IC-M85 **VHF MARINE TRANSCEIVER** 

#### **OPTIONS**



BP-290 Rechargeable Li-ion battery with intelligen reporting 1910 mAh (min )

IP67 Waterproof

RP-291  $LR6(AA) \times 5$ IP54 Water 2010 mAh (typ.).





Connects up to six BC-226 units

# CONNECTABLE TYPE CHARGER

Charges the BP-290 in 2.7 hours. (approx.)



BC-123S BC-225

Shows the charging information with LED lighting. Charges the BP-290 in 2.5 hours. (approx.)

DESKTOP CHARGERS



Charges the BP-290 in 2.7 hours. (approx.)

BC-219N BC-123S\* Charges the BP-290 in 2.5 hours. (approx.)

#### \* SE for Europe plug, SUK for UK plug, SV for Australia plug.



BELT HANGERS

MB-96F Fixed type.

CIGARETTE LIGHTER CABLE &

MB-96FL Long type.

14-pin multi-connector to 6-pin Hirose connector

ACC ADAPTOR

CARRYING CASES





For use with the BC-219N or BC-227.



OPC-515L For use with the BC-219N, BC-225 or

BC-227





### **SPECIFICATIONS**

Transmitter   Service				IC-M85				
Usable channel groups, Number of channels   USA, INT, CAN, WX channels   100 land mobile channels   Type of emissions   16K0G3E   16K0F3E/11K0F3E   25 kHz   25 kHz/12.5 kHz   Power supply requirement   7.2 V DC nominal   1.5 A (at 5 W)   1.5	GENERAL			Marine channels	Land mobile channels			
Number of channels   Type of emissions   16K0G3E   16K0F3E/11K0F3E   25 kHz   25 kHz/12.5 kHz   25 kHz/12.5 kHz   25 kHz/12.5 kHz   7.2 V DC nominal   1.5 A (at 5 W)   1.5 A					136.000-174.000 MHz			
Channel spacing         25 kHz         25 kHz/12.5 kHz           Power supply requirement drain (approximate)         T.X EXP         1.5 A (at 5 W)         0.9 A (at 2 W)           Antenna impedance         Bx Max audio         0.45 A         0.45 A           Antenna impedance         50 Ω         -20 °C to +60 °C; -4 °F to +140 °F         -22 °F to +140 °F           Dimensions (WxHxD) (Projections not included)         56 × 92 × 29 mm; 2.2 × 3.6 × 1.1 in (With BP-290)         56 × 92 × 29 mm; 2.2 × 3.6 × 1.1 in (With BP-290)           Weight (approximate)         246 g; 8.7 oz (with BP-290, FA-SC58V and MBB-3)         TRANSMITTER           Output power (at 72 V DC)         EXP         5/3/1 W         2/1 W           Max. frequency deviation         ±5.0 kHz         ±5.0 kHz (Wide)         ±2.5 kHz (Narrow)           Frequency stability         ±5.0 ppm         5/3/1 W         34 dB (Narrow)           Spurious emissions         -70 dBc typical         40 dB (Wide)         34 dB (Narrow)           Audio harmonic distortion         10% (at 60% deviation)         70 dB typical (Wide)         55 dB typical (Wide)         55 dB typical (Wide)         55 dB typical (Narrow)           Sensitivity (at 12 dB SINAD)         70 dB typical         70 dB typical (Narrow)         70 dB typical (Narrow)         70 dB typical (Narrow)				USA, INT, CAN, WX channels	100 land mobile channels			
Power supply requirement   Current drain   Tx   USA   1.5 A (at 5 W)   0.9 A (at 2 W)   1.5 A (at 5 W)	Type of emis	sior	IS .	16K0G3E	16K0F3E/11K0F3E			
Current drain (approximate)         Tx         USA EXP         1.5 A (at 5 W)         0.9 A (at 2 W)           Antenna impedance         50 Ω           Operating temperature range         -20 °C to +60 °C; -4 °F to +140 °F         -30 °C to +60 °C; -22 °F to +140 °F           Dimensions (W×H×D) (Projections not included)         56 × 92 × 29 mm; 2.2 × 3.6 × 1.1 in (With BP-290)           Weight (approximate)         246 g; 8.7 oz (with BP-290, FA-SC58V and MBB-3)           TRANSMITTER         Output power (at 72 V DC)         EXP         5/3/1 W         2/1 W           Max. frequency deviation         ±5.0 kHz         ±5.0 kHz (Wide) ±2.5 kHz (Narrow)           Frequency stability         ±5.0 ppm         -70 dBc typical           FM hum and noise         40 dB         40 dB (Wide) 34 dB (Narrow)           Audio harmonic distortion         10% (at 60% deviation)           Modulation limiting         60-100% of maximum deviation           RECEIVER         Sensitivity (at 12 dB SINAD)         0.25 μV typical           Adjacent channel selectivity         70 dB typical (Narrow)           Spurious response         70 dB typical (Intermodulation           Audio output Internal SP         700 mW typical (at 10% distortion with 12 Ω load)								
Table   Tab	Power supply	rec						
Antenna impedance     50 Ω       Operating temperature range     -20 °C to +60 °C; -4 °F to +140 °F     -30 °C to +60 °C; -22 °F to +140 °F       Dimensions (W×H×D) (Projections not included)     56 × 92 × 29 mm; 2.2 × 3.6 × 1.1 in (With BP-290)       Weight (approximate)     246 g; 8.7 oz (with BP-290, FA-SC58V and MBB-3)       TRANSMITTER       Output power (at 72 V DC)     EXP     5/3/1 W     2/1 W       Max. frequency deviation     ±5.0 kHz     ±5.0 kHz (Wide) ±2.5 kHz (Wide) ±2.5 kHz (Narrow)       Frequency stability     ±5.0 ppm       Spurious emissions     -70 dBc typical       FM hum and noise     40 dB     40 dB (Wide) 34 dB (Narrow)       Audio harmonic distortion     10% (at 60% deviation)       Modulation limiting     60-100% of maximum deviation       RECEIVER       Sensitivity (at 12 dB SINAD)     0.25 µV typical       Adjacent channel selectivity     70 dB typical       Spurious response     70 dB typical       Intermodulation     70 dB typical       Audio output Internal SP     700 mW typical (at 10% distortion with 12 Ω load)	drain		EXP	,	1.5 A (at 5 W)			
