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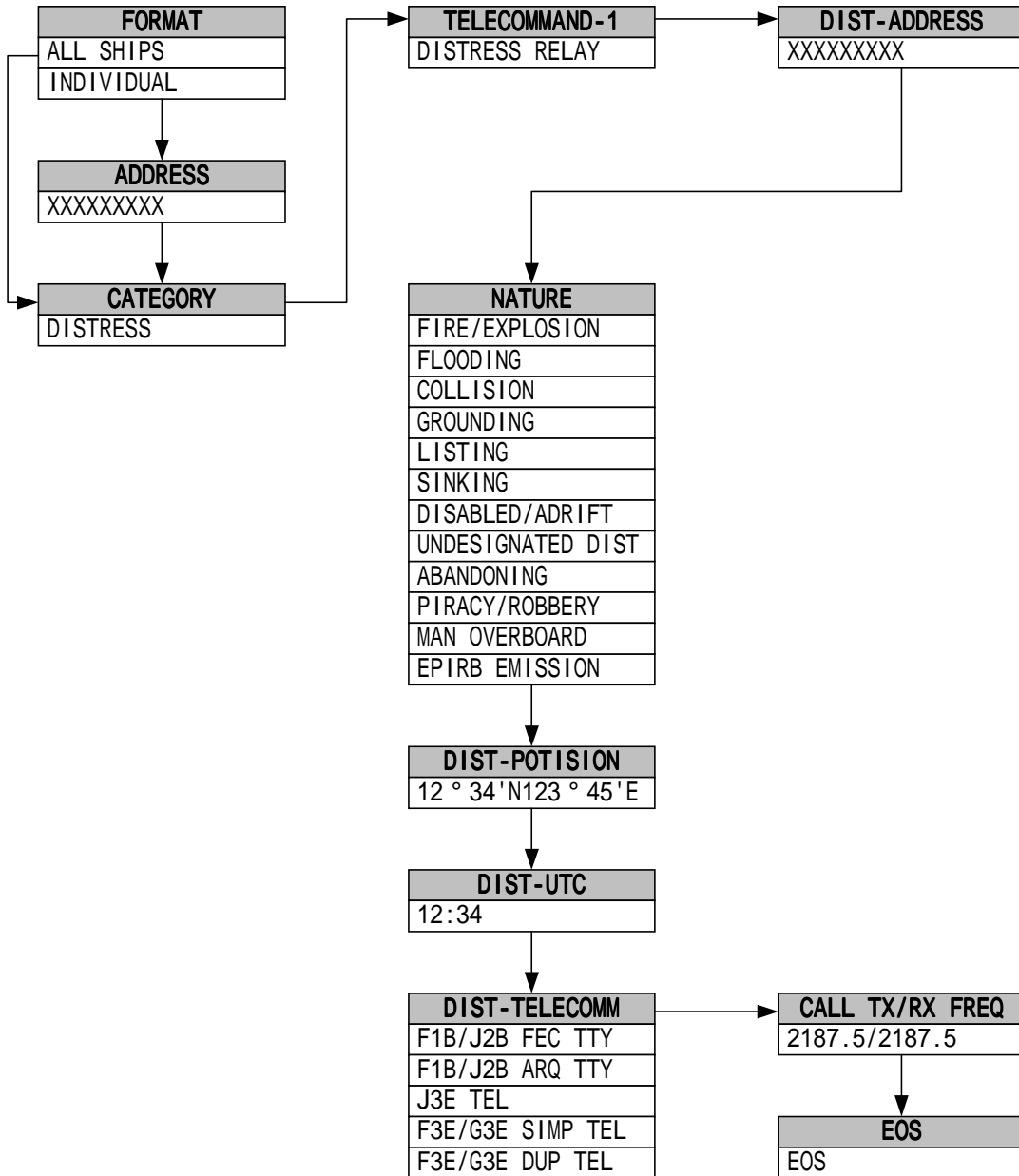
Normally, a distress call is acknowledged by a coastal station, but if there is not acknowledgement by any station (e.g., due to propagation, etc.) relay it after editing the message for a relay call by selecting this menu. Normally, a distress relay is made by selecting this menu.

FORMAT
ALL SHIPS
INDIVIDUAL

TELECOMMAND-1
DISTRESS RELAY

DIST-ADDRESS
XXXXXXXXX

ADDRESS
XXXXXXXXX

CATEGORY
DISTRESS

NATURE
FIRE/EXPLOSION
FLOODING
COLLISION
GROUNDING
LISTING
SINKING
DISABLED/ADRIFT
UNDESIGNATED DIST
ABANDONING
PIRACY/ROBBERY
MAN OVERBOARD
EPIRB EMISSION

DIST-POTISION
12° 34' N123° 45' E

DIST-UTC
12:34

DIST-TELECOMM
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
J3E TEL
F3E/G3E SIMP TEL
F3E/G3E DUP TEL

CALL TX/RX FREQ
2187.5/2187.5

EOS
EOS

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    XXXXXXXXX
 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	XXXXXXXXX
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).**
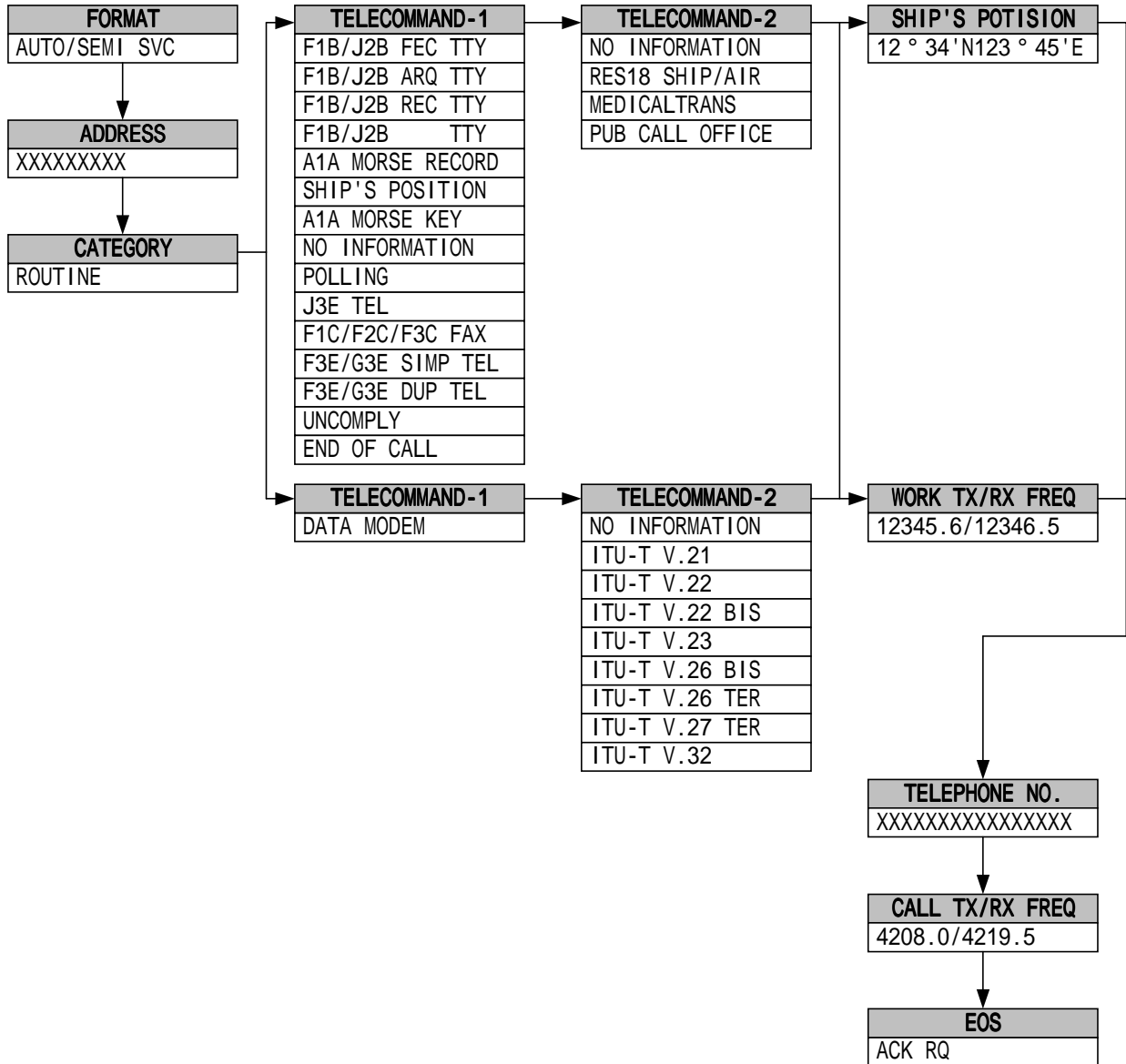The following screen is displayed and the message is transmitted.

```
┌─────────────────────────────────────────────┐
│  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.

FORMAT
AUTO/SEMI SVC

↓

ADDRESS
XXXXXXXXX

↓

CATEGORY
ROUTINE

TELECOMMAND-1
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
F1B/J2B REC TTY
F1B/J2B   TTY
A1A MORSE RECORD
SHIP'S POSITION
A1A MORSE KEY
NO INFORMATION
POLLING
J3E TEL
F1C/F2C/F3C FAX
F3E/G3E SIMP TEL
F3E/G3E DUP TEL
UNCOMPLY
END OF CALL

TELECOMMAND-2
NO INFORMATION
RES18 SHIP/AIR
MEDICALTRANS
PUB CALL OFFICE

SHIP'S POTISION
12° 34' N123° 45' E

TELECOMMAND-1
DATA MODEM

TELECOMMAND-2
NO INFORMATION
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

WORK TX/RX FREQ
12345.6/12346.5

TELEPHONE NO.
XXXXXXXXXXXXXX

↓

CALL TX/RX FREQ
4208.0/4219.5

↓

EOS
ACK RQ

Procedure

1. From the "MENU#1-EDIT&CALL" screen, press `5`, and then press `ENT`.

The "AUTO/SEMI-AUTO CALL" screen is displayed.
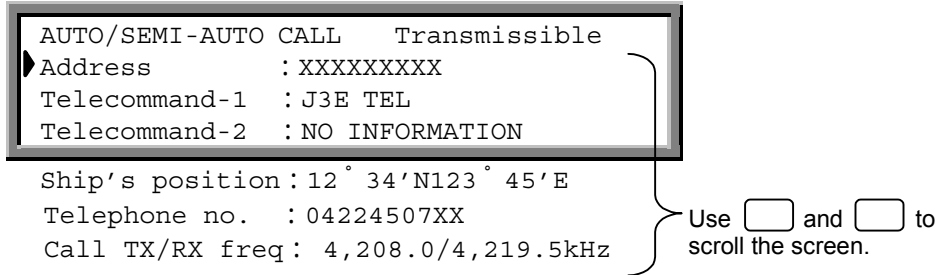
```
AUTO/SEMI-AUTO CALL    Transmissible
▶Address           XXXXXXXXX
 Telecommand-1     J3E TEL
 Telecommand-2     NO INFORMATION

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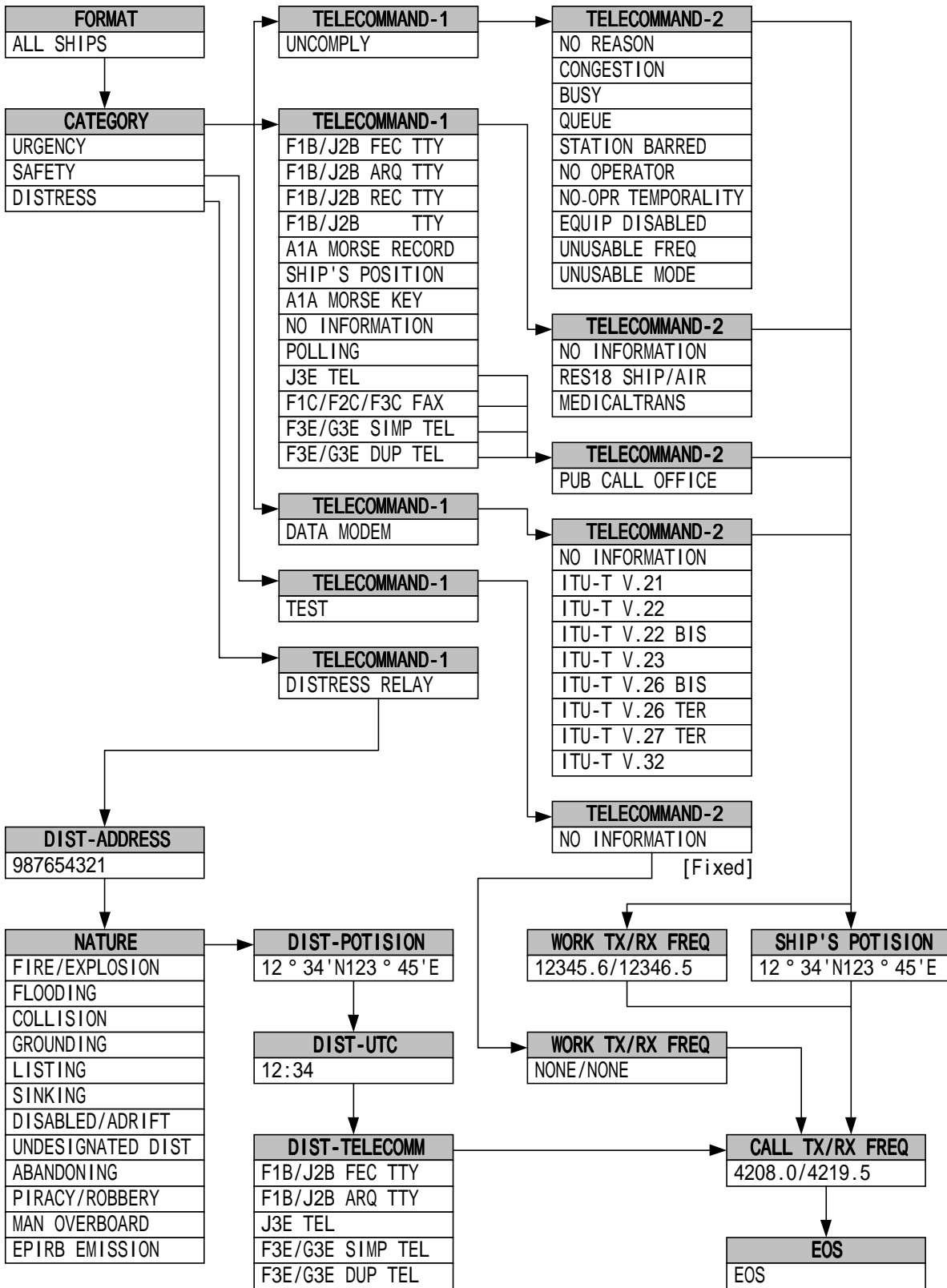
```
AUTO/SEMI-AUTO CALL  Send Completed
TX frequency    4,208.0  kHz
TX date&time    06.Sep.2001(Thu) 01:30
```

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).
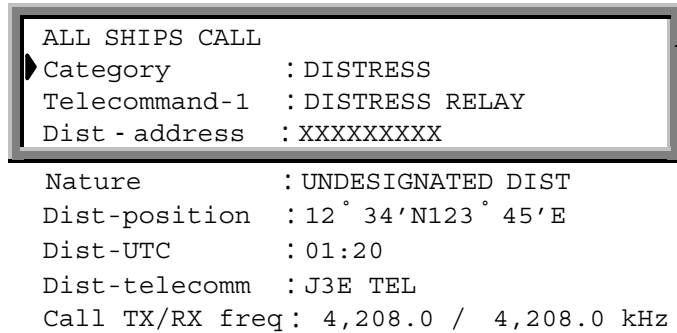
(6) ALL SHIPS CALL

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.

