



# MARINE PRODUCTS

2016 *Simply the Best.*





# VHF Handheld Transceivers



Metallic Gray

Pearl White



Marine Blue

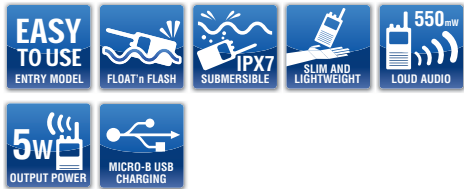
### Supplied Accessories

- USB charger, BC-217SA/SE\*
- Belt clip, MB-133
- Antenna, FA-SC59V
- Hand strap
- Battery cell is built-in
- \* Depending on version

## VHF MARINE TRANSCEIVER

# IC-M25

New Style! Three Color Choices, Smart Features



### FEATURES

- Slim body and lightweight
- Large LCD and intuitive user interface
- Micro-B USB charging
- Float'n Flash
- 11 hours of operating time

• Dual watch and Tri-watch functions • Instant access to Ch 16 • Weather alert function • AquaQuake™ draining function • 2-step power save • Auto scan function • Tag scan and favorite channel function • Built-in 3 hours rapid charger (with BC-217S) • Optional speaker-microphone, HM-213



### Supplied Accessories

- Battery pack, BP-252
- Battery charger, BC-173
- AC adapter, BC-147SA/SE\*
- Belt clip, MB-109
- Antenna, FA-SC58V
- Hand strap
- \* Depending on version

## VHF MARINE TRANSCEIVER

# IC-M36

Clear Voice Boost and it Floats!



### FEATURES

- Noise cancelling microphone
- Automatic volume adjustment
- Volume boost and mute functions
- Large buttons and easy to grip
- 6W RF output, 700mW loud audio

• Dual watch and Tri-watch functions • Instant access to Ch 16 and Ch 9 • Weather alert functions (USA version only) • AquaQuake™ draining function • 2-step power save • Auto scan function • Tag scan and favorite channel function • Optional speaker-microphone, HM-165



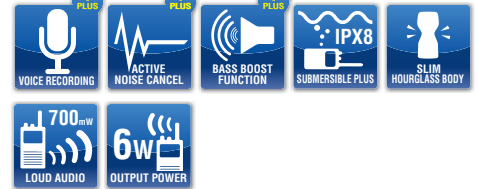
### Supplied Accessories

- Battery pack, BP-245H
- Battery charger, BC-210
- AC adapter, BC-123SA/SE\*
- Belt clip, MB-103
- Antenna, FA-S59V or FA-S64V\*
- Cigarette lighter cable, CP-25H\*
- Hand strap
- \* Depending on version.
- Photo shows FA-S59V antenna version.

## VHF MARINE TRANSCEIVERS

# IC-M73 PLUS IC-M73

Slim, Stylish and Powerful VHF with Professional Features



### FEATURES

- Last Call voice recording\*
- Active noise cancelling\*
- Bass Boost function\*
- IPX8 Submersible Plus™
- 6W RF output, 700mW loud audio

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

\* Available in IC-M73 PLUS version only.



# VHF Handheld Transceivers



### Supplied Accessories

- Battery pack, BP-275
- Battery charger, BC-204
- AC adapter, BC-147SA/SE\*
- Cigarette lighter cable, CP-25
- Belt clip, MB-109
- Antenna, FA-SC59V
- Hand strap
- \* Depending on version

## VHF MARINE TRANSCEIVER IC-M92D

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



### FEATURES

- Intuitive user interface
- Active noise cancelling
- 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 • Weather alert functions (Depending on version) • AquaQuake™ draining function • Auto power save • Priority and normal scan • Tag scan and favorite channel function • Optional speaker-microphone, HM-167/HM-202

\*Not available in the USA.



### Supplied Accessories

- Battery pack, BP-227/BP-274\*
- Battery charger, BC-152N
- AC adapter, BC-147SA/SE\*
- Belt clip, MB-86
- Antenna, FA-S59V
- Hand strap
- \* Depending on version

## VHF MARINE TRANSCEIVER IC-M88

Compact Size for Commercial or Recreational Use



### 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 Ch 9 • Weather alert functions (USA version only) • Auto power save • Auto scan function • Tag scan function • Optional speaker-microphone, HM-168



### Supplied Accessories

- Battery pack, BP-224
- Battery charger, BC-158
- AC adapter, BC-147SA/SE\*
- Belt clip, MB-103Y
- Antenna, FA-S61V (Fixed type)
- Neck strap
- \* Depending on version

## SURVIVAL CRAFT 2-WAY RADIO IC-GM1600

GMDSS Portable for Survival Craft



### 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

# Options for VHF Handheld Transceivers

MODEL NAME	BATTERY CASES			BATTERY PACKS					
	BP-251*1 LR03 (AAA)x5 cells	BP-226 LR6 (AA)x5 cells	BP-252 (Li-ion) 7.4V/950mAh (min.) 980mAh (typ.)	BP-245H (Li-ion) 7.2V/2150mAh (min.) 2200mAh (typ.)	BP-275 (Li-ion) 7.4V/1500mAh (min.) 1590mAh (typ.)	BP-274 (Li-ion) 7.4V/1800mAh (min.) 1900mAh (typ.)	BP-227 (Li-ion) 7.4V/1850mAh (min.) 1950mAh (typ.)	BP-224 (Ni-Cd) 7.2V/750mAh	BP-234 (Lithium) 9.0V/3300mAh (non-rechargeable)
IC-M25*2									
IC-M36	✓		✓						
IC-M73				✓					
IC-M92D					✓				
IC-M88		✓				✓	✓		
IC-GM1600								✓ (On-board use only)	✓ (For survival craft)

\*1 The IC-M36 floats when used with most common brand AAA batteries. Battery weight varies by manufacturer.

Please check your IC-M36 for buoyancy in a shallow area first when using AAA batteries.

\*2 As the Lithium-ion battery cell (3.7V 1500mAh) is built-in to the IC-M25, the user cannot replace the battery cell.

