FURUNO

OPERATOR'S MANUAL

DISTRESS MESSAGE CONTROLLER

MODEL DMC-5

(incl. Installation Instructions)

[Applicable to Program Version 4.04 and after]

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PUB.No. OME-55440

(DAMI) DMC-5

Your Local Agent/Dealer

FIRST EDITION : FEB. 1992
M : AUG. 07,2002

00080304600

OME55440M00

⚠ 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.

The level of risk appearing in the notices is defined as follows:

⚠ **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 equipment.

Hazardous voltage which can cause electrical shock, burn or serious injury exists inside the equipment. Only qualified personnel should work inside the equipment.

Do not diasemble or modify the equipment.

Fire, electrical shock or serious injury can result.

Turn off the power immediately if water leaks into the equipment or the equipment is emitting smoke or fire.

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

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 operate the equipment with wet hands.

Electrical shock can result.

Keep heater away from equipment.

Heat can alter equipment shape and melt the power cord, which can cause fire or electrical shock.

Any repair work must be done by a licensed radio technician.

Improper repair work can cause electrical shock or fire.

⚠ CAUTION

Do not touch any part of the antenna when the equipment is transmitting.

Electrical shock can result.

⚠ WARNING

Do not work inside the equipment unless totally familiar with electrical circuits.

Hazardous voltage which can shock, burn or cause serious injury exists inside the equipment.

Turn off the power at the mains switchboard before beginning the installation. Post a sign near the switch to indicate it should not be turned on while the equipment is being installed.

Fire, electrical shock or serious injury can result if the power is left on or is applied while the equipment is being installed.

⚠ CAUTION

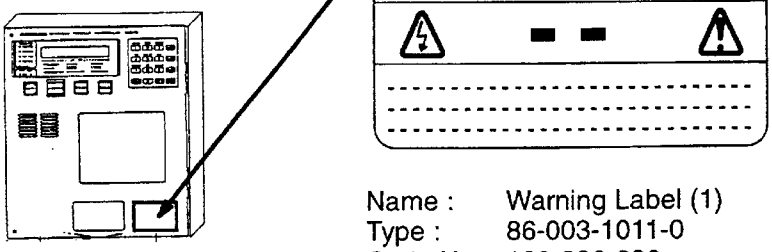
Ground the equipment.

Ungrounded equipment can give off or receive electromagnetic interference or cause electrical shock.

Confirm that the power supply voltage is compatible with the voltage rating of the equipment.

Connection to the wrong power supply can cause fire or equipment damage. The voltage rating appears on the label at the rear of the equipment.

WARNING Label attached



Name : Warning Label (1)
Type : 86-003-1011-0
Code No. : 100-236-230

INSTRUCTIONS FOR CANCELLING A FALSE DISTRESS ALERT

DSC MF

1. Switch off equipment immediately.

2. Switch equipment on and tune for radiotelephony transmission on 2, 182 kHz.

3. Make broadcast to "All Stations" giving the vessel's name, callsign and DSC number, and cancel the false distress alert.

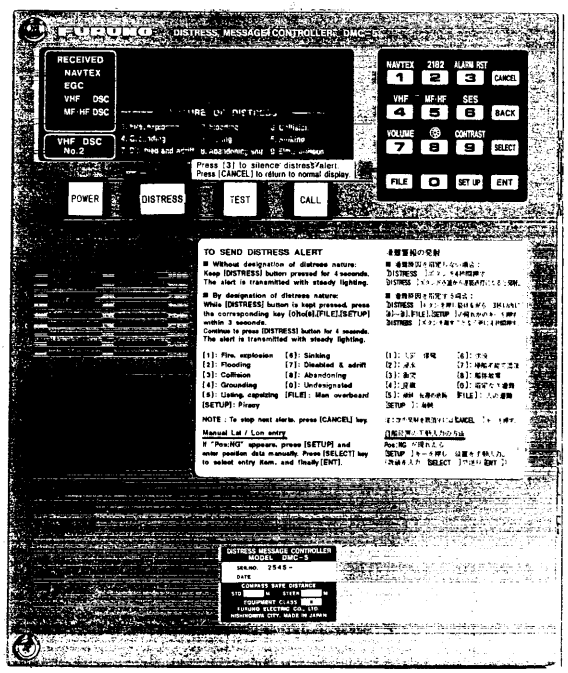
Example message:

All Stations, All Stations, All Stations
This NAME, CALLSIGN,
DSC NUMBER, POSITION.

Cancel my distress alert of
DATE, TIME, UTC.
=Master, NAME, CALLSIGN,
DSC NUMBER, DATA, TIME UTC.

DSC HF

Same as for MF but the alert must be cancelled on all the frequency bands on which it was transmitted. Hence, in stage 2.2 the transmitter should be tuned consecutively to the radiotelephony distress freqencies in the 4, 6, 8, 12 and 16 MHz band, as necessary.



T Photo No.1279

DMC-5 Distress Message Controller (Bulkhead Mount)

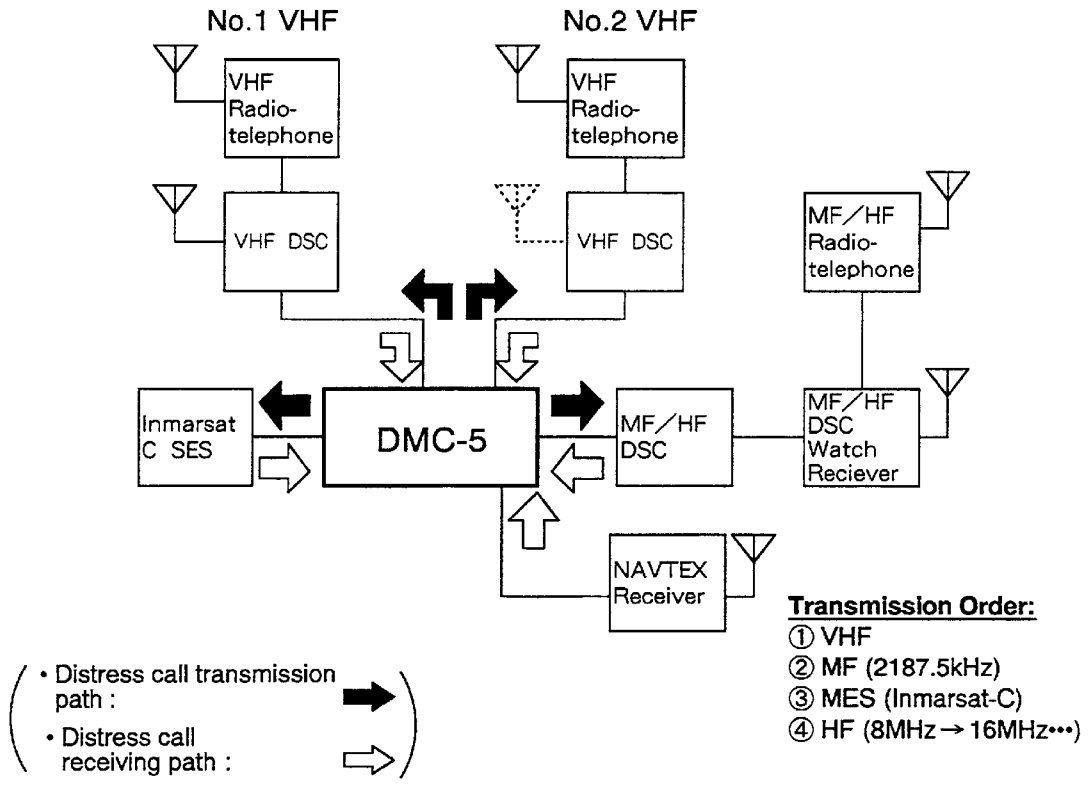
Table of Contents

1. INTRODUCTION AND CONTROL DESCRIPTION

1.1 What is the DMC-5?

The FURUNO DMC-5 Distress Message Controller automatically commands all GMDSS communication equipment connected to it (VHF DSC, MF/HF DSC, Inmarsat C SES) to transmit the distress alert on GMDSS distress frequencies, by peeling off the red seal and pressing the DISTRESS switch. Then, after receiving a distress acknowledge message from a coast station, the operator can initiate distress communications by radiotelephone. It is primarily designed for use on vessels which operate in ocean areas A3 and A4 and installed on the bridge for convenient operation. Besides its primary function, the DMC-5 also monitors all equipment connected to it for distress alert calls, transmits distress acknowledge calls (VHF DSC, MF DSC only), relays distress calls (HF DSC only).

Example: A3 ocean area-going vessel

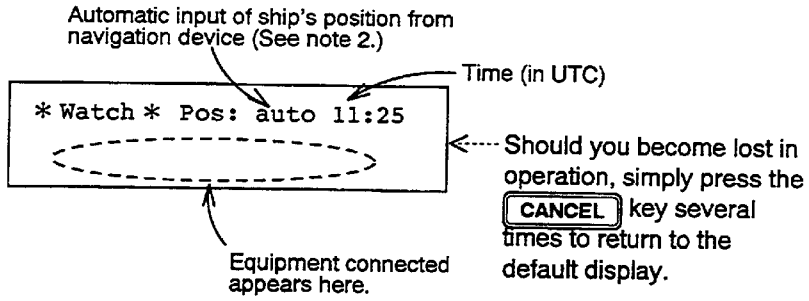


Note: A DSC-equipped VHF radiotelephone is also available.

1.2 Basic Operation

This section explains basic key operation conventions.

1. Default Display

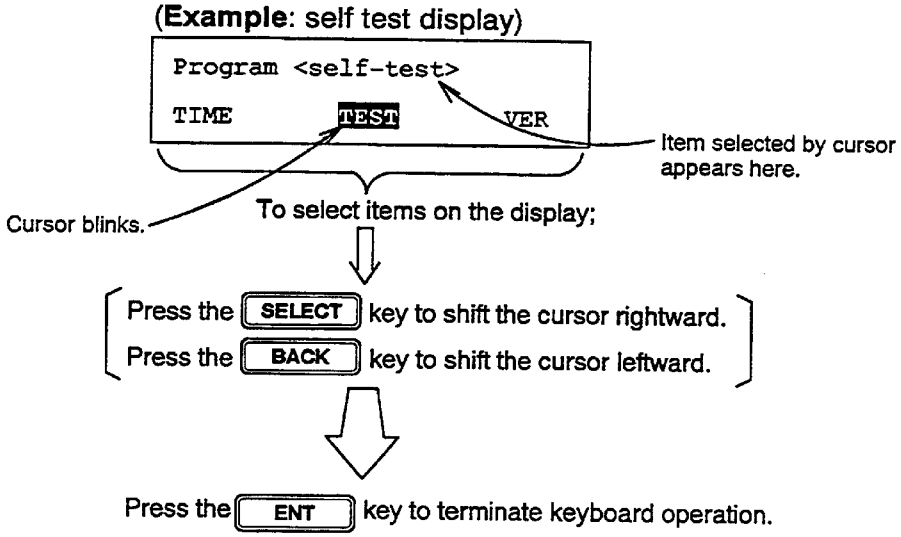


Note 1: For sake of brevity, the default display shown throughout this manual excludes the indications of the time, auto position input and equipment connected.

Note 2: Ship's position can be input manually in case of navigation equipment failure. Refer to chapter 8 for further details.

2. Selecting items on the LCD

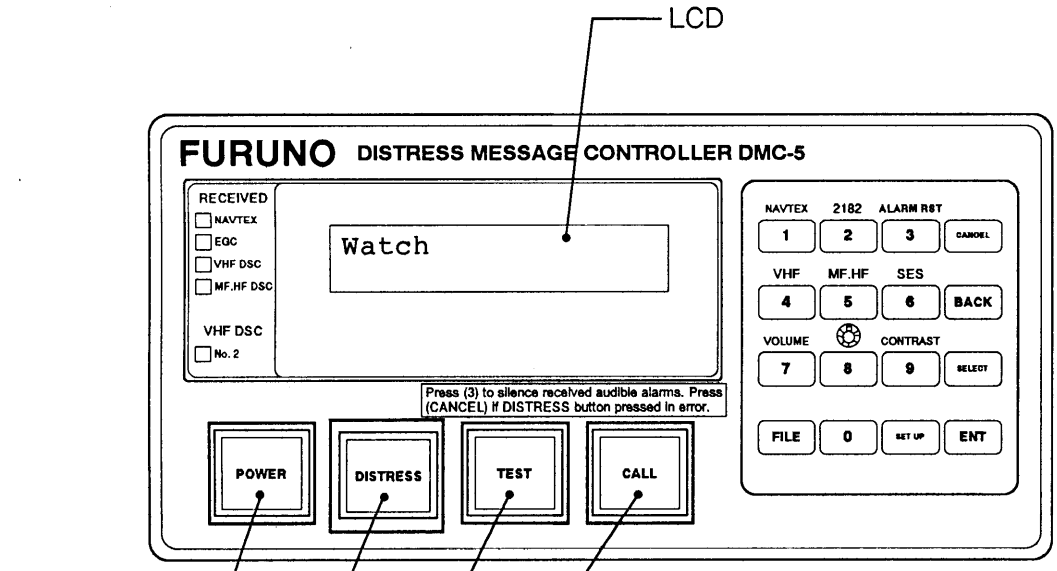
(**Example**: self test display)



= IMPORTANT =

During transmission of a message (DISTRESS or CALL pressed), **the DSC and transceiver accept no key input.** ("Remote DMC" appears on the screen of the DSC.)
The keys of the radiotelephone will be unlocked when a message transmission has been completed and the DMC-5 has moved to "Wait for dist ack" state.

1.3 Switches



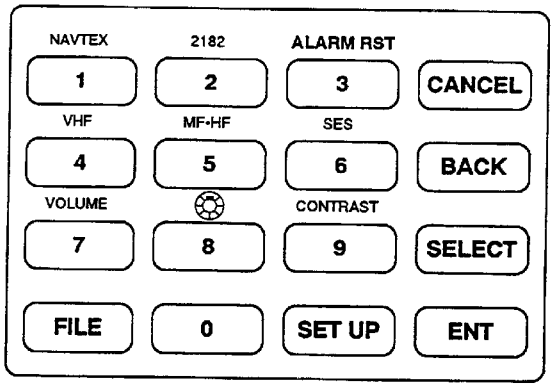
CALL switch · · · · Relays distress call and transmits distress acknowledge call. (Details on pages 13-16.)
(Blinks while transmitting.)

TEST switch · · · · Activates the self test. (Details on page 26.)

DISTRESS switch · · · · · · Transmits the distress call. (Details on page 6.)
(Press switch; lamp lights while alarm is sounding.)

POWER switch · · · · · · Turns the power on and off. To turn off the power, press and hold down the switch (about two seconds) until you hear a loud beep, then release the switch. (Power to the unit is normally on while underway.)

1.4 Keys



Key	Function	Remarks
1 ~ 9 0	Entering numeric data.	
CANCEL	Cancels data.	Several presses can return control to the default display.
BACK	Shifts the cursor leftward.	For selection of items on the LCD.
SELECT	Shifts the cursor rightward. Calls program menu. (Date/time entry and self test selection)	For selection of items on the LCD.
ENT	Registers selection made with BACK and SELECT keys.	For entering items on the LCD.
NAVTEX 1	Displays date and time of distress messages (max. 50) received by NAVTEX receiver.	Details on page 17
VHF 4	Displays date, time and contents of distress messages (max. 50) received by VHF DSC receiver.	
MF•HF 5	Displays date, time and contents of distress messages (max. 50) received by MF/HF DSC receiver.	
SES 6	Displays date and time of distress messages (max. 50) received by EGC receiver or Inmarsat C SES.	
ALARM RST 3	Silences receive alarm.	

(continued on next page)

Key	Function
VOLUME [7]	Adjusts speaker volume in eight levels. Note however that the receive alarm sounds at maximum volume regardless of VOLUME [7] control setting.
[8]	Adjusts the illumination of the LCD, keyboard and switches in four levels.
CONTRAST [9]	Adjusts LCD contrast in eight levels.
[FILE]	Not used.

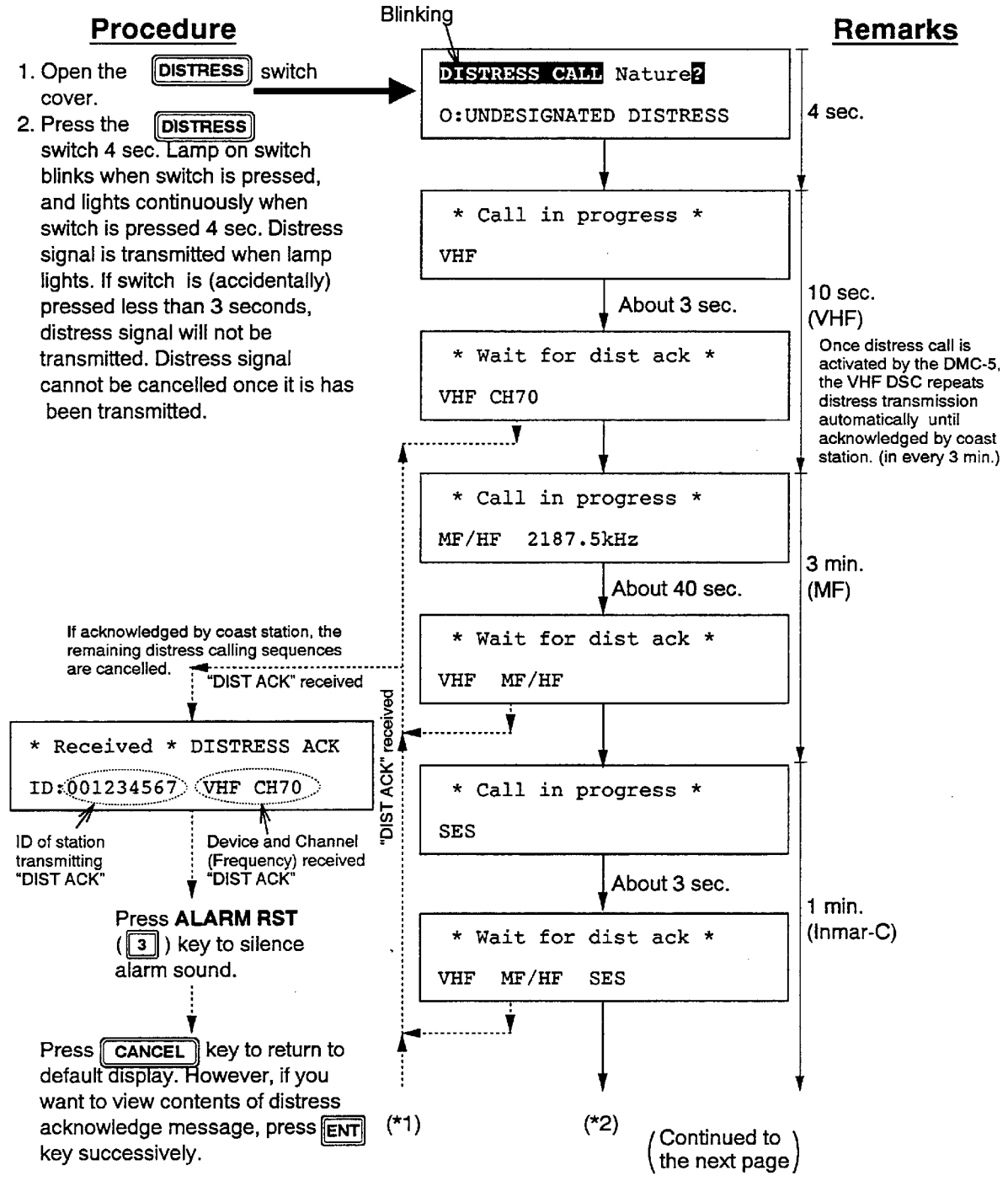
The [SET UP] key

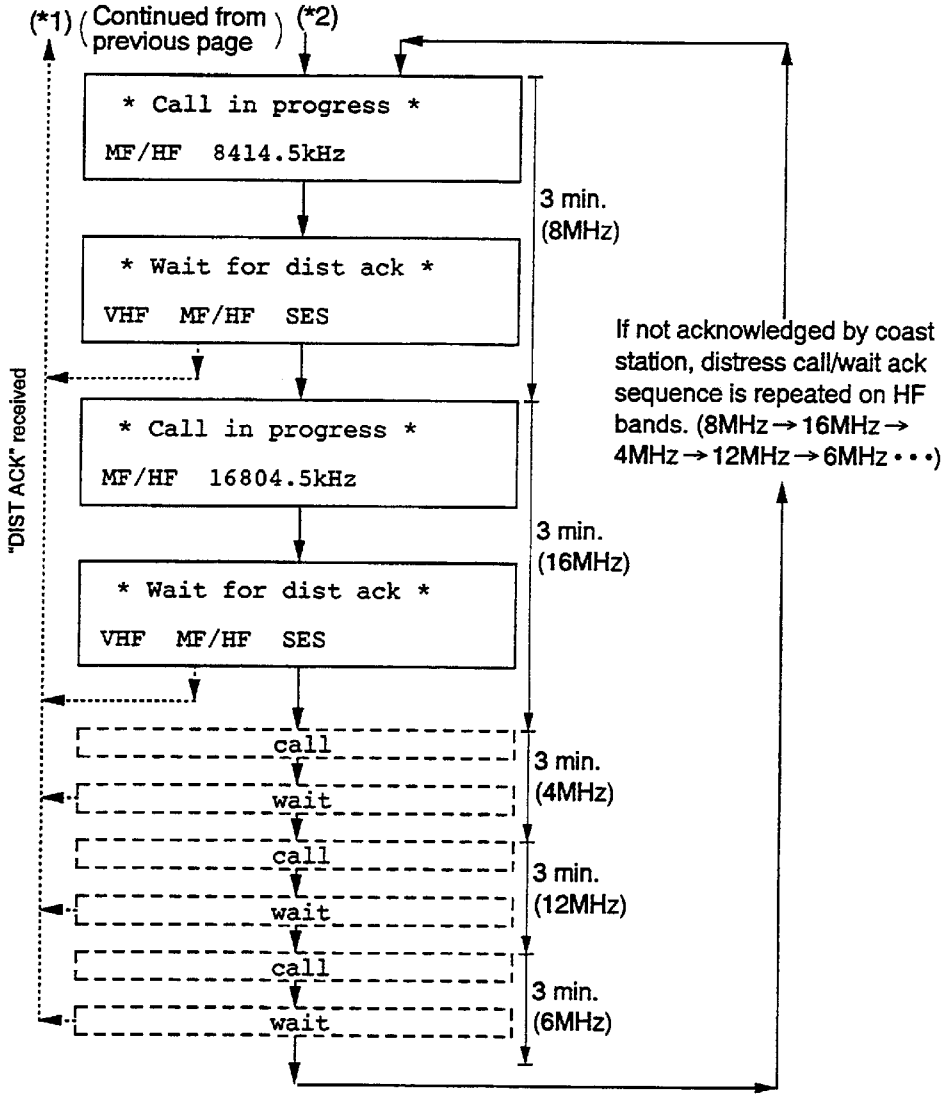
The [SET UP] key mainly enables equipment selection/deselection when pressed with other keys. Press the [SET UP] key then press desired key within 2-3 seconds.