Operating temperature range								
Dimensions (W×H×D)	Antenna imp	eda	nce					
Projections not included   S6 × 92 × 29 mm; 2.2 × 3.6 × 1.1 m (With BP-290)	Operating tem	pera	ature range					
TRANSMITTER           Output power (at 7.2 V DC)         USA (at 7.2 V DC)         5/3/1 W         5/3/1 W         5/3/1 W           Max. frequency deviation         ±5.0 kHz         ±5.0 kHz (Wide) ±2.5 kHz (Narrow)         ±2.5 kHz (Narrow)           Frequency stability         ±5.0 ppm         -70 dBc typical           FM hum and noise         40 dB         40 dB (Wide) 34 dB (Narrow)           Audio harmonic distortion         10% (at 60% deviation)           Modulation limiting         60–100% of maximum deviation           RECEIVER           Sensitivity (at 12 dB SINAD)         0.25 μV typical           Adjacent channel selectivity         70 dB typical         70 dB typical (Narrow)           Spurious response         70 dB typical         70 dB typical           Intermodulation         70 dB typical (at 10% distortion with 12 Ω load)				$56 \times 92 \times 29$ mm; $2.2 \times 3.6 \times 1.1$ in (With BP-290)				
Output power (at 72 V DC)         USA (at 72 V DC)         5/3/1 W         2/1 W           Max. frequency deviation         ±5.0 kHz         ±5.0 kHz (Wide) ±2.5 kHz (Narrow)           Frequency stability         ±5.0 ppm           Spurious emissions         -70 dBc typical           FM hum and noise         40 dB         40 dB (Wide) 34 dB (Narrow)           Audio harmonic distortion         10% (at 60% deviation)           Modulation limiting         60-100% of maximum deviation           RECEIVER           Sensitivity (at 12 dB SINAD)         0.25 μV typical           Adjacent channel selectivity         70 dB typical (Wide) 55 dB typical (Narrow)           Spurious response         70 dB typical (Narrow)           Intermodulation         70 dB typical (at 10% distortion with 12 Ω load)	Weight (appro	oxima	ate)	246 g; 8.7 oz (with BP-290, FA-SC58V and MBB-3)				
System	TRANSMITT	TRANSMITTER						
±2.5 kHz (Narrow)		r		5/3/1 W				
Spurious emissions	Max. frequency deviation			±5.0 kHz				
FM hum and noise  Audio harmonic distortion  Modulation limiting  RECEIVER  Sensitivity (at 12 dB SINAD)  Adjacent channel selectivity  Spurious response  Intermodulation  Audio output Internal SP  Audio Add (Marow)  40 dB (Wide)  34 dB (Wide)  34 dB (Narrow)  10% (at 60% deviation)  00.25 μV typical  70 dB typical  70 dB typical (Wide)  55 dB typical (Narrow)  70 dB typical	Frequency stability			±5.0 ppm				
Audio harmonic distortion	Spurious emissions			-70 dBc typical				
Modulation limiting     60–100% of maximum deviation       RECEIVER     Sensitivity (at 12 dB SINAD)     0.25 μV typical       Adjacent channel selectivity     70 dB typical     70 dB typical (Wide)       Spurious response     70 dB typical       Intermodulation     70 dB typical       Audio output Internal SP     700 mW typical (at 10% distortion with 12 Ω load)	FM hum and noise		se	40 dB				
RECEIVER       Sensitivity (at 12 dB SINAD)     0.25 μV typical       Adjacent channel selectivity     70 dB typical     70 dB typical (Wide)       Spurious response     70 dB typical       Intermodulation     70 dB typical       Audio output Internal SP     700 mW typical (at 10% distortion with 12 Ω load)	Audio harmonic distortion							
Sensitivity (at 12 dB SINAD)     0.25 μV typical       Adjacent channel selectivity     70 dB typical     70 dB typical (Wide)       Spurious response     70 dB typical     (Narrow)       Intermodulation     70 dB typical       Audio output Internal SP     700 mW typical (at 10% distortion with 12 Ω load)	Modulation limiting			60–100% of maximum deviation				
Adjacent channel selectivity  70 dB typical  70 dB typical (Wide)  55 dB typical (Narrow)  Spurious response  70 dB typical  Intermodulation  70 dB typical	RECEIVER							
Adjacent channel selectivity     70 dB typical     55 dB typical (Narrow)       Spurious response     70 dB typical       Intermodulation     70 dB typical       Audio output Internal SP     700 mW typical (at 10% distortion with 12 Ω load)	Sensitivity (at 12 dB SINAD)							
Intermodulation         70 dB typical           Audio output         Internal SP         700 mW typical (at 10% distortion with 12 Ω load)	Adjacent channel selectivity			70 dB typical				
Audio output Internal SP 700 mW typical (at 10% distortion with 12 Ω load)	Spurious resp	ons	e	70 dB typical				

