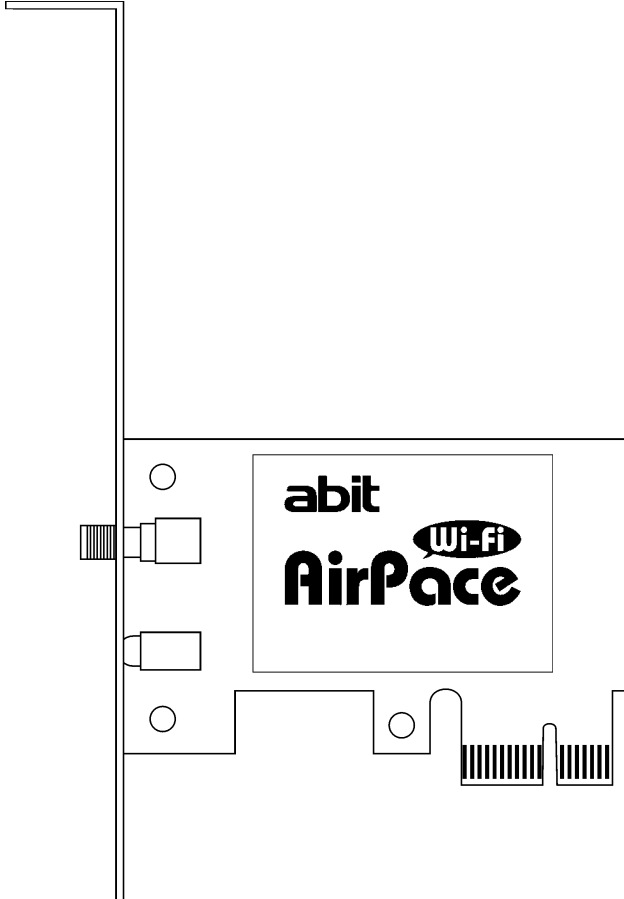




# IEEE 802.11b/g PCI-E X1 54Mbps WLAN Card



# WLP-01

User's Manual

**WLP-01**

User's Manual

English

1<sup>st</sup> Edition, December 2006

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# General Specifications

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<b>WLAN Standard</b>	IEEE 802.11b/g, Wi-Fi compliant
<b>Host Interface</b>	PCI Express
<b>Data Rate</b>	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
<b>Frequency Range</b>	2.4 GHz ISM radio band
<b>Security</b>	WEP 64-bit encryption WEP 128-bit encryption WPA (Wi-Fi Protected Access)
<b>Operating Range</b>	802.11b: Indoor: 130ft (40m) Outdoor: 1000ft (310m) LOS (Light of Sight) 802.11g: Indoor: 80ft (30m) Outdoor: 200ft (60m) LOS (Light of Sight) (The range varies upon environments)
<b>Supported Network</b>	Ad-Hoc Mode Infrastructure Mode Software Access Point (Soft AP)
<b>Number of connected devices</b>	Up to 64 stations (AP Mode)
<b>Antenna</b>	Omni-directional, SMA-type
<b>Status Display</b>	Green data transmission (On Air) LED
<b>Operating System Compatibility</b>	Windows XP/server 2003/64bit XP
<b>Regulatory</b>	<ul style="list-style-type: none"><li>• FCC 47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-2003</li><li>• CE EN 300 328 V1.6.1/EN 50371</li><li>• DGT LP0002</li><li>• Telec ARIB STD-T66 / RCR STD-33</li></ul>

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# 1. Introduction

## 1.1 Product Overview

The "**WLP-01 IEEE 802.11b/g PCI-E X1 54Mbps Wireless Card**" (short for "**WLP-01**" in this manual) is an easy-to-use wireless local area network (WLAN) adapter designed for home or office use.

Direct Sequence Spread Spectrum (**DSSS**), Complementary Code Keying (**CCK**), and Orthogonal Frequency Division Multiplexing (**OFDM**) base band processing are implemented to support all IEEE 802.11b, and 802.11g data rates. Differential phase shift keying modulation schemes, DBPSK and DQPSK with data scrambling capability, are available, along with complementary code keying to provide data rates of 1, 2, 5.5, and 11Mbps, with long or short preamble.

A high-speed Fast Fourier Transform (**FFT**)/Inverse Fast Fourier Transform (**IFFT**) combined with BPSK, QPSK, 16QAM and 64QAM modulation of the individual sub-carriers provides data rates of 6, 9, 12, 18, 24, 36, 48 and 54Mbps, with rate-compatible punctured convolution coding with a coding rate of 1/2, 2/3, and 3/4.

To provide efficient security to your wireless computing, the **WLP-01** employs hardware-based IEEE 802.11i encryption/decryption engine, including 64-bit/128-bit WEP, TKIP, and AES, supporting Wi-Fi alliance WPA and WPA2 security.

With these features and many more, **abit WLP-01** connects you to the wireless computing world.

## 1.2 Features

### Easy Hardware Installation

Simply plug the **WLP-01** into a motherboard with PCI-E x1 slot, connect the antenna, and then install the driver and utilities. Now you may start wireless communication immediately.

