AIRAYA

Fast and Affordable

WirelessGRID™ Outdoor Wireless Bridge (4.940-5.850 GHz, Up to 108 Mbps)

(AI108-4958-BSU, AI108-4958-OSU, AI108-4958-O, AI108-ON2)

Product Highlights

The WirelessGRID series of bridges deliver a comprehensive range of product features, ensuring fast, secure and reliable networking services, including...

♦ **Integrated architecture** for ease of installation, configuration, and management.

♦ **Data rates** of 108 to 1 Mbps using AIRAYA's adaptive intelligence (AI) engine, proprietary bridging protocols, and 40, 20, 10, 5 MHz wide channels.

♦ **Range** up to 30 miles (50 km) with external antenna options and radio output power settings (local regulations apply).

♦ **Compatibility** with all standard 100Mbps Ethernet switches and routers, 802.1q, 802.1p, VPN, and VoIP.

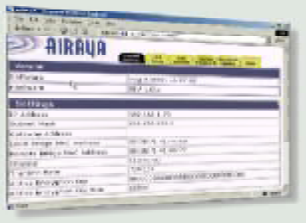
♦ **LED diagnostics** for indoor-to-outdoor unit connectivity and power monitoring.

♦ **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 switch/router using power over Ethernet.

♦ **SecureRF** bridge authentication and AES-128/WEP data encryption for secure point-to-point, point-to-multipoint and repeater communication.

♦ **Real-time monitoring of WirelessGRID** displays signal strength, connected stations, bridge stats, operating mode, data rate, channels...



Integrated Architecture

The indoor-outdoor architecture of WirelessGRID outdoor bridges provide ease of installation, maximum range and capacity, delivering outstanding performance in a fully integrated design. Utilizing OFDM technology in the 5GHz (4.940-5.850 GHz) frequency range, WirelessGRID bridges operate at a range of up to 30 miles* and at speeds up to 108 Mbps.

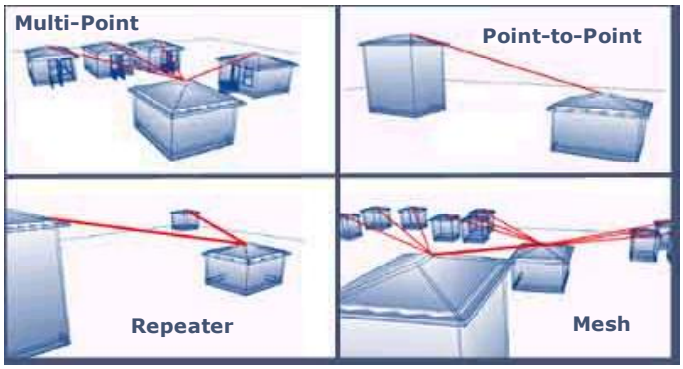
Optimized Performance

Ideally suited for bandwidth-hungry applications that require fast, affordable, reliable, and secure multipoint and point-to-point connectivity, the fully-integrated outdoor series of WirelessGRID bridges provides optimal delivery of IP voice, data, and video services. With AIRAYA's exclusive 5, 10, 20 and 40 MHz wide channel plan, more than 170 available channels can be used to meet your capacity, speed, scalability, and user needs, while optimizing frequency usage and complying with local regulations.

Configuration Flexibility

Built-in support for point to multipoint (up to 32 subscribers per base station radio), point to point, and repeating modes means you can use one product family to support many different types of applications. Whether you are connecting two buildings, a campus, or a city-wide network, the WireleGRID architecture provides you with the flexibility to deploy fast, affordable and robust outdoor fixed wireless bridge solutions.

The AIRAYA WirelessGRID



Advanced Security

WirelessGRID security is provided with WirelessGRID bridge authentication and AES-128/WEP-152 data encryption options, ensuring the prevention of hacking, data theft and unauthorized intrusions.

Integrated Antenna Alignment and Link Monitoring Tool

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 maximize signal quality and improve the performance and reliability of your wireless links. While in operation, you can also monitor signal strength between local and remote locations in real time to check for changes in the environment and troubleshoot technical problems.

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WirelessGRID™ Outdoor Wireless Bridge

(Outdoor Bridge Specifications)

