ICOM

MARINE PRODUCTS 2013

Simply the Best

Company Profile

Icom, the wireless communication experts

Icom Inc. is a company located in Osaka, Japan, and is a manufacturer of wireless communication products. Since Icom's establishment in 1954, Icom has had a long record as a trusted manufacturer of land mobile radio, amateur radio, marine radio and navigation products, and aviation radio and communications receivers.

Quality & Reliability

Icom quality and Icom reliability

Over 50 years of engineering and production excellence is a part of every Icom product. Using the latest equipment, Icom radios are tested to pass rigorous in-house tests as well as environmental tests to the US Military standard 810 specifications. Icom's products are also compliant with the European RoHS directive.
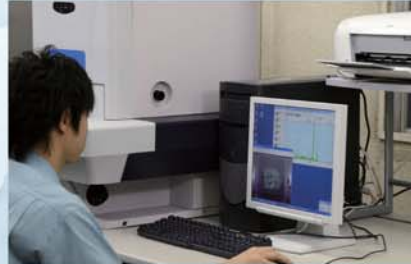
Dust Protection

Air Leak Test

Vibration

X-ray inspection

Transit Drop Test

PRODUCTION

ICOM BRAND

NETWORK

MADE IN JAPAN QUALITY

Icom is a rare example of an electronics manufacturer that has not shifted production to lower cost countries, but kept its production base in Japan. The Wakayama Icom plant has an advanced production system to produce small volume/multi-model wireless communication products.

ICOM, WORLD BRAND NAME

Icom has long been recognized as a reliable marine radio brand name around the world. Our marine radios are used by recreational and commercial boaters to professional organizations world wide. In fact, Icom marine radios have received "Best Radio" NMEA awards for more than 22 times in the United States alone.

ICOM'S WORLDWIDE NETWORK

Icom products are sold in over 100 countries in the World. Icom has an international sales and service network, including sales subsidiaries in the US, Australia, Germany, Spain, Taiwan and Brazil. Icom is here to support and service our products and your communication needs.

VHF MARINE TRANSCEIVER
IC-M91D

The World's First Active Noise Cancelling Handheld with DSC, GPS and MOB

NEW INTERFACE · **ACTIVE NOISE CANCEL** · **GPS** · **DISTRESS BUILT-IN DSC FOR HANDHELD** · **FLOAT' N FLASH** · **IPX7 WATERPROOF** · **700mW LOUD AUDIO** · **5W OUTPUT POWER**

FEATURES

- New intuitive user interface and high definition dot-matrix display
- Active noise cancelling reduces background noise by up to 90%
- Built-in GPS with GPS compass
- Built-in DSC for handheld
- MOB and waypoint memories

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

Supplied Accessories
- Battery pack, BP-275
- Battery charger, BC-204
- AC adapter, BC-147SE*
- Belt clip, MB-109
- Antenna, FA-SC59V
- Hand strap
- * May differ or not supplied, depending on version.

VHF MARINE TRANSCEIVER
IC-M73EURO [PLUS]

Slim, Stylish, Powerful VHF with Professional Features

REC VOICE RECORDING · **ACTIVE NOISE CANCEL** · **BASS BOOST FUNCTION** · **IPX8 ADVANCED WATERPROOF** · **SLIM HOURGLASS BODY** · **700mW LOUD AUDIO** · **6W OUTPUT POWER**

FEATURES

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

* Basic version (no voice recorder, no noise canceller and no bass boost function) available for limited markets.

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

Supplied Accessories
- Battery pack, BP-245H/N
- Battery charger, BC-210
- AC adapter, BC-123SE*
- Belt clip, MB-103
- Antenna, FA-S64V*
- Cigarette lighter cable, CP-25H*
- Hand strap
- * May differ or not supplied, depending on version.

VHF MARINE TRANSCEIVER
IC-M23

FLOAT' N FLASH, Small and Lightweight Floating VHF Marine

Supplied Accessories
- Battery pack, BP-266
- Battery charger, BC-199SE*
- Belt clip, MB-124
- Antenna, FA-SC58V
- Hand strap
- * May differ or not supplied, depending on version.

EASY TO USE ENTRY MODEL · **FLOAT'N FLASH** · **IPX7 WATERPROOF** · **SMALL AND LIGHTWEIGHT** · **600mW LOUD AUDIO** · **5W OUTPUT POWER**

FEATURES
- FLOAT' N FLASH
- Energy-saving 3.7V circuitry
- Volume boost and mute functions
- Direct charging circuitry
- 10 hours of operating time

• Dual watch and Tri-watch functions • Instant access to Ch 16 and call channel • AquaQuake™ draining function • 2-step power save • Auto scan function • Tag scan and favorite channel function

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VHF MARINE TRANSCEIVER
IC-M35

"Clear Voice Boost", and it Floats

Supplied Accessories
- Battery pack, BP-252
- Battery case, BP-251*
- Battery charger, BC-173
- AC adapter, BC-147SE*
- Belt clip, MB-109
- Antenna, FA-SC58V
- Hand strap
- * May differ or not supplied, depending on version.

EASY TO USE ENTRY MODEL · **FLOATING** · **IPX7 WATERPROOF** · **NOISE CANCEL** · **700mW LOUD AUDIO** · **6W OUTPUT POWER**

FEATURES
- Noise cancelling microphone
- Automatic volume adjustment
- Voice boost and mute functions
- Large buttons and slim dimensions
- 6W RF output, 700mW loud audio

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

VHF MARINE TRANSCEIVER
IC-M87

Compact Size for Professional Use

Supplied Accessories
- Battery pack, BP-274/BP-227
- Battery charger, BC-152N
- AC adapter, BC-147SE*
- Belt clip, MB-86
- Antenna, FA-S59V
- Hand strap
- * May differ or not supplied, depending on version.