### 54Mbps Wireless Speed

With data transmission rate five times faster than IEEE 802.11b standards, the **WLP-01** breaks the wireless transmission speed barrier, giving you faster-than-ever Internet connection and file sharing capabilities.

### Easy Setup Wizard

The setup wizard helps you to connect wireless network more easily through a step-by-step setup process.

### Automatic Wireless Establishment

The application utility of **WLP-01** automatically searches and reports the hot spots found, along with their signal quality and WEP capability. You can choose the most suitable wireless node to connect.

### Soft AP Capable

In a 32-bit Windows XP/Server 2003 operating system, you can transform the **WLP-01** into a Software Access Point (Soft AP), supporting up to 64 stations with wireless LAN adapters.

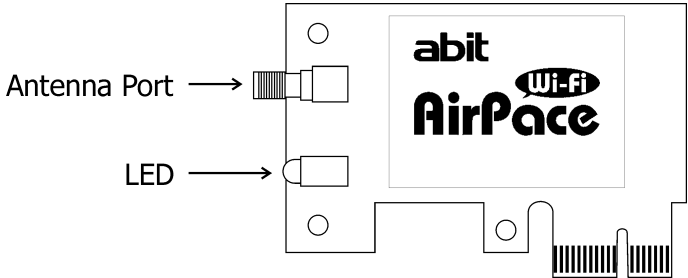
**WLP-01** can even perform the AP functions when the computer dozes off, allowing the connected wireless stations still able to access Internet or other network sharing so long as the computer keeps the system power on.

### Omni-directional Antenna

An external omni-directional antenna comes packed with your **WLP-01**, maximizing your wireless coverage by positioning this omni-directional antenna up high.

### 1.3 LED & Antenna Port

Mounted onboard the **WLP-01** is a green LED for transmission status, and an antenna port to connect to the external antenna.



LED Status	Indication
<b>On</b>	Power on, no data activity
<b>Off</b>	Power off, no wireless connection
<b>Fast Blinking</b>	Transmitting / receiving data
<b>Slow Blinking</b>	Site surveying

## 1.4 Choosing Wireless Network Mode

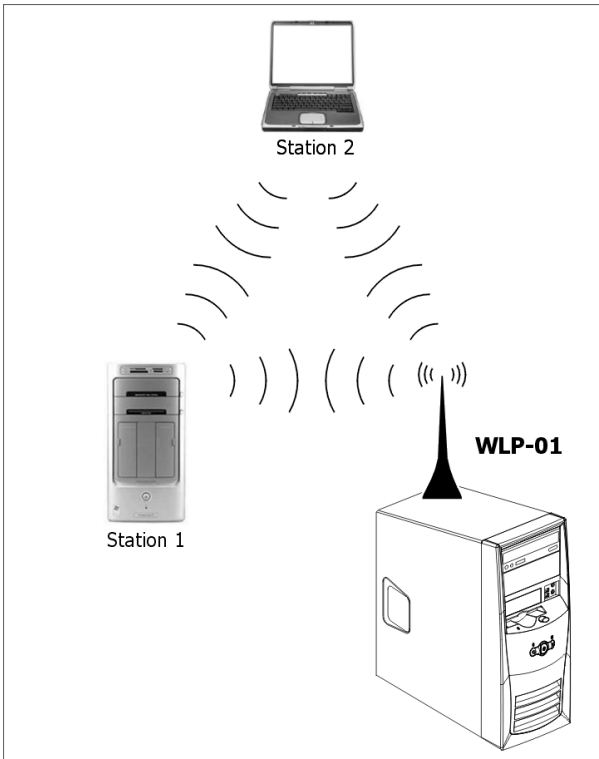
You can use **WLP-01** in various wireless network configurations. It is recommended to choose the most appropriate configuration for your home or office network before setting it up.

※ **The following illustrations are for reference only, and may not match exactly the same as your actual network configuration.**

### 1.4.1 Ad-Hoc mode

In the Ad-Hoc mode, the **WLP-01** brings your computer to act as a server within its effective range and communicates directly with each other in the same LAN workgroup.

Select this configuration when no Access Point is present in your wireless network.





## 1.4.2 Infrastructure mode

The biggest difference between Infrastructure mode and Ad-hoc mode is that it includes an access point. In the Infrastructure mode, an access point establishes the network that provides wireless links in its effective range for clients to communicate with each other or with a wired network to the Internet.