Key combination		Function	Reference page
[SET UP] ⇨ ("SET UP" displayed on LCD.)	NAVTEX [1]	NAVTEX Receiver selection/deselection.	38
	VHF [4]	VHF DSC Receiver selection/deselection.	39
	MF·HF [5]	MF/HF DSC Receiver selection/deselection, and selects class of emission for distress communications.	40
	SES [6]	Inmarsat C SES selection/ deselection.	41
	VOLUME [7]	Turns on and off keyboard response tone and selects receive alarm tone.	42

2. TRANSMISSION OF DISTRESS CALL

2.1 Undesignated Nature of Distress



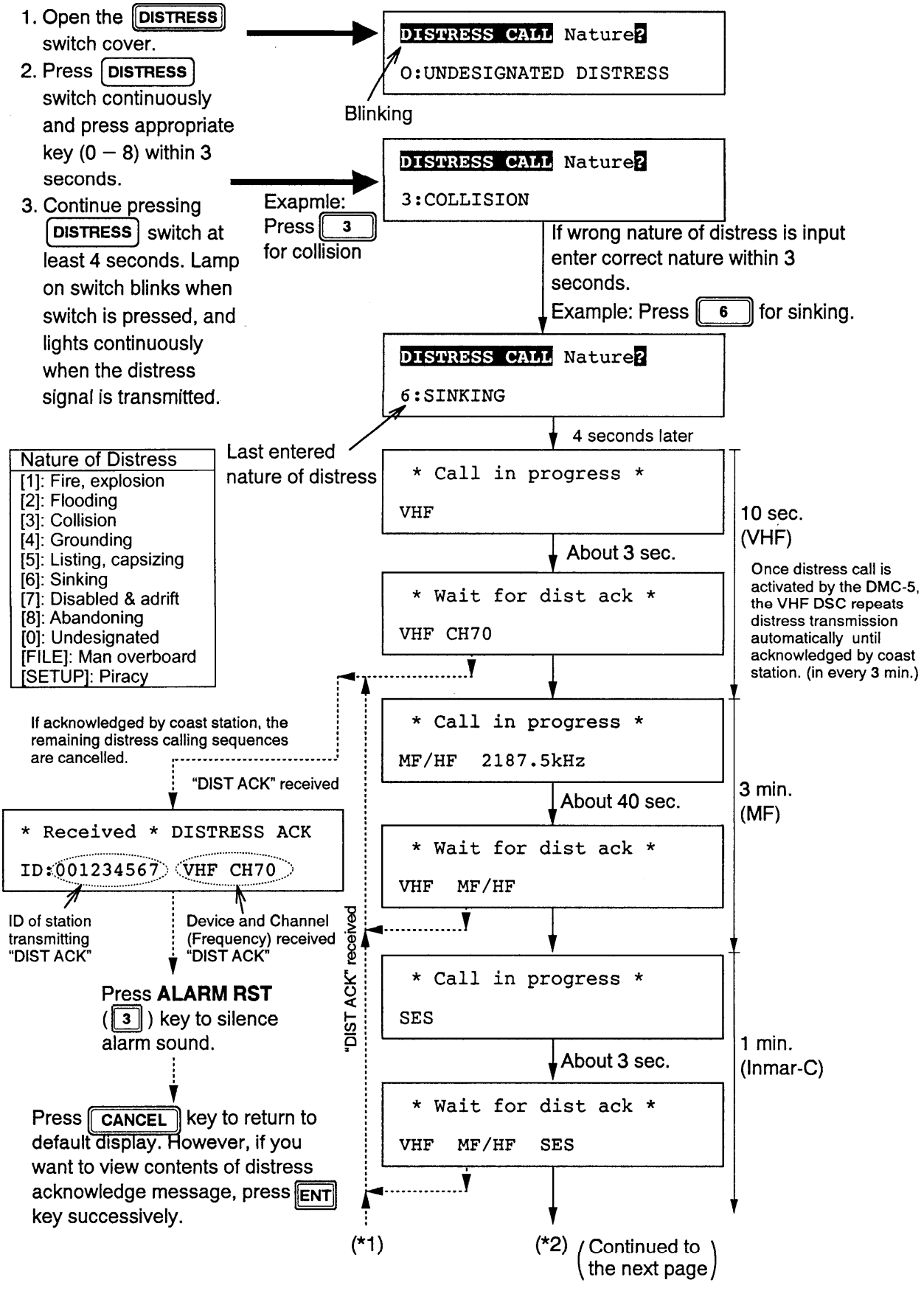


Contents of distress message

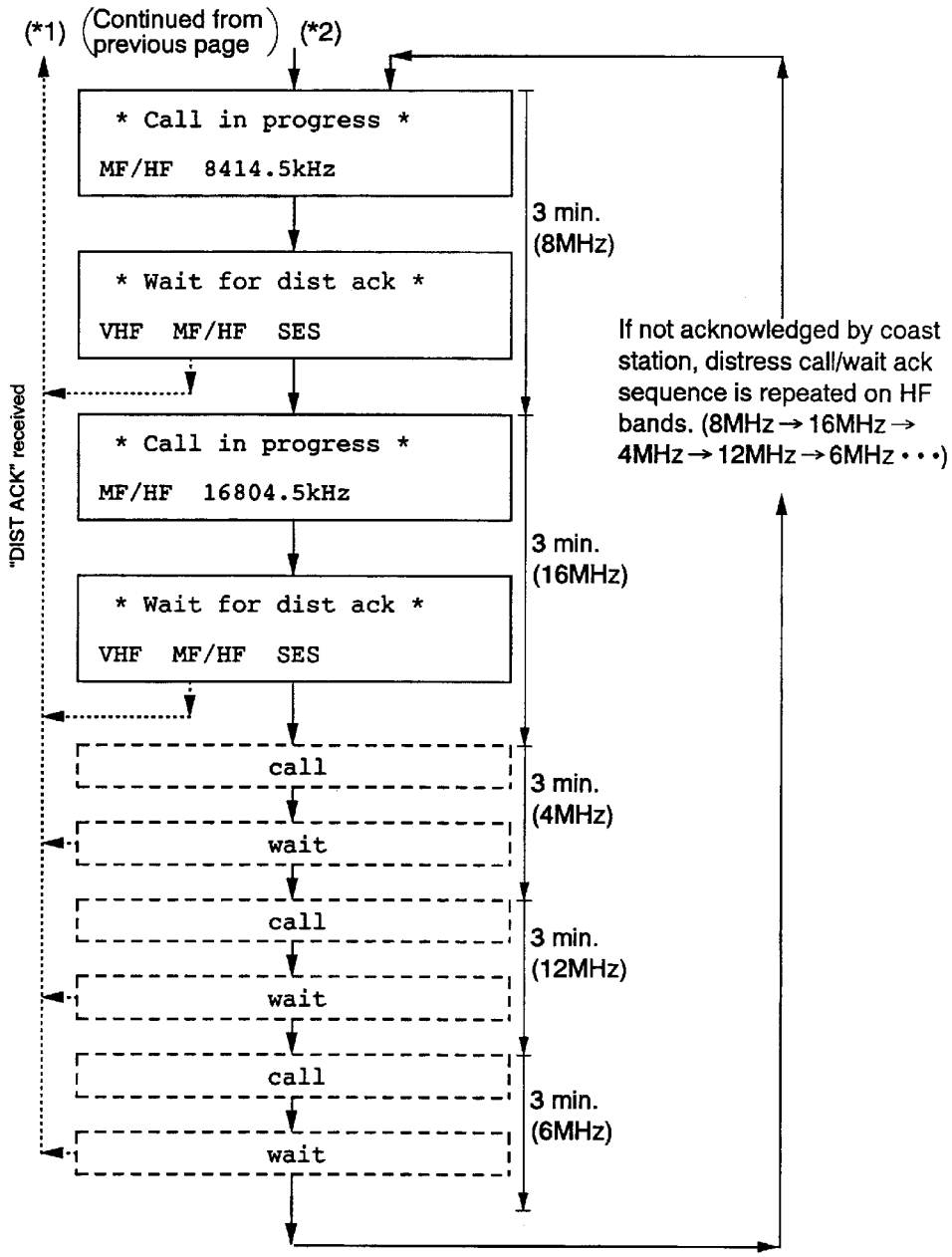
- VHF DSC / MF/HF DSC : ①Nature of distress (Undesignated)
  ②Class of emission set on DMC-5 (Tel. or Telex).... See page 41.
  For VHF, simplex tel.
  ③Own ship's ID, time
  ④Ship's position
  Even though the message is acknowledged by another ship, the message is transmitted until acknowledged by coast station.
- Inmarsat-C SES : ①Nature of distress (Undesignated)
  ②Own ship's ID, time
  ③Own ship's position, speed and heading

To confirm distress message contents, conduct the self test described on page 26.

2.2 Designated Nature of Distress



2. TRANSMISSION OF DISTRESS CALL



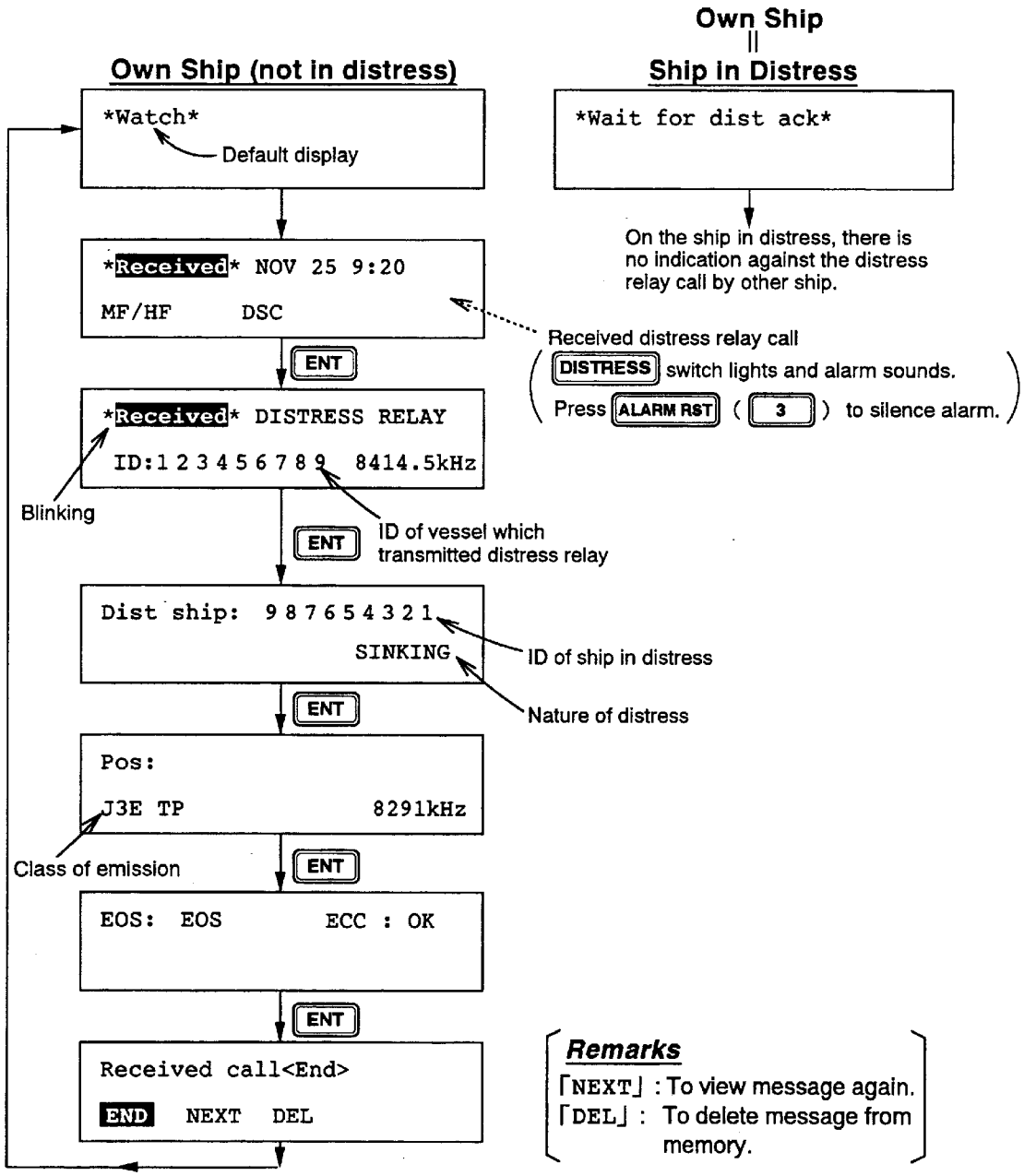
Contents of distress message

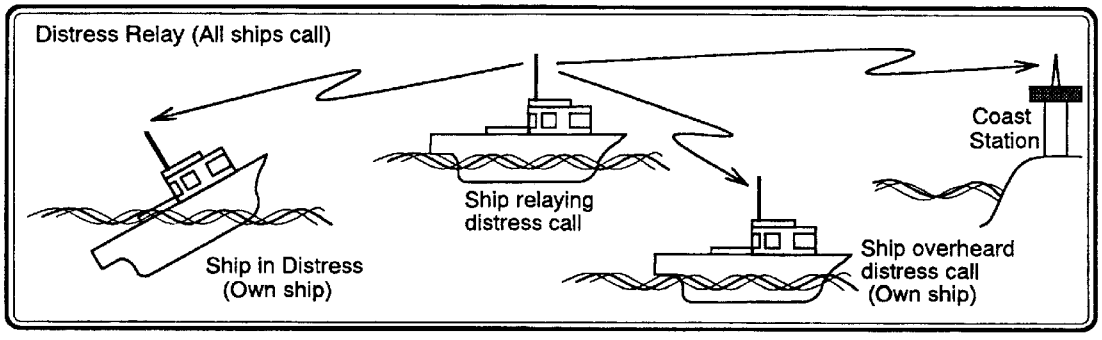
- (VHF DSC / MF/HF DSC) : ①Nature of distress set on DMC-5.
  ②Class of emission set on DMC-5 (Tel. or Telex).... See page 41.
  For VHF, simplex tel.
  ③Own ship's ID, time
  ④Ship's position
  Even though the message is acknowledged by another ship, the message is transmitted until acknowledged by coast station.
- Inmarsat-C SES : ①Nature of distress (Undesignated)
  ②Own ship's ID, time
  ③Own ship's position, speed and heading

To confirm distress message contents, conduct the self test described on page 26.

2.3 Receiving Distress Relay

When you receive a distress relay (all ships call only) from another ship, the display looks something like the one shown below.



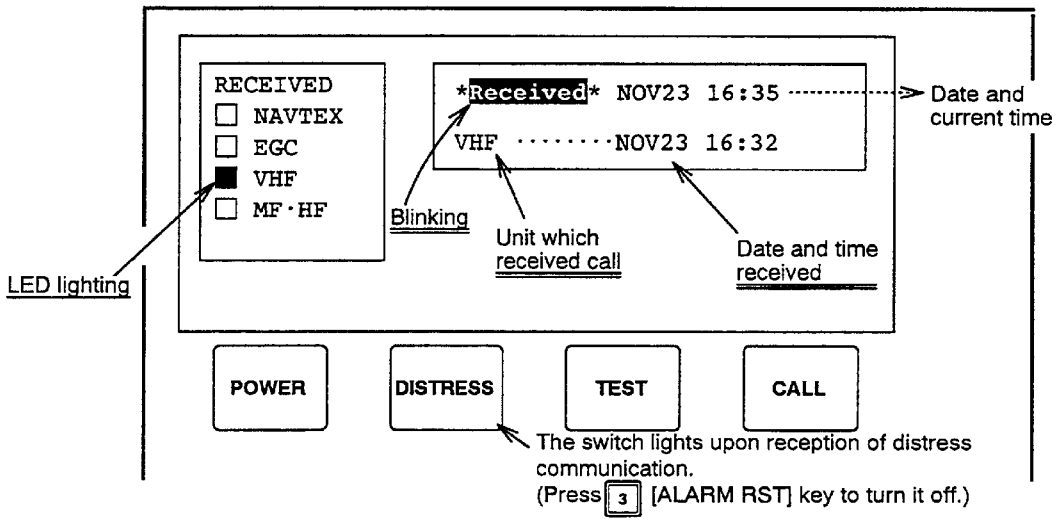


3. RECEIVING DISTRESS CALL

3.1 Receiving Distress Call

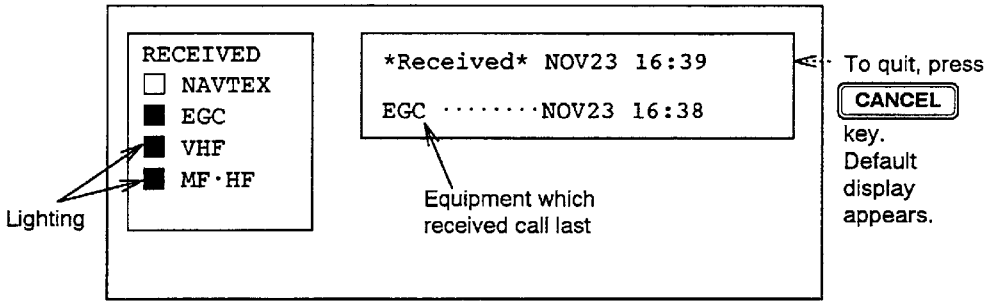
When you receive a distress call the display should look something like the one shown below and the alarm sounds. You can silence the alarm with the [ALARM RST] ([3])key. (This action also silences the alarm emitted by the DSC.)

Example: distress call received on VHF DSC



Other equipment which received the distress call appear on the LCD. The LEDs on the left-hand side of the panel also show this information. (No LED is provided for 2182WR.)

Example: VHF DSC → MF/HF DSC → EGC receive distress call in that order.



To turn off the LED "NAVTEX", press the [CANCEL] key. For LEDs "VHF" and "MF•HF", they go off only when you view the contents of distress message. Refer to page 18 for further details.

3.2 Transmitting Distress Acknowledge (VHF DSC/MF DSC only)

Your vessel can transmit the distress acknowledge only in the following circumstances.

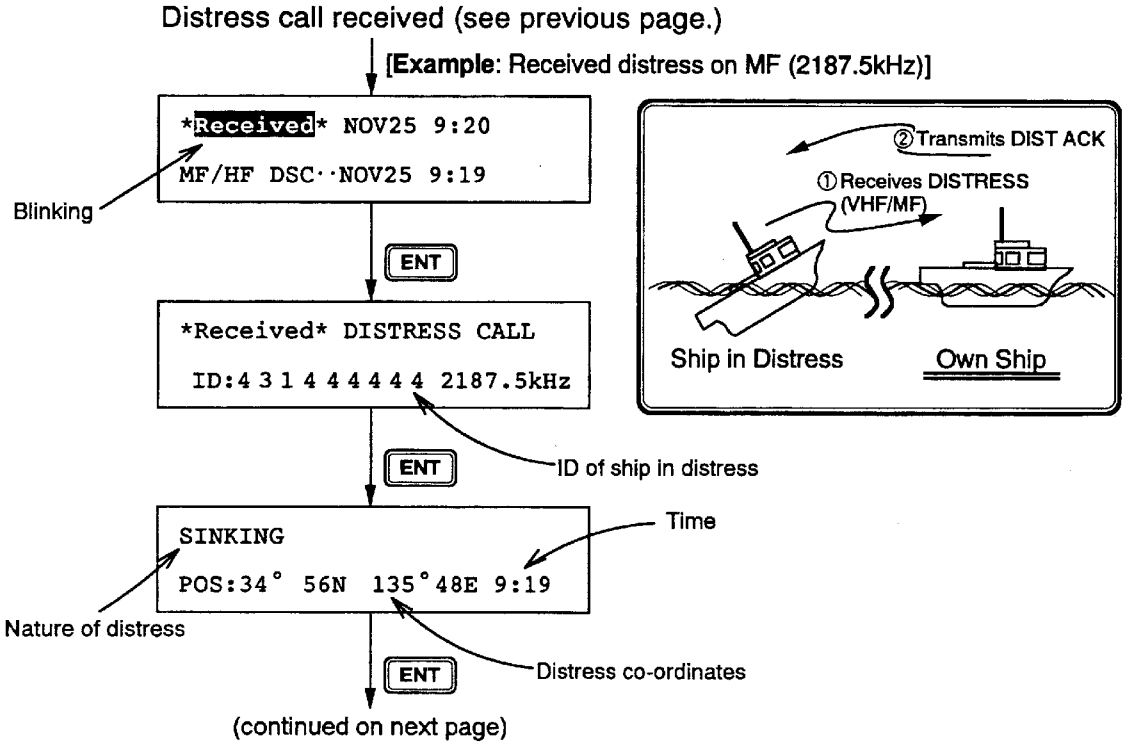
If you receive a distress call on a frequency band other than HF;

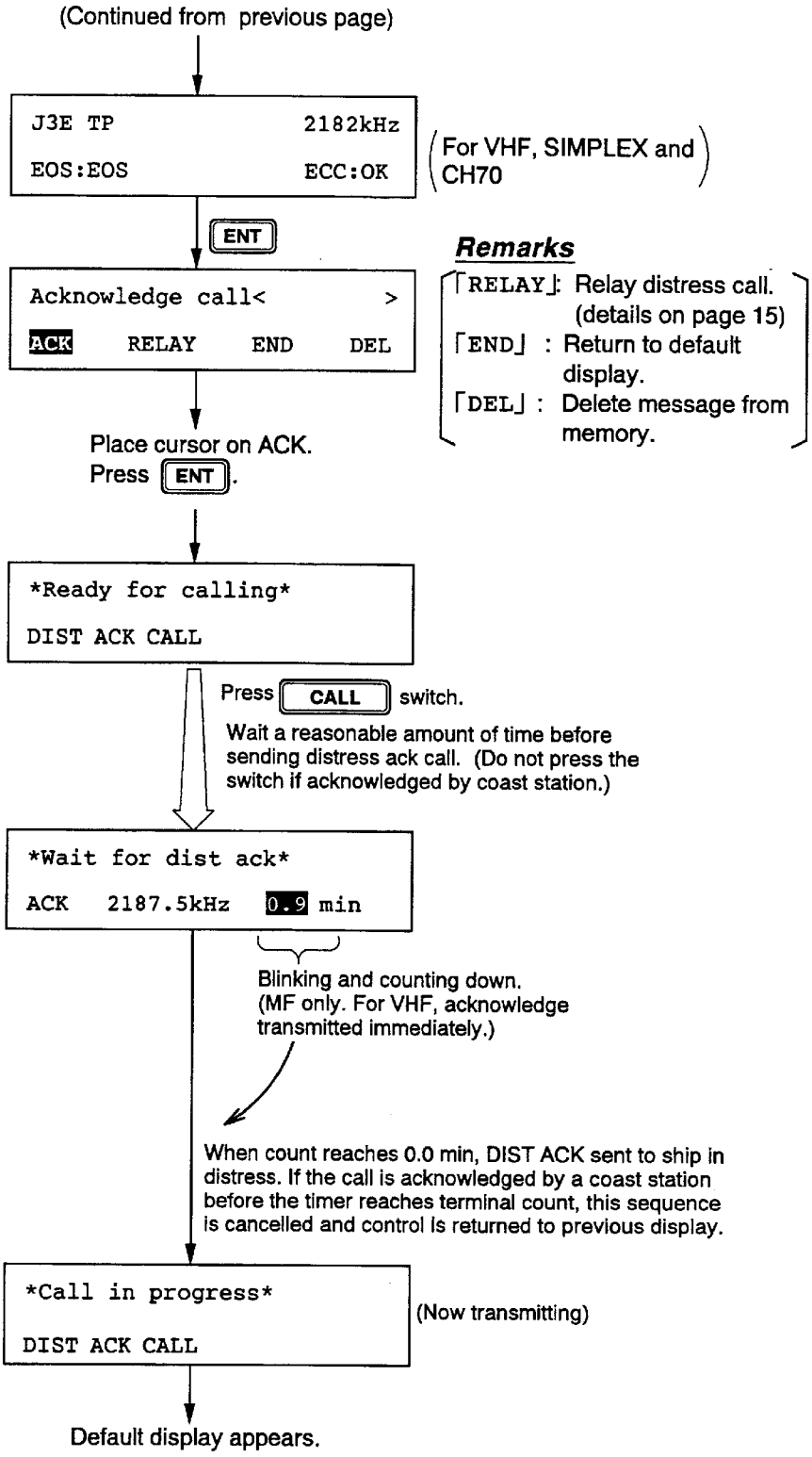
① For A1 and A2 ocean areas where it is possible to communicate with coast station

Wait a reasonable amount of time for the coast station to transmit the distress acknowledge to the ship in distress. If the coast station does not respond, first try to transmit the distress acknowledge to ship in distress by radiotelephone. If it does not succeed, transmit it by the DMC-5.

