ICOM

Icom M25D

VHF / MARINE
RADIO TELEPHONE
OWNERS MANUAL

ICOM INCORPORATED

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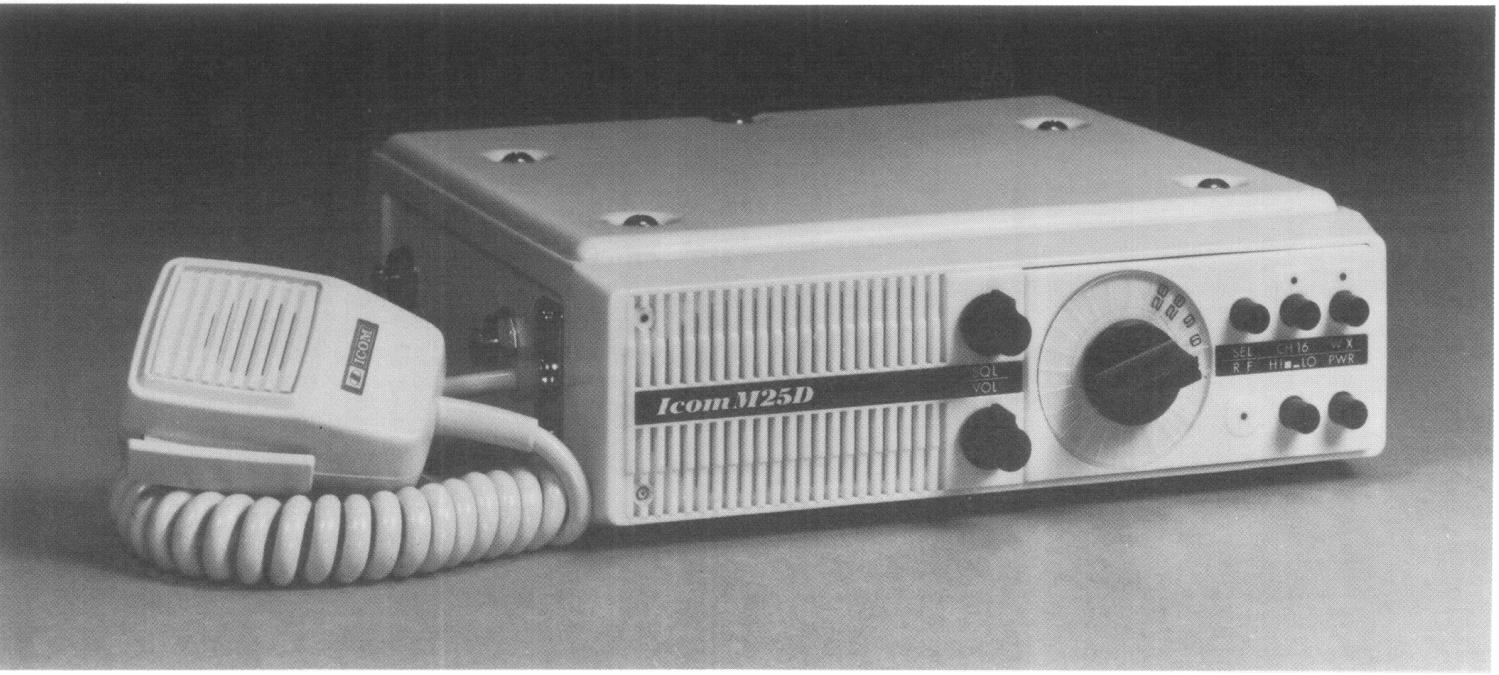


INTRODUCTION

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 ICOM M25D will give you years of enjoyment and dependable communication.

FEATURES

* *24 programmable channels plus weather pre-preogrammed.*
* *All solid state including the 25 watt Power Amplifier module.*
* *Weather and dust-tight case; molded aluminum frame; heavily protected covers for lasting attractiveness.*
* *No moving controls inside - PA and RF switching are solid state.*
* *Anap-in mounting bracket; adjustable angle; lockable for security.*
* *Advanced RF front end with helical resonators; MOSFETs; and crystal/mechanical filter for adjuacent channel and inter-modulation rejection.*
* *Auto Monitor for Channel 16.*
* *High power, distortion-free audio output.*
* *Complete line of accessories available.*

SPECIFICATIONS

GENERAL

Size	3 x 9 x 9½ inches (H x W x L)
Weight	9 pounds (4.1 kgs)
Number of Channels	24 plus Weather
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	1.5A
	High output	5.0A
Primary Voltage	13.6 Volts DC	
Antenna Impedance	50 ohms	

