802.11b 11Mbps
Wireless Access Point
User's Manual

Table of Content

Regulatory Compliance
FCC Warning

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This 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 instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does 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.

 Changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

1) To comply with FCC RF exposure compliance requirements, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

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

Chapter1
Introduction

1.1 Package Content

Open the box and remove all items, please make sure that you have received the following items:

Wireless Access Point Package Content	
1	Wireless Access Point
2	AC Adapter (3.3 VDC)
3	Quick Installation Guide
4	Manual on CD

If any item is found missing or damaged, please contact your local reseller for replacement.

1.2 System Requirement

To properly use your wireless Access Point, please make sure that your laptop or desktop meets the following minimum system requirements:

- The laptop or desktop must have one of the operating systems, i.e: MS Windows 98SE, ME, 2000 and WinXP
- CD-ROM drive
- At least one computer equipped with an 802.11b compliant wireless Ethernet adapter
- TCP/IP networking protocol installed on each computer
- Internet Explorer version 5.0 and above or Netscape Navigator version 6.0 and above

1.3 Wireless Access Point Specification

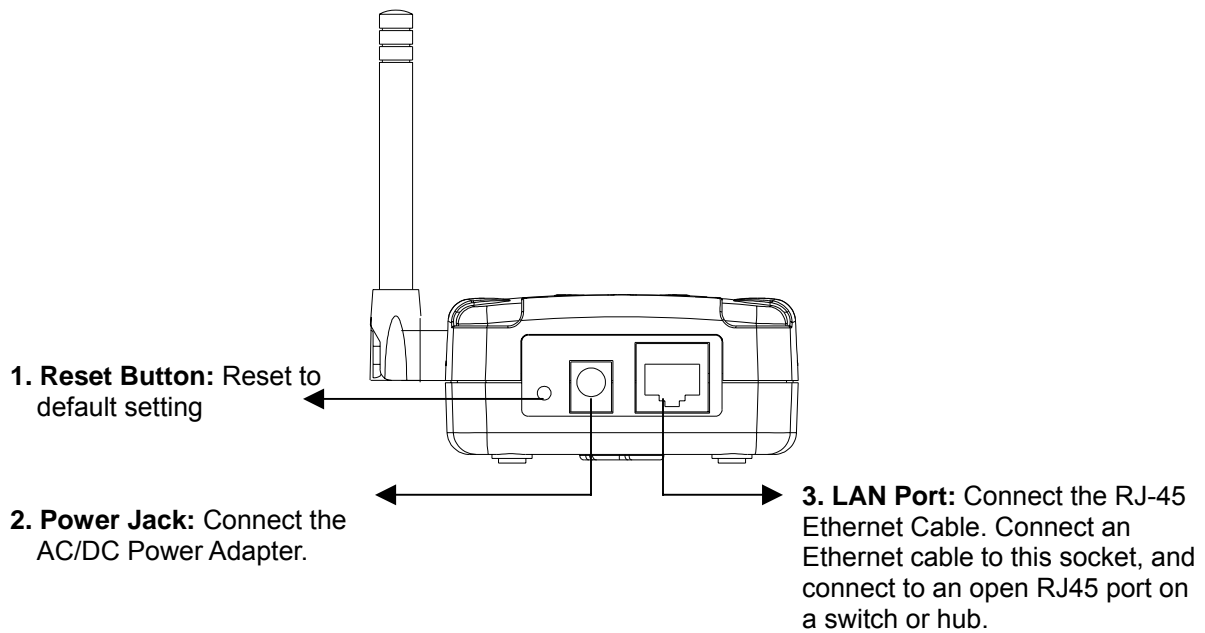| Specification	
RF Technology	IEEE 802.11b Direct Sequence Spread Spectrum
Operating Frequency	2400-2497MHz ISM band
Modulation Schemes	DQPSK, DBPSK and CCK
Channel Numbers	11 channels for United States 13 channels for Europe 14 channels for Japan
Data Rate	11Mbps with fall back rates of 5.5, 2 and 1Mbps
Media Access Protocol	CSMA/CA with ACK
Transmitter Output Power	20 dBm typically
Receiver Sensitivity	Typical -80dBm for 11Mbps @ 8% PER (Packet Error Rate) Typical -90dBm for 2Mbps @ 8% PER (Packet Error Rate)
Range Coverage	Indoor: 35 - 100 meters (depends on environment) Outdoor: 100 - 300 meters (depends on environment)
Data Rate	11Mbps with fall back rates of 5.5, 2 and 1Mbps
LED Indicator	Power, Test, LAN & WLAN
Antenna Type	1 x External non-removable; 1 x Internal antenna with space and directional diversity
Operating Voltage	3.3 VDC
Temperature	0 ~ 45 in operating -20~70 in storage

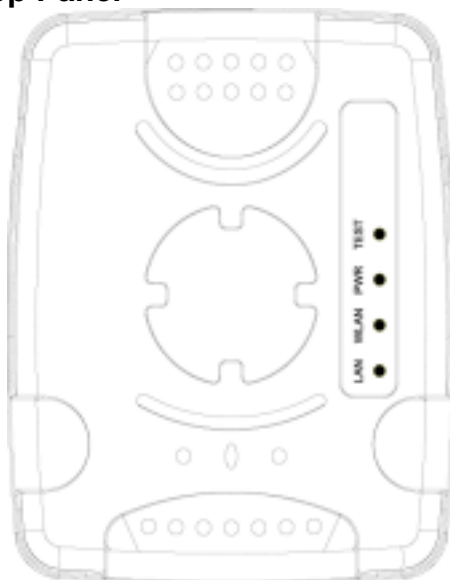| Humidity	5% ~ 95% Non-condensing
Dimension	94.8 mm x 68.4 mm x 33.5 mm

1.4 Wireless Access Point Hardware Diagram

■ Back Panel

The back of the access point has two connection ports and one rest button:
1. Rest button
2. Power Jack: Power cable connection for 5V adapter
3. LAN Port: Ethernet port

1. Reset Button: Reset to default setting

2. Power Jack: Connect the AC/DC Power Adapter.

3. LAN Port: Connect the RJ-45 Ethernet Cable. Connect an Ethernet cable to this socket, and connect to an open RJ45 port on a switch or hub.

■ Top Panel

LAN LED: Indicates that a valid Ethernet (Wired) cable link.
WLAN LED: Indicates that a valid Wireless LAN link.
PWR LED: Indicates that the AP is receiving power.
TEST LED: Indicates the AP's resetting status.

LED Indication

	On	Blink	Off
LAN	Ethernet Cable is plugged in and there is a valid network connection.	N/A	Ethernet cable is not plugged in or the unit is OFF.
WLAN	Detecting a valid WLAN link.	Detecting Wireless LAN network activities.	No Wireless LAN network available in the vicinity.
PWR	Unit is plugged in and working normally	N/A	Unit is not plugged in and it is OFF.
Test	Press the Reset button and the LED illuminates for 5 sec.	The unit is resetting.	The unit is OFF.

Chapter2
Quick Setup

2.1   Connecting The Access Point

1. Connect one end of the power adapter to the power jack of the AP and the other end of the power adapter to an electrical outlet. The PWR LED illuminates steady green.
2. Connect one end of the Ethernet cable to the LAN port of the AP and the other end of the Ethernet cable to the Ethernet port of the computer-equipped with an Ethernet adapter, a cable/DSL router, Ethernet switch or hub. The LAN LED illuminates steady green

## 2.2   Configuring Ethernet Adapter Setting

The initial configuration of the access point must be done through Ethernet port and you have to assign an IP address for your computer equipped with an Ethernet adapter first. Please follow the following steps to obtain an IP address.

Note: The following screenshots are taken in Windows 2000. For other OS, the configuration procedure will be exactly the same but the screenshots will vary.

1. Right-click mouse button on the My Neighborhood icon on your Windows desktop and select **Properties** from the short-cut menu.
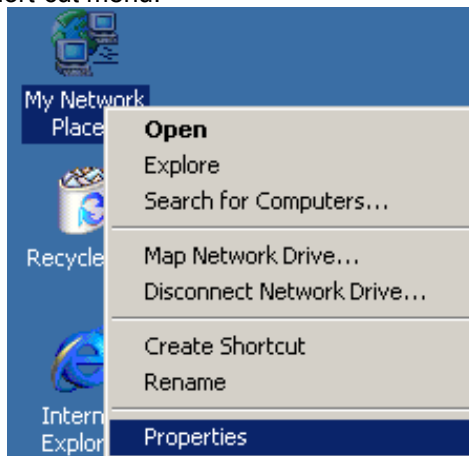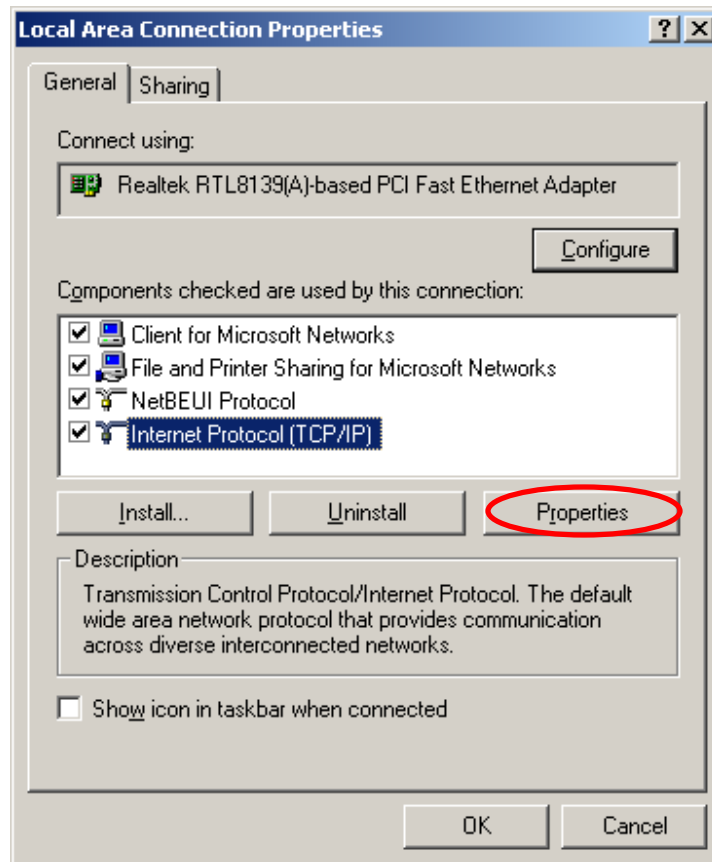