FORMAT
ALL SHIPS

CATEGORY
URGENCY
SAFETY
DISTRESS

TELECOMMAND-1
UNCOMPLY

TELECOMMAND-1
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
F1B/J2B REC TTY
F1B/J2B   TTY
A1A MORSE RECORD
SHIP'S POSITION
A1A MORSE KEY
NO INFORMATION
POLLING
J3E TEL
F1C/F2C/F3C FAX
F3E/G3E SIMP TEL
F3E/G3E DUP TEL

TELECOMMAND-1
DATA MODEM

TELECOMMAND-1
TEST

TELECOMMAND-1
DISTRESS RELAY

TELECOMMAND-2
NO REASON
CONGESTION
BUSY
QUEUE
STATION BARRED
NO OPERATOR
NO OPR TEMPORALITY
EQUIP DISABLED
UNUSABLE FREQ
UNUSABLE MODE

TELECOMMAND-2
NO INFORMATION
RES18 SHIP/AIR
MEDICAL TRANS

TELECOMMAND-2
PUB CALL OFFICE

TELECOMMAND-2
NO INFORMATION
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

TELECOMMAND-2
NO INFORMATION

[Fixed]

DIST-ADDRESS
987654321

NATURE
FIRE/EXPLOSION
FLOODING
COLLISION
GROUNDING
LISTING
SINKING
DISABLED/ADRIFT
UNDESIGNATED DIST
ABANDONING
PIRACY/ROBBERY
MAN OVERBOARD
EPIRB EMISSION

DIST-POTISION
12° 34'N123° 45'E

DIST-UTC
12:34

DIST-TELECOMM
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
J3E TEL
F3E/G3E SIMP TEL
F3E/G3E DUP TEL

WORK TX/RX FREQ
12345.6/12346.5

SHIP'S POTISION
12° 34'N123° 45'E

WORK TX/RX FREQ
NONE/NONE

CALL TX/RX FREQ
4208.0/4219.5

EOS
EOS

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'N123  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'N123 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
```
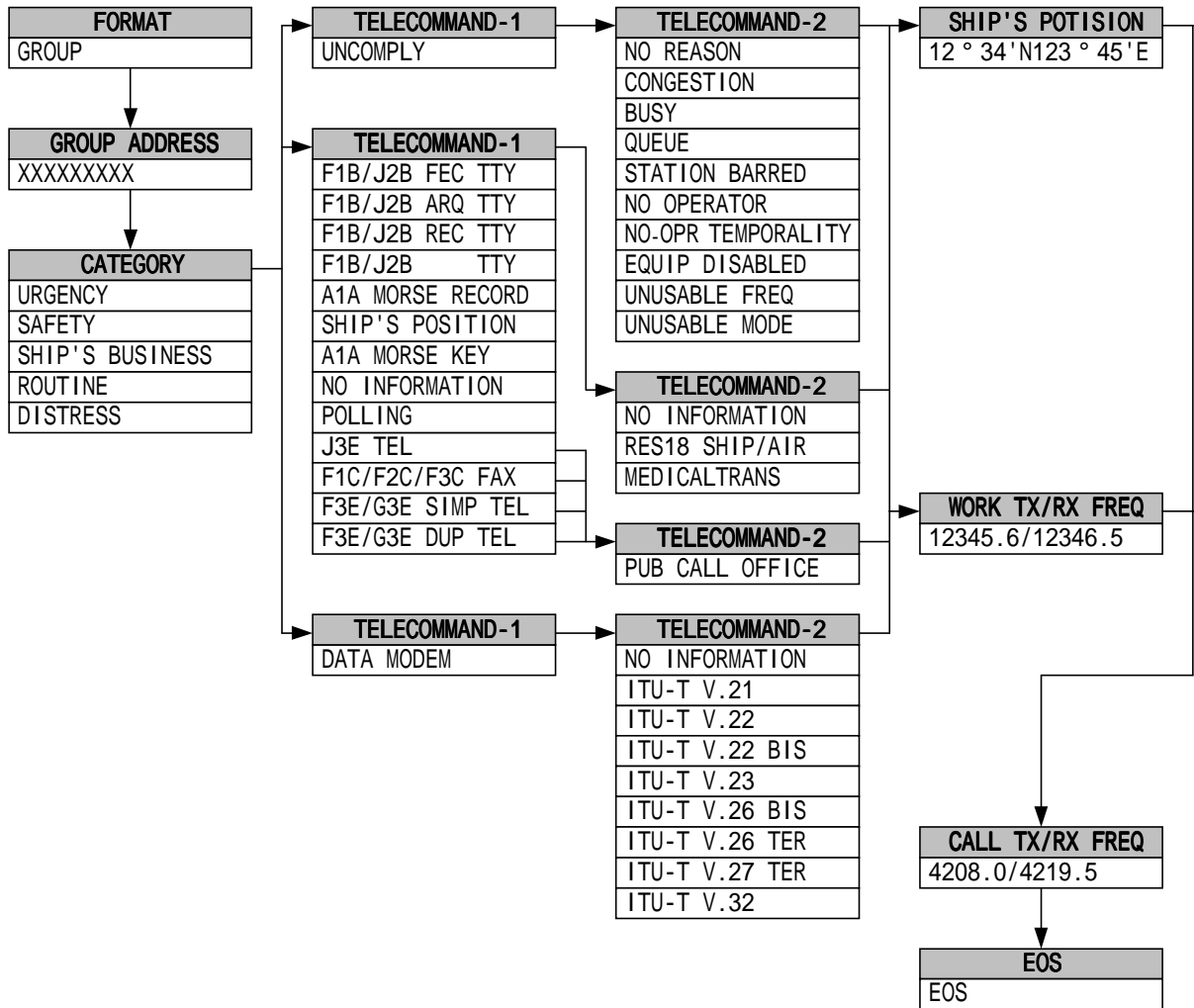
Note See (1), "Individual Call" for how to send a general message.
To store a message without sending it, press FUNC 9 (SAVE).
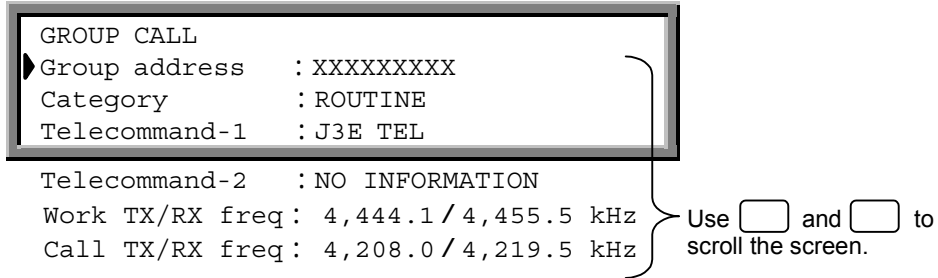To discard the message and quit without sending it, press FUNC 4 (QUIT).

(7)   GROUP CALL

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

FORMAT
GROUP

↓

GROUP ADDRESS
XXXXXXXXX

↓

CATEGORY
URGENCY
SAFETY
SHIP'S BUSINESS
ROUTINE
DISTRESS

TELECOMMAND-1
UNCOMPLY

TELECOMMAND-1
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
F1B/J2B REC TTY
F1B/J2B   TTY
A1A MORSE RECORD
SHIP'S POSITION
A1A MORSE KEY
NO INFORMATION
POLLING
J3E TEL
F1C/F2C/F3C FAX
F3E/G3E SIMP TEL
F3E/G3E DUP TEL

TELECOMMAND-1
DATA MODEM

TELECOMMAND-2
NO REASON
CONGESTION
BUSY
QUEUE
STATION BARRED
NO OPERATOR
NO OPR TEMPORALITY
EQUIP DISABLED
UNUSABLE FREQ
UNUSABLE MODE

TELECOMMAND-2
NO INFORMATION
RES18 SHIP/AIR
MEDICAL TRANS

TELECOMMAND-2
PUB CALL OFFICE

TELECOMMAND-2
NO INFORMATION
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

SHIP'S POTISION
12° 34' N123° 45' E

WORK TX/RX FREQ
12345.6/12346.5

CALL TX/RX FREQ
4208.0/4219.5

↓

EOS
EOS

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     XXXXXXXXX
 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	XXXXXXXXX
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

<u>Entering the respective items</u>:

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).

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

(8)   AREA CALL

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

FORMAT
AREA

GEOGRAPHIC AREA
N12E123DA10DO50

CATEGORY
URGENCY
SAFETY
SHIP'S BUSINESS
ROUTINE
DISTRESS

TELECOMMAND-1
UNCOMPLY

TELECOMMAND-1
F1B/J2B FEC TTY
F1B/J2B ARQ TTY
F1B/J2B REC TTY
F1B/J2B   TTY
A1A MORSE RECORD
SHIP'S POSITION
A1A MORSE KEY
NO INFORMATION
POLLING
J3E TEL
F1C/F2C/F3C FAX
F3E/G3E SIMP TEL
F3E/G3E DUP TEL

TELECOMMAND-1
DATA MODEM

TELECOMMAND-2
NO REASON
CONGESTION
BUSY
QUEUE
STATION BARRED
NO OPERATOR
NO OPR TEMPORALITY
EQUIP DISABLED
UNUSABLE FREQ
UNUSABLE MODE

TELECOMMAND-2
NO INFORMATION
RES18 SHIP/AIR
MEDICALTRANS

TELECOMMAND-2
PUB CALL OFFICE

TELECOMMAND-2
NO INFORMATION
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

SHIP'S POTISION
12° 34' N123° 45' E

WORK TX/RX FREQ
12345.6/12346.5

CALL TX/RX FREQ
4208.0/4219.5

EOS
EOS

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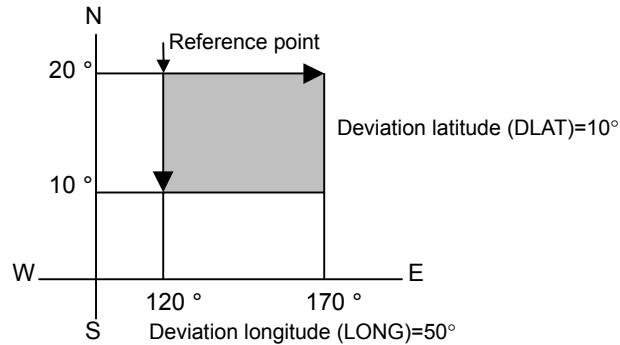
First, select the direction from N.E. (North-East), N.W. (North-West), S.E. (South-East), and S.W. (South-West). In this example, the direction is N.E.

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

<u>Entering the respective items:</u>

After selecting each item, press $\boxed{\text{ENT}}$ to confirm the selection.
(1) Category
   Telecommand-1: Use the $\boxed{◀}$ and $\boxed{▶}$ keys to select the items.
   Telecommand-2

(2) Area
   Ship's position: Use the $\boxed{◀}$ and $\boxed{▶}$ keys to select the bearing, and then input the value
                 using the numerical keys ($\boxed{0}$ to $\boxed{9}$).

(3) Call TX/RX freq: Use the $\boxed{◀}$ and $\boxed{▶}$ keys to select one of the preset frequencies.
                    Alternatively, use the numerical keys ($\boxed{0}$ to $\boxed{9}$, and $\boxed{.}$) to directly
                    specify a frequency.
(4) Other settings:
   "Work TX/RX freq": Use the numerical keys ($\boxed{0}$ to $\boxed{9}$, and $\boxed{.}$) to directly specify a
                    frequency.

   Switching from "Ship's position" to "Work TX/RX freq": Press $\boxed{\text{FUNC}}$ $\boxed{6}$ (FREQ).

   Switching from "Work TX/RX freq" to "Ship's position": Press $\boxed{\text{FUNC}}$ $\boxed{5}$ (POS).

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

2. Press $\boxed{\text{CALL}}$.
   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 $\boxed{\text{ENT}}$ to tune the tuner, then transmit the message.

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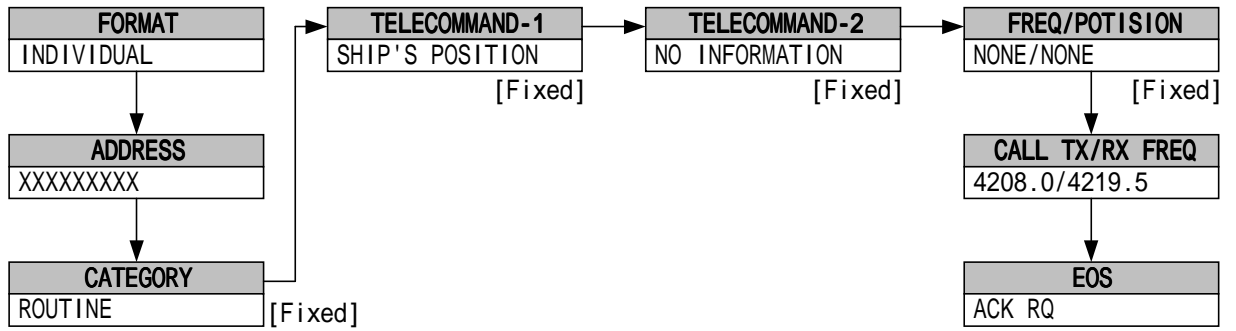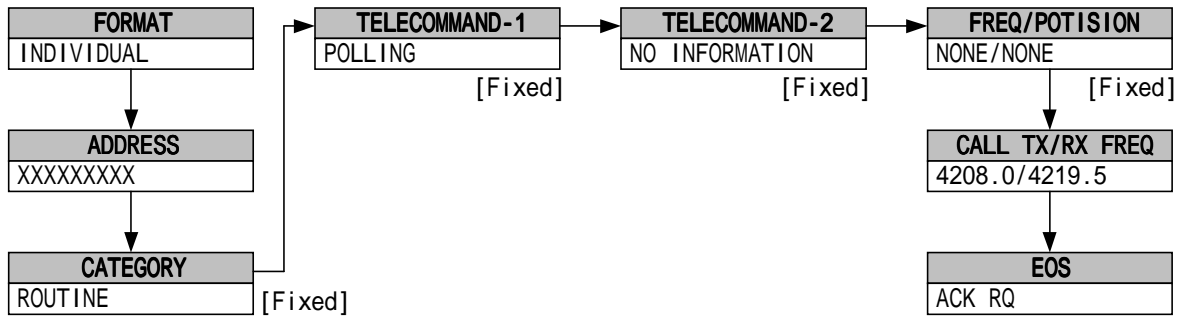returns to the "MENU#1-EDIT&CALL" screen.

