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RD98X

Powerful Digital Repeater



- Smart Digital-Analog Switch
- Outstanding Heat Dissipation





RD98X

Higher Efficiency,
Richer Experience

As a professional repeater built to the DMR standard, RD98X integrates user concerns and actual requirements. Powerful digital feature, remarkable service quality and considerate ergonomic design will refresh your communication experience!

Applications

Public Safety
Energy and Forestry

Utility
Business

Transportation
Sports



Product Features

- **Smart Digital-Analog Switch**

This repeater supports digital and analog modes. It can smartly select the mode based on the type of received signal, allowing you to enjoy digital delights with ease.

- **Two Slots Solution**

RD98X can operate in two logic channels on the same frequency, which allows twice the user compared with FDMA. This saves your cost in base station and frequency license, and greatly improves channel efficiency.

- **Outstanding Heat Dissipation**

The unique cooling design combining a built-in heat pipe and a temperature-controlled fan ensures quick heat dissipation, enabling the repeater to work normally even with full power.

- **Handy Management Service**

With the management software, you can remotely monitor and diagnose a repeater. In addition, you can either record or play back the audio freely in digital mode.

- **Innovative LED Design**

The innovative LED and the 2.0" HD color screen display the repeater status clearly and provide a pleasing visual experience.

- **Accessory Expansion**

RD98X supports third party to develop accessories via front and rear port, which is achieved through signal streaming and pin control of the ports.

Main Functions

- **Repeater Diagnostic And Control (RDAC)**

RD98X supports Remote (via IP port to connect to internet) and Local diagnostic (via USB) PC applications to monitor, diagnose and control the operation status, thus increasing the maintenance efficiency. Hytera developed RDAC supports multiple network connections to monitor radios in the network.

- **Dual Slot Digital Audio Streaming**

RD98X supports streaming of both the voice slots via the rear port accessory pins, allowing third party for capability expansion.

- **Analog /Digital Auto-switch**

RD98X supports Analog and Digital channel auto switching, allowing efficient frequency sharing between Analog and Digital users during the digital migration.

- **IP Multi-site Connect**

RD98X supports network interconnect via the IP port of repeater to form a private radio network, allowing wide area coverage to meet data and voice communications in dispersed locations.

- **50W High Power**

RD98X supports maximum repeating power of 50W, increasing the system coverage with lesser setup equipments.

- **64 Channels**

RD98X supports maximum of 64 channels, allowing efficient radio network control at different scenarios. The channel change can be performed either via RDAC PC tools, via the repeater's front panels channel knob and via the channel steering from the repeater's rear port.

- **Analog/Digital Operating Mode**

RD98X supports Analog and Digital operating modes.

- **Analog/Digital Back-to-Back Interconnect**

RD98X supports different operating mode of Analog and Digital to interconnect for voice cross patch, allowing Analog users to communicate to the Digital users and vice versa. This allows the smooth migration for Analog users to the digital world!

- **Analog Repeater Knockdown**

RD98X supports repeater knockdown. When an active level is detected on rear accessory pin, the repeater will disable the transmit path.

- **Multi CTCSS/CDCSS Decode**

RD98X supports decoding up to maximum of 16 CDCSS/CTCSS in Analog channels, allowing repeating analog voice from various groups.

- **Analog Scan**

RD98X can identify a radio and grant it access to the repeater. This feature enhances the system security, and prevents the unregistered radios from the system.

- **Repeater Access Management**

RD98X supports radio users access control to the repeater, allows better security to prevent un-authorized users from accessing the radio network.

- **Analog/Digital Telephone Interconnect (via DTMF signaling)**

RD98X supports simplex or duplex calls between radio and telephone users. It allows a radio user to make a telephone call; or a telephone user to make either a Group or Private call to radio users.

- **Continuous Wave Identification (CWID)**

RD98X supports Analog transmission of the repeater identification in Morse code format.

Notes: RD98X, X=0, 2, 5,6 or 8, model number varies geographically. For details, please contact our regional sales representatives.