2. Right-click the Local Area Connection for the Ethernet Adapter equipped on your computer and select **Properties** from the shortcut menu.
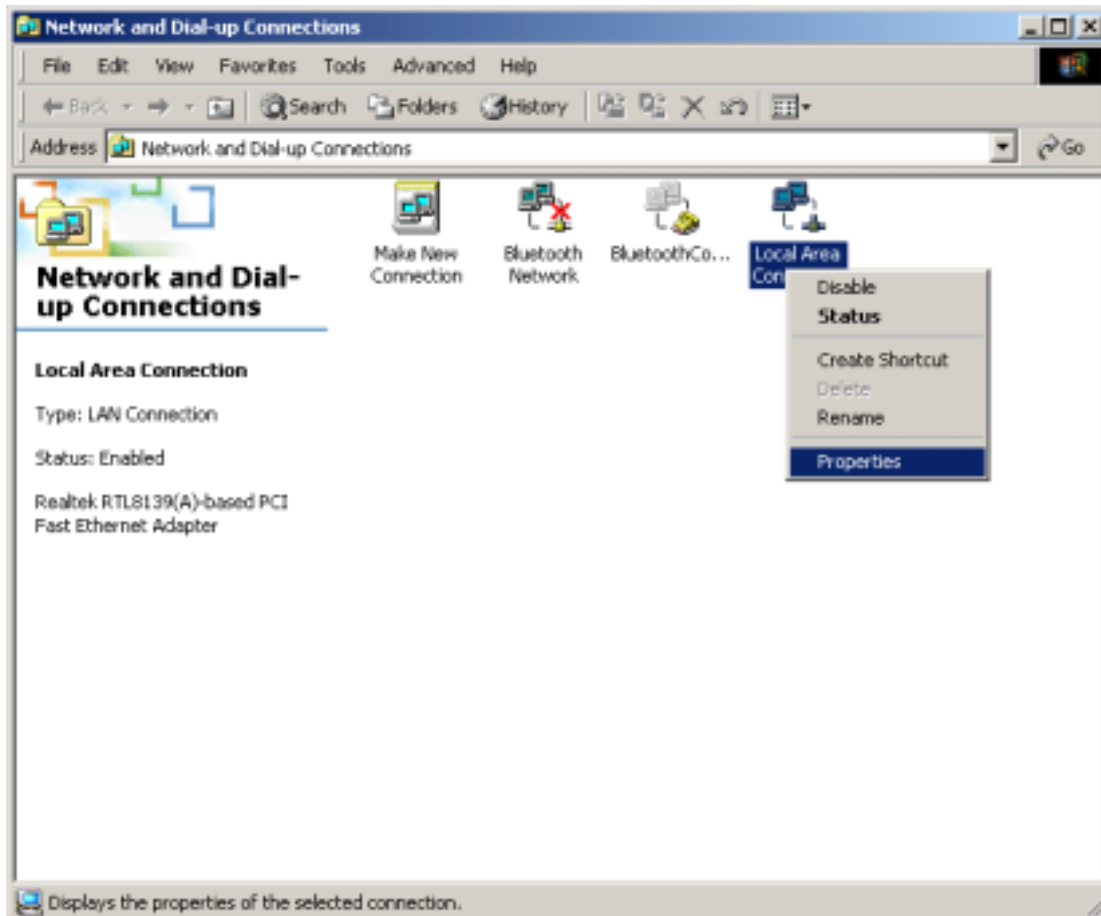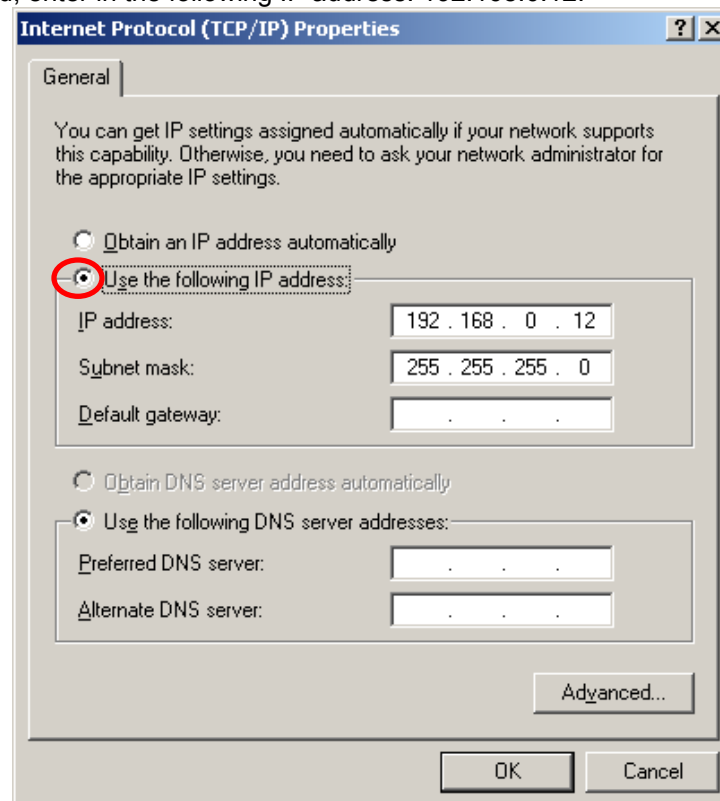
3. Click the **General** tab of the Location Area Connection dialog box, select Internet Protocol (TCP/IP) and click **Properties**.

4. In the **General tab**, click the radio button of Use the following IP address. For example, in the IP address field, enter in the following IP address: 192.168.0.12.

Note: The default IP address of the Access Point is 192.168.0.10 so the IP address for the Ethernet Adapter must follow the 192.168.0.x IP address format and the IP should not be the same IP address assigned to any other devices in the network. (Do not use these reserved IP addresses: 192.168.0.1 and 192.168.0.10)

5. Under Subnet mask, input the following IP address: 255.255.255.0.
6. Click **OK** to save your settings and close the dialog box.

2.3 Configuring The Access Point – Basic Settings

1. Open a web browser and enter **http://192.168.0.10** in the Address field.

2. When the login screen shows up, type "**admin**" in the User Name field and "**password**" in the Password filed. Please note that the user name and password are case sensitive.

3. Click **OK** and the configuration home page shows up.

The homepage lists default settings and related info of the access point. You may click menus listed on the left pane to start configure the AP. Click the **LOGOOUT** button on the left pane will close the Configuration WEB page. Click **REBOOT** button to reboot the AP.

4. **Basic Setup menu**: The basic setup menu comprises three sub-menu: DHCP, Wireless and Encryption.

- In the DHCP item, if your network doesn't provide DHCP function, you have to assign an IP address for the AP.
- In the Wireless item, you can change the SSID/ESSID. Please note that the SSID on the wireless network adapters must be the same in order to communicate with the AP.
- The Encryption item allows you to select one type of encryption to protect your data. Please note that if the Encryption is enabled, then the encryption on the wireless Ethernet adapters must be enabled and the WEP keys should be the same as the AP. This utility supports both Hexadecimal and ASCII key formats. Click the drop-down menu to choose one format. Only digits 0-9 and letters A-F are valid entries if you select hexadecimal format.

Note: Please click Apply button to make your configuration take effect.

5. **Advanced Setup Menu**: If you want to modify advanced features, you can click the Advanced Setup menu -> Advanced.

6. **Management Menu**: The Management Menu comprises four items: System Name, Password, Firmware and Profile items. You can rename the AP's name, change the login password, update firmware and create different profiles for future use.

Please refer to the following chapters for more details on using the Configuration Utility.

2.4 Application Scenario

■ **Simple Wireless Access Point**

In this application, the access point provides access for wireless stations to wired LANs and from wired LANs to wireless stations. The wireless stations within the range of the access point may communicate with each other via the access point. Please make sure that the IP address of the computer with network cards should follow the same IP address format of the AP and the SSID and the encryption keys should be the same as the AP.
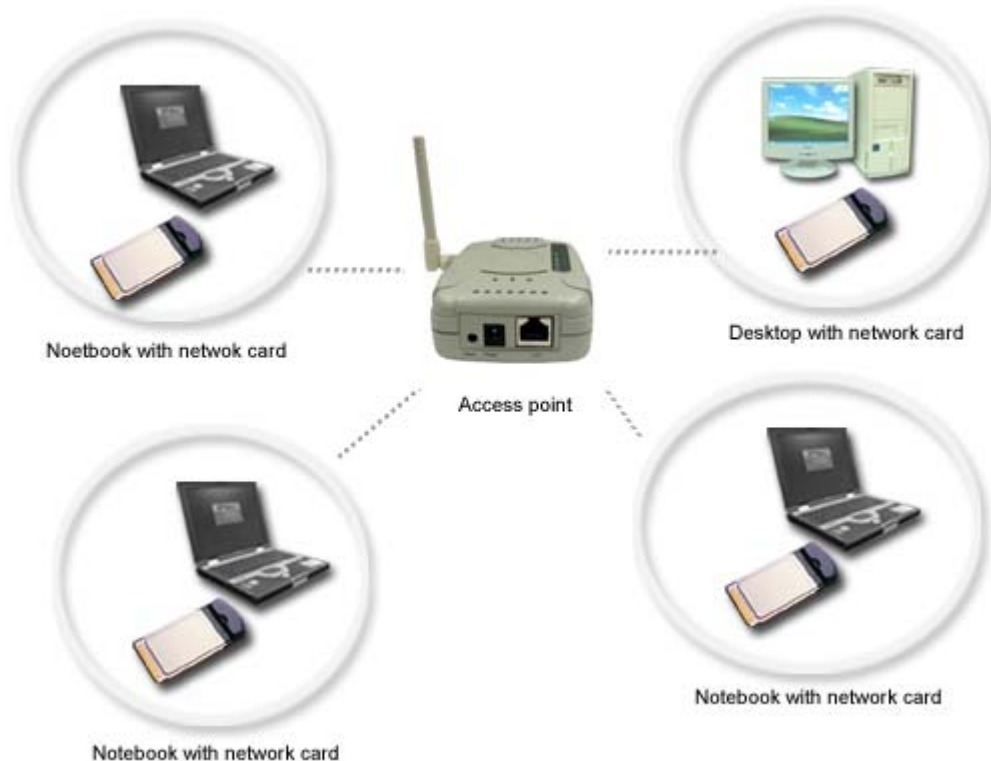
Simple Wireless Access Point

■ **Connecting The Access Point To A cable/DSL router, Ethernet switch or hub**

Steps:

1. Select a suitable site for the access point.
2. Connect an Ethernet cable between the access point and your cable/DSL router's LAN port, Ethernet switch, or hub by plugging one end of the cable into the RJ45 jack on the access point and the other end into an open RJ45 jack on the cable/DSL router, Ethernet switch, or hub.

