

■ Installing

You can mount the device on a dashboard using the universal mounting bracket supplied with your device.

CAUTION:

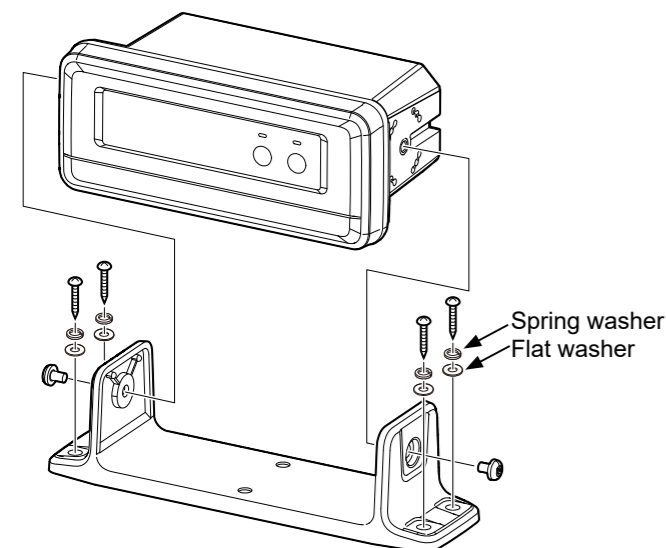
- **KEEP** the device at least 1 meter (3.3 ft) away from the vessel's magnetic navigation compass.
- **INSTALL** the device within approximately 15 meters from the transceiver, and in a place where there are no obstacles between the device and the transceiver.

1. Mount the bracket securely to a surface which is more than 10 mm thick and can support more than 5 kg using the 4 supplied screws (5 × 20 mm).

NOTE: When mounting the device on a board, fix the bracket to the board using the user supplied bolts and nuts, as shown below.

2. Attach the device to the bracket.

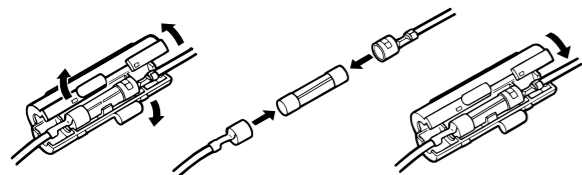
Mounting Example



■ Fuse replacement

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

Fuse rating: 250 V 5 A



Fuse Coding explanation

Fuse Coding: F 250 V 5 A
 Fuse Voltage Rating: 250 Volts
 Fuse Current Rating: 5 Amperes

■ Specifications and options

◇ Specifications

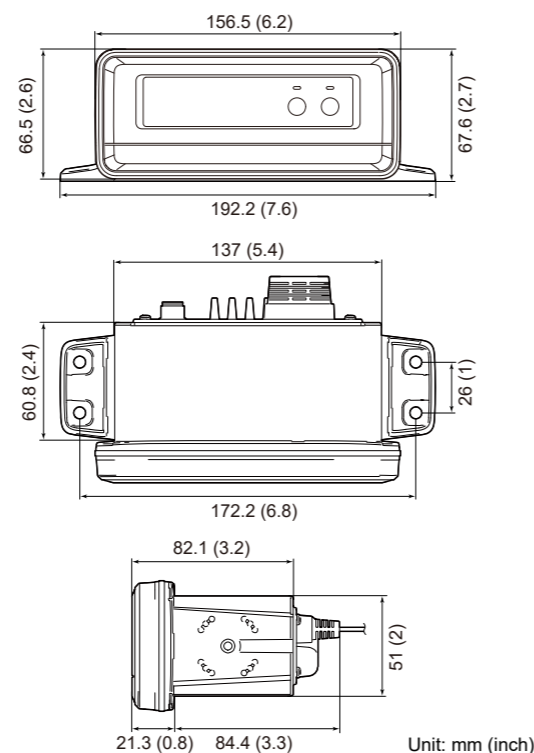
General	
Operating temperature range	-20°C ~ +60°C, -4°F ~ +140°F
Power supply requirement	Negative ground: 13.8 V DC nominal (10.8 ~ 15.9 V)
Current drain (at 13.8 V)	3.5 A maximum
Dimensions (approximate) (projections not included)	156.5 (W) × 67.6 (H) × 82.1 (D) mm, 6.2 (W) × 2.7 (H) × 3.2 (D) in
Weight (approximate)	430 g, 15.2 oz

Wireless LAN	
Wireless LAN standard	IEEE802.11 b/g/n
Authentication and Encryption	WEP (64/128 bit), WPA-PSK (TKIP), WPA2-PSK (AES)
Channels	1 to 13 (2.4 GHz band) ① May differ depending on the country of use.
Output power	Less than 10 mW/MHz

Hailer	
Audio output power	More than 25 W into a 4 Ω load

RX Hailer	
Audio output power	More than 20 W into a 4 Ω load

◇ Dimensions



◇ Options

- SP-37 HORN SPEAKER

ICOM

INSTRUCTIONS

EXTERNAL INTERFACE BOX CT-M500

■ Important

SAVE THESE INSTRUCTIONS— These instructions contain important operating instructions for the CT-M500.

