ICOM

BASIC MANUAL

VHF MARINE TRANSCEIVER

GM600

Icom Inc.

Thank you for choosing this Icom product.
The GM600 VHF MARINE TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

The GM600 has the Class A DSC functions for a distress alert transmission and reception, as well as the general DSC calls (Individual call, All Ships call, Group call, and so on).

You must connect the GM600 to the DC power supply through the PS-310 that is sold by the set with the GM600.

EN60945 Environmental category
The GM600 is protected from the weather.
The PS-310 is protected from the weather.

IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL — This instruction manual contains important operating instructions for the GM600.

See the English GM600 Instruction manual for details of the functions that are not in this Basic manual.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

DISPOSAL

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

IN CASE OF EMERGENCY

If your vessel requires assistance, contact other vessels and the Coast Guard by sending a Distress call on Channel 16.

USING CHANNEL 16
DISTRESS CALL PROCEDURE
1. "MAYDAY MAYDAY MAYDAY."
2. "THIS IS ....." (name of vessel).
3. Say your call sign or other description of the vessel (AND 9 digit DSC ID if you have one).
4. "LOCATED AT ....." (your position).
5. State the nature of the distress and assistance required.
6. Give any other information which might facilitate the rescue.

Or, transmit your Distress call using digital selective calling on Channel 70.

USING DIGITAL SELECTIVE CALLING (Ch 70)
DISTRESS CALL PROCEDURE
1. While lifting up the key cover, hold down [DISTRESS] for 3 seconds until you hear 3 short beeps and then one long beep.
2. Wait for an acknowledgment on Channel 70 from a coast station.
   • After the acknowledgement is received, Channel 16 is automatically selected.
3. Hold down [PTT], then transmit the appropriate information as listed to the left.

INSTALLATION NOTE

Installation:
The installation of this equipment should be made in such a manner as to respect the EC recommended electromagnetic field exposure limits. (1999/519/EC)

The maximum RF power available from this device is 25 watts. The antenna should be installed as high as possible for maximum efficiency and the installation height should be at least 1.76 meters above any accessible position. In the case where an antenna cannot be installed at a reasonable height, then the transmitter should neither be continuously operated for long periods if any person is within a distance of 1.76 meters of the antenna, nor operated at all if any person is touching the antenna.

It is recommended that antenna of a maximum gain of 3 dB is used. If higher gain antenna are required then please contact your Icom distributor for revised installation recommendations.

Operation:
The exposure to RF electromagnetic field is only applicable when this device is transmitting. This exposure is naturally reduced due to the nature of alternating periods of receiving and transmitting. Keep your transmissions to the minimum necessary.

PRECAUTIONS

⚠**WARNING! NEVER** connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

⚠**WARNING! NEVER** connect the transceiver to an external DC power supply directly. The transceiver should be connected to the DC power supply through the PS-310 that is sold by the set with this transceiver. Be sure to not connect with reverse polarity.

PS-310's version	Input voltage	Output voltage
#01	21.6 ~ 31.2 V DC	12.6 V DC
#02	10.8 ~ 15.6 V DC	12.6 V DC

⚠**WARNING! NEVER** cut the DC power cable between the DC plug at the back of the transceiver and fuse holder. If an incorrect connection is made after cutting, the transceiver may be damaged.

⚠**WARNING! NEVER** operate the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power souce and antenna before a storm.

CAUTION: NEVER place the transceiver where normal operation of the vessel may be hindered, or where it could cause bodily injury.

KEEP the transceiver and microphone at least 1 m away from the vessel's magnetic navigation compass.

DO NOT place or leave the transceiver in areas with temperatures below –15°C or above +55°C, or in areas subject to direct sunlight, such as a dashboard.

DO NOT use harsh solvents such as benzine or alcohol to clean the transceiver, as they will damage the transceiver's surfaces. If the transceiver becomes dusty or dirty, wipe it clean with a soft, dry cloth.

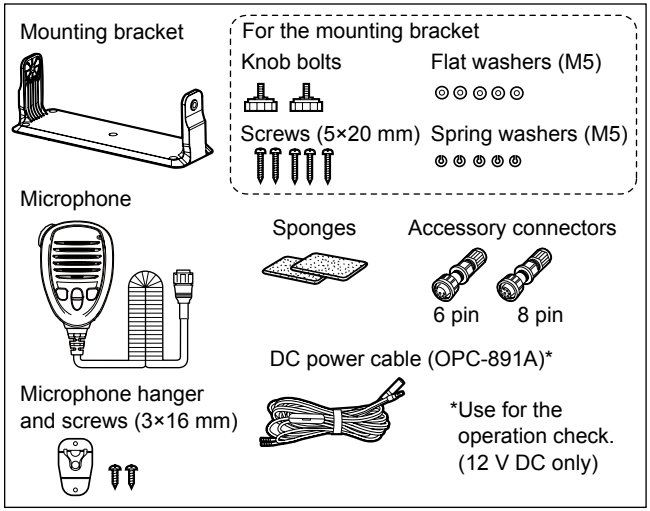
BE CAREFUL! The transceiver rear panel will become hot when operating continuously for long periods of time.

Place the transceiver in a secure place to avoid inadvertent use by children.

