FURUNO

OPERATOR'S MANUAL

MF/HF DSC TERMINAL

MODEL   DSC-6/6A

FURUNO ELECTRIC CO., LTD.
NISHINOMIYA, JAPAN

·Your Local Agent/Dealer

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⚠ SAFETY INSTRUCTIONS

"**DANGER**", "**WARNING**" and "**CAUTION**" notices appear throughout this manual. It is the responsibility of the operator of the equipment to read, understand and follow these notices. If you have any questions regarding these safety instructions, please contact a FURUNO agent or dealer.

⚠ DANGER	This notice indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

| ⚠ WARNING	This notice indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION	This notice indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, or property damage.

⚠WARNING

	Do not open the cover of the equipment. This equipment uses high voltage electricity which can shock, burn, or cause death. Only qualified personnel should work inside the equipment.

Do not dissasemble or modify the equipment.

Fire, electrical shock or serious injury can result.

Immediately turn off the power at the ship's mains switchboard if water or foreign object falls into the equipment or the equipment is emitting smoke or fire.

Continued use of the equipment can cause fire, electrical shock or serious injury.

⚠ CAUTION

Do not place liquid-filled containers on the top of the equipment.

Fire or electrical shock can result if a liquid spills into the equipment.

Do not place heater near the equipment.

Heat can melt the power cord, which can result in fire or electrical shock.

Do not operate the unit with wet hands.

Electrical shock can result.

Use the correct fuse.

Use of the wrong fuse can cause fire or equipment damage.

WARNING Label attached

⚠ **WARNING** ⚠
To avoid electrical shock, do not remove cover. No user-serviceable parts inside.
⚠   ▬ ▬   ⚠
- -
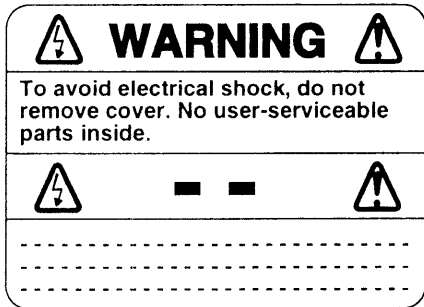
Name :   Warning Label (1)
Type :   86-003-1011-0
Code No. : 100-236-230

Introduction

General

The FURUNO DSC-6/6A DSC Terminal provides the full range of distress and general calls on MF/HF bands, in full compliance with GMDSS requirements for class A DSC terminals.

Difference between DSC-6 and DSC-6A

Since the DSC-6A incorporates 2187.5 kHz watch receiver, the antenna is provided for the DSC-6A. The operations of the DSC-6 and DSC-6A are completely the same.

Model	Antenna	Operation
DSC-6	Not provided	
DSC-6A	Provided (2187.5 kHz continuous watch)	Same

About this manual

This manual mainly consists of two parts: PART 1, Operation, and PART 2, Maintenance.

PART 1

PART 1 provides operating information. For sake of easy understanding, instruction is arranged by type of operation.

Once you become acquainted with the basic rules of operation, the function and logical layout of the DSC-6/6A man-to-machine dialogue will become more apparent. Therefore, please read "Overview" and "1. Basic Operation" to acquaint yourself with the basics of this unit.

PART 2

This part contains the information necessary for conducting checks of the equipment. If you think something is wrong with the unit, refer to this part.

The DSC-6/6A System

DSC Distress Frequencies:
2187.5kHz
4207.5kHz
6312kHz
8414.5kHz
12577kHz
16804.5kHz

Printer
(option)

```
+-----------+       +--------+     +--------+     +----------------------+
| PP-500    |.......| DSC-6  |-----| AA-50  |-----| SSB Radiotelephone   |
|   or      |       |        |     |        |     |    FS-1562,          |
| PP-510    |       |        |     |        |     |  FS-5000/8000        |
+-----------+       +--------+     +--------+     +----------------------+
```

(For operation, refer to
the Operator's Manual
of the printer.)

DSC Watch
Receiver

10 to 40 VDC
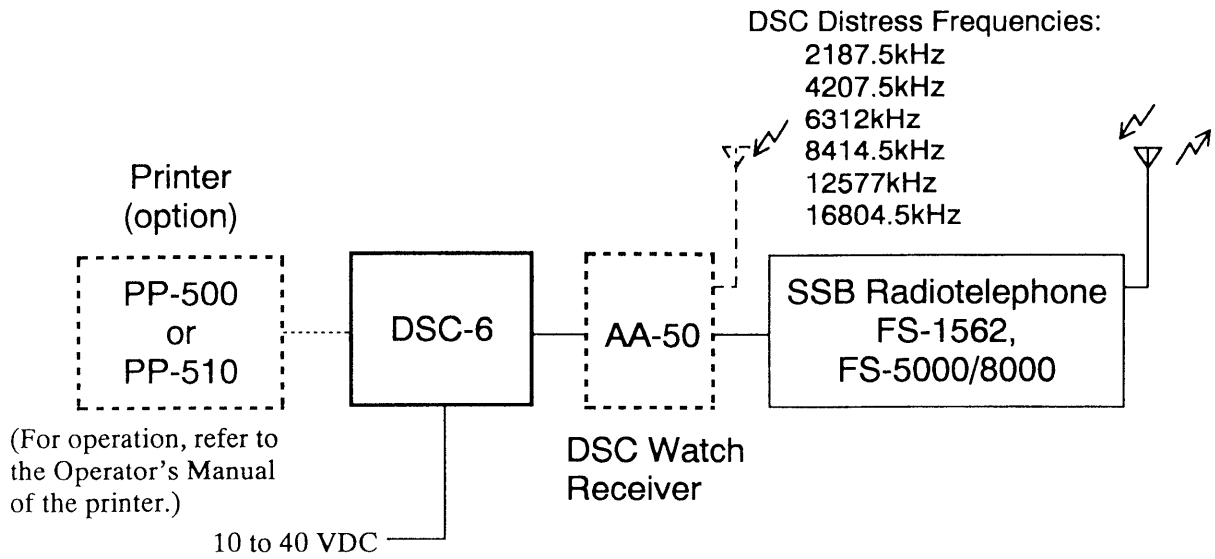
DSC-6 System (for A3/A4 Area)

2187.5 kHz
only

Printer
(option)

```
+-----------+       +--------+     +----------------------+
| PP-500    |.......| DSC-6A |-----| SSB Radiotelephone   |
|   or      |       |        |     |    FS-1562,          |
| PP-510    |       |        |     |  FS-5000/8000        |
+-----------+       +--------+     +----------------------+
```

(For operation, refer to
the Operator's Manual
of the printer.)

10 to 40 VDC
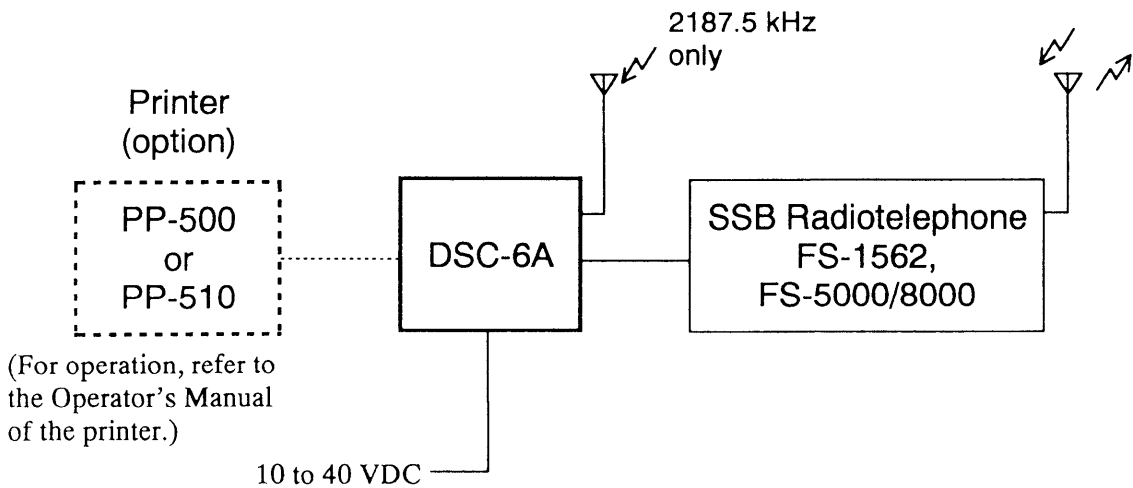
DSC-6A System (for A2 Area)

PART 1 Table of Contents

(Operation)

Overview

General

What is the DSC-6/6A?

The DSC-6/6A is a Digital Selective Calling Terminal provides distress/safety, and individual calling for coast station or marine vessels.

The DSC-6/6A is connected to the FURUNO SSB Radiotelephone and can control the frequencies and communication mode settings of the radiotelephone by using the "remote control" function. For further details of the remote function, refer to page 4.


```
┌──────────────────────┐        ┊ DSC message          ┊
│  SSB Radiotelephone  │        ┊ (refer to next page) ┊
│      FS-1562,        │        ┊ is transmitted over  ┊
│    FS-5000/8000      │        ┊ the DSC frequency.   ┊
└──────────────────────┘
           │                          Distress & Safety
       ┌───────┐                      Frequencies
       │ AA-50 │
       └───────┘                   For DSC-6A, refer to page ii.
           │
       ┌───────┐
       │ DSC-6 │
       └───────┘
```
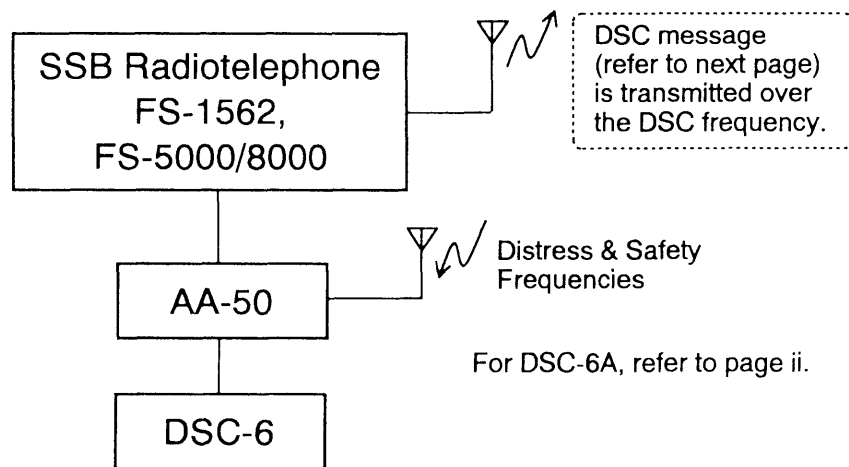
Receiving a message

When receiving the distress alert or message addressed to own ship, the aural alarm sounds.

About the aural alarm

When receiving the distress or urgent call, the alarm sounds until the [ALARM STOP] key is pressed. For all other calls, the alarm sounds for five seconds when they are received.

The aural alarm tone depends on message received: The operator can know what type of message is received by listening to the alarm tone.

NOTE: The safety receive alarm frequencies are 2200Hz and 0Hz (interval: 250ms), and the individual receive alarm frequencies are 440Hz and 880Hz (500ms), and the distress warning alarm (five seconds) frequencies are 1300Hz and 0Hz (250ms). Note that these cannot be changed.

Other functions

Transmitted and received messages can be saved to the memory and printed out (optional printer required) if necessary.

DSC Message

Contents

① Format specifier (calling category) such as distress, individual
② Address (coast ID and other ship ID)
③ Category (communication priority)
④ Own ship ID
⑤ Telecommand (class of emission)
⑥ TX and RX working frequencies (frequency data for voice communication with other station after transmission of DSC message) or Ship's co-ordinates

Example of Distress Call (Refer to page 3-1.)
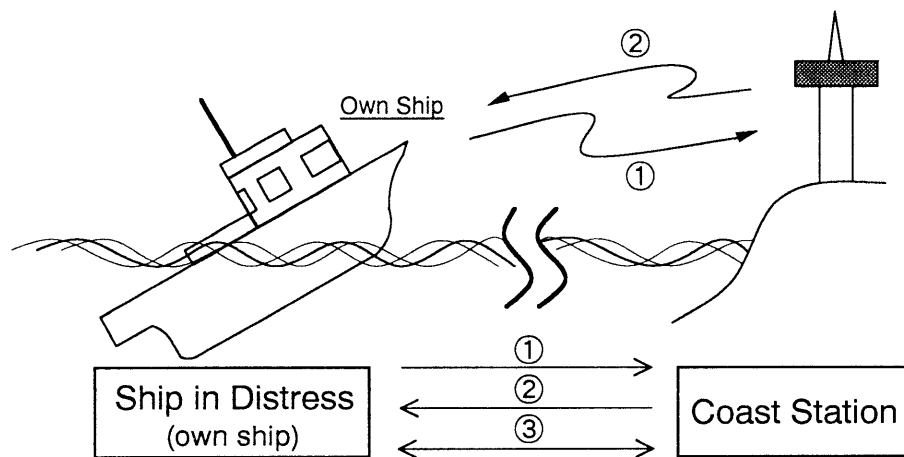
Procedure

Nature of Distress
[1]: Fire, explosion
[2]: Flooding
[3]: Collision
[4]: Grounding
[5]: Listing, capsizing
[6]: Sinking
[7]: Disabled & adrift
[8]: Abandoning
[0]: Undesignated
[←]: Piracy/armed robbery attack
[→]:Man overboard

① Open cover on DISTRESS key and press the key 4 sec. (To announce nature of distress. Press DISTRESS key continuously while pressing appropriate key within 3 sec. Continue pressing DISTRESS key at least 4 sec. After five seconds, the alert is transmitted over TX DSC frequency.

② Receive the distress acknowledge (DIST ACK) signal from coast station. (See NOTE.) The aural alarm sounds when DIST ACK is received. Press the [ALARM STOP] key to silence the alarm.

③ After receiving the DIST ACK signal, communicate with coast station over working frequencies and class of emission (automatic setting) designated by own ship.

NOTE: *If the distress call is not acknowledged within 3.5 – 4.5 minutes it is automatically retransmitted.*

Example of Individual Call (Refer to page 9-1.)

Own Ship	① DSC Message 〔Called Acknowledge Request (ACK RQ) Signal〕 ———————————————→	Coast Station
	② Acknowledge Back (ACK BQ) Signal ←———————————————	
	③ Voice Communication ←——————————————→	
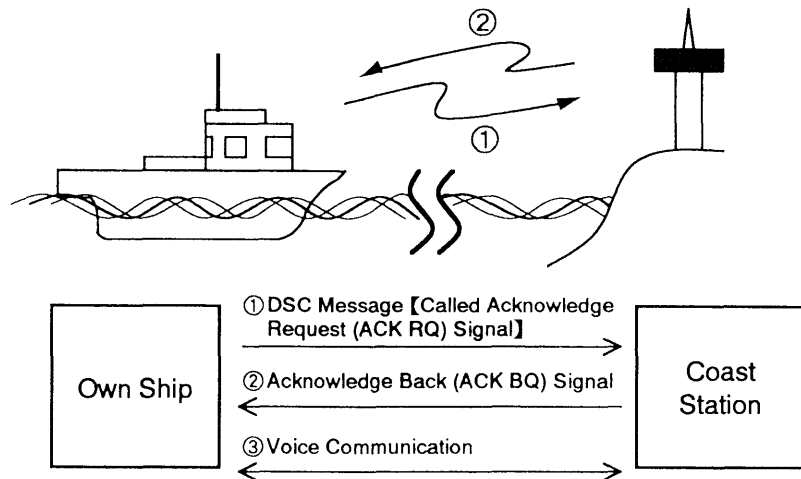
Procedure

① Prepare message then transmit it to coast station (or other ship) by pressing the [CALL] key. (The TX frequency of SSB radiotelephone is automatically changed to DSC frequency and the message is transmitted.)

② Receive the acknowledge back (ACK BQ) signal from coast station within five minutes over RX DSC frequency.

③ After receiving the ACK BQ signal, communicate with the coast station over working frequencies and class of emission designated by own ship or the coast station.

Remote Function and Automatic Acknowledge (AUTO ACK)

General

The DSC-6/6A and FURUNO SSB radiotelephone communicate with each other by means of the MIF (FURUNO Radio Interface) data format, which is a unique handshaking type signal exchange system developed by FURUNO.

AUTO ACK

The auto acknowledge feature automatically transmits the acknowledge back (ACK BQ) signal when an individual call is received. With the auto acknowledge feature turned on the remote control function is also turned on.

Remote control function

The remote control function lets the DSC-6/6A set DSC frequencies, working frequencies and class of emission for the radiotelephone.

Turning remote (& AUTO ACK) on/off

To enable or disable AUTO ACK and remote control, use the [2] key. Each press of the key enables/disables auto acknowledge and remote control function in the sequence shown below.

Note: *The AUTO ACK function is not available when receiving or relaying the distress alert, or ECC (Error Check Character) error is received. (ECC error appears at the end of a receive message when an error is detected in the message.)*

Automatic Acknowledge (For Ind. Call)	Remote Control Function	
	At transmission (Note 1)	At reception
ON	ON	ON
OFF	ON	OFF (Note 2)
OFF	ON	• When all ships call or calls relative to distress is received: ON • When calls other than the above is received: OFF

```
Watch
auto
  │
 [ 2 ]
  │
Watch
manual
  │
 [ 2 ]
  │
Watch
limit
  │
 [ 2 ]
```
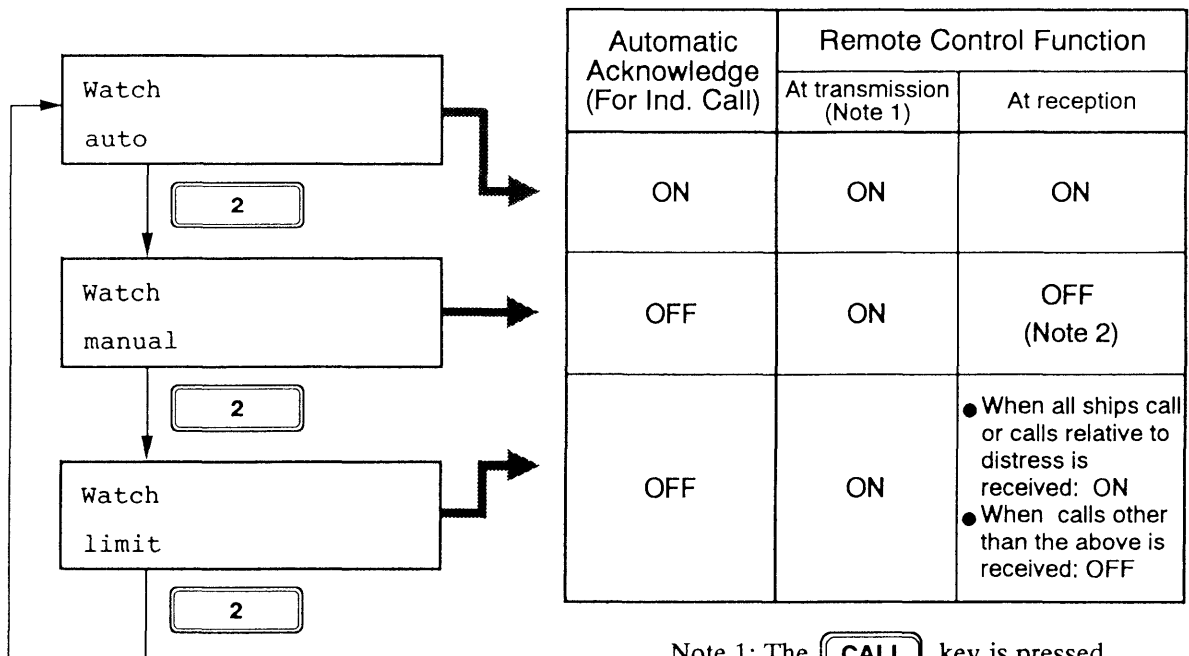
Note 1: The [CALL] key is pressed.
Note 2: When all ship call is received, press [2] key to turn remote function on, causing working frequency to be automatically set.

4

LIMIT FUNCTION

The limit setting provides restricted use of the remote control function. It is useful when the following situations occur at the same time.

1. Automatically sets working frequencies when an all ship's call is received, so as **not to miss initial voice** from the transmitting station.

2. Prevents automatic transmission of the acknowledge back (ACK BQ) signal, in response to an individual call, **when no operator is present.**

3. Prevents automatic transmission of **own ship's position data,** in response to a position request call.

TX
(IND call)

(TX)

Radiotelephone		Radiotelephone
DSC-6	ACK BQ	DSC-6

Setting: "auto", "manual" or "limit"
⇩
Individual call is transmitted.
⇩
ACK BQ (able) received.
⇩
Automatic setting of working frequency.

TX
(IND call)

(RX)

Radiotelephone		Radiotelephone
DSC-6	ACK BQ	DSC-6

Setting: "manual" or "limit"
⇩
After viewing message contents, press [CALL] key.
⇩
ACK BQ (able) transmitted.
⇩
Automatic setting of working frequency.

Example of AUTO ACK

Individual call transmitted by own ship's DSC-6 ①

TX

| FS-1562 ① | | FS-1562 ② |

↑ ACK BQ

| DSC-6 ① | | DSC-6 ② |

"auto"(Own ship)   "auto"(Other ship)
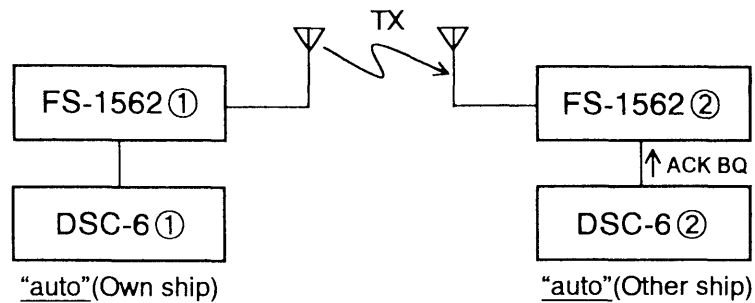
Operation at DSC-6	Frequency of FS-1562 ① (automatic setting)	Frequency of FS-1562 ② (automatic setting)
1. Press [CALL] key of DSC-6 ①.	Changed to TX DSC frequency. (Message is transmitted.)	
2. DSC-6 ② receives message through FS-1562 ②. (Alarm sounds.)		
3. DSC-6 ② sends ACK BQ automatically.		Changed to TX DSC frequency. (ACK BQ is transmitted.) After that, changed to working frequencies and class of emission designated by DSC-6 ①.
4. DSC-6 ① receives ACK BQ through FS-1562 ①. (Alarm sounds.)	Changed to working frequencies and class of emission designated by DSC-6 ①.	

Then, voice communication begins between stations .

Other Calling Categories (Types)

General

The DSC-6/6A provides the following types of calls, as well as distress and individual calls previously mentioned.

- Distress Relay (Refer to page 4-1.)
- All Ships (Refer to page 8-1.)
- Group (For specific group ships)
- Geographic Area (For ships within specific range)
- Telephone (PSTN call)
- Test call

Further, the "Polling" and "Position Request" functions are also available. Refer to Appendix 2.