RECEIVER SECTION

Frequency Range	156-163MHz
Sensitivity	0.5 μV (−20dB quieting)
Selectivity	−70dB at 25KHz (EIA SINAD)
Spurious & Image Rejection	80 dB
Threshold Squelch Sensitivity	0.2 μV
Tight Squelch Sensitivity	2 μV
IF Frequencies	1st 1F: 21.4MHz 2nd IF: 455KHz
Channels	23 plus CH. 16 and Weather
Audio Output	5 watts to 4 ohm Speaker @ 10% distortion

TRANSMITTER SECTION

Frequency Range	156-157.5MHz
Channels	23 and CH. 16
Modulation	±5KHz (16F3)
RF Power Output	High 25 watts Low 1 watts
Antenna Impedance	50 ohms
Spurious & Harmonic Emissions	Spurious emission: 70dB below Carrier Harmonic emission: 60dB below Carrier
Microphone	600 ohm microphone, 40 ohm 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

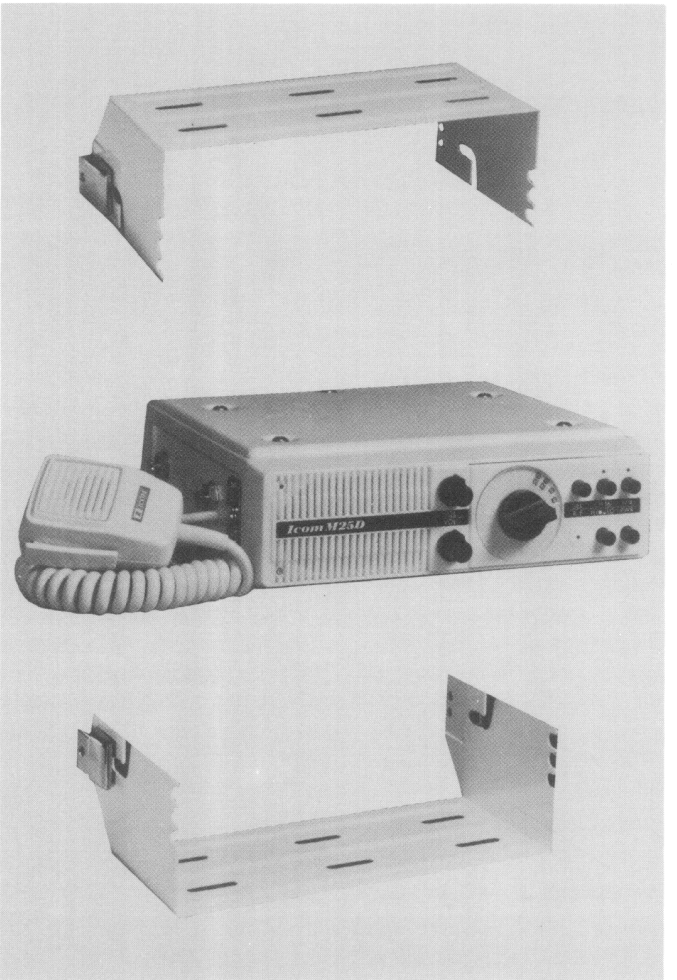
Select a location for your transceiver which will allow free access to the front controls, good air circulation and rear clearance for access to the fuse and cable connectors. Provide the best protection you can from direct rain or heavy seas.

Avoid long cable runs to the antenna and power source. At the same time, keep power and antenna cables as far 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.

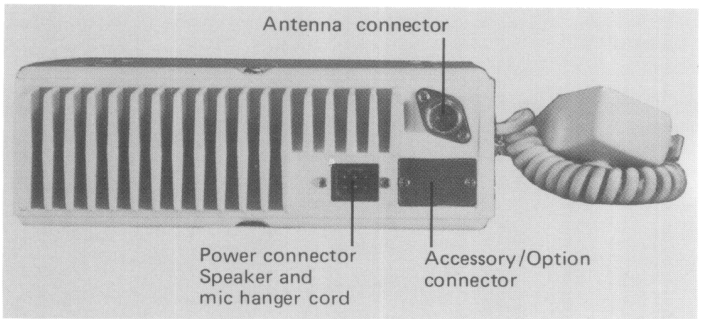
Procedures

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.



Electrical Connections

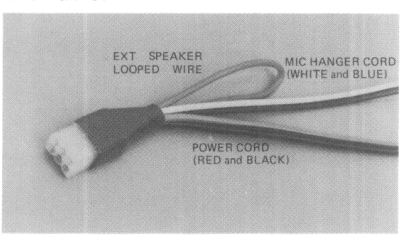


Primary Power

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 looped wire is 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 the External Speaker, cut the small looped wire at the power cord/mic changer 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 marker'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.

Change or Addition of Channels

The design of your ICOM Marine Radiotelephone provides an inexpensive means for expanding channel capability. The services of a dealers technician is required for installation and alignment. The additional channel(s) you require may be placed anywhere on the dial you choose, but be sure to take along the labeling material supplied. You will find this kit in the accessories. Additional weather channels can also be installed on the dial.

ICOM INCORPORATED

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