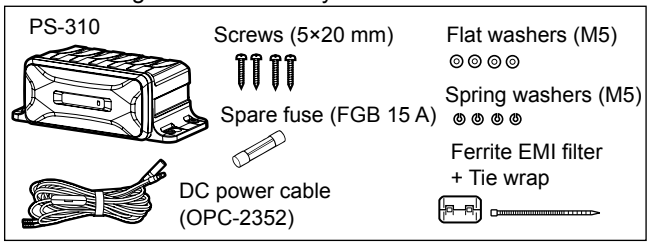
BE CAREFUL! The transceiver's front panel meets IPX7* requirements for waterproof protection. However, once the front panel has been dropped, or the waterproof seal is cracked or damaged, waterproof protection cannot be guaranteed because of possible damage to the case or the waterproof seal.
*The connectors on the rear panel do not meet IPX7.
If the front panel is exposed to saltwater, **BE SURE TO CLEAN IT THOROUGHLY WITH FRESH WATER** when the front panel's waterproof protection is effective. Otherwise, the keys and switch may become inoperable due to salt crystallization.

Icom is not responsible for the destruction or damage to the Icom transceiver, if the malfunction is because of:
- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightnings, or other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom transceiver with any equipment that is not manufactured or approved by Icom.

SUPPLIED ACCESSORIES



The following items are sold by the set with the GM600.



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1 OPERATING RULES

◇ Priorities

- Read all rules and regulations pertaining to call priorities, and keep an up-to-date copy handy. Safety and distress calls take priority over all others.
- You must monitor Channel 16 when you are not operating on another channel.
- False or fraudulent distress calls are prohibited under law.

◇ Privacy

- Information overheard, but not intended for you, cannot lawfully be used in any way.
- Indecent or profane language is prohibited.

◇ Radio licenses

(1) SHIP STATION LICENSE

You may require a current radio station license before using the transceiver. It is unlawful to operate a ship station which is not licensed, but required to be.

If required, contact your dealer or the appropriate government agency for a Ship-Radiotelephone license application. This government-issued license states the call sign which is your craft's identification for radio purposes.

(2) OPERATOR'S LICENSE

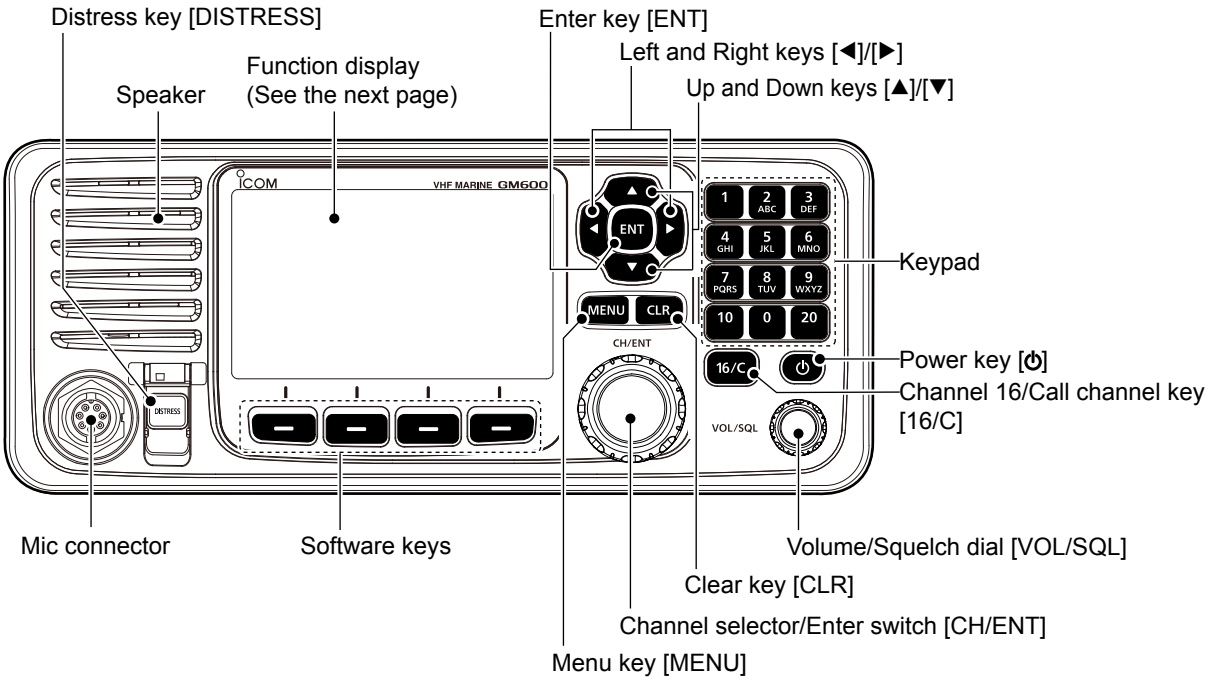
A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes.

If required, the Restricted Radiotelephone Operator Permit must be posted or kept with the operator. If required, only a licensed radio operator may operate a transceiver.