MODEL NAME	DESKTOP CHARGERS								
	BC-162 Rapid charger	BC-173 Regular charger	BC-210 Rapid charger	BC-205 Rapid charger	BC-204 Regular charger	BC-119N Rapid charger	BC-152N Regular charger	BC-158 Regular charger (For BP-224)	
IC-M25*2									
IC-M36	✓	✓							
IC-M73			✓						
IC-M92D				✓	✓				
IC-M88						✓ (Use with AD-100)	✓		
IC-GM1600						✓ (Use with AD-109, On-board use only)		✓ (On-board use only)	

MODEL NAME	MULTI-CHARGERS		AC ADAPTERS				USB CHARGER	CHARGER ADAPTERS
	BC-197 Rapid charger	BC-121N Rapid charger	BC-123S*3 12V/1A	BC-145S*3 16V/0.93A	BC-147S*3 12V/200mA	BC-157S 12V/6.6A	BC-217S*3 5V/1A	AD-100 AD-109 AD-124*4 AD-129*4
IC-M25*2							✓	Photo shows AD-124
IC-M36			✓ (Use with BC-162)	✓ (Use with BC-162)	✓ (Use with BC-173)			
IC-M73	✓ (Use with AD-129)		✓ (Use with BC-210)			✓ (Use with BC-197)		✓ (Use AD-129 with BC-197)
IC-M92D	✓ (Use with AD-124)		✓ (Use with BC-205)		✓ (Use with BC-204)	✓ (Use with BC-197)		✓ (Use AD-124 with BC-197)
IC-M88		✓ (Use with AD-100)		✓ (Use with BC-119N)	✓ (Use with BC-152N)	✓ (Use with BC-121N)		✓ (Use AD-100 with BC-119N/121N)
IC-GM1600		✓ (Use with AD-109, On-board use only)		✓ (Use with BC-119N, On-board use only)	✓ (Use with BC-158, On-board use only)	✓ (Use with BC-121N, On-board use only)		✓ (Use AD-109 with BC-119N/121N, On-board use only)

\*3 BC-123/BC-145/BC-147/BC-217SA for 120V AC. SE for 230V AC. SV for 240V AC.

\*4 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 for VHF Handheld Transceivers

MODEL NAME	CIGARETTE LIGHTER CABLES		DC POWER CABLES		SPEAKER MICROPHONES				
	CP-25/H	CP-23L	OPC-515L	OPC-656	HM-213 Submersible	HM-165 Submersible	HM-167 Submersible	HM-202 Submersible	HM-168 Submersible
IC-M25*2					✓				
IC-M36						✓			
IC-M73	✓ (Use CP-25H with BC-210)		✓ (Use with BC-210)	✓ (Use with BC-197)				✓	✓
IC-M92D	✓ (Use CP-25 with BC-204)	✓ (Use with BC-205)	✓ (Use with BC-205)	✓ (Use with BC-197)			✓	✓	
IC-M88		✓ (Use with BC-119N/152N)	✓ (Use with BC-119N/152N)	✓ (Use with BC-121N)					✓
IC-GM1600		✓ (Use with BC-119N/158, On-board use only)							

MODEL NAME	SPEAKER MICROPHONES	BELT CLIPS		LEATHER BELT HANGERS			ANTENNAS
	HM-138 Submersible	MB-86 Swivel type	MB-98 MB-103/103Y MB-109 MB-133 Alligator	MB-96N Swivel type	MB-96F Fixed type	MB-F96FL Long type	FA-S59V FA-S64V FA-SC58V FA-SC59V
			 Photo shows MB-109				
IC-M25*2			✓ (Use MB-133)				FA-SC59V
IC-M36			✓ (Use MB-109)				FA-SC58V
IC-M73		✓	✓ (Use MB-103)	✓	✓	✓	FA-S59V or FA-S64V
IC-M92D			✓ (Use MB-109)		✓	✓	FA-SC59V
IC-M88	✓	✓	✓ (Use MB-98)	✓	✓	✓	FA-S59V
IC-GM1600		✓	✓ (Use MB-103Y)	✓	✓	✓	Fixed type

: Applicable
  : Not applicable

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

# Specifications

	IC-M25	IC-M36	IC-M73	IC-M92D	IC-M88	IC-GM1600
<b>Frequency range (Unit: MHz)</b>	Tx: 156.025–157.425 Rx: 156.050–163.275	Tx: 156.025–157.425 Rx: 156.050–163.275	Tx: 156.025–157.425 Rx: 156.050–163.275	Tx: 156.025–157.425 Rx: 156.050–163.275	Tx: 156.025–157.425 Rx: 156.050–163.275, 146–174 (LMR; Tx/Rx)	156.300–156.875 (Tx/Rx)
<b>Dimensions (projections not included; W×H×D)</b>	56.6×134.2×30.5 mm; 2.23×5.28×1.2 in	62×139.5×43 mm; 2.44×5.49×1.69 in	52.5×125×30 mm; 2.07×4.92×1.18 in	61.2×141.4×43.2 mm; 2.41×5.57×1.7 in	62×97×39 mm; 2.44×3.82×1.54 in	65×145×44 mm; 2.56×5.71×1.73 in
<b>Weight (approx.)</b>	220g; 7.8oz (With MB-133 and FA-SC59V)	295g; 10.4oz (With BP- 252, MB-109 and FA-SC58V)	320g; 11.3oz (With BP- 245H, MB-103 and FA-S59V)	318g; 11.2oz (With BP-275, MB-109 and FA-SC59V)	280g; 9.9oz (With BP-227)	385g; 13.6oz (With BP-234)
<b>Current drain</b>	<b>Transmit (High)</b>	2.3A (at 3.7V DC)	1.5A typical	1.5A typical	1.5A typical	1.6A typical
	<b>Max. audio</b>	300mA typ. (External SP) 200mA typ. (Internal SP)	300mA typ. (Internal SP)	250mA typ. (External SP) 450mA typ. (Internal SP)	300mA typ. (External SP) 500mA typ. (Internal SP)	200mA typical
<b>Sensitivity (at 12dB SINAD)</b>	0.25µV typical	0.25µV typical	0.22µV typical	0.25µV typical	0.25µV typical	0.25µV typ. (USA version)
<b>Intermodulation rejection</b>	70dB typical	70dB typical	70dB typical	70dB typical	70dB typical	70dB (USA), 68dB (GEN)
<b>Audio output power (10% distortion/ 8Ω load)</b>	550mW typ. (Internal SP, 12Ω) 300mW typ. (External SP, 4Ω)	700mW typ. (Internal SP, 16Ω load)	700mW typ. (Internal SP) 350mW typ. (External SP)	700mW typ. (Internal SP) 350mW typ. (External SP)	350mW typical	350mW typical
<b>RF output power</b>	5/1W	6/1W (With BP-252) 2/1W (With alkaline cells)	6/3/1W	5/1W	5/3/1W	2/1W
<b>Operating time (approx.)</b>	11 hours (with built-in battery)	8 hours (with BP-252)	PLUS version 17 hours Basic version 20 hours (with BP-245H)	8 hours (with BP-275)	15 hours (with BP-227)	Specified as IMO A.809 (19)
<b>Waterproof protection</b>	IPX7 (1m depth/30 min)	IPX7 (1m depth/30 min)	IPX8 (1.5m depth/30 min)	IPX7 (1m depth/30 min)	IPX7 (1m depth/30 min)	Specified as IMO A.809 (19)

