

# **NVR-1000**

## **VHF RADIOTELEPHONE**

### **USER'S MANUAL**

**NEW SUNRISE**

## **NOTICE TO USERS**

- Thanks for your purchasing this product VHF radio telephone.
- The copyright of this manual is owned by the manufacturer, NEW SUNRISE CO., LTD (NSR). Prior written permission is required for copying or reproducing the manual or part of the manual.
- Software version in your product may be some different from that described as in this manual. Such difference will not affect the performance of the product. NSR reserves the right of continuous improvement on products both in software and in hardware without any prior notice.
- NSR will assume no responsibility for the damage caused by improper use or modification of the product or claims of loss of profit by a third party.
- Please read this manual carefully to ensure proper use before installation and use of the NVR-1000.
- Please keep the manual for your future reference.

## **Some Frequently Asked Questions**

### **How to check out own ship's MMSI?**

Own ship's MMSI will show up shortly when the NVR-1000 is powered on.

You may also check out the MMSI in "DIAGNOSTICS".

### **How to setup own ship's MMSI?**

The MMSI can be entered in SUPERVISION---MMSI SETUP. The password is needed for the setting.




### **How to send a TEST call to other station?**

Send a test call to other station in DSC MENU---SAFETY CALL---TEST. Wait for the reply from the called station.




### **How to reply TEST call from other stations?**

When AUTOMATIC ACK is set as YES in MENU---OTHER SETUP, the NVR-1000 will automatically reply to test call from other stations.

**SAFETY INSTRUCTIONS for the operator**

	<p><b>Warning</b></p> <p>Keep away from heat source or direct sunshine.</p>
	<p><b>Prohibition</b></p> <p>Don't open the equipment. Only qualified personnel should work inside the equipment. Don't disassemble or try to modify the equipment.</p>
	<p><b>Dangerous</b></p> <p>Turn off the power immediately when smoke or fire is emitted.</p>

**SAFETY INSTRUCTIONS for the installer**

	<p><b>Warning</b></p> <p>Connect the earthing cord to ship's body.</p> <p>Observe the compass safe distance to prevent deviation of an onboard magnetic compass.</p>
	<p><b>Prohibited</b></p> <p>Don't open the equipment unless you have fully understood the structure and circuits of the equipment.</p> <p>Only qualified personnel should work inside the equipment.</p> <p>Don't disassemble or try to modify the equipment.</p>
	<p><b>Dangerous</b></p> <p>Turn off the power at power distribution board before installation.</p>

## Table of Contents

<b>1. OVERVIEW</b> .....	<b>1</b>
<b>2. CONFIGURATIONS</b> .....	<b>2</b>
2.1 SYSTEM CONFIGURATIONS .....	2
2.2 SUPPLY SCOPE.....	2
<b>3. SPECIFICATIONS</b> .....	<b>3</b>
3.1 GENERAL SPECIFICATIONS.....	3
3.2 TRANSMITTER.....	3
3.3 RECEIVER.....	3
3.4 DSC FUNCTION.....	4
3.5 DEDICATED DSC RECEIVER (WKR).....	4
<b>4. STARTING SYSTEM</b> .....	<b>5</b>
4.1 POWER ON.....	5
4.2 POWER OFF.....	5
<b>5. BASIC OPERATION</b> .....	<b>6</b>
5.1 KEYS ON THE FRONT PANEL .....	6
5.2 KEY DESCRIPTIONS.....	6
5.3 BASIC OPERATION.....	7
<b>6. INITIAL SETUP</b> .....	<b>8</b>
6.1 CLOCK SETUP.....	8
6.2 POSITION SETUP .....	8
6.3 OTHERS SETUP.....	9
6.4 DIAGNOSTICS .....	9
6.5 SUPERVISION .....	10
<b>7. DSC CALLS</b> .....	<b>12</b>
7.1 MAKE A DSC CALL .....	12
7.1.1 DISTRESS CALL.....	12
7.1.2 URGENCY CALL .....	14
7.1.3 SAFETY CALL .....	16
7.1.4 ROUTINE CALL.....	17
7.1.5 SEMI / AUTO VHF .....	19

7.1.6	TRANSMIT A STORED DSC MESSAGE .....	20
7.2	RECEIVE A DSC CALL .....	20
7.3.1	DISTRESS CALL .....	21
7.3.2	URGENCY CALL .....	21
7.3.3	SAFETY CALL .....	22
7.3.4	ROUTINE CALL .....	22
7.3.5	SEMI / AUTO VHF .....	22
<b>8.</b>	<b>INSTALLATION .....</b>	<b>23</b>
8.1	VHF ANTENNA INSTALLATION.....	23
8.2	TRANSCEIVER INSTALLATION .....	23
8.3	CONNECTION.....	23
8.3.1	POWER SUPPLY .....	23
8.3.2	GPS DATA INPUT.....	24
8.3.3	CONNECT TO PRINTER .....	24
8.3.4	CONNECT TO (S)VDR.....	24
<b>Appendix I.</b>	<b>CHANNEL TABLE .....</b>	<b>25</b>
	ITU Channel Table .....	25
	USA Channel Table.....	26
	CAN Cannel Table .....	27
	Private Channel (simplex).....	28
	WX (Weather) Channel Table .....	29
<b>Appendix II.</b>	<b>INSTALLATION DRAWINGS.....</b>	<b>30</b>

## 1. OVERVIEW

NVR-1000 is a ship borne radiotelephone equipment on VHF FM and designed for marine mobile service which provides function of VHF radiotelephone and digital selective calling. It is to be met by provision of GMDSS required as 1988 GMDSS amendments to SOLAS 1974.

It contains a VHF radio transceiver and a digital selective calling system and a dedicated digital selective calling receiver to comply with the ITU Radio Regulations, the performance standards developed by IMO and ITU.

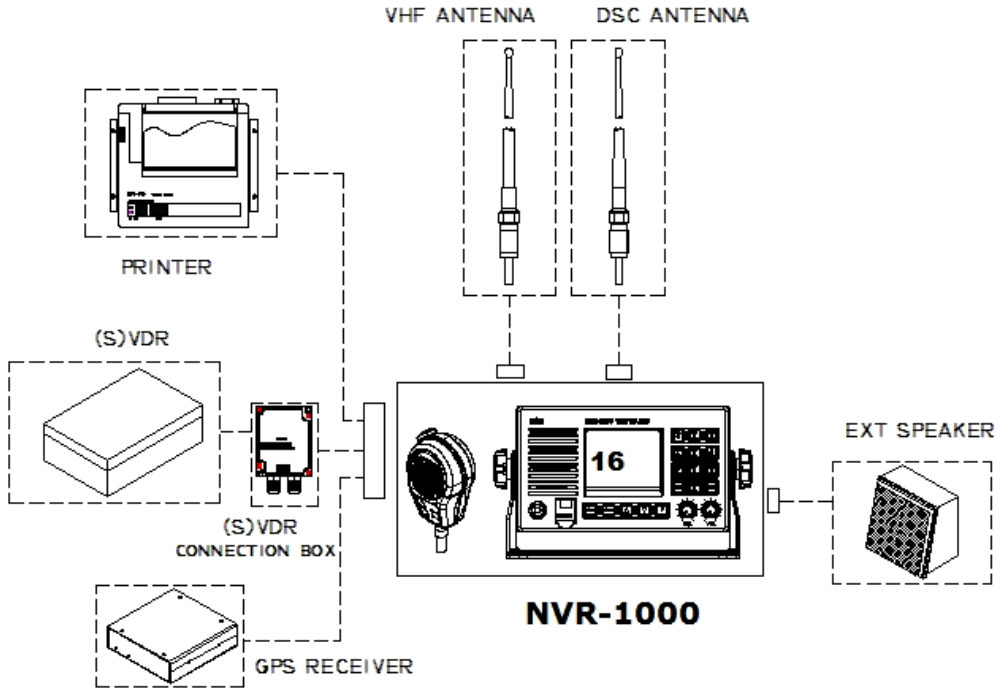
Main features are as follows:

Channels	International Standard Channel (ITU), America Channel (USA), Canada Channel (CAN), Weather Channel (WX), Private Channel (PRV)
RF output	25W (HIGH) / 1W (LOW)
Dual watching	Watching channel 16 and other channels simultaneously is available.
Channel scan	Channels are scanned to sample any signal to be received.
DSC	A dedicated DSC receiver is included.