The Infrastructure networking has the following advantages over Ad-hoc networking:

- **Range Extension**

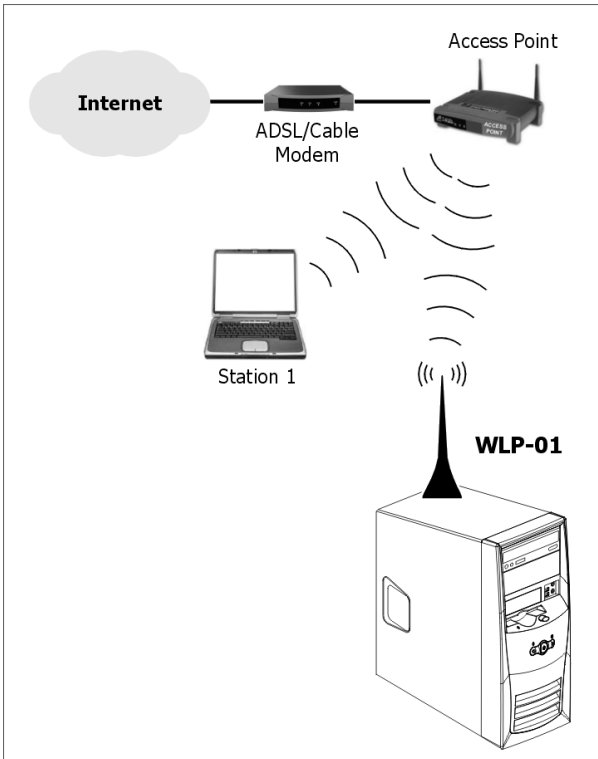
Each wireless LAN enabled computer within the range of the access point can communicate with other wireless LAN enabled computers within the valid range of signal from the access point.

- **Roaming**

A wireless LAN enabled computer can physically move from the operating range of one access point to another without losing connection to the LAN. A quick association "hand-shake" is made between the new access point and the wireless device as the computer traverses from the coverage of one access point to another.

- **Wired to wireless LAN connectivity**

The access point establishes a bridge between wireless LAN and other wired counterparts.



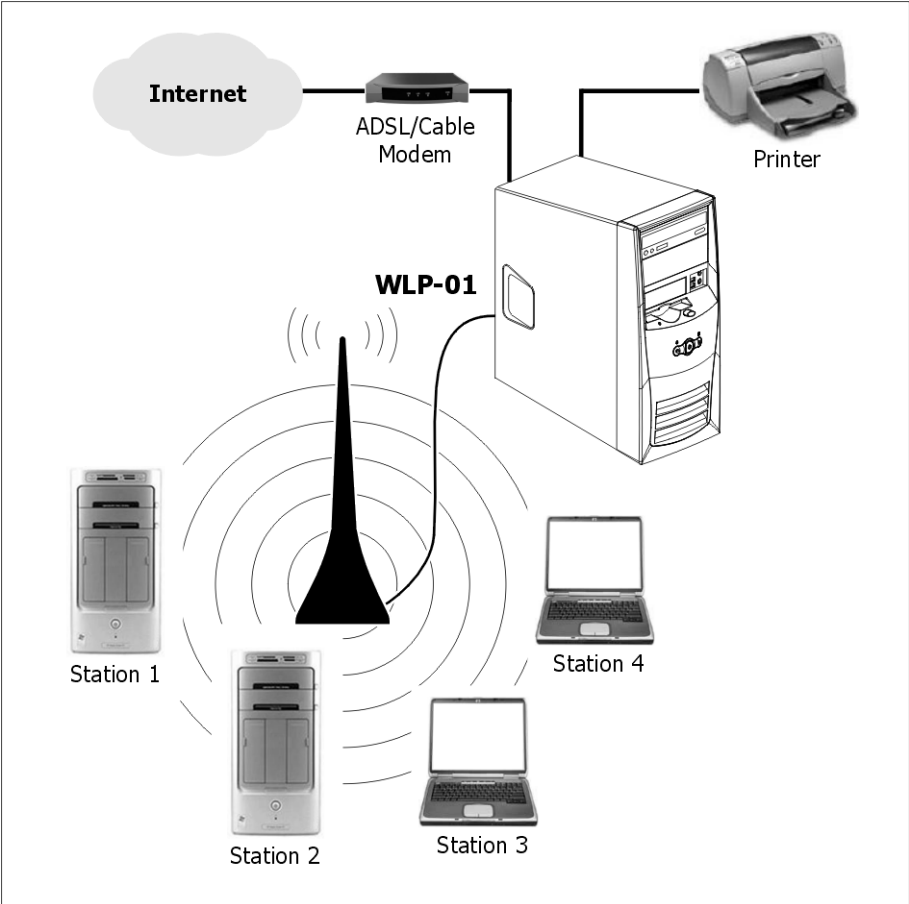
### 1.4.3 Software Access Point (Soft AP)

In the Soft AP mode, the **WLP-01** acts as the wireless access point and provides local area network and Internet access for your wireless stations.

Requirements of choosing Soft AP mode:

1. Windows XP/Server 2003 operating system.
2. A system with Internet or Intranet connected through another Ethernet LAN adapter.

The Soft AP mode is ideal for home network sharing with several computers, a printer, and Internet connection.



※ **Windows XP/Windows Server2003 x64 platforms are not supported to have software access point capability.**

## 2. Hardware Installation

### 2.1 System Requirements

Before installing **WLP-01**, make sure your system meets the following requirements.

- A motherboard with PCI Express Slot
- Minimum 64MB system memory
- Operating system  
Station mode: Windows XP/Server 2003, Windows XP/Server 2003 x64  
AP/wireless bridge mode: Windows XP/Server 2003
- An optical drive for utilities and driver installation

### 2.2 Hardware Installation

The **WLP-01** package comes together with an omni-directional portable antenna to extend its maximum operating range.