PRO PROFESSIONAL MODEL · **IPX7 WATERPROOF** · **SMALL AND LIGHTWEIGHT** · **LAND MOBILE CHANNEL PROGRAMMABLE** · **5W OUTPUT POWER**

FEATURES
- Tough and compact body
- Marine and land channel groups
- 22 programmable land channels
- Built-in CTCSS and DTCS tones

• 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-168

IC-M87 ATEX

Supplied Accessories
- Battery pack, BP-227AX
- Battery charger, BC-152N
- AC adapter, BC-147SE*
- Belt clip, MB-86
- Antenna, FA-S59V
- Hand strap
- * Not supplied depending on version.

VHF MARINE TRANSCEIVER

IC-M87 ATEX

ATEX Intrinsically Safe Marine Radio

PRO PROFESSIONAL MODEL | IPX7 WATERPROOF | SMALL AND LIGHTWEIGHT | LAND MOBILE CHANNEL PROGRAMMABLE | 5W OUTPUT POWER

FEATURES

- **ATEX intrinsically safe type approval (Approved classes: II2G Ex ib IIA T3 Gb)**
- **Tough and compact body**
- **Marine and land channel groups**
- **22 programmable land channels**
- **Built-in voice scrambler**

• 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

IC-GM1600E

Supplied Accessories
- Battery pack, BP-252
- Battery charger, BC-173
- AC adapter, BC-147SE
- Belt clip, MB-103Y
- Neck strap

SURVIVAL CRAFT 2-WAY RADIO

IC-GM1600E

GMDSS Portable for Survival Craft

PRO PROFESSIONAL MODEL | GMDSS

FEATURES

- **Meets strict environmental requirements for GMDSS**
- **2W output power for long lasting battery**
- **Primary (non-rechargeable) lithium battery pack, BP-234**
- **Highly visible yellow colored body**

• Instant access to Ch 16 and call channel
• Auto power save • 4-step battery indicator

IC-F61M

Supplied Accessories
- Battery pack, BP-274/BP-227
- Belt clip, MB-98
- Antenna, FA-S27U
- Hand strap

UHF ONBOARD TRANSCEIVER

IC-F61M

Compact, waterproof onboard radio

PRO PROFESSIONAL MODEL | IPX7 WATERPROOF | SMALL AND LIGHTWEIGHT | LAND MOBILE CHANNEL PROGRAMMABLE | 700mW LOUD AUDIO

REC VOICE RECORDING | UHF ONBOARD EN 300 720-2 | VIBRATION

FEATURES

- **UHF onboard communication (Meets EN 300 720-2 requirements)**
- **IP67, dust-tight and waterproof**
- **700mW audio output power**
- **Vibration alert function**
- **8 minutes voice recorder**

• 5-Tone, CTCSS, DTCS built-in • Optional waterproof microphone, HM-169
• BTL only version (no vibration alert and no voice recorder) and BTL/Vibration alert version (no voice recorder) available* * Not available in some countries.

Options

BATTERY CASES / BATTERY PACKS

MODEL NAME	BATTERY CASES		BATTERY PACKS						
	BP-226 LR6 (AA)×5 cells	BP-251*1 LR03 (AAA)×5 cells	BP-227 (Li-Ion) 7.4V/1850mAh (min.) 1950mAh (typ.)	BP-227AX (Li-Ion) 7.4V/1850mAh (min.) 1950mAh (typ.)	BP-234 (Lithium) 9.0V/3300mAh (non-rechargeable)	BP-245H (Li-Ion) 7.2V/2150mAh (min.) 2200mAh (typ.)	BP-252 (Li-Ion) 7.4V/950mAh (min.) 980mAh (typ.)	BP-266 (Li-Ion) 3.7V/1500mAh (min.) 1590mAh (typ.)	BP-274 (Li-Ion) 7.4V/1800mAh (min.) 1900mAh (typ.)
IC-M91D									
IC-M73EURO						✔			
IC-M23								✔	
IC-M35		✔					✔		
IC-M87	✔		✔						✔
IC-M87ATEX				✔					
IC-GM1600E					✔ (For survival craft)		✔ (On-board use only)		
IC-F61M	✔		✔						✔

*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.

BATTERY PACKS / DESKTOP CHARGERS

MODEL NAME	BATTERY PACKS	DESKTOP CHARGERS							
	BP-275 (Li-Ion) 7.4V/1500mAh (min.) 1590mAh (typ.)	BC-119N Rapid charger	BC-152N Regular charger	BC-162 Rapid charger	BC-173 Regular charger	BC-190 Rapid charger	BC-204 Regular charger	BC-205 Rapid charger	BC-210 Rapid charger
IC-M91D	✔						✔	✔	
IC-M73EURO									✔
IC-M23		✔ (Use with AD-123)							
IC-M35				✔	✔				
IC-M87		✔ (Use with AD-100)	✔						
IC-M87ATEX		✔ (Use with AD-100)	✔						
IC-GM1600E						✔ (On-board use only)			
IC-F61M		✔ (Use with AD-100)	✔			✔			

