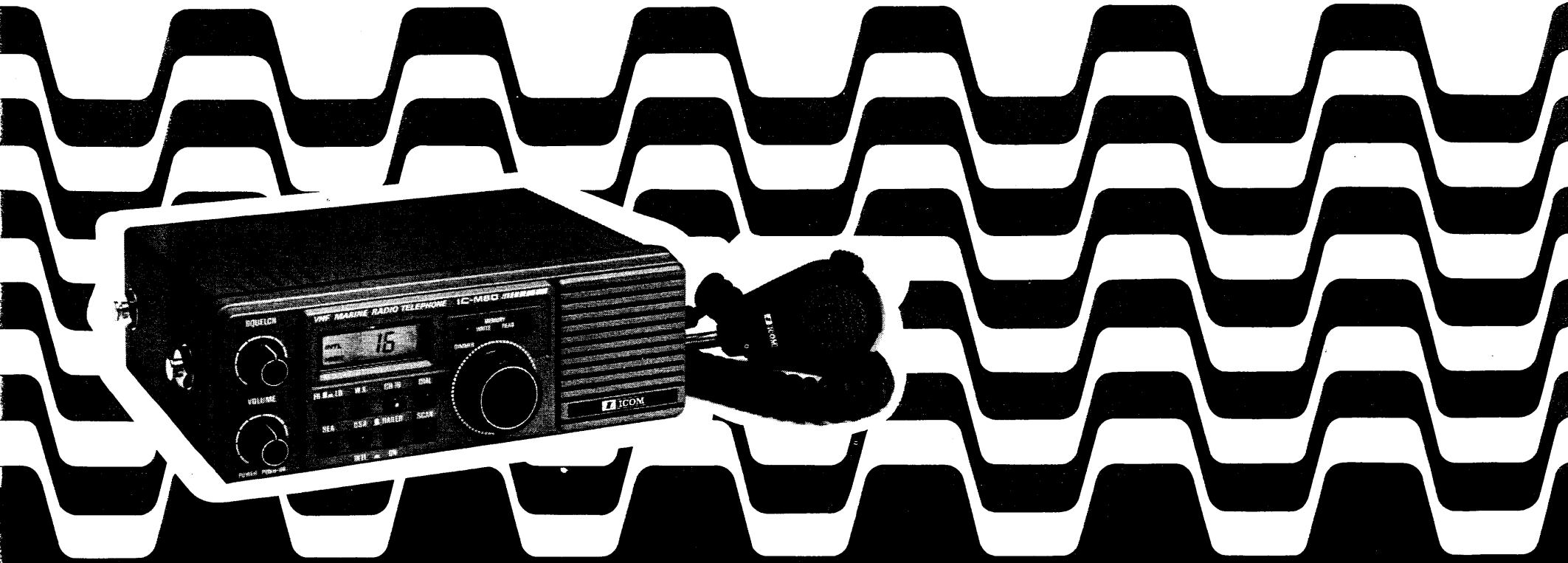
ICOM

OWNERS MANUAL

IC-M80

VHF MARINE RADIOTELEPHONE



ICOM INCORPORATED

EMERGENCY USE

If your vessel requires assistance, attract the attention of other vessels and the Coast Guard by sending a distress message on Channel 16.

Procedures for sending a distress signal.

1. MAYDAY, MAYDAY, MAYDAY (repeat three times)
2. THIS IS (name of the vessel)
3. LOCATED AT (gives position)
4. Give the reason for the distress call.
5. Explain what assistance you need.
6. Give additional information to help those come to your assistance, (vessel length, color, type, etc.)
7. Use Channel 16 only to make initial contact.
8. After making initial contact agree on an alternate frequency, such as Channel 22A or Channel 6 and clear Channel 16 for other traffic.

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INTRODUCTION

You are now the proud owner of one of the finest VHF FM Marine Transceivers on the market today. It was designed and built by ICOM INCORPORATED, a long time leader in the field of VHF communication. We put all the technology, and experience we have gained over the years in a transceiver that was built from the ground up specifically for Marine. We know that your IC-M80 will give you years of enjoyment and dependable communication.