```
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 $\boxed{\text{FUNC}}$ $\boxed{4}$ (QUIT).
   To store a message without sending it, press $\boxed{\text{FUNC}}$ $\boxed{9}$ (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.

```
┌─────────────────────┐       ┌─────────────────────┐      ┌─────────────────────┐      ┌─────────────────────┐
│       FORMAT        │       │    TELECOMAND-1     │      │    TELECOMAND-2     │      │    FREQ/POTISION    │
├─────────────────────┤       ├─────────────────────┤      ├─────────────────────┤      ├─────────────────────┤
│    INDIVIDUAL       │       │   SHIP'S POSITION   │      │   NO INFORMATION    │      │     NONE/NONE       │
└─────────────────────┘       └─────────────────────┘      └─────────────────────┘      └─────────────────────┘
                                      [Fixed]                      [Fixed]                      [Fixed]

┌─────────────────────┐                                                                 ┌─────────────────────┐
│      ADDRESS        │                                                                 │   CALL TX/RX FREQ   │
├─────────────────────┤                                                                 ├─────────────────────┤
│    XXXXXXXXX        │                                                                 │   4208.0/4219.5     │
└─────────────────────┘                                                                 └─────────────────────┘

┌─────────────────────┐                                                                 ┌─────────────────────┐
│      CATEGORY       │                                                                 │        EOS          │
├─────────────────────┤                                                                 ├─────────────────────┤
│     ROUTINE         │  [Fixed]                                                        │     ACK RQ          │
└─────────────────────┘                                                                 └─────────────────────┘
```

Procedure

1. From the "MENU#1-EDIT&CALL" screen, press `9`, and then press `ENT`.

The "POSITION REQUEST" screen is displayed.

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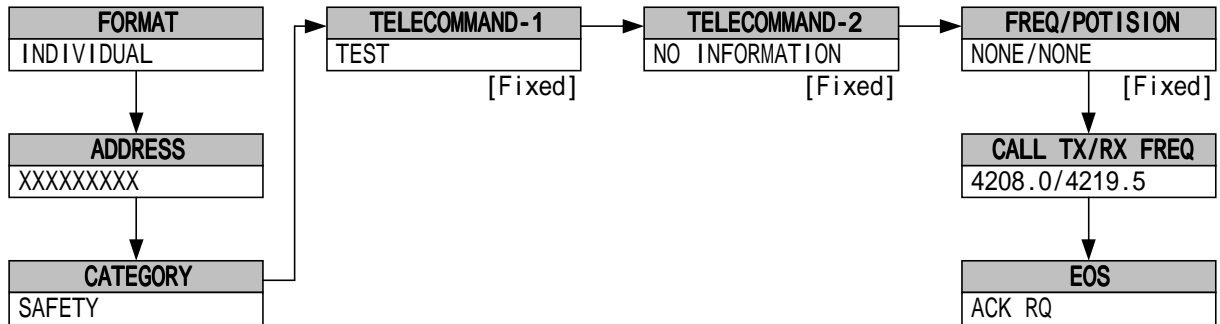
Note To discard the message and quit without sending it, press `FUNC` `4` (QUIT).
To store a message without sending it, press `FUNC` `9` (SAVE).

(10) POLLING CALL

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

```
┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐      ┌─────────────────┐
│     FORMAT      │  →   │  TELECOMMAND-1  │  →   │  TELECOMMAND-2  │  →   │  FREQ/POTISION  │
├─────────────────┤      ├─────────────────┤      ├─────────────────┤      ├─────────────────┤
│ INDIVIDUAL      │      │ POLLING         │      │ NO INFORMATION  │      │ NONE/NONE       │
└─────────────────┘      └─────────────────┘      └─────────────────┘      └─────────────────┘
         │                        [Fixed]                  [Fixed]                  │  [Fixed]
         ↓                                                                          ↓
┌─────────────────┐                                                        ┌─────────────────┐
│     ADDRESS     │                                                        │ CALL TX/RX FREQ │
├─────────────────┤                                                        ├─────────────────┤
│ XXXXXXXX        │                                                        │ 4208.0/4219.5   │
└─────────────────┘                                                        └─────────────────┘
         │                                                                          │
         ↓                                                                          ↓
┌─────────────────┐                                                        ┌─────────────────┐
│    CATEGORY     │                                                        │       EOS       │
├─────────────────┤                                                        ├─────────────────┤
│ ROUTINE         │  [Fixed]                                               │ ACK RQ          │
└─────────────────┘                                                        └─────────────────┘
```

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)   Adress: 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.

```
┌─────────────────┐      ┌─────────────────┐     ┌─────────────────┐     ┌─────────────────┐
│     FORMAT      │ ───► │  TELECOMMAND-1  │ ──► │  TELECOMMAND-2  │ ──► │  FREQ/POTISION  │
├─────────────────┤      ├─────────────────┤     ├─────────────────┤     ├─────────────────┤
│   INDIVIDUAL    │      │  TEST           │     │  NO INFORMATION │     │  NONE/NONE      │
└─────────────────┘      └─────────────────┘     └─────────────────┘     └─────────────────┘
        │                         [Fixed]                  [Fixed]                 │  [Fixed]
        ▼                                                                          ▼
┌─────────────────┐                                                      ┌─────────────────┐
│     ADDRESS     │                                                      │ CALL TX/RX FREQ │
├─────────────────┤                                                      ├─────────────────┤
│   XXXXXXXXX     │                                                      │  4208.0/4219.5  │
└─────────────────┘                                                      └─────────────────┘
        │                                                                          │
        ▼                                                                          ▼
┌─────────────────┐                                                      ┌─────────────────┐
│    CATEGORY     │ ─────┐                                               │      EOS        │
├─────────────────┤      │                                               ├─────────────────┤
│  SAFETY         │      │                                               │  ACK RQ         │
└─────────────────┘      │                                               └─────────────────┘
```

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         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

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 3.5.4 (4), "Other Settings."
[3]   Indicates that the "EOS" of the message compiled in steps (1) to (11) of Section 3.5.3, "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 =  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 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 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 the screen.

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

The "SETUP" screen is displayed.

```
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.

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
```
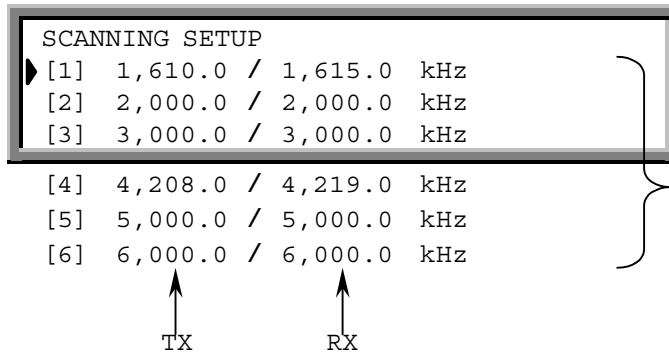
Use ⬚ and ⬚ to scroll the screen.

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).
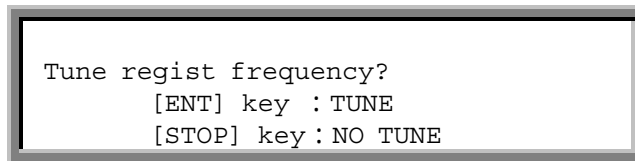
```
Tune regist frequency?
      [ENT] key   TUNE
      [STOP] key  NO TUNE
```

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.

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.

```
SETUP                Select no._
▶1. Date&time edit
 2. Position edit
 3. Calling frequency registration
 4. Address registration
 5. Distress setup              Use [   ] and [   ] to
 6. Others alarm setup          scroll the screen.
 7. Automatic acknowledgement setup
 8. Scanning setup
 9. Watchkeeping receiver setup
```
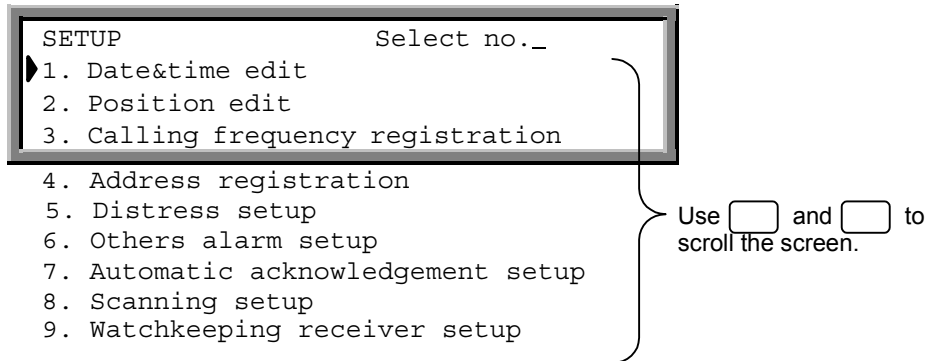
Registering a calling frequency

Procedure

1. From the "SETUP" screen, press ⎡3⎤ , and then press ⎡ENT⎤ .
The "CALLING FREQUENCY REGISTRATION (TX/RX)" screen is displayed.

```
 CALLING FREQUENCY REGISTRATION (TX/RX)
▶[1] 12,345.6/12,356.7 kHz (_      )
 [2]    NONE / NONE   kHz (      )
 [3]    NONE / NONE   kHz (      )
 [4]    NONE / NONE   kHz (      )     Use [   ] and [   ] to
 [5]    NONE / NONE   kHz (      )     scroll the screen.
 [6]    NONE / NONE   kHz (      )
```
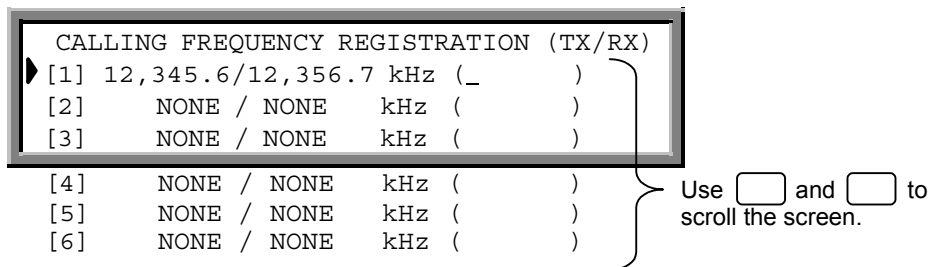
2. Enter the "Transmit frequency/Receive frequency (name)" for each channel.
Enter the transmit frequency/receive frequency pair using ⎡0⎤ to ⎡9⎤ and ⎡.⎤ .

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).

```
 Tune regist frequency?
        [ENT] key    TUNE
        [STOP] key   NO TUNE
```
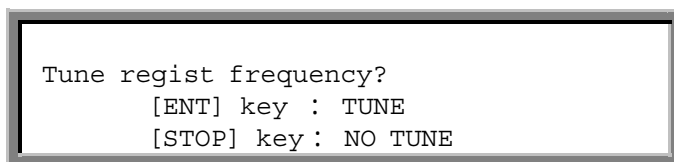
Press ⎡ ENT ⎤ to tune the tuner and then return to the "SETUP" screen.