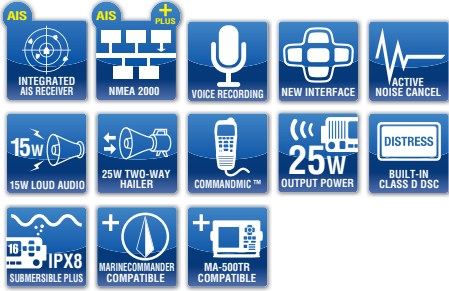
Measurements made in accordance with TIA/EIA603 for IC-M25, M36, M73, M92D and M88. TIA/EIA603 and FCC Part 80.271 for IC-GM1600.



# VHF Fixed Mount Transceivers

## VHF MARINE TRANSCEIVER IC-M506

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



HM-195B  
COMMANDMIC,  
HM-195 series capable



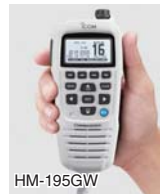
### FEATURES

- **Integrated AIS receiver\***
- **NMEA 2000™ connectivity\***
- **2 minutes Last Call voice recording**
- **Intuitive user interface**
- **Active noise cancelling**
- **15W loud audio and 25W two-way hailer**
- **Optional COMMANDMIC™, HM-195 series**
- **IPX8 Submersible Plus™ (1m depth for 60 minutes)**
- **Dual watch and Tri-watch functions**
- **Instant access to Ch 16 and call channel**
- **Weather alert functions (USA version only)**
- **Tag scan and favorite channel functions**
- **AquaQuake™ draining function**
- **Auto scan function**
- **Display and keypad backlighting**
- **External speaker connection**
- **Option voice scrambler UT-112**
- **Large dot-matrix display**
- **Rear panel microphone version**

\* AIS, NMEA 2000™ interface units are options, depending on version.

## VHF MARINE TRANSCEIVER IC-M424G (With GPS Receiver)

## Easy-to-Use and Even Easier to Hear



HM-195GW  
COMMANDMIC,  
HM-195 series capable



### FEATURES

- **Intuitive user interface**
- **Active noise cancelling**
- **10W loud audio, public address and foghorn**
- **Optional COMMANDMIC™, HM-195 series**
- **IPX7 submersible**
- **Black and Super White color versions**
- **Integrated GPS receiver simplifies wiring**
- **Dual watch and Tri-watch functions**
- **Instant access to Ch 16 and call channel**
- **Weather alert functions (USA version only)**
- **Tag scan and favorite channel functions**
- **AquaQuake™ draining function**
- **Auto scan function**
- **Display and keypad backlighting**
- **External speaker connection**
- **RX speaker function**

## VHF MARINE TRANSCEIVER IC-M400BB

## Black Box Transceiver When Space is at a Premium



IC-M400BB and  
HM-195B

### FEATURES

- **Space-saving, fully functional VHF/DSC**
- **Controlled by COMMANDMIC™ HM-195 series\***
- **Intuitive user interface**
- **Active noise cancelling**
- **10W loud audio, public address and foghorn**
- **IPX7 submersible (Both IC-M400BB and HM-195 series)**
- **Dual watch and Tri-watch functions**
- **Instant access to Ch 16 and call channel**
- **Weather alert functions (USA version only)**
- **Tag scan and favorite channel functions**
- **AquaQuake™ draining function**
- **Auto scan function**
- **Display and keypad backlighting**
- **External speaker connection**
- **RX speaker function**

\* HM-195 series may be sold separately, depending on version.



# COMMANDMIC™

REMOTE-CONTROL MICROPHONES

## HM-195GB/GW

(White Backlight LCD)

## HM-195B/SW

(Amber Backlight LCD)



HM-195GB



"Distress" button on the back of the unit

## Full Control 2nd Station Capability



### FEATURES

- Full control 2nd station capability for IC-M506 or M424G
- Remote-controller head for IC-M400BB
- Intercom function with IC-M506 or M424G
- Intuitive user interface
- Up to 18.3m (60.3ft) remote location installation\*
- Choose between white or amber backlight, key backlighting variation
- Black and Super White color versions
- \* Two optional OPC-1541 extension cables required



# VHF Fixed Mount Transceivers

VHF MARINE TRANSCEIVER

## IC-M324G

(With GPS Receiver)



IC-M324G

VHF MARINE TRANSCEIVER

## IC-M324

(Without GPS Receiver)



IC-M324

## Top Performance, Great Value



(IC-M324G only)

