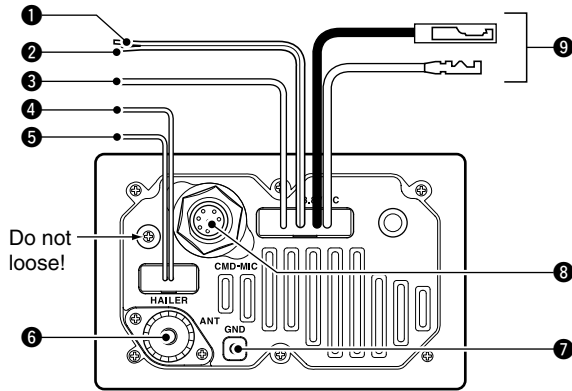


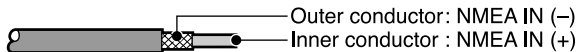
## Connections



### 1 NMEA IN LEAD (Red)

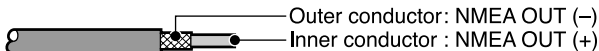
Connects to a GPS receiver for position indication.

- A NMEA0183 ver. 2.0 or 3.01 (sentence formatters RMC, GGA, GNS, GLL and VTG) compatible GPS receiver is required. Ask your dealer about suitable GPS receivers.



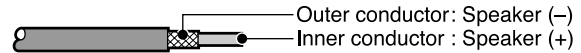
### 2 NMEA OUT LEAD (White)

Connects to a PC or navigation equipment (NMEA0183 ver. 3.01 sentence formatters DSC, DSE compatible) for position data received from other ships.



### 3 EXTERNAL SPEAKER LEAD (Yellow)

Connects to an external speaker.



### 4 HAILER/FOGHORN (-) LEAD (Black)

Connects to a hailer speaker (25 W nominal at 13.8 V/4 Ω).

### 5 HAILER/FOGHORN (+) LEAD (Blue)

Connects to a hailer speaker (25 W nominal at 13.8 V/4 Ω).

### 6 ANTENNA CONNECTOR

Connects a marine VHF antenna with a PL-259 connector to the transceiver.

**CAUTION:** Transmitting without an antenna may damage the transceiver.

### 7 GROUND TERMINAL

Connect this terminal to a vessel ground to prevent electrical shocks and interference from other equipment occurring. Use a self-tapping screw (3 × 8 mm.)

### 8 EXTERNAL MICROPHONE JACK

Connects to optional command microphone.

### 9 DC POWER CONNECTOR

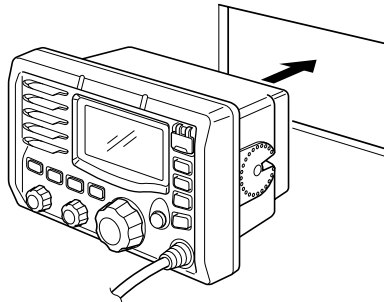
Connects the supplied DC power cable from this connector to an external 12 V battery.

## ■ MB-75 installation

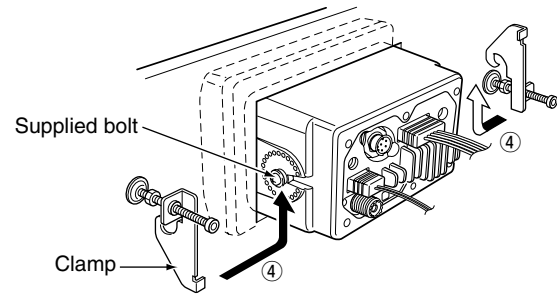
An optional MB-75 FLUSH MOUNT KIT is available for mounting the transceiver to a flat surface such as an instrument panel.

**CAUTION:** KEEP the transceiver and microphone at least 1 meter away from your vessel's magnetic navigation compass.

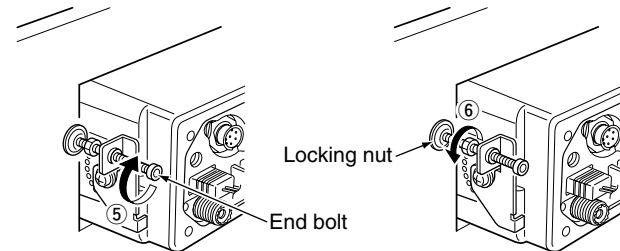
- ① Using the template on the last page, carefully cut a hole into the instrument panel (or wherever you plan to mount the transceiver).
- ② Slide the transceiver through the hole as shown below.



- ③ Attach the 2 supplied bolts (M5 × 8 mm) on either side of the IC-M505.
- ④ Attach the clamps on either side of the IC-M505.
  - Make sure that the clamps align parallel to the IC-M505's body.