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

Note   Press ⎡ 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.
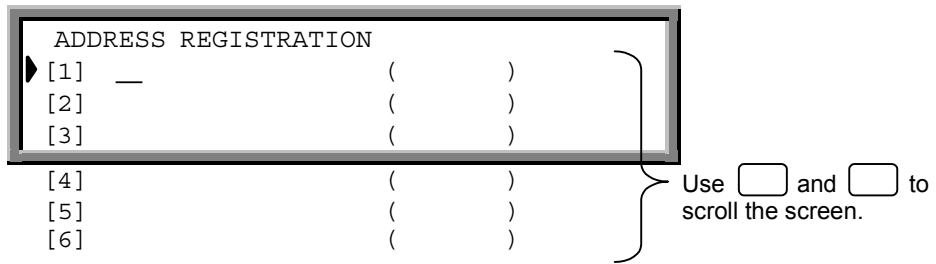
2. Enter the address (name) for each channel.

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.

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'N123 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 RESEIVED 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".
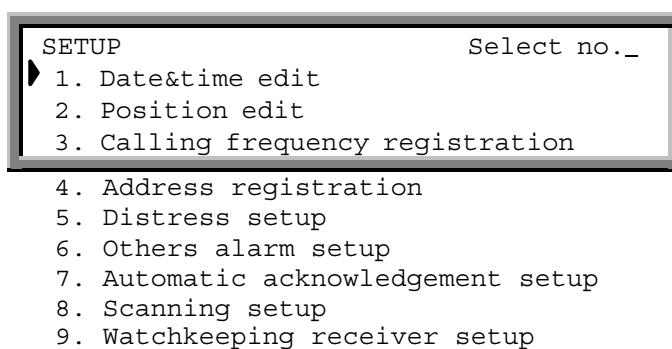
```
SETUP                    Select no._
▶ 1. Date&time edit
  2. Position edit
  3. Calling frequency registration
──────────────────────────────────────
  4. Address registration
  5. Distress setup
  6. Others alarm setup              Use [  ] and [  ] to
  7. Automatic acknowledgement setup  scroll the screen.
  8. Scanning setup
  9. Watchkeeping receiver 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
```
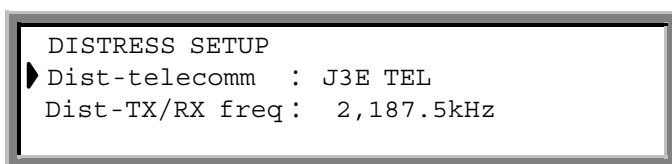
2. Enter each item.

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.

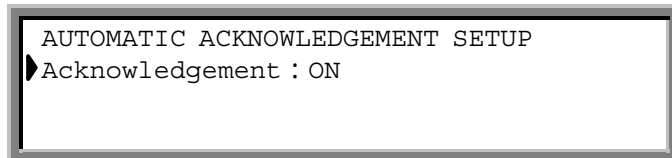**Note** Press FUNC , and then press 4 (QUIT) to cancel this menu.

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.
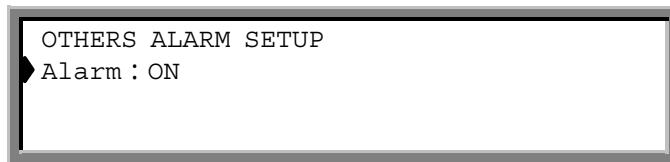
```
OTHERS ALARM SETUP
Alarm  ON
```

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.

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.

```
AUTOMATIC ACKNOWLEDGEMENT SETUP
▶Acknowledgement  ON
```

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.

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.
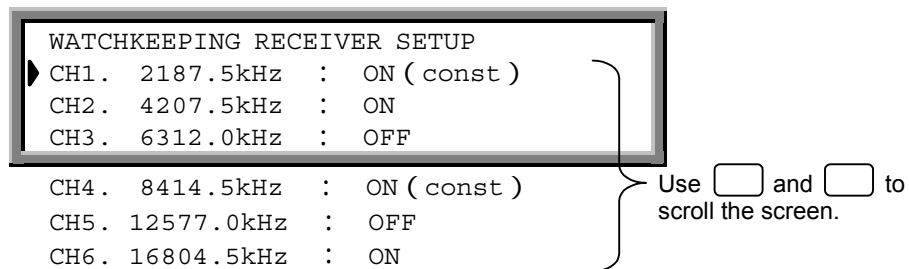
```
WATCHKEEPING RECEIVER SETUP
▶CH1.  2187.5kHz      ON  const
 CH2.  4207.5kHz      ON
 CH3.  6312.0kHz      OFF

 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.

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 =  XXXXXXXXX          [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/NRTX :  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.

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).
Do not operate JSB-196 during ARQ communication.

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 ]
                  ARQ
 — Scanning    CALL                              — Tuner/Tx.POWER —
 [No scannii   AUTO TELEX                          TUNER   :[READY]
                                                   Tx.POWER:[FULL]
 — Last sta    FEC      ▶



 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
 — Scanning info —                                — Tuner/Tx.POWER —
 [           —[ARQ]-> 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/
    3                                                        [ Manual ]
    4
    5                                                        [ Cancel ]
    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
```
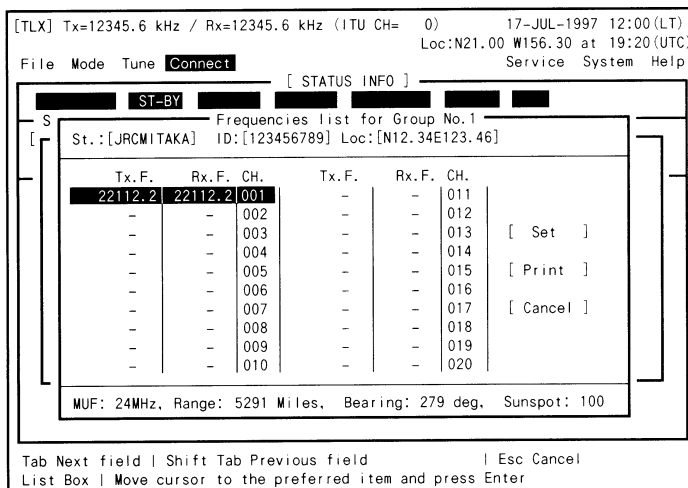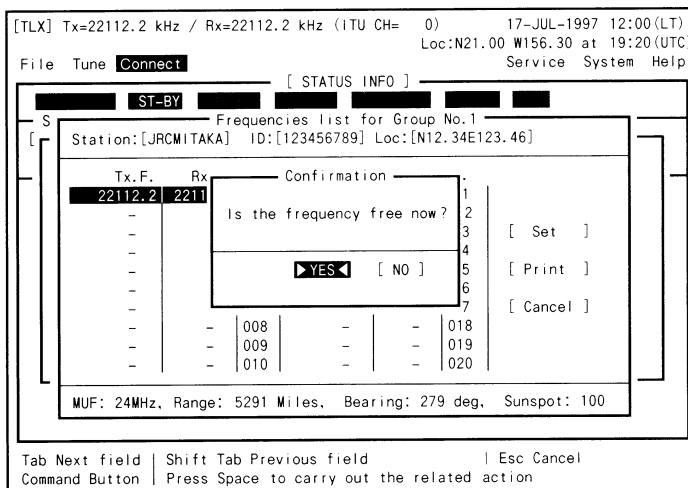
Note   If [Manual] button is selected using Tab and Enter keys, the partner ID and Frequency/Channel can be set manually.

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]                             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        │
└─────────────────────────────────────────────────────────────────────┘
```

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 ┌──────┐        ┌──────┐                         │
│    S │                ┌─── Frequencies list for Group No.1 ───┐       │
│    [ ┌  Station:[JRCMITAKA]  ID:[123456789] Loc:[N12.34E123.46]       │
│                                                                      │
│          Tx.F.   Rx ┌─── Confirmation ───┐ .                         │
│         22112.2 2211│                    │1                           │
│            -        │ Is the frequency free now? 2                    │
│            -        │                    │3    [ Set    ]             │
│            -        │                    │4                           │
│            -        │  ▶YES◀   [ NO ]    │5    [ Print  ]             │
│            -        │                    │6                           │
│            -        └────────────────────┘7    [ 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        │
└─────────────────────────────────────────────────────────────────────┘
```
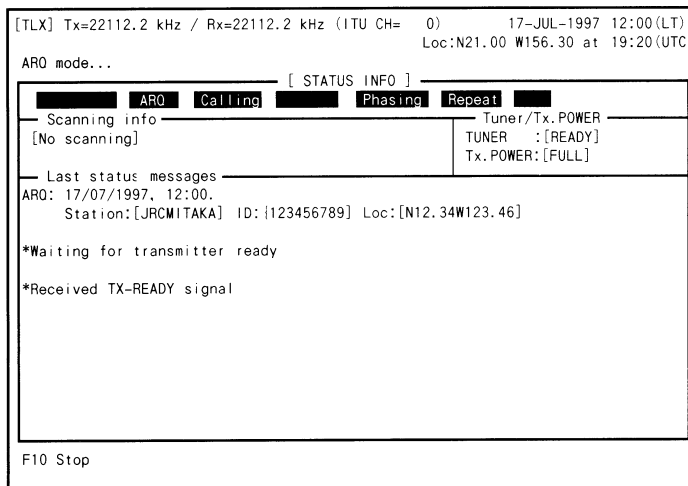
Note If the channel is occupied by the other stations, select [NO] and return to step 3 to select another channel.

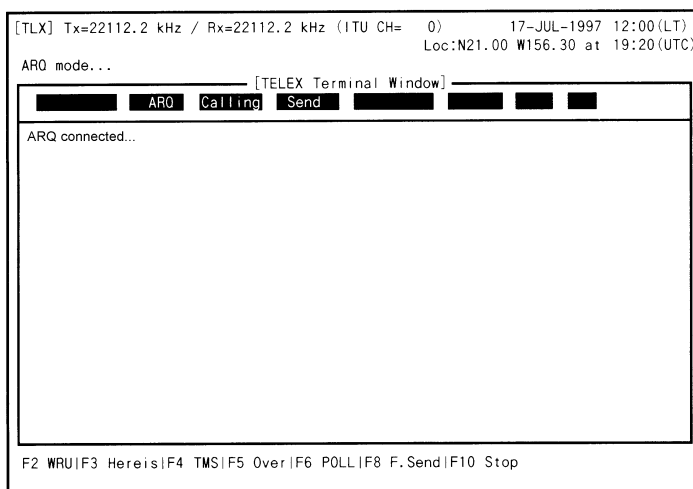**5. The channel is tuned automatically and the NCT-196N begins to call a partner station.**
The following screen is displayed while calling.

```
┌─────────────────────────────────────────────────────────────────────┐
│ [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) │
│   ARQ mode...                                                        │
│                          ┌─[ STATUS INFO ]─┐                         │
│       ┌────┐ ARQ [Calling] ┌────┐ [Phasing] [Repeat] ┌────┐         │
│  ┌─ Scanning info ──────────────────┐ ┌── Tuner/Tx.POWER ──┐        │
│  [No scanning]                         TUNER    :[READY]             │
│                                        Tx.POWER:[FULL]               │
│  ┌─ Last status messages ───────────────────────────────            │
│  ARQ: 17/07/1997, 12:00.                                            │
│        Station:[JRCMITAKA]  ID:[123456789] Loc:[N12.34W123.46]       │
│                                                                      │
│  *Waiting for transmitter ready                                     │
│                                                                      │
│  *Received TX-READY signal                                          │
│                                                                      │
│                                                                      │
│                                                                      │
│                                                                      │
│  F10 Stop                                                           │
└─────────────────────────────────────────────────────────────────────┘
```
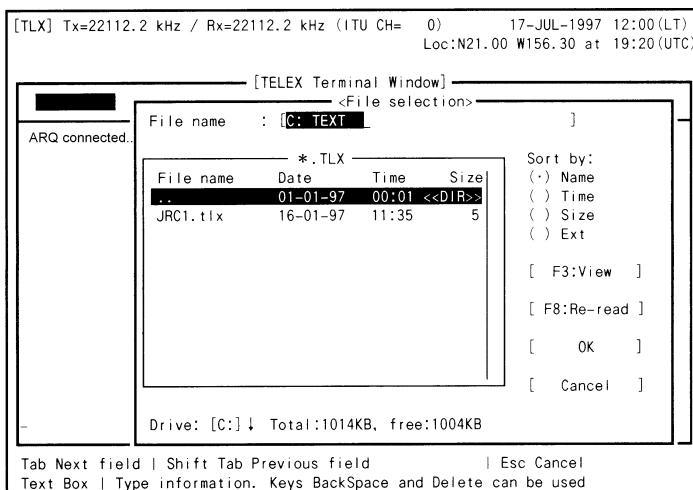
6. When the connection is established, the following screen appears and the DTE is ready to communicate with a partner station.
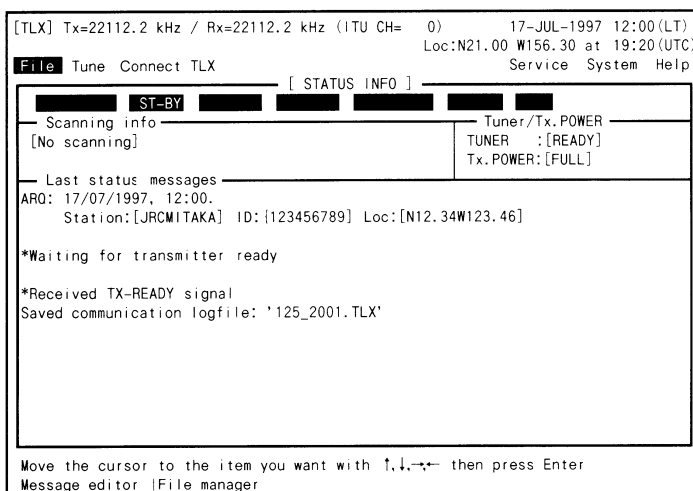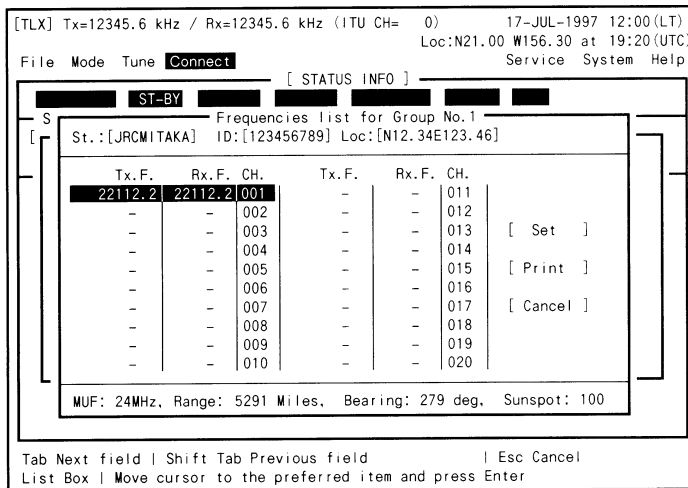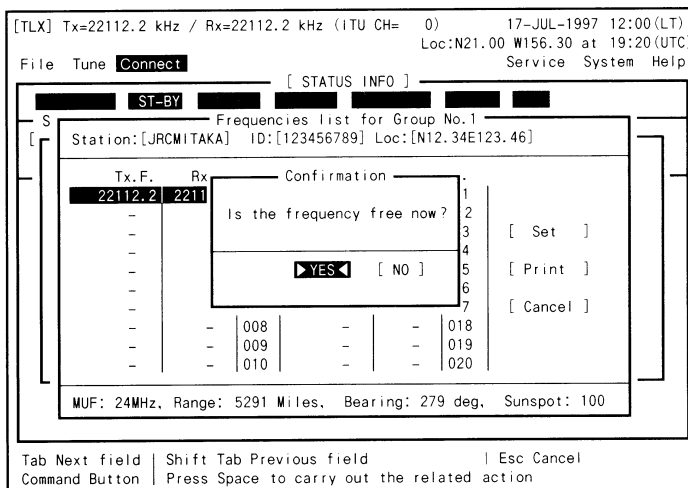Send message to the partner station using the keyboard.

```
[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] ──
 ┌─────────┐         ┌──────── <File selection> ──────────┐
 │ ███████ │         │ File name    : [C: TEXT          ]  │
 │─────────│         │                                     │
 │ARQ conn │         │      ── *.TLX ──         Sort by:   │
 │         │         │ File name   Date    Time   Size  (·) Name │
 │         │         │ ..          01-01-97 00:01 <<DIR>>  ( ) Time │
 │         │         │ JRC1.tlx    16-01-97 11:35    5     ( ) 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                          Service  System  Help
                          ── [ STATUS INFO ] ──
 ████    ST-BY ███    ████    ████    ████    ████    ██
 ── Scanning info ──                         ── Tuner/Tx.POWER ──
 [No scanning]                               TUNER   :[READY]
                                             Tx.POWER:[FULL]
 ── Last status messages ──
 ARQ: 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;

F 2   :   WRU -   Request to send Answerback code of a partner station
F 3   :   Here is -   Sending Answerback code of own station
F 4   :   TMS -   Sending the time of own position
F 5   :   Over -   Exchanging the right to send message
F 6   :   POLL -   Getting the right to send messages without terminating the
                       communication even if a partner station try to terminate
F 8   :   F.Send -   Sending the previously created file
F10   :   Stop -   Terminating 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.)

3.6.3.1 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                                    Service  System  Help
                                  [ STATUS INFO ]
                       ARQ
 — Scanning           CALL                          — Tuner/Tx.POWER —
 [No scannin          AUTO TELEX                     TUNER   :[READY]
                                                    Tx.POWER:[FULL]
 — Last sta           FEC          ▶




  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
               ST-BY                [ STATUS INFO ]
 — Scanning 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/QQV/
    3                                                      [ Manual ]
    4
    5                                                      [ Cancel ]
    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                               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
```

