



# *Wireless networking solutions enter a new sphere*



*BreezeNET® PRO.11*

*The standard in enterprise wireless networks.*

*It's here.  
BreezeNET PRO.11.*

*IEEE 802.11 wireless  
networking is a breeze!*



## *Introducing BreezeNET PRO.11*

All of a sudden, wireless networking enters a new sphere. Standards based. Powerful. Easy to install. Now you can quickly connect anywhere as your network requirements change, as you open new locations, when you need temporary network access, and as your mobile users increase.

Since the BreezeNET PRO.11 family adheres to the IEEE 802.11 standard, it works seamlessly with other 802.11 wireless LAN products and its open architecture supports any standard computer platforms from PCs to Macs to Unix workstations and pen tablets — or any other device with an Ethernet connection. With BreezeNET PRO.11 you finally realize all of the benefits of flexible, plug-and-play network connections that maintain mobility and accommodate temporary, ad-hoc, building-to-building, in-building and Internet connections.

### *Applications unlimited*

Who needs BreezeNET PRO.11? Typical users include offices, manufacturing and warehouse facilities, hospitals, schools, construction sites, temporary venues, malls, airports, and remote offices. In fact, BreezeNET PRO.11 is so versatile, you can let your imagination fly because the old limits of wired networking just don't apply.

Installing BreezeNET PRO.11 is smooth sailing. Network managers can quickly and easily add it

to existing networks. It provides a familiar software environment, just like your wired LAN. You'll be up and running in a fraction of the time it takes to cable and install traditional wired Ethernet networks.

### *Performance and reliability to the max*

BreezeNET PRO.11 products are designed from the start for maximum performance and reliability. Operating in the 2.4 GHz unlicensed ISM band, BreezeNET PRO.11 client adapters and access points are up to three times faster than other wireless network devices. They offer a data rate of up to 3 megabits per second, a range of up to eight miles outdoors, 600-ft. indoors and roaming speeds up to 60 mph.

All BreezeNET PRO.11 products are built around BreezeCOM's advanced component technology, including modems implemented using Digital Signal Processing technology. Two distinct product categories are available: Models with built-in diversity antennas for in-building use and models with external antenna connectors for building-to-building installations. All are software upgradeable to the latest standards, so your BreezeNET wireless network can grow and change as your needs grow and change.

### *BreezeCOM BreezeNET PRO.11*

Wireless networking with a breeze at your back.



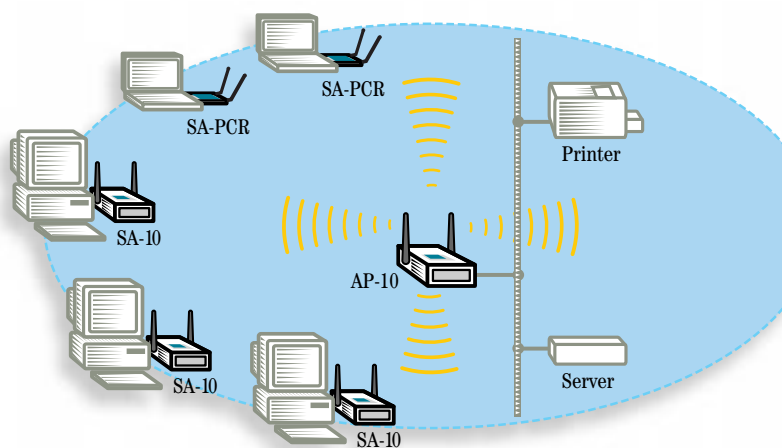


## Meeting standards, setting standards

All BreezeNET PRO.11 are:

- IEEE 802.11-compatible. Interoperable with other IEEE 802.11-compliant spread spectrum, frequency-hopping WLAN products
- IEEE 802.3-compatible
- PC Cards are PCMCIA-compatible
- Works with standard platform PCs, Macintosh, RISC-based systems, 68000-based controllers and workstations, as well as peripherals such as printers, scanners, CD players, and more.
- Works with Ethernet point-of-sale terminals, thin clients, and palmtops
- Works seamlessly with a wired network, looking like another network device to the network manager. No special expertise required for set-up.

## BreezeNET PRO.11 In-Building Products



Clients can be using:  
SC-PCR PRO.11 PC Card  
SA-10 PRO.11 single-port station adapter  
SA-40 PRO.11 four-port station adapter

In-building BreezeNET PRO.11 products have a built-in diversity antenna system that assures maximum wireless coverage throughout a building or other facility — large or small. BreezeNET is ideal for traditional mobile networks, such as hospital patient care systems, warehouse/inventory tracking systems, point-of-sale networks, and client conference rooms used by legal and financial planning professionals.

