



VHF MARINE TRANSCEIVER

IC-M90E



Commercial Grade Marine & Private Mobile Radio

Waterproof
1m depth for 30 minutes

Wide LCD allows wide viewing angles

A wide viewing angle, high intensity LCD is used in the IC-M90E, offering bright, easy to read characters. The LCD's contrast and backlight are adjustable in 4-levels*. The LED indicator on top of the front panel shows the operating status clearly.

* Backlight includes OFF setting.

Built-in Voice scrambler

A built-in 32 code voice scrambler, compatible with the UT-112, provides privacy in secret conversation.

100 programmable channels for PMR use

The IC-M90E is suitable for both marine and private mobile applications. Up to 100 programmable channels are available for private mobile use (146-174MHz)*. CTCSS and DTCS tone signalings and wide/narrow channel bandwidth are programmable for each channel. (12.5/25kHz or 12.5/20kHz).

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

Optional VOX (Voice Operated Transmit) headset

With one of Icom's optional headsets* and the OPC-1392, the IC-M90E offers hands-free operation.

* See options listed on back.

Waterproof speaker microphone, HM-125*

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

Tough and waterproof for heavy-duty use

The IC-M90E is a waterproof (IPX7*), reliable, commercial grade radio. It's simple, yet rugged construction has a polycarbonate casing with an insert-type battery to prevent water intrusion. A newly developed "speed water removal" system removes water from the speaker grill to prevent distortion in received audio.

* 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

- Instant access to Ch. 16 and call channel
- Simple add/delete TAG scanning operation
- Monitor button opens squelch
- Automatic scan function
- 2 step power save mode for longer battery life
- Battery indicator shows remaining battery power in 4 levels
- Beep sound is programmable for each button
- Self check function
- Key lock function

SPECIFICATIONS

GENERAL

- Frequency range :
 - Marine Tx 156.000–161.450MHz
 - Rx 156.000–163.425MHz
 - PMR Tx/Rx 146.000–174.000MHz
- Usable channels : INT, USA* channels; 100 programmable channels (* Depending on version)
- Channel spacing :
 - Marine 25kHz
 - PMR 25/12.5kHz
 - FRG version 20/12.5kHz
- PLL channel step (PMR) : 5/6.25/7.5kHz
- Current drain (at 7.2V DC) :
 - Tx 5W output 1.6A typical
 - Rx AF max. 200mA typical
- Operating temperature range :
 - Marine -15°C to +55°C
 - PMR -25°C to +55°C
- Antenna impedance : 50Ω (SMA)
- Dimensions (W×H×D) : 65×145×44 mm (projections not included)
- Weight (approx.) : 410g (with BP-225)

TRANSMITTER

- Output power (Hi/Mid/Low) : 5/3/1W
 - FRG version 1/0.5W (Marine)
 - 5/3/1W (PMR)
- Max. frequency deviation :
 - Marine ± 5.0kHz
 - PMR (W/N) ± 5.0/2.5kHz
 - FRG version (M/N) ± 4.0/2.5kHz
- Audio harmonic distortion : Less than 10% (at 60% dev.)
- Frequency error : ± 1.5kHz
- Spurious emissions : Less than 0.25μW (below 2GHz)
- Adjacent channel power :
 - Marine 70dB
 - PMR (Wide/Narrow) 70/60dB
- Hum and noise ratio :
 - Marine 40dB
 - PMR (Wide/Narrow) 40/34dB

RECEIVER

- Sensitivity (20dB SINAD) :
 - Marine -2dBμ emf typical
 - PMR -4dBμ emf typical
- Squelch sensitivity : 0dBμ emf typical (threshold)
- Adjacent channel selectivity :
 - Marine 70dB
 - PMR (Wide/Narrow) 70/60dB
- Spurious response : 70dB
- Intermodulation rejection :
 - Marine 68dB
 - PMR 65dB
- Hum and noise ratio :
 - Marine 40dB
 - PMR (Wide/Narrow) 40/34dB
- Audio output power (at 10% distortion with an 8Ω load) :
 - Marine 0.2W
 - PMR 0.35W

Supplied accessories: (* Varies according to version.)

- Battery pack, BP-225
- Battery charger, BC-158*
- AC adapter, BC-147E*
- Belt clip, MB-103
- Antenna, FA-S59V
- Hand strap

Measurements made in accordance with EN301 178 or EN300 086. 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.

BP-223 BATTERY CASE

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

BP-224/BP-225 BATTERY PACKS

BP-224: 7.2V/750mAh Ni-Cd battery pack.
BP-225: 7.2V/1100mAh Ni-Cd battery pack.
Provides 7, 10 hours operating time* respectively (approx. at 5 Watts).

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

BC-158 DESKTOP CHARGER

+ **BC-147E AC ADAPTER**
Regularly charges the BP-225 in 12–18 hours. Same as supplied.

BC-119N DESKTOP CHARGER

+ **AD-109 CHARGER ADAPTER**

+ **BC-145E AC ADAPTER**

For rapid charging of battery pack. An AC adapter is supplied depending on version. Charges the BP-225 within 2.2–2.8 hours.

BC-121N MULTI-CHARGER

+ **AD-109 CHARGER ADAPTER**

+ **BC-124 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.

CP-17L CIGARETTE LIGHTER CABLE WITH NOISE FILTER

+ **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)

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. Same as supplied.

HM-125 SPEAKER-MICROPHONE

Full sized, waterproof construction corresponds to IPX7 (1 m depth for 30 min.).

HS-94 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.



Icom Inc.

1-1-32, Kamiminami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 URL: <http://www.icom.co.jp/world/index.html>

Count on us!

Your local distributor/dealer:

Maximon Solutions T: 0845 873 6250
22 Soho Mills F: 0845 873 6251
Wooburn Green E: sales@maximonsolutions.com
Buckinghamshire
HP10 0PF



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