MARINE DSC VHF RADIO TELEPHONE

FOR GMDSS

OPERATING MANUAL

STR- 6000A

SAMYUNGENC CO.,LTD.

INSTRUCTIONS

Please read this operating manual with care before turning on power.

1. How to transmit and stop Distress Call

✧ In performing Distress Call function, press 

button and hold it down for 3(three) seconds until DISTRESS MESSAGE is seen. Then the whole display unit will start flashing with a strong alarm. In transmitting Distress Call, the transmission must be made based on the judgment of a person on duty. The test of this function MUST NOT be made at all times because the test may cause heavy damages to near-going vessels and search & rescue authorities concerned.

✧ When the Distress Call is performed, the distress message will be automatically transmitted and this transmission will be repeated at the intervals of 3 minutes 30 seconds through 4 minutes 30 seconds. This transmission will be repeated until the DSC (Digital Selective Calling) is received by the authorities of the country to which the call is transmitted or until any operation for ending the call is made. If any transmission is made by accident, press 

button to bring it to an end. Even though any operation for stop has been made, it is necessary for operator to contact CH16 to inform that the transmission was made by mistake as the message was automatically transmitted more than one time at least.

✧ When Distress Call is received, it is necessary to inform a person on duty about this.

2. How to make the initial set-up in installation

For the below items, the initial set-up should be made in installation before its actual operation. Please contact SAMYUNG ENC or any agent dealers for the information.

2-1 How to check out power supply

Input voltage in VHF main unit: Confirm that **DC13.6V** is supplied.

2-2 How to transmit and receive DSC

In order to use DSC function, make sure that any MMSI number available must be input first.

3. Other instructions

3-1 In using Semi-Auto & Auto connection service with DSC, it is necessary to check with the concerned authorities about the formalities of call charge because the billing system has not yet been decided worldwide.

3-2 The paper used in DPU-414 PRINTER is a special one that is chromogenic with thermo-chemistry reaction. Therefore, it is advisable to avoid the below-mentioned cases as the paper tends to change its color or get discolored.

- ✧ Keeping under any places with heat, humidity and light
- ✧ Touching with sweat-wet hands
- ✧ Rubbing with any hard things
- ✧ Pasting with any organic solvents such as glue
- ✧ Applying with any oiled tapes
- ✧ Long time exposure to any vinyl chloride films
- ✧ Contacting diazo immediately after printout
- ✧ Contacting any wet copy
- ✧ Contacting any oiled solvents

-------TABLE OF CONTENTS--------

Chapter 1. Introduction

1.1. Introduction

STR-6000A includes DSC/VHF radio telephone and DSC receiver required by the Global Maritime Distress and Safety System(GMDSS) and is designed to be compact and lightweight for easy installation in any vessels engaged in international voyages and near-going vessels.
In addition to the conventional voice communication, STR-6000A is equipped with Digital Selective Calling(DSC) functions for distress calls and routine calls as well. It also incorporates all the necessary units for DSC services such as DSC unit, CH70 DSC receiver.

1.2. Features

- ✧ The equipment meets the ITU Radio Regulations, IMO Performance Standards and CCIR Recommendations.
- ✧ The equipment contains all the channels designated by Radio Communication Regulations of ITU Communications Treaty and it is also available to operate USA channel, Weather channel and Canada channels that are used in the coast of North America. (Weather alarm function. Available in the area of USA and Canada).
- ✧ As the compact size includes the built-in transceiver, the dedicated CH70 DSC receiver, it is easy for installation in any little space.
- ✧ The adoption of wide sight graphic LCD allows user to see the display at every angle and operate it with ease.
- ✧ As the required operation mode is displayed in LCD according to the indication and the purpose by MENU mode, it is easy to work on operating DSC in particular as well as on the routine operation.
- ✧ If the dedicated DPU-414 printer or normal SERIAL standard printer is used in combination with the main unit, the messages of DSC transceiver is designed to be automatically printed out. It is always available to manually print the received message that is memorized inside, too.
- ✧ As the lighting range of back-light in LCD and the operation key panels is wide, it does not interfere any night shift.
- ✧ Beside those channels designated by Radio Communications Regulations, it is available to operate USA Channel, Weather Channel and Canada Channel which are used in the coast of North America.

- ✧ Such functions as TAG CHANNEL SCANNING, ALL CHANNEL SCANNING, GROUP-CHANNEL SCANNING and DUAL WATCH allow user to listen to any specific channel.
- ✧ Besides the existing voice communications, it is available to work on communications for distress, urgency, safety and other routines as well by using DSC function.

  In case that the coast station is working on automatic connection service of public communications network, it is available to auto-connect the general telephone through the designation of the telephone number on the equipment.
- ✧ The equipment has a function of automatically inputting the latitude/longitude data coming out from navigational equipment such as GPS navigator. In transmitting Distress Call, it is designed to automatically transmit the positional data coming out from navigational equipment by inserting the positional data in the distress message.

  In case of receiving any call from the coast area, it is designed to make an automatic judgment by itself to see if the own ship is within the called area according to the positional data coming out from the navigational equipment.
- ✧ The equipment is designed for the daily waterproof.
- ✧ User can select and automatically set up the transmission power of High(25W) or Low(1W).
- ✧ It is easy to use the dedicated CH16/19 buttons with which the access to the priority channel can be easily made.
- ✧ It includes the functions of Dual/Trial Watch and Tag Scan.
- ✧ The DSC(Digital Selective Calling) function is compliant with Class A Standards.
- ✧ ‘FRIENDS list’ function allows user to easily call through DSC up to 20 favorite people.
- ✧ It is available to set up 3 favorite groups.(For the purpose of Group DSC calling).
- ✧ Both Group DSC calling and All Ship DSC calling available.
- ✧ User can identify the position of friends through LL Position Polling.

Chapter 2. Configuration

The equipment consists of as follows;

2.1. Standards

Name	Model	Quantity	Remarks
VHF Radio Main Unit	STR-6000A	1 Set	Including HAND MIC
Manual	STR-6000A-ME	1 Lot	M02-0031-00

2.2. Option

Name	Model	Remarks
Antenna (3dBi)	SAN-150 (RX/TX) 3dBi	Including CABLE/BRACKET Domestic : Standard Overseas : Option
	SAN-150 (DSC WKR) 3dBi	
AC/DC POWER SUPPLY	SP-700	Including CABLE Domestic : Standard Overseas : Option
VHF EMG LIGHT	DC24V / 3W	Stand Type
DSC/VHF PRINTER	LK-T20	Including CABLE

Chapter 3. Specifications

3.1. STR-6000A Standards

TX Frequency	156.025MHz ~ 157.425MHz
RX Frequency	156.050MHz ~ 163.275MHz
Number of Channels	178 ITU Channel: 55 USA Channel: 53 CANADA Channel: 60 WEATHER Channel: 10
Radio Wave Mode	FM(16K0G3E), DSC(16K0G2B)
Channel Interval	25kHz
Communication Mode	Simplex and Semi-Duplex
Antenna impedance	50Ω(SO-239)
Audio Output Impedance	4Ω
Frequency Stability	±10 PPM(-20℃ to +60℃)
Voltage Supply	13.6V DC±10%(Negative Ground)
Consumption Currency (13.6V)	TX High 5.5A max Maximum Audio 1.5A max
Operating Temperature	-15℃ ~ +55℃
Dimensions	85×172×170
Weight	1.1kg

3.2. Transmitting Unit

Output Power (ⓐ 13.8 V DC)	25W/1W(Low)
Frequency Deviation	Within ±5ppm
Oscillation Mode	Synthesizer Mode
Modulation	Variable Reactance Frequency Modulation
Maximum Frequency Deviation	±5.0kHz
Occupied Bandwidth	Within 16kHz
MIC Input Impedance	2kΩ
Audio Frequency Response	300Hz~3kHz 6dB/octave(+1 ~ -3dB)
Spurious Emissions	Less than 70dB
Adjacent Channel Power	Less than -70dBc
Audio Harmonic Distortion	Less than 10%
Residual Modulation (Signal/Noise Ratio)	Over 40dB

3.3. Receiving Unit

Receive System	Double Conversation Super Heterodyne
Intermediate Frequencies	1st 21.7MHz
	2nd 450kHz
Local Oscillation Frequency	Receiving Frequency - 21.7MHz
Local Oscillation Mode	SYNTHESIZER Mode
Sensitivity	0.32uV (20dB SINAD) 0.22uV (12dB SINAD)
Audio Frequency Response	-6dB/octave
Squelch Sensitivity	0.22uV
Co-Channel Rejection	-10dB ~ 0dB
Adjacent Channel Selectivity	Over 70dB
Spurious Response Rejection Ratio	Over 70dB
Inter-modulation Rejection Ratio	Over 68dB
Spurious Emission	Less than 2nW(-56.9dBm)
Hum and Noise	Less than -40dB
Audio Output Power (at 13.6 V DC)	4.5W / 4Ω(Distortion Rate: Less 10%)

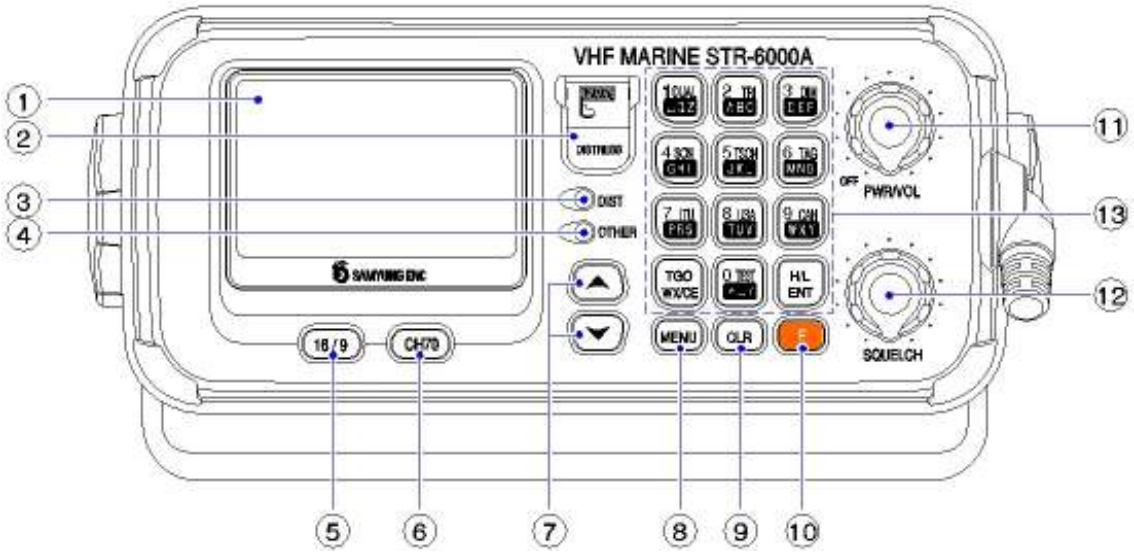
3.4. Dedicated Receiving Unit

Operating Frequency	156.525MHz
Mode	16K0G2B
Receive System	Double-Conversion Super Heterodyne
Intermediate Frequencies	1st 10.70 MHz 2nd 450 kHz
Inter-modulation Rejection Ratio	Over 68dB
Adjacent Channel Selectivity	Over 70dB
Spurious Response Rejection Ratio	Over 70dB
Spurious Emission	Less than 2nW(-56.9dBm)
DSC Modulation Speed	1200baud (±30ppm)
DSC Modulation Mode	FSK
DSC Modulation Rate	Within m=2±10%
MARK Frequency	Within 1300Hz±10Hz
SPACE Frequency	Within 2100Hz±10Hz
Maximum Sensitivity Available	Bit Error Rate: Less than 10^{-2} in 0.25uv
DSC Operation	ITU-R M.541-9 ITU-R M.689-2
DSC Protocol	ITU-R M.493-11 class-A
DSC FILE Memory	DISTRESS-Related Message Reception: 20 OTHERS-Related Message Reception : 20

Chapter 4. How to Operation

4.1. Unit Description

4.1.1. Front Panel



① LCD Front Display Screen.

② 

Transmit distress call (Alert) MESSAGE.
(※ You MUST NOT make a test of the transmission !!)
Push and hold down for 3 seconds, then the distress call will be activated.

③ 

Light will turn on in both receiving and transmitting DSC distress call

④ 

Light will turn on in both receiving other DSC call message other than distress call.

⑤ 

This is for either changing the existing channels to CH16 or returning to TELEPHONE MODE from other CH or DSC MENU.

⑥ 

Select channel 70

⑦ 

To convert CH or MENU.
(If press short one time, if press long time it is to be continuous).

⑧		Short time press is for DSC Calling and long time press is for MENU function.
⑨		This is ‘ESCAPE’ function in MENU mode.
⑩		It means this is being used as FUNCTION button.
⑪	PWR/VOL (Power Knob)	Power ON/OFF and Volume Control.
⑫	SQUELCH Knob	Squelch Control

⑬ Button description

Input “1” when selects CH and inputs digit.

F When used this button, it works ON/OFF for dual watch function. (It receives the message by switching over between the existing CH and CH16 each other continuously.)

When inputs character, convert from 1→ space → Q →to Z in order and ENT.

When selects CH and inputs digit, input “2”.

F When used this button, it works ON/OFF for triple watch function. (It receives the message by switching over among the existing CH, CH16 and CH09 each other continuously.)

When inputs character, convert from 2→ A → B →to C in order and then ENT.

When selects CH and inputs digit, input “3”.

F When used this button, it adjusts BACK-LIGHT(Internal Light) in 4 steps.

When inputs character, convert from 3 → D → E → F in order and ENT.

When selects CH and inputs digit, input “4”.

F When used this button, it does scanning all channels with converting “ALL” in screen (“CLR” when it finished)

When inputs character, convert from 4 → G → H → I in order and ENT

When selects CH and inputs digit, input “5”.

F When used this button, it does scanning only selected CH by TAG with converting “ALL” to “TAG” in screen

When inputs character, convert from 5 → J → K → to L in order and ENT

When selects CH and inputs digit, input “6”.

F When used this button, it can set up TAG at selected CH.

When inputs character, convert from 6 → M → N → to O in order and ENT

When selects CH and inputs digit, input “7”.

F When used this button, it can set up to ITU MODE..

When inputs character, convert from 7 → P → R → to S in order and then ENT

When selects CH and inputs digit, input “8”.

F When used this button, it can set up to USA MODE.

When inputs character, convert from 8 → T → U → to V in order and then ENT

When selects CH and inputs digit, input “9”.

F When used this button, it can set up CAN MODE.

When inputs character, convert from 9 → W → X →to Y in order and ENT.

When selects CH and inputs digit, input “0”.

F When used this button, it can execute self-test menu.

When inputs character, convert from 0 → * → _ → / in order and then ENT.

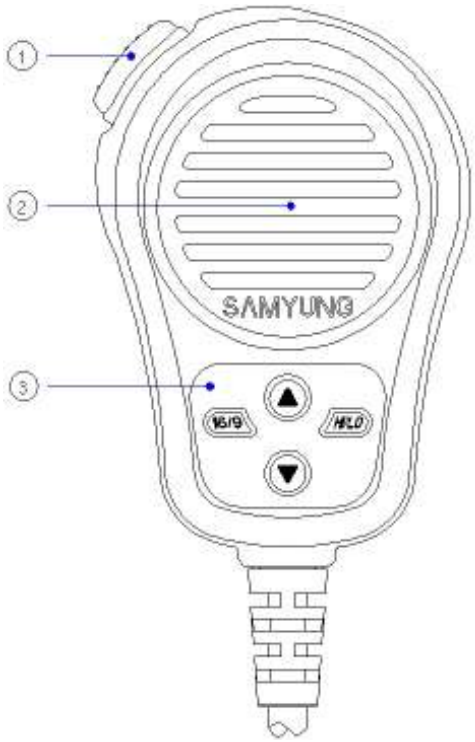
F When used this button, TAG is moving on the selected CH.

On the main screen, it can select weather CH, move a cursor to forward for character input.

It is a function to switch-over Tx power between 25W and 1W each other.

In DSC MENU, it can be used for Item selection and Input confirmation.

4.1.2. Microphone



① PTT : If pressed, it goes to transmission.

② MIC : Condenser Mic

③ Key Pad :

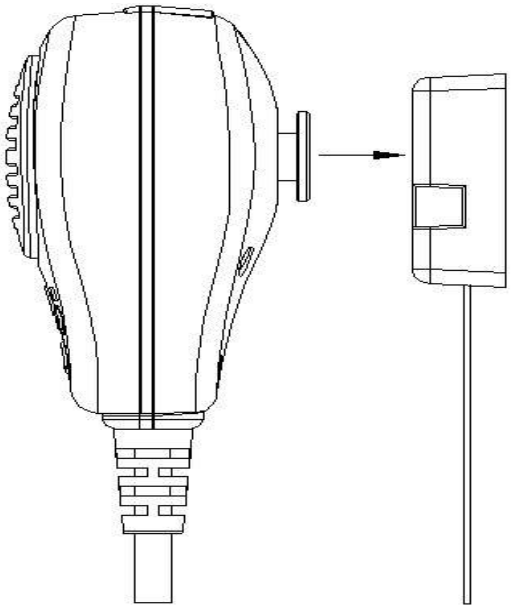
: To convert to the current CH and CH16.

: It is used as Enter button for setting-up input data in MENU mode, while at normal times it is used for switching-over Tx power between 25W and 1W.