Radio			
Multiple Frequency Bands Supported. 40, 20, 10, 5 MHz wide channel selections (Local regulations apply)	4.940-4.990 GHz Public Safety Band (FCC Part 70, licensed Intl.) Non-overlapping Channels: 8 x 5 MHz, 4 x 10 MHz, 2 x 20 MHz, 1 x 40 MHz		
	5.25-5.35 GHz license-exempt (FCC, Industry Canada, Mexico) Non-overlapping Channels: 19 x 5 MHz, 9 x 10 MHz, 4 x 20 MHz, 2 x 40 MHz		
	5.47-5.72 GHz license-exempt (ETSI, FCC, ITU) with TPC and DFS Non-overlapping Channels: 44 x 5 MHz, 22 x 10 MHz, 11 x 20 MHz, 5 x 40 MHz		
	5.725-5.850 GHz licence exempt UNII & ISM Bands (ETSI, FCC, MII) Non-overlapping Channels: ISM, UNII: 25 x 5 MHz, 12 x 10 MHz, 5 x 20 MHz, 2 x 40 MHz		
Radio Type	Orthogonal Frequency Division Multiplexing (OFDM)		
Standards Compliance	802.3, 802.11i, 802.11a hardware with proprietary bridging extensions		
Total System EIRP and radio output power	Radio output power: Max: 21dBm (Set to local regulatory requirements to comply with transmit, conducted and EIRP power limits)		
Radio Receiver Sensitivity	Data Rate	Sensitivity (dBm)	Modulation
	108 to 1 Mbps	-73 to -91	64QAM, 16QAM, QPSK, BPSK
WirelessGRID Operating Modes	Point to Multipoint, Point to Point, Repeater (See Ordering Guide)		
Antenna Types (5 GHz)	AI108-4958-BSU, AI108-4958-ON2 - Order a Sector, Omni, GRID, or Panel AI108-4958-SU and -1: Flat Panel Directional Antenna AI108-4958-0-xxx: 23 dBi integrated or 28 dBi external directional antenna		

Ordering Information by Model

AI108-4958-BSU	Outdoor base station
AI108-4958-ON2	Outdoor base station/repeater
AI108-4958-OSU	Outdoor subscriber unit
AI108-4958-O-xxx	Outdoor backhaul (xxx specifies cable length between indoor and outdoor units. -50, 150, 300)

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 fixed wireless marketplace. Our portfolio includes a complete line of high-performance indoor and outdoor 5GHz wireless bridges and accessories for connecting IP networks at distances up to 30 miles.

Contact AIRAYA today and find out why AIRAYA fixed wireless bridges are the preferred choice of customers in more than 30 countries worldwide.

AIRAYA

Offices:
Corporate
637 Adair Court
Morgan Hill, CA 95037 USA

Range	
FCC & Industry Canada (Local regulations apply)	Up to 7.5 miles (12 km) with built-in 23dBi panel antennas Up to 30 miles (48.27 km) with max radio output power and optional external 34.5 dBi antennas
International Version (Local regulations apply)	Up to 30 miles (48.27 km) - N-type version (AI108-4958-ON-xxx) with max radio output power and optional external 34.5 dBi antennas

Security	
Authentication and Encryption	SecureRF Architecture - Multi-layer link authentication. AES-128/WEP 152-bit data encryption options, support for radius authentication.

Configuration and Managment	
Configuration Utility	Built-in webserver, Telnet
Software Upgrades	FTP Download
Antenna Alignment Tools	Built-in RSSI (Signal Strength), Link Optimization/Throughput Utility
Indoor LED Status Indicator	Indoor Remote Power Indicator
Real-Time Link Monitoring	Secure Management Interface - Real time signal strength, authentication data, system uptime, data rate, channel selection

Outdoor to Indoor Unit Communications	
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

Interfaces	
RF (antenna) connector in the outdoor unit	Integrated or N-Type female
Baseband (Indoor to Outdoor Units)	Outdoor units: RJ-45 Indoor units: RJ-45
Ethernet	Indoor units: 100/10Mbps Autosensing Ethernet (RJ-45)

Electrical	
Remote Power System	Input: 100-240V , 0.5A Auto-ranging (50Hz-60Hz) Output: 48V, 0.3 A Max for Remote Power System (PoE)

Mechanical Dimensions	
AI108-4958-BSU/ON OD Unit	10 x 8 x 6 in 25.4 x 20.3 x 15.2 cm
AI108-4958-O Outdoor Unit with integrated 23 dBi Antenna	11 x 11 x 7 in 26 x 26 x 17.8 cm
AI108-4958-BSU Antenna	22 x 3 x 3 in 52 x 7.6 x 7.6 cm
Indoor Unit	6 x 3 x 1 in 15.2 x 7.6 x 2.5 cm
Outdoor Unit Mounting	Includes mast mounts and clamp kits for 1" (26mm) diameter thru 4.5" (115mm) diameter masts.

Environmental	
Operating Temperature	Indoor unit: 0°C to 40°C
	Outdoor unit: -20°C to 55°C
Operating Humidity	5% to 95% non-condensing. Outdoor units are weather protected

Compliance and Certification	
EMC	FCC Part 15, Industry Canada RSS-210, Mexico, ETSI
Safety	UL - Canada, USA, CE
Radio	Public Safety (Part 70 fixed wireless) FCC 15.407 (UNII, ISM), Industry Canada RSS-210, ETSI (w/TPC and DFS)