

USB Wireless LAN Adapter

User Manual

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1. Product Introduction

Thank you for using USB WLAN product. This installation guide will help you install USB Wireless LAN Adapter and connect to the Internet quick & easy.

Package Contents

1. USB Wireless LAN Adapter
2. Quick Installation Guide
3. Manual & Driver CD Disc
4. USB cable

System Requirements

1. Desktop/ Laptop with USB port and CD-ROM driver
2. Operating System: Windows 98 SE/ME/2000/XP

■ Applied Environments

There are two application modes for this WLAN Adapter, the “Ad-Hoc mode” and the “Infrastructure mode”. (For further explain, please refer to the “WLAN Application Modes” below) Different modes require different settings. Please check the environment first.

Infrastructure mode: Via “Access Point” (AP) to connect to the Internet. This mode further gives wireless access to Internet or data sharing under a previously wired environment.



Figure1

Ad-Hoc mode: Connecting to other computer with WLAN Adapter. This mode does not need AP to connect to each other.



Figure2

WLAN Application Modes

Ad-Hoc Mode	Ad-Hoc mode is a Peer-to-Peer mode. Without an AP, computers can also connect to each other by USB Wireless LAN Adapter. With this mode, computers are able to share data or connect to the Internet if one of them is already connected to.
Infrastructure Mode	Infrastructure mode including an AP, unlike Ad-Hoc mode, enabling users to best utilizes the frequency bandwidth of the AP. This mode enables users to integrate wired and wireless infrastructures. Through APs, wireless users are able to access wired resources, for example: Internet, database, and printers.
Advantages	Comparing to Ad-Hoc mode, Infrastructure mode has the following advantages: ✓ Longer distance: Through AP, the wireless access distance is longer. ✓ Roaming: The wireless devices can move within the AP support area. ✓ Integration of wired and wireless environment.

2. USB Wireless LAN Adapter Installation

Note: The screens showed below are from Windows XP .For other Windows system, the steps are the same, but the screens shown will be a little different.

After plugging USB Wireless LAN Adapter into your PC, it will automatically find and alert a New USB Device. , Then you do nothing ,our wireless lan Adapter will do all things,if your computer has a long time response ,you can click cancel ,it will also help you do it . After successful installation, The software will automatically search for available APs for connecting to the Internet.



Figure3

Here are two different utility to configure you wireless setting on XP, although we provide another choice, but in functional, both of them are similar. You can choose any one of them, which you more like or convenience to use.

1 Windows XP Wireless Network Connection Setting.

1. After finished install driver and utility on your system. Let's starting to setup your wireless Adapter. First of all we will see the connection notice in the right corner



Figure4

2. Click the notice frame and it will popup a setup dialog as below. If there have some efficient access point, which efficient range contains your pc Adapter range, then the SSID will show in the “Available networks” list. Select one and click the Connect button.

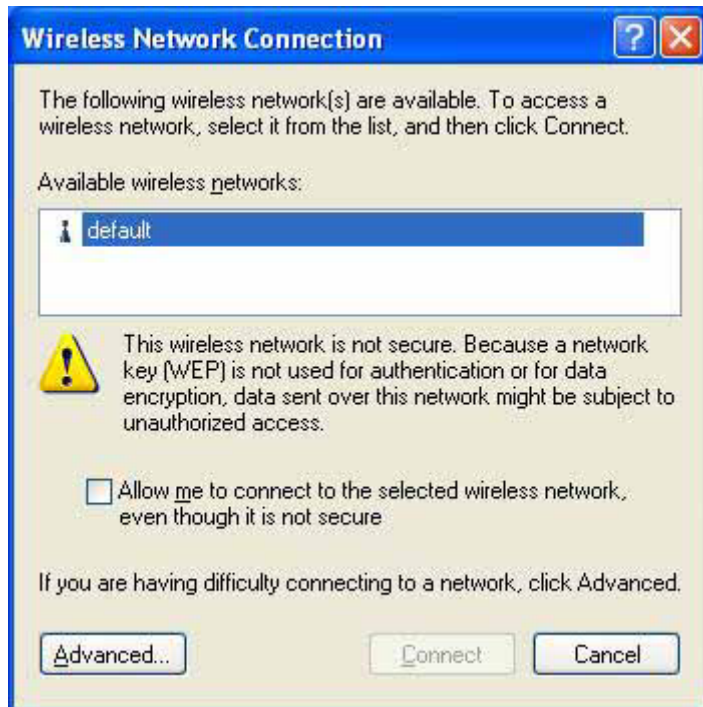


Figure5

3 It's normal sight when you pick a good connection. Windows XP will appear warning notice for a second.

4. After several seconds, you will see connection states information on notice frame. It will show SSID and signal strength.