1. Power off your system before installing the **WLP-01** card.
2. Locate one available **PCI-E X1** slot on your motherboard. ***(Due to each motherboard's different designing, it is recommended to install the WLP-01 card on PCI-E X1 slot, so as to avoid degrading the speed of the PCI-E X16 card.)***
3. Plug the **WLP-01** card with its connector-side vertically down into the slot. ***(Avoid touching the connector (golden fingers) when holding the WLP-01 card.)***
4. Secure the **WLP-01** card by its bracket onto the chassis's rear I/O panel.
5. Connect the cable-end from the external antenna to the antenna port on **WLP-01** card.
6. Place the antenna at an elevated spot. A wide and open position will help to increase the operating range.



*(This picture is for reference only, and may have size, shape, or parts differences in the antenna or WLAN card itself.)*

## 2.2.1 Operating Range

The signal range of **WLP-01** depends on the operating environment. Obstacles such as walls and metal barriers could reflex or absorb radio signals. Devices such as microwave oven can also interfere the wireless network tremendously.

**802.11b:** Indoor 130ft (40m), outdoor (LOS, Light-of-Sight) 1000ft (310m)

**802.11g:** Indoor 80ft (30m), outdoor (LOS, Light-of-Sight) 200ft (60m)

By default, the **WLP-01** automatically adjusts the data rate. The closer the wireless stations are, the better signal and transmit speed they receive. To improve your wireless transmission, move your wireless stations closer to the **WLP-01**.

## 2.3 Driver Installation

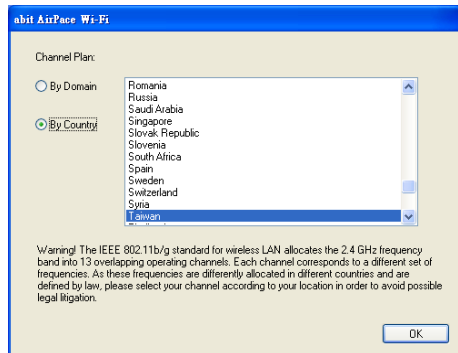
Place the "Driver & Utility CD" into the CD-ROM drive in your system. The following installation auto-run screen appears. If not, browse the root directory of the CD-ROM via the File Manager, and double click the "AUTORUN" file.

The contents of the "Driver & Utility CD" packed with **WLP-01** are subject to change without notice. Visit the [abit](#) website for driver/utilities updates.

If your computer is using Windows operating system, it will automatically detect the **WLP-01** when system boots and displays an "Add New Hardware Wizard" window. Click [Cancel] and then proceed with the following procedures.

To install the **WLP-01** driver:

1. Place its "Driver & Utility CD" into the CD-ROM drive.
  2. The "Driver & Utility CD" automatically displays the Drivers menu if the "AUTORUN" function is enabled in your computer. Click the wireless driver and follow the on-screen instructions to install the **WLP-01** driver.
- ※ **If the "AUTORUN" function is disabled in your computer, locate the Wireless folder under the root directory of the "Driver & Utility CD", then double click the [Setup.exe] file to start installation.**
3. Make sure to select the correct operating-channel plan according to your residence so as to avoid possible legal litigation.



- ※ **To use the "Soft AP" function, you may need to install Ethernet adapter driver.**

# 3. Network Connecting

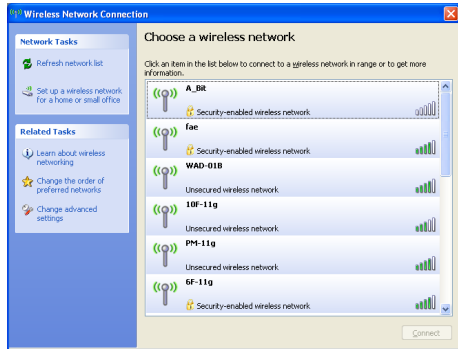
1. Right-click the network icon located at the desktop shortcut, the pop-up dialogue appears. Click item "View Available Wireless Networks".



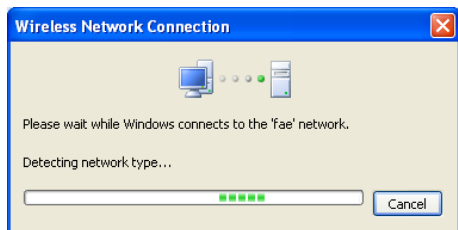
2. Choose a wireless network in range, and then click [Connect] button to start connecting.



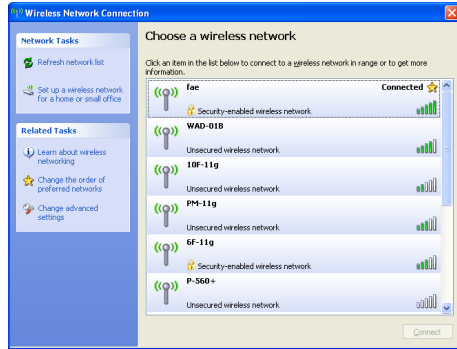
3. Wait while the Windows connects to the wireless network you choose.