## 2. CONFIGURATIONS

### 2.1 SYSTEM CONFIGURATIONS

The below figure is for the configurations of the equipment.



### 2.2 SUPPLY SCOPE

No.	ITEM	Q'TY	REMARKS
<b>Standard</b>			
1	NVR-1000 VHF RADIOTELEPHONE	1	
2	NVR-1030H MICROPHONE	1	
3	FITTING MATERIALS	1	
4	USER'S MANUAL	1	
<b>Optional</b>			
1	VHF ANTENNA	2	
2	THERMAL PRINTER	1	NPT-100
3	VDR CONNECTION KIT	1	NVC100
4	EXTERNAL SPEAKER	1	
5	POWER SUPPLY UNIT	1	13.5V/10A



### 3. SPECIFICATIONS

#### 3.1 GENERAL SPECIFICATIONS

Frequency range	Transmit : 156.025 ~ 157.425 MHz Receive : 156.050 ~ 163.275 MHz
The number of channels	ITU channel: 57 channels USA channel: 49 channels CAN channel: 57 channels WX (Weather): channel: 10 channels PRV (Private) channel : 100 channels
Communication type	SIMPLEX and SEMI DUPLEX
Emission type	VOICE : G3E                      DSC : G2B
DSC class	Class A
Antenna impedance	50Ω
Input power	DC +12 ~ +15V    (+13.5V rated)
Environment	Temperature: -15℃ ~ +55℃,    Humidity 93%, +40℃
Interface	GPS INPUT: RS422 4800bps PRINTER OUTPUT: RS232 4800bps (S)VDR OUTPUT: TX Audio、RX Audio (unbalanced)

#### 3.2 TRANSMITTER

Output power	25W (High), 1W (Low)
Maximum frequency shift	≤ ± 5kHz
Modulation type	FM (pre-emphasis 6dB/octave)
Frequency error	≤ ± 1.5kHz
Occupied frequency band	≤ ± 16kHz
Spurious emission	≤ 2.5μW (less than -26dBm)
Frequency stability	≤ ± 10 x 10 <sup>-6</sup>
Upper audio limit	≤ 3kHz

#### 3.3 RECEIVER

Sensitivity	≤ 2μV e.m.f (SINAD=20dB)
Adjacent selectivity	≥ 70dB
Signal to noise ratio	≥ 40dB ( 1kHz, 70% modulated, 30dBμV RF input)
Spurious response rejection	≥ 70dB
Spurious emission	≤ 2nW (9kHz~2GHz)
Intermodulation rejection	≥ 65dB
Harmonic distortion	≤ 10%
Max Audio output	3W

**3.4 DSC FUNCTION**

Signal format and protocol	Comply with the ITU-R M.493-11 and M.541-9
Emission type	G2B
Modulation frequency	MARK(signal Y) : 1,300Hz ± 10Hz SPACE(signal B) : 2,100Hz ± 10Hz
Transmission speed	1,200bps ± 30 × 10 <sup>-6</sup>

**3.5 DEDICATED DSC RECEIVER (WKR)**

Receive frequency	156.525MHZ (channel 70)
Sensitivity	Error rate ≤ 1% when receiving signal = 1μV

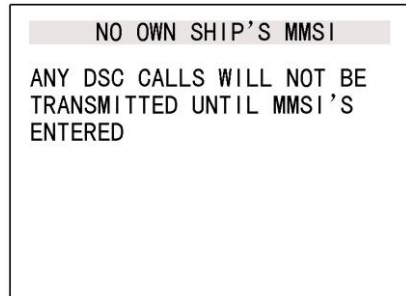
## 4. STARTING SYSTEM

### 4.1 POWER ON

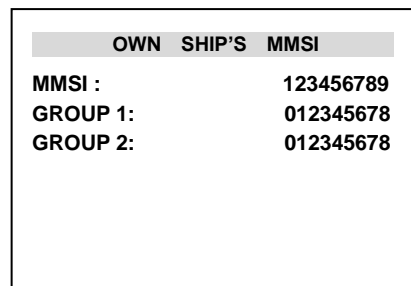
To start NVR-1000, follow the below steps:

- ① Power on the equipment by turning power switch (volume switch) clockwise.

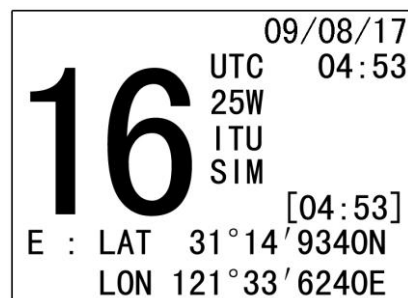
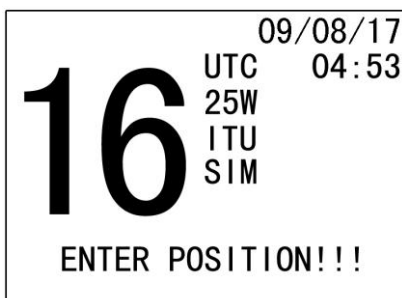
- ② If the equipment is switched on initially, program will be booted and it requires for MMSI input as in right figure, then press ESC to return to the initial screen and enter MMSI.



- ③ If own ship's MMSI is set, the initial screen will be as the right figure when the equipment is powered on.



- ④ If program booting is completed, the initial screen will be displayed as right figure.



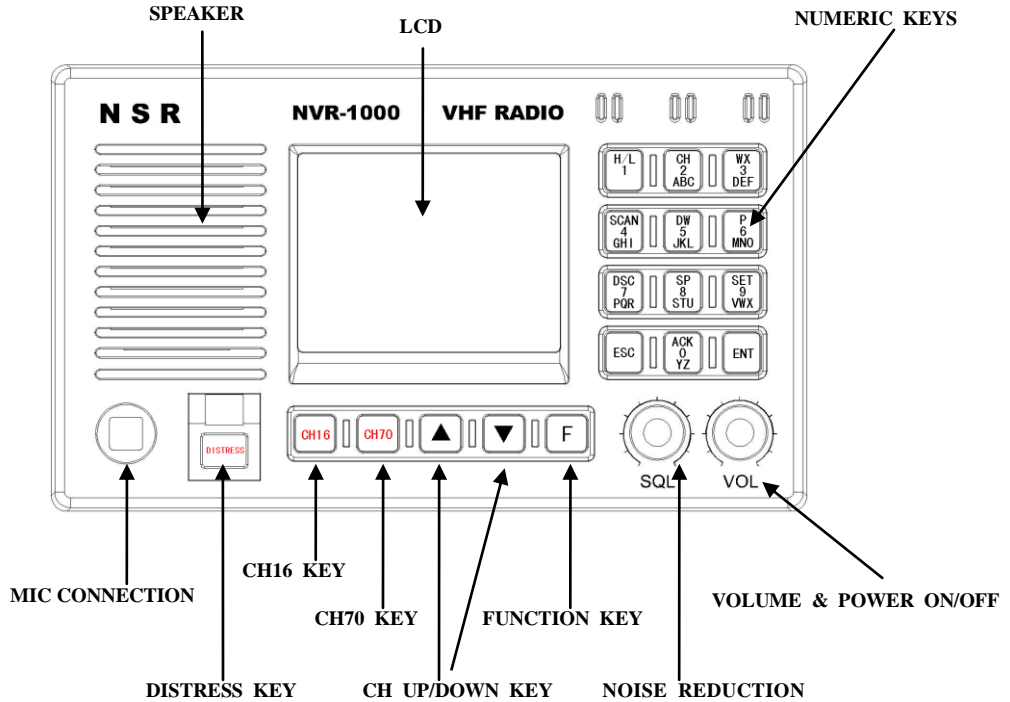
### 4.2 POWER OFF

To power off the equipment, turn the volume switch anti-clockwise until a “click” is heard.