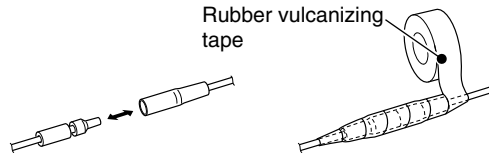


- ⑤ Tighten the end bolts on the clamps (rotate clockwise) so that the clamps press firmly against the inside of the instrument control panel.
- ⑥ Tighten the locking nuts (rotate counterclockwise) so that the IC-M505 is securely mounted in position as below.



- ⑦ Connect the antenna and power cable, then return the instrument control panel to its original place.

**CAUTION:** After connecting the DC power cable, NMEA IN/OUT leads, external speaker lead and hailer/foghorn lead, cover the connector and leads with an adhesive tape as shown below, to prevent water seeping into the transceiver.

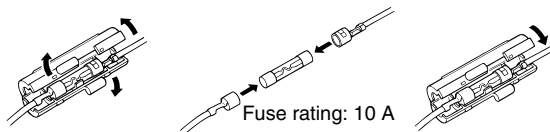


## Antenna

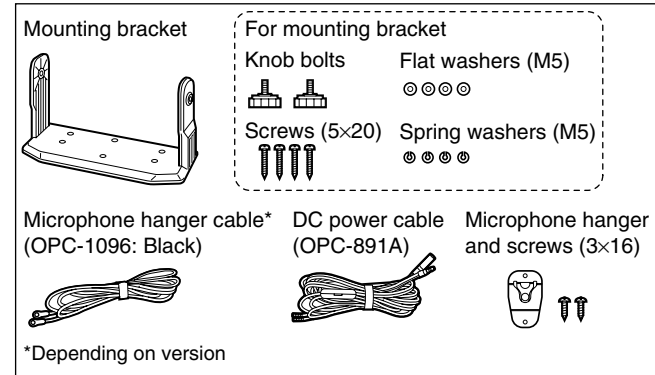
A key element in the performance of any communication system is the antenna. Ask your dealer about antennas and the best place to mount them.

## Fuse replacement

One fuse is installed in the supplied DC power cable. If a fuse blows or the transceiver stops functioning, track down the source of the problem if possible, and replace the damaged fuse with a new one of the proper rating.



## Supplied accessories



## Microphone hanger

Rest the supplied microphone on the hanger when not in use. Connect the OPC-1096\* to the transceiver's ground terminal with a self-tapping screw (3 × 8 mm) and the other side to the microphone hanger to use the microphone hanger function.

\*Depending on version.

- If the microphone hanger function is used, Channel 16 is selected automatically when the supplied microphone is rested on the hanger.

### ■ Mounting the transceiver

#### ◆ Using the supplied mounting bracket

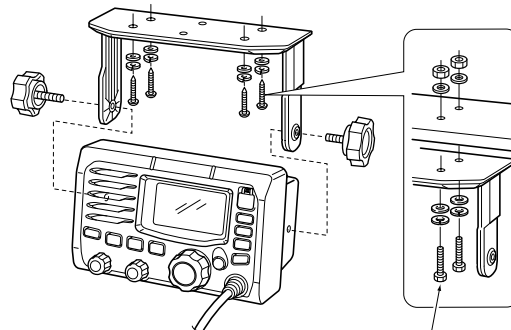
The universal mounting bracket supplied with your transceiver allows overhead or dashboard mounting.

- Mount the transceiver securely with the 4 supplied screws (5 × 20) to a surface which is more than 10 mm thick and can support more than 5 kg.
- Mount the transceiver so that the face of the transceiver is at 90° to your line of sight when operating it.

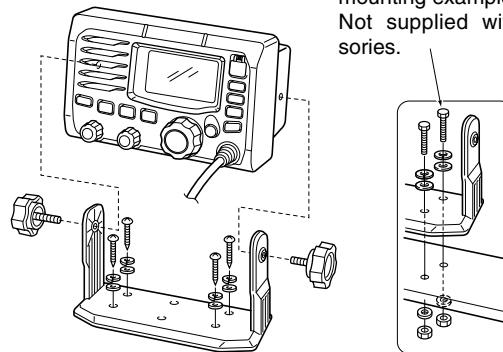
/// **CAUTION: KEEP** the transceiver and microphone at least 1 meter away from your vessel's magnetic navigation compass.

/// **NOTE:** Check the installation angle; the function display may not be easy-to-read at some angles.