1. Basic Operation

1.1 About the Display

Normal display

When the DSC-6/6A is turned on, the following display appears. This display is known as the "normal display."

```
Watch

auto
```
← ...... Normal display screen

⤷ [2] key pressed to get "auto" screen.
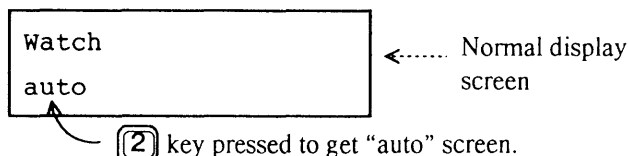
Should you get lost in operation you can return to the normal display by pressing the [CANCEL] key several times.

Selecting and registering items

The arrow keys ([◄] and [►]) function to select items on the LCD. After selecting item, press the [ENT] key to register it.

Item selected by cursor appears here.

```
Call type      <All Ships>

T IND TEL ALL RA---
```

Blinking cursor encloses current selection.

(Shift [◄] [►] (Shift cursor leftward.) cursor rightward.)

⬇

[ENT]
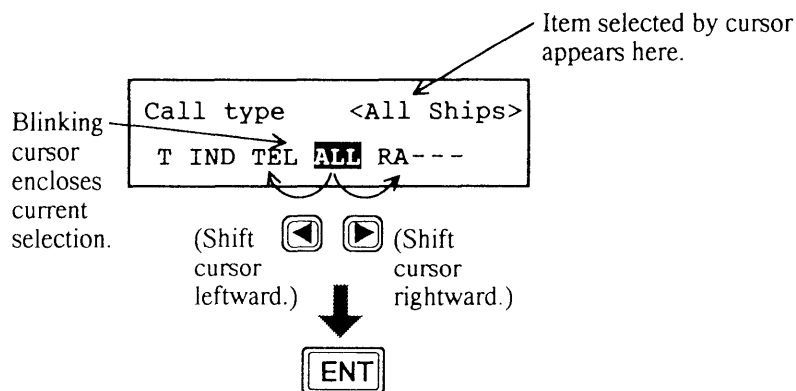
When blinking question mark appears

Press the [ENT] or [SELECT] key depending on your desire.

Blinking question mark

```
Address?

Category:
```
← ...... Address selection screen

• If change is necessary, press the [SELECT] key.

• If no change is necessary, press the [ENT] key.
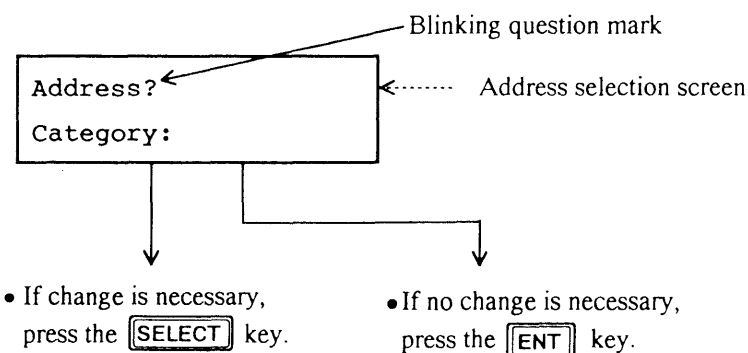
1.2 Preparing and Transmitting Messages

Methods

There are two methods by which you can prepare and transmit messages, and they are shown below.

Preparing message for immediate transmission

Prepare message and then transmit it.

Normal display

$\downarrow$ [ENT]

```
* MF/HF call message*

Format ▊ INDIVIDUAL
```

For how to prepare a message,
refer to page 9-1.

⋮
$\lor$

After preparation, press the [CALL] key
to transmit the message.
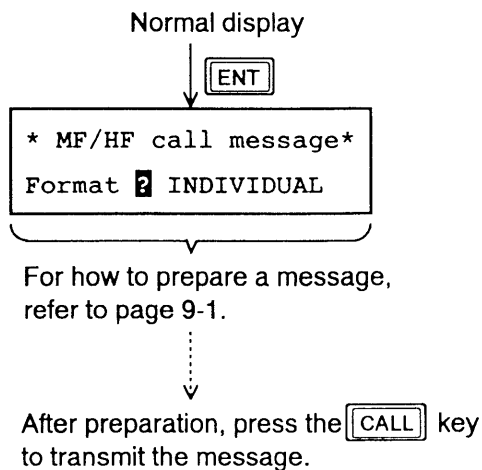
Preparing and storing message for later transmission

Prepare messages excluding distress message and save them to the memory (Maximum 99 files). You may retrieve and transmit a memory-stored message as follows.

Normal display

$\downarrow$ [SELECT]

```
Set up menu <       >

▊TIME▊ 1 2 3 ⋯⋯ 7 9 ⋯⋯
```

$\downarrow$

[7]

$\downarrow$

For how to prepare and store a message, refer to page 10-1.

⋮
$\lor$

After the normal display appears, press keys
in the order shown below to transmit a message.

$\downarrow$

[7] (FILE) → (Enter file number.) → [CALL]
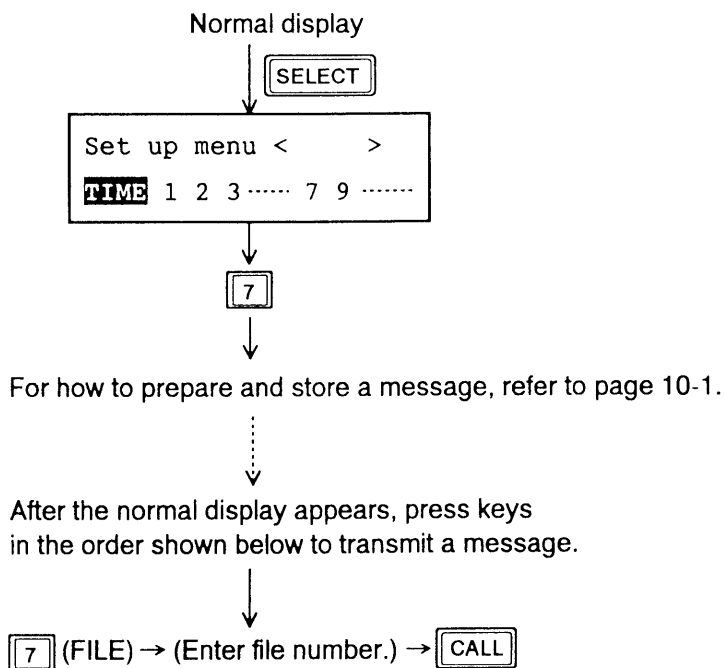
1.3 SSB Control by DSC-6/6A

SSB output power at distress alert transmission

When the distress alert is transmitted (by pressing the ⌈DISTRESS⌋ key), the output power of the SSB radiotelephone is automatically set to **maximum**.

When SSB becomes inoperative

The SSB radiotelephone keyboard **accepts no key input** while DSC message is transmitted. (Distress call: inoperative about 40 seconds, other calls: inoperative about 8 seconds.) It is also disable until the acknowledge back (ACK BQ) signal is received. To unlock it manually, if necessary, press the ⌈CANCEL⌋ key.

1.4 Remarks on SSB Setting

When the frequency of the FURUNO radiotelephone is set to 2182 kHz, the following operations are not available.

1. Scan (page 2-2 in PART 1)
2. General calling other than distress (page 4-1 in PART 2)

2. Control Description

2.1 Keys

LCD

```
┌─────────────────────────────────────────────────────────────┐
│  FURUNO        MF/HF DSC TERMINAL DSC-6                      │
│                                                              │
│                                          POSITION AUTO ACK  TEST │
│                                           [ 1 ] [ 2 ] [ 3 ] (CANCEL)│
│                                                              │
│              To send a distress          PRINT  CONTRAST VOLUME │
│  Keep DISTRESS button pressed for 4 seconds. [ 4 ] [ 5 ] [ 6 ] (⊗) │
│  The alert is transmitted with steady lighting.              │
│  To stop repetitive alerts, press ALARM STOP button. FILE  RCVD  XMTD │
│                                           [ 7 ] [ 8 ] [ 9 ] (SELECT)│
│                          DISTRESS CANCEL         SCAN        │
│  (POWER)  (DISTRESS)   (ALARM  (CALL)     (◁) [ 0 ] (▷) (ENT)│
│                         STOP)                                │
└─────────────────────────────────────────────────────────────┘
```
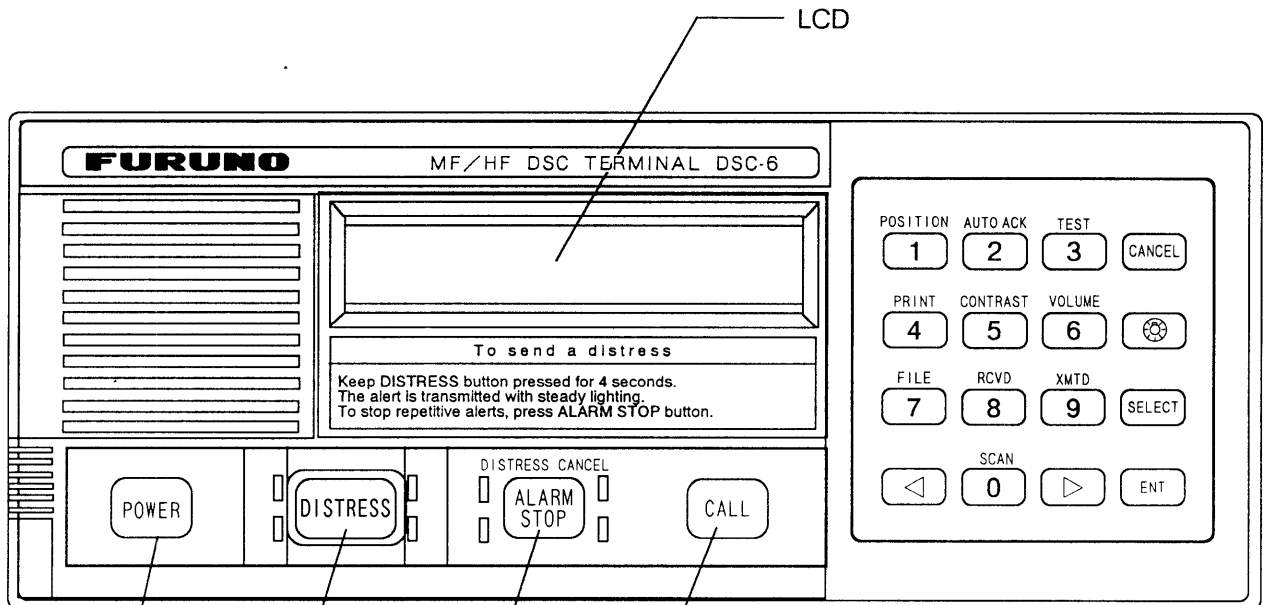
[CALL] : Transmits messages other than distress.

(DISTRESS CANCEL)
[ALARM STOP]

: Silences the receive alarm.
 Stops repetitive alerts.

[DISTRESS] : Transmits the distress alert.
 (Press the key 4 sec continuously.)

[POWER] : Turns power on and off. To turn the power off, press and hold
 down the switch at least two seconds. Then, release the key
 after a loud beep is heard.

About LED
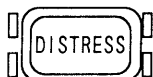
[DISTRESS]

The four LEDs (Red) blink when the [DISTRESS] key is
pressed, and light continuously when the distress alert is
completely transmitted.

[ALARM STOP]

• Upper two LEDs (Red) blink when distress or urgent
 message is received.
• Lower two LEDs (Green) blink when messages other
 than distress/urgent are received.

Key	Function/Purpose
[0] ~ [9]	Enter numeric data.
[CANCEL]	Cancels wrong data and restores previous menu.
⊙	Adjusts illumination of LCD, switches and keys in four levels.
[SELECT]	1. Displays "Set up menu" (Main menu). (Refer to pages 9-6, 10-1, 13-1 for "Setup menu".) 2. Changes settings of items appearing with blinking question mark.
[ENT]	Registers key input. (Blinking item is registered when key is pressed.)
[◀]	1. Shifts the cursor leftward. 2. Restores previous item when pressed at displays with a blinking question mark.
[▶]	Shifts the cursor rightward.
POSITION [1]	Ship's position and time are shown while pressed and held down.
AUTO ACK [2]	Turns transceiver remote and automatic transmission of acknowledge call (AUTO ACK) on or off. (Refer to page 4.) Note that distress alert cannot be automatically acknowleged by "auto acknowledge" function.
TEST [3]	Conducts self-test. (Refer to PART 2.)
PRINT [4]	Printing. (This is also available for automatic setting of the printer.)
CONTRAST [5]	Adjusts contrast of LCD in eight levels.
VOLUME [6]	Adjusts volume of speaker in eight levels. (Distress and urgency alarms always sound at maximum volume.)
FILE [7]	Retrieves files.
RCVD [8]	Displays contents of received messages (Storage capacity: 100 files, 50 each of distress and other). (Refer to page 11-3.)
XMTD [9]	Displays contents of transmitted messages (Storage capacity: 50 files). (Refer to page 11-1.)
SCAN [0]	Starts and stops frequency scanning. (If SSB frequency is set to 2182 kHz, scan function is not operated.)

3. Distress Alert Transmission

3.1 Operation Flow from "Distress Transmission" to "Voice Communication"

General

For GMDSS vessels, the distress alert must be transmitted by the DSC Terminal. Then, distress voice communications with a coast stations is started through the radiotelephone.

The figure which follows shows the operation flow from distress transmission to voice communications.

```
┌─────────────────────────────────────┐
│ Transmit distress alert by pressing │
│ [DISTRESS]  key of DSC-6/6A.        │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ Receive distress acknowledge        │
│ (DIST ACK) signal through           │
│ DSC-6/6A from coast station.        │
└─────────────────────────────────────┘
                  │
                  ▼
┌─────────────────────────────────────┐
│ Communicate (voice) with coast      │
│ station.                            │
└─────────────────────────────────────┘
```
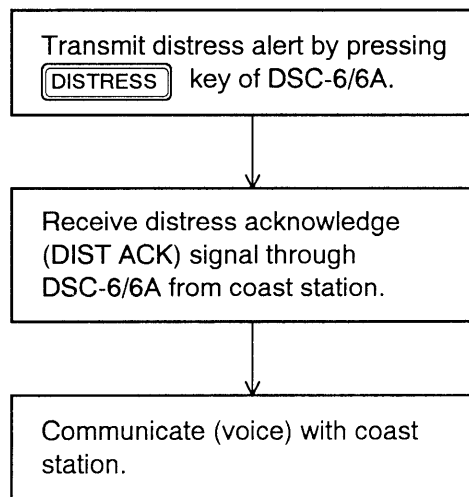
3.2 Transmitting Distress Alert

Procedure

Follow the procedure shown on the next page to transmit the distress alert. When the [DISTRESS] key is pressed, the four LEDs (Red) near this key light continuously.

Transmitting the distress call

```
Watch
```

Nature of Distress
[1]: Fire, explosion
[2]: Flooding
[3]: Collision
[4]: Grounding
[5]: Listing, capsizing
[6]: Sinking
[7]: Disabled & adrift
[8]: Abandoning
[0]: Undesignated
[◄] : Piracy／armed robbery attack
[►] : Man overboard

Open cover on DISTRESS key and press the key 4 sec.

Position/Time

```
DISTRESS CALL
(- - - - - - - - - - - -)
```

To announce nature of distress, press appropriate key for nature of distress within 3 sec. after pressing the DISTRESS key. Continue pressing DISTRESS key at least 4 sec.

If no numeric key is pressed, distress alert is automatically transmitted.

Nature of Distress

```
DISTRESS CALL Nature?
(- - - - - - - - - - - -)
```

If wrong nature of distress is input, enter correct nature within 3 seconds.

Note : DSC-6
DSC frequency is first set to 2187.5kHz. If distress alert is not acknowledged by coast station, DSC frequency is automatically changed to 8M, 16M, 4M...in that order to retransmit the alert, until acknowledged.

```
* Call in progress *
```

(Transmitting)

Transmission time is about 40 seconds.

DSC-6A
DSC frequency is set to 2M.

```
* Wait for dist ack *

Next          3.7 min
```

(Waiting for distress acknowledge)

Counts down. If distress call is not acknowledged it is automatically retransmitted until acknowledged (own ship receives DIST ACK). ••• See note above.

No automatic input of position data by nav. device

The ship's position data from a navigational device is usually automatically input to the DSC-6/6A. When the navigation device fails or automatic input is off, however, enter position manually. The procedure for manual entry of position appears on page 7-1.

When your vessel is in distress and there is no automatic input of position, enter it manually (if you are not pressed for time) then press the [[DISTRESS]] key.

3.3 Receiving Distress Acknowledge Signal

Procedure

After transmitting the distress alert the "Wait for dist ack" display appears. Then, you should receive the distress acknowledge (hereafter referred to as "DIST ACK") signal from a coast station. The procedure for receiving DIST ACK is as shown below.

```
* Wait for dist ack *
```

↓

When DIST ACK is received;

↓

```
* Received * DISTRESS ACK
ID: ⟨ ‾ ‾ ‾ ‾ ‾ ⟩
```

— ID of coast station transmitting DIST ACK.

↓

① To silence the alarm,
   press the ⟦ ALARM STOP ⟧ key.

↓

② Communicate with the coast station.
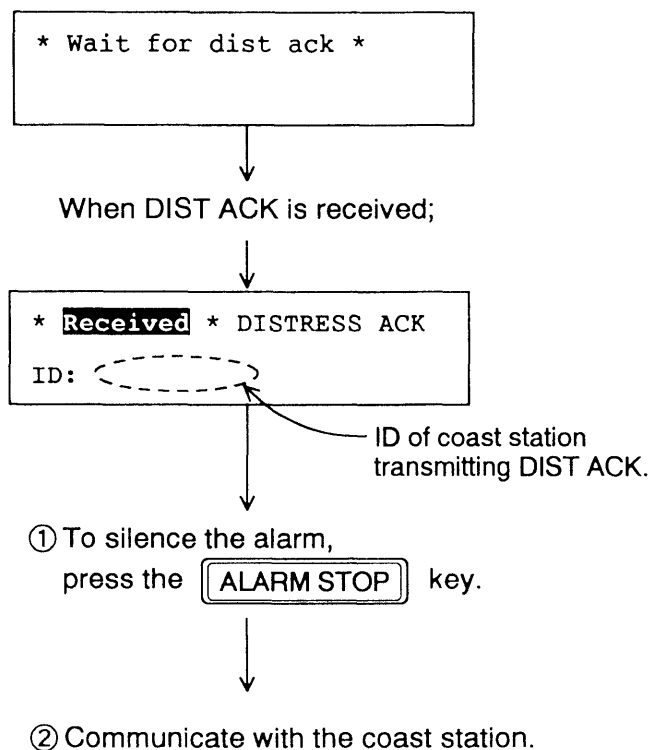
3.4 Communicating with Coast Station

Overview

Since the SSB radiotelephone is automatically set to working frequencies and class of emission, you are now ready to begin voice communications with the coast station.

4. Transmitting Distress Relay Call

4.1 In case that you receive distress alert on HF band

General

When you receive the distress alert the audible alarm sounds and the DISTRESS CALL screen appears. If the call is not acknowledged by a coast station **within 3 min.** relay it (to a coast station) as follows.

Procedure

Blinking

```
*[Received]* DISTRESS CALL

ID:9 8 7 6 5 4 3 2 1   8414.5kHz
```
◁---- To silence the alarm, press [ALARM STOP] key.

ID of Ship in Distress   Distress Frequency

[ENT]

Nature of Distress

```
                        FLOODING

Pos:34°40N 135°20E   15:20
```

Distress Co-ordinates   Time

[ENT]

```
J3E TP

EOS: EOS        ECC:OK
```

[ENT]

```
Acknowledge call<ACK>

[ACK]  RELAY  END  NEXT  DEL
```
Blinking

Select "RELAY".

[ENT]
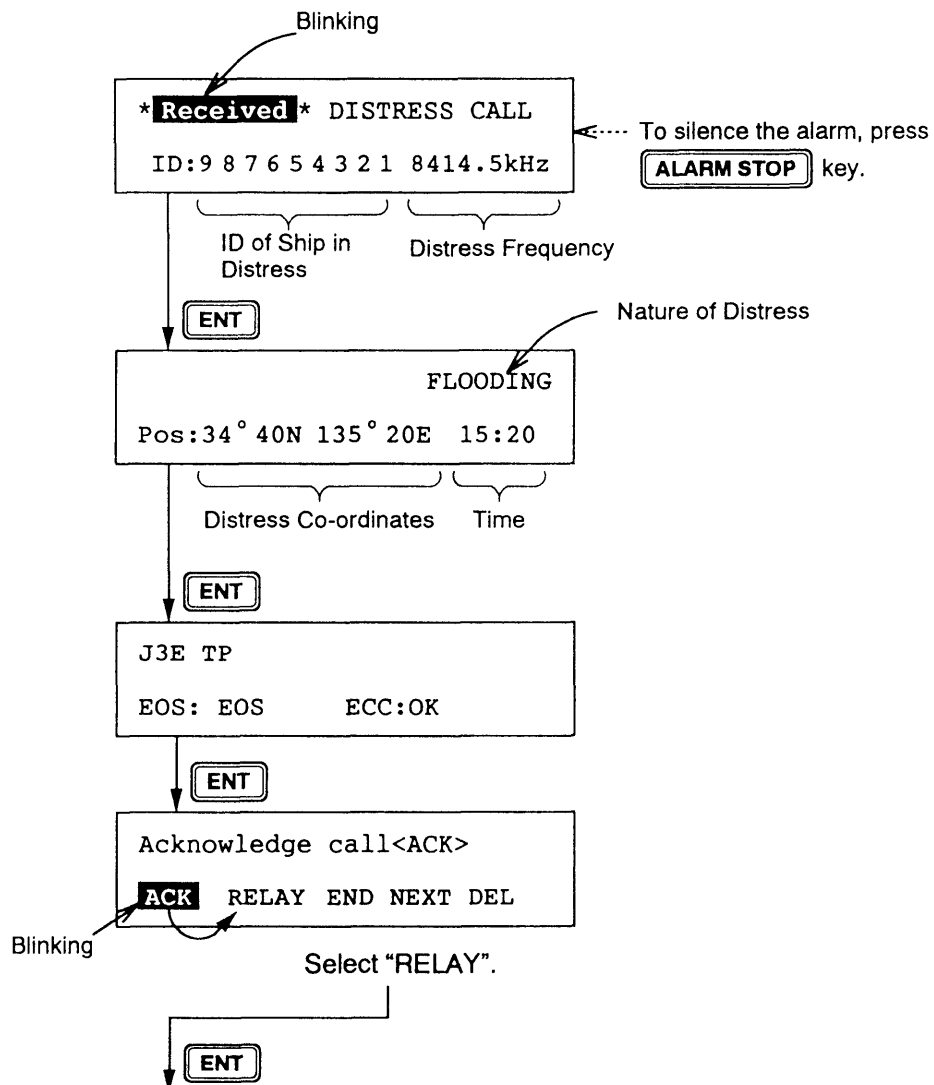
(continued on next page)

RELAY: Relay for all ships.
E N D: Returns to default display.
NEXT: Recalls received message.
D E L: Deletes received message from file.

(from previous page)

```
*Distress relay call*

Format?       ALL SHIPS
```

ENT

```
DSC frequency?
```

SELECT

```
DSC freq <               >

 2   4   6   8   12   16
```

Select either one then press ENT .

```
*Ready for calling*

DIST  RELAY   ALL   8414.5kHz
```

Press CALL key to
relay the distress message.

```
*Wait for dist ack*

NEXT RELAY  8414.5  2.6 min
```
◄······ 3 minutes timer screen

Time to wait for acknowledgement of distress call by coast
station. (Timer counts down and numerals blink.)