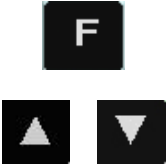

## 5. BASIC OPERATION







### 5.1 KEYS ON THE FRONT PANEL

A distress key, menu keys, number keys, up/down keys are on the front panel.



### 5.2 KEY DESCRIPTIONS

VOLUME & POWER ON/OFF		To power on/off or to adjust speaker volume.
SQUELCH		It is used to remove noise. Adjust the squelch level slightly higher than point that noise is removed. Note: if squelch level is too high, weak signal could be ignored.
DIMMER		Press F Key and then press ▲ or ▼ to change the LCD backlight.
TX POWER		Set the transmitting power 25W or 1W.

CHANNEL MODE	 	Change to desired channel mode among ITU, USA, CAN channel.
WX CHANNEL	 	Change to weather channel mode (there are 10 channels in the weather mode).
PRIVATE CHANNEL	 	Change to private channel mode.

### 5.3 BASIC OPERATION

When powered on, the equipment will be initialized and set the default channel as CH16.

- ① **Initiate a voice call:** Set the transceiver to a channel desired. Hang off the microphone and press PTT button on the microphone and speak. “TX” will be indicated on LCD while PTT is pressed. Release PTT button to change the transceiver to the receiving status.  
Note: During transmission, the speaker is automatically muted.
- ② **End of call:** After the voice call is completed, hang up the microphone and the transceiver will return to CH16 in receiving mode automatically.
- ③ **DUAL WATCHING:** An additional channel and channel 16 is scanned. The additional channel is sampled for 1.85s and channel 16 is sampled for 0.15s. To stop scanning, press “ESC” button.
- ④ **Up/down key:** It is to change the channel number or move a cursor in the menu screen.

#### DUAL WATCH:

In DUAL WATCH, Channel 16 and an additional channel will be scanned to be watched. The additional channel can be selected by “F” key and “5/DW” key.

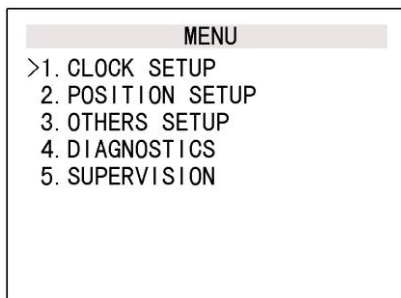
- Generally, CH16 will be sampled for 0.15s while the additional channel is sampled for 1.85s.
- When a signal is detected on CH16 during sampling, the scanning will stop and the receiver will stay on CH16 for receiving. As soon as the signal disappears on CH16, the scanning between two channels will restore.
- If a signal is detected on the additional channel during sampling, the transceiver will continue the sampling of 0.15s on CH16 every 2s when receiving on the additional channel. Whenever a signal is detected on CH16 during sampling, the transceiver will stay on CH16 for receiving, by ignoring the signal on the additional channel.

## 6. INITIAL SETUP



Press two keys in turn to enter the MENU screen as in right figure. Press up/down or number key directly to select the desired menu item.

To return to previous screen, press “ESC” key in the menu screen.

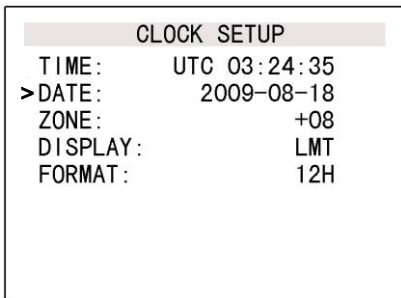
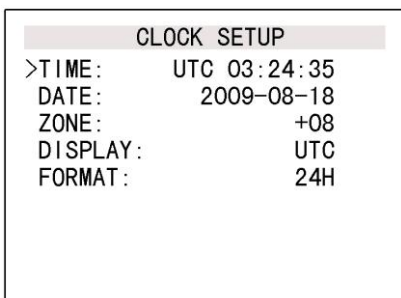


### 6.1 CLOCK SETUP

① **TIME SETUP:** Press up/down to select the setting item. Press “ENT” key on the cursor position then the cursor would be highlighted to configure current time. Press “ENT” again after setting. If value is input incorrectly, use up/down key to move position of highlighted cursor and re-enter value.

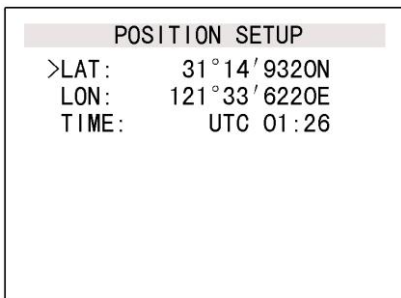
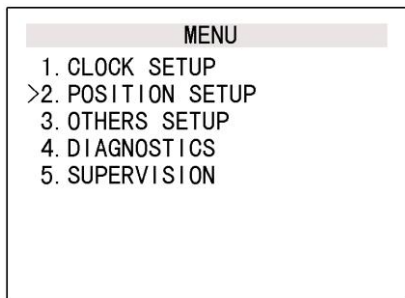
② **DATE SETUP:** After the time set, move cursor by using down key and enter year/month/date in the same way with time setup. ZONE and DISPLAY, FORMAT could be changed in the same way.

If setup is completed, press “ESC” key and confirm whether the input is correct, then press “APPLY” to store the new setting.



### 6.2 POSITION SETUP

If a GPS receiver is connected, current position will be updated automatically. But if the GPS receiver is not connected or the GPS data is not available, position data should be entered manually. Input current position manually in the same way with time setting.



### 6.3 OTHERS SETUP

#### - PRINTER

Set YES to print DSC message whenever received.

#### - PRINT ALL DSC

Set YES to print all received DSC message. If NO is set, only DISTRESS message will be printed.

#### - AUTOMATIC ACK

If YES is set, the equipment will respond to test message or position request message automatically.

#### - SPECIAL DSC

If YES is set, detailed items are to be selected:

1. ALL MODE TP.
2. MEDICAL X-PORTS.
3. SHIP&AIRCRAFT of TO ALL SHIPS of URGENCY CALL in DSC menu.

#### - PRIVATE CHANNEL

If YES is set, private channel will be available.

#### - WEATHER CHANNEL

If YES is set, weather channel will be available.

#### - DWELL ON

It can be used to adjust the sampling time during scanning.

#### - BRIGHTNESS

Backlight is adjusted by four steps from 0 ~ 3.

(Brightness is adjustable by using "F" key and up/down key in the initial screen.)