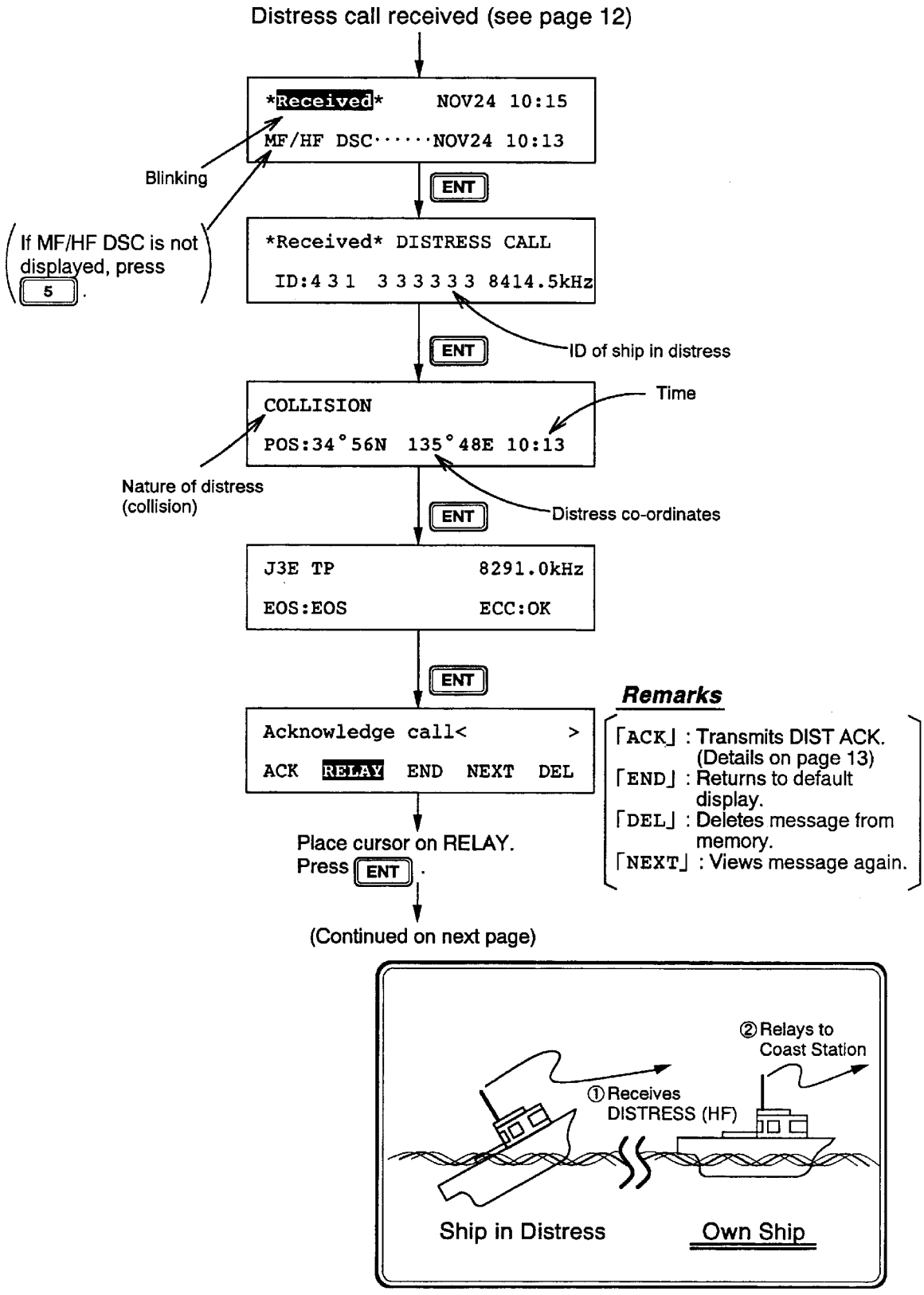
② A3 and A4 ocean areas where it may not be possible to communicate with coast station

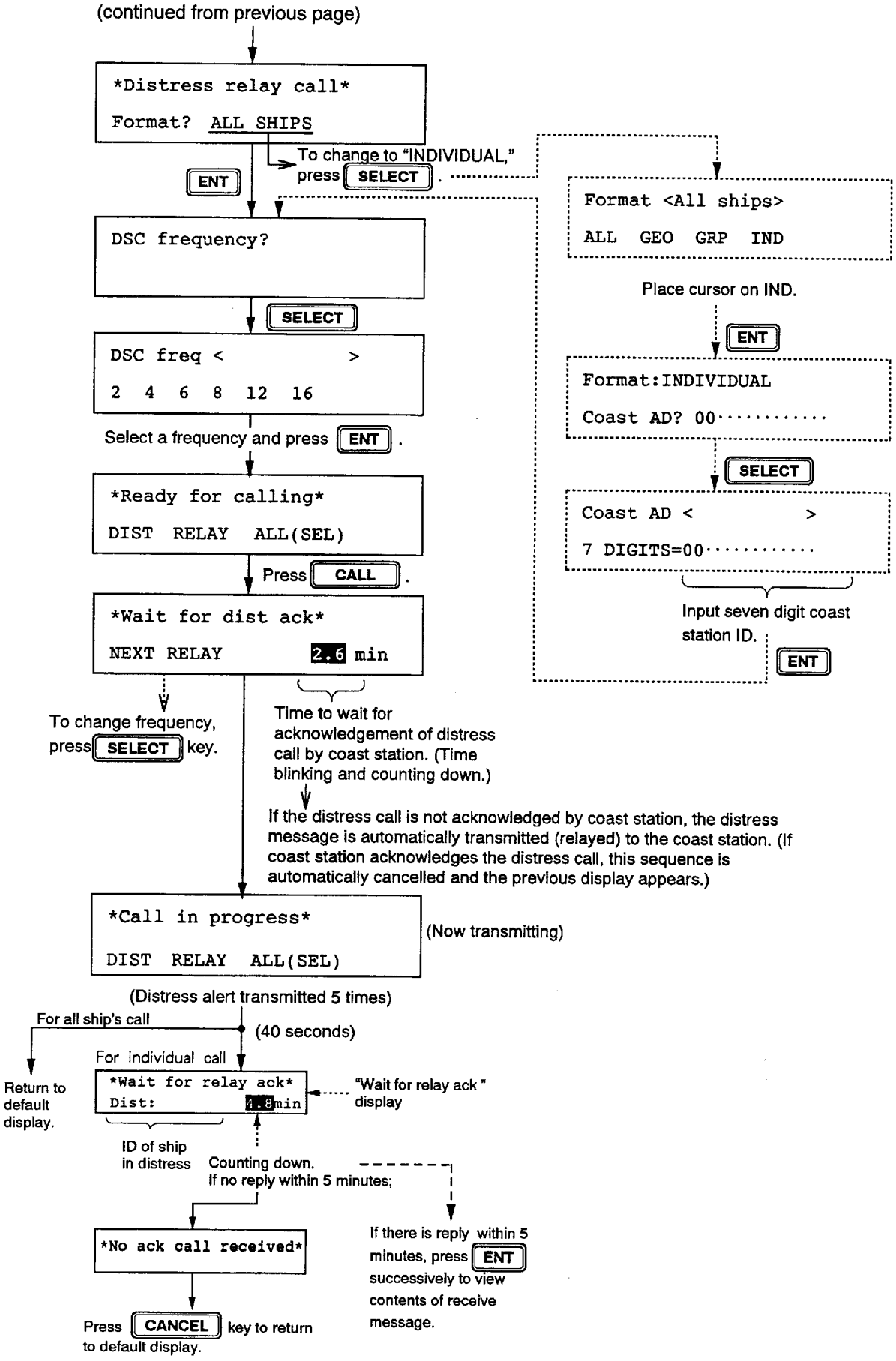
If the ship in distress is near own ship and obviously cannot communicate with the coast station on the frequency it called on, your vessel should first try to transmit the distress acknowledge to ship in distress by radiotelephone. If not successful, transmit it by the DMC-5. After transmitting the distress acknowledge, relay the distress call to coast station on HF band.



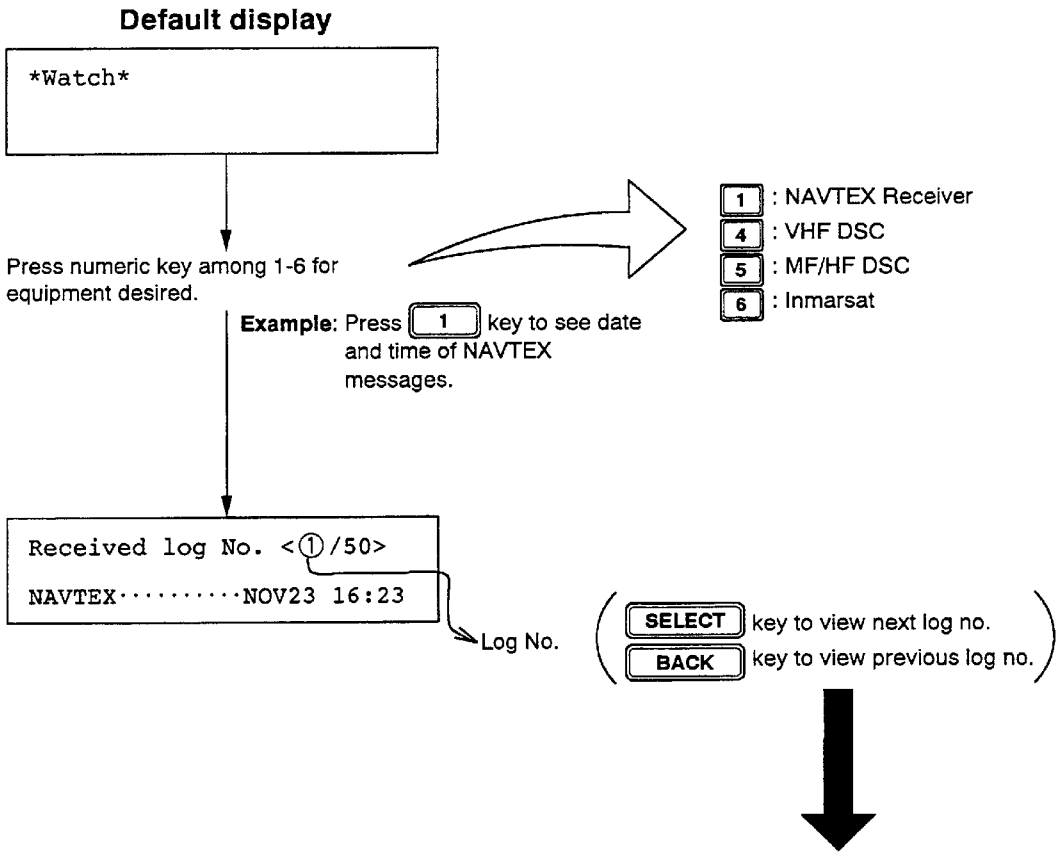

(Continued from previous page)
J3E TP 2182kHz
EOS:EOS ECC:OK
For VHF, SIMPLEX and CH70
ENT
Acknowledge call< >
ACK RELAY END DEL
Remarks
「RELAY」: Relay distress call. (details on page 15)
「END」 : Return to default display.
「DEL」 : Delete message from memory.
Place cursor on ACK.
Press ENT.
Ready for calling
DIST ACK CALL
Press CALL switch.
Wait a reasonable amount of time before sending distress ack call. (Do not press the switch if acknowledged by coast station.)
Wait for dist ack
ACK 2187.5kHz 0.9 min
Blinking and counting down.
(MF only. For VHF, acknowledge transmitted immediately.)
When count reaches 0.0 min, DIST ACK sent to ship in distress. If the call is acknowledged by a coast station before the timer reaches terminal count, this sequence is cancelled and control is returned to previous display.
Call in progress
DIST ACK CALL
(Now transmitting)
Default display appears.

3.3 Relaying Distress Call (HF DSC only)




(continued from previous page)
Distress relay call
Format? ALL SHIPS
To change to "INDIVIDUAL," press SELECT.
ENT
DSC frequency?
SELECT
DSC freq < >
2 4 6 8 12 16
Select a frequency and press ENT.
Ready for calling
DIST RELAY ALL(SEL)
Press CALL.
Wait for dist ack
NEXT RELAY 2.6 min
To change frequency, press SELECT key.
Time to wait for acknowledgement of distress call by coast station. (Time blinking and counting down.)
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, this sequence is automatically cancelled and the previous display appears.)
Call in progress
DIST RELAY ALL(SEL)
(Now transmitting)
(Distress alert transmitted 5 times)
For all ship's call
(40 seconds)
For individual call
Return to default display.
Wait for relay ack
Dist: 4.8min
"Wait for relay ack" display
ID of ship in distress
Counting down.
If no reply within 5 minutes;
No ack call received
Press CANCEL key to return to default display.
If there is reply within 5 minutes, press ENT successively to view contents of receive message.
Format <All ships>
ALL GEO GRP IND
Place cursor on IND.
ENT
Format:INDIVIDUAL
Coast AD? 00.....
SELECT
Coast AD < >
7 DIGITS=00.....
Input seven digit coast station ID.
ENT

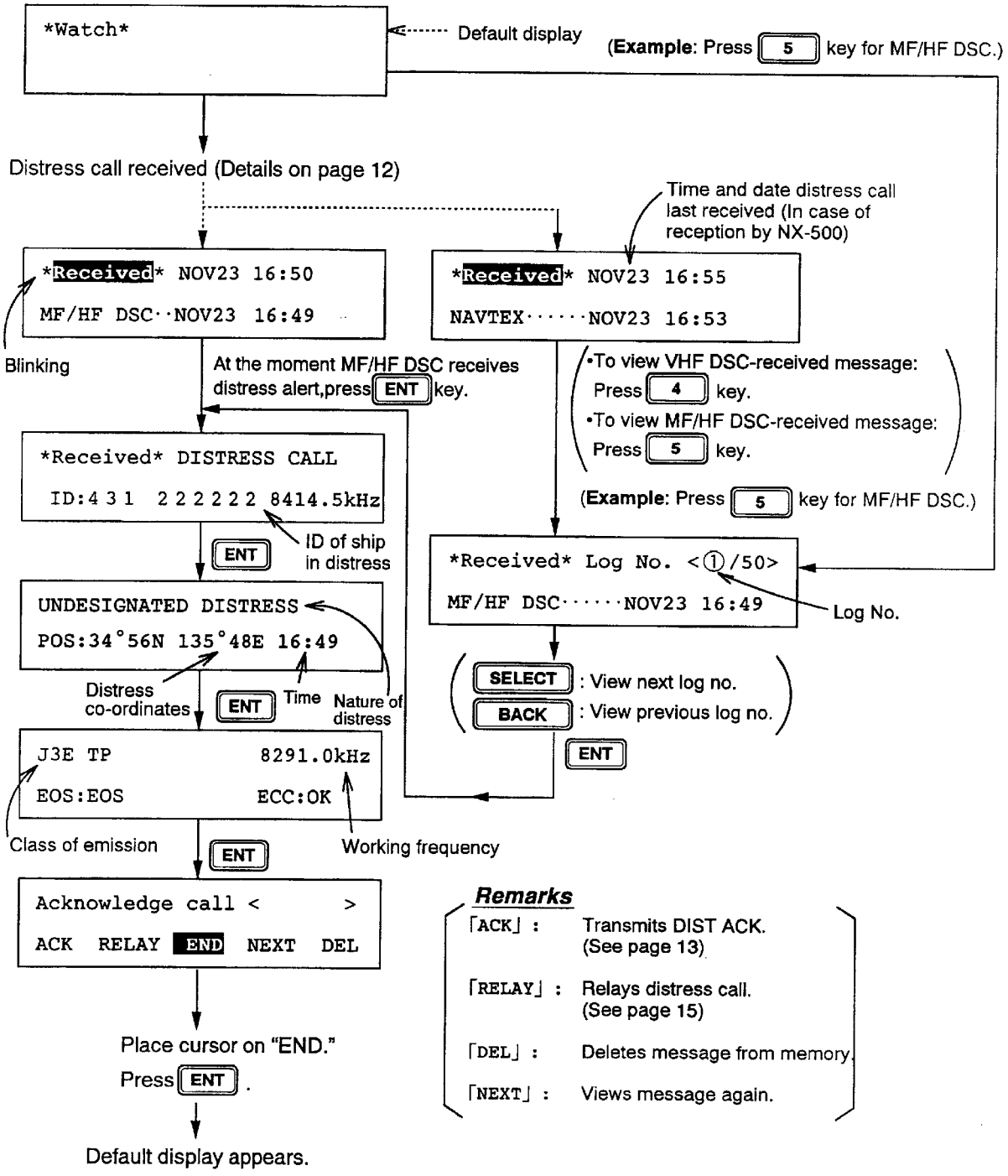
3.4 Viewing Date and Time of Distress Calls Received (opening receive log file)



S-RAMs in the DMC-5 store the date and time of up to 50 distress messages received from each unit connected (max. 250 msgs.), on a first-in, first-out basis. This means each time the unit receives a distress message it saves it as log no.1 and changes the log no. of all previously received messages by one. When the memory is fulled the oldest file is deleted.

3.5 Viewing the Contents of a Distress Message (DSC only)

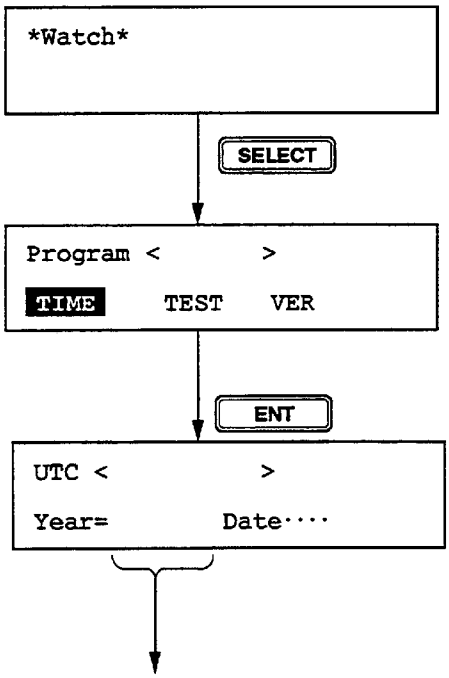
You can view the contents of a distress message received by DSC terminal (Max. 50 msgs. each)



4. CHANGE OF SETTINGS

4.1 Date and Time

The date and time (UTC) are normally entered during installation, but you can reenter them when necessary. (Always reenter time and date if the power is off for more than about one month). Note that time and date entered through the DMC-5 supersedes those of DSC.



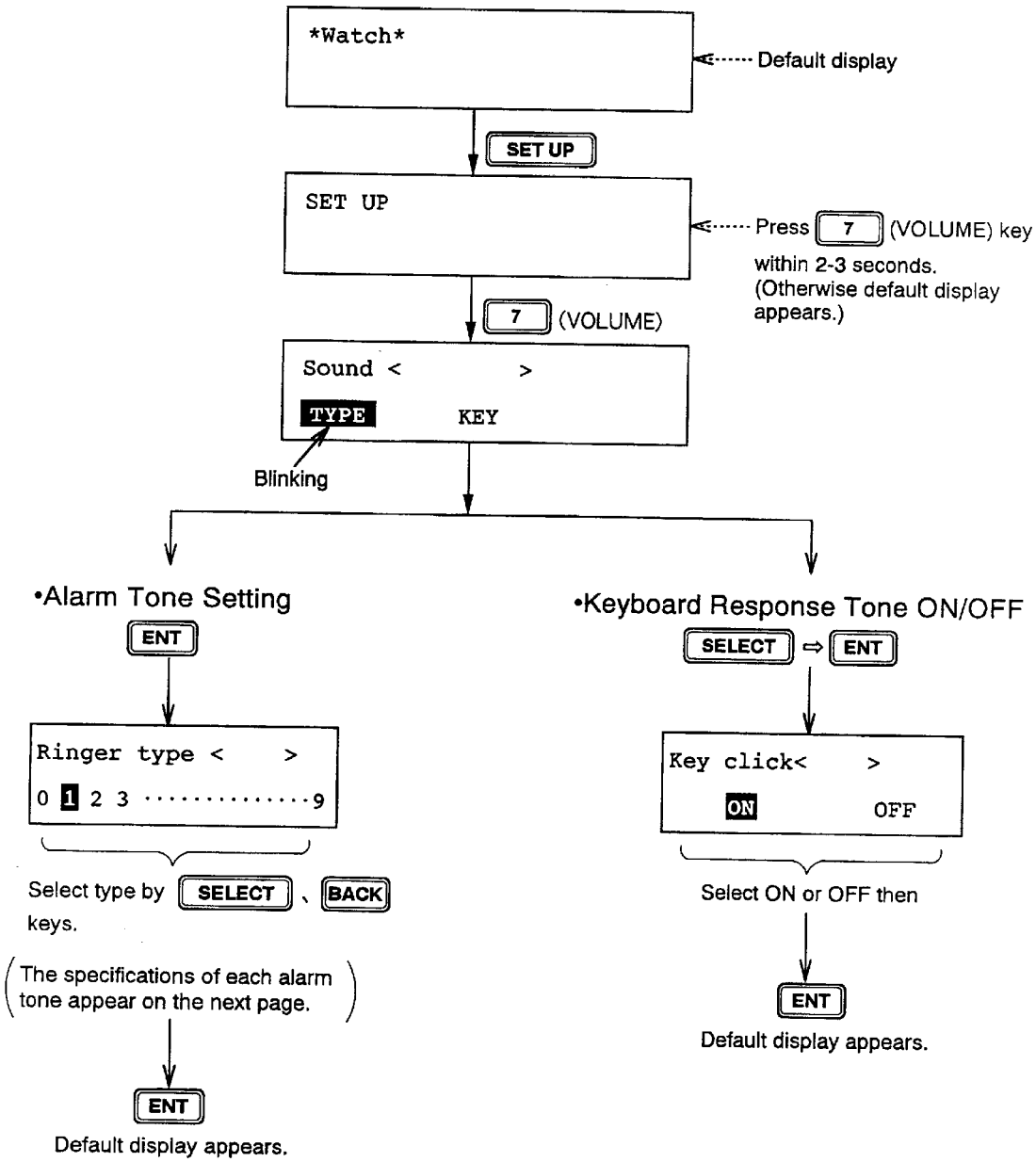
Enter year ⇨ [SELECT] ⇨ Enter month and day ⇨ [SELECT]
⇨ Enter time (UTC) ⇨ [ENT] ⇨ Default display appears.