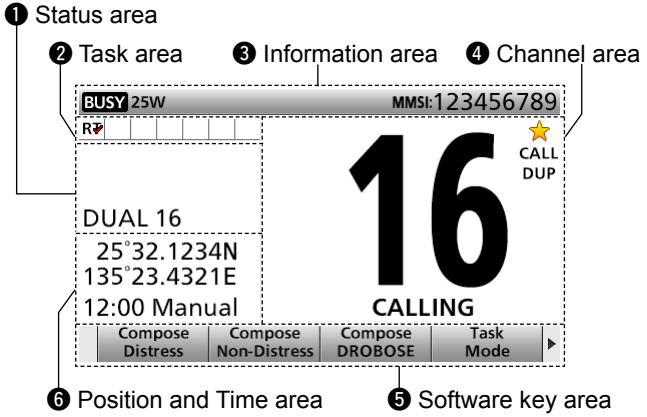
However, non-licensed individuals may talk over a transceiver if a licensed operator starts, supervises, ends the call and makes the necessary log entries.

A current copy of the applicable government rules and regulations is only required to be on hand for vessels in which a radio telephone is compulsory. However, even if you are not required to have these on hand it is your responsibility to be thoroughly acquainted with all pertinent rules and regulations.

■ Front panel


Distress key [DISTRESS]
Speaker
Function display
(See the next page)
Enter key [ENT]
Left and Right keys [◀]/[▶]
Up and Down keys [▲]/[▼]
Keypad
Power key [⏻]
Channel 16/Call channel key [16/C]
Volume/Squelch dial [VOL/SQL]
Clear key [CLR]
Channel selector/Enter switch [CH/ENT]
Menu key [MENU]
Software keys
Mic connector
ICOM
VHF MARINE GM600
ENT
MENU
CLR
CH/ENT
16/C
VOL/SQL
DISTRESS

■ Function display (Main screen)



Display area	Description
❶ **Status area**	Displays the current status.
❷ **Task area**	Displays up to 7 task icons.
❸ **Information area**	Displays various icons and the MMSI code.
❹ **Channel area**	Displays the selected operating channel information.
❺ **Software key area**	Displays the key function for each software key.
❻ **Position and Time area**	Displays the current position and time.

◇ Status area

The current status is displayed in the Status area.

Indication	Description
SCAN 16	Displayed during a Priority scan.
SCAN	Displayed during a Normal scan.
DUAL 16	Displayed during Dualwatch.
TRI 16	Displayed during Tri-watch.

◇ Task area

Up to 7 task icons are displayed in the Task area when the transceiver has a task.

Indication	Description
RT	Displayed while in the Radio Telephone (RT) mode. • "R" is displayed when the RT mode task is activated. • Disappears if no operation occurs during the preset period of time.
	Displayed after receiving a DSC call. • " " is displayed when the RX call task is activated.
	Displayed after making a DSC call. • " " is displayed when the TX call task is activated.

◇ Information area

The 9 digit MMSI (Maritime Mobile Service Identity: DSC self ID) code and the following indications are displayed in the Information area.

Indication	Description
BUSY	Displayed when receiving a signal or when the squelch is open.
TX	Displayed while transmitting.
25W	Displayed when high power is selected.
1W	Displayed when low power is selected.
	Displayed when the transceiver receives a valid GPS data from the GPS receiver. Blinks while invalid GPS data is being received.
	Blinks when there is an unread DSC message.
	Displayed when the “Internal Speaker” item is OFF.
	Displayed when the battery voltage is low.

◇ Channel area

The selected operating channel number, channel name, and the following indications are displayed in the Channel area.

Indication	Description
	Displayed when a Favorite (Tag) channel is selected.
CALL	Displayed when the Call channel is selected.
DUP	Displayed when a Duplex channel is selected.

◇ Position and Time area

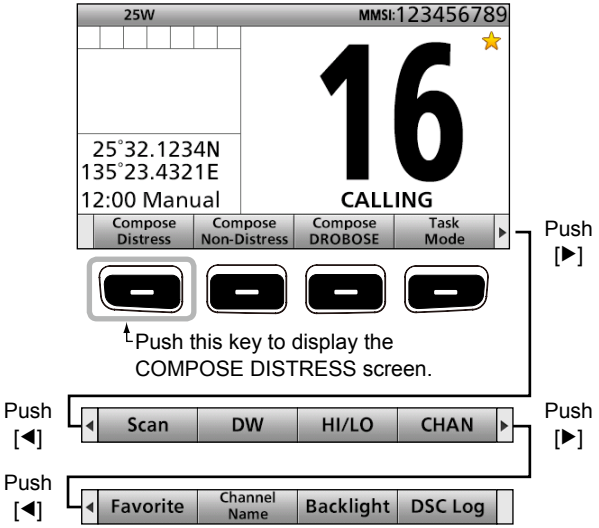
The current position and time are displayed when a GPS receiver is connected, or the position and the time has been manually entered.

■ Software key function

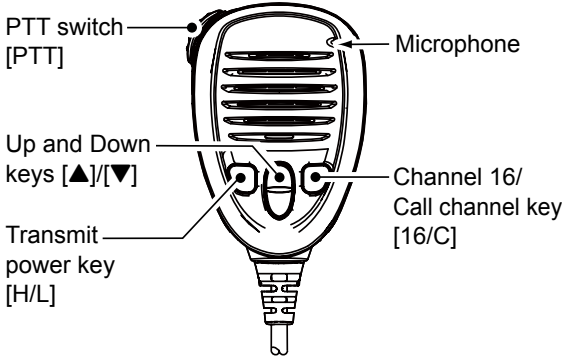
The transceiver has the software keys for various functions. The key function is displayed above the software key, as shown below.

