



VHF MARINE TRANSCEIVER

# IC-M90

Rugged  
MIL-STD 810

## Commercial Grade Marine & Land Mobile Radio

**Submersible**  
1m depth for 30 minutes

### Wide LCD allows wide viewing angles

A wide viewing angle, high intensity LCD is used in the IC-M90, offering bright, easy to read characters. The LCD's contrast and backlight are adjustable in 4-levels\*. The bright LED indicator on top of the front panel shows the operating status clearly.

\* Backlight includes OFF setting.

### 100 programmable channels for land mobile use

The IC-M90 is suitable for both marine and land mobile applications. Up to 100 programmable channels are available for land mobile use (146-174MHz)\*. Each channel is programmable with CTCSS and DTCS tone signaling and wide/narrow channel bandwidth.

\* Appropriate license will be required. Ask your dealer for details.

### Built-in Voice scrambler

Built-in 32 code voice scrambler provides privacy in secret conversation. The scrambler system is compatible with the UT-112.

### Optional VOX (Voice Operated Transmit) headset

With one of Icom's optional headsets\* and the OPC-1392, the IC-M90 offers hands-free operation. \* See Options listed on back.

### Submersible speaker microphone, HM-125\*

\* Optional, equivalent to IPX7.  
(1m depth for 30 minutes)

### Tough and submersible for heavy-duty use

The IC-M90 is a submersible (IPX7\*), reliable, commercial grade radio. It's simple, yet rugged construction has a polycarbonate casing with an insert-type battery to prevent water intrusion.

\* Equivalent to IPX7 of the corresponding International Standard IEC 60529 (2001). 1m depth for 30 minutes.

### Long wear printed buttons

Clearly labeled large buttons and positive button action allows for operation in all conditions, even when wearing heavy gloves. The transparent buttons are printed from behind (not on top), so the operating label on the keypad will never be erased under hard use over many years.

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**Additional features**

- Auto WX scan and WX Alert function
- Instant access to Ch. 16 and Ch. 9 (or call channel)
- Simple add/delete TAG scanning operation
- Monitor button and squelch shift function

- Automatic scan function
- 2 step power saver
- Battery indicator shows remaining battery power in 4 levels
- Beep sound is programmable for each button

**SPECIFICATIONS**

**GENERAL**

- Frequency range :
  - Marine Tx 156.025-157.425MHz
  - Rx 156.050-163.275MHz
  - LMR Tx/Rx 146.000-174.000MHz
- Usable channels : USA, INT, CAN, WX channels; 100 programmable channels
- Channel spacing :
  - Marine 25kHz
  - LMR 25/12.5kHz
- PLL channel step (LMR) : 5/6.25/7.5kHz
- Current drain (at 7.5V DC) :
  - Tx 5W output 1.6A typical
  - Rx AF max. 200mA typical
- Operating temperature range :
  - Marine -20°C to +60°C; -4°F to +140°F
  - LMR -30°C to +60°C; -22°F to +140°F
- Antenna impedance : 50Ω (SMA)
- Dimensions (W×H×D) : 65×145×44 mm; (projections not included) 2<sup>9</sup>/<sub>16</sub>×5<sup>23</sup>/<sub>32</sub>×1<sup>23</sup>/<sub>32</sub> in
- Weight (approx.) : 410g; 14.5oz (with BP-225)

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

**TRANSMITTER**

- Output power (Hi/Mid/Low) : 5/3/1W
- Max. frequency deviation :
  - Marine ± 5.0kHz
  - LMR (W/N) ± 5.0/2.5kHz
- Frequency error : ± 5.0ppm
- Spurious emissions : -70dBc typical
- Adjacent channel power :
  - Marine 70dB
  - LMR (Wide/Narrow) 70/60dB
- Hum and noise ratio :
  - Marine 40dB
  - LMR (Wide/Narrow) 40/34dB
- Audio harmonic distortion : Less than 10% (at 60% mod.)

