



AirTegrity™ 3100 Series
Dual Radio Gateways
900MHz, 2.4GHz, 5GHz and 4.9 GHz



Key Features:

- Speeds up to 80 Mbps
- OFDM to 64QAM
- Complete Security
- QoS for Voice & Video
- Up to 30 Miles
- Scalable Architecture
- Modular Design
- Full IP Services
- AES, IPSec
- 900 MHz, 2.4 GHz, 5GHz Unlicensed Frequencies
- 4.9 GHz Licensed Public Safety
- Optional GPS for Network Timestamp



High Speed Intra Network Pipes

The AirTegrity AT3100 Series™ of Ethernet combined Dual Radio Gateways are designed for network operators looking to deploy state-of-the-art systems that provide the highest level of security flexibility and performance, while supporting carrier class QoS requirements needed for VoIP and other latency critical network data.

Using its comprehensive set of IP services, the AT3100 Dual Radio Series supports Bandwidth Management, Traffic Shaping, IP Routing, VPN and Encryption services for each radio card, in a single unit. Available in a rugged NEMA 4X outdoor housing, it uses industry standard PMC (PCI Mezzanine Card) slots for flexible configuration and upgrade options.

The AT3100 Dual Radio Series provides outstanding RF performance, frequency flexibility and convenient mounting options. Units can use any combination the optional integrated high gain integrated antennas or may be connected to higher gain directional antennas for extended range and frequency disbursement. The AT3100 Series is ideally suited for multi-service, mission critical network application including and combining, backhauling service provider networks, hot spots, fiber extension, campus buildings and video surveillance systems. The combination flexibility of addressing multiple network functions with a single mounted unit dramatically reduces deployment, infrastructure and maintenance cost.

These systems can be configured to operate as traditional Ethernet Bridges IP routers, AP's, repeaters or CPE's that supports standard RIP and OSPF routing protocols. With its wide selection of encryption protocols, including DES, DES3, IPSec and AES, you can truly deploy a secure wireless Network.

High Performance Triple Radio System Architecture

The AirTegrity AT3100 Dual Radio Series utilize OFDM Modulation with standard 20MHz channels. When operating in Turbo Mode these 20MHz channels expand to 40MHz wide to offer expanded throughputs, depending on radio card and frequency option. The AT3100's dual radio configuration is capable of maximizing throughputs, allowing for bit-rate transfer speeds of up to 216 Mbps when both radios are running in turbo mode @ 108Mbps each. Actual TCP/IP throughput will reach well over 80Mbps.





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The AirTegrity AT3100 Series Dual Radio Gateway systems provide outstanding RF performance and dynamically adjust the system operations to ensure link quality and system needs. Any combination of radio interfaces can be selected and integrated antennas are supported for the 4.9 & 5GHz operations only.

Feature	Technical Specifications	Feature	Physical Specifications
Radio Architecture	DualWiFi 802.11 radios for relay station, mesh network, or backhaul with local hotspot See Radio Configuration Matrix Below	Dimensions Mount IEC Standard Wind Load	W 12 x H 12 x D 4 inches AZ/EL control—Pole Size 1¼÷3" ø Water Tightness IEC 529 / IP67 Front Thrust 47 Kg - Side Thrust 6 Kg
Capability	LOS, non LOS, TDD (Time Division Duplex)	Temperature	-40° to +55° C
Modulation	Auto Select QPSK, 16 QAM, 64 QAM	Humidity	100% condensing, NEMA 4X
Encryption	DES, 3DES, AES	Regulatory	FCC Part 15 subpart C including 15.205/207 and 247, EN 300.328
MAC	Point to Point, Point to Multi-Point	Power / Data	PoE 19W / (1 ro2) 10/100 Base-T Ethernet Ports
PHY	OFDM	External Antenna Connector	Up to 2 N-Type Female
Data Rates	Configurable or Dynamically Auto Select 6-108 Mbps	Internal Panel Antenna	Optional—21dBi (4.9) & 22dBi (5GHz)
Latency	2-6ms	GPS	Optional