(Example) Enter August 1, 1997, 16:00.

1997 ⇨ [SELECT] ⇨ 801 ⇨ [SELECT] ⇨ 1600 ⇨ Press [ENT] at time signal tone.

4.2 Alarm Tone Selection and Keyboard Response Tone ON/OFF

The user can select receive alarm tone and turn keyboard response tone on or off. These are normally done at installation, but you may change them to suit your needs.



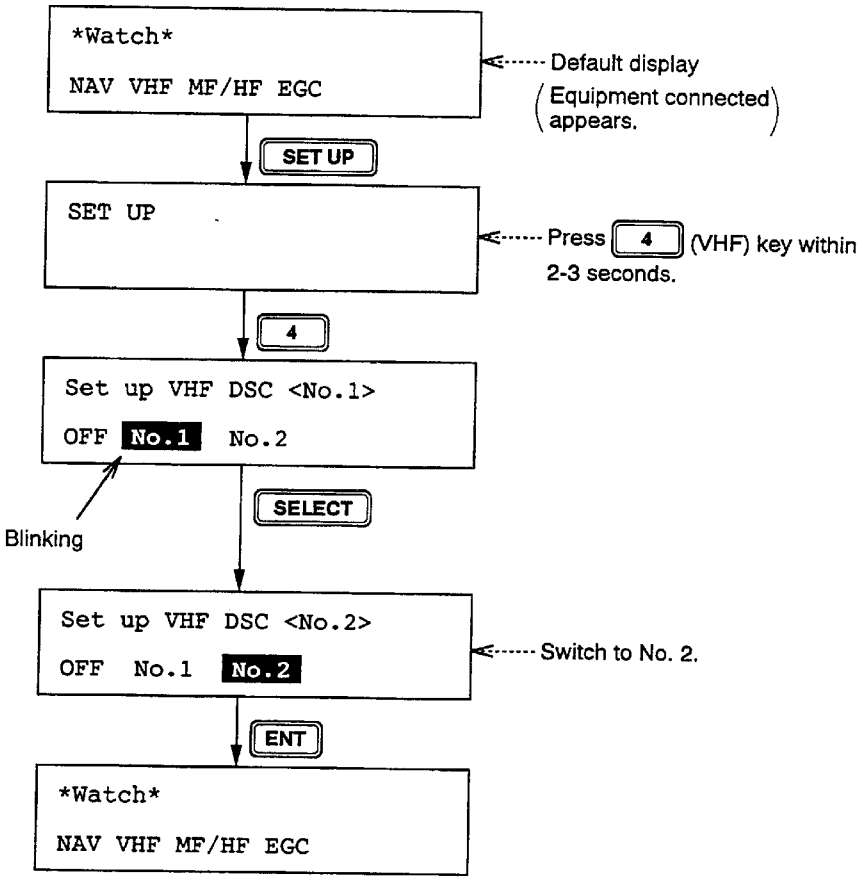
Ringer type	Specification	
	Tone (Hz)	Interval (ms)
0	2200	Continuous
1	1300 and 2200	250
2	1300 and 2200	125
3	3290	Continuous
4	1945 and 3290	250
5	1945 and 3290	125
6	1100	Continuous
7	650 and 1100	250
8	650 and 1100	125
9	2200 and 0	250

(***Note***) Key response tone frequency is 1800Hz (50ms).

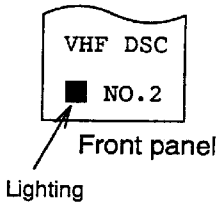
The distress alarm (five seconds duration) frequencies are 2200Hz and 0Hz (interval : 125ms). These frequencies cannot be changed.

4.3 Switching to No.2 VHF (No.1 VHF failure)

Normally the No.1 VHF is used. In case of No.1 failure switch to the No.2 VHF, by following the procedure below.

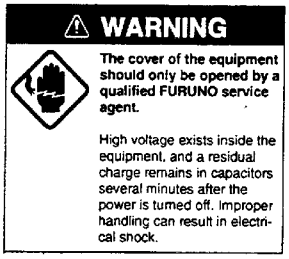


• The "NO. 2" LED on the front panel lights.



5. MAINTENANCE

5.1 Regular Maintenance



The DMC-5 is designed to provide many years of trouble-free performance. However, no machine can perform its intended function unless properly maintained.

1. Cleaning

The external surfaces including the LCD can be cleaned when necessary. The only recommended cleaning article is a soft cloth. Take special care when cleaning the LCD to prevent scratching.

2. Checking terminal boards and connectors for tightness (For qualified personnel)

The interconnection cables from external equipment are terminated inside the DMC-5. Check these cables and connectors inside the unit every six months for proper seating.

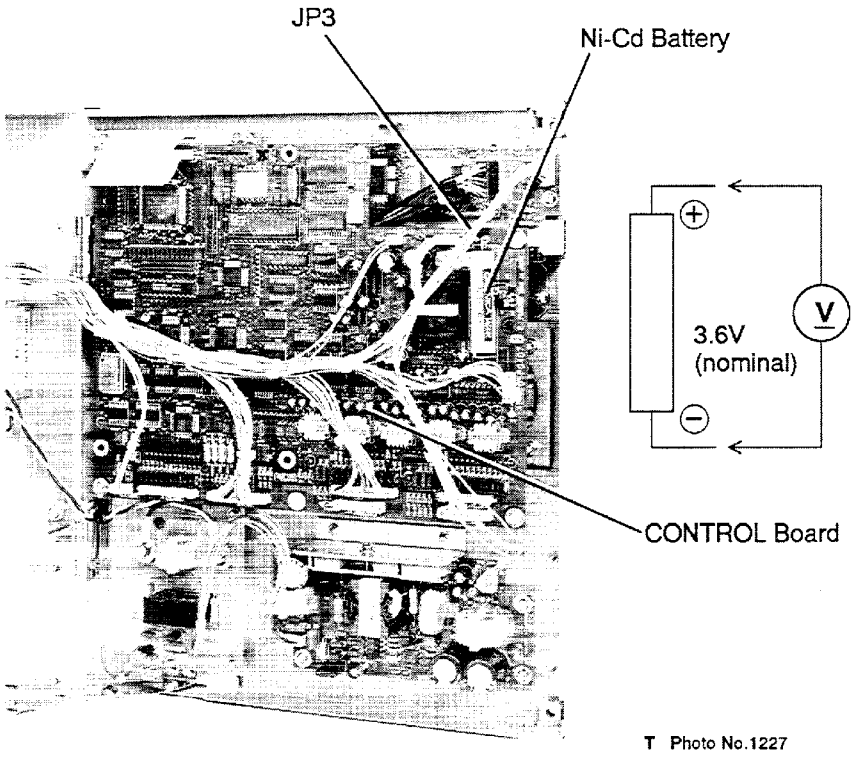
3. Ni-cd battery (For qualified personnel)

The Ni-cd battery on the CONTROL board preserves the memory contents (receive messages, own ship's position data and time data) for about five years. To be sure important information will not be lost, periodically check battery voltage. It should be at least 3.6 V with the power turned off.

Note : The unit automatically erases the memory contents if the power is off for about one month.

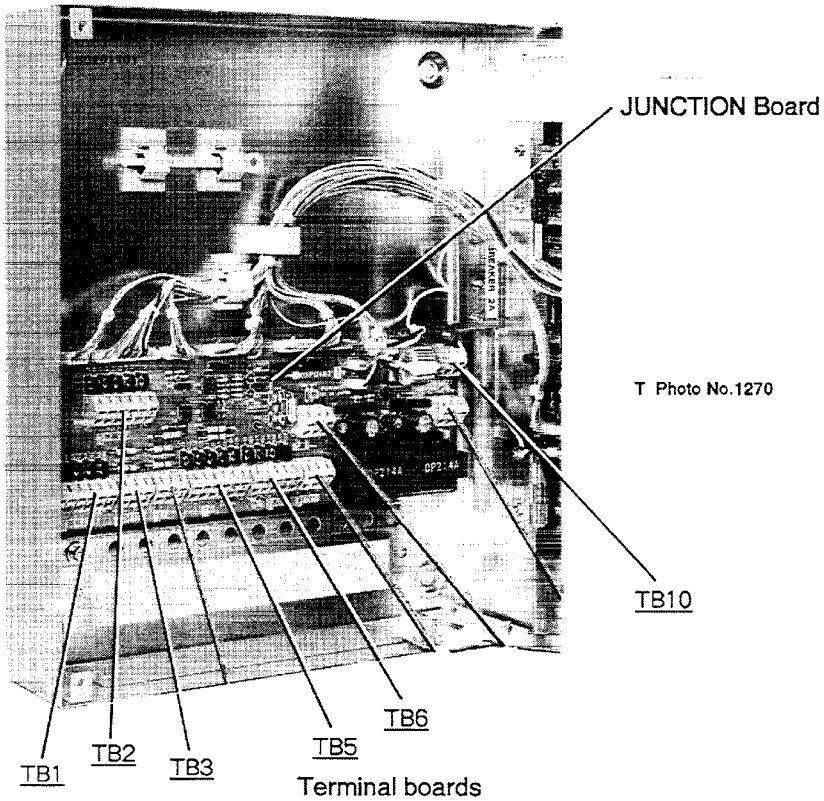
Procedure

1. Cut jumper JP3 on the CONTROL board.
2. Remove discharged battery.
3. Install new battery (Code no. 000-835-126).
4. Install new jumper JP3.



T Photo No.1227

Behind Front Door

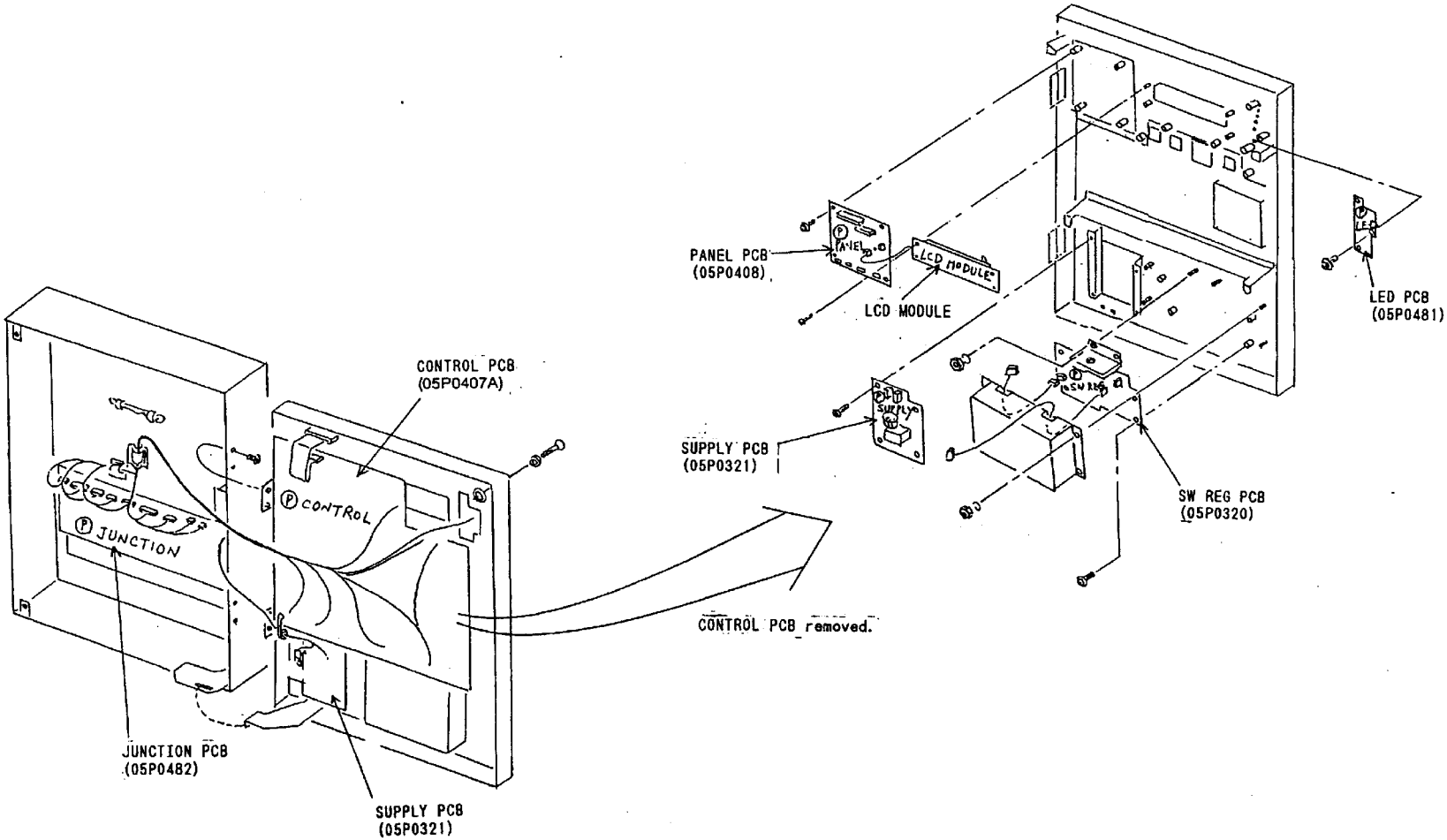


T Photo No.1270

Terminal boards

(Power cable and interconnection cables from external equipments are terminated here.)

Inside Cabinet Base



承認 APPROVED		名称 TITLE: DMC-5 PCB's LOCATION
検図 CHECKED		
製図 DRAWN		図番 DWG.NO.

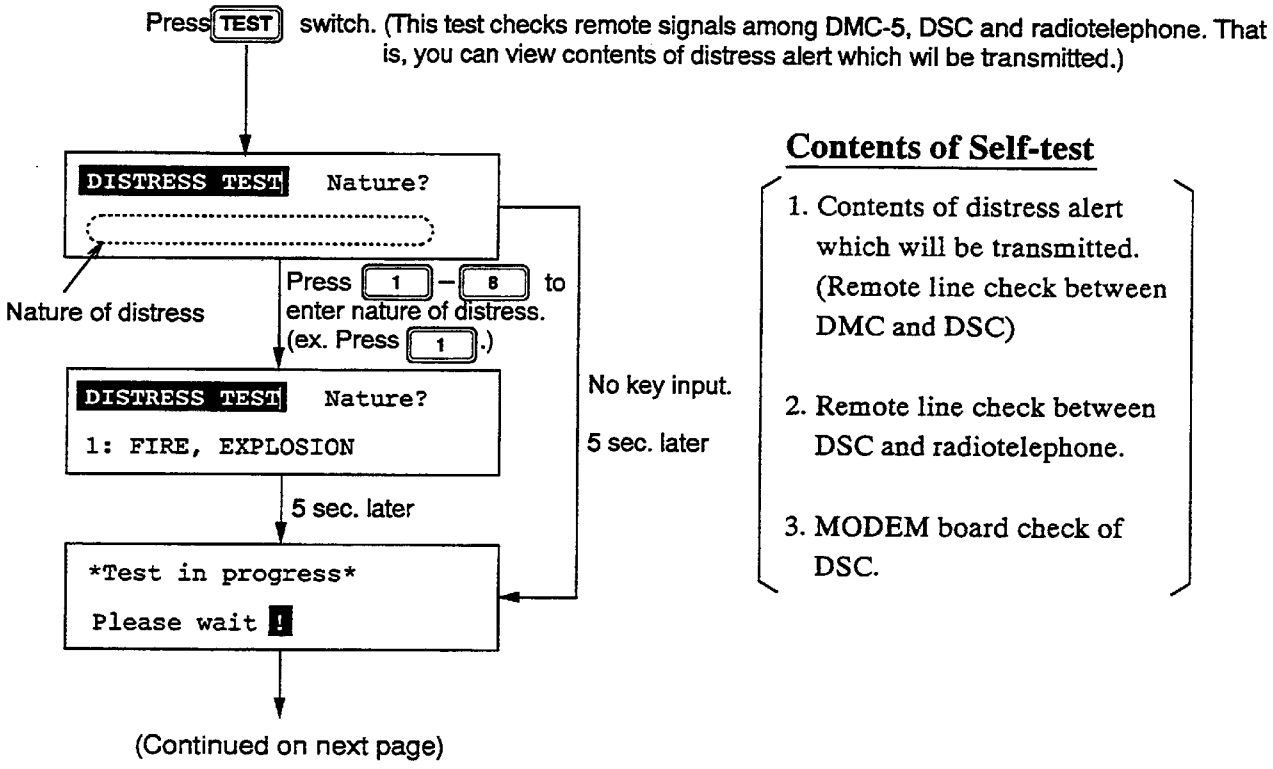
FURUNO ELECTRIC CO., LTD.

5.2 Self Test

This unit is equipped with two types of self tests. The first test checks for proper exchange of data between the DMC-5 and DSC to test for proper transmission of the distress message. To conduct this test, press the TEST switch at the default display. You should conduct this test daily to ensure proper transmission in case of distress. Below is the procedure for conducting this test. (Note that you should also check the MF/HF transceiver for proper tuning of safety and distress frequencies, for the same reasons.)

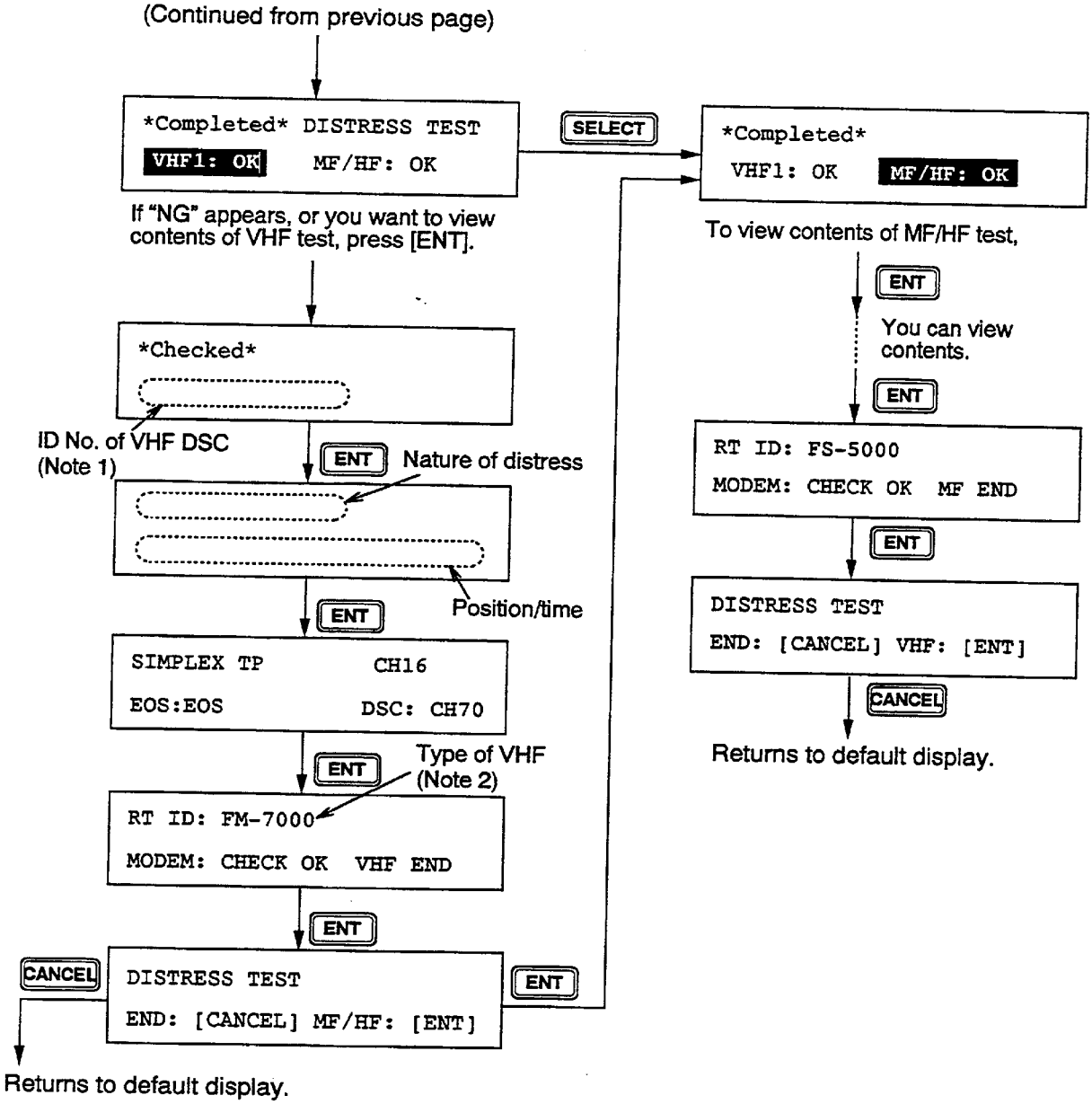
The second type of test is a series of tests which you select through the menu to identify the cause of operating problems. If you cannot restore to normal operation do not attempt to check inside the unit. Any repair is best left to a qualified technician.

General Self Test (Daily Self Test)



Contents of Self-test

1. Contents of distress alert which will be transmitted. (Remote line check between DMC and DSC)
2. Remote line check between DSC and radiotelephone.
3. MODEM board check of DSC.

