

Icom America Systems

ANTENNA RELAY INSTALLATION INSTRUCTIONS

VHF FM REPEATER

IC-FR3000

UHF FM REPEATER

IC-FR4000

Thank you for purchasing the **IC-FR3000/IC-FR4000** series VHF/UHF FM REPEATER. The Repeater is 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.

Please read these instructions thoroughly before operating.

PRECAUTION

⚠ WARNING HIGH VOLTAGE! NEVER attach an antenna or internal antenna connector during transmission. This may result in an electrical shock or burn.

⚠ WARNING HIGH VOLTAGE! NEVER install the antenna at any place that person touch the antenna easily during transmission. This may result in an electrical shock or burn.

⚠ NEVER apply AC to the [BATTERY] terminals on the repeater rear panel. This could cause a fire or damage the repeater.

⚠ NEVER apply more than 16 V DC, such as a 24 V battery, to the [BATTERY] terminals on the repeater rear panel. This could cause a fire or damage the repeater.

⚠ NEVER let metal, wire or other objects touch any internal part or connectors on the rear panel of the repeater. This may result in an electric shock.

⚠ NEVER expose the repeater to rain, snow or any liquids.

AVOID using or placing the repeater in areas with temperatures below -30°C (-22°F) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$). Be aware that temperatures on a vehicle's dashboard can exceed 80°C ($+176^{\circ}\text{F}$), resulting in permanent damage to the repeater if left there for extended periods.

AVOID placing the repeater in excessively dusty environments or in direct sunlight.

AVOID putting anything on top of the repeater. This will obstruct heat dissipation.

Place the repeater in a secure place to avoid inadvertent use by children.

BE CAREFUL! The heatsink will become hot when operating the repeater continuously for long periods.

BE CAREFUL! If a linear amplifier is connected, set the repeater's RF output power to less than the linear amplifier's maximum input level, otherwise, the linear amplifier will be damaged.

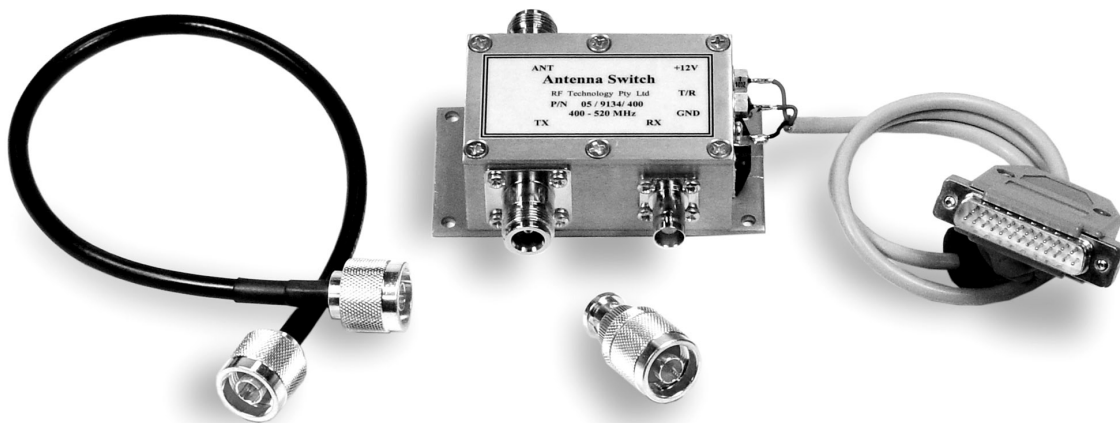
Use Icom microphones only (optional). Other manufacturer's microphones have different pin assignments, and connection to the **IC-FR3000/IC-FR4000** series may damage the repeater.

For U.S.A. only

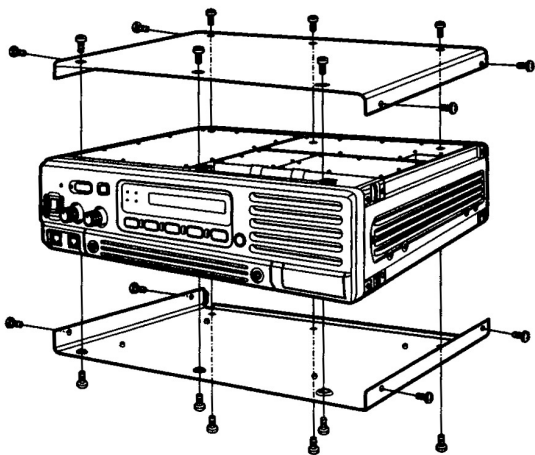
CAUTION: This repeater is intended for use as a fixed base station with the antenna located outdoors on the rooftop or on antenna tower, or indoors with the antenna located near the repeater.