Single Radio & Channel Configuration Matrix

Frequency	900 MHz	2.4-2.484 GHz	4.950-4.990 GHz Public Safety Band	5.725-5.850GHz
Protocol	802.11g	802.11b/g	802.11a	802.11a
Channel Size	5, 10, 20MHz	22MHz	5, 10, 20 MHz	20 MHz
Maximum Transmit Power	+28 dBm	+28 dBm	+26 dBm	+28 dBm
Fade Margin Included	20 dB	20 dB	20 dB	20 dB
Rx Sensitivity Data Rate, Distance.	-93 dBm, 1Mbps -92 dBm, 2 Mbps -90 dBm, 6 Mbps -88 dBm, 11 Mbps -86 dBm, 18 Mbps -82 dBm, 24 Mbps -73 dBm, 48 Mbps -70 dBm, 54 Mbps	-97dBm, 1.0Mbps -94dBm, 6.0Mbps -91dBm, 12.0Mbps -90dBm, 18Mbps -86dBm, 24Mbps -83dBm, 36 Mbps -77dBm, 48 Mbps -74dBm, 54 Mbps	-93 dBm, 6 Mbps -92 dBm, 9 Mbps -91 dBm, 12 Mbps -90 dBm, 18 Mbps -85 dBm, 24 Mbps -82 dBm, 36 Mbps -76 dBm, 48 Mbps -73 dBm, 54 Mbps	-94dBm, 6Mbps,12Mbps -93dBm, 9Mbps,18Mbps -91dBm, 12 Mbps,24Mbps -90dBm, 18 Mbps,36Mbps -86dBm, 24 Mbps,48Mbps -83dBm, 36 Mbps,72Mbps -77dBm, 48 Mbps,96Mbps -74dBm, 54 Mbps,108Mbps
Integrated Antenna Options	External Antenna	External Antenna	4.900-5.350GHz 21dBi, H-9,V-9 degree beam width flat panel or External Antenna N-Type Connector	5.725-5.850GHz 22dBi, H-9,V-9 degree beam width flat panel or External Antenna N-Type Connector
*Order optional external high-gain antennae separately				

3100 Series Ordering Options

- Radio configurations can be ordered with integrated antennas when applicable or with an N-type female connector for use with a high-gain external antenna
- Includes basic mounting hardware, POE injector, and localized power cord
- Order additional mounting hardware, optional external antenna and GPS modules separately
- Contact an AirTegrity representative for details on optional configurations



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About AirTegrity Wireless, Inc.

AirTegrity™ Wireless is a market leader providing a secure wireless broadband platform that encompasses all networking and security requirements for the delivery of voice and data services in a single cohesive product. AirTegrity award winning wireless modules operate in both licensed and unlicensed frequencies. AirTegrity™ Networks dramatically reduce the cost of network deployment, ownership and management by integrating Multi-Channel Radio and Antenna technology with powerful routing, switching and security functions into each AirTegrity™ system. Common combined applications include:

- Residential or business customer aggregation
- Solar Power relay Gateways Systems
- Enterprise/Campus Inter-building Connectivity
- Wireless Backhaul/Circuit Replacement
- Public Hot Spots



Reduced Cost of Deployment

As an integral component of the AirTegrity family of secure wireless broadband access products, the AT3100 Series Dual Radio Gateway Systems introduce a new level of product capability by combining specific features and functionality from Wireless, Wire-line, LAN, VPN, VoIP, Security, and Management products into a single cohesive solution, negating the need for multiple devices and technologies to be configured into the network. This facilitates a dramatic shift in capital and operating expenditures, significantly reducing the cost of deployment.

Secure, Bandwidth-Managed Wireless Networks

Wireless links are managed and bandwidth usage is controlled over routed links using powerful, flexible traffic shaping and bandwidth management software. Security is assured with AirTegrity integrated IPsec based VPN functionality, which uses a hardware assisted encryption engine to support the strongest commercially available encryption techniques, including AES. VPN functionality is supported on all wireless and wire-line links and supports a total throughput of up to 40 Mbps. Subscriber access rates are configurable and allocated in 64 Kbps blocks, all with individual, powerful firewall support.

Voice Over IP

Toll quality voice is supported by AirTegrity's industry standard SIP implementation and STUN (Simple Traversal of UDP through Network Address Translation) server (RFC 3489), an implementation of the STUN protocol that enables SIP-based communication through Firewalls. The STUN protocol enables a SIP client to discover whether it is behind a NAT, to determine the type of NAT, and to cleanly traverse it while maintaining your Firewall protection.

Non-Line of Sight (NLOS) and Meshed Solutions

The entire AirTegrity product family was designed to support Non Line of Sight (NLOS) connectivity via RIP and OSPF technology, eliminating the need for each host to have direct line-of-sight access to the AT3600 Series Base Transceiver Station/Sector controllers. In addition, the AT4000 Base Station Series supports auto-configuration of all AirTegrity Sector Controller, Access Points, Multi Radio Gateway Systems, and Subscriber Stations, greatly simplifying system installation.