◇ Selecting the software key function

When "◀" or "▶" is displayed beside the key icon, pushing [◀] or [▶] scrolls the software key functions.
When you push [◀] or [▶] once, 4 functions scroll together.



■ Speaker Microphone



■ Entering the MMSI code

First, you must enter the 9 digit MMSI (Maritime Mobile Service Identity: DSC self ID) code at power ON.

You can perform this initial code entry ONLY ONCE. After entry, only your dealer or distributor can change it. If you have already entered your MMSI code, these procedures are not necessary.

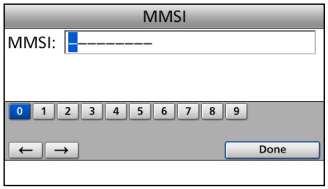
① Hold down [⏻] for 1 second to turn ON the transceiver.
- Three short beeps sound.
- "Push [ENT] to Register Your MMSI" is displayed.

② Push [ENT].

Push ENT

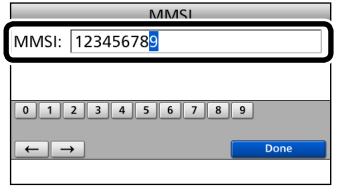
- Push [CLR] to cancel the entry. In that case, the transceiver displays "Push [ENT] to Register Your MMSI" again.

③ Enter your 9 digit MMSI code.



Push 1 2 3 4 5 6 7 8 9 10 0 20 + Rotate CH/ENT

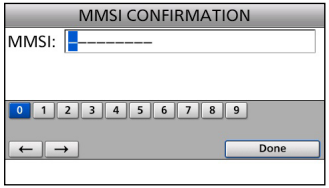
④ After entering the 9th digit, set the ID.



Push ENT

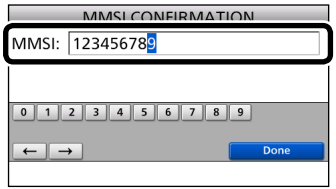
- The MMSI CONFIRMATION screen is displayed.

⑤ Reenter your MMSI code to confirm.



Push 1 2 3 4 5 6 7 8 9 10 0 20 + Rotate CH/ENT

⑥ After entering the 9th digit, register the ID.



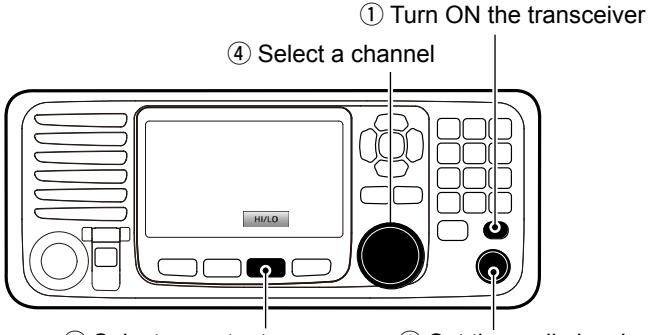
Push ENT

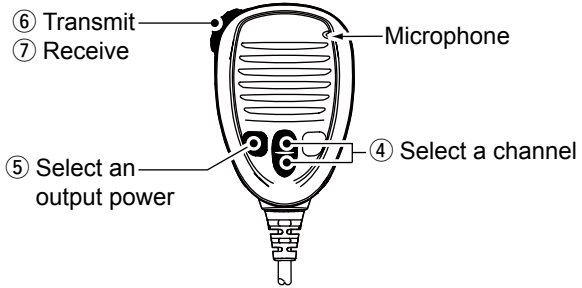
- When you successfully enter your MMSI code, the following screen is displayed.

- After that, the Main screen is displayed. The registered MMSI code is displayed at the top of the screen.

■ Transmitting and receiving

Follow the procedures as described below to transmit and receive.





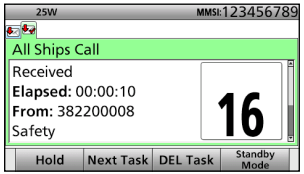
IMPORTANT: To maximize the readability of your transmitted signal at a receiver station, pause a second after pushing [PTT], and then hold the microphone 5 to 10 cm from your mouth and speak at your normal voice level.

NOTE for the TOT (Time-out Timer) function
The TOT function inhibits continuous transmission beyond a preset time period after the transmission starts.
10 seconds before transmission is cut off, a beep sounds to indicate the transmission will be cut off, and "TOT" appears in the channel name field. Release [PTT] once to end your transmission and reset the timer. You cannot transmit for 10 seconds after it is cut off.

TIP: After receiving a signal or you operate the transceiver, the transceiver enters the Radio Telephone (RT) mode.
In the RT mode, you can make a voice communication except for the DSC operation.
- "RT" is displayed while in the RT mode.
- "RT" is displayed when the RT mode task is activated.
- "RT" or "RT" disappears if no operation occurs during the preset period of time.
- The following software key functions are not displayed in the RT mode.
  [Compose Distress]
  [Compose Non-Distress]
  [Compose DROBOSE]

■ DSC Task mode

After sending or receiving a DSC call, the transceiver enters the DSC Task mode.