If the distress call is not acknowledged by coast station the distress
message is automatically transmitted (relayed) to the coast station.
(If coast station acknowledges the distress call within three minutes,
however, this sequence is automatically cancelled and the previous
display screen appears.)

```
*Call in progress*

DIST  RELAY   ALL    8414.5
```

② Relay to
   coast station

① Receive
   DISTRESS
   (on HF)

Ship in Distress   **Own Ship**

4.2 Distress Relay Call on MF/HF

You can relay (transmit) distress alert immediately to coast station in behalf of ship in distress which is not able to transmit the alert by itself.

```
Watch                              Normal
auto                    <------    display
```

ENT ──▶ SELECT

```
Call type <Relay all>

T  IND  TEL  ALL  RA  RS  DIS
```

Place the cursor on "RA" then press ENT .
(RA: Relay for all ships)

```
*MF/HF call message*

Call type:  DIST RELAY ALL
```

ENT ──▶ SELECT

```
Address <  No inform  >

DIGITS IN = - - - - - - -  [ENT]
```

Enter ID of vessel in distress. (If not known, enter "99...9" to set up for "No information".)

ENT

```
Nature of distress ?

        UNDESIGNATED DISTRESS
```

If OK,   ──▶ To select other nature of
ENT ──▶ SELECT   distress, press SELECT .

```
Position <           >

NORTH =
```

Enter position data of vessel in distress manually.

ENT ──▶ SELECT

(*)

(*)

```
Distress UTC :

        UTC ?
```

Enter time manually. ("9999": No information)

ENT

```
Distress telecommand ?

        J3E TELEPHONE
```

· To change, press SELECT .
· If OK, press ENT .

(J3E : SSB
  H3E : AM
  F1B : NBDP)

```
DSC frequency ?

                8414.5kHz
```

· To change, press SELECT .
· If OK, press ENT .

```
*Ready for calling*

DIST RELAY ALL 8414.5kHz
```

Press CALL key.

DO NOT press DISTRESS key.

```
DISTRESS RELAY ALL

Dist ship ID :
```

```
*Call in progress*

Format: DIST REL    8414.5
```

Distress alert transmitted(relayed)5 times.

Returns to normal display.

5. Receiving Distress Alert from Other Ship (on 2187.5kHz only)

General

When the DSC-6/6A receives a distress alert from other vessel the two LEDs (Red) near the ([ALARM STOP]) key blink and the DSC-6/6A sounds the distress alarm. Silence the alarm by pressing the ([ALARM STOP]) key. Wait for **three minutes** to receive the DIST ACK signal from a coast station. Be prepared to follow the instructions of the coast station. If you do not receive the DIST ACK signal, follow the flow chart shown on the next page.

The DIST ACK signal can be transmitted by you **under certain conditions.** Please carefully read and follow the flow chart to determine whether you should transmit it or not. If you do transmit it, you must **relay the distress alert to a coast station and begin search and rescue operations for the vessel in distress.**

Your Ship

A2

Coast Station

Distress Alert
Transmission
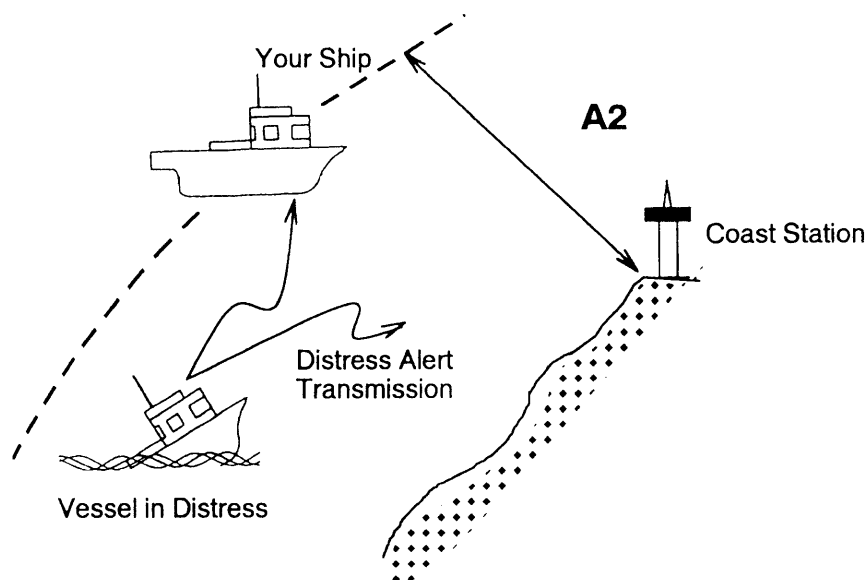
Vessel in Distress

**Flow chart
(Should I transmit
DIST ACK signal
or not?)**

```
( Distress alert received. )
            |
            v
+----------------------------+
| Press [ ALARM STOP ]       |
| to silence alarm.          |
+----------------------------+
            |
            v
+--------------------------------------+
| Press [ ENT ] successively until     |
| "Ready for calling" screen appears,  |
| to view contents of receive message. |
| (Refer to page 5-3.)                 |
+--------------------------------------+
```

Did you receive acknowledge from coast station within 1 min. to 2 min. 45 sec?

No → (Your ship is outside of 150n.m. from coast station.)

Yes ↓

+----------------------------+
| Press [ALARM STOP] |
| to silence alarm. |
+----------------------------+

+----------------------------+
| Press [ENT] successively |
| to check receive message |
| contents. |
+----------------------------+

Is your vessel near vessel in distress?

Yes → If you can search and rescue the vessel in distress, transmit acknowledge signal to vessel in distress on 2182kHz (voice).

No ↓

Reply received from vessel in distress?

No → Transmit acknowledge signal to vessel in distress over DSC 2187.5kHz. (Press [CALL] key.)

Yes ↓

+--------------------------------+
| Relay DSC distress alert to |
| coast station by DSC. |
+--------------------------------+

+--+
| Continue watch on 2182kHz until you |
| hear ⌜SEELONCE FINI⌝ (That means |
| completion of distress communication.). |
| (Follow instructions of coast station.) |
+--+

Relay DSC distress alert to coast station over
HF band (8414.5kHz). After relaying distress,
wait for acknowledge from coast station.
(For All Ships call: wait over radiotelepone,
For individual call: wait it over DSC)

Transmitting DIST ACK

```
┌──────────────────────────────────┐
│  * Received * DISTRESS CALL       │
│  ID: ⟨_____⟩                 │
└──────────────────────────────────┘
```
ID of vessel in distress

① Press ⎡ALARM STOP⎤ key to
silence the alarm. Then, press
⎡ ENT ⎤ key successively to view
contents of distress message.

```
┌──────────────────────────────────┐
│  Acknowledge call <        >      │
│  ACK RELAY END - - -              │
└──────────────────────────────────┘
```

⎡ ENT ⎤

```
┌──────────────────────────────────┐
│  * Ready for calling *            │
│  DIST ACK CALL                    │
└──────────────────────────────────┘
```

② If you do not receive DIST ACK from
coast station within three minutes and
your vessel meets requirements (see
previous page) for transmitting DIST ACK,
transmit it by pressing the ⎡CALL⎤ key.

```
┌──────────────────────────────────┐
│  * Call in progress *             │
│  DIST ACK CALL   2187.5kHz        │
└──────────────────────────────────┘
```
(Your vessel
transmitting
DIST ACK)

Returns to normal display.

After transmitting DIST ACK

Begin search and rescue operations for the vessel in distress, communicating with the vessel over 2182kHz (automatically set). Relay distress alert to coast station on HF band. Finally, follow instructions of the coast station.

6. Programming Scan Frequencies

At the normal display, press SELECT and [0] to get scan set up screen.

Six general DSC frequencies (F1 to F6) can be programmed. (Refer to DSC frequency table on page AP1-1.)

```
Scan set up    <         >

 F1  F2  F3    ······    F6
```

ENT

If you select DSC frequency
from DSC Frequency Table,
press [7] (FILE) key.

```
Set F1 <    >

XMIT =     RCV =
```

Enter TX frequency.
(ex: 2189.5)

```
DSC

10/50: INTL-0.4M
```

Select desired file number
with arrow keys.

ENT

Enter RX frequency.
(ex: 2177.0)

ENT

```
Scan set up<         >

 F1  F2  F3    ······    F6
```
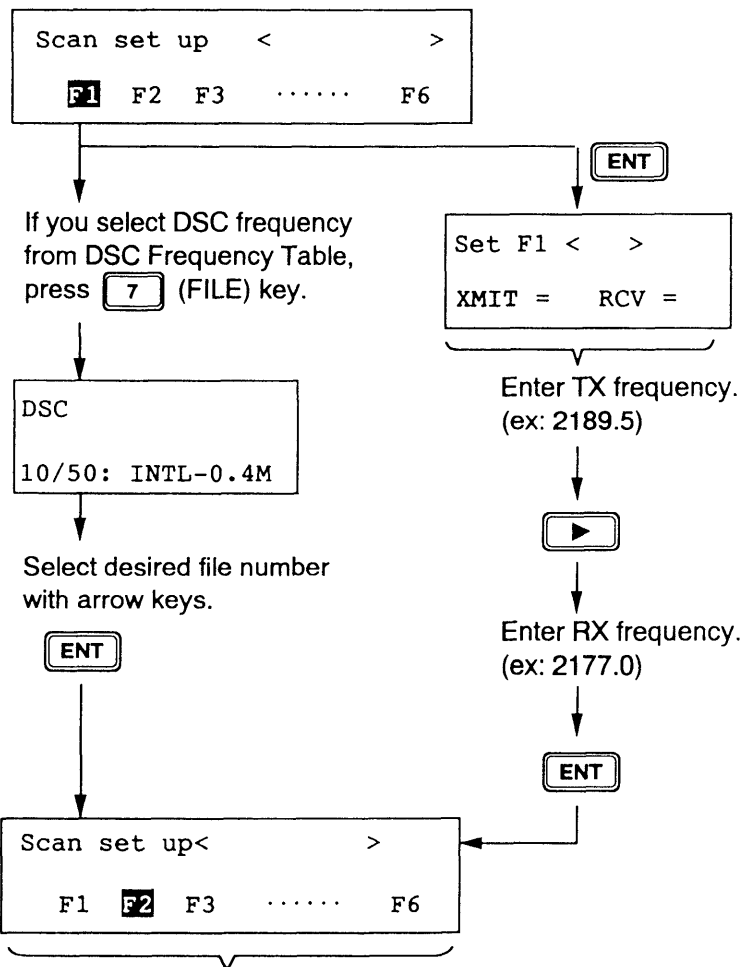
Enter DSC frequency into F2 in the
same manner as above.

After completion of programming,
press CANCEL twice to return to
normal display.

Note: To cancel scan frequency,
set the RX frequency as
99999.9.

7. Manual Entry of Ship's Position and Time

Entering data manually

If there is no automatic input of position and time data by a navigational device, enter them as follows.

```
┌──────────────────────────────────────┐
│ Watch                                │   (Normal display)
│                                      │
└──────────────────────────────────────┘
                    │
                    ▼
            ‖SELECT‖ → 1   (POSITION)
                    │
                    ▼
┌──────────────────────────────────────────────────────────────┐
│ Position <              >                                     │
│                                                              │
│ NORTH=__ ° __ __    S   E=___ ° __ __    W   UTC=__ : __     │
└──────────────────────────────────────────────────────────────┘
```

Enter latitude.   ▶ ▶   Enter longitude.   ▶ ▶   Enter time (UTC).

To move blinking cursor from NORTH position to SOUTH, press ▶ .

‖ENT‖
(Returns to normal display.)
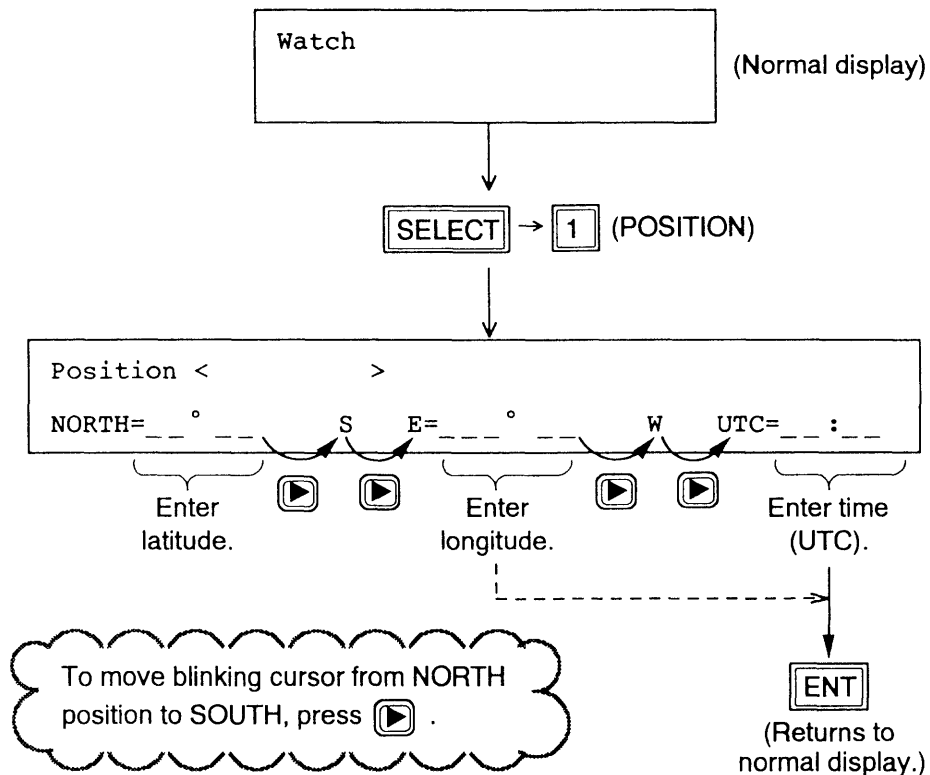
Remarks after entering data

Once the ship's position and time data are entered manually, automatic input of them is not possible for 12 hours after they are manually entered, even if automatic input becomes available. (Note that manually entered data are automatically erased 12 hours after entry.)

Cancelling manually entered data

To cancel the manually entered data, enter **9999** for the time.

UTC = 9999
⇩
‖ENT‖
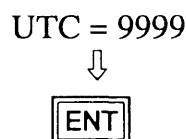
8. All Ships Call

8.1 Transmitting "All Ships Call"

General

When an urgent but not life endangering situation arises on your vessel, for example, engine trouble occurs, transmit an all ships call to request assistance.

After transmitting message, you can communicate by voice over the SSB radiotelephone.

Coast Station

Own Ship
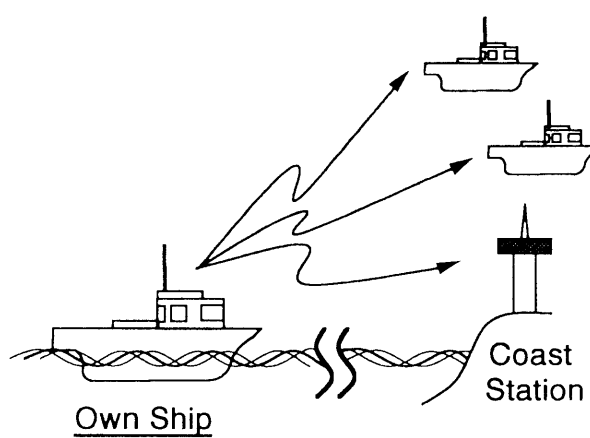
Procedure

Basic procedure

1. Selection of Format specifier
2. Selection of Category (Communication priority)
3. Selection of Telecommand 1 (Class of emission)
4. Entry of Working frequency
5. Entry of DSC frequency
6. Press of [CALL] key

For detailed transmission procedure, see the next page.

Detailed procedure

```
┌─────────────────────────┐
│ Watch                   │        ( * )
│                         │
│ auto                    │
└─────────────────────────┘
```

[ENT]

Previously selected format appears here. If "ALL SHIPS" appears, press [ENT] key.

```
┌─────────────────────────┐
│ *MF/HF call message*    │
│                         │
│ Format▐                 │  ⟝ ‑ ‑ ‑ ‑ ‑ ‑ ‑ ╲
└─────────────────────────┘    ╲ ‑ ‑ ‑ ‑ ‑ ‑ ╱
```

[SELECT] (To select format.)

```
┌─────────────────────────┐
│ Call type <          >  │
│                         │
│ T  IND  TEL  ALL  ─ ─ ─ │
└─────────────────────────┘
```

Place the cursor on "ALL".

[ENT]

```
┌─────────────────────────┐
│ *MF/HF call message*    │
│                         │
│ Format:  ALL SHIPS      │
└─────────────────────────┘
```

[ENT]

```
┌─────────────────────────┐
│ Category▐               │
│                         │
│ Telecom1:               │
└─────────────────────────┘
```

[SELECT] (To select category.)

(*)

```
┌─────────────────────────┐
│ Category<            >   │
│                         │
│ DIS  URG  SAF  ROU      │
└─────────────────────────┘
```

Select category desired.
(example: SAFety)

[ENT]

```
┌─────────────────────────┐
│ Category:  Safety       │
│                         │
│ Telecom1▐ J3E telephony │
└─────────────────────────┘
```

[SELECT] (To select telecommand 1.)

```
┌─────────────────────────┐
│ Telecom1<           >   │
│                         │
│ J3E   H3E   FEC  ─ ─ ─  │
└─────────────────────────┘
```

Select communication mode desired.
(example: J3E)

[ENT]   (To return to previous menu.) [◀]

```
┌─────────────────────────┐
│ Freq?                   │
│                         │
│ DSC:                    │
└─────────────────────────┘
```

[SELECT] (To enter working frequency.)

(from previous page)

```
┌─────────────────────────────────┐
│ Message      <         >        │
│                                 │
│   NO    FRQ   CH    POS         │
└─────────────────────────────────┘
```

No information ◄───── NO   FRQ   CH   POS ────► Position

(Enter ship's position
  referring to page 7-1.
  (Automatic input possible
  if combined with nav.
  device.))

[ENT]   [ENT]

```
┌─────────────────────────────────┐        ┌─────────────────────────────────┐
│ Freq   <         >              │        │ Channel        <        >       │
│                                 │        │                                 │
│ XMIT=      kHz        RCV       │        │ DIGITS=                         │
└─────────────────────────────────┘        └─────────────────────────────────┘
```

Enter Tx and Rx working frequencies,
then press [ENT] .

Enter ITU channel
number. (ex. 401)

```
┌─────────────────────────────────┐
│ Freq:                           │
│                                 │
│ DSC?                            │
└─────────────────────────────────┘
```

[ENT]

[SELECT] (To enter DSC frequency)

```
┌─────────────────────────────────┐
│ DSC Freq <         >            │
│                                 │
│ 2    4    6    8    12    16    │
└─────────────────────────────────┘
```

Select desired one, then press [ENT] .

```
┌─────────────────────────────────┐
│ *Ready for calling*             │
│                                 │
│ ALL SHIPS CALL                  │
└─────────────────────────────────┘
```

······► To cancel message
prepared, press the
[CANCEL] key.

[CALL] (To transmit call.)

```
┌─────────────────────────────────┐
│ *Call in progress*              │
│                                 │
│ ALL SHIPS CALL                  │
└─────────────────────────────────┘
```

Returns to normal display.

Transmission time
about 6-8 seconds

(The frequecy of radiotelephone
  is automatically set to DSC
  frequency and the message
  prepared here is transmitted.)

Returns to normal display.

(Since the working frequency and class of emission of
  the SSB radiotelephone are automatically set, you
  can commence voice communication immediately.)

8.2 Receiving "All Ships Call"

General

Remote function of the DSC-6/6A is normally set to either "auto" or "limit" by pressing the [2] key, depending on situation. (See page 4.) When receiving an all ships call, therefore, the working frequency and class of emission of the radiotelephone are automatically set to ones designated by a transmitting station, enabling you to watch initial voice from the transmitting station at once.

Procedure

```
┌─────────────────────────────┐
│ Watch                       │
│                             │
│ limit (or auto)             │
└─────────────────────────────┘
        │    [2] key
        ▼
```

When receiving an all ships call;

```
┌─────────────────────────────┐
│ *Received* ALL SHIPS CALL   │
│                             │
│ ID:                         │
└─────────────────────────────┘
       └──┬──┘  └───┬───┘
        ID of      Category
        transmitting
        station
        │
        ▼
```

① Alarm sounds.
   To silence, press the
   [ALARM STOP] key.

When an all ships call is received, therefore, the working frequency and class of emission of the radiotelephone are automatically set to ones designated by a transmitting station.

② You can immediately watch initial voice from the transmitting station.

③ If you want to view contents of receive message, press the [ENT] key successively.

Returns to normal display.

**When remote
control is off**

With the remote control function of the DSC-6/6A turned off (manual setting), when you receive "All ships call" while you communicate (voice) with other station, terminate voice communication at once and press the ⬚ 2 ⬚ (AUTO ACK) key, resulting in automatic setting of working frequency for radiotelephone. Then you can hear voice from the transmitting station.

9. Individual Call

9.1 Transmitting "Individual Call" (ACK RQ)

General

The individual call is for sending message to a specific station. After transmitting message (called ACK RQ transmission), wait to receive the acknowledge back (ACK BQ) signal from receiving station. You should receive it within five minutes.
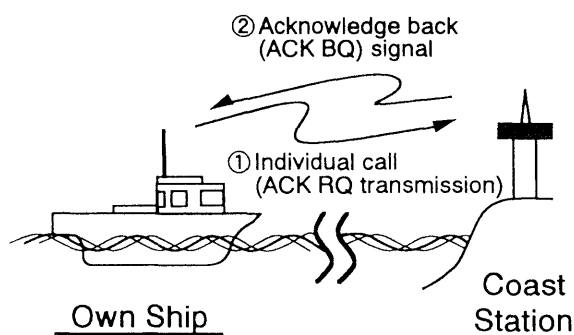
Procedure

Basic procedure

1. Selection of Format specifier (Calling type)
2. Entry of Other ship's ID number or coast's ID
3. Selection of Category (Communication priority)
4. Selection of Class of emission
5. Entry of Working frequency
6. Entry of DSC frequency
7. Press of [CALL] key

Detailed procedure

(continued on next page)

(*1)

(from previous page)

```
Call type <          >

T  IND   TEL   ALL  - - -
```

Place the cursor on "IND".

ENT

```
* MF/HF call message *

Format:  INDIVIDUAL
```

ENT

```
Address

Category:
```

SELECT (To enter other station ID.)

```
Address <          >

DIGITS IN=         [ENT]
```

◄

(To return to previous menu.)

Entry of other ship's ID

(Ship station: 9 digits)
(Coast station: 00 + 7 digits)

ENT

```
Address :

Category
```

SELECT (To select category.)

(*)

(*)

```
Category <          >

DIS   URG   SAF   ROU
```

Select "ROU".   "ROU" (Routine) is normally selected.

ENT

```
Telecom1

Telecom2:
```

SELECT (To select telecommand 1.)

```
Telecom1 <     >

J3E   H3E   FEC   ARQ  - - -
```

Select one desired.

ENT

```
Freq

DSC:
```

SELECT

(To select working frequency. See note.)

Note: Working frequency is normally set by coast station. Therefore, set up for "No information" by setting the working frequency as 9999.