### AP-10 PRO.11 Access Point



Used to extend your wired enterprise network, or alone as a totally wireless network. The AP-10 PRO.11 connects directly to your 10Base-T Ethernet backbone via an RJ-45 connector, transmitting network information from your wired LAN and server resources to BreezeNET wireless clients who can be stationary or mobile.

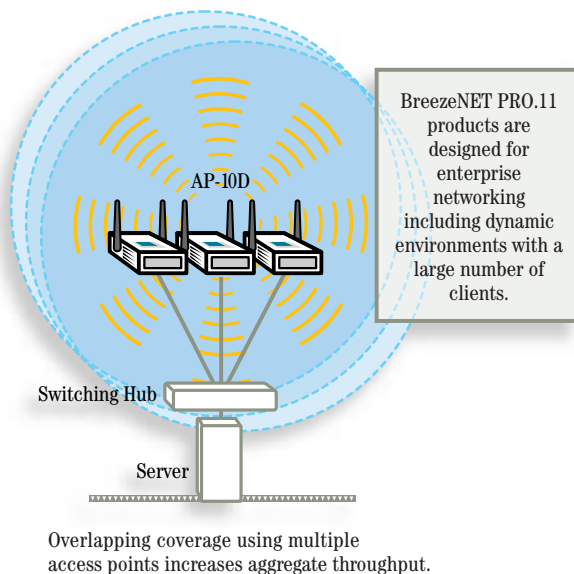
The AP-10 Access Point is the "hub" of the wireless system.

The AP-10 PRO.11 is designed as a true low-profile network infrastructure product, much like a wired hub or switch. In contrast, competitive products take an ISA or PCMCIA adapter and insert it into a bridge chassis. This creates a wireless backbone "kludge" that can impact network performance and reliability.

The AP-10's top-down design results in an access point that's easy to install, configure and manage, and delivers maximum throughput. With a data rate of up to 3 Mbps and a transmission range up to 3,000 ft. in open space, or 600 ft. in an office, it can provide an aggregate backbone data rate up to 15 Mbps using a multicell configuration.

### WIX™

A proprietary algorithm, WIX manages the AP-10 PRO.11 in "multicell" environments. WIX lets you increase aggregate backbone by overlapping up to 15 access point coverage areas or "cells." This capability is especially valuable in high traffic in-building applications where multiple client devices are transmitting and receiving in a common area. WIX manages the multi-cell environment by balancing the load between access points, off-loading traffic to each of these as necessary. Additionally, overlapping coverage using multiple access points increases aggregate throughput.



### SA-PCR PRO.11 PC Card

It's nothing less than the first truly innovative wireless PC Card. At a data rate up to 3 megabits per second and an indoor range up to 600 ft., it's also the best performing IEEE 802.11-compliant card available anywhere. With its retractable, extremely flexible, titanium wire antennas, the SA-PCR PRO.11 is the low profile PC card mobile client device users are waiting for. The SA-PCR supports all popular operating systems, including Microsoft Windows®95, Windows NT™, Windows 3.11, Windows CE, DOS, and Novell NetWare.



### SA-10 PRO.11 Single-Port Station Adapter



Single-port, universal client adapter with built-in diversity antenna system, connects to any RJ-45 10BASE-T Ethernet port, providing a true plug-and-play wireless solution for PCs, Macs, Unix workstations, hand-held data input units, printers and most other computing and peripheral devices without the need to install additional drivers or configure hardware interrupts.

### SA-40 PRO.11 4-Port Station Adapter

A cost-effective, convenient 4-port wireless "mini-hub" version of the SA-10 PRO.11 connects up to four Ethernet clients to your wireless network.



