Hytera
Respond & Achieve

RD985S

Intelligent Super Repeater

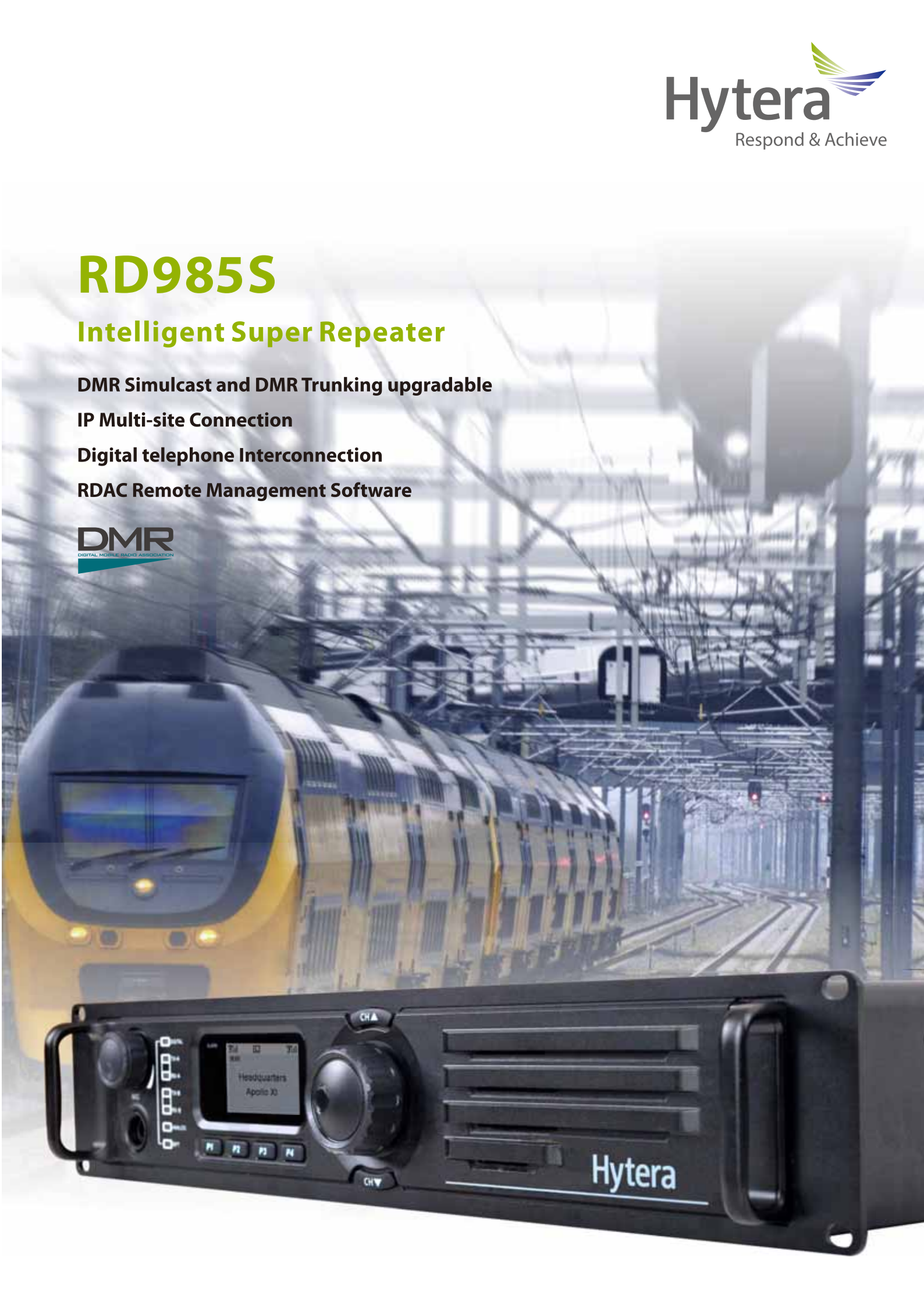
DMR Simulcast and DMR Trunking upgradable

IP Multi-site Connection

Digital telephone Interconnection

RDAC Remote Management Software

DMR
DIGITAL MOBILE RADIO ASSOCIATION



RD985S Intelligent Super Repeater

RD985S is a 50W, DMR and Analog dual mode upgradable repeater which can work in analog and DMR conventional mode. It can be upgraded to trunking or simulcast mode by software only. One step upgrade package makes it easy to operate in different mode, analog conventional, MPT-1327, DMR conventional, DMR trunking and DMR simulcast with only one hardware platform.

Conventional Features

- **Repeater Diagnostic And Control (RDAC)**
  RD985S 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 developed RDAC is able to support multiple master network connection to allow radio administrator to monitor multiple radio network upcoming!

