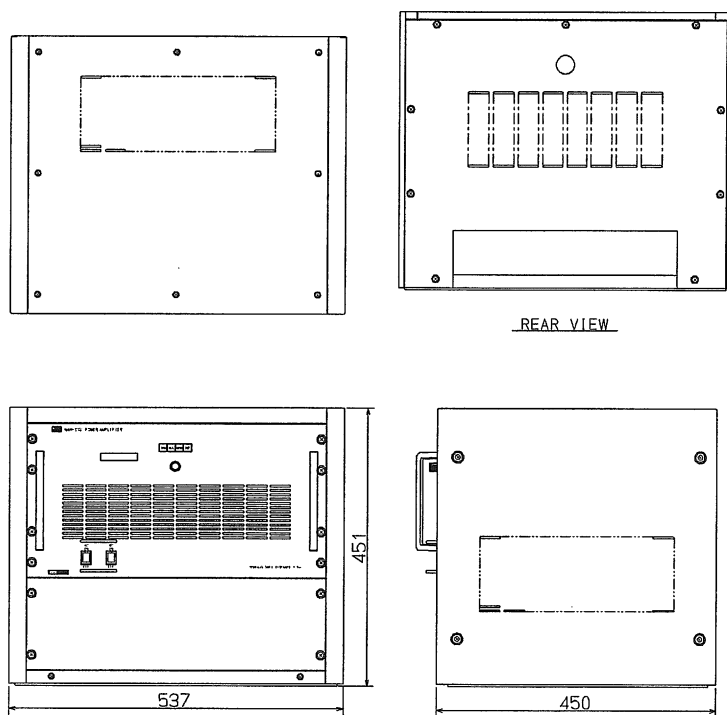
(Unit: mm)

● NCT-196N DSC/NBDP Modem



(Unit: mm)

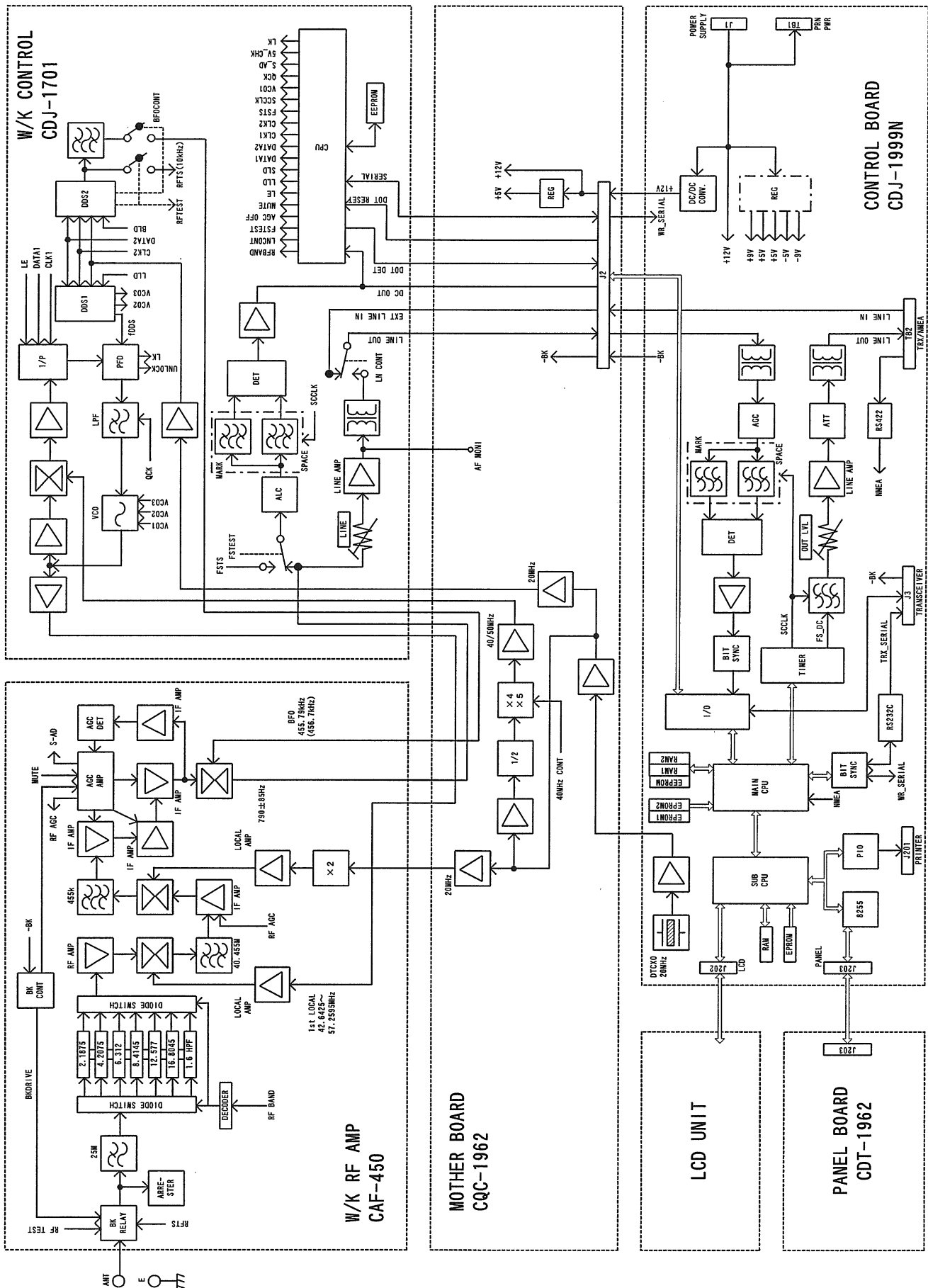
● NAH-692 Power Amplifier



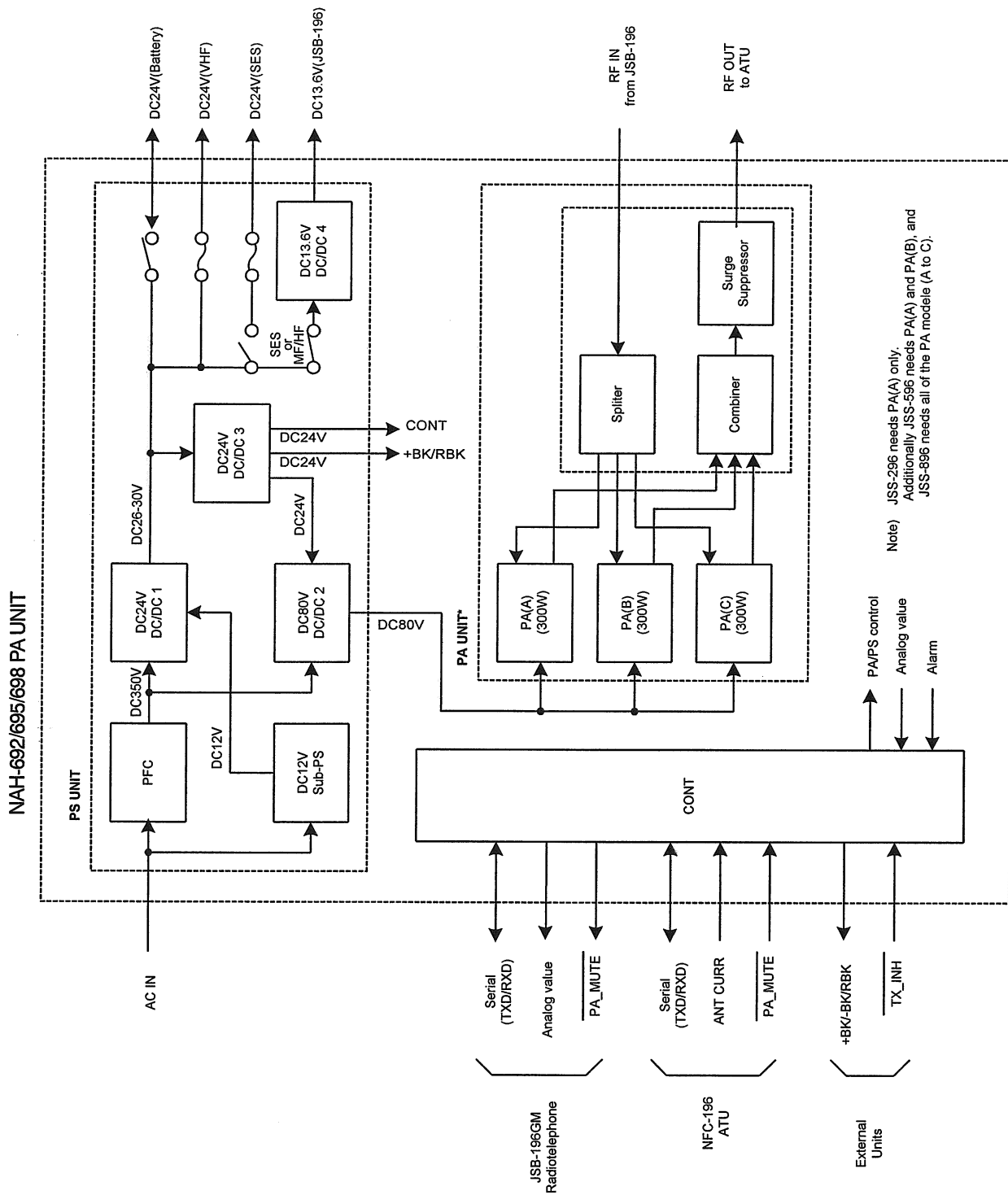
(Unit: mm)

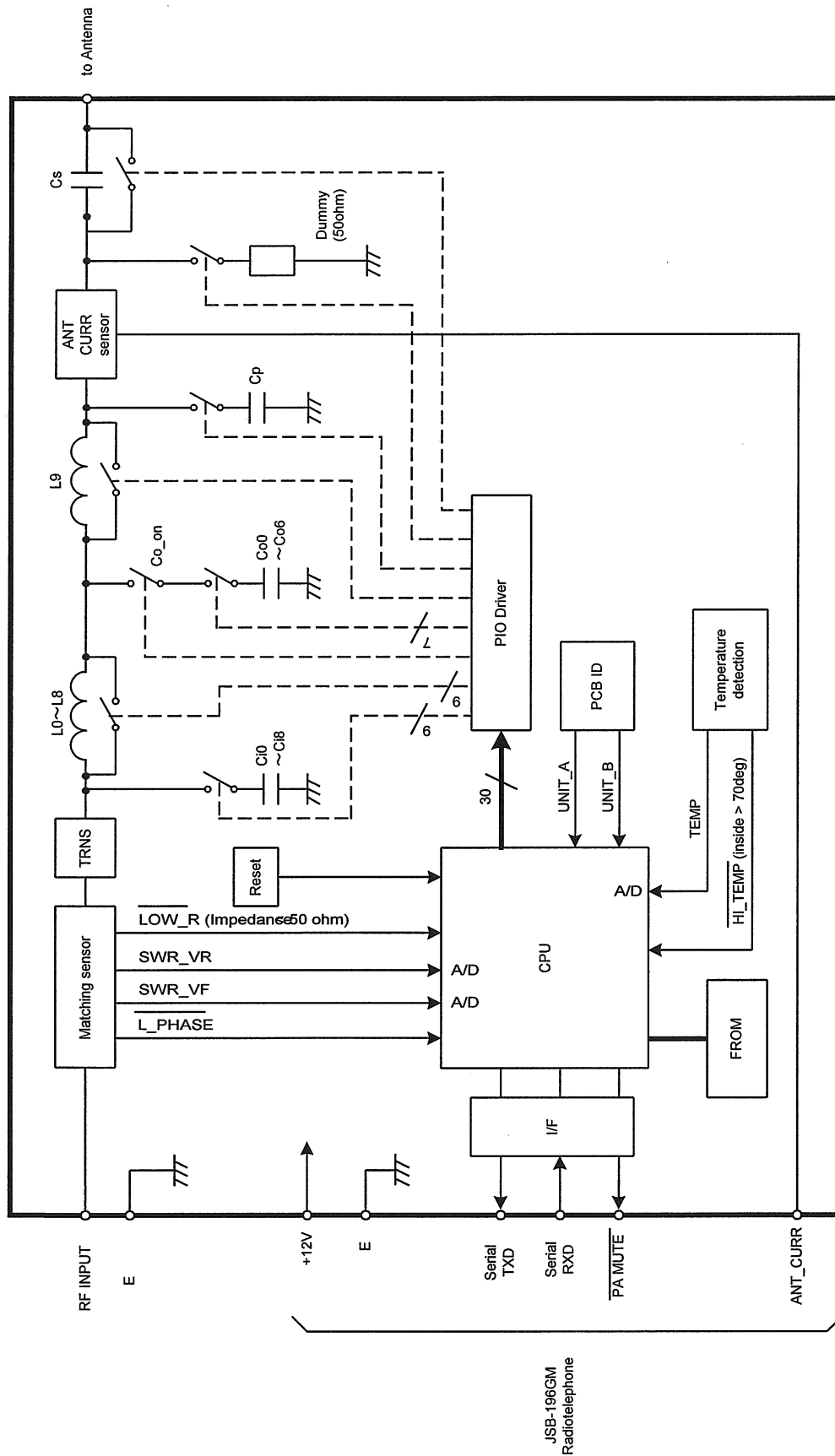
● JSB-196GM MF/HF Radio Equipment





● NAH-692 Power Amplifier

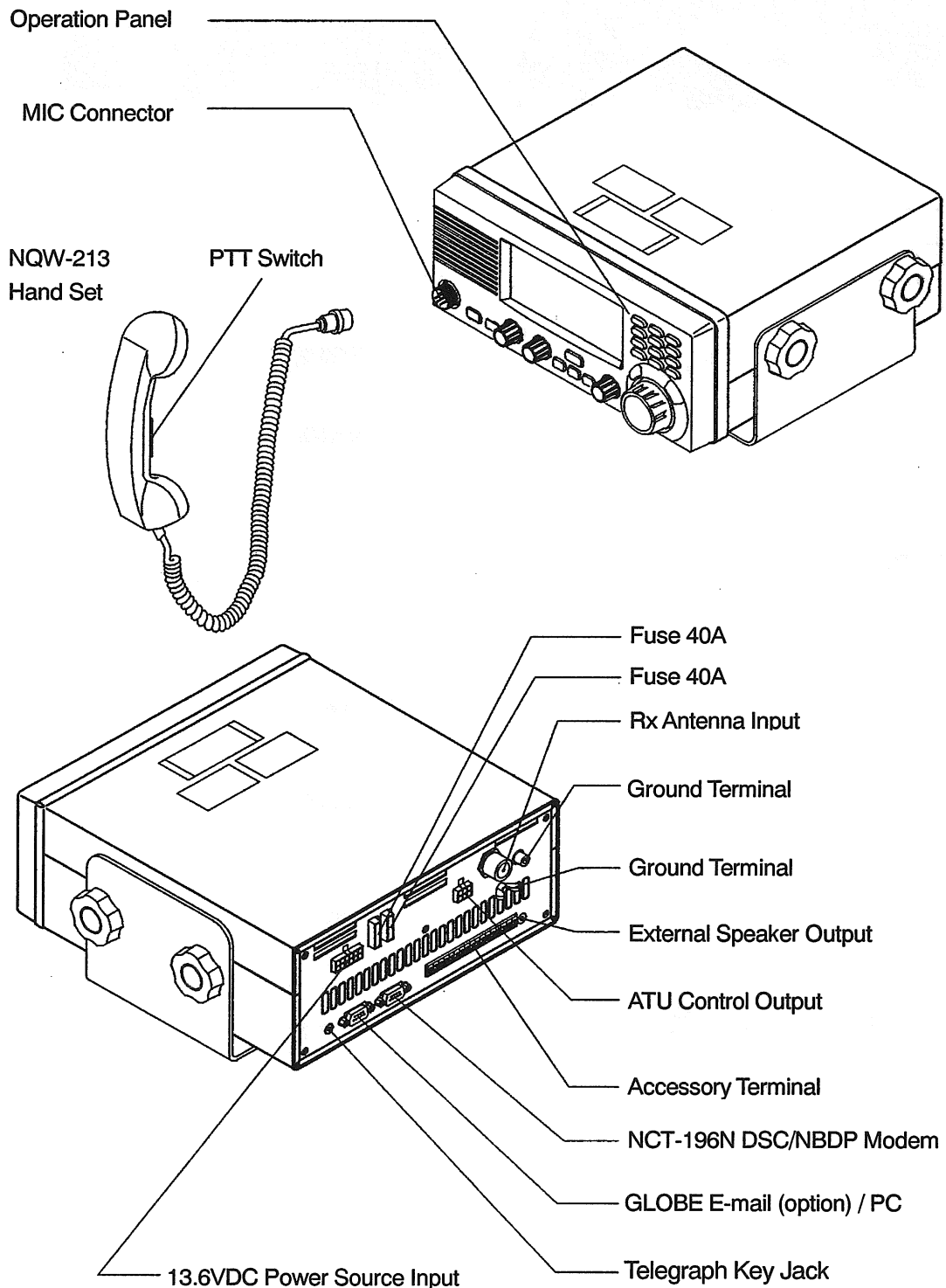


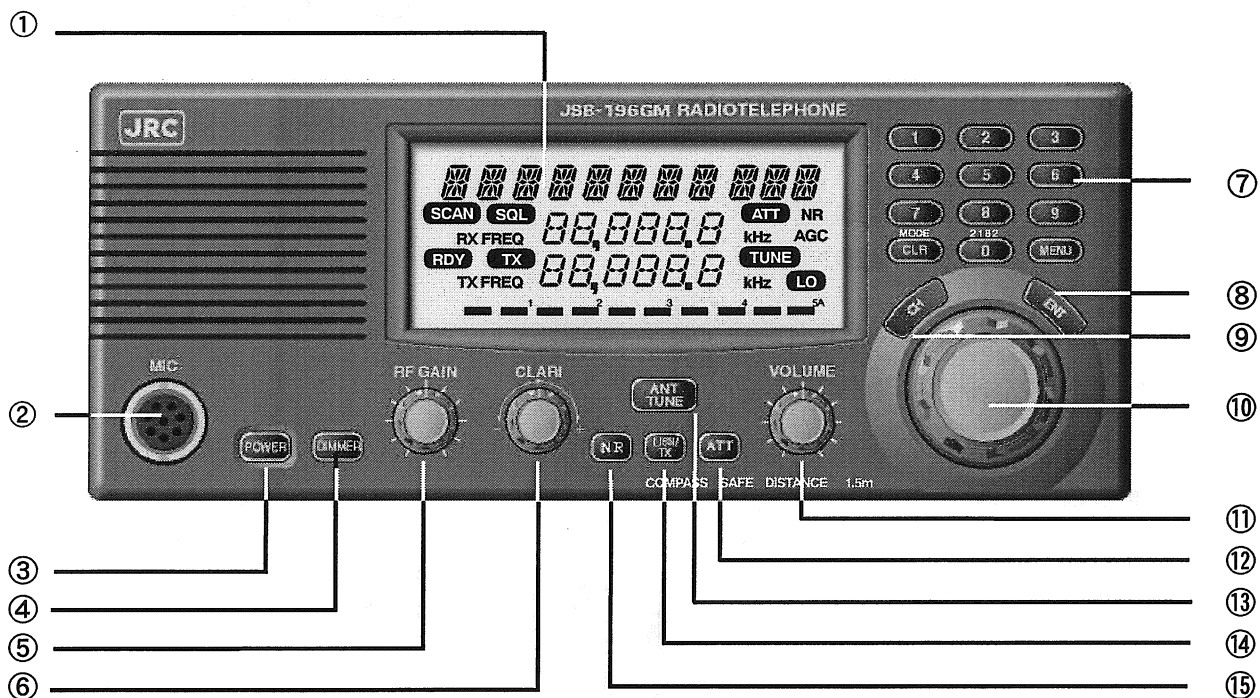


JSB-196GM
Radiotelephone

2. PART NAMES AND FUNCTIONS

● JSB-196GM Radio Equipment





① **Liquid Crystal Display Panel**

② **MIC**
Connects the hand microphone or handset.

③ **POWER**
Turns power ON or OFF.

④ **DIMMER**
Controls the brightness of the LCD.

⑤ **RF GAIN**
Controls the RF gain.

⑥ **CLARI**
Adjusts the frequency variation, which ranges from -200 to +200Hz in 1Hz steps.

⑦ **0 ~ 9**, **MENU** **CLR**
These buttons are used to input frequency/channel values or to set a menu.

⑧ **ENT**
Enters the input information.

⑨ **CH**
Starts channel selection.

⑩ **Jog Dial**
Used to select a channel or receive frequency or to select a menu.

⑪ **VOLUME**
Controls the sound volume of reception.

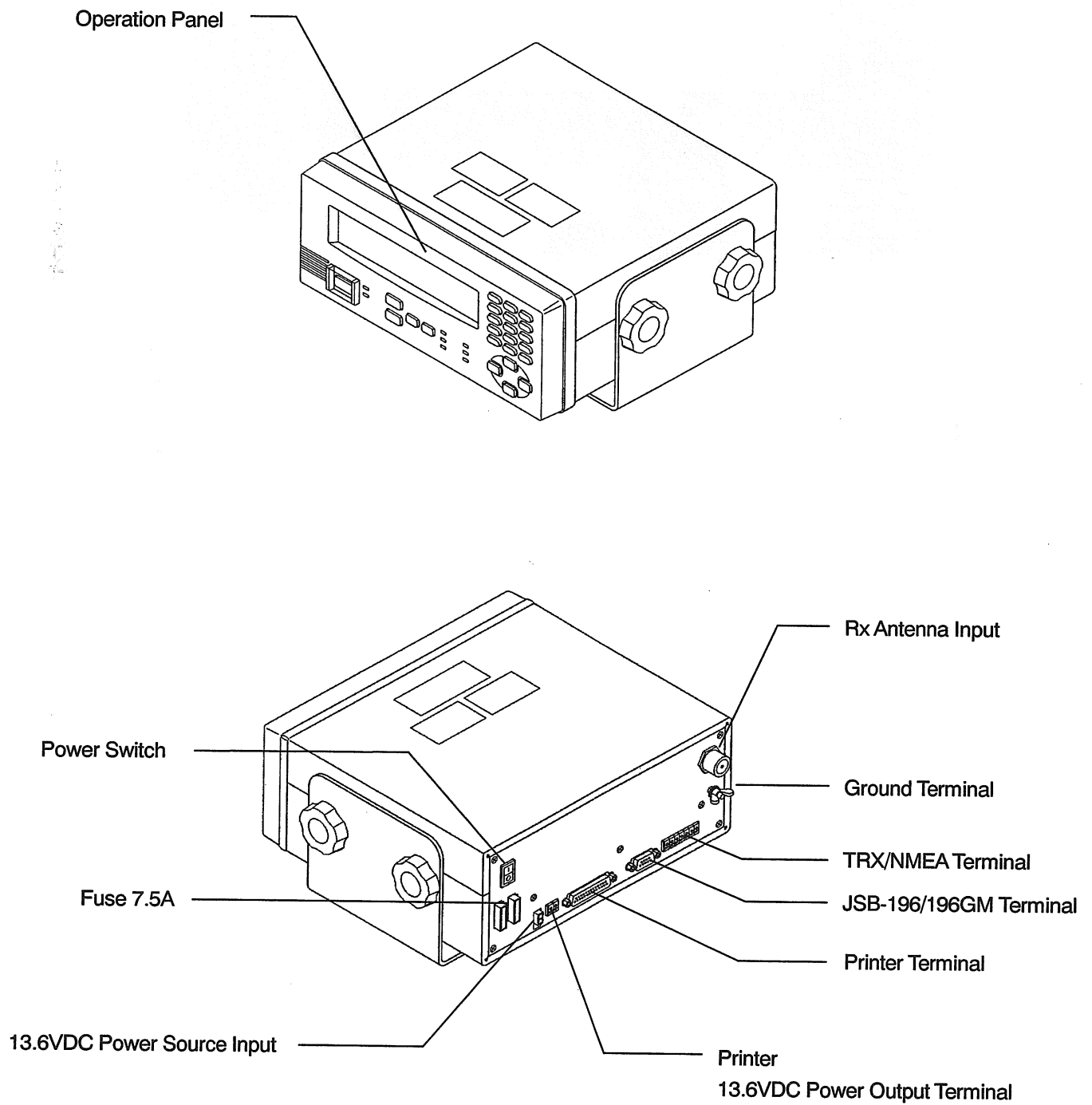
⑫ **ATT**
Turns the attenuator ON or OFF.

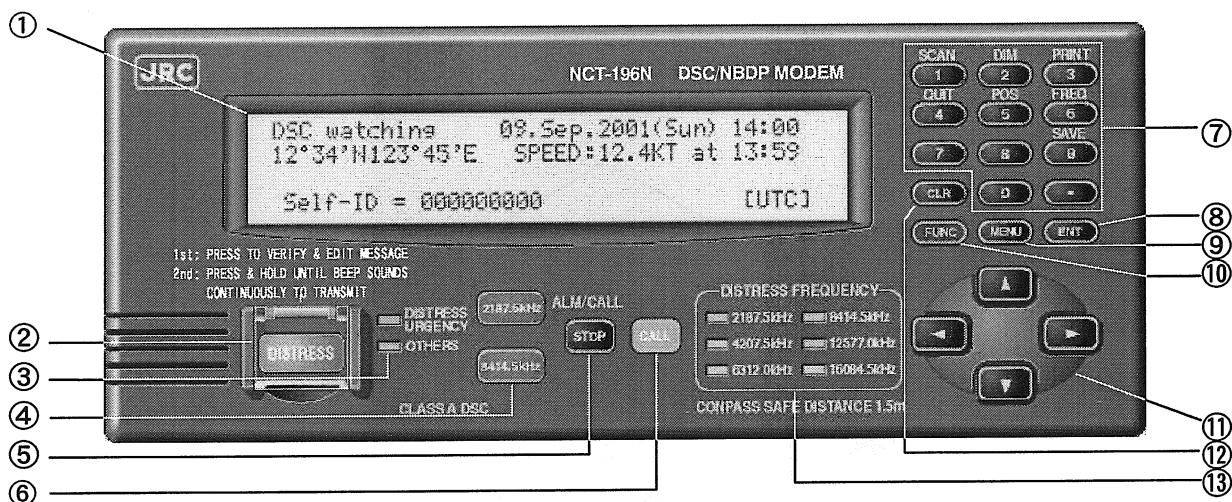
⑬ **ANT TUNE**
Starts antenna tuning.

⑭ **LISN/TX**
Temporarily monitors the transmission frequency in the Semi-Duplex mode

⑮ **NR**
Reduces pulsating noises.

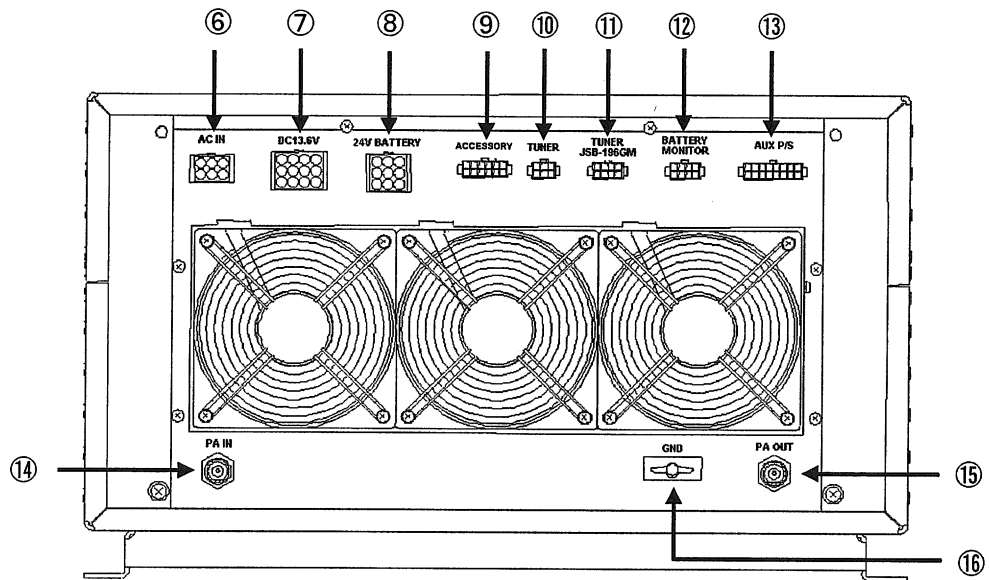
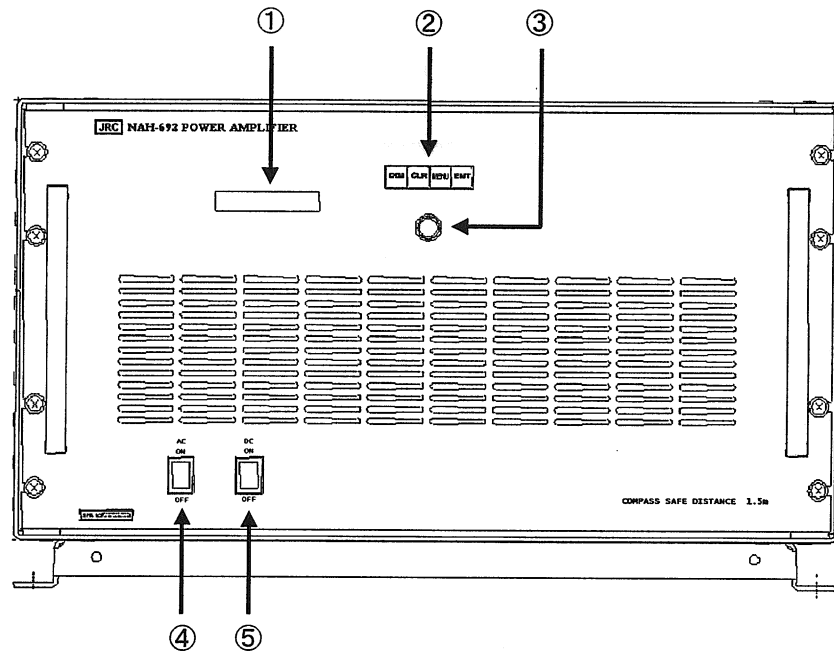
● **NCT-196N DSC/NBDP Modem**





- ① Liquid Crystal Display (LCD) Panel
- ② **DISTRESS**
Sends a distress call.
- ③ Transmit/Receive lamp
Red: Lights when a distress or emergency call is being sent or received.
Green: Lights when a normal call is being sent or received.
- ④ 2187.5kHz, 8414.5kHz
Sets the JSB-196/196GM to the designated frequency and F1B mode.
- ⑤ **STOP**
 - Stops the call if pressed while a call is being sent.
 - Turns off the alarm lamp and cancels the buzzer if pressed when a call is being received.
 - If you press this key followed by the **FUNC**, the software version is displayed and the set navigation aid/radio equipment is momentarily displayed. (This is not the initial setting process.)
- ⑥ **CALL**
Press after editing a message to start Transmission of the message.
- ⑦ 0 to 9, .
 - When editing, these keys enter the indicated numbers.
 - If you press the **FUNC** key followed by 1 to 6 and 9, the following operations are performed:
- ① SCAN: Alternately starts and stops scanning when using the JSB-196/196GM to scan the receive frequencies.
- ② DIM Adjusts the LCD and key brightness in four steps.
- ③ PRINT: Prints the current mode operations. In "DSC watching" mode, this key selects "PRINTMENU."
- ④ QUIT: Quits editing and returns to the higher mode (MENU, etc.).
- ⑤ POS: When selecting "WORK FREQUENCY" and "POSITION" when editing a message, this key switches to "POSITION".
- ⑥ FREQ: When selecting "WORK FREQUENCY" and "POSITION" when editing a message, this key switches to "WORK FREQUENCY".
- ⑨ SAVE: Saves edited data and returns to the higher mode (MENU, etc.).
- ⑧ ENT
Enters key input and selected items.
- ⑨ MENU
When pressed in "DSC watching" mode, the screen switches from "MENU#1" to "MENU#2" to "DSC watching", in that order.
- ⑩ **FUNC**
Press this key to select the functions indicated in blue.
- ⑪
 - Horizontal: Use to selectively display received messages and to select the contents when editing messages.
 - Vertical: Use to scroll the display and to move the screen pointer vertically.
- ⑫ **CLR**
 - Deletes data that has been keyed in.
 - Enters the initial value when entering "POSITION" or "WORK FREQUENCY."
- ⑬ Watch-keeping receiver channel
Lights the channel scanned by the watch-keeping receiver. 2187.5kHz and 8414.5kHz are fixed and cannot be switched.

● NAH-692 Power Amplifier



① **Liquid Crystal Display (LCD) Panel**

Display for menu mode or selected meter value

② **Menu Buttons**

- DIM: Dimmer control switch (High/ Medium/ Low)
- CLR: Clear button for menu selection or alarm sound
- MENU: MENU mode setting button
- ENT: Selected menu or parameter entry button

③ **Menu Dial**

Adjust the LCD contrast and select the menu items

④ **AC Power Switch**

⑤ **DC Power Switch**

⑥ **AC IN**

AC100V~240V mains connector

⑦ **DC13.6V**

DC13.6V power source output connector for JSB-196GM/NCT-196N

⑧ **24V BATTERY**

DC24V power source input connector

⑨ **ACCESSORY**

Peripherals (+/-BK, SES, ANT Changer, etc) control signal connector

⑩ **TUNER**

Tuning control signal connector (to NFC-296 ATU)

⑪ **TUNER/JSB-196GM**

Tuning control signal connector (from JSB-196GM Radiotelephone)

⑫ **BATTERY MONITOR**

Battery and charger status monitor output connector

⑬ **AUX P/S**

DC24V power source output connector (for SES, VHF, etc)

⑭ **PA IN**

RF input connector (from JSB-196GM Radiotelephone)

⑮ **PA OUT**

RF output connector (to NFC-296 ATU)

⑯ **GND**

3. OPERATIONS

This chapter describes mainly the way to use the JSS-296.