(from previous page)

```
┌─────────────────────────────────┐
│ Working  frequency  <        >  │
│                                 │
│   NO    FREQ    CH    POS       │
└─────────────────────────────────┘
```

No information ◄──

Position ──►

Note: If position data is sent to coast station, coast station can determine appropriate working frequency according to position data.

[ENT]

[ENT]

```
┌─────────────────────────────────┐
│ Freq  <        >                │
│                                 │
│ XMIT=      kHz          RCV     │
└─────────────────────────────────┘
```

Enter Tx and Rx working frequencies, then press [ENT] .

```
┌──────────────────────────────────┐
│ Channel          <          >   │
│                                  │
│ DIGITS=                          │
└──────────────────────────────────┘
```

Enter ITU channel number. (ex. 401)

[ENT]

```
┌─────────────────────────────────┐
│ Freq:                           │
│                                 │
│ DSC?                            │
└─────────────────────────────────┘
```

[SELECT] (To enter DSC frequency)

```
┌─────────────────────────────────┐
│ DSC                             │
│                                 │
│ XMIT=      kHz       RCV        │
└─────────────────────────────────┘
```

Enter DSC frequencies, then press [ENT] .

```
┌─────────────────────────────────┐
│ * Ready  for  calling  *        │
│                                 │
│ INDIVIDUAL  CALL                │
└─────────────────────────────────┘
```

····► To cancel message prepared, press the [CANCEL] key.

[CALL]

```
┌─────────────────────────────────┐
│ * Call  in  progress  *         │
│                                 │
│ INDIVIDUAL  CALL                │
└─────────────────────────────────┘
```

(Transmitting)

Transmission time about 6-8 seconds

```
┌─────────────────────────────────┐
│ * Wait  for  ack  BQ  *         │
│                                 │
│ Next          4.7  min          │
└─────────────────────────────────┘
```

Counts down from five minutes. Regulations prohibit calling to same station during this time.

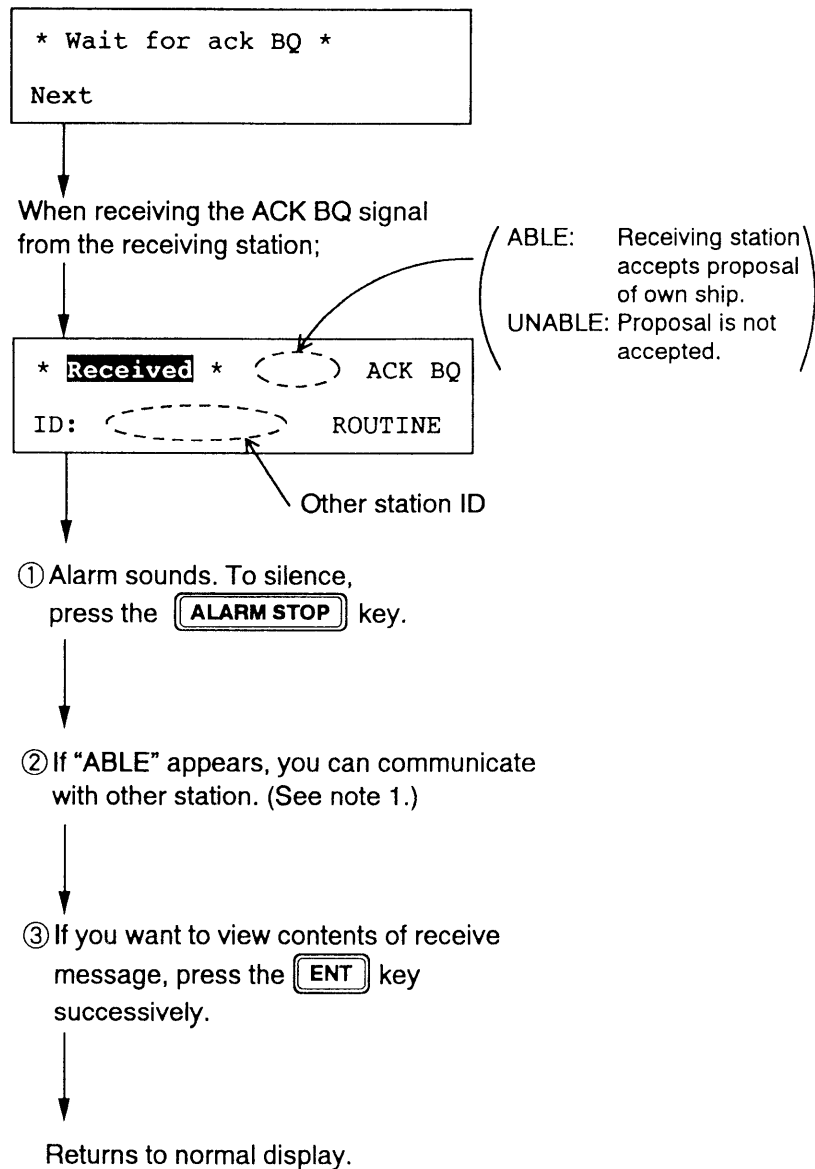# 9.2 Receiving Acknowledge Back (ACK BQ) Signal

General

After transmitting an individual call, receive the ACK BQ signal from the receiving station.

Procedure

```
* Wait for ack BQ *

Next
```

When receiving the ACK BQ signal
from the receiving station;

```
* Received * (    )  ACK BQ
ID: (         )    ROUTINE
```

ABLE: Receiving station
accepts proposal
of own ship.
UNABLE: Proposal is not
accepted.

Other station ID

① Alarm sounds. To silence,
press the [ALARM STOP] key.

② If "ABLE" appears, you can communicate
with other station. (See note 1.)

③ If you want to view contents of receive
message, press the [ENT] key
successively.

Returns to normal display.

Note 1: If "UNABLE" appears, prepare a
message with different proposal
and transmit it by pressing the
[CALL] key. Repeat until
proposal is mutually accepted.

9.3 Receiving "Individual Call" (ACK RQ)

General

When receiving an individual call, the operation of the DSC-6/6A depends on the setting of automatic acknowledge (AUTO ACK) function:

● AUTO ACK: ON ("auto" appears.)
> The DSC-6/6A transmits the acknowledge back (ACK BQ) signal automatically.

● AUTO ACK: OFF ("limit" or "manual" appears.)
> Verify contents of receive message by pressing the ⟦ENT⟧ key successively, then manually transmit the ACK BQ signal by pressing the ⟦CALL⟧ key.

Individual call (ACK RQ)

Own Ship   Coast Station
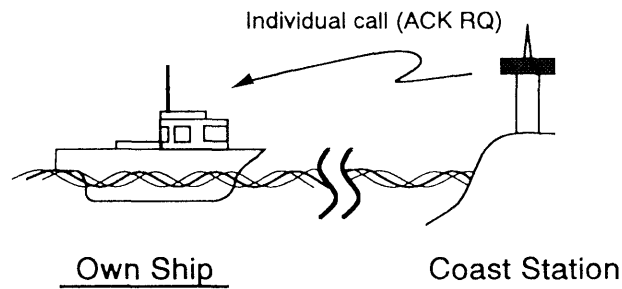
Presetting of "ABLE" or "UNABLE"

When AUTO ACK function is ON, you can select either "able" or "unable" (to comply) for proposal from other station beforehand. See the next page.

```
┌─────────────────────────────────┐
│ Watch                           │
│                                 │
│                                 │
└─────────────────────────────────┘
```
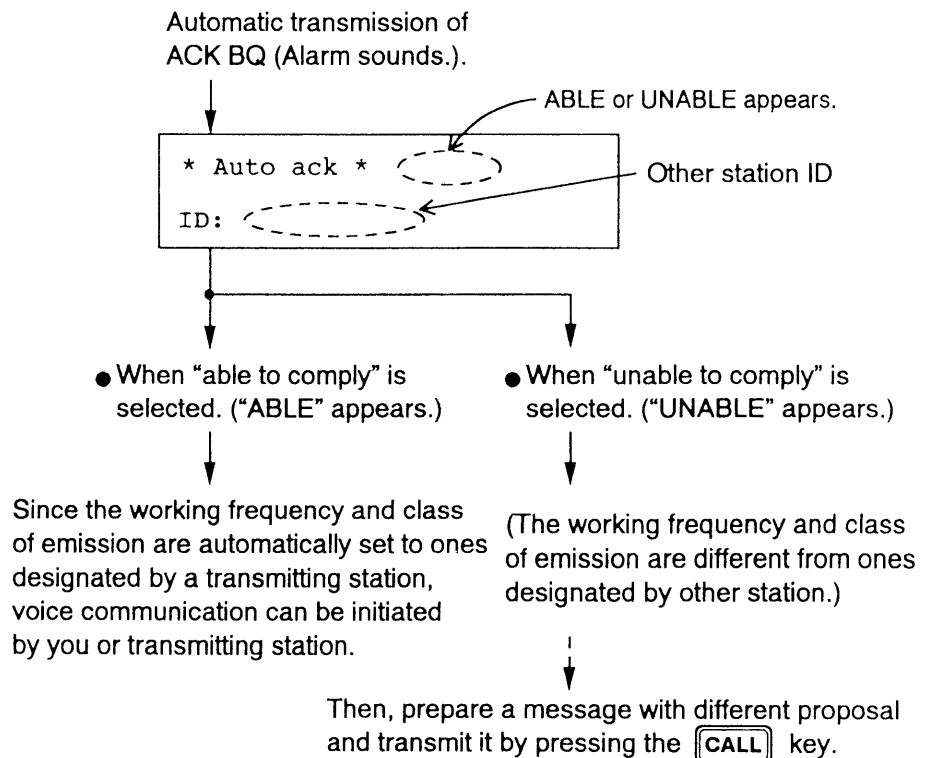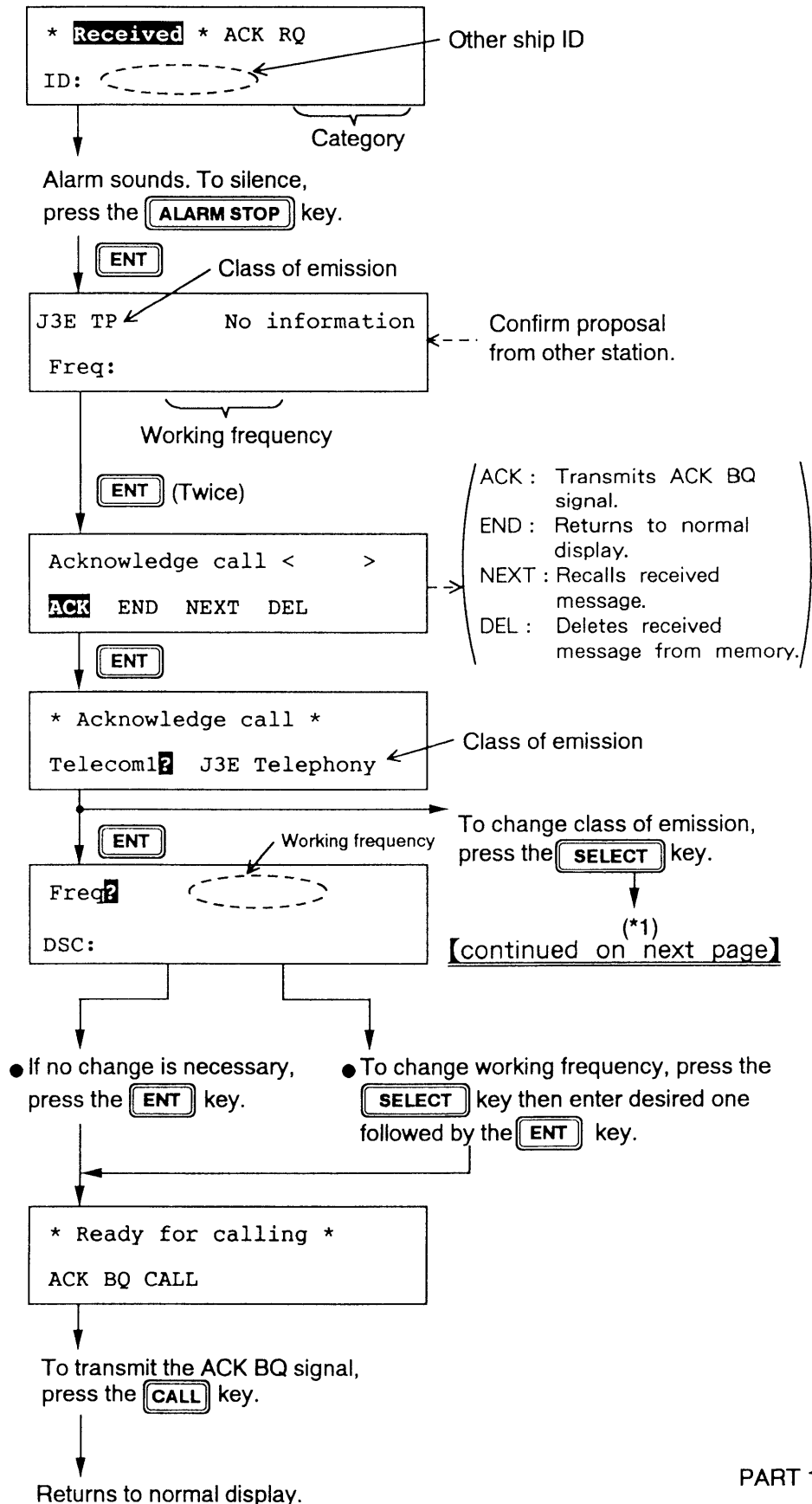
│ SELECT │ (To display Setup menu.)

```
┌─────────────────────────────────┐
│ Set up menu <       >           │  ← - - Setup menu
│                                 │        (Main menu)
│ TIME 1 2 3  - - -               │
└─────────────────────────────────┘
```

│ 2 │ (To select comply status.)

ABLE: To accept proposal of transmitting station.

```
┌─────────────────────────────────┐
│ Comply status <      >          │  - -→
│                                 │
│ ABLE          UNABLE            │
└─────────────────────────────────┘
```

UNABLE: Proposal is not accepted.

│ ENT │ │ ENT │

```
┌─────────────────────────────────┐
│ Unable <       >                │
│                                 │
│ NOR BSY  - - -                  │
└─────────────────────────────────┘
```

Select reason why unable to comply.
(Normal setting: No Reason)

│ ENT │

Returns to normal display.
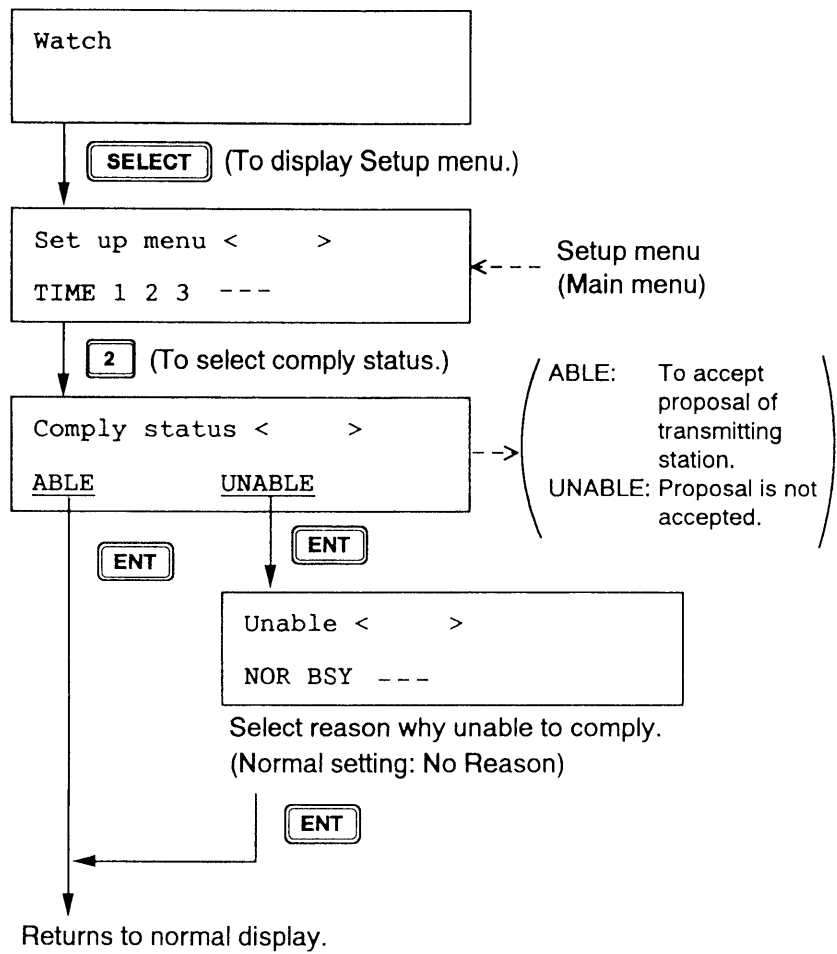
Receiving a message (ACK RQ) with AUTO ACK On

The DSC-6/6A sends the ACK BQ signal automatically.

Automatic transmission of ACK BQ (Alarm sounds.).

ABLE or UNABLE appears.

```
┌─────────────────────────────────┐
│ * Auto ack *  (  ___ )          │   Other station ID
│                                 │
│ ID: ( _ _ _ _ _ _ _ _ )         │
└─────────────────────────────────┘
```

● When "able to comply" is selected. ("ABLE" appears.)

Since the working frequency and class of emission are automatically set to ones designated by a transmitting station, voice communication can be initiated by you or transmitting station.

● When "unable to comply" is selected. ("UNABLE" appears.)

(The working frequency and class of emission are different from ones designated by other station.)

Then, prepare a message with different proposal and transmit it by pressing the │ CALL │ key.

Receiving ACK RQ with AUTO ACK Off

After verifying contents of receive message, manually transmit the ACK BQ signal by pressing the [CALL] key within five minutes. If the signal is transmitted more than five minutes after reception of ACK RQ signal, it is treated as an ACK RQ signal rather than ACK BQ.

```
* Received * ACK RQ          ─── Other ship ID

ID: ⟨─ ─ ─ ─ ─ ─ ─⟩
                    └─ Category
```

```
Alarm sounds. To silence,
press the [ ALARM STOP ] key.
```

[ENT] ─── Class of emission

```
J3E TP ◄          No information  ◄─ ─ Confirm proposal
                                       from other station.
Freq:
       └─ Working frequency ─┘
```

[ENT] (Twice)

```
Acknowledge call <      >

ACK  END  NEXT  DEL
```

ACK : Transmits ACK BQ signal.
END : Returns to normal display.
NEXT : Recalls received message.
DEL : Deletes received message from memory.

[ENT]

```
* Acknowledge call *

Telecom1?  J3E Telephony ◄── Class of emission
```

[ENT]   Working frequency

To change class of emission, press the [SELECT] key.

```
Freq?  ⟨─ ─ ─ ─ ─ ─⟩

DSC:
```

(*1)

● If no change is necessary, press the [ENT] key.

● To change working frequency, press the [SELECT] key then enter desired one followed by the [ENT] key.

```
* Ready for calling *

ACK BQ CALL
```

To transmit the ACK BQ signal, press the [CALL] key.

Returns to normal display.

[from previous page]

(*1)
When changing <u>class of emission.</u>

```
Telecom1 <        >

J3E   H3E   FEC   - - -      UNA
```

Example when selecting "UNA" (Unable). (Proposal from transmitting station is not acceptable.)

[ENT]

```
Telecom unable comply▮
              No reason
```

[SELECT] (To select reason why unable to comply.)

```
Unable <        >

NOR   BSY   - - -
```

Select reason.

[ENT]

```
Telecom1 <        >

J3E   H3E   FEC   - - -
```

Example when selecting "H3E".

[ENT]

```
Freq▮
```

[SELECT] (To change working frequency.)

```


NO      FREQ      CH      POS
```

Enter working frequency.

[ENT]

```
* Ready for calling *
ACK BQ CALL
```

[CALL]

If a different class of emission is selected as shown above, "ACK BQ" call is first transmitted and "ACK RQ" call automatically continues. This means the message proposed (prepared) here is transmitted as ACK RQ signal (not ACK BQ). Finally the "Wait for ACK BQ" screen appears.

10. Preparing and Saving Transmit Messages
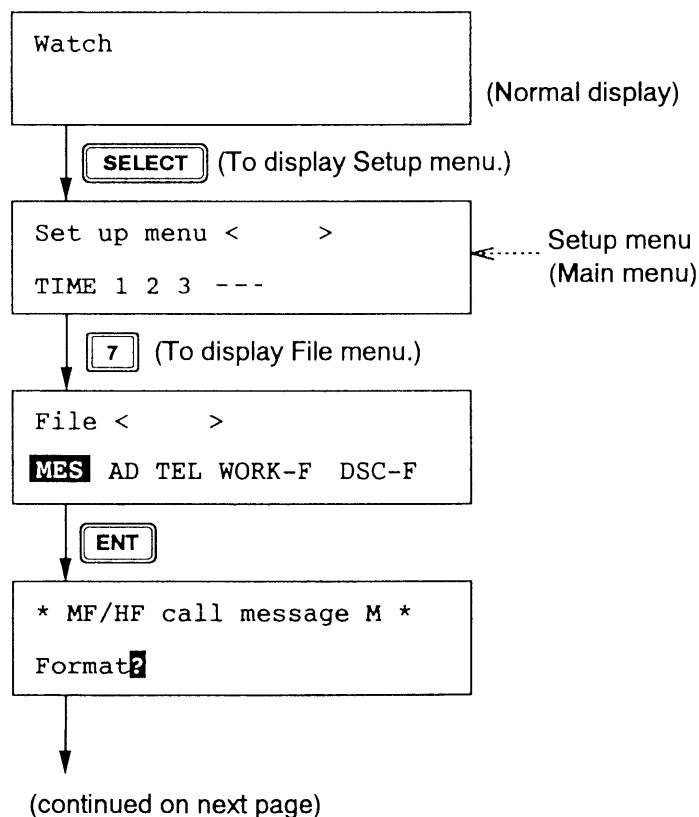
10.1 Preparing and Saving Transmit Messages

General

There are two ways to prepare and transmit a message:

1. Prepare a message for immediate transmission. (Refer to pages 8-1 and 9-1.)

2. Prepare a message and store it for later transmission.

You can save up to 99 transmit messages (excluding distress messages) to the memory. These are numbered 01 to 99.

Procedure

```
┌─────────────────────────────┐
│ Watch                       │
│                             │          (Normal display)
└─────────────────────────────┘
         │
       [SELECT]  (To display Setup menu.)
         │
┌─────────────────────────────┐
│ Set up menu <      >        │  ◁······ Setup menu
│                             │          (Main menu)
│ TIME 1 2 3 ---              │
└─────────────────────────────┘
         │
       [ 7 ]  (To display File menu.)
         │
┌─────────────────────────────┐
│ File <      >               │
│ MES  AD TEL WORK-F  DSC-F   │
└─────────────────────────────┘
         │
       [ ENT ]
         │
┌─────────────────────────────┐
│ * MF/HF call message M *    │
│                             │
│ Format                      │
└─────────────────────────────┘
         │
         ▼
```

(continued on next page)

(from previous page)

Prepare a message by referring to
page 8-1 (All Ships) and page 9-1 (Individual).

```
* Ready for filing *
```

[ENT] (To select file number under which to save message.)

```
Call message <      >

01 /99:
```

File No.
(blinking)

·····> To select a different file
number, use the arrow
keys.
([▶]: Up, [◀]: Down)

[ENT] (To assign file name.)

```
Name <      >

END   A B C D ------- R →
```

To scroll screen,
press the [▶] key.