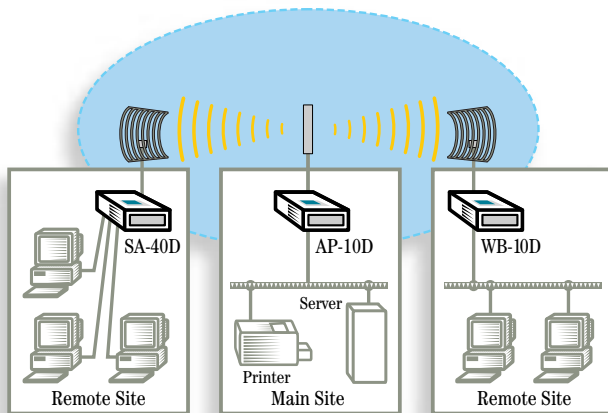
### WB-10 PRO.11 Workgroup Bridge



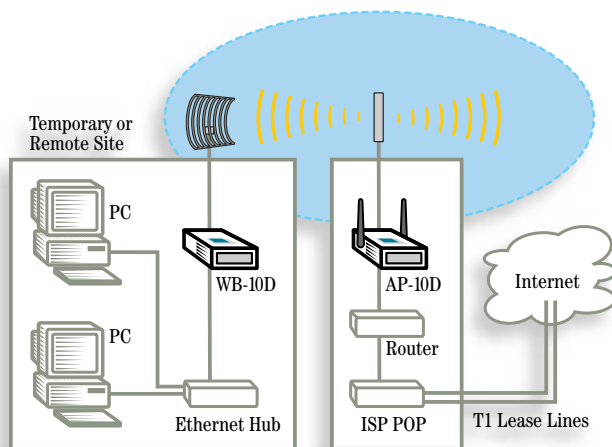
Connects a remote Ethernet network, wired or wireless, to an AP-10 PRO.11 Access Point. It can handle up to 256 hardware addresses and includes cache RAM to handle high volume network traffic. Diversity antenna system is built-in. For bridges with detached antenna systems, see the BreezeNET PRO.11 building-to-building product line.



## BreezeNET PRO.11 Building-to-Building Products



The BreezeNET PRO.11 "D" Model Bridge with detachable diversity antenna system provides wireless links between networks or devices up to eight miles apart. Coupled with a complete family of omni- and uni-directional high-gain antennas, network managers can set up connections between remote network sites outdoors and indoors in large open areas, including headquarters, remote buildings, convention halls, hangars, and warehouses. With a data rate up to 3 megabits per second, the Model D provides a reliable frequency hopping spread spectrum connection that does not sacrifice performance. It is also extremely cost-effective, especially compared with cost of lease lines and underground cabling.



Typical Model D applications include ISP Internet connections to customer sites, network connections between schools and remote classrooms, and quick deployment of networks for special events. All D Models come with mounting bracket and power supply

## AP-10D PRO.11 Base Station Bridge

Based on the AP-10  
PRO.11 in-building



Access Point, the AP-10D PRO.11 is the central unit for creating a point-to-point, or multi-point link using Model D bridges.

## SA-PCD PRO.11 PC Card with Detached Antenna System

The SA-PCD PRO.11 allows laptops and other specialized computing devices to be connected to the network using high gain, detachable antennas. Typical applications include vehicular networks such as fleets and automated cranes, robots control systems with built in PCMCIA slots, and outdoor networks which use laptops and may require longer transmission ranges.

## SA-10D PRO.11 Single Station Bridge

Connects a single Ethernet device back to the AP-10D PRO.11 Base Station Bridge. It handles a single hardware address and can connect a single Unix workstation, PC, Mac, or peripheral.

## SA-40D PRO.11 Four Station Bridge

Connects four Ethernet devices back to the AP-10D PRO.11 Base Station Bridge. It handles up to four hardware addresses and can connect up to four workstations or peripherals.

## WB-10D PRO.11 Workgroup Bridge

Connects a remote Ethernet network to an AP-10D multipoint base station site or to another point-to-point remote site. It handles up to 256 hardware addresses and includes cache RAM to handle high volume network traffic.

**BREEZecom**  
Leading Wireless Technology

For more information about BreezeCOM's full line of BreezeNET PRO.11 detachable, high gain antennas, see the BreezeNET PRO Antenna Catalog.