#### • OVERHEAD MOUNTING



#### • MOUNTING ON THE BOARD



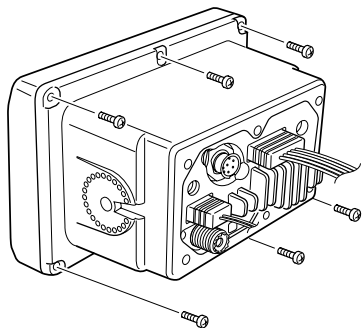
These screws are shown a mounting example only. Not supplied with accessories.

### ■ UT-112/UT-98 installation

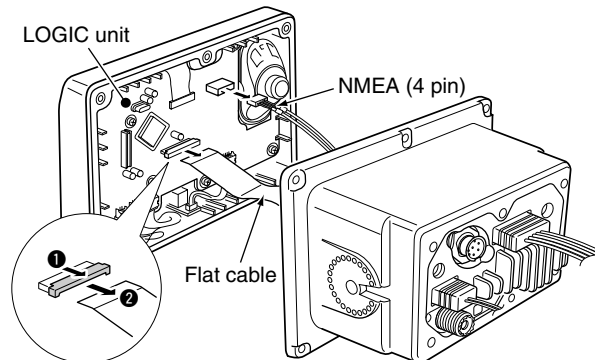
**CAUTION: DISCONNECT** the DC power cable from the transceiver before performing any work on the transceiver. Otherwise, there is danger of electric shock and/or equipment damage.

Follow the case opening procedure shown here when you want to install an optional scrambler unit.

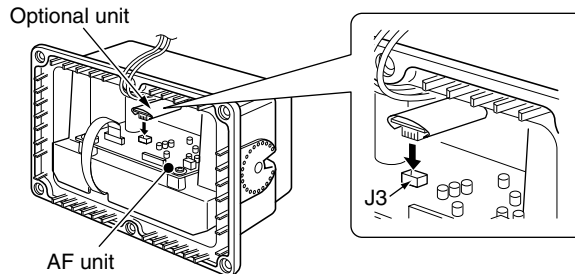
- ① Remove the 6 screws as shown below and open the transceiver.



- ② Disconnect the flat cable and NMEA (4 pin) from J5 of the LOGIC unit.



- ③ Install an optional unit (UT-112 or UT-98) to J3 on the AF unit as shown below.

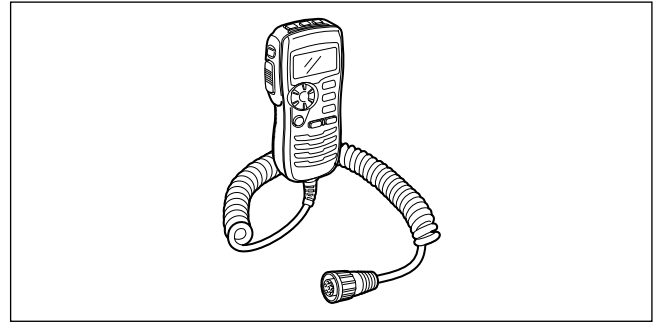


- ④ Return the cables and screws to the original position.
- Be sure not upside down the flat cable.

**CAUTION:**

- When re-assembling the case and tightening the screws, you must keep the specified torque ( $0.5 \pm 0.07$  N.m). Otherwise the transceiver may be damaged (torque too high) or lose waterproof efficiency (torque too low).
- When uninstalling the optional unit, remove it vertically. Wiggling the unit from side to side may damage the optional unit's connector.

## ■ HM-162E installation

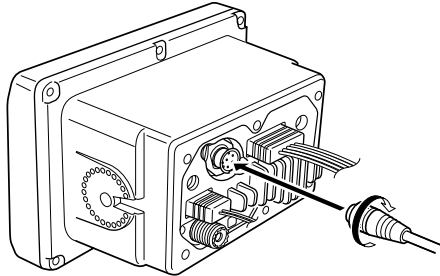


The optional HM-162E should be installed to the transceiver using the supplied connection cable. The connector of the connection cable can be installed into a cabinet, wall, etc., as a built-in plug.

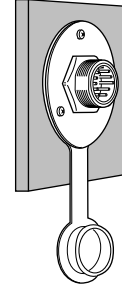
For longer distance remote operation, the optional extension cable, OPC-1541 (6 m; connecting between transceiver and the connection cable), is available, and up to two OPC-1541 can be added.

## 9 CONNECTIONS AND MAINTENANCE

- ① Insert the supplied cable into the external microphone jack and tighten the cable nut as shown below.



- ⑥ The completed installation should look like this.



- ② To use the supplied cable as a wall socket, perform the following steps.
- ③ Using the mounting base as a template, carefully mark the holes where the cable and three screws will be fastened.
- ④ Drill holes at these marks.
- ⑤ Install the mounting base using the supplied screws as shown below.

