BILLION

BiPAC 3011G WLAN 11g USB Adapter

User Manual

This product is in compliance with the essential requirements and other relevant provisions of the R&TTE directive 1999/5/EC.

CE 0984 (!)

Product Name: BiPAC 3011G WLAN 11g USB Adapter

Model Name :   BiPAC 3011G

COUNTRY		CHANNELS	MAX. OUT POWER	
			INDOOR	OUTDOOR
Spain	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
France	2400-2454 MHz	1-8	< 100 mW EIRP	< 100 mW EIRP
France	2454-2483.5 MHz	9-13	< 100 mW EIRP	< 10 mW EIRP
Italy	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
UK	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Netherlands	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Germany	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Austria	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Belgium	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Switzerland	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Luxemburg	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Ireland	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Portugal	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Norway	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Denmark	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Finland	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Iceland	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Greece	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Lichtenstein	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP
Sweden	2400-2483.5 MHz	1-13	< 100 mW EIRP	< 100 mW EIRP

FCC INFORMATION

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no grantee that interference will not occur in a particular installation. If this equipment dose cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

--Reorient or relocate the receiving antenna.

--Increase the separation between the equipment and receiver.

--Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

--Consult the dealer or an experienced radio/TV technician for help.

Notice: The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.

REGULATORY INFORMATION

BiPAC 3011G WLAN 11g USB Adapter must be installed and used in strict accordance with the instructions. This device complies with the following radio frequency and safety standards.

USA - Federal Communications Commission (FCC)

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference that may cause undesired operation.

Contents

1. Overview

1.1 Product Feature

Complies with the IEEE802.11b/g 2.4GHz (DSSS) standard

High-speed data transfer rate – up to 54Mbps

Support 64/128-bit WEP Data Encryption function for high level of security

Supports peer-to-peer communication among any wireless users, no Access Point required

Automatic fallback increases data security and reliability

Supports the most popular operating system: Windows 98SE/ME/2000/XP

Portable and mini-size design

Suitable for Any Notebook or Desktop PC

1.2 Application

Wireless LAN network defined by IEEE 802.11b standard committee could be Configure as: **Ad Hoc wireless LAN** or **Infrastructure wireless LAN.**

Ad Hoc network is a group of notebooks with wireless LAN adapter, called a BSS (Basic Service Set). These notebooks use their wireless LAN adapter to communicate with each other directly.
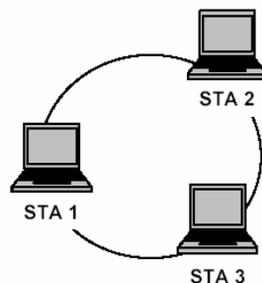
Figure 1.2.1 Ad Hoc wireless network

The most obvious differentiation between **Infrastructure** wireless network and **Ad Hoc** wireless network is that the notebooks in **Infrastructure** wireless network can make use of the resource in the Internet through **Access Point**.
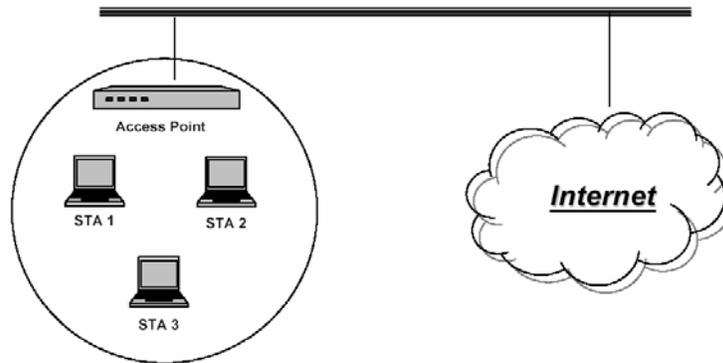
Figure 1.2.2 Infrastructure wireless network

To set up your notebook's network as the type of "**Ad Hoc**" or "**Infrastructure**" wireless network depends completely on your requirement. Generally, if your network environment has an **Access Point**, it's recommend that you set it as "**Infrastructure**" mode to connect to the **Internet**.