3. Connect the power supply to the access point by plugging the DC connector into the DC jack on the WAP and plug the power supply into an electronic outlet. Verify that the Power LED and LAN LED illuminate, this indicates that the access point is connected properly.
4. Install Ethernet cards into a laptop or desktop on your wireless network. Please refer to the Installation Guide included with each product and make sure that the IP address of the Ethernet cards are within the IP address range of your network. The SSID and encryption key of the associated network cards should be the same as the AP.
5. You may refer to **Chapter 5: Troubleshooting** to check the Ethernet adapter is correctly installed.
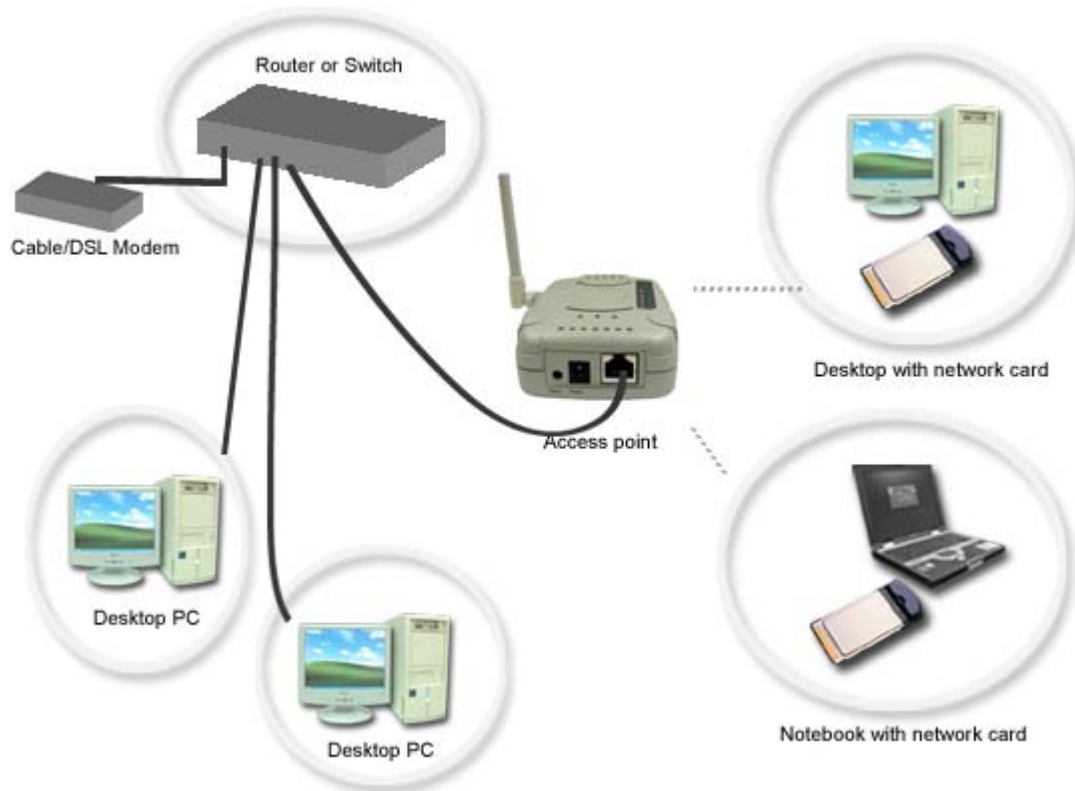
Connecting the AP to a cable/DSL router, Ethernet switch or hub

■ WB (Wireless Bridge) Mode – Ad-Hoc

Connect the access point to a single computer and configure the access point from AP mode to WB mode. All access points configured as WB mode should use the same radio channel. Each single WB mode access point is wirelessly linked with another bridge. This mode usually allows self-organizing connectivity and network services with no pre-exiting infrastructure.
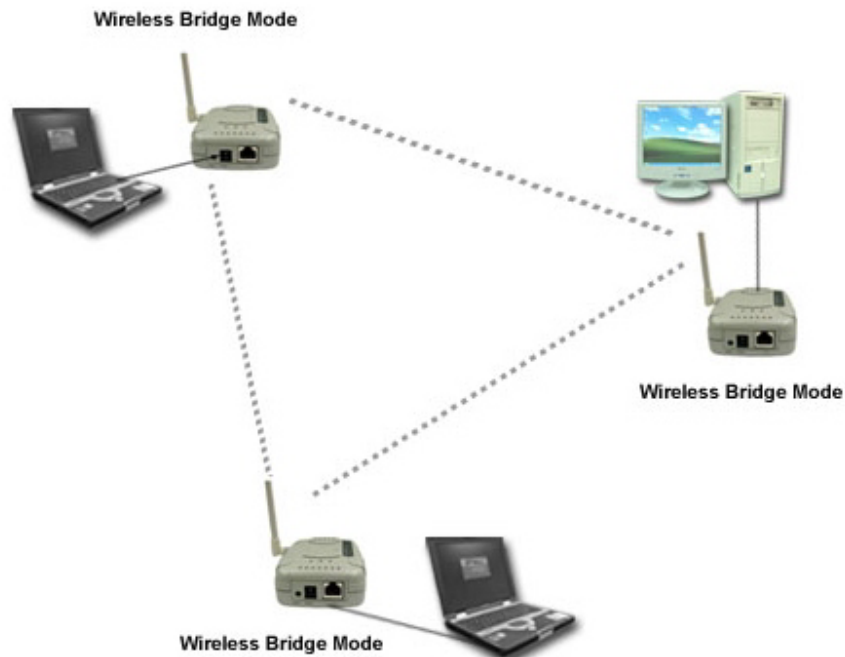
WB (Wireless Bridge Mode) – Ad-hoc

■ WB (Wireless Bridge) Mode – Infrastructure

The Wireless-Ethernet Bridge is one of an Access Point's client and bridges packets wirelessly between two or more Ethernet LANs.

Wireless Bridge Mode

Hub

AP Mode

ADSL
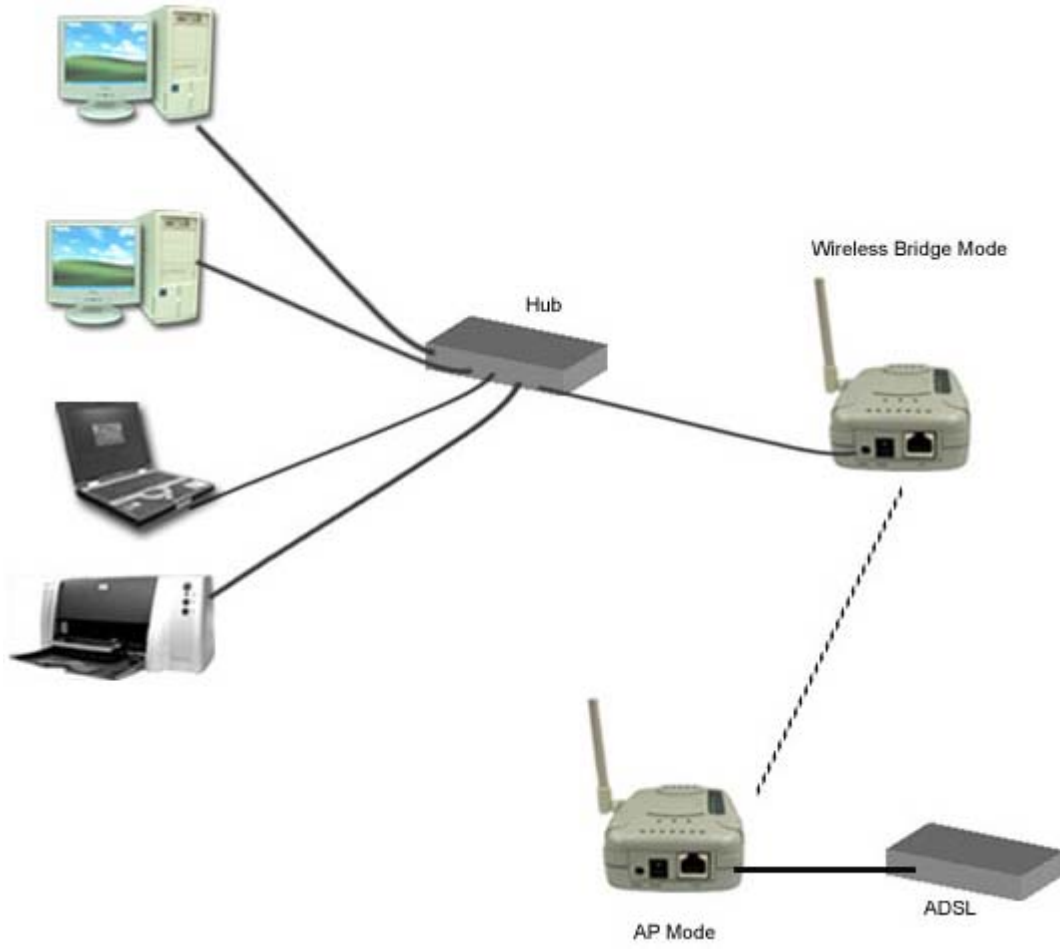
WB (Wireless Bridge Mode) – Infrastructure

Chapter3
Using the Configuration Utility

The **Configuration Utility** program for the access point is web-based. You will need a web-browser such as the Internet Explorer 5.0 or higher, or the Netscape Navigator 6.0 or higher. **The computer that you are using for initial configuration must have an IP Address within the same range as the IP Address of the access point**. Refer to Chapter 2 for assigning a static IP address.
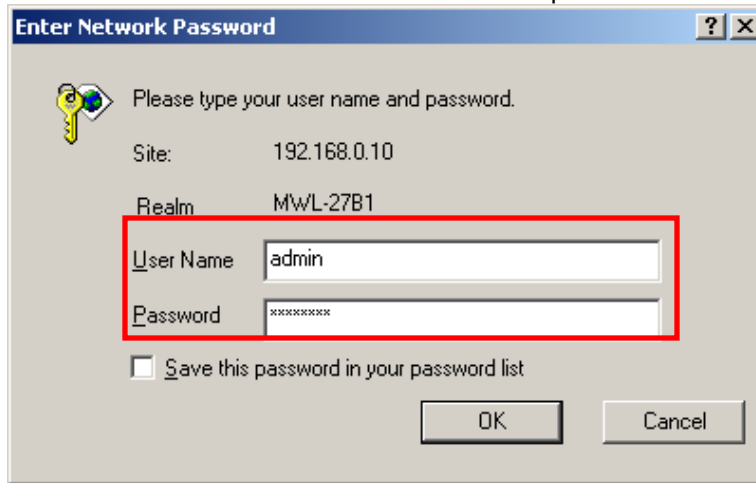
3.1   Open the Configuration Utility

1.   Open a web browser and enter the default IP address 192.168.0.10 in the Address field.

2.   When the login screen shows up, type "**admin**" in the User Name field and "**password**" in the Password filed. Click **OK**. Please note that the user name and password are case sensitive.