Assign a file name (max. 16 characters) by
the arrow keys, [ENT] key and ten keys.

Example File Name: A1
1. Place the cursor on "A" with the arrow keys and
   press the [ENT] key.
   (For alphabet always press [ENT] after selection.)
2. Press the [1] key.

To change specific character, move upper cursor first.
Press [SELECT] and · · · ──→ [▶] : Moves upper cursor
rightward every pressing.
└→ [◀] : Moves upper cursor
leftward every pressing.

```
Name < A1 >

END  A B C D ---
```

- -→ To change entire name,
press the [CANCEL] key.

Press [◀] to place the lower cursor
on "END".

[ENT]

Using the example
above, the unit saves the
transmit message to the
memory (file no. 1) under
the file name "A1".

```
Next file memory <      >

END      NEXT      DELETE
```
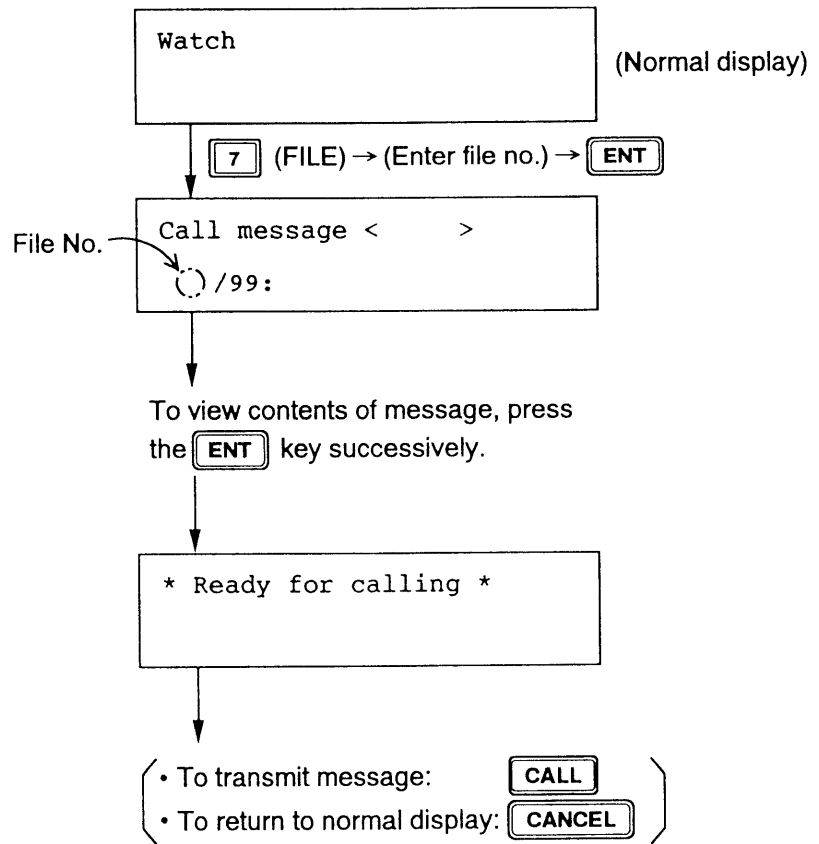
[ENT]

To prepare another message;

[ENT]

To delete file selected here.

[ENT]

Returns to normal display.

```
* MF/HF call message M *

Format2
```

10.2 Retrieving and Transmitting a File

Retrieving a file

```
┌─────────────────────────────────┐
│ Watch                           │   (Normal display)
│                                 │
│                                 │
└─────────────────────────────────┘
```

[7] (FILE) → (Enter file no.) → [ENT]

```
                ┌─────────────────────────────────┐
File No. ─────→ │ Call message <      >           │
            ↘   │ ( ) /99:                        │
                └─────────────────────────────────┘
```

To view contents of message, press
the [ENT] key successively.

```
┌─────────────────────────────────┐
│ * Ready for calling *           │
│                                 │
│                                 │
└─────────────────────────────────┘
```

(• To transmit message: [CALL]   )
(• To return to normal display: [CANCEL]   )

Transmitting a file

```
┌─────────────────────────────────┐
│ Watch                           │   (Normal display)
│                                 │
│                                 │
└─────────────────────────────────┘
```

[7] (FILE) → (Enter file no.) → [CALL]

```
┌─────────────────────────────────┐
│ * Call in progress *            │   (Transmitting)
│                                 │
│                                 │
└─────────────────────────────────┘
```

Returns to normal display.
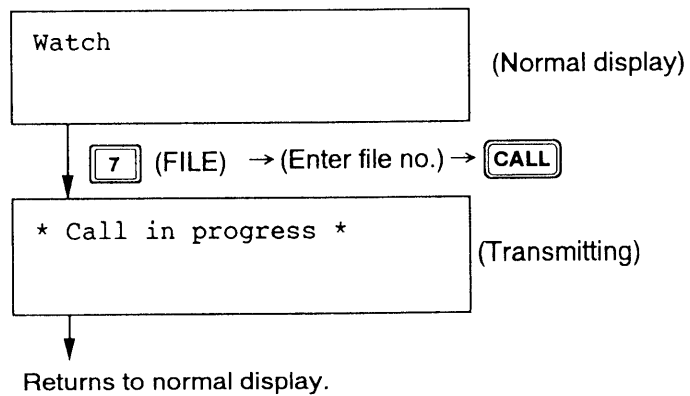
11. Transmit/Receive Message Memory

11.1 Transmit Message Memory

General

The transmit message memory stores **up to 50 transmitted messages** (numbered 1 to 50) on a first-in, first-out basis. This means each time you save a transmitted message it is filed as log no. 1 and the log no. of all previously stored transmit messages changes by one. When the memory is full the oldest file is deleted.
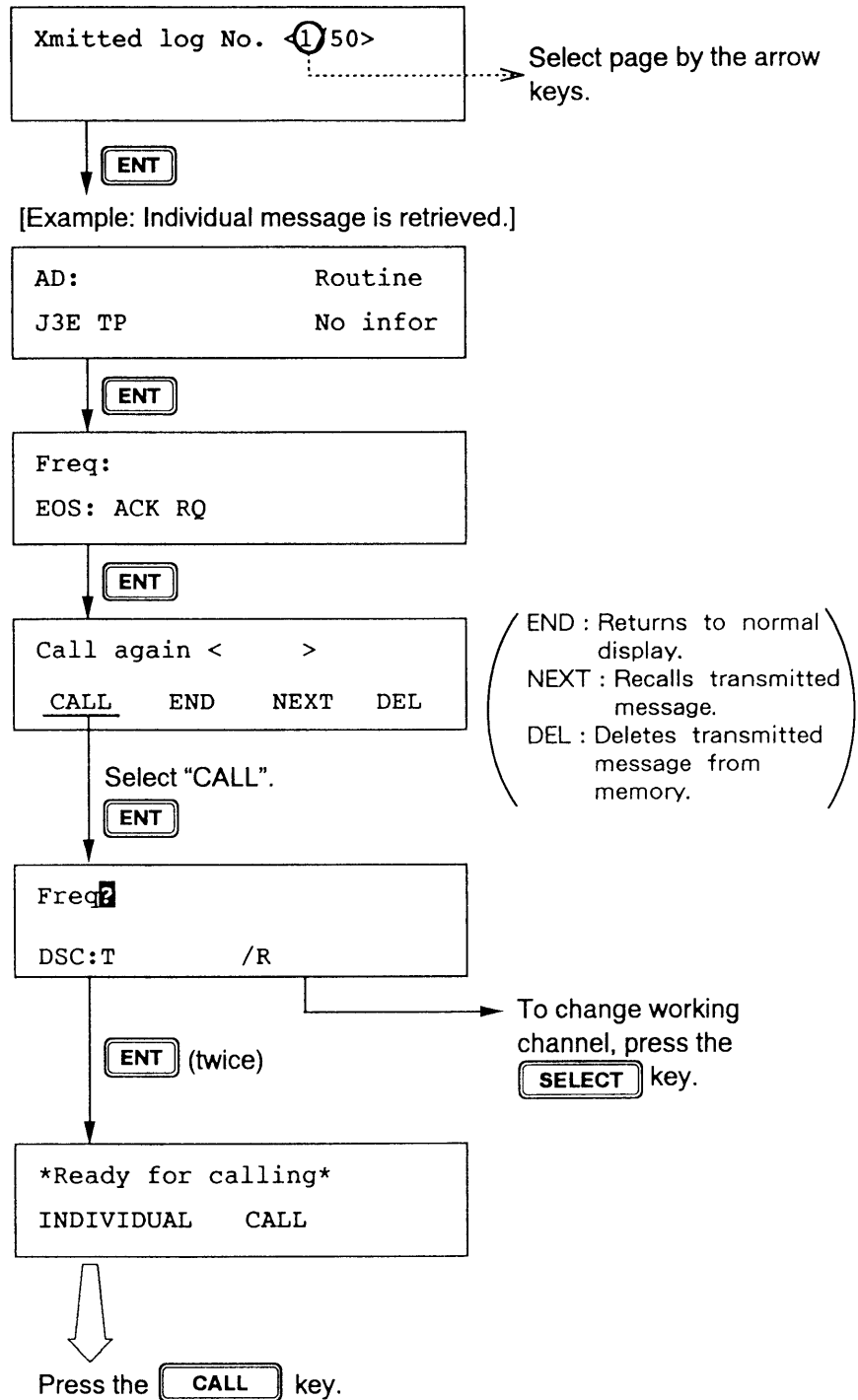
Retrieving a transmit message

Press the ⑨ (XMTD) key at the normal display.

```
Xmitted log No.  <①50>
```
····► Log no. (page number)

▶ :Selects next log no.

◄ :Selects previous log no.

Format (Call type)   Time transmitted
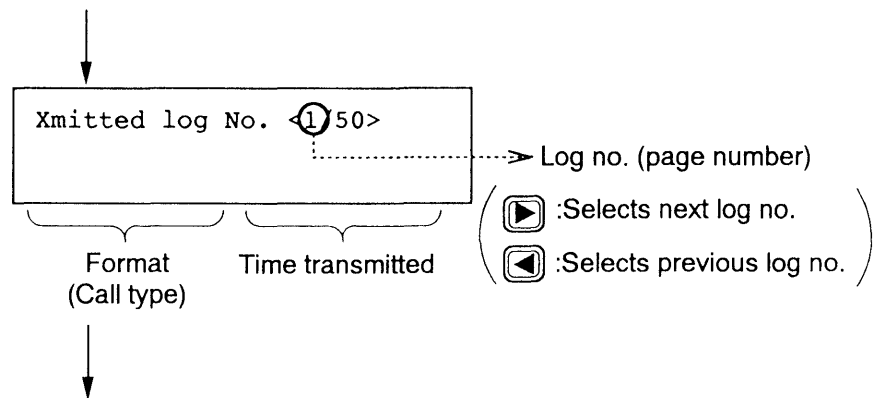
To view contents of message, press the [ENT] key successively.

Transmitting retrieved message

You can transmit a retrieved message as follows.

```
Xmitted log No. <1/50>
```

⟶ Select page by the arrow keys.

↓ ENT

[Example: Individual message is retrieved.]

```
AD:              Routine
J3E TP           No infor
```

↓ ENT

```
Freq:
EOS: ACK RQ
```

↓ ENT

```
Call again <    >
 CALL    END    NEXT    DEL
```

(END : Returns to normal display.
NEXT : Recalls transmitted message.
DEL : Deletes transmitted message from memory.)

Select "CALL".

↓ ENT

```
Freq:
DSC:T         /R
```

⟶ To change working channel, press the SELECT key.

↓ ENT (twice)

```
*Ready for calling*
INDIVIDUAL    CALL
```

⇩

Press the CALL key.

11.2 Receive Message Memory

General

All received messages are automatically saved to the memory and filed according to category, DISTRESS or ORDINARY. The receive message memory can store **up to 50 messages** (numbered 1 to 50) of each category on a first-in, first-out basis. This means each time the unit receives a message it saves it as log no. 1 and changes the log no. of all previously received messages by one. When the memory is full the oldest file is deleted.

Retrieving a receive message

Press the [8] (RCVD) key at normal display.

```
Received call <       >

DISTRESS      ORDINARY
```

/ DISTRESS: Distress alert \
                received
\ ORDINARY: Other than
                distress /
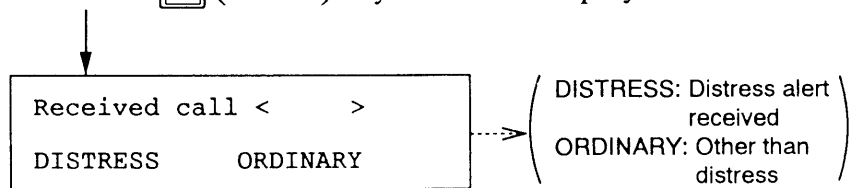
For example, "ORDINARY" log;

[ENT]

```
Ordinary log No. <1/50>
```

----> Log no. (page no.)

Format (*1)   Date received
(Call type)

([▶] :Selects next log no. \
  [◀] :Selects previous log no.)
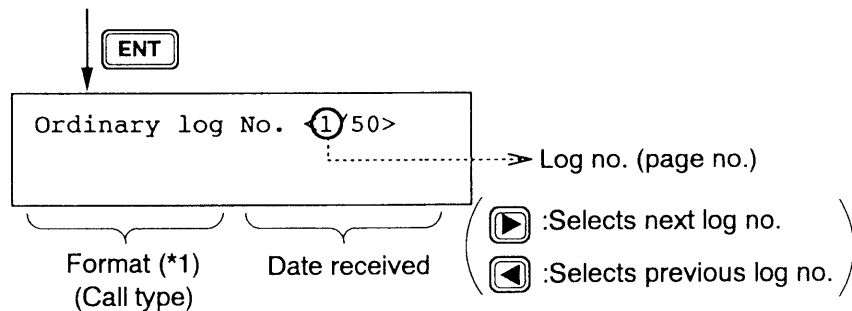
To view contents of message, press the [ENT] key successively.

(*1) : If own ship did not transmit "ACK BQ" (acknowledge back) signal a blinking sharp symbol (#) appears at head of Format.

Transmitting retrieved message

You can send the acknowledged call (DIST ACK or ACK BQ) under certain conditions after retrieving a received message. Refer to page 5-1 for transmitting the DIST ACK signal.

Example: Transmit acknowledge back (ACK BQ) signal in response to an individual call (Refer to page 9-7.)

```
Received call <      >

DISTRESS      ORDINARY
```

Select "ORDINARY", then press the [ENT] key.

```
Ordinary log No.  <1/50>
```
Select "INDIVIDUAL" number desired by the arrow keys.

To view contents of message, press the [ENT] key successively.

```
Acknowledge call <      >

ACK    END    NEXT    DEL
```

END : Returns to normal display.
NEXT : Recalls received message.
DEL : Deletes received message from memory.

[◄]

(To return to previous menu.)

[ENT]

```
*Acknowledge call*

Telecom1 ?
```
To change, press the [SELECT] key.

[ENT]

```
Freq ?

DSC:
```
To change, press the [SELECT] key.

[ENT]

```
*Ready for calling*

ACK BQ CALL
```

Press the [CALL] key to transmit the ACK BQ signal.

NOTE: *If the signal is transmitted more than five minutes after reception of ACK RQ signal, it is treated as an ACK RQ signal rather than ACK BQ. Finally the "Wait for ACK BQ" screen appears.*

12. Other Calling Types and Other Functions

12.1 Other Calling Types

General

The DSC-6/6A provides 13 calling types. Of these, individual, all ships and distress were discussed in previous chapters. This section describes the other types of calls available. The procedure for preparing and transmitting other calls is the same as that for individual and all ships calls: Select type of call, prepare message and transmit it by pressing the [[CALL]] key.
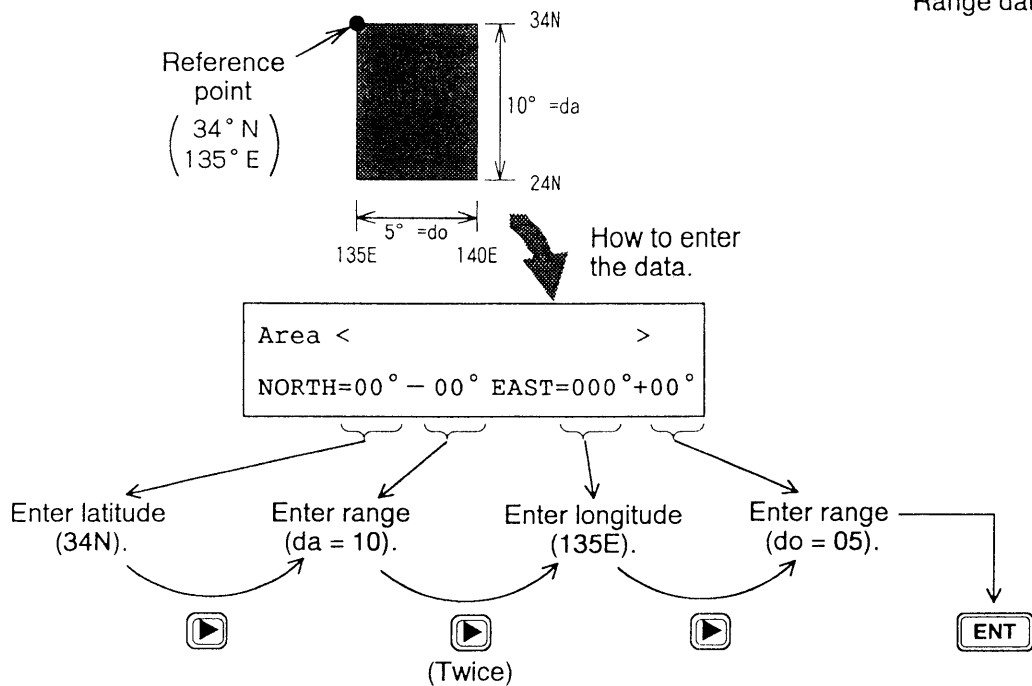
Selection of calling type

```
┌──────────────────────────────┐
│  Watch                       │   (Normal display)
│                              │
└──────────────────────────────┘
             │
          [[ ENT ]]
             ▼
┌──────────────────────────────┐
│  * MF/HF call message *      │
Calling ──→ │                  │
Type        │  Format �é        │
└──────────────────────────────┘
          [[ SELECT ]] (To select calling type)
             ▼
┌──────────────────────────────┐          To scroll screen, place
│  Call type <      >          │          the cursor here and
│                              │          press the [▶] key.
│  T IND TEL ALL RA RS DIS  ↘  │
└──────────────────────────────┘
   └──────────────┬──────────────┘
              selectable

            [▶]
             ▼
┌──────────────────────────────┐
│  Call type <    >            │
│                              │
│  GRP GEO POS POL MED NEU     │
└──────────────────────────────┘
```
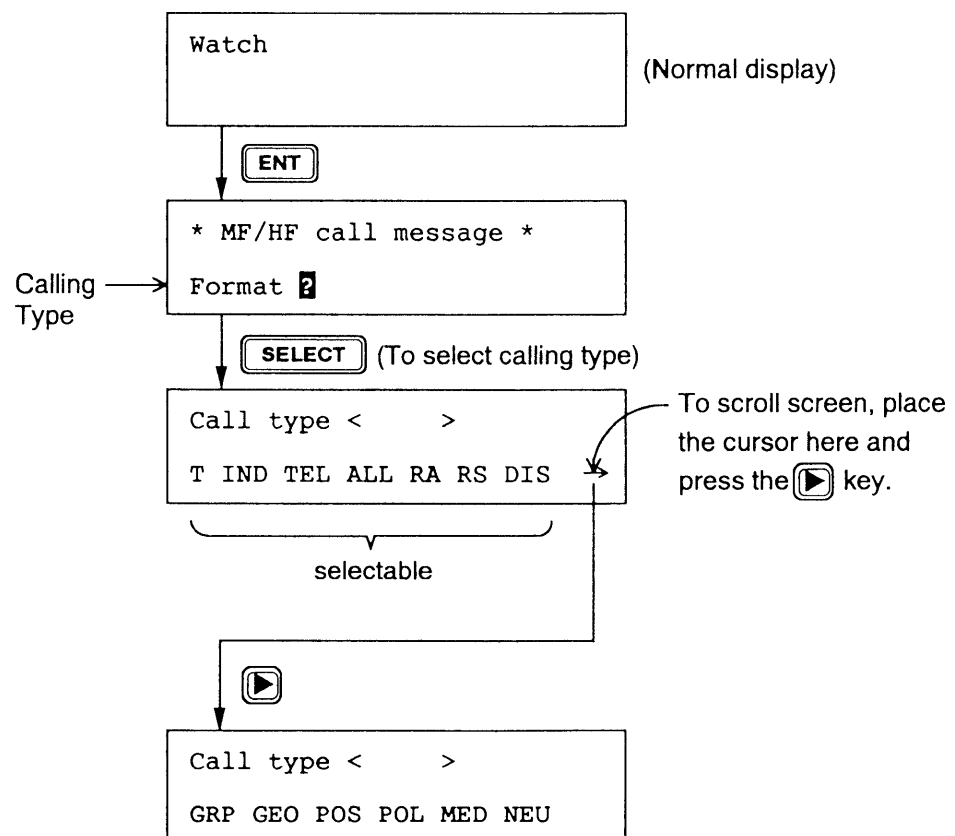
Description of all 13 calling types appears on the next few pages.

• T	: **Test call (Refer to page AP2-5)** Test transmission on Distress/Safty frequency.
• IND	: **Individual call (Refer to page 9-1.)**
• TEL	: **PSTN call (semi-auto/auto call)** Call a terrestrial network, for example, your office through a coast station.
•ALL	: **All ships call (Refer to page 8-1.)**
•RA and RS	: **Distress relay for All ships and for Selective (Individual) calls (Refer to page 4-3.)**
•DIS	: **Distress call (Refer to page 3-1)**
•GRP	: **Group call** Call a specific group by entering group ID number.
•GEO	: **Geographic area call** Call for ships within a range set by you in the transmit message (menu). To designate the range, enter reference point and width (range) data of both longitude and latitude.

Example: Ocean AD· ·34N 135E da10 do5

Range data

Reference point
(34° N)
(135° E)

34N

10° =da

24N

5° =do
135E   140E

How to enter the data.

```
Area <              >
NORTH=00° — 00° EAST=000°+00°
```

Enter latitude (34N).

Enter range (da = 10).

Enter longitude (135E).

Enter range (do = 05).

▶

▶
(Twice)

▶

ENT

• POS   : **Position request (Individual call**
                 Refer to page AP2-1.)

Find position of other ship by entering its ID number.

• POL   : **Polling call (Individual call**
                 Refer to page AP2-3.)

Confirm that own ship is within communication range with other ship. This provides only negative response; it does not provide position information.

• MED   : **Medical transport (All ships call)**

Inform all ships, by using "urgent" category, that own ship carries medical goods.

• NEU   : **Neutral craft (All ships call)**

Inform all ships that own ship is not a participant in an armed conflict.

12.2 File Menu

Registering   You can program often-used station IDs, telephone numbers and so on under a file name.

```
┌─────────────────────────────────────┐
│ Watch                               │   ◄······ Normal display
│                                     │
│                                     │
└─────────────────────────────────────┘
```

          ┌─SELECT─┐ ⇒ ┌──7──┐ (FILE)

```
┌─────────────────────────────────────┐
│ File set up  <        >             │   ◄······
│ MES    AD    TEL ······             │
└─────────────────────────────────────┘
```

Blinking

Refer to page 10-1.

