



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

A built-in backup system supports automatic switching to an external power supply (13.2V 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 independently) can be programmed per 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 simple, convenient 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.

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

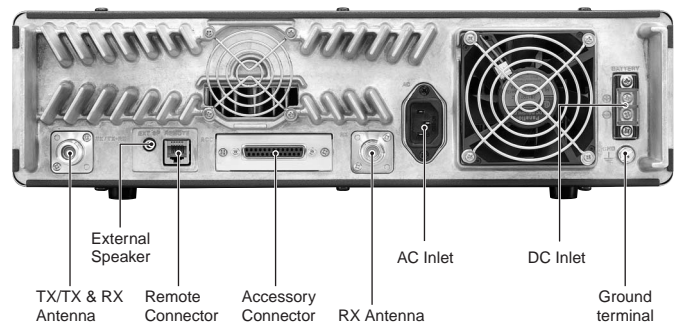
Icom Inc.

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
- 16-digit alphanumeric display for base station operation
- A programmable button gives access to a customized function

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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

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.

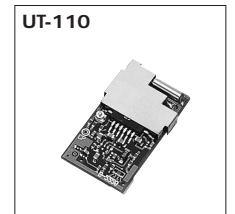
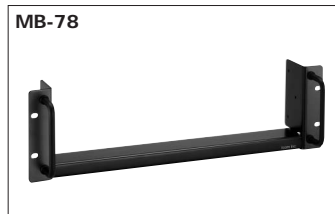
Applicable U.S. Military Specifications

The IC-FR3100/FR4100 meets MIL-STD requirements and strict environmental standards as follows.

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

- **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-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.



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