This device connects to a transceiver through a Wireless LAN (WLAN) and expands the transceiver's functions.

For the WLAN setting, the functions that you can operate when connecting to the transceiver, and so on, see the transceiver's manual for details.

The transceiver's manual can be downloaded from the following internet address:

<https://www.icomjapan.com/support/>

① These instructions are described based on the CT-M500 firmware version 1.00.

■ Explicit definitions

WORD	DEFINITION
⚠ WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

■ Définitions explicites

TERME	DÉFINITION
⚠ AVERTISSEMENT !	Risque de blessures corporelles, d'incendie ou de choc électrique.
MISE EN GARDE	Risque de dégât matériel.
REMARQUE	Inconvénient seulement, en cas de nonrespect. Absence de risque de blessures corporelles, d'incendie ou de choc électrique.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:

- Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
- The use of Icom devices with any equipment that is not manufactured or approved by Icom.

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Thank you for choosing this Icom product.
READ ALL INSTRUCTIONS carefully and completely before using this product.

■ FCC information

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.

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

■ Information FCC

Cet appareil est conforme à la partie 15 de la réglementation FCC. Son fonctionnement est soumis à la condition que cet appareil ne provoque pas d'interférences nocives.

Cet équipement a été testé et reconnu conforme aux limites fixées pour un appareil numérique de classe B, conformément à la partie 15 de la réglementation FCC. Ces limites ont été fixées afin d'assurer une protection raisonnable contre les interférences nocives dans une installation résidentielle. Cet équipement génère, utilise et peut émettre un rayonnement de fréquence radio. S'il n'a pas été installé conformément aux instructions, il peut par ailleurs créer des interférences perturbant les communications radio.

Toutefois, il n'y a aucune garantie que les interférences ne se produiront pas dans une installation particulière. Si cet équipement crée des interférences perturbant la réception de la radio ou de la télévision, comme cela peut être déterminé en éteignant et en allumant l'équipement, l'utilisateur est invité à essayer de corriger l'interférence en prenant une ou plusieurs des mesures ci-après :

- Réorienter ou changer de place l'antenne de réception.
- Éloigner l'équipement et le récepteur.
- Connecter l'équipement sur une prise sur un autre circuit que celui sur lequel le récepteur est connecté.
- Faire appel au revendeur ou à un technicien radio/TV expérimenté.

MISE EN GARDE : Tout changement ou modification, non expressément approuvé par Icom Inc., peut annuler l'autorisation de l'utilisateur à utiliser cet appareil conformément à la réglementation FCC.

■ Recommendation

CLEAN THE DEVICE THOROUGHLY WITH FRESH WATER after exposure to saltwater, and dry it before using. Otherwise, the device's keys may become unusable, due to salt crystallization.

NOTE: If the device's waterproof protection appears defective, carefully clean it with a soft, damp (fresh water) cloth, then dry it before operating. The device may lose its waterproof protection if the case is cracked or broken, or the device has been dropped. Contact your Icom distributor or your dealer for advice.

■ About CE and DOC



Hereby, Icom Inc. declares that the versions of CT-M500 which have the "CE" symbol on the product, comply with the essential requirements of the Radio Equipment Directive, 2014/53/EU, and the restriction of the use of certain hazardous substances in electrical and electronic equipment Directive, 2011/65/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://www.icomjapan.com/support/>

■ Precautions

⚠ **WARNING! NEVER** connect the device directly to an AC outlet. This may cause a fire or an electric shock.

⚠ **WARNING! NEVER** connect the device to a power source of more than 16 V DC such as a 24 V battery. This connection could cause a fire or damage the device.

⚠ **WARNING! NEVER** reverse the DC power cable polarity. This could cause a fire or damage the equipment.

⚠ **WARNING! NEVER** cut the DC power cable between the DC power connector and the fuse holder. If an incorrect connection is made after cutting, the device may be damaged.

⚠ **WARNING! NEVER** operate the device during a lightning storm. It may result in an electric shock, cause a fire or damage the device. Always disconnect the power source and other connectors before a storm.

⚠ **WARNING! NEVER** place the device where normal operation of the vessel may be hindered, or where it could cause bodily injury.

CAUTION: DO NOT use or leave the device in areas with temperatures below -20°C \sim $+60^{\circ}\text{C}$ (-4°F \sim $+140^{\circ}\text{F}$), or in areas subject to direct sunlight, such as a dashboard.