Specifications

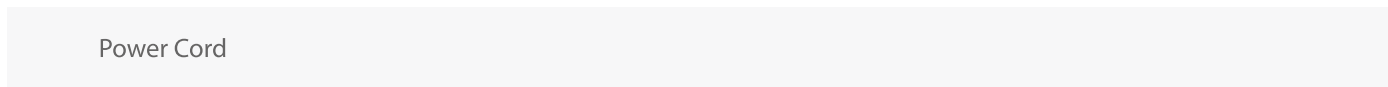
General	Frequency Range	UHF1: 400-470MHz; UHF2: 450-520MHz UHF3: 350-400MHz; VHF: 136-174MHz	
	Channel Capacity	1024	
	Channel Spacing	12.5kHz/20kHz/25kHz	
	Operating Voltage	13.6V±15%	
	Current Drain	Standby	≤1.0A
		Transmit	≤11A
	Frequency Stability	±0.5ppm	
	Antenna Impedance	50Ω	
	Duty Cycle	100%	
	Dimensions (H×W×D)	88 x 483 x 366 mm	
	Weight	8.5kg	
	LCD Display	220 x 176 pixels, 262000 colors; 2.0 inch, 4 rows	
Receiver	Sensitivity	Analog	0.28μV (12dB SINAD); 0.22μV (Typical) (12dB SINAD) 0.4μV (20dB SINAD)
		Digital	0.3μV/BER5%
	Adjacent Channel Selectivity TIA-603 ETSI	65dB @ 12.5kHz; 75dB @ 20/25kHz 65dB @ 12.5kHz; 75dB @ 20/25kHz	
	Intermodulation TIA-603 ETSI	75dB @ 12.5/20/25kHz 70dB @ 12.5/20/25kHz	
	Spurious Response Rejection TIA-603 ETSI	80dB @ 12.5/20/25kHz 80dB @ 12.5/20/25kHz	
	Hum and Noise	40dB@12.5kHz 43dB@20kHz 45dB@25kHz	
	Rated Audio Power Output	0.5W	
	Rated Audio Distortion	≤3%	
	Audio Response	+1 ~ -3dB	
	Conducted Spurious Emission	<-57dBm	

Transmitter	RF Power Output	1-50W
	FM Modulation	11K0F3E @ 12.5kHz; 14K0F3E @ 20kHz; 16K0F3E @ 25kHz
	4FSK Digital Modulation	12.5kHz Data Only: 7K60FXD; 12.5kHz Data & Voice: 7K60FXW
	Conducted/Radiated Emission	-36dBm ≤1GHz; -30dBm >1GHz
	Modulation Limiting	±2.5kHz @ 12.5kHz; ±4.0kHz @ 20kHz; ±5.0kHz @ 25kHz
	FM Hum & Noise	40dB @ 12.5kHz; 43dB @ 20kHz; 45dB @ 25kHz
	Adjacent Channel Power	60dB @ 12.5kHz; 70dB @ 20/25kHz
	Audio Response	+1 ~ -3dB
	Audio Distortion	≤3%
	Digital Vocoder Type	AMBE+2™, SELP, NVOC, COMM
Digital Protocol	ETSI-TS102 361-1,-2,-3	

Environmental Specifications	
Operating Temperature	-30°C~+60°C
Storage Temperature	-40°C~+85°C

All Specifications are tested according to applicable standards, and subject to change without notice due to continuous development.

Standard Accessories



Optional Accessories

 Palm Microphone SM16A1	 Desktop Microphone SM10A1	 Build-in Duplexer Installation Kit (for DT11-DT17) BRK16	 External Power Supply (300W, backup power applicable) PS22002	 Bracket (2U)(black) BRK12	 Bracket (2U)(grey) BRK14	 Power Cord (10A 12AWG) PWC11	 10pin programming cable (USB) PC37	 Db26 data cable (USB) PC40
 Omni-directional Antenna	 Palm Microphone (IP67) SM16A2	 Back to Back Data Cable PC49	 DT11: Duplexer(Frequency: 380-470MHz) (Frequency Spacing:10MHz)(Non-RoHS) DT12: Duplexer(Frequency: 160-174MHz)(Tx/Rx Spacing:5MHz)(RoHS) DT13: Duplexer(Frequency: 148-160MHz)(Tx/Rx Spacing:5MHz)(RoHS) DT14: Duplexer(Frequency: 330-400MHz)(Tx/Rx Spacing:10MHz)(Non-RoHS) DT15: Duplexer(Frequency: 136-148MHz)(Tx/Rx Spacing:5MHz)(RoHS) DT16: Duplexer(Frequency: 440-480MHz)(Tx/Rx Spacing:5MHz)(RoHS) DT17: Duplexer(Frequency: 480-512MHz)(Tx/Rx Spacing:5MHz)(RoHS) DT23: Duplexer(Frequency: 136-174MHz)(Tx/Rx Spacing:4MHz)(Non-RoHS)					

Pictures above are for reference only and may vary from actual products.



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