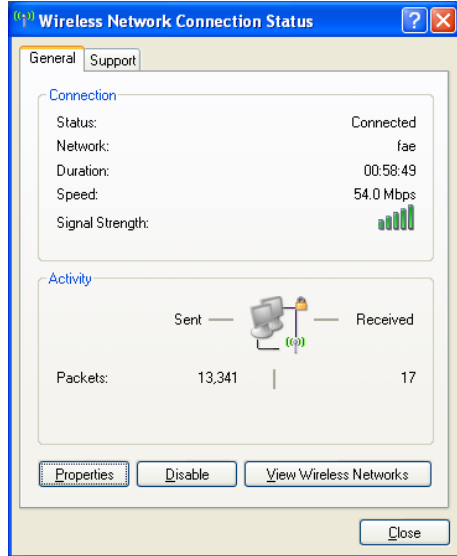
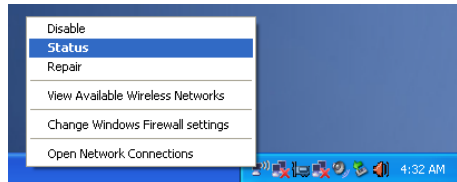
4. You may need to type the network key if the network you choose requires.



5. The wireless network you choose is now connected.



6. You may view the “Wireless Network Connection Status” by clicking item “Status” in the pop-up dialogue.



# 4. Setup

After finished installing the **WLP-01** driver to your system, you are now ready setup its utility. Choose the most appropriate mode for your wireless network before proceeding. Refer to Section 1.4 "Choosing Wireless Network Mode" for details.

- ※ **Make sure to connect the supplied antenna to the antenna port on the WLP-01 card. The antenna plays an important role in transmitting and receiving signal, without the antenna, the WLP-01 may not be able to detect other wireless devices in your environment.**

## 4.1 About the Setup Wizard and Setup Utility

The **WLP-01** provides two configuration approaches: the Setup Wizard and the Setup Utility.

### The Setup Wizard helps you to:

1. create a wireless access point, or
2. join an existing wireless network.

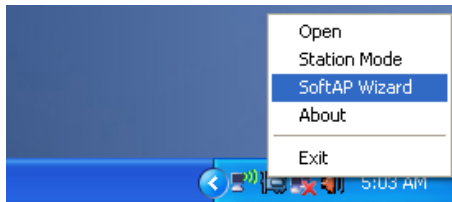
### The Setup Utility helps you to:

1. view Network Monitor, Status, Statistics, Advanced, and Internet Connection Sharing (ICS).
2. configure the **WLP-01** as an access point, or wireless station (in either Infrastructure or Ad-hoc mode).
3. enable or disable the RF function (Radio On/Off).

To launch the Setup Utility in the Windows desktop, you may click item "Open" by the "abit AirPace Wi-Fi" icon located at the desktop shortcut, execute the "abit AirPace Wi-Fi" in the Program menu, or simply double-clicking the desktop shortcut.



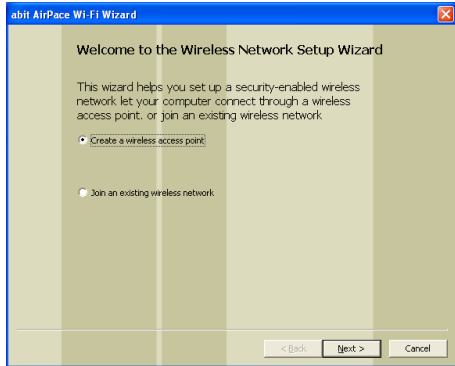
To switch to the Setup Wizard, right-click the "abit AirPace Wi-Fi" icon located at the desktop shortcut, the pop-up dialogue appears. Click item "SoftAP Wizard".



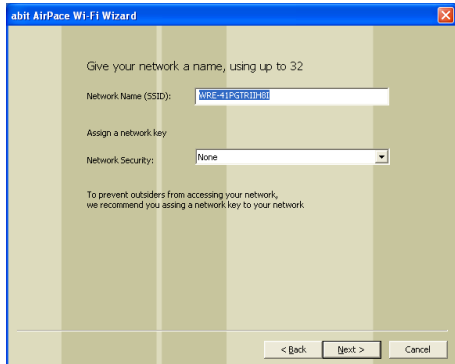
## 4.2 Setup Wizard

### 4.2.1 Create a wireless access point

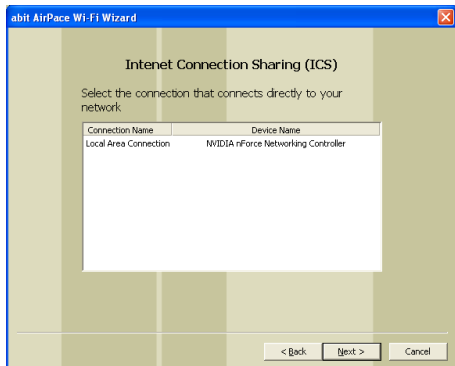
1. Launch the Setup Wizard. Check the "Create a wireless access point" box to create a wireless access point, and then click [Next] button to start creating.



