



IP-M60

HYBRID IP TRANSCEIVER (LTE + VHF MARINE)

World's First*

LTE and VHF Marine Hybrid Transceiver
Offshore and Onshore Communication



VHF Marine

LTE



Talk Listen
Simultaneous



* According to Icom research as of February 2024.

LTE and VHF Marine Hybrid Transceiver

Supports Communication at Sea and on Land

The IP-M60 is the world's first hybrid IP transceiver. Combining two modes in one, VHF marine and LTE communications. VHF marine transceiver, which is commonly used worldwide as a means of maritime safety, and a land-based LTE transceiver that can be used to make calls over any distance within a cellular (LTE) coverage area*. The IP-M60 can be used offshore, in ports, rivers, and canals where maritime and business communications are required. It can be used in situations such as rescue boats that need to coordinate with search and rescue agencies, as well as in the operation of yacht racing events.

* According to Icom research as of February 2024.

Four Operating Modes

Mode 1

Cellular (LTE) Mode

Talk Listen™
Simultaneous

In Cellular mode, communication is through the carrier's LTE (or 3G). Calls can be made anywhere within the carrier's coverage area. In addition, Simultaneous TalkListen™ provides full-duplex communication in Cellular mode allowing users to talk and listen at the same time like a telephone conversation.

Mode 2

Marine Mode

This mode works as a VHF marine radio that has the same functions and performance as conventional VHF marine radios, such as Icom IC-M25 or IC-M25EURO. VHF Marine is used to ensure the safety of marine traffic between vessels or vessel-to-coast stations.

HYBRID IP TRANSCEIVER
(LTE + VHF MARINE)

IP-M60

HYBRID
LTE X Marine VHF

Bluetooth®





Mode 3

Cellular (LTE) + Marine Mode

Cellular and Marine modes can be used simultaneously (simultaneous reception is possible and audio is MIXED). PTT buttons for Main and Sub-mode make it possible to select the communication mode assigned to each with one touch. The communication mode can be selected quickly without having to switch modes. Simultaneous transmission on both channels is possible by pressing the PTT buttons for the Main and Sub-mode at the same time.

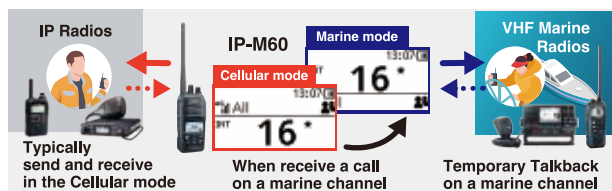


Four Sub-modes – Automatically Select Transmission Mode

Cellular + Marine Mode offers four sub-modes: “Cellular Main”, “Marine Main”, “Adaptive PTT with Cellular Main”, and “Adaptive PTT with Marine Main”. Below are examples of “Cellular Main” and “Adaptive PTT with Cellular Main” modes. The same settings can be swapped between Marine and LTE modes.

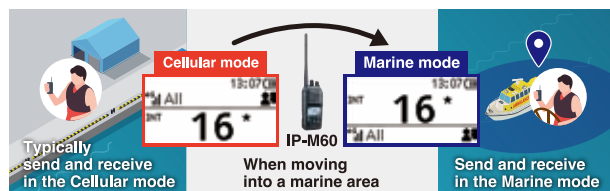
Cellular Main Mode

In the Cellular Main mode, the IP-M60 typically stands by in Cellular mode and initiates calls to cellular groups on pushing the Main PTT button. However, if a call is received on a marine channel, the radio temporarily switches to the Marine mode to respond on the marine channel.



Adaptive PTT with Cellular Main Mode

In this mode, the radio remains in the Cellular mode by default and initiates calls to cellular groups when the Main PTT button is pressed. As the operator moves to preprogrammed marine area (GPS point), the radio automatically shifts to the Marine mode and transmits on a marine channel.



Mode 4

Relay Mode – Transfers Received Audio to Another Mode

The Relay Mode transfers received marine audio to the IP radio group, vice versa. When the IP-M60 is used in the Relay Mode, no received voice is heard from the speaker.

* The Relay function may be prohibited in some countries.

Relay Function

Cellular LTE ↔ IP-M60 ↔ VHF Marine



Common Features for the Cellular (LTE) + Marine Mode

Bluetooth® Technology Enables Wireless Operation

The built-in Bluetooth® unit provides a wireless connection between the IP-M60 and an optional Bluetooth® headset. It also has a VOX function that enables automatic voice transmission in response to your voice, allowing hands-free operation.



Optional Bluetooth Headset, VS-3

1500 mW Speaker Output, Provide Clear Loud Audio

Icom's custom high-power capacity speaker delivers a loud 1500 mW audio output with advanced acoustic sound clarity for noisy environments.