	AP-10, SA-10, SA-40, WB-10, all Model D bridges	SA-PCR / SA-PCD
<b>PRODUCT FEATURES</b>		
Data rate	Up to 3 Mbps	Up to 3 Mbps
Net throughput	Up to 1.9 Mbps	Up to 1.6 Mbps
Aggregate	Over 15 Mbps (overlapped cells)	
Range		
Integrated antennas	2,000 ft. (600 meters)	2,000 ft. (600 meters)
External antennas	6 miles US/FCC	6 miles US/FCC
Office environment	500 ft. (150 m)	500 ft. (150 m)
High speed roaming	Up to 60 mph (90 km/h)	Up to 60 mph (90 km/h)
No. of APs per wired LAN	Unlimited	
Max. no. of Co-located cells (access points)	15	
Load sharing support	Yes	Yes
<b>WIRED LAN INTERFACE</b>		
Compliant with	Ethernet/IEEE 802.3 CSMA/CD	
Physical interface	10BaseT	PCMCIA 2.1 Type II slot
Connector type	RJ-45	PCMCIA 2.1 Type II
Network Operating Systems	ALL	Windows 95 & NT, NetWare 3.x, 4.x, DOS
Network Drivers	N/A	NDIS 2, NDIS 3, ODI
Wireless LAN Interface	Compliant with IEEE 802.11	Compliant with IEEE 802.11
<b>RADIO SPECIFICATIONS</b>		
Type	Frequency Hopping Spread Spectrum	Frequency Hopping Spread Spectrum
Frequency Range	2.4 GHz - 2.4835 GHz Industrial, Science, Medical band	2.4 GHz - 2.4835 GHz Industrial, Science, Medical band
Antenna System	Dual diversity	Dual diversity
Transmitted Power		
Integrated antennas	10 mW or 100 mW (20 dBm) EIRP	100 mW (20 dBm) EIRP
External antennas	50 mW (17 dBm) at the connector Up to 36 dBm EIRP for 24 dBi antenna	
Sensitivity @1 Mbps	-83	-83
@ 2 Mbps	-75	-75
@ 3 Mbps	-67	-67
Modulation	2, 4, 8 Multilevel GFSK	2, 4, 8 Multilevel GFSK
Demodulation	DSP based w/adaptive equalization	DSP based w/adaptive equalization
Approvals of Compliance	FCC part 15, ETS 300-328, UL, UL/C,TUV/GS, CE	FCC part 15, ETS 300-328, UL, UL/C,TUV/GS, CE
<b>CONFIGURATION &amp; MANAGEMENT</b>		
Configuration and Setup	Via local monitor port (serial RS-232) and SNMP	Via PC-based software
Site Survey	Via local monitor port (serial RS-232)	Via PC-based software
LED indicators	Power on, Wired LAN activity, WirelessLAN synchronization, Wireless LAN signal Quality/load	Link status, data traffic
SNMP management	Yes	n/a
S/W upgrade	Yes, using TFTP download	Yes, using PC
<b>ELECTRICAL</b>		
External power supply	100 V - 250 V, 50 - 60 Hz 0.5 A	From PCMCIA slot
Input Voltage	5 VDC	5 VDC
Power Consumption	1.5 A (peak)	TX: 360 mA/RX: 285 mA (peak)
Power Save Mode		Avg. TX & RX less than 30 mA
<b>SIZE &amp; WEIGHT</b>		
Dimensions (w/o antennas)	5.1" x 3.4" x 1.35" (13cm x 8.6cm x 3.4cm)	Standard PCMCIA Type II
Weight	0.9 lb (0.4 kg)	1.1 Oz (32g)
<b>ENVIRONMENTAL</b>		
Operating temperature	32° F - 105° F (0° C - 40° C)	32° F - 105° F (0° C - 40° C)
Operating humidity	5% - 95% non condensing	5% - 95% non condensing

## Leading wireless technology

BreezeCOM is a leader in the development and production of wireless communications products for telecommunications, data communications and wireless LAN applications. Our high performance products use frequency-hopping, spread-spectrum radio technology and operate in the license-free 2.4 GHz ISM (industrial, scientific and medical) band. BreezeNET products are extremely reliable, easy to install and offer an exceptionally cost-effective way to add connectivity in your organization.



**Visit us on the web:**

[www.breezecom.com](http://www.breezecom.com)

**Or call BreezeCOM®**

Phone: (760) 431-9880

Fax: (760) 431-2595



### BreezeCOM, Inc.

2195 Faraday Avenue, Suite A  
Carlsbad, CA 92008-7207

### BreezeCOM Corporate Offices

BreezeCOM, Ltd.  
Atidim Technological Park, Building 1  
Tel Aviv 61131, Israel  
Phone: 972-3-645-6262  
Fax: 972-3-645-6222

### BreezeCOM Latin America

Br. Espaoa, 2705 / 405  
Montevideo, Uruguay, 11300  
Phone/Fax: 598-2-707-9687  
Email: [pablo@breezecom.com](mailto:pablo@breezecom.com)

### BreezeCOM France

Batiment GALA, 9 Parc Ariane  
78284 Guyancourt Cedex, Paris  
Phone: 33-1-3048-8320  
Fax: 33-1-3048-8340  
Email: [alons@breezecom.com](mailto:alons@breezecom.com)

### BreezeCOM U.K.

6 Westmarch, River Way  
Andover, Hampshire, England  
Phone: 44-1264-334-153  
Fax: 44-1264-334-147

### BreezeCOM China

Rm. 1005, 10/F, East Ocean Centre  
A24 Jian Guo Men Wai Avenue  
Chao Yang Dist., Beijing 100022 China  
Phone: 86-10-651-55833  
Fax: 86-10-651-55835

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