



## 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**

A built-in backup system supports automatic switching to an external power supply (13.6V DC) if the AC power supply fails.

- **Multiple CTCSS & DTCS tone memories with multiple memory channels**

Up to 16 CTCSS/DTCS tones (TX/RX tones respectively) can be programmed in a channel. This feature allows you to share a channel with multiple user groups. You can also give priority/exclusive use to a specified group simply by programming different tones to another memory channel. Ideal for many different applications.

- **Built-in 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.

- **Telephone interconnect capability**

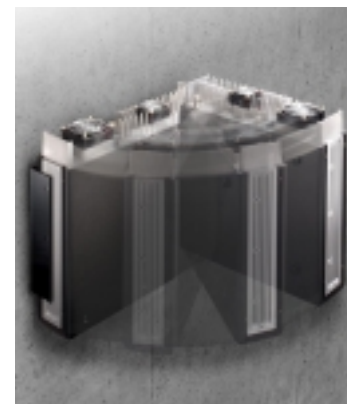
- **DTMF remote control capability**

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

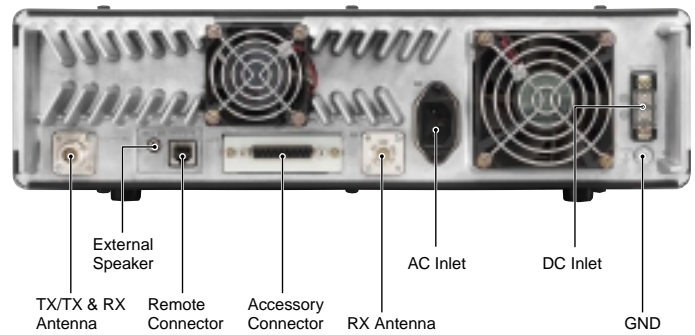
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**ADDITIONAL FEATURES**

- 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

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**REAR VIEW**



**SPECIFICATIONS**

GENERAL	
• Frequency coverage	: IC-FR3000 148–172MHz, 150–174MHz IC-FR4000 400–430MHz, 430–450MHz, 450–480MHz
• Number of channels	: 32 channels
• Channel spacing	: 12.5/25kHz
• PLL channel step	: 5, 6.25kHz (2.5kHz, VHF repeater operation only)
• Frequency stability	: IC-FR3000 ±2.5ppm IC-FR4000 ±1.5ppm (U.S.A. version) ±2.5ppm (Other versions)
• Operating temperature range	: -30°C to +60°C; -22°F to +140°F
• Power supply voltage	: 100–120V AC (50/60Hz), 220–240V AC (50/60Hz) (depending on version) 13.6V DC
• Current drain (at 13.6V DC)	: TX IC-FR3000 (at 50W) 15A IC-FR4000 (at 50W) 20A RX Max. audio 2A typ. Stand-by 1A typ.
• Antenna impedance	: 50Ω (Type-N × 2)
• Dimensions (W×H×D)	: 410 × 110 × 360 mm ; 16 <sup>5</sup> / <sub>32</sub> × 4 <sup>11</sup> / <sub>32</sub> × 14 <sup>3</sup> / <sub>16</sub> in
• Weight	: 12kg ; 26.4lb (approx.)

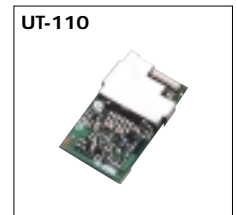
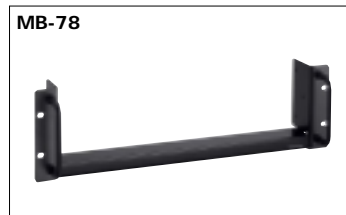
TRANSMITTER	
• Output power	: 50W (high), 10W (low) selectable (at 13.6V DC)
• Max. frequency deviation	: ±5.0kHz (wide) ±2.5kHz (narrow)
• Spurious emissions	: 70dB
• Adjacent channel power	: 70dB (wide) 60dB (narrow)
• Hum and noise	: 40dB (wide) 34dB (narrow)
• Microphone impedance	: 600Ω (8-pin modular)

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

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.

**OPTIONS**

- **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; 5 1/4 in).
- **HM-100N HAND MICROPHONE**
- **HM-100TN 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. Ask your dealer for details.



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Certificate Number Q14190  
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