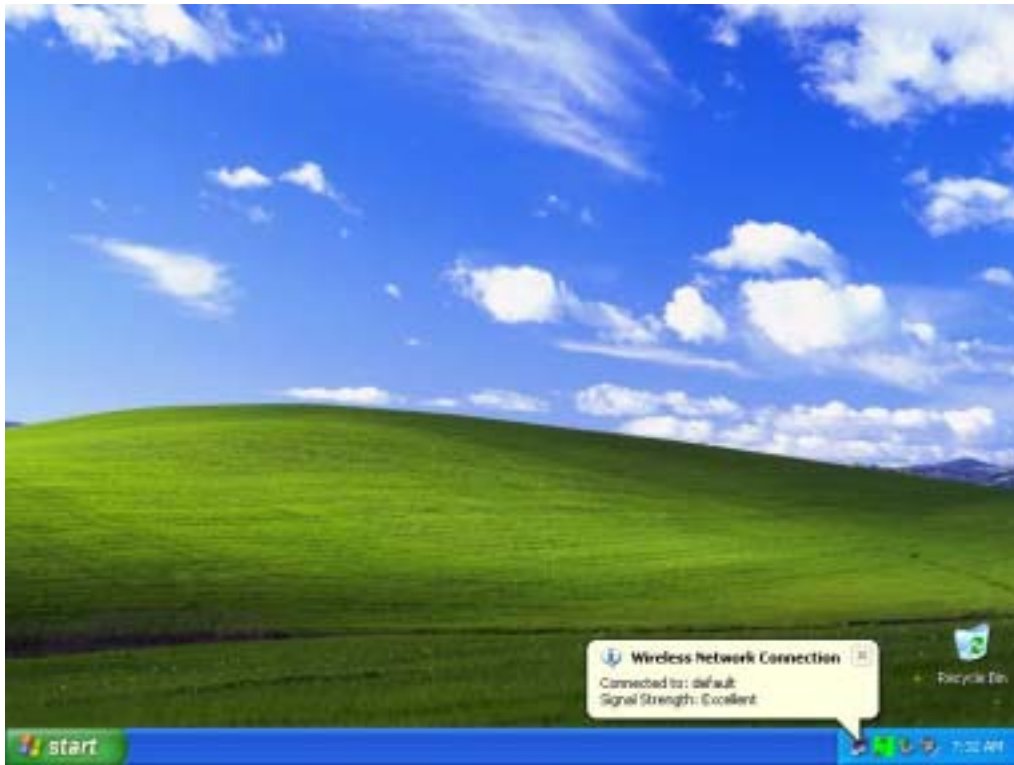


Figure6

2 Use Manufacturer's Configuration Utility

We provide another wireless setting utility for Windows use. In windows XP system, But you need to disable the Windows XP's wireless configuration

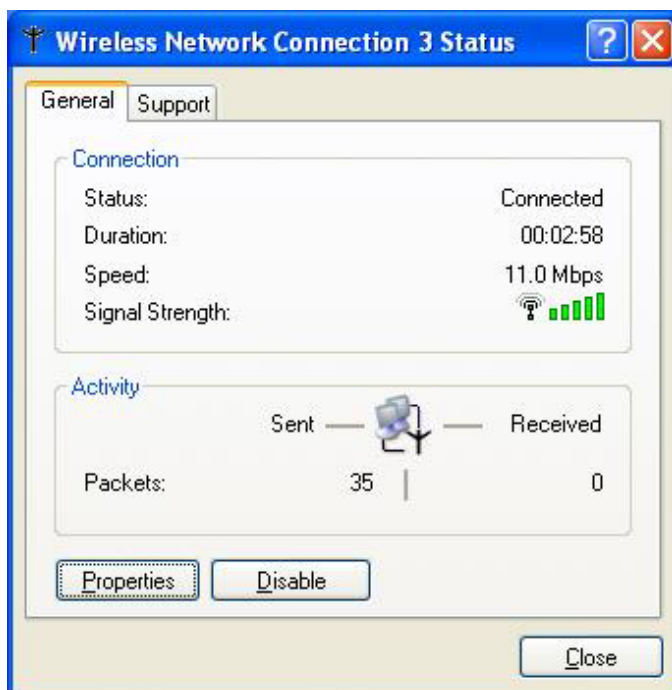


Figure7

Click properties, Uncheck **Use Windows to configure my wireless network settings**

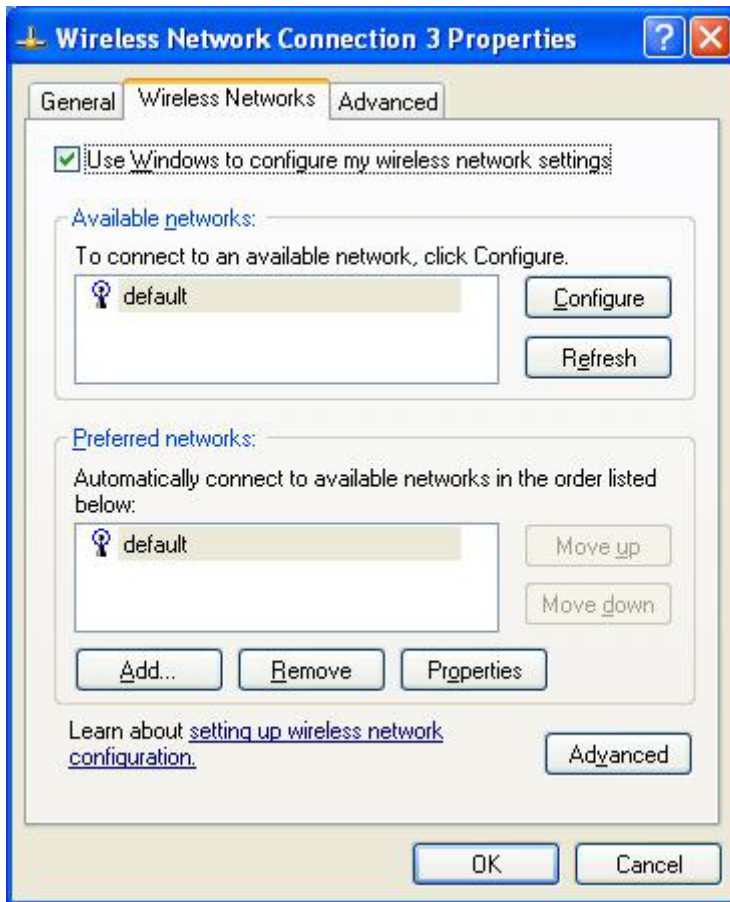


Figure8

Then click OK

Click the  icon and the software utility window shows up.