: To convert CH.
(If pressed short it is to be one time, if pressed long time it is to be continuous).

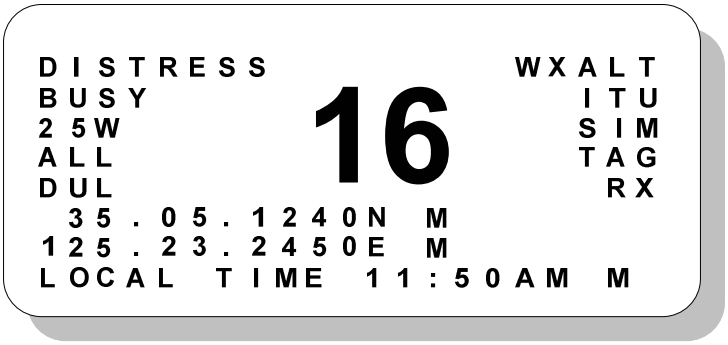
④ Hook Switch

If a Handmic is connected with Handmic Box a current CH ignored and go to common CH(CH16) automatically.



Handmic Handmic Box

4.2. LCD Screen Description



Item	Function Description
DISTRESS	CH Name
BUSY	It represents detecting the sensitivity signal in existing CH..
25W(01W)	It represents Tx Power.
ALL	It represents the kinds of SCAN.
DUL	It plays multi-scan between the existing CH and CH16. (It will be converted when scanning.)
35.05.1250N	It indicates own ship's latitude. (As the current position, it indicates GPS antenna position)
129.04.2741E	It indicates own ship's longitude. (As the current position, it indicates GPS antenna position)
12:15PM	It represents the current time.
WXALT	It is displayed when weather channel is set-up.
ITU(USA,CAN, WEA)	It represents the country channel mode currently set-up.
SIM(DUP)	It represents whether current CH is Duplex or Simplex.
TAG	It represents TAG which is setting-up at the current CH
RX(TX)	It shows Rx when receiving, and Tx when transmitting.
16	It represents the current CH is Channel No.16.

4.3. VHF Operation

4.3.1. Channel Selection

4.3.1.1. Channel 16

CH.16 is for distress and safety, and it should be monitored through dual-watch and tri-watch.

Whenever selected 

key, it shifted from the current CH → CH 16 → CH 9 → current CH.

4.3.1.2. Channel Mode Selection (ITU,USA,CAN)

- ✧ How to select ITU CH : Press 

button and go to 

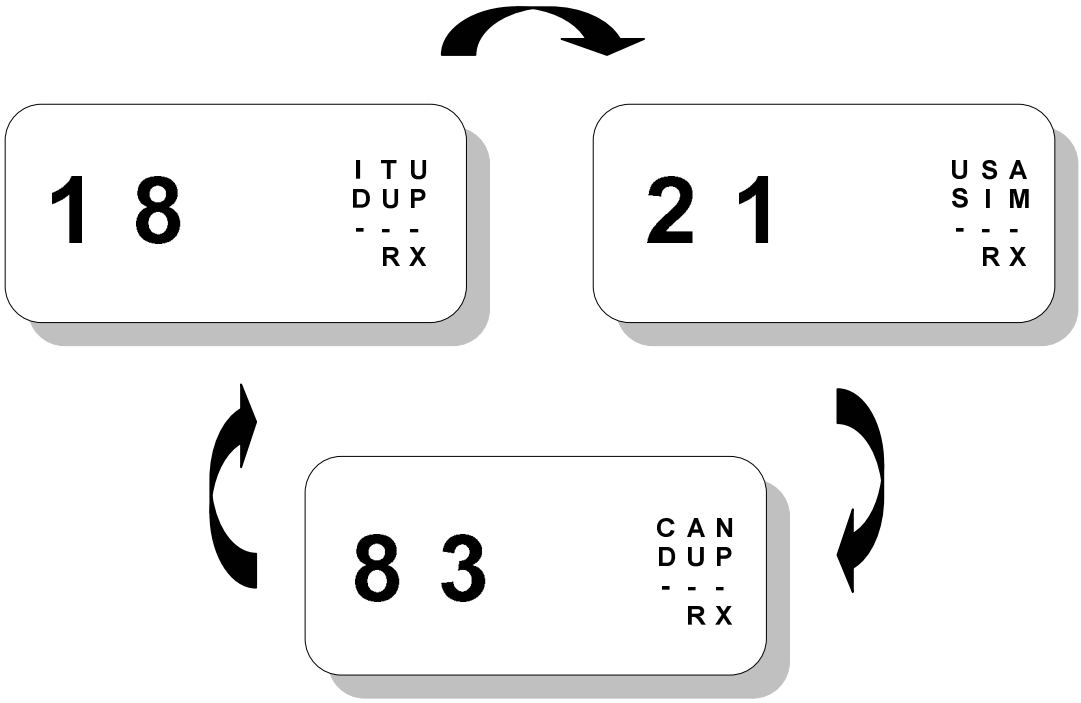
button.
- ✧ How to select USA CH : Press 

button and go to 

button.
- ✧ How to select CANADA CH : Press 

button and go to 

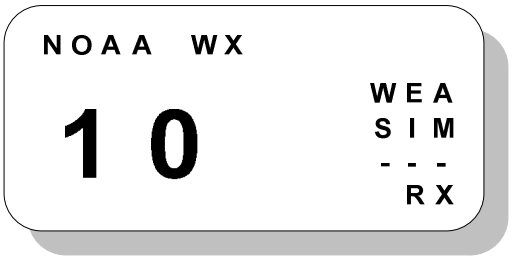
button.
- ✧



4.3.2. Weather Channel

- ✧ It can receive 10 numbers of weather channel provided by NOAA (National Oceanographic and Atmospheric Administration).
- ✧ STR-6000A can detect the alert sound of selected weather channel from the regular channel or the one during the channel scanning
- ✧ When selected 

it converts between weather channel and general channel.
- ✧



4.3.3 Transmit and Receive

① Power and Volume switch

- ✧ It is operated by POWER ON switch and used for adjusting Sound volume.
- ✧ If turned OFF-wise, power will be off.
- ✧ It turned clock-wise, power will be on and volume can be adjusted.

② Squelch Knob

- ✧ Place it in suitable position to eliminate the noise by SQUELCH volume.

③ After pressing 

button and select the wanted channel (ITU : 

, USA : 

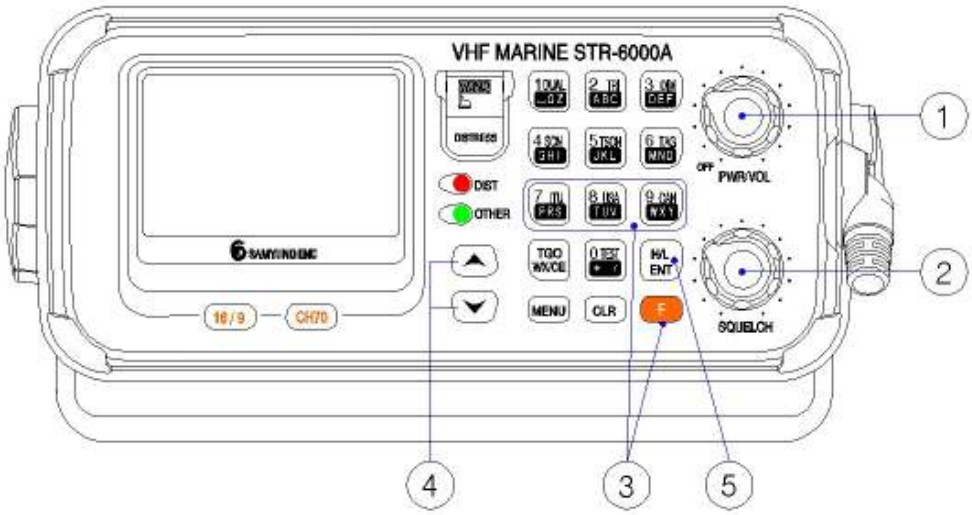
, CANADA : 

) and press.

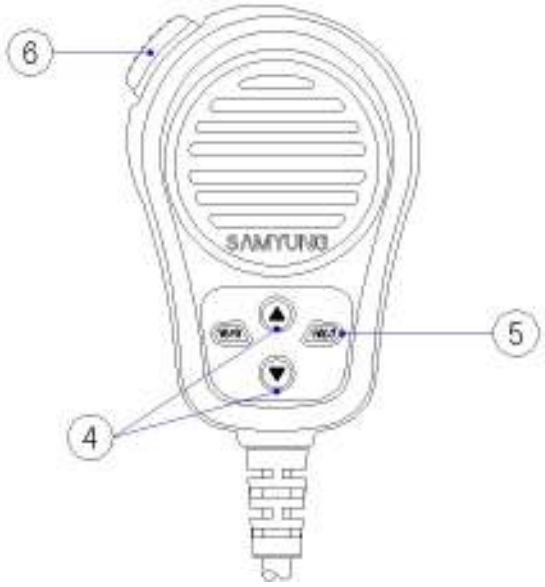
④ Channel can be changed one by one by direction key in Main unit and Mic and Channel will keep on changing if pressed long time. In addition, if inputs digit key, channel can be changed.

⑤ Tx power can be selectable between 25W and 1W

⑥ Tx is possible if pressed PTT switch, while the status is Rx if it is released.



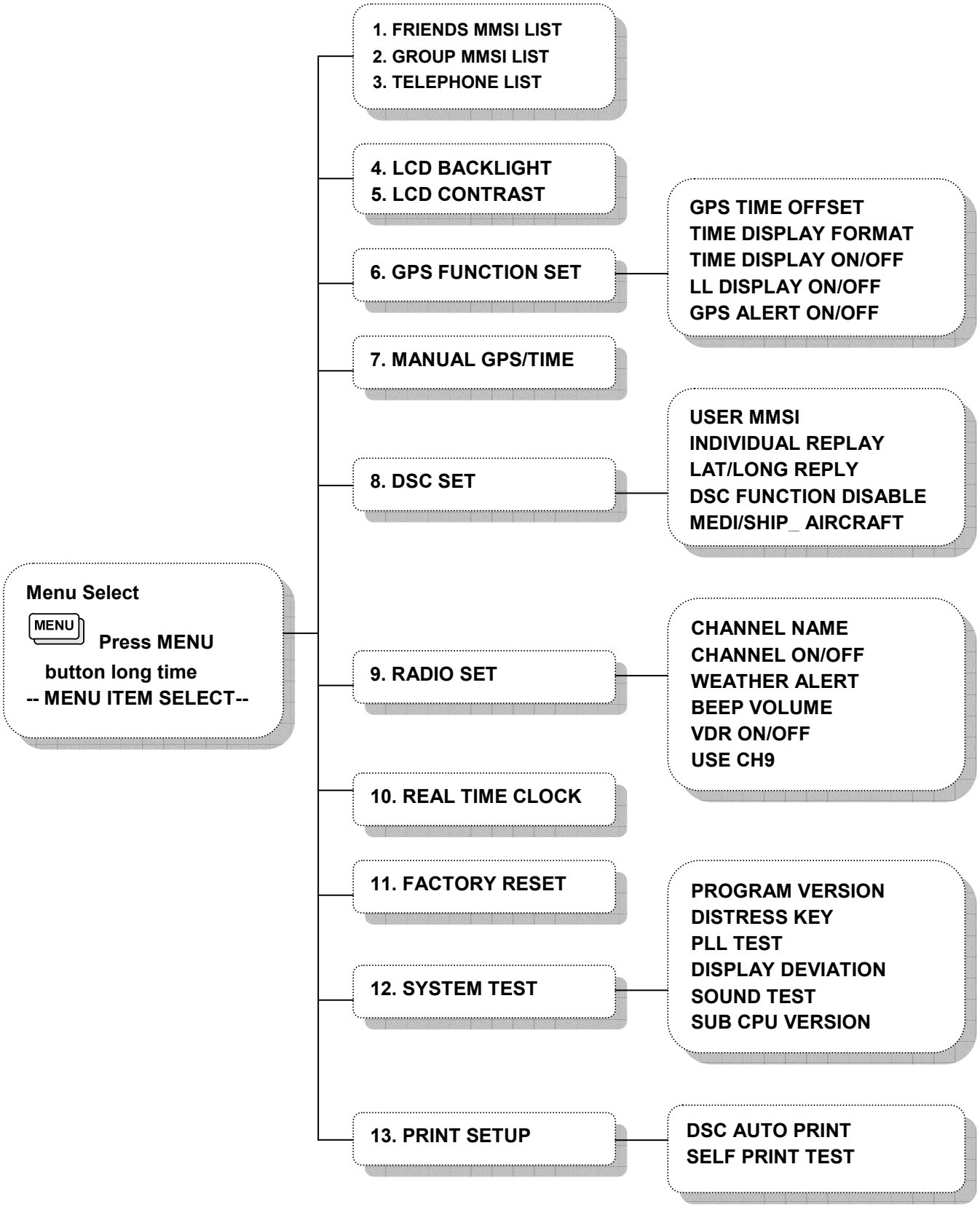
(STR-6000A Main Body)

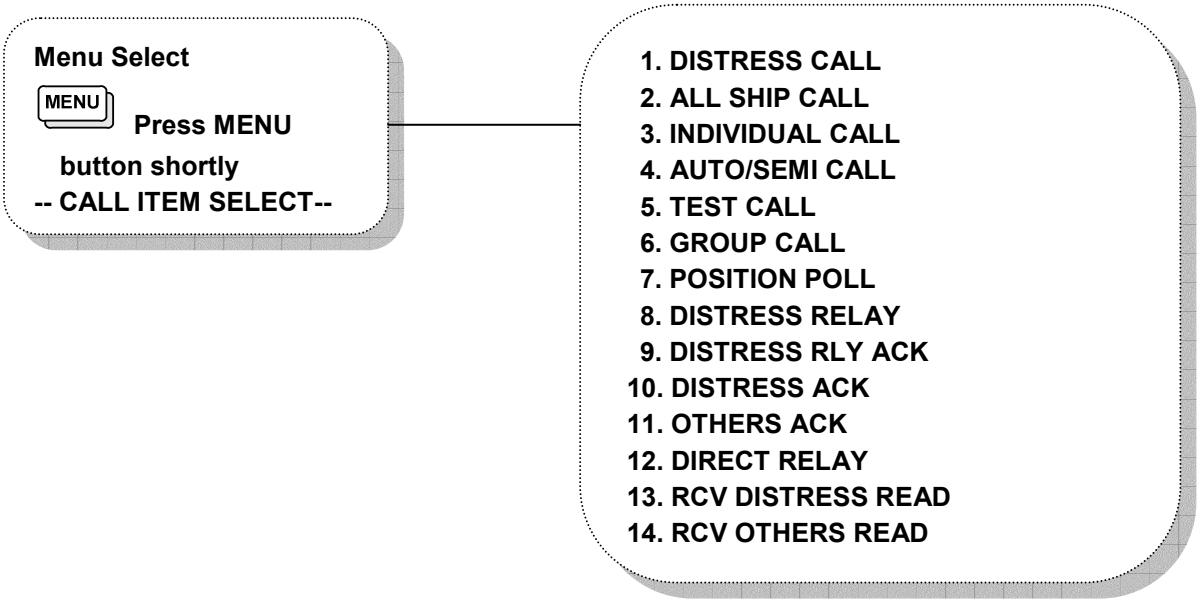


(STR-6000A Microphone)

4.4. Menu Setup and Construction

4.4.1. Menu Construction




Menu Select
MENU
Press MENU
button shortly
-- CALL ITEM SELECT--
1. DISTRESS CALL
2. ALL SHIP CALL
3. INDIVIDUAL CALL
4. AUTO/SEMI CALL
5. TEST CALL
6. GROUP CALL
7. POSITION POLL
8. DISTRESS RELAY
9. DISTRESS RLY ACK
10. DISTRESS ACK
11. OTHERS ACK
12. DIRECT RELAY
13. RCV DISTRESS READ
14. RCV OTHERS READ

4.4.2. Menu Screen Construction and Initialization

✧ Press MENU button over one (1) second to get into the various Menu.