1.3 Package Contents

Item:	Location:
BiPAC 3011G WLAN 11g USB Adapter	BOX
BiPAC 3011G WLAN 11g USB Adapter drivers/utility	CD-ROM
BiPAC 3011G WLAN 11g USB Adapter User Manual	CD-ROM
BiPAC 3011G WLAN 11g USB Adapter Quick Start Guide	CD-ROM

1.4 System Requirements

Notebook PC or desktop PC with one free USB 2.0 port
32MB memory or greater
300MHz processor or higher
Microsoft Windows XP / 2000 / Me / 98SE

2 Driver installation

1. Insert the BiPAC 3011G WLAN 11g USB CD in the CD-ROM drive and wait until first page appears.

Note: In case this screen does not appear, in Windows Explorer browse to your CD-ROM and double-click the Setup.exe file.

2. Click Install Driver, and click next in the next page.
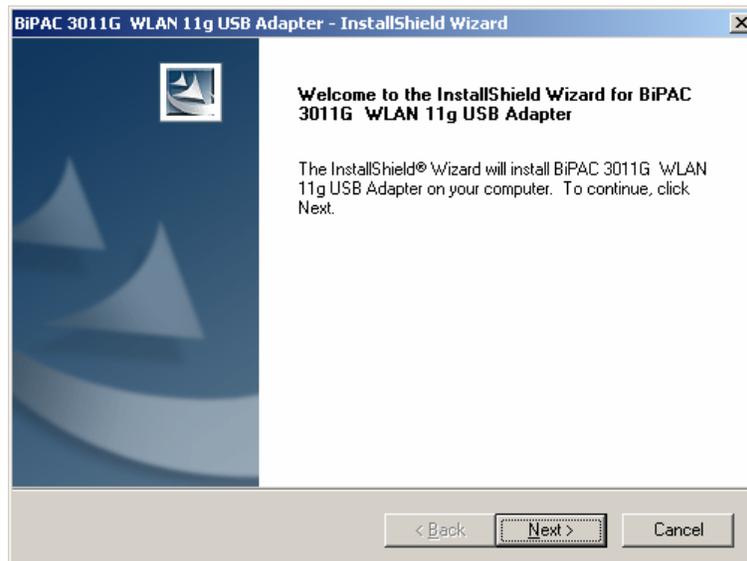
3. Click [**Next**] to accept, or [**Browse]** to change the default destination folder.
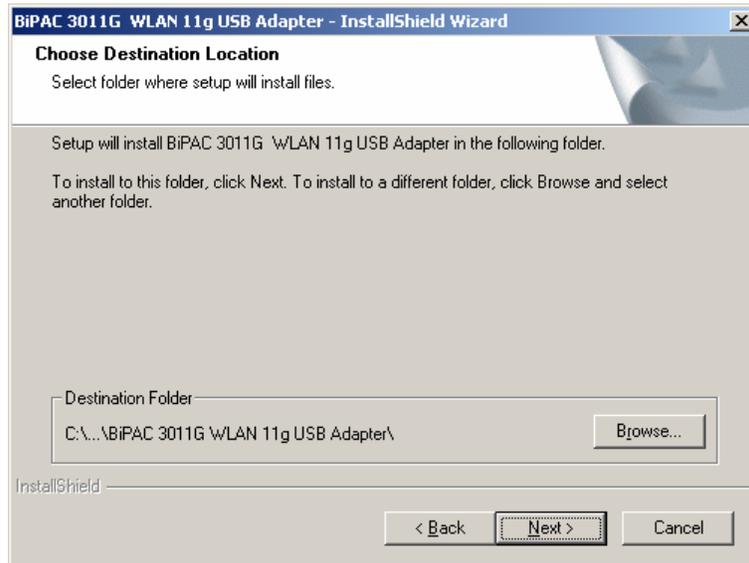
4. Click [**Next**] to accept, or change the default Program Folder name.
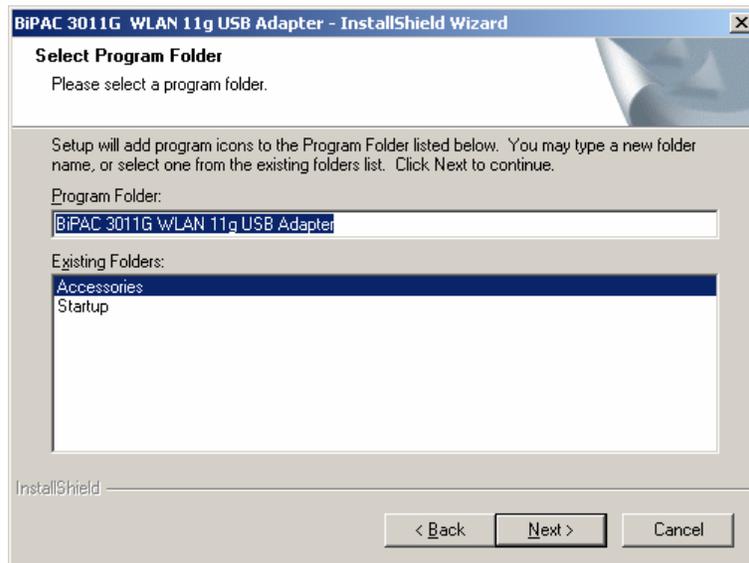
5. Click [**Yes**] to accept add shortcut to Desktop, or [**No**] to next setp.
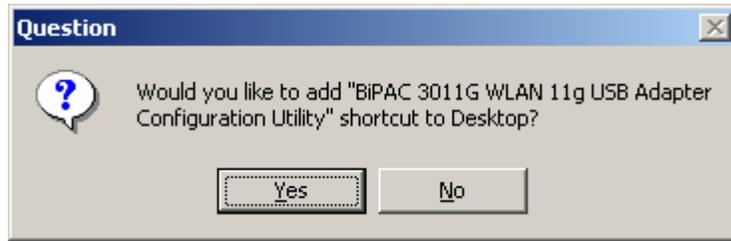
6. Click [**Yes**] to accept the driver install.

