



WR700

Single-Frequency Repeater

As a DMR backpack single-frequency repeater, WR700 is small and portable with a compact design. It supports digital conventional, analog conventional, single-frequency repeat (digital) and trunking modes. It can be networked flexibly and conveniently to extend communication range. Together with portable two-way radios, it forms digital communication system solutions that sufficiently satisfy emergency communication needs.

WR700 Single-Frequency Repeater

Functions

- **Multi-Mode Communication**

Support digital conventional, analog conventional, single-frequency repeater (digital) and trunking modes, compatible to conventional systems for smooth analog-to-digital transition; licensed trunking functionality.

- **High Reliability and Durability**

Compliant to the US MIL-STD-810 C/D/E/F/G, achieving excellent performance under demanding environments.

- **Ultrahigh Channel Capacity**

Support up to 1024 channels, 248 zones and 128 channels per zone, achieving more channel applications.

- **Single-Frequency Repeater+CC Verification Optional**

Support single-frequency repeater under digital mode, greatly saving frequency resources and extending communication range. It also supports the option of transferring only carriers with the same CC.

- **Voice Calls**

Support individual calls, group calls, all calls and emergency calls to meet various application needs.

- **Rich Services**

Support various data services and optional functions such as text messages, scanning, emergency alarms, monitoring, stun, kill, revive and lone worker.

- **Voice and Data Encryption**

Support scrambling for an analog channel and 40~256 bits encryption for a digital channel, ensuring secure communication.

- **Multiple Analog Signalings**

Support MDC, DTMF, 2 Tone and 5 Tone signaling, and CTCSS for smooth analog-to-digital transition.

- **Roaming**

Support automatic roaming among all the repeaters of an over IP-based system to communicate via a repeater with the strongest signal.



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Features

- **Small and Light**

Integrated and compact design, portable with a small size and light weight.

- **Dual Keypads**

Panel with channel display, LED indicators, channel key, menu key, alarm key, dial key and on-hook key, audio interface for external hand microphone, and dual keypads for convenient operation.

- **Ultrahigh-Capacity Battery**

Support external large-capacity Lithium-ion battery capable of a battery life of more than 8 hours and convenient installation and replacement.

- **GPS Positioning**

Built-in high-precision GPS positioning modules for transmitting positioning data.

- **Flexible Networking**

Optional backpack accessories for high portability, quick deployment for extended communication range, and fewer blind zones to better meet emergency communication needs.

Solutions

Together with digital two-way radios, the WR700 achieves instant communication outside the coverage of an existing system, expanding the range of direct digital communication. Meanwhile, with the WM840 digital mobile radio and the dispatcher WS1000, the dispatching, centralized dispatching and commanding can be performed over the terminals under the WR700, bringing intelligent communication in blind zones and making direct communication work to its advantages.



Standard Accessories



Charger

AC Power Cord

Battery

Hand Microphone (with Keypad)

Antenna

Optional Accessories



KBP-01 Backpack

Hand Microphone (without keypad)

Programming Cable

GPS antenna

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WR700 Specifications

General	
Frequency Range	VHF: 136-174MHz; UHF: 400-470MHz/350MHz-400MHz
Channel Capacity	1024
Channel Spacing	Analog: 12.5kHz/20kHz/25kHz; Digital: 12.5kHz
Operating Mode	Semi-duplex or single-frequency transfer
Operating Voltage	14.4V (min 10.8V DC, max 16.8V DC)
Battery Capacity	13.4Ah
Operating Temperature	-30 °C ~ +60 °C
Storage Temperature	-40 °C ~ +85 °C
LCD Screen	1.77 inch
Waterproof Rating	IP67
Weight	2.2Kg (without battery); 3.2Kg (with battery)
Dimension (W*H*D)	170*243*48 mm (without battery); 170*243*75mm (with battery)

Transmitter	
Tx Power	Low:5W High:25W
Frequency Stability	±1.5ppm
Hum and Noise	≥35dB@12.5kHz / ≥40dB@20/25kHz
Conducted Spurious Emission	≤-36dBm@<1GHz; ≤-30dBm@>1GHz
Adjacent Channel Power (Digital)	-60dB@12.5kHz
Adjacent Channel Power (Analog)	-60dB@12.5kHz; -70dB@20/25kHz
4FSK Modulation Precision	0%
4FSK Tx BER	≤ 5%
Audio Distortion	AMBE+2™
Vocoder	12.5kHz: 11KOF3E; 20kHz: 14KOF3E; 25kHz: 16KOF3E
FM Modulation	12.5kHz (only data): 7K60FXD; 12.5kHz ;Voice:7K60F1E&7K60FXE; Combination of 12.5kHz
4FSK Modulation	Voice&Data:7K60F1W

Receiver	
Analog Sensitivity	0.22 uV (12dB SINAD)
Digital Sensitivity	0.22 uV (12dB SINAD)
Intermodulation Immunity	ETSI: ≥65dB; TIA603: ≥70dB
Adjacent Channel Selectivity	Analog: ≥60dB@12.5kHz, ≥70dB@20/25kHz; Digital: ≥60dB@12.5kHz
Conducted Spurious Emission	< -57dBm
Blocking	ETSI: ≥84dB, TIA603: ≥90dB
Rated Audio Power	3W
Rated Audio Distortion	≤ 5%
Hum and Noise	≥40dB@12.5kHz, ≥43dB@20kHz, ≥45dB@25kHz

GPS	
TTF (cold start)	<1 min
TTF (hot start)	<10 sec
Horizontal Accuracy	<10 m