CAUTION: DO NOT use harsh solvents such as Benzine or alcohol when cleaning. This could damage the equipment surfaces. If the surface becomes dusty or dirty, wipe it clean with a soft, dry cloth.

NEVER place the device in an insecure place to avoid inadvertent use by unauthorized persons.

BE CAREFUL! The device's rear panel may become hot when continuously using for long periods of time.

BE CAREFUL! The device meets IPX7 requirements for waterproof protection*. However, once the device has been dropped, or the waterproof seal is cracked or damaged, waterproof protection cannot be guaranteed because of possible damage to the case or the waterproof seal.

* Except for the DC power connector and AF Out leads.

NOTE: Install the device more than 1 meter from the vessel's magnetic navigation compass.

NOTE: Install the device within approximately 15 meters from the transceiver or an existing access point, and in a place where there are no obstacles between the device and the transceiver.

IC-M510 and CT-M500 RF Safety warning

An internal Wireless LAN module and an antenna are supplied with the IC-M510 and CT-M500. To comply with FCC/ISED RF Exposure for the installed Wireless LAN unit, the device should be installed and operated with a minimum distance of 20 cm between the device and all persons. No other transmitting antenna is permitted to be located within 20 cm of the device.

■ Disposal



The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

■ Précautions

⚠ **AVERTISSEMENT ! NE JAMAIS** relier l'appareil à une prise CA. Cela pourrait provoquer un choc électrique ou un incendie.

⚠ **AVERTISSEMENT ! NE JAMAIS** brancher l'appareil sur une source d'alimentation supérieure à 16 V CC, comme une batterie de 24 V. Cela pourrait endommager l'appareil.

⚠ **AVERTISSEMENT ! NE JAMAIS** inverser la polarité du câble d'alimentation CC lors de la connexion à une source d'alimentation. Cela pourrait endommager l'émetteur-récepteur.

⚠ **AVERTISSEMENT ! NE JAMAIS** couper le câble d'alimentation CC entre la prise CC et le porte-fusible. L'appareil peut être endommagé par la suite en cas de connexion inappropriée.

⚠ **AVERTISSEMENT ! NE JAMAIS** utiliser l'appareil durant un orage. Cela risquerait de provoquer un choc électrique, un incendie ou d'endommager l'appareil. Toujours débrancher la source d'alimentation et autre connecteurs avant une tempête.

⚠ **AVERTISSEMENT ! NE JAMAIS** installer l'appareil à un emplacement où il pourrait gêner le fonctionnement normal du navire ou provoquer des blessures corporelles.

MISE EN GARDE : NE PAS utiliser ou placer l'appareil dans des zones où la température est inférieure à -20° ou supérieure à $+60^{\circ}$ ou dans des zones soumises au rayonnement solaire direct, telles le tableau de bord.

MISE EN GARDE : NE PAS utiliser de dissolvants agressifs tels que du Benzène ou de l'alcool lors du nettoyage, car ils endommageraient les surfaces de l'appareil. Si l'appareil est poussiéreux ou sale, nettoyez-le avec un tissu doux et sec.

NE placez **JAMAIS** l'appareil dans un endroit non sécurisé pour éviter toute utilisation par des personnes non autorisées.

MISE EN GARDE : La face arrière de l'appareil chauffe en cas d'utilisation continue sur une longue durée.

MISE EN GARDE : L'appareil est étanche conformément à la norme IPX7*. L'étanchéité ne peut plus être garantie après une chute de l'appareil en raison des risques de fissures du boîtier, de dégradation du joint d'étanchéité, etc.
* Les connecteurs sur le panneau arrière ne sont pas étanche IPX7.

REMARQUE : Installer l'appareil à au moins 1 m du compas de route du navire.

REMARQUE : Installez l'appareil à environ 15 mètres de l'émetteur-récepteur ou d'un point d'accès existant et dans un endroit où il n'y a aucun obstacle entre l'appareil et l'émetteur-récepteur.

Si l'appareil avant est exposé à de l'eau de mer, **ASSUREZ-VOUS DE LE NETTOYER ENTIÈREMENT AVEC DE L'EAU DOUCE** lorsque la protection étanche sur l'appareil avant fonctionne. Dans le cas contraire, les touches risquent de ne plus fonctionner en raison de la cristallisation du sel.