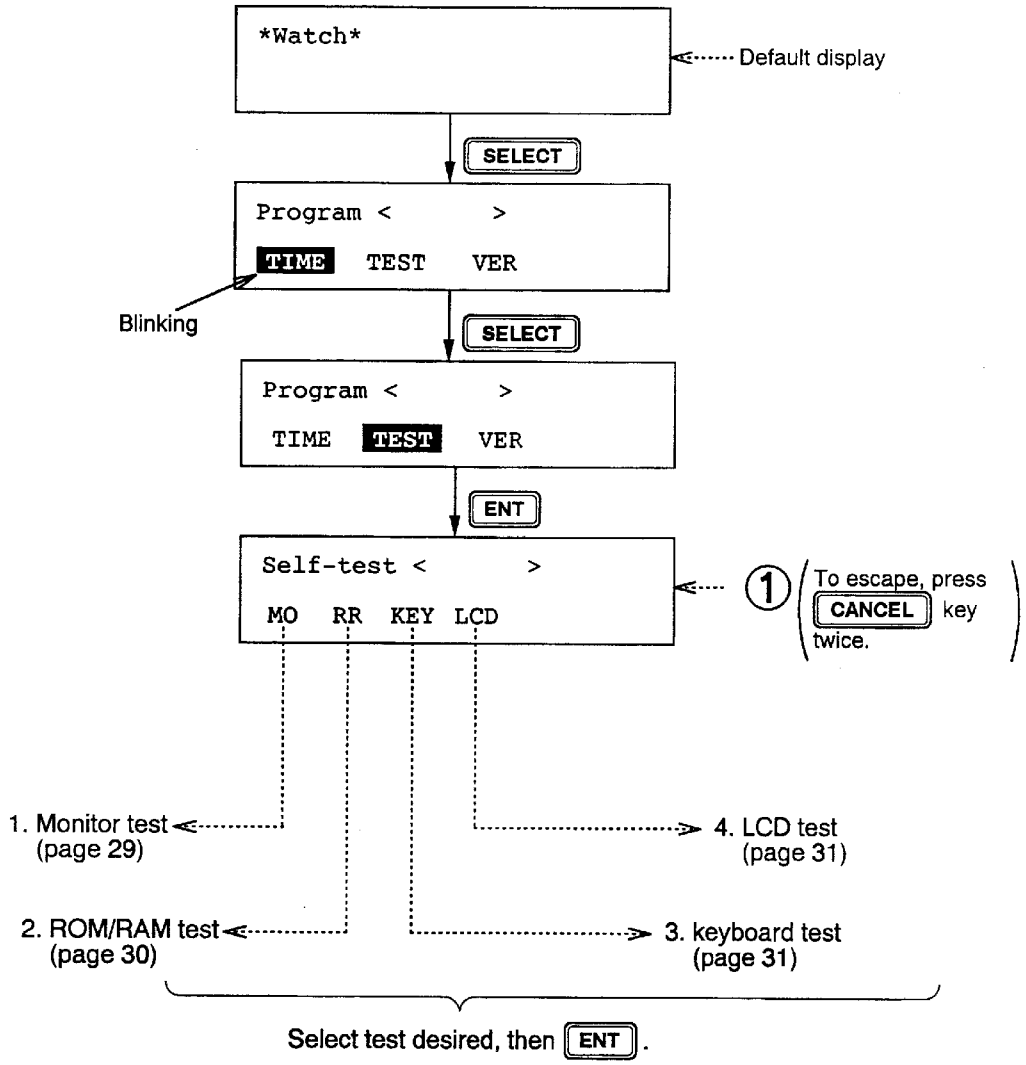


Note 1. For NG display (causes of NG):
1. Power of DSC may be off.
2. System setting Remote-A on DSC may be off.

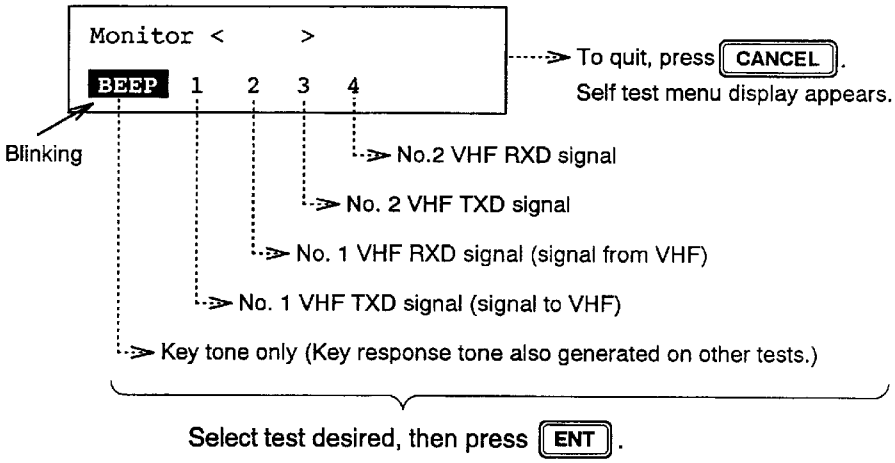
Note 2. For NG display (causes of NG):
1. Power of radiotelephone may be off.
2. Remote line trouble between DSC and radiotelephone.

If system setting Remote-D or -E on DSC is off, "Remote off" appears.

Individual Self Test (for maintenance)



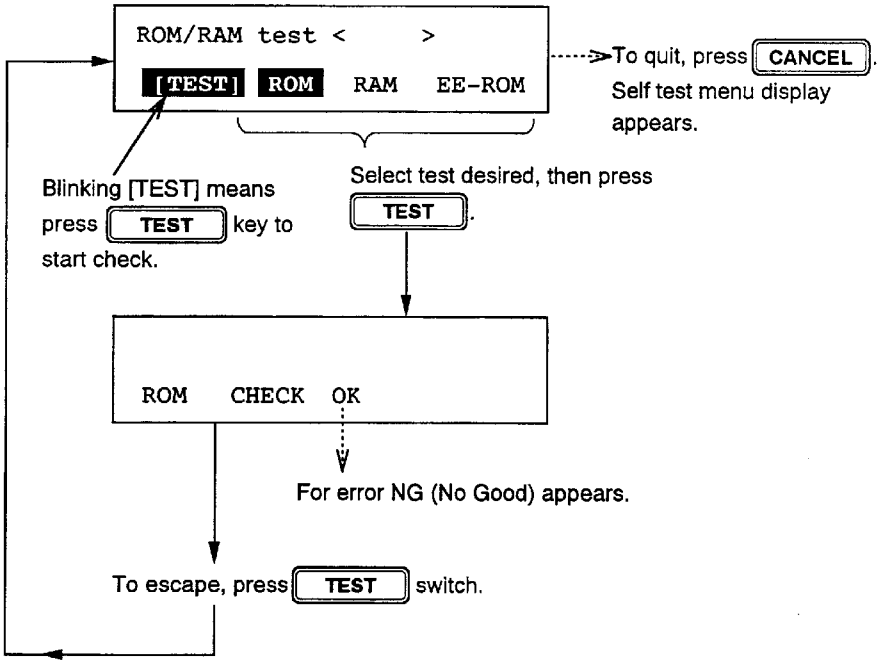
1. "MO" (Monitor test)



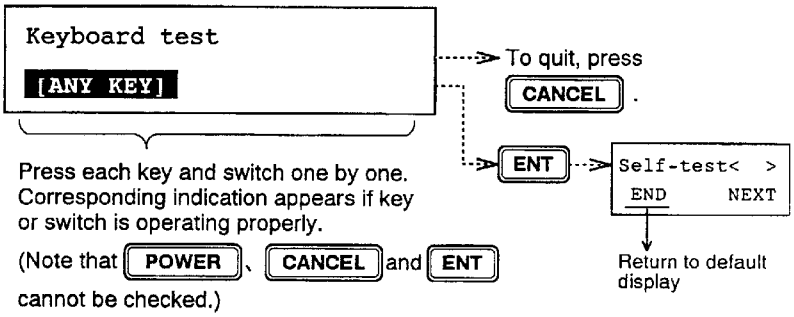
This test monitors VHF control signal tone.

2. "RR" (ROM/RAM test)

This check tests the ROM(U8), RAM(U9,U10) and EE − ROM(U11) on the CONTROL board.



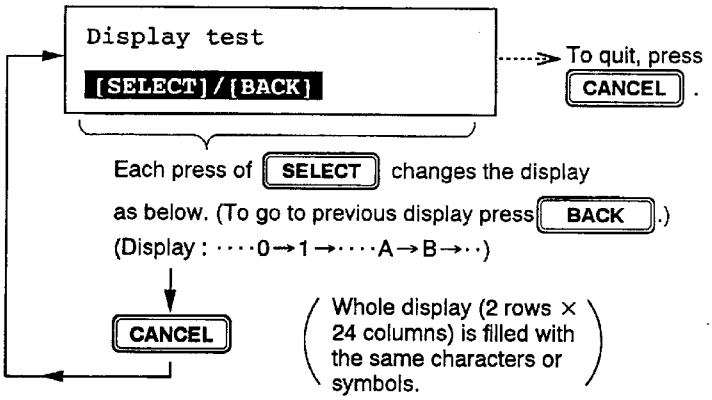
3. "KEY" (Keyboard test)



Key/switch and/or related circuit may be faulty if;

- ◆ it does not show character(s) corresponding to the key/switch pressed, or
- ◆ it will not accept a particular key/switch.

4. "LCD" (LCD test)

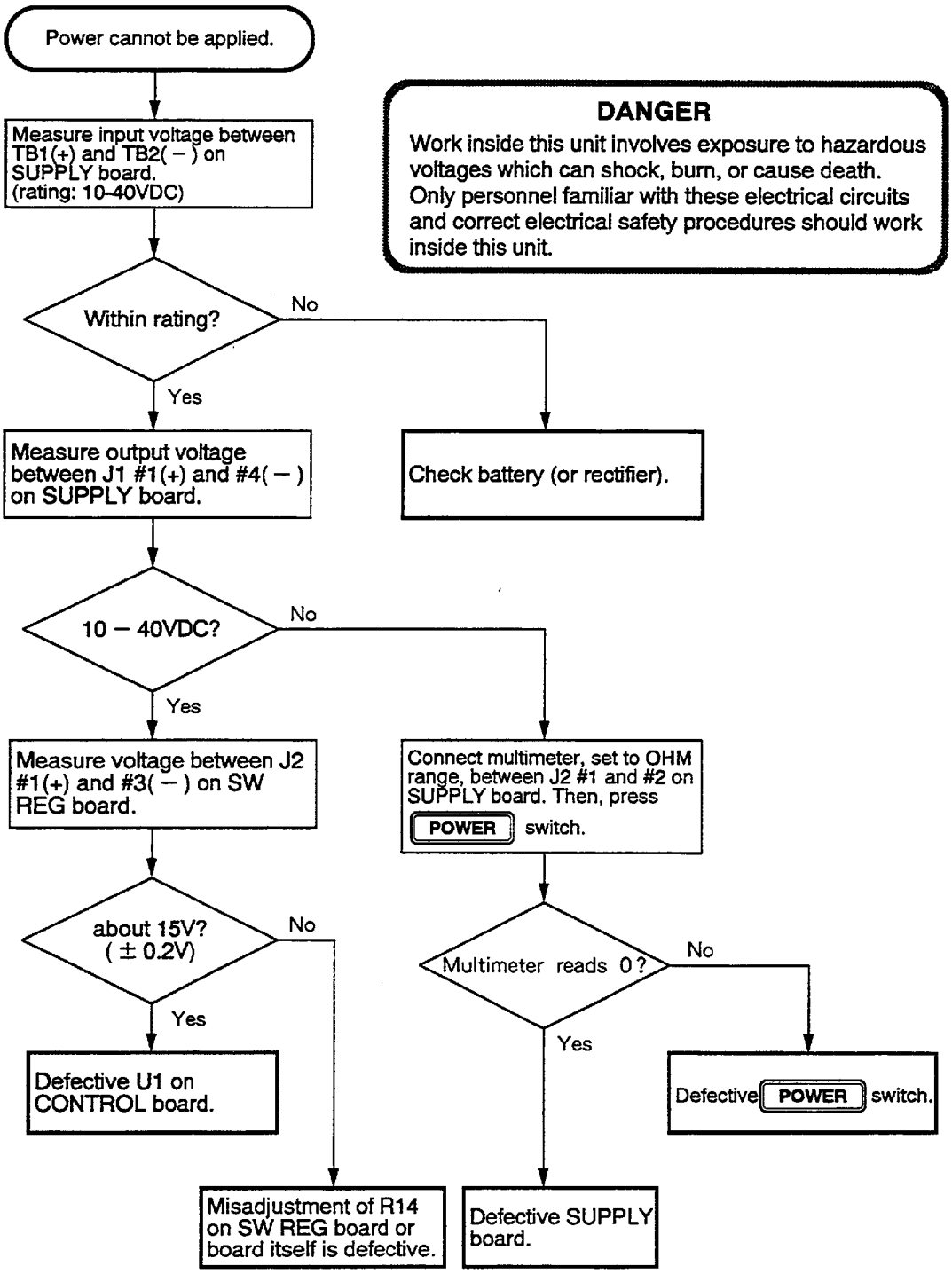


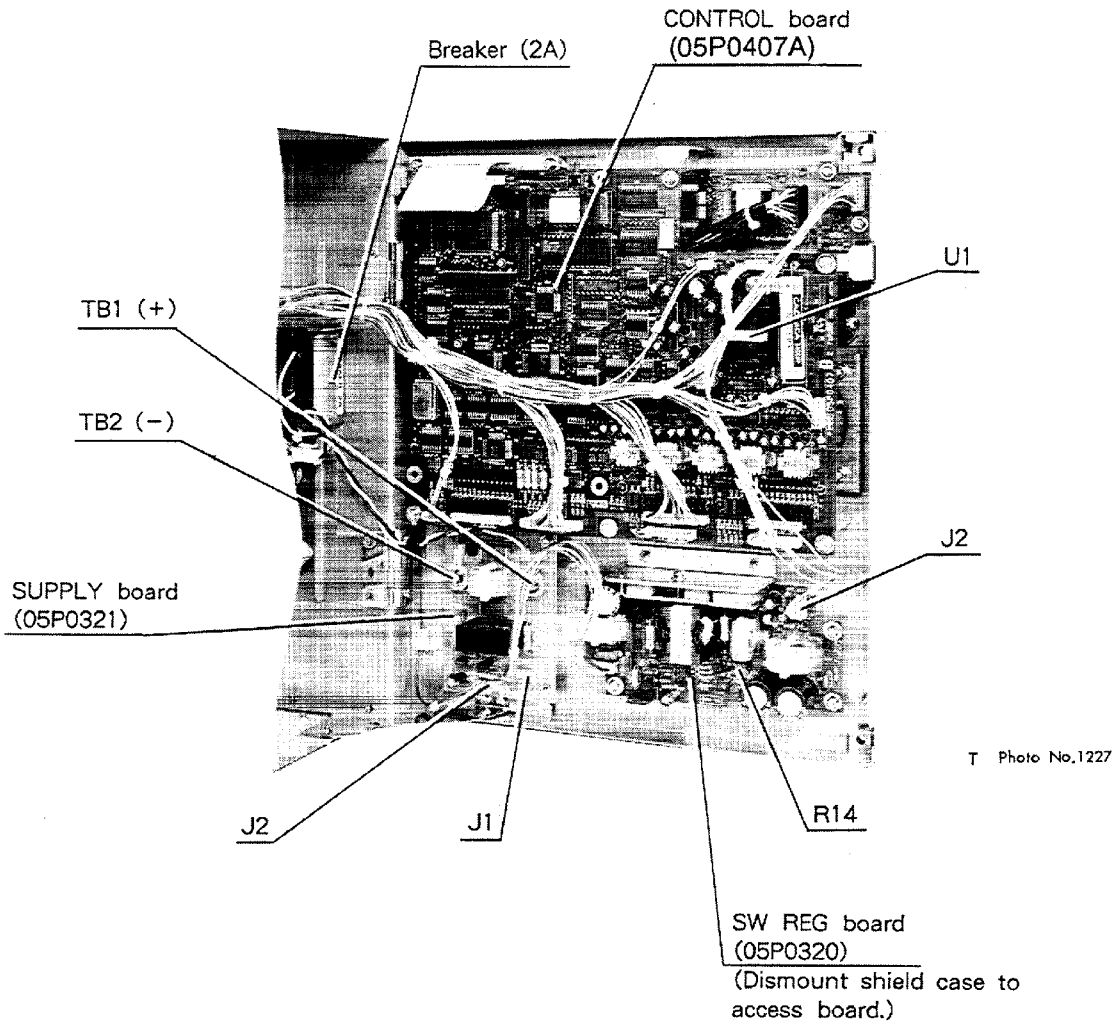
The LCD and/or its drive circuit may be faulty if;

- ◆ particular dot on the LCD is always on or off,
- ◆ particular character/symbol does not appear on the display, or
- ◆ odd (unreadable) pattern is displayed.

5.3 Troubleshooting (For qualified personnel)

This section shows how to check the power circuit. Before checking, be sure the red button on the breaker (2A) has not popped out. If it is out, push it in to supply power to the unit.
(If it pops out again, do not press the button any further, since it may cause more serious damage to the equipment.)

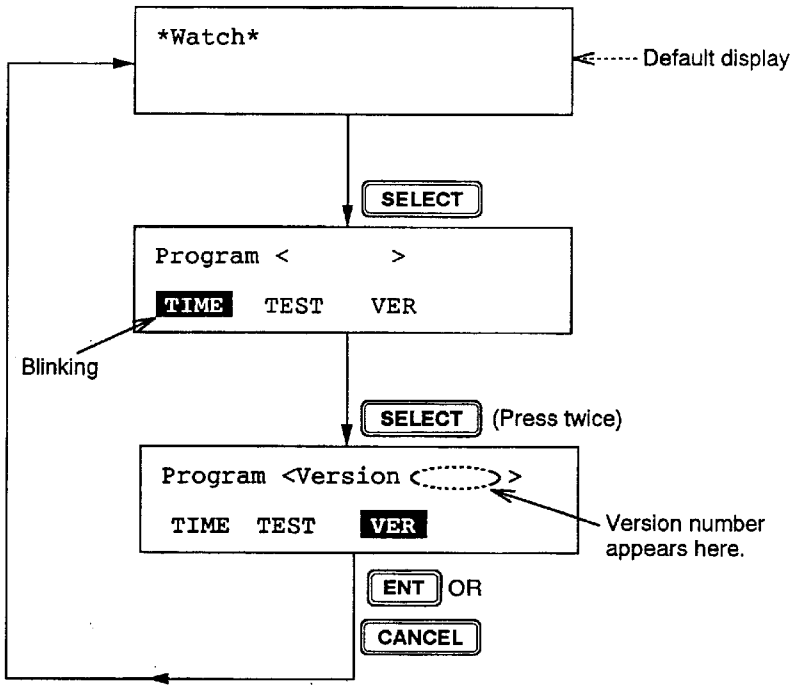




DMC-5, cabinet door opened

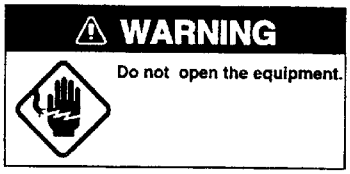
5.4 Displaying ROM Version Number

Do the following to display the ROM version number.



6. INSTALLATION (For qualified personnel)

6.1 Mounting Location



The DMC-5 is normally installed on the bridge, on a bulkhead or in a panel (flush mounting kit required).

Install the unit where the DISTRESS switch can be readily pressed and the LCD can be easily viewed. Be sure to leave sufficient space around the unit to facilitate maintenance and checking.
Keep these and the following conditions in mind when selecting a mounting location.

- **Select a location away from water splash and rain.**
- **Select a location where humidity and temperature are stable and moderate.**
- **Locate the unit away from exhaust vents.**
- **Select a well-ventilated location.**
- **Select a location where vibration and shock are minimal.**

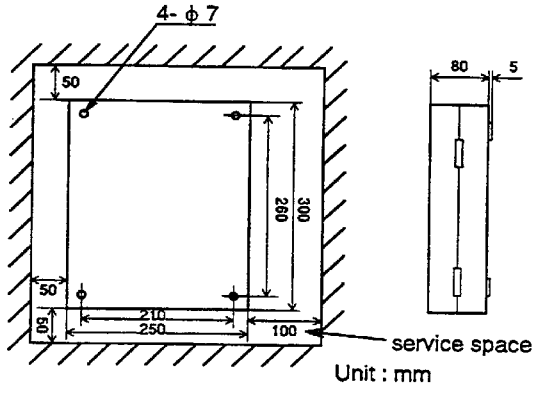
Compass safe distance

The performance of a magnetic gyrocompass will be affected if placed too close to the DMC-5. Separate the DMC-5 from magnetic gyrocompasses by at least the following distances.

(Standard: 1.2m
Steering: 0.7m)

6.2 Bulkhead Mounting

Fix the unit to the mounting location with four M5 × 20 tapping screws (supplied). The mounting dimensions are shown below.

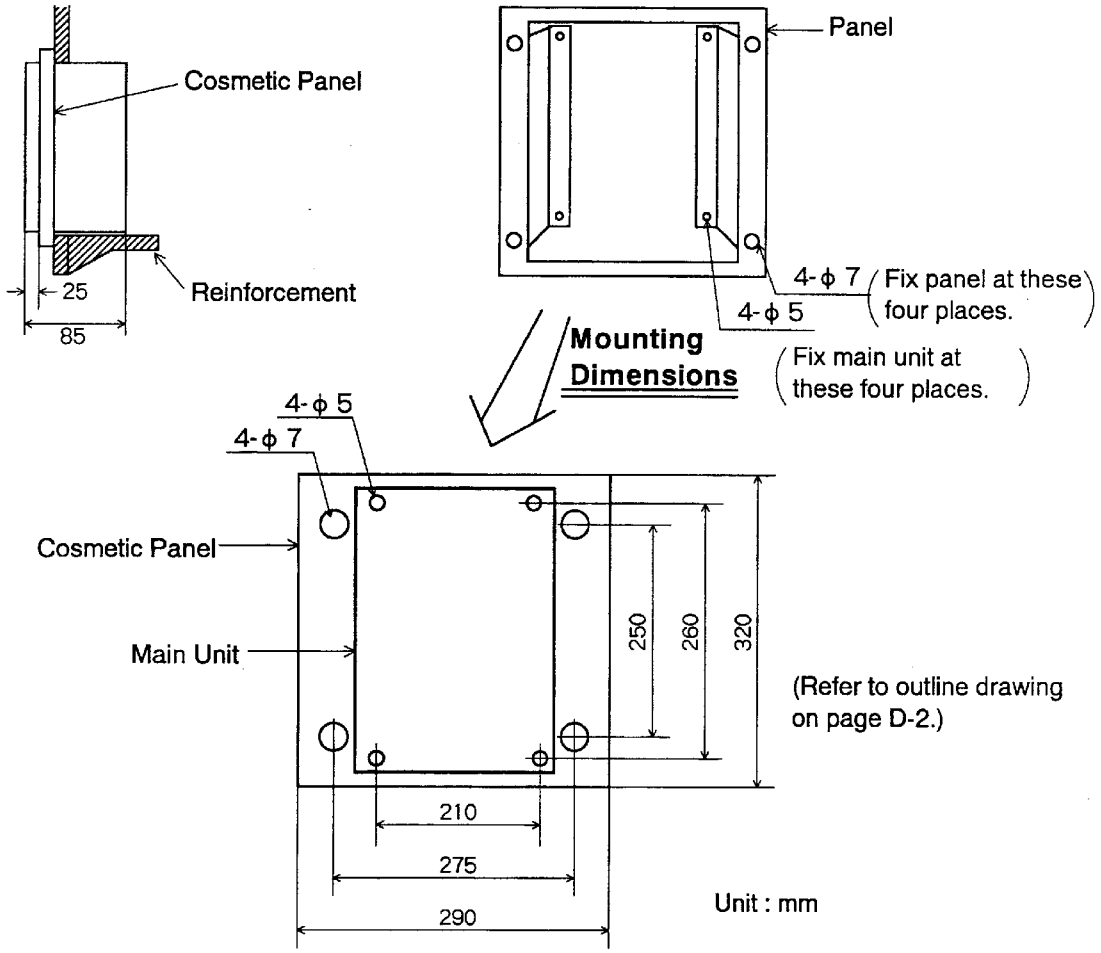


6.3 Flush Mounting

The DMC-5 can be flush mounted, using the optional flush mounting kit (Type : OP05-43, Code No. : 000-059-385). Be sure the mounting location is strong enough to support the weight of the unit (4 kg). If necessary, reinforce the mounting location as shown below.

