





# VHF Handheld Transceivers



## Slim Buoyant Handheld DSC Transceiver

VHF MARINE TRANSCEIVER WITH DSC  
**IC-M93D EURO**

### FEATURES

- 2.3" large high visibility LCD
- Slim buoyant DSC transceiver
- Intuitive user interface
- Built-in class H DSC with a CH70 receiver
- Float'n flash and MOB auto set function
- Integrated GNSS receiver
- Active noise canceling

• IPX7 waterproof • Navigation function • 50 waypoint memories • Dual watch and Tri-watch functions • Favorite channel function • AquaQuake™ prevents audio degradation from a water-logged speaker • Supports 4-digit channels

\* Available functions may be subject to local regulations.

### Supplied Accessories

- BP-285 battery pack • BC-220 battery charger
- BC-123SE/SUK\* AC adapter • MB-133 belt clip
- FA-SC59V antenna • Hand strap

\* May differ depending on version.



## Slim, Stylish, Powerful VHF with Professional Features

VHF MARINE TRANSCEIVERS  
**IC-M73EURO PLUS**  
**IC-M73EURO**

### FEATURES

- Last call voice recording\*
- Active noise canceling\* reduces background noise by up to 90%
- Bass Boost Function\*
  - IPX8 advanced waterproofing
  - 6 W RF output, 700 mW loud audio
  - 17 hours of long lasting operating time with BP-245H

\* available in IC-M73EURO PLUS version only.

• Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel • AquaQuake™ • Auto power save • Priority and normal scan • Tag scan and favorite channel function • Optional speaker-microphones, HM-167/HM-202 • Supports 4-digit channels

\* Available functions may be subject to local regulations.

### Supplied Accessories

- BP-245H battery pack • BC-210 battery charger
- BC-123SE\* AC adapter • MB-103 belt clip
- FA-S64V\* antenna • CP-25H\* cigarette lighter cable

• Hand strap

\* May differ or not supplied, depending on version.



## Buoyant Radio with Clear Voice Boost

VHF MARINE TRANSCEIVER  
**IC-M35**

### FEATURES

- Buoyant
- Noise canceling microphone
- Automatic volume adjustment
- Voice boost and mute functions
- Large buttons, easy to grip body
- 6 W RF output, 700 mW loud audio
- IP57 dust-protection and waterproof

• Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel • AquaQuake™ • 2-step power save • Auto scan function • Tag scan and favorite channel function • Optional speaker-microphone, HM-165 • Supports 4-digit channels

\* Available functions may be subject to local regulations.

### Supplied Accessories

- BP-252 battery pack • BP-251\* battery case
- BC-173 battery charger • BC-147SE\* AC adapter
- MB-109 belt clip • FA-SC58V antenna • Hand strap

\* May differ or not supplied, depending on version.



# VHF Handheld Transceivers



Metallic Gray

Marine Blue

Pearl White

## Slim, Lightweight with High Performance

### VHF MARINE TRANSCEIVER IC-M25EURO

#### FEATURES

- Slim, lightweight, and high performance
- Large LCD and intuitive user interface
- USB charging (Micro-B USB type)
- Buoyant with flashing LED light
- 11 hours of long operating time
- 5 W RF output, 550 mW clear audio

• IPX7 waterproof protection • Dual watch and Tri-watch function • Instant access to Ch 16 and call channel • Favorite channel function • Auto scan function\* • AquaQuake™ • 2 step power save • Built-in 3 hours rapid charger (with BC-217SE) • Optional speaker-microphone, HM-213 • Supports 4-digit channels  
\* Available functions may be subject to local regulations.

#### Supplied Accessories

- BC-217SE\* USB charger • MB-133 belt clip
  - FA-SC59V antenna • Hand strap • Battery cell is built-in
- \* May differ or not supplied, depending on version.

## Compact Marine VHF with 100 PMR Channels

### VHF MARINE TRANSCEIVER IC-M85E

#### FEATURES

- Compact and lightweight
- 100 programmable PMR channels\*  
\* Appropriate licence is required.
- Automated emergency alarm with Man Down and Lone Worker and MOB Alarm functions
- 700 mW loud audio

• Built-in voice scrambler compatible with UT-112/A (Acceptable to use depending on countries.) • Built-in CTCSS and DTCSS tones • IP67 dust-tight and waterproof protection • Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel • AquaQuake™ • Tag scan and favorite channel function • 14 hours of long battery life (TX: RX: Standby=5:5:90.) • Self check function • MIL-STD rugged construction • Internal VOX capability for hands-free operation • Variety of audio accessories • Supports 4-digit channels  
\* Available functions may be subject to local regulations.

#### Supplied Accessories

- BP-290 battery pack • BC-227 rapid charger • BC-123SE\* AC adapter
  - MBB-3 belt clip • FA-SC58V antenna • Hand strap
- \* May differ or not supplied, depending on version.



# Intrinsically Safe Transceivers

## For Marine Channels



### ATEX Intrinsically Safe Marine Channels

VHF MARINE TRANSCEIVER  
**IC-M87** ATEX (1 W)

#### FEATURES

- **ATEX Certifications**  
Gas: II 2G Ex ib IIA T3 Gb  
(Tamb=-20°C to +55°C)
- **Tough and compact body**
- **Marine and land channel groups**
- **22 programmable land channels**
- **Built-in voice scrambler**

• IPX7 waterproof protection • Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel • Auto power save • Auto scan function • Tag scan function • Optional speaker-microphone, HM-138 • Supports 4-digit channels

#### Supplied Accessories

- BP-227AX battery pack • BC-152N battery charger
  - BC-147SE\* AC adapter • MB-86 belt clip
  - FA-S59V antenna • Hand strap
- \* May not be supplied depending on the transceiver version.

## For PMR Channels



### ATEX Intrinsically Safe PMR Channels

VHF TRANSCEIVER  
**IC-F51** ATEX (1 W)

UHF TRANSCEIVER  
**IC-F61** ATEX (1 W)

#### FEATURES

- **ATEX Certifications**  
Gas: II 2G Ex ib IIA T3 Gb  
Dust: II 2D Ex tb IIIC T160°C Db IP67  
(Tamb=-20°C to +55°C)
- **IP67 dust-tight and waterproof protection**
- **Built-in 2-Tone, 5-Tone, CTCSS and DTCS**

• Lone Worker function • BIIS 1200 capability • MDC 1200 compatibility • Eight DTMF autodial memories • Compact body; 56 (W) x 97 (H) x 36.4 (D) mm • Optional speaker-microphone, HM-138 • 136-174 and 400-470 MHz, 1 W

#### Supplied Accessories

- BP-227AXD, battery pack • MB-98, belt clip • Antenna



### IECEX/ATEX Intrinsically Safe Digital Radio

VHF TRANSCEIVER  
**IC-F3202DEX** (1 W)

UHF TRANSCEIVER  
**IC-F4202DEX** (1 W)

#### FEATURES

- **ATEX Certifications**  
Mining: I M2 Ex ib I Mb Gas: II 2G Ex ib IIC T4 Gb  
Dust: II 2D Ex ib IIIC T110°C Db -20°C ≤ Tamb ≤ +55°C
- **IEC Certifications**  
Ex ib I Mb Ex ib IIC T4 Gb  
Ex ib IIIC T110°C Db -20°C ≤ Tamb ≤ +55°C
- **IP67 dust-tight and waterproof protection**
- **IDAS™ digital and analogue mixed mode**
- **Built-in 2-Tone, 5-Tone, CTCSS and DTCS**

• DTMF autodial • 16 memory channels • MDC 1200 (limited functions)\* (\* Depending on version) • BIIS 1200 (limited functions)\* (\* Depending on version) • Optional HM-203EX speaker-microphone • 136-174 and 400-470 MHz, 1 W

#### Supplied Accessories

- BP-277EX, battery pack • BC-212EX, desktop charger
  - BC-123SE/SUK\*, AC adapter • MB-94EX, belt clip • Antenna
- \* May differ depending on the transceiver version.

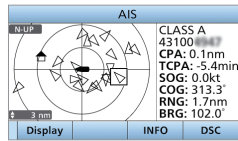
DO NOT use the transceiver with any other equipment not specified in the option list (Pages 9-10). Please ask your dealer to ensure the ATEX and IECEx ratings are acceptable for the intended place of use.



