



VHF AND UHF FM REPEATERS

IC-FR3000 (VHF FM Repeater)

IC-FR4000 (UHF FM Repeater)



- **50 Watt continuous full duty cycle operation**

This repeater looks as good as it performs. A rugged heatsink, large cooling fans and a high performance power module provide the repeater with a stable 50W at full duty cycle operation.

- **Automatic battery backup system**

The repeater has a built-in power supply unit (100–120V or 220–240V AC). A built-in backup system supports automatic switching to an external power supply (13.6V DC) if the AC power supply fails.

- **Built-in CTCSS, DTCS, 2-Tone, 5-Tone, DTMF encoder & decoder**

Multiple signaling systems are equipped as standard. These systems are fully compatible with Icom F-series radios.

- **Internal space for duplexer and isolator**

The repeater has an internal space to install a duplexer and isolator*. The controls of the duplexer are accessible from the front of the repeater without disassembly. Faster and easier maintenance and adjustment is possible.

* Ask your dealer for details about available duplexers and isolators.

- **16-digit alphanumeric display**

The 16-digit alphanumeric LCD displays channel number, channel name, decoded ID (with 2-Tone and DTMF), etc. Great for use as a base station.

- **Telephone interconnect capability**

- **DTMF remote control capability**

You can control the repeater from a remote location over the air or over a phone line with DTMF.

- **Optional wall mount bracket, MB-77 and 19 inch rack mount bracket, MB-78**



19-inch rack mount, MB-78



Installation on a wall with the MB-77

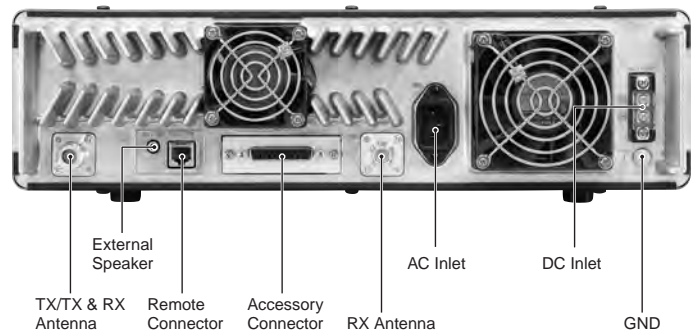
Icom Inc.

ADDITIONAL FEATURES

- Master/Slave backup operation by connecting two repeaters
- Self check function checks for internal errors and alerts with a beep sound or with a phone call
- Accessory connector (D-sub 25-pin) on the rear panel for trunking controller including LTR, PassPort, SmarTrunkII and MPT1327
- Compatible with VEGA tone remote control system
- 5-Tone relay function
- Optional Voice Scrambler UT-109 or UT-110
- CW ID transmitter (DTMF or 5-Tone also selectable)
- Password and kill/stun function for security
- 16-digit alphanumeric display convenient for base station operation
- A programmable button gives access to a customized function

All trademarks are the properties of their respective holders.

REAR VIEW



SPECIFICATIONS

GENERAL

- Frequency coverage : IC-FR3000 148-172, 150-174MHz; IC-FR4000 400-430, 430-450, 450-480MHz
- Number of channels : 32 channels
- Channel spacing : 12.5/25kHz
- PLL channel step : 5, 6.25kHz
- VHF repeater operation : 2.5kHz
- Frequency stability : VHF ±2.5ppm; UHF (U.S.A. version) ±1.5ppm; (Other versions) ±2.5ppm
- Operating temperature range : -30°C to +60°C; -22°F to +140°F
- Power supply voltage : 13.6V DC; 100-120V AC (50/60Hz)*; 220-240V AC (50/60Hz)* (* Depending on version)

- Current drain (at 13.6V DC) : TX VHF (at 50W) 15A; UHF (at 50W) 20A; RX Max. audio 2A typ.; Stand-by 1A typ.
- Antenna impedance : 50Ω (Type-N x 2)
- Dimensions (W×H×D) : 410 × 110 × 360 mm; 16⁵/₃₂ × 4¹¹/₃₂ × 14³/₁₆ in
- Weight : 12kg; 26.4lb (approx.)

TRANSMITTER

- Output power : 50W (high), 10W (low) selectable (at 13.6V DC)
- Max. frequency deviation : ±5.0/2.5kHz (wide, narrow)
- Spurious emissions : 70dB
- Adjacent channel power : 70/60dB (wide/narrow)
- Hum and noise : 40/34dB (wide/narrow)
- Microphone impedance : 600Ω (8-pin modular)

Measurements made in accordance with EIA/TIA-603-A. Compatibility of functions for use with a telephone line may not work in some countries. All stated specifications are subject to change without notice or obligation.

RECEIVER

- Sensitivity : 0.25μV typ. (at 12dB SINAD)
- Adjacent Ch, selectivity : 70/60dB (wide, narrow)
- Spurious response : 70dB
- Intermodulation rejection : 70dB
- Hum and noise ratio : 40/34dB (wide, narrow)
- Audio output power : 2.5W typ. at 10% distortion with a 4Ω load
- Ext. speaker connector : 2-conductor 3.5 (d) mm (1/8"/4Q)

Applicable U.S. Military Specifications

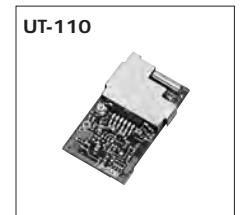
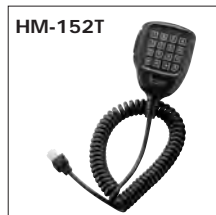
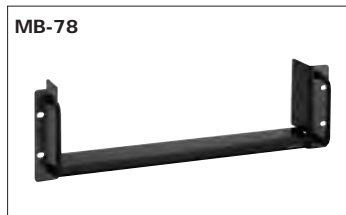
Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

| Standard | MIL 810 C | | MIL 810 D | | MIL 810 E | | MIL 810 F | |
|------------|-----------|---------|-----------|-------|-----------|-------|-----------|-------|
| | Method | Proc. | Method | Proc. | Method | Proc. | Method | Proc. |
| High Temp. | 501.1 | I | 501.2 | I, II | 501.3 | I, II | 501.4 | I, II |
| Low Temp. | 502.1 | I | 502.2 | I, II | 502.3 | I, II | 502.4-3 | I, II |
| Vibration | 514.2 | VIII, X | 514.3 | I | 514.4 | I | 514.5 | I |
| Shock | 516.2 | I | 516.3 | I | 516.4 | I | 516.5 | I |

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

- **MB-77 WALL MOUNT BRACKET**
For mounting the repeater on a wall. Hinges provide easy maintenance while mounted.
- **MB-78 19" RACK MOUNT BRACKET**
The 19 inch rack mount bracket is 3U height (133.5mm; 5¹/₄ in).
- **HM-152 HAND MICROPHONE**
- **HM-152T DTMF MICROPHONE**
- **SM-25 DESKTOP MICROPHONE**
Convenient for dispatching. Equipped with a monitor switch.
- **UT-109 VOICE SCRAMBLER UNIT (Version 01)**
Provides operating security. Up to 32 non-rolling scrambling codes are available.
- **UT-110 VOICE SCRAMBLER UNIT (Version 01)**
Up to 1020 (255 codes × 4 groups) rolling scrambling codes are available.



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