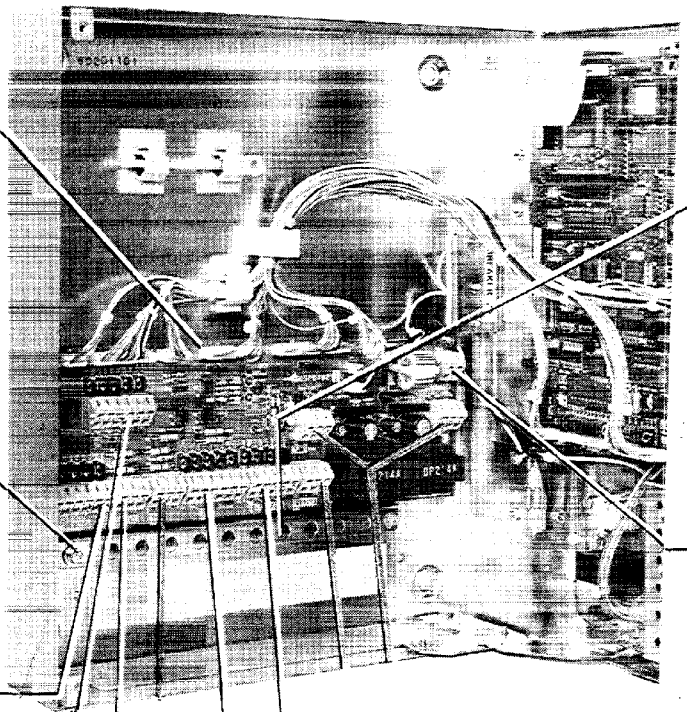
Flush mounting kit

Name	Type	Qty	Code No.	Remarks
Panel	05-056-0501-1	1	100-158-311	
Tapping Screw	M5 × 20	4	000-802-081	for fixing cosmetic panel
Panhead Screw	M5 × 10	4	000-881-486	for fixing main unit



6.4 Connections

The power cable and interconnection cables from external equipment are terminated at the JUNCTION board inside the DMC-5.



Cable Specification:

TB5 · · · Composite 10 core cable (CO-10P, optional supply). Cable available in lengths of 5m/10m/20m/30m/40m/50m.

TB10 · · DPYC-1.25 (local supply).

Other · · Composite 2 core cablle (CO-2P, optional supply). Cable available in lengths of 5m/10m/15m/20m/30m.

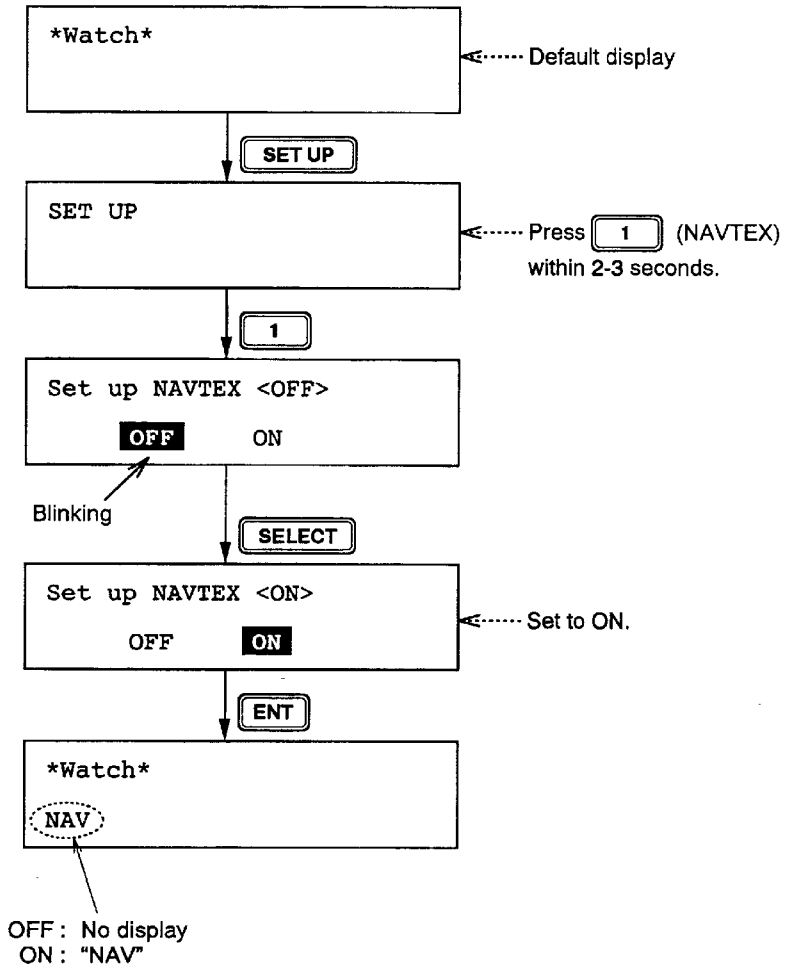
After installing the unit, be sure to enter system settings as prescribed in the next chapter.

7. SYSTEM SETTINGS

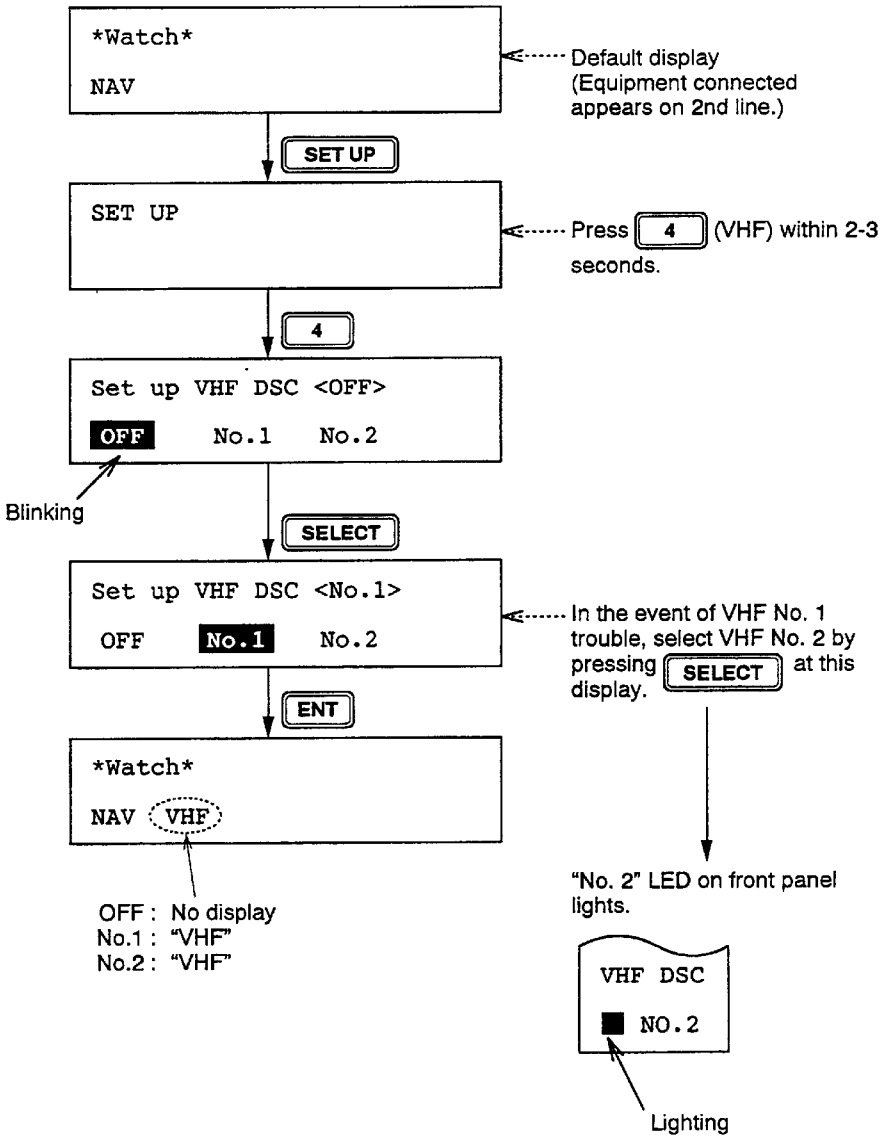
7.1 Equipment ON/OFF

The DMC-5 needs to know what communication equipment is connected to it. Select equipment as follows.

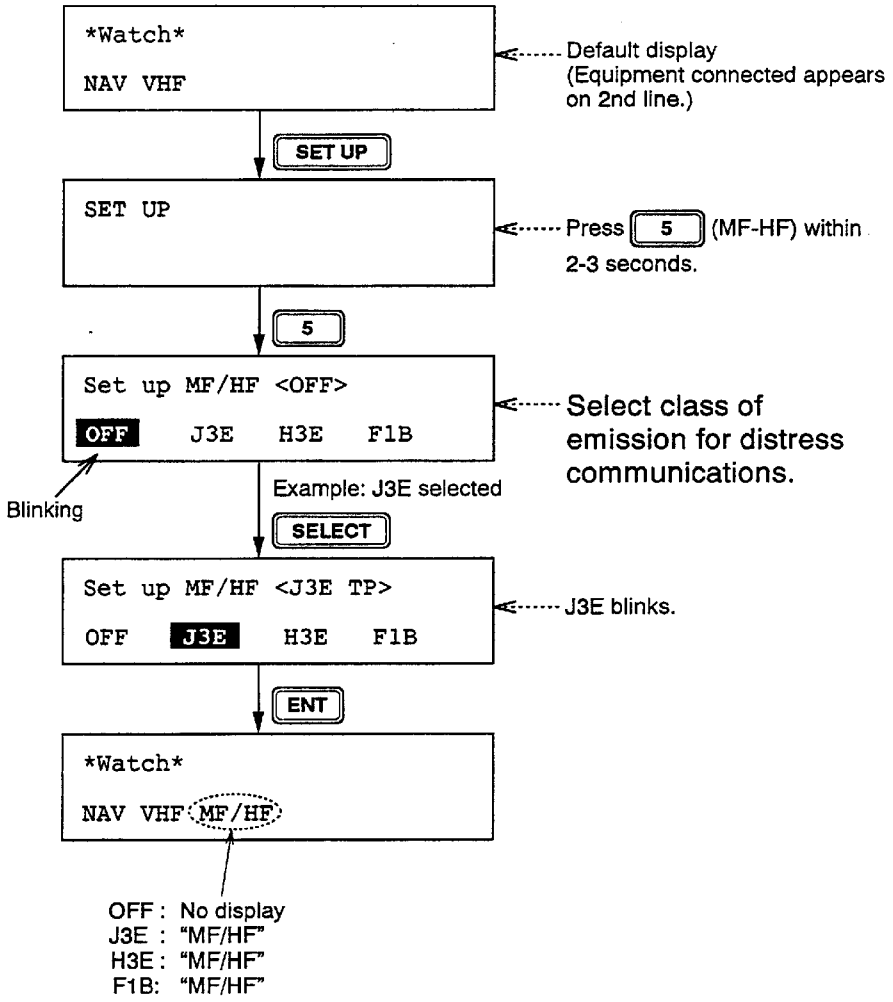
1. NAVTEX Receiver



2. VHF DSC

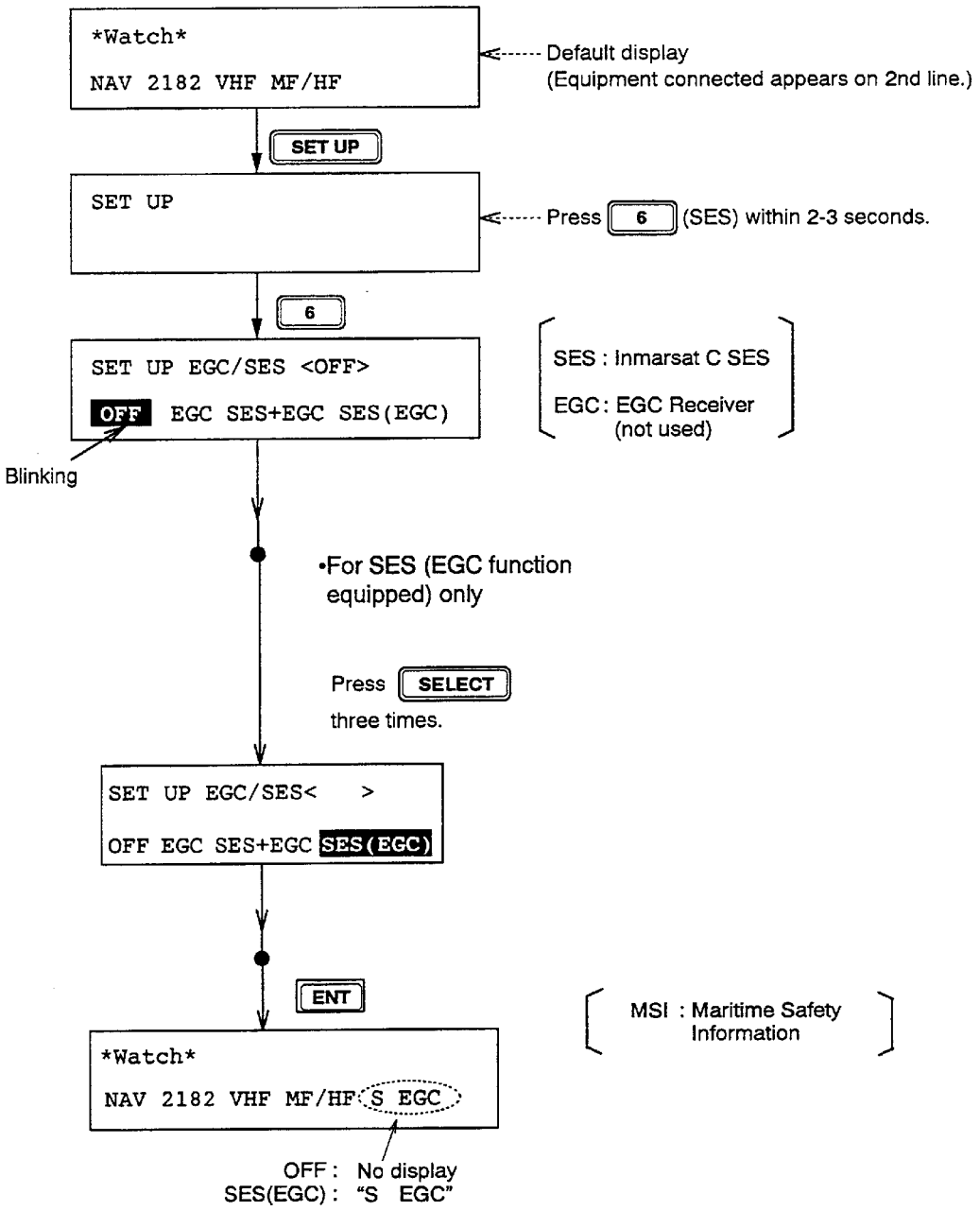

Watch
NAV
Default display
(Equipment connected
appears on 2nd line.)
SET UP
SET UP
Press 4 (VHF) within 2-3
seconds.
4
Set up VHF DSC <OFF>
OFF No.1 No.2
Blinking
SELECT
Set up VHF DSC <No.1>
OFF No.1 No.2
In the event of VHF No. 1
trouble, select VHF No. 2 by
pressing SELECT at this
display.
ENT
Watch
NAV VHF
"No. 2" LED on front panel
lights.
OFF : No display
No.1 : "VHF"
No.2 : "VHF"
VHF DSC
NO.2
Lighting

3. MF/HF DSC



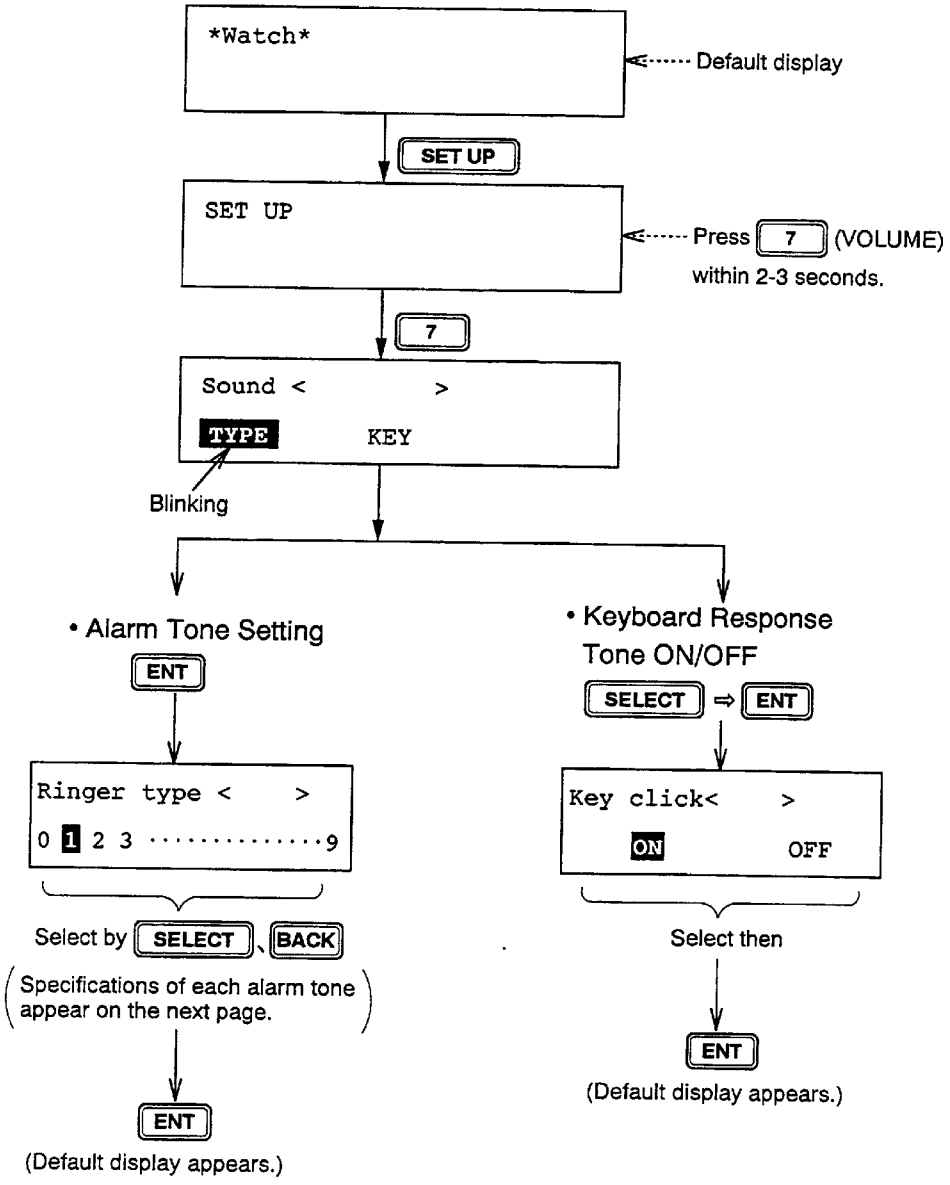
Distress call including "class of emission" selected here will be transmitted when the DISTRESS switch is pressed. To view the distress message which will be transmitted, conduct the self test described on page 26.

4. Inmarsat C SES/EGC Receiver



7.2 Alarm Tone Selection

The user may select receive alarm tone, and turn keyboard respone tone on or off. In the factory setting, alarm tone no.1 is selected and keyboard respone tone is turned on.



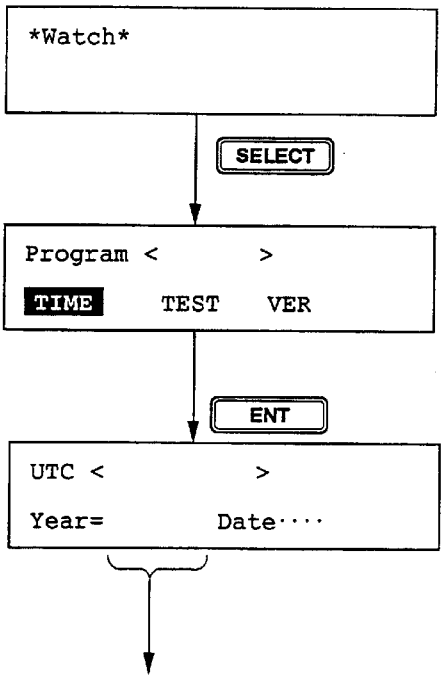
Ringer type	Specification	
	Tone (Hz)	Interval (ms)
0	2200	Continuous
1	1300 and 2200	250
2	1300 and 2200	125
3	3290	Continuous
4	1945 and 3290	250
5	1945 and 3290	125
6	1100	Continuous
7	650 and 1100	250
8	650 and 1100	125
9	2200 and 0	250

(***Note***) Key response tone frequency is 1800Hz (50ms).

The distress alarm (five seconds duration) frequencies are 2200Hz and 0Hz (interval : 125ms). These frequencies cannot be changed.

7.3 Date and Time

Enter date and time (UTC). Date and time entered through the DMC-5 supersedes those of DSC.



Enter year ⇨ [SELECT] ⇨ Enter month and day ⇨ [SELECT]
⇨ Enter time (UTC) ⇨ [ENT] ⇨ Default display appears.

(Example) Enter August 1, 1997, 12:03.

