

VHF / UHF Digital Handheld Radio



DM-990V / DM-990U



Robust and compact structure;
Dual Mode (Digital / Analog)

TDMA / Double-Slot Working Mode

Main features:

- High capacity Li-pol battery packs ($\geq 3000\text{mAh}$), operating to 23 hours under 5/5/90 duty cycle in digital mode.
- TDMA working mode
- Dual Mode (Digital / Analog)
- Digital / Analog mode switching on same frequency (Unique)
- Contact supports private call, group call or general call.
- Call Log to check records for incoming, outgoing and missed calls.
- Maximum output audio to be 1000mW
- 16-bit digital voice encryption
- GPS (Optional)
- FM Radio
- 2.4" big & colorful TFT display
- With DVIS-AMBE+2 vocoder (100% compatible with MOTO)



Technical parameters

General specification

Model	DM-990	
Items	UHF	VHF
Channel Zone	16	
Total channel capacity (512)	256 (Analog)	
	256 (Digital)	
Frequency range	400 - 480MHz	136 - 174MHz
Antenna impedance	50Ω	
Dimension(HxWxD)	125 x 60 x 39 mm	
Weight (W/battery)	317g	
Li-pol battery	3000mAh	
Rated voltage	DC:7.4V	
Battery: The average battery life under 5/5/90 duty cycle, and using carrier squelch and TX high power. 3000mAh li-pol battery Analog: 15hours / Digital: 23hours		

Note: The battery working life may have little difference.

Battery capacity maybe change without notice, but the list is standard specification.

Receiver

Frequency	400 - 480MHz	136 - 174MHz
Channel Spacing	12.5kHz / 25kHz	
Frequency stability (-20°C, +60°C, +25°C)	+ / - 1.5ppm	
Analogue sensitivity (12 dB SINAD)	0.3uV / 0.25uV	
Digital sensitivity (5% BER)	0.25uV / 0.20uV	
Intermodulation	65dB	
Adjacent channel selectivity	60dB@12.5kHz / 65dB@25kHz	
Spurious rejection	65dB	
Rated audio	800mw	
Audio distortion @rated audio	3%	
FM hum & noise	-40dB@12.5kHz / -45dB@25kHz	
Audio response	+1, -3dB	
Conducted/ radiated emission	-57dBm	

Transmitter

Frequency	400 - 480MHz	136 - 174MHz
Channel Spacing	12.5kHz / 25kHz	
Frequency stability (-30°C, +60°C, +25°C)	+ / - 1.5ppm	
Low Power	1 W	2 W
High Power	4.5 W	5 W
Modulation restriction	±2.5kHz@12.5kHz/±5.0kHz@25kHz	
FM hum & noise	-40dB@12.5kHz/-45dB@25kHz	
Conducted/radiated emission	-36dBm<1GHz/-30dBm>1GHz	
Adjacent channel selectivity	-60dB@12.5kHz/-65dB@25kHz	
Audio Response	+1, -3dB	
Audio Distortion	3%	
FM modulation	12.5kHz: 11K0F3E 25kHz: 16K0F3E	
4FSK digital modulation	12.5kHz data: 7K60F1D and 7K60FXD 12.5kHz audio: 7K60F1E and 7K60FXE 12.5kHz data and audio: 7K60F1W	
Digital vocoder	AMBE+2™	
Digital agreement	ETSI-TS102 361-1, -2, -3	

GPS (Optional)

Precisely and standard designed for a long-term positioning (95% value > could find 5 satellites @ rated -130dBm signal strength)	
TTF (time to first fix) cold start	< 1 min
TTF (time to first fix) warm start	< 10 s
Horizontal position accuracy	< 10 ms

Accessories & Optional



AC Adaptor

Charger

Li-pol battery

Antenna

Belt Clip

Tie

Power supply for car charger (Optional)

Main Features:

- 16 Zone (Digital Channel: 256; Analog Channel: 256)
- 2.4" big & colorful TFT display
- VOX
- Keylock Auto / Manual
- Squelch Level Setting
- Monitor / Permanent Monitor
- Talk Around
- Busy Channel Lockout
- TOT
- Scan
- Priority Scan
- Keytone Setting
- Private/Group Call Prompt
- LED Indicator
- Battery Save

Digital Features:

- Voice Encryption
- ANI
- Private/Group/General Call
- Kill / Revive
- SMS
- Call Alert
- Remote Detection
- Remote Monitor
- Emergency Alarm
- Call ID List
- Contacts Editable
- Scan List
- Call Log

Analog Features:

- CTCSS
- DCS

Double-slot working chart for TDMA

TR-6000DM Repeater

(With speaker microphone, TR-6000DM can be used as base station / dispatching console separately in digital mode.)



TR-5000DM Mobile Repeater

(With speaker microphone, TR-5000DM can be used as base station / dispatching console separately in digital mode.)



Duplexer

Advantages of TDMA technology:

1. Time Slot 1 and Time Slot 2 of DMR Handheld terminals with TDMA technology can relay and work with repeater simultaneously.
2. Benefiting from the TDMA technology, the radio allows two slots to work on the same channel and frequency non-interferingly. (This doubles availability of spectrum resource).