AIRAYA

Fast and Affordable Outdoor Bridges

WirelessGRID™ 2225 Outdoor Wireless Bridges

(2.2-2.5 GHz, Up to 108 Mbps)

(AI108-2225-BSU, AI108-2225-ON-SU, AI108-2225-ON2)

Product Highlights

The WirelessGRID 2225 Series of outdoor wireless Ethernet bridges deliver fast, secure and reliable networking services.

- **Integrated architecture** for ease of installation, configuration, and management
- **Data rates** of 108 to 1.5 Mbps using AIRAYA's Adaptive Intelligence (AI) engine, proprietary bridging protocols, and 40, 20, 10, & 5 MHz wide channels
- **SecureRF** bridge authentication and embedded 128-bit AES data encryption for secure multipoint backhaul, and repeater communication
- **Range** up to 30 miles (50 km) with external antennas and maximum radio output power settings
- **Compatible** with all standard 100Mbps Ethernet switches, routers, 802.11q, 802.11p, VPN's and VoIP protocols
- **Real-time antenna alignment tool**, which simplifies antenna alignment, optimizes link quality, and maximizes system throughput
- **Remote power** for installing WirelessGRID bridges up to 328 feet away from your network using power over Ethernet* (*Outdoor Remote Power Version)
- **Real-time monitoring of WirelessGRID** displays signal strength, connected subscribers, bridge stats, data rate, channels...

Integrated Architecture

The indoor-outdoor architecture of WirelessGRID bridges provides ease of installation, maximum range and outstanding performance in both the fully integrated and indoor radio/outdoor antenna models. Utilizing OFDM technology in the 2.2 GHz to 2.5 GHz frequency range, WirelessGRID bridges operate at a range of up to 30 miles and at speeds up to 108 Mbps.

Optimized Performance

Ideally suited for bandwidth-hungry applications that require fast, affordable, reliable, and secure multipoint and backhaul connectivity, WirelessGRID bridges provide optimal delivery of IP and TDM voice, data, and video services.

AIRAYA's exclusive 5, 10, 20 and 40 MHz wide channel plan allows for 119 different channels, which can be used to meet your network requirements while optimizing frequency utilization and complying with local regulations.

Simple and Flexible Configuration

Built-in support for point to multipoint (up to 32 subscribers per base station radio), backhaul, and repeating modes means you can use WirelessGRID bridges to support many types of applications. Whether you are connecting two facilities, a campus, or a muni network, the WirelessGRID architecture provides you with the flexibility to easily deploy secure, fast, and reliable outdoor wireless bridges as part of your network.

Advanced Multi-layer Security

WirelessGRID security is provided with SecureRF link authentication and embedded 128-bit AES data encryption, ensuring the prevention of hacking, data theft and unauthorized intrusions.

Integrated Antenna Alignment and Link Monitoring

WirelessGRID antenna alignment and link optimization is easy using this real-time tool. During setup, simply run the tool between any two points and the signal strength in dB is streamed across your computer screen, allowing you to optimize signal quality and improve the performance and reliability of your wireless system. While in operation, you can monitor signal strength between local and remote locations in real time to troubleshoot technical problems.

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Product Specifications

Radio			
Multiple Frequency Bands Supported. 40, 20, 10, 5 MHz wide channel selections (Local regulations apply)	2.2-2.30 GHz Band - Channels: 20 x 5 MHz, 11 x 10 MHz, 6 x 20 MHz, 3 x 40 MHz		
	2.3-2.4 GHz Band - Channels: 21 x 5 MHz, 10 x 10 MHz, 5 x 20 MHz, 3 x 40 MHz		
	2.4-2.5 GHz Band - Channels: 22 x 5 MHz, 11 x 10 MHz, 5 x 20 MHz, 2 x 40 MHz		
Radio Type	Orthogonal Frequency Division Multiplexing (OFDM)		
Standards	802.3 Ethernet, 802.11 hardware with proprietary bridging extensions		
Total System EIRP and Radio Output Power	Radio output power: Max: 20 dBm (Set to local regulatory requirements to comply with transmit, conducted and EIRP power limits)		
Radio Receiver Sensitivity	Data Rate	Sensitivity	Modulation
	1.5 to 108 Mbps	-73 to –91 dBm	64QAM, 16QAM, QPSK, BPSK
Antenna Type(s)	Antennas are ordered separately		

