

International Corporate

Headquarters
Tel: +972 3 645 6262
Fax: +972 3 645 6222
Email: corporate-sales@alvarion.com

North America Headquarters

Tel: +1 760 517 3100
Fax: +1 760 517 3200
Email: n.america-sales@alvarion.com

Latin America & Caribbean

Tel: +1 954 746 7420
Fax: +1 954 746 9332
Email: lasales@alvarion.com

Brazil

Tel: +55 11 3815 6225
Fax: +55 11 3813 0467
Email: brazil-sales@alvarion.com

China

Tel: +86 10 8857 6770
Fax: +86 10 8857 6772
Email: china-sales@alvarion.com

Czech Republic

Tel: +420 222 191 233
Fax: +420 222 191 200
Email: czech-sales@alvarion.com

France

Tel: +33 1 34 38 54 30
Fax: +33 1 34 38 54 39
Email: france-sales@alvarion.com

Germany

Tel: +49 89 90405 923
Fax: +49 89 90405 922
Email: germany-sales@alvarion.com

Japan

Tel: +81 3 3761 7206
Fax: +81 3 3761 7208
Email: alvarion-japan@alvarion.com

Mexico

Tel: +52 555 340 1421
Fax: +52 555 340 1403
Email: mexico-sales@alvarion.com

Romania

Tel: +40 21 335 7631
Fax: +40 21 335 7634
Email: romania-sales@alvarion.com

Russia

Tel: +7 (095) 783 82 31
Fax: +7 (095) 287 98 99
Email: info@alvarion.ru

U.K. & Ireland

Tel: +44 845 450 1414
Fax: +44 845 450 1455
Email: uk-sales@alvarion.com

Uruguay

Tel: +598 2 606 2651
Fax: +598 2 606 2652
Email: lasales@alvarion.com

© Copyright 2004 Alvarion Ltd. All rights reserved.
Alvarion, BreezeCOM, WALKair, WALKnet, BreezeNET, BreezeMANAGE, BreezeACCESS, BreezeLINK, BreezePHONE, MGW, eMGW and/or other products and/or services referenced here in are either registered trademarks, tradenames or service marks of Alvarion Ltd.
All other names are or may be the trademarks of their respective owners.
The content herein is subject to change without further notice.



www.alvarion.com

Specifications

Radio	
Frequency	5.725-5.850 GHz, 5.47-5.725GHz
Radio type	OFDM, TDD
Channel bandwidth	20 MHz
Center frequency resolution	10 MHz
Output power (at antenna port)	Up to 21 dBm
Modulation	BPSK, QPSK, 16QAM, 64QAM
Sensitivity	-89dBm at BPSK -86dBm at QPSK -81dBm at 16-QAM -71dBm at 64-QAM (54Mbps)
Antenna	BU and RB 21dBi, 10.5" horizontal x 10.5" vertical, flat. Integrated antenna EN 302 085, Class TS 1,2,3,4,5 compliant BU and RB 23dBi, 9" flat Detached antenna 28dBi, 4.5" flat
Antenna port (detached model)	N Type, 50 Ohm
Data Communication	
Standard compliance	IEEE 802.3 CSMA/CD
VLAN support	Based on 802.1q
Security	a. Association protocol - ESSID b. WEP 128, AES c. IP level filtering for user addresses or protocols d. Access direction and IP address filtering for management
Configuration and Management	
Management options	Via Telnet SNMP based configuration utility Configuration upload/download
Remote management access	From wired LAN, wireless link
Management access protection	a. Multi-level password b. Configuration of remote access direction (from Ethernet only, from wireless link only or from both sides) c. Configuration of IP addresses of authorized stations
Allocation of IP parameters	Configurable or automatic (DHCP client)
Software upgrade and configuration up/download	FTP/TFTP download
SNMP agent	SNMP V1 Client, MIB II, Bridge MIB, Private BreezeNET B MIB
Electrical Characteristics - RB and BU	
Power consumption	25W
Input power	AC, 100-240 VAC, 50-60 Hz
Indoor - outdoor cable	CAT-5 shielded, 90m max
Indicators	Indoor unit Power, Link and Ethernet LEDs Outdoor unit Status, Ethernet and W-Link LEDs SNR 10 LEDs bar indicator (RB only)
Connectors	Data RJ-45 AC Power 3 pin AC power plug (indoor unit only)
Physical and Environmental	
Dimensions - RB and BU	Indoor unit 16 x 9 x 6 cm (0.55 Kg) Outdoor unit with integrated antenna 43.2 x 30.2 x 5.9 cm (2.9Kg) Outdoor unit detached (w/o antenna) 30.6 x 12 x 4.7 cm (1.85 Kg)
Operating temperature	Outdoor unit -40°C to 55°C Indoor unit 0°C to 40°C
Operating humidity	Outdoor unit 5%-95% non condensing, weather protected Indoor unit 5%-95% non condensing
Standards and Regulations	
Radio	FCC part 15, ETSI EN 301 753, ETSI EN 301 021
EMC	FCC part 15 class B, ETSI EN 489-1
Safety	UL 1950, EN 60950
Lightning protection	EN 61000-4-5, Class 3 (2kV)
Environmental	Operation ETS 300 019 part 2-3 class 3.2E for indoor unit ETS 300 019 part 2-4 class 4.1E for outdoor unit Transportation ETS 300 019-2-2 class 2.3 Storage ETS 300 019-2-1 class 1.2E



