

5000 Series

Wireless Broadband Backhaul Router Access Point



**2.4 GHz & 5.8 GHz
Unlicensed and
Licensed Frequencies**

**Secure Wireless
Broadband**

**Single Integrated
Solution**

**Aggregation and
Backhaul**

Hot Swap Power

**Local Cache
AAA/Radius**

**Secure
Switching**

Voice

Rapid ROI



High Availability Solutions

The **5000 Backhaul Wireless Router** from AirRunner Technologies offers a significant departure from conventional Wireless Aggregation and Backhaul product concept. The 5000 Series is tightly packaged into a deceptively small 19" rack chassis, while offering a combination of features and capability normally only found on products of considerably larger size and of much higher price.

Dark Space Capable, Aggregation and Backhaul

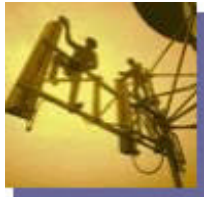
The 5000 Series is designed to sit at the edge of the network and aggregate client traffic back into the network. The product is specifically designed for non-manned remote site applications, requiring periodic service. When deployed with small aperture high gain antenna systems, the system is ideal for long distance backhaul applications. The 5000 Series encompasses the AirRunner Technologies advanced feature set and utilizes the AirRunner PMC modules. The 5000 Series incorporates a 19" Rack mounting chassis, front accessible Dual hot swap power supplies and 400 Gigabytes of inbuilt Hard Disc Storage that can be configured for local security and Caching applications. The storage can also be partitioned allowing the inclusion of AAA server functionality. The 5000 Series is a 'WISP in a box'.

Security and Caching

Generally speaking Caching systems improve Internet performance and end-user response time for enterprises and service providers. There are a variety of methods that provide this functionality; none however incorporate this capability into the network Aggregation layer. Notably, over the last few years, the customer requirements for enterprise proxy caches have evolved beyond providing acceleration and response time improvements to enabling more powerful, content-level security and control for Web traffic. Often referred to as "Best practices security" - without compromising network performance - is what organizations are demanding today. The challenge in any network design is how to offer the best security available without compromising network performance; this is however, complicated in wireless networks. AirRunner has met this challenge by incorporating advanced web Caching security and the strongest commercially available VPN IPsec. Powerful Firewall support with stateful packet inspection is available on all links.

Modular, Feature Rich Architecture

The architecture of the 5000 Series incorporates a variety of hardware configuration options that can be easily added, allowing multiple applications to be addressed from a single base configuration. The 5000 Series will accept any combination of AirRunner PMC cards into the available 3 option slots and combines specific, select features and functionality from Wireless, Wire-line, LAN, VPN, VoIP, Security, Caching and Management products into a single cohesive solution negating the need for multiple devices and technologies to be configured into the network. Wireless links are managed and bandwidth usage controlled over wireless and routed links using powerful, flexible traffic shaping and bandwidth management software. Security is assured with AirRunner's integrated VPN functionality and the inclusion of a powerful hardware assisted data encryption engine and IPsec endpoint capability. VPN functionality is supported on all wireless and wireline links and supports a total throughput up to 80Mbps (130Mbps future). Customer access rates are configurable and are allocated in 128Kbps blocks up to 22 Mbps allowing Service Providers to differentiate their services, manage bandwidth usage and generate revenue in incremental blocks.



Non Line of Sight, Mobile and Mesh Networking Solutions

The 5000 Series supports Non Line of Sight (NLOS) applications and seamlessly solves mobile applications using proprietary intelligent routed meshed networking techniques. For high-speed mobile applications such as transport or emergency vehicles AirRunner exclusively recommends using Dynamic Forward Routing (DFR) from Communique. Further information on DFR is available on application.

Voice over IP

Toll quality voice is supported with a 2 or 4 Line VoIP card. Industry standard protocol support for SIP and MGCP is provided.