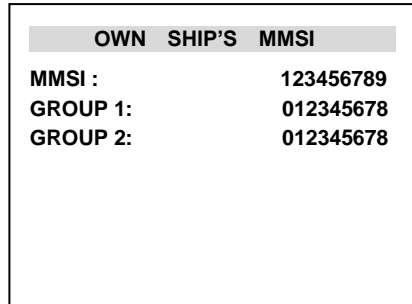
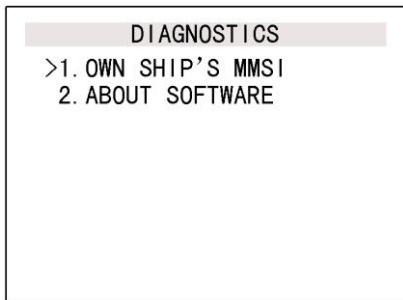
MENU	
1.	CLOCK SETUP
2.	POSITION SETUP
>3.	OTHERS SETUP
4.	DIAGNOSTICS
5.	SUPERVISION

OTHERS SETUP	
>PRINTER:	NO
PRINT ALL DSC:	NO
AUTOMATIC ACK:	NO
SPECIAL DSC:	YES
PRIVATE CHANNEL:	NO
WEATHER CHANNEL:	NO
DWELL ON:	2 ↓

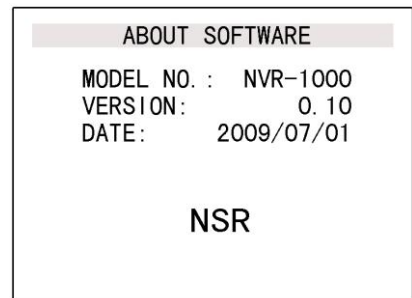
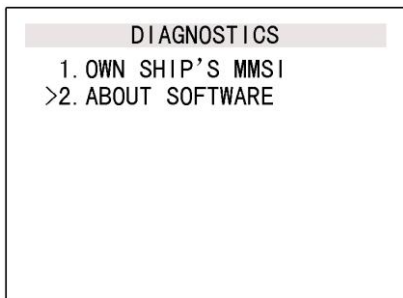
### 6.4 DIAGNOSTICS

- It is to check own ship's MMSI or current software version.
- It is to check own ship's MMSI and group ID and modification is not allowed here.

MENU	
1.	CLOCK SETUP
2.	POSITION SETUP
3.	OTHERS SETUP
>4.	DIAGNOSTICS
5.	SUPERVISION

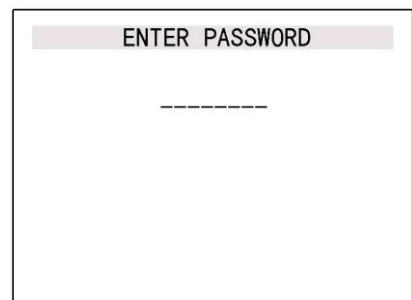
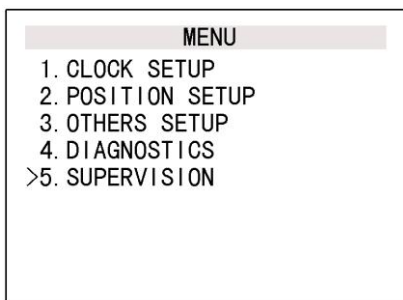


- Current software version can be checked.



## 6.5 SUPERVISION

The access for SUPERVISION is only for authorized service engineers. The password is required for the access. Please consult with the manufacturer for password information.



### - MMSI setup

Own ship's MMSI is individual MMSI assigned to the vessel by the authority.

GROUP 1 & GROUP 2 MMSIs are special for group DSC calling. Usually local administration can define such group MMSI for certain vessels for safety concern.

Both group MMSIs can leave empty if unavailable.



SUPERVISION	
>	1. MMSI SETUP
	2. TEST SIGNAL
	3. FACTORY DEFAULT

OWN SHIP'S	MMSI
MMSI :	123456789
GROUP 1:	012345678
GROUP 2:	012345678

### - TEST SIGNAL

Such test signal is used to diagnose the DSC facility within the equipment.

SUPERVISION	
	1. MMSI SETUP
>	2. TEST SIGNAL
	3. FACTORY DEFAULT

TEST SIGNAL	
>	Y-SIGNAL
	B-SIGNAL
	DOT PATTERN

Select Enter.

TEST SIGNAL	
>	Y-SIGNAL      ON
	B-SIGNAL      ON
	DOT PATTERN    ON

## 7. DSC CALLS

DSC (Digital Selective Calling) is an important mean for emergency calls at sea. It's a part of GMDSS (Global Maritime Distress and Safety System) set by IMO (International Marine Organization).

DSC should be primarily used for distress, urgent and safety call and response to such calls, in addition, it can be used for general service between ship to ship and ship to shore station and if automatic service is provided for by coastal stations for direct access to shore-based public telephone network.

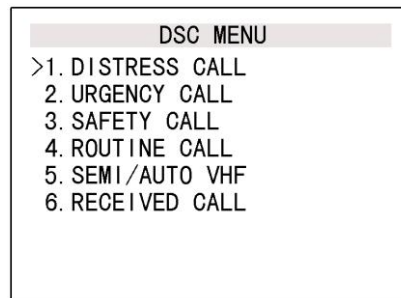
### 7.1 MAKE A DSC CALL



Press “F” and “7” key simultaneously to DSC menu.

All items are as follows in DSC menu.

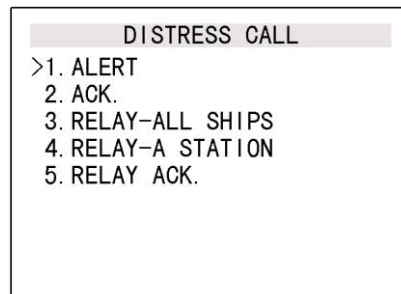
- DISTRESS CALL
- URGENCY CALL
- SAFETY CALL
- ROUTINE CALL
- SEMI / AUTO VHF
- RECEIVED CALL



#### 7.1.1 DISTRESS CALL

There are two ways to make a distress call:

- ① Open cover of **DISTRESS** button on the front panel of the equipment and press button for about 5s.
- ② Send the call by using the DSC menu. Select **DISTRESS CALL** to enter the sub-menu.



#### - ALERT

Enter ALERT item to make a distress call.

The position data is included in the message. When a GPS receiver is connected, the position will be updated automatically, otherwise the manual input is required. Send the call when completed. The distress call is sent to all vessels.

```

ENTER DISTRESS MSG
NATURE:
UNDESIGNATED
POSITION:
LAT: 31°14'9370N
LON: 121°33'6390E
TIME: UTC 07:47
    
```

```

SEND DSC
FORMAT: DISTRESS
FROM: 123456789
NATURE:
UNDESIGNATED
POSITION:
LAT: 30°14'9370N
LON: 121°33'6390E ↓
    
```

**- ACK**

It is to acknowledge a distress call.

```

ENTER DISTRESS MSG
DISTRESS MMSI:
000000000
NATURE:
UNDESIGNATED
POSITION:
LAT: --°--'-----
LON: ---°--'----- ↓
    
```

**- RELAY-ALL SHIPS**

It is to relay a distress call to all vessels.

```

ENTER DISTRESS MSG
DISTRESS MMSI:
000000000
NATURE:
UNDESIGNATED
POSITION:
LAT: --°--'-----
LON: ---°--'----- ↓
    
```

**- RELAY –A STATION**

It's to relay a distress call to a station. A particular MMSI is entered before send the call.

```

ENTER MMSI
CALL TO: 000000000
    
```

**- RELAY ACK**

It's to acknowledge a distress relay.

```

ENTER MMSI
CALL TO: 000000000
    
```

### 7.1.2 URGENCY CALL

Select **URGENCY CALL** to make an urgent call.

In the **URGENCY CALL** menu, there are two options, **TO ALL SHIPS** and **TO A STATION**.

DSC MENU
1. DISTRESS CALL
>2. URGENCY CALL
3. SAFETY CALL
4. ROUTINE CALL
5. SEMI/AUTO VHF
6. RECEIVED CALL

URGENCY CALL
>1. TO ALL SHIPS
2. TO A STATION

Select **TO ALL SHIPS**.

In the **TO ALL SHIPS** menu, select **ALL MODE TP**.

MESSAGE TYPE
>1. ALL MODE TP
2. MEDICAL X-PORTS
3. SHIPS&AIRCRAFT

ENTER CHANNEL NO
CHANNEL NO: 16

SEND DSC
FORMAT : INDIVIDUAL
TO : 987654321
CATEGORY : URGENCY
FROM : 123456789
1 : ALL MODES TP
2 : NO INFORMATION
RX CH NO : 0006
↓

In the **TO ALL SHIPS** menu, select **MEDICAL X-PORTS**.