1. Status window allows you to change Operation Mode, Channel, SSID, Tx Rate, Int Romaing, and Radio. It also shows the connecting signal and quality for you to adjust related infrastructures and configurations.

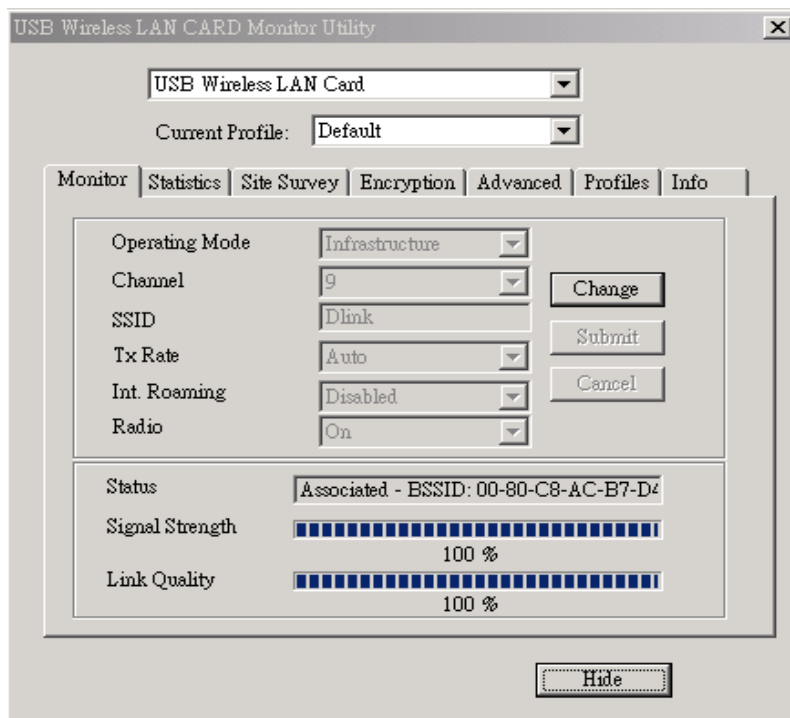


Figure9

2. Statistics window: It shows the real time transmitting and receiving status.

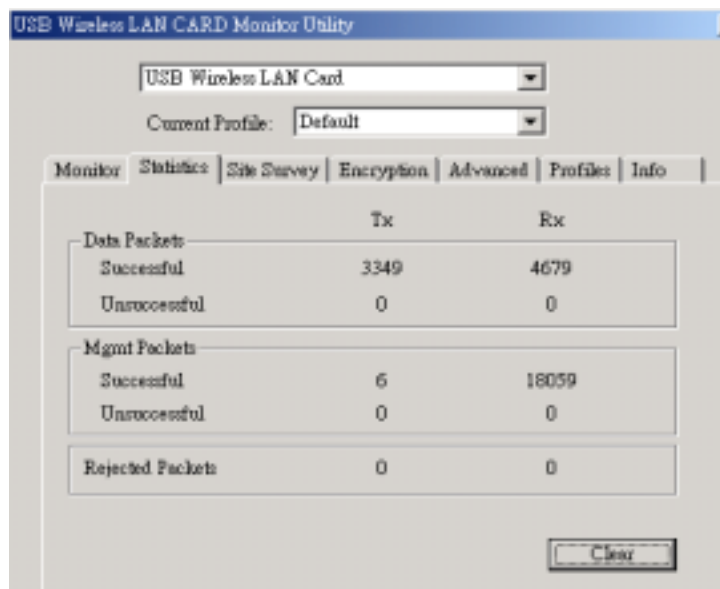


Figure10

3. Site Survey window: Click “**Scan**” to search all available WLAN devices and their status in current environment. Double click the device you want to connect.