Select desired item by ◄ or ► .

AD   : Other Station ID
          (max. 99)
TEL   : Telephone No.
          (max. 99)
WORK-F : Working Freq.
          (max. 99)
DSC-F   : DSC Freq.
          (max. 50)

          ┌─ENT─┐

To register,
refer to Appendix 1.

"AD"

```
┌─────────────────────┐
│ Address number      │
│ 9 DIGITS ▪           │
└─────────────────────┘
```

Ship Station: 9 digits
Coast Station: 00 + 7
                 digits
Group call: 0+8 digits

Enter number.

You can receive group calls
having same group ID numbers
registered here.

"TEL"

```
┌─────────────────────┐
│ Telephone number    │
│ DIGITS ▪             │
└─────────────────────┘
```

Enter tel. number.
(max. 16 digits)

"WORK-F"

```
┌─────────────────────┐
│ Work frequency < >  │
│ J3E   H3E  ········  │
└─────────────────────┘
```

Select class of emission.
⇒ ┌─ENT─┐ ⇒ Enter TX
and RX frequencies.

"DSC-F"

```
┌─────────────────────┐
│ DSC :               │
│ XMIT ▪        RCV ▪  │
└─────────────────────┘
```

Enter TX freq. ⇒
┌─►─┐
⇒ Enter RX freq.

Press ┌─ENT─┐ 3 times.

```
┌─────────────────────────────────────┐
│ Name  <            >                │
│ END ⌐ABCDEFG·········               │
└─────────────────────────────────────┘
```

Assign file name by ◄ ,
► and ENT and numeric
keys.

After assigning file name, place cursor
on "END" then press the ┌─ENT─┐ key.

Retrieving

You can retrieve a file registered on previous page, and use it with message which you are currently preparing.

To retrieve a file, **press the 7 (FILE) key on a display where the blinking question mark appears.**

[Example]

1. Retrieving Other Station ID

Individual Call

```
Addres? ?  ← Blinking
```

7

```
Address file <      >

Coast AD     Ship AD
```

Select one. (Example: Coast AD)
Then press ENT , enter desired file
no. (with ten keys) and press ENT .

```
Coast AD  <      >

    99:
```

File No.

... display ①

If you want to change file no.,
use the arrow keys.

ENT

ID number selected is input
into the transmit message.
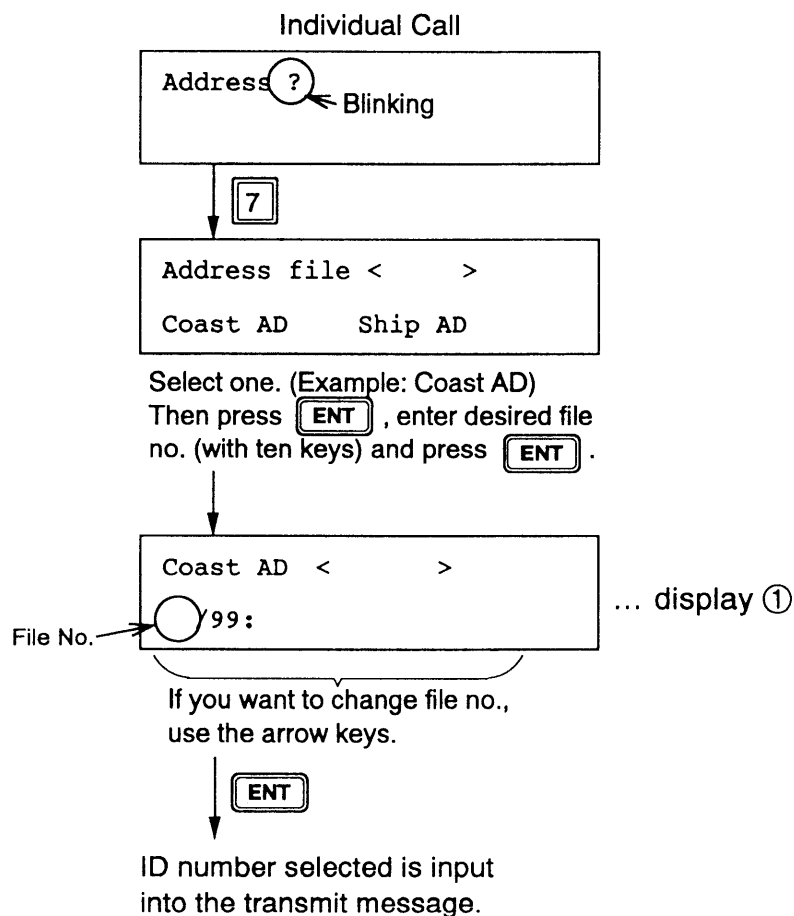
NOTE: Each press of the SELECT key at display ① alternates file number and alphabet
prefixed file name.

Press SELECT at display ①.·····➤

```
A1 zz:
```

(Alphabetical order)

File Name

SELECT → (Numeric order)
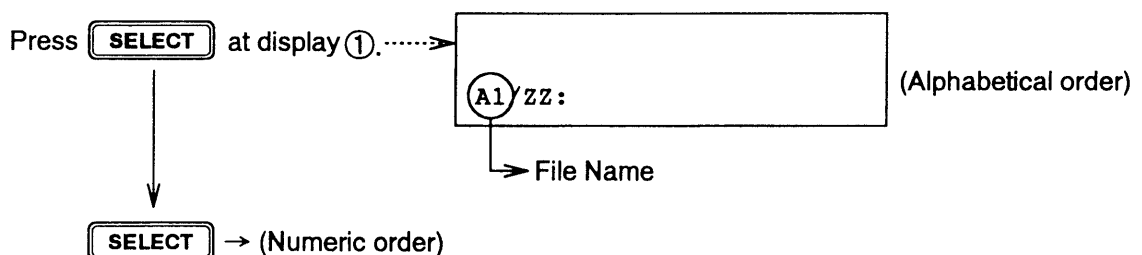
13. Printer Setup (Auto/Manual)

General

You can select either automatic or manual printing by following the procedure shown below. (Factory setting: Auto)

Procedure

```
┌─────────────────────────────┐
│ Watch                       │
│                             │   (Normal display)
└─────────────────────────────┘
           │
        [ SELECT ]
           ▼
┌─────────────────────────────┐
│ Set up menu <       >       │
│                             │◄···· Setup menu (Main menu)
│ TIME 1 2 3  - - -           │
└─────────────────────────────┘
           │
        [ 4 ]  (To select Print out menu.)
           ▼
┌─────────────────────────────┐
│ Print out <       >         │
│                             │
│ AUTO/MANU  TYPE  EEROM      │
└─────────────────────────────┘
           │
        Select "AUTO/MANU".
        [ ENT ]
           ▼
┌─────────────────────────────┐
│ Print out <       >         │      ⎛ AUTO: Automatic printing ⎞
│                             │····> ⎝ MANU: Manual printing      ⎠
│ AUTO       MANU             │
└─────────────────────────────┘
           │
        Select either one.
        [ ENT ]
           ▼
   Returns to normal display.
```
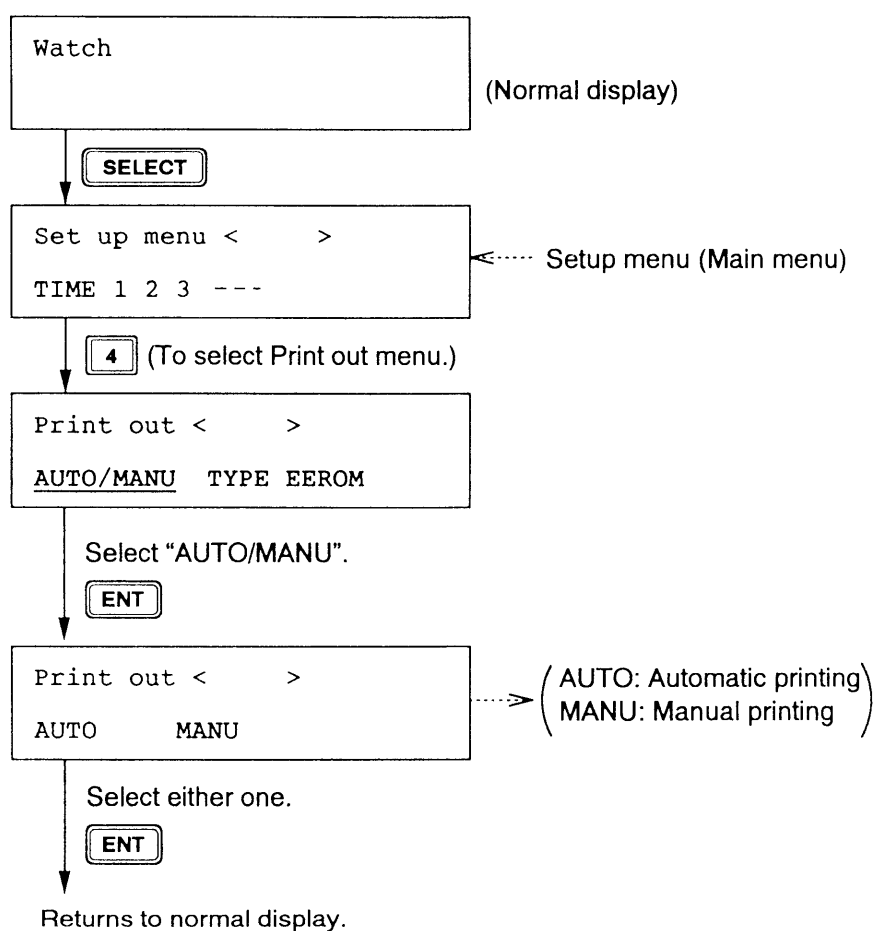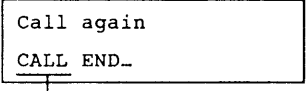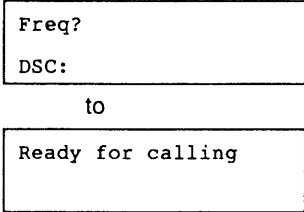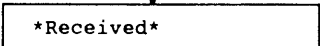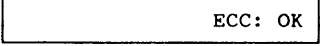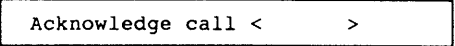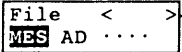
Automatic printing

When "AUTO" is selected, all transmitted and received messages will be automatically printed out when transmitted and received.

Manual printing

When "Manual" is selected, press the [4] (PRINT) key to print out message desired. Note that manual printing is available even when "AUTO" is selected.

The contents to be printed depend on when the [4] key is pressed, as shown in the table below.

No.	Printing	Timing of [4] key pressing	Example Printout
1	Contents of {MF/HF call message}	During "MF/HF call message" display to "Ready for calling" display.	ⓐ
2	Contents of all transmitted logs {Xmitted log No. < >}	Displayed ⌈Xmitted log No. < >⌋ (To stop printing, press [CANCEL].)	ⓑ
3	Contents of specific log no. (for example, log no. 1) {Xmitted log No. <1/50>} [ENT]	During " ⌈Xmitted...⌋ ⇒ [ENT] " display to "EOS" display.	ⓒ
4	Call message (again) ```Call again CALL END_``` [ENT]	```Freq? DSC:``` to ```Ready for calling``` While these displays appear.	ⓐ
5	Contents of all received logs {Ordinary log No. < >} (Distress)	Displayed ⌈Ordinary log No. < >⌋ (Distress) (To stop printing, press [CANCEL] key.)	ⓓ
6	Contents of specific log no. (for example, log no. 1) {Ordinary log No. <1/50>} (Distress)	⌈Ordinary ...⌋ display ⇒ [ENT] ```*Received*``` to ```ECC: OK``` While these displays appear.	ⓔ
7	① Currently received message ```*Received*``` [ENT] ② Acknowledge message ```Acknowledge call < >```	"Ready for calling" is displayed.	ⓕ
8	Contents of currently prepared {MF/HF call message M}	During "MF/HF call message M" display to "Ready for filing" display.	ⓖ
9	All lists of {saved messages} or contents of all {Address , Tel No., work freq. or DSC freq.} files. • [SELECT] ⇒ [7] ```File < > MES AD ····``` ⇢ Press [4] to print out all list of saved messages.	• For example, to print out all coast addresses in the memory, press [4] at display ① on page 12-5.	ⓗ

Example printouts

(a)
```
Format  : INDIVIDUAL
Address : 000000000
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK RQ
ECC     : ····

DSC freq: T12578.5/R12658.0
```

(b)
```
*****Xmitted log*****
Xmt message JAN01 12:34
Format  : INDIVIDUAL
Address : 004310000
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK BQ

DSC freq: T12578.5/R12658.0
```

(c)
```
Xmt message JAN01 00:09
Format  : INDIVIDUAL
Address : 004310000
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK BQ

DSC freq: T12578.5/R12658.0
```

(d)
```
*****Ordinary log*****
Rcv message JAN01 02:04
Format  : ALL SHIPS
Category: Safety
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T02182.0/R02182.0
EOS     : EOS
ECC     : OK

DSC freq: T02187.5/R02187.5


Rcv message JAN01 02:03
Format  : INDIVIDUAL
Address : 004310001
Category: Safety
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : No information
EOS     : ACK RQ
ECC     : OK

DSC freq: T02187.5/R02187.5
```

(e)
```
Rcv message JAN01 00:07
Format  : INDIVIDUAL
Address : 431000001
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK RQ
ECC     : OK

DSC freq: T12578.5/R12658.0
```

(f)
```
Format  : INDIVIDUAL
Address : 431000001
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK BQ
ECC     : ····

DSC freq: T12578.5/R12658.0
```

(g)
```
Format  : INDIVIDUAL
Address : 000000000
Category: Routine
Telecom1: J3E  TP
Telecom2: RES No.18
Freq    : T12230.0/R13077.0
EOS     : ACK RQ
ECC     : OK

DSC freq: T12578.5/R12658.0
```
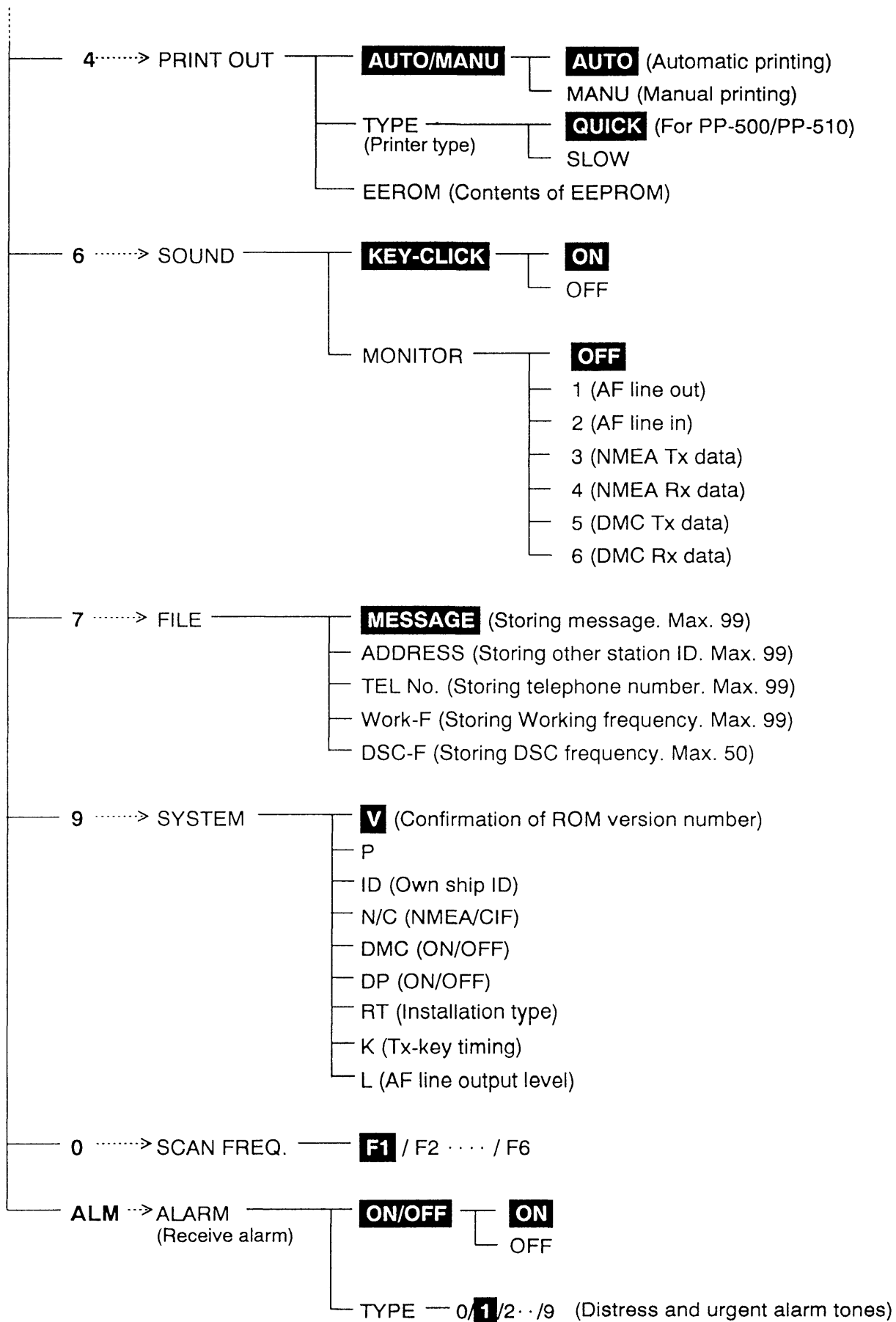
(h)
```
**** Call message file ****
01: FURUNO         Individual
02: CAPTAIN        All ships
```

13-3

14. Menu List

```
Watch                          [ENT] ──────→ (page 14-3)
                               [8]   ──────→ (page 14-4)
                               [9]   ──────→ (page 14-4)
      [SELECT]
                               (Setup menu)
Set up menu <    >
TIME 1 2 3 --- ALM
```

TIME ···>(MONTH – DATE – YEAR)

1 ········> (Latitude/Longitude/UTC)

2 ········> COMPLY STATUS ─┬─ **ABLE**
    (Proposal from
    other station is
    acceptable or not.) └─ UNABLE ── NOR/BSY/DSA/CH/MOD
      (Reason why unable to comply)

3 ········> SELF TEST ─┬─ **ROM** ─┬─ **ROM**
                        ├─ RAM
                        └─ EPROM

          ├─ RMT ─┬─ **BOARD** ─┬─ **REMOTE-C**
          │ (Remote │ (CONTROL ├─ REMOTE-D
          │ line) │ board check) └─ REMOTE-E
          │ ├─ CONNECTOR ─┬─ N (NMEA Loop check)
          │ │ (Checks from ├─ REMOTE-A (DMC-5)
          │ │ board to ├─ REMOTE-C (DP-5)
          │ │ connector) ├─ REMOTE-D (SSB)
          │ │ └─ REMOTE-E (SSB or RCVR)
          │ └─ CALL ─┬─ N (For factory adjustment)
          │ (Signal exchange ├─ REMOTE-A
          │ with equipment ├─ REMOTE-C
          │ connected) ├─ REMOTE-D
          ├─ LIN (AF └─ REMOTE-E
          │ line: MODEM board check)
          ├─ KEY (Keyboard)
          ├─ DIS (Display)
          └─ PRT (Printer output)

Default settings shown in highlight.

14-1

```
         4 ·····> PRINT OUT ─┬─ [AUTO/MANU] ─┬─ [AUTO] (Automatic printing)
                             │                └─ MANU (Manual printing)
                             │
                             ├─ TYPE ──────── ─┬─ [QUICK] (For PP-500/PP-510)
                             │  (Printer type)  └─ SLOW
                             │
                             └─ EEROM (Contents of EEPROM)

         6 ·····> SOUND ─┬─ [KEY-CLICK] ─┬─ [ON]
                         │                └─ OFF
                         │
                         └─ MONITOR ─────┬─ [OFF]
                                         ├─ 1 (AF line out)
                                         ├─ 2 (AF line in)
                                         ├─ 3 (NMEA Tx data)
                                         ├─ 4 (NMEA Rx data)
                                         ├─ 5 (DMC Tx data)
                                         └─ 6 (DMC Rx data)

         7 ·····> FILE ─┬─ [MESSAGE] (Storing message. Max. 99)
                        ├─ ADDRESS (Storing other station ID. Max. 99)
                        ├─ TEL No. (Storing telephone number. Max. 99)
                        ├─ Work-F (Storing Working frequency. Max. 99)
                        └─ DSC-F (Storing DSC frequency. Max. 50)

         9 ·····> SYSTEM ─┬─ [V] (Confirmation of ROM version number)
                          ├─ P
                          ├─ ID (Own ship ID)
                          ├─ N/C (NMEA/CIF)
                          ├─ DMC (ON/OFF)
                          ├─ DP (ON/OFF)
                          ├─ RT (Installation type)
                          ├─ K (Tx-key timing)
                          └─ L (AF line output level)

         0 ·····> SCAN FREQ. ──── [F1] / F2 ···· / F6

        ALM ··>ALARM ─┬─ [ON/OFF] ─┬─ [ON]
            (Receive alarm)         └─ OFF
                      │
                      └─ TYPE ── 0/[1]/2··/9  (Distress and urgent alarm tones)
```

┌─────────────────────────┐
│ Default settings shown │
│ in highlight.   │
└─────────────────────────┘

14-2

Normal display

ENT

```
┌─────────────────────────────────┐
│ * MF/HF call message *          │
│                                 │
│ Format ▉                        │
└─────────────────────────────────┘
```
(Preparing transmit message)

FORMAT (CALL TYPE)

── TEST ─────── COAST ADDR

── INDIVIDUAL ── ADDRESS─── CATEGORY── TELECOM── WORKING FREQ

── TELEPHONE── COAST ADDR── TEL NO.
   (PSTN)

── ALL SHIPS── CATEGORY─── TELECOM ── WORKING FREQ

── R/A (DISTRESS RELAY··ALL SHIPS)── DIST SHIP ID── N OF DIST ── POS & TIME

                                                         TELECOM ── DIST FREQ

── R/S (DISTRESS RELAY··INDIVIDUAL) ── COAST ADDR

── DISTRESS ─── NATURE OF DISTRESS─── POSITION & TIME── TELECOM

── GROUP── GROUP ADDR ── CATEGORY ── TELECOM── WORKING FREQ

── GEOGRAPHIC AREA

         └── OCEAN ADDR ── CATEGORY ── TELECOM ── WORKING FREQ

── POSITION REQUEST─── ADDR ─── CATEGORY
                                         (Normally ROUTINE)

── POLLING─────── ADDR ─── CATEGORY
                                         (Normally ROUTINE)

── MEDICAL TRANSPORT─── TELECOM ── WORKING FREQ

── NEUTRAL CRAFT─────── CATEGORY── WORKING FREQ

Normal display

↓ [8]

```
Received call <        >

DISTRESS    ORDINARY
```
(Viewing contents of receive message)

```
── ORDINARY ──┬── INDIVIDUAL ──┬── ACK ─ TELECOM ── WORKING FREQ
   LOG No.     │                │
   (1 – 50)    │                ├── END
               ├── SEMI-AUTO/   │
               │   AUTO ────────┼── NEXT
               │   (Telephone)  │
               │                └── DEL
               │
               ├── ALL SHIPS ──┬── END
               ├── GROUP ──────┼── NEXT
               └── GEOGRAPH ───┴── DEL
```

```
── DISTRESS ──┬── DIST ACK
   LOG No.     │
   (1 – 50)    ├── RELAY ──┬── 1. INDIVIDUAL ── COAST ADDR
               │           └── 2. ALL SHIPS
               ├── END
               ├── NEXT
               └── DEL
```

Normal display

↓ [9]

```
Xmitted log No. <        >
```
(Viewing contents of transmit message)

```
── XMITTED ──┬── CALL ── WORKING FREQ
   LOG No.    ├── END
   (1 – 50)   ├── NEXT
              └── DEL
```

Appendix 1
DSC Frequency Table

File No.	TX (kHz)	RX (kHz)	REMARKS	File name
	2187.5	2187.5	DISTERSS/SAFTY FREQUENCIES	
	4207.5	4207.5		
	6312.0	6312.0		
	8414.5	8414.5		
	12577.0	12577.0		
	16804.5	16804.5		
10	458.5	455.5	INTERNATIONAL FREQUENCIES	INTL-0.4M
11	2189.5	2177.0		INTL-2M
12	4208.0	4219.5		INTL-4M
13	6312.5	6331.0		INTL-6M
14	8415.0	8436.5		INTL-8M
15	12577.5	12657.0		INTL-12M
16	16805.0	16903.0		INTL-16M
17	18898.5	19703.5		INTL-18M
18	22374.5	22444.0		INTL-22M
19	25208.5	26121.0		INTL-25M
22	4208.5	4220.0	LOCAL FREQUENCIES (DEPENDING ON COUNTRY)	LOCAL1-4M
23	6313.0	6331.5		LOCAL1-6M
24	8415.5	8437.0		LOCAL1-8M
25	12578.0	12657.5		LOCAL1-12M
26	16805.5	16903.5		LOCAL1-16M
27	18899.0	19704.0		LOCAL1-18M
28	22375.0	22444.5		LOCAL1-22M
29	25209.0	26121.5		LOCAL1-26M
32	4209.0	4220.5		LOCAL2-4M
33	6313.5	6332.0		LOCAL2-6M
34	8416.0	8437.5		LOCAL2-8M
35	12578.5	12658.0		LOCAL2-12M
36	16806.0	16904.0		LOCAL2-16M
37	18899.5	19704.5		LOCAL2-18M
38	22375.5	22445.0		LOCAL2-22M
39	25209.5	26122.0		LOCAL2-25M

Note 1: TX: 2177.0 kHz, RX: 2177.0 kHz · · · · For intership calling

Appendix 2 Application

Beside its primary function of providing distress and general calling, the DSC-6/6A can also perform several other useful functions.