MESSAGE TYPE
1. ALL MODE TP
>2. MEDICAL X-PORTS
3. SHIPS&AIRCRAFT

ENTER CHANNEL NO
CHANNEL NO: 16

SEND DSC			
FORMAT :	ALL SHIPS		
TO :	ALL SHIPS		
CATEGORY :	URGENCY		
FROM :	123456789		
1 :	ALL MODES TP		
2 :	MEDICAL X-PORTS		
RX	CH	NO	:
0006 ↓			

In the **TO ALL SHIPS** menu, select **SHIPS&AIRCRAFT**.

MESSAGE TYPE
1. ALL MODE TP
2. MEDICAL X-PORTS
>3. SHIPS&AIRCRAFT

ENTER CHANNEL NO
CHANNEL NO: 16

SEND DSC			
FORMAT :	ALL SHIPS		
TO :	ALL SHIPS		
CATEGORY :	URGENCY		
FROM :	123456789		
1 :	ALL MODES TP		
2 :	SHIP&AIRCRAFT		
RX	CH	NO	:
0006 ↓			

Select **TO A STATION**.

URGENCY CALL
1. TO ALL SHIPS
>2. TO A STATION

ENTER MMSI
CALL TO: 000000000

### 7.1.3 SAFETY CALL

It is same as URGENCY CALL.

Select **SAFETY CALL**.

In the **SAFETY CALL** menu, there are two options, **TO ALL SHIPS** and **TO A STATION**.

Select **TO ALL SHIPS**.

Select **TO ALL SHIPS**.

DSC MENU
1. DISTRESS CALL
2. URGENCY CALL
>3. SAFETY CALL
4. ROUTINE CALL
5. SEMI/AUTO VHF
6. RECEIVED CALL

SAFETY CALL
>1. TO ALL SHIPS
2. TO A STATION

ENTER CHANNEL NO
CHANNEL NO: 16

SEND DSC	
FORMAT :	ALL SHIPS
TO :	ALL SHIPS
CATEGORY :	URGENCY
FROM :	123456789
1 :	ALL MODE TP
2 :	NO INFORMATION
RX CH NO :	001
6 ↓	

Select **TO A STATION**.

SAFETY CALL
1. TO ALL SHIPS
>2. TO A STATION

In the **TO A STATION** menu, there are three options, **ALL MODE TP**, **POSITION REQUEST** and **TEST**.

Select **ALL MODE TP**.

MESSAGE TYPE
>1. ALL MODE TP
2. POSITION REQUEST
3. TEST

ENTER MMSI
CALL TO: 000000000

Select **POSITION REQUEST**.

MESSAGE TYPE

1. ALL MODE TP
- >2. POSITION REQUEST
3. TEST

ENTER MMSI

CALL TO: 000000000

Select **TEST**.

MESSAGE TYPE

1. ALL MODE TP
2. POSITION REQUEST
- >3. TEST

ENTER MMSI

CALL TO: 000000000

### 7.1.4 ROUTINE CALL

It is same as URGENCY CALL.

DSC MENU

1. DISTRESS CALL
2. URGENCY CALL
3. SAFETY CALL
- >4. ROUTINE CALL
5. SEMI/AUTO VHF
6. RECEIVED CALL

Select **TO SHIPS GROUP**.

ROUTINE CALL

- >1. TO SHIPS GROUP
2. TO A STATION

ENTER GROUP MMSI

CALL TO: 000000000

Select **TO A STATION**.

Select **ALL MODE TP** in the **TO A STATION**.

ROUTINE CALL

1. TO SHIPS GROUP
- >2. TO A STATION

MESSAGE TYPE

- >1. ALL MODE TP
2. DATA
3. POLLING

ENTER MMSI

CALL TO: 000000000

Select **DATA**.

MESSAGE TYPE

1. ALL MODE TP
- >2. DATA
3. POLLING

ENTER MMSI

CALL TO: 000000000

Select **POLLING**.

MESSAGE TYPE

1. ALL MODE TP
2. DATA
- >3. POLLING

ENTER MMSI

CALL TO: 000000000



### 7.1.5 SEMI / AUTO VHF

SEMI/AUTO VHF service is only possible when coastal stations provide such public service. In the case, ship's radio can connect to public telephone network directly without operator's assistance. Now the service is available at very few stations. For automatic telephone connection, select "**SEMI / AUTO VHF**".

1. **ALL MODE TP**: for voice communication.
2. **DATA**: to send message. (DATA function is not available).

DSC MENU
1. DISTRESS CALL
2. URGENCY CALL
3. SAFETY CALL
4. ROUTINE CALL
>5. SEMI/AUTO VHF
6. RECEIVED CALL

MESSAGE TYPE
>1. ALL MODE TP
2. DATA

ENTER MMSI
CALL TO: 000000000

Select **1. ALL MODE TP** and input MMSI of the nearby VHF coast station.

When a station is connected, select a channel for follow-up communication. The channel should be available at the station.

Enter the telephone number you want to talk to.

The user is required to consult with coast station for right calling procedure before make such SEMI/AUTO phones.

MESSAGE TYPE
1. ALL MODE TP
>2. DATA

ENTER MMSI
CALL TO: 000000000

Confirm contents of message to be sent, press "**ENT**" key to transmit.

### 7.1.6 TRANSMIT A STORED DSC MESSAGE

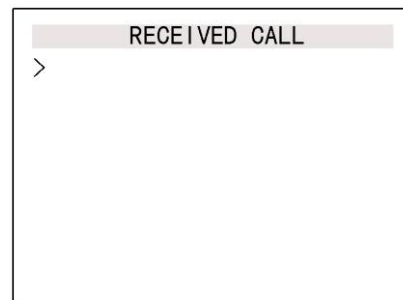
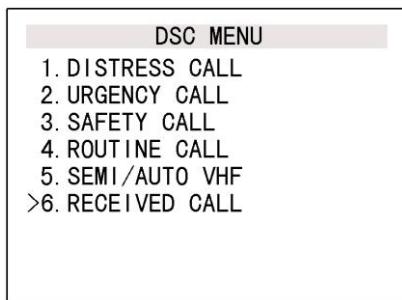
DSC message received previously could be opened and transmitted without re-enter of MMSI.

### 7.2 RECEIVE A DSC CALL

If a DSC call is received, message is indicated in LCD and stored automatically. If the printer is set "ON" in user setup menu, received message will be printed automatically.

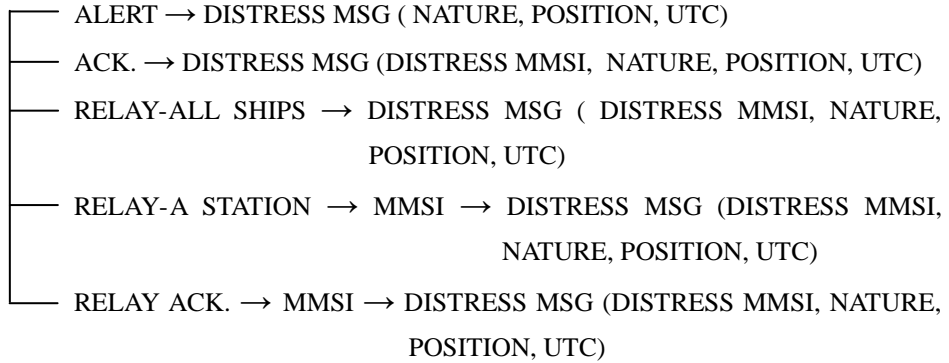
The message indicated in LCD varies with type of call.

If received DSC message is indicated in LCD, press "ESC" then main screen will be displayed in LCD and processing of received DSC message would be stored once and held. Reserved message could be confirmed in DSC menu showed by pressing DSC key.



