Icom GMDSS Radios

Icom's line-up of GMDSS radio communication equipment includes the GM800 MF/HF radio transceiver, GM600 VHF radio transceiver and the IC-GM1600E VHF radio for survival craft. All these radios comply with the EU Marine Equipment Directive (MED) to be carried and used on ships registered under the European Union.

GMDSS Global Maritime Distress and Safety System

MED

GMDSS MF/HF/VHF RADIO STATION

Operating overview of GMDSS

The Global Maritime Distress and Safety System (GMDSS) is the International radio safety system for ships mandated by the International Maritime Organization (IMO). The GMDSS system provides automated distress alerting and distress communication service with location information.

Ships engaged in international shipping (SOLAS vessels) are obliged to carry GMDSS communication equipment. Also, most governments have specified use of selected GMDSS systems for their regulated domestic vessels and non-regulated vessels are permitted to use any GMDSS system.

Required GMDSS Communication Radio equipment

Sea Area	Fixed mount radios	Portable radios	Other Equipment
A1: Within the coverage of VHF coast stations	VHF: GM600	2-Way radio for survival craft: IC-GM1600E 2 sets for 300–500 GT cargo ships and 3 sets for all passenger ships and 500 GT or greater cargo ships are required.	• SART (Search and Rescue Transponder) • NAVTEX receiver • 406 MHz EPIRB • INMARSAT station
A2: Within the coverage of MF coast stations	VHF: GM600 MF: GM800		
A3: Ocean areas within INMARSAT coverage. (Below 70 deg North Latitude and above 70 deg South Latitude)	HF: GM800 plus MF: GM800 VHF: GM600		
A4: Out of INMARSAT coverage area. (Polar regions)	GM600 (VHF DSC class A radio) 2 × GM800 (MF DSC class A radio and HF DSC class A radio)		

* Level of requirements varies depending on model.

Maintenance

Ships operating in Sea Area **A1** or **A2** must select at least one, and ships operating in Sea Area **A3** and **A4** must select at least two of the following methods of maintenance. Icom GMDSS radios offer an ideal duplication solution for replacement equipment.

- At sea maintenance
- Shore based maintenance
- Duplication of the following equipment
  - Sea Area A1 – a complete VHF radio station
  - Sea Area A2 – a complete VHF and MF radio station
  - Sea Area A3 – a complete VHF and, either MF/HF radio or INMARSAT station
  - Sea Area A4 – a complete VHF and MF/HF radio station

* In some countries, required equipment may be different. Please ask your dealer for details.

SPECIFICATIONS

VHF MARINE TRANSCEIVERS

		IC-GM1600E	GM600
Frequency range (Unit: MHz)		Tx/Rx: 156.300–156.875	Tx: 156.025–161.600 Rx: 156.025–162.000 CH70: 156.525
Type of emission		16K0G3E (FM)	16K0G3E (FM), 16K0G2B (DSC)
Power supply requirement		7.2 V DC	24 V DC (21.6–31.2 V)*1 12 V DC (10.8–15.6 V)*2 (negative ground)
Dimensions (projection not included; W×H×D)		65 × 145 × 44 mm	274 × 114 × 121.5 mm
Weight (approx.)		385 g (With BP-234)	1.6 kg
RF output power		2 W/1 W	25 W/1 W
Current*3 drain	Transmit (Max. power)	1.0 A/0.7 A (2 W/1 W)	3.3 A*1
	Receive (Max. audio)	200 mA typical	2.0 A*1
Sensitivity	Main (20 dB SINAD)	–2 dBμ emf typical	–7 dBμ emf typical
	DSC (1% BER)	–	–7 dBμ emf typical
Intermodulation	Main	68 dB	More than 75 dB
	DSC (1% BER)	–	73 dBμ emf
Audio output power	External SP	–	10 W (4 Ω load)
	Internal SP	200 mW (8 Ω load)	2 W
IEC 61162-1 in/out format	Input	–	RMC, GGA, GNS, GLL, VTG
	Output	–	DSC, DSE

*1 With PS-310 (#01). *2 With PS-310 (#02). *3 Approximately.
Measurements made in accordance with IEC61097-12 for IC-GM1600E. EN301 925 for GM600.

