



VHF MARINE TRANSCEIVER

# IC-M604A

**DSC Built-in  
Class D**

**Submersible**

1m depth for 30 minutes

**FORCE 5 AUDIO™**

Rugged  
**MIL-STD 810**





# High performance, full function with one or two optional COMM

VHF MARINE TRANSCEIVER

## IC-M604A



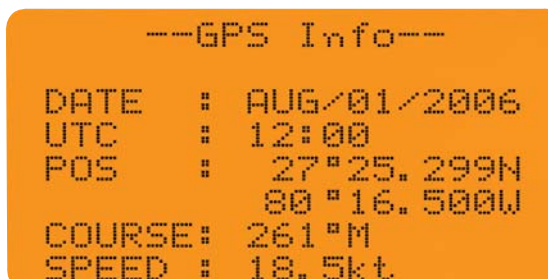
### Superior receiver performance

The IC-M604A has excellent receive specifications\* which allow a weak signal a better chance of being heard when louder signals are around it. The powerful 5.0W (typical) audio output from the front facing speaker further increases the audibility and quality of received calls.

\* More than 80dB for intermodulation rejection and adjacent channel selectivity, and 0.22µV (typical) high sensitivity.

### Large LCD with dot-matrix characters

The large full dot-matrix display is designed for optimum readability in any lighting condition. With the extra large font, the channel number is maximized on the display and upper and lower case characters can be easily read.



▲ A GPS information example on 37×73mm (1.46×2.87 in) size display

### 30 Watt 2-way hailer capability

When connected to an external hailer horn, communication with other boats, deck or dock hands is easy. The built-in 30W amplifier increases your talk power making your message loud and clear. Four foghorn patterns are also available.



### Submersible construction (1m depth for 30 minutes)

The IC-M604A, including the supplied microphone, withstands submersion in up to 1.0m depth of water for 30 minutes. It is equivalent to IPX7 waterproofing.\*

(\* except cables)



### Built-in ITU Class-D DSC

The IC-M604A has two receivers, one for the radio and one to monitor channel 70 for DSC all the time. When a distress call is received, an escalating alarm sounds and the transceiver automatically switches to channel 16. The auto switch and auto tune timer functions allow you to control the timing to switch. Compliant to new DSC Class D regulations.



### Position request and position report

Over and above the DSC, your own and other ships' position data can be exchanged with the position request or position report functions. The received position information can be transferred to external GPS or navigation equipment\*. In addition, the polling (request/reply) function checks whether a specific ship is within the communications range. \* NMEA 0183 format is required.

### Improved GPS information indication

When connecting to an external GPS receiver, the GPS information indication function shows course and speed data as well as position, date and time on the display.

# VHF marine COMMANDMICIII<sup>TM</sup>



## Front and rear panel microphone connection

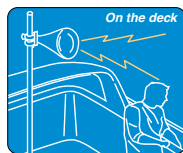
The speaker microphone can be detached from the front panel and can be connected to the rear panel without any modification. An optional 6.1m (20ft) microphone extension cable, OPC-1000, is available.

Transparent installation image



## RX speaker function

The RX speaker function, "receiver-repeater" allows you to monitor the received radio audio from a hailer horn on the deck or tower. You can also make an announcement on-board from the microphone.



## Favorite channel function

This function allows quicker channel selection. Set the "TAG" channel to the channels used most often. When pushing the up/down buttons on the speaker microphone, only tagged channels are selected and untagged channels are skipped. The "TAG" scanning function detects only tagged channels.

## Other features

- Dual/tri-watch function for monitoring Ch.16 and/or call channel
- 7 levels adjustable backlit display and keypad
- Optional voice scrambler, UT-112 for private communication
- Weather channels with weather alert function
- AquaQuake draining function emits a vibrating sound and clears water away from the speaker grill

## Optional fully integrated COMMANDMICIII<sup>TM</sup>



COMMANDMICIII<sup>TM</sup>

## Up to two COMMANDMICIII<sup>TM</sup> can be connected

The optional COMMANDMICIII<sup>TM</sup> provides a 2nd and/or 3rd station capability to operate the IC-M604A from up to 18.3m\* (60ft) away such as the cabin and/or fly bridge.

\* Requires use of two optional OPC-1541 extension cables.

## Full control and intercom capability

All functions of the IC-M604A, including distress call, DSC, and hailer, are available. The intercom function allows you to talk with the IC-M604A or another COMMANDMIC. Remote power on/off function remotely turns on/off the IC-M604A.

## Multi-function rotary dial

A newly designed multi-function rotary dial gives you quick and easy access to many IC-M604A settings, including operating channel, volume, squelch, menu settings and more.