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  ┌──────┐  ┌──────────┐     ┌──────┐  │
 │S         └──────┘ Frequencies list for Group No.1      │
 │[         Station:[JRCMITAKA]  ID:[123456789] Loc:[N12.34E123.46]
 │
 │         Tx.F.   Rx┌──────── Confirmation ────────┐
 │         22112.2 2211│                          │1
 │           -         │  Is the frequency free now? │2    [ Set    ]
 │           -         │                          │3
 │           -         │                          │4
 │           -         │      ▶YES◀   [ NO ]      │5    [ Print  ]
 │           -         │                          │6
 │           -         └──────────────────────────┘7    [ 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 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 ] ───┐
│          │ ARQ     │    ▐██▌  ▐████▌  ▐████▌  ▐██▌
├ Scanning │ CALL    │                         ┌── Tuner/Tx.POWER ──
│ [No scanni│ AUTO TELEX│                      │ TUNER    :[READY]
│          │         │                         │ Tx.POWER:[FULL]
├ Last stat│ FEC    ▶│
           └─────────┘

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

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
┌─────────ST│ ARQ │      ┌─── [ STATUS INFO ] ───┐
├ Scanning info│ CALL │   ▐██▌  ▐████▌  ▐████▌  ▐██▌
│ [No scanning]│ AUTO │                    ┌── Tuner/Tx.POWER ──
│             │      │                     │ TUNER    :[READY]
│          ┌──┴──── TX/RX frequency ────┐  │ FULL
├ Last status m│                        │
              │ 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  ARQ     ████████   ████████   ████████
 — Scanning info  CALL              ┌─── Tuner/Tx.POWER ───
 [No scanning]  AUTO                │ TUNER    :[READY]
                                    │ Tx.POWER:[FULL]
 — Last status m  FEC  ┌─ Confirmation ─┐
                       │                │
                       │ Is the frequency free now?│
                       │                │
                       │   ►YES◄    [ NO ]│
                       └────────────────┘




 Tab Next field  │ Shift Tab Previous field        │ Esc Cancel
 Command Button  │ Press Space to carry out the related action
```
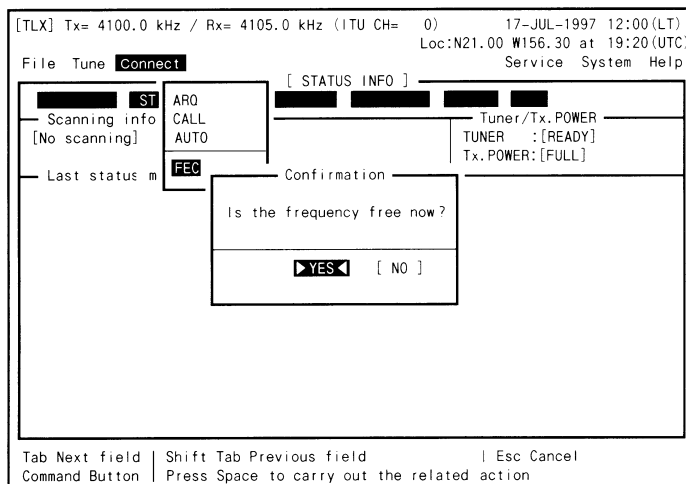
Note   If the frequency is occupied by the other stations, select [NO] and return to step 2 to select another frequency.

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   .

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.

3.6.4.1   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
                          ┌─────────────────┐  TUS INFO ]
                          │ Frequency List  │    ▮▮▮▮▮▮  ▮▮▮▮▮▮  ▮▮▮▮▮▮
  — Scanning             │                  │  —Tuner/Tx. POWER—
  [No scann              │ ITU Channel set  │  TUNER   : [READY]
                         │ Tx/Rx frequency set│ Tx. POWER [FULL]
  — Last sta             │ Tx. Tune         │
                         │                  │
                         │ 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                [ STATUS INFO ]      Service  System  Help
  ▮▮▮▮    ST-BY  ▮▮▮▮▮▮      ▮▮▮▮▮▮      ▮▮▮▮▮▮      ▮▮▮▮▮▮
  — Scanning info ──────── Station List for [TLX] mode ──── Tuner/Tx. POWER—
  [N    No.  Station Name   Stat.ID    Location     F.Sign
       1  JRCMITAKA     123456789 N12.34E123.46  DOTDOT    [  Scan  ]
  — L  2  JRCSAITAMA    223456789 N44.00E134.00  K/QQ//
       3                                                   [ Cancel ]
       4
       5
       6
       7
       8
       9
      10

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)
                                        Loc: N19.00  E115.30 at 11:00(UTC)
File  Tune  Connect                                  Service  System  Help
                               ─── TUS INFO ] ───
  ┌───────────────────────┐                         ─Tuner/Tx.POWER─
── Scanning│  Frequency List       │                TUNER   : [READY]
   [No scan│                       │                Tx.POWER: [FULL]
           │  ITU Channel set      │
── Last st │  Tx/Rx frequency set  │
           │  Tx. Tune             │
           │                       │
           │  Scanning stop        │
           └───────────────────────┘



   Move the cursor to the item you want with   ,  ,  ,    then press Enter
```
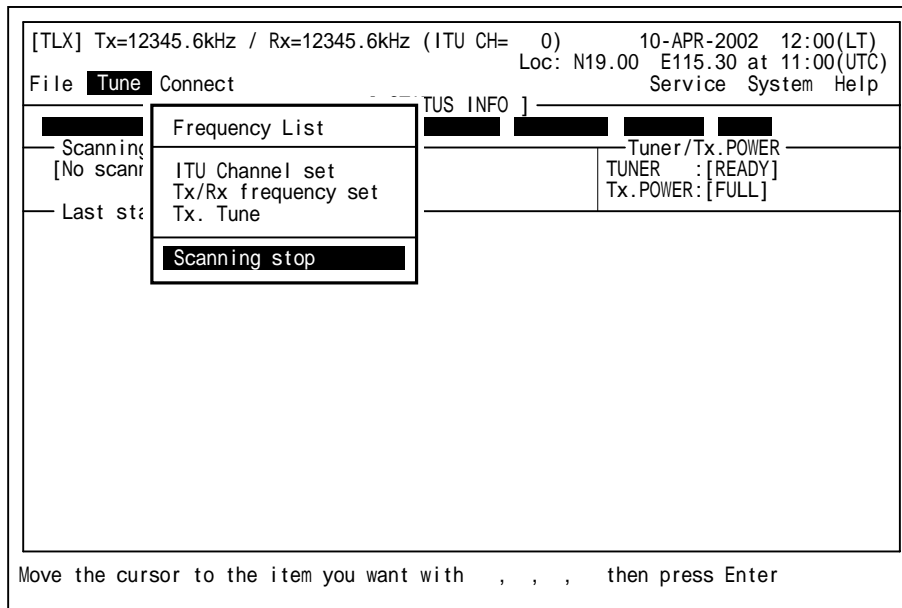
2. Scanning is stopped and the NCT-196N returns to stand-by condition.
The Tx/Rx frequency is set to the frequency scanned last.

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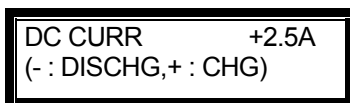
1. **Press Menu button and turn the dial to "DC CURRENT" menu on the LCD.**

```
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.**

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.**

Procedure

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

```
PA (A)    Vc, Ic
```

2.   Press ENT button.
      The menu is selected and LCD shows the Vc and Ic values of PA(A) .
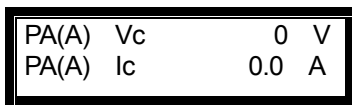
```
PA(A)    Vc            0    V
PA(A)    Ic          0.0    A
```

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)	√	√	√

Procedure

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

```
PA SWR

```

2.   Press ENT **button.**
The menu is selected and LCD shows the SWR value of PA output.
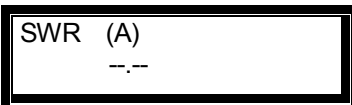
```
SWR   (A)
      --.--
```

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)	✓	✓	✓

Procedure

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

```
TOUCH TONE

```

2. **Press ENT button.**
   The menu is selected and LCD shows setting of TOUCH TONE.

```
TOUCH TONE
     ON
```

3. **Turn the dial to select ON or OFF.**

```
TOUCH TONE
     OFF
```

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

Procedure

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

```
ALARM TONE

```

2. **Press ENT button.**
   The menu is selected and LCD shows setting of ALARM TONE.