FEATURES

* *All marine channels plus weather pre-programmed.*
* *All solid state including the 25 watt Power Amplifier module.*
* *Weather and dust-tight case; molded frame.*
* *No moving controls inside - PA and RF switching are solid state.*
* *A snap-in mounting bracket; adjustable angle; lockable for security.*
* *Advanced RF front end with helical resonators; MOSFETs; and crystal/mechanical filter for adjacent channel and intermodulation rejection.*
* *Auto Monitor for Channel 16.*
* *High power, distortion-free audio output.*
* *Complete line of accessories available.*

SPECIFICATIONS

GENERAL

Size	78mm(H) x 228mm(W) x 208mm(D)
Weight	2.1 kg
Number of Channels	All USA and INTERNATIONAL marine channels plus 10 weather channels
Stability	0.0005%
Temperature Range	–20 to +60 degrees C
Channel Spacing	25 KHz

Current Drain (Max)	Receive	
	With full 5 watt output	0.8A
	Standby	0.3A
	Transmit	
	Low output	1.3A
	High output	5.5A
Primary Voltage	13.6 Volts DC	
Antenna Impedance	50 ohms	

RECEIVER SECTION

Frequency Range	156 ~ 163MHz
Sensitivity	0.3μV (–20dB quieting)
Selectivity	–70dB at 25KHz (EIA SINAD)
Spurious & Image Rejection	80dB
Threshold Squelch Sensitivity	0.2μV
Tight Squelch Sensitivity	2μV
IF Frequencies	1st IF: 21.4MHz
	2nd IF: 455KHz
Audio Output	5 watts to 4 ohm Speaker
	@ 10% distortion

TRANSMITTER SECTION

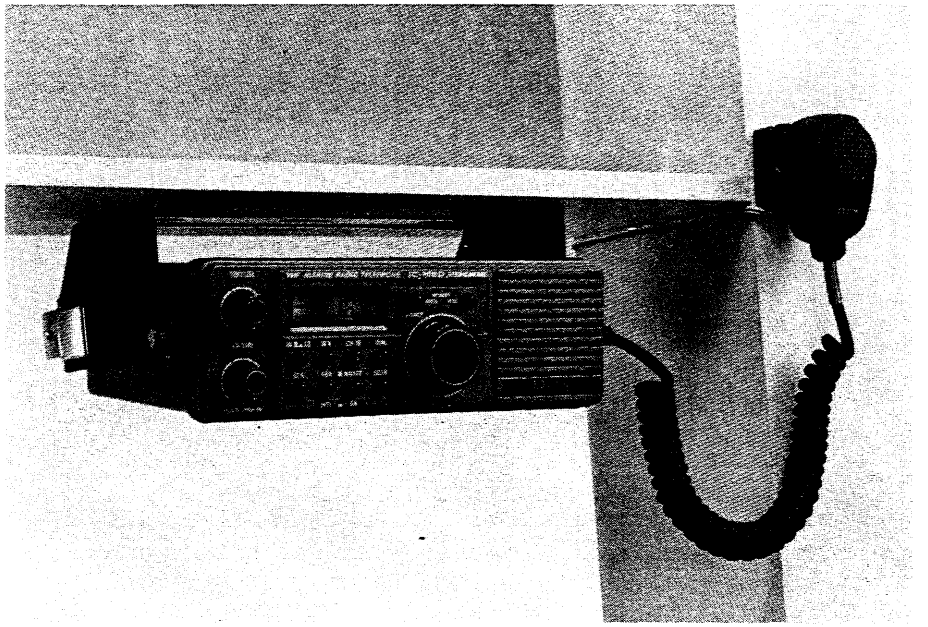
Frequency Range	156 ~ 157.5MHz
Modulation	±5KHz (16F3, F3E 16K0)
RF Power Output	High 25 watts
	Low 1 watt
Antenna Impedance	50 ohms
Spurious & Harmonic	Spurious emission:
Emissions	70dB below Carrier
	Harmonic emission:
	60dB below Carrier
Microphone	600 ohm microphone,
	or 600 ohm handset
Audio Frequency Response	+1, –3dB of 6dB/octave pre-emphasis characteristic from 300 to 3000Hz
Audio Distortion	Less than 7% at 1000Hz for ±3KHz Deviation

INSTALLATION

Planning

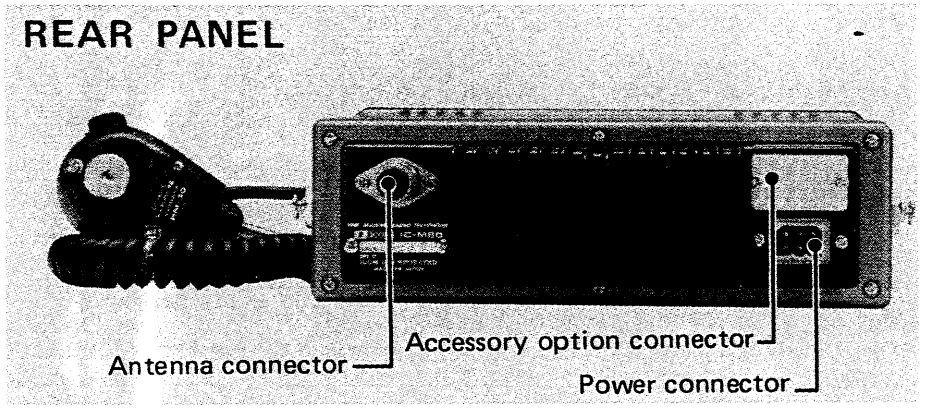
Select a location for your transceiver which will allow free access to the front controls, good air circulation and rear clearance for access to the fuse and cable connectors. Provide the best protection you can from direct rain or heavy seas.