(Example: After receiving the All Ships call)

In the Task mode, you can resend the call, or send an acknowledgement to the caller station, and so on.

- The transceiver can hold up to 7 task.
- In the standby mode, a task icon is displayed in the Task area, when the transceiver has a DSC task.
- When any task icon is displayed in the standby mode, you can enter the Task mode by pushing [Task Mode] [—].

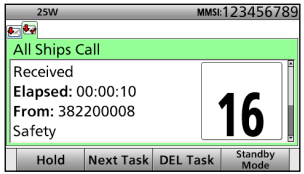
NOTE: The Task window has a TOT (Time-out Timer) function. When you push no key for a preset period of time, the transceiver automatically closes the Task window.
The count down alarm sounds 10 seconds before the TOT activates.
No count down alarm sounds before Radio Telephone TOT activates.
The default settings of the TOT function are shown below.

- Distress call: OFF
- Non-Distress call: 15 minutes

◇ About "Active" and "Hold"

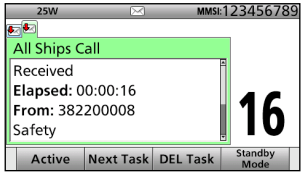
The Task mode has two statuses, Active and Hold.
When you resend the call, or send an acknowledgement to a caller station, push [Active] [—] to activate the Task window.

• Active window



- "✔" is displayed on the active Task tab.
- To view the contents, rotate [CH/ENT].

• Hold window



- To view the contents, push [▲] or [▼].

■ DSC Task window (Continued)

◇ Software key functions

When entering the Task mode, the following functions are displayed first.

FUNCTION	DESCRIPTION
Hold	Push to cancel the Active Task window.
Active	Push to activate the received call.
Next Task	Push to select other Task windows.
DEL Task	Push to delete the Task window.
Standby Mode	Push to return to the Main screen.

The following functions may be displayed, depending on the call type.

FUNCTION	DESCRIPTION
Cancel	Push to send a Cancel call.
Resend	Push to resend the call.
Pause	Push to pause the 'Call repeat' mode, or pause the countdown.
Resume	Push to restart the countdown.
Finish	Push to return to the Main screen.
ACK	Push to send an acknowledgement.
History	Push to display the Distress call history screen.
Relay	Push to send a Distress Relay call.

The following functions are displayed, after receiving an Individual call.

FUNCTION	DESCRIPTION
ACK (Able)	Push to send an acknowledgment without any changes.
ACK (Unable)	Push to send an acknowledgment, but you cannot make a communication.
ACK (New CH)	Push to send an acknowledgment. You can specify the Voice Communication channel.

■ Sending a Distress call

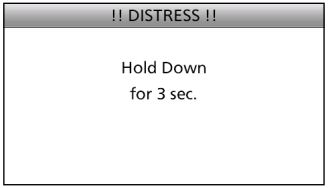
NEVER MAKE A DISTRESS CALL IF YOUR SHIP OR A PERSON IS NOT IN AN EMERGENCY.
A DISTRESS CALL SHOULD BE MADE ONLY WHEN IMMEDIATE HELP IS NEEDED.

You should send a Distress call if, in the opinion of the Master, the ship or a person is in distress and requires immediate assistance.

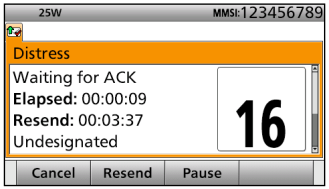
- Emergency channel (Channel 70) is automatically selected to send a Distress call.

◇ Simple call

① Confirm no Distress call is being received.
② Lift up the key cover, then hold down [DISTRESS] until “Transmitting” is displayed to send the Distress call.



③ After sending, the following screen is displayed.



④ When receiving the acknowledgement:
- Alarm sounds.
- The following window is displayed.

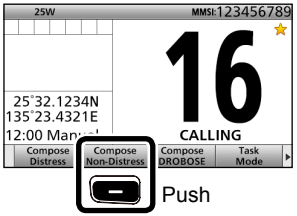
⑤ Push any [Alarm Off] [—].
⑥ Push any [Close Call RCVD Window] [—].
⑦ Hold down [PTT] to announce your situation.
⑧ Push [Standby Mode] [—] to return to the Main screen.

NOTE:
A distress alert default contains:
- Nature of distress:
  Undesignated distress (Simple call)
- Position information:
  The latest GPS or manual input position is held for 23.5 hours, or until turning OFF the transceiver.

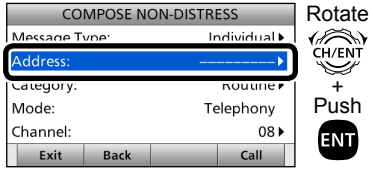
■ Sending an Individual call

The Individual call function enables you to transmit a DSC signal to only a specific coast station or ship. After transmission, wait for an acknowledgement from the receiving station.
You can communicate by voice after receiving the acknowledgement ‘Able to comply.’

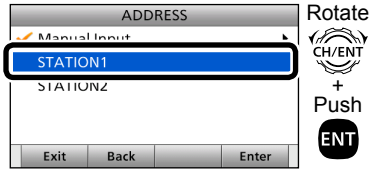
① Display the COMPOSE NON-DISTRESS screen.