**RECEIVER**

- Sensitivity : 0.25μV typical (12dB SINAD)
- Squelch sensitivity : 0.35μV typical (at threshold)
- Adjacent channel selectivity :
  - Marine 70dB typical
  - LMR (Wide/Narrow) 70/60dB typical
- Spurious response : 70dB typical
- Intermodulation rejection : 70dB typical

- Hum and noise ratio :
  - Marine 40dB
  - LMR (Wide/Narrow) 40/34dB
- Audio output power : 0.35W typical (at 10% distortion with an 8Ω load)

**Applicable U.S. Military Specifications**

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL 810 C		MIL 810 D		MIL 810 E		MIL 810 F	
	Method	Proc.	Method	Proc.	Method	Proc.	Method	Proc.
Low Pressure	500.1	I	500.2	I, II	500.3	I, II	500.4	I, II
High Temp.	501.1	I	501.2	I, II	501.3	I, II	501.4	I, II
Low Temp.	502.1	I	502.2	I, II	502.3	I, II	502.4-3	I, II
Temp. Shock	503.1	I	503.2	I	503.3	I	503.4	I
Solar Radiation	505.1	I	505.2	I	505.3	I	505.4	I
Rain Blowing/Drip	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III
Humidity	507.1	I, II	507.2	II, III	507.3	II, III	507.4	-
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-
Dust Blowing	510.1	I	510.2	I	510.3	I	510.4	I
Immersion	512.1	I	512.2	I	512.3	I	512.4	I
Vibration	514.2	VIII, X	514.3	I	514.4	I	514.5	I
Shock	516.2	I, II, V	516.3	I, IV	516.4	I, IV	516.5	I, IV

**Supplied accessories:** (Depending on version)

- Li-Ion battery versions
  - BP-241
  - MB-103
  - BP-225
  - MB-103
- Ni-Cd battery versions
  - BC-162
  - Antenna
  - BC-158
  - Antenna
- BC-145
- Hand strap
- BC-147
- Hand strap

**OPTIONS**

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

**BP-223 BATTERY CASE**

Battery case for AA (LR6)×6 alkaline cells.

**BP-224 7.2V/750mAh Ni-Cd BATTERY PACK**

**BP-225 7.2V/1100mAh Ni-Cd BATTERY PACK**

**BP-241 7.4V/1150mAh Li-Ion BATTERY PACK**

**BP-252 7.4V/980mAh Li-Ion BATTERY PACK**

Provides 7, 10, 11, 9 hours operating time\* respectively (approx. at 5 Watts).

\* Tx (Hi): Rx: standby=5:5:90

**BC-162 DESKTOP CHARGER**

+ **BC-145A/E/V AC ADAPTER**

Rapidly charges the BP-224, BP-225, BP-241 and BP-252 in 1, 1.5, 2, 2 hours, respectively.

**BC-158 DESKTOP CHARGER**

+ **BC-147A AC ADAPTER**

Regularly charges the BP-225 in 12-18 hours. Cannot charge BP-241 and BP-252.

**BC-119N DESKTOP CHARGER**

+ **AD-109 CHARGER ADAPTER**

+ **BC-145A AC ADAPTER**

For rapid charging of battery pack. Charges the BP-225 2.2-2.8 hours. Cannot charge BP-241 and BP-252.

**CP-17L CIGARETTE LIGHTER CABLE**

**OPC-515L DC POWER CABLE**

For use with the BC-119N or BC-158 with an external DC power supply. (12-16 V DC required)

**BC-121N MULTI-CHARGER**

+ **AD-109 CHARGER ADAPTER**

+ **BC-157 AC ADAPTER**

For rapid charging of up to 6 battery packs (Six AD-109s are required). Charges the BP-225 2.2-2.8 hours. Cannot charge BP-241 and BP-252.

**OPC-656 DC POWER CABLE**

For use with the BC-121N with a DC power supply. (12-16V DC required)

**MB-86 SWIVEL BELT CLIP**

**MB-103 BELT CLIP** : Alligator type.

**HM-125 SPEAKER-MICROPHONE**

Full sized, submersible construction corresponds to IPX7 (1 m depth /30 min.).

**HS-95 EARPHONE-HEAD HEADSET**

**HS-95 BEHIND-THE-HEAD HEADSET**

**HS-97 THROAT MICROPHONE**

+ **OPC-1392 HEADSET ADAPTER CABLE** For VOX hands-free operation. These headsets are not waterproof.



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