Hytera
Respond & Achieve

RD98X
Powerful Digital Repeater

- Smart Digital-Analog Switch
- Outstanding Heat Dissipation

DMR
DIGITAL MOBILE RADIO ASSOCIATION

www.hytera.com

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 - It will refresh your communication experience!

Applications

Public Safety	**Utility**	**Transportation**
Energy and Forestry	**Business**	**Sports**
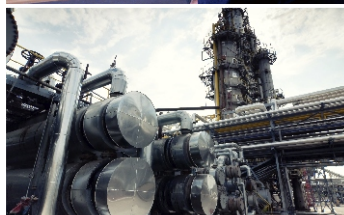
Product Features

● **Smart Digital-Analog Switch**

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

● **Advanced TDMA Technology**

The application of Time Division Multiple Access (TDMA) technology greatly enhances spectrum efficiency, which allows twice the user compared with that of traditional FDMA. Obviously, this can not only save your cost in base station and frequency license, but also relieve the pressure of increasing shortage in spectrum resources.

● **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 display would deliver you the repeater status clearly, as well as a pleasing visual experience.

● **Accessory Expansion**

RD98X supports third party to develop accessories expansion via front and rear port of the Repeater. This is achieved via the signal streaming and pin control through the repeater 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 repeater status, thus increasing the maintenance efficiency. Hytera's developed RDAC is able to support multiple master network connection to allow radio administrator to monitor multiple radio network upcoming!

● **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 Autoswitch**

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 dispersed locations data and voice communications.

● **50W High Power**

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

● **16 Channels**

RD98X supports maximum of 16 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 operating mode of Analog and Digital.

● **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 has allowed the smooth migration for Analog users to the digital world!

● **Analog Repeater Knockdown**

RD98X supports repeater knockdown, that when activated via the repeater's rear accessory pin, will disabled the transmit path of the repeater.

● **Multi CTCSS/CDCSS Decode**

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

● **Analog Scan**

RD98X supports Analog voice and signaling scan, allowing repeating of different Analog voice users from various groups.

● **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 voice communications 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. This feature utilizes the Commercial Off The Shelf (COTS) Analog Phone Patch boxes and a Plain Old Telephone Service (POTS) line to connect the Repeater to the Corporate Office Phone System (PBX) or Public Switched Telephone Network (PSTN).

● **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.
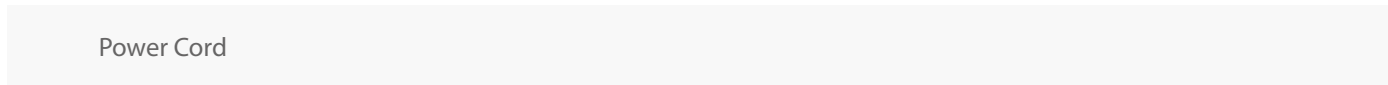
Specifications

General	Frequency Range	UHF1: 400-470MHz; UHF2: 450-520MHz UHF3: 350-400MHz; VHF: 136-174MHz
	Channel Capacity	16
	Channel Spacing	12.5KHz/20KHz/25KHz
	Operating Voltage	13.6V± 15%
	Current Drain — Standby	<0.8A
	Current Drain — Transmit	<11A
	Frequency Stability	± 0.5ppm
	Antenna Impedance	50
	Duty Cycle	100%
	Dimensions (H× W× D)	88 X 483 X 366 mm
	Weight	8.5Kg
	LCD Display	220*176 pixels 262000 colors; 2.0 inch 4 rows
Receiver	Sensitivity — Analog	0.3µ V (12dB SINAD);0.22µ V (Typical) (12dB SINAD);0.4µ V (20dB SINAD)
	Sensitivity — Digital	0.3uV/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
	Blocking TIA-603 ETSI	90dB 90dB
	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	5-50W
	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++ or SELP
	Digital Protocol	ETSI-TS102 361-1,-2,-3

Environmental Specifications		
Operating Temperature	-30	+60
Storage Temperature	-40	+85

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

Standard Accessories

Power Cord

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

Duplexer (Frequency: 380-470MHz; RX-TX spacing: 5-13MHz) DT11
Duplexer (Frequency: 160-174MHz; RX-TX spacing:5MHz) DT12
Duplexer (Frequency: 148-160MHz; RX-TX spacing:5MHz) DT13
Duplexer (Frequency: 336-370MHz; RX-TX spacing: 8-13MHz) DT14
Duplexer (Frequency: 136-148MHz; RX-TX spacing:5MHz) DT15
Duplexer (Frequency: 440-480MHz; RX-TX spacing:5MHz) DT16
Duplexer (Frequency: 480-512MHz; RX-TX spacing:5MHz) DT17

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