**7.3 DSC MENU TREE**

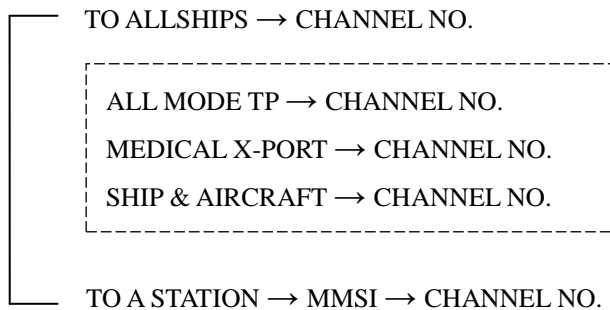
**7.3.1 DISTRESS CALL**



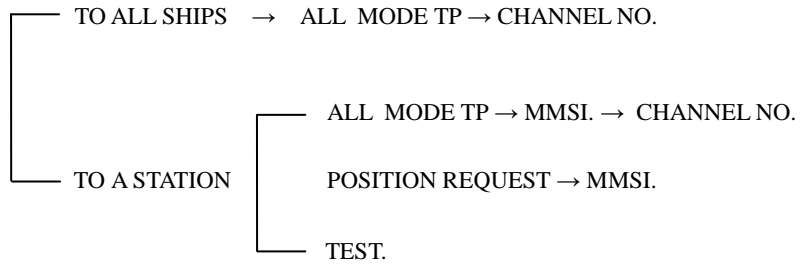
**DISTRESS NATURE:**

- FIRE, EXPLOSION
- FLOODING
- COLLISION
- GROUNDING
- LISTING
- SINKING
- DISABLED & ADRIFT
- ABANDONING SHIP
- PIRACY ATTACK
- MAN OVERBOARD
- EPIRB EMISSION

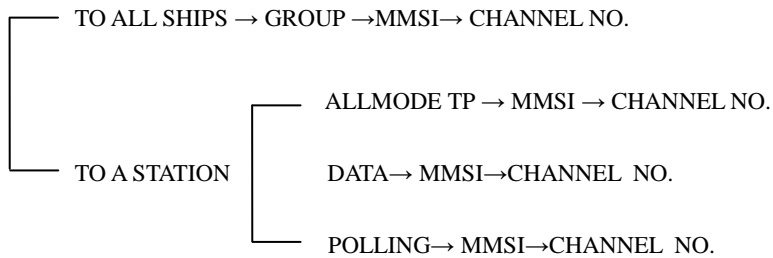
**7.3.2 URGENCY CALL**



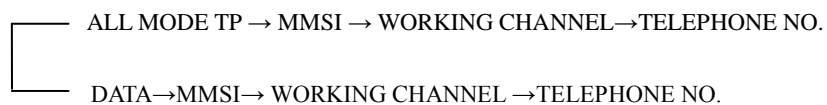
**7.3.3 SAFETY CALL**



**7.3.4 ROUTINE CALL**



**7.3.5 SEMI / AUTO VHF**



## 8. INSTALLATION

### 8.1 VHF ANTENNA INSTALLATION

There are two VHF antennas to be connected, one for voice communications and the other for DCS watch.

It's very important to choose a proper location for VHF antenna as a metal object close to the antenna could affect receiving sensitivity.

**The following instructions are helpful:**

- The antenna should be kept at least 0.5m from a vertical metal object to avoid RF reflection.
- The antenna should be kept at least 3m from other high power radiator, such as radar antenna.
- Two VHF antennas should not be installed at the same height. The new VHF antenna can be installed either under or above the existing VHF antenna. The distance between should be more than 2.8m. If two antennas have to be installed at the same height, the distance between should be more than 10m.

**For the cabling, please refer to below suggestions:**

- The shorter the cable, the less the loss. The low-loss cable is recommended if the cable is longer than 10m.
- Watertight treatment is required for outdoor connecting.
- The RF cable should be kept at least 10cm from the power cable. The cable cross should be avoided.

### 8.2 TRANSCEIVER INSTALLATION

Four screws are supplied to mount the transceiver. The transceiver can be installed either on table or on wall.

Care must be taken when mounting the transceiver to ensure that there is sufficient space for cables and connectors. Especially, sharp bending of the RF cable must be avoided.

### 8.3 CONNECTION

#### 8.3.1 POWER SUPPLY

The power cable with a rated capacity of 10A should be used. Suggest using the 10A DC Power Supply Unit (DC13.5V output).

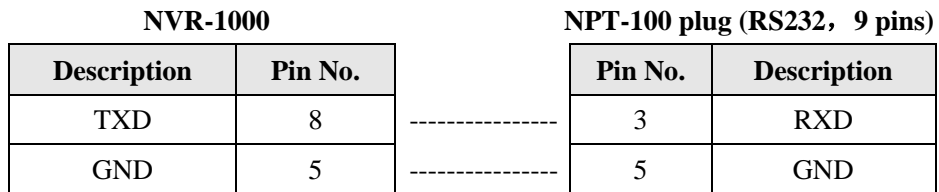
**8.3.2 GPS DATA INPUT**

Use pin 3/7 for connection with GPS receiver. The input data forma should be NMEA0183/4800bps, as IEC61162-1 standard. Refer to the installation diagram in Appendix II.

**8.3.3 CONNECT TO PRINTER**

As an optional device, NSR NPT-100 is recommended as the printer used for NVR-1000.

- Part No. : **NPT-100**
- Rating : **DC6.5V 15W**



Necessary settings are needed for NPT-100 before properly working with NVR-1000. Please refer to the manual supplied by the printer maker. The settings include the following parameters:

**- Serial port setting**

The output of NPT-100 should be set as SERIAL.

**- Baud rate setting**

NPT-100's baud rate can be 75, 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200bps.

As the default rate, both NVR-1000 and NPT-100 have been set at 4800bps in factory.

**8.3.4 CONNECT TO (S)VDR**

NVR-1000 outputs RX AUDIO/pin2 and TX AUDIO/pin6. Optional connection box NVC100 is needed to output balanced audio signals for (S)VDR.

## Appendix I. CHANNEL TABLE

### ITU Channel Table

Ch.	Send (MHz)	Receive (MHz)	Only for 1W	Ch.	Send (MHz)	Receive (MHz)	Only for 1W
01	156.050	160.650	-	20	157.000	161.600	-
02	156.100	160.700	-	21	157.050	161.650	-
03	156.150	160.750	-	22	157.100	161.700	-
04	156.200	160.800	-	23	157.150	161.750	-
05	156.250	160.850	-	24	157.200	161.800	-
06	156.300	156.300	-	25	157.250	161.850	-
07	156.350	160.950	-	26	157.300	161.900	-
08	156.400	156.400	-	27	157.350	161.950	-
09	156.450	156.450	-	28	157.400	162.000	-
10	156.500	156.500	-	60	156.025	160.625	-
11	156.550	156.550	-	61	156.075	160.675	-
12	156.600	156.600	-	62	156.125	160.725	-
13	156.650	156.650	-	63	156.175	160.775	-
14	156.700	156.700	-	64	156.225	160.825	-
15	156.750	156.750	1W	65	156.275	160.875	-
16	156.800	156.800	-	66	156.325	160.925	-
17	156.850	156.850	1W	67	156.375	156.375	-
18	156.900	161.500	-	68	156.425	156.425	-
19	156.950	161.550	-	69	156.475	156.475	-
70	156.525	156.525	-				
71	156.575	156.575	-				
72	156.625	156.625	-				
73	156.675	156.675	-				
74	156.725	156.725	-				
75	156.775	156.775	1W				
76	156.825	156.825	1W				
77	156.875	156.875	-				
78	156.925	161.525	-				
79	156.975	161.575	-				
80	157.025	161.625	-				
81	157.075	161.675	-				
82	157.125	161.725	-				
83	157.175	161.775	-				
84	157.225	161.825	-				
85	157.275	161.875	-				
86	157.325	161.925	-				
87	157.375	157.375	-				
88	157.425	157.425	-				