1. FRIENDS MMSI LIST	ADD NEW FRIEND	Friend ID register
2. GROUP MMSI LIST	ADD NEW GROUP	Group ID register
3. TELEPHONE LIST	ADD NEW TELEPHONE	Call ID register
4. LCD BACKLIGHT	LOW ~ HIGH(4 Steps/2)	BACKLIGHT Control
5. LCD CONTRAST	LOW ~ HIGH (16 Steps/10)	CONTRAST Control
6. GPS FUNCTION SET	TIME OFFSET - 00:00	Time difference set-up
	TIME DISPLAY FORMAT – 12H/24H	Time Display 12HOURS/24HOURS
	TIME DISPLAY ON/OFF	Time Display ON/OFF
	LL DISPLAY ON/OFF - ON/OFF	Position Display ON/OFF
	GPS ALERT ON/OFF - ON/OFF	GPS Alarm
7. MANUAL GPS/TIME	LAT/LONG MANUAL SET	Position manual input
8. DSC SET	USER MMSI – INPUT USER MMSI	Own ship ID input
	INDIVIDUAL REPLY - AUTO/MANUAL	Automatic response set-up
	LAT/LONG REPLY - MANUAL/AUTO/OFF	Position response set-up
	DSC FUNCTION DISABLE -YES/NO	DSC ON/OFF Set-up
	MEDI/SHIP_AIRCRAFT	
9. RADIO SET	CHANNEL NAME	CH name change
	CHANNEL ON/OFF	CH ON/OFF
	WEATHRE ALERT - ON/OFF	Weather CH Alarm
	BEEP VOLUME - HIGH/LOW/OFF	Alarm Volume
	VDR ON/OFF	VDR ON/OFF
	USE CH9	CH9 ON/OFF
10. REAL TIME CLOCK	YEAR, MONTH, DATE, HOUR, MINUTE, SECOND	Current time change.
11. FACTORY RESET	RESET - YES/NO	Menu set-up Initialization
12. SYSTEM TEST	PROGRAM VERSION	Program version
	DISTRESS KEY	Test distress key
	PLL TEST	Test PLL in Rx
	DISPLAY DEVIATION	Test LCD
	SOUND TEST BELL/URGENCY/ERROR/WARNING	Test sound
	SUB CPU VERSION	SUB CPU Version
13. PRINT SETUP	DSC AUTO PRINT – ON/OFF	DSC Automatically Printing Setup
	SELF PRINT TEST – YES/NO	Printer Test

4.4.3. Menu Setup

- ✧ Press MENU button at greater length.
- ✧ Overall construction of MENU Screen is as follows.

- ✧ Item Selection : From above screen, shift the cursor by using ▼ ▲ button and press H/L ENT button to select the current item.

4.4.3.1. FRIENDS MMSI LIST

- ✧ It can add/edit/delete the preferred friend's name and associated MMSI up to 20 numbers. (It can save maximum 20 numbers)
  - ➢ To add name to FRIENDS LIST
  - ➢ To edit FRIENDS
  - ➢ To delete FRIENDS

4.4.3.2. GROUP MMSI LIST

- ✧ It can add/edit/delete the preferred Group's name and associated MMSI up to 3 numbers. (It can save maximum 3 numbers)
  - ➢ To add name to GROUP LIST
  - ➢ To edit GROUP
  - ➢ To delete GROUP

4.4.3.3. TELEPHONE LIST

- ✧ It can add/edit/delete the preferred Telephone name and associated MMSI up to 10 numbers. (It can save maximum 10 numbers)
  - ➢ To add name to TELEPHONE
  - ➢ To edit TELEPHONE
  - ➢ To delete TELEPHONE

4.4.3.4. LCD BACKLIGHT

- ✧ Set-up backlight level to adjust the brightness of LCD and Key Pad.

4.4.3.5. LCD CONTRAST

- ✧ It is used for setting-up suitable contrast of LCD.

4.4.3.6. GPS FUNCTION SET

- ✧ If there is a GPS receiver on board, VHF radio can be updated with own ship's position and time. But if there is not GPS receiver available or not being connected with it, own ship's position and time can be input by means of GPS SETUP menu manually. This is very important information for using DSC distress call.
- ✧ TIME OFFSET : Local time can be used for inputting time difference between UTC and Local time.
- ✧ TIME DISPLAY FORMAT (The kind of Time display) : Time can be displayed in the type of 12 hour or 24 hour.
- ✧ DISPLAY ON/OFF(Time Display Option) : If time is input manually, "M" can be displayed in the right of time . But if ship's position is updated through GPS receiver, time display on screen can be turned ON/OFF.
- ✧ DISPLAY ON/OFF(Position Display Option) : If ship's position is input manually, "M" can be displayed in the right of Lan./Lon. But if the position is updated through GPS receiver, ship's position can be turned ON/OFF.
- ✧ GPS ALERT ON/OFF(GPS Alarm) : GPS is normally set in "ON" status, but if there happened to disconnect with GPS receiver, alarm will be occurred.

4.4.3.7. MANUAL GPS/TIME

- ✧ LAT/LONG MANUAL SET(Input position manually) : Ship's position and longitude is displayed on screen together with time. To display "MANUAL SETUP", value of latitude, longitude and time will be displayed in reverse status. This display mode will be cancelled as soon as GPS receiver is connected and come to display normal mode.

⚠ **Warning** : This function is only available when GPS receiver is disconnected.

- ✧ TIME MANUAL SET(Input time manually):

⚠ **Warning** : This function is only available when GPS receiver is disconnected.

4.4.3.8. DSC SET

- ✧ USER MMSI(Input own ship's MMSI or Confirm MMSI)
  - ➢ This mode can be executed only once. Be sure to input own ship's MMSI ID before using DSC function. MMSI ID once set can be read out whenever it is wanted.
  - ➢ By inputting USER MMSID once more, MMSI ID can be stored permanently.
  - ➢ Whenever it may be, stored MMSI ID can be seen through this MENU.
- ✧ INDIVIDUAL REPLY(Automatic relay of individual call and manual setup)
- ✧ SET(Group MMSI setup and edit) : Use GROUP SETUP to produce/edit/delete GROUP of who are called quite often. GROUP MMSI ID always begins with "0".
  - ➢ Setup GROUP
  - ➢ Edit GROUP Name
  - ➢ Delete GROUP NAME
- ✧ LAT/LONG REPLY(Setup automatic response on request LL Polling) : 3 Items can be selectable in response to request of LL Polling.
  - ➢ AUTO : Automatic response to any LL Polling coming from FRIENDS.
  - ➢ MANUAL : Manual decision is to be made whether it is necessary to response to the request of LL Polling from FRIENDS.
  - ➢ OFF : Ignore all LL Polling coming from Friends.

- ✧ DSC FUNCTION DISABLE
  - ➢ Set Up DSC function use.
- ✧ MEDI/SHIP_AIRCRAFT
  - ➢ ON/OFF MEDIcal Transponder & SHIP and AIRCRAFT use.

4.4.3.9. RADIO SET

- ✧ CHANNEL NAME (CH NAME)
  - ➢ Channel name modification and deletion.
- ✧ CHANNEL ON/OFF(CH ON/OFF)
  - ➢ It is used for either permitting or stopping the use of current CH.
- ✧ WEATHER ALERT(Weather Alarm Setup)
  - ➢ NOAA provides with a variety weather information regarding USA or CAN channel. NOAA Broadcasts 1050 Hz band weather alert if it forecasts heavy storm or Hurricane. Setup this function to detect weather alert.
- ✧ BEEP VOLUME(Adjust Beep Volume)
  - ➢ It has a function either to change level of beef volume or to make it be OFF.
- ✧ VDR(Voyage Data Recorder) ON/OFF
  - ➢ Display VDR function use or not.
- ✧ USE CH9
  - ➢ Display CH9 use or not.

4.4.3.10. REAL TIME CLOCK(Current time change)

- ✧ YEAR, MONTH, DATE, HOUR, MINUTE, SECOND

4.4.3.11. FACTORY RESET(MENU SETUP INITIALIZATION)

- ✧ RESET : Except all MMS ID and FRIEND LIST SETTING UP, all setup value should be returned to initialization.

4.4.3.12. SYSTEM TEST(System Test)

- ✧ System test can be executed in this MENU.
  - ➢ PROGRAM VERSION : (Test program version and date)
  - ➢ DISTRESS KEY : (Test DISTRESS button) : Press DISTRESS button for

3 seconds in order to check button condition.

- PLL TEST (Test PLL condition on Tx and Rx) : It will be tested from minimum frequency to the maximum by 25KHz step.
- DISPLAY DEVIATION : LCD test (Display the character).
- SOUND TEST : Test on Bell, Emergency, Error and Alarm.
- SUB CPU Version : SUB CPU version check.

4.4.3.13. PRINT SETUP(Print Setup)

✧ This menu is ready to set-up Printer.

- Set-up auto printer ON/OFF function when receiving DSC.
- SELF TEST ON/OFF

4.5. DIGITAL SELECTIVE CALLING (DSC)

✧ Cautions in operating KEY

As the test of this function may cause huge damages to near-going vessels and search & rescue authorities, therefore, the test MUST NOT be made at all times. Once the call is operated, an alarm will come out from the speaker and the message will be transmitted if the hand is off from the switch for 5 through 10 seconds. It is possible to stop the mistaken launch if the hand is off from the [DISTRESS] KEY within 5 seconds but it is not possible to stop if any stop work is performed in the middle of the transmission as the signal speed is so fast. In particular, much attention should be paid because the whole message may be transmitted.

✧ How to transmit Distress Call

Press 

button for 3 seconds to transmit Distress Call message. The Distress Call prioritizes all other performances and the alarm is output from the speaker. And then non-modulated carrier will be followed after transmission and the distress message will be automatically transmitted. The message will be transmitted 5 times and then the transmission will be repeated at the intervals of 3 minutes 30 seconds through 4 minutes 30 seconds until the reception is confirmed. In case that it is interfaced with any

navigational equipment, the data on time and position will be automatically input. It is available to manually input the time when the position data and position are decided.

If the transmission is made when it is not connected with any navigational equipment or under the conditions where any single manual input has not been made, it will transmit zero information. (But it transmits the ship ID)

✧ How to receive Distress Call

If Distress Call is received on DSC, the alarm lamp of DISTRESS & OTHERS on the operation panel will be turned on. At the same time, an alarm of “Beep, Beep” will be output from the speaker. Press 

button to stop this alarm.

The distress call message from the transmitting country is included and displayed on LCD.

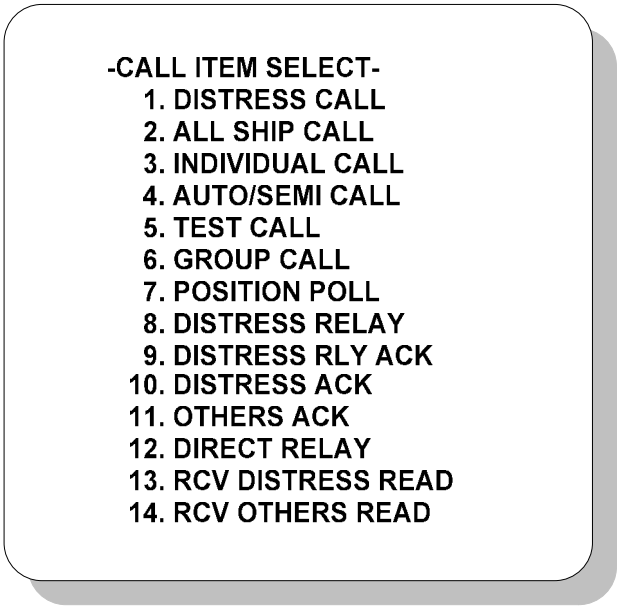
As the equipment can record and store up to 20 memories inside, the message can be checked out again even later.

And by connecting to printer, it is available to automatically output the message received by DSC through printer. It is also possible to print the notified message contents that are stored in the memory.

4.5.1. Configuration of CALL Screen

✧ Press MENU button in short.

✧ The whole display configuration of DSC CALL MENU is as follows;



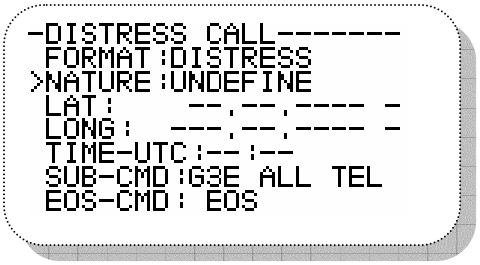
✧ Item selection : Use ▼ ▲ buttons in the above Screen and move to the wanted item and press H/L ENT button.

4.5.2. CALL Menu Description and Instruction

1. DISTRESS CALL	Edit distress alarm message and transmit
2. ALL SHIP CALL	Edit call message to all ships and transmit
3. INDIVIDUAL CALL	Edit call message to individual ship and transmit
4. AUTO/SEMI CALL	Edit call message/call number for Auto/Semi auto phone connection and transmit
5. TEST CALL	Test call
6. GROUP CALL	Edit call message to Group ships and transmit
7. POSITION POLL	Edit call message to the ship by the coordinates and transmit
8. DISTRES RELAY	Transmit to the Distress Call message received
9. DISTRES RLY ACK	Transmit response to distress relay ack message received
10. DISTRES ACK	Transmit response to distress ack message received
11. OTHERS ACK	Response to other ack (expect distress message)
12. DIRECT RELAY	Relay, edit and transmit to the Distress Call messages received
13. RCV DISTRESS READ	Inquiry to distress ack message received and print out
14. RCV OTHERS READ	Inquiry to other receiving message and print out

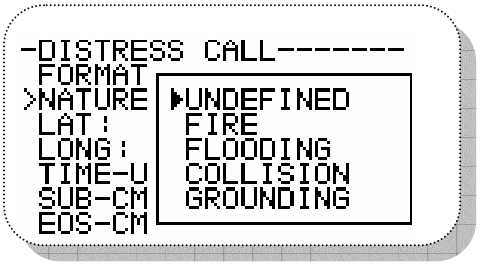
4.5.2.1. DISTRESS CALL(Distress message SETUP and Call)

✧ On screen of CALL ITEM SELECT, select 1.DISTRESS CALL by using  buttons and then press  button.



✧ In order to select types of distress (Nature of Distress), select

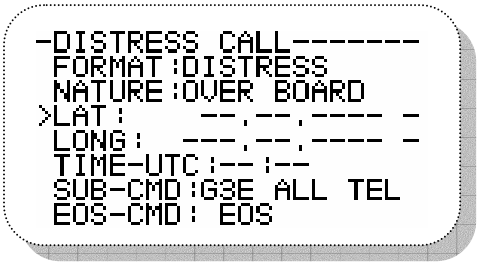
> NATURE : UNDEFINE list and then press  button. It shows relative menu of types of distress such as following box on a small screen. Select a wanted distress list by using  buttons in this screen.



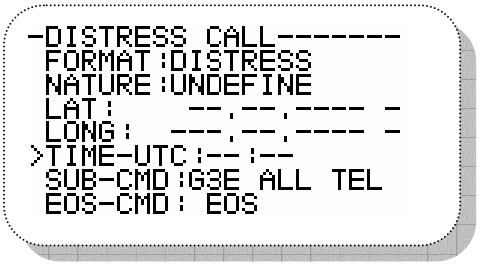
✧ Calamity

- UNDEFINED – Undefined calamity
- FIRE – Explosion
- FLOODING – Flood
- COOLLISION – Collision
- GROUNDING – Grounding
- LISTING – Capsize
- SINKING – Sinking
- ADRIFT – Impossible to sail and go adrift
- ABANDON – Vessel abandonment
- PIRACH – Piracy
- OVERBOARD- Man over Board

✧ In order to input distress position (POSITION), select ***>LAT / > LONG*** list by using ▼ ▲ buttons and then press H/L ENT button. It makes cursor blink and then input wanted longitude/latitude on the blinking cursor.



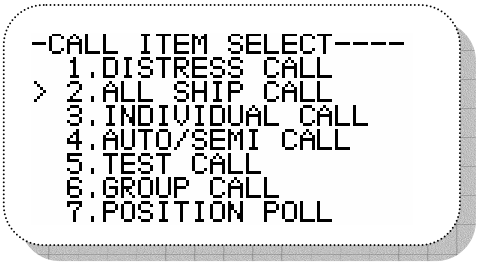
✧ After select TIME-UTC ▼ ▲ buttons and then press H/L ENT button. It makes cursor blink. After input UTC time on the blinking list and press H/L ENT button.



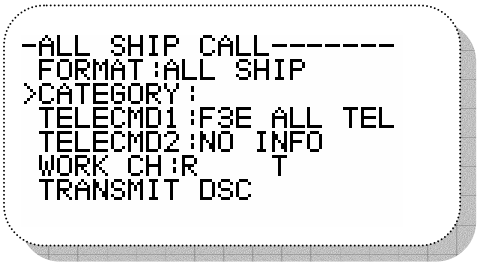
Press DISTRESS button for 3 seconds to send out distress message. Non-modulated carrier will be followed after transmission and the distress message will be automatically transmitted. The message will be transmitted 1 time and then the transmission will be repeated at the intervals of 3 minutes 30 seconds through 4 minutes 30 seconds until the reception is confirmed.

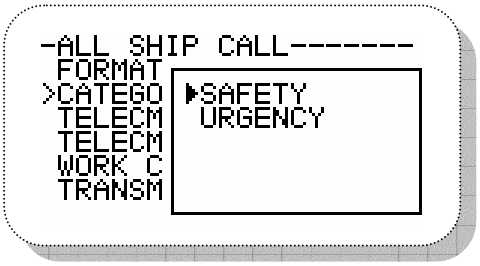
4.5.2.2. ALL SHIPS MESSAGE SETUP AND CALL

✧ Select 2.ALL SHIP CALL list on CALL ITEM SELECT screen by using ▼ ▲ buttons and then press H/L ENT button.

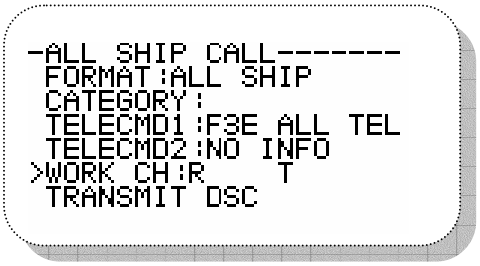


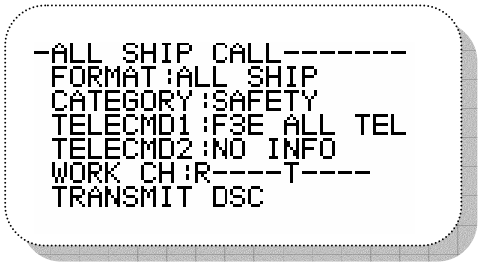
✧ 'CATEGORY' list is a function for selecting SAFETY or URGENCY, either and press H/L ENT button after move the cursor to ***> CATEGORY*** list by using ▼ ▲ buttons. Then, select one of SAFETY or URGENCY on the following small screen and the small screen is disappeared when press H/L ENT button after selecting a wanted list by using ▼ ▲ buttons.



