



IC-M510BB IC-M410BB

VHF MARINE TRANSCEIVERS

High-Performance Black Box VHF Radios When Helm Space is at a Premium



* Photo shows the IC-M510BB.

High-Performance, Extendable Black Box VHF Radios That Supports Your Communication and Safety while

Clean Installation for Your Limited Helm Space

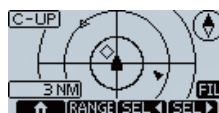
The IC-M510BB/M410BB consists of a multi-piece, CommandMic™ and black box configuration. All operations including DSC, can be made from the CommandMic™, HM-195, and the RF unit can be installed in an out-of-sight place, up to 60 ft (18.3 m)* away from the CommandMic™.



Installation example

* Two OPC-1541 optional cables are required for 60 ft installation.

Integrated AIS Receiver* Monitors the Movement of Other Ships



Plotter screen

DANGER LIST (3)			
MM51/Name	CPA	TCPA	
500200000	0.2	20	
500100000	0.4	7	
500300000	1.1	25	

Danger List screen

The integrated AIS receiver helps you to find ships heading toward your boat and gives you an alert for collision avoidance. You can make an individual DSC call to a selected ship from the AIS screens.

* The AIS receiver is available with the IC-M510BB.

Install Up to Three Stations on Board, VHF Radio Available at Your Favorite Positions

Up to three CommandMic™ stations are available with the IC-M510BB* providing access to the VHF radio and Intercom functions. When using the Intercom function, you can select either one-to-all or one-to-one communication.

* The IC-M410BB can connect up to two CommandMic™.

Two Minutes Voice Recording Function for Playback Last Call

The last call voice recording function* automatically saves up to two minutes of an incoming call. You will not miss incoming messages.

* The voice recording function is available with the IC-M510BB.

NMEA 2000™ and NMEA 0183-HS Provides Data Integration on Your Boat



NMEA 2000™ network provides plug-and-play data communication to inter-connect with other marine equipment such as an MFD (Multi Function Display). The radio can send GNSS (GPS) position, AIS*, DSC call, and radio channel to other equipment.

* The AIS receiver is available with the IC-M510BB.

NMEA 2000 connector

DSC Remote Control Interface Improves the Efficiency of Emergency Communications

The IC-M510BB has a dedicated DSC Remote Control* (EN 300 338-8 Compatible) terminal, allowing connection to a PC console software or external device. You will be able to centralize emergency communications control.

* The DSC remote control function is available with the IC-M510BB.

Class D DSC Black Box Transceiver
Up to 3rd Station Capability

VHF MARINE TRANSCEIVER IC-M510BB

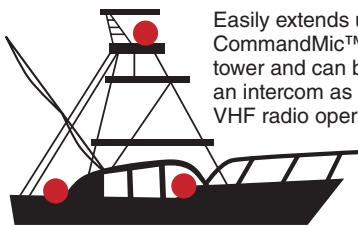


* The IC-M510BB comes supplied with one CommandMic™, HM-195.

Boating



Tower Fishing Boat



Easily extends up to two CommandMic™ on a tower and can be used as an intercom as well as for VHF radio operation.

Open Deck Boat



The waterproof CommandMic™ can be used in open top areas even in rain or splash conditions.

Small Center Console Boat



Stow the RF unit out of site and have only the CommandMic™ on the console panel.

Active Noise Cancelling — No Need to Shout into Your Microphone

The Active Noise Cancelling digitally removes background noise from both transmit and receive audio and provides clear communication in a noisy maritime environment.



Built-in Class D DSC, “Distress” Button Can be a Lifesaver in an Emergency Situation



DISTRESS button

With just a press of the “DISTRESS” button, the built-in DSC (Digital Selective Calling) system can digitally transmit distress information to the Coast Guard and/or other vessels. The DSC watch function continuously monitors the DSC channel (Ch. 70) for added safety and security.

Loud 1-Way RX Hailer for Radio Watch on the Deck or Tower

A built-in 13 W amplifier increases the audio output to an external hailer speaker. The 1-way RX hailer function enables you to keep watch of the radio traffic on the deck or tower through the hailer speaker. You can also sound foghorn patterns from the hailer speaker.



Optional SP-37

Class D DSC Black Box Transceiver
2nd Station Capability

VHF MARINE TRANSCEIVER IC-M410BB



* The IC-M410BB comes supplied with one CommandMic™, HM-195.

Other Features

- IPX7 waterproof, 1 m depth water for 30 minutes
- Integrated GPS receiver*
- AquaQuake™ function
- External speaker connection from the CommandMic™ cable
- Anchor Watch function

* External GPS antenna is included with the IC-M510BB and M410BB EUR versions. Optional with the IC-M510BB and M410BB USA versions.