2. Type in your SSID name, and/or specify a network key to your network.



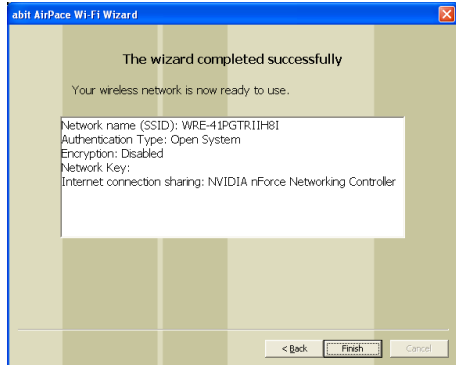
3. Select the connection that connects directly to your network, and then click [Next] button to go on.



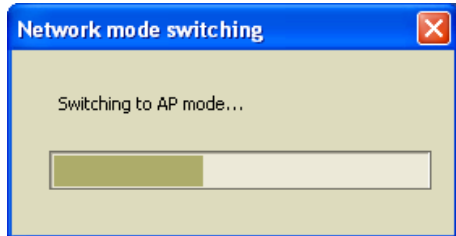


4. Your wireless network is now ready to use. The configuration is clearly at view. Record this setup information if needed.

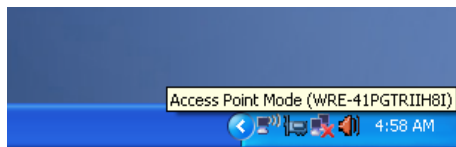
Click [Finish] button to complete the setup wizard.



5. The network mode is switching to AP Mode, please wait.



6. Your network is in AP Mode.



## 4.2.2 Join an existing wireless network

Please use Windows automatic network configuration to connect an existing wireless network or change the wireless network settings.

## 4.3 Setup Utility

1. Launch the Setup Utility. There are five icons at the upper column:



Network Monitor,



Status,



Statistics,



Advanced, and



Internet Connection Sharing (ICS).

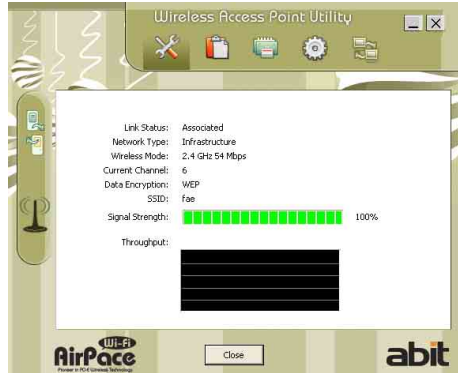
The ICS icon is grayed out in Station Mode.

2. At the left column, you may click the

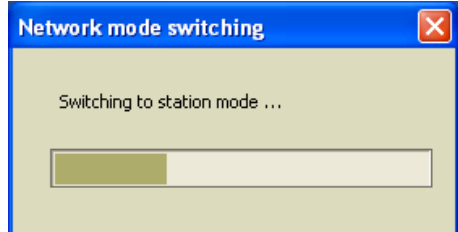
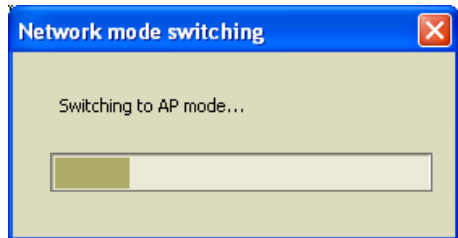


icon to switch either to Access Point Mode or Station Mode.

3. The network mode is switching to AP Mode, please wait.

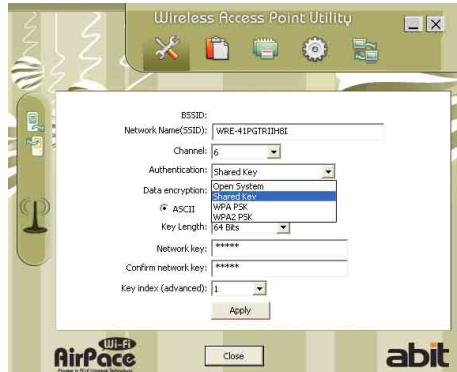


4. Or the network mode is switching to Station Mode, please wait.



- In this Setup Utility page for AP Mode, you can change the SSID, select the communication channel, and specify the network security.

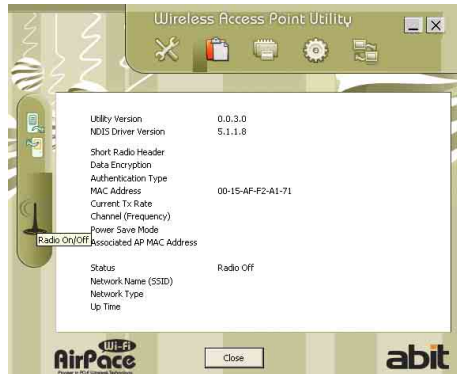
Click [Close] button to finish the setup.