MULTI-CHARGERS / AC ADAPTERS / WALL CHARGER / CHARGER ADAPTERS

MODEL NAME	MULTI-CHARGERS		AC ADAPTERS				WALL CHARGER	CHARGER ADAPTERS
	BC-121N Rapid charger	BC-197 Rapid charger	BC-123S*2 12V/1A	BC-145S*2 16V/0.93A	BC-147S*2 12V/200mA	BC-157S 12V/6.6A	BC-199S*2 Regular charger	AD-100 AD-123 AD-124*3 AD-129*3
IC-M91D		✔ (Use with AD-124)	✔ (Use with BC-205)		✔ (Use with BC-204)	✔ (Use with BC-197)		✔ (Use AD-124 with BC-197)
IC-M73EURO		✔ (Use with AD-129)	✔ (Use with BC-210)			✔ (Use with BC-197)		✔ (Use AD-129 with BC-197)
IC-M23	✔ (Use with AD-123)			✔ (Use with BC-119N)		✔ (Use with BC-121N)	✔	✔ (Use AD-123 with BC-119N/121N)
IC-M35			✔ (Use with BC-162)	✔ (Use with BC-173)				
IC-M87	✔ (Use with AD-100)			✔ (Use with BC-119N)	✔ (Use with BC-152N)	✔ (Use with BC-121N)		✔ (Use AD-100 with BC-119N/121N)
IC-M87ATEX	✔ (Use with AD-100)			✔ (Use with BC-119N)	✔ (Use with BC-152N)	✔ (Use with BC-121N)		✔ (Use AD-100 with BC-119N/121N)
IC-GM1600E					✔ (Use with BC-173, On-board use only)			
IC-F61M	✔ (Use with AD-100)		✔ (Use with BC-190)	✔ (Use with BC-119N)	✔ (Use with BC-152N)	✔ (Use with BC-121N)		✔ (Use AD-100 with BC-119N/121N)

*2 BC-123/BC-145/BC-147/BC-199SA for 120V AC. SE for 230V AC. SV for 240V AC. *3 Either AD-124 or AD-129 is supplied with BC-197, depending on version.

✔ : Applicable   : Not applicable

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

Options

Cigarette Lighter Cables / DC Power Cables / Speaker Microphones

MODEL NAME	CIGARETTE LIGHTER CABLES			DC POWER CABLES		SPEAKER MICROPHONES			
	CP-23L	CP-24	CP-25/H	OPC-515L	OPC-656	HM-138 (Waterproof)	HM-165 (Waterproof)	HM-167 (Waterproof)	HM-168 (Waterproof)
IC-M91D	✔ (Use with BC-205)		✔ (Use CP-25 with BC-204)	✔ (Use with BC-205)	✔ (Use with BC-197)			✔	
IC-M73EURO			✔ (Use CP-25H with BC-210)	✔ (Use with BC-210)	✔ (Use with BC-197)			✔	
IC-M23		✔							
IC-M35							✔		
IC-M87	✔ (Use with BC-119N)			✔ (Use with BC-119N)	✔ (Use with BC-121N)	✔			✔
IC-M87ATEX						✔			
IC-GM1600E									
IC-F61M	✔ (Use with BC-119N)			✔ (Use with BC-119N)	✔ (Use with BC-121N)	✔			✔

Speaker Microphones / Headsets / VOX/PTT Case / Belt Clips

MODEL NAME	SPEAKER MICROPHONES		HEADSETS			VOX/PTT CASE	BELT CLIPS	
	HM-169 (Waterproof)	HM-202 (Waterproof)	HS-94 Earhook type with boom microphone	HS-95 Behind-the-head type	HS-97 Throat microphone type	VS-1SC	MB-86 Swivel type	MB-98 MB-103/103Y MB-109 MB-124 Alligator (Photo shows MB-109)
IC-M91D		✔						✔ (Use MB-109)
IC-M73EURO		✔					✔	✔ (Use MB-103)
IC-M23								✔ (Use MB-124)
IC-M35								✔ (Use MB-109)
IC-M87							✔	✔ (Use MB-98)
IC-M87ATEX							✔	✔ (Use MB-98)
IC-GM1600E								✔ (Use with MB-103Y)
IC-F61M	✔		✔ (Use with VS-1SC)	✔ (Use with VS-1SC)	✔ (Use with VS-1SC)	✔	✔	✔ (Use MB-98)

Leather Belt Hangers / Antennas

MODEL NAME	LEATHER BELT HANGERS		ANTENNAS	
	MB-96N Swivel type	MB-96F Fixed type	FA-S59V FA-S64V FA-SC58V FA-SC59V FA-S27U Regular type	FA-S57US Stubby antenna (450–490MHz)
IC-M91D		✔	FA-SC59V	
IC-M73EURO	✔	✔	FA-S59V or FA-S64V	
IC-M23			FA-SC58V	
IC-M35			FA-SC58V	
IC-M87	✔	✔	FA-S59V	
IC-M87ATEX		✔	FA-S59V	
IC-GM1600E			Fixed type	
IC-F61M	✔	✔	FA-S27U	✔