# VHF Fixed Mount Transceivers

## 4.3 inch Colour TFT LCD, Built-in AIS Receiver and Flexible Remote Control Configurations

### VHF MARINE TRANSCEIVER **IC-M605EURO**



AIS plotter

| TARGET LIST (93) |     |     |  |
|------------------|-----|-----|--|
| MMSI/Name        | RNG | BRG |  |
| DAIEMARU NO.3    | 3.3 | 154 |  |
| GYOKO MARU       | 3.4 | 147 |  |
| MIRAIE           | 3.4 | 249 |  |
| TOKUYO MARU NO21 | 3.9 | 259 |  |

AIS target list



Night mode



Supplied GPS antenna

### FEATURES

- Wide viewing angle, high contrast 4.3 inch colour TFT LCD
- Remote control with up to three COMMAND HEAD™/COMMANDMIC™
- Integrated AIS receiver (AIS RX data can be output through NMEA 0183-HS)
- NMEA 2000™ connectivity • Intuitive user interface
- Class leading receiver performance (Selectivity and IMD: 80 dB typ.)
- Active noise canceling • Last call voice recording for two minutes
- Voice scrambler with optional UT-112/A • 15 W loud audio and 30 W two-way hailer
- Integrated GNSS receiver (GPS, GLONASS and SBAS) • Built-in Class D DSC

- NMEA 0183-HS (High Speed) Version 1.01 connectivity (38.4 kbps)
- IPX8 advanced waterproof (1m depth water for 60 minutes)
- Fog horn • Dual watch and Tri-watch functions
- Instant access to Ch 16 and Call channel
- Tag scan and favorite channel functions
- AquaQuake™ prevents audio degradation from a water-logged speaker
- Priority scan function
- Display and keypad backlighting
- External speaker connection
- Supports 4-digit channels

### Flexible Remote Control Scenario

The IC-M605EURO can be remotely controlled with up to three COMMAND HEAD™/COMMANDMIC™. All functions (including Distress) of the IC-M605EURO can be controlled with the RC-M600. With the RC-M600 and/or HM-229B/W\* connected, the IC-M605EURO provides an intercom system allowing two way private communications.

\* Optional connection cable, OPC-2384 is required.



### Full Remote Control from Optional Command Station

#### COMMAND HEAD™ **RC-M600**



### Space-Saving Compact Body for Daily Operations

#### COMMANDMIC™ **HM-229B/W**

- Black and white colour version



\* Photo shows HM-229B.



# VHF Fixed Mount Transceivers

## VHF and AIS/GPS Receiver Combo with NMEA 2000™ Connectivity



Supplied GPS antenna



### VHF MARINE TRANSCEIVER **IC-M506GE**

#### FEATURES

- Integrated AIS Receiver
- NMEA 2000™ connectivity
- 2 minutes last call voice recording
- Intuitive user interface
- Active noise canceling
- Built-in GPS receiver (GPS antenna supplied)
- 15 W loud audio and 25 W two-way hailer
- Optional COMMANDMIC™, HM-195 series
- IPX8 advanced waterproof (1 m depth water for 60 minutes)
- Built-in Class D DSC
- Meets ITU-R M493-14 spec
- Dual watch and Tri-watch functions
- Instant access to Ch 16 and Call channel
- Tag scan and favorite channel functions
- AquaQuake™
- Priority scan function
- Display and keypad backlighting
- External speaker connection
- Option voice scrambler UT-112/A
- Large dot-matrix display
- Rear panel microphone version
- Supports 4-digit channels

## Top Performance Ultra Compact VHF

### VHF MARINE TRANSCEIVER **IC-M330GE**



Supplied GPS antenna

Available in black or white.

#### FEATURES

- Ultra compact body (W×H×D; 156.5 × 66.5 × 110.1 mm)
- Uncompromised receiver performance (Selectivity and IMD: more than 70 dB)
- Intuitive user interface
- Dynamic clear audio from bass to treble
- Easy-to-read full dot-matrix display
- Meets ITU-R M493-14 spec
- Built-in Class D DSC
- Built-in GPS receiver (GPS antenna supplied)
- \* IC-M330E (without GPS receiver) also available depending on countries.
- IPX7 waterproof
- Dual watch and Tri-watch functions
- Instant access to Ch 16 and Call channel
- Tag scan and favorite channel functions
- AquaQuake™
- Priority scan function
- Display and keypad backlighting
- External speaker connection
- Supports 4-digit channels



## COMMANDMIC™

### Full Remote Control Capability

REMOTE-CONTROL MICROPHONES

**HM-195GB/GW**  
(White backlight LCD)

**HM-195B/SW**  
(Amber backlight LCD)



Above photo shows HM-195B  
Available in black or super white.

#### FEATURES

- Full control 2nd station capability for IC-M506GE
- Intercom function with IC-M506GE
- Distress button on the rear panel



## AIS Transponder

### Fully Capable Class B AIS Transponder

CLASS B AIS TRANSPONDER  
**MA-500TR**



#### FEATURES

- Class B AIS transponder
- Use with MXG-5000S GPS receiver\*
- CPA and TCPA collision-risk management
- AIS target call with Icom VHF transceivers

\* The MXG-5000S may be sold separately, depending on country.



# IP ADVANCED RADIO SYSTEM

## Full-Duplex Communication That Works Over a Wireless LAN and IP Network



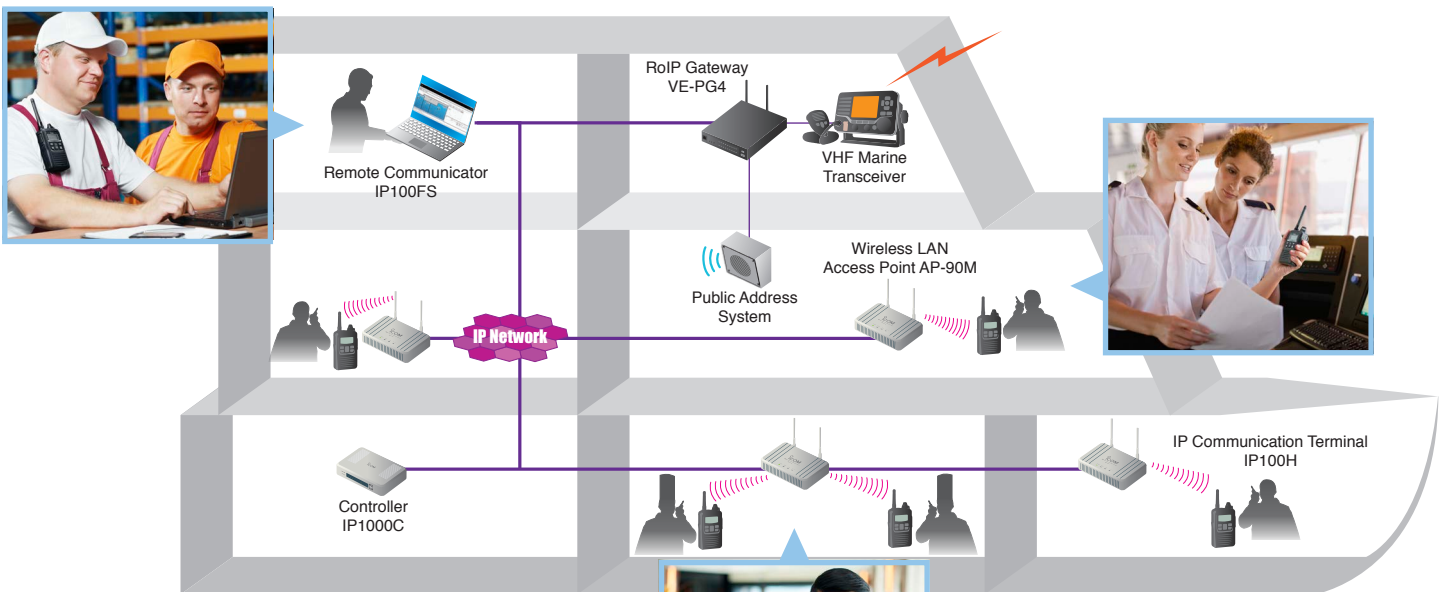
### System Features

Wireless Communication System among Ship Crews

Individual, Group or Area Communication

Hands-free, Full-duplex Communication with Optional Earphone-mic or Headset

Interconnect between VHF Marine Transceiver and Public Address System



### IP Communication Terminal **IP100H**



- Licence-free communication terminal using IEEE 802.11 a/b/g/n standards
- WPA-PSK or WPA2-PSK encryption
- IPX7 waterproof (1 m depth water for 30 minutes)
- Compact 58 × 95 × 26.4 mm body and 205 g (approximate) lightweight
- Vibration alert function for incoming calls
- Tested to the MIL-STD 810G specifications
- Emergency function