ATTENTION

Regarding the JSB-196GM Radiotelephone or NCT-196N DSC/NBDP Modem operations in detail, see the specialized instruction manuals for them respectively.

3.1 System Standby

3.1.1 Turning the Power ON

1. Turn on the AC and DC switches of NAH-692 Power Amplifier.

The other components except for JSB-196GM Radiotelephone are turned ON simultaneously. After that the LCD on the front panel of the NAH-692 Power Amplifier shows as follows.

AC Volt	221V
DC Volt	24.2V

2. Turn on the **POWER switch of JSB-196GM Radiotelephone. (Note that it is necessary to keep the POWER switch press for 1 sec at least to turn it on.)**

Note

Keep the NCT-196N DSC/NBDP Modem power switch turn ON because of the obligation to watchkeep 24 hours a day while at sea.

3.1.2 Turning the Power OFF

1. Turn off the AC and DC switches of NAH-692 Power Amplifier.

Note

The other components including NCT-196N DSC/NBDP Modem are turned OFF simultaneously. Therefore don't turn OFF the switches while at sea because of the obligation to watchkeep 24 hours a day.

3.2 MODEM MODE Change

After turning ON the system, according to the mode setting when the system was turned OFF last, the NCT-196N selects the mode. However if needed to change the mode, operate the system in accordance with the following procedure.

3.2.1 MODE change to DSC

1. Confirm that the NCT-196N displays the following screen.

```
DSC watching    06.Sep.2001(Thu) 01:26
-----
MODE: XXXX    (Press ENT to set DSC mode.)
-----
```

2. Press **ENT** on the panel of the NCT-196N.

Note

It is also available to press the keys concerning to Distress
(**2187.5kHz** , **8414.5kHz** , or **DISTRESS**) .

3. After the mode change completed, the following initial display appears.

```
DSC watching    06.Sep.2001(Thu) 01:26
12° 34' N123° 45' E SPEED:12.4KT at 01:26
Self-ID = XXXXXXXXXX [UTC]
```

Note

The mode of the peripheral units such as JSB-196/196GM Radiotelephone and NDZ-127J DTE is changed to DSC mode simultaneously by the above-mentioned operation.

MODE change to TLX

1. Confirm that the NDZ-127J displays the following screen in any mode except for TLX.

```

[xxx] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0)      10-APR-2002 12:00(LT)
Loc: N19.00 E115.30 at 11:00(UTC)
File Mode Connect                                     Service System Help
----- [ STATUS INFO ] -----
----- Scanning info ----- Tuner/Tx.POWER -----
[No scanning] TUNER : [READY]
Tx.POWER: [FULL]
----- Last status messages -----
Press Enter key to set NBDP mode...

```

2. Press **Enter** on the NDF-268 Keyboard.
3. After the mode change completed, the following initial display appears.

```

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)
Loc: N19.00 E115.30 at 11:00(UTC)
File Mode Connect [ STATUS INFO ] Service System Help
ST-BY
Scanning info Tuner/Tx. POWER
[No scanning] TUNER : [READY]
Tx. POWER: [FULL]
Last status messages

```

Note

The mode of the peripheral units such as JSB-196/196GM and NCT-196N is changed to TLX mode simultaneously by the above-mentioned operation.

3.3 Setting Position and Time Data

ATTENTION

If the position and time data from navigation aids such as a GPS receiver stop for more than 5 minutes, or if it past for more than 4 hours without further input after entering position and time data manually, the NCT-196N sounds alarm. When the alarm sounding in condition of navigation aid connecting, check the navigation aid or the connections to the NCT-196N. Or when the alarm sounding in condition of no navigation aid connecting, enter the new position and time data manually.

3.3.1 Setting the Internal Clock(DATE & TIME EDIT)

The built-in clock of the NCT-196N can be set the date (year, month, and day) and time manually. However if the NCT-196N is connected to a navigation aid, the manual input data is overwritten because the navigation aid has priority over the NCT-196N internal clock. The standard time is UTC but it is possible to input time difference from the UTC and display the current local time (LT). Note that in case of no navigation aid connecting, time data should be set to the present time manually and periodically because the time data input manually is treated as invalid data and deleted after 23.5 hours past.

Procedure

1. Check that the "DSC watching" screen is displayed.

```
DSC watching  06.Sep.2001(Thu) 01:26 P
12° 34' N 123° 45' E SPEED:12.4KT at 01:26

Self-ID = XXXXXXXXXX [UTC]
```

Note

If the "DSC watching" screen is not displayed, press **STOP** 3 times in succession to switch to the "DSC watching" screen.
On the screen **P** mark is displayed when no printer is connected to the NCT-196N.

2. Press **MENU** .

The "MENU#1-EDIT&CALL" screen is displayed.

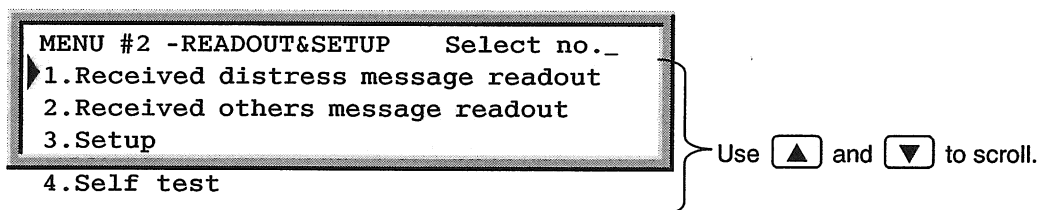
```
MENU #1-EDIT&CALL      Select no._
▶ 1.Individual call
  2.Acknowledgement call
  3.Distress call
```

```
4.Distress relay call
5.Auto/semi-auto call
6.All ships call
7.Group call
8.Area call
9.Position request
10.Polling call
11.Test call
```

Use ▲ and ▼ to scroll.

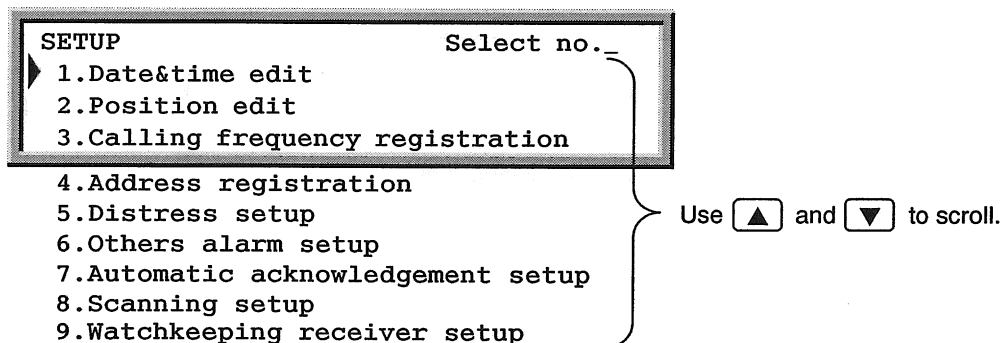
3. Press MENU again.

The "MENU#2-READOUT&SETUP" screen is displayed.



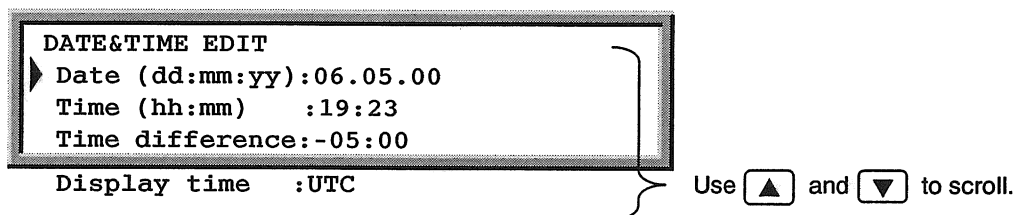
4. Press 3 , and then press ENT .

The "SETUP" screen is displayed.



5. From the "SETUP" screen, press 1 , and then press ENT .

The "DATE&TIME EDIT" screen is displayed.



6. Enter the respective settings.

- When the display time is set to "LT", enter the difference to the UTC in the "Time difference" item.
- Use the cursor keys (◀ and ▶) to switch between "+/-" for the "Time difference" and between "UTC/LT" for the "Display time".

7. On completion of entering the data, press FUNC , and then press 9 (SAVE).

Operation returns to the "SETUP" screen.

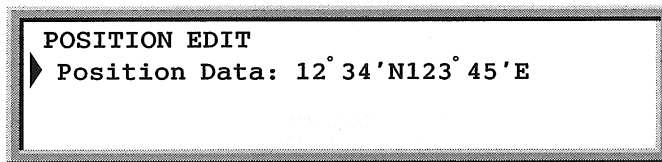
Note If you press FUNC , and then press 4 (QUIT), the settings are discarded.

3.3.2 Specifying Position Input (POSITION EDIT)

This operation enters the ship's position data manually. However if the NCT-196N is connected to a navigation aid, which inputs the date and time data, the data from the navigation aid overwrite this position data input manually because the navigation aid has priority over the NCT-196N. The position data is used in the distress file when pressing the DISTRESS button, in the automatic acknowledgement files and as the initial value when editing messages. For the "SETUP" screen, please see Section 5.1.1, "Setting the Internal Clock (DATE&TIME EDIT)", steps 1 to 4. Note that in case of no navigation aid connecting, the position data should be set manually and periodically because it is treated as invalid and deleted after 23.5 hours past.

Procedure

1. From the "SETUP" screen, press **2** and then press **ENT** .
The "POSITION EDIT" screen is displayed.



POSITION EDIT
▶ Position Data: 12° 34' N 123° 45' E

2. Enter the ship's position.

- Use the cursor keys (**◀** and **▶**) to switch between "NE", "NW", "SE", and "SW".

3. On completion of entering the data, press **FUNC** , and then press **9** (SAVE).
Operation returns to the "SETUP" screen.

Note If you press **FUNC** , and then press **4** (QUIT), the settings are discarded.

3.4 Radiotelephone operations

3.4.1 Turning the Power ON / OFF

⚠ CAUTION



Never touch the antenna terminal, grounding terminal or counterpoise when the JSB-196GM is turned ON. Doing so, may cause electrical shock.



Place Antenna Tuner NFC-196, antenna and counterpoise in position where no one touches them. Doing not so, may cause electrical shock.

3.4.1.1 Turning the Power ON

Press **POWER** on the front panel until the channel and frequencies are displayed as follows:

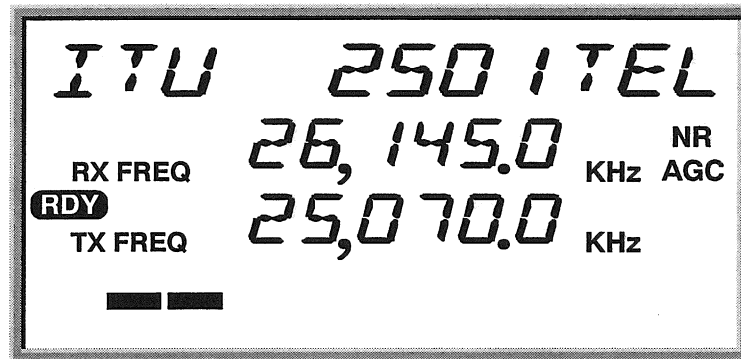


Figure 5.1 Initial display on the LCD (immediately after the equipment is powered on)

3.4.1.2 Turning the Power OFF

Press **POWER** until LCD disappears.

Note

The latest frequency and set-up state information such as communication mode are stored in memory when the equipment is turned OFF. It will be set automatically when the equipment is powered on again except the following items and these items will be set to as follows:

- Built-in loudspeaker ON/OFF (ON as default)
- Squelch value (0 as default)

3.4.2 Communication Procedure

The JSB-196GM employs the Jog Dial for simply setting or selection for principal functions such as TX/RX frequency, communication mode, output power, squelch, AGC, etc. and the following procedures are provided for pleasant communication.

3.4.2.1 Setting the channel number with the Jog Dial

User channels can be set with the Jog Dial.

Procedure

Example of user channel number 101

1. Press **CH** .

Group number appears in the channel field of the LCD.

2. Turn the Jog Dial. ^(*)

Turn the Jog Dial until the group number, ex. "GROUP 6 TEL", including the objective channel number is displayed.

3. Press **ENT** .

User channel number is displayed.

4. Turn the Jog Dial again until the objective number, "USR-101" is displayed and complete setting.

If **TUNE** is blinking, press **ANT TUNE** .

TUNE lights steadily during tuning, and disappear when tuning is completed.

5. With these steps, the JSB-196GM is ready to communicate. Start communication by pressing PTT on the hand set.

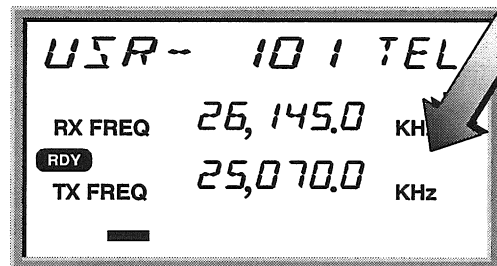
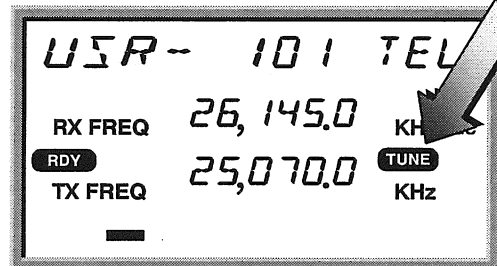
Examples of display on the LCD

(in the TEL mode)

GROUP 1 TEL

GROUP 6 TEL

USR-101 TEL



Note For easy selection of a channel number, you can allocate an identification label to each channel (See "5.3.6 Registering a user channel").

3.4.2.2 Monitoring the transmission frequency

In semi-duplex mode the TX/RX frequency are set differently, though only one way transmission or reception is possible at the same time. The transmission frequency signal can be checked for interference.

Procedure

1. Press **LISN/TX**.

JSB-196 starts to receive TX frequency. After the check, press **LISN/TX** again or transmit to return to the initial state.

3.4.2.3 Setting the channel number with keypad

User channel number can be set with keypad as follows.

Procedure

Example of user channel number 101 (RX frequency 26145.0 kHz / TX frequency 25070.0 kHz).

1. Press **CH**.

"GROUP 1 TEL" appears in the channel field of the LCD.

2. Press **1**, **0** and **1**.

The channel number is displayed in the channel field of the LCD.

3. Press **ENT**.

The input channel number is fixed.

4. Input the RX/TX frequency.

See the 「5.3.6 Registering the user channel step 4~7」.

5. If **TUNE** is blinking, press **ANT TUNE**.

TUNE lights steadily during tuning, and disappear when tuning is completed.

6. With these steps, the JSB-196GM is ready to communicate. Start communication by pressing PTT on the Hand set.

Examples of display on the LCD

(in the TEL mode)

GROUP 1 TEL

CH- 101 TEL

USR- 101 TEL

RX FREQ --,---. KHz
RDY TX FREQ --,---. KHz
TUNE

USR- 101 TEL

RX FREQ 26,145.0 KHz
RDY TX FREQ 25,070.0 KHz

3.4.2.4 Manually inputting frequency

In this case, communication mode must be set in advance(For setting of a radio mode, see "5.3.1 setting a communication mode").TX and RX frequency can be set with keypad as follows.

Procedure

Example of RX frequency 4357.0 kHz / TX frequency 4065.0 kHz .

1. Press **4**, **3**, **5**, **7** and **0** for the RX frequency. The RX frequency is displayed in the channel field of the LCD.

2. Press **ENT**.

The RX frequency is fixed. When you want to use this frequency also as a TX frequency, press **ENT** again.

3. Press **4**, **0**, **6**, **5** and **0** for the TX frequency. The TX frequency is displayed in the channel field of the LCD.

4. Press **ENT**.

The TX frequency is fixed.

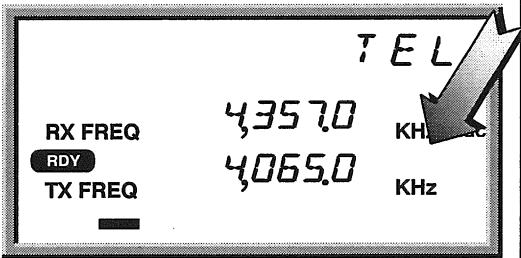
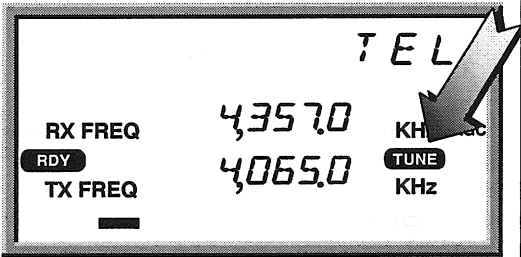
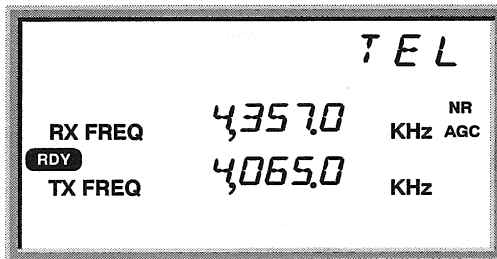
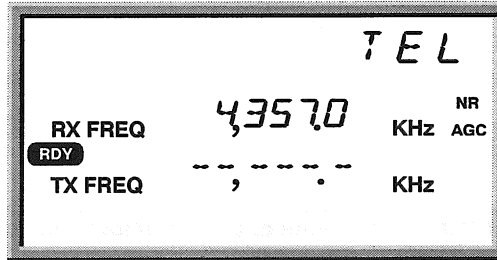
5. If **TUNE** is blinking, press $\left[\begin{array}{c} \text{ANT} \\ \text{TUNE} \end{array} \right]$.

TUNE lights steadily during tuning, and disappear when tuning is complete.



6. With these steps, the JSB-196GM is ready to communicate. Start communication by pressing PTT on the Hand set.

Examples of display on the LCD

(in the TEL mode)



Note

- Press two or three times , enable to change the RX/TX frequency individually.
- Press  to change the DISTRESS frequency 2,182.0 kHz.

3.4.2.5 Scanning reception

The reception frequency stored in user channel group 1 to 10, each 20 channels can be scanned. You can select a desired group (20 user channels per group) for scanning.

Procedure

Example of group 7.

1. Press **MENU** , then turn the Jog Dial until "SCAN" appears in the channel field of the LCD.
2. Press **ENT** .
"Group 1 1" appears in the channel field of the LCD.
3. Turn the Jog Dial until objective group is displayed.
4. Press **ENT** .
Scanning reception starts.
SCAN appears on the center left of the LCD.
The group name and number which are scanned are displayed in the channel field of the LCD.
5. To cancel scanning, press **CLR** . The last communication mode and the frequencies are set.

Examples of display on the LCD

(in the TEL mode)

MODE TEL

SCAN 5

GROUP 1 1

GROUP 7 7



3.4.3 Other Function Settings

The function setting is basically executed by using **MENU** key and the Jog Dial, and the settable items blink and is set with **ENT** key.

3.4.3.1 Setting the communication mode

In the use of manually inputting frequency, communication mode must be set in advance.

Procedure

Example of CW.

1. Press **MENU** .

"MODE" in the channel field of the LCD blinks.

2. Press **ENT** .

The current communication mode "TEL" blinks.

3. Turn the Jog Dial.

Turn the Jog Dial until objective mode. "CW" is blinking.

4. Press **ENT** .

CW is fixed as communication mode.

5. If **TUNE** is blinking, press **ANT TUNE** .

TUNE lights steadily during tuning. And disappear when tuning is complete.

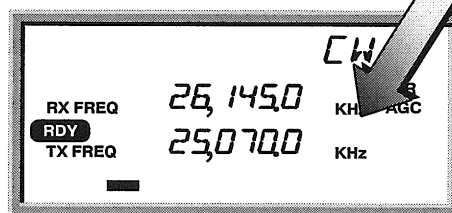
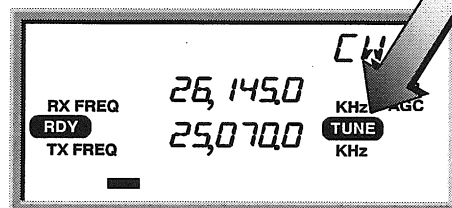
Examples of display on the LCD

(in the TEL mode)

MODE 1

MODE TEL

MODE CW



Note

- Press **CLR** to change the communication mode successively.

3.4.3.2 Setting the output power

The output power can be set to "HI (150W)" or "LOW (50W)".

Procedure

1. Press **MENU** , then turn the Jog Dial until "Power" in the channel field of the LCD blinks.
2. Press **ENT** .

The current out power "HI" blinks.

3. Turn the Jog Dial until "LOW " blinks.
4. Press **ENT** .

The output power is set to "LOW ".

LO on the lower right corner of the LCD turns on.

Examples of display on the LCD

MODE 1

POWER 2

POWER HI

POWER LOW

3.4.3.3 Turning the Automatic Gain Control (AGC) ON

The AGC circuit functions to maintain a constant receiver output by automatically adjusting the gain according to the strength of the reception signals.

Procedure

1. Press **MENU** , then turn the Jog Dial until "AGC" in the channel field blinks.
2. Press **ENT** .

The current AGC status "SLW" blinks.

3. Turn the Jog Dial until desirable state "FST" or "OFF" appears.
4. Press **ENT** .

The desirable "AGC" state is fixed.

"AGG" turn on the right corner of the LCD when you set to "SLW" or "FST".

Examples of display on the LCD

MODE 1

AGC 3

AGC SLW

AGC FST

3.4.3.4 Adjusting squelch level

The squelch circuit functions to mute received signals based on its level. The larger the squelch level, the larger the antenna input level is required to open the squelch circuit. When the squelch circuit is activated (mute status), **SQL** in the LCD turns on.

Procedure

1. Press **MENU**, then turn the Jog Dial until "SQUELCH" blinks.

2. Press **ENT**.

The current squelch level "0" blinks.

3. Turn the Jog Dial until desired squelch level appears. When turn the Jog Dial, the bar on the bottom of the LCD expands to indicate the squelch level.

4. Press **ENT**.

The squelch level is fixed.

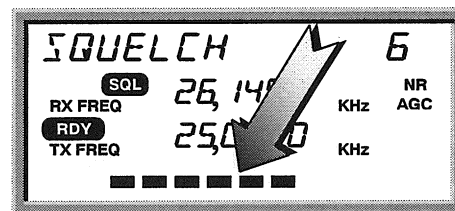
Examples of display on the LCD

MODE 1

SQUELCH 4

SQUELCH 0

SQUELCH 6



3.4.3.5 Setting the scanning speed

The scanning time for each channel is settable between 0.3 to 5 seconds.(multiple of 0.1 second)

Procedure

Example of 0.3 seconds.

1. Press **MENU** , then turn the Jog Dial until "SCAN SPD" blinks.

2. Press **ENT** .

The current value "10" blinks.

3. Turn the Jog Dial until desirable scanning time appears or manually input the value from keypad.

4. Press **ENT** .

The scanning time is fixed to 0.3 seconds.

Examples of display on the LCD

MODE 1

SCAN SPD 6

SCAN SPD 10

SCAN SPD 3

3.4.3.6 Registering the user channel

You use frequently can be registered as a user channel up to 200, channel number 1 to 200.

Procedure

Example of registration for RX frequency 4357.0 kHz / TX frequency 4065.0 kHz, communication mode is TEL, Channel Label Registration is MITAKA1 at the user channel number 1.

1. Make sure that a objective communication mode is set and press **MENU** and then turn the Jog Dial until "USR MEMO" blinks.

2. Press **ENT** .

Select the user channel number with the Jog Dial or keypad.

3. Press **ENT** .

Select the communication mode with the Jog Dial^(*).

Examples of display on the LCD

MODE 1

USR MEMO 7

USR 001 1

USR 001 TEL

Procedure

4. Press **ENT** .

Press **4**, **3**, **5**, **7** and **0** for the RX frequency. The RX frequency is displayed in the channel field of the LCD.

5. Press **ENT** .

The RX frequency is fixed^{(*)2}.

6. Press **4**, **0**, **6**, **5** and **0** for the TX frequency. The TX frequency is displayed in the channel field of the LCD.

7. Press **ENT** .

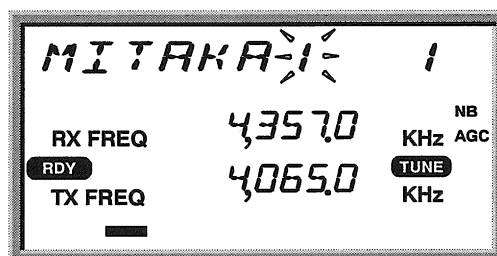
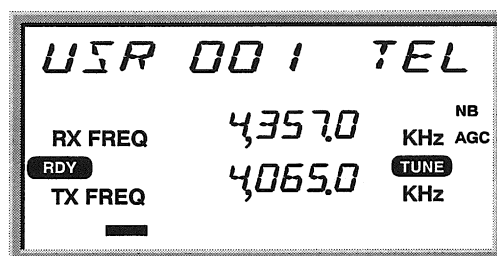
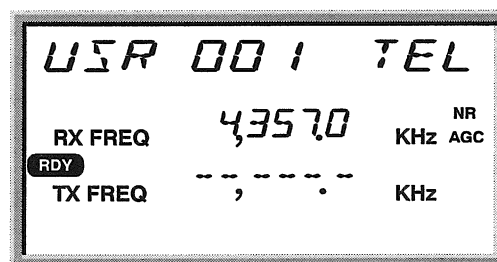
The TX frequency is fixed.

8. Select an alphabet or number(MITAKA1) with the Jog Dial. Input decision or "SPACE" key is **ENT** .

After selection, press **CLR** , and fix to press **ENT** ^{(*)3}.

9. The Channel Label Registration mode is set. If you want to complete the inputting user channel, two times **CLR** .

Examples of display on the LCD



Note

- *1 When correct the registered channel, press **ENT** , then select the collection item as follows:
In case of change the communication mode or clear the channel, turn the Jog Dial. Then press **ENT** .
In case of change the RX or TX frequency or the channel Label, press **CH** successively and input the new parameter.
- *2 In step 2, the frequency can be inputted manually. RX frequency and a TX frequency in this order and go to step 8 (When you want to use an identical frequency for reception and transmission, press **ENT** only after inputting RX frequency).
- *3 In step 7, you do not need the label, press **ENT** and go to step 9.

3.4.3.7 Registering a channel group name

200 user channels are grouped into 10 groups, each 20 channels. These groups are used for scanning reception, and can be named for quick selection.

Procedure

1. Press **MENU** , then turn the Jog Dial until "GRP MEMO" blinks.
2. Press **ENT** .
A group number "1" blinks in the right end of the channel field of the LCD.
3. Turn the Jog Dial until the objective group appears.
4. Press **ENT** .
" _ " blinks.
5. Repeat to select an alphabet or number with the Jog Dial, and press **ENT** eight times.
6. Channel group number is fixed.

Examples of display on the LCD

MODE 1

GRP MEMO 8

GROUP 1

GROUP 7

- 7

JRC - 1 7

3.4.3.8 Setting the meter indication mode

The bar indicator on the bottom of the LCD indicates signal level during reception or output during transmission, furthermore output indication is settable to the output power mode or antenna current mode.

Procedure

1. Press **MENU** , then turn the Jog Dial until "METER" blinks .
2. Press **ENT** .
"PWR" blinks.
3. Turn the Jog Dial until desired mode appears.
"PWR" : Indication for output power.
"ANT" : Indication for antenna current.
4. Press **ENT** .
Indication mode, "PWR" or "ANT", is fixed.

Examples of display on the LCD

MODE 1

METER 9

METER PWR

METER ANT

3.4.3.9 Setting the Automatic Tuning Start (ATS)

The ATS function is used for pre-tuning at change of channel / frequency, and tuning starts automatically when the standing-wave ratio (SWR) is wrong.

Procedure

1. Press **MENU** , then turn the Jog Dial until "ATS" blinks.
2. Press **ENT** .
"OFF" blinks.
3. Turn the Jog Dial to set "ON" or "OFF".
4. Press **ENT** .
The ATS function is turned "ON" or "OFF" .

Examples of display on the LCD

MODE 1

ATS 10

ATS OFF

ATS ON

3.4.3.10 Setting the wait time for ATS

On the ATS function, wait time for tuning start after change of channel / frequency is adjustable.

Procedure

1. Press **MENU** , then turn the Jog Dial until "ATS WAIT" blinks.
2. Press **ENT** .
"3" blinks.
3. Turn the Jog Dial to select the time or manually input the time with keypad.
4. Press **ENT** .

The wait time is fixed.

Examples of display on the LCD

MODE 1

ATS WAIT 11

ATS WAIT 3

ATS WAIT 2

3.4.3.11 Turning the key-in sounds ON / OFF

The key-in sounds are available for keypad operation.

Procedure

1. Press **MENU** , then turn the Jog Dial until "BEEP" blinks.
2. Press **ENT** .
"BEEP" lights steadily and "ON" blinks.
3. Turn the Jog Dial to select "ON" or "OFF".
4. Press **ENT** .

The key-in sounds are turned "ON" or "OFF".

Examples of display on the LCD

MODE 1

BEEP 12

BEEP ON

BEEP OFF

Note

The key-in sounds are suspended, when set the loudspeaker OFF.

3.4.3.12 Setting the loudspeaker output ON / OFF

The loudspeaker output can be turned OFF.

Procedure

1. Press **MENU** , then turn the Jog Dial until "SPEAKER" blinks.
2. Press **ENT** .
"SPEAKER" lights steadily and "ON" blinks.
3. Turn the Jog Dial to select "ON" or "OFF".
4. Press **ENT** .

The loudspeaker output is turned "ON" or "OFF".

Examples of display on the LCD

MODE 1

SPEAKER 13

SPEAKER ON

SPEAKER OFF

3.4.3.13 List of shortcut keys

The following shortcut keys are provided for easy selection of menu items.

Using a shortcut key: The expression "1. Press **MENU** , then turn the Jog Dial" in the above procedure steps can be substituted by " Press **MENU** and input its shortcut key number with keypad".

Menu item	Shortcut key number	Function
MODE	1	Select the communication mode. TEL (J3E), DSC (F1B), TLX (F1B), CW (A1A), AME (H3E)
POWER	2	Set the output power to low (50 watts).
AGC	3	Select the AGC (Auto Gain Control) function.
SQUELCH	4	Adjust the squelch level.
SCAN	5	Enable the scanning function.
SCAN SPD	6	Set the scanning time.
USR MEMO	7	Register the user channel.
GRP MEMO	8	Register the channel group name.
METER	9	Select the bar-meter function. ANT: antenna current, PWR: output power.
ATS	10	Enable the ATS (Automatic Tuning Start) function.
ATS WAIT	11	Set the wait time for the ATS function.
BEEP	12	Disable the key-in sound panel.
SPEAKER	13	Disable the output of the built-in loudspeaker.
CHECK	14	Perform the Self Diagnosis function.
VERSION	15	Display the firm-ware version on Control unit CDJ-1960, DSP and NFC-196.

3.5 DSC operations

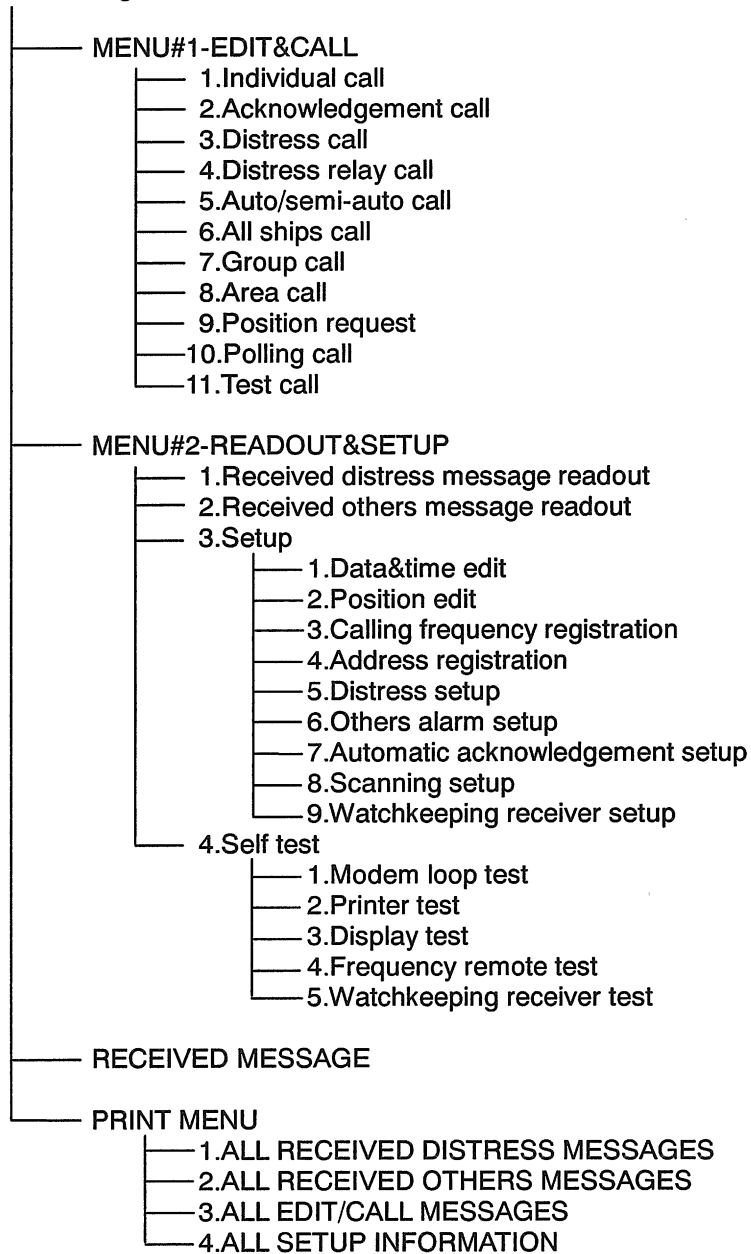
This section describes menus and modes (Section 5.2.1), receiving DSC calls (Section 5.2.2), and making DSC calls (Section 5.2.3). Section 5.2.4 describes how to store the calling frequencies used with the DSC, and the setting of destination IDs, etc.