✔ : Applicable   : Not applicable

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

Specifications

	IC-M91D	IC-M73EURO	IC-M23	IC-M35
Frequency range (Unit: MHz)	Tx: 156.000–161.450 Rx:156.000–163.425	Tx: 156.000–161.450 Rx:156.000–163.425	Tx: 156.000–161.450 Rx:156.000–163.425	Tx: 156.000–161.450 Rx:156.000–163.425
Dimensions (projections not included; W×H×D)	61.2×141.4×43.2 mm	52.5×125×30 mm	58.5×128.5×34.5 mm	62×139.5×43 mm
Weight (approx.)	318g (With BP-275, FA-SC59V, and MB-109)	320g (With BP-245H, MB-103 and FA-S64V)	260g (With BP-266, MB-124 and FA-SC58V)	295g (With BP-252, MB-109 and FA-SC58V)
Current drain — Transmit (High)	1.5A typical	1.5A typical	2.3A typical (at 3.7V DC)	1.5A typical
Current drain — Max. audio	500mA typ. (Internal SP)	250mA typ. (External SP) 450mA typ. (Internal SP)	350mA typical	200mA typ. (External SP) 300mA typ. (Internal SP)
Sensitivity (at 20dB SINAD; emf)	–4dBµ typical	–4dBµ typical	–4dBµ typical	–2dBµ typical
Intermodulation rejection	68dB	68dB	68dB	68dB
Audio output power (10% dist./ 8Ω load)	200mW (External SP) 700mW typ. (Internal SP @1kHz)	200mW (External SP) 700mW typ. (Internal SP @1kHz)	200mW (Internal SP) 600mW typ. (Internal SP @1kHz)	200mW (External SP) 700mW typ. (Internal SP @1kHz, 16Ω)
RF output power	5/1W	6/3/1W 1/0.5W (German version)	5/1W (approx.) 1/0.5W (German version)	6/1W (With BP-252) 1/0.5W (German version)
Operating time (approx.)*	8 hours (with BP-275)	17 hours (with BP-245H)	10 hours (with BP-266)	8 hours (with BP-252)
Waterproof protection	IPX7 (1m depth/30 min.)	IPX8 (1.5m depth/30 min.)	IPX7 (1m depth/30 min.)	IPX7 (1m depth/30 min.)

Measurements made in accordance with EN 301 178. * Typical operation, Tx:Rx:Stand-by=5:5:90

	IC-M87	IC-M87ATEX	IC-GM1600E	IC-F61M
Frequency range (Unit: MHz)	Tx: 156.000–161.450 Rx:156.000–163.425 Tx/RX: 146-174 (PMR)	Tx: 156.000–161.450 Rx:156.000–163.425 Tx/RX: 146-174 (PMR)	Tx/Rx: 156.300–156.875	Tx/Rx: 457.525–467.575 (25kHz channel spacing)
Dimensions (projections not included; W×H×D)	62×97×37.8 mm	62×97×39 mm	65×145×44 mm	56×97×35.2 mm
Weight (approx.)	274g (With BP-274)	280g (With BP-227AX)	385g (With BP-234)	278g (With BP-274)
Current drain — Transmit (High)	1.6A typical	0.7A typical	1.0A/0.7A (2W/1W)	1.0A typ. (2W output)
Current drain — Max. audio	200mA typical	200mA typical	200mA	300mA (External SP) 500mA (Internal SP)
Sensitivity (at 20dB SINAD; emf)	–2dBµ typical (Marine) –4dBµ typical (PMR)	–2dBµ typical (Marine) –4dBµ typical (PMR)	–2dBµ typical	–4dBµ typical
Intermodulation rejection	68dB (Marine) 65dB (PMR)	68dB (Marine) 65dB (PMR)	68dB	70dB typical
Audio output power (10% dist./ 8Ω load)	200mW (External SP) 350mW typ. (Internal SP @1KHz)	200mW (External SP) 350mW typ. (Internal SP @1KH)	200mW (EXternal SP) 350mW typ. (Internal SP @1KHz)	200mW (External SP) 700mW typ. (Internal SP @1kHZ)
RF output power	5/3/1W (Marine/PMR) 1/0.5W (Marine, German)	1/0.5W (Marine) 1W (PMR)	2/1W	2/0.2W ERP
Operating time (approx.)*	15 hours (with BP-274)	19 hours (with BP-227AX)	Specified as IMO A.809 (19)	9 hours (with BP-274)
Waterproof protection	IPX7 (1m depth/30 min.)	IPX7 (1m depth/30 min.)	Specified as IMO A.809 (19)	IPX7 (1m depth/30 min.)

Measurements made in accordance with EN 301 178. EN 300 086 for IC-M87 PMR. IEC61097-12 for IC-GM1600E. EN 300 720 2 for IC-F61M.
* Typical operation, Tx:Rx:Stand-by=5:5:90

ATEX Intrinsically Safe versions
Approved classes

CE 0081 ⟨Ex⟩
II 2G Ex ib II A T3 Gb

The approved rating is II2G Ex ib IIA T3 Gb.
Special conditions for use: • Must be used with BP-227AX
Approved accessories: • Speaker-microphone HM-138
Either the jack cover or HM-138 must be attached to the connector.

Please Note: The optional chargers are not approved as intrinsically safe.
The battery should only be charged in non hazardous areas.
The battery should only be changed in non hazardous areas.
Ambient operating temperature: –20°C to +55°C

Applicable gas and vapor types

Temp.	T1	T2	T3
Class IIA	Acetone, Ethane, Ethylacetate, Ammonia, Benzene, Acetic acid, Carbon monoxide, Methanol, Propane, Toluene	Ethyl alcohol, i-amyl acetate, n-butan, n-butyl alcohol	Benzine, Diesel-fuel, Aviation-fuel, Heating-oils, n-hexane

* Please ensure the IC-M87 ATEX rating is acceptable for the intended place of use.