Models and Ordering Information	
Multipoint Bridges – Antennas Ordered Separately	
2225-BSU	Outdoor Base Station (BSU) w/150ft. PoE Cable, 1 x N-type Female Connector
2225-ON-SU	Outdoor Subscriber Unit (ONSU) w/150ft. PoE Cable, 1 x N-type Female Connector
2225-SU*	Indoor Subscriber Unit (SU) w/25ft. RF Cable, AC Power
Backhaul Bridges – Antennas Ordered Separately	
2225-ON-050	Complete kit includes 2 radio bridges with 50ft. PoE Cables, N-type Female Connectors, and outdoor mounting brackets. No antennas
2225-ON-150	Complete kit includes 2 radio bridges with 150ft. PoE Cables, N-type Female Connectors, and outdoor mounting brackets. No antennas
2225-ON-300	Complete kit includes 2 radio bridges with 300ft. PoE Cables, N-type Female Connectors, and outdoor mounting brackets. No antennas
2225-Kit*	2 x Indoor Radios, 2 x 25 ft RF Cables, AC Power

Range	
Maximum Range (Local Regulations Apply)	Up to 30 miles (48.27km) with max radio output power and optional external 34.5 dBi antennas

SecureRF Radio Link Security	
Authentication and Encryption	SecureRF Architecture – Multi-layer link authentication. Embedded 128-bit AES or 152-bit WEP data encryption

ODU Interfaces	
RF (Antenna) connector in the ODU	N-Type Female
Baseband (IDU to ODU Units)	ODU: RJ-45 with weatherized sealed gland IDU: RJ-45
Ethernet	Indoor units: 100/10 Mbps Autosensing Ethernet (RJ45)

Configuration and Management	
Configuration Utility	Built-in Web server, telnet
Software upgrades	FTP Download
Antenna alignment	Built in RSSI (signal strength), link optimization and throughput maximization utility
Indoor LAN Status Indicator	Indoor Remote Power Indicator
Radio Monitoring	Secure Management Interface - Real-time signal strength, authentication data, system uptime, data rate, channel selection via HTTP, Telnet, and SNMP

IDU to ODU Communication – Outdoor Models	
Cable Type	CAT 5e 4 x 2 x 24AWG gel-filled (UV protected, weatherized)
Maximum Distance	328 ft (100m) between network connection and outdoor units

Electrical – Outdoor Models	
Remote Power System	Input: 100-240V , 0.5A Auto-ranging (50Hz-60Hz) Output: 48V, 0.4 A Max for remote powered systems

Environmental		
Operating Temperature	IDU: 0 to 50°C	ODU: -30 to 60°C
Operating Humidity	IDU: 5 to 95% non-condensing	ODU: Fully weather protected

Compliance	
Radio	FCC 15.407 (ISM), Industry Canada RSS-210, ETSI CE Mark
Safety	UL - Canada, USA, CE Mark, RoHS, WEEE
EMC	FCC Part 15, Industry Canada RSS-210, ETSI

About AIRAYA

AIRAYA was formed in November, 2001 by a team of wireless industry veterans with more than twenty years of combined experience in the field. The company's mission is to provide fast and affordable wireless bridges for the broadband wireless marketplace. Our portfolio includes a complete line of high-performance indoor and outdoor wireless bridges, cameras, and TDM products and accessories for connecting IP network equipment at distances up to 30 miles.

AIRAYA

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Multipoint Model #'s
2225-BSU
2225-ON-SU

*** Indoor Model #'s**
2225-Kit
2225-SU
2225-N
No PoE Power

Backhaul Model #'s
2225-ON-050
2225-ON-150
2225-ON-350