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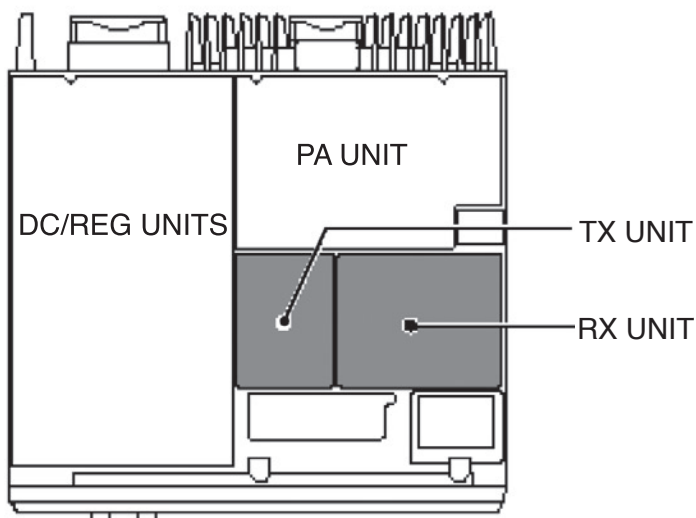
ANTENNA RELAY INSTALLATION for FR3000/FR4000 Repeater



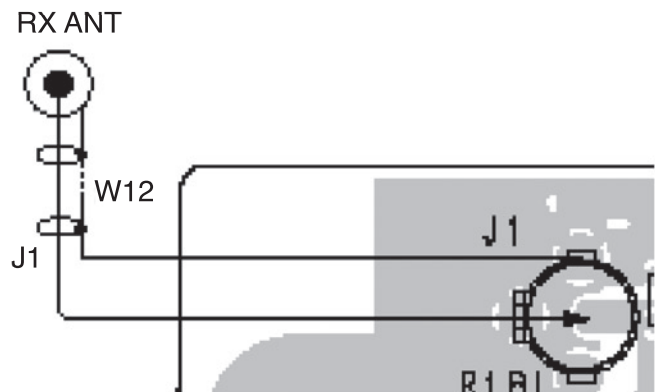
1. Remove top and bottom covers of the repeater.



2. Remove cover for RX unit (located in top compartment of repeater).

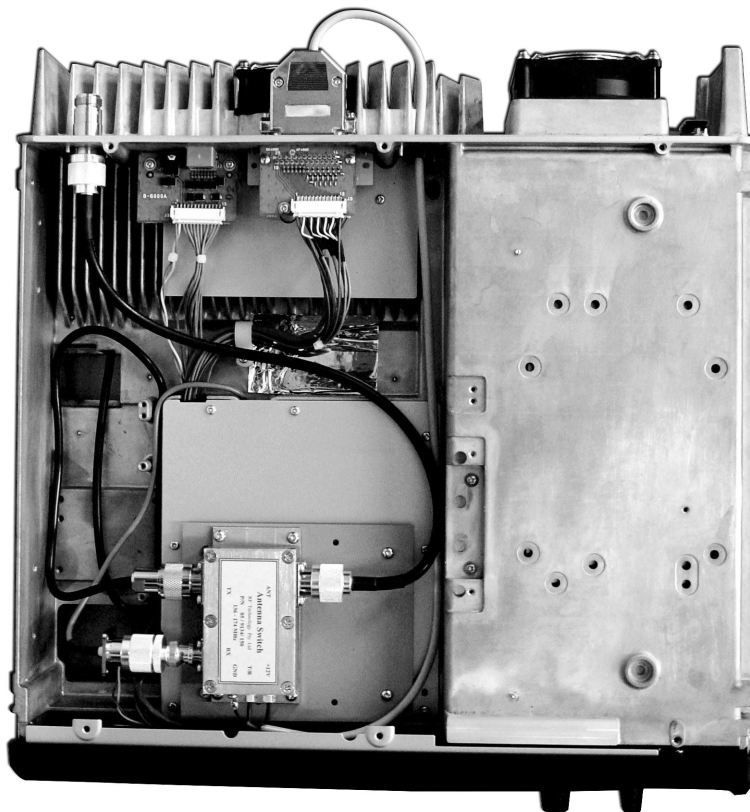


3. Remove RX antenna cable (W12) from J-1 on the RX Unit circuit board.



4. Completely remove N-type "RX" bulkhead connector from rear of chassis.
5. Re-route cable (W12) from N-type connector in a manner that the N-type connector end is loose in the duplexer compartment of the repeater, and the plug end of this cable will be plugged into J-1 of the RX Unit.
6. Mount the Relay to the mounting plate (included in Antenna Relay KIT).
7. Cover the hole where the "RX" bulkhead connector was installed with the plastic cap (included in Antenna Relay KIT).

8. Insert the "Accessory cable" through the plastic cap and solder the wire end of the cable (+12V=Red; T/R=Orange; GND=Black) to the Relay. Connect this cable to the accessory connector at the back of the repeater.
9. Disconnect internal coax N-Male connector from the inside of the TX bulkhead N-Female connector.
10. Connect this cable to the "TX" N-Female connector of the Relay.
11. Connect N-Male to BNC Male adapter (included in Antenna Relay KIT) to the "RX" BNC-Female connector of the Relay.
12. Connect the N-Female connector for the RX cable (W12) to the N-Male to BNC Male adapter.
13. Connect one end of the supplied coax jumper to the Antenna port of the relay.
14. Mount the Relay plate with 4 screws (included in Antenna Relay KIT) securely in the bottom of the duplexer compartment. Orient this plate in a manner that the 4 closely spaced mounting holes are towards the front of the repeater.
15. Connect the other end of the supplied N-Male to N-Male coax jumper to the TX bulkhead N-Female connector located inside on the rear of the chassis.
16. Replace the RX Unit cover.
17. Replace the outer covers.



Count on us!