Avoid long cable runs to the antenna and power source. At the same time, keep power and antenna cables as for as possible from electrical sources i.e. generators, alternators, electrical pumps, etc. Stay away from the magnetic compass with the cables, and avoid running the antenna cable near electronic instruments.



Procedures

Your ICOM transceiver is supplied with a universal bracket which allows "over" or "under" mounting by placing the bracket where the unit is adequately supported when wave shock and vibration are considered. Your transceiver comes to you inside the mount when shipped, and the unit is easily removed by releasing the two side catches.
The mounting hardware supplied will fit most installations, but should you need special mounting fasteners any good marine supply will be able to assist. As in any marine installation it is recommended that high quality marine fasteners be used. Try to avoid drilling new mounting holes in the bracket, as balance of the set may be affected.

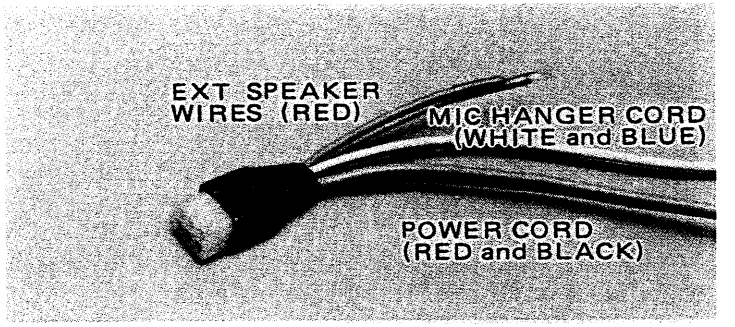


Primary Power

If at all possible, do not exceed the 10 feet length of the power cable supplied, if it is necessary to make a run of over 10 feet use the wire guage specified in the following table. Color coding of the power cable is as follows: Red is for positive (+) side of the battery, black for minus (—). The blue and white wires are for the microphone hanger; the short red wires are for connection of an external speaker. When hooking up the red and black wires make the splice as close as possible to the power side of the fuse holder, solder all connections and insure that all connections are clean, tight and moisture free.

Be sure to leave a service margin in the power cable so that should the set have to be removed from the bracket it can slide out without straining the cable.

POWER INPUT CABLE	
WIRE GAUGE	MAX DISTANCE
14	15'
12	25'
10	35'
8	60'
6	100'



External Speaker

To connect an External Speaker, remove the sealed plastic at end of the short red wires at the power cord/mic hanger plug, and connect an 8 ohm speaker to the wires, solder them and cover with plastic tape.

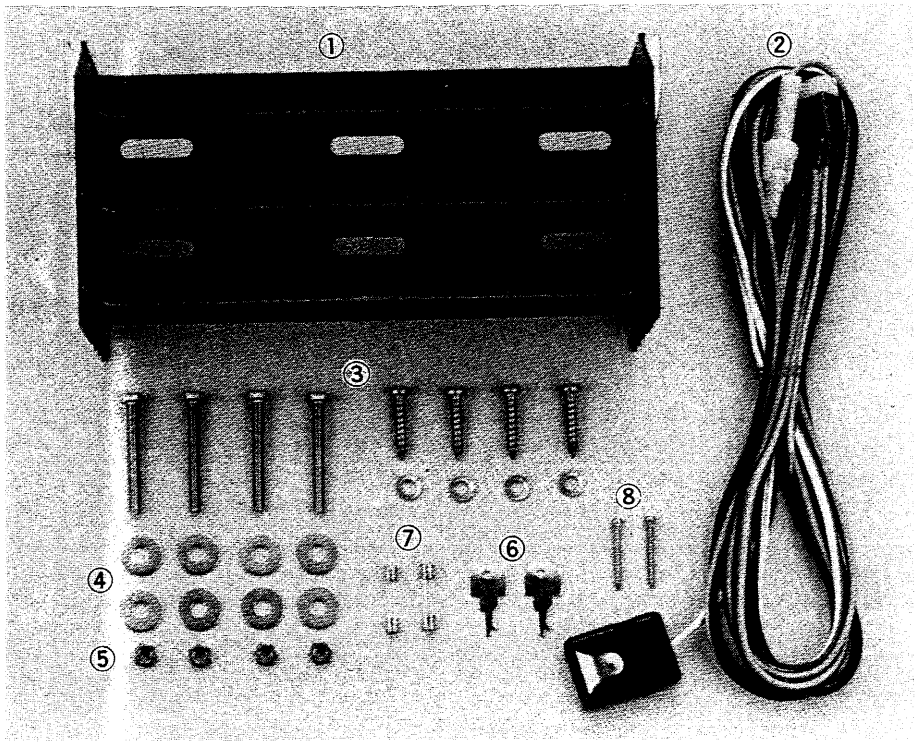
Antenna

Any marine antenna of good quality and 50 ohms impedance will suffice, but the use of a gain antenna is recommended. The antenna is the single most important item that will influence the performance of the transceiver. Location is also important and should you have any doubt request the assistance of your dealer's technician. Follow the antenna maker's directions exactly. For an existing antenna, be sure that all connections are corrosion free and that all are firmly seated.