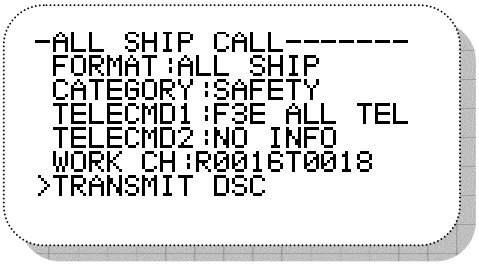


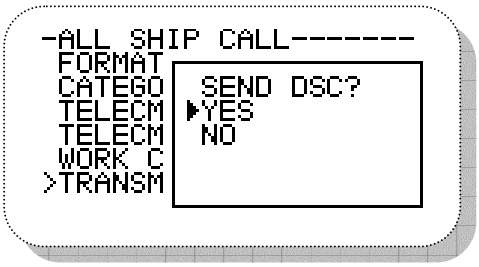
✧ 'WORK CH' is input Tx/Rx CH according to the related regulation. Press H/L ENT button after move the cursor to ***> WORK CH*** list by using ▼ ▲ buttons. It shows following screens and make cursor blink. The screen is going back to ***> WORK CH*** after input a wanted channel. However, don't set up CH70, CH75, CH76, which are exclusively used.





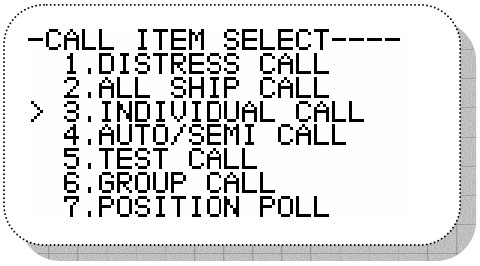
✧ After going through the edition of MESSAGE, select **> *TRANSMIT DSC*** list and transmit by suing  buttons.

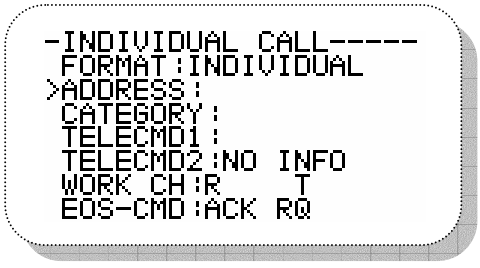




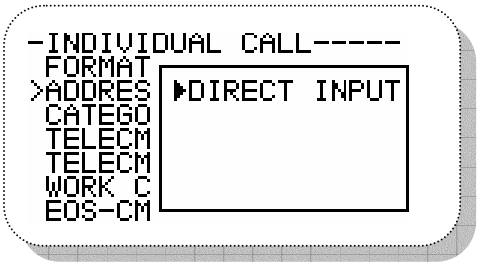
4.5.2.3. INDIVIDUAL MESSAGE SETUP AND CALL

✧ Press  button after select 3. INDIVIDUAL CALL list on CALL ITEM SELECT screen by using  buttons. It makes following screens.

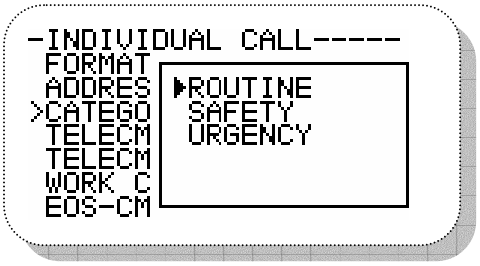




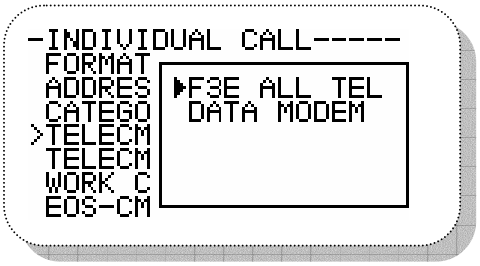
✧ Press  button after select **> *ADDRESS*** list by using  buttons. It shows following screens and then press  button, again. Then, input ADDRESS(MMSI) on the list cursor is blinking.



✧ By using ▼ ▲ button, select and press **> *CATEGORY*** H/L ENT button then following small screen shown up. Here on the item where the cursor is flickering, by using ▼ ▲ button and press H/L ENT button.

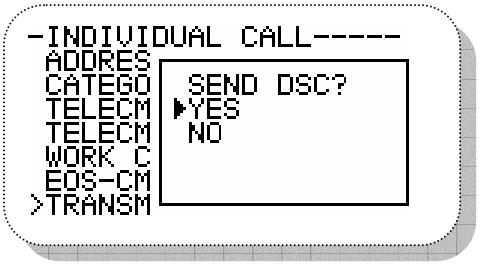


✧ By using ▼ ▲ button, select **> *TELECMD1*** and press H/L ENT button then following small screen comes up and again press H/L ENT button.



✧ By using ▼ ▲ button, select **> *TRANSMIT DSC*** and press H/L ENT button then following small screen comes up from which you may choose YES if you want or NO by using ▼ ▲ button and press

H/L ENT button to send out message one time.



4.5.2.4. AUTO/SEMI-AUTO Message Edit and Call

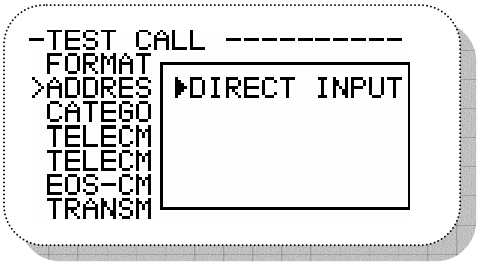
✧ This function as an option will be further realized soon.

4.5.2.5. TEST CALL

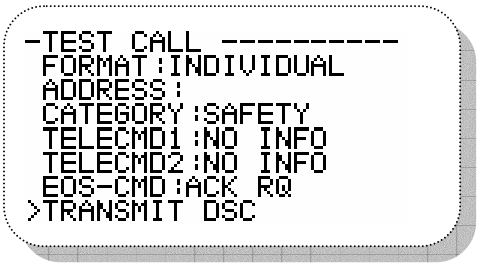
✧ This function is used for testing call, following procedure in editing and calling for position messages shall be done.

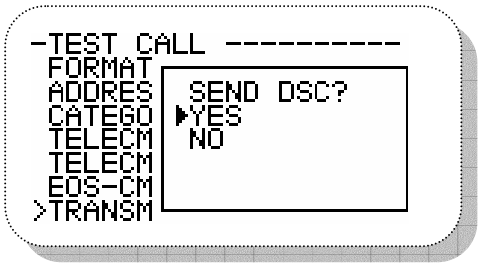
✧ On CALL ITEM SELECT screen, by using ▼▲ button, select 5. TEST CALL item and press H/L ENT button.

✧ By using ▼▲ button, select ***> ADDRESS*** and press H/L ENT button, then following small screen comes up. Again press H/L ENT button. Then input ADDRESS(MMSI) at the item on which the cursor is currently flickering.



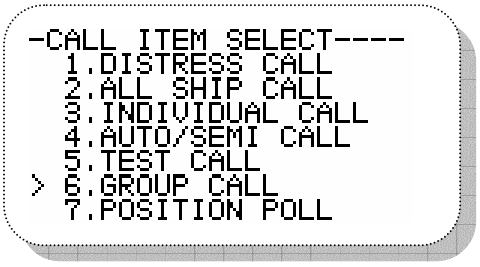
✧ After finishing the edition of MESSAGE, press H/L ENT key at ***> TRANSMIT DSC*** then MESSAGE will be transmitted one time.



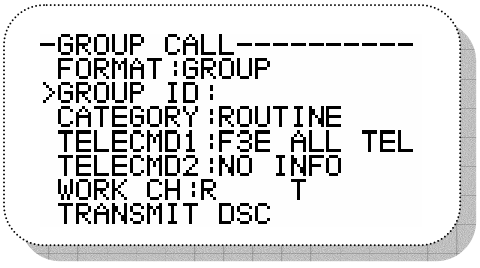


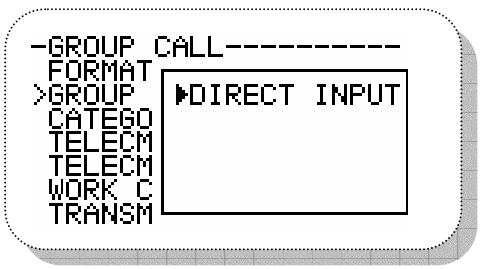
4.5.2.6. GROUP MESSSAGE EDIT AND CALL

✧ On CALL ITEM SELECT screen, select the item 6. GROUP CALL by using ▼ ▲ button, and press H/L ENT button.



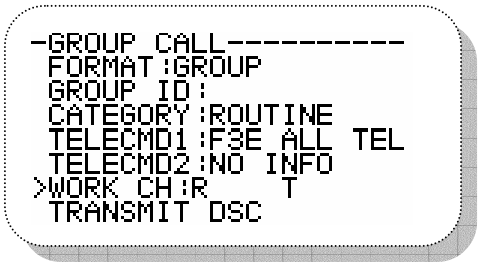
✧ This item 'GROUP ID' ready to input the opponent's ID. From this item, press H/L ENT button then following small screen comes up, press H/L ENT button then cursor is flickering to be ready for inputting the wanted information.

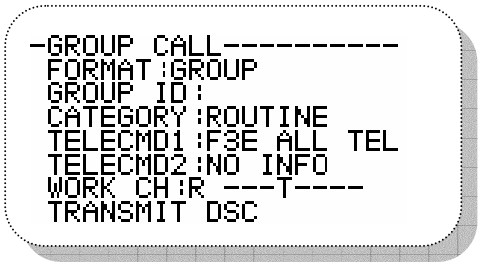




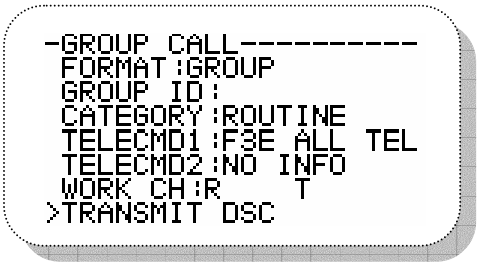
✧ In this 'WORK CH', input the wanted CH for transceiving according to the applicable standard. Input method is to use ▼ ▲ button and select ***> WORK CH*** item and press H/L ENT button then following screen comes up and cursor is flickering. After inputting the wanted CH, screen will return to ***> WORK CH***.

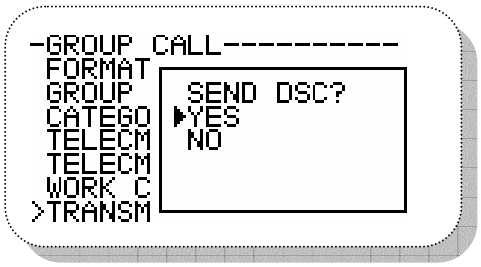
Note : Currently using CH such as CH70, CH75, CH76 shall not be set-up.





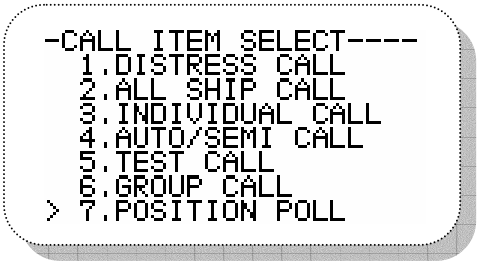
✧ After finishing message edit, select ***> TRANSMIT DSC*** item by using  button and send out the message.

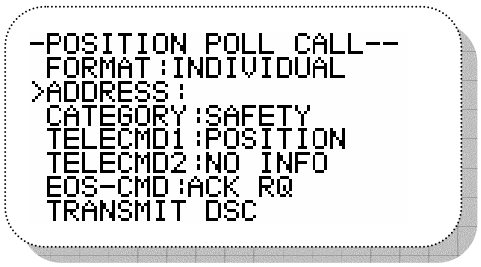




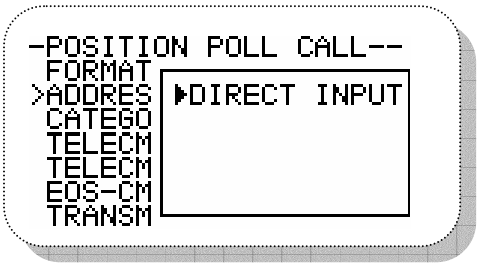
4.5.2.7. POSITION MESSAGE EDIT AND CALL

✧ On CALL ITEM SELECT screen, select item 7. POSITION CALL by using  button and press  button.

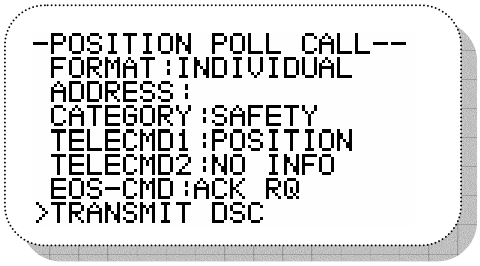


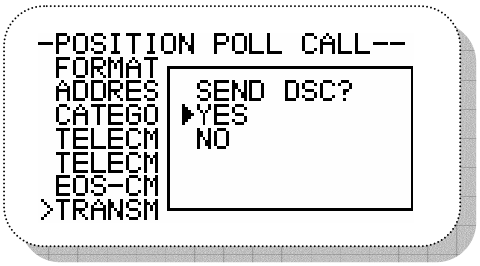


✧ Select ***> ADDRESS*** using  button and press  button then following small screen comes up, then again press  button. Input ADDRESS(MMSI) on the item where the cursor is flickering.



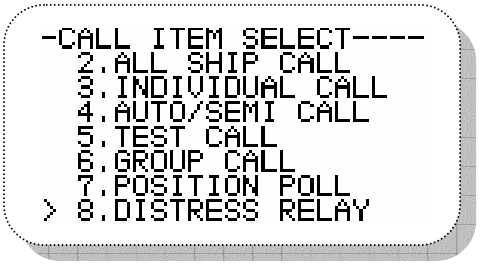
✧ After finishing the message edit, select the item ***> TRANSMIT DSC*** by using ▼▲ button and send-out message.



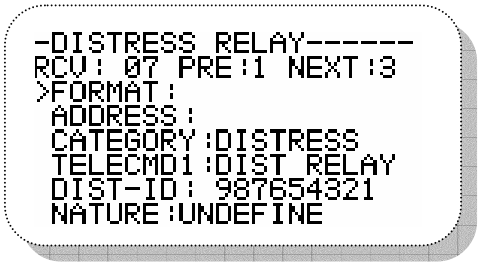


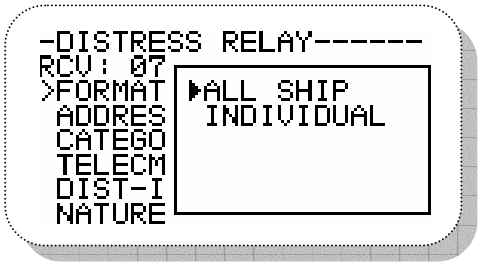
4.5.2.8. DISTRESS CALL RELAY

✧ Select item8. DISTRESS RELAY on CALL ITEM SELECT screen by using ▼▲ button and press H/L ENT button.

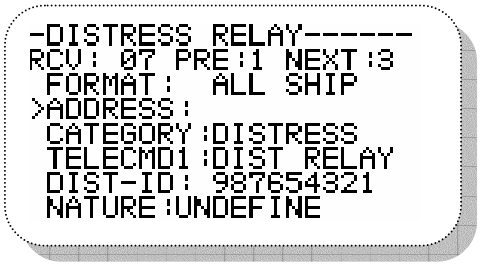


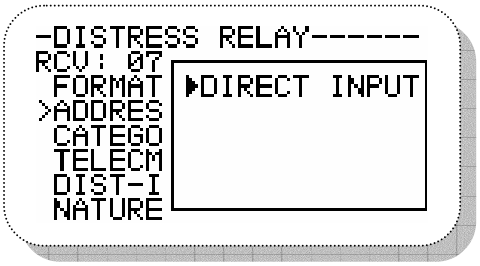
✧ After select ***> FORMAT*** using ▼▲ button and press H/L ENT button then following small screen comes up. From this screen, select the appropriate item (ALL SHIP or INDIVIDUAL) using ▼▲ button and press H/L ENT button.





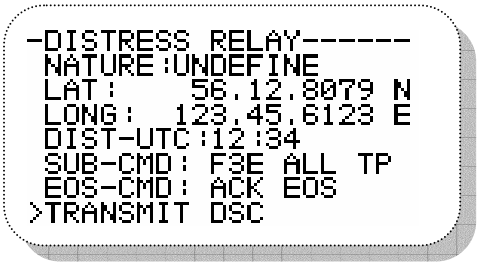
✧ Select **> *ADDRESS(MMSI)*** using ▼ ▲ button and press H/L ENT button then following screen comes up. From this screen, select the appropriate item by using ▼ ▲ button and press H/L ENT button.