### Remote Communicator Software **IP100FS**

(Supplied with USB flash drive for use as a USB hardware key)



- The IP100FS can communicate with IP communication terminals from a PC
- The IP100FS can obtain location information of each IP100H based on using access points
- Can be installed to a Windows® based tablet PC as well as laptop PC

### Wireless LAN Access Point **AP-90M**

- IEEE 802.11 a/b/g/n/ac compliant
- PoE (Power over Ethernet) capability
- Optional RS-AP3, access point management software



### Controller **IP1000C**

- The IP1000C controls all terminal configurations and voice traffic
- Capable of controlling up to 100 terminals (including IP100FS)



### RoIP Gateway **VE-PG4**

- VE-PG4 multiple-site connection through LAN or LTE (4G) and 3G network\* (\* Service availability depends on the country. Network coverage provided by a custom SIM card.)
- Wireless LAN transceiver controller (Equivalent to IP1000C function) built-in, capable of controlling up to 50 IP communication terminals
- IP phone system connection with SIP server function
- IDAS™ Conventional and NXDN™ Type-D multi-site trunking connection
- Analogue radio system connection



# GMDSS

Global Maritime Distress and Safety System

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.

## Class A DSC VHF Radio with Wide Viewing Angle Colour TFT LCD

VHF MARINE TRANSCEIVER

### GM600



PS-310 DC-DC converter

## Reliable Long Distance MF/HF Communication

MF/HF MARINE TRANSCEIVER

### GM800

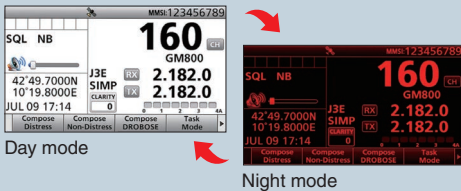






## FEATURES

- Meets VHF GMDSS requirements for SOLAS ships
  - Certified for European Maritime Equipment Directive (MED)
  - ITU Class A DSC
  - Large and high contrast 4.3-inch colour TFT LCD
  - Intuitive user interface for straightforward operation
  - 10 W audio output power with external speaker
  - Dedicated DSC watch receiver for continuous Channel 70 monitoring
- Printer connector (D-SUB 25-pin) • VDR (Voyage Data Recorder)/External speaker connector
  - IEC 61162-1 input/output • Superior sound quality with a wide frequency range and a flat frequency response
  - Optional handset, HS-98 (#16) • IPX7 waterproof for front panel
  - Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel
  - Tag scan and favorite channel functions • Priority scan function
  - Unified design with GM800 (MF/HF) • Supports 4-digit channels
- Please Note:** PS-310 MUST BE USED with GM600 for MED certification compliance.



## FEATURES

- Meets MF/HF GMDSS requirements for SOLAS ships
  - Certified for European Maritime Equipment Directive (MED)
  - ITU Class A DSC
  - Large and high contrast 4.3-inch colour TFT LCD
  - Intuitive user interface for straightforward operation
  - Dedicated DSC watch receiver for continuous scanning of the six distress channels
  - Optional automatic antenna tuner, AT-141
- Output power: 150 W\* PEP into 50 Ω (at radio terminal) • Built-in 24 V DC-DC converter
  - Parallel printer port • External SP connector
  - IEC 61162-1 input/output • Superior sound quality with a wide frequency range and a flat frequency response
  - Supplied handset, HS-98 (#17) • IPX7 waterproof for controller
  - Maximum 160 programmable channels • Program scan, channel scan and channel resume scan
  - Unified design with GM600 (VHF)
- \* 125 W (4.0–27.5 MHz) (at tuner-output), 85 W (1.6–3.999 MHz) (at tuner-output)
- Please Note:** The complete GMDSS installation for MF/HF DSC (Class A) and telephony additionally requires the optional antenna tuner, AT-141.



MED



SURVIVAL CRAFT 2-WAY RADIO










# IC-GM1600E

## GMDSS Portable for Survival Craft

### FEATURES










- Meets strict environmental requirements for GMDSS
  - 2 W output power for long lasting battery
  - Primary (non-rechargeable) lithium battery pack, BP-234
  - Highly visible yellow-coloured body
- Instant access to Ch 16 and call channel • Auto power save
  - 4-step battery indicator
- Included Accessories**
- BP-252 battery pack • BC-173 battery charger
  - BC-147SE AC adapter • MB-103Y belt clip
  - FA-S61V antenna (Fixed type) • Neck strap
- Please Note:** BP-234 MUST BE USED with IC-GM1600E for GMDSS requirement.










# Options for Handheld Transceivers

| MODEL NAME                 | BATTERY CASES   |   | BATTERY PACKS   |  |   |   |   |  |  |
|----------------------------|---|---|---|--|---|---|---|--|--|
|                            | BP-291<br>LR6 (AA)×5 cells<br> | BP-251*1<br>LR03 (AAA)×5 cells<br> | BP-227AX (Li-ion)<br>For intrinsically safe radios<br>7.4 V/1850 mAh (min.)<br>1950 mAh (typ.)<br> | BP-227AXD (Li-ion)<br>For intrinsically safe radios<br>7.4 V/1850 mAh (min.)<br>1950 mAh (typ.)<br> | BP-277EX (Li-ion)<br>For intrinsically safe radios<br>7.4 V/1800 mAh (min.)<br>1900 mAh (typ.)<br> | BP-285 (Li-ion)<br>7.2 V/1485 mAh (min.)<br>1570 mAh (typ.)<br> | BP-245H (Li-ion)<br>7.2 V/2100 mAh (min.)<br>2250 mAh (typ.)<br> | BP-252 (Li-ion)<br>7.4 V/940 mAh (min.)<br>980 mAh (typ.)<br> | BP-290 (Li-ion)<br>7.2 V/1910 mAh (min.)<br>2010 mAh (typ.)<br> |
| IC-M93D EURO               |   |   |   |  |   | ✓   |   |  |  |
| IC-M73EURO                 |   |   |   |  |   |   | ✓   |  |  |
| IC-M35                     |   | ✓   |   |  |   |   |   | ✓  |  |
| IC-M25EURO*2               |   |   |   |  |   |   |   |  |  |
| IC-M85E                    | ✓   |   |   |  |   |   |   |  | ✓  |
| IC-M87ATEX                 |   |   | ✓   |  |   |   |   |  |  |
| IC-F51 ATEX<br>IC-F61 ATEX |   |   |   | ✓  |   |   |   |  |  |
| IC-F3202DEX<br>IC-F4202DEX |   |   |   |  | ✓   |   |   |  |  |
| IC-GM1600E                 |   |   |   |  |   |   |   | ✓<br>(On-board use only)   |  |

\*1 The IC-M35 floats when used with most common brand AAA batteries. Battery weight varies by manufacturer. Please check your IC-M35 for buoyancy in a shallow area first when using AAA batteries.