### FEATURES

- Powerful, compact VHF/DSC with Icom value and reliability
- Intuitive user interface • High-definition dot-matrix display
- Class D DSC • Integrated GPS receiver (IC-M324G only)
- 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 versions

VHF MARINE TRANSCEIVER

## IC-M604A

REMOTE-CONTROL MICROPHONE

## HM-162B



## High Grade VHF! DSC, Hailer, 2nd/3rd Station Capability



IC-M604A and optional COMMANDMIC™, HM-162B

### FEATURES

- 5.0W typical loud audio and superior receiver performance
- Large dot-matrix LCD and numeric keypad for easy operation
- Front and rear panel microphone connection
- RX speaker, "receiver-repeater" function
- 30W two-way hailer and automatic foghorn
- 2nd/3rd station capability with optional COMMANDMIC™, HM-162B\*  
\* Two units available.
- IPX7 submersible (Both IC-M604A and COMMANDMIC™, HM-162B)
- Dual watch and Tri-watch functions • Instant access to Ch 16 and Ch 9 • Weather alert functions (USA version only) • Tag scan and favorite channel functions • AquaQuake™ draining function • Priority and normal scan function • Option voice scrambler UT-112 • Display and keypad backlighting • Intercom function with transceiver or between COMMANDMIC™



# VHF Fixed Mount Transceiver

VHF MARINE TRANSCEIVER

## GM600

## GMDSS VHF Radio With Class A DSC



PS-310 DC-DC converter



### FEATURES

- Meets GMDSS requirements for all types of vessels MED Directive (96/98/EC) for European merchant ship
- Built-in ITU Class A DSC (Meets ITU-R M.493-13)
- Wide viewing, high contrast 4.3-inch TFT color display
- New intuitive user interface for simple, straightforward operation
- 10W audio output power with external speaker
- Dedicated DSC watch receiver for continuous Channel 70 monitoring

- 12V or 24V input DC-DC converter, PS-310 (May be sold separately)
- Printer connector (D-SUB 25-pin)
- VDR (Voyage Data Recorder)/External SP connector
- IEC 61162-1 input/output
- Optional handset, HS-98
- Support new VHF marine channel plan effective from January 1st, 2017
- IPX7 waterproof
- Dual watch and Tri-watch functions
- Instant access to Ch 16 and call channel
- Tag scan and favorite channel functions
- Auto scan function

\* GM600 is not available in the USA.



# AIS Transponder and AIS Receiver



MXG-5000S GPS receiver



AIS RECEIVER

## MXA-5000

### Real-Time Vessel Traffic Information for Collision-Risk Management

CLASS B AIS TRANSPONDER

## MA-500TR

### Fully Capable Class B AIS Transponder



### FEATURES

- Class B AIS transponder
- Large full dot-matrix display
- CPA and TCPA collision-risk management
- AIS target call with Icom VHF transceiver
- 100 waypoint memories • 3-line NMEA input/output
- MXG-5000S GPS receiver\*

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

### FEATURES

- Monitors AIS data
- Dual mode data output (GPS chart plotter and PC connection)
- Built-in antenna splitter to share one VHF antenna
- GPS data multiplex
- Compact size, 132(W)x34(H)x155(D) mm dimensions





# HF Marine Transceiver

HF MARINE TRANSCEIVER

## IC-M802

### Advanced DSP Marine SSB with Compact Remote Head



Photo shows the IC-M802 USA version.



#### FEATURES

- Wideband receiver coverage (0.5–29.9999MHz)
- Large dot-matrix display
- One-touch e-mail access button\*  
\* USA version only. Please consult with an HF e-mail provider for details.
- Built-in 2-tone (2182kHz) alarm function \* General version only.
- Flexible filter settings with built-in DSP
- Optional antenna tuner, AT-140
- 150W (PEP) powerful output
- Built-in Class E DSC (Meets ITU-R M.493-13)\* \* USA version only.
- DIN and RS-232C connectors for external equipment



## Marine Radars

COLOR TFT MARINE RADARS

# MR-1210RII MR-1210TII MR-1210TIII



6.5ft Open Scanner for MR-1210TIII



4ft Open Scanner for MR-1210TII/TIII



2ft Radome Scanner for MR-1210RII



## 12.1-inch Color TFT Marine Radar



#### FEATURES

- 12.1-inch color TFT display (600x800 dots)
- Three types of scanner units  
MR-1210RII : 36NM range, 4kW radome scanner  
MR-1210TII : 48NM range, 4kW open array scanner  
MR-1210TIII : 72NM range, 6kW open array scanner (6.5ft type and 4ft type)
- Intuitive user interface
- Multi-Language Interface (English, Spanish, Vietnamese, Indonesian, Korean)
- AIS overlay and favorite AIS functions\*1
- Simplified ATA (Automatic Tracking Aid) function
- Stabilized head up mode\*1
- True trail function\*1
- Optional Video Output Unit, UX-234 for connection with an external display

\*1 External data such as AIS, heading sensor and/or NMEA 0183 required separately.

\* MR-1210 marine radar is not available in the USA.

Credits: This product includes "zlib", "libevent", "libusb" and "freetype" open source software, and is licensed according to the open source software license.