```
ALARM TONE
     ON
```

3. **Turn the dial to select ON or OFF.**

```
ALARM TONE
     OFF
```

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

Procedure

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

    ```
    CHARGE METHOD
    ```

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

    ```
    CHARGE METHOD
         ORDINARY
    ```

3. **Turn the dial to select ORDINARY or EQUAL.**

    ```
    CHARGE METHOD
         EQUAL
    ```

    ORDINARY: Automatic charge mode where the battery is kept fully-charged. This mode is
                       normally used.
    EQUAL: Equaizing charge mode.
                       After setting it as EQUAL mode, when charge current decreased, or when charge
                       time has passed for 2 hours, it changes to ORDINARY mode automatically.

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

    Note   When charge mode changes the EQUAL to the ORDINARY, JSB-196GM may turn off. In
               this case turn on the JSB-196GM.

Attention for DC operation
1. **Single Setting**
    Either JSB or SES is usable in this setting.
        Turn on JSB-196GM   : SES is turned off automatically.
                                      (JSB-196GM shows "SES OFF" on LCD.)
        Turn off JSB-196GM   : SES is turned on automatically after 30-60sec.
2. **Dual Setting**
    Both JSB and SES are simultaneously usable in the setting.

    Note   Refer to "Installation manual" about Single/Dual setting.

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.

Paper Support Bar
Adjusts the paper feed.

Paper Roll
Printing paper.

Paper Roll Cover
Protects the paper roll.

Paper Roll Stand Unit
Retains the paper roll.

Roll Bar
Inserted through the
paper roll.

Cutter
Cuts paper.

Paper Feed Knob
Ejects jammed paper
and is used to load paper.

Printer Cover
Protects the printing head
and ribbon cassette.

Operating Panel
Selects a function.

Reflection Lever
Controls the contact/free
between the paper roll and platen.

Printer Head
Prints out by direct
contact with the paper roll.

POWER Switch
Turns the power ON/OFF.

Platen
Controls paper movement.

From the operating panel, switching on-line/off-line, selecting of high quality characters, forced line feed, and forced page feed can be controlled.
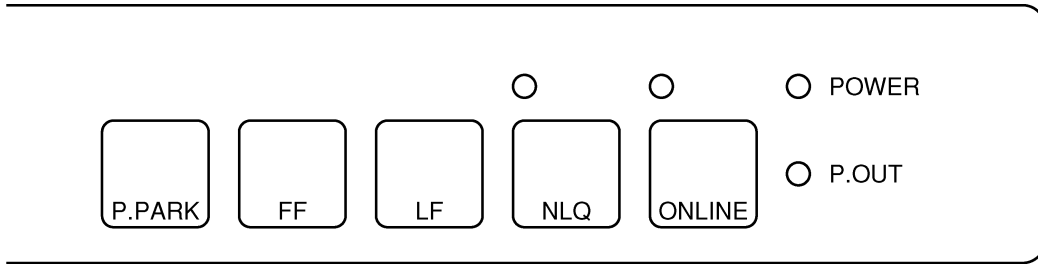
Paper park switch (Not operable in this system)
While the paper roll is set, this function allows single sheet paper use, such as size A4, by moving the paper roll back to the tractor position.

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 FF 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 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 lamp
Lights when the printer power is ON.

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.

Two Screws

Paper Roll Stand Unit
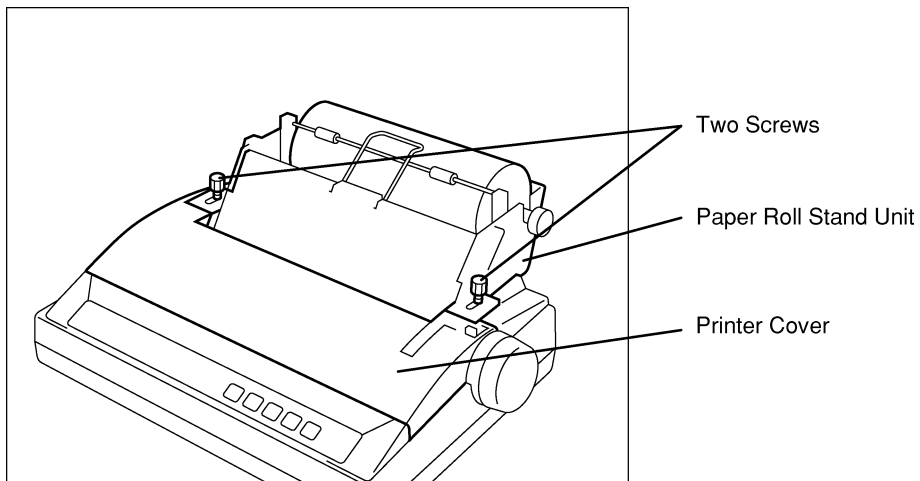
Printer Cover

2.   Move the paper roll stand unit one step backwards.

Paper Roll Stand Unit
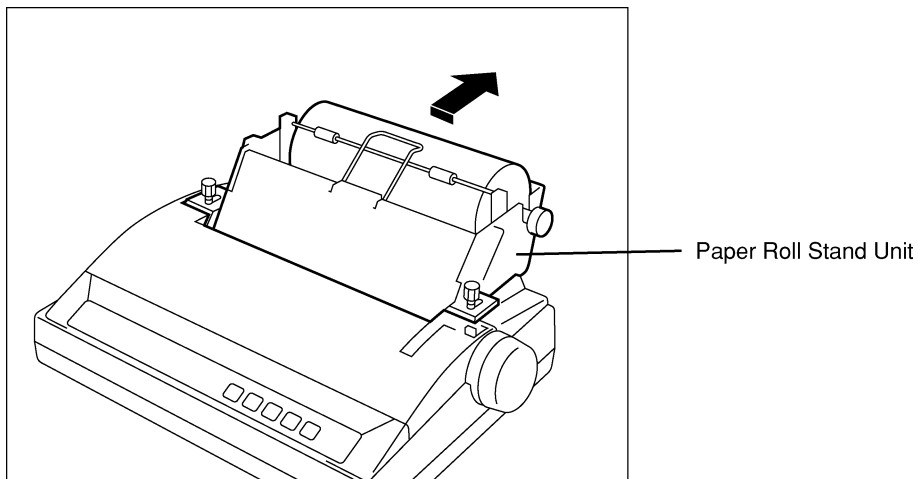
3.   Open the printer cover.
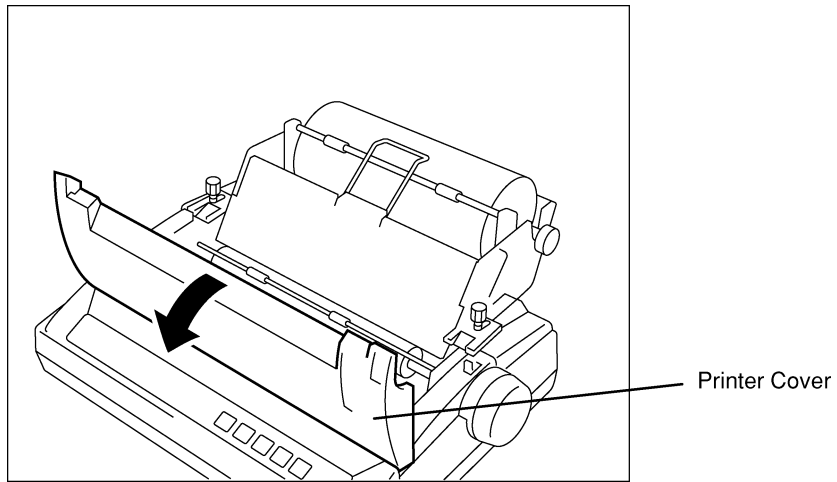
Printer Cover

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.
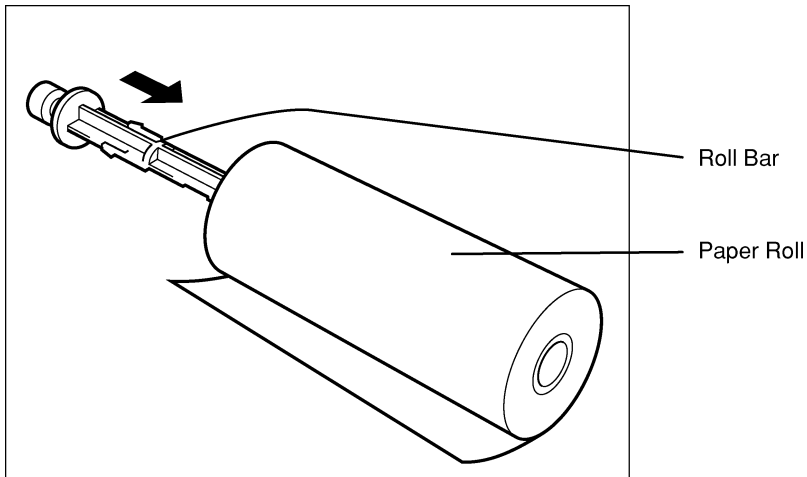
Roll Bar

Paper Roll

2.   Attach the roll bar with the paper roll onto the paper roll stand unit holder, taking care to notice he paper roll's direction.
Set the sensor guide lever so that it touches the paper roll.

Roll Holder

Sensor Guide Lever

Roll Holder