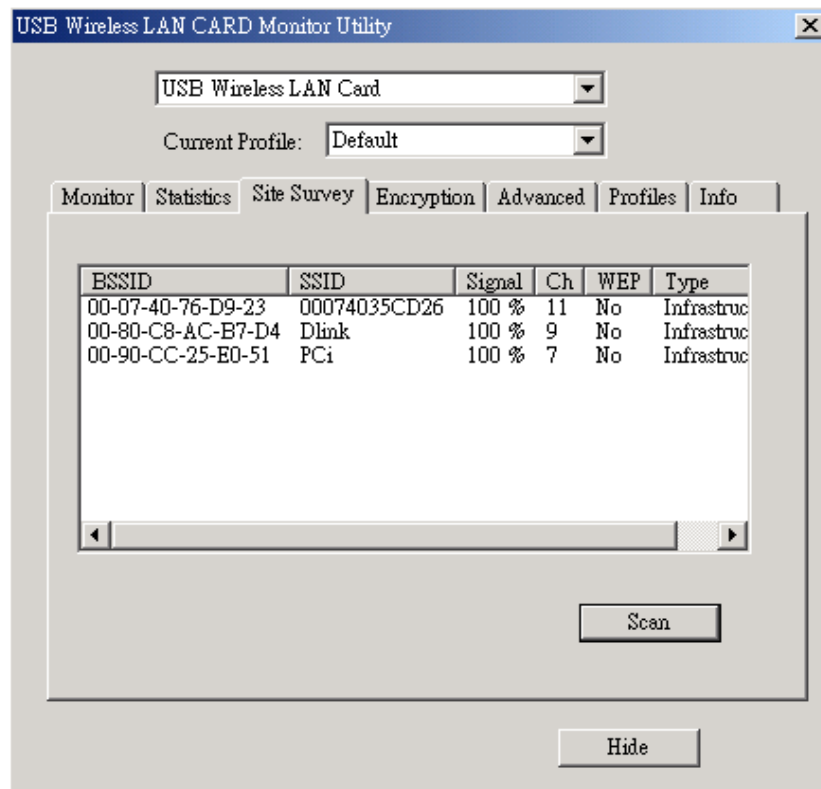


Figure11

4. Encryption window: USB Wireless LAN Adapter is able to provide 64/128Bit encryption.

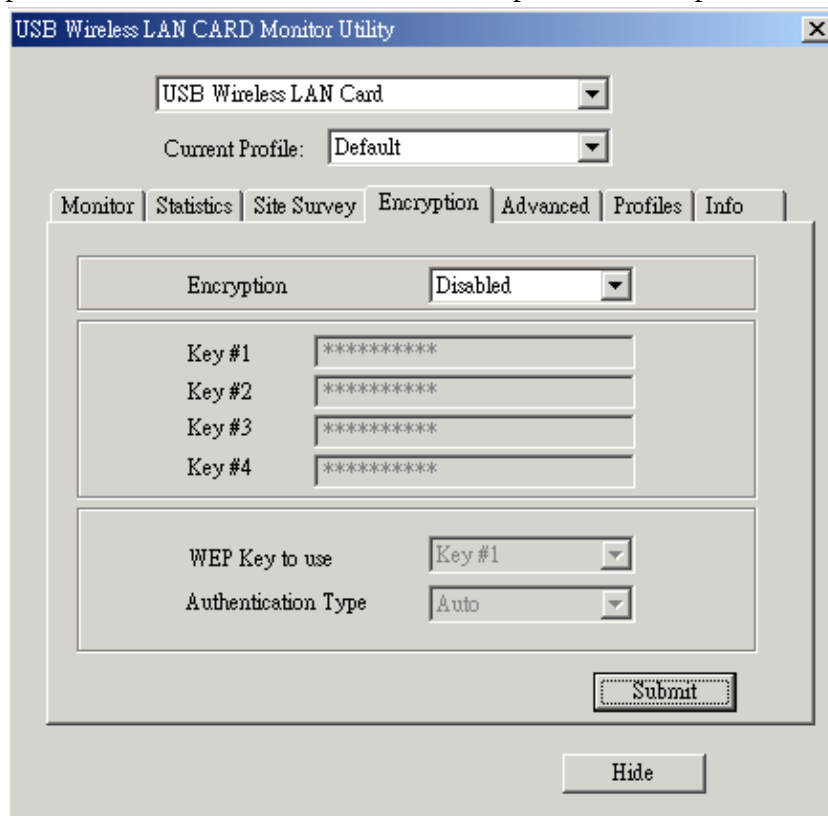


Figure12

5. Advanced window: It provides you to adjust PREAMBLE, Fragmentation Threshold, RTS/CTS Threshold, and Power Save function.