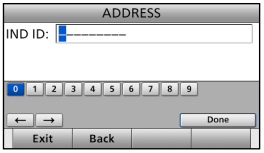
② Select “Address.”



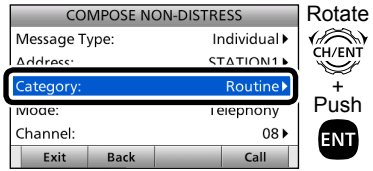
③ Select a desired individual address, or “Manual Input.”



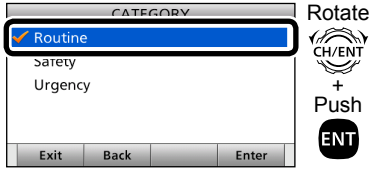
When you select “Manual Input,” push the keypad to manually enter a desired individual ID.



④ Select “Category.”

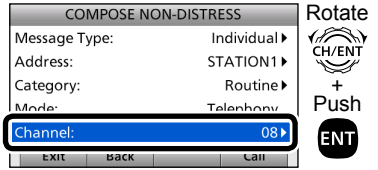


⑤ Select a desired option.

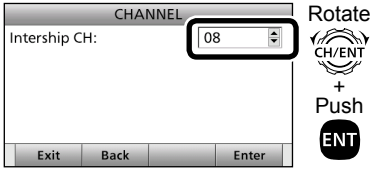


When you select a coast station in step ③, the voice channel is automatically specified by the coast station. Therefore, skip steps ⑥ and ⑦ , and go to step ⑧.

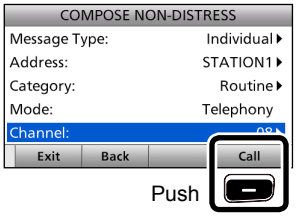
⑥ Select “Channel.”



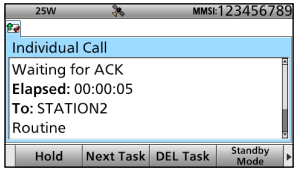
⑦ Select a desired voice channel.



⑧ Send an Individual call.

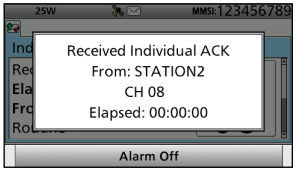


⑨ After sending, the following screen is displayed.



- See ‘Software key functions’ for details of the Task mode's software key functions.

⑩ When receiving the acknowledgement:
- Alarm sounds.
- The following window is displayed. (Example: Able to comply)



⑪ Push any [Alarm Off] [—].
⑫ Push any [Close Call RCVD Window] [—].

When you receive “ACK (Unable)” in step ⑩, skip step ⑬, and go to step ⑭.

⑬ Hold down [PTT] to communicate.
⑭ Push [Standby Mode] [—] to return to the Main screen.

NOTE:
After receiving the acknowledgement:
- The voice channel specified in step ⑦ is selected.
- A different voice channel is selected if the station you called cannot use the channel.

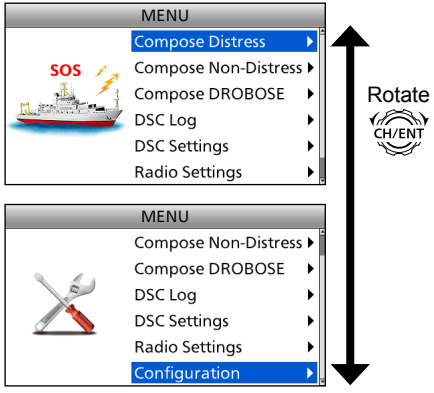
5 MENU SCREEN

You can use the Menu screen to set infrequently changed values or function settings.

■ Construction

The Menu screen is constructed in a tree structure.
You can go to the next tree level with [ENT], or go back a level with [CLR].
See the next page for details.

To select an item, rotate [CH/ENT].



Compose Distress
Nature of Distress
Position
• Latitude
• Longitude
• UTC

Compose Non-Distress
Message Type
Address
Position*1
• Latitude*1
• Longitude*1
• UTC*1
Category
Mode*1
Channel*1

Compose DROBOSE
Message Type
Address*1
Distress ID
Nature of Distress
Position
• Latitude
• Longitude
• UTC
Mode

DSC Log
Received Call Log
• Distress
• Others
Transmitted Call Log

DSC Settings
Position Input*2
Individual ID
Group ID
Individual ACK
Position ACK
Polling ACK
Test ACK
Medical Transports
Ships and Aircraft
10 Second Delay
Alarm Status
• Safety
• Routine
• Warning
• Self-Terminate
• Discrete
CH70 SQL Level
Auto Print
DSC Loop Test

Radio Settings
Scan Type
Scan Timer
Dual/Tri-Watch
Call Channel
FAV on MIC
FAV Settings

Configuration
Key Beep
UTC Offset
Inactivity Timer
• Not DSC Related
• DSC Related
• Distress Related
• RT Related
NMEA Data Output
• DSC Data Output
• POS Data Output
Internal Speaker
MIC Type
Software Version

*1 These items may not be displayed, depending on the "Message Type" option.
*2 This item is displayed, when no GPS information is received.