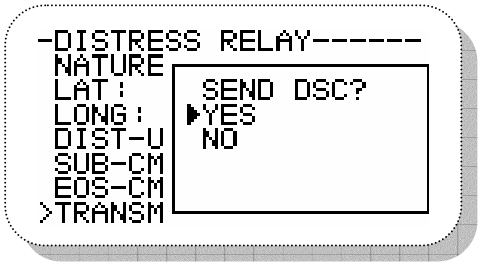




✧ Select **> *TRANSMIT DSC*** by using ▼ ▲ button and press H/L ENT button then following screen comes up. From this screen, select YES or NO for sending Message by using ▼ ▲ button and press H/L ENT button.

✧ After finishing Message edit, press H/L ENT button at ***TRANSMIT DSC*** to send out message one time





✧ Unless there have received any distress messages, this item won't not be selected.

4.5.2.9. DISTRESS RELAY ACKNOWLEDGEMENT

✧ On “CALL ITEM SELECT” screen, select 9. DISTRESS RLY ACK by using ▼▲ button and press H/L ENT button.

```
-CALL ITEM SELECT----
  3.INDIVIDUAL CALL
  4.AUTO/SEMI CALL
  5.TEST CALL
  6.GROUP CALL
  7.POSITION POLL
  8.DISTRESS RELAY
> 9.DISTRESS RLY ACK
```

✧ It is impossible to edit Message but only possible to response at ***>TRANSMIT DSC*** after editing using H/L ENT button.

✧ Acknowledgement to DISTRESS in Individual Call is only one time available within 5 minutes.

4.5.2.10. RESPONSE to DISTRES CALL

✧ On “CALL ITEM SELECT” Screen, select 10. DISTRESS ACK by using ▼▲ button and press H/L ENT button.

```
-CALL ITEM SELECT----
  4.AUTO/SEMI CALL
  5.TEST CALL
  6.GROUP CALL
  7.POSITION POLL
  8.DISTRESS RELAY
  9.DISTRESS RLY ACK
>10.DISTRESS ACK
```

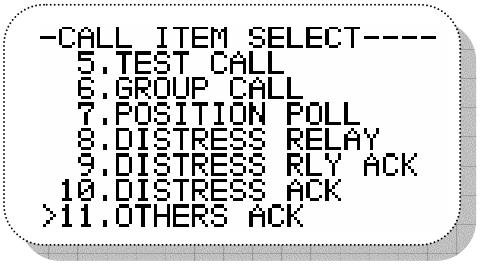
✧ Select ***>TRANSMIT DSC*** using ▼▲ button and press H/L ENT button then small screen comes up and select YES or NO for sending message and press H/L ENT button.

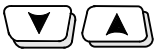
```
-DISTRESS ACK--------
 NATURE:UNDEFINE
 LAT:    56.12.8079 N
 LONG:  123.45.6123 E
 DIST-UTC:12:34
 SUB-CMD: F3E ALL TP
 EOS-CMD: EOS
>TRANSMIT DSC
```

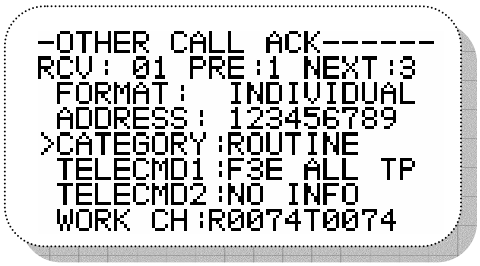
```
-DISTRESS ACK--------
 NATURE
 LAT:     SEND DSC?
 LONG:   ▶YES
 DIST-U   NO
 SUB-CM
 EOS-CM
>TRANSM
```

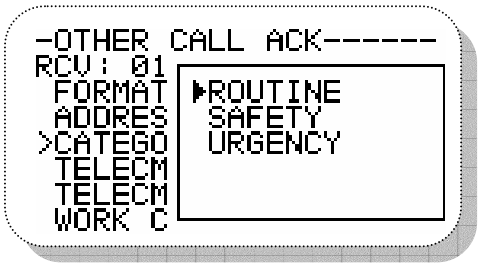
4.5.2.11. RESPONSE to THE OTHER CALL

✧ On “CALL ITEM SELECT” screen, Select 11. OTHERS ACK using  button and press  button.

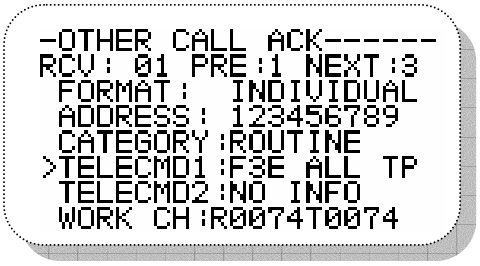


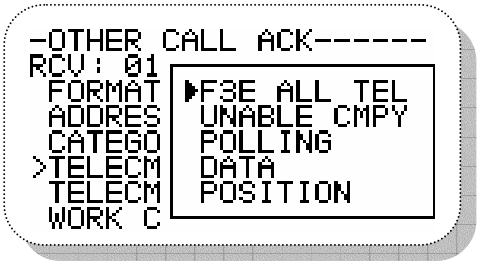
✧ Select **> *CATEGORY*** from the screen by using  button and press  button to come up small screen where to select the item and press  button.





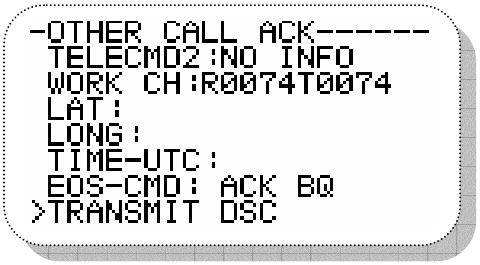
✧ Select **> *TELECMD1*** from screen using  button and press  button then small screen comes up where to select the item and press  button.

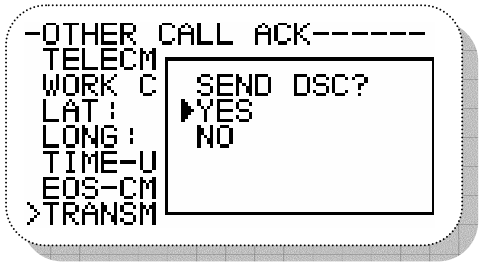




✧ Select **> *WORK/LAT/LONG/TIME-UTC*** from screen respectively by using  button and input the information.

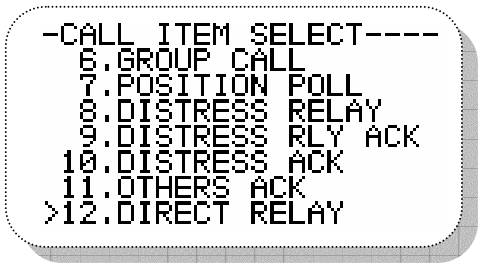
✧ After finishing all information, select **> *TRANSMIT DSC*** at the following screen by using  button and press  button to decide YES or NO for sending Message and press  button.



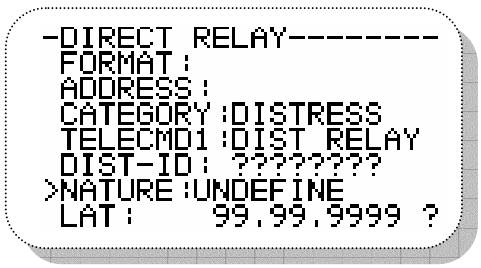


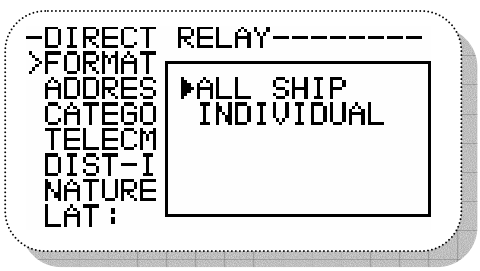
4.5.2.12. DIRECT RELAY

✧ On “CALL ITEM SELECT” screen, Select 12. DIRECT RELAY using  button and press  button.

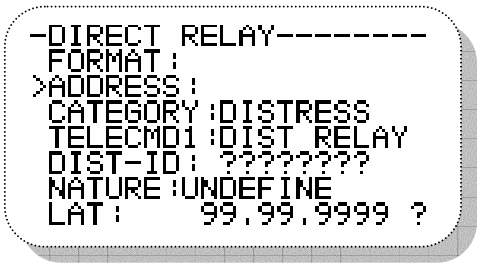


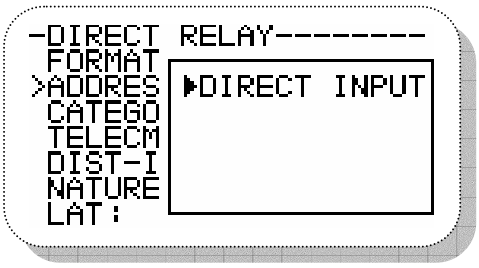
✧ Select **> *FORMAT*** from screen using  button and press  button. Afterwards make a decision whether to relay to all ships or individual in small screen and press  button.



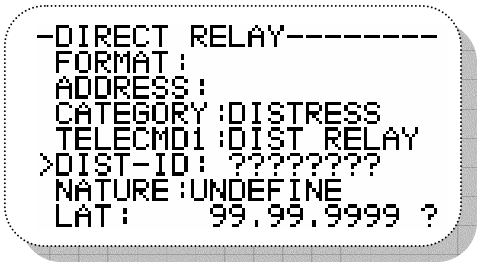


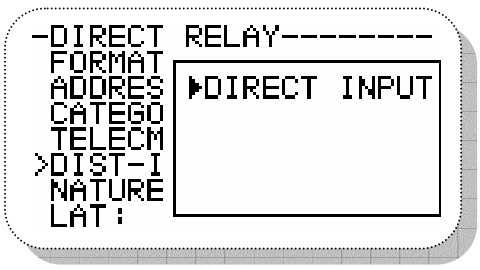
✧ Select **> *ADDRESS*** from screen using ▼ ▲ button and press H/L ENT button. Afterwards select the methods of input for ADDRESS (MMSI) from small screen and press H/L ENT button.



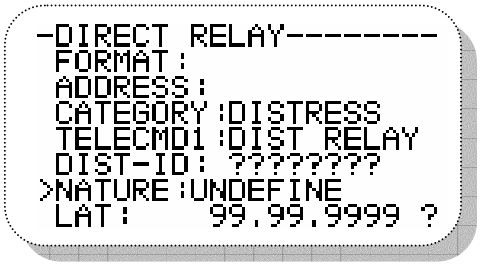


✧ Select **> *DIST-ID*** from screen by using ▼ ▲ button and press H/L ENT button. Afterwards select the methods of input for ADDRESS (MMSI) from small screen and press H/L ENT button. If it is unknown ADDRESS(MMSI) of the distressed ship, input ????????.

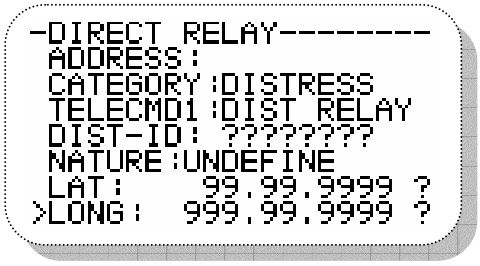


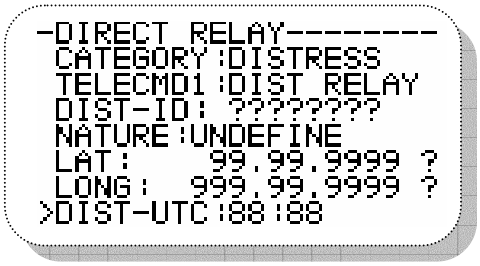


✧ Select **> *NATURE*** from the screen using ▼ ▲ button and press H/L ENT button. Afterwards select the distress related item from small screen and press H/L ENT button.

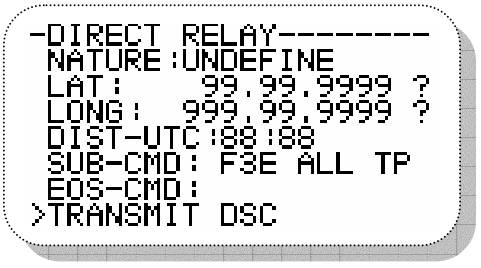


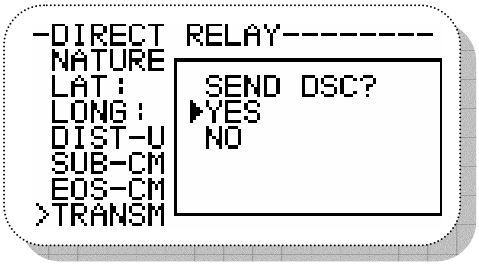
✧ Select **>** ***LAT/LONG/DIST-UTC*** respectively from screen using ▼ ▲ button and press H/L ENT button and input appropriate information.





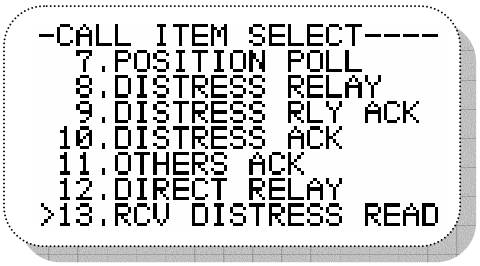
✧ After finishing edit, select ***>TRANSMIT DSC*** using ▼ ▲ button and press H/L ENT button to decide YES or NO to send message and press H/L ENT button.





4.5.2.13. RECVEIVING DISTRESS READ

✧ On “CALL ITEM SELECT” screen, select 13. RCV DISTRESS READ using  button and press  button. Then following message related to receiving distress is seen..

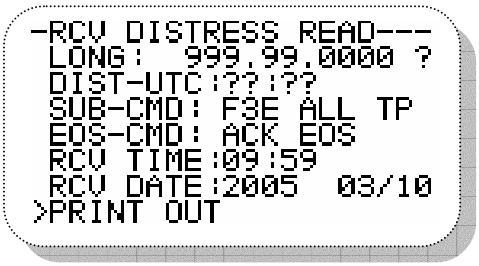


✧ Display ***RCV DISTRESS READ*** screen as follows ;

RCV : 08 : means for 8 received messages.

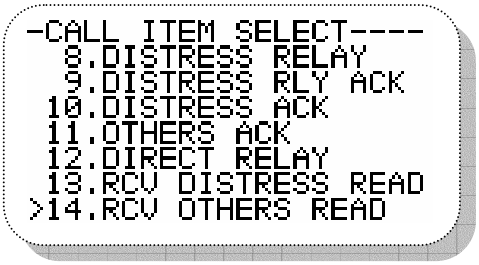
PRE : 1 : Display a message from 7 to 1 if press  button.

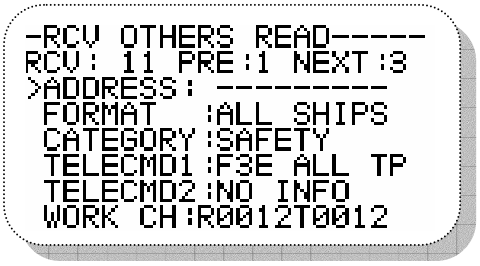
NEXT : 3 : Display a message from 1 to 8 of press  button.

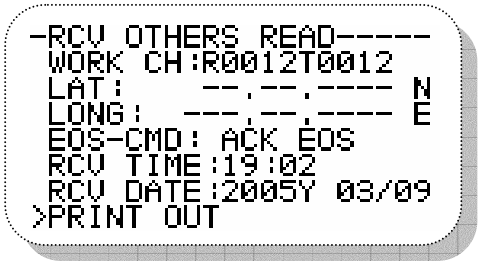


4.5.2.14. OTHER RECEIVING MESSAGE READ

✧ On “CALL ITEM SELECT” screen, Select 14. RCV OTHERS READ by using  button and press  button. Then other receiving messages is seen as following screen.







4.5.2.15. DSC Message Receiving

- ✧ Display a message which is just received with alarm.
- ✧ Stop a alarm if press CLR button and go back to main screen.
- ✧ Press CLR button over twice if received succession message are over two.
- ✧ Select ***> RCV DISTRESS READ*** or ***> RCV OTHERS READ*** for received message search.
- ✧ Able to print out automatically printer connected with if a message received in case of auto printer mode setup.

4.5.2.16. Auto Acknowledgement Setup

- ✧ If received DSC call, available for automatic acknowledgement with following conditions. If work Channel specified, available to standby automatically following communication mode.
- ✧ Auto Acknowledgement Conditions.
  - ➢ Auto Acknowledgement should be ON(OFF when shipping).
  - ➢ Should not be on editing a menu screen, DSC message.
  - ➢ Received message format and category shouldn't be distress contents.
  - ➢ Received message's TELECOMMAND contents shouldn't be distress call respond and distress relay.
  - ➢ The specified communication mode of received message's TELECOMMAND must be right combined with the specified WORK CHANNEL of WORK CH.

    (Ex)It's wrong combination with single mode and multi CHANNEL such as the combination with TELECOMMAND : G3E SIMP TEL and WORK CH : 25.

- END OF SEQUENCE contents among the received message should be ACK RQ.
- No received ERROR(ECC ERROR)

Chapter 5. Installation

5.1. Unpacking Package and Inspection

When dismantling the package, please treat with great care in checking the contents with order specification. Please observe external surface whether it is damaged during transportation and if there find damaged parts, then install after proper treatment made.