3.   The Configuration homepage shows up.

3.2   Configuration Utility – Home Page

MWL-27 Access Point Status

- Home
- Basic Setup
- Advanced Setup
- Management
- About

LOGOUT

REBOOT

STATUS

System Name	AP21558688
System Uptime	0 Day 0 hr. 38 min. 42 sec.
MAC Address	00:22:33:55:66:88
IP Address	192.168.0.40
Subnet Mask	255.255.255.0
DHCP	Client Disable
Frequency Domain	FCC (Channel : 1 – 11)
Firmware Version	MWL-27B1 v1.0 RC1

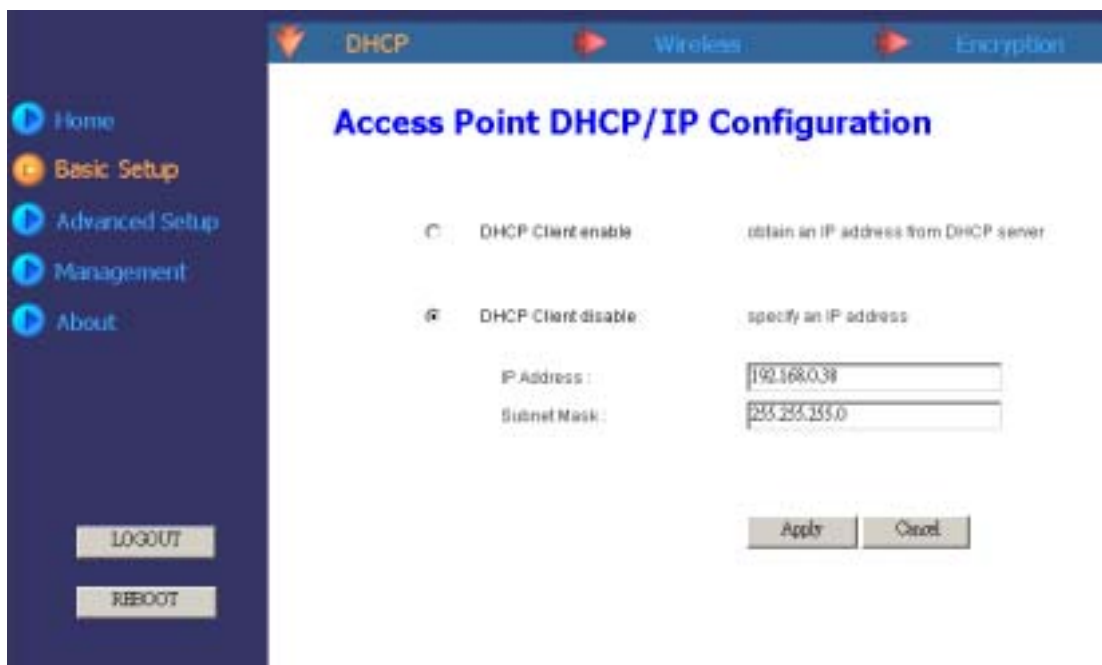**Wireless SETTING**

SSID/ESSID	MarvellAP21
Mode	11b(11Mbps)-WiFi
Channel/Frequency	6 (2.437GHz)
Authentication Mode	Open System

The Home page provides the current status of the Access Point so you can't edit any item in this page.

3.3   Basic Setup

Click **Basic Setup** menu from the left panel and you can see there are three items on the top of this pane. See the below screen shot. The basic setup menu allows you to assign an IP address for the access point, configure wireless settings and use WEP keys to encrypt data for a more secure network communication.

DHCP   Wireless   Encryption

- Home
- Basic Setup
- Advanced Setup
- Management
- About

LOGOUT

REBOOT

Access Point DHCP/IP Configuration

○   DHCP Client enable   obtain an IP address from DHCP server

◉   DHCP Client disable   specify an IP address

IP Address :   192.168.0.38

Subnet Mask :   255.255.255.0

Apply   Cancel

Basic Setup – DHCP Setting

Item	Description
DHCP Client Enable	If your network provides the DHCP function and then you can click the radio button to enable this function. The access point can obtain an IP address and network configuration information from a remote server.
DHCP Client Disable	If you want to manually assign an IP address, you must disable the DHCP Client function and set a static IP address and subnet.
Note: Don't forget to click Apply button to make configuration take effect. The AP will restart automatically.	

Basic Setup – Wireless Setting

The Wireless Setting allows you to configure the Access Point to communicate with other stations on the wireless LAN.

Item	Description
SSID/ESSID	The SSID/ESSID can be regarded as a name for the wireless network. Please note that the SSID on the wireless network adapters must be the same in order to communicate with the access point. If you want to change the SSID/ESSID, simply enter a new SSID/ESSID in the SSID/ESSID field.
Frequency Domain	This field displays the type of regulatory regimen in use for this link. It is fixed and can't be changed.
Channel/Frequency	There are 14 channels available for with the Access Point. There may be restrictions on which channel can be used in some countries. You can click the pull-down menu to change the channel. ● 11 channels for United States ● 13 channels for Europe countries

	● 14 channels for Japan
Transmit Rate	This field provides options for selecting data-transmitting rate of the Access Point. There are five options – Auto, 1 Mbps, 2 Mbps, 5.5 Mbps and 11 Mbps. You can click the pull-down menu to select one option. By default, the data rate is set to Auto allowing the Access Point to adaptively set the Tx rate to the highest possible rate for the WLAN condition. It's recommended that you select the Auto option.
Any Connection	To avoid broadcasting in the air so that every client with SSID (ESSID) "ANY" will activate via the AP. This setting let you configure if this AP is set for public purpose or under privacy.
Note: Don't forget to click Apply button to make configuration take effect.	

Basic Setup – Encryption Setting

The Encryption item provides WEP (Wired Equivalent Privacy) function to ensure a more secure networking communication and prevent unauthorized access to your wireless network. The WEP key for any wireless LAN adapter or access points associate with this access point should be the same.

Item	Description
Authentication Type	There are three modes of authentication types. The default setting is "**Auto**" and in this mode, the AP will automatically detect the authentication type. "**Open System**" means that AP accepts the mobile station at face value without verifying its identity. "**Shared key**" requires a shared key be distributed to stations before attempting authentication.
Encryption Length	Click the drop-down menu to select 64 bits or 128 bits. The 128 bits gives a higher level of security. The selection must be the same between all connected network devices. You can see that as the key length option is changed, the number of available characters in the WEP Key Entry field is changed automatically. When using

	64-bits, you'll need to enter a key having 10 hexadecimal characters or 5 ASCII characters. While using 128-bits, you'll have to enter a key having 26 hexadecimal characters or 13 ASCII characters.
Key Type	This utility supports Hexadecimal, ASCII and Passphrase key formats. Click the drop-down menu to choose one format. Only digits 0-9, letters A-F and a-f are valid entries if you select hexadecimal format. For ease-of-use, the utility can generate keys using a "passphrase" that you enter. This passphrase can be easily distributed to wireless-equipped computer users in your network. For instance, creating a key using the passphrase "Passphrase" generates four keys in 64-bit encryption mode and one key in 128-bit encryption mode. Users of laptops need only to enter the passphrase and the key number into their computers' wireless management software to be able to communicate while using encryption. All computers on the network must use the same encryption rate and passphrase. The passphrase can be changed as often as desired.
WEP Key	These four fields allow you to set four different 64-bit or 128-bit alphanumeric keys for encryption. This item is a very convenient and useful function when you want to match the WEP keys with different vendor's products. After you have set the WEP keys for specific AP, instead of entering the WEP key every time, you just click the radio button in front of the WEP key to enable the WEP key of the associated device.
Note: Don't forget to click Apply button to make configuration take effect.	

3.4   Advanced Setup

The Advanced Setup menu allows you to view associated WLAN cards, adding/blocking MAC addresses to connect with this access point and configure advanced features the utility provides.

Advanced Setup – Station List

This page indicates the number of WLAN cards connect to the AP in the form of MAC address and it will be refreshed every 20 seconds.

