ICOM

INSTRUCTION MANUAL

MARINE RADAR

MR-1210RII

(Radome type)

MR-1210TII

(Open array type: 4 kW)

MR-1210TIII

(Open array type: 6 kW)

Icom Inc.

SYSTEM COMPONENTS

MODEL NAME	DISPLAY UNIT	SCANNER UNIT
MR-1210RII	12.1-inch Color LCD	EX-2714 (Radome type)
MR-1210TII		EX-2780 (Open array type: 4 kW)
MR-1210TIII		EX-2780 (Open array type: 6 kW)

SUPPLIED ACCESSORIES

• 12.1-inch Color LCD display unit

	Quantity
① Front cover	1
② NMEA connector (PLT-167-P-R)	1
③ NMEA connector (PLT-168-P-R)	1
④ Spare fuse (FGB 15 A)	1
⑤ Spare fuse (FGB 5 A: for over 24 V power supply)	1
⑥ DC power cable	1
⑦ Mounting bracket	1
⑧ Mounting knob bolts	2
⑨ Installation bolts (M6×30)	5
⑩ Installation nuts (M6)	5
⑪ Spring washers (M6)	10
⑫ Flat washers (M6)	10
⑬ Instruction manual	1
⑭ Operating guide	1
⑮ Display unit template	1
⑯ EX-2714 template	1
⑰ EX-2780 template	1

• **EX-2714** (Radome type unit)

	Quantity
① System cable (15 m)	1
② Installation bolts (M10×50)	4
③ Installation bolts (M10×25)	4
④ Installation nuts (M10)	4
⑤ Flat washers (M10)	4
⑥ Spring washers (M10)	4

• **EX-2780** (Open array type unit)

	Quantity
① System cable (20 m)	1
② Installation bolts (M10×40)	4
③ Installation nuts (M10)	4
④ Flat washers (M10)	4
⑤ Spring washers (M10)	4
⑥ Allen wrench	1
⑦ Cap bolts (M8×18 mm)	4
⑧ Belleville washers (8L)	4
⑨ Sealing washers (T)	4
⑩ Flat washers (M8)	4
⑪ Flat washers (AW)	4
⑫ Ferrite EMI filter	1

The MR-1210RII/MR-1210TII/MR-1210TIII are supplemental aids to navigation and are not intended to be a substitute for accurate and current nautical charts.

Thank you for choosing this Icom product. The **MR-1210RII, MR-1210TII,** and **MR-1210TIII** MARINE RADARS are designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

IMPORTANT

READTHIS INSTRUCTION MANUAL CAREFULLY before attempting to operate the radar.

SAVE THIS INSTRUCTION MANUAL. This manual contains important safety and operating instructions for the MR-1210RII/MR-1210TII/MR-1210TIII.

FEATURES

The **MR-1210RII**, **MR-1210TII**, and **MR-1210TIII** MARINE RADARS are designed especially for fishing boats. It has powerful transmitting power, a 12.1-inch Color LCD display and many other advanced features.

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠ **DANGER!**	Personal death, serious injury or an explosion may occur.
⚠ **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.

BE CAREFUL!

SART signals may not be detected and may not be displayed on the screen depending on the **SEA**, **RAIN** or **IR** settings.

Follow the settings as below to detect the SART signals on the screen.

① Select the screen range between 6 NM to 12 NM with **[+/–]**. (pp. 1, 16)
② Set the **[GAIN]** as high as possible. (pp. 2, 16)
③ Set the **[SEA]** to minimum. (pp. 2, 16)
④ Set the **[RAIN]** to minimum. (pp. 2, 16)
⑤ Turn OFF the Interference Rejection (IR) function. (p. 19)
⑥ Turn OFF the Echo Stretch function. (p. 19)

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 marine radar with any equipment that is not manufactured or approved by Icom.

PRECAUTIONS

For Display unit:

⚠ **WARNING! NEVER** let metal, wire or other objects contact the inside of the display unit, or make incorrect contact with connectors on the rear panel. This could cause an electric shock or damage the display unit.

⚠ **WARNING! NEVER** apply AC voltage to the DC connector of the display unit. This could cause a fire or damage the display unit.

⚠ **WARNING! NEVER** apply more than 42 V DC to the DC connector of the display unit. This could cause a fire or damage the display unit.

⚠ **WARNING! NEVER** touch or operate the display unit with wet hands. This could cause an electric shock or damage the display unit.

⚠ **WARNING! NEVER** open the display unit. There are no user adjustment points. This could cause an electric shock and incorrect reassembly may cause a fire hazard.