\*2 As the Lithium-ion battery cell (3.7 V 1500 mAh) is built-in to the IC-M25EURO, the user cannot replace the battery cell.

| MODEL NAME                 | BATTERY PACKS   |  | DESKTOP CHARGERS   |  |  |   |   |   |   |
|----------------------------|---|--|--|--|--|---|---|---|---|
|                            | BP-234 (Lithium)<br>9.0 V/3300 mAh<br>(non-rechargeable)<br> | BC-212EX*3<br>Rapid charger for<br>intrinsically safe<br>radios<br> | BC-220<br>Rapid charger<br> | BC-210<br>Rapid charger<br> | BC-162<br>Rapid charger<br> | BC-173<br>Regular charger<br> | BC-219N<br>Rapid charger<br> | BC-225<br>Intelligent rapid<br>charger<br> | BC-226<br>Connectable type.<br>Connects up to<br>six BC-226 units.<br> |
| IC-M93D EURO               |   |  | ✓  |  |  |   |   |   |   |
| IC-M73EURO                 |   |  |  | ✓  |  |   |   |   |   |
| IC-M35                     |   |  |  |  | ✓  | ✓   |   |   |   |
| IC-M25EURO                 |   |  |  |  |  |   |   |   |   |
| IC-M85E                    |   |  |  |  |  |   | ✓   | ✓   | ✓   |
| IC-M87ATEX                 |   |  |  |  |  |   |   |   |   |
| IC-F51 ATEX<br>IC-F61 ATEX |   |  |  |  |  |   |   |   |   |
| IC-F3202DEX<br>IC-F4202DEX |   | ✓  |  |  |  |   |   |   |   |
| IC-GM1600E                 | ✓<br>(For survival craft)   |  |  |  |  |   | ✓<br>(On-board use only)  |   |   |

| MODEL NAME                 | DESKTOP CHARGERS   |   |   | MULTI-CHARGERS   |  |  | AC ADAPTERS   |  |  |
|----------------------------|--|---|---|--|--|--|---|--|--|
|                            | BC-227<br>Rapid charger<br> | BC-119N*3<br>Rapid charger<br> | BC-152N*3<br>Regular charger<br> | BC-214*4<br>Rapid charger<br> | BC-197*5<br>Rapid charger<br> | BC-121N*3<br>Rapid charger<br> | BC-123SE/SUK<br>12 V/1 A<br> | BC-145SE/SUK<br>16 V/0.93 A<br> | BC-147SE<br>12 V/330 mA<br> |
| IC-M93D EURO               |  |   |   | ✓<br>(Use #13, AD-133 installed)   |  |  | ✓<br>(Use with BC-220)  |  |  |
| IC-M73EURO                 |  |   |   |  | ✓<br>(Use #33, AD-129 installed)   |  | ✓<br>(Use with BC-210)  |  |  |
| IC-M35                     |  |   |   |  |  |  | ✓<br>(Use with BC-162)  | ✓<br>(Use with BC-162)   | ✓<br>(Use with BC-173)   |
| IC-M25EURO                 |  |   |   |  |  |  | ✓<br>(Use with BC-219N,<br>BC-225 or BC-227)  |  |  |
| IC-M85E                    | ✓  |   |   | ✓<br>(Use #23, AD-132N installed)  |  |  |   |  |  |
| IC-M87ATEX                 |  | ✓<br>(Use with AD-100)  | ✓   |  |  | ✓<br>(Use with AD-100)   |   | ✓<br>(Use with BC-119N)  | ✓<br>(Use with BC-152N)  |
| IC-F51 ATEX<br>IC-F61 ATEX |  | ✓<br>(Use with AD-100)  | ✓   |  |  | ✓<br>(Use with AD-100)   |   | ✓<br>(Use with BC-119N)  | ✓<br>(Use with BC-152N)  |
| IC-F3202DEX<br>IC-F4202DEX |  |   |   |  |  |  | ✓<br>(Use with BC-212EX)  |  |  |
| IC-GM1600E                 |  |   |   |  |  |  |   |  | ✓<br>(Use with BC-173,<br>On-board use only)   |










| MODEL NAME                 | AC ADAPTERS  |   | USB CHARGER  | CHARGER ADAPTERS   | CIGARETTE LIGHTER CABLES  |  | DC POWER CABLES   |  | READER SOFTWARE   |
|----------------------------|--|---|--|--|---|--|---|--|---|
|                            | BC-157S<br>12 V/7.5 A<br> | BC-228<br>15 V/4 A<br> | BC-217SE<br>5 V/1 A<br> | AD-100<br>AD-132N*4<br>AD-133*4<br>AD-129*5<br> | CP-25H<br> | CP-23L<br> | OPC-515L<br> | OPC-656<br> | RS-BC225<br> |
| IC-M93D EURO               | ✓<br>(Use with BC-214)   |   |  | ✓<br>(Use AD-133 with BC-214)  | ✓<br>(Use with BC-220)  |  | ✓<br>(Use with BC-210)  | ✓<br>(Use with BC-214)   |   |
| IC-M73EURO                 | ✓<br>(Use with BC-197)   |   |  | ✓<br>(Use AD-129 with BC-197)  | ✓<br>(Use with BC-210)  |  |   | ✓<br>(Use with BC-197)   |   |
| IC-M35                     |  |   |  |  |   |  |   |  |   |
| IC-M25EURO                 |  |   | ✓  |  |   |  |   |  |   |
| IC-M85E                    | ✓<br>(Use with BC-214)   | ✓<br>(Use with BC-226)  |  | ✓<br>(Use AD-132N with BC-214)   |   | ✓<br>(Use with BC-219N,<br>or BC-227)  | ✓<br>(Use with BC-219N,<br>BC-225 or BC-227)  | ✓<br>(Use with BC-214)   | ✓<br>(Use with BC-225)  |
| IC-M87ATEX                 | ✓<br>(Use with BC-121N)  |   |  | ✓<br>(Use AD-100 with BC-119N/121N)  |   |  |   |  |   |
| IC-F51 ATEX<br>IC-F61 ATEX | ✓<br>(Use with BC-121N)  |   |  | ✓<br>(Use AD-100 with BC-119N/121N)  |   |  |   |  |   |
| IC-F3202DEX<br>IC-F4202DEX |  |   |  |  |   |  |   |  |   |
| IC-GM1600E                 |  |   |  |  |   |  |   |  |   |










\*3 The battery charger must not be used in an explosive atmosphere.




\*4 Either AD-133 or AD-132N is supplied with the BC-214, depending on version.






\*5 AD-129 is supplied with the BC-197, depending on version.

# Options for Handheld Transceivers

| SPEAKER-MICROPHONES        |   |   |   |   |   |  |   |   |   |
|----------------------------|---|---|---|---|---|--|---|---|---|
| MODEL NAME                 | HM-203EX<br>For intrinsically safe radios<br>Waterproof                           | HM-228<br>Waterproof  | HM-165<br>Waterproof  | HM-202<br>Waterproof  | HM-167<br>Waterproof  | HM-213<br>Waterproof   | HM-222<br>Waterproof  | HM-236<br>Waterproof  | HM-138<br>Waterproof  |
| IC-M93D EURO               |  |  |  |  |  |  |  |  |  |
| IC-M73EURO                 |   | ✓   | ✓   | ✓   | ✓   |  |   |   |   |
| IC-M35                     |   |   | ✓   |   |   |  |   |   |   |
| IC-M25EURO                 |   |   |   |   |   | ✓  |   |   |   |
| IC-M85E                    |   |   |   |   |   |  | ✓   | ✓   |   |
| IC-M87ATEX                 |   |   |   |   |   |  |   |   | ✓   |
| IC-F51 ATEX<br>IC-F61 ATEX |   |   |   |   |   |  |   |   | ✓   |
| IC-F3202DEX<br>IC-F4202DEX | ✓   |   |   |   |   |  |   |   |   |
| IC-GM1600E                 |   |   |   |   |   |  |   |   |   |

| MODEL NAME                 | TIE-CLIP MICROPHONE   | HEADSETS  |   |   | PTT SWITCH CABLE  | EARPHONES  |   |   |   |
|----------------------------|---|---|---|---|---|--|---|---|---|
|                            | HM-163MC  | HS-94<br>Earhook type with boom microphone  | HS-95<br>Behind-the-head type   | HS-97<br>Throat microphone type   | VS-5MC<br>Manual PTT/VOX operation  | EH-15B   | SP-26<br>Tube earphone  | SP-27<br>Tube earphone  | SP-28   |
| IC-M93D EURO               |  |  |  |  |  |  |  |  |  |
| IC-M73EURO                 |   |   |   |   |   |  |   |   |   |
| IC-M35                     |   |   |   |   |   |  |   |   |   |
| IC-M25EURO                 |   |   |   |   |   |  |   |   |   |
| IC-M85E                    | ✓   | ✓<br>(Use with VS-5MC)  | ✓<br>(Use with VS-5MC)  | ✓<br>(Use with VS-5MC)  | ✓   | ✓<br>(Use with HM-163MC)   | ✓<br>(Use with HM-163MC)  | ✓<br>(Use with HM-222 or AD-135)  | ✓<br>(Use with HM-163MC)  |
| IC-M87ATEX                 |   |   |   |   |   |  |   |   |   |
| IC-F51 ATEX<br>IC-F61 ATEX |   |   |   |   |   |  |   |   |   |
| IC-F3202DEX<br>IC-F4202DEX |   |   |   |   |   |  |   |   |   |
| IC-GM1600E                 |   |   |   |   |   |  |   |   |   |