Advanced Setup – Access Control
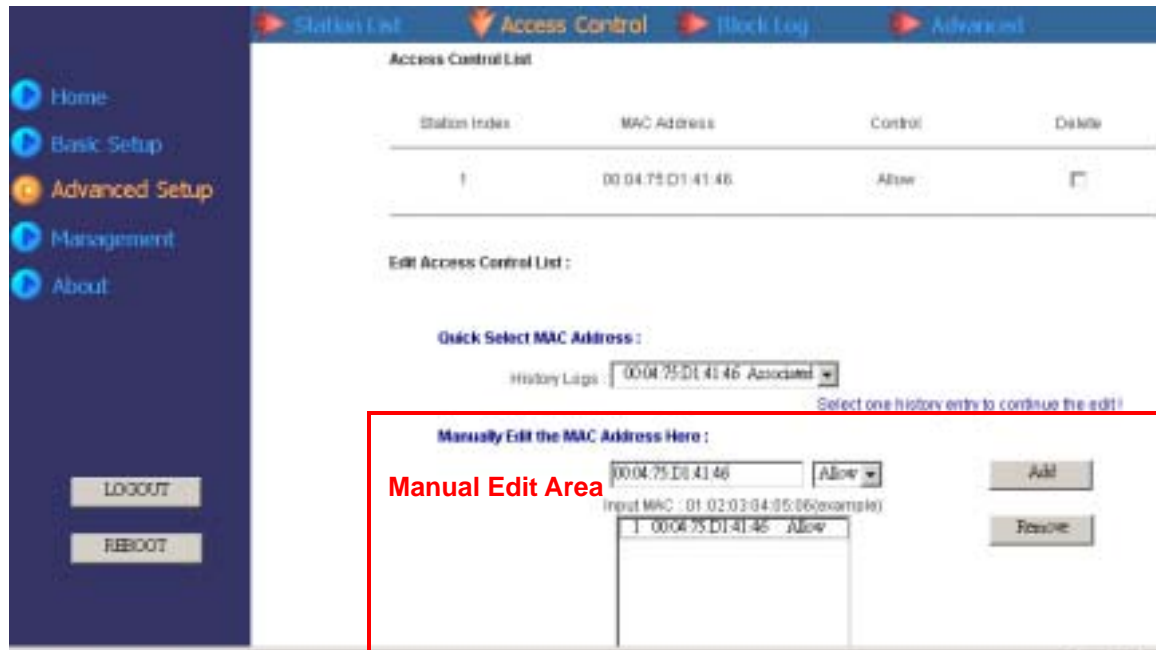
The Access Control function allows you to add wireless LAN cards up to 64 entries in the form of MAC address and allow/block these devices to communicate with the access point. The default setting of Access Control is in "**Disabled**" mode, so you can select "**Enable**" from the drop-down menu to activate this function. Click the **Display Table/Hide Table** to display or hide the Access Control List.

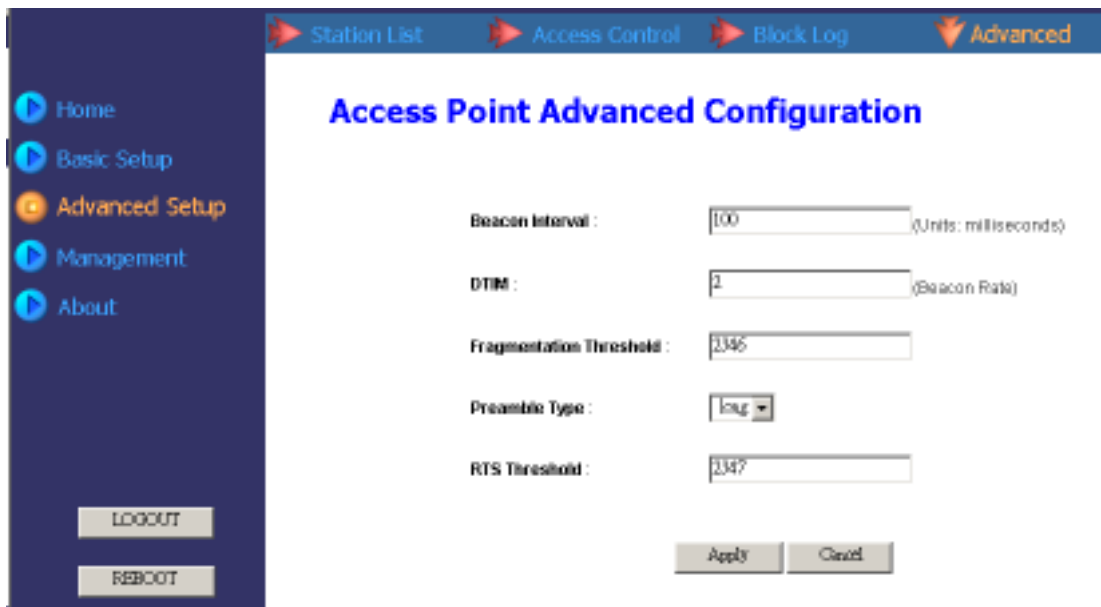| Item	Description
Access Control List	The Access Control List indicates the allowed/blocked Ethernet card status.
Edit Access Control List	**Quick Select MAC Address:** Click the pull-down menu of History Logs to select an associated MAC address entry. **Manually Edit the MAC Address Here:** The MAC address entry you select from History Log will appear in the Manual Edit field and allow you to configure its property. You can click the pull-down menu from the Manual Edit area to select **Allow** or **Block** the selected entry. Click **Add** and the entry will be added into the Manual Edit table or click **Remove** to delete the selected entry. If the Ethernet card you want to add doesn't show on the list, you can edit directly from Manual Edit area via typing its MAC address.

Advanced Setup – Block Log

This page indicates a log list up to 32 entries of MAC address of all wireless network devices once blocked to the access point. Click **Refresh** to update this page.

Advanced Setup – Advanced

In this page, this utility gives you more flexibility to manage the access point. You can change advanced configurations, such as Beacon Interval, DTIM, Fragmentation Threshold, Preamble Type and RTS threshold.

Item	Description
Beacon Interval	Beacons are packets sent by an Access Point to synchronize a wireless network. The value of beacon interval is depending on the environment where the AP is operating. Specify a Beacon interval value between 1 and 1000(units: ms). The default value is set to 100 milliseconds, i.e., ten beacons per second.
DTIM	Enter a value between 1 and 255 for the Delivery Traffic Indication Message (DTIM). A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.

	When the Access Point has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. AP clients hear the beacons and awaken to receive the broadcast and multicast messages. The default value for DTIM interval is set to **2**.
Fragmentation Threshold	This value should remain at its default setting of **2346**. If you experience a high packet error rate, you may slightly increase your "Fragmentation" value within the value range of 256 to 2346. Setting the Fragmentation value too low may result in poor performance.
Preamble Type	The Preamble Type defines the length of the CRC (Cyclic Redundancy Check) block for communication between the Access Point and roaming wireless adapters. Make sure to select the appropriate preamble type and click the **Apply** button. Note: High network traffic areas should use the shorter preamble type. The default value for preamble length is set to **long**. The Short Preamble option improves throughput performance. The default setting is Long.
RTS Threshold	The RTS threshold is the packet size at which packet transmission is governed by the RTS/CTS transaction. Each station can have a different RTS threshold. If you encounter inconsistent data flow, only minor modifications to the value range between 256 and 2347 are recommended. The default value for RTS Threshold is set to **2347**.
Note: Don't forget to click Apply button to make configuration take effect.	

3.5　Management Setup

The Management menu allows you to change the AP's name, password, update firmware and download profile you have created.

Management – System Name

The System name is used to help identify an access point when multiple APs are being used. For instance, there maybe several APs in your network, you can identify different APs by giving them different names. To enter a name, type a name in the System Name field and click **Apply** button to make the configuration take effect.

Management – Password

The Password page allows you to change the default username and password. Enter the new username, password and click **Apply** button. For security, you should change the username and password after you enter the web page. If you forgot the username and password, please go to the **Profile** page and click **Revert** button to restore the setting into "factory" default or press the **Reset** button on the back of the Access Point about 5 sec to restore the setting into "factory" default. The username and password will be reset into the default value.

Management – Firmware

The firmware page allows you to update firmware. To update the firmware by web page, click the **Browse** button first to select the file that had been saved in your laptop or PC (make sure to change the file name into XXX.img). Then click the "**Apply**" button to update the firmware.


Click **OK** from the below dialog box and the firmware upgrade will start. It takes a few moments to upgrade the firmware. *Note: Do not power down or cancel the AP during the upgrade or the upgrade will be terminated.*
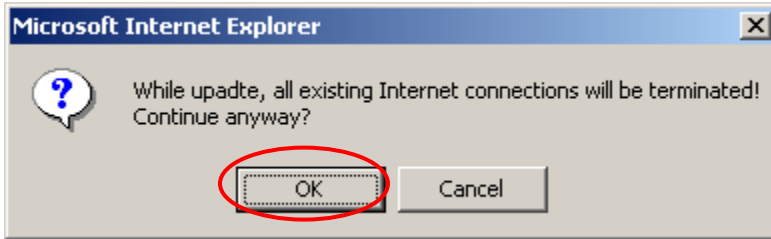
Management – Profile

Creating a profile will save your time to re-configure network settings you have established. You can save your current setting into a profile and download it to your laptop or PC. Also, you can upload a profile you saved before. Please notice that the backup profile is "**NOT**" allowed to be changed. In the bottom of this page, you can restore the setting into the factory setting if you click **Revert** button.
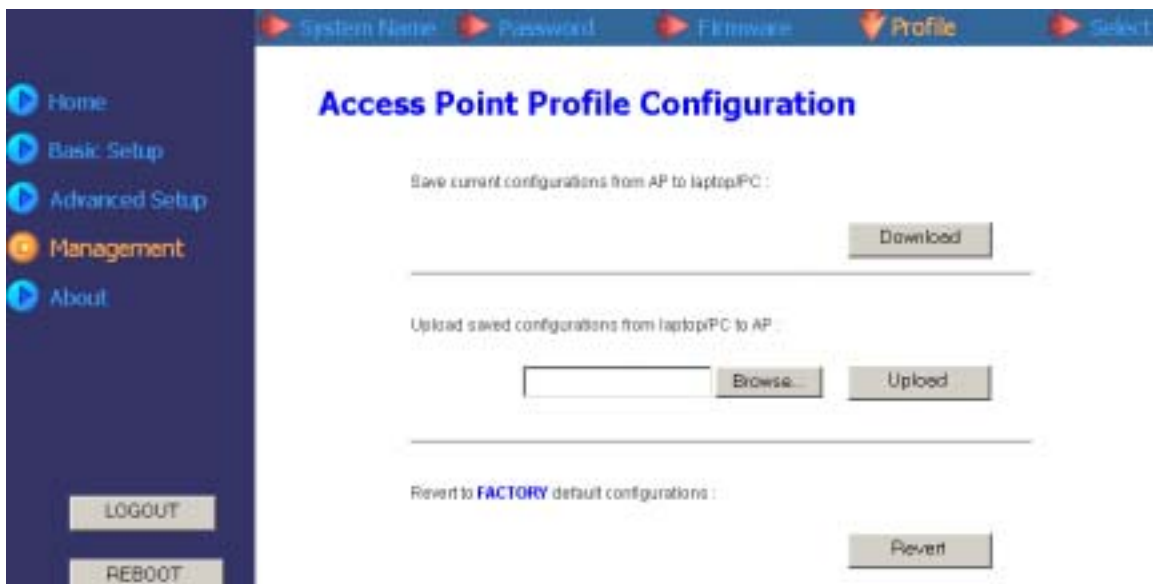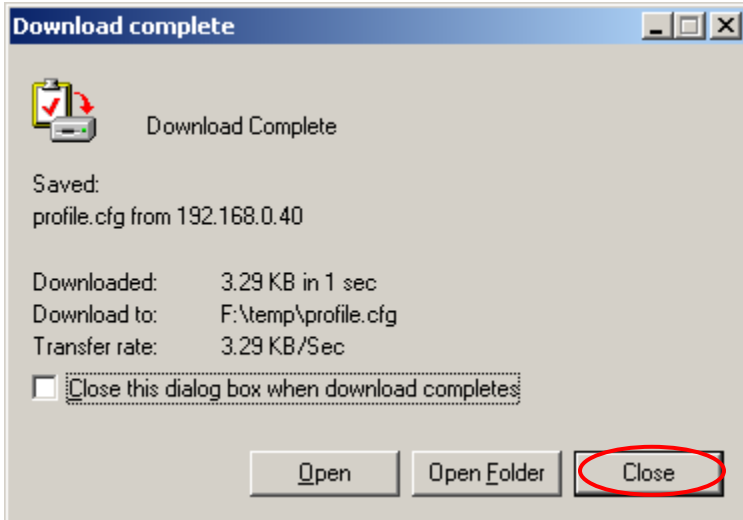

