

Technical specification

General Specifications	
Frequency	UHF:400-470MHz/450-520MHz/350-400MHz
Channel Capacity	99CH
Channel Spacing	Analog: 12.5KHz/25KHz Digital: 12.5KHz
Operation Voltage	100~264VAC~50/60Hz; DC13.8V±15%
Current Consumption(DC)	≤12A(50W transmit)
Current Consumption(AC)	≤1.2A(50W transmit)
Frequency Stability	±0.5ppm
Antenna Impedance	50Ω
Working Cycle	100%
Size (L*W*H)	403(L)*430(W)*45(H) mm
Weight	7.5kg
Network	IP network

Transmitter	
RF	5~50W
FM Modulation	11K0F3E @12.5kHz; 16K0F3E @25kHz
4FSK Digital Modulation	data:7K60FXD, data and voice: 7K60FXW
Conduction/Radiation	Working:-36dBm±1GHz, -30dBm > 1GHz
Spuriousness	Standby:-57dBm±1GHz, -47dBm > 1GHz
Modulation Limitation	±2.5kHz @12.5kHz; 5kHz @25kHz
FM and Noise	40dB @12.5kHz; 45dB @25kHz
Adjacent Channel Power	60dB @12.5kHz; 70dB @25kHz

Note:
Data are from the Abell laboratory, the actual use of the product may vary due to individual differences, use habits and environmental factors.
Please refer to the actual use of the situation shall prevail.
The above specifications are subject to change without notice due to development.

Receiver	
Sensitivity	Analog: 0.225uV(12dB SINAD); 0.18uV(typical value)(12dB SINAD) Digital: 0.22V/BER 5%
Adjacent Channel Selectivity	65dB @12.5kHz/75dB @25kHz(TIA-603) 60dB @12.5kHz/70dB @25kHz(ETSI)
Intermodulation	75dB @12.5/25kHz(TIA-603);
Disturbance Rejection	70dB @12.5/25kHz(ETSI)
Spurious Disturbance Rejection	80dB
Blocking	92dB
AC sound and noise	40dB @12.5kHz; 45dB @25kHz
Nominal Harmonic Distortion	<3%
Audio Response	+1 ~ -3dB
Conductive Spuriousness	≤1GHz: ≤-57dBm; >1GHz: ≤-47dBm

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

AR8000

New Generation DMR Repeater



- ▶ 50W, super slim 1U modular design
- ▶ PSTN telephone interconnection
- ▶ Higher sensitivity, stronger anti-interference
- ▶ Support ADC8000 dispatcher center

AR8000 has achieved a huge leap in terms of appearance design, hardware RF and software technology capability. Based on the past 10 years of field experience of ABELL digital repeaters, feedback from customers in different industries in dozens of countries around the world and the technological innovations and iterations of ABELL R&D team, the new generation of ABELL Repeater AR8000 is able to provide enterprise/municipal users with strong communication coverage, excellent performance and solid reliability for their wireless communication systems.



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Dealer Area

Product Introduction

AR8000 repeater adopts modular design, integrating high-performance RF module, main control board, high-efficiency switching power supply, configured with external DC power supply interface, small size(1U), rugged and compact structure, strong environmental adaptability, suitable for indoor and outdoor installation. AR8000 is high performance professional digital/analog repeater.

AR8000 repeater provides DMR/analog signal retransmission, supports various signaling, and supports interoperability between two way radios and wired phones and cell phones, expanding the scope of use. It supports internet network to achieve multi-sites networking and large area coverage at low cost.

As AR8000 repeater adopts modular design, in addition to achieve high performance, it is also easy to maintain, convenient module replacement and upgrade. The unit module level interface is open, easy to standardize, while having good interchangeability, with the technology iteration of chip manufacturers, you can quickly realize the AR8000 module upgrade. It is also convenient for more service providers to realize the application needs of secondary development by replacing modules.

AR8000 repeater has complete self-test/self-diagnosis function, and can achieve remote monitoring, convenient repeaters management. It can be automatically configured for easy upgrading and maintenance.



Application



General Features

- 19-inch 1U structure design, easy for users to install multi-channels integration
- 99 channels capacity, designed with status indicator LEDs and channel display.
- Support fast analog signaling retransmission, support CTCSS/CDCSS sub-tone retransmission
- Antenna contact failure protection, prevents poor communication due to antenna installation
- Maximum power 50W, 5W-50W power adjustable, improve the coverage area and probability of reliable communication.
- Full modular design, optimized RF performance, easy to check, replace and maintenance
- Dual fan cooling automatic control, support 24 hours working
- PSTN cable telephone interconnection, achieve communication between radios and cable telephones and mobile phones
- Support key password protection to prevent mis-operation and increase operation reliability
- Support front USB programming port, convenient for programming operation
- Integrated a number of patents

Advanced Configuration and System Networking(Optional)

- Support ABELL IP network system, support IP soft-switch and multi-stations interconnection network.
- Support ABELL ADC8000 dispatcher system (Beidou/GPS, track playback, recording system, ...)
- Support ABELL ARD800 monitoring system (self-diagnosis, remote configuration, monitoring and network management)
- Support ABELL smart trunking system, channel sharing, improve frequency utilization rate(coming soon).

The Solution

As the complexity of the problem increases, the means of solving the problem needs to be diversified, so customers often use the network of multiple systems and multiple devices to solve the problem. AR8000 provides a variety of gateway functions to help customers to achieve the communication between different systems.

Through the public and private mix network repeater AR8000 to realize the PoC, DMR and analog convergence and interoperability.