3.5.1 Menus and Modes

(1) Menu Hierarchy

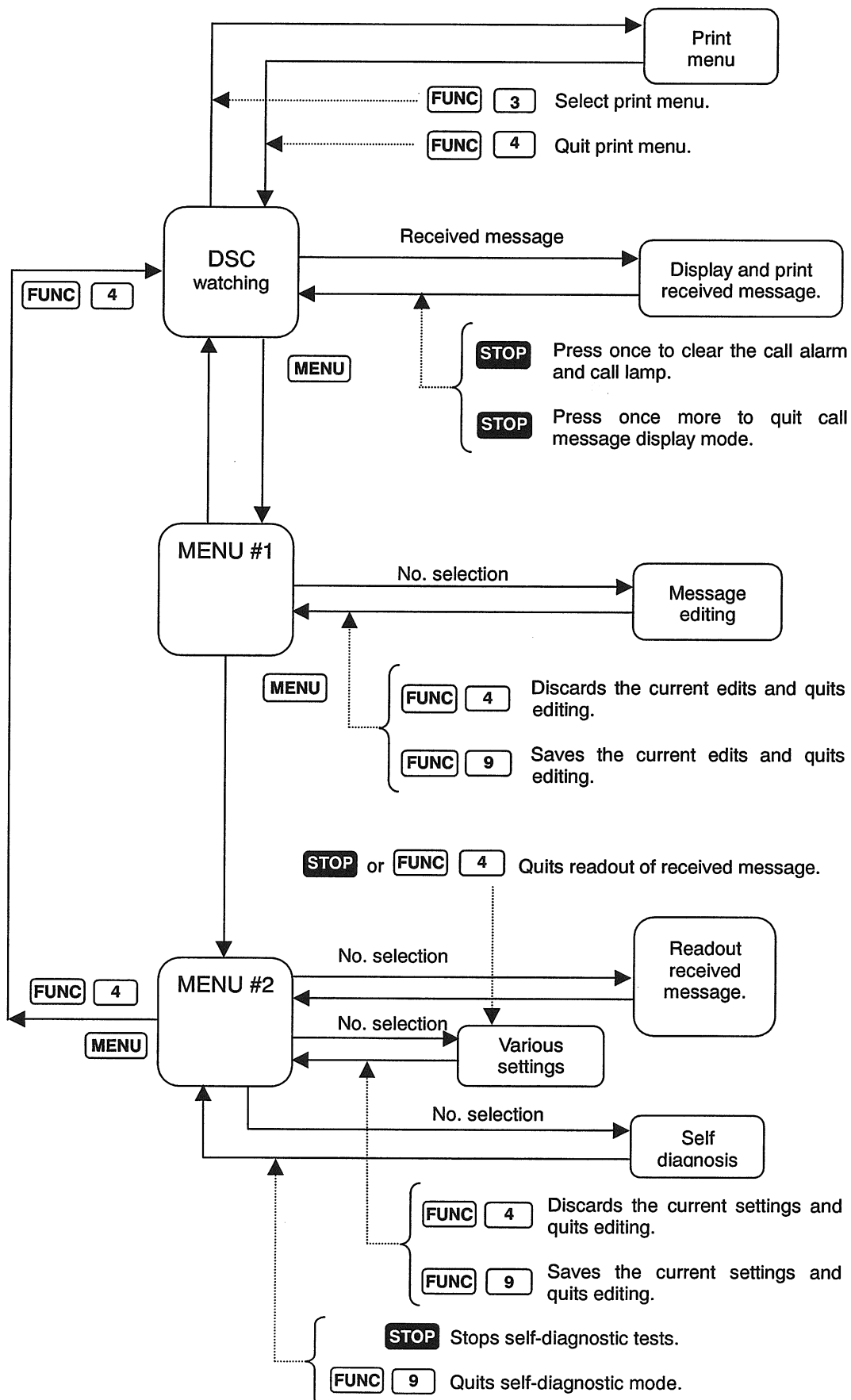
The menus displayed on the screen have the following hierarchical structure.

DSC watching



(2) Transition Among Modes

The following chart shows the keys and key combinations used to shift from one mode to another on the NCT-196N.

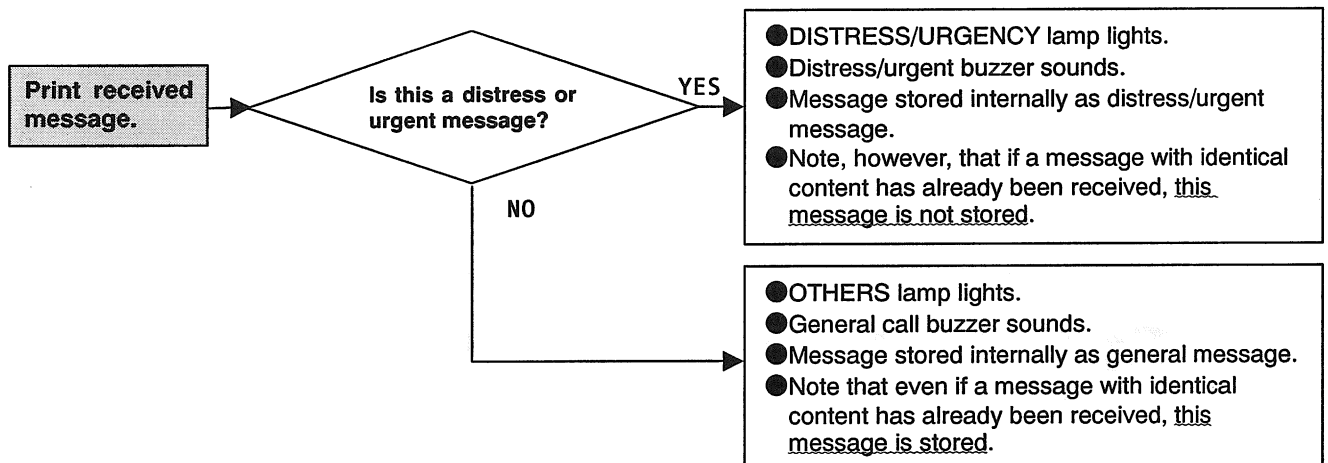


(From any mode, press **STOP** three times to return to "DSC watching.")

3.5.2 Receiving Messages

(1) Receiving a Message

When a message is received, it is displayed on the screen and printed out on the printer, if a printer is connected. In addition, depending on its content, the message is classified as either a distress/urgent message or a general message and the corresponding panel lamp blinks. Simultaneously, a buzzer sounds to indicate which type of message has been received. The message is then saved as either a distress/urgent message or a general message.



The NCT-196N stores up to 20 received distress/urgent messages and up to 20 general messages. When 20 messages have been stored, the oldest message is deleted each time a new message is received.

In case of distress/urgent messages, newly received messages are not stored if a message with the same content already exists in memory. However, if any error occurs while receiving the message, both of the messages containing the error and the error-free message are stored.

In case of general messages, the NCT-196N stores both the original message and the new message even if they have the same content as each other.

Note

Distress/urgent messages Messages in "DISTRESS" format or for which the category is "DISTRESS" or "URGENCY".
General messages Messages other than distress/urgent messages.

(2) Reading a Distress/Urgent Message

Messages are loaded at the "DSC watching" screen.

ATTENTION

To prevent unnecessary distress message relay transmission, the NCT-196N automatically deletes distress/urgency messages after 48 hours since these received. Thus the procedure above-mentioned to read distress message received is invalid at that time.

Procedure

1. Check that the "DSC watching" screen is displayed.

```
DSC watching 06.Sep.2001(Thu) 01:26 P
12° 34' N 123° 45' E SPEED:12.4KT at 01:26
Self-ID = XXXXXXXXXX [UTC]
```

Note

If the "DSC watching" screen is not displayed, press **STOP** 3 times in succession to switch to the "DSC watching" screen.

On the screen **P** mark is displayed when no printer is connected to the NCT-196N.

2. Press **MENU**.

The "MENU#1-EDIT&CALL" screen is displayed.

```
MENU #1-EDIT&CALL      Select no._
▶ 1.Individual call
  2.Acknowledgement call
  3.Distress call
  4.Distress relay call
  5.Auto/semi-auto call
  6.All ships call
  7.Group call
  8.Area call
  9.Position request
 10.Polling call
 11.Test call
```

Use **▲** and **▼** to scroll.

3. Press **MENU** again.

The "MENU#2-READOUT&SETUP" screen is displayed.

```
MENU #2 -READOUT&SETUP  Select no._
▶ 1.Received distress message readout
  2.Received others message readout
  3.Setup
  4.Self test
```

Use **▲** and **▼** to scroll.

4. Press 1 , and then press ENT .

The "RECEIVED DISTRESS MESSAGE READOUT" screen is displayed.

RECEIVED DISTRESS MESSAGE READOUT #01
RX date&time :06.Sep.2001(Thu) 01:26
Format :DISTRESS
Address :XXXXXXXX

Nature :UNDESIGNATED DIST
Dist-position :12° 34'N123° 45'E
Dist-UTC :01:26
Dist-telecomm :J3E TEL
End of sequence:EOS
RX frequency : . kHz

Use ▲ and ▼ to scroll.

Use the horizontal cursor keys (◀ and ▶) to display other received messages.

Note

The following screen is displayed if no distress messages have been received or deleted after 48hours past.

RECEIVED DISTRESS MESSAGE READOUT

Received message not found !!

5. After reading the message(s), press FUNC , and then press 4 .

Operation returns to the "MENU#2 READOUT&SETUP" screen.

6. Press MENU .

Operation returns to the "DSC watching" screen.

(3) Reading a General Message

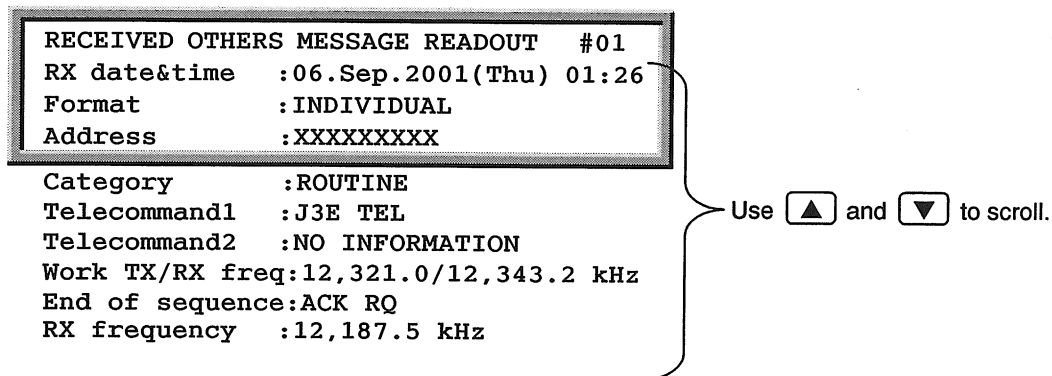
Messages are loaded at the "DSC watching" screen.

Procedure

1. Press **MENU** twice to display the "MENU#2-READOUT&SETUP" screen.

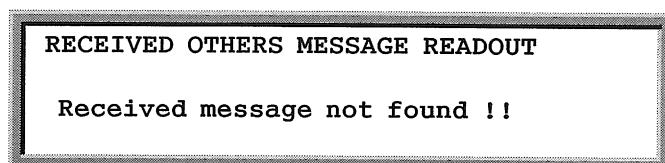
The screen shown in step 3 of "(2) Reading a Distress/Urgent Message" is displayed.

2. Press **2**, and then **ENT**.



Note

The following screen is displayed if no general messages have been received.



3. After reading the message(s), press **FUNC**, and then press **4**.

Operation returns to the "MENU#2 READOUT&SETUP" screen.

4. Press **MENU**.

Operation returns to the "DSC watching" screen.

3.5.3 Sending Messages

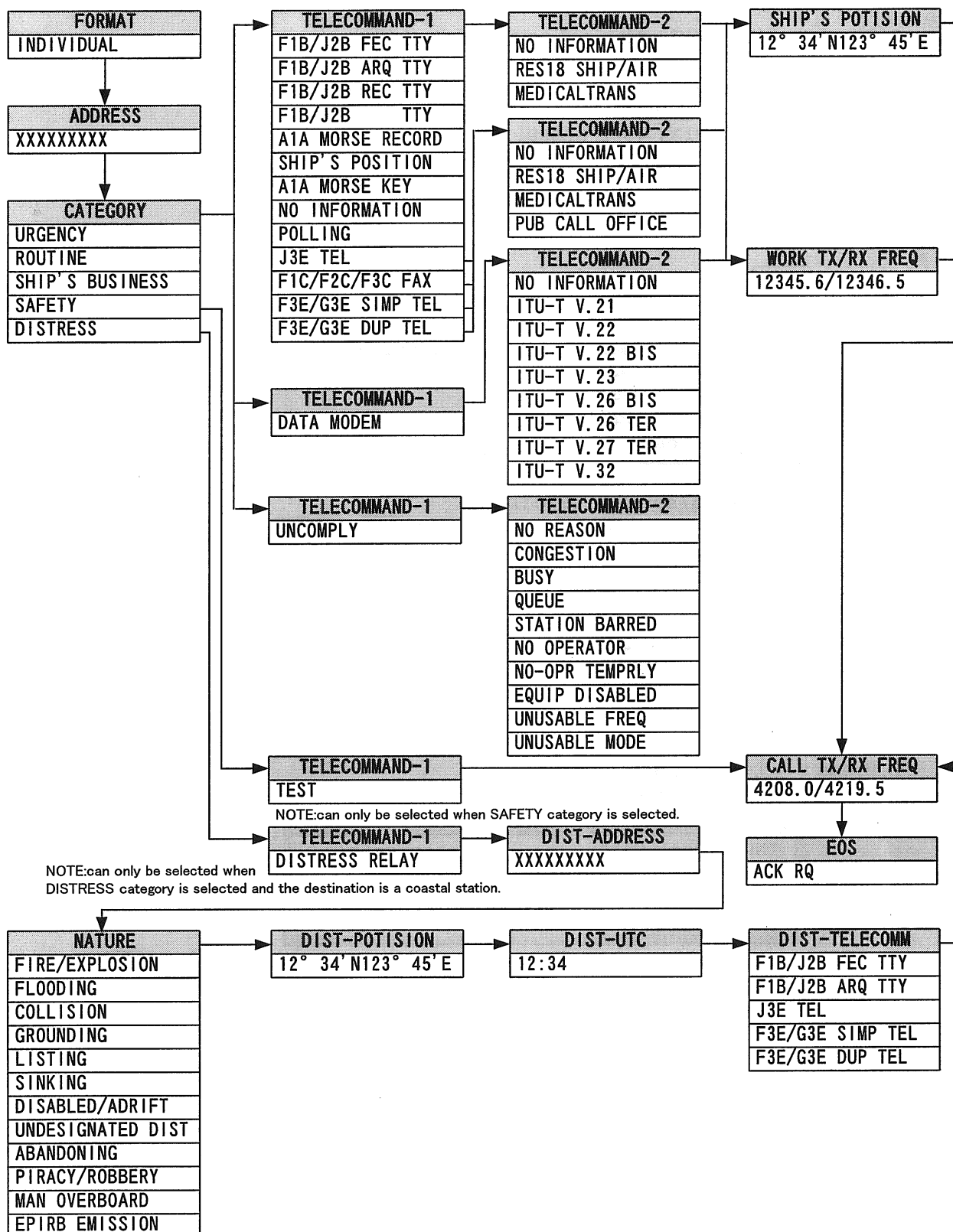
The following table lists the menus and menu items. When compiling a message, select the necessary items from these menus. Refer to the section on making calls for how to select the items for the respective call types.

Menu	Menu items	Content
FORMAT	INDIVIDUAL AUTO/SEMI-AUTO DISTRESS ALL SHIPS GROUP AREA	
CATEGORY	URGENCY SAFETY SHIP'S BUSINESS ROUTINE DISTRESS	
TELECOMMAND1	POLLING UNCOMPLY DATA MODEM J3E TEL F1B/J2B FEC TTY F1B/J2B ARQ TTY F1B/J2B REC TTY F1B/J2B TTY A1A MORSE RECORD SHIP'S POSITION A1A MORSE KEY F1C/F2C/F3C FAX NO INFORMATION F3E/G3E SIMP TEL F3E/G3E DUP TEL DISTRESS RELAY DISTRESS ACK END OF SEQUENCE TEST	
TELECOMMAND2	NO INFORMATION RES18SHIP/AIR MEDICAL TRANS PUB CALL OFFICE NO REASON CONGESTION BUSY QUEUE STATION BARRED NO OPERATOR NO OPR TEMPRY EQUIP DISABLED UNUSABLE FREQ UNUSABLE MODE ITU-T V.21 ITU-T V.22 ITU-T V.22 BIS ITU-T V.23 ITU-T V.26 BIS ITU-T V.26 TER ITU-T V.27 TER ITU-T V.32	

Menu	Menu items	Content
NATURE	UNDESIGNATED DIST ABANDONING EPIRB EMISSION FIRE/EXPLOSION FLOODING COLLISION GROUNDING LISTING SINKING DISABLED/ADRIFT MAN OVERBOARD PIRACY/ROBBERY	
TELECOMMAND	J3E TEL F3E/J3E SIMP TEL F3E/J3E DUP TEL F1B/J2B FEC TTY F1B/J2B ARQ TTY	
EOS	ACK RQ ACK BQ EOS	

(1) INDIVIDUAL CALL

Compiling and transmitting the message is enabled by specifying the address of a specific coastal or ship station.



Procedure

Example: ROUTINE procedure.

1. Check that the "DSC watching" screen is displayed.

```
DSC watching    06.Sep.2001(Thu) 01:26
12° 34' N123° 45' E SPEED:12.4KT at 01:26

Self-ID = XXXXXXXXXX          [UTC]
```

2. Press **MENU**.

The "MENU#1-EDIT&CALL" screen is displayed.

```
MENU #1-EDIT&CALL      Select no._
▶ 1.Individual call
  2.Acknowledgement
  3.Distress call
  4.Distress relay call
  5.Auto/semi-auto call
  6.All ships call
  7.Group call
  8.Area call
  9.Position request
 10.Polling call
 11.Test call
```

Use ▲ and ▼ to scroll the screen.

3. Press **1**, and then press **ENT**.

The "INDIVIDUAL CALL" screen is displayed.

```
INDIVIDUAL CALL      Transmissible
▶ Address             : XXXXXXXXXX
Category              : ROUTINE
Telecommand-1         : J3E TEL
```

```
Telecommand-2        : NO INFORMATION
Ship's position       : 12° 34' N123° 45' E
Call TX/RX freq       : 4,208.0 / 4,219.5 kHz
```

Use ▲ and ▼ to scroll the screen.

The following items have been set in this example.

```
「Address」           : XXXXXXXXXX
「Category」          : ROUTINE
「Telecommand-1」     : J3E TEL
「Telecommand-2」     : NO INFORMATION
「Ship's position」    : 12° 34' N123° 45' E
「Call TX/RX freq」   : 4,208.0/4,219.5 kHz
```

● Entering the respective items:

After selecting each item, press **ENT** to confirm the selection.

- (1) Address: Use the numerical keys (**0** to **9**) to specify the address of the destination station (coastal or ship station).
- (2) Category
Telecommand-1: Use the **◀** and **▶** keys to select the items.
Telecommand-2
- (3) Ship's position: Use the **◀** and **▶** keys to determine the direction, and then input the ship's position using the numerical keys (**0** to **9**).
- (4) Call TX/RX freq: Use the **◀** and **▶** keys to select one of the preset frequencies, or use the numerical keys (**0** to **9** ,and **.**) to specify a frequency directly.
- (5) Other settings:
 - "Work TX/RX freq": Use the numerical keys (**0** to **9** ,and **.**) to specify a frequency directly.
 - Switching from "Ship's position" to "Work TX/RX freq": Press **FUNC** **6** (FREQ).
 - Switching from "Work TX/RX freq" to "Ship's position": Press **FUNC** **5** (POS).

Note

Set the "Work TX/RX freq" to a frequency in the same band as "Call TX/RX freq".

4. Press **CALL.**

The following screen is displayed and the message is transmitted.

```
INDIVIDUAL CALL      Transmitting
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

When the transmission is completed, the following screen is displayed for a while, and the message is saved. After that returns to the "MENU#1-EDIT&CALL" screen.

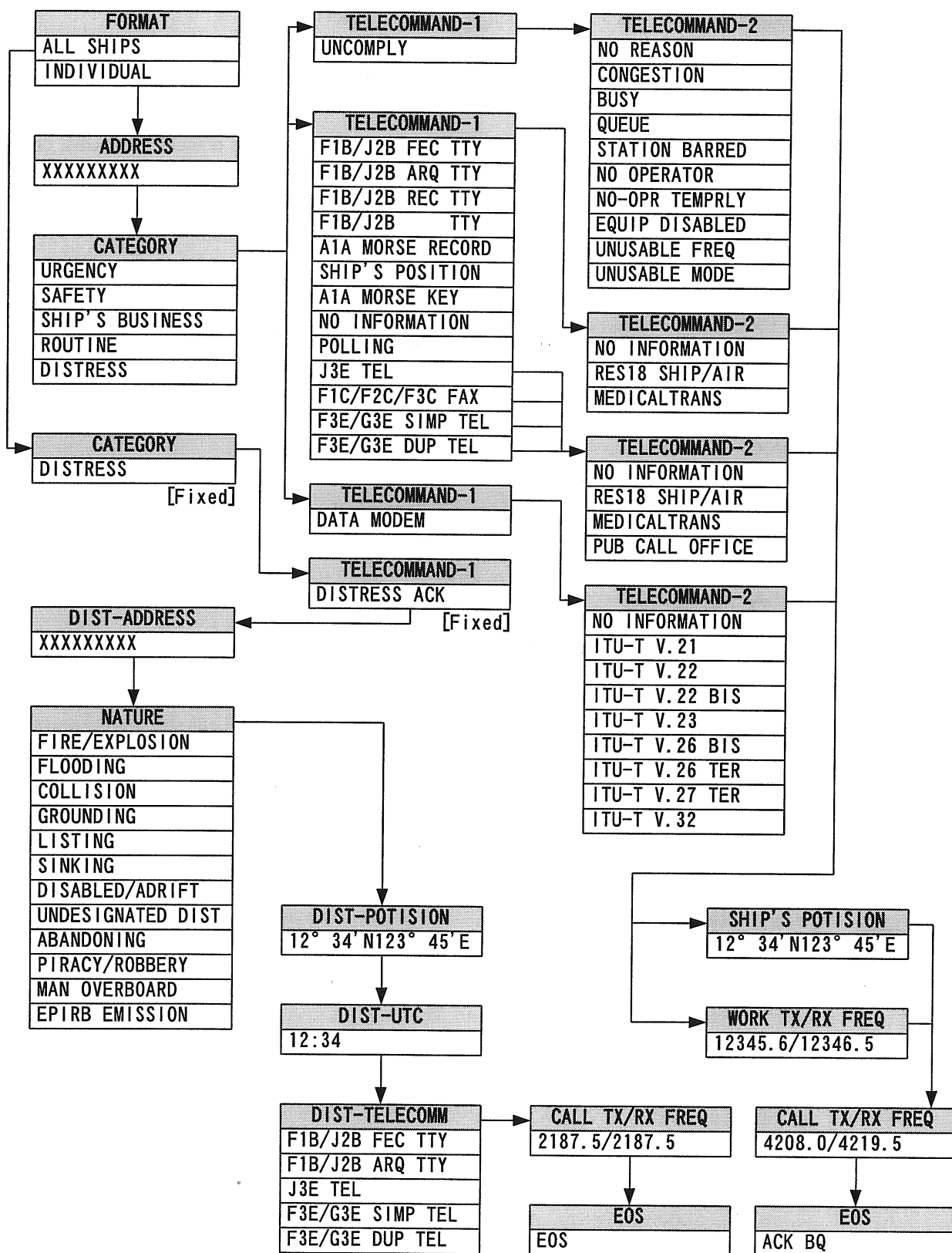
```
INDIVIDUAL CALL      Send Completed
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

Note

Refer to the example in "(6) ALL SHIPS CALL" for information on the DISTRESS RELAY procedure.
To store a message without sending it, press **FUNC** **9** (SAVE).
To discard the message and quit, press **FUNC** **4** (QUIT).

(2) ACKNOWLEDGEMENT CALL

In the event that the received general message requests acknowledgement, a message of acknowledgement is automatically produced. Creating and transmitting a distress acknowledgement message is also possible.



(2-1) INDIVIDUAL ACK CALL

Procedure

Example: An acknowledgement call based on the message received

1. From the "MENU#1-EDIT&CALL" screen, press **[2]**, and then press **[ENT]**.
The "Acknowledgement" screen is displayed.

ACKNOWLEDGEMENT	Select no._
1.INDIVIDUAL ack.	Rcv : 06.Sep.01:20
2.INDIVIDUAL ack.	EDIT
3.DISTRESS ack.	EDIT

Note

- 1 :Select 1 to edit the received message.
- 2, 3 :Select 2 or 3 to edit a new acknowledgement message.

2. Press **[1]**, and then press **[ENT]**.
The "INDIVIDUAL ACK CALL" screen is displayed.

INDIVIDUAL ACK CALL	
▶Address	: XXXXXXXXX
Category	: ROUTINE
Telecommand-1	: J3E TEL
Telecommand-2	: NO INFORMATION
Work TX/RX freq	: 12,345.6/12,456.7kHz
Call TX/RX freq	: 4,357.0/ 4,388.5kHz

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

「Address」 : XXXXXXXXX
「Category」 : ROUTINE
「Telecommand-1」 : J3E TEL
「Telecommand-2」 : NO INFORMATION
「Work TX/RX freq」 : 12,345.6/12,456.7 kHz
「Call TX/RX freq」 : 4,357.0/4,388.5 kHz

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Address: Use the numerical keys (**[0]** to **[9]**) to specify the address of the destination station (coastal or ship station).
- (2) Category
Telecommand-1: Use the **[◀]** and **[▶]** keys to select the items.
Telecommand-2
- (3) Work TX/RX freq: Use the numerical keys (**[0]** to **[9]**, and **[.]**) to directly specify a frequency.
- (4) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies, or use the numerical keys (**[0]** to **[9]**, and **[.]**) to specify a frequency directly.
- (5) Other settings:
 - Switching from "Ship's position" to "Work TX/RX freq": Press **[FUNC]** **[6]** (FREQ).
 - Switching from "Work TX/RX freq" to "Ship's position": Press **[FUNC]** **[5]** (POS).

3. Press CALL.

The following screen is displayed and the message is transmitted.

INDIVIDUAL ACK CALL Transmitting
TX frequency : 4,357.0 kHz
TX date&time : 06.Sep.2001(Thu) 01:30

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press ENT to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed for a while. After that returns to the "MENU#1-EDIT&CALL" screen.

INDIVIDUAL ACK CALL Send Completed
TX frequency : 4,357.0 kHz
TX date&time : 06.Sep.2001(Thu) 01:30

Note

- Unable to store the message.
- To discard the message and quit without sending it, press FUNC 4 (QUIT).

(2-2) DISTRESS ACK CALL

Perform the distress acknowledgement call as follows. The message is not made automatically because confirmation of the distress condition is necessary. Compile the acknowledgment message manually and then transmit it.

Compile the acknowledgment call so that the contents are the same as the received distress message.

ATTENTION

When a distress call is received, perform communication according to "DSC Alert Response Procedures."

Procedure

Example: Acknowledgement call procedure based on received distress message

1. From the "MENU#1-EDIT&CALL" screen, press [2], and then press [ENT].

The "Acknowledgement" screen is displayed.

```
ACKNOWLEDGEMENT          Select no._
▶ 1.INDIVIDUAL ack.      Rcv : 06.Sep.01:20
  2.INDIVIDUAL ack.      EDIT
  3.DISTRESS ack.        EDIT
```

Note

- 1 :Select 1 to edit the received message.
2, 3 :Select 2 or 3 to edit a new acknowledgement message.

2. Press [3], and then press [ENT].

The "DISTRESS ACK CALL" screen is displayed.

```
DISTRESS ACK CALL
▶ Dist-address   : XXXXXXXXXX
  Nature        : UNDESIGNATED DIST
  Dist-position  : 12° 34'N123° 45'E
Dist-UTC        : 01:20
Dist-telecomm   : J3E TEL
Call TX/RX freq: 2,187.5 / 2,187.5 kHz
```

Use ▲ and ▼ to scroll the screen.

The following items have been set in this example.

```
「Address」      : XXXXXXXXXX
「Nature」       : UNDESIGNATED DIST
「Dist-position」: 12° 34'N123° 45'E
「Dist-UTC」     : 01:20
「Dist-telecomm」: J3E TEL
「Call TX/RX freq」: 2,187.5/2,187.5 kHz
```

● Entering the respective items:

After selecting each item, press [ENT] to confirm the selection.

(1) Address: Use the numerical keys ([0] to [9]) to specify the address of the destination station (coastal or ship station).

(2) Nature

Dist-telecomm: Use the ◀ and ▶ keys to select the items.

- (3) Dist-position: Use the ◀ and ▶ keys to determine the direction, and then input the ship's position using the numerical keys (0 to 9).
- (4) Dist-UTC: Use the numerical keys (0 to 9) to enter the time.
- (5) Call TX/RX freq: Use the ◀ and ▶ keys to select one of the preset frequencies, or use the numerical keys (0 to 9, and .) to specify a frequency directly.

3. Press **CALL**.

The following screen is displayed and the message is transmitted.

```
DISTRESS ACK CALL   Transmitting
TX frequency : 2,187.5 kHz
TX date&time : 06.Sep.2001(Thu) 01:30
```

If the tuner is not tuned to the transmission frequency, the following screen is displayed. Press **ENT** to tune the tuner and then transmit the message.

```
tuner mismatch !!
Press [ENT] key to tune & send
Press [CLR] key to send
```

When the transmission is completed, the following screen is displayed and, after a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

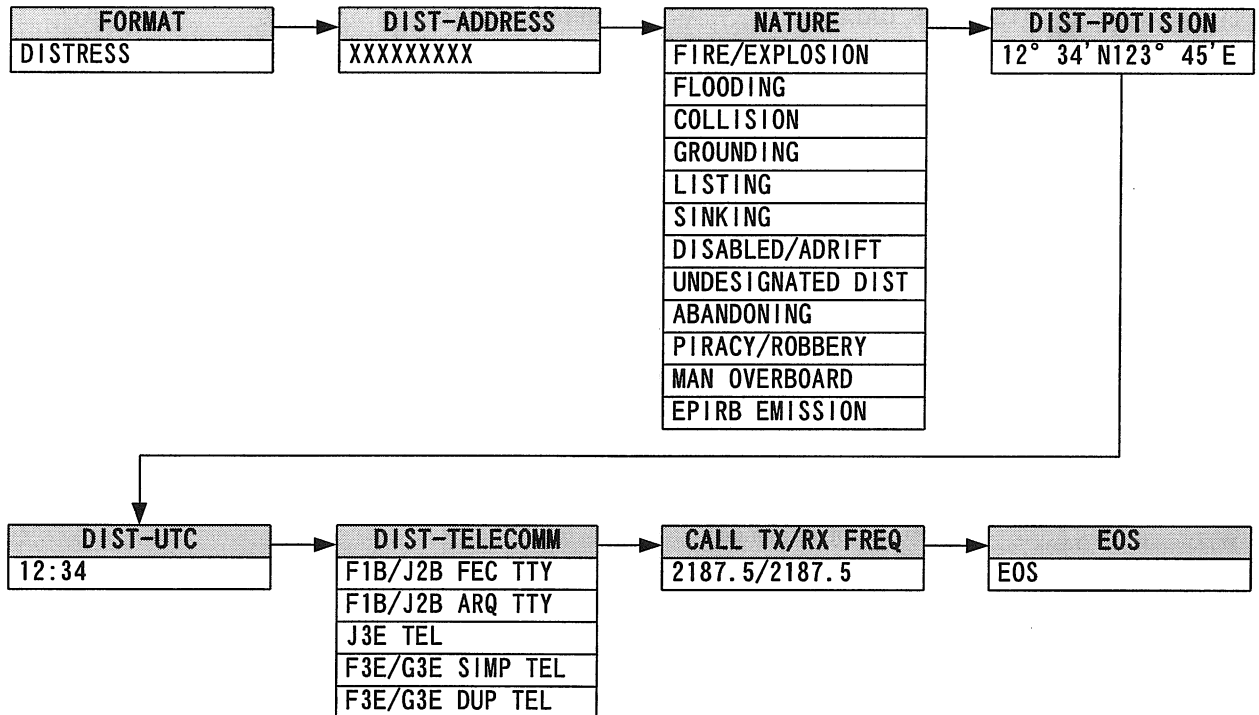
```
DISTRESS ACK CALL   Send Completed
TX frequency : 2,187.5 kHz
TX date&time : 06.Sep.2001(Thu) 01:30
```

Note

- Unable store the message.
- To discard the message and quit without sending it, press **FUNC** **4** (QUIT).