MF/HF MARINE TRANSCEIVER

		GM800
Frequency range (Unit: MHz)		Tx: 1.6–27.5000 (ITU marine channels) Rx: 0.5–29.9999 (continuously) DSC: 2.1875, 4.2075, 6.3120, 8.4145, 12.5770, 16.8045
Type of emission	Tx/Rx	J3E (USB/LSB*1), H3E*1 (AM), J2B*1 (AFSK), F1B (FSK), A1A*1 (CW)
	DSC	F1B
Power supply requirement		24 V DC (21.6–31.2 V) (floating ground)
Dimensions (projection not included; W×H×D)	Main unit	367 × 95 × 260 mm
	Controller	274 × 114 × 86 mm
Weight (approximately)	Main unit	8.6 kg
	Controller	760 g
RF output power		125 W (4.0–27.5 MHz) (tuner-output) 85 W (1.6–3.999 MHz) (tuner-output)
Current drain	Transmit (Max. power)	Less than 20 A (at 1.1 kHz and 1.7 kHz two tones)
	Receive (Max. audio)	Less than 3.0 A
Sensitivity	J3E, A1A (20 dB SINAD)	30 dBμV emf (0.5–1.599 MHz) 16 dBμV emf (1.6–3.999 MHz) 11 dBμV emf (4.0–29.999 MHz)
	J2B, F1B (1% error rate)	3 dBμV emf (1.6–2.099 MHz) 0 dBμV emf (2.1–27.500 MHz)
	H3E (20 dB SINAD)	44 dBμV emf (0.5–1.599 MHz) 30 dBμV emf (1.6–3.999 MHz)
	DSC (J2B) (1% error rate)	0 dBμV emf
Audio output power	External SP	4 W with 4 Ω load
	Internal SP	2 W with 8 Ω load
IEC 61162-1 in/out format	Input	GGA, GNS, GLL, RMC, FSI
	Output	FSI, DSC, DSE

*1 Receive only.
Measurements made in accordance with EN300 373-1 for GM800.

Supplied accessories

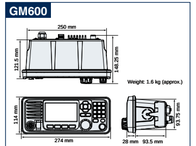
IC-GM1600E:
• BP-252* battery pack • BC-173* battery charger • BC-147* AC adapter • MB-103Y belt clip
• FA-S61V antenna (fixed) • Neck strap * Depending on version.

GM600:
• HM-214V hand microphone • DC power cable
• Mounting bracket kit

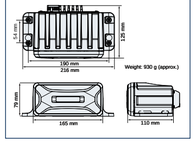
GM800:
• HS-98 handset • Mounting bracket kit

DIMENSIONS

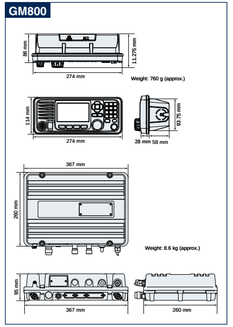
GM600



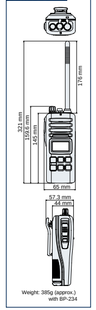
PS-310



GM800

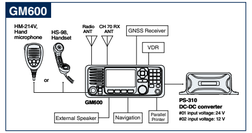


GM1600E

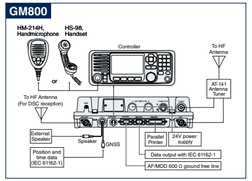


INTERCONNECTION DIAGRAM

GM600



GM800



All standard specifications are subjected to change without notice or obligation.

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ICOM

GMDSS Radios

VHF

VHF MARINE TRANSCEIVER GM600

MF HF

MF/HF MARINE TRANSCEIVER GM800

VHF

SURVIVAL CRAFT 2-WAY RADIO IC-GM1600E

MED IPX7 (Only for front panel)

MED IPX7 (Only for controller)

The Latest GMDSS Functionality in a Very User-Friendly Package

Satisfies SOLAS Carriage Requirements

The GM600 and GM800 meet the GMDSS (Global Maritime Distress and Safety System) VHF and MF/HF radio requirements as required for SOLAS regulated commercial vessels engaging in international voyage. Both radios meet the MED, "wheel mark" requirements for European merchant ships.

Meets Strict Environmental Requirements

The GM600 and GM800 meet the Marine Equipment Directive on European marine equipment requirements and have passed rigorous environmental testing and quality assurance processes. These radios are designed to provide reliable operation and long-lasting durability under harsh maritime environments. In fact, the front panel of the GM600 has IPX7* protection (1 m depth of water for 30 minutes) and the rear panel has corrosion resistance coating.

* GM800: IPX7 waterproofing for controller.

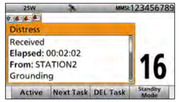
The rear panel is covered with thermosetting resin coating to resist corrosion.

* Photo shows the GM600.

Meets ITU-R M.493-13 DSC

GM600

The built-in DSC provides automated distress and safety communication. The dedicated DSC receiver continuously monitors the DSC calling channel (CH 70). The DSC Multi-task mode provides straightforward DSC operation. In this mode, the operating channel is shown at the right side of the display.