- At the left column, you may also click the

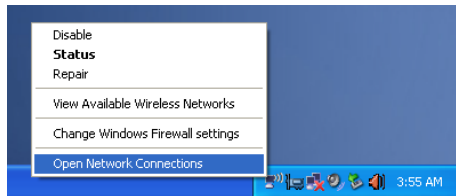
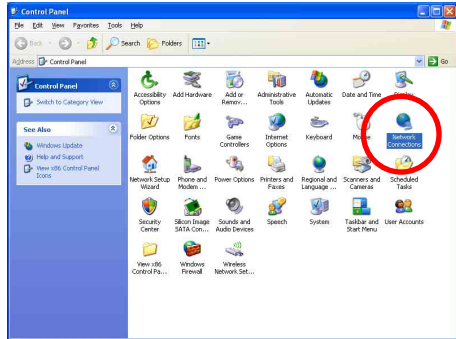


icon to enable or disable the RF function (Radio On/Off).

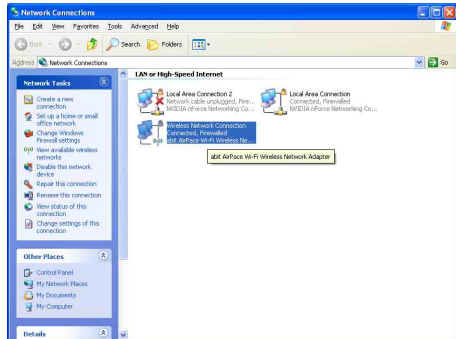


## 4.4 Ad-Hoc Mode

1. To switch to Ad-Hoc mode, you may double-click the "Network Connection" icon in the "Control Panel", or right-click the network icon located at the desktop shortcut, the pop-up dialogue appears. Click item "Open Network Connections".

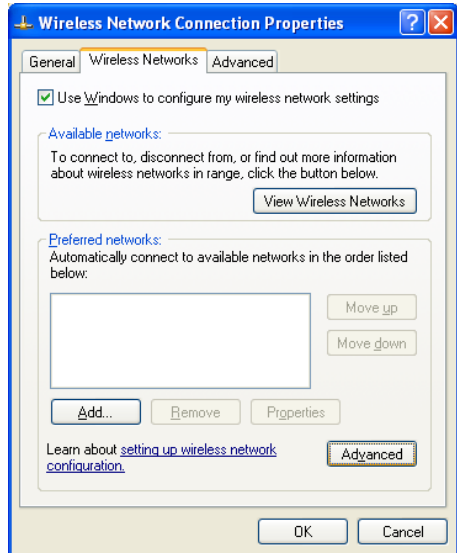


2. Double-click the "abit AirPace Wi-Fi Wireless Network Adapter" icon to enter its properties.

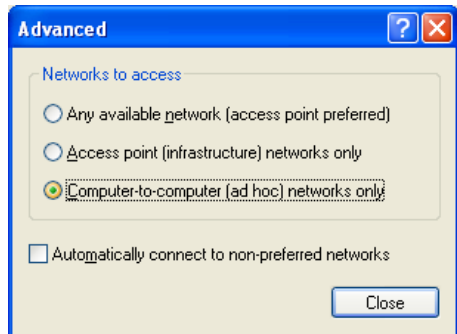


3. Click the "Wireless Networks" tab. Check the "Use Windows to configure my wireless network settings" box.

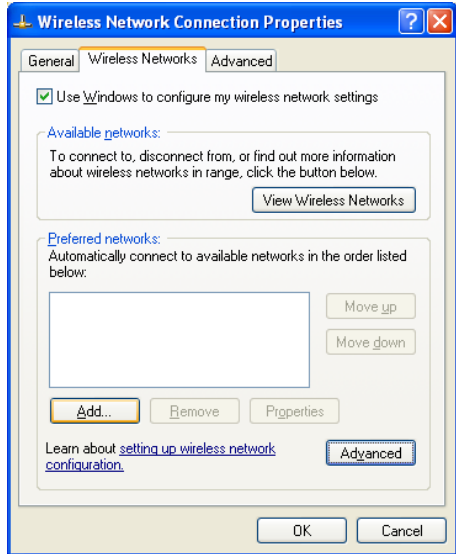
Click the [Advanced] button to enter the settings.



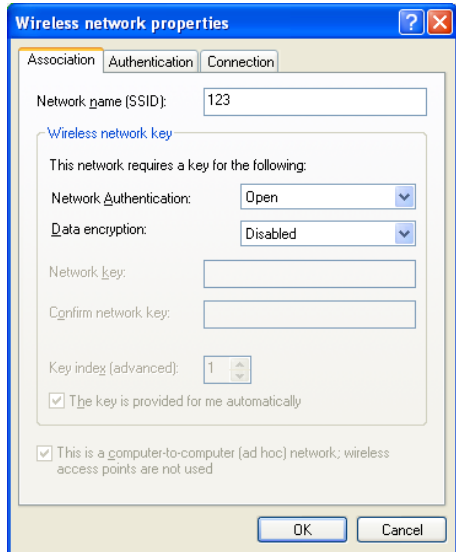
4. Check the "Computer-to-computer (ad hoc) networks only" box, and then click [Close] button to finish this advanced settings.