| MODEL NAME                 | EARPHONES   |   |   | ACC ADAPTERS  |   | BELT CLIPS   |   |   | BELT HANGERS  |
|----------------------------|---|---|---|---|---|--|---|---|---|
|                            | SP-29   | SP-32<br>Tube earphone adapter  | SP-40   | AD-118<br>6-Pin Hirose plug adapter   | AD-135<br>3.5 mm jack earphone adapter  | MB-94EX<br>For intrinsically safe radios   | MB-86 MB-136<br>Swivel type   | MB-98<br>MB-103/103Y<br>MB-109<br>MB-133<br>MBB-3<br>Alligator                        | MB-96N<br>Swivel type   |
| IC-M93D EURO               |  |  |  |  |  |  |  |  |  |
| IC-M73EURO                 |   |   |   |   |   |  | ✓<br>(Use MB-86)  | ✓<br>(Use MB-103)   | ✓   |
| IC-M35                     |   |   |   |   |   |  |   | ✓<br>(Use MB-109)   |   |
| IC-M25EURO                 |   |   |   |   |   |  |   | ✓<br>(Use MB-133)   |   |
| IC-M85E                    | ✓<br>(Use with HM-222 or AD-135)  | ✓<br>(Use with EH-15B)  | ✓<br>(Use with HM-222 or AD-135)  | ✓   | ✓   |  | ✓<br>(Use MB-136)   | ✓<br>(Use MBB-3)  | ✓   |
| IC-M87ATEX                 |   |   |   |   |   |  | ✓<br>(Use MB-86)  | ✓<br>(Use MB-98)  |   |
| IC-F51 ATEX<br>IC-F61 ATEX |   |   |   |   |   |  | ✓<br>(Use MB-86)  | ✓<br>(Use MB-98)  |   |
| IC-F3202DEX<br>IC-F4202DEX |   |   |   |   |   | ✓  |   |   |   |
| IC-GM1600E                 |   |   |   |   |   |  |   | ✓<br>(Use with MB-103Y)   |   |

| MODEL NAME                 | BELT HANGERS  |   | CARRYING CASES  |   | ANTENNAS  |  |   |  |
|----------------------------|---|---|---|---|---|--|---|--|
|                            | MB-96F<br>Fixed type  | MB-96FL<br>Long type  | LC-187<br>Charging is possible while the case is attached                           | LC-188  | FA-S59V<br>FA-S64V<br>FA-SC58V<br>FA-SC59V  | FA-S24V<br>136–150 MHz<br>FA-S59V<br>150–174 MHz<br>FA-S27U<br>400–470 MHz<br>FA-S56U<br>450–520 MHz | FA-S62VS<br>150–162 MHz<br>FA-S63VS<br>160–174 MHz<br>FA-S57US<br>450–490 MHz | FA-SC25V<br>136–150 MHz<br>FA-SC55V<br>150–174 MHz<br>FA-SC25U<br>400–430 MHz<br>FA-SC57U<br>430–470 MHz |
| IC-M93D EURO               |  |  |  |  |  |  |   |  |
| IC-M73EURO                 | ✓   | ✓   |   |   | FA-SC59V  |  |   |  |
| IC-M35                     |   |   |   |   | FA-S59V or FA-S64V  |  |   |  |
| IC-M25EURO                 |   |   |   |   | FA-SC58V  |  |   |  |
| IC-M85E                    | ✓   | ✓   | ✓   | ✓   | FA-SC59V  |  |   |  |
| IC-M87ATEX                 | ✓   | ✓   |   |   | FA-SC58V  |  |   |  |
| IC-F51 ATEX<br>IC-F61 ATEX | ✓   |   |   |   | FA-S59V   |  |   |  |
| IC-F3202DEX<br>IC-F4202DEX |   |   |   |   |   | ✓  | ✓   |  |
| IC-GM1600E                 |   |   |   |   | Fixed type  |  |   | ✓  |









: Applicable
  : Not applicable

The IC-M87 ATEX Intrinsically Safe model should only be used with the specified Intrinsically Safe approved options. Some options may not be available in some countries. Please ask your dealer for details.




# Options for Fixed Mount Transceivers

## VHF FIXED MOUNT TRANSCEIVERS

| MODEL NAME  | HAND MICROPHONES   |   |   | COMMAND HEAD™   | COMMANDMIC™   |  |   | HORN SPEAKER  | HANDSET   |
|-------------|--|---|---|---|---|--|---|---|---|
|             | HM-205B/RB<br>Speaker microphone   | HM-235B/W   | HM-214V   | RC-M600   | HM-229B/W   | HM-195B/SW   | HM-195GB/GW   | SP-37   | HS-98 (#16)   |
| IC-M605EURO | <br>(Use with HM-205RB) |  |  |  |  |  |  |  |  |
| IC-M506GE   | (Use with HM-205B)   |   |   |   |   |  |   |   |   |
| IC-M330GE   |  |   |   |   |   |  |   |   |   |
| GM600       |  |   |   |   |   |  |   |   |   |

| MODEL NAME  | CONNECTION CABLE  | EXTENSION CABLES  |   |  | DC-DC CONVERTER   | FLUSH MOUNT KITS  | VOICE SCRAMBLER   | GPS ANTENNA   |
|-------------|---|---|---|--|---|---|---|---|
|             | OPC-2384<br>12-pin to 8-pin<br>for use with<br>COMMANDMIC   | OPC-2377<br>10 m; 32.8 ft cable   | OPC-1541<br>6.1 m; 20 ft cable<br>for use with<br>COMMANDMIC<br>and rear microphone<br>connection                   | OPC-1000<br>6.1 m; 20 ft cable<br>for use with<br>rear microphone<br>connection.                             | PS-310 (#01)<br>24 V input<br>PS-310 (#02)<br>12 V input                          | MB-75<br>MB-132<br>MBF-5  | UT-112/A<br>Total of 32 voice<br>scramble codes<br>available                        | UX-241  |
| IC-M605EURO | <br>(Use with HM-229B/W) | <br>(Use with RC-M600) | <br>(Use with HM-229B/W, HM-205RB) | <br>(For use with HM-205RB) |  | <br>Photo shows MB-75 |  | <br>(Same as supplied) |
| IC-M506GE   |   |   |   |  |   |   |   |   |
| IC-M330GE   |   |   |   |  |   |   |   |   |
| GM600       |   |   |   |  |   |   |   |   |

## AIS TRANSPONDER










| MODEL NAME | FLUSH MOUNT KITS  |   | GPS RECEIVER  |
|------------|---|---|---|
|            | MB-75   | MB-132  | MXG-5000S   |
|            |  |  |  |
| MA-500TR   |   |   |   |










## MF/HF FIXED MOUNT TRANSCEIVER










| MODEL NAME | HAND MICROPHONE   | HANDSET   | EXTERNAL SPEAKER  | ANTENNA TUNER  | SHIELDED CONTROL CABLE   | MOUNTING BRACKET  |
|------------|---|---|---|--|--|---|
|            | HM-214H   | HS-98 (#17)   | SP-24E (#18)  | AT-141<br>IP56   | OPC-1465<br>10 m; 32.8 ft  | MB-108  |
| GM800      |  |  |  |  | <br>(Use with AT-141) |  |


