



VHF AND UHF FM REPEATERS

IC-FR3100 (VHF FM Repeater)
IC-FR4100 (UHF FM Repeater)



25 Watt continuous full duty cycle operation

Employing a large heat sink, cooling fan and high performance power amplifier, the IC-FR3100/FR4100 provides a stable 25W at full duty cycle operation.

Automatic battery backup system

The repeater has a built-in power supply unit (220–240V AC). A built-in backup system supports automatic switching to an external power supply (13.2V DC) if the AC power supply fails.

Built-in CTCSS, DTCS 2-Tone, 5-Tone and 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 simple, convenient 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 5-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.

Wall or rack mount available

With an optional microphone, the repeater can be placed on a desktop as a base station. The optional MB-77 wall mount bracket allows you to set the repeater on a wall. A 19" 3U height rack mount bracket, MB-78, is also available.



19-inch rack mount, MB-78



Installation on a wall with the MB-77

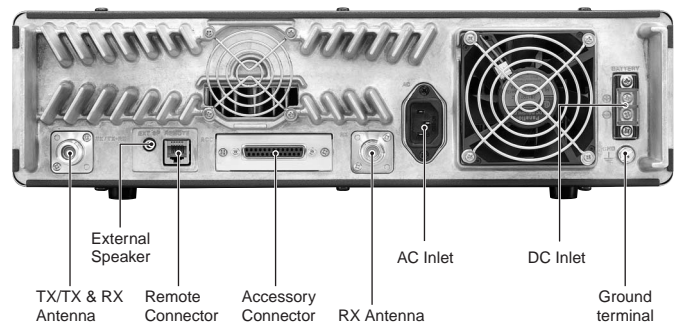
Icom Inc.

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
- A programmable button gives access to a customized function

All trademarks are the properties of their respective holders.

REAR VIEW



SPECIFICATIONS

GENERAL

- Frequency coverage : 150–174MHz (IC-FR3100), 400–430, 450–480MHz (IC-FR4100)
- Number of channels : 32 channels
- Channel spacing : 12.5/25kHz, 12.5/20kHz
- PLL channel step : 5, 6.25kHz
- Operating temperature range : -25°C to +55°C
- Power supply voltage : 13.2V DC and 220–240V AC (50/60Hz)
- Current drain (at 13.2V DC):
 - TX High (at 25W) 10A (VHF), 12A (UHF)
 - RX Max. audio 2A typ.
 - Stand-by 1A typ.
- Antenna impedance : 50Ω (Type-N × 2)
- Dimensions (W × H × D) : 410 × 110 × 360 mm (Projections are not included)
- Weight (approx.) : 12kg

TRANSMITTER

- Output power (at 13.2V DC) : 25W, 5W selectable
- Frequency error : ±1.0kHz
- Max. frequency deviation : ±5.0/4.0/2.5kHz (W/M/N)
- Spurious emissions : 0.25μW/-36dBm
- Adjacent channel power : 70dB (Wide, Middle), 60dB (Narrow)
- Intermodulation attenuation: 40dB
- Microphone impedance : 600Ω (8-pin modular)

RECEIVER

- Sensitivity (at 20dB SINAD): ±0dBμV typ. (emf)
- Squelch sensitivity : -4dBμV typ. (emf)
- Adjacent Ch. selectivity : 70dB (Wide, Middle), 60dB (Narrow)
- Spurious response : 70dB
- Intermodulation rejection : 70dB
- Audio output power : 2.5W typ. at 10% distortion with a 4Ω load
- Ext. speaker connector : 2-conductor 3.5 (d) mm/4Ω

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.

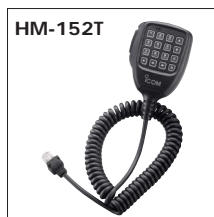
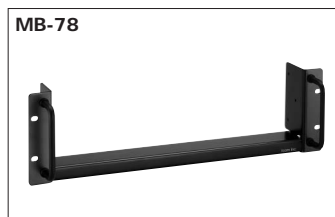
| Standard | MIL 810 C | | MIL 810 D | | MIL 810 E | | MIL 810 F | |
|------------|-----------|---------|-----------|-------|-----------|-------|-----------|-------|
| | Method | Proc. | Method | Proc. | Method | Proc. | Method | Proc. |
| High Temp. | 501.1 | I | 501.2 | I, II | 501.3 | I, II | 501.4 | 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 |

Compatibility of functions for use with a telephone line may not work in some countries.

Measurements made in accordance with ETS 300 086. 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).
- **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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