# Options

MODEL NAME	HAND MICROPHONES					COMMANDMIC™			HANDSET
	HM-205B/RB/SW Speaker microphone	HM-200B/SW	HM-126RB/RG Speaker microphone	HM-214V Speaker microphone	HM-135	HM-195B/SW	HM-195GB/GW	HM-162B	HS-98
IC-M506	✓					✓	✓		
IC-M424G	✓					✓	✓		
IC-M400BB						✓	✓		
IC-M324G		✓							
IC-M324		✓							
IC-M604A			✓					✓	
GM600				✓					✓
IC-M802					✓				

MODEL NAME	EXTENSION CABLES	SHIELDED CONTROL CABLES	SEPARATION CABLE	DC-DC CONVERTER	FLUSH MOUNT KITS	VOICE SCRAMBLER			
	OPC-1000 6.1m; 20ft cable for use with rear microphone connection.	OPC-1541 6.1m; 20ft cable for use with COMMANDMIC	OPC-566 10m; 32.8ft	OPC-1147/N 10m; 32.8ft	OPC-1106 5m; 16.4ft	PS-310 24V or 12V input, depending on version.	MB-132	MB-75	UT-112 Total of 32 voice scramble codes available
IC-M506	✓ (For use with rear mic version)	✓ (Use with COMMANDMIC)					✓	✓	✓
IC-M424G		✓ (Use with COMMANDMIC)					✓		
IC-M400BB		✓ (Use with COMMANDMIC)					✓		
IC-M324G							✓		
IC-M324							✓		
IC-M604A	✓	✓ (Use with COMMANDMIC)							✓
GM600						✓			✓
IC-M802			✓ (Use with AT-130)	✓ (Use with AT-140)	✓			✓	

MODEL NAME	AIS RECEIVER UNIT	NMEA 2000 INTERFACE	FOLDED DIPOLE ANTENNA	ANTENNA MATCHERS		ANTENNA TUNERS		EXTERNAL SPEAKER	REMOTE CONTROLLER
	UX-231	UX-232	AH-710	MN-100	MN-100L	AT-130	AT-140 IP56	SP-24	RC-25
IC-M506	✓ (Installed, depending on version)	✓ (Installed, depending on version)							
IC-M424G									
IC-M400BB									
IC-M324G									
IC-M324									
IC-M604A									
GM600									
IC-M802			✓	✓	✓	✓	✓	✓	✓

\* See configuration chart below.

## OPTIONS FOR MARINE RADARS

MODEL NAME	VIDEO OUTPUT UNIT	SYSTEM CABLES	
	UX-234	OPC-2339 20m(65.6ft)	OPC-2340 30m(98.4ft)
MR-1210RII	✓	✓	✓
MR-1210TII/TIII	✓		✓

: Applicable  
 : Not applicable

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

## IC-M506 Configuration Variations

	Microphone	NMEA 2000	AIS Receiver
IC-M506 AIS	Front Mic	NMEA 2000/ NMEA 0183	Integrated AIS Receiver
	Rear Mic		
IC-M506 PLUS	Front Mic	NMEA 2000/ NMEA 0183	Not included* <sup>2</sup>
	Rear Mic		
IC-M506	Front Mic	NMEA 0183* <sup>1</sup>	Not included* <sup>2</sup>

\*<sup>1</sup> Optional UX-232 is required for NMEA 2000.

\*<sup>2</sup> Optional UX-231 is required for AIS receiver.

# Specifications

## VHF FIXED MOUNT TRANSCEIVERS

	IC-M506	IC-M424G	IC-M400BB	IC-M324G	IC-M324	IC-M604A	GM600
<b>Frequency range (Unit: MHz)</b>	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525 AIS1,2 161.975, 162.025	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525	Tx: 156.025–157.425 Rx: 156.050–163.275 CH70: 156.525	Tx: 156.025–161.600 Rx: 156.025–162.000 CH70: 156.525
<b>Power supply requirement</b>	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	24V DC (21.6–31.2V DC)*2
<b>Dimensions (projections not included; W×H×D)</b>	178.9×113.9×113.8 mm; 7.04×4.48×4.48 in	180×82×119.9 mm; 7.09×3.23×4.72 in	216×79×125 mm; 8.5×3.11×4.92 in	180×82×119.9 mm; 7.09×3.23×4.72 in	180×82×119.9 mm; 7.09×3.23×4.72 in	220×110×109.4 mm; 8.66×4.33×4.31 in	263×110×109.4 mm; 10.35×4.33×4.31 in
<b>Weight (approx.)</b>	1.4kg; 3.09 lb	1.2kg 2.65 lb	Main unit 830g; 1.83 lb HM-195 400g; 14.1 oz	1.2kg; 2.65 lb	1.4kg; 3.1 lb	1.6kg; 3.5 lb	
<b>Current drain</b>	<b>Transmit (High)</b>	5.5A	5.5A	5.5A	5.5A	5.5A	3.3A*2
	<b>Max. audio</b>	5A typ. (Ext SP, RX hailer ON) 1.5A (Internal SP)	5A typ. (Ext SP, RX SP ON) 1.5A (Internal SP)	3.5A	1.5A	1.5A	2.0A*2
<b>Sensitivity (at 12dB SINAD)</b>	0.22µV typical	0.22µV typical	0.22µV typical	0.22µV typical	0.22µV typical	0.22µV typical	-7dBµ emf typ. (20dB SINAD)
<b>Intermodulation rejection</b>	80dB typical	More than 70dB	More than 70dB	More than 70dB	More than 70dB	More than 70dB	More than 75dB (Main)
<b>Audio output power (10% distortion/4Ω load)</b>	15W (External SP)	10W (External SP)	10W (External SP) 2W (HM-195 series)	4.5W typical	5W typical	10W (External SP)	
<b>RF output power</b>	25/1W	25/1W	25/1W	25/1W	25/1W	25/1W	
<b>NMEA interface</b>	NMEA 2000*/0183	NMEA 0183	NMEA 0183	NMEA 0183	NMEA 0183	NMEA 0183	IEC 61162-1
<b>AIS receiver</b>	Built-in*1	–	–	–	–	–	–
<b>GPS receiver</b>	External	Built-in	External	Built-in	External	External	External

Measurements made in accordance with TIA/EIA 603 for IC-M506, M424G, M400BB, M324G, M324 and EN301 925 for GM600.