(3) DISTRESS CALL

Data such as the nature of the distress, position, and time can be compiled and transmitted in detail. A distress call is transmitted repeatedly at 3.5- to 4.5-minute intervals until acknowledgement is received.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **[3]**, and then press **[ENT]**.

The "DISTRESS CALL" screen is displayed.

DISTRESS CALL		Transmissible
Address	: XXXXXXXXX	
Nature	: UNDESIGNATED DIST	
Dist-position	: 12° 34' N 123° 45' E	
Dist-UTC	: 01:20	
Dist-telecomm	: J3E TEL	
End of sequence	: EOS	
Call TX/RX freq	: 2,187.5 / 2,187.5 kHz	

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

```

*「Address」      : XXXXXXXXX
「Nature」       : UNDESIGNATED DIST
「Dist-position」 : 12° 34' N 123° 45' E
「Dist-UTC」     : 01:20
「Dist-telecomm」: J3E TEL
*「End of sequence」: EOS
「Call TX/RX freq」: 2,187.5/2,187.5 kHz
  
```

Note * Not edit the these setting.

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Nature

Dist-telecomm: Use the **[◀]** and **[▶]** keys to select the items.

- (2) Dist-position: Use the **[◀]** and **[▶]** keys to determine the direction, and then input the ship's position using the numerical keys (**[0]** to **[9]**).

- (3) Dist-UTC: Use the numerical keys (**[0]** to **[9]**) to enter the time.

- (4) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies, or use the numerical keys (**[0]** to **[9]**, and **[.]**) to specify a frequency directly.

2. Press **[DISTRESS]** for at least 3.5 seconds (until the intermittent alarm tone changes to a continuous tone).

The following screen is displayed and the message is transmitted. The same distress message is sent 5 times in succession.

DISTRESS CALL		Transmitting
TX frequency	: 2,187.5 kHz	
TX date&time	: 06.Sep.2001(Thu) 01:30	
		1/5

On completion of the transmission, the following screen is displayed. Transmission of the distress call is repeated when the displayed time has counted down to zero.

DISTRESS CALL	2,187.5 kHz
NEXT DISTRESS CALL : AFTER 3.7 min	

Note

Press **[STOP]** to cancel the DISTRESS transmission.

To store the message without sending it, press **[FUNC]** **[9]** (SAVE).

To discard the message and quit without sending it, press **[FUNC]** **[4]** (QUIT).

The distress call is sent repeatedly until a distress call acknowledgement is received.

● About Distress Calls

Distress calls, distress relay and distress acknowledgement functions are described here.

○ Distress Call Transmission

Distress type	FORMAT	CATEGORY	TELECOMMAND-1	Operating keys	No. of transmissions
DISTRESS	DISTRESS	—	—	DISTRESS	5 successive transmissions with intervals
DISTRESS	DISTRESS	—	—	CALL>DISTRESS	5 successive transmissions with intervals
DISTRESS	INDIVIDUAL ALL SHIPS GROUP AREA	DISTRESS	J3E TEL, etc.	CALL>DISTRESS	Once only
DISTRESS RELAY	INDIVIDUAL	DISTRESS	DISTRESS RELAY	CALL>DISTRESS	Once only
DISTRESS RELAY	ALL SHIPS	DISTRESS	DISTRESS RELAY	CALL>DISTRESS	Once only
DISTRESS ACK	ALL SHIPS	DISTRESS	DISTRESS ACK	CALL	Once only

○ Distress Calls

- ① When transmitting without editing and using only the **DISTRESS** key, the message with the contents previously compiled in the distress setting is transmitted. This message is transmitted five times successively at 3.5- to 4.5-minute intervals.
- ② The following are two ways of distress transmitting after editing:
 1. Transmitting details of distress conditions
This transmission is made according to 4.3.3 (3), "DISTRESS CALL." The nature of the distress, the ship's position, time, and communication method are transmitted. The message is transmitted five times successively at 3.5- to 4.5-minute intervals.
This is the primary method.
 2. This transmission includes INDIVIDUAL, ALL SHIPS, GROUP, and AREA, and it is enabled when "DISTRESS" is selected for the CATEGORY. The contents of the message are the same as other messages. This message is transmitted only once.

○ DISTRESS RELAY CALL

This transmission is made according to 4.3.3 (4), "DISTRESS RELAY CALL." The message to be transmitted can be edited by selecting "DISTRESS" for FORMAT and "DISTRESS RELAY" for CATEGORY in individual or all ships calls. However, the contents are the same. The received message is edited so that it is the same as the received distress message. It is then transmitted to a coastal station. This message is transmitted only once.

○ DISTRESS ACK CALL

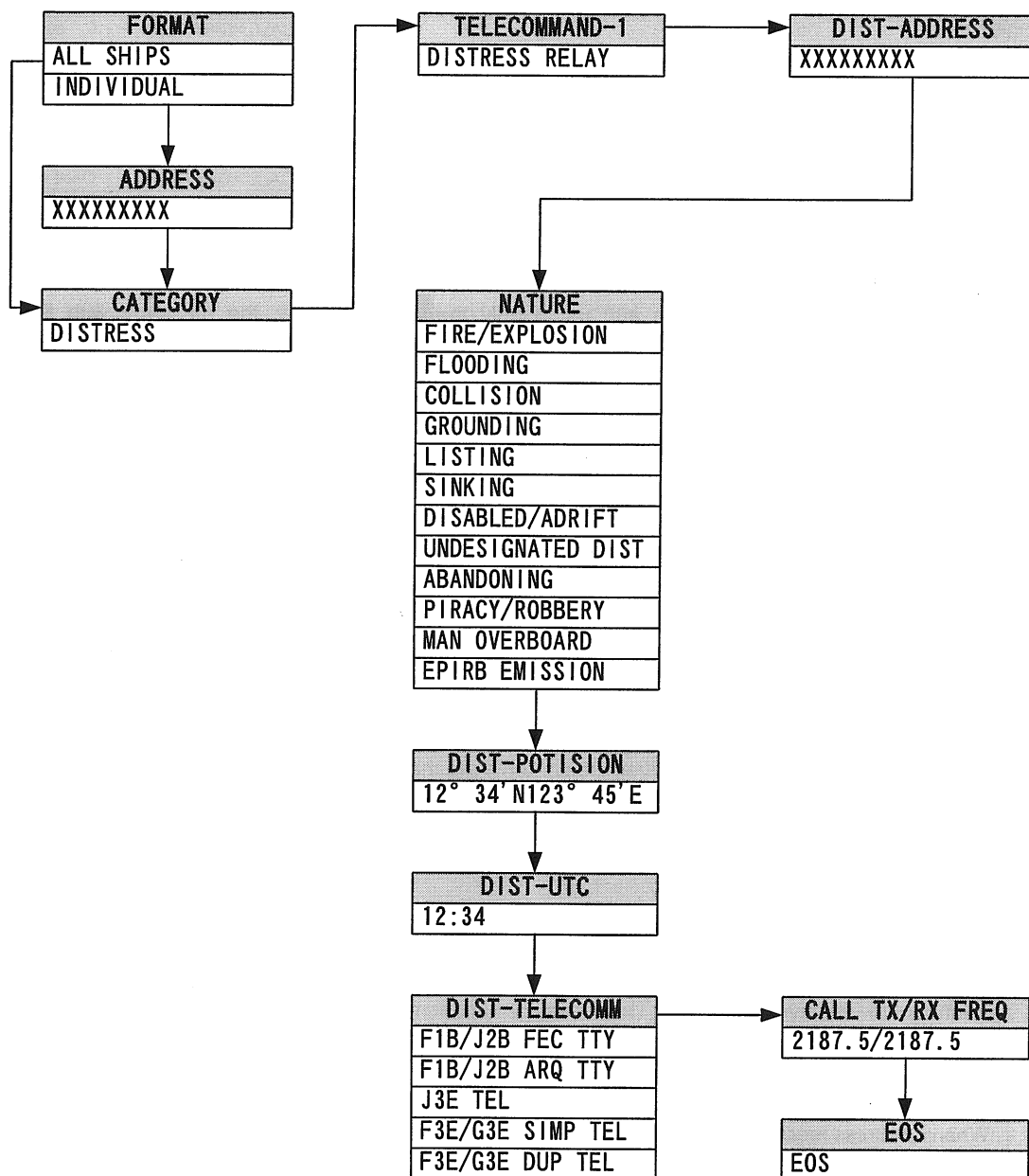
This transmission is made according to 4.3.3 (2), "ACKNOWLEDGEMENT CALL (2-2)." The message is not created automatically because the contents need to be confirmed. The acknowledgement message is edited manually and then transmitted. It is necessary to edit the message to be transmitted according to the contents of the received message. This message is transmitted only once by using **CALL** key.

ATTENTION

When a distress message is received, make the transmission according to "DSC Alert Response Procedures."

(4) DISTRESS RELAY CALL

Normally, a distress call is acknowledged by a coastal station, but if there is not acknowledgement by any station (e.g., due to propagation, etc.) relay it after editing the message for a relay call by selecting this menu. Normally, a distress relay is made by selecting this menu.



Procedure

Example: Procedure of a distress relay call to all ships

1. From the "MENU#1-EDIT&CALL" screen, press **[4]**, and then press **[ENT]**.
The "DISTRESS RELAY CALL" screen is displayed.

```
DISTRESS RELAY CALL      Select no. __
▶ 1.ALL SHIP'S DIST rly EDIT
  2.INDIVIDUAL DIST rly EDIT
```

Note

1. Select 1 to relay the call to all ships and coastal stations.
2. Select 2 to relay the call to an individual ship or coastal station.

2. Press **[1]**, and then press **[ENT]**.

The "ALL SHIPS DIST-RELAY" screen is displayed.

```
ALL SHIP'S DIST-RELAY
▶ Dist-address   : XXXXXXXXXX
  Nature        : UNDESIGNATED DIST
  Dist-position  : 12° 34'N123° 45'E

Dist-UTC        : 01:20
Dist-telecomm   : J3E TEL
Call TX/RX freq: 2,187.5 / 2,187.5 kHz
```

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

```
「Dist-address」 : XXXXXXXXXX
「Nature」       : UNDESIGNATED DIST
「Dist-position」: 12° 34'N123° 45'E
「Dist-UTC」     : 01:20
「Dist-telecomm」: J3E TEL
「Call TX/RX freq」: 2,187.5/2,187.5 kHz
```

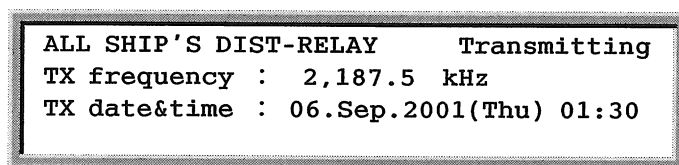
● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Dist-address: Use the numerical keys (**[0]** to **[9]**) to enter the address of the receiving station (ship or coastal station).
- (2) Nature
Dist-telecomm: Use the **[◀]** and **[▶]** keys to select the items.
- (3) Dist-position: Use the **[◀]** and **[▶]** keys to determine the direction, and then input the ship's position using the numerical keys (**[0]** to **[9]**).
- (4) Dist-UTC: Use the numerical keys (**[0]** to **[9]**) to enter the time.
- (4) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies, or use the numerical keys (**[0]** to **[9]**, and **[.]**) to specify a frequency directly.

3. Press **CALL** , and then open the cover on the left and press **DISTRESS** for at least 3 seconds (until the intermittent alarm tone changes to a continuous tone).

The following screen is displayed and the message is transmitted.

A rectangular screen with a black border displaying white text. The text is arranged in three lines: the first line says 'ALL SHIP'S DIST-RELAY' followed by 'Transmitting' on the right; the second line says 'TX frequency : 2,187.5 kHz'; the third line says 'TX date&time : 06.Sep.2001(Thu) 01:30'.

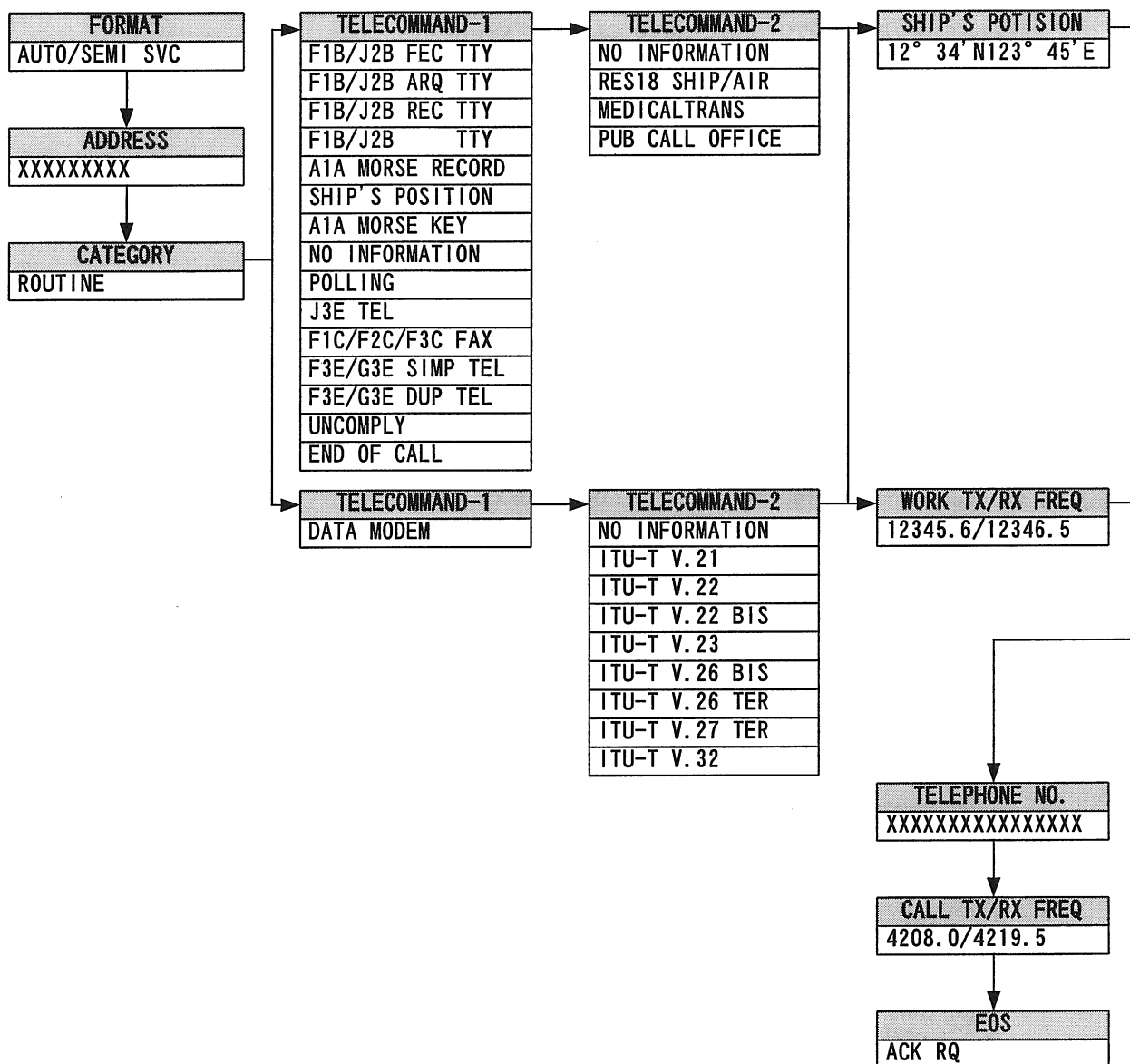
ALL SHIP'S DIST-RELAY Transmitting
TX frequency : 2,187.5 kHz
TX date&time : 06.Sep.2001(Thu) 01:30

Note

- Press **STOP** to cancel the DISTRESS transmission.
- To discard the message and quit without sending it, press **FUNC** **4** (QUIT).
- Unable to save the message.

(5) AUTO/SEMI-AUTO CALL

This mode is available only to coastal stations where the telephone on board can be connected on-line to a public line on the land after DSC communication on the MF/HF band.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **[5]**, and then press **[ENT]**.
The "AUTO/SEMI-AUTO CALL" screen is displayed.

AUTO/SEMI-AUTO CALL		Transmissible
▶ Address	: XXXXXXXXX	
Telecommand-1	: J3E TEL	
Telecommand-2	: NO INFORMATION	
Ship's position: 12° 34'N123° 45'E		
Telephone no. : 04224507XX		
Call TX/RX freq: 4,208.0/4,219.5kHz		

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

「Address」 : XXXXXXXXX
 「Telecommand-1」 : J3E TEL
 「Telecommand-2」 : NO INFORMATION
 「Ship's position」 : 12° 34'N123° 45'E
 「Telephone no.」 : 04224507XX
 「Call TX/RX freq」 : 4,208.0/4,219.5 kHz

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Address: Use the numerical keys (**[0]** to **[9]**) to enter the address of the receiving station (ship or coastal station).
- (2) Telecommand-1: Use the **[◀]** and **[▶]** keys to select the items.
Telecommand-2
- (3) Ship's-position: Use the **[◀]** and **[▶]** keys to determine the direction, and then input the ship's position using the numerical keys (**[0]** to **[9]**).
- (4) Telephone no. Use the numerical keys (**[0]** to **[9]**) to enter the telephone number.
- (5) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies, or use the numerical keys (**[0]** to **[9]**, and **[.]**) to specify a frequency directly.
- (6) Other settings: **[◀]** **[▶]**
 - "Work TX/RX freq": Use the numerical keys (**[0]** to **[9]**, and **[.]**) to directly specify a frequency.
 - Switching from "Ship's position" to "Work TX/RX freq": Press **[FUNC]** **[6]** (FREQ).
 - Switching from "Work TX/RX freq" to "Ship's position": Press **[FUNC]** **[5]** (POS).

ATTENTION

This call requires the auto/semi-auto call service of a coastal station.
Please ask the coastal station you use for details.

2. Press CALL

The following screen is displayed and the message is transmitted.

```
AUTO/SEMI-AUTO CALL Transmitting
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press ENT to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

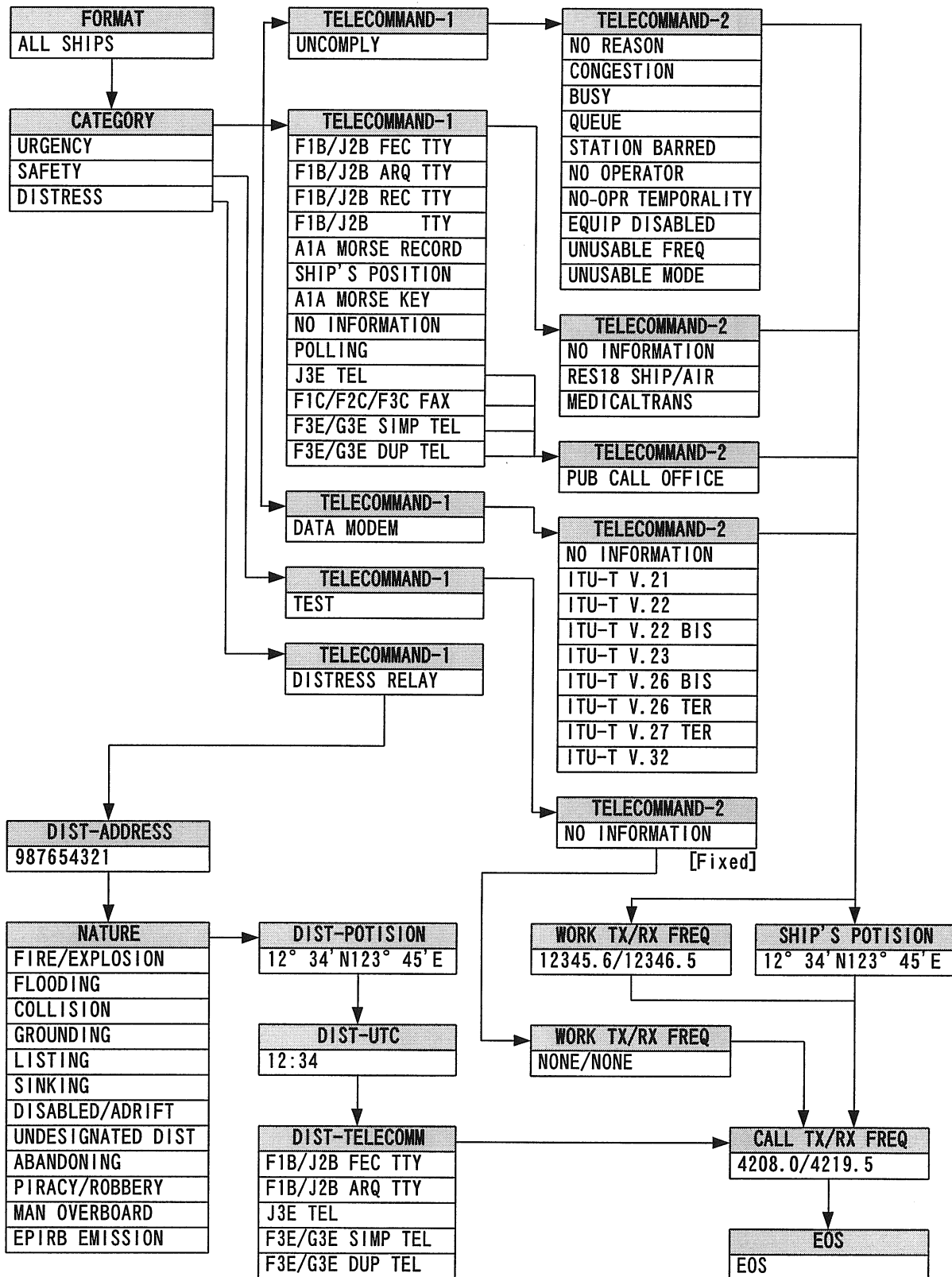
```
AUTO/SEMI-AUTO CALL Send Completed
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

Note

To discard the message and quit without sending it, press FUNC 4 (QUIT).
To store a message without sending it, press FUNC 9 (SAVE).

(6) ALL SHIPS CALL

An all ships call is transmitted to all ships. Normally, this feature is used to acknowledge when a distress call is received and a distress acknowledgement from a coastal station has not been received in response.



Procedure

Example: Procedure for a distress relay call to all ships

1. From the "MENU#1-EDIT&CALL" screen, press **[6]**, and then press **[ENT]**.
The "ALL SHIPS CALL" screen is displayed.

ALL SHIPS CALL	
Category	: DISTRESS
Telecommand-1	: DISTRESS RELAY
Dist-address	: XXXXXXXXX
Nature	: UNDESIGNATED DIST
Dist-position	: 12° 34' N 123° 45' E
Dist-UTC	: 01:20
Dist-telecomm	: J3E TEL
Call TX/RX freq	: 4,208.0 / 4,208.0 kHz

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

「Category」	: DISTRESS
「Telecommand-1」	: DISTRESS RELAY
「Dist-address」	: XXXXXXXXX
「Nature」	: UNDESIGNATED DIST
「Dist-position」	: 12° 34' N 123° 45' E
「Dist-UTC」	: 01:20
「Dist-telecomm」	: J3E TEL
「Call TX/RX freq」	: 4,208.0 / 4,208.0 kHz

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Dist-address: Use the numerical keys (**[0]** to **[9]**) to enter the address of the receiving station (ship or coastal station).
- (2) Category
Telecommand-1: Use the **[◀]** and **[▶]** keys to select the items.
Nature
Dist-telecomm
- (3) Dist-position: Use the **[◀]** and **[▶]** keys to select the bearing, and then input the value using the numerical keys (**[0]** to **[9]**).
- (4) Dist-UTC: Use the numerical keys (**[0]** to **[9]**) to enter the time.
- (5) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies.
Alternatively, use the numerical keys (**[0]** to **[9]**, and **[.]**) to directly specify a frequency.

Note

Set the "Work TX/RX freq" to a frequency in the same band as the "Call TX/RX freq".

2. Press **CALL**, then open the cover on the left and press **DISTRESS** for at least 3 seconds (until the intermittent alarm tone changes to a continuous tone).

The following screen is displayed and the set distress message is transmitted.

ALL SHIPS CALL	Transmitting
TX frequency : 4,208.0 kHz	
TX date&time : 06.Sep.2001(Thu) 01:26	

When the transmission is completed, the following screen is displayed and the message is automatically saved. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

ALL SHIPS CALL	Send Completed
TX frequency : 4,208.0 kHz	
TX date&time : 06.Sep.2001(Thu) 01:26	

Note

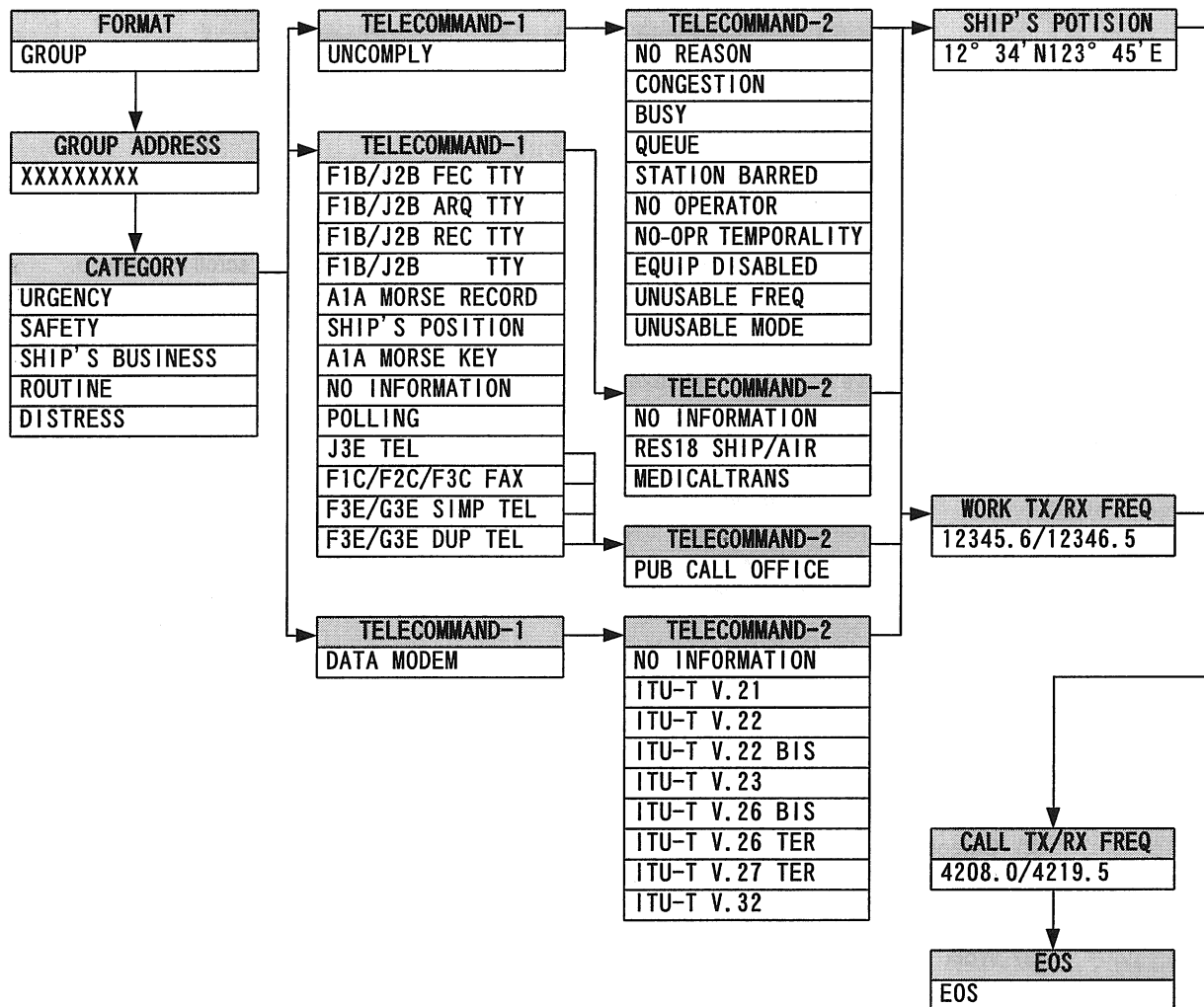
See (1), "Individual Call" for how to send a general message.

To store a message without sending it, press **FUNC** **9** (SAVE).

To discard the message and quit without sending it, press **FUNC** **4** (QUIT).

(7) GROUP CALL

This process is used to edit and transmit a message to a specific group.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **[7]**, and then press **[ENT]**.

The "GROUP CALL" screen is displayed.

GROUP CALL	
▶ Group address	: XXXXXXXXXX
Category	: ROUTINE
Telecommand-1	: J3E TEL
Telecommand-2	: NO INFORMATION
Work TX/RX freq	: 4,444.1 / 4,455.5 kHz
Call TX/RX freq	: 4,208.0 / 4,219.5 kHz

Use **[▲]** and **[▼]** to scroll the screen.

The following items have been set in this example.

「Group address」 : XXXXXXXXXX
 「Category」 : ROUTINE
 「Telecommand-1」 : J3E TEL
 「Telecommand-2」 : NO INFORMATION
 「Work TX/RX freq」 : 4,444.1 / 4,455.5 kHz
 「Call TX/RX freq」 : 4,208.0 / 4,219.5 kHz

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Group address: Use the numerical keys (**[0]** to **[9]**) to enter the address of the receiving station (ship or coastal station).
- (2) Category
Telecommand-1: Use the **[◀]** and **[▶]** keys to select the items.
Telecommand-2
- (3) Work TX/RX freq Use the numerical keys (**[0]** to **[9]**, and **[.]**) to directly specify a frequency.
- (4) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the preset frequencies. Alternatively, use the numerical keys (**[0]** to **[9]**, and **[.]**) to directly specify a frequency.
- (5) Other settings:
 - "Ship's position": Use the **[◀]** and **[▶]** keys to select the bearing, and then input the value using the numerical keys (**[0]** to **[9]**).
 - Switching from "Ship's position" to "Work TX/RX freq": Press **[FUNC]** **[6]** (FREQ).
 - Switching from "Work TX/RX freq" to "Ship's position": Press **[FUNC]** **[5]** (POS).

Note

Set the "Work TX/RX freq" to a frequency in the same band as "Call TX/RX freq".

2. Press CALL.

The following screen is displayed and the message is transmitted.