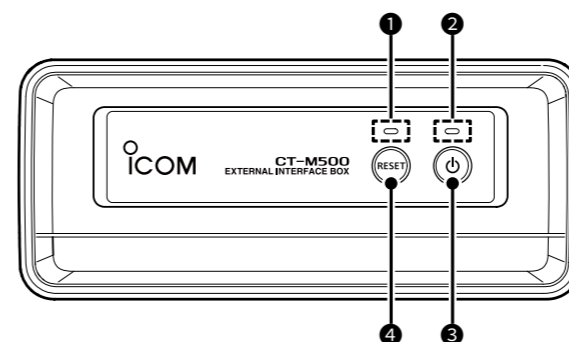
Avertissement de sécurité RF IC-M510 et CT-M500

Un module LAN sans fil interne et une antenne sont fournis avec l'IC-M510 et le CT-M500. Pour se conformer à l'exposition aux RF FCC / ISED pour l'unité LAN sans fil installée, l'appareil doit être installé et utilisé à une distance minimale de 20 cm entre l'appareil et toutes les personnes. Aucune autre antenne d'émission n'est autorisée à être située à moins de 20 cm de l'appareil.

■ Electromagnetic Interference

When you use a Wireless LAN, pay attention to the following: Wireless LAN products operate in the 2.4 GHz band. The 2.4 GHz band is also used by other devices, such as Bluetooth devices, microwave ovens, RFID systems, amateur radio stations, and so on. When using this device near such devices, interference may occur, causing a decrease in communication speed, and an unstable connection. In such cases, use this device away from the other devices, or stop using those devices.

■ Panel description



◇ Front panel

① STATUS INDICATOR

Blinks green: Searching the transceiver.
Lights green: Connecting to the transceiver.
Lights red: Entering the WLAN Setup mode and waiting until the transceiver sets the WLAN setting.

② POWER INDICATOR

Lights blue when the device is turned ON.

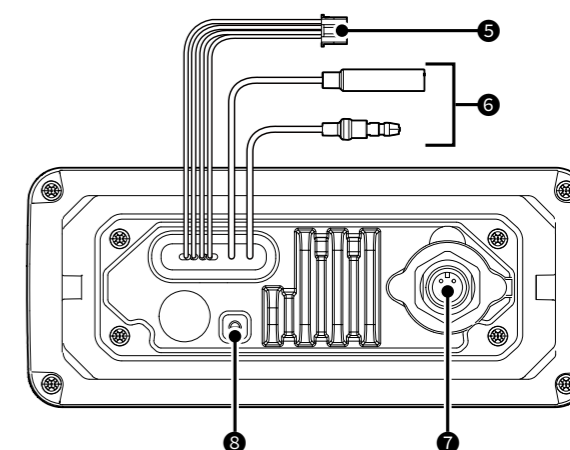
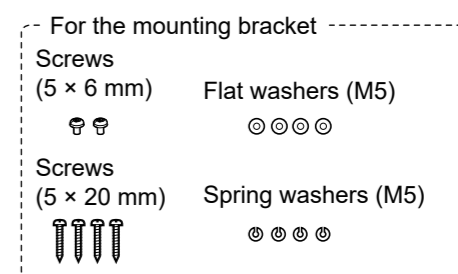
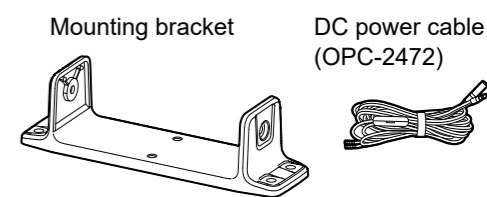
③ POWER KEY [⏻]

Hold down for 1 second to turn the device ON or OFF.
① The device automatically connects to the transceiver.
② If the WLAN setting is not set, the device enters the WLAN Setup mode and waits until the transceiver sets the WLAN setting.

④ RESET KEY [RESET]

Hold down [RESET] for 3 seconds when the device is turned ON to reset the WLAN setting.
① The Status indicator blinks red while holding down [RESET].
② The device also restarts in the WLAN Setup mode and waits until the transceiver sets the WLAN setting.

■ Supplied accessories



◇ Rear panel

⑤ AF OUT LEADS

Connects to an External Horn Speaker.
Blue: External Horn Speaker (+)
Gray: External Horn Speaker (-)
Black, Orange: NC (Disconnected)

NOTE: The connectors are attached to keep the leads together. Before connecting to a piece of equipment, cut the leads to remove the connector.

⑥ DC POWER CONNECTOR

Connects to a 13.8 V DC power source.
(+: Red, -: Black)

⑦ NMEA 2000 CONNECTOR

Connects to an NMEA 2000 network.

⑧ GROUND TERMINAL

Connects to a vessel ground to prevent electrical shocks and interference from other equipment occurring. Use a PH M3 x 6 screw (user supplied).

CAUTION: After connecting the DC power cable and AF Out leads, cover the connector and leads with an adhesive tape, as shown below, to prevent water seeping into the connection.