DSC Task mode screen (GM600)

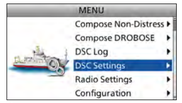
GM800

The dedicated DSC watch-keeping receiver continuously scans the six distress channels in rotation. A total of 100 MMSI members for DSC calls can stored with a 10-character ID name. The DSC Multi-task function shows up to seven DSC procedures. The GM800 is also capable of sending a distress relay call.

DSC Task mode screen (GM800)

4.3 inch Wide Viewing Angle Colour Display

The 4.3 inch colour TFT LCD provides almost 180 degree wide viewing angle and displays high resolution characters and function icons. Even when the radio is installed to the instrument panel, the operator can clearly recognize the display information from various viewing angles. The night mode display ensures good readability in low light conditions.



Menu screen

Night mode screen (GM600)

Provides Loud, Clear Audio

By adopting a new waterproof paper speaker cone, the speaker provides superior sound quality and a flat frequency response with a wide frequency range. In addition, the radio delivers a powerful 10 W (GM600)* audio when connected to an external speaker.

*GM800 delivers 4 W audio.

Unified Design User Interface

The GM600 (VHF) and GM800 (MF/HF) have a unified design and offer consistent operation. A combination of the directional keypad and soft keys provides simple operation. Most used functions are assigned to soft keys (at the bottom of the display) for quick one push function access. The large ten-key pad enables you to smoothly enter channel numbers, MMSI numbers with ID names and so on.

Other Features

- Remote Distress alarm
- Printer connector (Centronics IEEE1284)
- IEC 61162-1 interface for GNSS receiver
- 125 W* (PEP) output power (tuner-output, GM800) * 85 W (PEP) 1.6-3.999 MHz
- Built-in 24 V DC-DC converter (GM800)

GMDSS Portable for Survival Craft

MED

WATER PROOF

* Specified as IMO Res. MSC.149(77)

Simple to Use Survival Craft Radio

The IC-GM1600E Marine VHF handheld has been designed for GMDSS compliant survival craft communications. The radio is engineered to survive and function in the extreme environmental conditions common in marine emergencies. Using this simple to use radio, and operator can transmit a distress call without hesitation in an emergency. Simple operating instructions are attached to the back of the radio.

Meets Strict Environmental Requirements

The IC-GM1600E meets temperature, thermal shock, vibration and drop resistance (from 1 m height) requirements. After passing those environmental tests, the IC-GM1600E retains 1 m depth waterproof construction as specified by IMO resolutions A.694 (17), MSC149 (77) and related specifications.

Optional Battery with Superior Low Temperature Characteristics

The optional high capacity primary Lithium battery, BP-234, provides more than 8 hours operating time even at –20°C. The BP-234 can be stored for five years.
(Duty cycle: Tx: Rx: Stand-by = 6: 6: 48)

Large Keypad with Positive Button Action

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.

Wide Viewing Angle, High Intensity LCD

A wide viewing angle, high intensity LCD offers bright and easy to read characters. The bright LCD indicator on top of the front panel shows the operating status clearly.

OPTIONS for GM600

DC-DC CONVERTER

PS-310
Provides stable 12.6 V DC output from 12 V or 24 V DC input, depending on version.

HANDSET

HS-98 (#16)
Comes in handy for listening privacy on board.

HAND MICROPHONE

HM-214V
IPX7 waterproof.
Same as supplied.

Please Note: PS-310 MUST BE USED with GM600 for MED certification compliance.

OPTIONS for GM800

AUTOMATIC ANTENNA TUNER

IP56

AT-141 (#45)
45 frequency memories for shorter tuning time.

Please Note: AT-141 MUST BE USED with GM800 for MED certification compliance.

MOUNTING BRACKET

MB-108
(Photo shows installation example.)

HANDSET

HS-98 (#17)
Comes in handy for listening privacy on board.

HAND MICROPHONE

HM-214H
IPX7 waterproof.

EXTERNAL SPEAKER

SP-24E (#18)
Input impedance: 4 Ω.
Maximum input power: 7 W.

SHIELDED CONTROL CABLE

OPC-1465
10 m; 32.8 ft cable.
Use with AT-141.

OPTIONS for IC-GM1600E

LITHIUM BATTERY PACK <For survival craft>

BP-234
9.0 V/3300 mAh primary battery pack for GMDSS survival craft radio.

RECHARGEABLE Li-Ion BATTERY PACK <For on-board use>

BP-252
7.4 V/940 mAh (min), 980 mAh (typ.).
Same as supplied with some versions.

REGULAR CHARGER <For on-board use>

BC-173
Regularly charges the battery pack, BP-252 in 10 hours (approx.).

BC-147SE

BELT CLIP

MB-103Y

Please Note: BP-234 MUST BE USED with IC-GM1600E for GMDSS requirement.