USA Channel Table

Ch.	Send (MHz)	Receive (MHz)	Only for 1W	Ch.	Send (MHz)	Receive (MHz)	Only for 1W
01	156.050	156.050	-	21	157.050	157.050	-
02	-	-	-	22	157.100	157.100	-
03	156.150	156.150	-	23	157.150	157.150	-
04	-	-	-	24	157.200	161.800	-
05	156.250	156.250	-	25	157.250	161.850	-
06	156.300	156.300	-	26	157.300	161.900	-
07	156.350	156.350	-	27	157.350	161.950	-
08	156.400	156.400	-	28	157.400	162.000	-
09	156.450	156.450	-	60	-	-	-
10	156.500	156.500	-	61	156.075	160.675	-
11	156.550	156.550	-	62	-	-	-
12	156.600	156.600	-	63	156.175	156.175	-
13	156.650	156.650	1 W	64	156.225	160.825	-
14	156.700	156.700	-	65	156.275	156.275	-
15	-	156.750	-	66	156.325	156.325	-
16	156.800	156.800	-	67	156.375	156.375	1W
17	156.850	156.850	-	68	156.425	156.425	-
18	156.900	156.900	-	69	156.475	156.475	-
19	156.950	156.950	-	70	156.525	156.525	-
20	157.000	157.000	-	71	156.575	156.575	-
72	156.625	156.625	-				
73	156.675	156.675	-				
74	156.725	156.725	-				
75	-	-	-				
76	-	-	-				
77	156.875	156.875	1W				
78	156.925	156.925	-				
79	156.975	156.975	-				
80	157.025	157.025	-				
81	157.075	157.075	-				
82	157.125	157.125	-				
83	157.175	157.175	-				
84	157.225	161.825	-				
85	157.275	161.875	-				
86	157.325	161.925	-				
87	157.375	157.375	-				
88	157.425	157.425	-				



CAN Cannel Table

Ch.	Send (MHz)	Receive (MHz)	Only for 1W	Ch.	Send (MHz)	Receive (MHz)	Only for 1W
01	156.050	160.650	-	21	157.050	161.650	-
02	156.100	160.700	-	22	157.100	161.700	-
03	156.150	160.750	-	23	157.150	161.750	-
04	156.200	160.800	-	24	157.200	161.800	-
05	156.250	160.850	-	25	157.250	161.850	-
06	156.300	156.300	-	26	157.300	161.900	-
07	156.350	160.950	-	27	157.350	161.950	-
08	156.400	156.400	-	28	157.400	162.000	-
09	156.450	156.450	-	60	156.025	156.025	-
10	156.500	156.500	-	61	156.075	156.075	-
11	156.550	156.550	-	62	156.125	156.125	-
12	156.600	156.600	-	63	156.175	160.775	-
13	156.650	156.650	-	64	156.225	156.225	-
14	156.700	156.700	-	65	156.275	160.875	-
15	156.750	156.750	-	66	156.325	160.925	-
16	156.800	156.800	-	67	156.375	156.375	-
17	156.850	156.850	-	68	156.425	156.425	-
18	156.900	161.500	-	69	156.475	156.475	-
19	156.950	161.550	-	70	156.525	156.525	-
20	157.000	161.600	-	71	156.575	156.575	-
72	156.625	156.625	-				
73	156.675	156.675	-				
74	156.725	156.725	-				
75	156.775	156.775	-				
76	156.825	161.425	-				
77	156.875	156.875	-				
78	156.925	161.525	-				
79	156.975	161.575	-				
80	157.025	161.625	-				
81	157.075	161.675	-				
82	157.125	161.725	-				
83	157.175	161.775	-				
84	157.225	161.825	-				
85	157.275	161.875	-				
86	157.325	161.925	-				
87	157.375	157.375	-				
88	157.425	157.425	-				