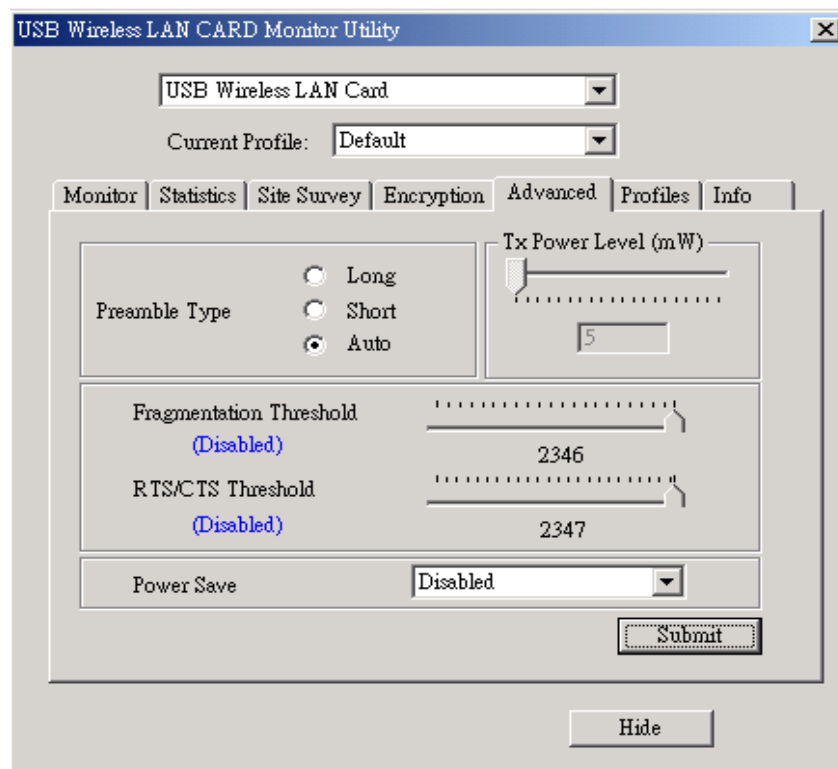


Figure13

6. Profiles window: It provides customers to change settings and save them in the configuration file.

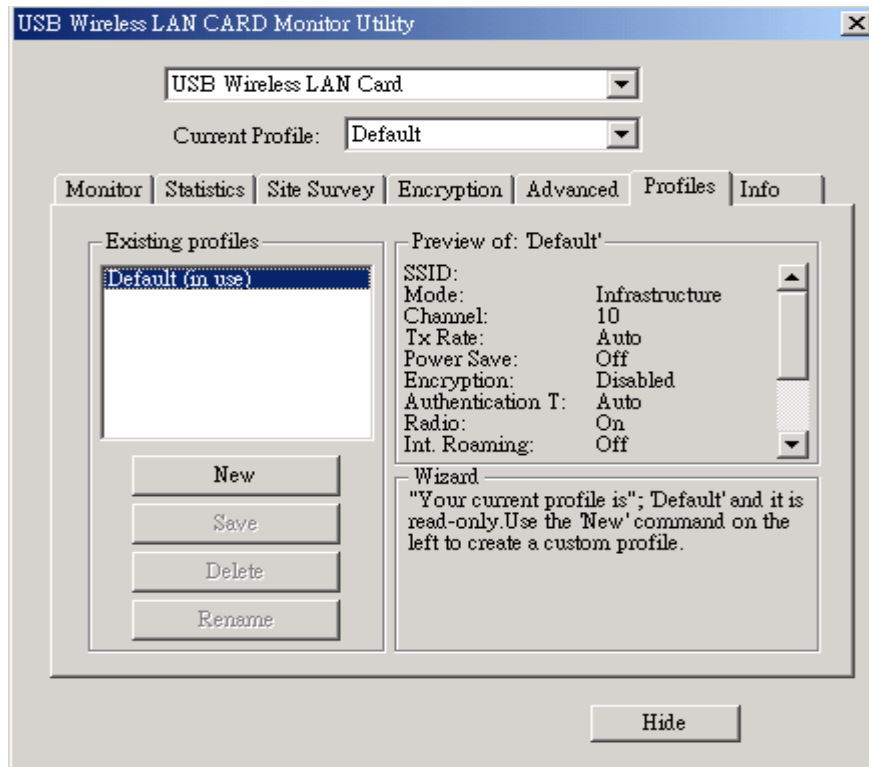


Figure14

7. Info window: It shows the latest software version and MAC address.

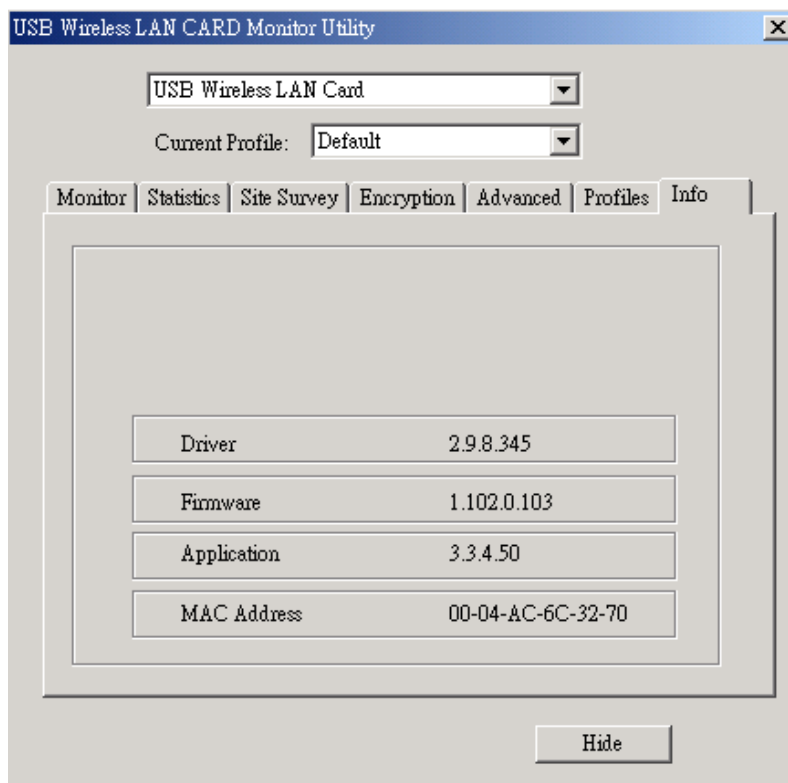


Figure15

Appendix

1. Operation Mode:

USB Wireless Lan Adapter has two modes, '**Infrastructure**' and '**Ad-Hoc**'. The default setting is "Infrastructure".

(Please refer to the Product Introduction)

2 Channel:

The channel setting should follow the regulation of the local government. For '**Infrastructure**' mode, the channel does not need to be set. It will automatically change to the same channel as AP's. In 'Ad-Hoc' mode, users can change the channel to match the connected computer.