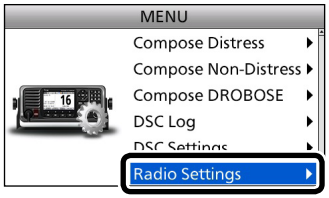
■ Selecting a Menu item

Follow the procedures as described below to select a Menu item.

Example: Set the Tri-watch function.

① Push [MENU].

② Select “Radio Settings.”

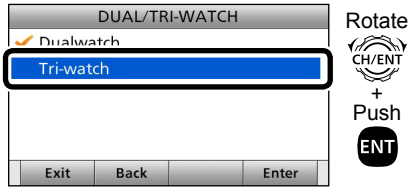


• Displays the RADIO SETTINGS screen.

③ Select “Dual/Tri-Watch.”

• Displays the DUAL/TRI-WATCH screen.

④ Select “Tri-Watch.”



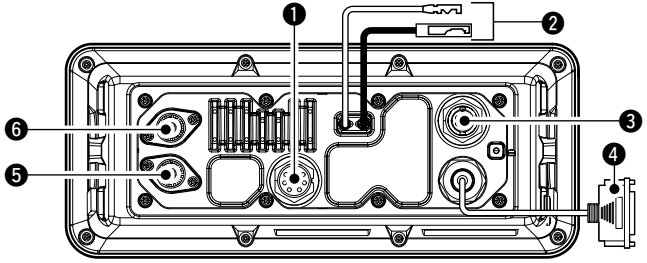
• Goes back to the RADIO SETTINGS screen.

⑤ Push [MENU] to return to the Main screen.

For your information:
You can use the following key functions in the MENU screen.

FUNCTION	ACTION
Select	Rotate [CH/ENT] Push [▲] or [▼]
Enter	Push [ENT] Push [CH/ENT] Push [Enter] [—]
Go to the next tree level	Push [ENT] Push [▶]
Go back to the previous tree level	Push [CLR] Push [◀] Push [Back] [—]
Cancel	Push [CLR]
Exit	Push [Exit] [—]

■ Connections

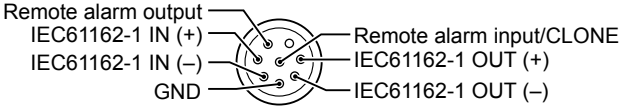


❶ NMEA 0183 CONNECTORS

➥ Connects to IEC61162-1 Out lines of a PC or IEC61162-1 sentence format DSC, DSE compatible navigation equipment, to receive position data from other ships.

➥ Connects to IEC61162-1 In lines of a GPS receiver for position data.

• A IEC61162-1 RMC, GGA, GNS, GLL and VTG sentence format compatible GPS receiver is required. Ask your dealer about suitable GPS receivers.



Transceiver's rear panel view

Remote alarm output terminal

• 4 V DC*
• Maximum 10 mA*

*When the external equipment is connected between this terminal and the GND terminal.

When DSC call that is related to "Distress" as described below is received, 4 V DC is output and the key backlight blinks.

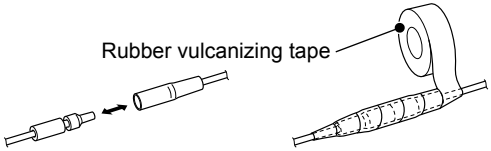
• Distress call
• Distress acknowledgement
• Distress Relay call
• Distress Relay acknowledgement
• Distress Cancel call
• DSC call whose category is "Distress"

Remote alarm input terminal

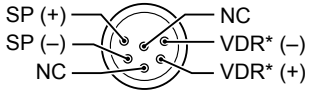
When this terminal shorts to the GND terminal, the transceiver sends the Distress call.
This terminal can be used as an external distress switch.

❷ DC POWER CONNECTOR
Connects the PS-310 with the DC power cable of the PS-310.

CAUTION: After connecting the DC power cable, cover the connector with a tape, as shown below, to prevent water seeping into the connection.



❸ EXTERNAL SPEAKER/VDR CONNECTOR
Connects to a voice recorder or an external speaker.
• Lead: Thicker than 0.75 sq mm,
Length: Shorter than 1.5 m are recommended.



*VDR: Voyage Data Recorder

Transceiver's rear panel view

❹ D-SUB 25-PIN
Connects to a printer (IBM® centronics or compatible) to print out the received DSC call contents.

❺ ANTENNA CONNECTOR (to receive on Channel 70)
❻ ANTENNA CONNECTOR
Connects to a marine VHF antenna with a PL-259 connector.

CAUTION: Transmitting without an antenna (❻) above may damage the transceiver.

■ Power supply connections

◇ Connecting to the DC power supply through the PS-310

You must connect the GM600 to the DC power source through the PS-310 DC-DC POWER SUPPLY, sold by the set with the GM600, when you operate the GM600.