1. Finding Position of Other Station

To find the position (incl. time data) of other station; for example, your scout boat, do the following:

② (Position information)

Own Station
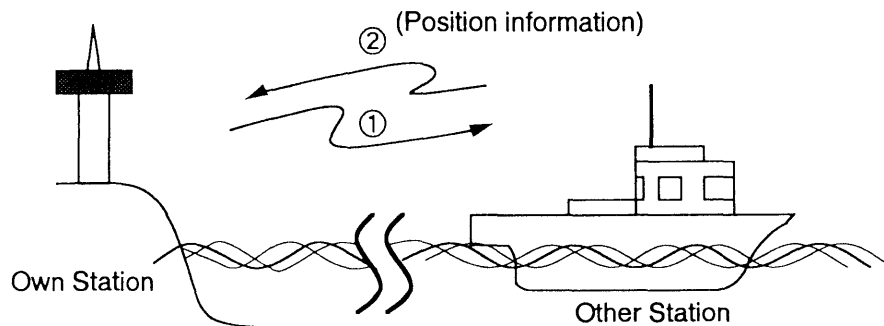
Other Station

Settings

Format: POSITION REQUEST
Address: Other Station ID (9 digits)
Category: ROUTINE

Procedure

1. Set up the unit as prescribed above then press the [CALL] key. The "Wait for ack BQ" screen appears.
2. Receive acknowledge back signal from other station.

```
Wait for ack BQ
```
----------> "Wait for ack BQ" screen

```
*Received* ABLE ACK BQ

ID:
```

[ENT]

```
SHIP POSITION

POS: 34° 40N 135° 20E 12:35
```
----------> Other station's position and time
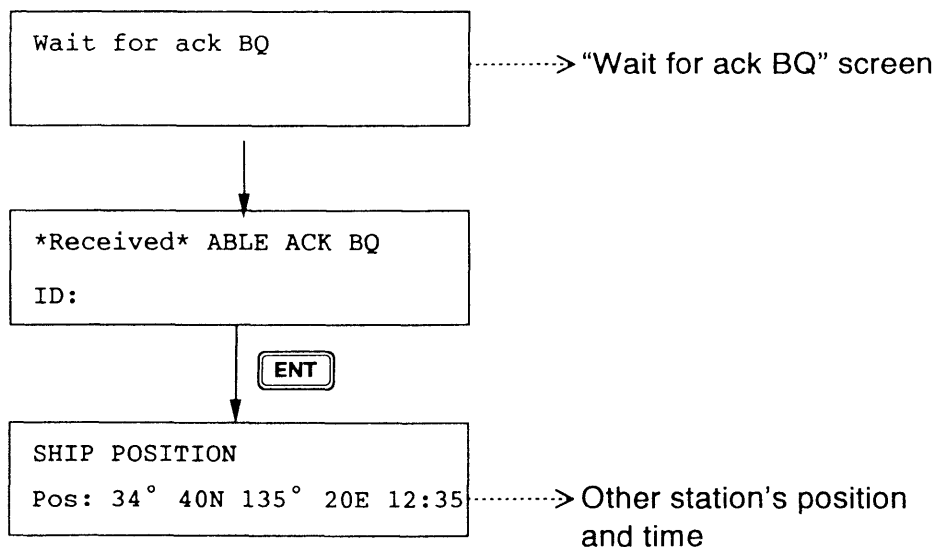
2. Transmitting Own Ship's Position to Other Stations

① Position Information
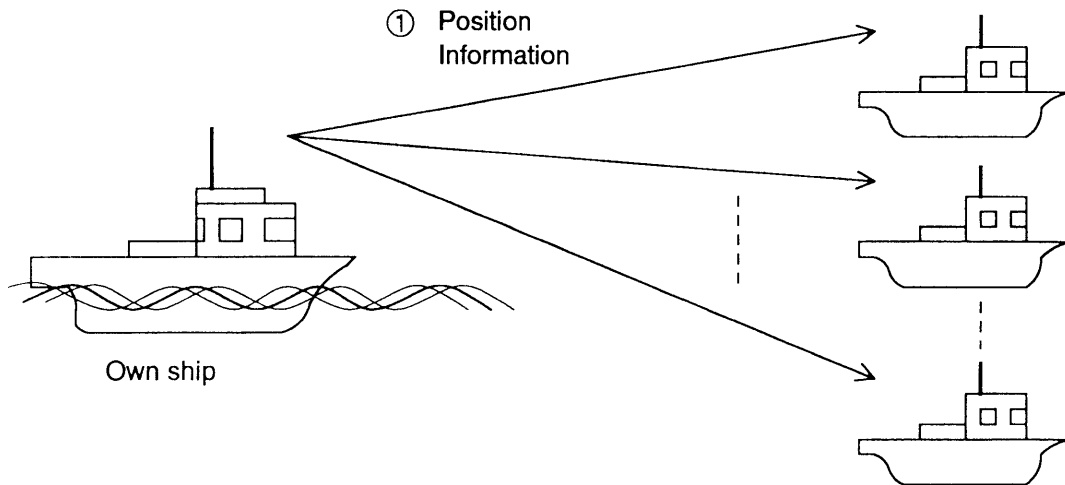
Own ship

Settings

Format: GROUP or GEOGRAPH

Address: GROUP ID Number (0 + 8 digits) or Input of geographic area

Category: ROUTINE

Working frequency: POS

Procedure

1. Set up the unit as prescribed above. Key in own ship's position (if necessary) then press the [CALL] key.

```
Message    <                >
NO    FRQ    CH    POS
```
⭠------ Set POS at working frequency selection screen.

[ENT]

```
Position   <                >
NORTH=
```
If there is no automatic input of position enter it manually.

[ENT]

```
Ready for calling
```

Press [CALL] key.

AP2-2
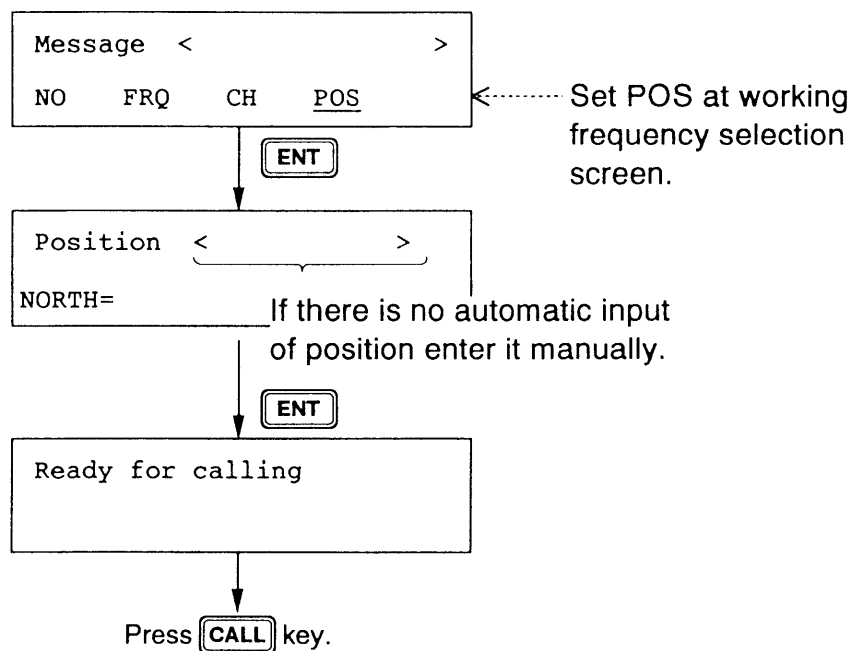
3. Polling

Polling means confirming if own station is within communicating range with other station. This function provides only affirmative or negative response; it does not provide position information. Note also that simultaneous polling to more than one station is not possible.
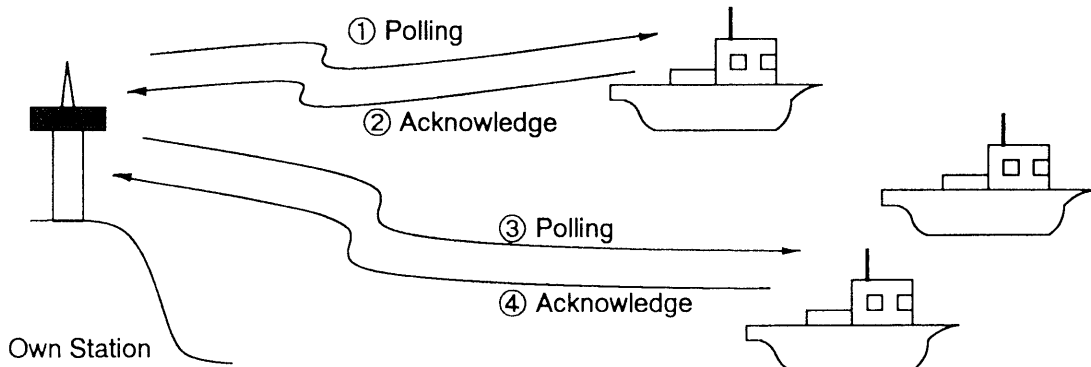
Settings

Format: POLLING
Address: Other Station ID (9 digits)
Category: ROUTINE

Procedure

1. Set up the unit as prescribed above then press the CALL key. The "Wait for ack BQ" screen appears.

```
Wait for ack BQ
```
----------> "Wait for ack BQ" screen
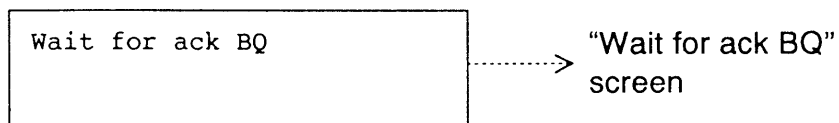
2. Receive the acknowledge back signal from the other station. If the following screen appears **your station is within communicating range** with the other station.

```
*Received* Polling
```

4. Telex Operation with the DP-5
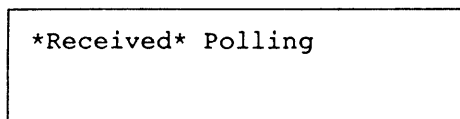
4. Telex Operation with the DP-5

The figure below shows how to connect the DP-5 to the DSC-6/6A and SSB radiotelephone for telex communication.
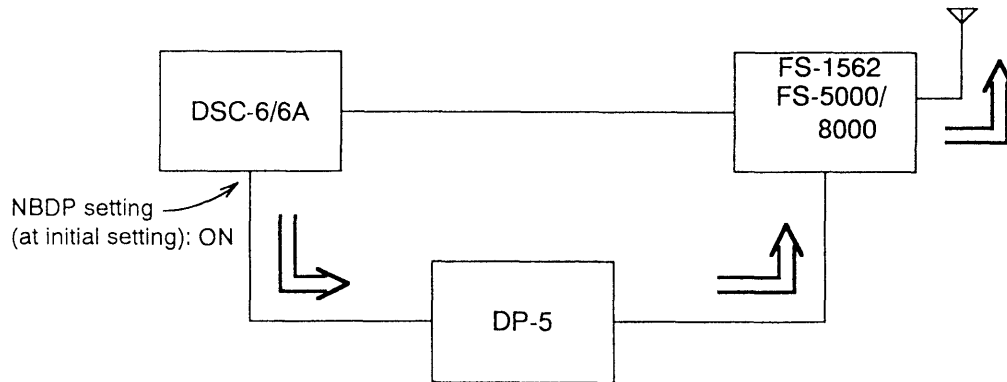
When the DSC-6/6A transmits individual call message with a TELEX telecommand and receives ACK BQ signal, it automatically relays (transfers) **other station ID, class of emission (FEC, ARQ, TTY) and Working frequency** to the DP-5. (The 9 digit-select ID code of the DP-5 should be entered. Otherwise, they are not transferred.) Then to begin TELEX communication by the DP-5, simply select that station name on the station list menu. That station which is denoted by "DSC plus data/time the message was received," should be at the top of the list.
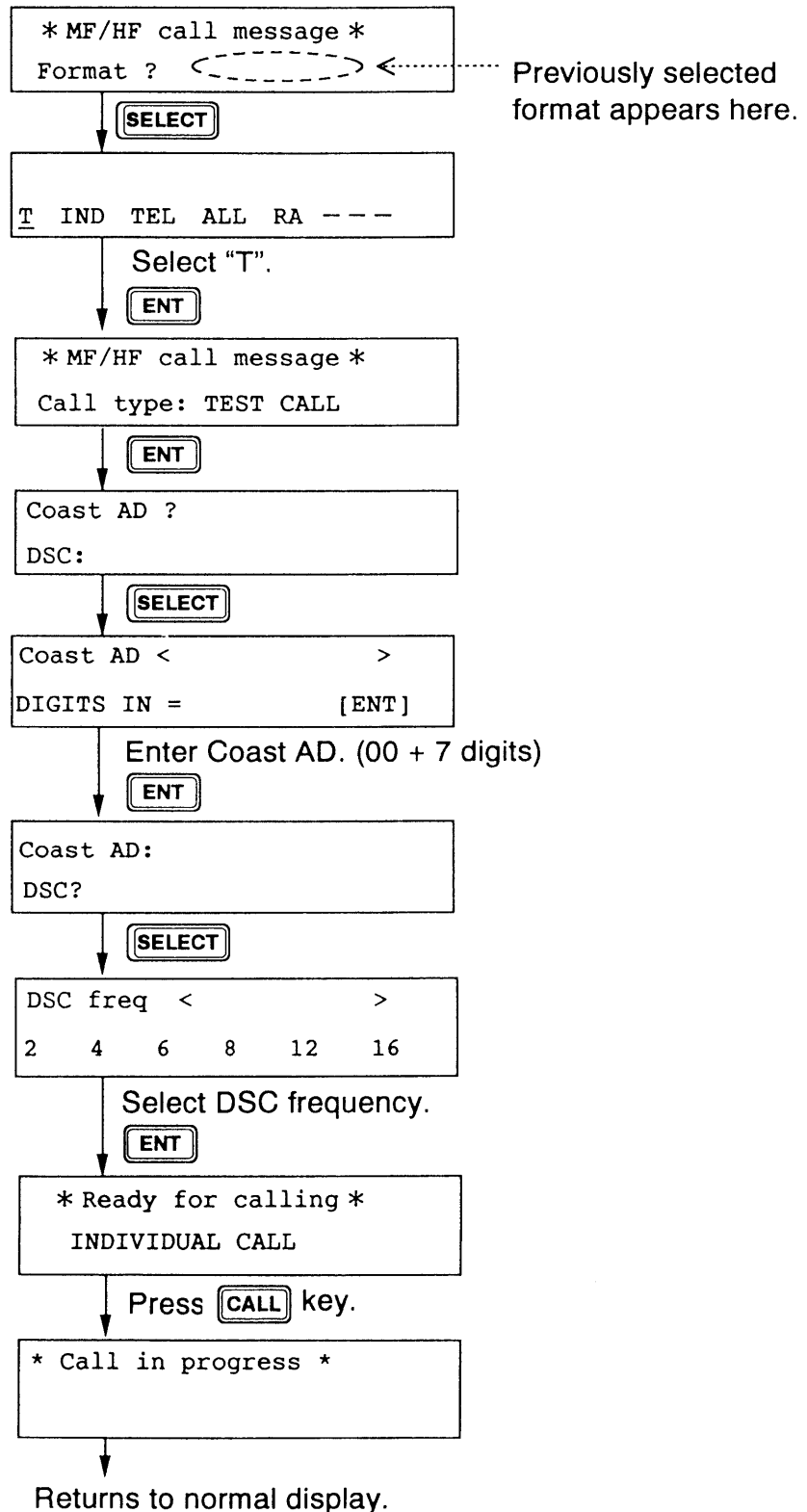
For all ships, group and geographic area calls, after the DSC-6/6A transmits a message with a TELEX command, the same data as shown above are automatically transferred from the DSC-6/6A to the DP-5.

AP2-4

5. Test call

Since one of six distress and safety frequencies is used for test call, do not use this function unnecessarily.

Procedure

1. Press the [ENT] key at the normal display.

```
* MF/HF call message *
Format ?   <_____>  <
```
············· Previously selected
format appears here.

↓ [SELECT]

```
T  IND  TEL  ALL  RA  — — —
```

Select "T".

↓ [ENT]

```
* MF/HF call message *
Call type: TEST CALL
```

↓ [ENT]

```
Coast AD ?
DSC:
```

↓ [SELECT]

```
Coast AD <              >
DIGITS IN =        [ENT]
```

Enter Coast AD. (00 + 7 digits)

↓ [ENT]

```
Coast AD:
DSC?
```

↓ [SELECT]

```
DSC freq  <              >
2    4    6    8    12    16
```

Select DSC frequency.

↓ [ENT]

```
* Ready for calling *
   INDIVIDUAL CALL
```

↓ Press [CALL] key.

```
* Call in progress *
```

↓

Returns to normal display.

AP2-5

PART 2

Maintenance

PART 2 Table of Contents

(Maintenance)
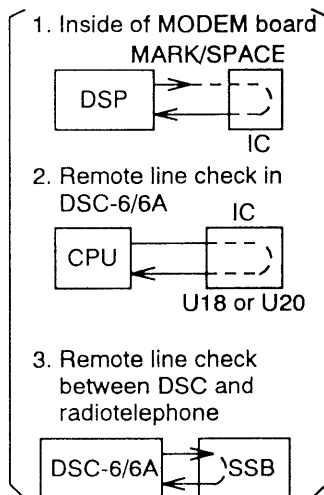
1. Daily Operating Test

General

This unit is equipped with a self diagnosis test which checks for proper operation. We recommend daily execution of the test to ensure proper transmission in case of distress. (**Set the frequency of radiotelephone other than 2182 kHz.**)

Procedure

Press the ③ key at the normal display.

```
*Watch*
```
◁······ Normal display

Contents of Test

1. Inside of MODEM board
   MARK/SPACE

2. Remote line check in
   DSC-6/6A

3. Remote line check
   between DSC and
   radiotelephone

[3] (TEST)

```
MF/HF DSC SELF-TEST
```

```
*Test in progress*
Please wait ▯
```

```
*Completed* SELF-TEST
MF/HF DSC: CHECK OK
```
◁······ To print out results of the test, press [4] .

(If automatic printing mode is selected, results of the test are automatically printed out.)

If NG appears, or you want to view contents of test, press [ENT] .

Communication check
between CONTROL &
MODEM boards. ◁----┐

```
*Checked* SELF-TEST
·MODEM BOARD: OK
```
           └-┼·
[ENT]

Checking inside of MODEM
board. ◁----------┐

```
·AF LINE LOOP: OK
·REMOTE-A CALL: DMC-5 ············┼····➤ If DMC-5 is connected
```
           └-┼·
[ENT]

Causes of NG ◁-----
1. Power of DMC-5 is off.
2. System setting of
   DMC-5 is off.
3. Faulty remote line.

```
·REMOTE-E LOOP: OK
·REMOTE-E CALL: FS-5000 ···········┼····➤ If FS-5000 is connected to
                                              REMOTE-E terminal
```
Radiotelephone connected

[ENT]

Checking inside of
CONTROL board. ◁--┘

```
WATCH RECEIVER: OK
Check end: [CANCEL] key
```

[CANCEL]

Returns to normal display.

Causes of NG ◁----
1. Power of FS-5000
   is off.
2. Faulty remote line.