GROUP CALL Transmitting
TX frequency : 4,208.0 kHz
TX date&time : 06.Sep.2001(Thu) 01:30

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press ENT to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

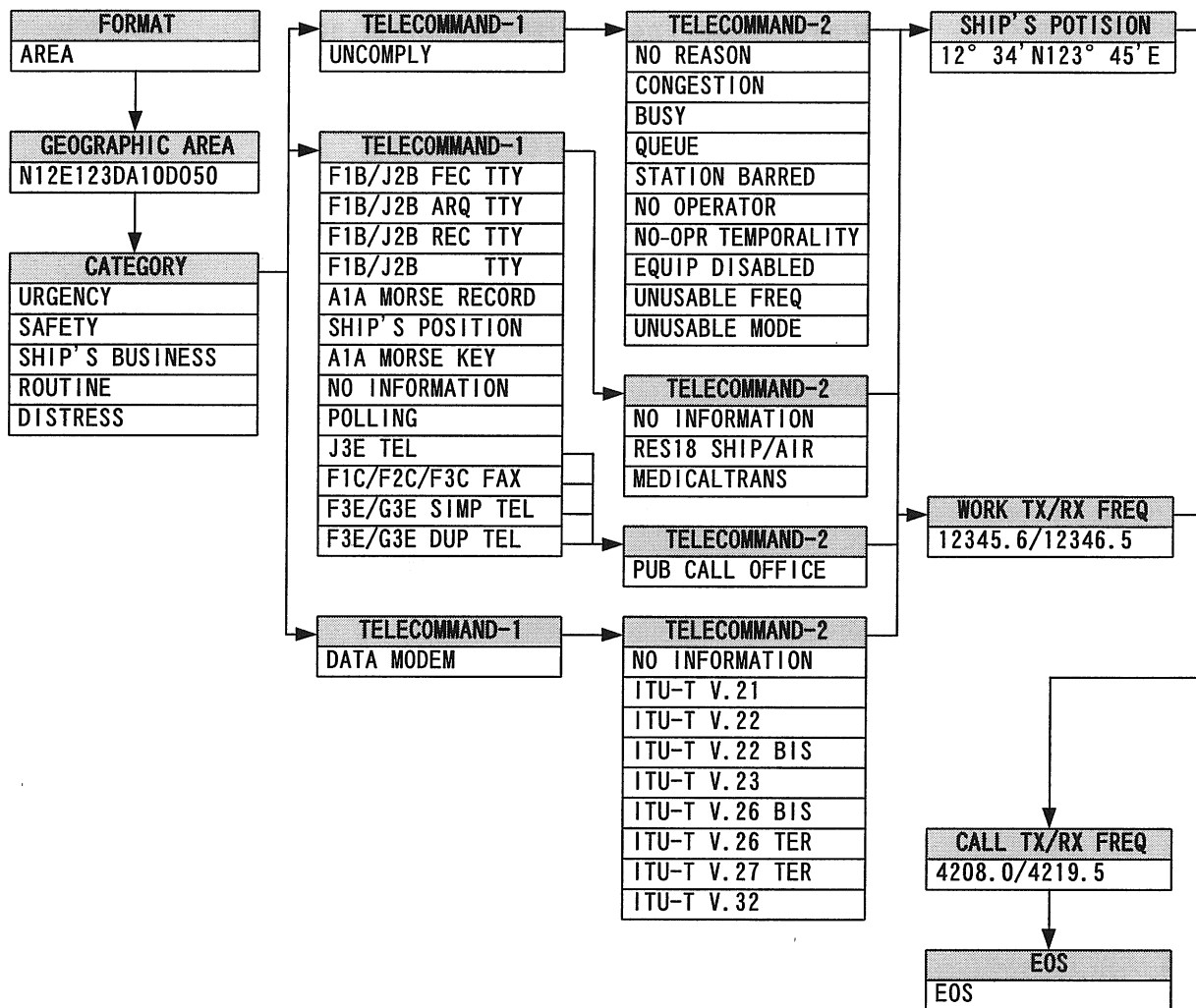
GROUP CALL Send Completed
TX frequency : 4,208.0 kHz
TX date&time : 06.Sep.2001(Thu) 01:30

Note

To discard the message and quit without sending it, press FUNC 4 (QUIT).
To store a message without sending it, press FUNC 9 (SAVE).

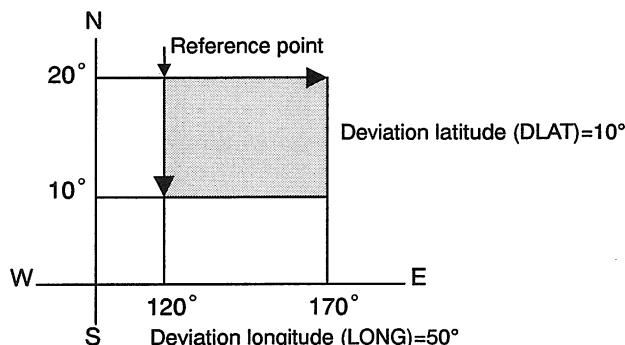
(8) AREA CALL

This procedure is used to edit and transmit a call message to ships in the specified area.



● Area call setting

An area call is received by all ships navigating in a designated geographical area. For the area of called stations (PARTY AD), latitude, longitude, deviation latitude (from North to South), and deviation longitude (from West to East) are necessary. The area of the shaded part is designated in the figure below.



First, select the direction from N.E. (North-East), N.W. (North-West), S.E. (South-East), and S.W. (South-West). In this example, the direction is N.E.

PARTY AD : N E DLAT LONG /

Next, enter 20°, 120°, making this latitude 20° and longitude 120°.

PARTY AD : N20E120 DLAT LONG /

In addition, as the deviation latitude (DLAT) and deviation longitude (LONG) are, respectively, 10° and 50°, input 1050..

PARTY AD : N20E120DLAT10LONG50

Finally, press **ENT** to confirm the area.

Note

Up to 99° can be input for deviation latitude and deviation longitude.
Ranges that include the Arctic Pole or Antarctic Pole cannot be specified.

Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **8**, and then press **ENT**.
The "AREA CALL" screen is displayed.

AREA CALL	Transmissible
Area	: N20E120DLAT10LONG50
Category	: ROUTINE
Telecommand-1	: J3E TEL
Telecommand-2	: NO INFORMATION
Work TX/RX freq	: 4,444.1 / 4,455.5 kHz
Call TX/RX freq	: 4,208.0 / 4,219.5 kHz

Use **▲** and **▼** to scroll the screen.

The following items have been set in this example.

「Area」 : N20E120DLAT10LONG50
「Category」 : ROUTINE
「Telecommand-1」 : J3E TEL
「Telecommand-2」 : NO INFORMATION
「Work TX/RX freq」 : 4,444.1 / 4,455.5 kHz
「Call TX/RX freq」 : 4,208.0 / 4,219.5 kHz

● Entering the respective items:

After selecting each item, press **ENT** to confirm the selection.

(1) Category

Telecommand-1: Use the **◀** and **▶** keys to select the items.
Telecommand-2

(2) Area

Ship's position: Use the **◀** and **▶** keys to select the bearing, and then input the value using the numerical keys (**0** to **9**).

(3) Call TX/RX freq: Use the **◀** and **▶** keys to select one of the preset frequencies. Alternatively, use the numerical keys (**0** to **9**), and **.** to directly specify a frequency.

(4) Other settings:

• "Work TX/RX freq": Use the numerical keys (**0** to **9**), and **.** to directly specify a frequency.

• Switching from "Ship's position" to "Work TX/RX freq": Press **FUNC** **6** (FREQ).

• Switching from "Work TX/RX freq" to "Ship's position": Press **FUNC** **5** (POS).

Note

Set the "Work TX/RX freq" to a frequency in the same band as "Call TX/RX freq".

2. Press **CALL.**

The following screen is displayed and the message is transmitted.

AREA CALL	Transmitting
TX frequency : 4,208.0 kHz	
TX date&time : 06.Sep.2001(Thu) 01:30	

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press **ENT** to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

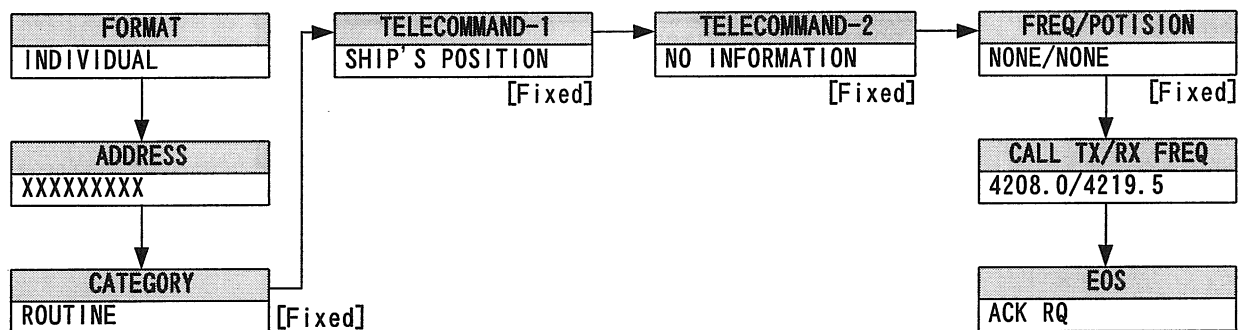
AREA CALL	Send Completed
TX frequency : 4,208.0 kHz	
TX date&time : 06.Sep.2001(Thu) 01:30	

Note

To discard the message and quit without sending it, press **FUNC** **4** (QUIT).
To store a message without sending it, press **FUNC** **9** (SAVE).

(9) POSITION REQUEST CALL

This feature is used when a coastal station wants to know a ship's position, or two ships want to know each other's position.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **9**, and then press **ENT**.
The "POSITION REQUEST" screen is displayed.

POSITION REQUEST	
▶ Address	: XXXXXXXXXX
Call TX/RX freq	: 4,208.0/4,219.5 kHz

The following items have been set in this example.

「Address」 : XXXXXXXXXX
「Call TX/RX freq」 : 4,208.0/4,219.5 kHz

● Entering the respective items:

After selecting each item, press **ENT** to confirm the selection.

- (1) Address: Use the numerical keys (**0** to **9**) to enter the address of the receiving station (ship or coastal station).
- (2) Call TX/RX freq: Use the **◀** and **▶** keys to select one of the preset frequencies. Alternatively, use the numerical keys (**0** to **9**), and **.** to directly specify a frequency.

2. Press **CALL**.

The following screen is displayed and the message is transmitted.

POSITION REQUEST	Transmitting
TX frequency	: 4,208.0 kHz
TX date&time	: 06.Sep.2001(Thu) 01:30

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press **ENT** to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

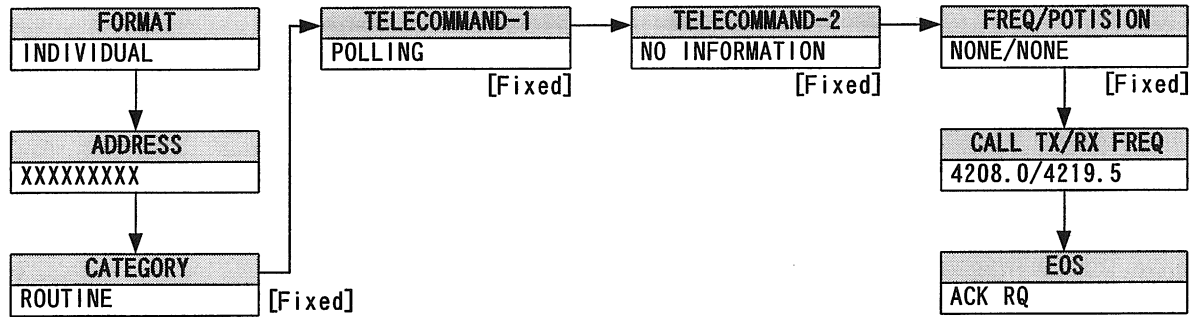
POSITION REQUEST	Send Completed
TX frequency	: 4,208.0 kHz
TX date&time	: 06.Sep.2001(Thu) 01:30

Note

To discard the message and quit without sending it, press **FUNC** **4** (QUIT).
To store a message without sending it, press **FUNC** **9** (SAVE).

(10) POLLING CALL

This feature is used to confirm that the destination station exists within a communication area.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **[1]** **[0]** , and then press **[ENT]** .
The "POLLING CALL" screen is displayed.

```
POLLING CALL
▶Address      : XXXXXXXXX
Call TX/RX freq : 4,208.0 / 4,219.5 kHz
```

The following items have been set in this example.

```
「Address」      : XXXXXXXXX
「Call TX/RX freq」 : 4,208.0 / 4,219.5 kHz
```

● Entering the respective items:

After selecting each item, press **[ENT]** to confirm the selection.

- (1) Address: Use the numerical keys (**[0]** to **[9]**) to enter the address of the receiving station (ship or coastal station).
- (2) Call TX/RX freq: Use the **[◀]** and **[▶]** keys to select one of the present frequencies.
Alternatively, use the numerical keys (**[0]** to **[9]** ,and **[.]**) to directly Specify a frequency.

2. Press **[CALL]** .

The following screen is displayed and the message is transmitted.

```
POLLING CALL      Transmitting
TX frequency      : 4,208.0 kHz
TX date&time      : 06.Sep.2001(Thu) 01:30
```

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press **[ENT]** to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

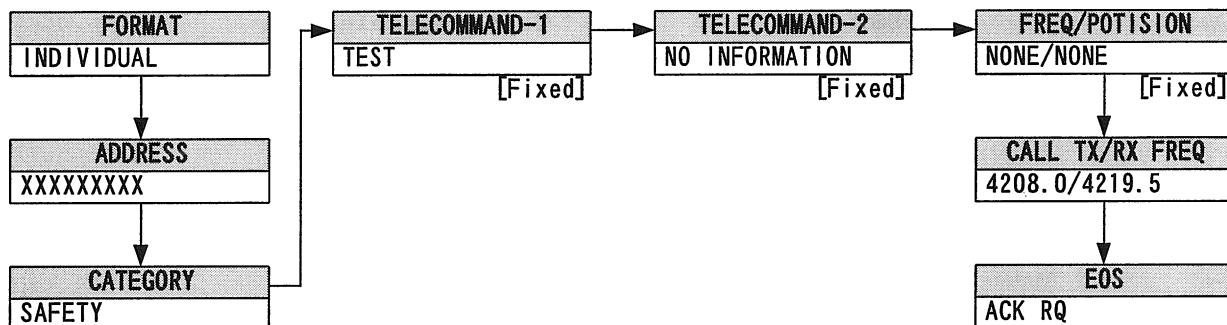
```
POLLING CALL      Send Completed
TX frequency      : 4,208.0 kHz
TX date&time      : 06.Sep.2001(Thu) 01:30
```

Note

To discard the message and quit without sending it, press **[FUNC]** **[4]** (QUIT).
To store a message without sending it, press **[FUNC]** **[9]** (SAVE).

(11) TEST CALL

If possible, refrain from making tests using any of the frequencies listed in Section 8.2.1. However, should such a test become unavoidable, first obtain permission from the targeted coastal station.



Procedure

1. From the "MENU#1-EDIT&CALL" screen, press **[1]** **[1]**, and then press **[ENT]**.
The "TEST CALL" screen is displayed.

```
TEST CALL                      Transmissible
▶Address                       : XXXXXXXXXX
Call TX/RX freq: 4,208.0/4,219.5 kHz
```

The following items have been set in this example.

```
「Address」                   : XXXXXXXXXX
「Call TX/RX freq」          : 4,208.0/4,219.5 kHz
```

2. Press **[CALL]**.

The following screen is displayed and the message is transmitted.

```
TEST CALL                      Transmitting
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

Note

If the tuner is not tuned to the transmission frequency, the "tuner mismatch!!" warning message is displayed. Press **[ENT]** to tune the tuner, then transmit the message.

When the transmission is completed, the following screen is displayed. After a brief interval, operation returns to the "MENU#1-EDIT&CALL" screen.

```
TEST CALL                      Send Completed
TX frequency   : 4,208.0 kHz
TX date&time   : 06.Sep.2001(Thu) 01:30
```

Note

To discard the message and quit without sending it, press **[FUNC]** **[4]** (QUIT).

To store a message without sending it, press **[FUNC]** **[9]** (SAVE).

Normally, the message content is predetermined so that the message is sent to a coastal station.

3.5.4 Other Functions

(1) Frequency scanning

When the JSB-196/196GM Radiotelephone is connected, scanning*¹ reception among the six specified frequencies is available. When the NCT-196N automatic acknowledgement setting*² is ON and a message requiring acknowledgment is received*³, the acknowledgement message is transmitted on a transmit frequency that is paired with the reception frequency.

This section describes how to set up the scanning function.

*¹ : The selected reception frequency (scanning frequency) is switched at intervals of about 0.3 sec.

*² : See "● AUTO ACKNOWLEDGEMENT SETUP" in Section 4.3.4 (4), "Other Settings."

*³ : Indicates that the "EOS" of the message compiled in steps (1) to (11) of Section 4.3.3, "Transmitting Messages" is set to ACK RQ (acknowledgement required).

● Starting and stopping scanning

The scanning frequency must be specified before starting or stopping scanning. Refer to "Specifying the scanning frequency" below.

Procedure

1. Press **FUNC , and then **1** (SCAN).**

Scanning starts for the specified frequencies.

2. Press **FUNC , and then **1** (SCAN).**

Scanning stops.

● Specifying the scanning frequency

Procedure

1. Check that the "DSC watching" screen is displayed.

```
DSC watching  06.Sep.2001(Thu) 01:26
99° 99' N999° 99' E  SPEED:__.KT at 88:88

Self-ID =  XXXXXXXXXX          [UTC]
```

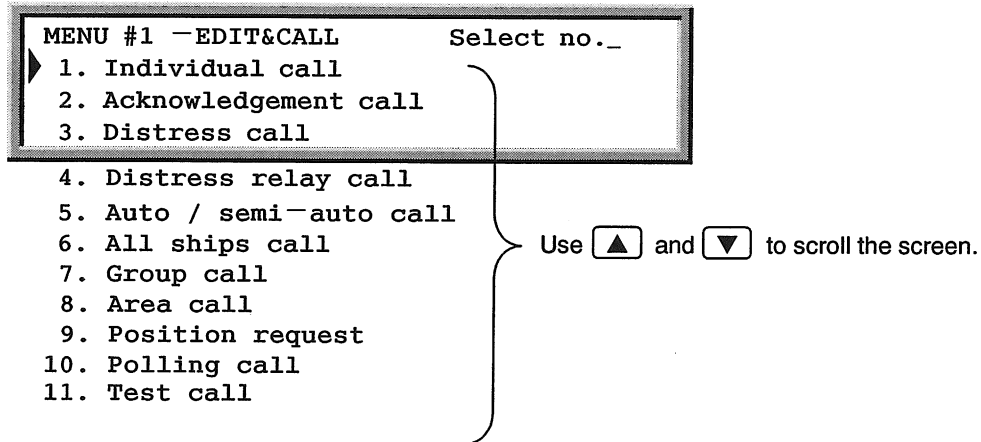
Note

If the "DSC watching" screen is not displayed, press **STOP** 3 times in succession to switch to the "DSC watching" screen.

When the **P** mark is displayed on the screen, no printer is connected to the NCT-196.

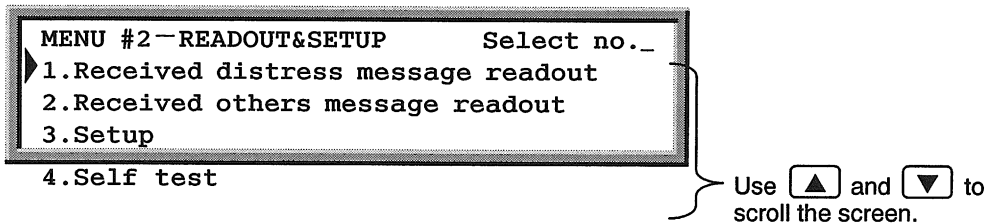
2. Press MENU.

The "MENU#1-EDIT&CALL" screen is displayed.



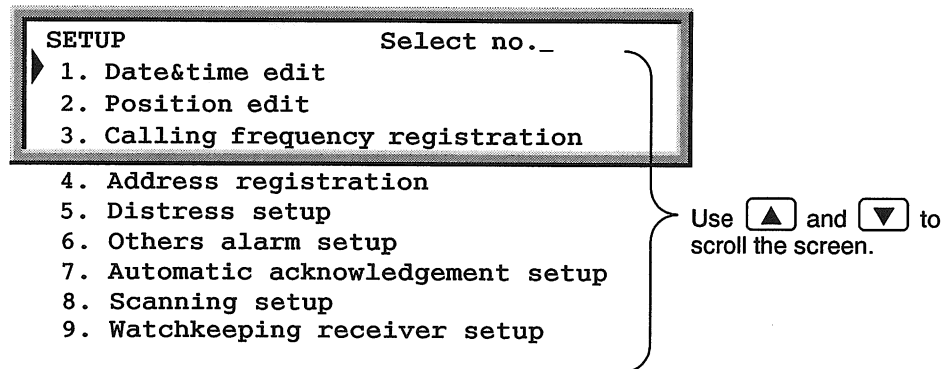
3. Press MENU again.

The "MENU#2-READOUT&SETUP" screen is displayed.



4. Press 3, and then press ENT.

The "SETUP" screen is displayed.



5. Press **8** , and then press **ENT** .
The "SCANNING SETUP" screen is displayed.

SCANNING SETUP			
[1]	1,610.0	/	1,615.0 kHz
[2]	2,000.0	/	2,000.0 kHz
[3]	3,000.0	/	3,000.0 kHz
[4]	4,208.0	/	4,219.0 kHz
[5]	5,000.0	/	5,000.0 kHz
[6]	6,000.0	/	6,000.0 kHz

TX RX

Use **▲** and **▼** to scroll the screen.

6. Enter the "Transmit frequency/Receive frequency" pair for each channel.

Note Press **CLR** and then **ENT** to cancel a setting and leave it blank.

7. On completion of entering the data, press **FUNC** , and then press **9** (SAVE).

Tune regist frequency?
[ENT] key : TUNE
[STOP] key : NO TUNE

Press **ENT** to tune the tuner and then return to the "SETUP" screen.

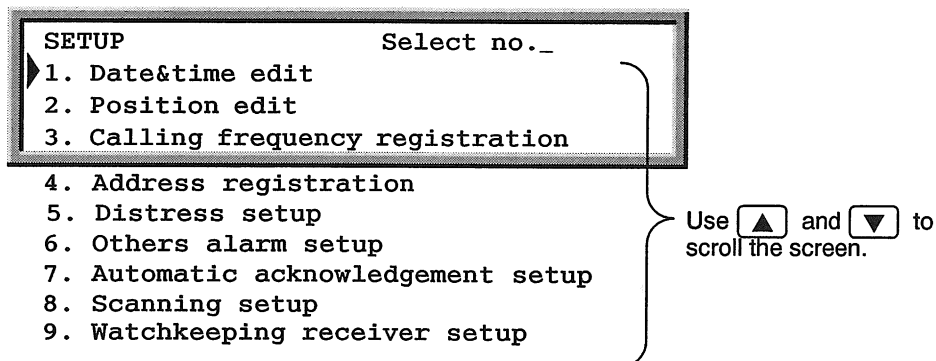
Press **STOP** to abort tuning and return to the "SETUP" screen.

Note Press **FUNC** , and then press **4** (QUIT) to cancel this menu.

(2) Useful Functions

The NCT-196N register up to six party addresses with a shorthand name, and up to six calling frequencies. The registered contents are retrieved by using ◀ and ▶ when compiling a call message, obviating the need to enter numbers.

The addresses and calling frequencies are stored from the "SETUP" screen. See steps 1 to 3 of (1) Specifying the scanning frequency" for how to display the "SETUP" screen.

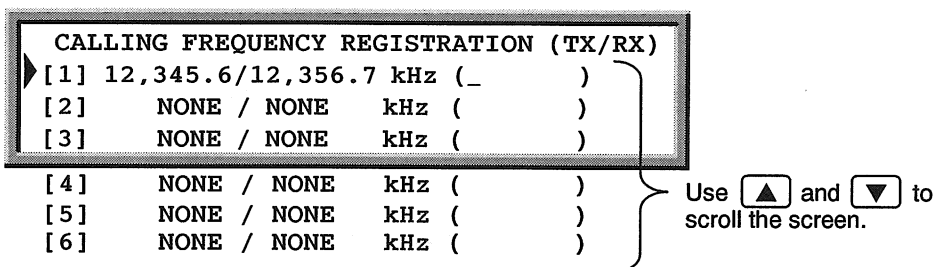


● Registering a calling frequency

Procedure

1. From the "SETUP" screen, press [3], and then press [ENT].

The "CALLING FREQUENCY REGISTRATION (TX/RX)" screen is displayed.

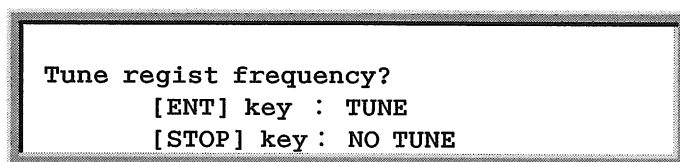


2. Enter the "Transmit frequency/Receive frequency (name)" for each channel.

- Enter the transmit frequency/receive frequency pair using [0] to [9] and [.] .
- Enter (name) as follows:
 1. Selecting characters: Use ◀ and ▶ to select characters inside the parentheses ().
 2. Confirming characters: After selecting each character, press [ENT] .

To go to the next channel or skip to the next channel without specifying a name, press [ENT] two times.

3. On completion of entering the data, press [FUNC], and then press [9] (SAVE).



Press [ENT] to tune the tuner and then return to the "SETUP" screen.

Press [STOP] to abort tuning and return to the "SETUP" screen.

Note Press [CLR] to delete registered calling frequency.

Note Press [FUNC], and then press [4] (QUIT) to cancel this menu.

Procedure

1. From the "SETUP" screen, press **[4]**, and then press **[ENT]**.
The "ADDRESS REGISTRATION" screen is displayed.

ADDRESS REGISTRATION		
[1]	—	()
[2]		()
[3]		()
[4]		()
[5]		()
[6]		()

Use **[▲]** and **[▼]** to scroll the screen.

2. Enter the address (name) for each channel.

- Enter the address using **[0]** to **[9]** and **[.]**.
- Enter (name) as follows: 1. Selecting characters: Use **[◀]** and **[▶]** to select characters inside the parentheses ().
2. Confirming characters: After selecting each character, press **[ENT]**.

To go to the next channel or skip to the next channel without specifying a name, press **[ENT]** two times.

3. On completion of entering the data, press **[FUNC]**, and then press **[9]** (SAVE).

Note Press **[CLR]** to delete registered address.

Note Press **[FUNC]**, and then press **[4]** (QUIT) to cancel this menu.

(3) Printing function

When a printer is connected, all received messages are printed out upon reception. In addition, it is also possible to print out other stored information.

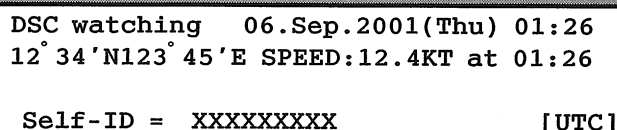
The printing function enables the followings and the procedures are described in this section.

- The printing of all of the files, which classification is selected from the print menu.
- The printing of a selected file, which contents is displayed on screen.

● Printing from the print menu (batch printing of multiple files)

Procedure

1. Check that the "DSC watching" screen is displayed.



DSC watching 06.Sep.2001(Thu) 01:26
12° 34' N 123° 45' E SPEED: 12.4KT at 01:26
Self-ID = XXXXXXXXX [UTC]

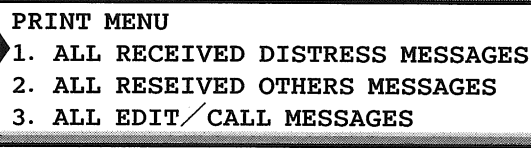
Note

If the "DSC watching" screen is not displayed, press **STOP** 3 times in succession to switch to the "DSC watching" screen.



When the **P** mark is displayed on the screen, no printer is connected to the NCT-196.

2. Press **FUNC**, and then **3** (PRINT).

The "PRINT MENU" screen is displayed.



PRINT MENU
1. ALL RECEIVED DISTRESS MESSAGES
2. ALL RECEIVED OTHERS MESSAGES
3. ALL EDIT/CALL MESSAGES
4. ALL SETUP INFORMATION

Use  and  to scroll the screen.

3. Select the item to be printed, and then press **ENT**.

Printing starts.

4. When printing is finished, press **FUNC**, and then press **4** (QUIT).

Operation returns to the "DSC watching" screen.

● Printing a specified file

Procedure

1. Press **MENU** once or twice.

The "MENU#1-EDIT&CALL" screen or "MENU#2-READOUT&SETUP" screen is displayed.

2. Enter the number of the file to be printed, and then press **ENT**.

The file content is displayed.

3. Press **FUNC**, and then press **3** (PRINT).

The displayed file is printed.

4. When printing is finished, press **FUNC**, and then press **4** (QUIT).

Operation returns to the "MENU#1-EDIT&CALL" screen or "MENU#2-READOUT&SETUP" screen.

(4) Other settings

The following procedures are explained in this section:



- How to compile the message transmitted when pressing **DISTRESS**.
- How to set the auto acknowledgement to ON/OFF for an acknowledgment required call
- Other settings.

ATTENTION

Pay close attention when inputting and/or modifying the information described in this section as the contents are critical for operating the DSC. If these operations are unclear, contact JRC or our agents.

The data is input using the "SETUP" screen. See the above-mentioned "Specifying the scanning frequency" 1-3 steps of "(1) Frequency scanning" for how to display the "SETUP" screen. However regarding the "DATE&TIME EDIT" and "POSITION EDIT" settings in this setup menu, see Section 4.2 "Setting Position and Time Data".

SETUP	Select no._
▶ 1. Date&time edit	
2. Position edit	
3. Calling frequency registration	
4. Address registration	
5. Distress setup	
6. Others alarm setup	
7. Automatic acknowledgement setup	
8. Scanning setup	
9. Watchkeeping receiver setup	

Use  and  to scroll the screen.

● DISTRESS SETUP

This function is used to compile a distress call message to be transmitted by pressing **DISTRESS**.

Nature	: UNDESIGNATED DIS	←	[FIXED]	Nature of the distress (undesignated distress)
Position	: 12 ° 34'N123 ° 45'E	←	[AUTO or MANUAL]	The navigation equipment data or manually entered data.
Time	: 19:00	←	[AUTO or MANUAL]	The navigation equipment data or manually entered data.
Telecommand	: J3E TEL	←	[VARIABLE]	The data set using this menu.
Tx frequency	: 2187.5kHz	←	[VARIABLE]	The data set using this menu.

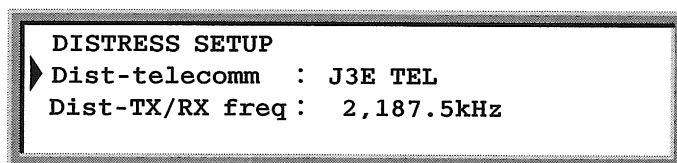
"Telecommand" shows the follow-on communication mode with the RCC that received the distress message. Normally, select either radiotelephone mode or MF/HF ARQ communication (F1B/J2B ARQ).

"Tx frequency" shows a transmission frequency for DSC distress message calls. When the radio equipment is set to 2187.5 or 8414.5kHz, those frequencies take priority.

Procedure

1. From the "SETUP" screen, press **[5] and then press **[ENT]**.**

The "DISTRESS SETUP" screen is displayed.



```
DISTRESS SETUP
▶ Dist-telecomm : J3E TEL
Dist-TX/RX freq : 2,187.5kHz
```

2. Enter each item.

- Use **[◀]** and **[▶]** to change a setting and **[▲]** and **[▼]** to move the cursor and select the item.
- Press **[ENT]** to confirm a setting.
- See Section 4.3.3 (3), "Distress Call" for items for which "Telecommand" can be selected.

3. On completion of entering the data, press **[FUNC], and then press **[9]** (SAVE).**

Operation returns to the "SETUP" screen.

Note

Press **[FUNC]**, and then press **[4]** (QUIT) to cancel this menu.

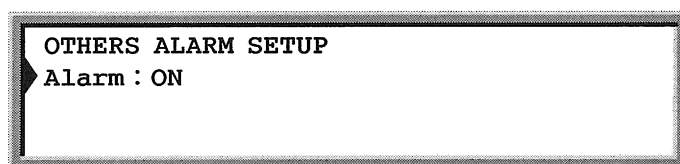
● OTHERS ALARM SETTING

This alarm can be set ON/OFF when receiving non-distress/non-urgency calls. Distress calls can be distinguished from other calls by the difference in the beeping sounds. When receiving distress calls, the alarm always sounds; the alarm for distress calls cannot be turned OFF.

Procedure

1. From the "SETUP" screen, press **[6]** and then press **[ENT]**.

The "OTHERS ALARM SETTING" screen is displayed.



2. Select "ON" or "OFF".

- The default setting is "ON". Use **[◀]** and **[▶]** to change the setting.
- Press **[ENT]** to confirm the setting.

3. On completion of entering the data, press **[FUNC]**, and then press **[9]** (SAVE).

Operation returns to the "SETUP" screen.

Note

Press **[FUNC]**, and then press **[4]** (QUIT) to cancel this menu.

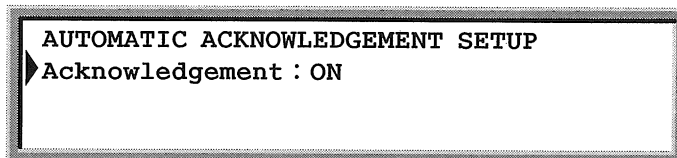
● AUTOMATIC ACKNOWLEDGEMENT SETUP

The DSC terminal can be set to automatically send back an acknowledgement call (with ACK BQ for EOS) when receiving a DSC call with ACK RQ for EOS. However, when the CATEGORY is DISTRESS, URGENCY, or SAFETY, no acknowledgement is made automatically, even though ACK RQ is specified for EOS. Acknowledgement is made manually for all distress calls.

Procedure

1. From the "SETUP" screen, press **[7] and then press **[ENT]**.**

The "AUTOMATIC ACKNOWLEDGEMENT SETUP" screen is displayed.



2. Select "ON" or "OFF".

- The default setting is "ON". Use **[◀]** and **[▶]** to change the setting.
- Press **[ENT]** to confirm the setting.

3. On completion of entering the data, press **[FUNC], and then press **[9]** (SAVE).**

Operation returns to the "SETUP" screen.

Note

Press **[FUNC]**, and then press **[4]** (QUIT) to cancel this menu.

● WATCHKEEPING RECEIVER SETUP

This procedure sets the Watch-keeping receiver's scanning frequency. The 2187.5kHz and 8414.5kHz frequencies are preselected; here, frequencies are selected for the other four channels. The "DISTRESS FREQUENCY" lamps (on the front panel) are turned ON/OFF for each set channel. The lamps for 2187.5kHz and 8414.5kHz are always ON.

Procedure

1. From the "SETUP" screen, press **[9] and then press **[ENT]**.**

The "WATCHKEEPING RECEIVER SETUP" screen is displayed.

WATCHKEEPING RECEIVER SETUP		
CH1.	2187.5kHz	: ON (const)
CH2.	4207.5kHz	: ON
CH3.	6312.0kHz	: OFF
CH4.	8414.5kHz	: ON (const)
CH5.	12577.0kHz	: OFF
CH6.	16804.5kHz	: ON

Use **[▲]** and **[▼]** to scroll the screen.

2. Select "ON" or "OFF".

- The default setting is "ON". Use **[◀]** and **[▶]** to change the setting.
 - Press **[ENT]** to confirm the setting.
- The corresponding lamp for that frequency is turned ON or OFF according to the setting.

3. On completion of entering the data, press **[FUNC], and then press **[9]** (SAVE).**

Operation returns to the "SETUP" screen.

Note

Press **[FUNC]**, and then press **[4]** (QUIT) to cancel this menu.

● CLICK SOUND SETTING

The click sound set to ON/OFF during turning on the NCT-196N.

Procedure

1. Press **FUNC** and **0** .

Note

When turning OFF the power switch, click sound is reset to ON.

● MODEM RESET

This operation is the same as the Power ON reset.

Procedure

1. Press **FUNC** and **STOP** .
The following display appears.