7. Click [**Yes**] to accept the driver install
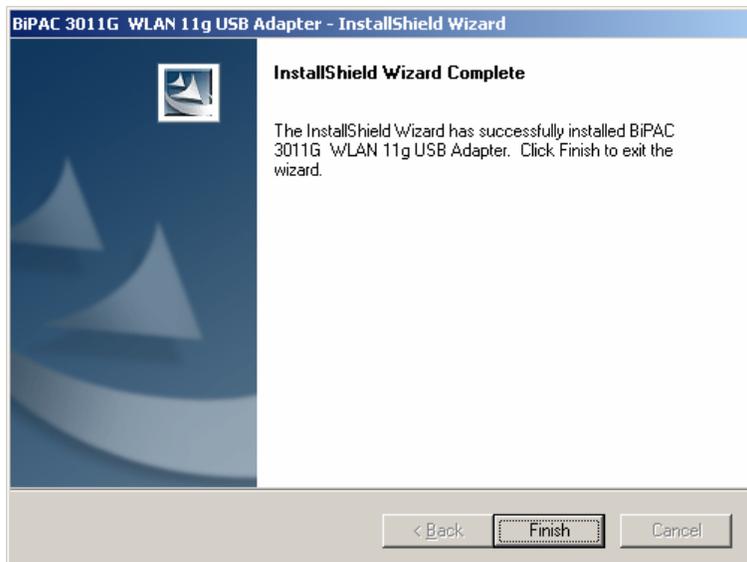
8. Now connect your BiPAC 3011G WLAN 11g USB Adapter to the USB port of your computer. In the *Find New Hardware Wizard* that appears on your screen select [**No, not this time**], and click [**Next**].

9. Select [**Install the software automatically (Recommended)**], and click [**Next]**
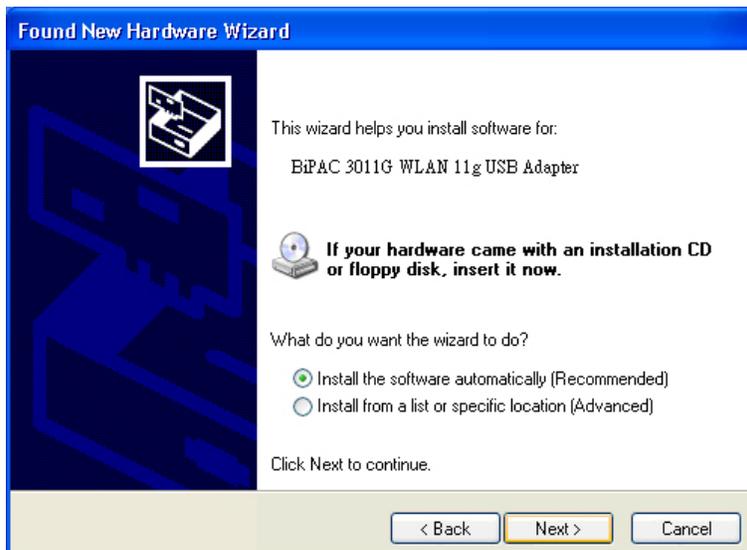
10. Click **[Finish]** to finalize the installation. Your BiPAC 3011G WLAN 11g USB Adapter is now ready for use.