Download: Allows you to save the current settings for future use. Click **Download**, and the following dialog box will appear. Click **OK** to save the profile to your hard disk.
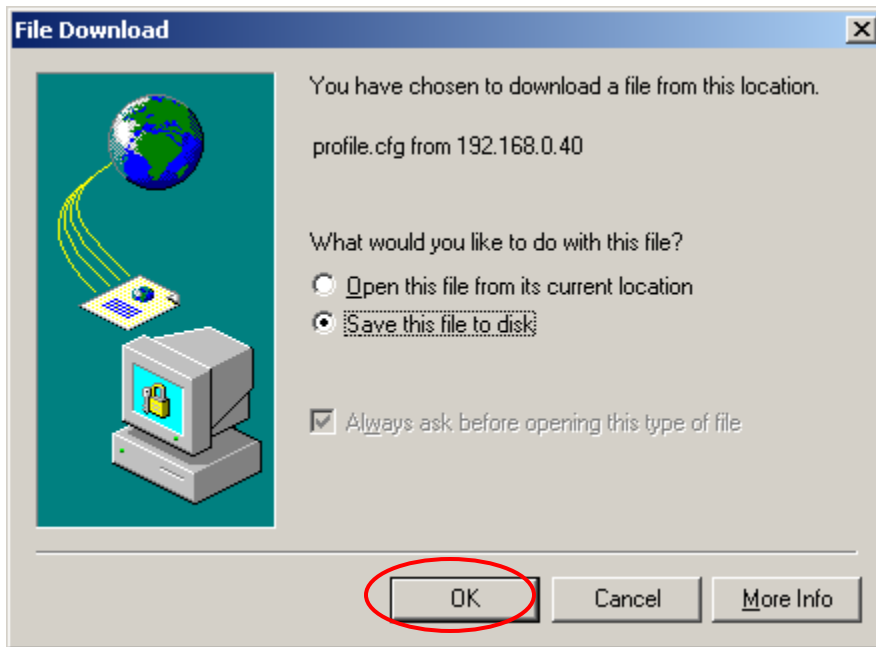
From the following dialog box, specify a file path and click **Save** to save the profile.
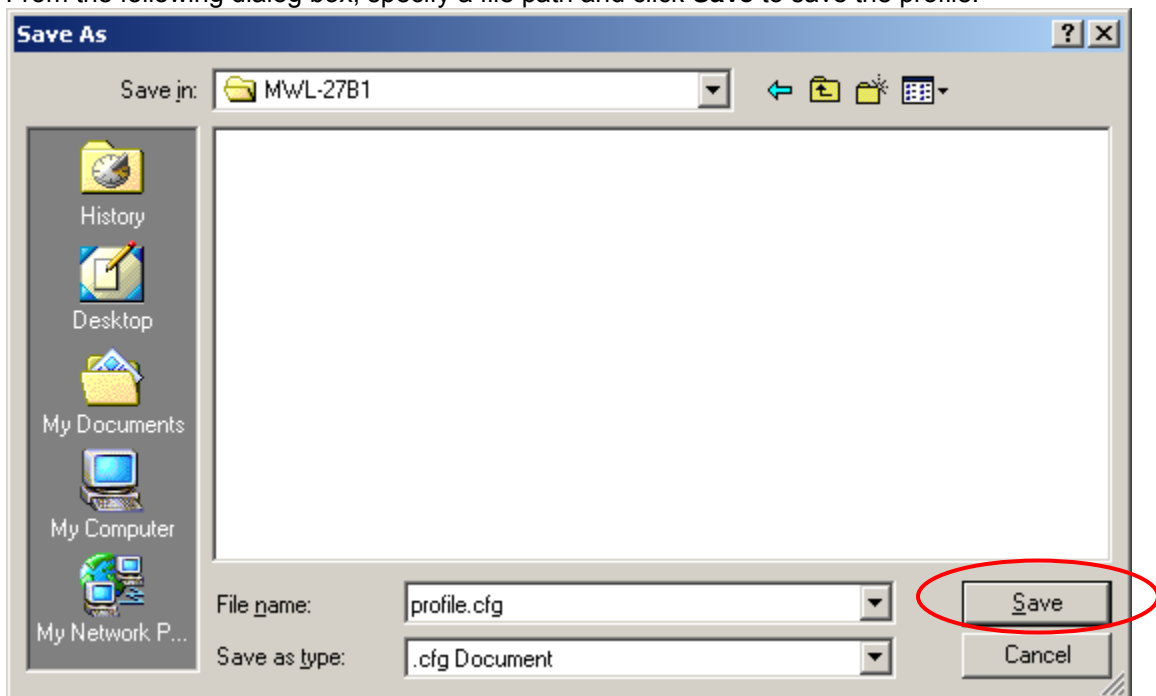

After the profile has been downloaded completely, click **Close** to close the dialog box.

Upload: Click **Upload** button to upload profile you have saved in your desktop or laptop. Click **Browse** to specify the correct file path and click **Upload** to upload the profile.

Revert: Click **Revert** button and all the settings will restore to factory default settings. Click **OK** to make sure that you want to retrieve the access point default setting.
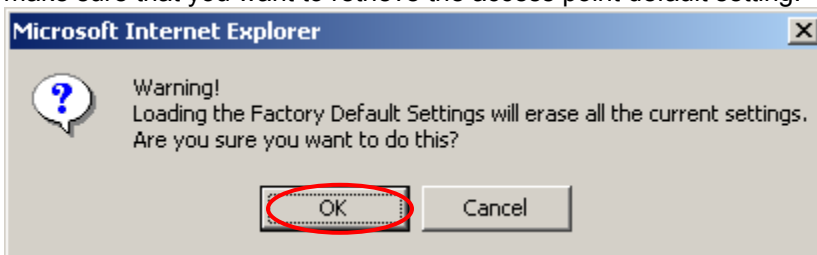
Management – Select

Click **Reboot** button and the AP will be changed to **Bridge** mode.

3.6   About

You can have a basic concept of our company information through this page.

About MicroLink ~ Company Profile

COMPANY MISSION

Microlink Communications Inc., a wholly owned subsidiary of the Foxlink Group, providing innovative and cost-effective wireless and broadband solutions for the home, SOHO and enterprise markets, currently develops and manufactures products in 3 main product lines: Bluetooth, Wireless LAN and HomePlug Being heavily R&D and manufacturing oriented, Microlink develops and manufactures products initially at the company's engineering pilot-run lines in Chupei City, Hsinchu, to prove product manufacturability and assure product quality. For volume production, manufacturing will be transferred to Foxlink's huge manufacturing facilities in China. With manufacturability and quality having been designed in and proven at Microlink, the overall product quality is achieved on volume production lines at Foxlink. Products mass-produced at Foxlink's manufacturing facilities are then distributed to worldwide 1st-tier customers as well as channel customers. Please refer to the following web-page for the overall manufacturing and quality capabilities of Microlink backed up by Foxlink Group: Manufacturing & Quality Capabilities With Microlink's main business model being ODM/OEM, we have established and will continue to seek and establish strategic partnerships as follows:

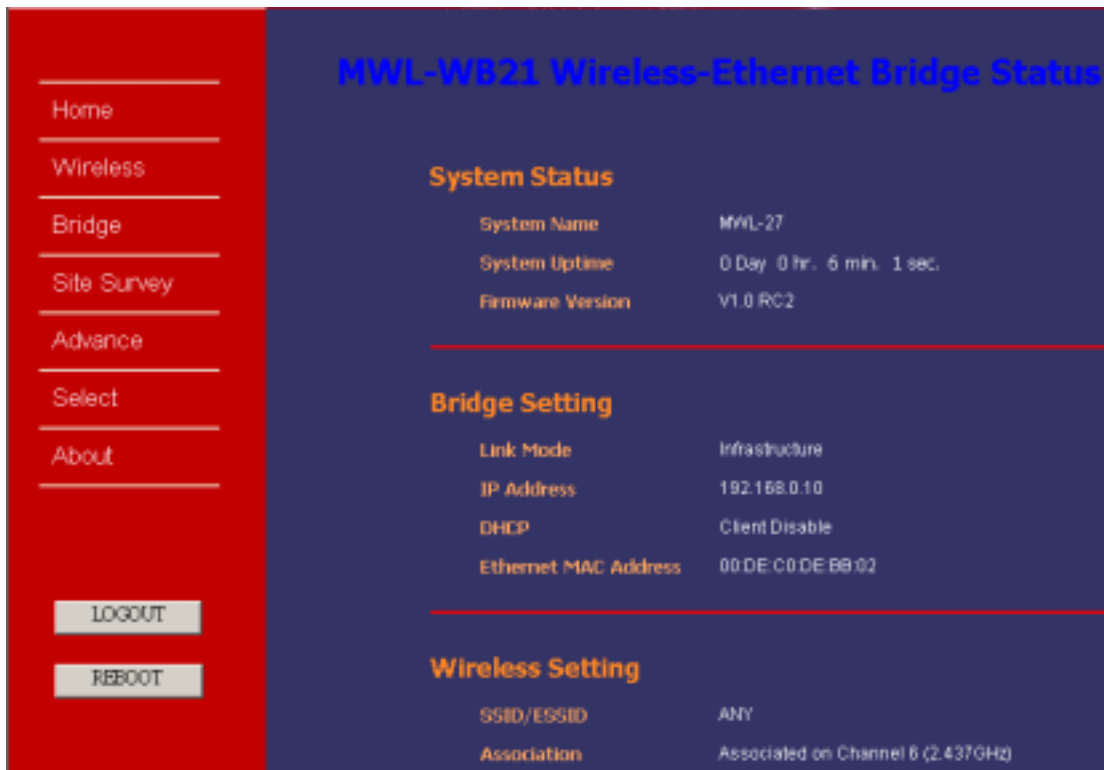1st-tier customers: Microlink along with Foxlink seeks 1st-tier customers as strategic

Chapter4
Bridge Mode Configuration

From AP mode, click the **Management -> Select** and click **Reboot** to switch to Bridge mode. It will take a few seconds and the web browser will be refreshed. If not, you can manually open the web browser.