DSC-6A only ◁-------┘
(2187.5kHz RECEIVER
board check)

Note: If DP-5 is connected, "REMOTE-C CALL: DP-5" appears. If NG appears, check the interconnection cable, the power of DP-5 and "Remote A or B setting" on TERMINAL menu of DP-5.
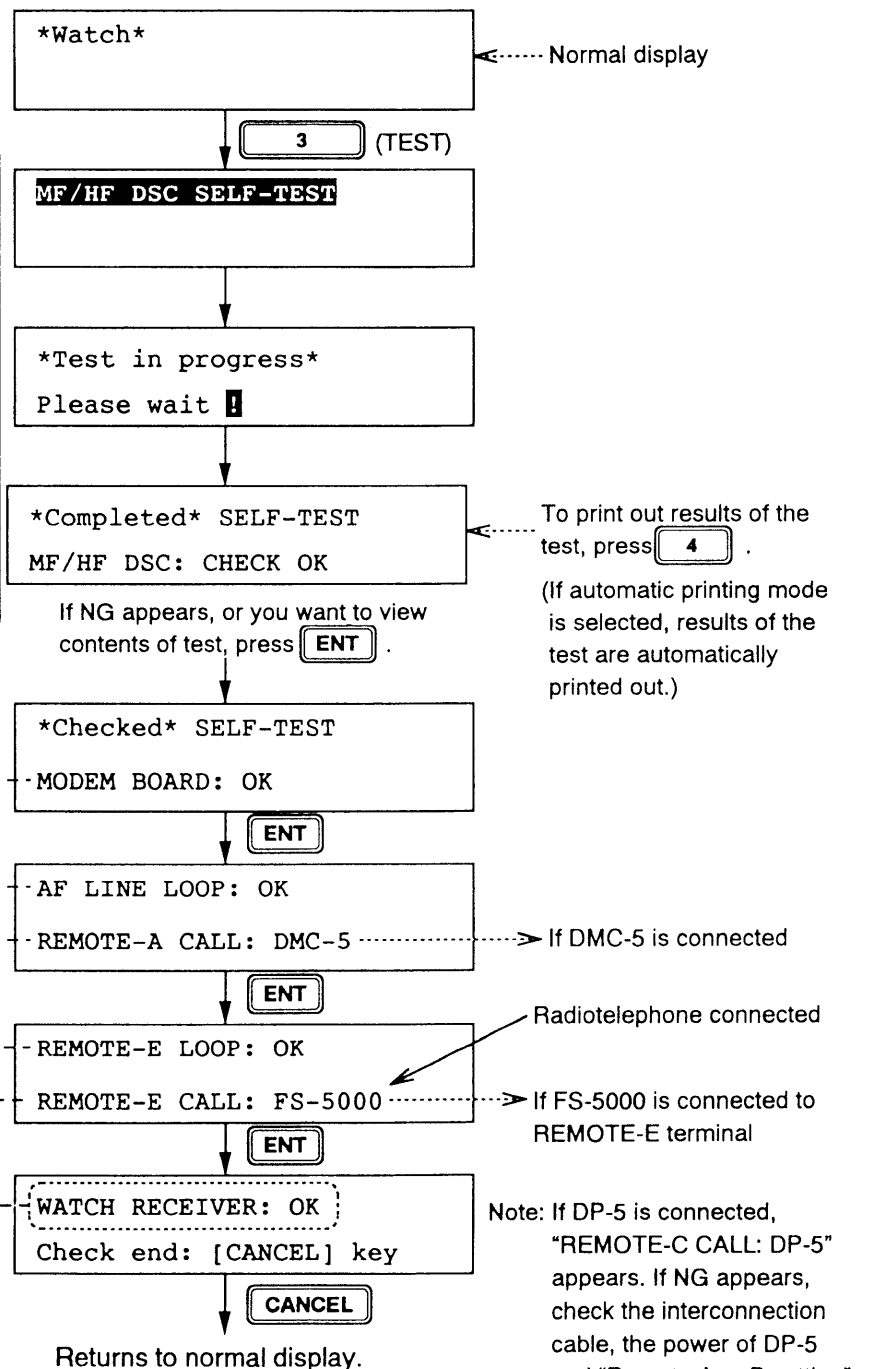
2. Visual Check

General

This unit can perform its intended functions only when properly maintained. Following the procedures shown below will help keep it in top operating condition. **Be sure to turn off the power before performing any maintenance procedures** (except cleaning the display unit).

⚠ **WARNING**

Do not open the cover of the equipment.

This equipment uses high voltage electricity which can shock, burn, or cause death. Only qualified personnel should work inside the equipment.
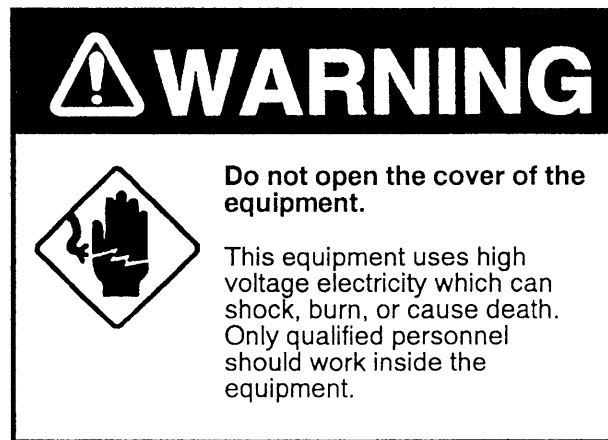
Cleaning display unit

Accumulated dust can be removed with a soft, dry cloth. Do not use gasoline, thinner, benzine or other solvents to clean the display unit. These may remove paint and markings.

Inspecting connectors and earth terminal

Periodically inspect the connectors and earth terminal on the rear of the unit for tightness.
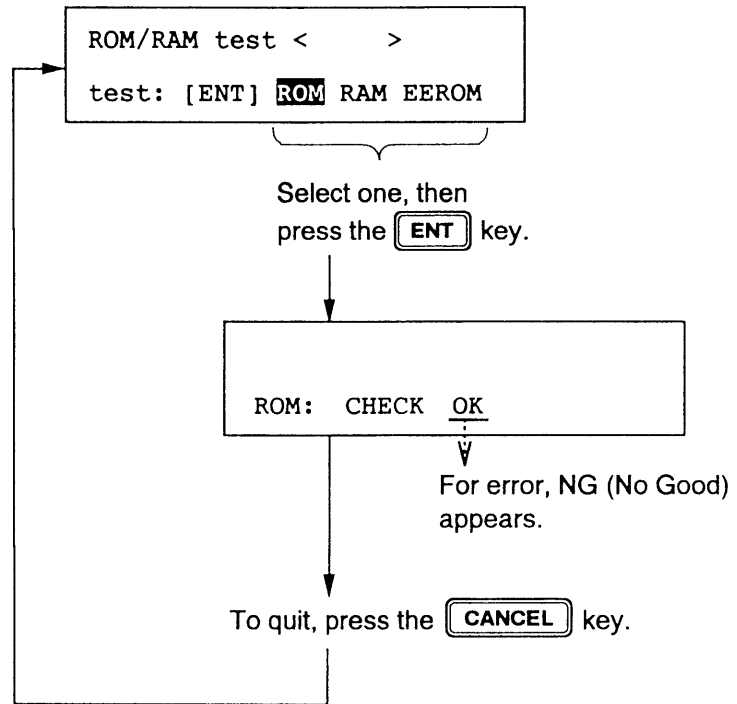
3. Self-test for Technician

General

This self-test is mainly intended for use by the service technician to identify the cause of operating problems.
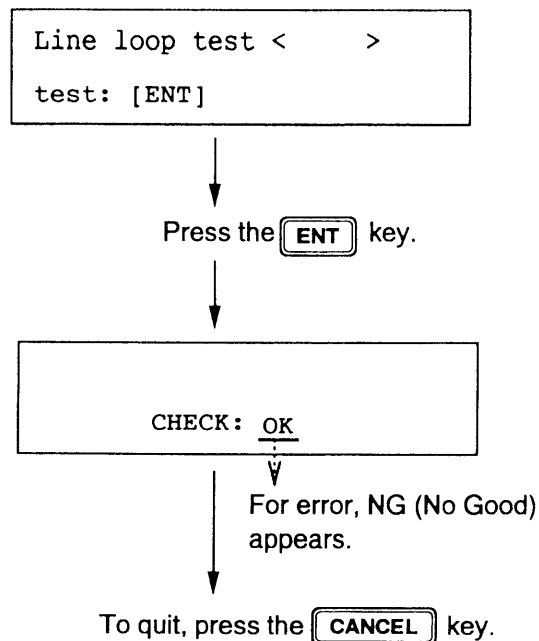
Procedure

```
┌─────────────────────────────┐
│ * Watch *                   │
│                             │
└─────────────────────────────┘
              │
          ┌────────┐
          │ SELECT │
          └────────┘
              │
              ▼
┌─────────────────────────────┐
│ Set up menu <      >        │
│ TIME  1 2 3   ---           │
└─────────────────────────────┘
              │
          ┌───┐
          │ 3 │ (TEST)
          └───┘
              │
              ▼
┌─────────────────────────────┐
│ Self-test <      >          │
│ ROM  RMT  LIN  KEY  DIS  PRT│
└─────────────────────────────┘
```

6. Printer output test

1. ROM/RAM/EEROM test

5. Display test

2. Remote (MIF) line test

4. Keyboard test

3. AF line test

Select test desired, then press the [ENT] key.
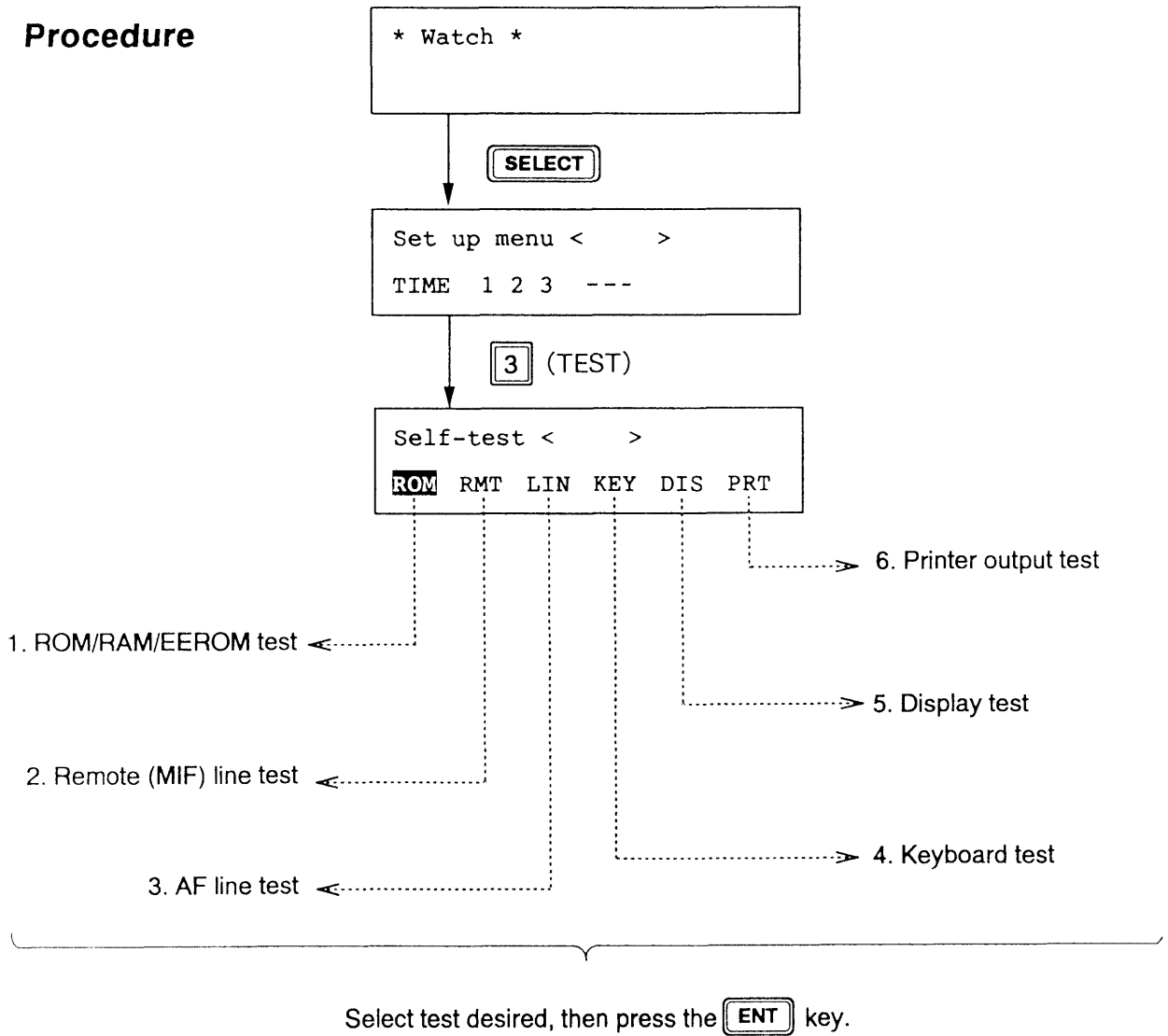
ROM/RAM test

This test checks the ROM (U8), RAM (U9 and U10) and EEPROM (U11) on the CONTROL board for proper operation.

```
ROM/RAM test <      >

test: [ENT] ROM RAM EEROM
```

Select one, then press the [ENT] key.

```
ROM:    CHECK   OK
```

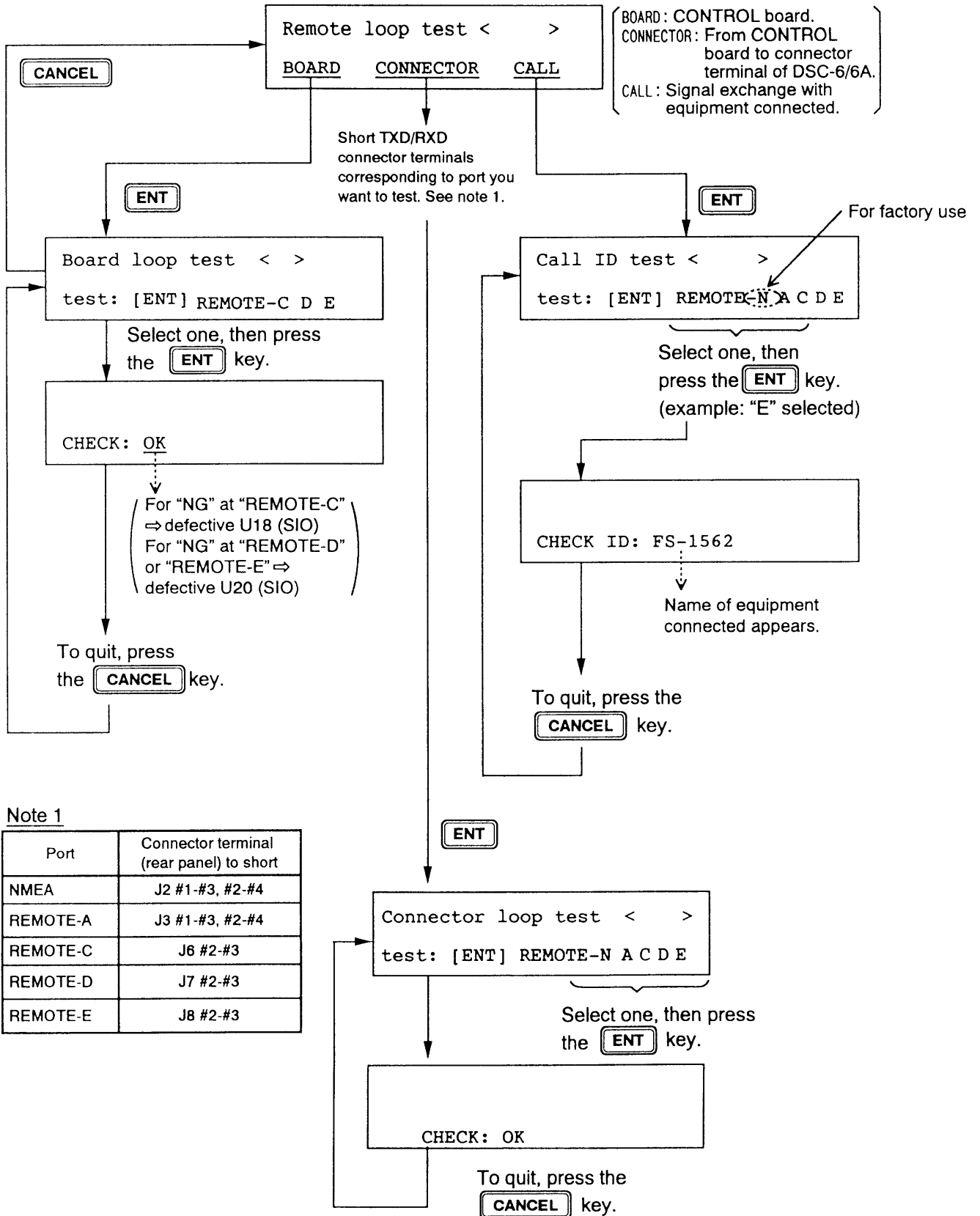For error, NG (No Good) appears.

To quit, press the [CANCEL] key.

AF line test

This test checks the DSP (U1) and A/D D/A Converter (U15) on the MODEM board for proper operation.
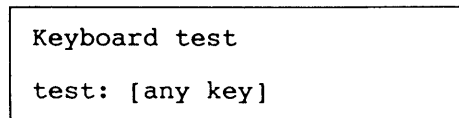
```
Line loop test <      >
test: [ENT]
```

Press the [ENT] key.

```
CHECK:  OK
```

For error, NG (No Good) appears.

To quit, press the [CANCEL] key.

Remote line test

This test checks the remote signal line (MIF data line) for proper operation.

```
Remote loop test <     >

BOARD    CONNECTOR    CALL
```

BOARD: CONTROL board.
CONNECTOR: From CONTROL board to connector terminal of DSC-6/6A.
CALL: Signal exchange with equipment connected.

CANCEL

Short TXD/RXD connector terminals corresponding to port you want to test. See note 1.

ENT

```
Board loop test  < >

test: [ENT] REMOTE-C D E
```

Select one, then press the ENT key.

```
CHECK: OK
```

For "NG" at "REMOTE-C"
⇒ defective U18 (SIO)
For "NG" at "REMOTE-D"
or "REMOTE-E" ⇒
defective U20 (SIO)

To quit, press the CANCEL key.

ENT

```
Call ID test <     >

test: [ENT] REMOTE-N A C D E
```

For factory use

Select one, then press the ENT key.
(example: "E" selected)

```
CHECK ID: FS-1562
```

Name of equipment connected appears.

To quit, press the CANCEL key.

Note 1

Port	Connector terminal (rear panel) to short
NMEA	J2 #1-#3, #2-#4
REMOTE-A	J3 #1-#3, #2-#4
REMOTE-C	J6 #2-#3
REMOTE-D	J7 #2-#3
REMOTE-E	J8 #2-#3

ENT

```
Connector loop test <     >

test: [ENT] REMOTE-N A C D E
```

Select one, then press the ENT key.

```
CHECK: OK
```

To quit, press the CANCEL key.
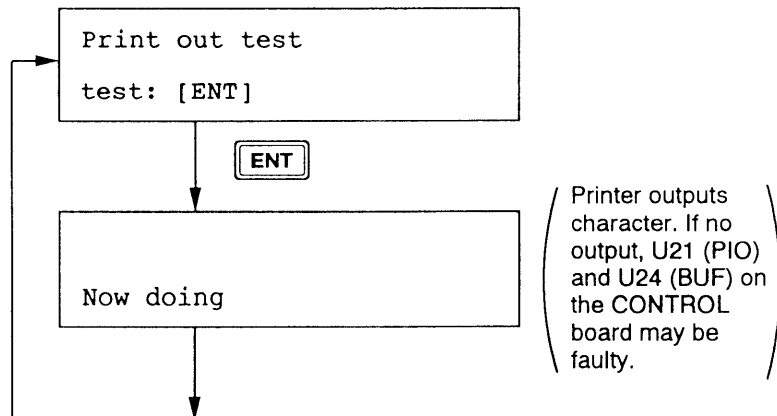
Keyboard test

```
Keyboard test

test: [any key]
```

Press keys one by one.
The number (or character) corresponding
to the key pressed appears if the key is
functioning properly.

Display test

```
Display test

test: [ENT]
```

ENT

LCD blinks and LEDs located near the
[ALARM STOP] and [DISTRESS] keys blink
in order if they are functioning properly.

To quit, press the [CANCEL] key.

Printer output test

```
Print out test

test: [ENT]
```

ENT

```
Now doing
```

Printer outputs
character. If no
output, U21 (PIO)
and U24 (BUF) on
the CONTROL
board may be
faulty.
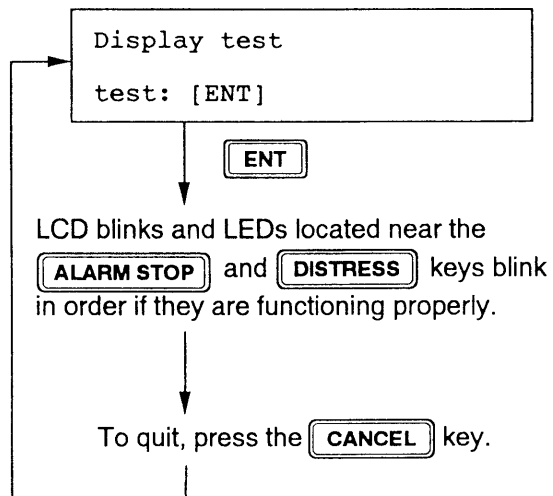
4. Error Messages

4.1 Distress Calling

If the error message shown below appears when pressing the [DISTRESS] key, check whether the radiotelephone is turned on or off. If off, turn it on and press the [CANCEL] key then press the [DISTRESS] key again to transmit alert. If on, set the DSC frequencies at the radiotelephone side manually and press the [DISTRESS] key to transmit alert.

```
*ERROR* Remote - E

<EM5    >→<  >
```
Nothing appears.
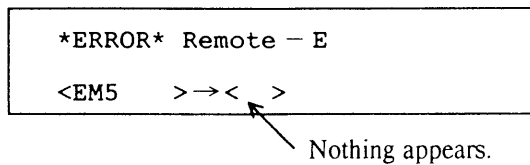
Note that the second press of the [DISTRESS] key turns the remote function off.

4.2 General Calling

If the error message shown in Fig. 1 or Fig. 2 appears when trying to transmit a DSC message by pressing the [CALL] key, do the following. (Message is not transmitted.)

● Error Message ①   Operation
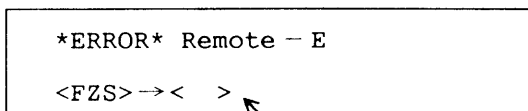
```
*ERROR* Remote - E

<FZS>→<   >
```
Fig. 1

See note 1 on next page.

┄┄┄> Check whether the radiotelephone is turned on and connection cables between it and DSC terminal are secure. If not turned on, turn it on and press the [CANCEL] key and recall the message then press the [CALL] key to transmit the message.

● Error Message ②

```
*ERROR* Remote - E

<EM5 or FZS>→<?>
```
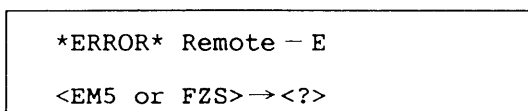Fig. 2   This means the radiotelephone is now transmitting (it is occupied by other equipment), or the [2182] key is pressed. (example: Tx freq. is set to 2182 by numeric key for FS-1562.)

┄┄┄> Suspend transmission of radiotelephone or change Tx frequency from 2182 kHz to another, Press the [CANCEL] key and recall the message then press the [CALL] key to transmit the message.

Note 1: This means the remote function does not operate in good order. If the message can not be transmitted after checking the radiotelephone, execute the following procedure.

Procedure

1. After the error message shown in Fig. 1 appears, set the DSC frequencies at the radiotelephone side manually.
2. Press [CALL] key to transmit the message.

Note that the second press of the [CALL] key turns the remote function off.

Remedy for tune error:	When the [CALL] key is pressed, "\<TUNE> → \<?>" appears on the LCD if tune error is detected. This occurs when the antenna is disconnected, or the transceiver could not be tuned within prescribed tuning time. To transmit message, after connecting the antenna correctly, press the [CANCEL] key and recall the message then press the [CALL] key.

5. About Internal Battery

Items backed up by battery

① Prepared transmit messages
   [[SELECT] → [7] → (Select "MES".)]
② All received messages ([8])
③ All transmitted messages ([9])
④ Internal clock [[SELECT] → (Select "TIME".)]

Note

The unit automatically erases all memories shown above if the power is off **for about one month.**