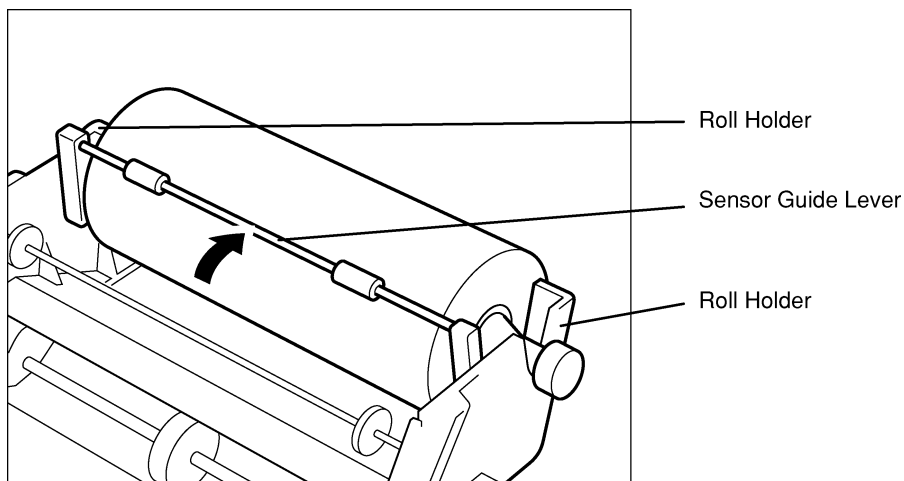
Note   Perform the consecutive procedures while the printer cover is open.
To open the printer cover, refer to "9.3 Opening/Closing the Printer Cover".

3.   Pull out the leading edge of the paper onto the paper guide bar.

Paper Guide Bar
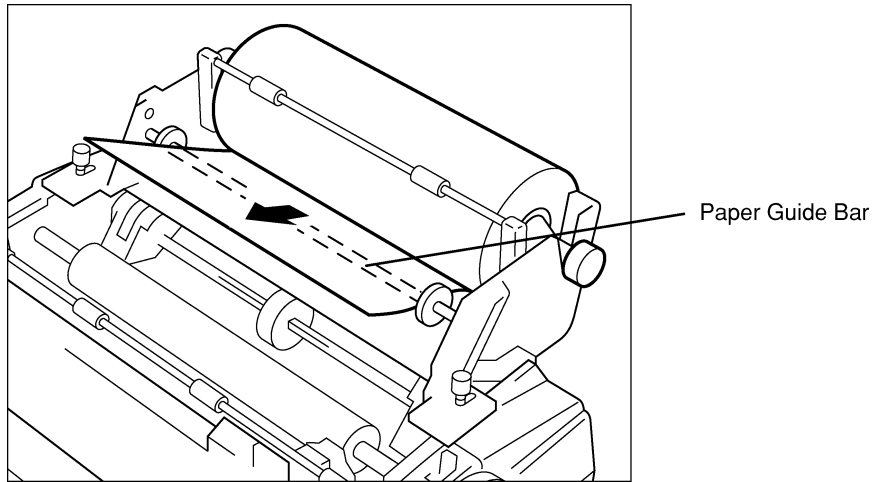
4.   Insert the leading edge of the paper from behind the platen

Platen
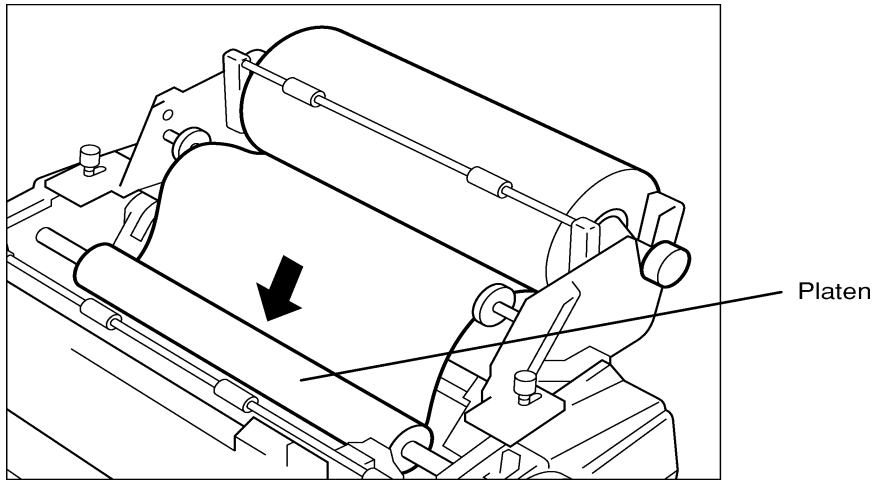
5.   Turn the paper feed knob and pull out the leading edge of the paper.

Paper Feed Knob
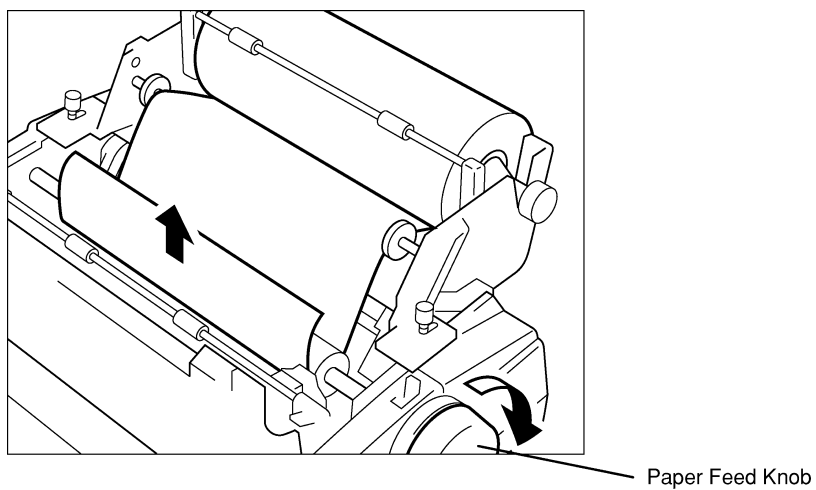
6. **Adjust the paper position for both sides of paper in and paper out, so that the left and right guide rings of the paper guide bar support the paper lightly.**

Guide Rings
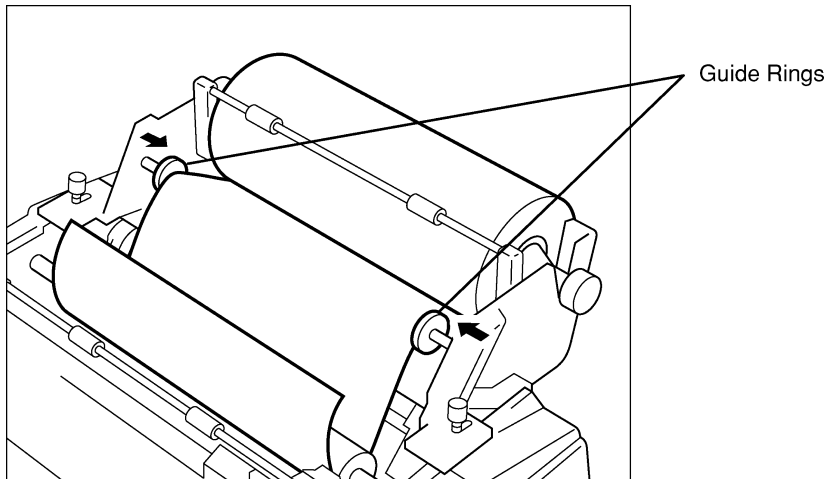
7. **Pull down the reflection lever.**
The paper touches the platen securely.

Platen
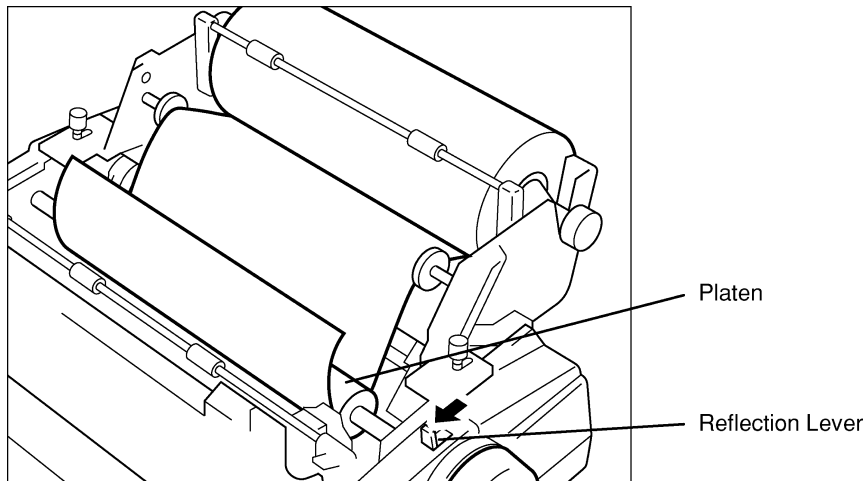
Reflection Lever

8. **Pull down the reflection lever.**
Lift the paper setting lever to harness the paper emerging from the platen.

Paper Setting Lever
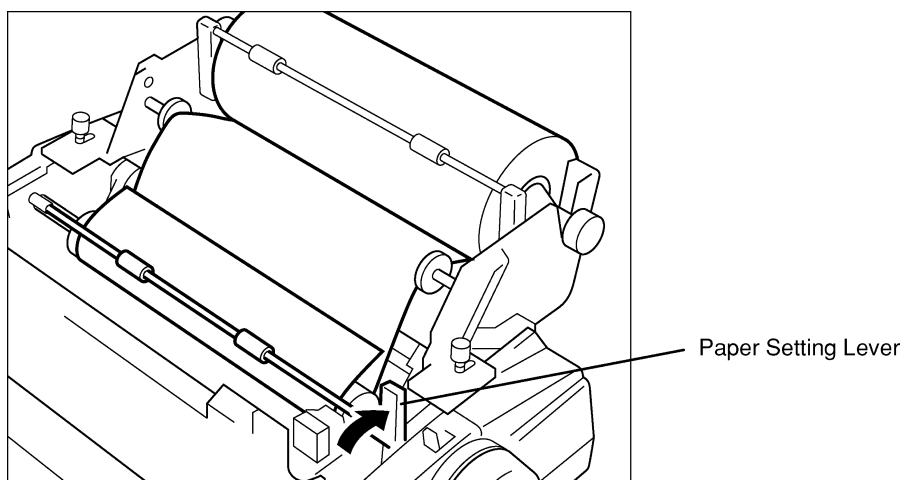
9. **First, insert the axis of the left side of the paper roll cover into the left hole of the paper roll stand, then set the right side.**
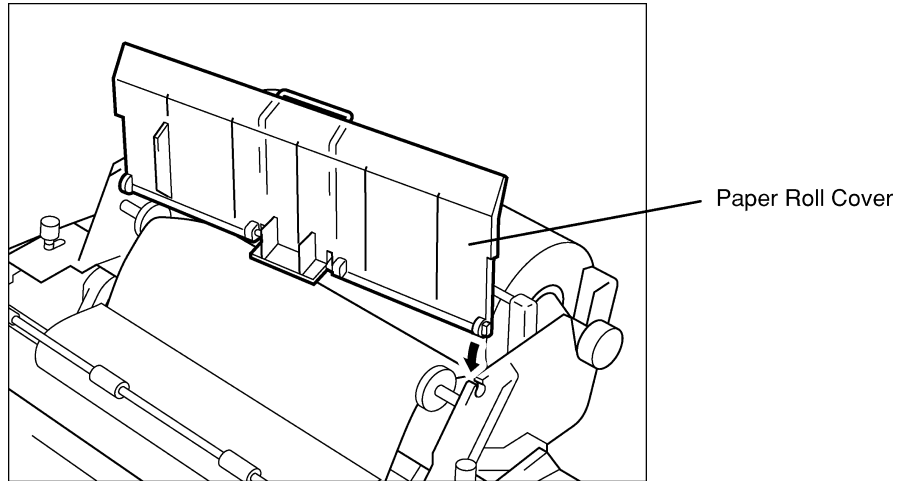
Paper Roll Cover

10. **Lower the paper roll cover and then push down the paper support bar.**

Paper Support Bar
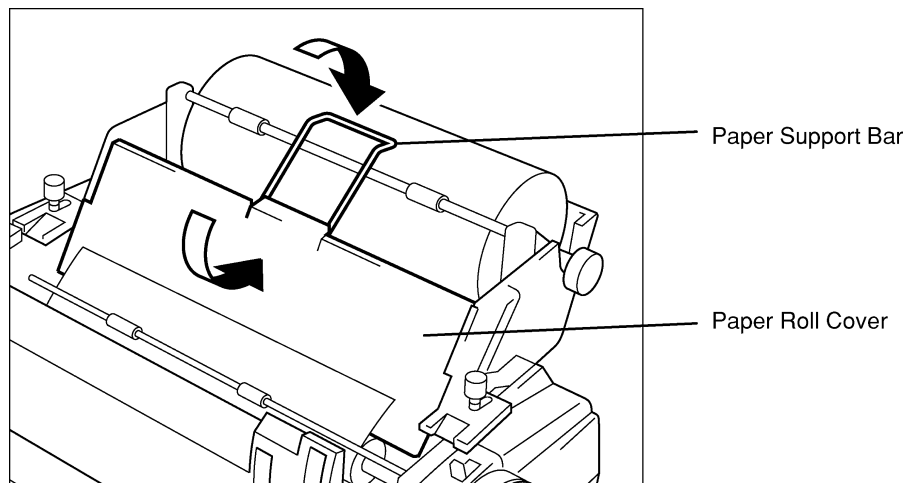
Paper Roll Cover

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.**

Paper Roll Stand Unit

Screws

Printer Cover
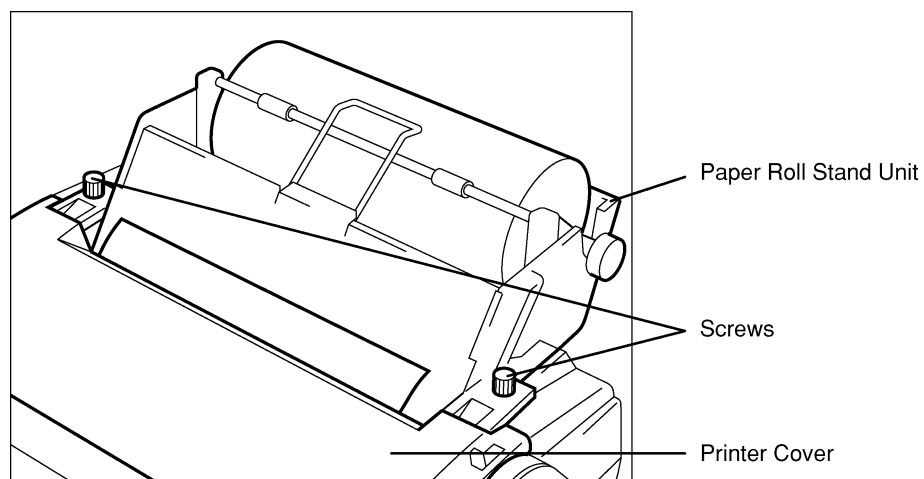
3.8.5　　　Replacing the Ribbon Cassette Cartridge

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".

Printer Cover
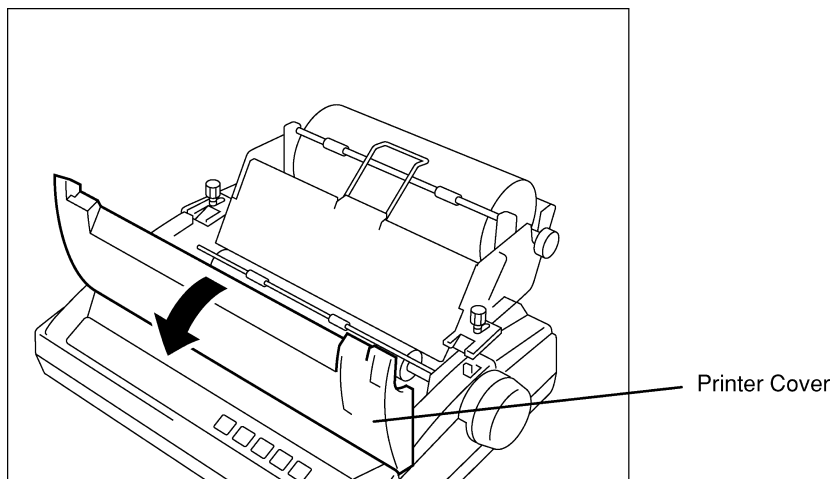
2.　Lift up the tip of the ribbon cassette cartridge by grasping the projection on top, and remove it.

The upper part of the projection.

Ribbon Cassette Cartridge
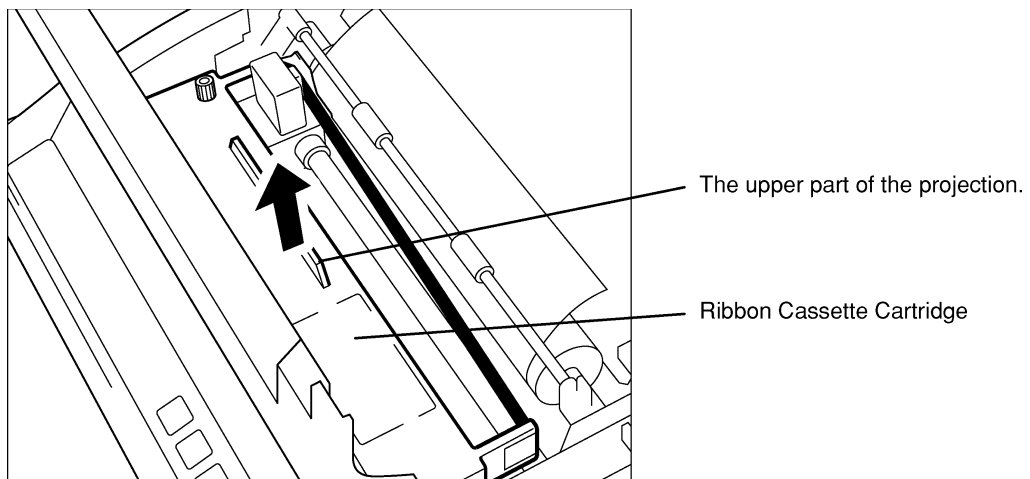
3. **Turn the cassette knob of the new ribbon cassette cartridge counterclockwise to increase the tension of the ribbon.**

Cassette Knob
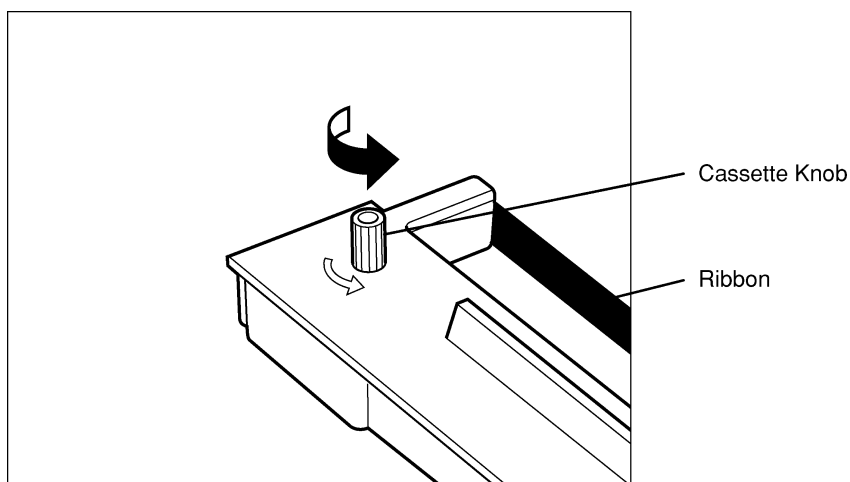
Ribbon

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.

Printing Head

Ribbon feed Axis (cassetle knob)
(printer side)

Ribbon Cassette Cartridge
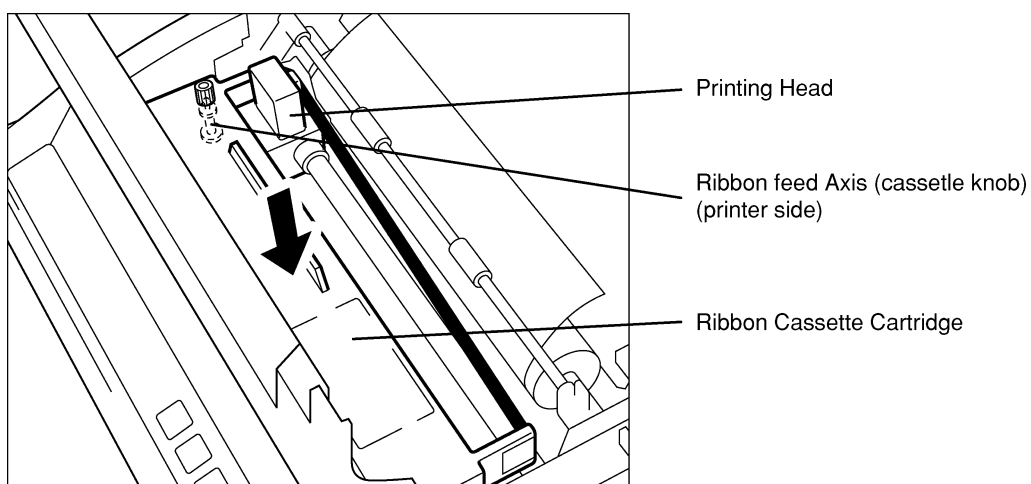
5. **Close the printer cover**

Printer Cover
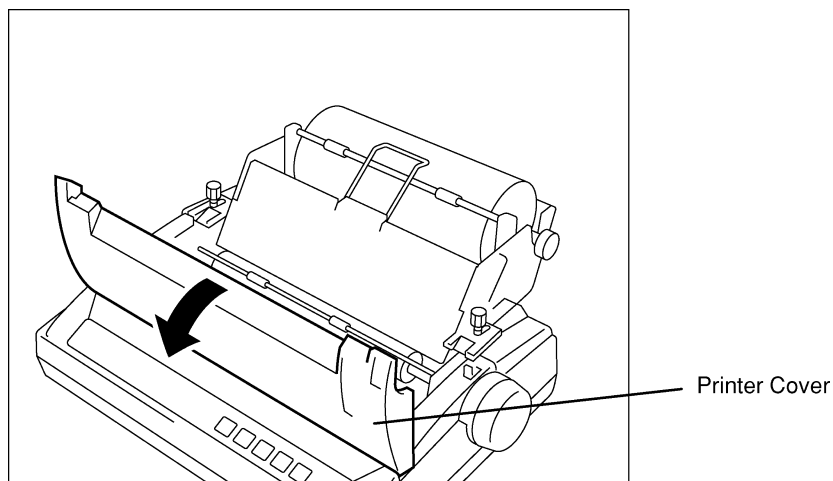
3.8.6   Adjusting the Printing Pressure (to Printing Paper Thickness)

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   .
    Three layers of copying paper :   The optimum position is   or   .
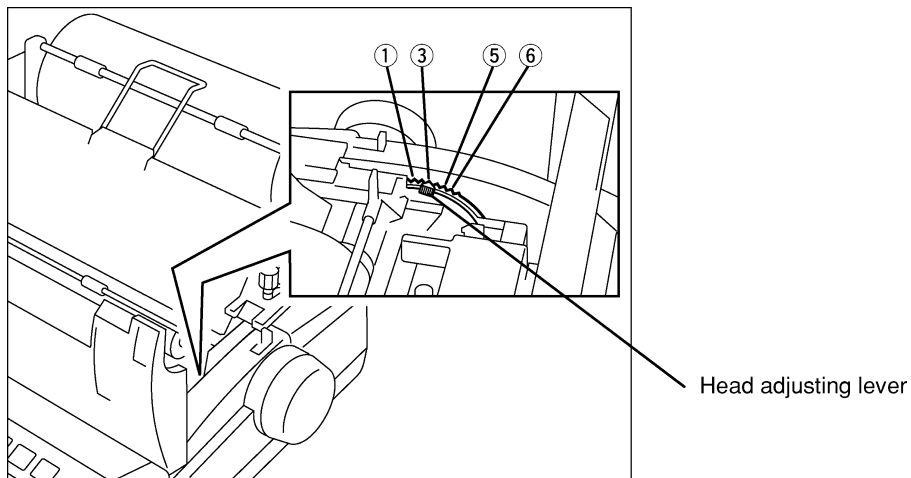
Head adjusting lever

Note   The printing pressure increases in numerical order (   ).
To open/close the printer cover, refer to "7.3 Opening/Closing the Printer Cover".

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.
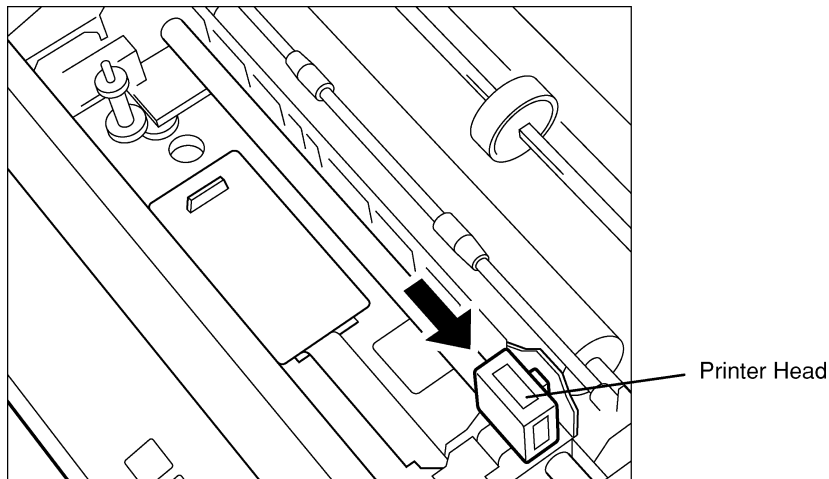
Printer Head

Note   The printing pressure increases in numerical order (   ).
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
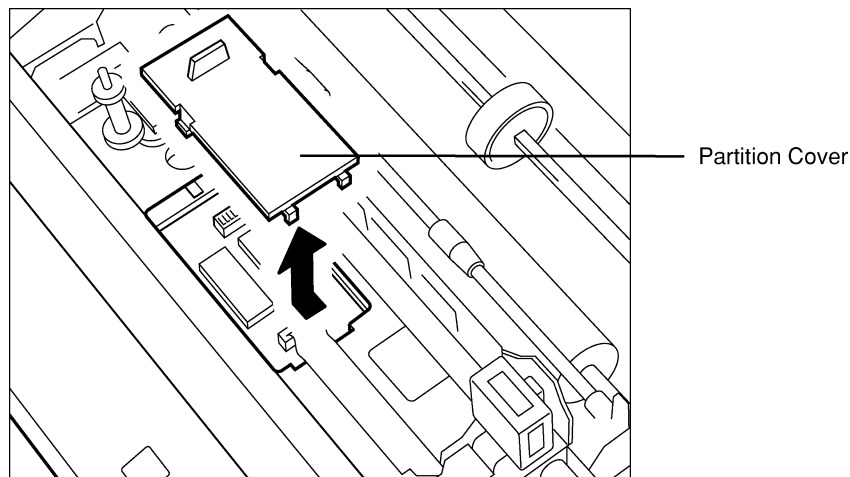
3. Set the DIP switch to desired mode

The following diagrams describe the relation between each DIP switch position and the content of each setting.
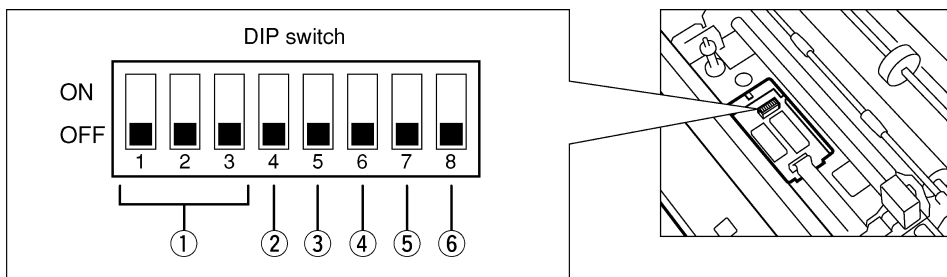
① **Selection of an international language**

ON OFF	U.S.A. (English)	ON OFF	France (French)	ON OFF	Germany (German)	ON OFF	U.K. (English)
1 2 3		1 2 3		1 2 3		1 2 3	