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

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

⚠ **WARNING! NEVER** remove the fuse holder on the DC power cable. Excessive current caused by a short could cause a fire or damage the display unit.

CAUTION: DO NOT use or place the display unit in areas with temperature below –15˚C (+5˚F) or above +55˚C (+131˚F).

CAUTION: DO NOT use harsh solvents such as Benzine or alcohol when cleaning, the display unit, as they will damage the display unit surfaces.

CAUTION: DO NOT place the display unit in excessively dusty environments.

DO NOT place the display unit near heating equipment or in direct sunlight or where hot or cold air blows directly onto it.

DO NOT place the display unit in areas that could block air passage or put anything around the display unit. This will obstruct heat dissipation.

KEEP the display unit out of the reach of unauthorized persons.

KEEP the display unit away from heavy rain, and never immerse it in the water.

The display unit meets IPX4 requirements for splash resistance when the supplied connection cable, scanner unit are connected.

However, if it is dropped, splash resistance cannot be guaranteed because of possible damage to the case or the waterproof seals.

The LCD display may have cosmetic imperfections that is displayed as small dark or light spots. This is not a malfunction or defect, but a normal characteristic of LCD display.

For Scanner unit:

⚠ **DANGER: HIGH VOLTAGE! NEVER** open the scanner unit. The scanner unit contains high voltage that could be fatal. And there are no user adjustment points. All repairs and adjustments MUST be made by a qualified electronics technician at your Marine Navigation Dealer.

For qualified electronics technician only:

⚠ **DANGER: HIGH VOLTAGE!** High voltages of up to 3,500 volts are used in the scanner unit. Although prudent measures for safety have been adopted, sufficient care must be taken in the operation, maintenance and adjustment of the scanner unit. Electric shock of 1,000 volts or more may cause electrocution and death, even an electric shock of only 100 volts may be fatal.

⚠ **DANGER: HIGH VOLTAGE! DO NOT** turn OFF the radar's power and do not reach inside the scanner unit before you have:

- discharged the capacitors by disconnecting the system cable from the radar unit for 5 minutes.
- checked that no electric charges remain inside the device.

Also, it is recommended to wear dry insulated rubber gloves. **NEVER** use both hands simultaneously, keep one hand in your pocket.

⚠ **WARNING: RADIATION HAZARD!**
Radiation emitted from the scanner unit can be harmful, particularly to your eyes. To avoid harmful radiation, turn OFF the radar's power before working on the scanner unit.

DO NOT use or place the scanner unit in areas with temperature below –25˚C (–13˚F) or above +70˚C (+158˚F).

NEVER immerse the scanner unit in the water.
The scanner unit meets IPX6* requirements for high-pressure water jet resistance.

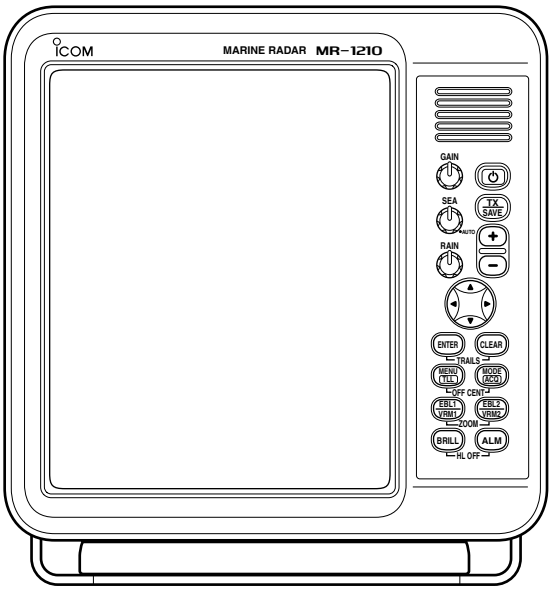
However, if the scanner unit is dropped, high-pressure water jet resistance cannot be guaranteed because of possible damage to the cases or the waterproof seals.