MIL-STD-810 and IP67 Specifications

The IP-M60 is tested to U.S. Military standard environmental tests and dust-tight and waterproof rating of IP67*. It can be used with peace of mind on decks exposed to rain or splashing water, or in dusty conditions such as during ship repairs.

* 1 metre (3 feet) under water for 30 minutes.



AquaQuake™ Draining Functions

Icom's unique AquaQuake™ function emits a buzzing sound, shedding water from the speaker grill. The IP-M60 provides clear sound even if it gets wet from rain or waves.



Other Features

- Noise Canceling function reduces background noise from transmitting voice
- The Automatic Firmware Update and Provisioning function works through an LTE connection

Cellular (LTE) Mode Functions

Emergency Call Functions*

Simply by pushing the Emergency button, an emergency call can be made with an audible warning to a pre-defined destination. In addition to pressing the Emergency button, the Emergency call can be triggered by the Man Down, Lone Worker, and Motion/Stationary functions.

* Emergency call functions work in the Cellular mode.



Emergency button

Status Function Posts the Current Status

Current Status information such as "Break", "Working" and "Meeting" can be posted and referenced from other radios. In addition, predefined short message (up to 32 characters) can be sent to the talkgroup.



Status example

Vibration Alert Function Notifies You of an Incoming Call

The Vibration Alert function notifies the user that a call or text message is received with a strong vibration. This function can be configured for individual calls, group calls, all calls, or only when receiving text data, depending on how it is used.

Last Four Minutes Recording*

The IP-M60 has a recording and playback function, so that if you miss something, you can listen to it again immediately.

*Maximum recording: 4 minutes or 10 recordings.

Other Features

- Priority call with high priority authority
- Dual SIM capability to install two SIM cards at the same time
- One Touch PTT function keeps transmitting while you are talking
- Address book for storing talkgroup IDs



Marine Mode Functions

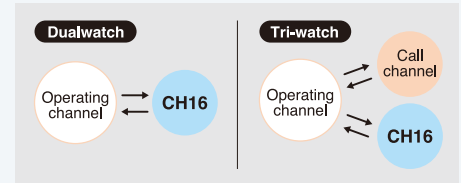
Dedicated Channel 16 Button

Channel 16 is the international Distress, Emergency and Calling channel. Push the Channel 16 button to monitor the channel.



Dualwatch and Tri-Watch Functions

For example, it is convenient for use in a yacht race, when race announcements are made on a designated channel, while you are monitoring Channel 16 and using other channel.



Other Features

- Favorite channel scan, Priority channel scan and Auto Scan Start functions
- Weather channel receiver with a Weather Alert function*

* Depending on the transceiver version.

SPECIFICATIONS

GENERAL		USA	EUR	AUS
Audio output power (8 Ω load, 10% distortion)	Internal SP	1500 mW typical		
	External SP	1000 mW typical , 1500 mW typical (HM-222H)		
Operating temperature range		-20 °C to +60 °C, -4 °F to +140 °F	-15 °C to +55 °C	-10 °C to +55 °C
Power supply voltage		7.4 V DC nominal		
Antenna impedance		50 Ω		
Current drain (approximate)	Receive	Max. audio (INT SP) 520 mA, Stand-by 300 mA		
	Transmit	Hi (5 W) 1.6 A		
Dimensions (Projections not included)		121.7 (H) × 53.7 (W) × 36.6 (D) mm, 4.8 × 2.1 × 1.4 in (with BP-303)		
Weight (approximate)		320 g, 11.3 oz (with BP-303)		
Bluetooth® technology		Version: 5.3, Output: Class 1, Protocol: HFP, HSP		
LTE (4G) / W-CDMA (3G)				
Network	LTE (4G)	B2, B4, B12	B1, B3, B7, B8, B20	B1, B3, B5, B7, B8, B28
	W-CDMA	B2, B5	B1, B8	B1, B5
Rated output power		0.25 W		
Receiver sensitivity (QPSK)		Less than -95 dBm at 5% BLER		
Compatibility		IP501H, IP503H, IP501M, IP500APP, IP730D, IP740D, VE-PG4		
VHF Marine				
GENERAL				
Frequency range	TX	156.025 ~ 157.425 MHz	156.000 ~ 161.450 MHz	156.025 ~ 157.425 MHz
	RX	156.050 ~ 163.275 MHz	156.000 ~ 163.425 MHz	156.300 ~ 162.000 MHz
Usable channel groups		INT, USA, CAN, WX	INT, ATIS*, USA*	INT, USA, WX
Type of emission		16K0G3E (FM)	16K0G3E (FM)	16K0G3E (FM)
TRANSMITTER				
Rated output power		5 W, 1 W (Hi, Low)		
Maximum frequency deviation		±5 kHz		
Frequency stability		±10 ppm	±1.5 kHz	±10 ppm
Spurious emissions		-68 dBc typ.	Less than 0.25 μW	0.25 μW typ.
Adjacent channel power		More than 70 dB		
Audio harmonic distortion		Less than 10% (at 60% deviation)		
Residual modulation		More than 40 dB		
RECEIVER				
Sensitivity		-12 dBμ (0.25 μV) typ. (at 12dB SINAD)	-3 dBμ emf typ. (at 20 dB SINAD)	-3 dBμ emf typ. (at 20 dB SINAD)
Squelch sensitivity(threshold)		-12 dBμ (0.25 μV) typ.	-3 dBμ emf typ.	-3 dBμ emf typ.
Adjacent channel selectivity		70 dB typ.	More than 70 dB	More than 65 dB
Spurious response		70 dB typ.	More than 70 dB	More than 65 dB
Intermodulation		70 dB typ.	More than 68 dB	More than 65 dB
Hum and noise		More than 40 dB		