Measurements made in accordance with TIA/EIA-603.

All stated specifications are subject to change without notice or obligation

#### Applicable U.S. Military Specifications & IP Rating

Standard	MIL 810 G		
Standard	Method	Procedure	
Low Pressure	500.5	I, II	
High Temperature	501.5	I, II	
Low Temperature	502.5	I, II	
Temperature Shock	503.5	I–C	
Solar Radiation	505.5	I	
Rain Blowing/Drip	506.5	I, III	
Humidity	507.5	II	
Salt Fog	509.5	-	
Dust Blowing	510.5	I	
Immersion	512.5	I	
Vibration	514.6	I	
Shock	516.6	I, IV	

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

Ingress Protection Standard	
Dust & Water	IP67 (Dust-tight and waterproof protection)

• RS-BC225 : Intelligent charger software for Windows® PC. For use with BC-225.

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# **IC-M85**

**VHF MARINE TRANSCEIVER** 



# Ultra Compact and Powerful Marine Handheld with Land Mobile Features





### **Compact and Lightweight**

The IC-M85 is the most compact (WxHxD: 56 x 92 x 29 mm;  $2.2 \times 3.6 \times 1.1$  in) and lightweight (weight: 246 g; 8.7 oz (with BP-290, FA-SC58V and MBB-3)) commercial grade marine and land mobile hybrid radio in the world\*. \* As of November 2017, researched by Icom.



### Covering 136–174 MHz **Land Mobile Frequency**

In addition to VHF marine channels, the IC-M85 covers 136-174 MHz land mobile channels. Up to 100 programmable channels are available for land mobile use. Each channel is programmable with CTCSS and DTCS tone.



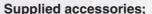
### 700 mW Powerful Audio

Despite its compact body, the IC-M85 delivers 700 mW of loud audio. Clear communications is vital in noisy environments.



### **Private Conversation**

The radio has a built-in Voice Scrambler and provides private communication between stations (32-code, compatible with UT-112 voice scrambler unit).



## **VHF MARINE TRANSCEIVER IC-M85**













# **Automated Emergency Alarm**

The IC-M85 has three emergency related functions: the MOB Alarm, Man Down and Lone Worker functions. If one of these functions are activated, the radio automatically makes an emergency alarm



### **Instant Operation** with Multi-Function Button

Channel group changing (marine ⇔land mobile) or the scrambler function ON/OFF can be assigned in the multi-function button on

the top panel\*. The Key lock function can be activated by holding the button.

\* Ask your dealer for details.





### **IP67 and MIL-STD Rugged Construction**

The IC-M85 is built durable to endure 1 m submersion for 30 minutes and dust-tight protection. The radio also passes MIL-STD-810 specifications.



#### And More

□AquaQuake<sup>™</sup> prevents audio degradation from a water-logged speaker □Internal VOX capability for hands-free operation

□14 hours of long battery life (TX: RX: Standby=5:5:90.)

□5 W output power (land mobile channels for USA: 2 W)

The self check function checks internal temperature, and connected battery voltage (over voltage detection)

□Monitor function □Priority scan function

Dual/Tri-watch function for monitoring CH16 and/or call channel

DFavorite channel function for quick access to often used channels

\* SA for USA plug. SE for Europe plug

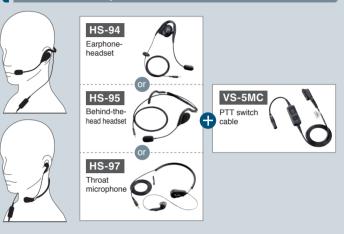
### **Variety of Audio Accessories**

Submersible Speaker-Microphones





### Hands-Free Operation with Headsets



### Earphones and Speaker Microphones for Noisy Environments



### Stylish Operation with Tie-Clip Microphone and Earphones



### Covert Earphone