SPECIFICATIONS

GENERAL		
Frequency coverage	TX	156.025 ~ 161.425 MHz, 156.050 ~ 162.000 MHz
	RX	156.025 ~ 161.425 MHz, 156.050 ~ 162.000 MHz
	DSC (CH 70)	156.525 MHz
	AIS*2	161.975, 162.025 MHz
Usable channels	INT, USA, ATIS*1 channels	
Type of emissions	16K0G3E (FM), 16K0G2B (DSC), 16K0GXW (AIS*2)	
Power supply requirement	12.0 V DC nominal (10.8 ~ 15.6 V DC) (Negative ground)	
Current drain	TX Max. power	5.5 A Max.
	RX Max. audio	1.5 A (One CommandMic™)
	IC-M510BB	4.5 A (Three CommandMic™ and RX hailer)
IC-M410BB	1.5 A (One CommandMic™)	
IC-M410BB	4.0 A (Two CommandMic™ and RX hailer)	
Operating temperature range	-20°C ~ 60°C, -4°F ~ 140°F	
Antenna impedance	50 Ω nominal	
Dimensions (Projections not included)	RF unit (W × H × D)	216 × 79 × 113 mm; 8.5 × 3.1 × 4.4 in
	CommandMic™ (W × H × D)	67.5 × 144.5 × 37 mm; 2.7 × 5.7 × 1.5 in
Weight (Approximate)	RF unit	890 g; 2 lb. (IC-M510BB) 870 g; 1.9 lb. (IC-M410BB)
	CommandMic™	400 g; 14.1 oz

*1 Available depending on the transceiver version.

*2 AIS receiver is available for the IC-M510BB.

TRANSMITTER

Output power	25 W, 1 W (High, Low)
Maximum frequency deviation	±5 kHz
Frequency tolerance	±0.5 kHz
Spurious emission	Less than 0.25 μW
Residual modulation	More than 40 dB
Adjacent channel power	More than 70 dB

RECEIVER

Sensitivity	FM (at 20 dB SINAD)	Less than -2 dBμ emf
	DSC (at 1% BER)	-7 dBμ emf typical
Adjacent channel selectivity	FM	More than 70 dB
	DSC (at 1% BER)	More than 73 dBμ emf
Spurious response	FM	More than 70 dB
	DSC (at 1% BER)	More than 73 dBμ emf
Inter-modulation	FM	More than 68 dB
	DSC (at 1% BER)	More than 68 dBμ emf
Hum and noise	More than 40 dB	
Audio output power	CommandMic™	More than 2 W (4 Ω, 10% distortion)
	Rx hailer	More than 13 W (4 Ω)

Measurements in according to EN301 025. All stated specifications are subject to change without notice. Showing specifications for the EUR versions.

Applicable IP Rating

INGRESS PROTECTION STANDARD

IC-M510BB, (Black Box RF Unit & CommandMic™, HM-195)	IPX7 (Waterproof)
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Supplied Accessories

- DC power cable (2 m)
- Connection cable, OPC-1540 (6.1 m, 20 ft)
- GPS antenna*
- CommandMic™, HM-195GB
- Microphone Hanger
- Connector cap
- Mounting base

* GPS antenna is not supplied with the IC-M510BB and IC-M410BB USA versions.


OPTIONAL ACCESSORIES

CommandMic™




HM-195GB (Black) HM-195GW (White)

Supplied accessories




- OPC-1540, 6.1 m (20 ft) cable
- Microphone hanger
- Mounting base for connector
- * Amber backlit CommandMic™, HM-195B/SW are also available.

EXTENSION CABLE




OPC-1541
6.1 m, 20 ft
(Up to 2 cables are available for one CommandMic™)

HORN SPEAKER




SP-37
Power rating: 30 W, Impedance: 4 Ω

GNSS (GPS) ANTENNA



UX-241 5 m, 16.4 ft cable
External GPS antenna is included with the IC-M510BB and IC-M410BB EUR versions.

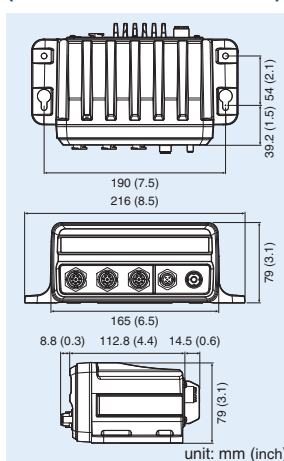
CLASS B AIS TRANSPONDER



MA-510TR
For transmitting your own AIS info and receiving AIS info in the area

DIMENSIONS

(For IC-M510BB & M410BB)



ADVANCED CONNECTIONS (For IC-M510BB)



IC-M510BB and IC-M410BB Function Comparison

	IC-M510BB	IC-M410BB
CommandMic™ Stations & Intercom function	Total 3 stations (Up to 2 options)	Total 2 stations (Optional 1 station)
Class D DSC & DISTRESS	Yes	Yes
AIS Receiver	Yes	No
Internal GPS (GNSS) receiver	Yes (GPS antenna is included with the EUR version*)	Yes (GPS antenna is included with the EUR version*)
Active Noise Cancelling	Yes	Yes
Voice Recording & Playback	Yes (Up to 2 min.)	No
NMEA Interface	NMEA 2000™ NMEA 0183™	NMEA 2000™ NMEA 0183™
DSC Remote Control Interface	Yes (EN 300 338-8)	No
1-Way RX Hailer and Foghorn	Yes (13 W)	Yes (13 W)

* GPS antenna is optional with the IC-M510BB and IC-M410BB USA versions.

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