3 The BiPAC 3011G WLAN 11g USB Adapter utility

Open the BiPAC 3011G WLAN 11g USB Adapter utility by double-clicking the icon in the system tray at the lower right corner of your screen, or by clicking

[**Start**] > [**Programs**] > [**BiPAC 3011G WLAN 11g USB Adapter**].

Note: In Windows XP, please disable the *Zero Configuration* feature when prompted to do so. Configuration
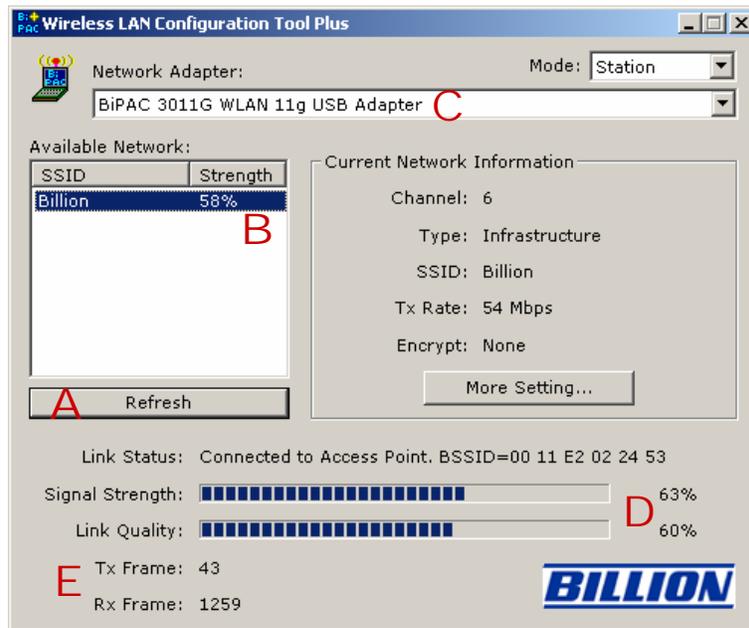
A. Click on the *Refresh* button to see all available network SSIDs.

B. You can select a network SSID by clicking to its name in the *Available Network* field. Details will then be shown in the *Current Network Information* .field.

C. The *Network Adapter* field shows the name of the wireless network adapter.

D. The *Signal Strength* and *Link Quality* values are shown in block diagrams as well as in percentages.

E. At the lower end of this screen you can see the number of transmitted and received frames.

F. Click on the *More Settings* button to bring op the following screen:

More settings

A. Click on the *Change/Apply* button to modify the settings in the *General Connection Setting* field.

B. Select the channel in ad-hoc mode from the *Channel* drop-down menu.

C. Select the transmission speed from the *Tx Rate* drop-down menu.

D. Unpick the *Any* box to select another network *SSID.*

E. Select *Infrastructure* or *Ad-hoc* mode from the *Network Type* drop-down menu.

F. Select *Enable WEP* or *Disable WEP* from the *Encryption* drop-down menu.

G. Select *Open System*, *Shared Key*, or *Auto* from the *Authentication Mode* drop-down menu.

H. Click on the *WEP Encryption Key Setting* button to modify the WEP key settings. A new screen will appear (see hereafter).

I. Select a previously saved profile from the *Profile Name* drop-down menu, and click on the *Load* button to load the profile into memory. Alternatively, key in the profile name and click on the *Save Current* or *Delete* button to respectively save or remove the profile.

J. For advanced settings or information about the software, click on the *Advanced Settings* or the *Information* button.