: Applicable       : Not applicable

# Options for IP Advanced Radio System

|                   | BATTERY PACKS   |   | BATTERY CASE  | RAPID CHARGER  | MULTI-CHARGER  | SPEAKER-MICROPHONES  |  | EARPHONE-MICROPHONES   |  |
|-------------------|---|---|---|--|--|--|--|--|--|
| <b>MODEL NAME</b> | <b>BP-271</b> (Li-ion)<br>7.4 V/1150 mAh (min.)<br>1200 mAh (typ.)<br> | <b>BP-272</b> (Li-ion)<br>7.4 V/1880 mAh (min.)<br>2000 mAh (typ.)<br> | <b>BP-273</b><br>LR6 (AA) × 3<br>cells<br> | <b>BC-202</b><br>+ <b>BC-123SA/SE</b><br> | <b>BC-211</b><br>+ <b>BC-157S</b><br> | <b>HM-183LS</b><br><b>Waterproof</b><br> | <b>HM-186LS</b><br> | <b>HM-153LS</b><br> | <b>HM-166LS</b><br> |
| <b>IP100H</b>     | ✓   | ✓   | ✓   | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |

|                   | HEADSETS (Full-duplex operation)  |   | HEADSETS (Simplex operation)  |   |  | PLUG ADAPTER CABLES   |  | PTT SWITCH CABLES  |   |
|-------------------|---|---|---|---|--|---|--|--|---|
| <b>MODEL NAME</b> | <b>HS-102</b><br>Earphone type<br> | <b>HS-85</b><br>Over-the-head<br>type with PTT<br>switch<br> | <b>HS-94</b><br>Earhook type with<br>boom microphone<br> | <b>HS-95</b><br>Behind-the-<br>head type<br> | <b>HS-97</b><br>Throat micro-<br>phone type<br> | <b>OPC-2006LS</b><br>For VOX opera-<br>tion<br> | <b>OPC-2144</b><br>Slim L-type plug<br> | <b>OPC-2359</b><br> | <b>OPC-2328</b><br>For manual PTT<br>operation<br> |
| <b>IP100H</b>     | (Use with OPC-2359)   | (Use with OPC-2144)   | (Use with OPC-2006LS or OPC-2328)   | (Use with OPC-2006LS or OPC-2328)   | (Use with OPC-2006LS or OPC-2328)  | ✓   | ✓  | ✓  | ✓   |

|                   | AC ADAPTERS  |  |  | AUDIO CONNECTION CABLES   |   |  |  |  | ACCESS POINT MANAGER  |
|-------------------|--|--|--|---|---|--|--|--|---|
| <b>MODEL NAME</b> | <b>BC-207S</b><br>12 V/4.2 A<br> | <b>BC-147SE</b><br>12 V/330 mA<br> | <b>BC-236</b><br>12 V /8.3 A<br> | <b>OPC-2273</b><br>For VHF radio<br>5 m; 16.4 ft<br> | <b>OPC-2275</b><br>For mobile<br>transceiver<br>5 m; 16.4 ft<br> | <b>OPC-2276</b><br>For HM-152 or SM-26<br>5 m; 16.4 ft<br> | <b>OPC-2389</b><br>For RS-232 serial<br>connection<br>5 m<br> | <b>OPC-2390</b><br>For IC-FR5100<br>series<br>5 m<br> | <b>RS-AP3</b><br> |
| <b>IP100FS</b>    |  | ✓  |  |   |   |  |  |  |   |
| <b>AP-90M</b>     | ✓  |  |  |   |   |  |  |  | ✓   |
| <b>IP1000C</b>    |  |  |  |   |   |  |  |  |   |
| <b>VE-PG4</b>     |  |  | ✓  | ✓   | ✓   | ✓  | ✓  | ✓  |   |

|                   | DESKTOP MICROPHONE  | HAND MICROPHONE  | MICROPHONE ADAPTER  |
|-------------------|---|--|---|
| <b>MODEL NAME</b> | <b>SM-26</b><br> | <b>HM-152</b><br> | <b>CT-23</b><br> |
| <b>IP100FS</b>    | (Use with CT-23)  | (Use with CT-23)   | ✓   |
| <b>AP-90M</b>     |   |  |   |
| <b>IP1000C</b>    |   |  |   |
| <b>VE-PG4</b>     | ✓   | ✓  |   |

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

# Specifications for VHF Handheld Transceivers

|   |                           | IC-M93D EURO  | IC-M73EURO  | IC-M35   | IC-M25EURO   | IC-M85E  |
|---|---------------------------|---|---|--|--|--|
| <b>Frequency range (Unit: MHz)</b>                      |                           | TX: 156.000–161.450, 156.000–161.600*<br>RX: 156.000–163.425<br>CH70: 156.525<br>(* For only HOL version) | TX: 156.000–161.450<br>RX: 156.000–163.425                          | TX: 156.000–161.450<br>RX: 156.000–163.425                   | TX: 156.000–161.450<br>RX: 156.000–163.425                   | TX: 156.000–161.450<br>RX: 156.000–163.425<br>TX/RX: 136–174 (PMR)                       |
| <b>Dimensions (projections not included; W x H x D)</b> |                           | 57.0 x 144.6 x 38.5 mm  | 52.5 x 125 x 30 mm  | 62 x 139.5 x 43 mm   | 56.6 x 134.2 x 30.5 mm                                       | 56 x 92 x 29 mm  |
| <b>Weight (approx.)</b>                                 |                           | 300 g<br>(With BP-285, FA-SC59V and MB-133)   | 320 g<br>(With BP-245H, MB-103 and FA-S64V)                         | 295 g<br>(With BP-252, MB-109 and FA-SC58V)                  | 220 g<br>(With MB-133 and FA-SC59V)                          | 246 g<br>(With BP-290, FA-SC58V and MBB-3)   |
| <b>Current drain</b>                                    | <b>Transmit(High)</b>     | 1.5 A   | 1.5 A typical   | 1.5 A typical  | 2.3 A (at 3.7 V DC)  | 1.5 A  |
|   | <b>Max. audio</b>         | 250 mA typical (External SP)<br>450 mA typical (Internal SP)  | 250 mA typical (External SP)<br>450 mA typical (Internal SP)        | 200 mA typical (External SP)<br>300 mA typical (Internal SP) | 200 mA typical (External SP)<br>300 mA typical (Internal SP) | 450 mA   |
| <b>Sensitivity (at 20 dB SINAD; emf)</b>                |                           | –6 dBμ typical  | –4 dBμ typical  | –2 dBμ typical   | –6 dBμ typical   | –4 dBμ emf typ. (Marine)<br>–4 dBμ emf typ. (PMR: Wide)<br>–2 dBμ emf typ. (PMR: Narrow) |
| <b>Intermodulation rejection</b>                        |                           | 68 dB   | 68 dB   | 68 dB  | 68 dB  | 68 dB (Marine)<br>65 dB (PMR)  |
| <b>Audio output power</b>                               | <b>External SP</b>        | 200 mW (8 Ω load)   | 200 mW (8 Ω load)   | 200 mW (8 Ω load)  | 200 mW typical (4 Ω load)                                    | 700 mW typical (8 Ω load @ 1 kHz)  |
|   | <b>Internal SP @1 kHz</b> | 900 mW typical (12 Ω load)  | 700 mW typical (8 Ω load)   | 700 mW typical (16 Ω load)                                   | 550 mW typical (12 Ω load)                                   | 700 mW typical (12 Ω load)   |
| <b>RF output power</b>                                  |                           | 5 W/1 W/0.5 W*<br>(* For only FRG version)  | 6 W/3 W/1 W/0.5 W*<br>(* For only FRG version)                      | 6 W/1 W/0.5 W*<br>(* For only FRG version)                   | 5 W/1 W/0.5 W*<br>(* For only FRG version)                   | 5 W/3 W/1 W  |
| <b>Operating time (approx.)</b>                         |                           | 9 hours<br>(with BP-285)*1  | Plus version 17 hours<br>Basic version 20 hours<br>(with BP-245H)*1 | 8 hours<br>(with BP-252)*1                                   | 11 hours<br>(with built-in battery)*1                        | 14 hours<br>(with BP-290)*1  |
| <b>Waterproof protection</b>                            |                           | IPX7 (1 m depth/30 min.)  | IPX8 (1.5 m depth/30 min.)  | IP57 (1 m depth/30 min.)                                     | IPX7 (1 m depth/30 min.)                                     | IP67 (1 m depth/30 min.)   |
| <b>Integrated GNSS receiver</b>                         |                           | ✓   | –   | –  | –  | –  |
| <b>Float'n Flash</b>                                    |                           | ✓   | –   | Buoyant only   | ✓  | –  |

Measurements made in accordance with EN 302-885 for IC-M93D EURO. EN 301-178 for IC-M73EURO, IC-M35 and IC-M25EURO. EN 301-178 or EN 300 086 for IC-M85E.