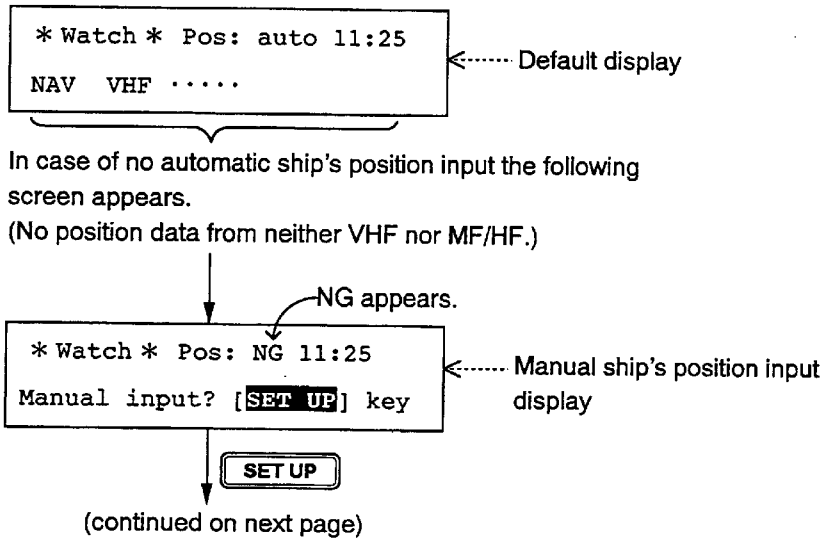
〔1997 ⇨ [SELECT] ⇨ 801 ⇨ [SELECT] ⇨ 1203 ⇨ [ENT] 〕

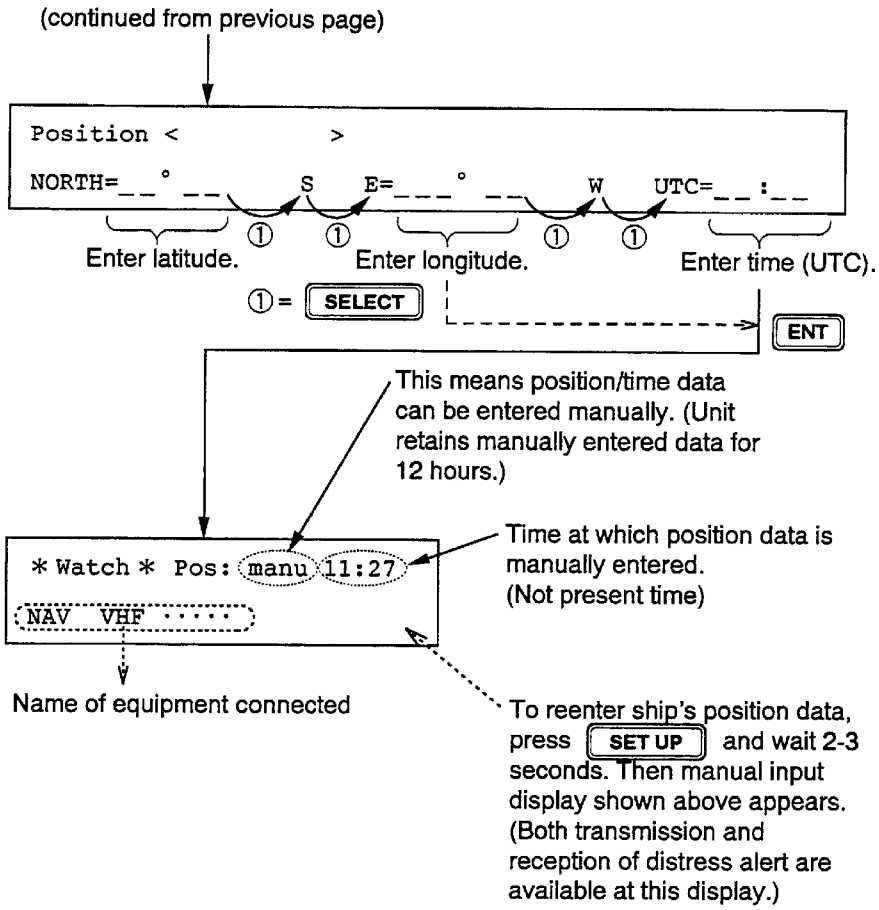
8. MANUAL INPUT OF SHIP'S POSITION

If own ship's position data from navigation device is not input to the DMC-5 via the DSC, you can enter it manually through the DMC-5. (If navigation device is not connected, the screen should look "Manual ship's position input display" shown below.) It is very important that position data be accurate to facilitate search and rescue operations in the event of distress.

The DMC-5 normally receives ship's position data from the VHF DSC. When this path is unavailable, the DMC-5 receives the data from the MF/HF DSC. If neither pass is available, enter the ship's position data manually by following the procedure shown below. (The data prepared here will be transmitted when the DISTRESS switch is pressed.)

After entering the data check both the power line of equipment connected and the CIF/NMEA line between the DSC and nav. device. Once automatic input is restored, manually entered position data is cancelled.





Note: You can confirm position and time data which will be transmitted at distress by conducting the self test described on page 26.

SPECIFICATIONS OF DMC-5
DISTRESS MESSAGE CONTROLLER

1. Functions

(1) Equipment Controllable	VHF DSC/MF DSC/HF DSC/Inmarsat class-C SES
(2) Specifics of Distress Call and Message	Nature of distress Position, time (auto/manual) Telecommand
(3) Messages Transmittable	Transmit of distress call Relay of distress call (MF/HF DSC) Transmit of distress acknowledgement (VHF/MF DSC)
(4) Protection Against Accidental Transmission	Plastic cover and red seal placed over【DISTRESS】key
(5) Cancel of Transmission and Reset	By【CANCEL】key
(6) Indication of Receive Message	Distress call Distress acknowledge call (DSC only) Distress relay call (DSC only) Ack for distress relay
(7) Alarms (Aural and Visual)	DSC : at transmission and reception (Volume adjustable) SES : at transmission and reception (Volume adjustable) EGC RCVR : at reception of SAR message NAVTEX : at reception of SAR message
(8) Illumination	Key and LED panel are backlit

2. Display

24 characters × 2 lines, LCD display
LED adjustable backlight and display contrast

3. Key Arrangement

CCITT REC. E161

4. Environmental Conditions

(1) Temperature	− 15℃ to +55℃
(2) Relative Humidity	93%

5. Power Supply and Power Consumption

10-40 VDC, 10 W or less

6. Coating Color

Panel: N-3.0 Cabinet Cover: 2.5GY5/1.5

FURUNO

AP1-3

構成表
COMPLETE SET

DMC-5
遭難警報装置
DISTRESS MESSAGE CONTROLLER

番号 No.	名称 NAME	型式 TYPE	重量 WEIGHT (Kg)	数量 Q'TY	備考 REMARKS
1	本体 MAIN UNIT	DMC-5	4.0	1	
2	工事材料 INSTALLATION MATERIALS			1 式 SET	
3	フラッシュマウントキット FLUSH MOUNT KIT			* 1 式 SET	
4	アラームスピーカー ALARM SPEAKER	AL-5	1.4	* 1	壁掛型 BULKHEAD MOUNT
4	アラームスピーカー ALARM SPEAKER	AL-5F	0.7	* 1	埋込型 FLUSH MOUNT

＊：オプション支給品。
OPTIONAL SUPPLY.

FURUNO

CODE No.	000-059-384	05CL-X-9401
TYPE	CP05-04900	

工事材料表
INSTALLATION MATERIALS

DMC-5

遭難警報装置
DISTRESS MESSAGE CONTROLLER

番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	アース板 COPPER STRAP		05-003-0031-0 CODE No. 590-300-310	1	
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		
			CODE No.		

図番 DWG. No.	C5544-M01-B	
検図 CHECKED		

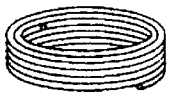
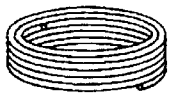
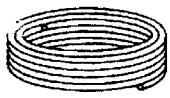
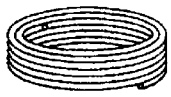
FURUNO ELECTRIC CO., LTD.

FURUNO

CODE NO.	
TYPE	

工事材料表
INSTALLATION MATERIALS

2対ケーブル（鎧装付）
2P TWISTED PAIR CABLE (WITH ARMOR)

番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	2対ケーブル 2P TWISTED PAIR CABLE	 L=5m	CO-SPEVV-SB-C 0.2X2P *5M* 14S4231 CODE NO. 000-111-680		
1	2対ケーブル 2P TWISTED PAIR CABLE	 L=10m	CO-SPEVV-SB-C 0.2X2P *10M* 14S4231 CODE NO. 000-120-792		
1	2対ケーブル 2P TWISTED PAIR CABLE	 L=15m	CO-SPEVV-SB-C 0.2X2P *15M* 14S4231 CODE NO. 000-120-793		
1	2対ケーブル 2P TWISTED PAIR CABLE	 L=20m	CO-SPEVV-SB-C 0.2X2P *20M* 14S4231 CODE NO. 000-120-794		
1	2対ケーブル 2P TWISTED PAIR CABLE	 L=30m	CO-SPEVV-SB-C 0.2X2P *30M* 14S4231 CODE NO. 000-120-214		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

オプションケーブル
OPTION CABLE

数量を記入して下さい。
PUT QUANTITY REQUIRED.

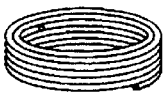
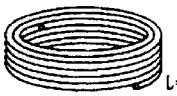
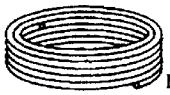
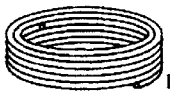
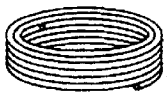
図番 (1/1)
DWG. NO. C0014-M01-C

FURUNO

CODE NO.	
TYPE	

工事材料表
INSTALLATION MATERIALS

10対ケーブル（鎧装付）
10P TWISTED PAIR CABLE (WITH ARMOR)

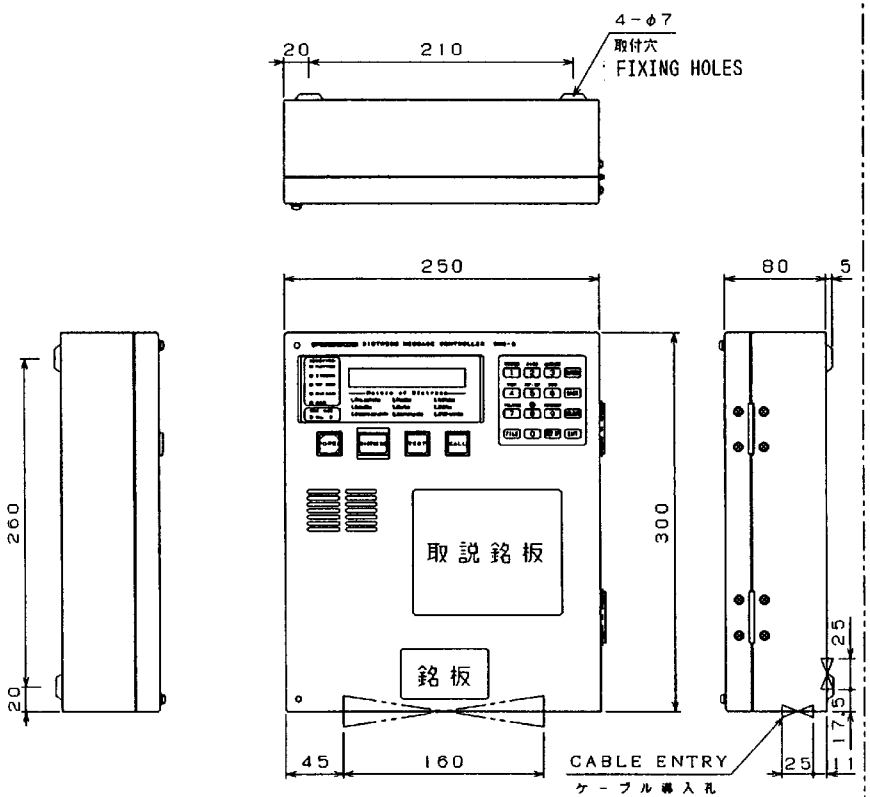
番号 No.	名称 NAME	略図 OUTLINE	型名／規格 DESCRIPTIONS	数量 Q'TY	用途／備考 REMARKS
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=5m	13S4012-0 *5M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-421		
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=10m	13S4012-0 *10M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-422		
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=20m	13S4012-0 *20M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-423		
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=30m	13S4012-0 *30M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-424		
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=40m	13S4012-0 *40M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-425		
1	10対ケーブル 10P TWISTED PAIR CABLE	 L=50m	13S4012-0 *50M* (CO-SPEVV-SB-C 0.2X10P) CODE NO. 000-560-426		
			CODE NO.		
			CODE NO.		
			CODE NO.		
			CODE NO.		

オプションケーブル
OPTION CABLE

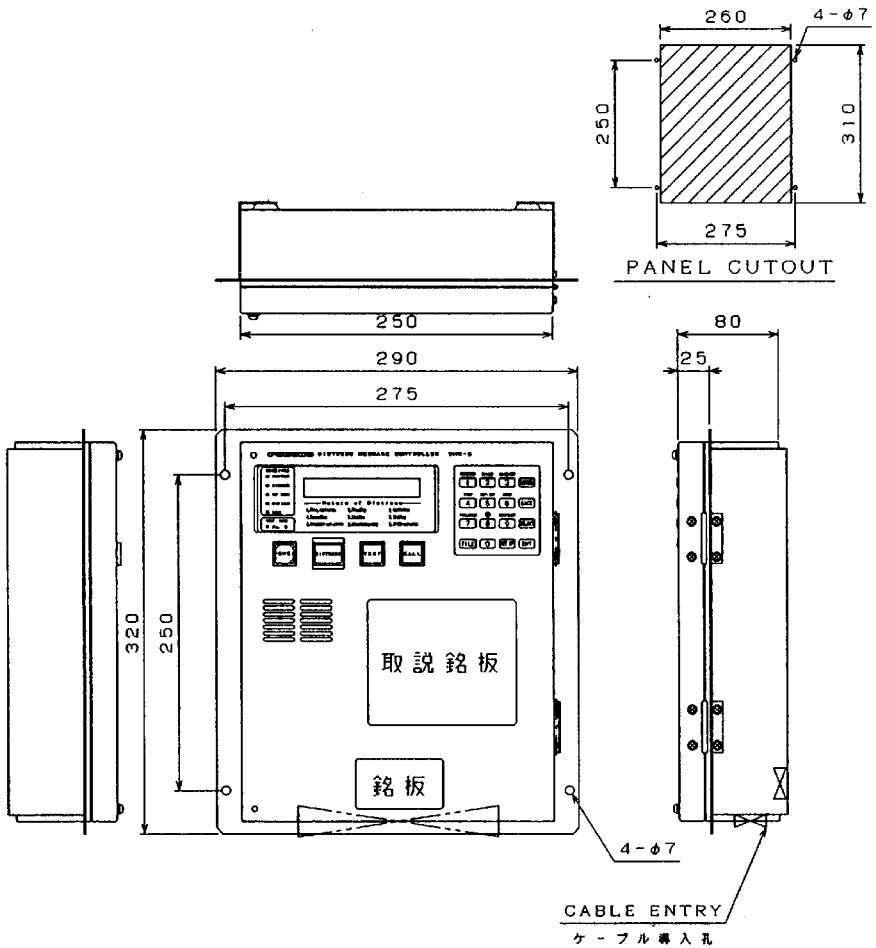
数量を記入して下さい。
PUT QUANTITY REQUIRED.

図番 (1/1)
DWG. NO. C0014-M04-B

FURUNO



壁掛型
BULKHEAD MOUNT



埋込型
FLUSH MOUNT

ITEM 品番	NAME 品名	MATERIAL 材質	Q'TY 数量	DWG.NO. 図番	REMARKS 摘要

承認 APPROVED	JUL. 2. '91 T.NAKANO	三角法 THIRD ANGLE PROJECTION		名称 TITLE	遭難警報装置
検図 CHECKED	July. 2. '91 M IKEDA	尺度 SCALE	1/	DMC-5	DISTRESS MESSAGE CONTROLLER
製図 DRAWN	JUN. 20. '91 H.HIDAKA	重量 WEIGHT	4.0 kg	図番 DWG.NO.	C5544-G02-C

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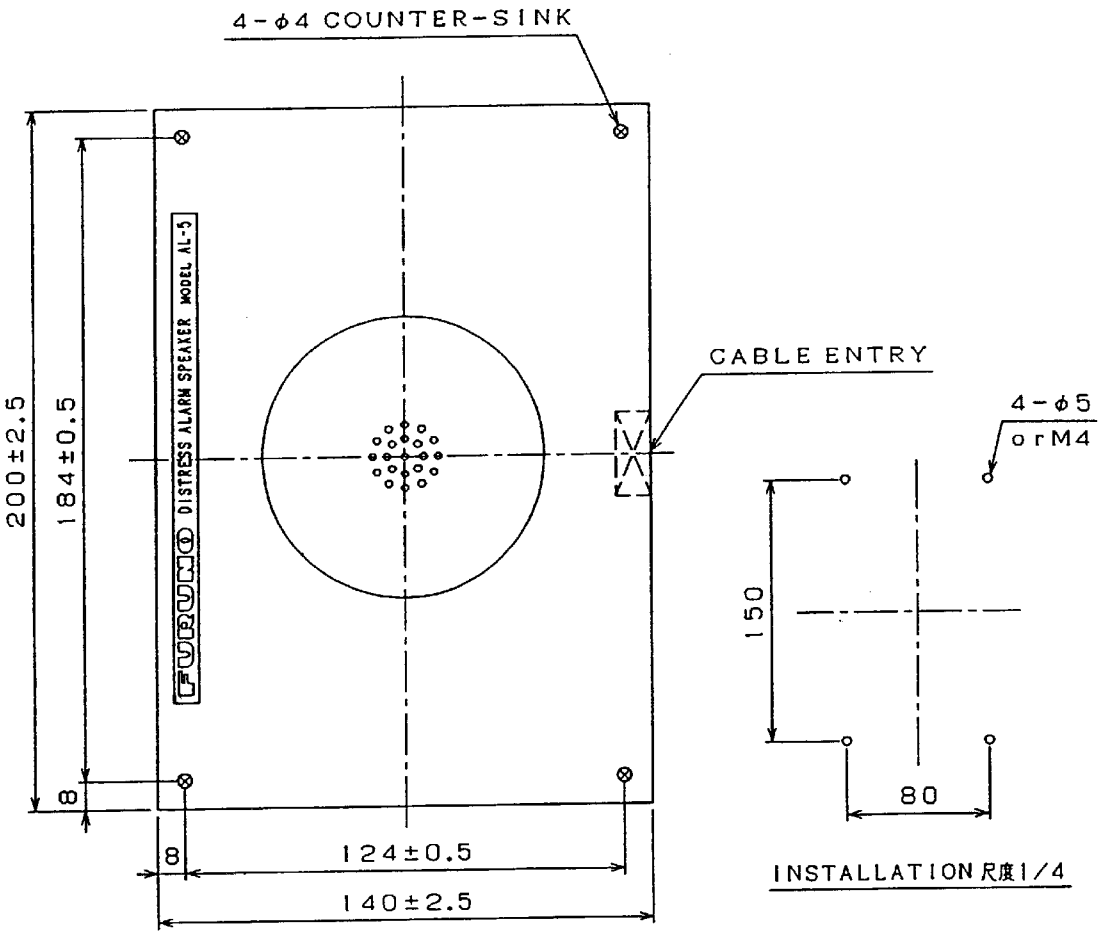
D-1

FURUNO

D-2



DMC-5	品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS

承認 APPROVED	DEC.25.'91 T.NAKANO	三角法 THIRD ANGLE PROJECTION		名称 TITLE	アラームスピーカ（壁掛型）
検図 CHECKED	Dec.25.'91 M.IKEDA	尺度 SCALE	1/2	AL-5	ALARM SPEAKER (BULKHEAD MOUNT)
製図 DRAWN	Dec.25.'91 C.TANAKA	重量 WEIGHT	1.4 kg	図番 DWG.NO.	C5016-G04-A JN

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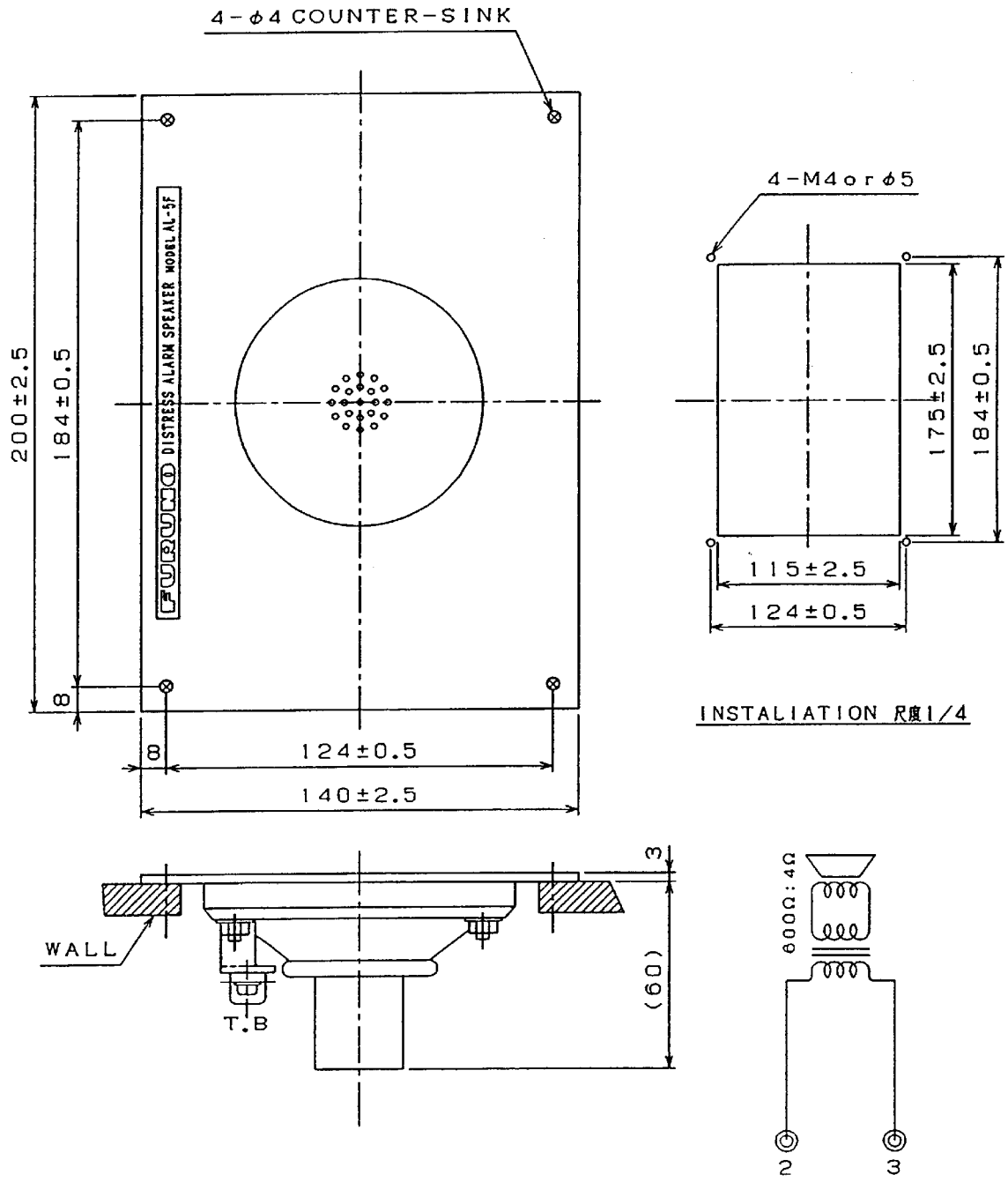
D-3