\*1 Depending on version. \*2 With PS-310 (#01)

## AIS TRANSPONDER AND AIS RECEIVER

	MA-500TR	MXA-5000
<b>Frequency range (Unit: MHz)</b>	161.975, 162.025 (default), 156.025–162.025	Rx: 161.975, 162.025 Simultaneous reception
<b>Type of emission</b>	16K0GXW (GMSK)	16K0F1D (GMSK)
<b>Power supply requirement</b>	12.0V DC (9.6–15.6V)	12.0V DC (10.8–15.6V)
<b>Dimensions (projections not included; W×H×D)</b>	165×110×123 mm; 6.5×4.33×4.84 in	132×34×155 mm; 5.2×1.34×6.1 in
<b>Weight (approx.)</b>	1.0kg; 2.2lb	400g; 14.1oz
<b>Current drain</b>	<b>Transmit</b>	1.5A
	<b>Receive</b>	0.7A
<b>Sensitivity (20% error rate)</b>	-110dBm	-116dBm typ.
<b>Intermodulation rejection</b>	65dB	65dB
<b>RF output power</b>	2W	–

Measurements made in accordance with IEC62287-1.

## GPS RECEIVER

	MXG-5000S
<b>Receiving frequency</b>	1575.42MHz
<b>Receiving channels</b>	66
<b>Receiving code</b>	L1, C/A-codes, SPS
<b>Satellite differential type (SBAS)</b>	WAAS, EGNOS, MSAS, GAGAN
<b>Time to first fix</b>	<b>Cold start</b>
	<b>Warm start</b>
<b>Power supply</b>	4.75–5.25V DC (Supplied from MA-500TR or MXP-5000)
<b>Dimensions (Diameter×Height) (projections not included)</b>	78×96.5 mm; 3.07×3.8 in
<b>Weight (approx.)</b>	460g; 1.01lb
<b>Usable temperature range</b>	-20°C to +60°C; -4°F to +140°F
<b>Cable length (approx.)</b>	10m; 32.8ft

## MARINE RADARS

DISPLAY UNIT	MR-1210RII MR-1210TII MR-1210TIII
<b>Display</b>	12.1-inch color TFT LCD
<b>Resolution (H × V)</b>	600×800 dots
<b>Minimum range</b>	25m (at 1/8 NM range)
	36 NM (MR-1210RII)
<b>Maximum range</b>	48 NM (MR-1210TII)
	72 NM (MR-1210TIII)
<b>Power supply requirement</b>	10.2–42V DC
<b>Dimensions (projections not included; W×H×D)</b>	300×323×119.2 mm; 11.81×12.72×4.69 in
<b>Weight (approx.)</b>	4.6kg; 10.1lb
<b>Usable temperature range</b>	-15°C to +55°C; 5°F to +131°F
<b>Power consumption (approx.)</b>	60W (MR-1210RII)
	70W (MR-1210TII)
	80W (MR-1210TIII - 4ft open scanner)
	90W (MR-1210TIII - 6.5ft open scanner)

## HF MARINE TRANSCEIVER

	IC-M802
<b>Frequency range (Unit: MHz)</b>	Tx: 1.6–2.9999, 4.0–4.9999, 6.0–6.9999, 8.0–8.9999, 12.0–13.9999, 16.0–17.9999, 18.0–19.9999, 22.0–22.9999, 25.0–27.5000 Rx: 0.5–29.9999
<b>Type of emission</b>	J3E (USB/LSB), H3E*1, J2B (AFSK), F1B (FSK), A1A (CW), J2B (DSC)*2
<b>Power supply requirement</b>	13.6V DC 15% (negative ground)
<b>Dimensions (projections not included; W×H×D)</b>	Main unit: 240×94×238.4 mm; 9.45×3.7×9.39 in Controller: 220×110×84.4 mm; 8.66×4.33×3.32 in
<b>Weight (approx.)</b>	Main unit: 4.7kg; 10.4lb, Controller: 570g; 1.3lb
<b>Current drain</b>	<b>Transmit (High)</b>
	<b>Receive</b>
<b>Sensitivity (at 10dB S/N)</b>	J3E, A1A, J2B, F1B : 0.5µV (1.8–29.999MHz) H3E : 3.2µV (1.8–3.999MHz) DSC (J2B)*2 : 0.5µV (1% error rate)
<b>Audio output power (10% dist./ 4Ωload)</b>	4.0W
<b>RF output power</b>	150/60/20W

\*1 Receive only for USA version. \*2 USA version only.

SCANNER UNIT	MR-1210RII	MR-1210TII	MR-1210TIII	MR-1210TIII
<b>Type</b>	2ft (60cm) radome	4ft (120cm) open array	6.5ft (200cm) open array	
<b>Peak output power</b>	4kW	4kW	6kW	
<b>Rotation speed</b>	24, 36 rpm typical	24, 36 rpm typical	22, 24, 36 rpm typical	22, 24, 36 rpm typical
<b>Beamwidth</b>	<b>Horizontal</b>	4° typ.	2° typ.	1.2° typ.
	<b>Vertical</b>	22° typ.	23° typ.	23° typ.
<b>Side lobe</b>	-22dB typ.	-24dB typ.	-27dB typ.	
<b>Transmission frequency</b>	94.10MHz ±30MHz	94.10MHz ±30MHz		94.10MHz ±30MHz
<b>Dimensions (projections not included; W×H×D)</b>	640×256×640 mm; 25.2×10.08×25.2 in	1217 (diameter)×395 (H) mm; 47.91 (diameter)×15.55 (H) in	1995 (diameter)×395 (H) mm; 78.54 (diameter)×15.55 (H) in	
<b>Weight (approx.)</b>	8kg; 17.6lb	18kg; 39.7lb	20kg; 44.09lb	
<b>Usable temperature range</b>	-25°C to +70°C; -13°F to +158°F	-25°C to +70°C; -13°F to +158°F	-25°C to +70°C; -13°F to +158°F	
<b>Connection cable</b>	15m; 49.2ft (OPC-2341, standard) 20m; 65.6ft (OPC-2339, option) 30m; 98.4ft (OPC-2340, option)	20m; 65.6ft (OPC-2342, standard) 30m; 98.4ft (OPC-2340, option)	20m; 65.6ft (OPC-2342, standard) 30m; 98.4ft (OPC-2340, option)	



# IP ADVANCED RADIO SYSTEM

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

### System Features

#### Wireless Communication System among Ship Crews

By installing wireless access points, the IP advanced radio system can flexibly deploy along the IP network and communicate throughout in the vessel. The IP100H can access the nearest access point and can roam between access points.