4.1 Home menu

The **Home** page provides the system status, bridge setting, wireless setting and host table info. You can view all the info but you can't edit any item on this page.

Item	Description
System Name	Name of the Wireless-Ethernet Bridge.
System Uptime	It lists how long the AP has been turned on.
Firmware Version	Indicates the current firmware version.
Link Mode	Indicates the current connection's link mode.
IP Address	The IP address of the Wireless-Ethernet Bridge.
DHCP	Indicates the DHCP function is enabled or disabled.
Ethernet MAC Address	Indicates the MAC address of the Bridge.
SSID/ESSID	Name of the Wireless-Ethernet Bridge that users associate with

	Access Point.
Association	Indicates that the Wireless-Ethernet Bridge is using 802.11b transmit mode with Access Point.
Wireless MAC Address	The MAC address of the Wireless.
Host Table	Indicates all hosts that behind the Wireless-Ethernet Bridge's LAN port.

4.2 Wireless menu

The **Wireless** menu allows you to configure the SSID, Transmit/Receive mode, radio channel and WEP settings.

Item	Description
SSID/ESSID	The SSID/ESSID can be regarded as a name for the wireless bridge. If you want to change the SSID/ESSID, simply enter a new SSID/ESSID in the SSID/ESSID field. The default value is **ANY**.
Transmit/Receive Mode	You can choose either Infrastructure or Ad-hoc mode. **Infrastructure**: The Wireless-Ethernet Bridge is one of an Access Point's client. The host links with the Wireless-Ethernet Bridge's LAN port will transmit/receive data to other host via the bridge to the Access Point. **Ad-hoc**: The Wireless-Ethernet Bridge is linked with another Bridge. This mode usually allows self-organizing connectivity and network services with no pre-exiting infrastructure.
Channel/Frequency	There are 14 channels available for with the Access Point. There may be restrictions on which channel can be used in some countries. You can click the down-arrow button to select a channel. ● 11 channels for United States ● 13 channels for Europe countries ● 14 channels for Japan This function is only available in Ad-hoc mode and each Wireless-Ethernet bridge should be set to the same channel; otherwise, the connection won't be built.
Transmit Rate	This field provides options for selecting data-transmitting rate of the Access Point. There are five options – Auto, 1 Mbps, 2 Mbps, 5.5 Mbps and 11 Mbps. You can click the down-arrow button to select one option. By default, the data rate is set to Auto allowing the Access Point to adaptively set the Tx rate to the highest possible rate for the WLAN condition. It's recommended that you select the **Auto** option.
Preamble	The Preamble Type defines the length of the CRC (Cyclic Redundancy Check) block for communication between the Wireless-Ethernet Bridge and roaming wireless adapters. Make sure to select the appropriate preamble type and click the Apply button. **Note:** High network traffic areas should use the shorter preamble type. CRC is a common technique for detecting data transmission errors. The default value for preamble length is set to **long**.
WEP Setting	You have to click the down-arrow button to select **Enable** and the WEP settings will be available.
WEP Key Length	Click the radio button of 64 bits or 128 bits. The 128 bits gives a higher level of security. The selection must be the same between all connected network devices. You can see that as the key length option is changed, the number of available characters in the WEP Key Entry field is changed automatically. When using 64-bits, you'll need to enter a key having 10 hexadecimal characters or 5 ASCII characters. While using 128-bits, you'll have to enter a key having 26 hexadecimal characters or 13 ASCII characters.
Passphrase	To use the passphrase mode, you need to input a random number or any key you want. Then press the "**Generate!!!**" button, the passphrase will generate four sets of key automatically.
WEP Key 1-4	These four fields allow you to set four different 64-bit or 128-bit alphanumeric keys for encryption. This item is a very convenient and useful function when you want to match the WEP keys with different vendor's products.
Authenticated with Share	Click the down-arrow button to select **Disable** or **Enable**. If you

Key mode	select **Enable**, then it requires a shared key be distributed to stations before attempting authentication.
Apply, Cancel Button	**Apply**: Make your settings take effect. There will be a pop-up message shows up, please follow the on-screen description to reboot your AP. **Cancel**: Abort all configurations.

4.3 Bridge menu

In the **Bridge** page, you can type a Wireless-Ethernet bridge name, enable/disable DHCP setting and enable/disable MAC cloning.

Item	Description
Bridge Name	Enter a new bridge name in this field.
DHCP Setting	If your network provides DHCP function, and then you can click the radio button of Enable to enable this function.
IP Address Setting	If your network doesn't provide DHCP function, you have to assign an IP address for the AP. Type the IP address in the IP filed. Also, type the subnet mask and default gateway in the relative fields.
MAC Cloning Mode	This function will clone the MAC address of the host as wireless bridge's own MAC. This can be enabled when there is ONLY one single host. Running NetBEUI/IPX protocol requires MAC Cloning Enable.

4.4 Site Survey menu

The **Site Survey** page provides information of any access point near this Wireless-Ethernet

Bridge. You can find the numbers of access point, the MAC address of the access point, the channel it uses and if the WEP setting is enabled or not. Click **Scan** button to refresh the table.

4.5 Advance menu

The **Advance** menu allows you to revert the AP to default setting, upgrade firmware and change password.

- **Revert to Factory Default Setting**
  Click the **RESTORE** button and all settings will be reverted to default setting.
- **Firmware Upgrade Setting**
  To update the firmware via web page, click the **Browse** button first to select the file that had been saved in your laptop or PC (make sure to change the file name into xxx.img). Then click the "**Apply**" button to update the firmware.
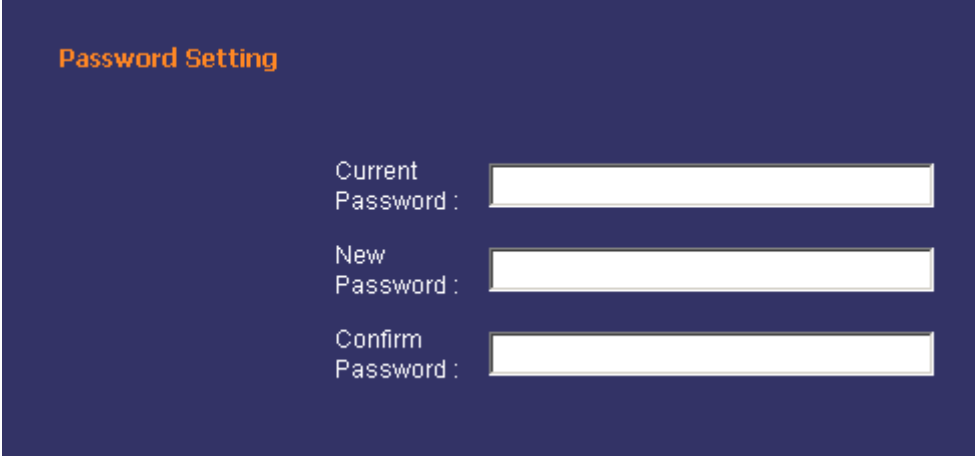 Click **OK** from the confirm dialog box and the firmware upgrade will start. It takes a few moments to upgrade the firmware. If the firmware upgrade is completed, there will be a message indicating you the process is successful. Please follow on-screen description to reboot the AP and open the WEB browser again.

Note: Do not power down or cancel the AP during the upgrade or the upgrade will be terminated.

- **Password Setting**
  You can assign a new password for the AP. Type the new password in the Password field.
  You can close the browser and type the new password to test if your password takes effect.

Password Setting

Current Password :

New Password :

Confirm Password :

4.6 Select menu

The **Select** page allows you to change from Wireless Bridge mode to Access Point mode.
Click the **Reboot** button and the access point will be changed to AP mode. It will take a few seconds to update the web page. If the web page is not updated, you can manually open the web browser.

Wireless-Ethernet Bridge Firmware Select Configuration

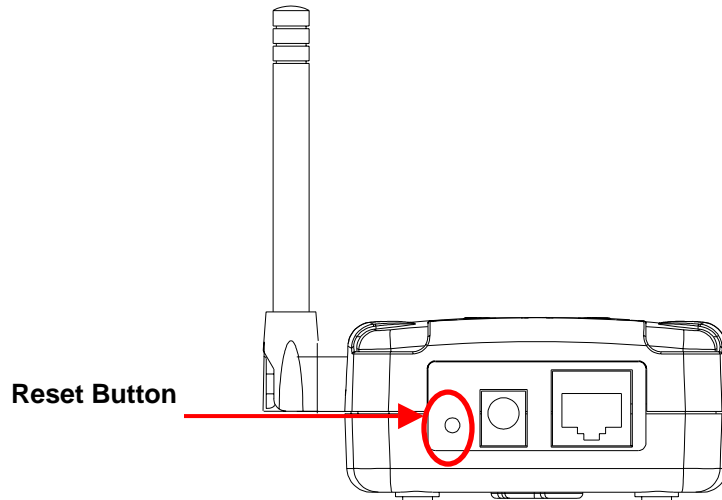| Home |
| Wireless |
| Bridge |
| Site Survey |
| Advance |
| Select |
| About |

Reboot to **Access Point** mode:

[Reboot]

Chapter5
Troubleshooting

1. Revert the access point to Factory Default settings

You may follow the following steps to hard-reset the access point.

Reset Button

- Locate the **Reset** button on the back of the access point.

- Use a thin metal object, such as a paper clip or a pen point to press and hold the **Reset** button for about 5 seconds and then release.

- After the access point reboots (this may take a few moments) it will be reset to the factory **Default** settings.