```
JRC NCT-196N DSC/NBDP MODEM
Software Version  MAIN:X.XX  SUB:X.XX
Navigation :NMEA0183
Transceiver:JSB-196/196GM
```

2. The initialization is completed in several seconds.

The following initial display appears.

```
DSC watching  06.Sep.2001(Thu) 01:26
12° 34' N123° 45' E SPEED:12.4KT at 01:26

Self-ID =  XXXXXXXXXX                [UTC]
```

3.6 NBDP operations

The NCT-196N DSC/NBDP MODEM has several communication methods in telex (TLX) mode as NBDP function. Previously created message files or keyboard-typed messages can be sent during the communication. All of operations are performed using NDZ-127J DTE, and the communication methods and other settings for TLX mode are described in this chapter. (Regarding the MODE selection for TLX, see "4.3.2 MODE change to TLX".)

3.6.1 NBDP Settings

Before operations in TLX mode, setup the NBDP functions using **SYSTEM** → **NBDP setup** menu of the NDZ-127J DTE. The following screen appeared by selecting the menu item.

NBDP setup	
ARQ/FEC 4- or 5-digit Self-ID	: 54321
GFEC 4- or 5-digit Self-ID	: 11111
ARQ/FEC 9-digit Self-ID	: 987654321
GFEC 9-digit Self-ID	: 222222222
Answerback	: 54321 FFFFF X
Max. FEC error rate.	: 30%
Max. automatic call series	: 1
Collective FEC receiving	: ON
Internal alarm	: ON
Time duration for AUTO/MRTX	: 10 min.
Restart	: ON
Finite start/restart	: ON
[Save] [Cancel]	

Each parameter is set as follows:

ARQ/FEC 4- or 5-digit Self-ID	: Fixed
GFEC 4- or 5-digit Self-ID	: Fixed
ARQ/FEC 9-digit Self-ID	: Fixed
GFEC 9-digit Self-ID	: Fixed
Answerback	: Fixed
Max. FEC error rate	: Press Enter key and setup in the input window.
Max. automatic call series	: Press Enter key and set a value of 1-99 in the input display.
Collective FEC receiving	: Press Enter key to change ON/OFF.
Internal alarm	: Press Enter key to change ON/OFF.
Time duration for AUTO	: Press Enter key and setup the time in the input window.
Restart	: Press Enter key to change ON/OFF.
Finite start/restart	: Press Enter key to change ON/OFF.
Transmitter pre-key time	: Press Enter key and setup the time in the input window.

After these settings, select the [Save] button or [Cancel] button to finish this setup.

Note

The above parameters showed "Fixed" have already been set and are impossible to be changed.

The meanings of the above items are as follows;

- Max. FEC error rate :The limit value of error rate to continue to receive CFEC/SFEC. When the error rate is beyond the value due to the noisy radio circuit condition or any other signals, the MODEM stops the receiving and return to stand-by.
- Max. automatic call series : The limit value of retrying the CALL mode sequence. The interval to retry is 15 minutes respectively.

- Collective FEC receiving : ON - CFEC receiving is permitted.
 OFF - CFEC receiving is prohibited.

- Internal alarm : ON - Internal alarm works.
 OFF - Internal alarm does not work.

- Time duration for AUTO : Time duration setting for AUTO mode

- Restart : ON - The MODEM tries to reconnect when the circuit
 established once is lost for 32 times of
 successive REPEAT condition
 OFF - The MODEM returns to stand-by when the
 circuit established once is lost for 32 times of
 successive REPEAT condition

- Finite start/restart : ON - The MODEM returns to stand-by when the
 times of calling a partner station are reached to
 128 in ARQ mode.
 OFF - The MODEM continues to call a partner station
 even if the times of calling are reached to 128
 in ARQ mode.

- Transmitter pre-key time : Adjustment of timing from KEY ON to signal output for the
 transmitter electrical specification. It is also available to
 arrange the Send/Receive timing between long-ranged
 partner station.

3.6.2 ARQ Communication

ARQ mode is two way telex communication with a partner as a destination station. When beginning to call a partner using ARQ mode, it is necessary to select a partner (ID) and a communication channel. The operation from the beginning until the end of the communication with a partner are described in this section.

ATTENTION

- Before transmitting, confirm that the selected channel / frequency is not occupied by other station(s).

Procedure

1. Select **Connect** → **ARQ** and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)
File Tune **Connect** Service System Help

[STATUS INFO]

Scanning [No scanning] ARQ CALL
Last sta. [FEC] TUNER/Tx.POWER
TUNER : [READY]
Tx.POWER: [FULL]

Move the cursor to the item you want with ↑,↓,←,→ then press Enter
Connect by ARQ...

2. Select a partner station from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)
File Tune **Connect** Service System Help

[STATUS INFO]

ST-BY [Select]

Scanning info [ARQ]→ Station selection... TUNER/Tx.POWER

No.	Station Name	Stat.ID	Location	F.Sign
1	JRCMITAKA	123456789	N12.34E123.46	DOTDOT
2	JRCSAITAMA	223456789	N44.00E134.00	K/OOV/
3				
4				
5				
6				
7				
8				
9				
10				

[Select]
[Manual]
[Cancel]

Tab Next field | Shift Tab Previous field | Esc Cancel
List Box | Move cursor to the preferred item and press Enter

Note

If [Manual] button is selected using Tab and Enter keys, the partner ID and Frequency/Channel can be set manually.

3. Select Tx/Rx frequency from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)
Loc:N21.00 W156.30 at 19:20(UTC)
File Mode Tune **Connect** Service System Help

[STATUS INFO]

ST-BY

Frequencies list for Group No.1

St.: [JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

Tx.F.	Rx.F.	CH.	Tx.F.	Rx.F.	CH.
22112.2	22112.2	001	-	-	011
-	-	002	-	-	012
-	-	003	-	-	013 [Set]
-	-	004	-	-	014
-	-	005	-	-	015 [Print]
-	-	006	-	-	016
-	-	007	-	-	017 [Cancel]
-	-	008	-	-	018
-	-	009	-	-	019
-	-	010	-	-	020

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel
List Box | Move cursor to the preferred item and press Enter

4. After the following window opened, check the channel condition and if not occupied, press Enter key.

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)
Loc:N21.00 W156.30 at 19:20(UTC)
File Tune **Connect** Service System Help

[STATUS INFO]

ST-BY

Frequencies list for Group No.1

Station: [JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

Tx.F.	Rx	CH.	Tx.F.	Rx	CH.
22112.2	22112.2	001	-	-	011
-	-	002	-	-	012
-	-	003	-	-	013 [Set]
-	-	004	-	-	014
-	-	005	-	-	015 [Print]
-	-	006	-	-	016
-	-	007	-	-	017 [Cancel]
-	-	008	-	-	018
-	-	009	-	-	019
-	-	010	-	-	020

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel
Command Button | Press Space to carry out the related action

Note

If the channel is occupied by the other stations, select [NO] and return to step 3 to select another channel.

5. The channel is tuned automatically and the NCT-196N begins to call a partner station.

The following screen is displayed while calling.

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)
Loc:N21.00 W156.30 at 19:20(UTC)

ARO mode...

[STATUS INFO]

ARO [Calling] [Phasing] [Repeat]

Scanning info Tuner/Tx. POWER
[No scanning] TUNER : [READY]
Tx. POWER: [FULL]

Last status messages
ARO: 17/07/1997, 12:00.
Station: [JRCMITAKA] ID: [123456789] Loc: [N12.34W123.46]

*Waiting for transmitter ready
*Received TX-READY signal

F10 Stop

6. When the connection is established, the following screen appears and the DTE is ready to communicate with a partner station.

Send message to the partner station using the keyboard.

```

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)

ARQ mode...

[TELEX Terminal Window]
[ARQ] [Calling] [Send]

ARQ connected...

F2 WRU|F3 Hereis|F4 TMS|F5 Over|F6 POLL|F8 F.Send|F10 Stop
  
```

In case of sending the previously created message file, press **F8** (F.Send) and select the file to be sent on the following window.

```

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)

[TELEX Terminal Window]
[ARQ] [Calling] [Send]

ARQ connected..

File name : [C:\TEXT]

File name      Date      Time      Size
-----
JRC1.tlx      16-01-97    11:35      5

Sort by:
( ) Name
( ) Time
( ) Size
( ) Ext

[ F3:View ]
[ F8:Re-read ]
[ OK ]
[ Cancel ]

Drive: [C:] ↓ Total:1014KB, free:1004KB

Tab Next field | Shift Tab Previous field | Esc Cancel
Text Box | Type information. Keys BackSpace and Delete can be used
  
```

7. To terminate communication, press **F10 .**

The following display appears and the DTE returns to the stand-by.

```

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)

File Tune Connect TLX [ STATUS INFO ]

[ST-BY]

Scanning info: [No scanning] Tuner/Tx.POWER:
TUNER : [READY]
Tx.POWER: [FULL]

Last status messages:
ARO: 17/07/1997, 12:00.
Station: [JRCMITAKA] ID: {123456789} Loc: [N12.34W123.46]

*Waiting for transmitter ready

*Received TX-READY signal
Saved communication logfile: '125_2001.TLX'

Move the cursor to the item you want with ↑,↓,←,→ then press Enter
Message editor | File manager
  
```

Note

The meanings of cells showed in [STATUS INFO] are as follows;

(no use)	(*1)	(*2)	(*3)	(*4)	(*5)	(*6)
----------	------	------	------	------	------	------

- ```
*1 : Communication mode (stand-by, ARQ, CFEC, SFEC)
*2 : The position related with a partner station (Calling - master, Called - slave)
*3 : The right to send message (Send - enable to send message, Receive - wait)
*4 : MODEM condition on connecting with a partner station (Phasing, Rephasing)
*5 : Communication data error condition (Repeat - resending data)
*6 : Communication condition (TRAF - sending data completed, RQ - repeating)
```

The function key **F 2** ~ **F10** assignments are as follows;

- |     |   |           |                                                                                                                     |
|-----|---|-----------|---------------------------------------------------------------------------------------------------------------------|
| F2  | : | WRU -     | Request to send Answerback code of a partner station                                                                |
| F3  | : | Here is - | Sending Answerback code of own station                                                                              |
| F4  | : | TMS -     | Sending the time of own position                                                                                    |
| F5  | : | Over -    | Exchanging the right to send message                                                                                |
| F6  | : | POLL -    | Getting the right to send messages without terminating the communication even if a partner station try to terminate |
| F8  | : | F.Send -  | Sending the previously created file                                                                                 |
| F10 | : | Stop -    | Terminating communication                                                                                           |

### 3.5.3 Communication using CALL mode

The CALL mode can be performed when a coast station is automated against the CALL mode sequence. After calling the coast station from own station and the circuit is established, the messages, which formatted and previously prepared in accordance with an order of the coast station's request, are automatically sent to the coast station and distributed to the intended destination.

## ATTENTION

- Before transmitting, confirm that the selected channel / frequency is not occupied by other station(s).

## Procedure

1. Select **Connect** → **CALL** and press Enter key.

|                                                 |                           |                                      |  |
|-------------------------------------------------|---------------------------|--------------------------------------|--|
| [TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) |                           | 10-APR-2002 12:00(LT)                |  |
| File Tune <b>Connect</b>                        |                           | Loc: N19.00 E115.30 at 11:00(UTC)    |  |
|                                                 |                           | Service System Help                  |  |
| [ STATUS INFO ]                                 |                           |                                      |  |
| Scanning<br>[No scan]                           | ARQ<br>CALL<br>AUTO TELEX | Tuner/Tx. POWER                      |  |
| Last st:                                        | FEC >                     | TUNER : [READY]<br>Tx. POWER: [FULL] |  |

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

2. Select a command from the following window and press Enter key.

|                                                 |  |                                   |  |
|-------------------------------------------------|--|-----------------------------------|--|
| [TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) |  | 10-APR-2002 12:00(LT)             |  |
| File Tune <b>Connect</b>                        |  | Loc: N19.00 E115.30 at 11:00(UTC) |  |
|                                                 |  | Service System Help               |  |
| [ TELEX Terminal Window ]                       |  |                                   |  |
| ST-BY                                           |  |                                   |  |
| Command input                                   |  |                                   |  |
| List of Commands                                |  | [ Ok ]                            |  |
| DIRTLX                                          |  | [ Manual ]                        |  |
| FAX                                             |  | [ Cancel ]                        |  |
| MULTI                                           |  |                                   |  |
| TLX                                             |  |                                   |  |
| AMV+                                            |  |                                   |  |
| BRK+                                            |  |                                   |  |
| FREQ+                                           |  |                                   |  |
| HELP+                                           |  |                                   |  |
| HLP+                                            |  |                                   |  |
| INF+                                            |  |                                   |  |

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

**3. Select a destination from the following opened window and press Enter key.**

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
 Loc:N21.00 W156.30 at 19:20(UTC)  
 File Tune **Connect** Service System Help

[ TELEX Terminal Window ]

TLX Destination List Selection

| No | TLX numbers | Party Name |            |
|----|-------------|------------|------------|
| 01 | 123456789   | JRCMI TAKA | [ Edit ]   |
| 02 |             |            | [ Select ] |
| 03 |             |            | [ Erase ]  |
| 04 |             |            | [ Cancel ] |
| 05 |             |            |            |
| 06 |             |            |            |
| 07 |             |            |            |
| 08 |             |            |            |
| 09 |             |            |            |
| 10 |             |            |            |
| 11 |             |            |            |
| 12 |             |            |            |
| 13 |             |            |            |
| 14 |             |            |            |
| 15 |             |            |            |

Tab Next field | Shift Tab Previous field | Esc Cancel  
 List Box | Move cursor to the preferred item and press Enter

**Note**

- This screen is appeared when command of "DIRTLX" or "TLX" are selected.
- The list of FAX numbers/Party names is appears when selecting the command of "FAX".
- No destination list appears when the other commands are selected.

**4. Input message in the following opened window. After completed, select [ End/Start ] and press Enter key.**

Be sure to close the message by [ 5:/KKKK/ ] or [ 6:/NNNN/ ] at the end.

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)  
 Loc: N19.00 E115.30 at 11:00(UTC)  
 File Tune **Connect** Service System Help

[ ST-BY ] [ TELEX Terminal Window ]

Sequence input

Command+ = DIRTLX123456789+

Sequence list...

END

|               |              |
|---------------|--------------|
| [ 1: WRU ]    | [ 5:/KKKK/ ] |
| [ 2:Hereis ]  | [ 6:/NNNN/ ] |
| [ 3: TMS ]    | [ 7:/*** / ] |
| [ 4:F. Send ] | [ 8: Over ]  |

[ Del: Delete ]  
 [ End/Start ]  
 [ Editor ]  
 [ Cancel ]

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

5. Select a coast station from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
 Loc:N21.00 W156.30 at 19:20 (UTC)  
 File Tune **Connect** Service System Help

[ STATUS INFO ]

ST-BY

Scanning info [ARO]-> Station selection... Tuner/Tx.POWER

| No. | Station Name | Stat.ID   | Location      | F.Sign |            |
|-----|--------------|-----------|---------------|--------|------------|
| 1   | JRCMITAKA    | 123456789 | N12.34E123.46 | DOTDOT | [ Select ] |
| 2   | JRCSAITAMA   | 223456789 | N44.00E134.00 | K/00V/ | [ Manual ] |
| 3   |              |           |               |        | [ Cancel ] |
| 4   |              |           |               |        |            |
| 5   |              |           |               |        |            |
| 6   |              |           |               |        |            |
| 7   |              |           |               |        |            |
| 8   |              |           |               |        |            |
| 9   |              |           |               |        |            |
| 10  |              |           |               |        |            |

Tab Next field | Shift Tab Previous field | Esc Cancel  
 List Box | Move cursor to the preferred item and press Enter

**Note**

If [ Manual ] button is selected using Tab and Enter keys, the partner ID and Frequency/Channel can be set manually.

6. Select Tx/Rx frequency from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
 Loc:N21.00 W156.30 at 19:20 (UTC)  
 File Mode Tune **Connect** Service System Help

[ STATUS INFO ]

ST-BY

S Frequencies list for Group No.1

St.: [JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

| Tx.F.   | Rx.F.   | CH. | Tx.F. | Rx.F. | CH. |            |
|---------|---------|-----|-------|-------|-----|------------|
| 22112.2 | 22112.2 | 001 | -     | -     | 011 |            |
| -       | -       | 002 | -     | -     | 012 |            |
| -       | -       | 003 | -     | -     | 013 | [ Set ]    |
| -       | -       | 004 | -     | -     | 014 |            |
| -       | -       | 005 | -     | -     | 015 | [ Print ]  |
| -       | -       | 006 | -     | -     | 016 |            |
| -       | -       | 007 | -     | -     | 017 | [ Cancel ] |
| -       | -       | 008 | -     | -     | 018 |            |
| -       | -       | 009 | -     | -     | 019 |            |
| -       | -       | 010 | -     | -     | 020 |            |

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel  
 List Box | Move cursor to the preferred item and press Enter

7. After the following window opened, check the channel condition and if not occupied, press Enter key.

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
 Loc:N21.00 W156.30 at 19:20 (UTC)  
 File Tune **Connect** Service System Help

[ STATUS INFO ]

ST-BY

S Frequencies list for Group No.1

Station:[JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

| Tx.F.   | Rx      | Confirmation               |   |
|---------|---------|----------------------------|---|
| 22112.2 | 22112.2 | Is the frequency free now? | 1 |
| -       | -       |                            | 2 |
| -       | -       |                            | 3 |
| -       | -       |                            | 4 |
| -       | -       |                            | 5 |
| -       | -       |                            | 6 |
| -       | -       |                            | 7 |

[ Set ]

[ Print ]

[ Cancel ]

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel  
 Command Button | Press Space to carry out the related action

**Note**

If the channel is occupied by the other stations, select [ NO ] and return to step 6 to select another channel.

**8. The channel is tuned automatically and the CALL mode is started.**

### 3.6.4 Communication using AUTO TELEX mode

The AUTO mode can be performed when receiving a free signal from coast station. After receiving the free signal and the circuit is established, the messages are automatically sent to the coast station and distributed to the intended destination.

## ATTENTION

- Before transmitting, confirm that the selected channel / frequency is not occupied by other station(s).

## Procedure

1. Select **Connect** → **AUTO TELEX** and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
Loc:N21.00 W156.30 at 19:20(UTC)  
File Tune **Connect** Service System Help

[ STATUS INFO ]

Scanning info: [No scanning] Last sta: [FEC] →

CALL: ARO  
Tuner/Tx. POWER: TUNER : [READY]  
Tx. POWER: [FULL]

Move the cursor to the item you want with f.l., ←, → then press Enter  
Connect by ARO...

2. Select a coast station from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
Loc:N21.00 W156.30 at 19:20(UTC)  
File Tune **Connect** Service System Help

[ STATUS INFO ]

Scanning info: [ST-BY] [Tuner/Tx. POWER]

[ AUTOTELEX ] → Station selection...

| No. | Station Name | Stat. ID  | Location      | F. Sign |            |
|-----|--------------|-----------|---------------|---------|------------|
| 1   | JRCMITAKA    | 123456789 | N12.34E123.46 | DOTDOT  | [ Select ] |
| 2   | JRCSAITAMA   | 223456789 | N44.00E134.00 | K/OQV/  | [ Cancel ] |
| 3   |              |           |               |         |            |
| 4   |              |           |               |         |            |
| 5   |              |           |               |         |            |
| 6   |              |           |               |         |            |
| 7   |              |           |               |         |            |
| 8   |              |           |               |         |            |
| 9   |              |           |               |         |            |
| 10  |              |           |               |         |            |

Tab Next field | Shift Tab Previous field | Esc Cancel  
List Box | Move cursor to the preferred item and press Enter

3. Select a command from the following window and press Enter key.

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)  
 Loc: N19.00 E115.30 at 11:00(UTC)  
 File Tune **Connect** [ TELEX Terminal Window ] Service System Help

ST-BY

Command input

| List of Commands |            |
|------------------|------------|
| DIRTLX           | [ Ok ]     |
| FAX              | [ Manual ] |
| MULTI            | [ Cancel ] |
| TLX              |            |
| AMV+             |            |
| BRK+             |            |
| FREQ+            |            |
| HELP+            |            |
| HLP+             |            |
| INF+             |            |

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

4. Select a destination from the following opened window and press Enter key.

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
 Loc: N21.00 W156.30 at 19:20(UTC)  
 File Tune **Connect** [ TELEX Terminal Window ] Service System Help

TLX Destination List Selection

| No | TLX numbers | Party Name |            |
|----|-------------|------------|------------|
| 01 | 123456789   | JRCWITAKA  | [ Edit ]   |
| 02 |             |            | [ Select ] |
| 03 |             |            | [ Erase ]  |
| 04 |             |            | [ Cancel ] |
| 05 |             |            |            |
| 06 |             |            |            |
| 07 |             |            |            |
| 08 |             |            |            |
| 09 |             |            |            |
| 10 |             |            |            |
| 11 |             |            |            |
| 12 |             |            |            |
| 13 |             |            |            |
| 14 |             |            |            |
| 15 |             |            |            |

Tab Next field | Shift Tab Previous field | Esc Cancel  
 List Box | Move cursor to the preferred item and press Enter

### Note

- This screen is appeared when command of "DIRTLX" or "TLX" are selected.
- The list of FAX numbers/Party names is appears when selecting the command of "FAX".
- No destination list appears when the other commands are selected.

5. Input message in the following opened window.

Be sure to close the message by [ 5:/KKKK/ ] or [ 6:/NNNN/ ] at the end.

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)  
 Loc: N19.00 E115.30 at 11:00(UTC)  
 File Tune **Connect** [ TELEX Terminal Window ] Service System Help

ST-BY

Sequence input

Command+ = DIRTLX123456789+

Sequence list...

|     |                 |              |
|-----|-----------------|--------------|
| END | [ 1: WRU ]      | [ 5:/KKKK/ ] |
|     | [ 2: Hereis ]   | [ 6:/NNNN/ ] |
|     | [ 3: TMS ]      | [ 7:/****/ ] |
|     | [ 4: F.Send ]   | [ 8: Over ]  |
|     | [ Del: Delete ] |              |
|     | [ End/Start ]   |              |
|     | [ Editor ]      |              |
|     | [ Cancel ]      |              |

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter



**6. After completed to input message, select [ End/Start ] and press Enter key.**

The following screen appeared and the MODEM starts scanning for free signal from the coast station.

```
[TLX] Tx= - kHz / Rx= - kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)
Loc:N21.00 W156.30 at 19:20 (UTC)

Call AUTOTELEX coast station...

[ST-BY] [TELEX Terminal Window]

Free Signal Pattern: DOTDOT Time(s) of try: 023 456 789 ABC DEF
[AUTO]
Station ID: [123456789] (JRCMITAKA)
Command+ = DIRTLX123456789+
Sequence = [WRU] [/KKKK/] END