VHF Fixed Mount Transceivers

VHF MARINE TRANSCEIVER
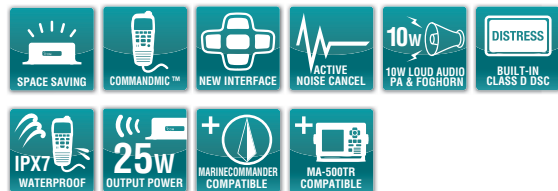# IC-M423

Easy-to-Use and Even Easier to Hear!

NEW INTERFACE | **ACTIVE NOISE CANCEL** | **10W 10W LOUD AUDIO PA & FOGHORN** | **COMMANDMIC™** | **DISTRESS BUILT-IN CLASS D DSC**

IPX7 SUBMERSIBLE | **25W OUTPUT POWER** | **MARINECOMMANDER COMPATIBLE** | **MA-500TR COMPATIBLE**

COMMANDMIC, HM-195B/SW capable

FEATURES

- New intuitive user interface and high definition dot matrix display
- Active noise cancelling reduces background noise by up to 90%
- 10W loud audio, public address and foghorn
- Optional COMMANDMIC™, HM-195B/SW
- IPX7 waterproof

• Dual watch and Tri-watch functions • Instant access to Ch 16 and Call channel • Tag scan and favorite channel functions • AquaQuake™ draining function • Auto scan function • Display and keypad backlighting • External speaker connection • RX speaker function • Black and super white color version

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VHF MARINE TRANSCEIVER
IC-M400BB

Black Box Transceiver When Space is at a Premium

SPACE SAVING | **COMMANDMIC™** | **NEW INTERFACE** | **ACTIVE NOISE CANCEL** | **10W 10W LOUD AUDIO PA & FOGHORN** | **DISTRESS BUILT-IN CLASS D DSC**

IPX7 WATERPROOF | **25W OUTPUT POWER** | **MARINECOMMANDER COMPATIBLE** | **MA-500TR COMPATIBLE**

FEATURES

- Space Saving, Fully Functional VHF/DSC
- Controlled by COMMANDMIC™ HM-195B/SW*
- New intuitive user interface
- Active noise cancelling reduces background noise by up to 90%
- 10W loud audio, public address and foghorn
- IPX7 waterproof

• Dual watch and Tri-watch functions • Instant access to Ch 16 and Call channel • Tag scan and favorite channel functions • AquaQuake™ draining function • Auto scan function • Display and keypad backlighting • External speaker connection • RX speaker function

* HM-195B/SW may be sold separately, depending on version.

COMMANDMIC™

REMOTE-CONTROL MICROPHONE
HM-195B/SW

Full Control 2nd Station Capability for IC-M423
Remote-Controller head for IC-M400BB

OPTION FOR IC-M423/M400BB | **IPX7 WATERPROOF** | **NEW INTERFACE**

FEATURES

- Full control 2nd station capability for IC-M423
- Remote-Controller head for IC-M400BB
- Intercom function with IC-M423
- New intuitive user interface

- Up to 18.3m (60.3ft) remote location installation*
  * Two optional OPC-1541 extension cables required
- Black and super white color version

Available in black or super white.

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VHF Fixed Mount Transceivers

VHF MARINE TRANSCEIVER
IC-M323

Top Performance, Great Value

- NEW INTERFACE
- DISTRESS / BUILT-IN CLASS D DSC
- IPX7 WATERPROOF
- 25W OUTPUT POWER
- MARINECOMMANDER COMPATIBLE
- MA-500TR COMPATIBLE

Also available in black version.

FEATURES

- **Powerful, compact VHF/DSC with Icom value and reliability**
- **New intuitive user interface**
- **High definition dot-matrix display**
- **Meets latest class D DSC specifications**
- **IPX7 waterproof**

• Dual watch and Tri-watch functions • Instant access to Ch 16 and Call channel • Tag scan and favorite channel functions • AquaQuake™ draining function • Auto scan function • Display and keypad backlighting • External speaker connection • Black and super white color version

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AIS Transponder and AIS Receiver

CLASS B AIS TRANSPONDER
MA-500TR

Fully Capable
Class B AIS Transponder

- OPTION FOR VHF TRANSCEIVER
- CLASS B AIS TRANSPONDER
- IPX7 WATERPROOF
- 4×6 INCH FLUSH MOUNT
- 2W OUTPUT POWER

* Option for IC-M424, IC-M400BB and IC-M323

MXG-5000 GPS receiver

FEATURES

- **Large full dot-matrix display**
- **CPA and TCPA collision-risk management**
- **AIS target call with Icom VHF transceivers**
- **100 waypoint memories** • **3-line NMEA input/output**
- **MXG-5000 GPS receiver***
    * The MXG-5000 may be sold separately, depending on country.