## Other features

- Full dot-matrix LCD with 7-step dimmer setting
- 2.8W (typical) external speaker terminal
- Submersible PLUS waterproof (1.5m depth for 30 minutes)
- Extra large 45mm (d) speaker for superior audio



"Distress" button on the back of the unit

Backlit keypad and rotary dial



## SPECIFICATIONS

### GENERAL

- Frequency range :
  - Tx 156.025–157.425MHz
  - Rx 156.050–163.275MHz
- Type of emission : 16K0G3E, 16K0G2B
- Usable channels : USA, INT, CAN, WX channels
- Power supply requirement: 13.8V DC  $\pm$ 15 %
- Current drain (at 13.8V DC) :
  - Transmit 5.5A (25W output)
  - Receive 1.5A (Max. audio)
- Operating temperature :  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ; range  $-4^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$
- Antenna impedance : 50 $\Omega$  (SO-239)
- Dimensions (WxHxD) : 220x110x109.4 mm; (projections not included) 8.66x4.33x4.31 in.
- Weight (approx.) : 1.4kg ; 3.09 lb
- NMEA formats :
  - Input RMC, GGA, GNS, GLL, VTG
  - Output DSC, DSE

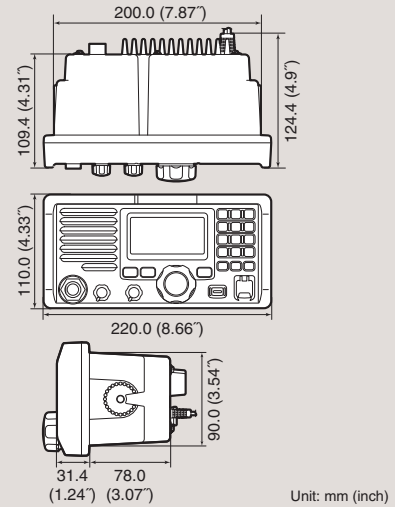
### TRANSMITTER

- Output power : 25W or 1W (at 13.8V DC)
- Modulation system : Variable reactance
- Max. Freq. deviation :  $\pm$ 5.0kHz
- Frequency error :  $\pm$ 0.3kHz
- Spurious emissions : Less than  $-70\text{dBc}$
- Residual modulation : More than 40dB
- Adjacent Ch. power : More than 70dB

### RECEIVER

- Intermediate freq. : 1st 30.15MHz  
21.7MHz (Ch70)  
2nd 450kHz
- Sensitivity : 0.22 $\mu\text{V}$  typ. (at 12dB SINAD)
- Squelch sensitivity : Less than 0.32 $\mu\text{V}$  (threshold)
- Adjacent Ch. selectivity : More than 80dB
- Spurious response : More than 80dB
- Intermodulation : More than 80dB
- Hum and noise : More than 40dB
- Audio output power : 5.0W typ. at 10% distion with a 4 $\Omega$  load

### DIMENSIONS



#### Supplied accessories:

- Hand microphone
- DC power cable
- Mounting bracket kit

Measurements made in accordance with TIA/EIA 603. All stated specifications are subject to change without notice or obligation.

## OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.



**HM-162B/SW REMOTE-CONTROL MICROPHONE**  
Size (WxHxD): 65.5x150x38 mm; 2.58x5.91x1.5 in.  
Weight (approx.; except cables): 385g ; 13.6oz  
Supplied accessories :  
• 6.1m (20ft) of cable, OPC-1540, with external speaker terminal  
• Microphone hanger  
• Mounting base for cable connector

**OPC-1541 EXTENSION CABLE FOR HM-162B/SW**  
6.1m (20ft) extension cable for use with COMMANDMICIII™. Up to 2 OPC-1541 can be connected.

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**MB-75 FLUSH MOUNT KIT**  
For flush-mounting the IC-M604A to a flat surface, such as a control panel.



**UT-112 VOICE SCRAMBLER UNIT**  
Provides up to 32 codes for private communication.

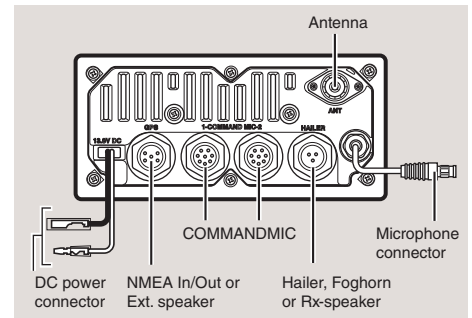
**HM-126RB/RG SPEAKER MICROPHONE**  
Same as supplied.

**OPC-1000 EXTENSION CABLE FOR HM-126RB/RG**  
6.1m (20ft) extension cable with mounting base for use with rear panel microphone connection.

**HM-157B/SW REMOTE-CONTROL MICROPHONE**  
COMMANDMICII™ is also available.

**OPC-999 EXTENSION CABLE FOR HM-157B/W**  
6.1m (20ft) of extension cable for use with COMMANDMICII™. Up to 2 OPC-999 can be connected.

## REAR PANEL VIEW



#### Applicable U.S. Military Specifications

The IC-M604A and HM-162B/SW have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL 810 F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4	I, II
Temperature Shock	503.4	I
Solar Radiation	505.4	I
Rain	506.4	I, III
Humidity	507.4	-
Salt Fog	509.4	-
Dust Blowing	510.4	I
Vibration	514.5	I
Shock	516.5	I, IV

Also meets equivalent MIL-STD-810-C, -D and -E.

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