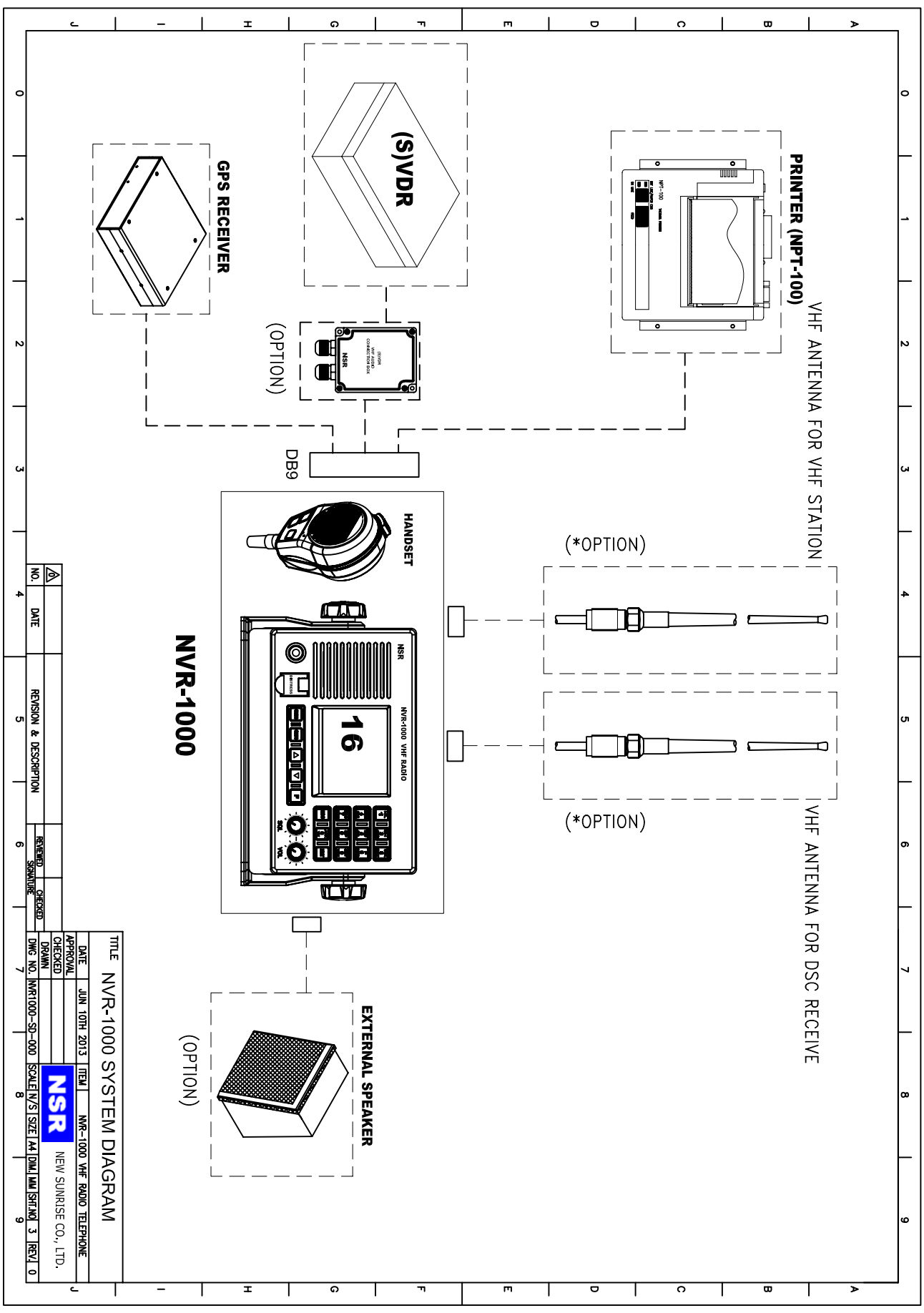
**Private Channel (simplex)**

Ch.	Freq. (MHz)	Ch.	Freq. (MHz)	Ch.	Freq.(MHz)
000	157.450	021	158.500	042	159.550
001	157.500	022	158.550	043	159.600
002	157.550	023	158.600	044	159.650
003	157.600	024	158.650	045	159.700
004	157.650	025	158.700	046	159.750
005	157.700	026	158.750	047	159.800
006	157.750	027	158.800	048	159.850
007	157.800	028	158.850	049	159.900
008	157.850	029	158.900	050	159.950
009	157.900	030	158.950	051	157.475
010	157.950	031	159.000	052	157.525
011	158.000	032	159.050	053	157.575
012	158.050	033	159.100	054	157.625
013	158.100	034	159.150	055	157.675
014	158.150	035	159.200	056	157.725
015	158.200	036	159.250	057	157.775
016	158.250	037	159.300	058	157.825
017	158.300	038	159.350	059	157.875
018	158.350	039	159.400	060	157.925
019	158.400	040	159.450	061	157.975
020	158.450	041	159.500	062	158.025
063	158.075	086	159.225		
064	158.125	087	159.275		
065	158.175	088	159.325		
066	158.225	089	159.375		
067	158.275	090	159.425		
068	158.325	091	159.475		
069	158.375	092	159.525		
070	158.425	093	159.575		
071	158.475	094	159.625		
072	158.525	095	159.675		
073	158.575	096	159.725		
074	158.625	097	159.775		
075	158.675	098	159.825		
076	158.725	099	159.875		
077	158.775				
078	158.825				
079	158.875				
080	158.925				
081	158.975				
082	159.025				
083	159.075				
084	159.125				
085	159.175				

**WX (Weather) Channel Table**

<b>Ch.</b>	<b>Freq.( MHz)</b>
WX01	162.550
WX02	162.400
WX03	162.475
WX04	162.425
WX05	162.450
WX06	162.500
WX07	162.525
WX08	161.650
WX09	161.775
WX10	163.275

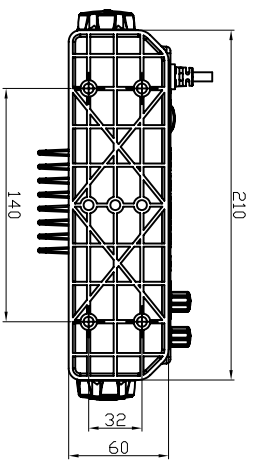
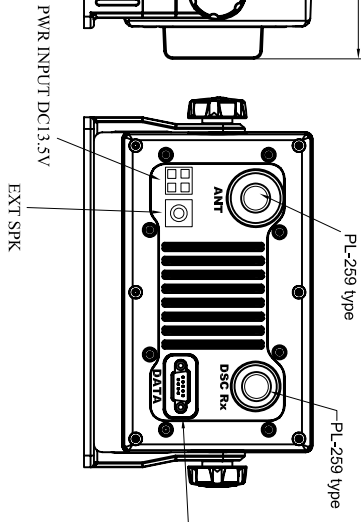
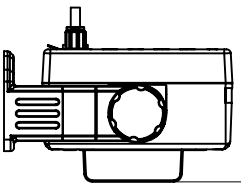
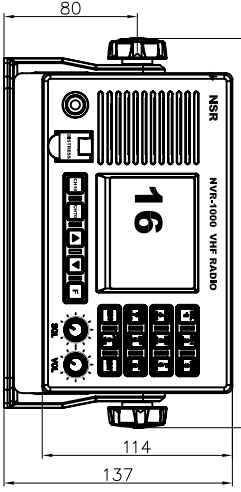
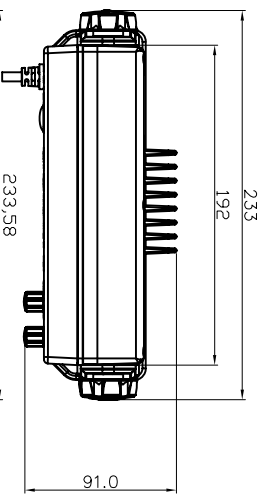
**Appendix II. INSTALLATION DRAWINGS**



TITLE		NVR-1000 SYSTEM DIAGRAM	
DATE	JUN 10TH 2013	ITEM	NVR-1000 VHF RADIO TELEPHONE
APPROVAL		CHECKED	
CHECKED		DRAWN	
DWG NO.	INR1000-S0-000	SCALE	1/3 SIZE (A4 DIM) (MM)
		SIZE	3 REV 0

NO.	DATE	REVISION & DESCRIPTION	REVIEWED SIGNATURE	CHECKED SIGNATURE
4				
5				
6				
7				
8				
9				

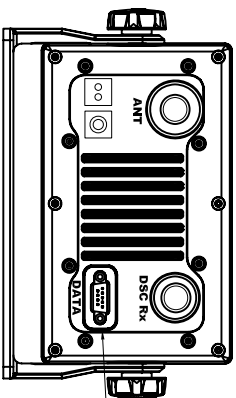
NO.	DATE	REVISION & DESCRIPTION	REVIEWED / CHECKED SIGNATURE
△			



1. SPARE
2. RX AUDIO OUT\_for VDR
3. NEMA-\_for GPS
4. SPARE
5. GND\_for printer
6. TX AUDIO OUT\_for VDR
7. NEMA+\_for GPS
8. TXD\_for printer

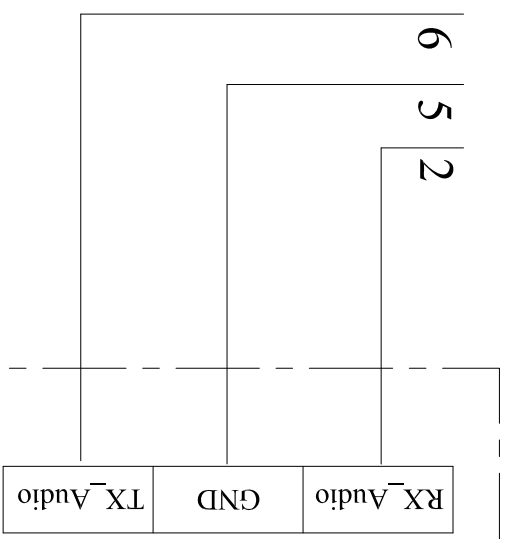
**NOTE**  
1. FITTING HOLE SIZE = 140\*32-7φ HOLE

APPLICATION			
NVR-1000 VHF SIZE DRAWING			
DATE	20110323	ITEM	NVR-1000 VHF RADIO DRAWING
APPROVAL		SCALE	N/S
CHECKED		DRAWING	
DWG NO.	NVR1000-DW-001	SIZE	A4
<b>NSR</b> NEW SUNRISE CO., LTD.			

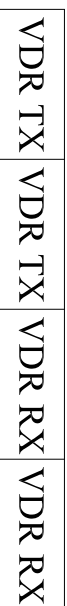


**TO NVR-1000**

1. SPARE
2. RX AUDIO OUT
3. NEMA+ (GPS)
4. SPARE
5. GND
6. TX AUDIO OUT
7. NEMA- (GPS)
8. TXD (printer)
9. SPARE



**NVC100 Audio Converter for VDR**



**TO VDR**

NO.	DATE	REVISION & DESCRIPTION	REVIEWED / CHECKED SIGNATURE
△			

APPLICATION			
NVC100 AUDIO CONVERTER FOR VDR			
DATE	2013.07.04	ITEM	SIZE [A4]
APPROVAL		SCALE [N/S] UNIT [mm]	SCALE [1/1] UNIT [mm]
CHECKED		DRAWING	
DWG. NO.	NVR1000-DW-010		
<b>NSR</b> NEW SUNRISE CO., LTD.			