AIS RECEIVER
MXA-5000

Real-time Vessel Traffic Information for
Collision-Risk Management

- CLASS A/B AIS RECEIVER
- COMPACT SIZE

FEATURES

- **Monitors Class A and Class B AIS data**
- **Dual mode data output (GPS chart plotter and PC connection)**
- **Built-in antenna splitter to share one antenna**
- **GPS data multiplex**
- **Compact size, 132(W)×34(H)×155(D) mm dimensions**

Options

VHF FIXED MOUNT TRANSCEIVERS

MODEL NAME	HAND MICROPHONES		COMMANDMIC™	EXTENSION CABLES		FLUSH MOUNT KITS	
	HM-196B/SW Speaker microphone	HM-200B/SW	HM-195B/SW	OPC-1541 6.1 m; 20 ft cable for use with COMMANDMIC		MB-132	
IC-M423	✔		✔	(Use with HM-195B/SW)		✔	
IC-M400BB			✔	(Use with HM-195B/SW)			
IC-M323		✔				✔	

AIS TRANSPONDER AND AIS RECEIVER

MODEL NAME	FLUSH MOUNT KITS	
	MB-75	
MA-500TR	✔	
MXA-5000		

☐ ✔ : Applicable   ☐ : Not applicable

Specifications

VHF FIXED MOUNT TRANSCEIVERS

	IC-M423	IC-M400BB	IC-M323
Frequency range	Tx: 156.000–161.450MHz Rx: 156.000–163.425MHz CH 70: 156.525MHz	Tx: 156.000–161.450MHz Rx: 156.000–163.425MHz CH 70: 156.525MHz	Tx: 156.000–161.450MHz Rx: 156.000–163.425MHz CH70: 156.525MHz
Power supply requirement	13.8V DC nominal (10.8–15.6V DC)	13.8V DC nominal (10.8–15.6V DC)	13.8V DC nominal (10.8–15.6V DC)
Dimensions (projections not included; W×H×D)	180×82×119.9mm	IC-M400BB 216×79×125mm HM-195B/SW 67.5×144.5×37mm	180×82×119.9mm
Weight (approx.)	1.2kg	IC-M400BB 830g HM-195B/SW 400g	1.2kg
Current drain Transmit (High)	5.5A	5.5A	5.5A
Max. audio	5A typ. (Ext SP, RX SP ON)	3.5A	1.5A
Sensitivity Main (20dB SINAD) DSC (1% BER)	−5dBµ emf typ. −4dBµ emf typ.	−5dBµ emf typ. −4dBµ emf typ.	−5dBµ emf typ. −4dBµ emf typ.
Intermodulation Main DSC (1% BER)	More than 68dB More than 68dBµ emf	More than 68dB More than 68dBµ emf	More than 68dB More than 68dBµ emf
Audio output power (10% dist./4Ω load)	More than 10W (External speaker)	More than 2W (HM-195B/SW) More than 10W (RX Speaker)	More than 2W
RF output power	25/1W	25/1W	25/1W

Measurements made in accordance with EN 301 025-2, -3.

AIS TRANSPONDER AND AIS RECEIVER

	MA-500TR	MXA-5000
Frequency range (Unit: MHz)	161.975, 162.025 (default), 156.025–162.025	Rx: 161.975, 162.025 Simultaneous reception
Type of emission	16K0GXW (GMSK)	16K0F1D (GMSK)
Power supply requirement	12.0V DC (9.6–15.6V)	12.0V DC (10.8–15.6V)
Dimensions (projections not included; W×H×D)	165×110×123 mm	132×34×155 mm
Weight (approx.)	1.0kg	460g
Current drain Transmit	1.5A	–
Receive	0.7A	0.25A
Sensitivity (20% error rate)	−110dBm	−116dBm typ.
Intermodulation rejection	65dB	65dB
RF output power	2W	–

Measurements made in accordance with IEC62287-1.
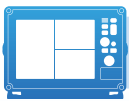
MarineCommander™

System Overview

The MarineCommander™ is Icom's marine navigation system, which integrates various marine modules such as a fish finder, marine radar, AIS and VHF transceiver into the multi-function display (MFD).

MXD - 5000

GPS

Marine Radar

Fish Finder

MXP-5000

VHF

AIS

Affordable Dual Display Connection
Up to Four Displays in a System

The MarineCommander allows you to connect two MFDs simultaneously. All connected modules including chart data, fish finder and marine radar can be shared with two MFDs and provide separate operation. When connecting two MarineCommanders via a data cable, up to 4 displays can be used and C-MAP™ chart data can be shared in the system.

MULTI-FUNCTION DISPLAY (MFD)
MXD−5000

MAIN PROCESSOR UNIT (MPU)
MXP−5000
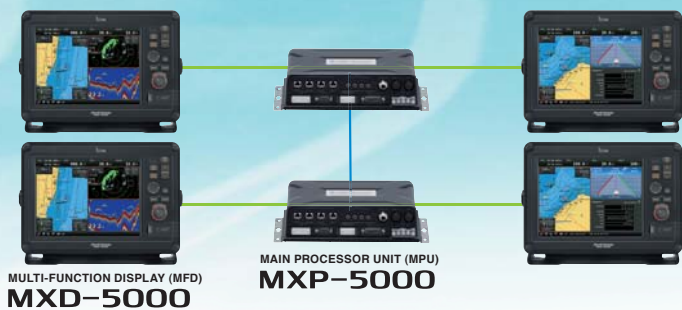
Daylight Viewable Display

The 12.1 inch size MFD provides 800×600 pixels resolution. The 900cd/m² high brightness, color LCD with anti-reflecting surface coating glass offers bright, vivid indication in detail even in under direct sunlight.

C-MAP™ MAX Compatible

The MarineCommander is compatible with the C-MAP™ MAX chart by JEPPESEN in an SD card format*. The MarineCommander provides quick and fast responding rendering performance. The C-MAP™ MAX chart provides guardian alarm, route-check, perspective view and Port database for your safe and easy navigation.

* Chart data is not supplied from Icom.

