AIRAYA

Proven, Fast, Reliable

WirelessGRID-300 WG-300-Kit

300 Mbps Indoor Radio/Outdoor Antenna Kit.

For low-latency, high performance point-to-point networks between buildings

Product Highlights

The **WG-300-Kit** delivers a comprehensive range of product features, ensuring fast, secure and reliable networking services, including...

♦ **Indoor PoE/AC powered radios designed for use with outdoor antennas** for simplified installation, configuration, and management

♦ **Data Rates** up to 300 Mbps per radio utilizing adaptive modulation while operating on 40, 20, 10, 5 MHz wide channels

♦ **3x3:2 MIMO Radio** provides multiple transmit and receive paths for radio signals, improving link reliability and performance

♦ **SecureRF™ Architecture** provides layered security, including unique layer-2 bridge protocol, mutual radio authentication and 128-bit AES (WPA2) data encryption for secure backbone transmitting TCP/IP and UDP up to 100 Mbps.

♦ **Compatible** with all standard 1000/100 Mbps Ethernet switches, routers. Also supports 802.11q, 802.11p, 802.11af

♦ **Real-time antenna alignment tools** simplify antenna alignment, optimize link quality, and maximizes system throughput

♦ **Real-time monitoring of WirelessGRID-300 radios** displays signal strength, radio statistics via SNMP, Telnet (CLI), and Web

Simplified Architecture

The indoor radio/outdoor antenna design of the **WG-300-Kit** allows for low-cost, quick and easy installation of up to 100 Mbps TCP/IP bandwidth for point-to-point (backhaul) network extension. Utilizing PoE/AC powered indoor MIMO radios, with adaptive modulation and OFDM technology in the 5GHz (4.90-5.85 GHz) frequency bands, the **WG-300-kit** is capable of operating at ranges of up to 5 miles* and at radio data rates up to 300 Mbps.

Outstanding Performance and Spectrum Utilization

Ideally suited for bandwidth-hungry applications that require fast (100 Mbps+ TCP/IP), reliable, affordable and secure point-to-point connectivity, these kits deliver optimized IP voice, data, and video services. Multiple channel sizes of 5, 10, 20 or 40 MHz allows you to meet your capacity, speed, scalability, and usage requirements, while complying with local regulations.

Whether you are connecting video surveillance systems, two buildings, a campus, or a city-wide municipal network, WirelessGRID-300™ radios provide you with the flexibility to deploy fast, affordable and proven outdoor wireless bridge solutions.

Easy Antenna Alignment, Diagnostics and Network Monitoring

Simply run the built-in web-based tool between any two radios and the signal strength in dB is streamed across your computer screen, allowing you to maximize signal quality, improve performance and increase reliability. While in operation, you can monitor signal strength between local and remote locations in real time to check for changes in the environment and troubleshoot technical issues.

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Radio			
Frequency	5.725-5.850 GHz license-exempt UNII & ISM Bands Non-overlapping Channels: ISM, UNII: 5 x 20 MHz, 2 x 40 MHz. * International Versions can operate between 4.9-6.0 GHz. (Frequencies Depends on Local Regulations)		
Radio Type	OFDM with MIMO (3x3:2)		
Standards	802.3, 802.3AB, 802.1Q, 802.1P, 802.11AF		
Total System EIRP and Radio Output Power	Radio output power: Max: 18 dBm (Set to local regulatory requirements to comply with transmit, conducted and EIRP power limits)		
Radio Receiver Sensitivity	Data Rate	Sensitivity	Modulation
	6.5 to 300 Mbps	-65 to –90 dBm	64QAM, 16QAM, QPSK, BPSK
Antenna Type	24 dBi Dual Polarity Panel with mounting hardware kit		
Operating Mode	Backhaul (Point-to-Point)		
Range	Up to 5 miles (8 km) FCC/Industry Canada w/antennas supplied. Up to 30 miles (48.27 km) – with maximum radio power and optional parabolic antennas. Local regulation apply		

Models and Ordering Information	
WG-300-Kit	**Complete Kit** includes 2 x indoor WirelessGRID-300 radios with dual N-type female connectors, Gigabit PoE/Ethernet, 2 x outdoor dual-polarity 24dBi antennas, 2 x antenna mounting hardware kits, 4 x 25ft (8m) N-type male RF cable assemblies, and 2 x AC power supplies.
WG-300-N	Single WirelessGRID-300 indoor radio with dual N-type female antennas connectors, Gigabit PoE/Ethernet, and AC power supply. (No antenna)
AI108-LA5	RF Lightning Arrestor. (1 unit required per cable assembly)

Antenna Types

24 dBi Dual Polarity Panel
Supplied with kit

28 dBi GRID
Optional

29 dBi Parabolic
Optional

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SecureRF™ Radio Security	
SecureRF™ Layered Security Design	SecureRF™ Architecture – Unique radio mask, mandatory mutual radio authentication, 128-bit AES (WPA2) data encryption

Configuration and Management	
Configuration	Built-in web server. Telnet/CLI. Firmware upgrade via FTP
Antenna alignment	Real-time RSSI (signal strength) monitor, link optimization and throughput maximization utility
Radio Status Indicators	Power, network, and frequency range
Real-time Monitoring	Real-time signal strength, system uptime, data rate, channel selection via HTTP, Telnet/CLI, and SNMP
Real-time Throughput	Data throughput monitor built-in to all radios. Displays RX/TX throughput and packet forwarding rates at each radio.

Antenna, Radio, and Network Connections	
Antenna Connector	N-Type Female input
Radio Bridge Connector	N-Type Female input
Network	1000/100 Mbps Ethernet (RJ45) *1000 Mbps (Gigabit) recommended

Indoor Radio to Outdoor Antenna RF Cables	
Cable Type, Length	LMR-400, 25 ft (7.62m)
Cable Connectors	N-Type male to N-Type male

Mechanical Dimensions	
Indoor Radio Bridge	7.6 x 5.5 x 1.2 in (19.3 x 14 x 3.05 cm)
Outdoor Antenna	14 x 14 x 1.5 in (35.6 x 35.6 x 3.8 cm)
Antenna Mounting Kit	Includes mast mount and clamp kit for 1”-4” (26-115mm) diameter masts / Also wall-mountable

Electrical	
AC Power	Input: 100-120V, 0.6A (50Hz-60Hz), 220V available Output: 5V, 2.5A
Power over Ethernet	802.11af Compliant (Gigabit and 100Mbps)

Environmental		
Operating Temperature	-22° F to 140° F (-30° C to 60° C)	
Operating Humidity	Max. 95% non-condensing	
Outdoor Antenna	-40°C to 70°C. Antennas are fully weather protected	
Antenna - Wind Survivability	130 MPH Sustained	140 MPH for 3 Seconds

Compliance and Certification	
Radio	FCC 15.407 (UNII, ISM), Industry Canada RSS-210, ETSI CE Mark (w/TPC and DFS) coming soon
Safety	UL - Canada, USA, CE Mark (Pending) , RoHS, WEEE
EMC	FCC Part 15, Industry Canada RSS-210, ETSI, EN 301 893, EN 301 489-17,EN 50385, RoHS