



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

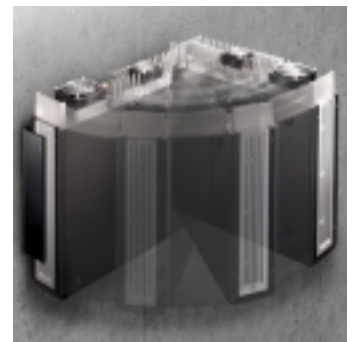
You can control the repeater from a remote location over the air or over a phone line with DTMF.

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

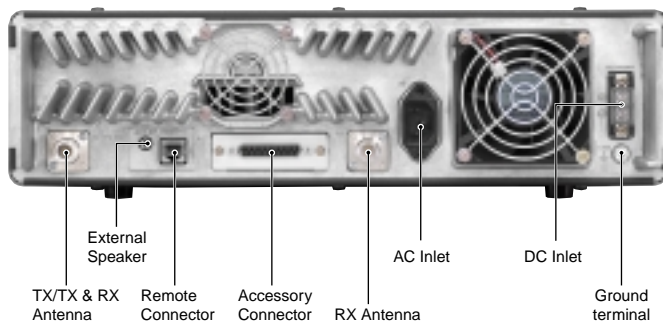
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ADDITIONAL FEATURES

- 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 for base station operation
- A programmable button gives access to a customized function

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REAR VIEW



SPECIFICATIONS

GENERAL			
• Frequency coverage	:		
IC-FR3100	:	150-174MHz	
IC-FR4100	:	400-430MHz, 450-480MHz	
• 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	IC-FR3100 (at 25W)	10A
		IC-FR4100 (at 25W)	12A
	RX	Max. audio	2A typ.
		Stand-by	1A typ.
• Antenna impedance	:	50Ω (Type-N x 2)	
• Dimensions (Proj. not included)	:	410(W) x 110(H) x 360(D) mm	
• Weight (approx.)	:	12kg	

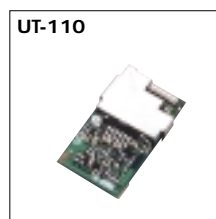
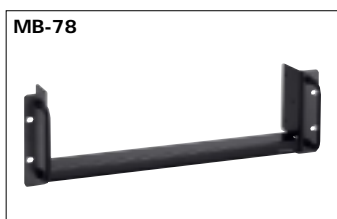
TRANSMITTER	
• Output power	: 25W (high), 5W (low) selectable (at 13.2V DC)
• Frequency error	: ±1.0kHz
• Max. frequency deviation	: ±5.0kHz (wide), ±4.0kHz (mid), ±2.5kHz (narrow)
• Spurious emissions	: 0.25μW/-36dBm
• Adjacent channel power	: 70dB (wide, mid), 60dB (narrow)
• Intermodulation attenuation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

RECEIVER	
• Sensitivity	: ±0dBμV typ. (at 20dB SINAD; emf)
• Squelch sensitivity	: -4dBμV typ. (emf)
• Adjacent channel selectivity	: 70dB (wide, mid), 60dB (narrow)
• Spurious response	: 70dB
• Intermodulation rejection ratio	: 70dB
• Audio output power	: 2.5W typ. at 10% distortion with a 4Ω load
• External 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.

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 x 4 groups) rolling scrambling codes are available.



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Certificate Number Q14190
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