DMC-5	品番 ITEM	品名 NAME	材質 MATERIAL	数量 Q'TY	図番 DWG.NO.	摘要 REMARKS

承認 APPROVED	DEC·25·'91 T.NAKAUO	三角法 THIRD ANGLE PROJECTION		名称 TITLE	アラームスピーカ (埋込型)
検図 CHECKED	Dec·25·'91 M.IKEDA	尺度 SCALE	1/2		AL-5F ALARM SPEAKER (FLUSH MOUNT)
製図 DRAWN	Dec·25·'91 C.TANAKA	重量 WEIGHT	0.7 kg	図番 DWG.NO.	C5016-G05-A

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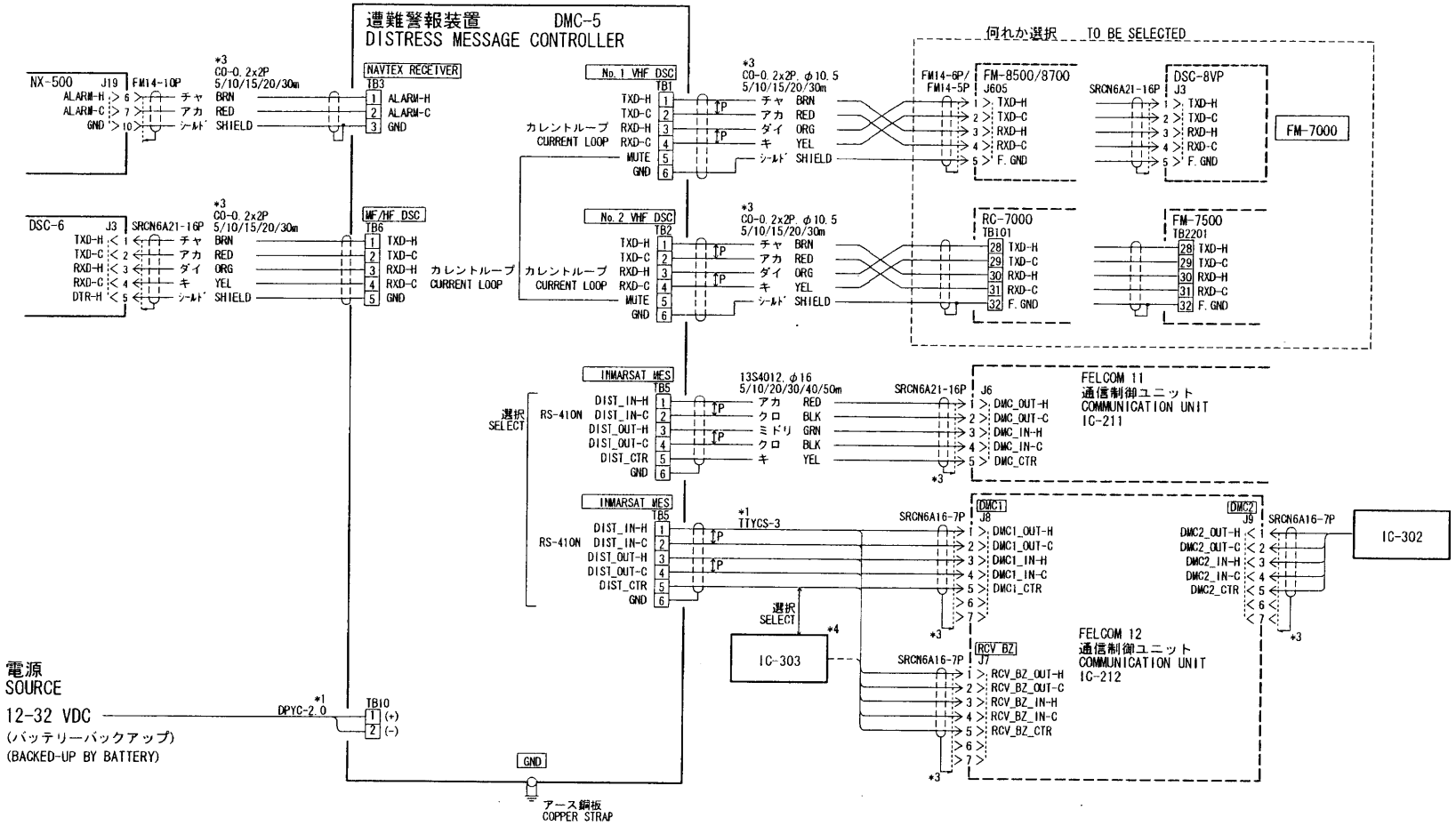
FURUNO



注記 ＊1）造船所手配。
＊2）FELCOM 11(EGC機能内蔵)接続時は不要。
＊3）コネクタクランプ経由で接地。
＊4）DMC-5上で遭難警報発呼と着信指示の両機能を有効にするには、DMC-5とIC-212(J7, J8)を並列接続してください。
ただし、IC-303を接続する場合は、DMC-5(TB-5)とIC-212(J7)の接続は絶対にしないこと。誤発射の原因になります。

NOTE ＊1. SHIPYARD SUPPLY.
＊2. EGC FUNCTION IS INCLUDED IN FELCOM 11.
＊3. GROUND CABLE THRU CONNECTOR CLAMP.
＊4. DMC-5(TB5) MUST BE CONNECTED TO IC-212 J8(DMC1) AND J7(RCV BZ) BOTH TO TRANSMIT "DISTRESS ALART" AND TO INDICATE "RECEIVED CALL". NEVER CONNECT DMC-5(TB5) TO IC-212(J7) IN PARALLEL WITH IC-303. OTHERWISE FALSE DISTRESS ALART TRANSMISSION WILL RESULT.

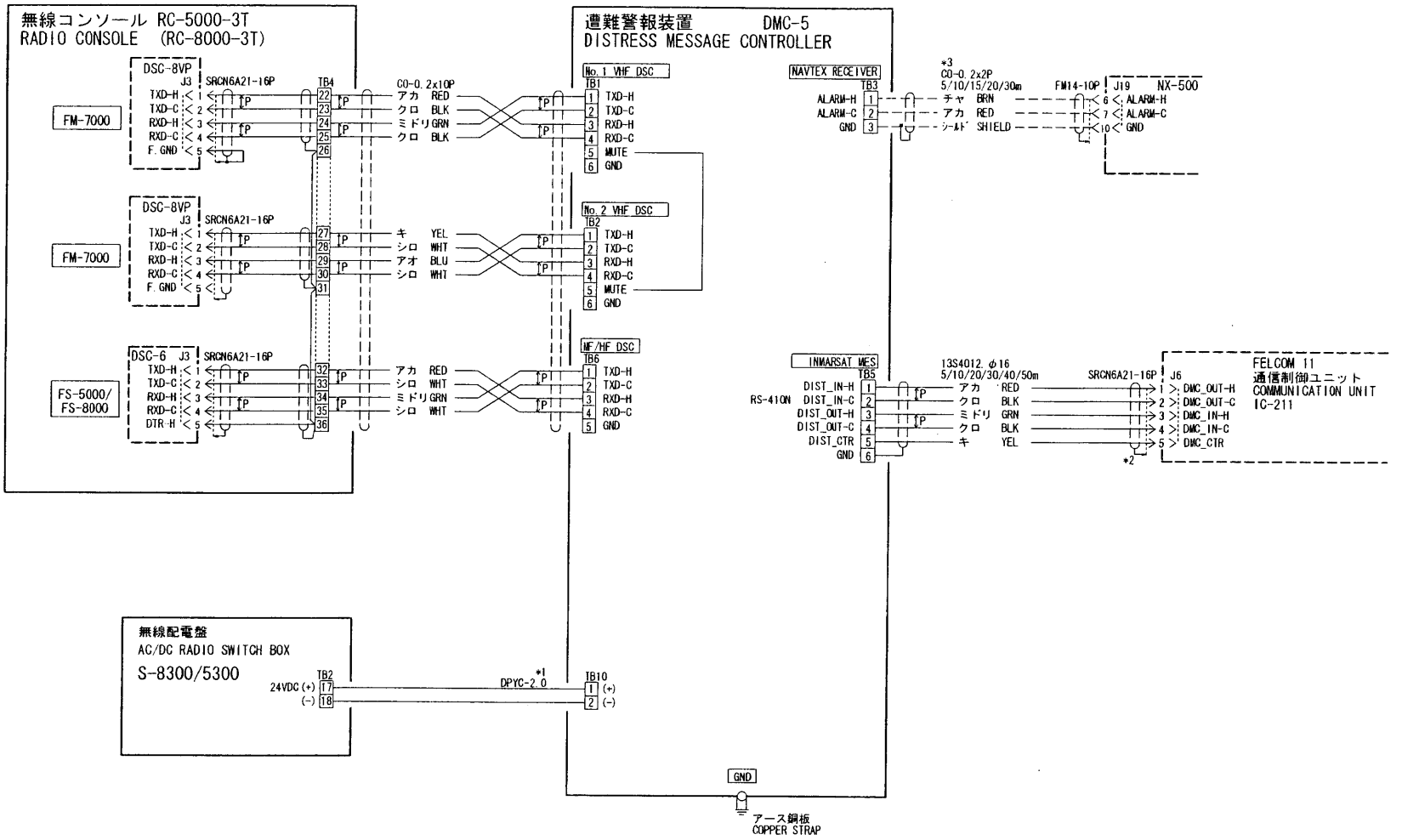
CO-0.2x2P: CO-SPEVV-SB-C 0.2x2P, φ10.5
CO-0.2x5P: CO-SPEVV-SB-C 0.2x5P, φ13.5

DRAWN Dec.28'00 T.YAMASAKI		TITLE	DMC-5
CHECKED Dec28'00 Y.K		名称	遭難警報装置
APPROVED Dec28'00 Y.K			相互結線図
SCALE	MASS kg	NAME	DISTRESS MESSAGE CONTROLLER
DWG No. C5544-C01- G			INTERCONNECTION DIAGRAM

FURUNO ELECTRIC CO., LTD.

S-1

FURUNO



注記 ＊1）造船所手配。
＊2）コネクタクランプ経由で接地。

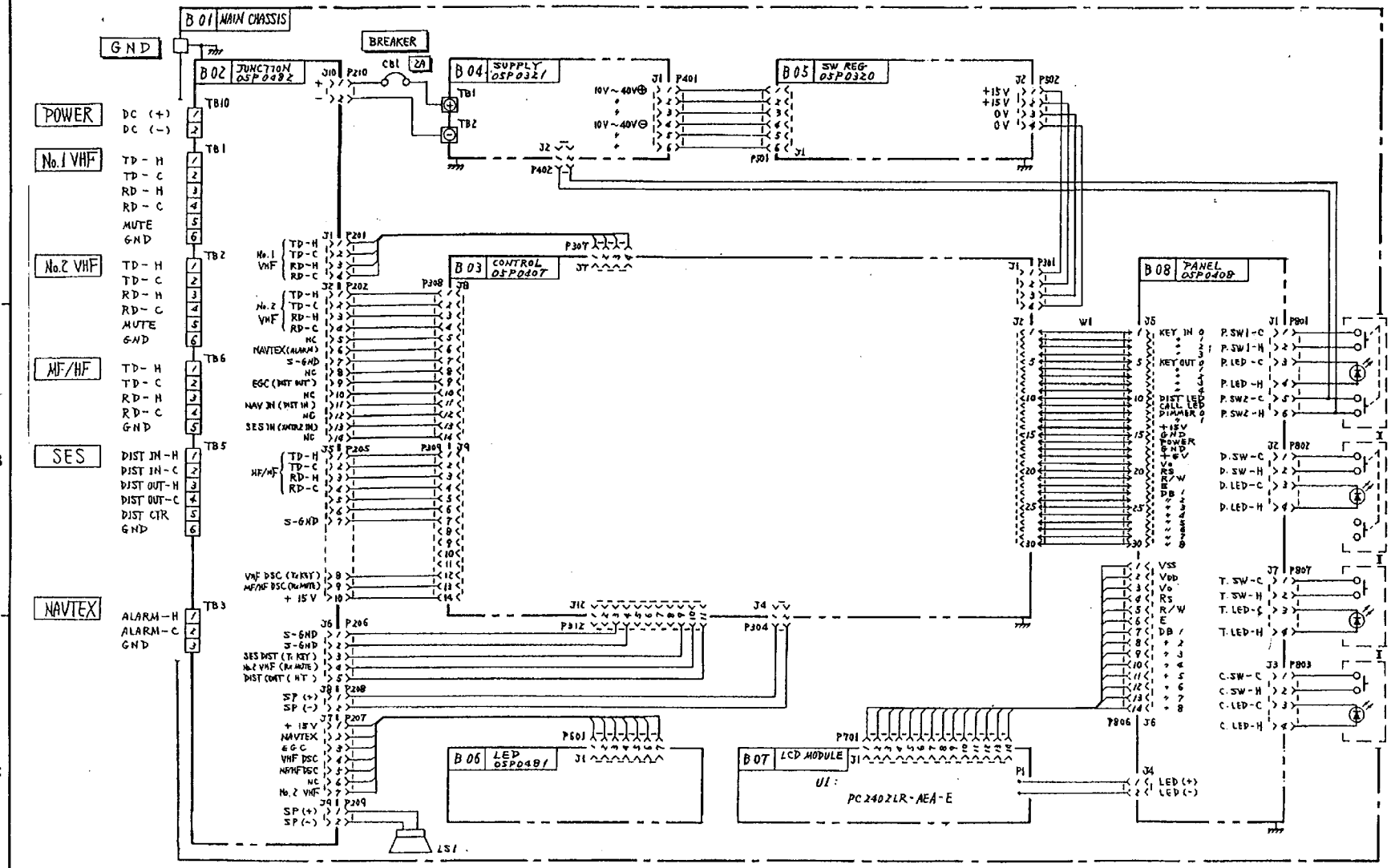
NOTE *1. SHIPYARD SUPPLY.
*2. GROUND CABLE THRU CONNECTOR CLAMP.

CO-0.2x2P: CO-SPEVV-SB-C 0.2x2P, φ10.5
CO-0.2x5P: CO-SPEVV-SB-C 0.2x5P, φ13.5
CO 0.2x10P: CO-SPEVV-SB-C 0.2x10P, φ16.5

DRAWN Dec.28.'00 T.YAMASAKI		TITLE	DMC-5
CHECKED Dec.28.'00 Y.K		名称	遭難警報装置
APPROVED Dec.28.'00 Y.K	RC8000-3T RC5000-3T		相互結線図
SCALE	MASS kg	NAME	DISTRESS MESSAGE CONTROLLER
DWG No. C5544-C02- E			INTERCONNECTION DIAGRAM

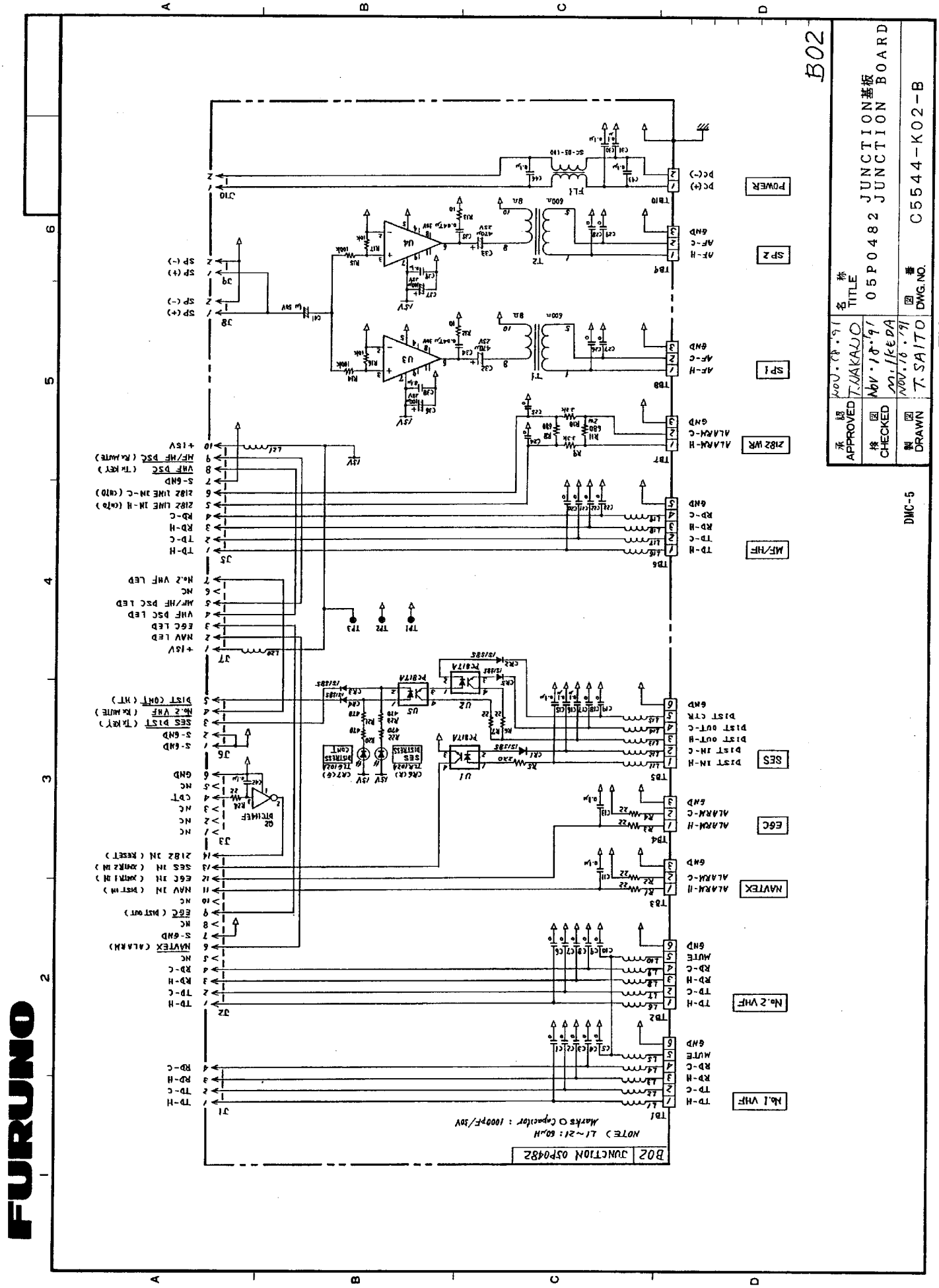
FURUNO ELECTRIC CO., LTD.

FURUNO

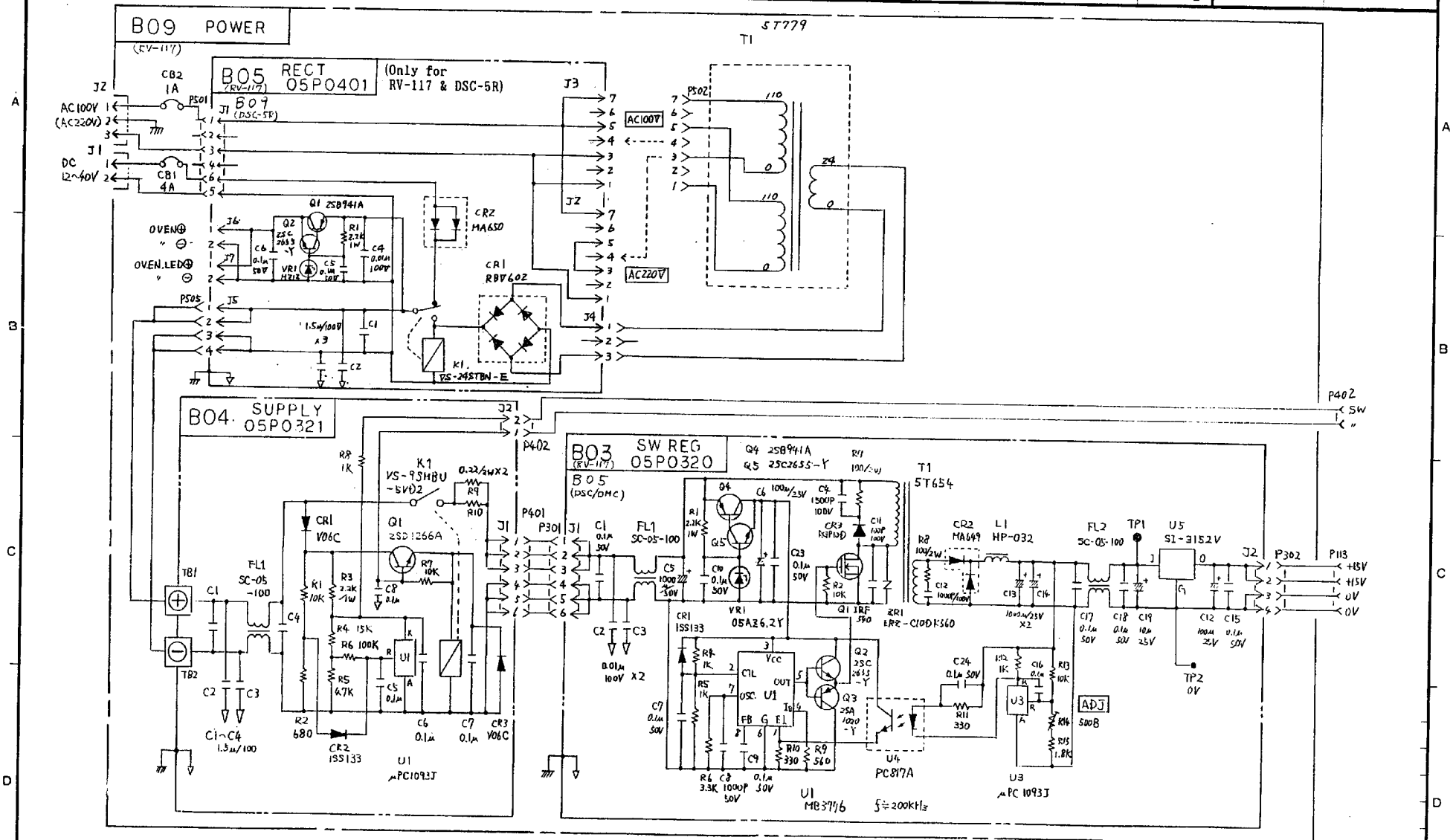


DRAWN Jan 19 '99 T.YAMASAKI			TYPE DMC-5
CHECKED Jan 19'99 K.Kusunoki			名称 遭難警報装置 (総合)
APPROVED Jan 19'99 K.Kusunoki			回路図
SCALE / MASS kg	APPLICABLE TO: (MODEL)	BLOCK NO.	NAME DISTRESS MESSAGE CONTROLLER
DWG NO. C5544-K03- C	05-001-3407- 4		SCHEMATIC DIAGRAM

FURUNO ELECTRIC CO., LTD.



FURUNO



ITEM	NAME	MATERIAL	Q'TY	DWG. NO.	REMARKS

APPROVED	JAN.17.'91	THIRD ANGLE PROJECTION	TITLE 電源部 POWER SUPPLY
CHECKED	Jan.17.'91 M.ICHIDA	SCALE	
DRAWN	17.JAN.'91 T.SAITO	WEIGHT kg	DWG. NO. C5508-K07-F

RV-117
DSC-5 Series
DMC-5

FURUNO ELECTRIC CO., LTD.

S-1-5