Preliminary Set up

The permanently mounted microphone attached to your transceiver should now be placed at a convenient location where the cable will neither interfere with your crafts operation while in its hanger, or in use by you or the crew. The CH 16 Auto-Monitor control cable should be routed out of the way and connected to the marked receptacle at the rear of the set.

Accessories



1. Mounting Bracket
2. Power Cord and Microphone Hanger Box
3. Mounting Screws
4. Mounting Washers
5. Mounting Nuts
6. Keys
7. Fuses 10A
8. Microphone Hanger Box Mounting Screws

PRE-OPERATION

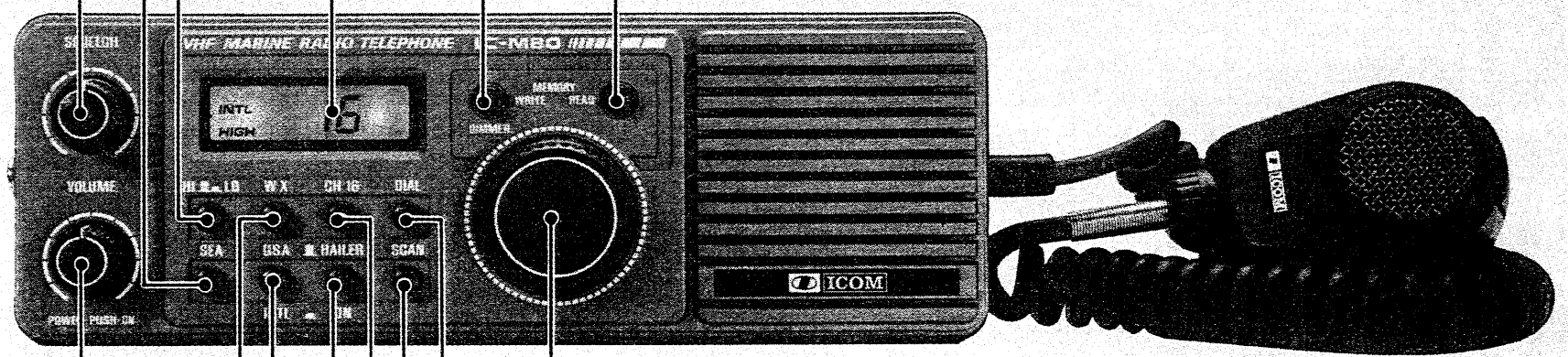
Licenses Required

1. Ship Station License
   Your craft, when equipped with VHF/FM equipment, has a radio station on board which, if used, must have a current license. It is unlawful to operate a Ship Station which is not licensed. Inquire through your dealer or appropriate government agency for an application for a Ship Radio-Telephone license. Your craft station will be issued a call sign.
2. Operators License
   A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators, if a radio is not required for safety purposes. You can usually obtain this permit by mail without examination. Again, contact your marine dealer or appropriate government agency for information or application.
   The Restricted Radiotelephone Operator Permit must be posted or kept on the person of the operator. Only a licensed radio operator may operate a radiotelephone transmitter. However, non-licensed individuals may talk over a radiotelephone if a licensed operator starts, supervises, ends the call, and makes necessary log entries. A current copy of the appropriate government agency rules and regulations is usually required to be kept.

Logs and Documents

Most countries require that a log of all contacts made over the Radiotelephone be kept. The Ship Radiotelephone Station licensee is the person responsible for compliance.

CONTROL FUNCTIONS



③RF POWER SWITCH

④SEA (DUAL WATCH) BUTTON

①SQUELCH CONTROL

②VOLUME CONTROL and POWER SWITCH

⑤WEATHER CHANNEL BUTTON

⑥CHANNEL ALLOCATION SWITCH

⑧HAILER SWITCH

⑫CHANNEL and FUNCTION DISPLAY

⑬MEMORY WRITE/DIMMER BUTTON

⑭MEMORY READ BUTTON

⑪CHANNEL SELECTOR

⑨DIAL SELECT BUTTON

⑩SCAN BUTTON

⑦CHANNEL 16 SELECT BUTTON

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ICOM INCORPORATED
1-6-19, KAMI KURATSUKURI, HIRANO-KU, OSAKA JAPAN

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