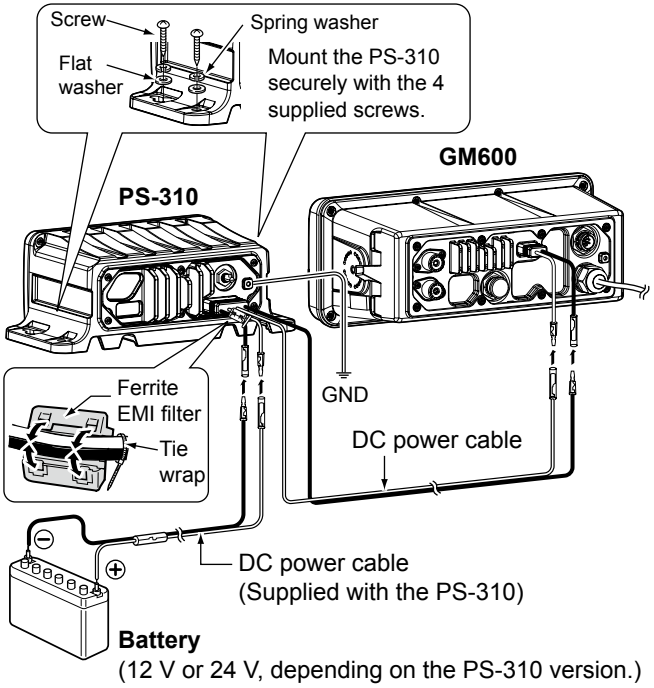
The PS-310 converts the input voltage from the DC power supply, then provides 12.6 V DC, 5.5 A of the continuous power to the transceiver.
Select the appropriate version for your vessel power system.

• PS-310

Version	Input voltage	Output voltage
#01	21.6 ~ 31.2 V DC	12.6 V DC
#02	10.8 ~ 15.6 V DC	12.6 V DC

CAUTION:
Before connecting the DC power cable, confirm the transceiver is OFF, and the DC power cable polarity is correct.
• Red: Positive + terminal
• Black: Negative − terminal

BE SURE to connect only the DC power cable from the PS-310, and **DO NOT** extend the cable length.



■ Specifications

These specifications are described when the GM600 is used with the PS-310.
All stated specifications are subject to change without notice or obligation.

◇ General

- Frequency coverage: TX 156.025 ~ 161.600 MHz
  RX 156.025 ~ 162.000 MHz
  156.525 MHz (CH70/DSC)
- Mode: FM (16K0G3E), DSC (16K0G2B)
- Operating temp. range: –15°C ~ +55°C
- Current drain (at 24 V): TX high (25 W) 3.3 A
  Maximum audio 2.0 A
- Power supply requirement: 12/24 V DC (negative ground)
  PS-310 Input voltage: 21.6 ~ 31.2 V (#01)
  10.8 ~ 15.6 V (#02)
- Frequency error: ±0.5 kHz (–15°C ~ +55°C)
- Antenna impedance: 50 Ω nominal (Unbalanced)
- Dimensions (Projections not included):
  GM600: 263 (W) × 110 (H) × 109.4 (D) mm
  PS-310: 216 (W) × 79 (H) × 125 (D) mm
- Weight (approximately):
  GM600: 1.6 kg
  PS-310: 930 g

◇ Transmitter

- Output power: 25 W/1 W
- Modulation system: Variable reactance frequency modulation
- Max. frequency deviation: ±5.0 kHz

◇ Receiver

- Receive system: Double conversion superheterodyne
- Sensitivity:
  FM: –7 dBμ emf (typical) (20 dB SINAD)
  DSC (CH70): –7 dBμ emf (typical) (1% BER)
- Squelch sensitivity: Less than –2 dBμ
- Audio output power: More than 10 W at 10% distortion with an external speaker (4 Ω load)

■ Options

- **PS-310** DC-DC POWER SUPPLY
  Provides stable 12.6 V DC output converted from a DC power source.

Version	Input voltage	Output voltage
#01	21.6 ~ 31.2 V DC	12.6 V DC
#02	10.8 ~ 15.6 V DC	12.6 V DC

- **HS-98** HANDSET
  Provides clear audio reception in offshore conditions and comes in handy to listen in privacy on board.

COUNTRY CODE LIST

ISO 3166-1

	Country	Codes		Country	Codes
1	Austria	AT	18	Liechtenstein	LI
2	Belgium	BE	19	Lithuania	LT
3	Bulgaria	BG	20	Luxembourg	LU
4	Croatia	HR	21	Malta	MT
5	Czech Republic	CZ	22	Netherlands	NL
6	Cyprus	CY	23	Norway	NO
7	Denmark	DK	24	Poland	PL
8	Estonia	EE	25	Portugal	PT
9	Finland	FI	26	Romania	RO
10	France	FR	27	Slovakia	SK
11	Germany	DE	28	Slovenia	SI
12	Greece	GR	29	Spain	ES
13	Hungary	HU	30	Sweden	SE
14	Iceland	IS	31	Switzerland	CH
15	Ireland	IE	32	Turkey	TR
16	Italy	IT	33	United Kingdom	GB
17	Latvia	LV			

MEMO

Count on us!

< Intended Country of Use >

☐AT ☐BE ☐CY ☐CZ ☐DK ☐EE
☐FI ☐FR ☐DE ☐GR ☐HU ☐IE
☐IT ☐LV ☐LT ☐LU ☐MT ☐NL
☐PL ☐PT ☐SK ☐SI ☐ES ☐SE
☐GB ☐IS ☐LI ☐NO ☐CH ☐BG
☐RO ☐TR ☐HR

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