#### Individual, Group or Area Communication

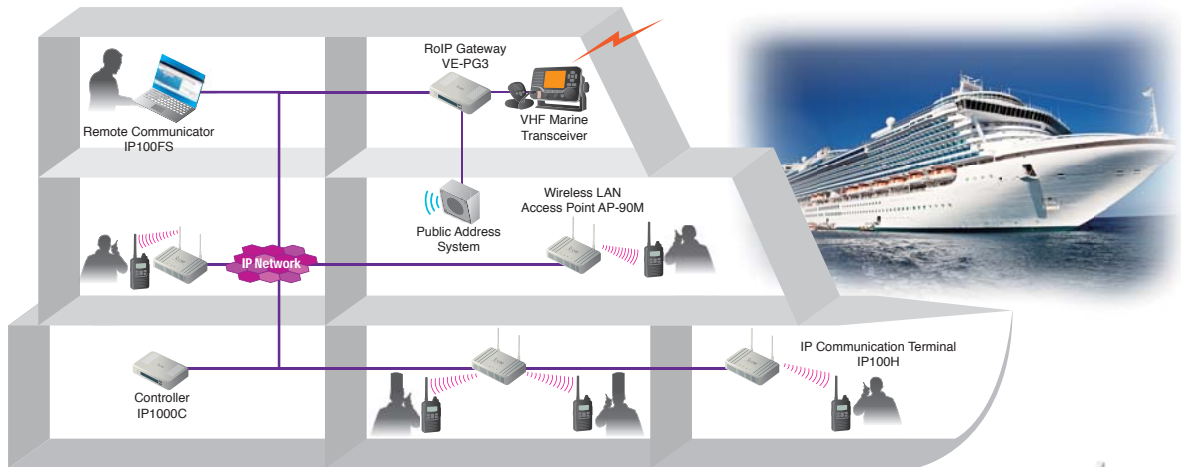
The IP100H/IP100FS can make individual call, group conference call, all call and area call. Crews spread across multiple rooms and cabins can communicate seamlessly. The IP communication terminal can receive Short Data Messages with a vibration alert from a PC-installed IP100FS.

#### Hands-free, Full-duplex Communication

With optional earphone-mic or headset HS-102 or HS-85\*, the IP100H user can simultaneously talk and receive like a phone call. Hands-free operation allows your staff to carry out other tasks at the same time.  
\* Either HM-153LS, HM-166LS, HS-102 with OPC-2359 or HS-85 with OPC-2144 is required.

#### Interconnect between VHF Marine Transceiver and Public Address System

With the VE-PG3 RoIP gateway, the IP advanced radio system can interconnect with a VHF marine transceiver, other radio system and a public address system.



#### IP Communication Terminal **IP100H**

- License-free communication terminal using IEEE 802.11 a/b/g/n standards
- WPA-PSK or WPA2-PSK encryption
- IPX7 waterproof (1m depth water for 30 minutes)
- Compact 58x95x26.4mm body and 205g (approximate) light weight
- Vibration alert function for incoming calls



#### 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 or 20\* terminals (including IP100FS)
- \*Depending on version.



#### 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 on a Windows® based tablet PC as well as laptop PC



#### RoIP Gateway **VE-PG3**

- Interconnects IP advanced radio system and other radio system\*
- Public address system connection
- Telephone interconnection with IP phone and PSTN lines

\*Interconnection with VHF marine radio may be prohibited in some countries. Please confirm legal requirements in your country before installation.





## 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).



## 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.



## Daylight Viewable Display

The 12.1-inch size MFD provides 800x600 pixels resolution. The 900cd/m<sup>2</sup> color LCD with anti-reflecting surface coating glass offers bright, vivid indication in detail – even 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.



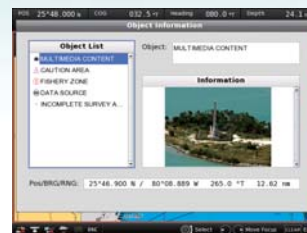
\* Chart data is not supplied from Icom.



Perspective view (bird view)



Chart plotter



Object information of the C-MAP™ chart data base

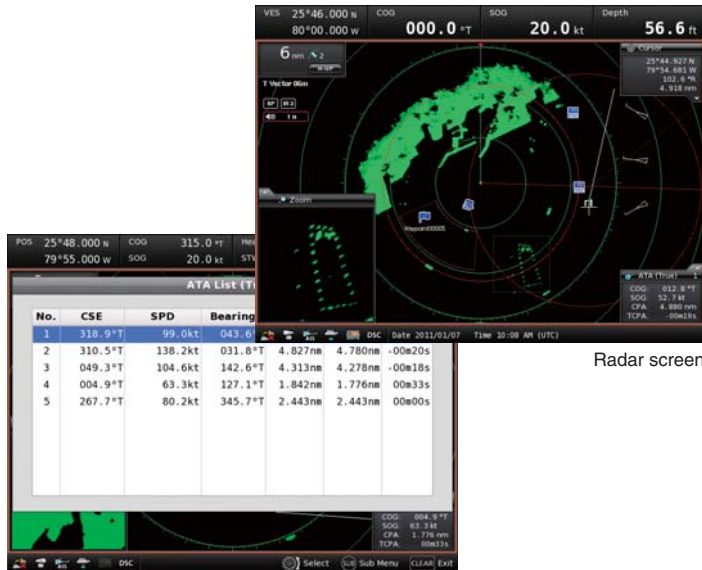


Nav-course monitor (upper right) & Nav-waypoint (bottom right)



