



VHF AND UHF DIGITAL REPEATERS

**IC-FR5200H**

VHF Repeater (50W)

**IC-FR6200H**

UHF Repeater (50W)

# 50W Full Duty Cycle Digital Repeater



**IDAS™**  
ICOM DIGITAL ADVANCED SYSTEM



**TYPE-D**

## 50W 100% Duty Cycle Operation

Employing a high performance power amplifier, together with the solid heatsink built into the chassis, the IC-FR5200H series provides a reliable 100% duty cycle operation at 50W output.

## IDAS, Analog FM and Mixed Mode

The IC-FR5200H series is compatible with both analog FM mode and IDAS conventional and NXDN™ Type-D trunking mode. Program digital and/or analog FM modes per channel. The mixed mode operation allows you to receive both analog FM and IDAS conventional modes and to transmit either mode depending on the received signal.

## 32 Channel Capacity and 5 Programmable Buttons

The 12-digit dot-matrix display, 5 programmable buttons, 32 memory channels and internal speaker allow you to use the repeater as a simple base station or to check repeater activity. LEDs on the front panel show channel conditions.

## Type-D Trunking and Network Controller\*

The Type-D multi-site trunking/conventional functions can be integrated in the repeater. The IP network capability extends your communication coverage and allows you to remotely control the repeater settings.

\*By adding UC-FR5000 & CF-FR5000.

## D-SUB 25-pin Accessory Connector

The IC-FR5200H series has a programmable D-SUB 25-pin accessory connector for connecting external remote control devices. Also, modulation/demodulation signals can be input/output from the D-SUB connector.

## Multiple CTCSS, DTCS Tone and RAN Code Decode

The IC-FR5200H series decodes multiple CTCSS and DTCS as well as digital RAN (Radio Access Number) codes on a per channel basis (up to 16 tones/codes) and downlinks the received signal with a specified tone/code. This function is useful for sharing a channel with multiple groups.



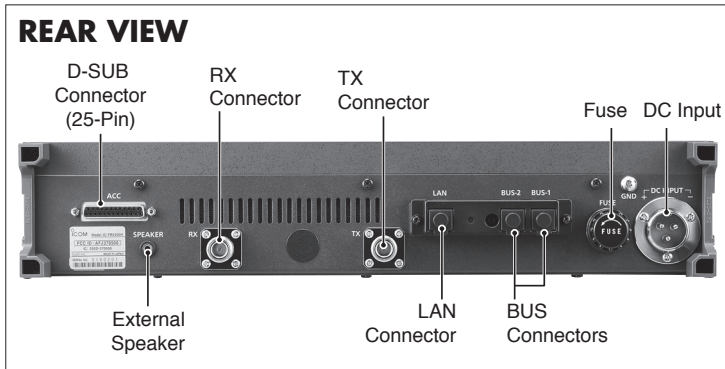


Other Features

- CW ID transmission
- ±0.5ppm high frequency stability (Digital mode)
- 2U low profile for 19-inch rack mount
- Digital voice scrambler provides 15-bit key (about 32,000 codes)
- Built-in inversion voice scrambler (Analog mode)
- Built-in audio compander (Analog mode)
- PTT priority setting (Local Mic., external PTT or repeater operation)
- 5-Tone and DTMF encoder/decoder (Analog mode)
- Normal and priority scan
- Convenient key assign stickers supplied
- Beat cancel capability
- Low voltage alert (Analog mode)

SPECIFICATIONS

	IC-FR5200H	IC-FR6200H
<b>GENERAL</b>		
Frequency coverage	136–174MHz	400–470, 450–512, 450–520, 350–400* MHz (* Non-FCC)
Number of channels	Max. 32 channels	
Channel spacing	6.25/12.5kHz	6.25/12.5/25kHz*
Type of emission	16K0F3E, 11K0F3E/F7E/F7D/F7W, 4K00F1E/F1D/F3E	
Frequency stability	±0.5ppm	
Antenna impedance	50Ω (Type-N x 2)	
Operating temperature range	–30°C to +60°C; –22°F to +140°F	
Power supply voltage	13.6V DC	
Current drain (at 13.6V DC)		
TX 50W	11A	11A
RX Max. audio/Stand-by	1.2A/500mA (LCD backlight OFF)	1.2A/450mA (LCD backlight OFF)
Dimensions (W×H×D)	483×88×360 mm ; 19.02×3.46×14.17 in	
Weight	10kg ; 22lb (approx.)	
<b>TRANSMITTER</b>		
Output power	50W (adjustable to 5W)	
100% duty cycle	50W (at 20–35°C, 24 hours)	
Max. frequency deviation	±5.0kHz/±2.5kHz (W/N)	
Spurious emissions	80dB typ.	
FM hum and noise	52/49dB typ. (W/N)	50/45dB typ. (W/N)
Audio harmonic distortion	1% typ. (40% deviation)	
Digital FSK error	5% Max.	
Microphone impedance	600Ω (8-pin modular)	
<b>RECEIVER</b>		
Sensitivity 12dB SINAD	0.30μV typ.	0.25μV typ.
5% BER	0.25μV typ.	0.25μV typ.
Adjacent channel selectivity	85/56dB typ. (W/N)	78/56dB typ. (W/N)
	68dB typ. (Digital)	63dB typ. (Digital)
Spurious response	80dB (W/N)	80dB (W/N)
	75dBμV emf (Digital)	80dBμV emf (Digital)
Intermodulation rejection	78dB typ. (W/N)	78dB typ. (W/N)
	75dBμV typ. emf (Digital)	75dBμV typ. emf (Digital)
Hum and noise ratio	52/50/66dB typ. (W/N/D)	50/45/55dB typ. (W/N/D)
Audio output power	4.0W typ. at 5% distortion with a 4Ω load	
External speaker connector	2-conductor 3.5 (d) mm (1/8")/4Ω	



OPTIONS

**HAND MICROPHONE HM-152**

**DESKTOP MICROPHONE SM-26**

**EXTERNAL SPEAKERS**  
 SP-35: 2m cable  
 SP-35L: 6m cable

**TRUNKING/NETWORK CONTROL BOARD UC-FR5000**

**MULTI-SITE IP REPEATER LINK CARD CF-FR5000 02**  
 (conventional)  
**CF-FR5000 MT**  
 (conventional & trunking)

Requires UC-FR5000 board

Measurements made in accordance with TIA-603-C (for FM) and EN 301 166 (for Digital). All stated specifications are subject to change without notice or obligation. \* 25kHz bandwidth is no longer available for FCC Part 90 licensees for USA versions. Ask your dealer if you need 25kHz bandwidth.

Applicable U.S. Military Specifications

Standard	MIL 810 G	
	Method	Procedure
Low Pressure	500.5	I, II
High Temperature	501.5	I, II
Low Temperature	502.5	I, II
Temperature Shock	503.5	I-C
Humidity	507.5	II
Vibration	514.6	I
Shock	516.6	I

Also meets equivalent MIL-STD-810-C, -D, -E and -F.

Supplied Accessories

- DC power cable
- Handle kit
- Key assign stickers
- Mounting rack
- Spare fuse

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