3 SSID:

When STA (WLAN Adapter) is in Ad-Hoc mode, all connecting STA should have the same SSID. When STA is in Infrastructure mode, the SSID will change to the same as AP's SSID.

[Important: Capital and non-capital are different words in SSID setting.](#)

4 Tx Rate:

It determine STA's transmitting rate. There are 5 rated to choose, 1, 2, 5.5, 11Mbps, and Auto. The default setting is "Auto".

5 Int. Roaming:

Its default setting is '**Disable**', and does not need to be adjusted.

6 Radio:

The default setting is '**ON**'. It means to stop the STA's RF function. If your WLAN Adapter is embedded, you can stop its function by turning the Radio "ON".

7 Encryption:

USB Wireless LAN Adapter provides 64/128bits encryption. Choose "disable", if you do not need this function.

When using Encryption, there are two configurations to setting:

- Choose from encryption key 1~4 to encrypt.

- ✓ For 64bits encryption:

Using letters & numbers: 5 digits ("a-z", "A-Z", "0-9")

Hexadecimal: 10 digits ("a-f", "A-F", "0-9")

- ✓ For 128bits encryption:

Using letters & numbers: 13 digits ("a-z", "A-Z", "0-9")

Hexadecimal: 26 digits ("a-f", "A-F", "0-9")

- Choose the Authentication type from open system, share key, and auto type. The default setting is 'auto'.

8 PREAMBLE:

This function determines the PREAMBLE TYPE that physical layer's PLCP will use. There are three modes to choose: LONG, SHORT, and AUTO. The default setting is AUTO, and the system will automatically choose the optimized mode.

9 Tx Power Level (mW): Does not open to change.

10 Fragmentation Threshold:

This configuration determines whether needs to fragment the Frame during transmit. When fragment, if the transmit fell, computer only resent the fell frame instead of the whole file again. When the frequency band used is not clear, i.e. The S/N ratio is low, transmit is easier to fell. Under this situation, fragmentation is a good way to increase efficiency.

11 RTS/CTS:

When frame smaller than the RTS Threshold value, the STA will automatically transmit the frame if the channel is available. If the channel is used, STA will follow the 802.11b regulation that would ask the receiving device whether to send the frame. This will take more time for devices to check with each other, but it also prevents the loss of frames.

12 Power Save:

Determine whether to use power saving mode. The default setting is 'Disable'.

Application : Ad-Hoc(peer to peer) mode setup

Data sharing between computers without an AP

When user does not want to have Ethernet line or want to share resources (including data and printers), using WLAN is the lowest cost solution!



Setup Steps:

Check computer 1 & computer 2 already install USB Wireless LAN Adapter.

1 In computer 1:

- 1.1 Double click the WLAN icon in Icon Tray, and enter into the “Software and Utility window”.
- 1.2 Under “Monitor window”, click **“Change”** to modify the Operation Mode to “Ad-hoc” mode.

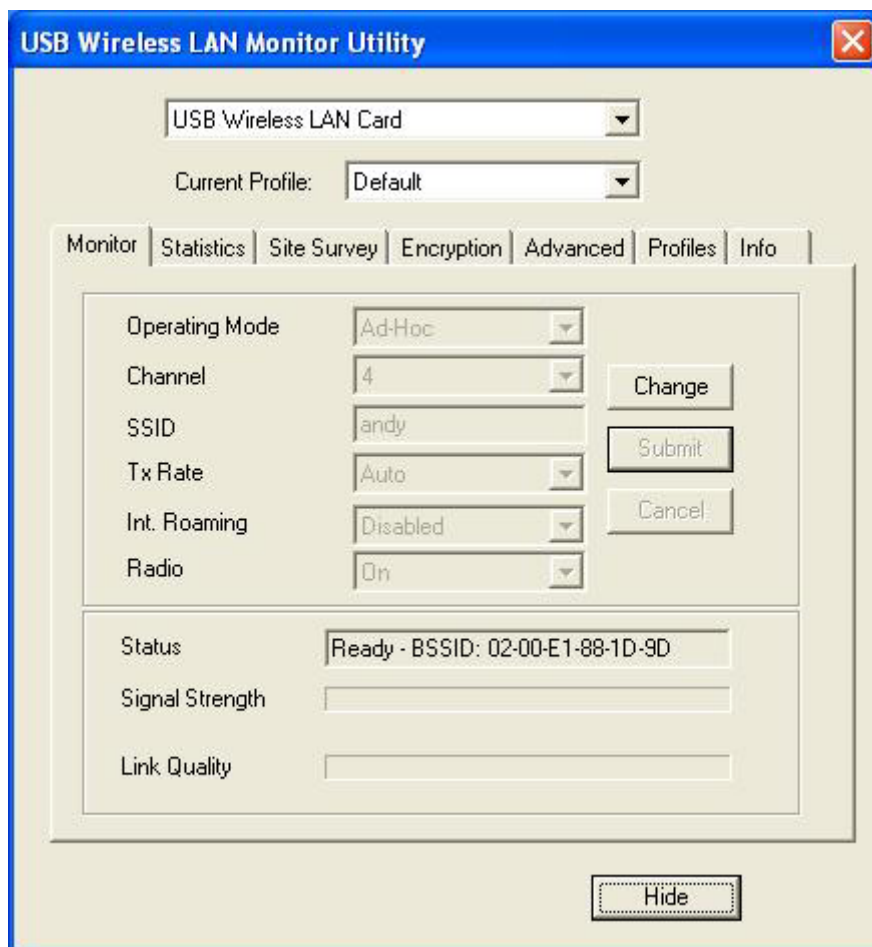


Figure16

1.3 Change the SSID name to “ANY”, and then click “Submit” to save this change. After setting, this WLAN Adapter could be the Gateway for other WLAN devices. Please reset the computer.

