

AXR8000

DMR Repeater



- 1U Design
- Dual Power Supply Mode
- Simulcast (Optional)
- Wireless Link Connection (Active Link)
- Digital Audio Local Play
- Repeater Operation Maintenance Center (ROMC)



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Axiom DMR Conventional System consists of repeater, radios, and dispatch console. Featuring wider coverage, two time slots, analog-digital compatible, the system supports rich voice and data services for different requirements.



KEY FEATURES



Digital Voice with Better Audio Quality

Digital voice processing reduces the impact of environmental noise on voice quality, allowing users to make clearer calls, and can be used for complicated work scenarios with constant changes.



High Spectrum and Power Efficiency

With DMR two-slot TDMA technologies, AXR8000 allows a single carrier with a bandwidth of 12.5 kHz to support two independent calls, with each time slot occupying a bandwidth of 6.25 kHz, which reduces transmission time in half, and saves battery power consumption by 40%, effectively prolonging the standby time of DMR radios.



Build Your Own PMR Network for a Great Saving

Better coverage experience makes your PMR network investment less expensive, and saves your budget for both CAPEX and OPEX.



Rich Services of Caltta DMR

Besides basic PTT services, AXR8000 also supports text message, status message, map-based location services, call recording, etc, to enrich user experience.



High Security and Reliability

Professional encryption algorithm as well as service protection mechanisms such as authentication and remote stun, help to ensure the data security and reliability of the DMR system and end user's life safety to the utmost extent.



Standard DMR Products Embrace Interconnection

AXR8000 repeater is fully compliant with DMR standard, which can interconnect with any other DMR system and radios that comply with DMR standard.



Analog Compatible Design

Smart digital-analog automatic detection mechanism ensures legacy analog radios can still be used under our AXR8000, to guarantee customer's historical investment to the greatest extent.



Repeater Operation Maintenance Center (ROMC)

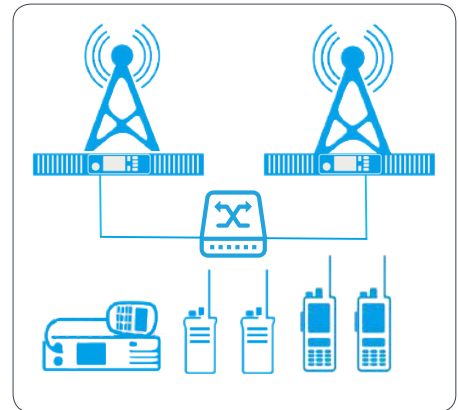
Viewing real-time information and alarm messages of each repeater. Remote reading and remote resetting the repeater Log management and statistics.

PMR Solutions for Different Scenarios

IP Connection

Extended Coverage

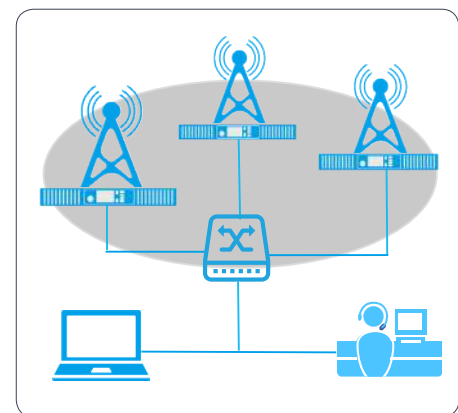
- Suitable for connecting multiple separate facilities.
- Multi-repeater IP networking provides greater signal coverage.
- Terminals can roam & access different repeaters, to communicate seamlessly across sites.
- Open to the 3rd-party dispatcher based on AIS protocol.