- **Analog Digital Auto switch**
  RD985S supports Analog and Digital channel auto switching, allowing efficient frequency sharing between Analog and Digital users during the digital migration.

- **Analog/Digital Back-to-Back Interconnect**
  RD985S 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!

- **Dual Slot Digital Audio Streaming**
  RD985S supports streaming of both the voice slots via the rear port accessory pins, allowing third party for capability expansion.

- **IP Multi-site Connection**
  RD985S supports network interconnection via the IP port of repeater to form a private radio network, allowing wide area coverage to meet dispersed locations data and voice communications.

- **Analog/Digital Telephone Interconnect (via DTMF signaling)**
  RD985S 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.

- **Analog Scan**
  RD985S supports Analog voice and signaling scan, allowing repeating of different Analog voice users from various groups.

Upgrade to DMR Trunking Transceiver

1. Power Distribution Unit
2. **Transceiver (RD985S)**
3. Transceiver Power Supply
4. **Transceiver (RD985S)**
5. Switch
6. BS PSU
7. Base Station Controller
8. 2-channel RF System

DMR trunking Lite 2 carrier BS

- **Open Standard**
  DMR Trunking Lite is based on DMR tier III standard, defined by ETSI in 2005, which is a digital radio standard for professional radio users. With dedicated control channel, DMR Trunking Lite can achieve versatile functions.

- **Integrated RF System**
  Intergrated 2-carrier RF system, significantly reduces the space and cost for divider, combiner and duplexer.

- **Smooth Migration**
  DMR Trunking Lite transceiver supports smooth migration from analog to digital, from conventional to trunking. Multi-modes provide you different choices for continual investment.

- **Non-centralilzed Structure Design**
  Non-centralized structure is only used for less than 5 base stations.
  It will ensure a cost-effective and flexible networking especially suits for small scale of network.

Upgrade to DMR Simulcast Transceiver

1. Built-in Router
2. Synchronized Expansion Unit
3. **Transceiver (RD985S)**
4. Power Unit & Duplexer

DMR Simulcast Single Carrier BS

- **Smooth Roaming and Handover**
  In simulcast system, the radio is capable of roaming and handover seamlessly between different BSs , the ongoing communication can continue normally during handover.

- **Analog/Digital Self-adaptive**
  Simulcast Base Station channels support working both in analog and digital mode, to ensure smooth migration from analog to digital network.
  Digital or analog mode is automatically selected based on the incoming signals.

- **Dynamic Voting**
  Simulcast system can provide good voice performance in overlap area as radios in overlap area can always receive the best voice frame through dynamic voting. As a voting center, MSO is used to analyze each voice frame received from Base Stations in real time. The best voice frame will be extracted and sent to radios.

- **Smart Subnetting and Patching**
  According to management requirements, DMR simulcast system can be divided into different subnets by Base Station or by time slot of channel unit in each Base Station. Each subnet can work as a independent simulcast system.
  Different subnets can be patched to make a larger subnet temporarily according to the requirements.

Upgrade Features

Flexible application via software or hardware upgrade:

- Digital conventional repeater
- DMR trunking transceiver
- Analog simulcast transceiver
- Digital simulcast transceiver
- Analog conventional repeater
- MPT trunking transceiver

Terminals in any mode compatible with RD985S

MD785(G) PD705(G) PD785(G) X1e X1p PD795 Ex

RD98XS Accessories

Standard Accessories

Optional Accessories

Power Cord (10A 12AWG) PWC11

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

10pin programming cable (USB) PC37

DB26 data cable (USB) PC40

Omni-directional Antenna

Palm Microphone (IP67) SM16A2

Back to Back Data Cable PC49

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

Duplexer

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

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
		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*176 pixels, 262000 colors; 2.0 inch, 4 rows

Receiver	Sensitivity	Analog	0.3μV (12dB SINAD);0.22μV (Typical) (12dB SINAD);0.4μV (20dB SINAD)
	Sensitivity	Digital	0.3uV/BER5%
	Adjacent Channel Selectivity	TIA-603	65dB @ 12.5KHz； 70dB @ 20/25KHz
		ETSI	65dB @ 12.5KHz； 70dB @ 20/25KHz
	Intermodulation	TIA-603	75dB @ 12.5/20/25KHz
		ETSI	70dB @ 12.5/20/25KHz
	Spurious Response Rejection	TIA-603	80dB @ 12.5/20/25KHz
		ETSI	80dB @ 12.5/20/25KHz
	Blocking	TIA-603	90dB
		ETSI	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.
Notes: RD98XS, MD78X(G), PD78X(G), PD70X(G): X=0, 2, 5,6 or 8, model number varies geographically. For details, please contact our regional sales representatives.

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