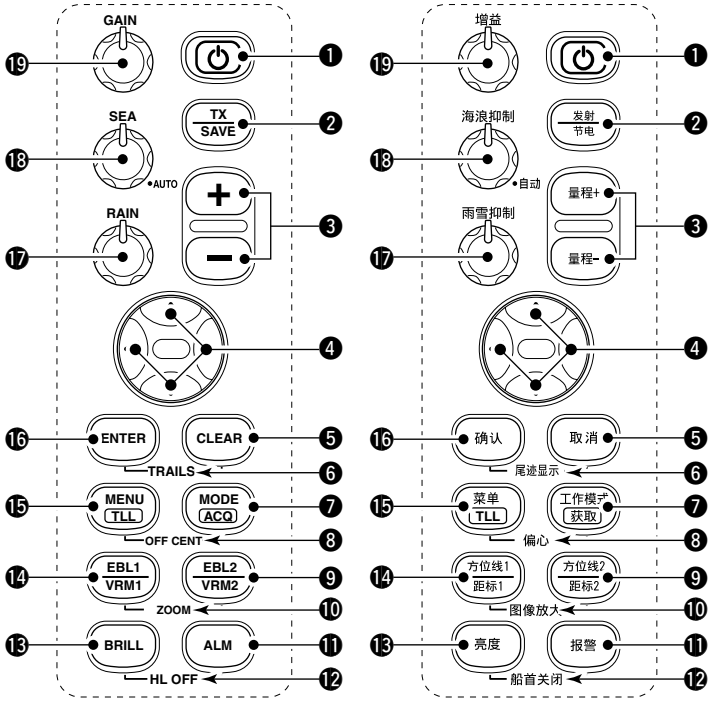
* Except for the cable connectors. They meet IPX4 requirements while connecting to the radar unit.

TABLE OF CONTENTS

1 PANEL DESCRIPTION

■ Front panel





Control panel (English) Control panel (Chinese)

❶ POWER SWITCH [⏻] (p. 16)
Push to turn the radar power ON or OFF.
- The initial screen is displayed and a beep sounds after the power has been turned ON.
- The magnetron inside the scanner unit warms up for 90 seconds and the warm up time is counted down on the screen.

❷ TRANSMIT/SAVE KEY [TX (SAVE)]/ [发射(节电)]
- ➥ Push to toggle between the TX mode and the standby mode. (p. 16)
- ➥ Hold down for 1 second to turn ON the power save function. The radar for TX interval scan is fixed at 10 revolutions. (p. 22)
  - Select the save time in the System menu.

❸ RANGE UP/ DOWN KEYS [+]/[–]/ [量程+]/[量程–] (p. 16)
Push [+] to increase the screen range.
Push [–] to decrease the screen range.

❹ UP, DOWN, LEFT, RIGHT KEYS [▲] [▼] [◀] [▶]
- ➥ Sets the EBLs, VRMs, alarm area, ATA target, AIS target, and so on.
- ➥ In the Menu screen, push [◀] or [▶] to select the Menu group, or push [▲] or [▼] to select the menu items.
- ➥ In the normal operating mode, push a combination of the [▲]/[◀], [▲]/[▶], [▼]/[◀], or [▼]/[▶] to move the cross line cursor to the upper left, upper right, lower left, or lower right.

❺ CLEAR KEY [CLEAR]/[取消]
- ➥ In the Menu screen, push to cancel the Submenu or Option selection mode. (p. 5)
- ➥ Hold down for 1 second to turn the activated AIS target into a sleeping target. (p. 38)
  - Hold down [ENTER]/[确认] for 1 second to change the sleeping AIS target to an activated target.
- ➥ Hold down for 1 second to release the ATA target or delete the TLL mark. (pp. 32, 52)

❻ TRAILS KEY [TRAILS]/[尾迹显示] (p. 21)
- ➥ Simultaneously push [ENTER]/[确认] and [CLEAR]/[取消] to turn the trail function ON or OFF. This is useful for watching other vessel's tracks, and approximate relative speed.
  - The Trail settings can be changed in the Trail menu.
- ➥ Hold down [ENTER]/[确认] and [CLEAR]/[取消] for 1 second to erase the plotted echoes when the trail function is ON.

❼ MODE•ACQUIRE TARGET KEY [MODE•ACQ]/ [工作模式•获取]
- ➥ Push to select the Head-up (H-UP), Stabilized Head-up (SH-UP), Course-up (C-UP), North-up (N-UP) or True motion (TM) screens.
  - The North-up, Stabilized Head-Up, and Course-up screens can be selected only when a bearing data input is connected. (pp. 42, 63)
  - The TM screen requires bearing data or position data. (pp. 42, 63)
  - The TM screen is not selectable in the 32 NM or higher range.
- ➥ Hold down for 1 second to acquire an ATA target on the cursor. (p. 32)
  - Hold down [CLEAR]/[取消] for 1 second to release the ATA target.

Count on us!

A7155H-1EX-2
Printed in Japan

Icom Inc.
1-1-32 Kamiminami, Hirano-ku, Osaka 547-0003, Japan