Simulcast

Large Coverage with Fixed Frequency

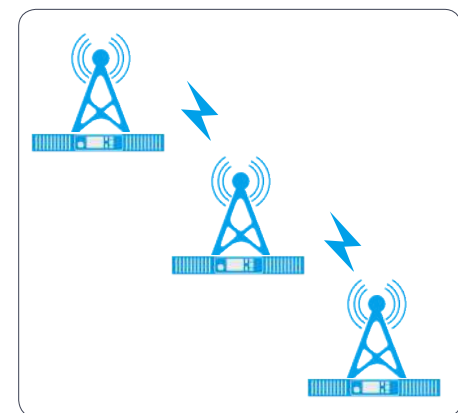
- Mainly used in scenarios where users are widely distributed, multiple repeaters are required with fixed frequency.
- All sites are configured with the same frequency to save radio frequency resources.
- Large coverage, significantly improve voice quality in the overlapped areas.
- Intelligent dynamic delay compensation algorithm is adopted to ensure that the simulcast performance and voice quality.



Active Link

Wide Coverage with Wireless Link

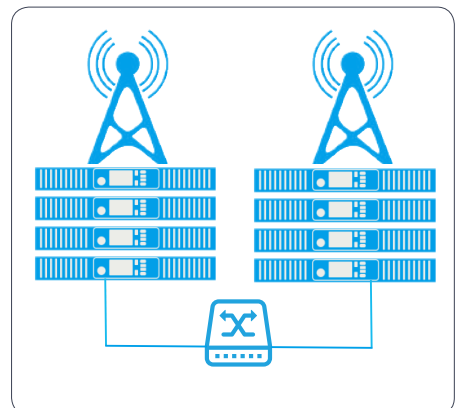
- Wide coverage solution based on back-to-back wireless link.
- Suitable for connecting multiple separate fixed facilities in mountainous area, forest and river where there is no IP link.
- Radios can roam and communicate seamlessly across sites.



Enhanced Conventional System (ECS)

Cost-effective Coverage with Dynamic Channel Allocation

- Up to 8 repeaters stacked as one site with 16 channels as one site, up to 32 sites can be supported over IP link.
- No network controller required, suitable for high traffic with multiple facilities.
- Load balancing to avoid traffic congestion or single repeater failure.



Technical Specifications

General	
Digital Protocol	ETSI TS 102 361-1,-2,-3
Frequency	UHF1: 400-470MHz, VHF: 136-174MHz
Channel Capacity	1024
Channel Spacing	12.5KHz/25KHz
Max Duty Cycle	100%
Operating Voltage	AC100 - 240 V @ 50 / 60 Hz DC13.6 V ± 20%
Backup Battery	Support
Size (W × H × D)	436mm × 44.5mm × 366.4mm
Weight	8.5 Kg
Frequency Stability	± 0.5 ppm
Screen	2.0" TFT LCD, 320 × 240

Transmitter	
Low Power Output	1W
High Power Output	50W
FM Modulation	12.5KHz:11K0F3E , 25KHz:16K0F3E
4FSK Digital Modulation	12.5KHz Data:7K60FXD
	12.5KHz Voice & Data:7K60FXE
Conducted/Radiated Emission	-36dBm≤1GHz , -30dBm>1GHz
Modulation Limiting	±2.5KHz @12.5KHz / ±5.0KHz @25KHz
Adjacent Channel Power	-60dB@12.5KHz , -70dB@25KHz
FM Hum and Noise	-40dB@12.5KHz, - 45dB@25KHz

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

Receiver	
Analog Sensitivity (Typical)	0.14 μV (12 dB SINAD)
Digital Sensitivity (Typical)	0.14 μV (5% BER)
Intermodulation	75 dB (TIA603D)
	70 dB (ETSI)
Adjacent Channel Selectivity	65dB@12.5 KHz/70dB@25 KHz (TIA603D)
	65dB@12.5 KHz/70dB@25 KHz (ETSI)
Spurious Response Rejection	80 dB (TIA603D)
	80 dB (ETSI)
Blocking or Desensitization	98 dB (TIA603D)
	95 dB (ETSI)
FM Hum and Noise	-40 dB@12.5KHz / -45 dB@25KHz
Audio Distortion	≤ 3% (Typical)
Audio Response	+ 1dB ~ - 3 dB
Conducted Spurious Emission	- 57 dBm

Standard Accessories



Power Line (AC)

Optional Accessories



Programming Cable



Power Line (DC)



General Disclaimer:
The specifications in this document are in accordance with the applicable standard test. Due to the continuous technology development, Axiom may change the specifications without notice.

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