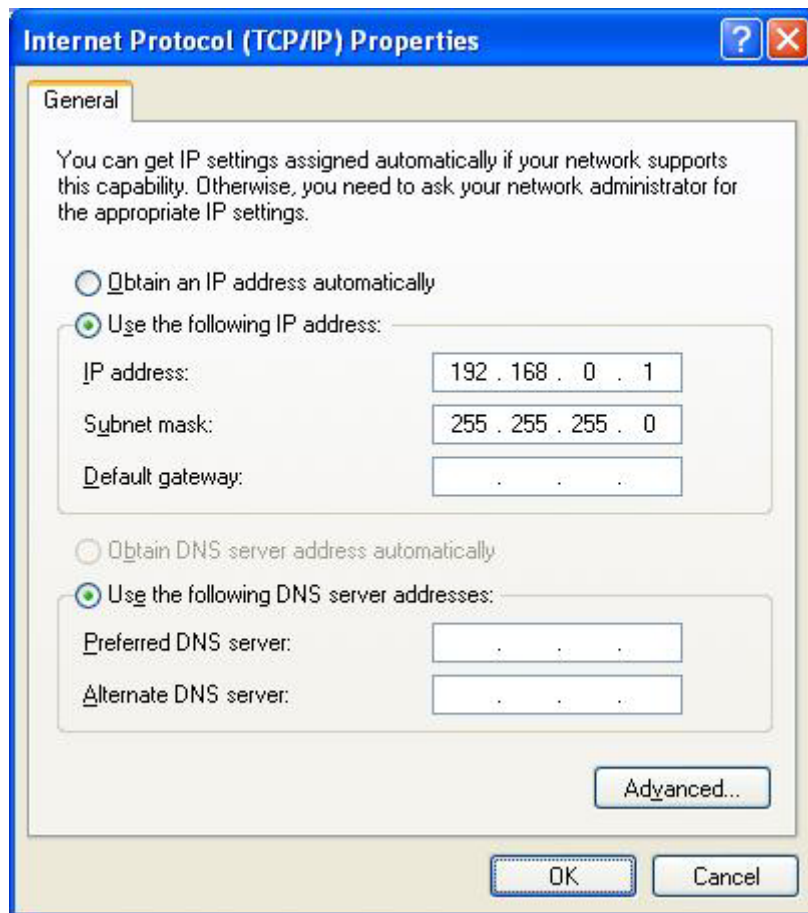


Figure17

2 In computer 2:

2.1 Under Site survey window, you will see all available connecting instruments. Double click the item with SSID named "ANY".