*Awaiting Free Channel Signal

F10 Stop
```

**7. When receiving the free signal, the MODEM begin to connect the radio circuit. And after the circuit is established, the AUTOTELEX communication starts.**

**Note**

The AUTO form is constructed as follows;

**AUTO <abbreviated letter> <command+>**  
**Sequence : <command procedure> END**

For example, when using AUTO mode for sending own Answerback code, Date & Time and "REPORT.TXT" file to a Hong Kong station assigned ID:12345 (Country code:802) via a coast station assigned ID:11111 by TLX mode based Store-and-Forward, the structure is as follows;

AUTO 11111 TLX80212345+  
Sequence : DE TMS REPORT.TXT /KKKK/ END

Furthermore, the representative commands are showed as below.

- TLXxy+ : Request to send the message in TLX mode to the designated destination.  
( x: country code, y: TLX ID of destination )
- DIRxy+ : Request for connecting directly to destined station.
- FREQ+ : Request for the frequencies scanning in coast station
- HLP+ : Request for the command list for the station.
- MED+ : Request for medical message urgently.
- MRK+ : Request for TONE sending to adjust tuning of own station.
- MSG+ : Request for messages destined for own station if exist.
- OPR+ : Request for connection to an operator in coast station.
- NAV+ : Request for navigation report.
- RTL+ : Information meant that the next message is TLX letter.
- TGM+ : Information meant that the next message is a radio telegram.

- URG+ : Request for immediate connection to an operator in coast station. (Urgent only)
- WX+ : Request for weather report.
- MAN+ : Information from coast station meant that the country code for the next message does not exist.
- BRK+ : Control code to terminate the radio circuit to a coast station.
- TST+ : Request for sending the QBF (Quick Brown Fox) message to check the radio equipment of own station.

### 3.6.5 FEC Communication

There are two types of FEC modes such as SFEC (Selective FEC) in which a destination is specified and CFEC (Collective FEC) in which the destination is not specified. The ways to communicate using FEC modes are described below. Note that the FEC receiving is automatic so the operation method is left out in this section, and furthermore CFEC receiving can be disabled using NBDP setup. (See "6.1 NBDP settings.")

#### 3.6.5.1 SFEC Communication

## ATTENTION

- Before transmitting, confirm that the selected channel / frequency is not occupied by other station(s).

### Procedure

1. Select **Connect** → **FEC** → **SFEC** and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
Loc:N21.00 W156.30 at 19:20 (UTC)  
File Tune **Connect** [ STATUS INFO ] Service System Help

Scanning [No scanning] ARQ CALL TUNER/Tx.POWER  
[Last station] AUTO TELEX TUNER : [READY]  
FEC Tx.POWER: [FULL]

Move the cursor to the item you want with ↑, ↓, ←, → then press Enter  
Connect by ARQ...

2. Select a partner station from the following window and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
Loc:N21.00 W156.30 at 19:20 (UTC)  
File Tune **Connect** [ STATUS INFO ] Service System Help

ST-BY [ STATUS INFO ] TUNER/Tx.POWER

[ SFEC ] → Station selection...

| No. | Station Name | Stat.ID   | Location      | F.Sign |            |
|-----|--------------|-----------|---------------|--------|------------|
| 1   | JRCMITAKA    | 123456789 | N12.34E123.46 | DOTDOT | [ Select ] |
| 2   | JRCSAITAMA   | 223456789 | N44.00E134.00 | K/OQV/ | [ Manual ] |
| 3   |              |           |               |        | [ Cancel ] |
| 4   |              |           |               |        |            |
| 5   |              |           |               |        |            |
| 6   |              |           |               |        |            |
| 7   |              |           |               |        |            |
| 8   |              |           |               |        |            |
| 9   |              |           |               |        |            |
| 10  |              |           |               |        |            |

Tab Next field | Shift Tab Previous field | Esc Cancel  
List Box | Move cursor to the preferred item and press Enter

### Note

If [ Manual ] button is selected using Tab and Enter keys, the partner ID and Frequency/Channel can be set manually.

**3. Select Tx/Rx frequency from the following window and press Enter key.**

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
 Loc:N21.00 W156.30 at 19:20 (UTC)  
 File Mode Tune **Connect** [ STATUS INFO ] Service System Help

ST-BY

Frequencies list for Group No.1

St.: [JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

| Tx.F.   | Rx.F.   | CH. | Tx.F. | Rx.F. | CH.            |
|---------|---------|-----|-------|-------|----------------|
| 22112.2 | 22112.2 | 001 | -     | -     | 011            |
| -       | -       | 002 | -     | -     | 012            |
| -       | -       | 003 | -     | -     | 013 [ Set ]    |
| -       | -       | 004 | -     | -     | 014            |
| -       | -       | 005 | -     | -     | 015 [ Print ]  |
| -       | -       | 006 | -     | -     | 016            |
| -       | -       | 007 | -     | -     | 017 [ Cancel ] |
| -       | -       | 008 | -     | -     | 018            |
| -       | -       | 009 | -     | -     | 019            |
| -       | -       | 010 | -     | -     | 020            |

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel  
 List Box | Move cursor to the preferred item and press Enter

**4. After the following window opened, check the channel condition and if not occupied, press Enter key.**

[TLX] Tx=22112.2 kHz / Rx=22112.2 kHz (ITU CH= 0) 17-JUL-1997 12:00 (LT)  
 Loc:N21.00 W156.30 at 19:20 (UTC)  
 File Tune **Connect** [ STATUS INFO ] Service System Help

ST-BY

Frequencies list for Group No.1

Station: [JRCMITAKA] ID:[123456789] Loc:[N12.34E123.46]

| Tx.F.   | Rx      | Confirmation                 |
|---------|---------|------------------------------|
| 22112.2 | 22112.2 | 1 Is the frequency free now? |
| -       | -       | 2                            |
| -       | -       | 3 [ Set ]                    |
| -       | -       | 4                            |
| -       | -       | 5 [ Print ]                  |
| -       | -       | 6 [ Cancel ]                 |
| -       | -       | 7                            |
| -       | -       | 008                          |
| -       | -       | 009                          |
| -       | -       | 010                          |
| -       | -       | 018                          |
| -       | -       | 019                          |
| -       | -       | 020                          |

MUF: 24MHz, Range: 5291 Miles, Bearing: 279 deg, Sunspot: 100

Tab Next field | Shift Tab Previous field | Esc Cancel  
 Command Button | Press Space to carry out the related action

**Note**

If the channel is occupied by the other stations, select [ NO ] and return to step 3 to select another channel.

**5. The channel is tuned automatically and the NCT-196N begins to call a partner station.**

- The communication is started after displayed "Message start..." on screen.
- To terminate communication, press **F10**.

## ATTENTION

- Before transmitting, confirm that the selected channel / frequency is not occupied by other station(s).

### Procedure

1. Select **Connect** → **FEC** → **CFEC** and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
 Loc:N21.00 W156.30 at 19:20(UTC)  
 File Tune **Connect** Service System Help

[ STATUS INFO ]

Scanning [No scanning] ARO CALL AUTO TELEX  
 Last sta FEC

Tuner/Tx. POWER  
 TUNER : [READY]  
 Tx. POWER: [FULL]

Move the cursor to the item you want with ↑,↓,←,→ then press Enter  
 Connect by ARO...

2. Input Tx/Rx frequency on the following window. Then select [ Set ] using Tab key and press Enter key.

[TLX] Tx=12345.6 kHz / Rx=12345.6 kHz (ITU CH= 0) 17-JUL-1997 12:00(LT)  
 Loc:N21.00 W156.30 at 19:20(UTC)  
 File Tune **Connect** Service System Help

[ STATUS INFO ]

Scanning info [No scanning] ST ARO CALL AUTO  
 Last status m

Tuner/Tx. POWER  
 TUNER : [READY]  
 FULL

TX/RX frequency

Tx frequency. kHz: [ 0.0]  
 Rx frequency. kHz: [ 0.0]  
 [ ITU CHANNEL ] [ Set ] [ Cancel ]

Tab Next field | Shift Tab Previous field | Esc Cancel  
 Text Box | Type information. Keys BackSpace and Delete can be used

### Note

If input using ITU channel, select [ ITU CHANNEL ] button using Tab and Enter keys.

3. After the following window opened, check the channel condition and if not occupied, press Enter key.

|                                                                                                                        |      |                                   |  |
|------------------------------------------------------------------------------------------------------------------------|------|-----------------------------------|--|
| [TLX] Tx= 4100.0 kHz / Rx= 4105.0 kHz (ITU CH= 0)                                                                      |      | 17-JUL-1997 12:00 (LT)            |  |
|                                                                                                                        |      | Loc:N21.00 W156.30 at 19:20 (UTC) |  |
| File                                                                                                                   | Tune | Connect                           |  |
|                                                                                                                        |      | Service System Help               |  |
| [ STATUS INFO ]                                                                                                        |      |                                   |  |
| ST                                                                                                                     | ARO  | Tuner/Tx.POWER                    |  |
| Scanning info                                                                                                          | CALL | TUNER :[READY]                    |  |
| [No scanning]                                                                                                          | AUTO | Tx.POWER:[FULL]                   |  |
| Last status m                                                                                                          | FEC  | Confirmation                      |  |
| Is the frequency free now?                                                                                             |      |                                   |  |
| <input checked="" type="button" value="YES"/> [ NO ]                                                                   |      |                                   |  |
| Tab Next field   Shift Tab Previous field   Esc Cancel<br>Command Button   Press Space to carry out the related action |      |                                   |  |

**Note**

If the frequency is occupied by the other stations, select [ NO ] and return to step 2 to select another frequency.

4. The frequency is tuned automatically and the NCT-196N begins to call all ships.

- The communication is started after displayed "Message start..." on screen.
- To terminate communication, press **F10** .

### 3.6.6 Scanning for TLX mode

The NBDP function of the NCT-196N can be set to scan a specified group channels so that the NCT-196N respond to the station automatically if there is a station calling own station by ARQ or transmitting by FEC. The way to start/stop the scanning is described in this section.

#### 3.6.6.1 Scanning start

##### Procedure

1. Select **Tune** → **Scanning start** and press Enter key.

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)  
Loc: N19.00 E115.30 at 11:00(UTC)  
File **Tune** Connect Service System Help

Frequency List

Scanning [No scan] ITU Channel set Tuner/Tx.POWER  
Tx/Rx frequency set TUNER : [READY]  
Tx. Tune Tx. POWER: [FULL]

Scanning start

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

2. Select the desired station on the following window and press Enter key.  
Scanning is started in order by the channel number.

[TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) 10-APR-2002 12:00(LT)  
Loc: N19.00 E115.30 at 11:00(UTC)  
File **Tune** Connect Service System Help

[ STATUS INFO ]

ST-BY

Scanning info Tuner/Tx.POWER

Station List for [TLX] mode

| No. | Station Name | Stat.ID   | Location      | F.Sign |
|-----|--------------|-----------|---------------|--------|
| 1   | JRCMITAKA    | 123456789 | N12.34E123.46 | DOTDOT |
| 2   | JRCSAITAMA   | 223456789 | N44.00E134.00 | K/QQV/ |
| 3   |              |           |               |        |
| 4   |              |           |               |        |
| 5   |              |           |               |        |
| 6   |              |           |               |        |
| 7   |              |           |               |        |
| 8   |              |           |               |        |
| 9   |              |           |               |        |
| 10  |              |           |               |        |

[ Scan ]  
[ Cancel ]

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

##### Note

To adjust the intervals for scanning, Select **System** → **Scan speed** and set scan speed.

### Procedure

1. Select **Tune** → **Scanning stop** and press Enter key.

|                                                 |                     |                                   |  |
|-------------------------------------------------|---------------------|-----------------------------------|--|
| [TLX] Tx=12345.6kHz / Rx=12345.6kHz (ITU CH= 0) |                     | 10-APR-2002 12:00(LT)             |  |
| File <b>Tune</b> Connect                        |                     | Loc: N19.00 E115.30 at 11:00(UTC) |  |
|                                                 |                     | Service System Help               |  |
| ---TUNING INFO ]                                |                     |                                   |  |
| Scanning                                        | Frequency List      | Tuner/Tx. POWER                   |  |
| [No scan]                                       | ITU Channel set     | TUNER : [READY]                   |  |
|                                                 | Tx/Rx frequency set | Tx. POWER: [FULL]                 |  |
| Last st:                                        | Tx. Tune            |                                   |  |
|                                                 | Scanning stop       |                                   |  |

Move the cursor to the item you want with ↑, ↓, →, ← then press Enter

2. Scanning is stopped and the NCT-196N returns to stand-by condition.  
The Tx/Rx frequency is set to the frequency scanned last.




## 3.7 PA operations

The NAH-692 Power Amplifier connected to JSB-196GM can be used basically without any settings after installation. However for checking such as output power, voltages or currents or for setting such as alarm or charge mode, the NAH-692 Power Amplifier has functions as described below.

### 3.7.1 AC/DC power source voltage checking

#### Procedure

1. Press **Menu** button and turn the dial to "AC/DC VOLTAGE" menu on the LCD.



AC,DC VOLTAGE

2. Press **ENT** button.

The menu is selected and LCD shows the AC/DC voltages.



|         |       |
|---------|-------|
| AC Volt | 221V  |
| DC Volt | 24.2V |

3. After completed, press **Menu** button again to return to menu selection.

### 3.7.2 DC (Battery) charge/discharge current checking

#### Procedure

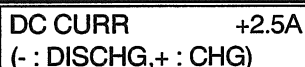
1. Press **Menu** button and turn the dial to "DC CURRENT" menu on the LCD.



DC CURRENT

2. Press **ENT** button.

The menu is selected and LCD shows the value of DC (Battery) charge/ discharge current.



|                       |       |
|-----------------------|-------|
| DC CURR               | +2.5A |
| (- : DISCHG, + : CHG) |       |

3. After completed, press **Menu** button again to return to menu selection.

### 3.7.3 RF current of Antenna and PA checking

#### Procedure

1. Press **Menu** button and turn the dial to “ANT, PA CURR” menu on the LCD.

|              |
|--------------|
| ANT, PA CURR |
|--------------|

2. Press **ENT** button.

The menu is selected and LCD shows the value of Antenna and PA current.

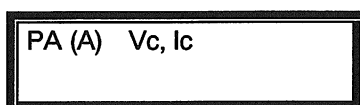
|          |       |
|----------|-------|
| ANT CURR | 0.0 A |
| PA CURR  | 0.0 A |

3. After completed, press **Menu** button again to return to menu selection.

### 3.7.4 PA voltage (Vc) and current (Ic) checking

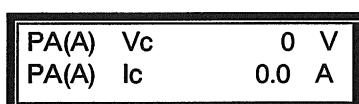
#### Procedure

1. Press **Menu** button and turn the dial to “ PA(A) Vc, Ic ” menu on the LCD.



2. Press **ENT** button.

The menu is selected and LCD shows the Vc and Ic values of PA(A) .



3. After completed, press **Menu** button again to return to menu selection.

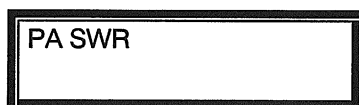
Note) When checking the Vc and Ic for PA(B) or PA(C), substitute the above “PA(A)” for “PA(B)” or “PA(C)”. Furthermore, the components of PA(A/B/C) differs by the type of NAH-692/ 695/ 698 respectively such as the following table.

|                | PA (A) | PA (B) | PA (C) |
|----------------|--------|--------|--------|
| NAH-692 (250W) | ✓      |        |        |
| NAH-695 (500W) | ✓      | ✓      |        |
| NAH-698 (800W) | ✓      | ✓      | ✓      |

### 3.7.5 SWR of PA output checking

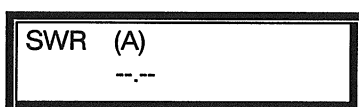
#### Procedure

1. Press **Menu** button and turn the dial to “PA SWR” menu on the LCD.



2. Press **ENT** button.

The menu is selected and LCD shows the SWR value of PA output.



3. After completed, press **Menu** button again to return to menu selection.

Note) When checking the SWR for PA(B) or PA(C), substitute the above “PA(A)” for “PA(B)” or “PA(C)”. Furthermore, the components of PA(A/B/C) differs by the type of NAH-692/ 695/ 698 respectively such as the following table.

|                | PA (A) | PA (B) | PA (C) |
|----------------|--------|--------|--------|
| NAH-692 (250W) | ✓      |        |        |
| NAH-695 (500W) | ✓      | ✓      |        |
| NAH-698 (800W) | ✓      | ✓      | ✓      |

### 3.7.6 Beeping sound ON/OFF setting

#### Procedure

1. Press **Menu** button and turn the dial to “TOUCH TONE” menu on the LCD.

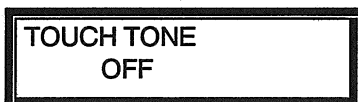


2. Press **ENT** button.

The menu is selected and LCD shows setting of TOUCH TONE.



3. Turn the dial to select ON or OFF.



4. Press **ENT** button to set it and return to menu selection.

### 3.7.7 Alarm sound ON/OFF setting

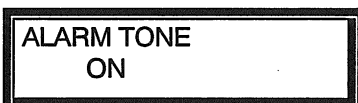
#### Procedure

1. Press **Menu** button and turn the dial to “ALARM TONE” menu on the LCD.

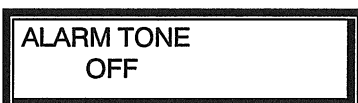


2. Press **ENT** button.

The menu is selected and LCD shows setting of ALARM TONE.



3. Turn the dial to select ON or OFF.



4. Press **ENT** button to set it and return to menu selection.

### 3.7.8 Battery charge mode (Ordinary/Equal) setting

#### Procedure

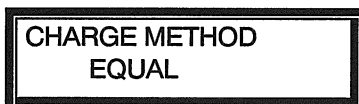
1. Press **Menu** button and turn the dial to "BATT CHARGE" menu on the LCD.



2. Press **ENT** button.  
The menu is selected and LCD shows setting of BATT CHARGE.



3. Turn the dial to select ORDINARY or EQUAL.



4. Press **ENT** button to set it and return to menu selection.

## 3.8 Printer operations

The contents of the communication files and messages can be printed out if connected the NKG-800 Printer to the NCT-196N DSC/NBDP MODEM and the NDZ-127J DTE via NCF-1960 PRN SELECTOR. This chapter describes the printer operation, paper roll loading, ribbon cassette cartridge replacement and how to set the DIP switch.



### CAUTION

#### Notes on using the printer



Be sure to turn OFF the printer's power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



Do not drop or strike the printer.  
Doing so may cause failure or malfunction.



Just after printing, the temperature of the printing head is high.  
Do not touch the printing head until the temperature goes down.  
Doing so may cause a burn or an injury.



Never try to disassemble or repair the printer yourself.  
Doing so may cause failure or malfunction.



Do not touch any part of the cutter.  
Doing so is potentially dangerous.



When attaching the ribbon, be sure it does not get twisted.  
Doing so may cause failure or malfunction.



Wait at least two seconds to restart the system after turning the power switch OFF.  
Otherwise the initialization may not proceed correctly or a malfunction may occur.



Do not attempt to print without the ribbon cassette cartridge or paper.  
Doing so may cause failure or malfunction.



When the printer is working, be sure not to allow your hands, any articles of clothing or accessories (a necktie or jewelry for instance) too close to the unit.  
Doing so may cause injury.

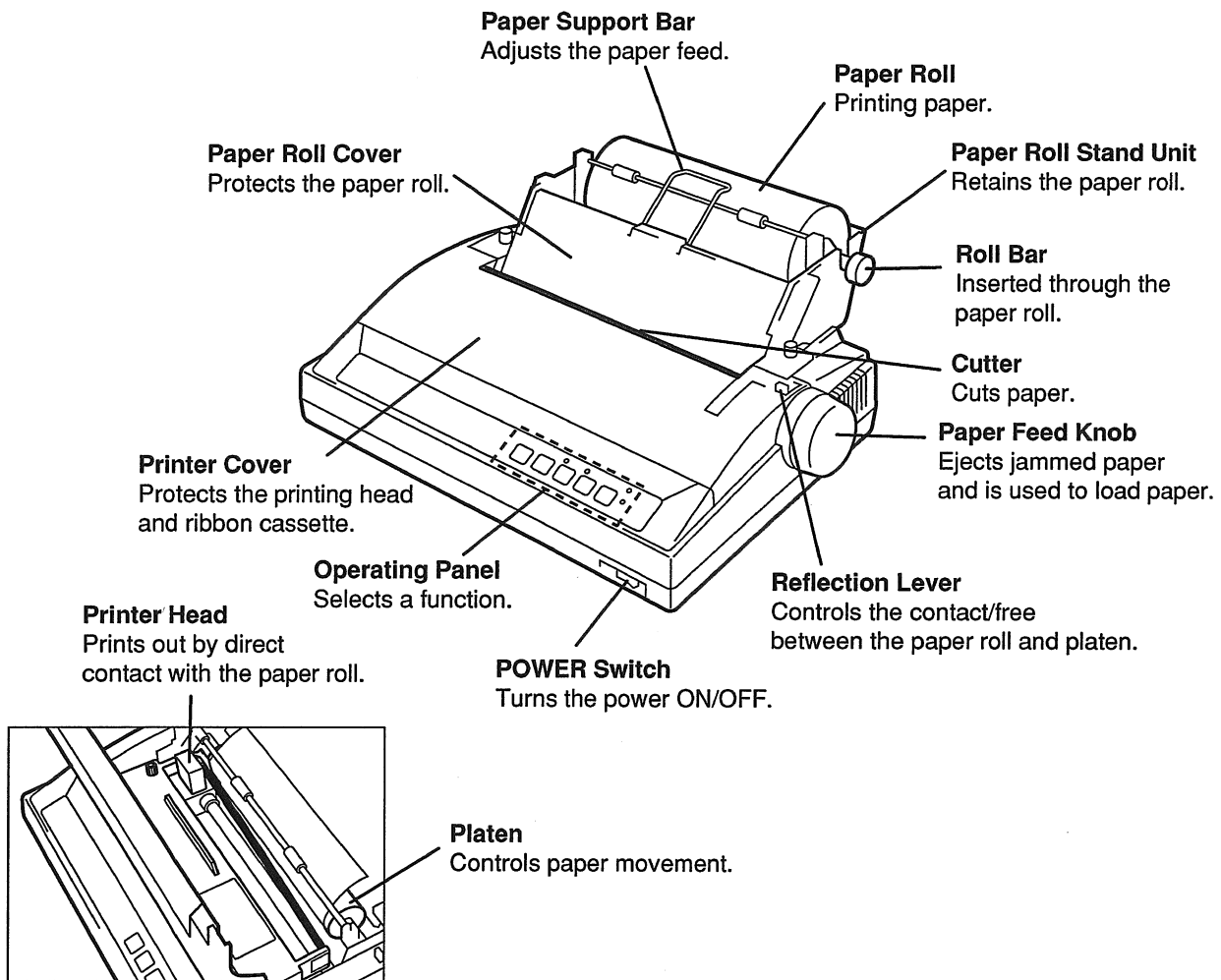


Do not place anything such as liquids or metals on top of the printer.  
They may drop into the printer, causing fire or malfunction.



Do not install the printer in the following locations.  
Doing so may cause a fire, malfunction or degradation of printing quality.

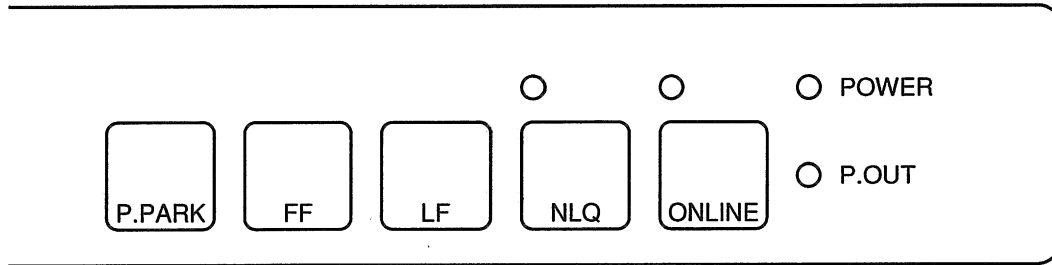
- On a surface that is not horizontal, or where the vibration is severe.
- In a location subject to direct sunlight or excessive dust.
- In a location subject to extremely high or low temperatures.
- In a location subject to excessive humidity.





### 3.8.2 Operating Panel

From the operating panel, switching on-line/off-line, selecting of high quality characters, forced line feed, and forced page feed can be controlled.



#### Paper park switch (Not operable in this system)

While the paper roll is set, this function allows single sheet paper use, such as size A4, by moving the paper roll back to the tractor position.



#### Page feed switch

Feeds paper one page at a time. The page length is set by DIP switch 6 (near end of paper sensor).



#### Line feed switch

Each time **LF** is pressed, the line feeds by 1/6 of an inch. Continuous line feed is executed by holding down the switch.



#### NLQ lamp

When selecting (NLQ) SERIF for high quality character: Lights

When selecting SANS SERIF for high quality character: Blinks

When selecting normal character (DRAFT): OFF

#### NLQ switch

Selects a character from among (NLQ) SERIF, Standard (DRAFT), and SANS SERIF. The relation of the printing mode, to the **NLQ** lamp, and number of beeps is as follows.

|                 |           |   |         |   |            |   |           |
|-----------------|-----------|---|---------|---|------------|---|-----------|
| Printing mode : | NLQ SERIF | → | DRAFT   | → | SANS SERIF | → | NLQ SERIF |
| NLQ lamp :      | Lights    |   | Off     |   | Blinks     |   | Lights    |
| Beep :          |           |   | 3 times |   | 1 time     |   | 2 times   |



#### ONLINE lamp

Lights when the printer is in an on-line state (data reception is set), and the light is off in the OFF line state. When the printing pitch and margin are set, the light blinks at 0.3 sec. intervals.

#### ONLINE switch

Switches the on-line/off-line state.

○ P.OUT

#### P.OUT lamp

Lights when there is no paper in the printer. When this happens, the printer is in an off-line state. The light goes off after loading the paper and pressing the **ONLINE** switch. When an error is detected, it blinks.

○ POWER

#### POWER lamp

Lights when the printer power is ON.

### 3.8.3 Opening / Closing the Printer Cover

When opening the printer cover, move the paper roll stand unit one step back. To open/close the printer cover, follow the procedures consecutively.



## CAUTION



Be sure to turn OFF the printer's power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



Just after printing, the temperature of the printing head is high. Do not touch the printing head until the temperature goes down. Failure to comply could result in a burn or injury.

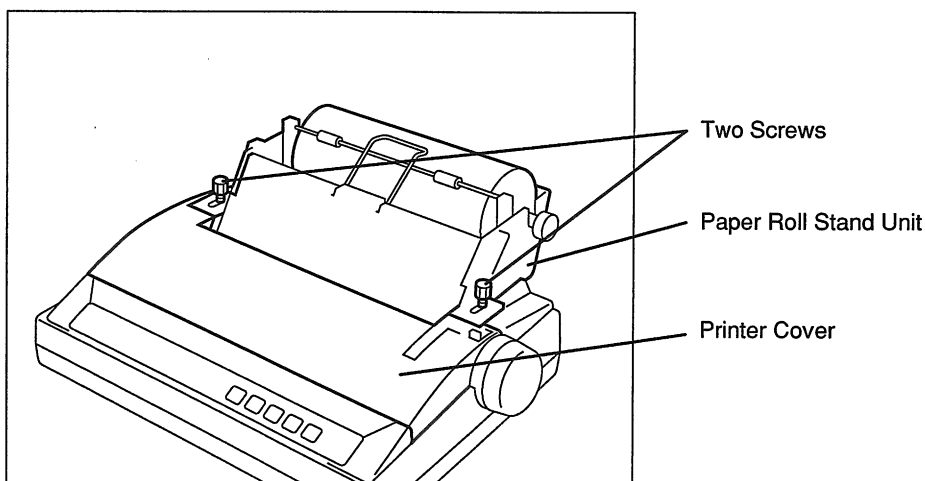


Do not touch any part of the cutter. Doing so is potentially dangerous.

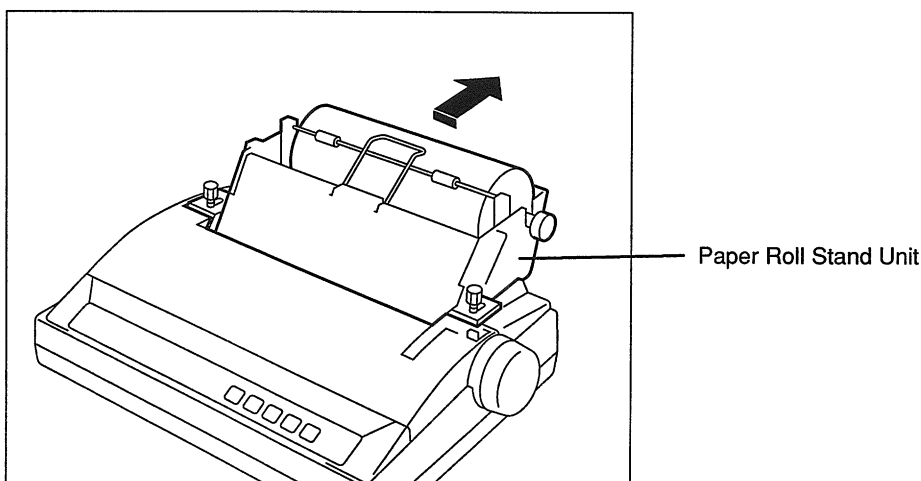
### Procedure

**1. Loosen the two screws holding the paper roll stand unit fixed.**

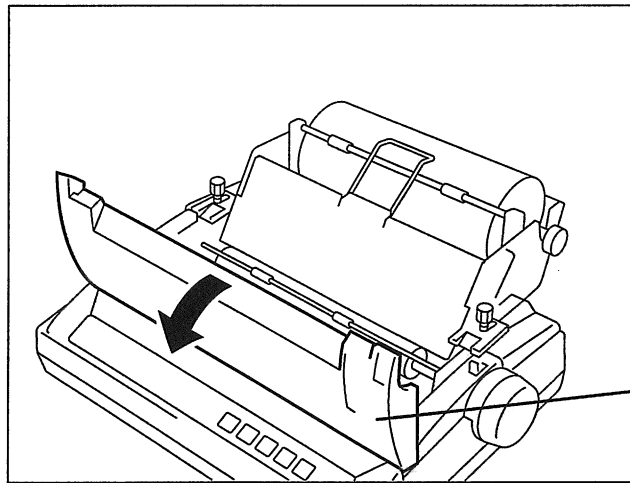
When closing the printer cover, follow the steps in reverse order.



**2. Move the paper roll stand unit one step backwards.**



**3. Open the printer cover.**



Printer Cover

### 3.8.4 Replacing the Roll Paper

When replacing the paper roll, proceed as follows.



## CAUTION



Be sure to turn OFF the printer power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



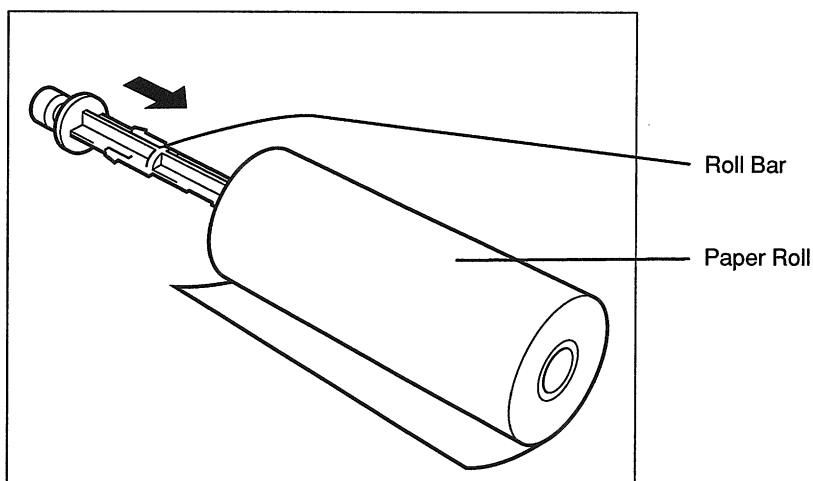
Just after printing, the temperature of the printer head is high. Do not touch the printer head until the temperature goes down. Failure to comply could result in a burn or injury.



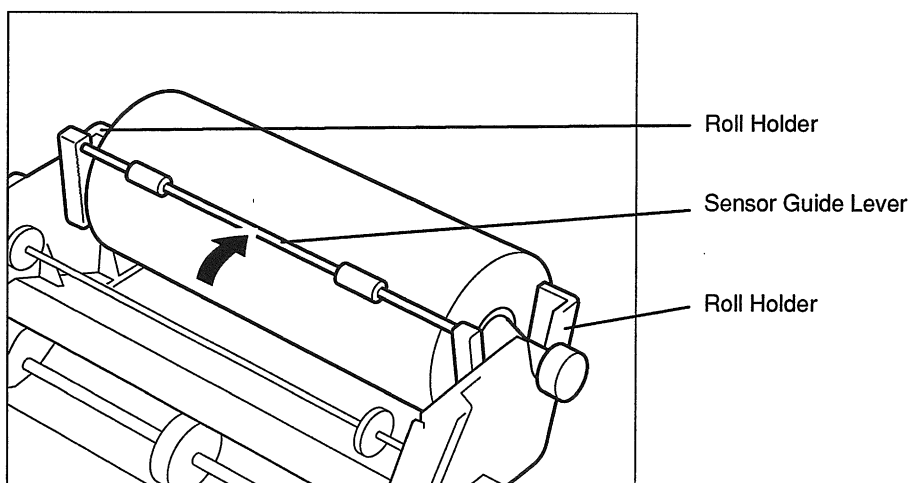
Do not touch any part of the cutter. Doing so may result in injury.

### Procedure

1. **Insert the roll bar through the center of the paper roll.**  
If the leading edge of paper is torn or bent, cut it off in a straight line.



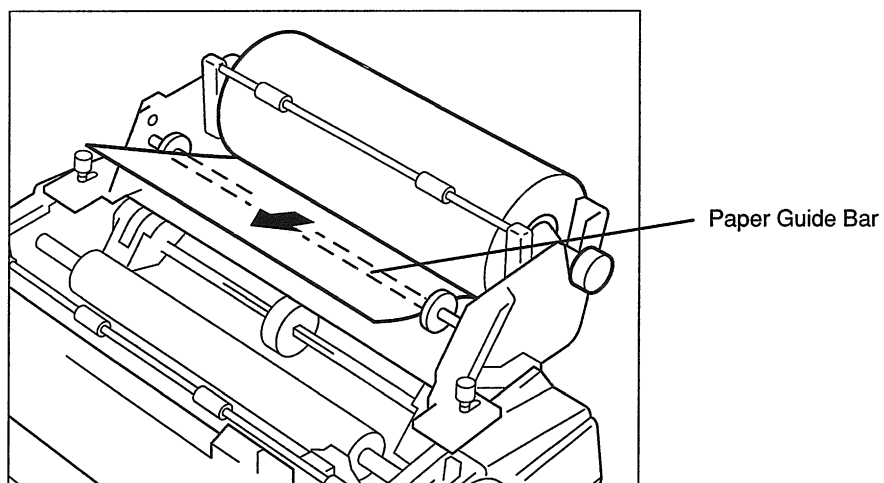
2. **Attach the roll bar with the paper roll onto the paper roll stand unit holder, taking care to notice the paper roll's direction.**  
Set the sensor guide lever so that it touches the paper roll.



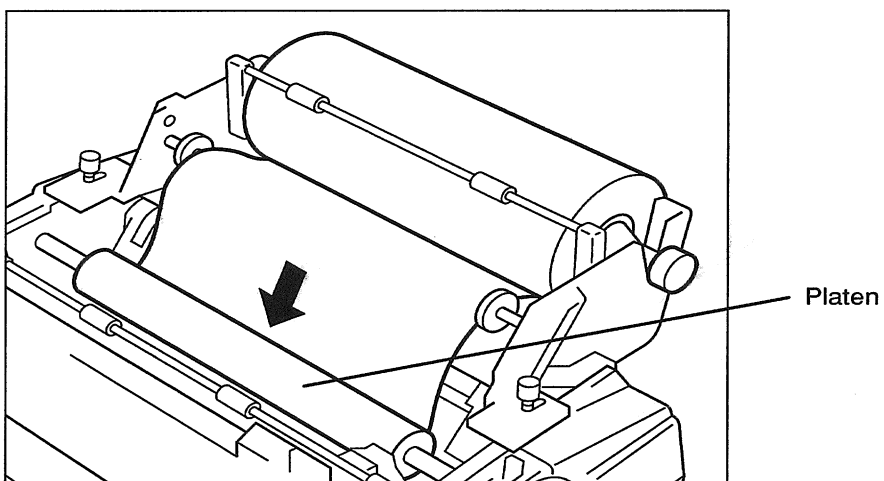
### Note

- Perform the consecutive procedures while the printer cover is open.
- To open the printer cover, refer to "9.3 Opening/Closing the Printer Cover".

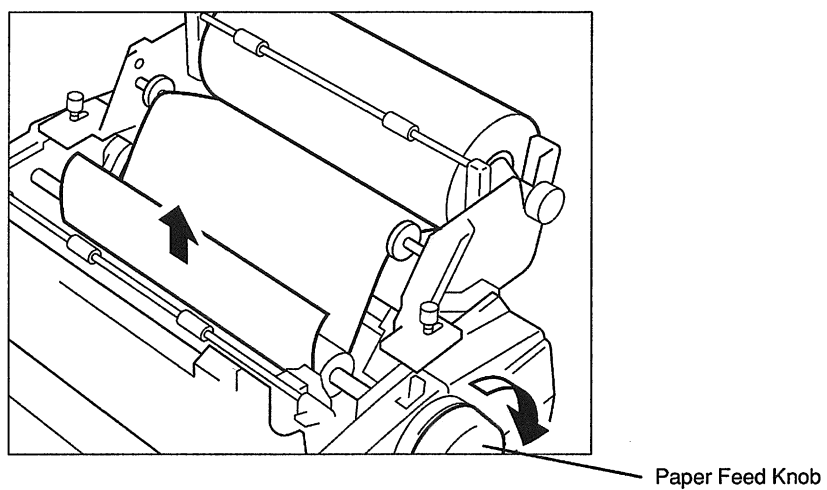
3. Pull out the leading edge of the paper onto the paper guide bar.



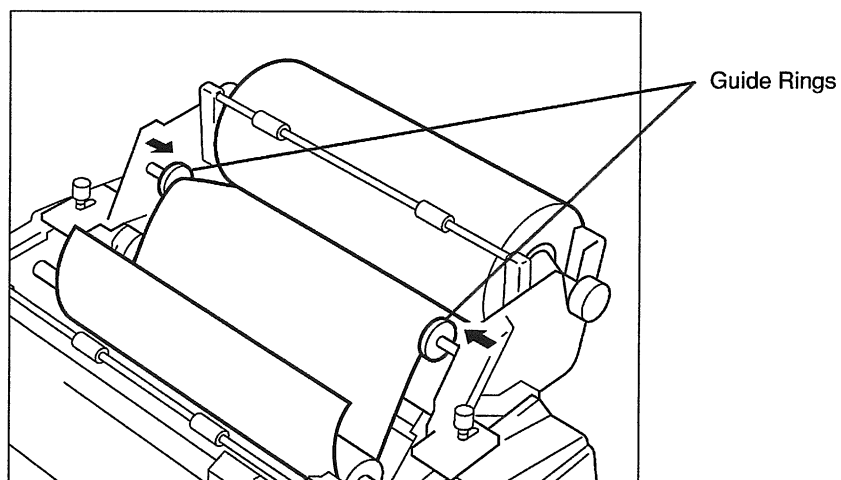
4. Insert the leading edge of the paper from behind the platen