BreezeNET B

Taking PTP Wireless to a Higher Point of Efficiency

- Ethernet bridging & backhauling
- OFDM technology
- Outdoor radio with extra long range
- Robust performance in NLOS environments
- Multi level data security protection
- Suitable for a wide range of point-to-point applications
- Unlicensed 5 GHz bands
- Simple installation and maintenance



Product Highlights & Advantages

- Cost effective alternative to leased lines with fast ROI
- Optimal cost/performance ratio: highly cost efficient solution
- Robust outdoor architecture: ensures unprecedented range and reliability
- Superior OFDM radio: enables Non Line Of Sight (NLOS) capabilities in dense urban environments
- Ideal for noisy environments: Adaptive Modulation and Forward Error Correction (FEC) features optimized performance
- High throughput: up to 54 Mbps
- Variety of frequencies: in the 5 GHz band
- Non-compromising Security: AES or 128 bit WEP key encryption (selectable)
- Easy to install and adjust: full LED diagnostics, 10-LED bar display for antenna alignment, user-friendly management tool application
- Simple to upgrade: update software and reconfigure settings over the air
- Built-in remote diagnostics: minimize maintenance costs and downtime
- Supports Dynamic Frequency Selection (DFS) and Automatic Transmit Power Control (ATPC)

BreezeNET B: The Optimal Point-to-Point Solution

The BreezeNET B is a family of wireless point-to-point bridging solutions that operate in the unlicensed 5GHz band and provide an efficient and highly secured solution for building-to-building connectivity and backhauling. It is an ideal cost efficient alternative to expensive leased lines, providing an instant link for connecting remote local offices to headquarters, and isolated buildings on campuses and in industrial zones.

Moreover, ISPs can leverage BreezeNET B as a powerful and cost-effective wireless link to backhaul their point-to-multipoint data to their Internet access network, avoiding the need for expensive, leased lines over wire line infrastructures.

Operating Beyond the Line of Sight

Alvarion developed the BreezeNET B in recognition of the need to provide a viable and cost-effective solution for dense urban and industrial environments where a clear line of sight for point-to-point applications is not always available. To that end, the BreezeNET B leverages both robust outdoor technologies and Orthogonal Frequency Division Multiplexing (OFDM) modulation in the same product. With features such as Forward Error Correction (FEC) coding, used to combat multi-path and noisy environments, the product operates seamlessly and efficiently in Non Line Of Sight (NLOS) environments with a relatively powerful throughput. The system also features adaptive modulation for automatic selection of modulation schemes to maximize the data rate and improve spectral efficiency. These inherent advantages of the BreezeNET B enable service providers to provide an effective PTP solution to a significantly higher subscriber base that would otherwise be inaccessible, due to LOS restrictions.

Crossing the Digital Divide for a Wide Range of Point-to-Point Environments

Business enterprises, municipalities, university campuses, law enforcement agencies and other private and public institutions typically have multiple facilities or buildings that are spread over a wide urban or rural area. BreezeNET B point-to-point solutions achieve an instant building-to-building link. Organizations that rely upon Ethernet/LAN connections no longer need to worry about their remote buildings/branches being left out of the network loop; BreezeNET B provides a seamless, efficient and secure wireless bridge with high-bandwidth transmissions, covering large distances in harsh and adverse environments and weather conditions.

Highly Secured Air Interface

BreezeNET B supports security sensitive applications through the optional use of authentication and/or data encryption utilizing AES or WEP algorithms with 128 bit keys. The system also supports VLAN based on IEEE 802.1Q, facilitating secure operation and Virtual Private Networking (VPN) services and enabling remote employees or offices to conveniently access their enterprise network.

Product Variations

BreezeNET B is available in two main variations, BreezeNET B14 and BreezeNET B28, which differ mainly in their throughput. Each product variation is available with a 21dBi integrated antenna or with a connector for a detached external antenna (in which case it can be used with either a 23 or 28 dBi flat antenna or 31 dBi parabolic antenna). The BreezeNET B product variation offering allows an optimal cost/performance solution for every PTP application.

Built to Last

All BreezeNET B products are robust outdoor units that are built to perform in difficult climatic environments and withstand even the harshest weather conditions. Outdoor units typically maintain a significantly higher link budget than their indoor counterparts and therefore achieve higher performance and availability. Unlike point-to-point indoor units, which employ RF cables to run signals to rooftop antennas, outdoor units utilize a simple CAT-5 connection, which enables a significant reduction in the loss of power/DB levels. CAT-5 cables are also far easier to install and cost considerably less.

BreezeNET B System Components

Base Unit (BU)

The Base Unit (BU) is installed at one end of the PTP link and connects the link to a central server or to the Internet. The BU is composed of two parts, a universal Indoor Unit (IDU) and an Outdoor Unit (ODU). The main advantage of the product is that the radio and the signal processing are both in the outdoor unit; therefore, the unit is a true outdoor device with no power loss associated with its indoor/outdoor cable.

The outdoor unit is available with an integrated antenna or without an antenna (in which case an external antenna can be used).

Remote Bridge (RB)

The RB is placed at the far end of the PTP link, connecting the end user to the centrally located BU. It is also composed of two parts, an identical universal indoor unit, like the one used in the BU, and an outdoor unit that is also available with or without the integrated antenna.

BU-B14 or BU-B28 Base Unit	Connects directly to the 10/100 Base-T Ethernet backbone and links it to the central network point.
RB-B14 or RB-B28 Remote Bridge	Connects directly to the 10/100 Base-T Ethernet LAN and links the remote Ethernet LAN to the central point via the Base Unit, servicing up to 1024 stations