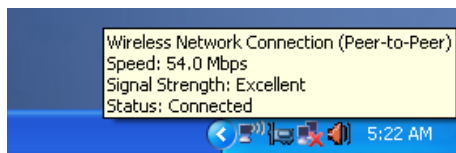
- Back to the “Wireless Networks” tab, click the [Add] button to establish your own network.



- Type in your SSID name, decide your network security, and then click [OK] button to finish settings.



- Your network is in Ad-Hoc Mode.



# 5. Appendix

## 5.1 Wireless LAN Channels

<b>Channels</b>	<b>Country</b>	<b>Channel Set</b>
<b>1~11</b>	Argentina, Brazil, Canada, Columbia, Mexico, Taiwan, United States of America, Yugoslavia	FCC, IC, TAIWAN
<b>1~13</b>	Australia, Austria, Bahrain, Belarus, Belgium, Bolivia, Bulgaria, Chile, China, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Estonia, Finland, France2, Germany, Greece, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, Kuwait, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Macedonia, The Former Yugoslav Republic of, Malaysia, Morocco, Netherlands, New Zealand, Nigeria, Norway, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Romania, Russia, Saudi Arabia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom, Uruguay, Venezuela	ETSI, MKK1
<b>10 ~ 13</b>	France, Jordan	France
<b>3~9</b>	Israel	Israel
<b>1~14</b>	Japan1	MKK1+MKK
<b>14 only</b>	Japan2	MKK
<b>10~11</b>	Spain	Spain

## **5.2 Regulatory Information**

### **5.2.1 Federal Communications Commission Statement**

This device complies with Part 15 of the 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 received, including interference that may cause undesired operation.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.



## 5.2.2 European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive(73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms

- EN 55022 (CISPR 22) Radio Frequency Interference
- EN 55024(EN61000-4-2, EN61000-4-3; EN61000-4-4; EN61000-4-5; EN61000-4-6; EN61000-4-8; EN61000-4-11; EN61000-3-2; EN61000-3-3)Generic Immunity Standard.
- EN60950 (IEC950) Product Safety

## R&TTL(CE) MANUAL REGULATORY REQUIREMENT(WLAN-IEEE 802.11b/g)

### 802.11b/g Restrictions

- European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz
- In France, the equipment must be restricted to the 2.4465-2.4835GHz is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directives (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

### CE Declaration of Conformity



The equipment was passed. The test was performed according to the following European standards.

#### EMC

- EN 301 489-1 V1.4.1:2002; EN 301 489-17 V1.2.1:2002

#### Radio

- EN 300 328 V1.6.1 (2004)

#### Safety & Health

- EN 60950-1(2001); EN 50385(2002)

## 5.2.3 NCC(DGT) Statement

根據交通部 低功率管理辦法 規定：

### 第十四條

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

### 第十七條

低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信規定作業之無線電信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

User Information for Consumer Products Covered by EU Directive 2002/96/EC on Waste Electric and Electronic Equipment (WEEE)

This document contains important information for users with regards to the proper disposal and recycling of **abit** products. Consumers are required to comply with this notice for all electronic products bearing the following symbol



# 6. Contact Information

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## Taiwan Head Office

### Universal ABIT Co., Ltd.

No. 323, Yang Guang St., Neihu,  
Taipei, 114, Taiwan

Tel: 886-2-8751-3380

Fax: 886-2-8751-3381

Sales: [sales@abit.com.tw](mailto:sales@abit.com.tw)

Marketing: [market@abit.com.tw](mailto:market@abit.com.tw)

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## North America, South America

### Universal ABIT (USA) Corporation

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Tel: 1-510-623-0500

Fax: 1-510-623-1092

Website: <http://www.abit-usa.com>

Latin America: [ventas@abit-usa.com](mailto:ventas@abit-usa.com)

**RMA Center:** <http://rma.abit-usa.com>

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## UK, Ireland

### Universal ABIT UK Corporation

Unit 3, 24-26 Boulton Road, Stevenage,  
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Fax: 44-1438-226333

for technical support:

[technical@abitcomputer.co.uk](mailto:technical@abitcomputer.co.uk)

for RMA no direct technical support:

[returns@abitcomputer.co.uk](mailto:returns@abitcomputer.co.uk)

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**Germany and Benelux** (Belgium,  
Netherlands, Luxembourg), **France, Italy,  
Spain, Portugal, Greece, Denmark,  
Norway, Sweden, Finland, Switzerland**

### Universal ABIT NL B.V.

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Tel: 31-77-3204428

Fax: 31-77-3204420

Chamber of Commerce Venlo – number  
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**Austria, Czech, Romania, Bulgaria,  
Slovakia, Croatia, Bosnia, Serbia,  
Macedonia, Slovenia**

### Universal ABIT Austria Computer GmbH

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## Shanghai

### Universal ABIT (Shanghai) Co. Ltd.

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Contact: Grzegorz Morgiel

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## Turkey

### Universal ABIT Turkey (Rep. office)

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## Iran

### Universal ABIT (Rep. office)

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Tehran Iran

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Fax: 98-21-88941655

Contact: Alireza Khoshdel

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**UNIVERSAL ABIT Co., Ltd.**

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