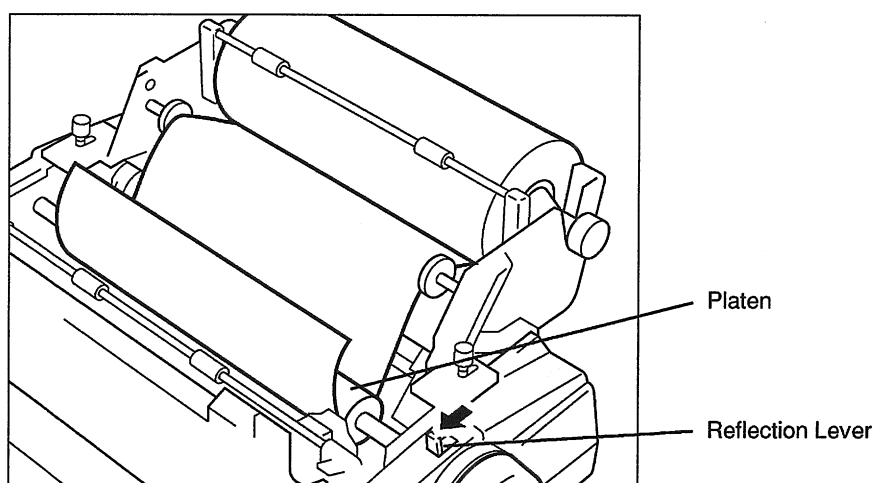
5. Turn the paper feed knob and pull out the leading edge of the paper.



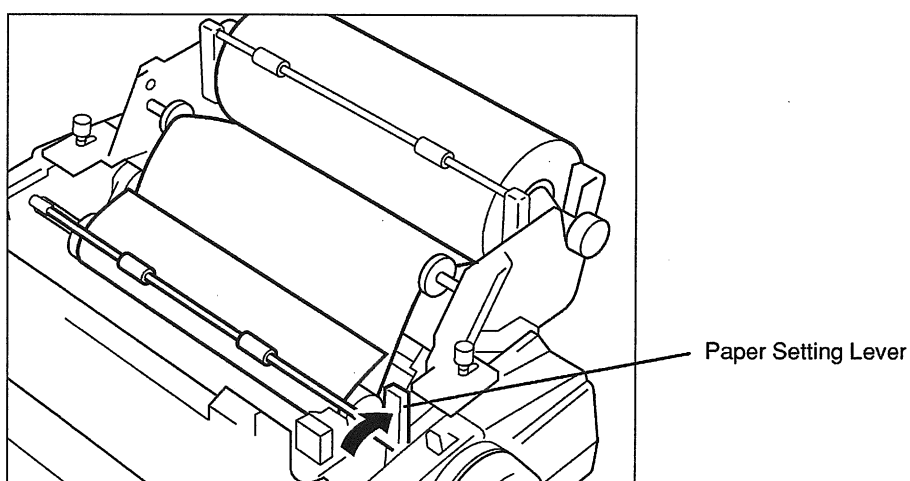
6. **Adjust the paper position for both sides of paper in and paper out, so that the left and right guide rings of the paper guide bar support the paper lightly.**



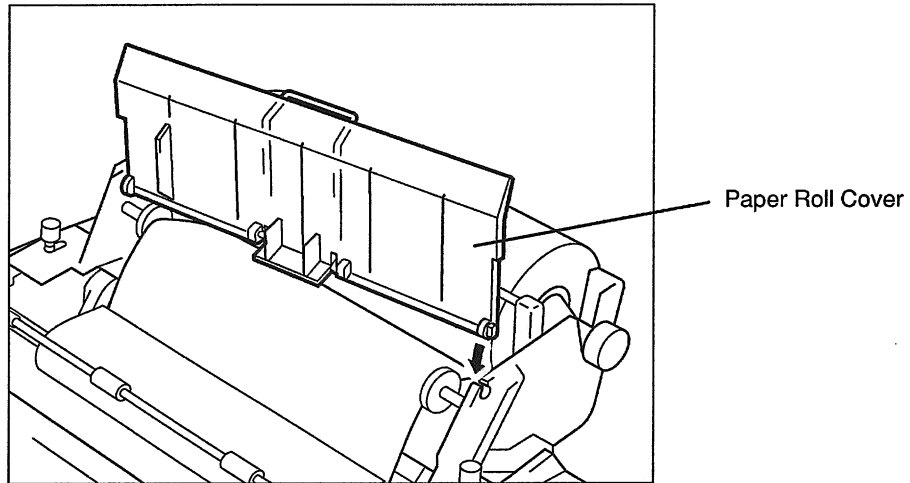
7. **Pull down the reflection lever.**  
The paper touches the platen securely.



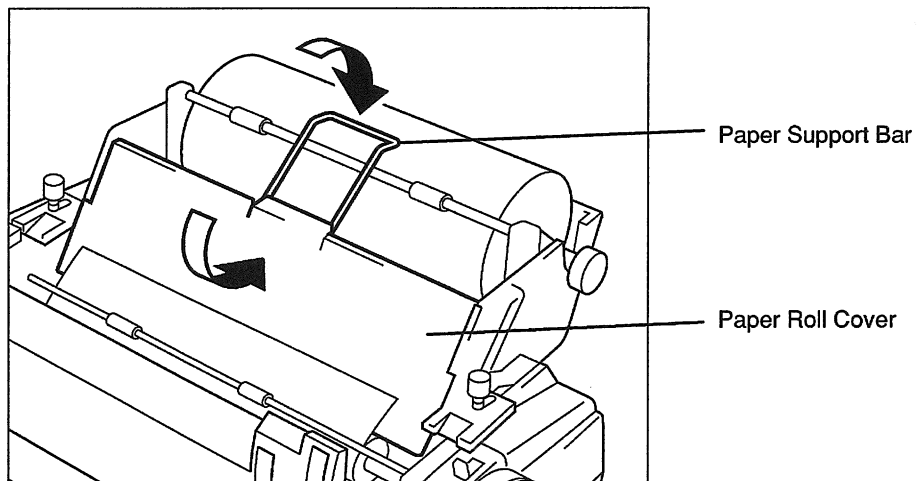
8. **Pull down the reflection lever.**  
Lift the paper setting lever to harness the paper emerging from the platen.



9. **First, insert the axis of the left side of the paper roll cover into the left hole of the paper roll stand, then set the right side.**



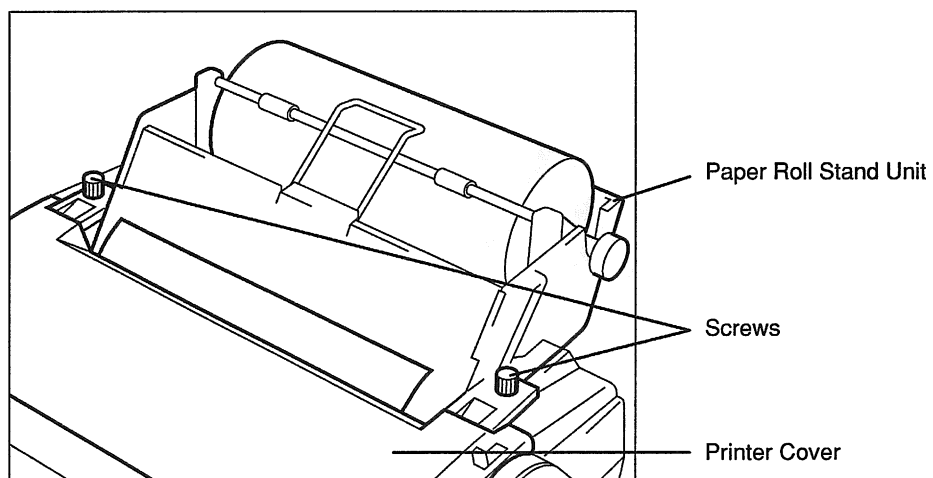
10. **Lower the paper roll cover and then push down the paper support bar.**



11. **Close the printer cover.**  
For further details of steps 11 through 13, refer to "9.3 Opening/Closing the Printer Cover".

12. **Pull the paper roll stand unit one step forward.**

13. **Turn the screws tightly to stabilize the paper roll stand unit.**



### 3.8.5 Replacing the Ribbon Cassette Cartridge

When the printing quality becomes faint, replace the ribbon cassette cartridge with a new one. To replace, proceed as follows.

#### CAUTION



Be sure to turn OFF the printer power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



Just after printing, the temperature of the printer head is high. Do not touch the printer head until the temperature goes down. Failure to comply could result in a burn or injury.



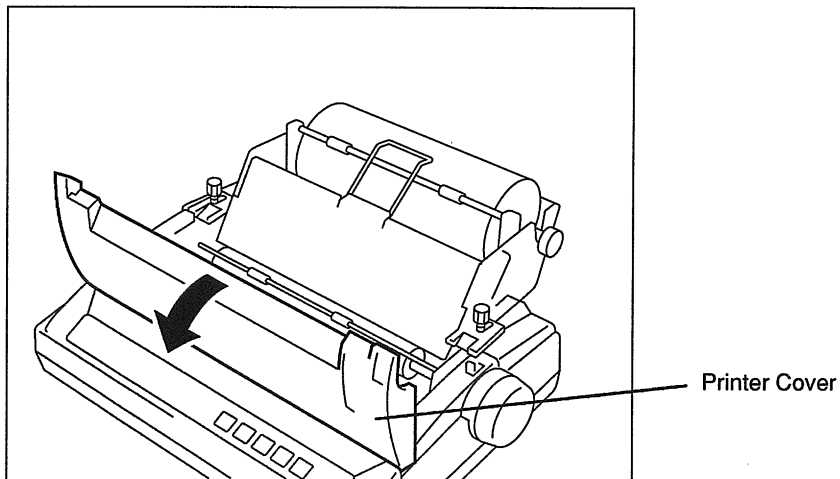
Do not touch any part of the cutter. Doing so may result in injury.

#### Procedure

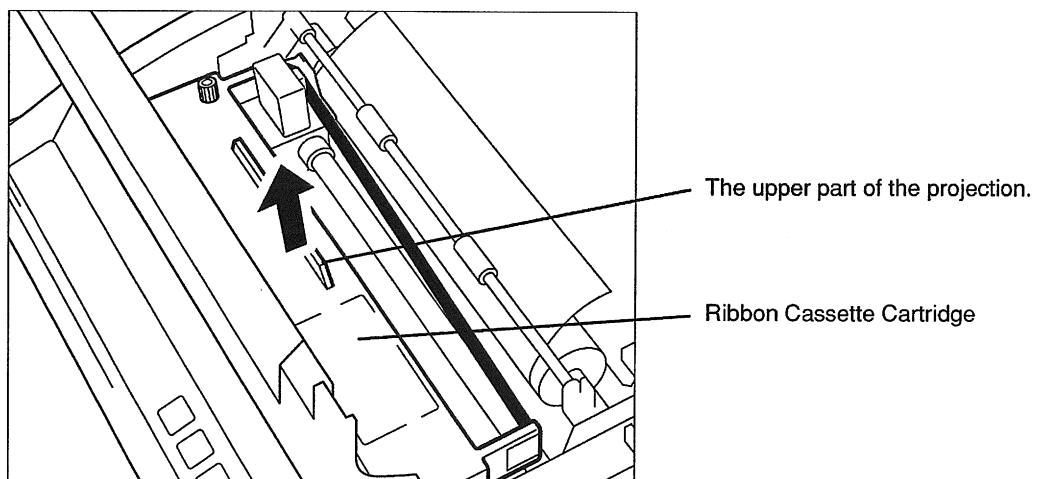
1. Open the printer cover.

#### Note

- To open the printer cover, refer to "7.3 Opening/Closing the Printer Cover".

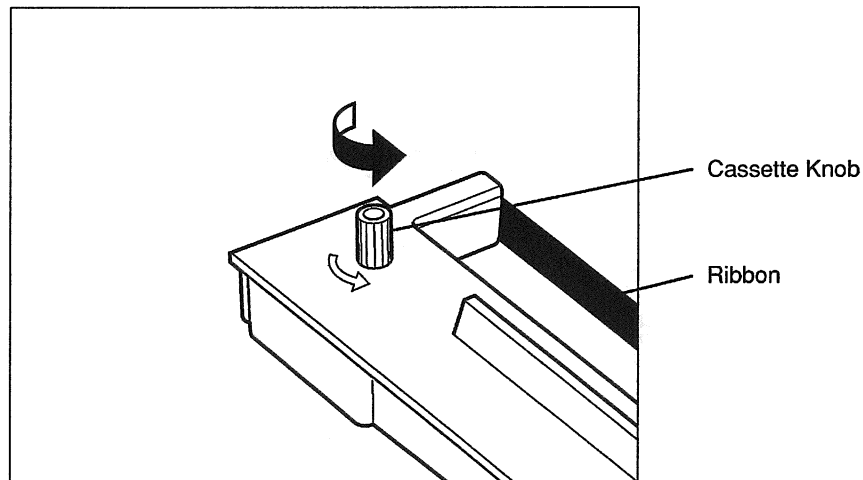


2. Lift up the tip of the ribbon cassette cartridge by grasping the projection on top, and remove it.





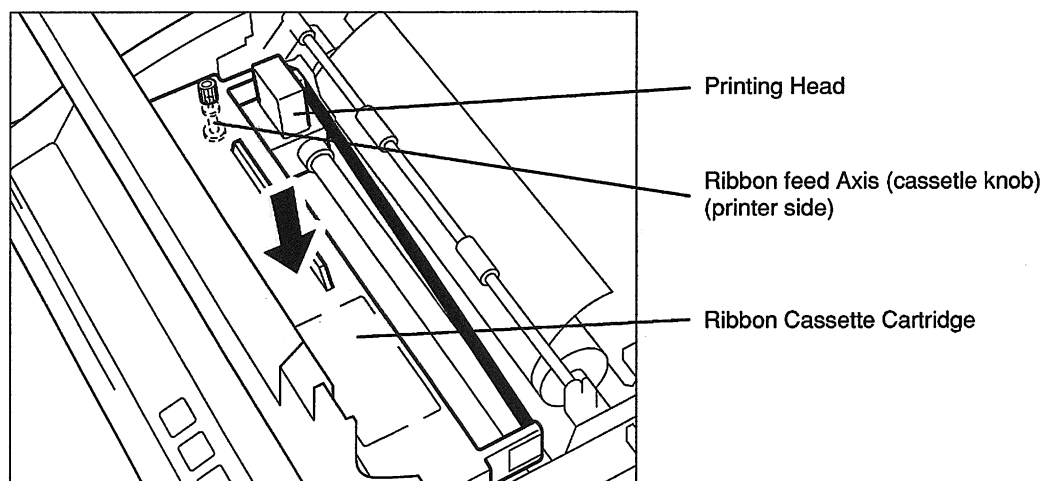
3. Turn the cassette knob of the new ribbon cassette cartridge counterclockwise to increase the tension of the ribbon.



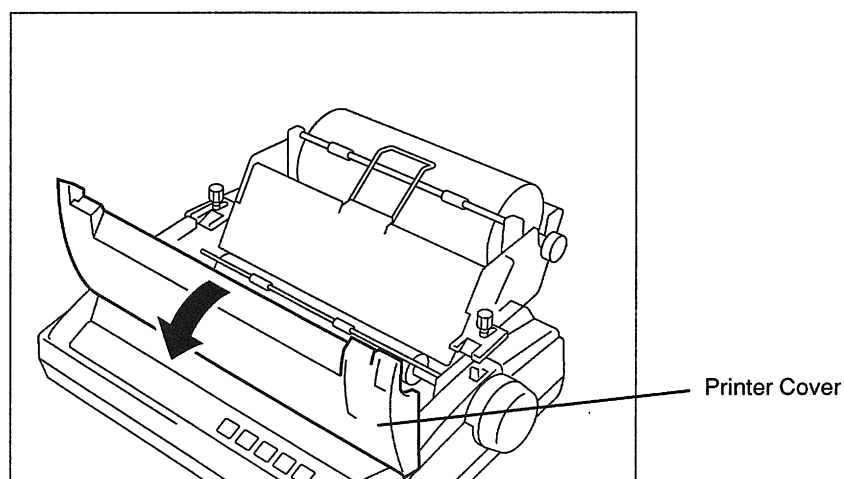
4. Manually, move the printing head to the home position (left side) and place the ribbon cassette cartridge in the printer so that the ribbon is positioned between the ribbon mask and the printing head. In this case, make sure that the ribbon feed axis is inserted through the hole under the ribbon cassette knob.

**Note**

- Lightly press the ribbon cassette cartridge at both ends.
- Turn the cassette knob again to increase the tension of the ribbon.
- Confirm that the ribbon is positioned properly in front of the printing head.



5. Close the printer cover



### 3.8.6 Adjusting the Printing Pressure (to Printing Paper Thickness)

The printing pressure can be adjusted with the head adjust lever located on the right side of the inner part of the printer.

#### CAUTION



Be sure to turn OFF the printer power when opening and closing the printer cover. Failure to comply could result in electrical shock, failure, or injury.



Just after printing, the temperature of the printer head is high. Do not touch the printer head until the temperature goes down. Failure to comply could result in a burn or injury.



Do not touch any part of the cutter. Doing so may result in injury.

#### Procedure

##### 1. Open the printer cover and set up the head adjusting lever.

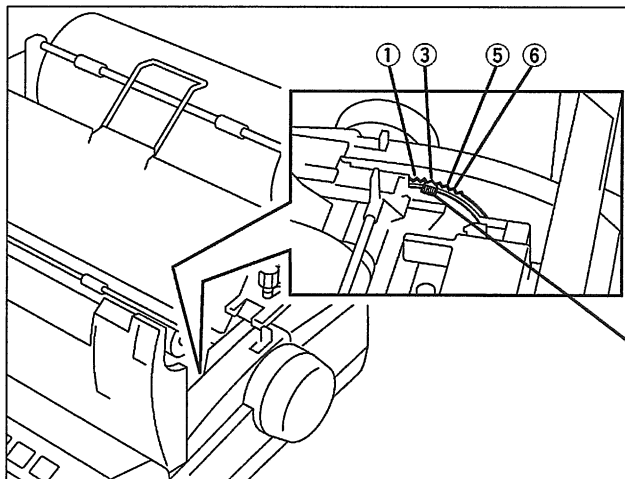
Each type of paper should be set as follows:

Normal paper :

The optimal position among the numbers shown is ③.

Three layers of copying paper :

The optimum position is ⑤ or ⑥.



Head adjusting lever

#### Note

- The printing pressure increases in numerical order (①→⑥).
- To open/close the printer cover, refer to "7.3 Opening/Closing the Printer Cover".

### 3.8.7 Setting the DIP Switch

Set the DIP switch to select a language, character set, or particular function.

#### **ATTENTION**



Before beginning the procedure, be sure to turn the power OFF.  
Failure to do so may cause electrical shock, malfunction or injury.



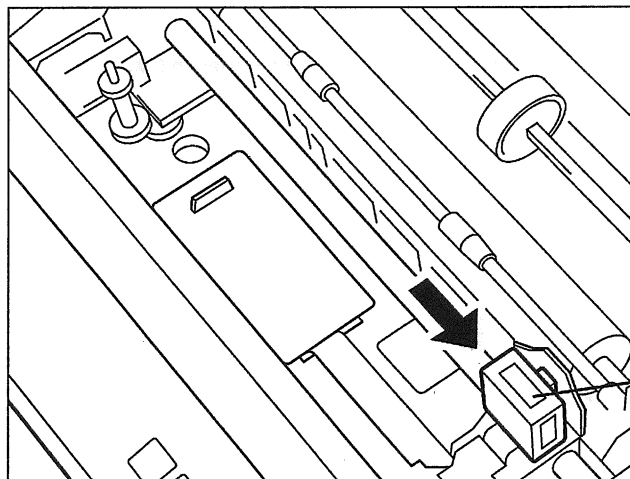
Just after printing, the temperature of the printer head is high. Do not touch the printer head until the temperature goes down.  
Doing so may cause burns or injury.



Do not touch any part of the cutter.  
Doing so is potentially dangerous and may cause injury.

#### **Procedure**

1. **Open the printer cover, remove the ribbon cassette cartridge, and move the printing head manually to the right end.**

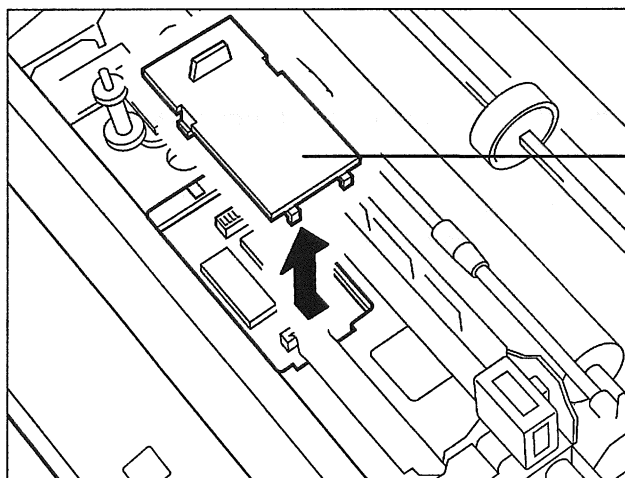


Printer Head

#### **Note**

- The printing pressure increases in numerical order (①→⑥).
- To open/close the printer cover, refer to "7.3 Opening/Closing the Printer Cover".
- To remove the ribbon cassette cartridge, refer to "7.5 Replacing the Ribbon Cassette Cartridge".

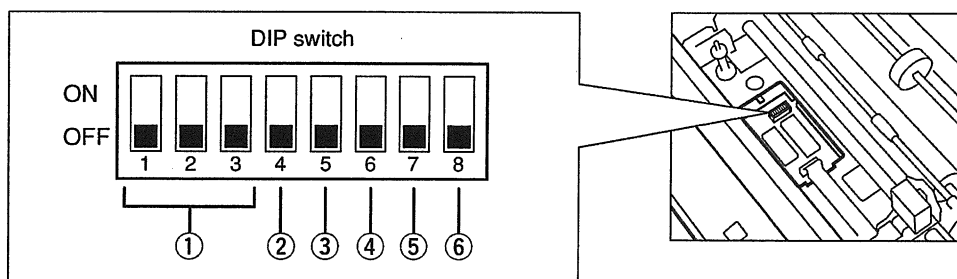
2. **Hold the tip of the partition cover and slide it to the left to remove it.**  
The DIP switch appears.



Partition Cover

### 3. Set the DIP switch to desired mode

The following diagrams describe the relation between each DIP switch position and the content of each setting.



#### ① Selection of an international language

|           |                                                      |                                                      |                                                      |                     |           |                                                      |                                                      |                                                      |                     |           |                                                      |                                                      |                                                      |                     |           |                                                      |                                                      |                                                      |                    |
|-----------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------|-----------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------|-----------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|---------------------|-----------|------------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | U.S.A.<br>(English) | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | France<br>(French)  | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | Germany<br>(German) | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | U.K.<br>(English)  |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | Denmark<br>(Danish) | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | Sweden<br>(Swedish) | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | Italy<br>(Italian)  | ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | <input type="checkbox"/><br><input type="checkbox"/> | Spain<br>(Spanish) |

#### ② Emulation

|           |                                                      |     |
|-----------|------------------------------------------------------|-----|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | IBM |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | FX  |

#### ③ Selection of character set (IBM mode)

|           |                                                      |       |
|-----------|------------------------------------------------------|-------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | SET 2 |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | SET 1 |

#### ③ One inch skip perforation (FX mode)

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Valid   |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Invalid |

#### ④ Paper near end sensor

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Valid   |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Invalid |

#### ⑤ Selection of AUTO CR (IBM mode)

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Valid   |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Invalid |

#### ⑤ Selection of valid/invalid for DC1/DC3 (FX mode)

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Invalid |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Valid   |

DC3 code: Printer is set to ignore all data except  
DC1 code (By-pass state).  
DC1 code: By-pass state in DC3 is canceled.

#### ⑥ Selection of LF code (IBM mode)

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | LF+CR   |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | LF only |

#### ⑥ Selection of LF code (FX mode)

|           |                                                      |         |
|-----------|------------------------------------------------------|---------|
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | Invalid |
| ON<br>OFF | <input type="checkbox"/><br><input type="checkbox"/> | AUTO LF |

### 4. When settings are completed, put the partition cover back in its place, set up the ribbon cassette, and then close the printer cover.

### 5. While pressing **NLQ** turn the power ON.

After initialization is carried out, the selected function and current setting status of the DIP switch are printed.

#### Note

- When printing under the current setting status, the printer is set to an off-line state. When the test pattern is completely printed out, it is automatically set to an on-line state.

**Note** Dip switch setting for each equipment.

|                                                                         | DIP switch setting                              |
|-------------------------------------------------------------------------|-------------------------------------------------|
| JSS-296(NCT-196N/NDZ-127J)<br>JSS-825D(NCT-620D)<br>NCT-196<br>NCT-196N | <p>DIP switch</p> <p>ON OFF 1 2 3 4 5 6 7 8</p> |
| JSS-850<br>JUE-75C(NDZ-127C)                                            | <p>DIP switch</p> <p>ON OFF 1 2 3 4 5 6 7 8</p> |
| JSS-825NA/NC(NDZ-127N)                                                  | <p>DIP switch</p> <p>ON OFF 1 2 3 4 5 6 7 8</p> |

### 3.8.8 How to Attend to Error Detection

There are two types of errors. When an error is detected, a beep sounds, and the **P.OUT** lamp blinks 5 times.

#### (1) Paper discharge error

When the "out of paper" state is not detected, even though an 18 inch line feed procedure is performed, a paper discharge error will result. The **P.OUT** lamp remains blinking until the error state is canceled.

When this happens, manually pull the paper out of the printer, or remove the paper automatically by using **LF** or **FF**, then press **ONLINE**.

#### (2) Paper sending error

If the paper is not properly set, even though a 10 inch line feed procedure is performed, a paper sending error results. In addition, if this error happens when the printing instruction is entered, the **P.OUT** lamp remains blinking until the error state is canceled.

When this happens, follow the procedure below.

#### Procedure

1. Press **ONLINE** switch.  
The printer is set to an off-line state.
2. Press **FF** switch, set the paper, then press **ONLINE**.  
The printer is set to an on-line state.



## 4. MAINTENANCE AND INSPECTION

### ATTENTION

This chapter describes about the JSS-296 Radio Equipment as a whole. So if further information is required, see the specialized instruction manuals such as the JSB-196GM Radiotelephone or NCT-196N DSC/NBDP MODEM.

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

- (1) Keep the power supply voltage within the specified value.
- (2) 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



If you remove a unit, be sure to store it in a non-conductive bag. If you wrap it up with materials such as aluminum foil, the back-up power supply may short circuit and the ICs may be damaged.



There are no user-serviceable parts inside this equipment. Inspection or maintenance by unauthorized persons may result in fire or electric shock. For inspection and maintenance, contact JRC or its authorized agents.

### CAUTION



Do not turn the trimmer resistors or trimmer capacitors on the PCB unit (they are preset at the factory). Doing so may cause failure or malfunction.



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

## 4.1 General Maintenance and Inspection

General maintaining and inspecting items with usual tools and apparatus are listed below.

| No. | Item               | Maintenance and inspection                                                                                                                                                                                                                       |
|-----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Cleaning           | Gently clean the surface of the panel, knobs, switches, and upper/bottom cover with a soft cloth or silicon oil.<br>Remove dust in the unit using a brush or vacuum cleaner. No oil is needed because this unit has no moving mechanisms inside. |
| 2   | Looseness of parts | Inspect for looseness and correctly tighten the following:<br>screws, nuts, knobs, switches, volume pots, connectors and relays inserted into sockets.                                                                                           |
| 3   | Fuse               | If the power source fuse is blown, be sure to inspect the cause before replacing the blown fuse with a new one.                                                                                                                                  |
| 4   | PCB Unit           | Remove screws mounting the unit, demount the unit from the main chassis, and inspect the unit for discoloration and parching of components. To exchange parts, call our service center or agents.                                                |

**Note**

If you remove the PCB unit, be sure to store it in a non-conductive bag. If you wrap it up with materials such as aluminum, the buck-up power supply may short circuit and the IC may be damaged.



## 5. AFTER-SALES SERVICE

### 5.1 Before returning repair

If what appears to be a defect is detected, refer to Troubleshooting descriptions of the specialized instruction manual for every unit 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, we or our agencies (\*1) 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.
- Items for notification
  - Product name, type, manufactured data, serial number,
  - information about the malfunction (the more detailed, the better),
  - your company or organization name, address and phone number.

(\*1) Refer to the inside of the back cover for contact numbers.

### 5.2 Periodical maintenance recommended

Performance of this equipment may degrade over time because parts wear out, although degradation depends on how this unit has been maintained, thus we recommend periodic professional maintenance checks in addition to daily maintenance. So please contact our service center or agents for periodic professional maintenance (This maintenance requires a service charge), or for further information about after-sales service.

Q. 2007-2008

## 6. SPECIFICATIONS

### 1. GENERAL

|                          |                                                                                                                          |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Frequency range:         | Transmit: 1.6 to 27.5MHz (100Hz steps)<br>Receive: 0.1 to 29.9999MHz (100Hz steps)                                       |
| Frequency tolerance:     | ±10Hz or better                                                                                                          |
| Emission mode:           | J3E (TEL), F1B (DSC/TLX), A1A (CW), H2B,<br>H3E (AME: reception only)                                                    |
| User definable channels: | 200ch (20ch X 10 Groups)                                                                                                 |
| Preset ITU channels:     | 1722ch [ TEL:283, DSC:29, TLX:891, CW:519 ]                                                                              |
| Scanning channel         | 20 user defined channels                                                                                                 |
| Communication mode:      | Simplex and semi-duplex                                                                                                  |
| Antenna impedance:       | 50 ohms                                                                                                                  |
| Operating temperature:   | -15 to +55°C                                                                                                             |
| Power requirement:       | 90~132V/180~264V AC, Single-phase, 50/60Hz<br>Tx: 2.0kVA max, Rx: 0.5kVA max<br>21.6~31.2V DC<br>Tx: 30A max, Rx: 7A max |
| Compass safe distance:   | 1.5m                                                                                                                     |

### 2. TRANSMITTER

|                        |                                                                                                                                              |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Output power:          | AC power source:<br>200Wpx ( 1.6 to 4MHz ) , 250Wpx ( 4 to 27.5MHz )<br>DC power source:<br>100Wpx ( 1.6 to 4MHz ) , 150Wpx ( 4 to 27.5MHz ) |
| Occupied bandwidth:    | J3E (TEL) 3kHz or better<br>F1B (DSC/TLX), A1A (CW) 0.5kHz or better                                                                         |
| Carrier suppression:   | 40dB or better                                                                                                                               |
| Spurious suppression:  | 43dB or better                                                                                                                               |
| AF frequency response: | 350 to 2700Hz (6dB bandwidth)                                                                                                                |
| Microphone input:      | 600 ohms (-40dBm standard)                                                                                                                   |
| Line input:            | 600 ohms, 0dBm (balanced)                                                                                                                    |

### **3. RECEIVER**

|                           |                                                                                                                                                                |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Receiving system:         | Triple superheterodyne                                                                                                                                         |
| Intermediate frequencies: | 70.455MHz, 455kHz, 20.217kHz                                                                                                                                   |
| Sensitivity (SINAD 20dB): | J3E (TEL) 6.3uV or better (1.6 to 4MHz)<br>3.5uV or better (4 to 27.5MHz)<br>F1B (DSC/TLX) 1.8uV or better (1.6 to 4MHz)<br>1.0uV or better (4 to 27.5MHz)     |
| Selectivity:              | J3E (TEL) 6dB bandwidth 2.4 to 3kHz,<br>66dB bandwidth Within $\pm 2.1$ kHz<br>F1B (DSC/TLX) 6dB bandwidth 270 to 300Hz,<br>60dB bandwidth Within $\pm 550$ Hz |
| Spurious response:        | 60dB or better                                                                                                                                                 |
| Clarifier range:          | $\pm 200$ Hz in 1Hz steps                                                                                                                                      |
| AF output:                | 5.0W max. 1W rated                                                                                                                                             |
| Line output:              | 600 ohms, 0dBm (balanced)                                                                                                                                      |

### **4. DSC/NBDP TERMINAL**

#### **DSC MODEM**

|                          |                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------|
| Communications protocol: | In conformity with ITU-RM.493 and M.541                                                  |
| Emission:                | F1B/J2B 100 baud                                                                         |
| Code:                    | 10 units error detection specified by ITU-RM.493.                                        |
| Memory capacity:         | Received Distress messages: 20<br>Received Other messages: 20<br>Transmitted message: 11 |
| Clock:                   | Within $\pm 30$ ppm                                                                      |
| Data backup time:        | 24 hours (message content and time data)                                                 |
| Mark frequency:          | 1615 $\pm 0.5$ Hz                                                                        |
| Space frequency:         | 1785 $\pm 0.5$ Hz                                                                        |
| Output level:            | 0dBm (-20 to +10dBm variable/600 ohms balanced)                                          |
| Input frequency :        | 1700 $\pm 85$ Hz                                                                         |
| Input level :            | -25 to +10dBm (600-ohm balanced load)                                                    |

#### **NBDP MODEM**

|                          |                                                                               |
|--------------------------|-------------------------------------------------------------------------------|
| Communications protocol: | In conformity with ITU-RM.476, M.490, M.491, M.492, M.625 and ITU-T Rec. F130 |
| Emission:                | F1B/J2B 100 baud                                                              |
| Code:                    | 7-bit code 4B/3Y ratio constant mark signal                                   |
| Clock:                   | Within $\pm 30$ ppm                                                           |
| Mark frequency:          | 1615 $\pm 0.5$ Hz                                                             |
| Space frequency:         | 1785 $\pm 0.5$ Hz                                                             |
| Output level:            | 0dBm (-20 to +10dBm variable/600 ohms balanced)                               |
| Input frequency :        | 1700 $\pm 85$ Hz                                                              |
| Input level :            | -25 to +10dBm (600-ohm balanced load)                                         |

## **5. WATCHKEEPING RECEIVER**

|                           |                                                                |
|---------------------------|----------------------------------------------------------------|
| Receiving frequencies:    | 2187.5kHz, 4207.5kHz, 6312kHz, 8414.5kHz, 12577kHz, 16804.5kHz |
| Receiving system:         | Double superheterodyne                                         |
| Intermediate frequencies: | 40.455MHz, 455kHz                                              |
| Reception mode:           | F1B/J2B                                                        |
| Sensitivity:              | Symbol error rate of 1% or better at 1 micro-volt input        |
| Frequency stability:      | Within +/- 10Hz after 1-minute warm-up                         |
| Antenna impedance:        | 50 ohms unbalanced                                             |

## **6. ANTENNA TUNER**

|                        |                                                                 |
|------------------------|-----------------------------------------------------------------|
| Frequency range:       | 1.6 to 30MHz                                                    |
| Power capability:      | 300Wpx                                                          |
| SWR after tuning:      | 2:1                                                             |
| Tuning method:         | Automatic tuning and preset tuning                              |
| Tuning time:           | Automatic tuning: typical 3sec<br>Preset tuning: typical 0.5sec |
| Operating temperature: | -25 to +55 °C                                                   |

## **7. BATTERY CHARGER**

|                   |                                                  |
|-------------------|--------------------------------------------------|
| Charging current: | 20A (Ordinary charge)<br>10A (Equalizing charge) |
| Alarm function:   | Charge /Low voltage/ High voltage alarm          |

## **8. DATA TERMINAL**

|                  |                                               |
|------------------|-----------------------------------------------|
| Controlled item: | NBDP function (Control the DSC/NBDP Terminal) |
|------------------|-----------------------------------------------|

## **9. KEYBOARD**

|                 |                   |
|-----------------|-------------------|
| Interface:      | Matrix            |
| Contact method: | Membrane sheet    |
| Life:           | 5 million strokes |

## **10. PRINTER**

|                    |                          |
|--------------------|--------------------------|
| Print method:      | Serial impact dot matrix |
| Interface:         | Centronics               |
| Paper feed method: | Paper roll holder        |
| Paper type:        | 209 to 216mm Roll paper  |



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