\*1 Typical operation, TX:RX:Stand-by=5:5:90

|   |                           | IC-M87ATEX   | IC-F51 ATEX                           | IC-F61 ATEX           | IC-F3202DEX   | IC-F4202DEX                                   | IC-GM1600E                        |
|---|---------------------------|--|---------------------------------------|-----------------------|---|---|-----------------------------------|
| <b>Frequency range (Unit: MHz)</b>                      |                           | TX: 156.000–161.450<br>RX: 156.000–163.425<br>TX/RX: 146–174 (PMR) | TX/RX:<br>136–174 MHz                 | TX/RX:<br>400–470 MHz | TX/RX:<br>136–174 MHz                                   | TX/RX:<br>400–470 MHz                         | TX/RX: 156.300–156.875            |
| <b>Dimensions (projections not included; W x H x D)</b> |                           | 62 x 97 x 39 mm  | 56 x 97 x 36.4 mm<br>(with BP-227AXD) |                       | 63 x 144 x 50 mm<br>(with BP-277EX)                     |   | 65 x 145 x 44 mm                  |
| <b>Weight (approx.)</b>                                 |                           | 280 g<br>(With BP-227AX)   | 295 g<br>(with BP-227AXD)             |                       | 466 g<br>(with BP-277EX,<br>belt clip & ant.)           | 460 g<br>(with BP-277EX,<br>belt clip & ant.) | 385 g<br>(With BP-234)            |
| <b>Current drain</b>                                    | <b>Transmit(High)</b>     | 0.7 A typical  | 0.7 A                                 | 0.8 A                 | 550 mA  |   | 1.0 A/0.7 A (2 W/1 W)             |
|   | <b>Max. audio</b>         | 200 mA typical   | 300 mA                                |                       | 300 mA  |   | 200 mA typical                    |
| <b>Sensitivity (at 20 dB SINAD; emf)</b>                |                           | –2 dBμ typical (Marine)<br>–4 dBμ typical (PMR)                    | –4 dBμV typical                       |                       | –4 dBμV typical   |   | –2 dBμ typical                    |
| <b>Intermodulation rejection</b>                        |                           | 68 dB (Marine)<br>65 dB (PMR)                                      | 67 dB typical (W/M/N)                 |                       | 67 dB typical (W/M/N)<br>73 dBμV typical (Digital, emf) |   | 68 dB                             |
| <b>Audio output power</b>                               | <b>External SP</b>        | 200 mW (8 Ω load) (Marine)<br>350 mW typical (8 Ω load) (PMR)      | 500 mW typical (8 Ω load)             |                       | 400 mW typical (32Ω load)                               |   | 200 mW (8 Ω load)                 |
|   | <b>Internal SP @1 kHz</b> | –  | –                                     |                       | 800 mW typical (32Ω load)                               |   | 350 mW typical (8 Ω load)         |
| <b>RF output power</b>                                  |                           | 1 W  | 1 W                                   |                       | 1 W   |   | 2 W/1 W                           |
| <b>Operating time (approx.)</b>                         |                           | 19 hours<br>(with BP-227AX)*1                                      | 16.5 hours<br>(with BP-227AXD)*2      |                       | 21.5 hours<br>(with BP-277EX)*2                         | 19 hours<br>(with BP-277EX)*2                 | Specified as IMO Res. MSC.149(77) |
| <b>Waterproof protection</b>                            |                           | IPX7 (1 m depth/30 min.)   | IP67 (1 m depth/30 min.)              |                       | IP67 (1 m depth/30 min.)                                |   | Specified as IMO Res. MSC.149(77) |
| <b>Integrated GNSS receiver</b>                         |                           | –  | –                                     |                       | –   |   | –                                 |
| <b>Float'n Flash</b>                                    |                           | –  | –                                     |                       | –   |   | –                                 |

Measurements made in accordance with EN 301-178 or EN 300 086 for IC-M87 ATEX. EIA-152-C/204D, TIA-603 or EN 300 086 for IC-F51 ATEX, F61 ATEX. TIA-603, EN 300-086, EN 301-166 for IC-F3202DEX, F4202DEX. EN 301-178-2, EN 300 086 or IEC61097-12 for IC-GM1600E.

\*2 Conventional mode. 5:5:90 duty cycle, power save ON.

# Specifications for Fixed Mount Transceivers

## VHF FIXED MOUNT TRANSCEIVERS

|  | IC-M605EURO  | IC-M506GE  | IC-M330GE   | GM600   |
|--|--|--|---|---|
| Frequency range                                  | TX: 156.000–161.600 MHz<br>RX: 156.000–163.425 MHz<br>CH 70: 156.525 MHz<br>AIS 1: 161.975 MHz<br>AIS 2: 162.025 MHz | TX: 156.000–162.000 MHz<br>RX: 156.000–163.425 MHz<br>CH 70: 156.525 MHz<br>AIS 1: 161.975 MHz<br>AIS 2: 162.025 MHz | TX: 156.000–162.000 MHz<br>RX: 156.000–163.425 MHz<br>CH70: 156.525 MHz | TX: 156.025–161.600 MHz<br>RX: 156.025–162.000 MHz<br>CH70: 156.525 MHz                               |
| Power supply requirement                         | 13.8 V DC (10.8–15.6 V DC)   | 13.8 V DC (10.8–15.6 V DC)   | 13.8 V DC (10.8–15.6 V DC)  | 24 V DC (21.6–31.2 V DC)* <sup>1</sup><br>12 V DC (10.8–15.6 V DC)* <sup>2</sup><br>(negative ground) |
| Dimensions (projections not included; W x H x D) | 274 x 114 x 121.5 mm   | 178.9 x 113.9 x 113.8 mm   | 156.5 x 66.5 x 110.1 mm   | 274 x 114 x 121.5 mm  |
| Weight (approx.)                                 | 1.5 kg   | 1.4 kg   | 730 g   | 1.6 kg  |
| Current drain                                    | Transmit (High)  | 6.0 A max.   | 5.5 A   | 3.3 A* <sup>1</sup>   |
|  | Max. audio   | 8.0 A max.<br>(Ext SP, RX hailer ON, HM-229x3)   | 5 A typ. (Ext SP, RX hailer ON)<br>1.5 A (Internal SP)                  | 1 A   |
| Sensitivity                                      | Main (20 dB SINAD)   | -5 dBμ emf typical   | -5 dBμ emf typical  | -5 dBμ emf typical  |
|  | DSC (1% BER)   | -3 dBμ emf typical   | -4 dBμ emf typical  | -7 dBμ emf typical  |
| Intermodulation                                  | Main   | More than 75 dB  | More than 75 dB   | More than 68 dB   |
|  | DSC (1% BER)   | More than 73 dBμ emf   | More than 68 dBμ emf  | More than 68 dBμ emf  |
| Audio output power (10% dist./4 Ω load)          | More than 15 W<br>(External speaker)   | 15 W (External speaker)  | More than 2 W   | 10 W (External speaker)<br>2 W (Internal speaker)   |
| RF output power                                  | 25 W/1 W   | 25 W/1 W   | 25 W/1 W  | 25 W/1 W  |
| NMEA interface                                   | NMEA 2000,<br>NMEA 0183/0183-HS x 2  | NMEA 2000/0183   | NMEA 0183   | IEC 61162-1   |
| AIS Receiver                                     | Built-in   | Built-in   | –   | –   |
| GPS Receiver                                     | Built-in   | Built-in   | Built-in  | External  |

Measurements made in accordance with EN 301 025-2, -3 for IC-M605EURO, IC-M506GE and IC-M330GE. EN301 925 for GM600.

\*<sup>1</sup> With PS-310 (#01). \*<sup>2</sup> With PS-310 (#02).

