

Thank you for purchasing the MXA-5000 AIS RECEIVER.
Please read these instructions carefully before installation and operation.

PRECAUTIONS

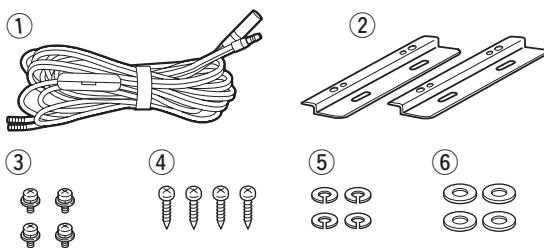
- **NEVER** apply AC power to the [DC 12 V] connector on the rear panel. This could cause a fire or damage the receiver.
- **NEVER** connect the receiver to a power source of more than 16 V DC such as a 24 V battery. This will damage the receiver.
- **NEVER** connect the receiver to a power source using reverse polarity. This will damage the receiver.
- **NEVER** cut the DC power cable between the DC plug and fuse holder. If an incorrect connection is made after cutting, the receiver may be damaged.
- **NEVER** expose the receiver to rain, snow or any liquids. The receiver may be damaged.
- **NEVER** touch the receiver with wet hands. This may result in an electric shock or damage the receiver.
- **NEVER** apply more than 25 W RF power or out of VHF marine frequency (156.000 to 161.450 MHz) to the [RADIO] connector on the rear panel. This will damage the receiver.
- **DO NOT** use or place the receiver in areas with temperatures below -20°C (-4°F) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$) or in areas subject to direct sunlight, such as the dashboard.
- **DO NOT** use chemical agents such as benzine or alcohol when cleaning, as they can damage the receiver's surfaces.
- Place unit in a secure place to avoid inadvertent use by children.

FEATURES

- **Dualwatch operation**
Two independent receivers can simultaneously receive CH87B (161.975 MHz) and CH88B (162.025 MHz).
- **Power divider built-in**
A power divider is built-in the MXA-5000. This provides easy installation as well, since no extra antenna is necessary— just connect the receiver between your VHF marine transceiver and an antenna.
 - The internal power divider protects the receiver from a transmit signal of the VHF marine transceiver.
- **GPS receiver is connectable**
When a GPS receiver is connected, the GPS information is added to the received AIS information, and can be sent to the connected PC or navigation system.

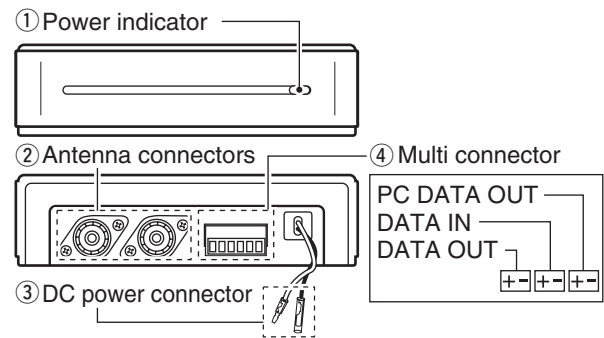
SUPPLIED ACCESSORIES

- ① DC power cable 1
 - ② Angle..... 2
 - ③ Set screws (M3×6 mm) 4
 - ④ Self-tapping screws (M5×20 mm) 4
 - ⑤ Spring washers 4
 - ⑥ Flat washers..... 4
- 1 mm = 1/32 inch



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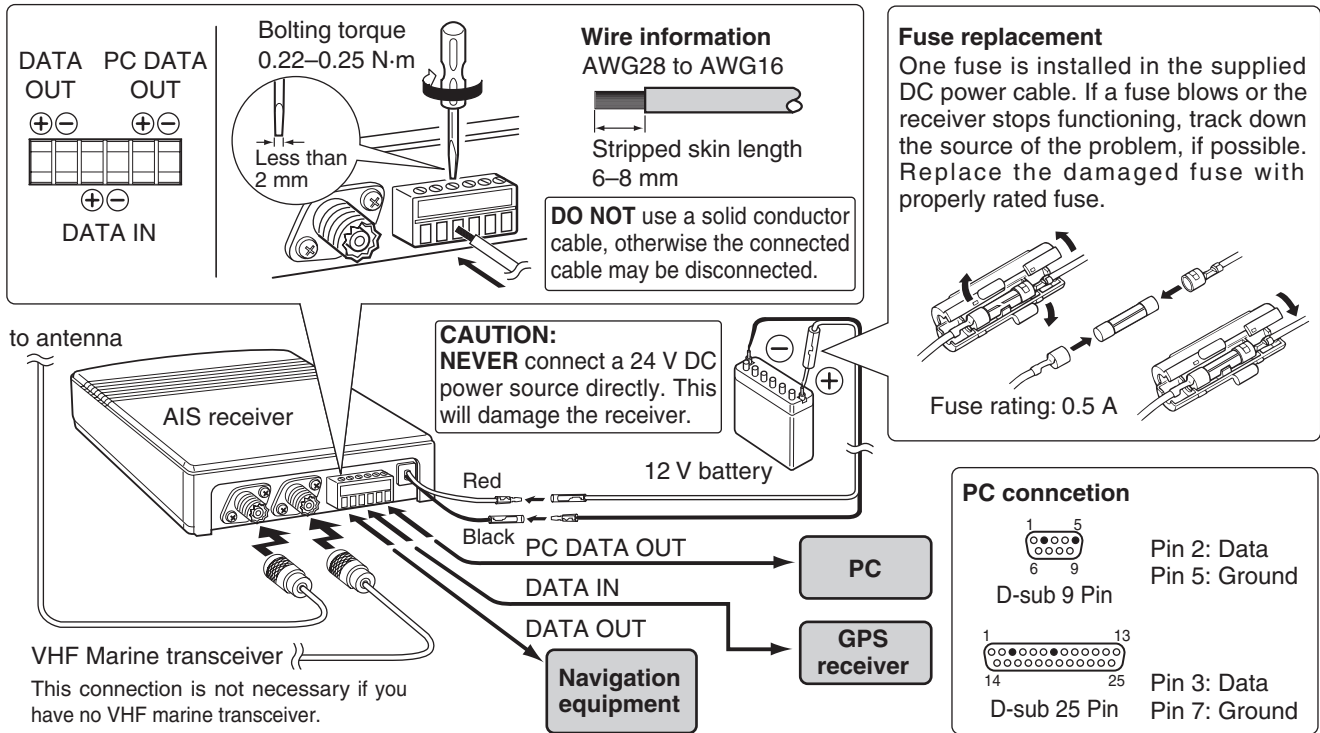
PANEL DESCRIPTIONS