In case of handling difficulty, please contact SAMYUNGENC for proper treatment.

This machine can be installed without technical difficulties, but it needs to keep basic installation guide lines described hereunder, which helps preserve optimum performance as it is in the factory.

5.2. Selection of Installation Position for Main Units of STR-6000A

Installation position is selected according to following instruction.

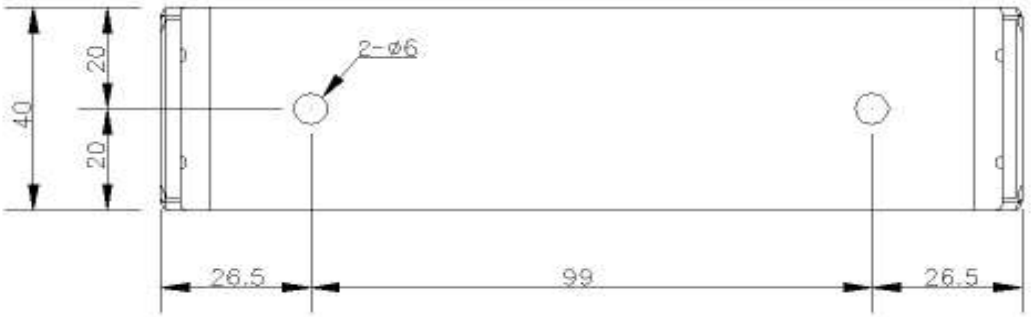
1. Select the place where there is space enough to operate, repair and maintain with efficient ventilation.
2. Select the place where there is not directly exposed to rain and sea water. Dry area is the best place for installation electronic equipment.
3. Select the place where there is not directly exposed to sunray and avoid from heating element.
4. Select the place where there is of little vibration.
5. Select the place where there is of little electrical interference.

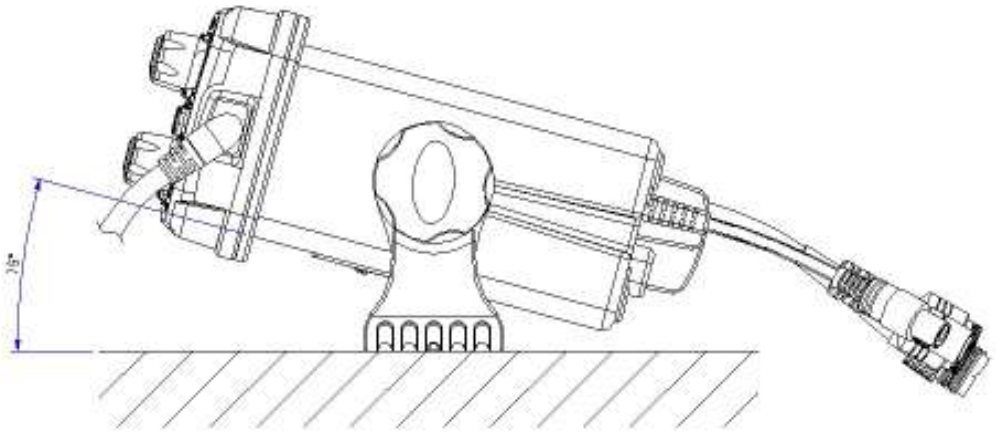
5.3. Installation for main unit of STR-6000A

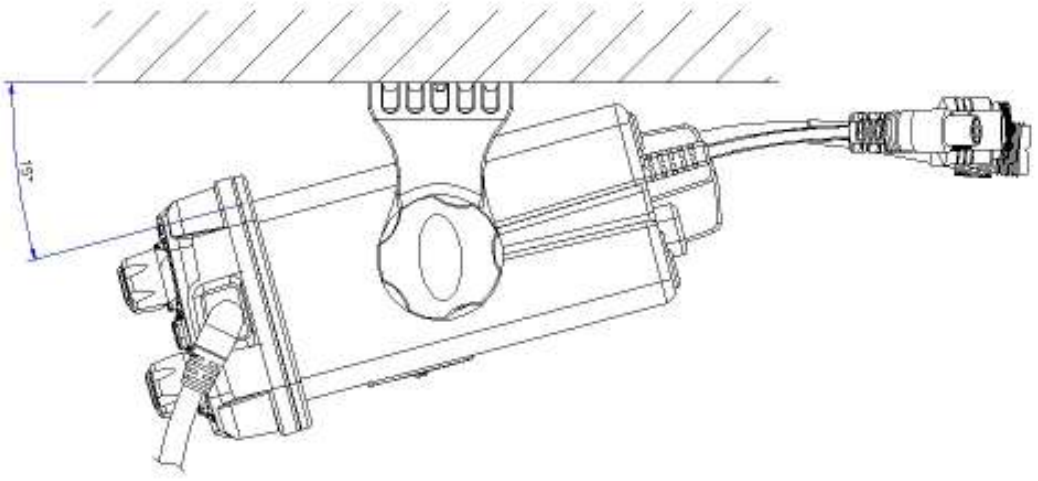
Main unit is to be installed referring to following drawing.

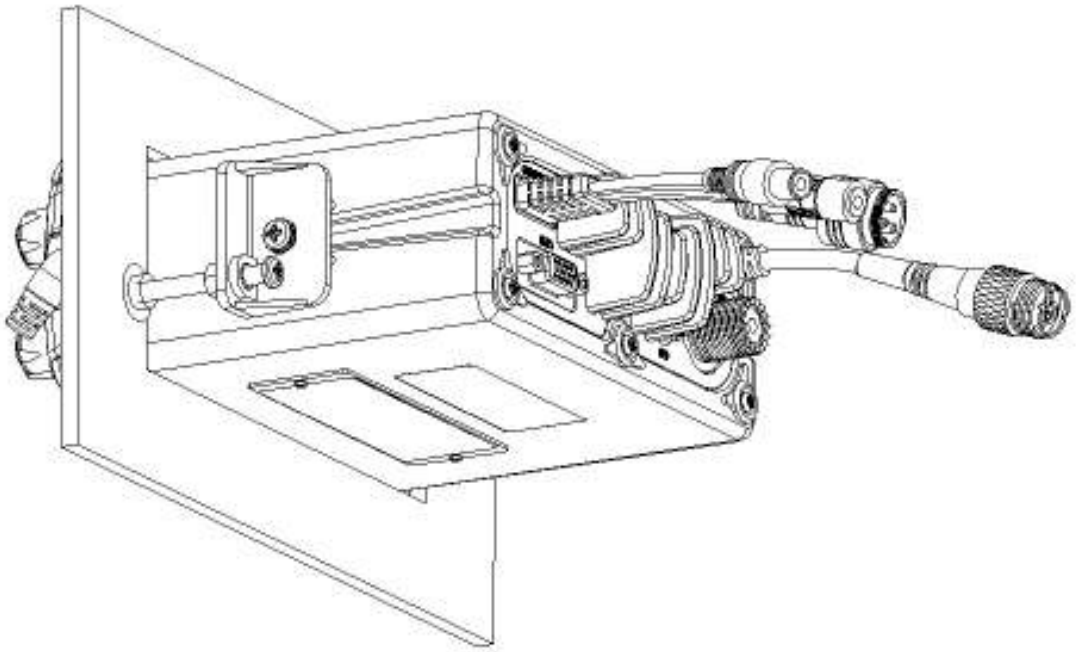
1. Fix the support plate by using screw to table, ceiling or wall. When pull the machine into the wall, cut out the wall size 147 x 59 first and flush it into the wall.

2. Assemble the unit to the support using handle knob, and fix it at a convenient angle.

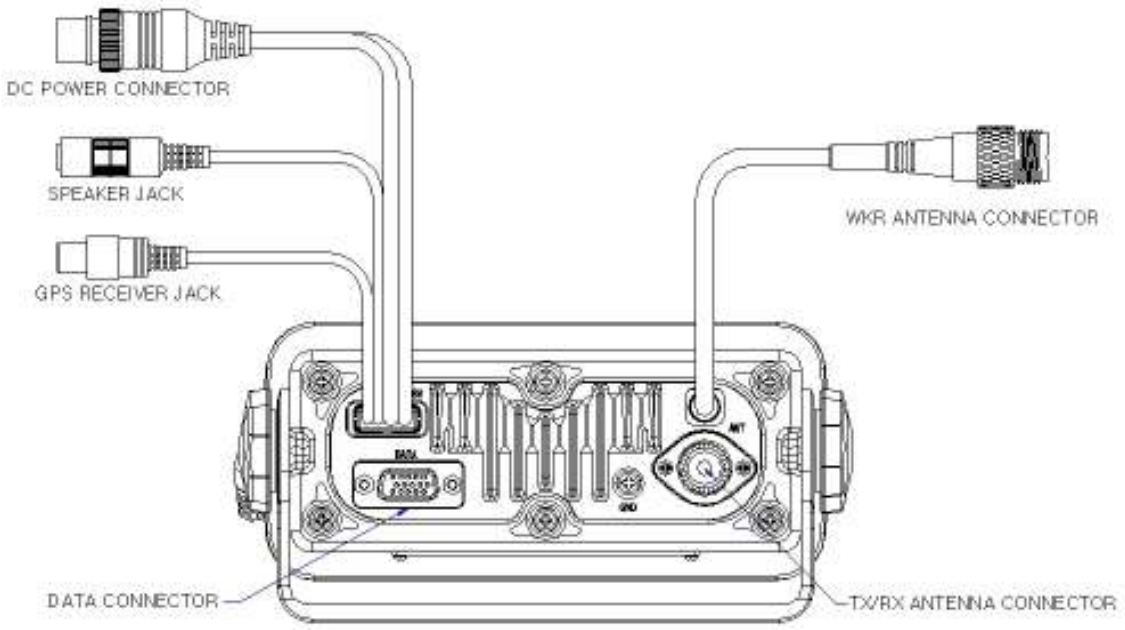

2-ø6
40
20
20
26.5
99
26.5


75°


75°



5.4. Cabling



Rear part of the unit has connectors, which can be efficiently interfaced with power, antenna and other cables.

5.4.1. Power Connection

4 P connector located in the rear of the unit is used to supply power, of which Number 1 pin is ”+” and Number 2 pin is “-“ those can connect to Power supply [DC13.6V]

5.4.2. Connects to External Speaker

1P connector located in rear of the unit is a Speaker Connection Connector.

5.4.3. How to setup Antenna

1) STANDARD ANTENNA SET-UP

Most easy method for installation is to set up two or several antennas vertically having distance more than 4 meters one another.

2) CAUTION WHILE SETTING UP ANTENNA

Please use supplier’s type of Tx Rx Antenna if possible, when you happened to use other brand antenna, please use 50Ω with 150MHz band.

Please use high quality antenna/power-cable than standard ones.

Please set up at high location, if possible.

Please keep the antenna away from another transmit antenna.

For example, keep 4 meters away from other VHF antenna.

Please ensure that installation should be made where there avoids from mechanic vibration and a rainstorm and connector parts must be waterproofed by using waterproof tape.

While installed number of antenna simultaneously, cooper cables should be isolated by using steel pipe, if not, anyway keep the distance 30cm each other.

5.4.4. GPS Connection

One Pin connector on the back of main unit is for external GPS information that is NMEA0183 data connection connector.

5.5. Integrated Wiring

Please refer to installation drawing for interconnecting machines each other.

1. In the case DC wiring, please use cable with SAMYUNG supply or the one, which can be endurable for specific electric current.
2. Please tighten connectors of Tx/Rx antenna and speaker to stand for ship's rolling and pitching.

Chapter 6. Channel List

6.1. ITU Channel

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
01	156.050	160.650	Public Correspondence, Duplex	NO	YES	TELEPHONE
02	156.100	160.700	Public Correspondence, Duplex	NO	YES	TELEPHONE
03	156.150	160.750	Public Correspondence, Duplex	NO	YES	TELEPHONE
04	156.200	160.800	Port Operations, Duplex	NO	YES	PORT OPS
05	156.250	160.850	Port Operations, Selected VTS Area	NO	YES	PORT OPS/VTS
06	156.300	156.300	Inter-ship Safety	YES	NO	SAFETY
07	156.350	160.950	Port Operations, Duplex	NO	YES	PORT_OPS
08	156.400	156.400	Commercial(Inter-ship Only)	YES	NO	COMMERCIAL
09	156.450	156.450	Recreational Calling Channel	YES	YES	CALLING
10	156.500	156.500	Commercial	YES	YES	COMMERCIAL
11	156.550	156.550	Commercial, VTS in Selected Area	YES	YES	VTS
12	156.600	156.600	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
13	156.650	156.650	Inter-ship Navigation Safety (bridge-to-bridge)	YES	NO	BRIDGE COM
14	156.700	156.700	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
15(1)	156.750	156.750	Port Operations - 1W Only	YES	YES	PORT OPS
16	156.800	156.800	International Distress, Safety, and Calling	YES	YES	DISTRESS
17(1)	156.850	156.850	State Controlled -1W Only	YES	YES	SAR
18	156.900	161.500	Port Operations, Duplex	NO	YES	PORT OPS
19	156.950	161.550	Commercial, Duplex	NO	YES	SHIP-SHORE
20	157.000	161.600	Port Operations, Duplex	NO	YES	PORT OPS
21	157.050	161.650	Port Operations, Duplex	NO	YES	PORT OPS
22	157.100	161.700	Port Operations, Duplex	NO	YES	PORT OPS
23	157.150	161.750	Public Correspondence, Duplex	NO	YES	TELEPHONE
24	157.200	161.800	Public Correspondence, Duplex	NO	YES	TELEPHONE
25	157.250	161.850	Public Correspondence, Duplex	NO	YES	TELEPHONE
26	157.300	161.900	Public Correspondence, Duplex	NO	YES	TELEPHONE
27	157.350	161.950	Public Correspondence, Duplex	NO	YES	TELEPHONE
28	157.400	162.000	Public Correspondence, Duplex	NO	YES	TELEPHONE

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
60	156.025	160.625	Public Correspondence, Duplex	NO	YES	TELEPHONE
61	156.075	160.675	Port Operations, Duplex	NO	YES	PORT OPS
62	156.125	160.725	Port Operations, Duplex	NO	YES	PORT OPS
63	156.175	160.775	Port Operations, Duplex	NO	YES	PORT OPS
64	156.225	160.825	Public Correspondence, Duplex	NO	YES	TELEPHONE
65	156.275	160.875	Port Operations, Duplex	NO	YES	PORT OPS
66	156.325	160.925	Port Operations, Duplex	NO	YES	PORT OPS
67	156.375	156.375	Commercial, bridge-to-bridge	YES	NO	BRIDGE COM
68	156.425	156.425	Boat Operations, Recreational	YES	NO	SHIP-SHIP
69	156.475	156.475	Port Operations	YES	YES	PORT OPS
70(2)		156.525	Digital Selective Calling for distress safety and calling	---	---	DSC
71	156.575	156.575	Port Operations	YES	YES	PORT OPS
72	156.625	156.625	Inter-ship	YES	NO	SHIP -SHIP
73	156.675	156.675	Port Operations	YES	YES	PORT OPS
74	156.725	156.725	Port Operations	YES	YES	PORT OPS
77	156.875	156.875	Inter-ship	YES	NO	SHIP-SHIP
78	156.925	161.525	Non-Commercial, Duplex	NO	YES	SHIP-SHORE
79	156.975	161.575	Commercial, Duplex	NO	YES	SHIP-SHORE
80	157.025	161.625	Commercial, Duplex	NO	YES	SHIP-SHORE
81	157.075	161.675	Port Operations, Duplex	NO	YES	PORT OPS
82	157.125	161.725	Port Operations, Duplex	NO	YES	PORT OPS
83	157.175	161.775	Public Correspondence, Duplex	NO	YES	TELEPHONE
84	157.225	161.825	Public Correspondence, Duplex	NO	YES	TELEPHONE
85	157.275	161.875	Public Correspondence, Duplex	NO	YES	TELEPHONE
86	157.325	161.925	Public Correspondence, Duplex	NO	YES	TELEPHONE
87	157.375	157.375	Port Operations	YES	YES	SHIP-SHIP
88	157.425	157.425	Port Operations	YES	YES	SHIP-SHIP

Note.

(1) CH15, CH17 are fixed with input power 1W.

(2) CH70 is exclusively used for DSC channel and voice transmission is prohibited.
CH75 and CH76 are prohibited from transmitting in order to prevent CH16 from dangerous interference.