Perspective view (bird view)

Chart plotter
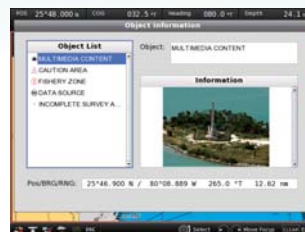
Object information of the C-MAP™ chart data base

Nav-course monitor (upper right) & Nav-waypoint (bottom right)

MarineCommander™
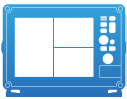
Marine Radar

The MXR-5000R/T marine radar provides clear target discrimination. Waypoint and AIS target can be overlaid on the radar screen. The marine radar helps collision avoidance and increases your safety at sea. The radar images can be overlaid on the plotter screen in the same scale and helps you to detect dangerous objects.

Radar screen

ATA List

Simplified ATA (Automatic Tracking Aid)

The simplified ATA function allows you to plot up to 10 targets and the radar continues to track the targets automatically. The ATA targets can be overlaid on the plotter screen.

MARINE RADAR
MXR-5000T

4kW, 4 feet (120cm) open array scanner
• Up to 48NM observation   • 48 rpm high rotation speed

Radar main unit

or

MARINE RADAR
MXR-5000R

4kW, 2 feet (60cm) radome scanner
• Up to 36NM observation   • 48 rpm high rotation speed

Radar main unit

Fish Finder

When a fish finder module is connected, the MarineCommander system can have a dual frequency sounder function. Using the 50kHz/200kHz dual frequency mode, the MarineCommander enhances the separation and helps in fish detection.
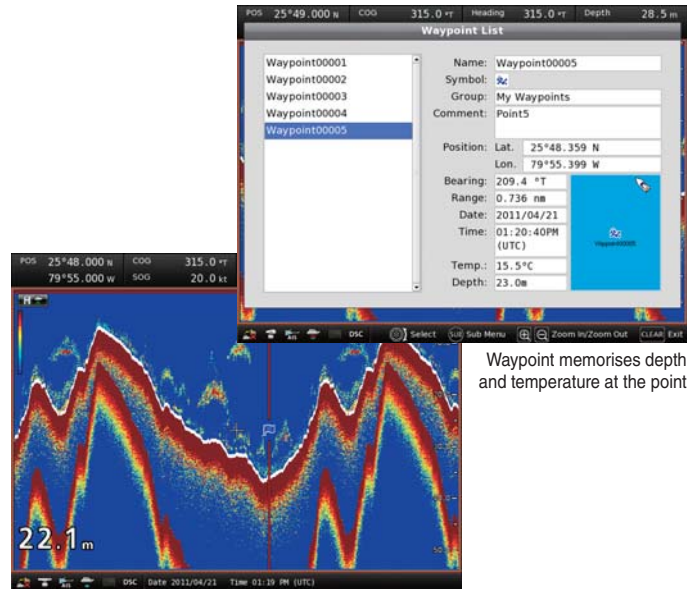
Waypoint memorises depth and temperature at the point

Sounder screen

Additional data for waypoints

When used with the fish finder module, the MarineCommander memorizes the waypoint information with depth and temperature data.

FISH FINDER
MXF-5000

+

EX-3193
600W transom transducer
• Depth, speed and temperature in one housing
• 50kHz and 200kHz dual frequency

or

EX-3194
600W thru-hull transducer
• Depth, speed and temperature in one housing
• 50kHz and 200kHz dual frequency

or

EX-3195
1kW thru-hull transducer
• Depth and fast-response water-temperature sensor
• 50kHz and 200kHz dual frequency

MarineCommander™
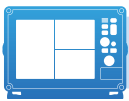
AIS (Automatic Identification System)

AIS (Automatic Identification System) receives real-time vessel traffic information broadcasted by other AIS equipped vessels. Using the optional MA-500TR or MXA-5000, the AIS data can be overlaid on the plotter and radar screen.

Full AIS Data

AIS TRANSPONDER
MA–500TR

AIS RECEIVER
MXA–5000

VHF Transceiver

The MairneCommander has the capability to be connected to compatible Icom VHF transceivers.* Various types of DSC calls, including individual, group, all ship, position and polling request*, can be initiated from the MarineCommander. Received DSC messages and position information can be shown on the plotter display.

*Type of transmitting DSC calls are depending on the connected VHF transceiver's capability.
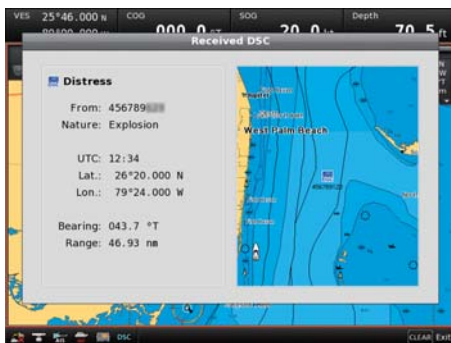
Received DSC message

VHF MARINE TRANSCEIVER
IC–M423

VHF MARINE TRANSCEIVER
IC–M400BB

VHF MARINE TRANSCEIVER
IC–M323

GPS Receiver

The MXG-5000 is a 12 channel GPS receiver with WAAS, EGNOS and MSAS differential corrections. It offers accurate position information and features IPX6 high-pressure water jet resistance.

GPS RECEIVER
MXG–5000

Engine Monitoring

When connected to an NMEA 2000 engine interface, the MarineCommander shows current data on a virtual engine meter.

Graphic screens

USB Flash Drive Connection

The MFD has a USB slot to connect with a USB flash drive. Waypoint, track and route information and memo data can be backed up to a USB flash and imported to other MarineCommanders or a PC.