## 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 help you to detect dangerous objects.



Radar screen

ATA list

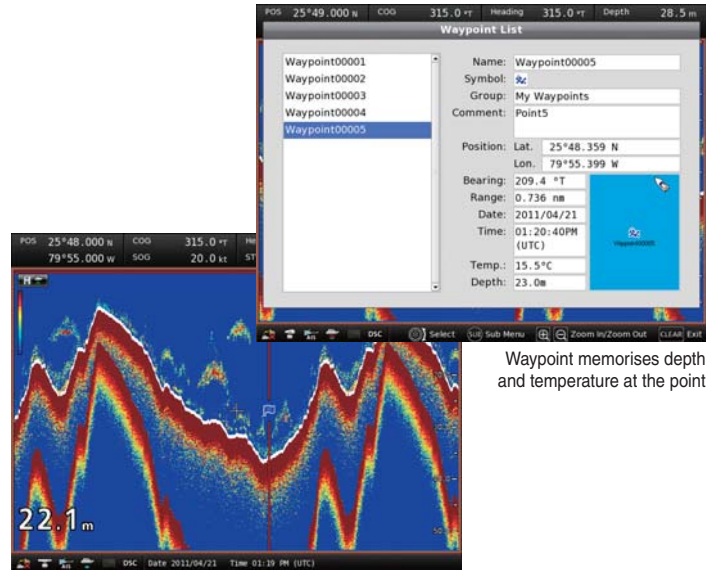
### Simplified ATA (Automatic Tracking Aid)

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.



## 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.



Sounder screen

Waypoint memorises depth and temperature at the point

### Additional data for waypoints

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

#### MARINE RADAR

### MXR-5000T

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



Radar main unit



#### MARINE RADAR

### MXR-5000R

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



Radar main unit

#### FISH FINDER

### MXF-5000



#### EX-3193

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



#### EX-3194

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



#### EX-3195

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

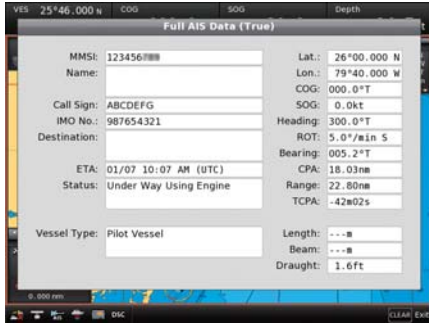




## AIS (Automatic Identification System)

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.

\* The IC-M506 AIS data is NOT compatible with the MarineCommander.



Full AIS data



AIS TRANSPONDER  
**MA-500TR**



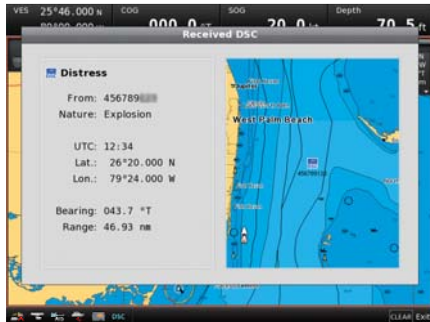
AIS RECEIVER  
**MXA-5000**



## VHF Transceiver

The MarineCommander 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-M506**



VHF MARINE TRANSCEIVER  
**IC-M424G**



VHF MARINE TRANSCEIVER  
**IC-M400BB**



VHF MARINE TRANSCEIVERS  
**IC-M324G/M324**



VHF MARINE TRANSCEIVER  
**IC-M604A**



## GPS Receiver

The MXG-5000S is a 66 channel GPS receiver with WAAS, EGNOS MSAS and GAGAN differential corrections. It offers accurate position information and features IPX6 high-pressure water jet resistance.



GPS RECEIVER  
**MXG-5000S**



## 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

- An analog RGB output connector (D-SUB 15-pin) for an external display connection
- Four analog video input (NTSC or PAL format)
- Multiple language display (English/French/Spanish)
- External NMEA 2000 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; 15.2×10.79×2.72 in (without bracket) 404×299×102 mm; 15.91×11.77×4.02 in (with bracket)
Weight (approx.)	3.6kg; 7.94lb (without bracket) 4.1kg; 9.04lb (with bracket)
Usable temperature range	-20°C to +60°C; -4°F to +140°F
Waterproofing	IPX7
Cable length	5m; 16.4ft
Optional extension cable	EX-3187 (5m; 16.4ft)

## 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; 14.17×3.46×9.01 in
Weight (approx.)	4.25kg; 9.37lb
Usable temperature range	-20°C to +60°C; -4°F to +140°F
Waterproofing	IPX4

## 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; 9.84×2.64×7.87 in
Weight (approx.)	2.18kg; 4.8lb
Usable temperature range	-20°C to +60°C; -4°F to +140°F
Waterproofing	IPX4
Optional data cable	OPC-1895 (20m; 65.6ft)

## 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; 1.1lb	2.5kg; 5.5lb	3.6kg; 7.9lb
Optional transducer ext. cable	OPC-1929 (6m; 19.7ft)	OPC-1929 (6m; 19.7ft)	OPC-1929 (6m; 19.7ft)

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

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## 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; 9.84×2.64×7.87 in	250×67×200 mm; 9.84×2.64×7.87 in
Weight (approx.)	2.1kg; 4.6lb	2.1kg; 4.6lb
Usable temperature range	-20°C to +60°C; -4°F to +140°F	-20°C to +60°C; -4°F to +140°F
Waterproofing	IPX4	IPX4
Optional data cable	OPC-1895 (20m; 65.6ft)	OPC-1895 (20m; 65.6ft)

## 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 Vertical	Horizontal Vertical
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; 23.9×9.57 in	1205 (Diameter of rotation) ×381 (H) mm; 23.9×15 in
Weight (approx.)	8kg; 17.6lb (without cable)	17kg; 37.4lb (without cable)
Usable temperature range	-25°C to +70°C; -13°F to +158°F	-25°C to +70°C; -13°F to +158°F
Relative humidity	Less than 95% at 40°C	Less than 95% at 40°C
Waterproofing	IPX6	IPX6
Supplied system cable	OPC-2341 (15m; 49.2ft)	OPC-2342 (20m; 65.6ft)
Optional radar system cables	OPC-2339 (20m; 65.6ft) OPC-2340 (30m; 98.4ft)	OPC-2340 (30m; 98.4ft)