



# 4000 Series

## Wireless Broadband Edge Router Access Point

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

**Secure Broadband  
Wireless**

**Single Integrated  
Solution  
10/100 Base-T  
802.11x  
DSL  
T1 / E1  
Voice**

**Non Line of Sight**

**Routing**

**Secure  
Switching**

**Voice**

**Rapid ROI**



### ***Mesh, Mobile and non Line-of-Sight Solutions***

The 4000 Series from AirRunner Technologies is a next generation edge access wireless VPN router designed to address a broad spectrum of indoor and outdoor user applications. The base unit is configured with either a single 10/100 BaseT Ethernet port or 4-switched Ethernet ports. Each unit will accept three AirRunner PMC cards that support any combination of 2.4Ghz or 5.8 Ghz wireless modules, a 4 port Ethernet switch card, a T1/E1 or ADSL port, serial asynchronous 4 port card or a 2 or 4 port VoIP port card. Other licensed and non-licensed frequency wireless modules are available.

### ***Infrastructure Builders - Enterprises, WISPs & Service Providers***

The 4000 Series has been developed specifically to meet the evolving and demanding requirements of the Wireless Internet Service Provider (WISP), the edge Service Provider and the corporate enterprise environment. Ideal applications include IPSec based VPNs to provide very secure, high-speed access for residential, commercial and service provider gateway applications. The 4000 Series is conveniently packaged into a desktop or rack mounted enclosure and is ideally suited for point-to-point and point-to-multipoint edge aggregation applications. The 4000 Series systems address meshed, Mobile and NLOS applications and can be used as an Access Point or Client system. The 4000 and 5000 series systems can be deployed as an Access Point with AirRunner 3000 series Customer premise equipment systems.

### ***Reduced Cost of Deployment***

The 4000 Series introduces a new paradigm in 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, reducing the cost of deployment by up to 83%.

### ***Modular, Feature Rich Architecture***

The architecture of the 4000 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 system will accept any combination of up to three optional AirRunner PMC interface cards.

### ***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 AirRunner's integrated IPSec based VPN functionality via hardware assisted encryption engine. VPN functionality is supported on all wireless and wireline links and supports a total throughput up to 80 Mbps. 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. Wireless communications are typically encrypted to ensure packet level authentication and fully private data communication. Powerful firewall support is available on all links.



## Non Line of Sight, Mobile and Mesh Networking Solutions

The 4000 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.

### Web Caching

Optional integrated 80GB drive provides content caching to drastically reduce backhaul bandwidth consumption.

## 4000 Series Specifications



### Software Specifications

#### Configuration Interface Network Services

CLI - Cisco IOS compatible; HTML Web User Interface; Telnet; Asynchronous Serial Terminal  
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

<b>4000-01-1</b>	4000 Base Unit with 1 x 10/100 BaseT Ethernet port in a desktop enclosure	<b>4000-01-4</b>	4000 Base Unit with 4 x 10/100 BaseT Ethernet ports in a desktop enclosure
<b>4000-01-1C</b>	w/19" Rack Mount enclosure and 80GB Drive	<b>4000-01-4C</b>	w/19" Rack Mount enclosure and 80GB Drive
<b>4024-01-1</b>	4000-01-1 Base Unit with 1 x 2.4 GHz Wireless Module	<b>4024-01-4</b>	4000-01-4 Base Unit with 1 x 2.4 GHz Wireless Module
<b>4058-01-1</b>	4000-01-1 Base Unit with 1 x 5.8 GHz Wireless Module	<b>4058-01-4</b>	4000-01-1 Base Unit with 1 x 5.8 GHz Wireless Module

### 2000 Series Product Option Modules – Maximum of three per 4000 base unit

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

### Wireless Specifications

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

### Hardware Specifications

<b>Humidity</b>	5% to 95% non-condensing	<b>Power</b>	AC 240/120V input nominal	<b>Temperature</b>	0 – 50C
<b>Dimensions</b>	W 12 x H 1.8 x D 8 inches; W30 X H4.5 x D 20 Centimetres			<b>Compliance</b>	Pending

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