ON OFF	Denmark (Danish)	ON OFF	Sweden (Swedish)	ON OFF	Italy (Italian)	ON OFF	Spain (Spanish)
1 2 3		1 2 3		1 2 3		1 2 3	

② **Emulation**

ON OFF **4** IBM

ON OFF **4** FX
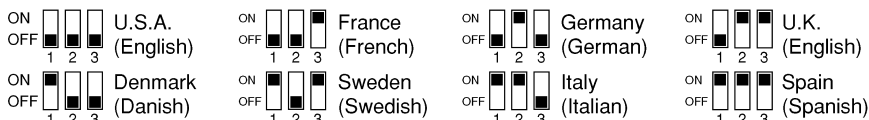
③ **Selection of character set (IBM mode)**

ON OFF **5** SET 2

ON OFF **5** SET 1

③ **One inch skip perforation (FX mode)**

ON OFF **5** Valid

ON OFF **5** Invalid

④ **Paper near end sensor**

ON OFF **6** Valid

ON OFF **6** Invalid
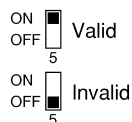
⑤ **Selection of AUTO CR (IBM mode)**

ON OFF **7** Valid

ON OFF **7** Invalid
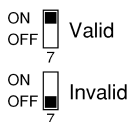
⑤ **Selection of valid/invalid for DC1/DC3 (FX mode)**

ON OFF **7** Invalid

ON OFF **7** Valid
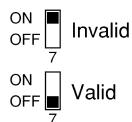
DC3 code: Printer is set to ignore all data except DC1 code (By-pass state).
DC1 code: By-pass state in DC3 is canceled.

⑥ **Selection of LF code (IBM mode)**

ON OFF **8** LF＋CR

ON OFF **8** LF only
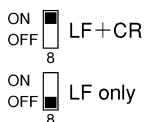
⑥ **Selection of LF code (FX mode)**

ON OFF **8** Invalid

ON OFF **8** 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.

	DIP switch setting
JSS-296(NCT-196N/NDZ-127J) JSS-825D(NCT-620D) NCT-196 NCT-196N	**DIP switch** ON / OFF 1 2 3 4 5 6 7 8 (all OFF)
JSS-850 JUE-75C(NDZ-127C)	**DIP switch** ON / OFF 1 2 3 4 5 6 7 8 (4 ON, rest OFF)
JSS-825NA/NC(NDZ-127N)	**DIP switch** ON / OFF 1 2 3 4 5 6 7 8 (4,5,6,7 ON, rest OFF)

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 S │
│   hort 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. 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: 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.

6. SPECIFICATIONS

1. GENERAL

Frequency range:	Transmit: 1.6 to 27.5MHz (100Hz steps)
	Receive: 0.1 to 29.9999MHz (100Hz steps)
Frequency tolerance:	±10Hz or better
Emission mode:	J3E (TEL), F1B (DSC/TLX), A1A (CW), H2B,
	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
	Tx: 2.0kVA max, Rx: 0.5kVA max
	21.6 31.2V DC
	Tx: 30A max, Rx: 7A max
Compass safe distance:	1.5m

2. TRANSMITTER

Output power:	AC power source:
	200Wpx (1.6 to 4MHz) , 250Wpx (4 to 27.5MHz)
	DC power source:
	100Wpx (1.6 to 4MHz) , 150Wpx (4 to 27.5MHz)
Occupied bandwidth:	J3E (TEL) 3kHz or better
	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) 3.5uV or better (4 to 27.5MHz)
	F1B (DSC/TLX)	1.8uV or better (1.6 to 4MHz) 1.0uV or better (4 to 27.5MHz)
Selectivity:	J3E (TEL)	6dB bandwidth 2.4 to 3kHz, 66dB bandwidth Within ±2.1kHz
	F1B (DSC/TLX)	6dB bandwidth 270 to 300Hz, 60dB bandwidth Within ±550Hz
Spurious response:	60dB or better	
Clarifier range:	±200Hz 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
	Received Other messages: 20
	Transmitted message: 11
Clock:	Within +/- 30ppm
Data backup time:	24 hours (message content and time data)
Mark frequency:	1615 +/- 0.5Hz
Space frequency:	1785 +/- 0.5Hz
Output level:	0dBm (-20 to +10dBm variable/600 ohms balanced)
Input frequency :	1700 +/- 85Hz
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 +/- 30ppm
Mark frequency:	1615 +/- 0.5Hz
Space frequency:	1785 +/- 0.5Hz
Output level:	0dBm (-20 to +10dBm variable/600 ohms balanced)
Input frequency :	1700 +/- 85Hz
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 Preset tuning: typical 0.5sec
Operating temperature:	-25 to +55°C

7.   BATTERY CHARGER

Charging current:	20A (Ordinary charge) 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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