WEP key settings
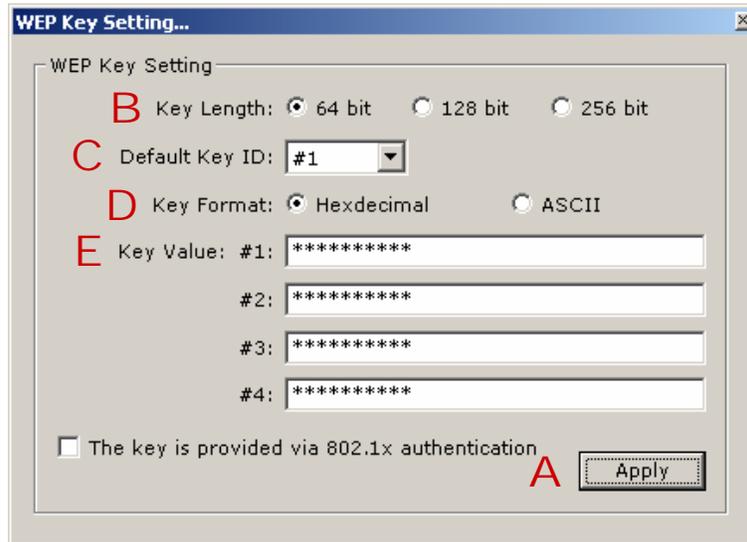
A. Click on the *Change/Apply* button to modify the WEP key settings.

B. Select an encryption key length of 64-bit, 128-bit, or 256-bit.

C. Select the default key ID.

D. Select *Hexadecimal* or *ASCII* in the *Key Format* field.

E. Key in the values of the WEP keys in the *Key Value* field.

Advanced settings
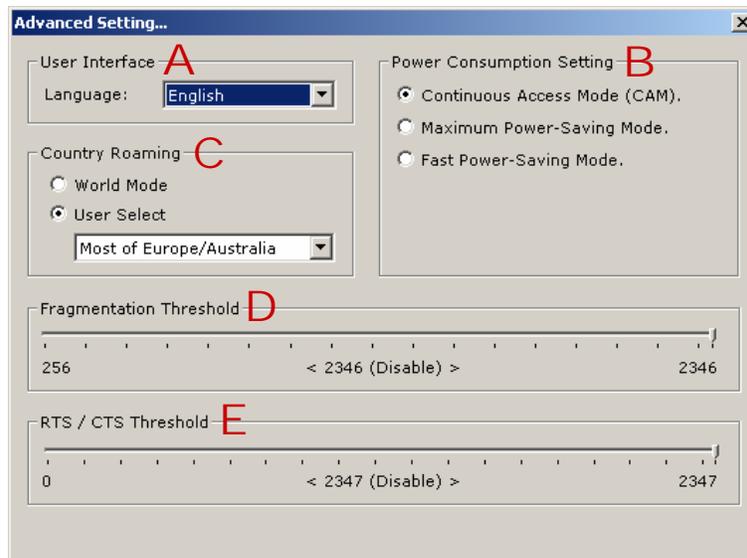
A. Select *English* from the *Language* drop-down menu.

B. Select the power saving mode. Power consumption is related to the data throughput. *CAM*

mode (default) gives the highest power consumption/data throughput ratio, *Fast* and *Maximum* offer better and best power savings (but less performance).

C. Select *World Mode* or your region from the *User Select* drop-down menu in the *Country Roaming* field, and experiment to get the best results.

D. Move the slider in the *Fragmentation Threshold* bar to adjust the threshold between 256-bytes and 2346-bytes.

E. Move the slider in the *RTS / CTS Threshold* bar to adjust the RTS threshold between 0 and 2347-bytes.

System information

Click on the *Information* button in the *More Settings* screen to check the driver and utility version, and the MAC address.
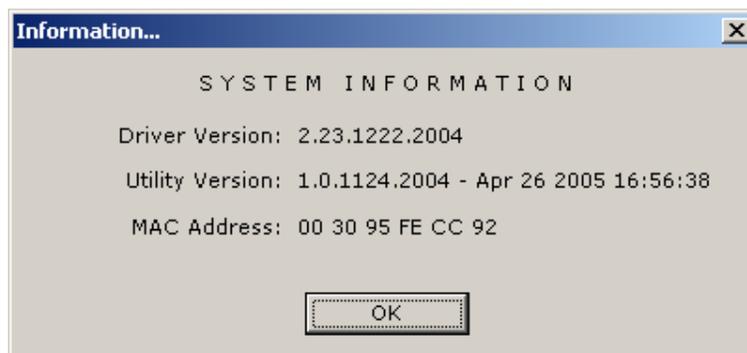
4 Glossary

IEEE 802.11 Standard

The IEEE 802.11 Wireless LAN standards subcommittee, which is formulating

a standard for the industry.