- ① **POWER INDICATOR**
Lights green during power ON.
- ② **ANTENNA CONNECTORS**
 - **[ANTENNA]**
Connects to a VHF marine antenna with a PL-259 connector.
 - **[RADIO]**
Connects to a VHF marine transceiver with a PL-259 connector.
 - VHF marine transceiver: Output power 25 W nominal and transmit frequency range from 156.000 MHz to 161.450 MHz.
- ③ **DC POWER CONNECTOR [12V DC]**
Connects the supplied DC power cable from this connector to an external 12 V DC power source.
- ④ **MULTI CONNECTOR**
 - **[PC DATA OUT]**
Connects to a PC.
 - **[DATA IN]**
Connects to a GPS receiver.
 - **[DATA OUT]**
Connects to a navigation equipment.

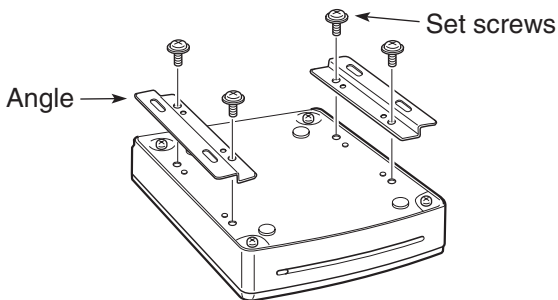
When a VHF marine transceiver is connected with an antenna through the MXA-5000, its receive sensitivity will be reduced (Insertion loss: approx. 3 dB). This is normal, and does not indicate the receive's malfunction.

CONNECTIONS

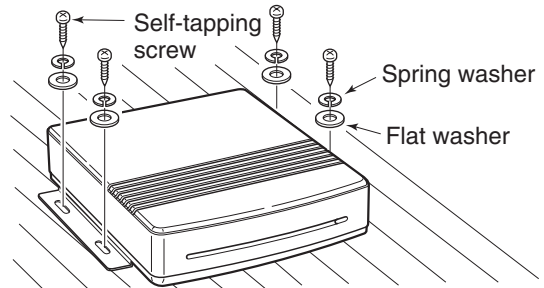


INSTALLATION

- ① Attach the supplied angles to bottom side of the receiver, and tighten the two supplied screws (M3×6 mm) on each angle.



- ② Mount the receiver securely with the four supplied screws (M5×20 mm) to a flat surface which is more than 10 mm (13/32 inch) thick and can support more than 2 kg (4.4 lb).



SPECIFICATIONS

◇ General

- Frequency coverage : 161.975 MHz, 162.025 MHz
- Type of emission : 16K0F1D (GMSK)
- Antenna impedance : 50 Ω nominal
- Operating temp. range : -20°C to +60°C; -4°F to +140°F
- Power supply requirement : 12 V DC nominal (10.8 V to 15.6 V) (negative ground)
- Current drain : 0.25 A
- Dimensions (Projections not included)
 - Without Angle : 132(W) × 34(H) × 155(D) mm
 - 5 3/16(W) × 1 11/32(H) × 6 3/32(D) in
 - Angle attached : 158(W) × 39(H) × 155(D) mm
 - 6 7/32(W) × 1 17/32(H) × 6 3/32(D) in
- Weight (Approx.)
 - Without Angle : 400 g (14.1 oz)
 - Angle attached : 460 g (16.2 oz)
- DATA input interface : IEC61162-1: 2000 (4,800 bps)
 - Sentence formatters : RMC, GGA, GNS, and GLL
 - Input level : Less than 2 mA (When 2 V is applied)

- DATA output interface :
 - To navigation equipment : IEC61162-2 (38,400 bps)
 - Sentence formatter : VDM
 - Output level : 5 V, 40 mA max
 - RS-422 balanced type
 - To PC : Baud rate 38,400 bps
 - Sentence formatter : VDM
 - Output level : ±5 V, ±35 mA typical
 - RS-232C unbalanced type

◇ Receiver

- Sensitivity : 0.35 μV (typical)
- Adjacent channel selectivity : More than 70 dB
- Spurious response : More than 70 dB
- Intermodulation : More than 65 dB
- Hum and noise : More than 40 dB
- Conducted spurious emission : Less than -57 dBm

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

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Count on us!

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FOR CLASS B UNINTENTIONAL RADIATORS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For U.S.A. only

CAUTION!: Changes or modifications to this device, not expressly approved by Icom Inc., could void your authority to operate this device under FCC regulations.