Measurements of LTE/3G specifications are in according with 3GPP TS-36. Measurements of the VHF marine specifications are in according with TIA/EIA-603 for USA, EN301-178 for EUR and AS/NZS 4415.2-2003 for AUS version. All stated specifications are subject to change without notice or obligation. * Depending on the version.

Applicable U.S. Military Specifications & IP Rating

Standard	MIL 810G	
	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.

IP Rating

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

Supplied Accessories:

(May differ, or not supplied, depending on version)

BP-303
Battery pack



MB-133
Belt clip

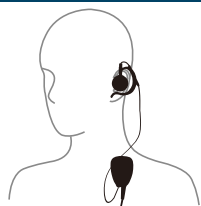
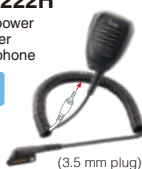


FA-S59V
Antenna



OPTIONAL ACCESSORIES

SPEAKER MICROPHONES and EARPHONES

**HM-222H**High-power
speaker
microphoneWater
proof

(3.5 mm plug)

+

SP-27

Tube earphone



or

SP-29Earhook
earphone

or

SP-40

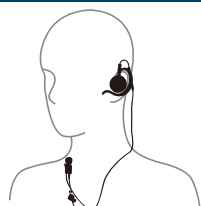
Earphone



SPEAKER MICROPHONE

HM-184HHigh-power
speaker typeWater
proof

TIE-CLIP MICROPHONES and EARPHONES

**HM-238MC**Tie-clip microphone
with Sub PTT button

(2.5 mm plug)



+

EH-15B

Earphone



or

SP-26

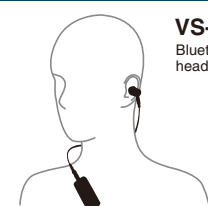
Tube earphone



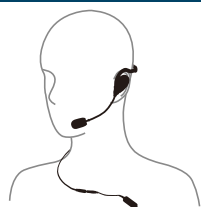
or

SP-28Earhook
earphone

BLUETOOTH® HEADSET

**VS-3**Bluetooth®
headset

HEADSETS and PTT SWITCH CABLE

**HS-94**

Earhook type headset



or

HS-95

Neck-arm type headset



or

HS-97Headset with throat
microphone

+

VS-5MCPTT switch cable for manual
PTT, and VOX operation

CARRYING CASE

LC-195Carrying case
(Charging is
possible while the
case is attached)

CHARGERS and AC ADAPTERS

BC-226Multi-connectable
rapid charger**BC-123S**AC adapter for single unit
(The straight plug type
is required)**BC-228**AC adapter
(Required for multiple
connections)

(Connectable up to six BC-226)

BC-214N (#62~#63)Multi-charger
(AC adapter BC-157S is
supplied, depending on the
charger version)**BC-227**Desktop charger
(AC adapter BC-123S supplied)

BATTERY PACK

BP-303

Type	Li-ion, 7.2 V
Capacity	3350 mAh (typ.) 3200 mAh (min.)
Operating Time*	Cellular Up to 24 hours Marine Up to 13 hours (5 W)

* Calculated under the following conditions:

- TX : RX : standby = 5 : 5 : 90

- Bluetooth and Backlight are OFF

The operating time may be shorter, depending on:

- The operating conditions, such as Bluetooth, GPS, operating mode, and so on.

- The distance with the cellular station or the signal strength.

BELT CLIPS and HANGERS

MB-133

Belt clip (Same as supplied)

MB-136

Belt clip (Swivel type)

MB-96N

Belt hanger (Swivel type)

MB-96F

Belt hanger (Fixed type)

MB-96FL

Belt hanger (Long type)

ANTENNA

FA-S59V

150~174 MHz

All stated specifications are subject to change without notice or obligation.

*Bluetooth® connection has not been tested for all Bluetooth® compatible devices with this product. This does not guarantee the all devices will work with this product.

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