Access point

An Internet working device that seamlessly connects wired and wireless networks together.

Ad hoc

An ad hoc wireless LAN is a group of computers, each with a WLAN adapter, connected as an

independent wireless LAN. Ad hoc wireless LAN is applicable at a departmental scale for a

branch or SOHO operation.

BSSID

A specific ad hoc LAN is called a Basic Service Set (BSS). Computers in a BSS must be

configured with the same BSSID.

DHCP

Dynamic Host Configuration Protocol - a method in which IP addresses are assigned by a server

dynamically to clients on the network. DHCP is used for dynamic IP addressing and requires a

dedicated DHCP server on the network.

DSSS

Direct Sequence Spread Spectrum. This is the method the wireless adapters use to transmit data

over the frequency spectrum. An alternative method is frequency hopping. Direct sequence

spreads the data over one frequency range (channel) while frequency hopping jumps from one

narrow frequency band to another many times per second.

ESSID

An infrastructure configuration could also support roaming capability for mobile workers. More

than one BSS can be configured as an extended service set (ESS). Users within an ESS can

roam freely between BSSs while served as a continuous connection to the network wireless

stations and access points within an ESS must be configured with the same ESSID and the same

radio channel.

Ethernet

Ethernet is a 10/100Mbps network that runs over dedicated home/office wiring.

Users must be wired to the network at all times to gain access.

Gateway

A gateway is a hardware and software device that connects two dissimilar systems, such as a

LAN and a mainframe. In Internet terminology, a gateway is another name for a router. Generally a gateway is used as a funnel for all traffic to the Internet.

IEEE

Institute of Electrical and Electronics Engineers

Infrastructure

An integrated wireless and wired LAN is called an infrastructure configuration. Infrastructure is applicable on an enterprise scale for wireless access to a central database, or wireless application for mobile workers.

ISM Band

The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the so-called ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high speed wireless capabilities in the hands of users around the globe.

LAN

Local Area Network. A LAN is a group of computers, each equipped with the appropriate network adapter connected by cable/air that share applications, data, and peripherals. All connections are made via cable or wireless media, but a LAN does not use telephone services. It typically spans a single building or campus.

Network

A network is a system of computers that is connected. Data, .les, and messages can be transmitted over this network. Networks may be local or wide area networks.

Protocol

A protocol is a standardized set of rules that specify how a communication is to take place, including the format, timing, sequencing and/ or error checking.

SSID

Service Set Identifier. A network ID unique to a network. Only clients and access points that share the same SSID are able to communicate with each other. This string is case-sensitive.

SNMP

Simple Network Management Protocol is the network management protocol of TCP/IP. In SNMP, agents-which can be hardware as well as software-monitor the activity in the various devices on the network and report to the network console workstation. Control information about each device is maintained in a structure known as a management information block.

Static IP addressing

A method of assigning IP addresses to clients on the network. In networks with static IP address, the network administrator manually assigns an IP address to each computer. Once a static IP

address is assigned, a computer uses the same IP address every time it reboots and logs on to the network, unless it is manually changed.

TCP/IP

Transmission Control Protocol / Internet Protocol. TCP/IP is the protocol suite developed by the Advanced Research Projects Agency (ARPA). TCP governs how a packet is sequenced for transmission the network. The term "TCP/IP" is often used generically to refer to the entire suite of related protocols.

Transmit / Receive

The wireless throughput in bytes per second (Bps) averaged over two seconds.

WAN

Wide Area Network. A WAN consists of multiple LANs that are tied together via telephone services and / or fiber optic cabling. WANs may span a city, a state, a country, or even the world.

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