## AIS TRANSPONDER

|  | MA-500TR   |       |
|--|--|-------|
| Frequency range                                  | 161.975, 162.025 MHz (default),<br>156.025–162.025 MHz |       |
| Type of emission                                 | 16K0GXW (GMSK)   |       |
| Power supply requirement                         | 12.0 V DC (9.6–15.6 V)                                 |       |
| Dimensions (projections not included; W x H x D) | 165 x 110 x 123 mm                                     |       |
| Weight (approx.)                                 | 1.0 kg   |       |
| Current drain                                    | Transmit   | 1.5 A |
|  | Receive  | 0.7 A |
| Sensitivity (20% error rate)                     | -110 dBm   |       |
| Intermodulation rejection                        | 65 dB  |       |
| RF output power                                  | 2 W  |       |

Measurements made in accordance with IEC62287-1.

## MF/HF FIXED MOUNT TRANSCEIVER

|  | GM800  |  |
|--|--|--|
| Frequency range                                  | TX: 1.6–27.5000 MHz (ITU marine channels)<br>RX: 0.5–29.9999 MHz (continuously)<br>DSC: 2.1875, 4.2075, 6.3120, 8.4145, 12.5770, 16.8045 MHz |  |
| Current drain                                    | Tx/Rx  | J3E (USB/LSB*), H3E* (AM),<br>J2B* (AFSK), F1B (FSK), A1A* (CW)                            |
|  | DSC  | F1B  |
| Power supply requirement                         | 24 V DC (21.6–31.2 V DC) (floating ground)   |  |
| Dimensions (projections not included; W x H x D) | Main unit  | 367 x 95 x 260 mm  |
|  | Controller   | 274 x 114 x 86 mm  |
| Weight (approx.)                                 | Main unit  | 8.6 kg   |
|  | Controller   | 760 g  |
| 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)<br>16 dBμV emf (1.6–3.999 MHz)<br>11 dBμV emf (4.0–29.999 MHz) |
|  | J2B, F1B (1% error rate)   | 3 dBμV emf (1.6–2.099 MHz)<br>0 dBμV emf (2.1–27.5 MHz)                                    |
|  | H3E (20 dB SINAD)  | 44 dBμV emf (0.5–1.599 MHz)<br>30 dBμV emf (1.6–3.999 MHz)                                 |
|  | DSC (J2B) (1% error rate)  | 0 dBμV emf   |
| Audio output power                               | 4 W with 4 Ω load (External speaker)<br>2 W with 8 Ω load (Internal speaker)   |  |
| RF output power                                  | 150 W PEP into 50 Ω (at radio terminal)<br>125 W (4.0–27.5 MHz) (at tuner-output)<br>85 W (1.6–3.999 MHz) (at tuner-output)                  |  |

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

\* Receive only.

# Specifications for IP Advanced Radio System

|  |             | IP100H   |
|--|-------------|--|
| Wireless standards                           |             | IEEE 802.11 a/b/g/n  |
| Frequency coverage*                          |             | 2.4–2.4835 GHz,<br>5.15–5.35, 5.47–5.85 GHz                  |
| Dimensions (W×H×D; projections not included) |             | 58 × 95 × 26.4 mm<br>(with BP-271)                           |
| Weight (approx.)                             |             | 205 g (with BP-271 and antenna)                              |
| RF output power                              |             | Less than 10 mW/MHz  |
| Voice Codec                                  |             | G.711μ-law (64 kbps)   |
| AF output power                              | Internal SP | 400 mW (typ., 16Ω at 10% distortion)                         |
|  | External SP | 200 mW (typ., 8Ω at 10% distortion)                          |
| Security                                     |             | WEP (64/128-bit), WPA-PSK (TKIP/AES),<br>WPA2-PSK (TKIP/AES) |
| Operating time (1:1:8 duty cycle)            |             | More than 20 hours (with BP-271)                             |

\* Authorized frequency range and channels may differ depending on country.

|  |  | AP-90M  |
|--|--|---|
| Power supply                                 |  | 12V DC ±10% or PoE<br>(IEEE802.3af compatible)                                |
| Dimensions (W×H×D; projections not included) |  | 120 × 29 × 103 mm   |
| Weight (approx.)                             |  | 300 g (Main unit only)  |
| Cable LAN                                    |  | RJ-45 connector × 1<br>1000BASE-T/100BASE-TX/<br>10BASE-T<br>(Auto MDI/MDI-X) |
| Wireless LAN                                 |  | IEEE 802.11 a/b/g/n/ac  |
| Frequency coverage*                          |  | 2.4–2.4835 GHz,<br>5.15–5.35, 5.47–5.85 GHz                                   |
| Data rates (theoretical value)               |  | 11 Mbps, 54 Mbps, 300 Mbps, 866.7 Mbps  |
| Security                                     |  | WEP (64/128/152-bit), WPA, WPA2,<br>WPA-PSK, WPA2-PSK                         |

\* Authorized frequency range and channels may differ depending on country.

|                    |  | IP100FS   |
|--------------------|--|---|
| Operating system   |  | Windows® 10 (32-bit/64-bit),<br>Windows® 8/Windows® 8.1 (32-bit/64-bit)<br>Windows® 7 (32-bit/64-bit) SP1 or later,<br>(Except for Windows® RT) |
| CPU                |  | Intel® Core™ 2 Duo Processor E6600/<br>2.4 GHz or better  |
| Memory             |  | 2 GB or higher  |
| Hard disk space    |  | 1 GB of disk space (for saving log files)   |
| Audio              |  | DirectSound compatible audio<br>(Frequency response up to 20 kHz, sampling rate 48 kHz)   |
| Display resolution |  | 1920×1080 pixel recommended<br>1024×768 pixel minimum   |
| Other              |  | USB 2.0 port,<br>10 Mbps or faster Ethernet interface, speaker,<br>microphone or headset  |

|  |  | IP1000C   |
|--|--|---|
| Power supply                                 |  | 100–240 V AC<br>(with supplied AC adapter)                                    |
| Dimensions (W×H×D; projections not included) |  | 232 × 38 × 168 mm   |
| Weight (approx.)                             |  | 750 g (Main unit only)  |
| LAN  |  | RJ-45 connector × 4<br>1000BASE-T/100BASE-TX/<br>10BASE-T<br>(AUTO MDI/MDI-X) |
| USB  |  | Standard A receptacles ×2   |
| Maintenance console                          |  | RS-232C (RJ-11) connector   |

|  |           | VE-PG4   |
|--|-----------|--|
| Power supply                                     |           | 100–240 V AC 12 V DC (with supplied AC adapter)  |
| Dimensions (W × H × D; projections not included) |           | 213 × 36.8 × 270 mm  |
| Weight (approx.)                                 |           | 1.8 kg   |
| Regulatory compliance                            |           | FCC (Part 15, 22, 24), ICES-003, ICCS-03, EN301 908-1, EN301 489-1, EN301 489-19, EN301 489-52, EN62368-1  |
| LAN/WAN  |           | RJ-45 connector × 1 10BASE-T/100BASE-TX/1000BASE-T (AUTO MDI/MDI-X)  |
| LAN  |           | RJ-45 connector × 1 10BASE-T/100BASE-TX/1000BASE-T (AUTO MDI/MDI-X)  |
| EXT 1–4 port                                     |           | Audio input –10 dBs/–40 dBs selectable, 10 kΩ impedance<br>Audio output 0 dBs/–20 dBs selectable, 600 Ω load / 8 Ω 1 W speaker<br>Control input Low voltage contacts (3.3 V DC/ 1 mA)/ Voltage input (3–16 V)<br>Control output No voltage contacts (30 V/ 500 mA)/ Open collector (3–16 V/ 10 mA)<br>Connectors 2.54 mm (0.1 in) pitch quick connector (4 terminals ×3)×4 |
| Network  | 4G bands: | LTE B1, B3, B7, B8, B20 (EUR) LTE B2, B4, B12 (FCC)  |
|  | 3G bands: | W-CDMA B1, B8 (EUR) W-CDMA 2, 5 (FCC)  |
| USB  |           | USB 3.0 Standard A receptacles ×3 (host interface) USB 2.0 min B receptacles ×1 (console interface)  |
| Internet protocol                                |           | IPv4   |
| Supported protocol                               |           | SIP  |
| Codec  |           | G.711 μ-law, AMBE+2™   |

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

Read all instructions enclosed with the transceiver carefully and completely before using the transceiver.

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