6.2. USA Channel

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
01A	156.050	156.050	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
03A	156.150	156.150	US Government, Coast Guard	YES	YES	UNAUTHORIZED
05A	156.250	156.250	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
06	156.300	156.300	Inter-ship Safety	YES	NO	SAFETY
07A	156.350	156.350	Commercial	YES	YES	COMMERCIAL
08	156.400	156.400	Commercial (Inter-ship Only)	YES	NO	COMMERCIAL
09	156.450	156.450	Recreational Calling Channel	YES	YES	CALLING
10	156.500	156.500	Commercial	YES	YES	COMMERCIAL
11	156.550	156.550	Commercial, VTS in Selected Areas	YES	YES	VTS
12	156.600	156.600	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
13(1)	156.650	156.650	Inter-ship Navigation Safety (bridge-to-bridge) 1W Only	YES	NO	BRIDGE COM
14	156.700	156.700	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
15(3)	RX Only	156.750	Environmental, RX Only	---	---	ENVIROMENTAL
16	156.800	156.800	International Distress, Safety, and Calling	YES	YES	DISTRES
17(1)	156.850	156.850	State Controlled - 1W Only	YES	YES	SAR
18A	156.900	156.900	Commercial	YES	YES	COMMERCIAL
19A	156.950	156.950	Commercial	YES	YES	COMMERCIA;
20	157.000	161.600	Port Operations, Canadian Coast Guard, Duplex	NO	YES	PORT OPS
20A	157.000	157.000	Port Operations	YES	YES	PORT OPS
21A	157.050	157.050	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
22A	157.100	157.100	Coast Guard Liaison	YES	YES	COAST GUARD
23A	157.150	157.150	U.S. Government, Coast Guard	YES	YES	UNAUTHORIZED
24	157.200	161.800	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
25	157.250	161.850	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
26	157.300	161.900	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
27	157.350	161.950	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
28	157.400	162.000	Public Correspondence, Marine Operator	NO	YES	TELEPHONE

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
61A	156.075	156.075	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
63A	156.175	156.175	Port Operations, VTS in Selected Areas	YES	YES	PORT OPS/VTS
64A	156.225	156.225	U.S. Government, Canadian Commercial Fishing	YES	YES	UNAUTHORIZED
65A	156.275	156.275	Port Operations	YES	YES	PORT OPS
66A	156.325	156.325	Port Operations	YES	YES	PORT OPS
67(1)	156.375	156.375	Commercial, bridge-to-bridge, 1W Only	YES	NO	BRIDGE COM
68	156.425	156.425	Boat Operations, Recreational	YES	NO	SHIP-SHIP
69	156.475	156.475	Boat Operations, Recreational	YES	YES	PLEASURE
70(2)		156.525	Digital Selective Calling - DSC	---	---	DSC
71	156.575	156.575	Boat Operations, Recreational	YES	YES	PLEASURE
72	156.625	156.625	Boat Operations, Recreational	YES	NO	SHIP-SHIP
73	156.675	156.675	Port Operations	YES	YES	PORT OPS
74	156.725	156.725	Port Operations	YES	YES	PORT OPS
77(1)	156.875	156.875	Port Operations-1W Only	YES	YES	PORT OPS
78A	156.925	156.925	Boat Operations, Recreational	YES	NO	SHIP-SHIP
79A	156.975	156.975	Commercial	YES	YES	COMMERCIAL
80A	157.025	157.025	Commercial	YES	YES	COMMERCIAL
81A	157.075	157.075	U.S. Government, Environmental Protection Agency Operations	YES	YES	UNAUTHORIZED
82A	157.125	157.125	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
83A	157.175	157.175	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
84	157.225	161.825	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
84A	157.225	157.225	Public Correspondence, Marine Operator	YES	YES	TELEPHONE
85	157.275	161.875	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
85A	157.275	157.275	Public Correspondence, Marine Operator	YES	YES	TELEPHONE
86	157.325	161.925	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
86A	157.325	157.325	Public Correspondence, Marine Operator	YES	YES	TELEPHONE
87	157.375	161.975	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
87A	157.375	157.375	Public Correspondence, Marine Operator	YES	YES	TELEPHONE
88	157.425	162.025	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
88A	157.425	157.425	Commercial, Intership Only	YES	NO	COMMERCIAL

Note.

(1) CH13, CH17, CH67 and CH77 are fixed with output power 1 W.

(2) CH70 is exclusively DSC using channel and voice transmission is prohibited.

(3) CH15, CH75 and CH76 are prohibited from transmission in order to prevent CH16 from harmful interferences.

6.3. CANADA Channel

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
01	156.050	160.650	Public Correspondence, Duplex	NO	YES	TELEPHONE
02	156.100	160.700	Public Correspondence, Duplex	NO	YES	TELEPHONE
03	156.150	160.750	Public Correspondence, Duplex	NO	YES	TELEPHONE
04A	156.200	156.200	Canadian Coast Guard, SAR	YES	YES	CANADIAN CG
05A	156.250	156.250	Port Operations, VTS in Selected Areas	YES	YES	PORT OPS/VTS
06	156.300	156.300	Inter-ship Safety	YES	NO	SAFETY
07A	156.350	156.350	Commercial	YES	YES	COMMERCIAL
08	156.400	156.400	Commercial(Inter ship Only)	YES	NO	COMMERCIAL
09	156.450	156.450	Recreational Calling Channel	YES	YES	CALLING
10	156.500	156.500	Commercial	YES	YES	COMMERCIAL
11	156.550	156.550	Commercial, VTS in Selected Area	YES	YES	VTS
12	156.600	156.600	Port Operations, Selected VTS Areas	YES	YES	PORT OPS/VTS
13(1)	156.650	156.650	Inter-ship Navigation Safety (bridge-to-bridge) 1W Only	YES	NO	BRIDGE COM
14	156.700	156.700	Port Operations, VTS in Selected Areas	YES	YES	PORT OPS/VTS
15(1)	156.750	156.750	Commercial - 1W Only	YES	YES	COMMERCIAL
16	156.800	156.800	International Distress, Safety, and Calling	YES	YES	DISTRESS
17(1)	156.850	156.850	State Controlled -1W Only	YES	YES	SAR
18A	156.900	156.900	Commercial	YES	YES	COMMERCIAL
19A	156.950	156.950	Canadian Coast Guard	YES	YES	CANADIAN CG
20(1)	157.000	161.600	Canadian Coast Guard, Duplex-1W Only	NO	YES	CANADIAN CG
21	157.050	161.650	Port Operations, Duplex	NO	YES	PORT OPS
21A	157.050	157.050	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
21B	RX Only	161.650	Port Operations, RX Only	---	---	PORT OPS
22A	157.100	157.100	Canadian Coast Guard Liaison	YES	YES	CANADIAN CG
23	157.150	161.750	Public Correspondence, Duplex	NO	YES	TELEPHONE
24	157.200	161.800	Public Correspondence, Duplex	NO	YES	TELEPHONE
25	157.250	161.850	Public Correspondence, Duplex	NO	YES	TELEPHONE
25B	RX Only	161.850	Public Correspondence, RX Only	---	---	TELEPHONE
26	157.300	161.900	Public Correspondence, Duplex	NO	YES	TELEPHONE
27	157.350	161.950	Public Correspondence, Duplex	NO	YES	TELEPHONE
28	157.400	162.000	Public Correspondence, Duplex	NO	YES	TELEPHONE
28B	RX Only	162.000	Public Correspondence, RX Only	---	---	TELEPHONE

CH	Tx (MHz)	Rx (MHz)	TRAFFIC TYPE	SHIP TO SHIP	SHIP TO SHORE	NAME TAG
60	156.025	160.625	Public Correspondence, Duplex	NO	YES	TELEPHONE
61A	156.075	156.075	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
62A	156.125	156.125	Canadian Coast Guard	YES	YES	CANADIAN CG
64	156.225	160.825	Public Correspondence, Duplex	NO	YES	TELEPHONE
64A	156.225	156.225	U.S. Government, Canadian Commercial Fishing	YES	YES	UNAUTHORIZED
65A	156.275	156.275	Port Operations	YES	YES	PORT OPS
66A	156.325	156.325	Port Operations	YES	YES	PORT OPS
67	156.375	156.375	Commercial, SAR	YES	NO	COMMERCIAL
68	156.425	156.425	Boat Operations, Recreational	YES	NO	SHIP-SHIP
69	156.475	156.475	Commercial Fishing Only	YES	YES	COMMERCIAL
70(2)		156.525	Digital Selective Calling - DSC	---	---	DSC
71	156.575	156.575	Boat Operations, Recreational	YES	YES	PLEASURE
72	156.625	156.625	Inter-ship	YES	NO	SHIP-SHIP
73	156.675	156.675	Commercial Fishing Only	YES	YES	COMMERCIAL
74	156.725	156.725	Commercial Fishing Only	YES	YES	COMMERCIAL
77	156.875	156.875	Port Operations	YES	YES	PORT OPS
78A	156.925	156.925	Boat Operations, Recreational	YES	NO	SHIP-SHIP
79A	156.975	156.975	Commercial	YES	YES	COMMERCIAL
80A	157.025	157.025	Commercial	YES	YES	COMMERCIAL
81A	157.075	157.075	U.S. Government Operations	YES	YES	UNAUTHORIZED
82A	157.125	157.125	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
83	157.175	161.775	Canadian Coast Guard	YES	YES	CANADIAN CG
83A	157.175	157.175	U.S. Government, Canadian Coast Guard	YES	YES	UNAUTHORIZED
83B	RX Only	161.775	Canadian Coast Guard, RX Only	---	---	CANADIAN CG
84	157.225	161.825	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
85	157.275	161.875	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
86	157.325	161.925	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
87	157.375	161.975	Public Correspondence, Marine Operator	NO	YES	TELEPHONE
88	157.425	162.025	Public Correspondence, Marine Operator	NO	YES	TELEPHONE

Note.
(1) CH13, CH15, CH17 and CH20 are fixed with output power 1W.
(2) CH70 is exclusively DSC using channel and voice transmission is prohibited.
(3) CH63, CH75 and CH76 are prohibited from transmitting.
* CH66, CH77 are basically 1W and are available for converting to 25W..

6.4. Weather Channel

WEATHER CH	Rx(MHz)	Type	Channel Type
WX1	162.550	NOAA WEATHER CHANNEL	NOAA WX
WX2	162.400	NOAA WEATHER CHANNEL	NOAA WX
WX3	162.475	NOAA WEATHER CHANNEL	NOAA WX
WX4	162.425	NOAA WEATHER CHANNEL	NOAA WX
WX5	162.450	NOAA WEATHER CHANNEL	NOAA WX
WX6	162.500	NOAA WEATHER CHANNEL	NOAA WX
WX7	162.525	NOAA WEATHER CHANNEL	NOAA WX
WX8	161.650	CANADIAN WEATHER CHANNEL	CANADA WX
WX9	161.775	CANADIAN WEATHER CHANNEL	CANADA WX
WX10	163.275	NOAA WEATHER CHANNEL	NOAA WX

Chapter 7. Position Information Interface

This unit is effectively designed for convenient use, after receiving NMEA0183 FORMAT Typed GPS information that will interface internally and input automatically with current own vessel's latitude and longitude value when distress call is occurred.
It is available to input the time when determined with position information and position by manual. In case not receiving position data from electronic position-determined device, and/or in case position information conducted by manual input being delayed more than 4 hours, alarm is ringing. Any position information, which is not updated more than 23 hours should be deleted. Alarm will ring if GPS is not input more than 1 minute and alarm would stop when GPS is input again.

NMEA0183 input mode and type for this unit is as follows,
$GPGGA,065501,3506.3023,N,12905.6429,E,1,07,001.3,00005,M,0000,M,,*41
$GPGGA,032007,3505.10,N,12902.47,E,1,00,1,0,M,,M,,
$GPGGA,044610.00,3505.2139,N,12904.2867,E,1,06,05.4,,M,,M,,*63

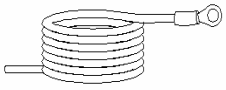
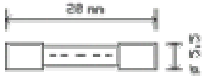
$GPRMC,123456,A,3505.00,N,12902.00,E,1.0,0.0,221199,0.0,E*00
$GPRMC,123456,A,3505.0000,N,12902.0000,E,1.0,0.0,221199,0.0,E*00
$GPRMC,044610.00,A,3505.2139,N,12904.2867,E,00.2,229.1,180702,,*0D

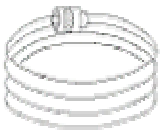
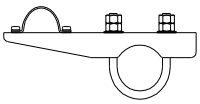
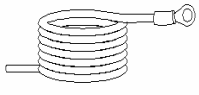
$GPGLL,3504.2892,N,12900.2503,E,024950.00,V*14
$GPGLL,3505.09,N,12902.45,E*PCL

$GPZDA,025220.00,17,04,1999,00,00*6B
$GPZDA,050048,13,09,1998,+00

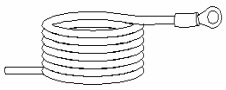
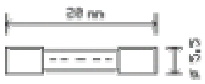
Chapter 8. Packing List

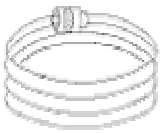
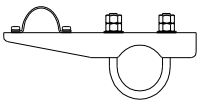
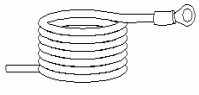
8.1. Oversea

VHF STR-6000A Standard							
NO.	Item	External Feature	Standard		Q'ty	CHK	Remark
1	Main Unit		STR-6000A		1		SM-6000 INCL. MIC
			CODE NO.	V00-4000-00			
2	Speaker		SS-6000		1	A-04	
			CODE NO.	532-5508-1U			
3	Bracket		ACC-6000D-001		1		
			CODE NO.	STR-6001			
4	Fixing Bolt		Ø5mm × 7		2		Attached to Main unit
			CODE NO.	STR-6002			
5	Cable Ass'y	 L=3m	CVV-SB 2C 2SQ		1	A-01	DC POWER
			CODE NO.	STR-6102			
6	Mic Holder				1	A-05	Hook INCL. Cable
			CODE NO.	STR-6103			
7	GPS Jack	 L=2m	RCA Jack		1	A-03	
			CODE NO.	STR-6003			
8	Screw		Stain Truss Piece 4X16		20		
			CODE NO.	904-0446-01			
9	Cable Ass'y		01-3M-D01 Cable Ass'y		1	A-06	5.5SQ OTYPE
			CODE NO	574-0102-01			
10	Fuse		10A/250V[20mmX5mm]		2		Main Unit
			CODE NO.	527-2010-1Q			
11	Manual		STR-6000A-ME		1		
			CODE NO.	M02-0031-00			

VHF STR-6000A Option							
NO.	Item	External Feature	Standard		Q'ty	CHK	Remark
1	VHF Antenna		SAN-150		2		
			CODE NO.	542-1400-0D			
2	Cable Ass'y		PL259-15M(RG8)-PL259		2	A-02	
			CODE NO.	574-0155-25			
3	Bracket Ass'y		Bracket 35 Ass'y		2		
			CODE NO.	575-0006-01			
4	Power supply unit		SP-700		1		
			CODE NO.	V01-0000-00			
5	Cable Ass'y		SCN2-3M-02 Cable Ass'y		1	B-01	AC
			CODE NO.	574-0107-01			
6	Cable Ass'y		03-3M-C3 Cable Ass'y		1	B-02	DC
			CODE NO.	574-0307-01			
7	Fuse		5A/250V[20mmX5mm]		2		AC
			CODE NO.	527-2005-1Q			
8	Fuse		10A/250V[20mmX5mm]		2		DC
			CODE NO.	527-2010-1Q			
9	Screw		Stain Truss Piece 4X16		4		
			CODE NO.	904-0446-01			
10	Cable Ass'y		01-3M-D01 Cable Ass'y		1	B-03	5.5SQ OTYPE
			CODE NO.	574-0102-01			
11	Flush Mount (Bracket)		SMB-60		2		INCL. Bolt
			CODE NO	STR-6007			