SD card slot (above) and USB slot

Other Features

- The external display connector (analog RGB) allows you to output to an external display

- Four RCA connectors for video input (NTSC or PAL format)

- Multiple language display (English/French/Spanish)

- External NMEA2000 Connection (Engine, Fuel, Engine Temperature, Wind, GPS, Compass, STW)

- Simulator mode can demonstrate key system functions using only the MXP-5000 and MXD-5000.

- Memo function allows you to store a comment with picture data* and position information.

* To show picture data, the picture data must be stored in the connected USB flash drive.

This product includes software (part of tcp_wrappers) developed by the University of California, Berkeley. This product includes software developed by the University of California, Berkeley and its contributors.

Specifications

MULTI-FUNCTION DISPLAY

	MXD-5000
Multi-function display	12.1 inch TFT
Screen size	246×184.5 mm
Screen resolution	SVGA 800×600 dots
Power supply	30V DC (Supplied from MXP-5000)
Dimensions (W×H×D) (Projections not included)	386×274×69.2 mm (without bracket) 404×299×102 mm (with bracket)
Weight (approx.)	3.3kg (with bracket) 3.8kg (without bracket)
Usable temperature range	−20°C to +60°C
Waterproofing	IPX7
Cable length	5m
Optional extension cable	EX-3187 (5m)

RADAR UNITS

	MXR-5000R	MXR-5000T
Power supply	12/24V DC (10.8 to 31.2V DC)	12/24V DC (10.8 to 31.2V DC)
Current drain (at 12V DC)	Less than 5.0A	Less than 5.5A
Dimensions (W×H×D) (Projections not included)	250×67×200 mm	250×67×200 mm
Weight (approx.)	2.1kg	2.1kg
Usable temperature range	−20°C to +60°C	−20°C to +60°C
Waterproofing	IPX4	IPX4
Optional data cable	OPC-1895 (20m)	OPC-1895 (20m)

MAIN PROCESSOR UNIT

	MXP-5000
Power supply	12/24V DC (10.8 to 31.2V DC)
Current drain (at 12V DC) (at Maximum brightness)	Less than 4.7A (One MXD-5000) Less than 7.7A (Two MXD-5000s)
Dimensions (W×H×D) (Projections not included)	360×88×228.8mm
Weight (approx.)	4.25kg
Usable temperature range	−20°C to +60°C
Waterproofing	IPX4

SCANNER UNITS

		MXR-5000R Radome scanner	MXR-5000T Open array scanner
Type		2ft (60cm) radome	4ft (120cm) open array
Peak output power		4kW	4kW
Maximum range		36NM	48NM
Rotation speed		24 rpm, 36 rpm, 48 rpm	24 rpm, 36 rpm, 48 rpm
Beam width	Horizontal	4°typ.	2°typ.
	Vertical	22°typ.	25°typ.
Side lobe		−18dB	−24dB
Polarization		Horizontal	Horizontal
Transmission frequency		9410MHz±30MHz P0N	9410MHz±30MHz P0N
Pulse width		80ns/2880Hz, 80ns/2160Hz, 250ns/2160Hz, 350ns/2160Hz, 900ns/720Hz	80ns/2880Hz, 80ns/2160Hz, 250ns/2160Hz, 350ns/2160Hz, 900ns/720Hz
Dimensions		607 (Diameter)×243 (H) mm	1205 (Diameter of rotation) ×381 (H) mm
Weight (approx.)		8kg (without cable)	17kg (without cable)
Usable temperature range		−25°C to +70°C	−25°C to +70°C
Relative humidity		Less than 95% at 40°C	Less than 95% at 40°C
Waterproofing		IPX6	IPX6
Supplied system cable		OPC-1188A (15m)	OPC-1189A (20m)
Optional radar system cables		OPC-1077A (20m) OPC-1078A (30m)	OPC-1078A (30m)

FISH FINDER

	MXF-5000
Power supply	12/24V DC (10.8 to 31.2V DC)
Current drain (at 12V DC)	Less than 0.6A (Water depth range: 40m, output power 600W) Less than 1.0A (Water depth range: 40m, output power 1kW)
Output power	600W/1KW
Transmission frequency	50kHz ±1kHz 200kHz ±1kHz
Dimensions (W×H×D) (Projections not included)	250×67×200 mm
Weight (approx.)	2.18kg
Usable temperature range	−20°C to +60°C
Waterproofing	IPX4
Optional data cable	OPC-1895 (20m)

TRANSDUCERS

	EX-3193	EX-3194	EX-3195
Type	600W transom type, built-in boat speed and temperature sensors	600W thru-hull type, built-in boat speed and temperature sensors	1kW thru-hull type, built-in temperature sensors
Output power	600W	600W	1kW
Operating frequency	50kHz, 200kHz	50kHz, 200kHz	50kHz, 200kHz
Beamwidth	50kHz: 45°, 200kHz: 11°	50kHz: 45°, 200kHz: 11°	50kHz: 15°×21°, 200kHz: 3°×5°
Vessel speed sensor	18,000 p/nm	19,000 p/nm (with fairing) 21,500 p/nm (without fairing)	–
Speed range	1kt–44kt	1kt–44kt	–
Weight (approx.)	0.5kg	2.5kg	3.6kg
Optional transducer ext. cable	OPC-1929 (6m)	OPC-1929 (6m)	OPC-1929 (6m)