2. The computer used to configure the access point cannot access the Web Configuration Page.

- Check that the **LAN LED** on the access point is **ON**. If the **LED** is not **ON**, check that the cable for the Ethernet connection is securely inserted and the power cable is plugged into the power jack securely.
- Check that the Ethernet card is working properly. Please check that the driver for the network card is installed properly and check that the drivers are loaded properly. Pleaser refer to the below point 3.
- Check that the **IP Address** of the Ethernet card is in the same range and subnet as the access point. Please refer to *section 2 of Chapter 2: Configuring the Ethernet Adapter.*
- Verify that if you correctly type the **Username** and **Password**.

Note: The default IP address of the Access Point is 192.168.0.10 so the IP address for the Ethernet Adapter must follow the 192.168.0.x IP address format and the IP should not be the same IP address assigned to any other devices in the network. (Do not use these reserved IP addresses: 192.168.0.1 and 192.168.0.10.)

- Do a **Ping test** to make sure that the access point is responding. In the example, from **Windows Start** menu -> **Run**>Type **Command**>Type **ping 192.168.0.20**. A successful

ping will show four replies.

3. Verify that the driver for the Ethernet card has installed successful
If you want to check that the driver's installation is successful or not, follow the next steps. Your
Ethernet card model may differ from this example but the verification procedure is the same.

■ Right-click mouse button on the **My Computer** icon on your Windows desktop, and
highlight **Properties** from the pop-up menu.
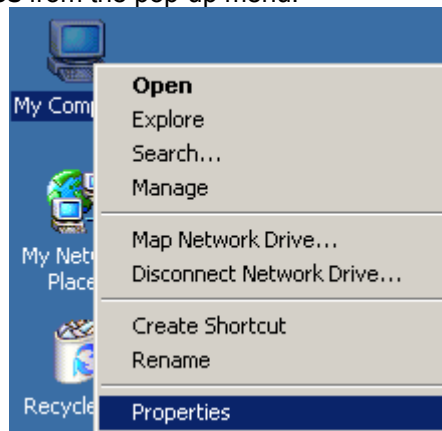
■ The **System Properties** screen will be pop-up. Under **Hardware** tab, click **Device
Manager…**.
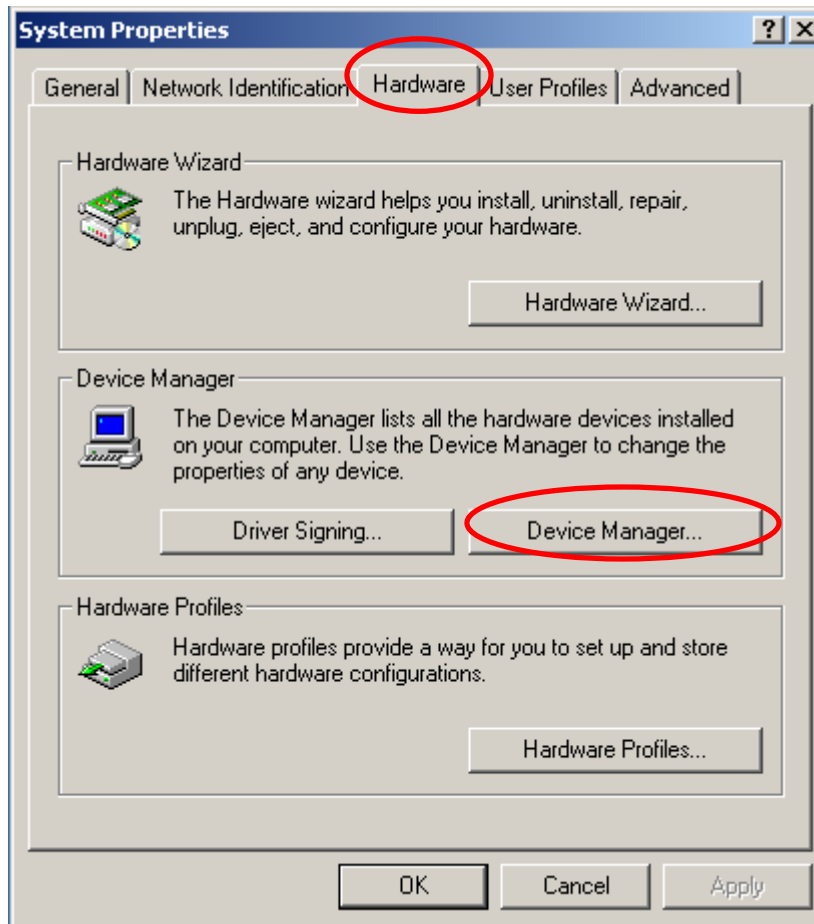
- After clicking **Device Manager…**, the following screen will be shown. Click on the + symbol in front of "**Network adapters**" and see if an item labeled **Wireless 802.11b CardBus Adapter (34B1)** is visible. If you don't see the item below the network adapter icon but a"?" or "!" symbol is displayed, it means that the driver installation was unsuccessful. Highlight "**Wireless 802.11b CardBus Adapter (34B1)**", right-click mouse button and select "**Properties**".
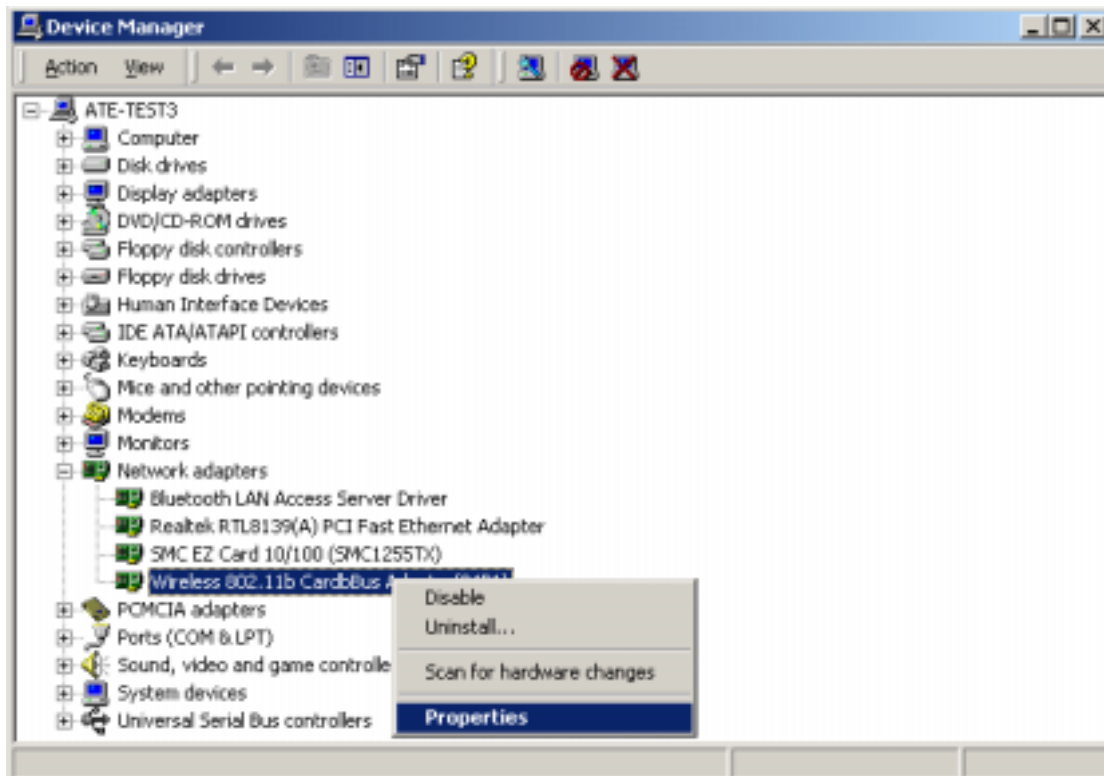
- Click the **General** tab, if the Device Status field reports that "**This device is working properly**", it means that the driver has been installed successfully.
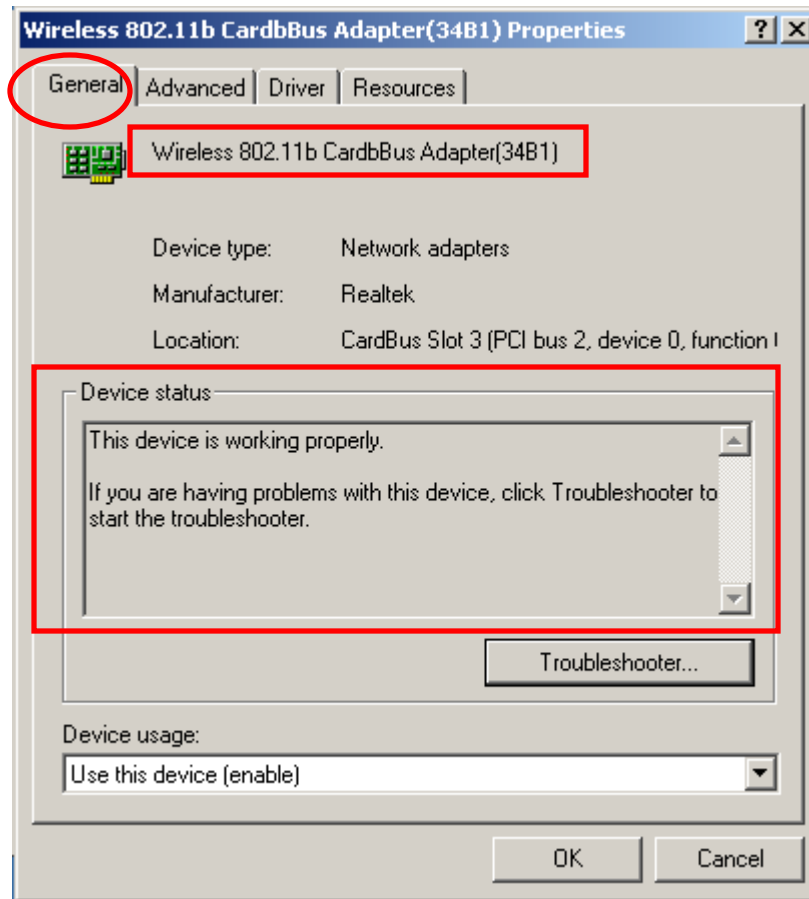
4. The computers with the wireless Ethernet cards installed can't connect to the network through the access point.

- Make sure that each wireless client is configured to connect to the SSID of the AP. The default SSID of the AP is MWL-27.
- Make sure that each wireless client is configured to the same encryption setting with the AP.