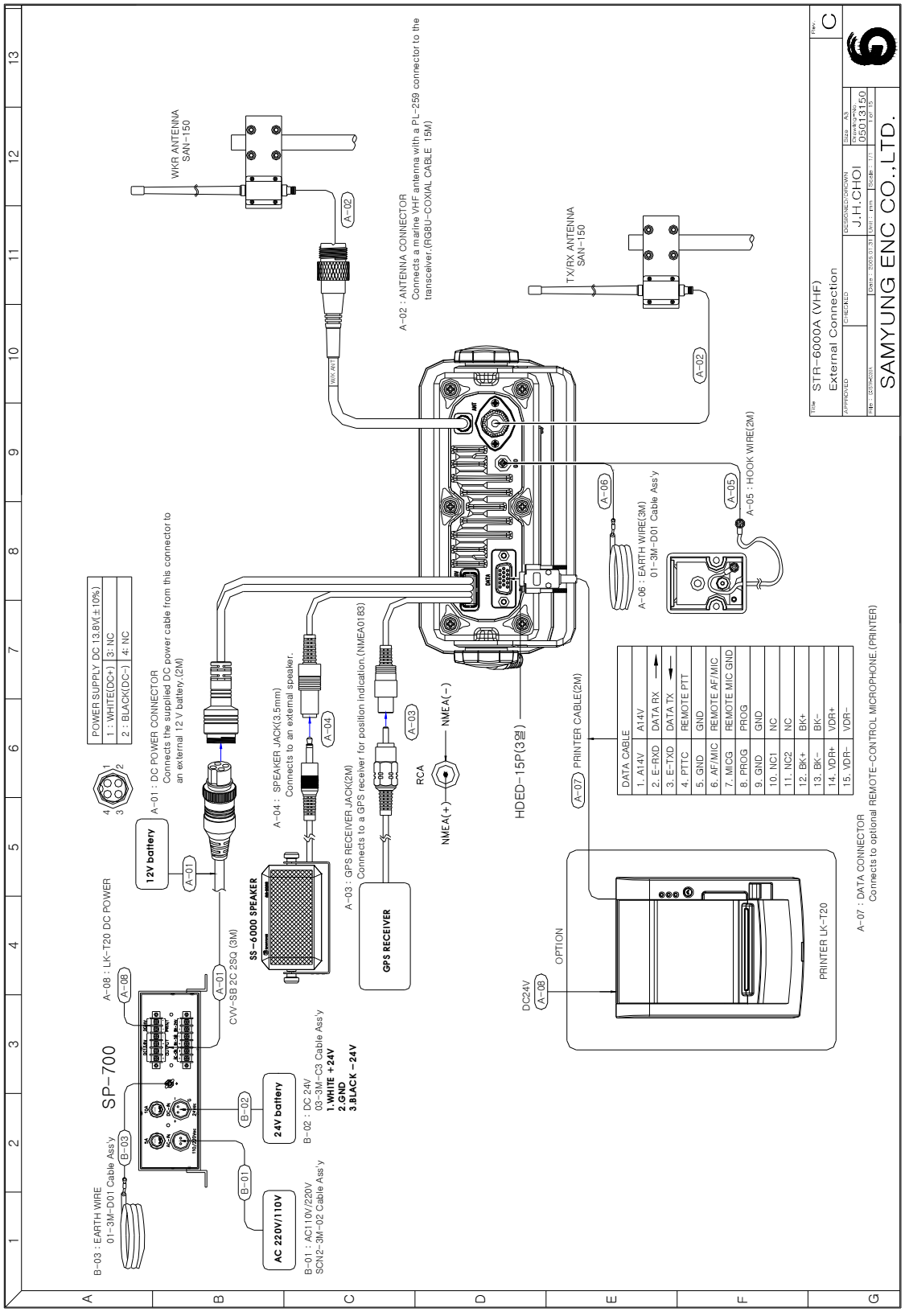
8.2. Domestic

VHF STR-6000A Standard(1 of 2)							
NO.	Item	External Feature	Standard		Q'ty	CHK	Remark
1	Main Unit		STR-6000A		1		SM-6000 INCL. MIC
			CODE NO.	V00-4000-00			
2	Speaker		SS-6000		1	A-04	
			CODE NO.	532-5508-1U			
3	Bracket		ACC-6000D-001		1		
			CODE NO.	STR-6001			
4	Fixing Bolt		Ø5mm × 7		2		Attached to Main unit
			CODE NO.	STR-6002			
5	Mic Holder	 L=3m	CVV-SB 2C 2SQ		1	A-01	DC POWER
			CODE NO.	STR-6102			
6	GPS Jack				1	A-05	Hook INCL. Cable
			CODE NO.	STR-6103			
7	Bracket	 L=2m	RCA 잭		1	A-03	
			CODE NO.	STR-6003			
8	Screw		Stain Truss Piece 4X16		20		
			CODE NO.	904-0446-01			
9	Cable Ass'y		01-3M-D01 Cable Ass'y		1	A-06	5.5SQ OTYPE
			CODE NO	574-0102-01			
10	Fuse		10A/250V[20mmX5mm]		2		Main Unit
			CODE NO.	527-2010-1Q			
11	Manual		STR-6000A-MK		1		
			CODE NO.	M02-0030-00			

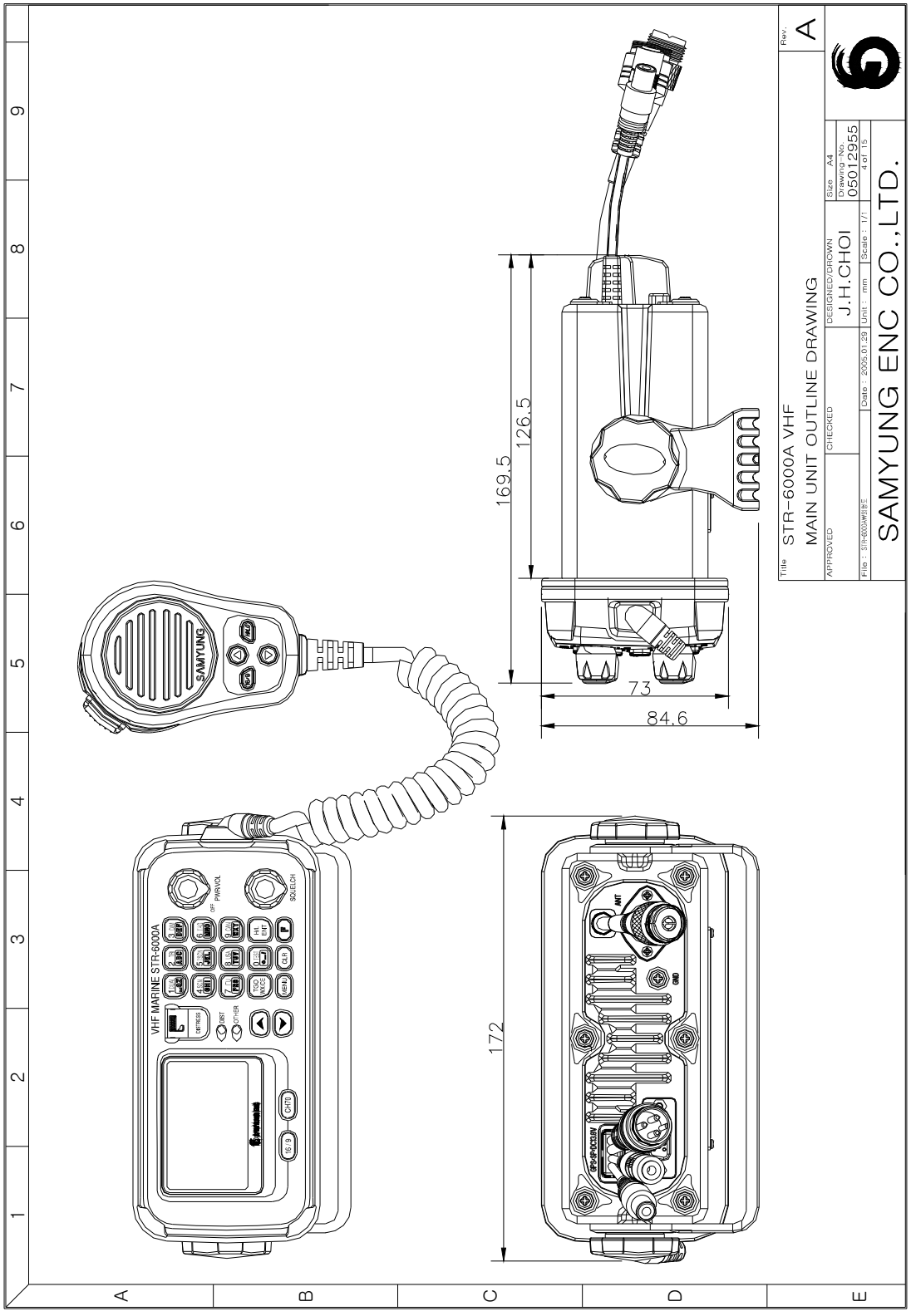
VHF STR-6000A Standard(2 of 2)							
NO.	Item	External Feature	Standard		Q'ty	CHK	Remark
12	VHF Antenna		SAN-150		2		
			CODE NO.	542-1400-0D			
13	Cable Ass'y		PL259-15M(RG8)-PL259		2	A-02	
			CODE NO.	574-0155-25			
14	Bracket Ass'y		Bracket 35 Ass'y		2		
			CODE NO.	575-0006-01			
15	Power supply unit		SP-700		1		
			CODE NO.	V01-0000-00			
16	Cable Ass'y		SCN2-3M-02 Cable Ass'y		1	B-01	AC
			CODE NO.	574-0107-01			
17	Cable Ass'y		03-3M-C3 Cable Ass'y		1	B-02	DC
			CODE NO.	574-0307-01			
18	Fuse		5A/250V[20mmX5mm]		2		AC
			CODE NO.	527-2005-1Q			
19	Fuse		10A/250V[20mmX5mm]		2		DC
			CODE NO.	527-2010-1Q			
20	Screw		Stain Truss Piece 4X16		4		
			CODE NO.	904-0446-01			
21	Cable Ass'y		01-3M-D01 Cable Ass'y		1	B-03	5.5SQ OTYPE
			CODE NO.	574-0102-01			

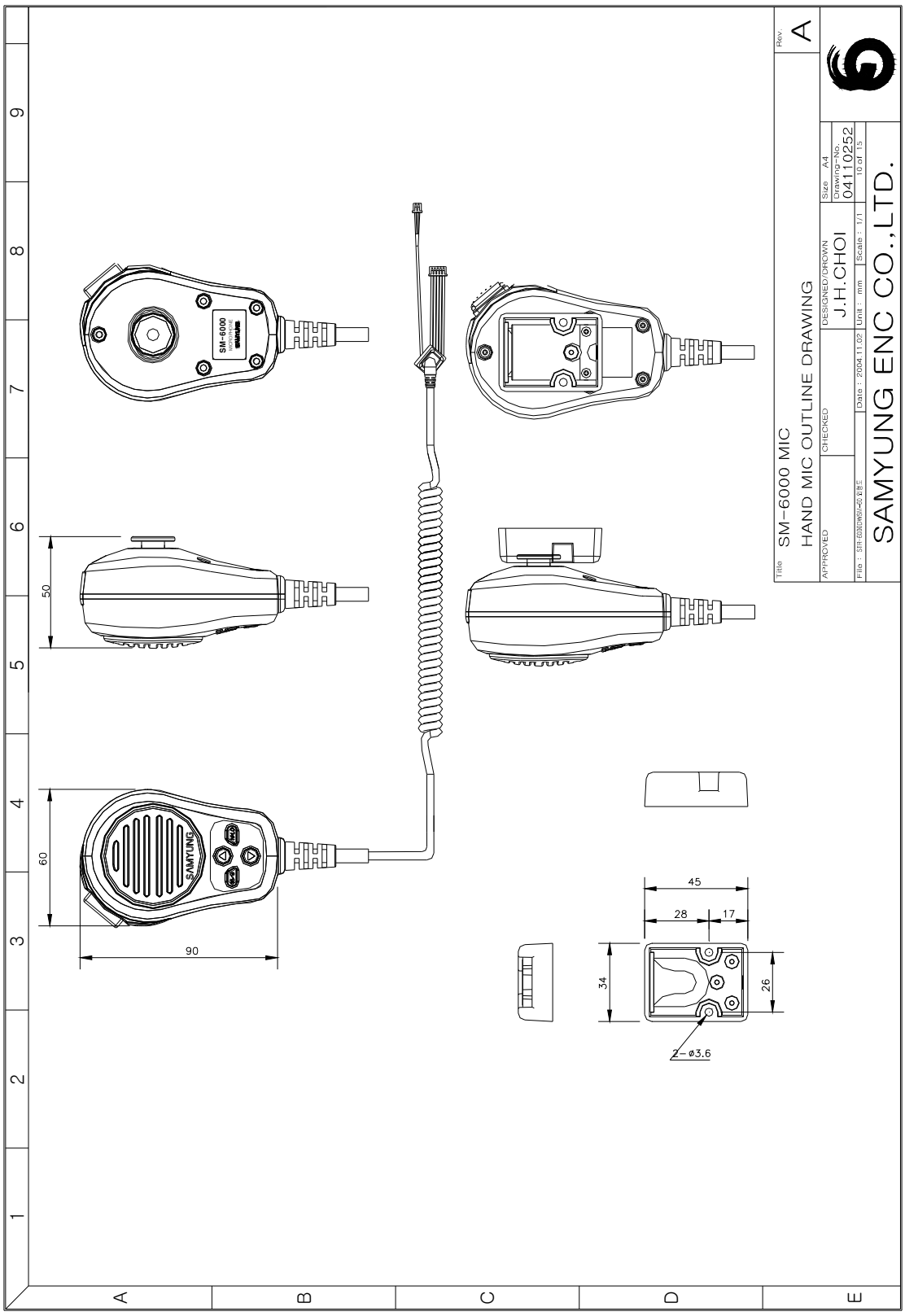
VHF STR-6000A Option							
NO.	Item	External Feature	Standard		Q'ty	CHK	Remark
1	Flush Mount (Bracket)		SMB-60		2		INCL. Bolt
			CODE NO.	STR-6007			

Chapter 9. External Connection



Chapter 10. Outline Drawing




SM-6000
SAMYUNG
50
60
90
45
28
17
34
26
2-ø3.6
Rev. A
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HAND MIC OUTLINE DRAWING
APPROVED
CHECKED
DESIGNED/DROWN J.H.CHOI
Size A4
Drawing-No. 04110252
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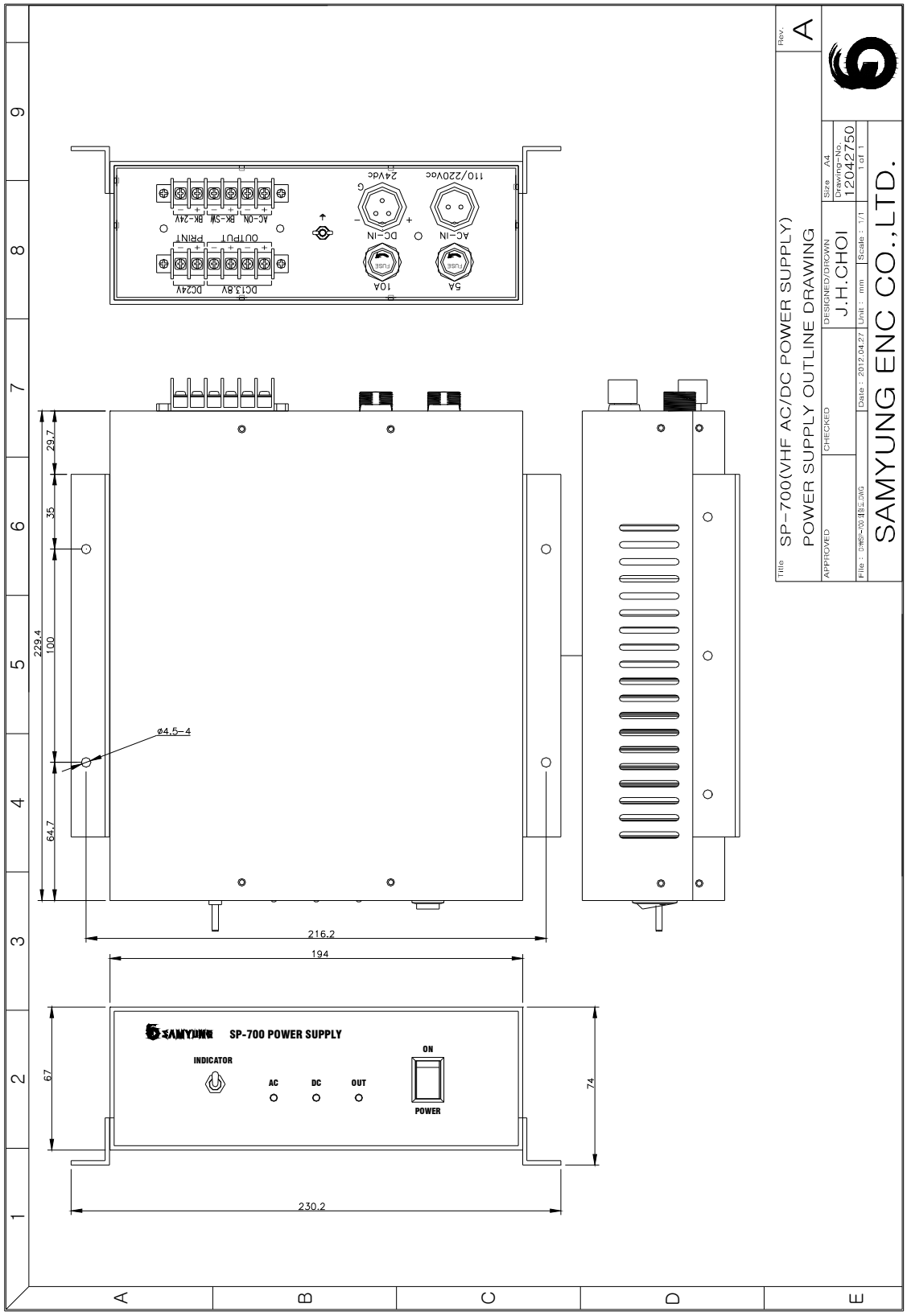
Unit : mm
Scale : 1/1
10 of 15
SAMYUNG ENC CO.,LTD.


SP-700(VHF AC/DC POWER SUPPLY)
POWER SUPPLY OUTLINE DRAWING
SAMYUNG ENC CO.,LTD.
J.H.CHOI
Rev. A
Size A4
Drawing-No. 12042750
Scale : 1/1
Unit : mm
Date : 2012.04.27
1 of 1
SP-700 POWER SUPPLY
INDICATOR
AC
DC
OUT
ON
POWER
110/220Vac
24Vdc
AC-IN
DC-IN
5A
10A
OUTPUT
PRINT
AC-ON
BK-SW
BK-24V
DC13.8V
DC24V
ø4.5-4
29.7
35
100
64.7
229.4
216.2
194
67
74
230.2

Order No.1
Please use something like a mini-rod with some ø5.
Order No.2
To get rid of the temporary cover of the jack plug, push it to the direction as shown in the drawing.
Order No.3
Insert each jack into the jack plug for connection.
Completion
Title STR-6000A VHF
Jack Plug
Rev. C
APPROVED
CHECKED
DESIGNED/DRAWN J.H.CHOI
Size A4
Drawing No. 05031051
Date : 2005.03.10
Unit : mm
Scale : 1/1
15 of 15
SAMYUNG ENC CO.,LTD.