5000 Series Specifications

Software Specifications

Configuration Interface	CLI - Cisco IOS compatible; HTML Web User Interface; Telnet; Asynchronous Serial Terminal
Network Services	Extensive and Flexible NAT (RFC 1918); PAT forwarding; DHCP Server, Client, Relay Agent; DNS Proxy; DNS Port Forward
IP Routing Services	RIP1 (RFC 1058); RIP 2 with MD5; OSPF; Static; DFR (Dynamic Forward Routing)
Network Services	Extensive and Flexible NAT (RFC 1918) and PAT forwarding; DHCP Server, Client, Relay Agent
VPN Services	Multiple link encryption – 3DES, DES, AES, Blowfish, CAST; AH; ESP; PPTP; PAP; CHAP
Diagnostics	Event log view; IP route table display; ARP; Ping; Trace route; DNS
Statistics	Link monitoring and statistics collection for each link including packets/bytes transmitted, received, dropped, errors, and average throughput etc.
Logging	Multi Level log file generation used to monitor network events, access attempts, and failures. Key events may trigger e-mail notification
Network Services	Extensive and Flexible NAT (RFC 1918) and PAT forwarding; DHCP Server, Client, Relay Agent
Operating Mode	Operates in Point-to-Point or Point-to-Multipoint mode and supports DFR and Mesh network architecture.
Protocols	IPv4, IPv6, PPPoE (RFC 2516), PPPoA (RFC 2364)

Base Unit Product Codes

5000-01-1	5000 Base Unit with 1 x 10/100 BaseT Ethernet port in a desktop enclosure	5000-01-4	5000 Base Unit with 4 x 10/100 BaseT Ethernet ports in a desktop enclosure
5000-01-1C	w/19" Rack Mount enclosure and 400GB Drive	5000-01-4C	w/19" Rack Mount enclosure and 400GB Drive
5024-01-1	5000-01-1 Base Unit with 1 x 2.4 GHz Wireless Module	5024-01-4	5000-01-4 Base Unit with 1 x 2.4 GHz Wireless Module
5024-01-1C	5024-01-1 with 400 GB Drive	5024-01-4C	5024-01-4 with 400 GB Drive
5058-01-1	5000-01-1 Base Unit w/ 1 x 5.8 GHz Wireless Module	5058-01-4	5000-01-1 Base Unit with 1 x 5.8 GHz Wireless Module
5058-01-1C	5058-01-1 with 400 GB Drive	5058-01-4C	5058-01-4 with 400 GB Drive

2000 Series Product Option Modules – Maximum of three per 5000 base unit

2024-01-1	2.4Ghz ISM Wireless module	21ET-01-02	Dual Port T1 / E1 module
2058-01-1	5.8 Ghz ISM Wireless module	21V3-01-01	Single Port V35 Interface module
21SA-01-4	4 Port Serial Asynchronous module	26VI-01-02	2 Port VoIP module
2210-01-4	4 x Switched 10/100 Ethernet Port Module	26VI-01-04	4 Port VoIP module
23AD-01-1	Single port ADSL module		

Wireless Specifications

Frequency Range	2.4 to 2.4835 GHz DSSS	5.15 – 5.25 GHz; 5.25 – 5.35 GHz; 5.725 – 5.850 GHz
Data Rate	1 – 11 Mbps	72 Mbps
Sensitivity	-89 dBm for 11 Mbps	-70 dBm at full bandwidth
Bit Error rate	1 x 10 ⁻⁶	TX Power +10 dBm to +32 dBm selectable
Antenna Connector	N type. Indoor and Outdoor Omni, Sectorized and high gain directional antenna systems supported.	

Hardware Specifications

Humidity	5% to 95% non-condensing	Power	AC 240/120V input nominal	Temperature	0 – 50C
Dimensions	19" Rack mount 2 or 3RU			Compliance	Pending

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Antenna and Cabling not included
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