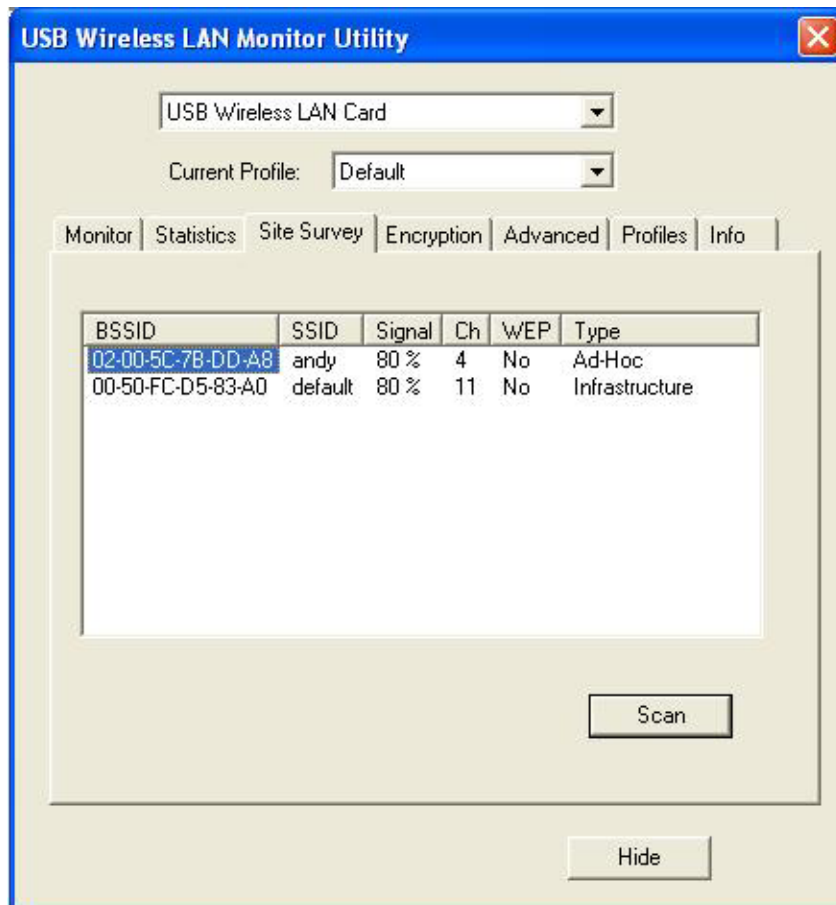


Figure18

So now this wireless connection has become Ad-Hoc mode

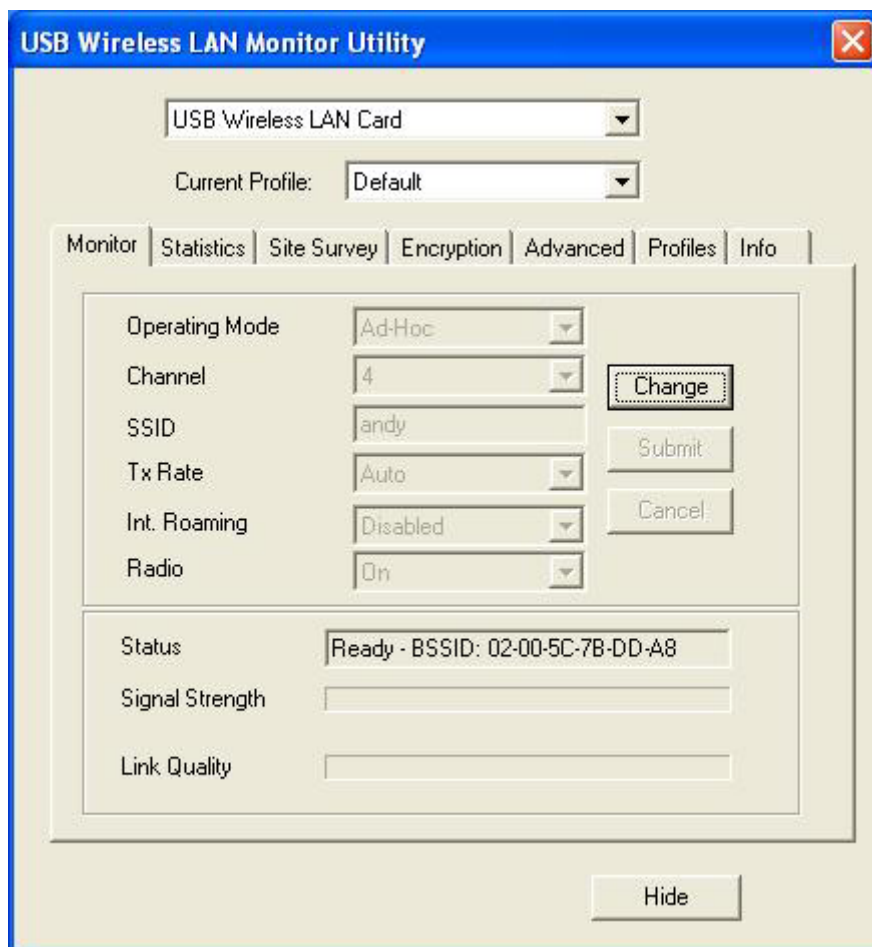


Figure19

Then you set IP address

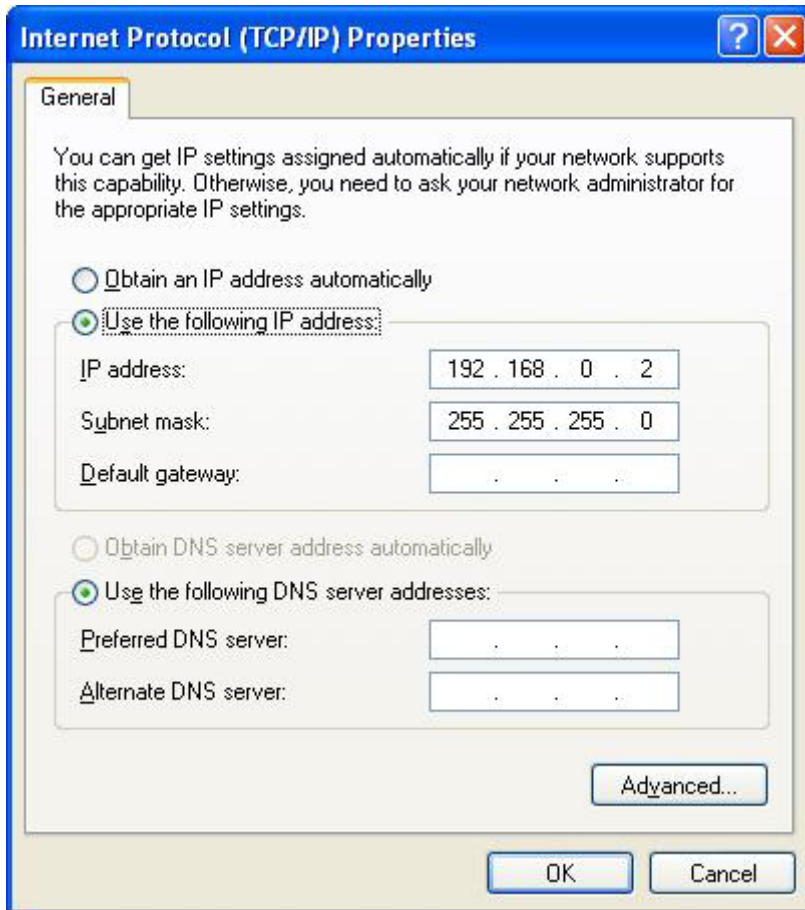
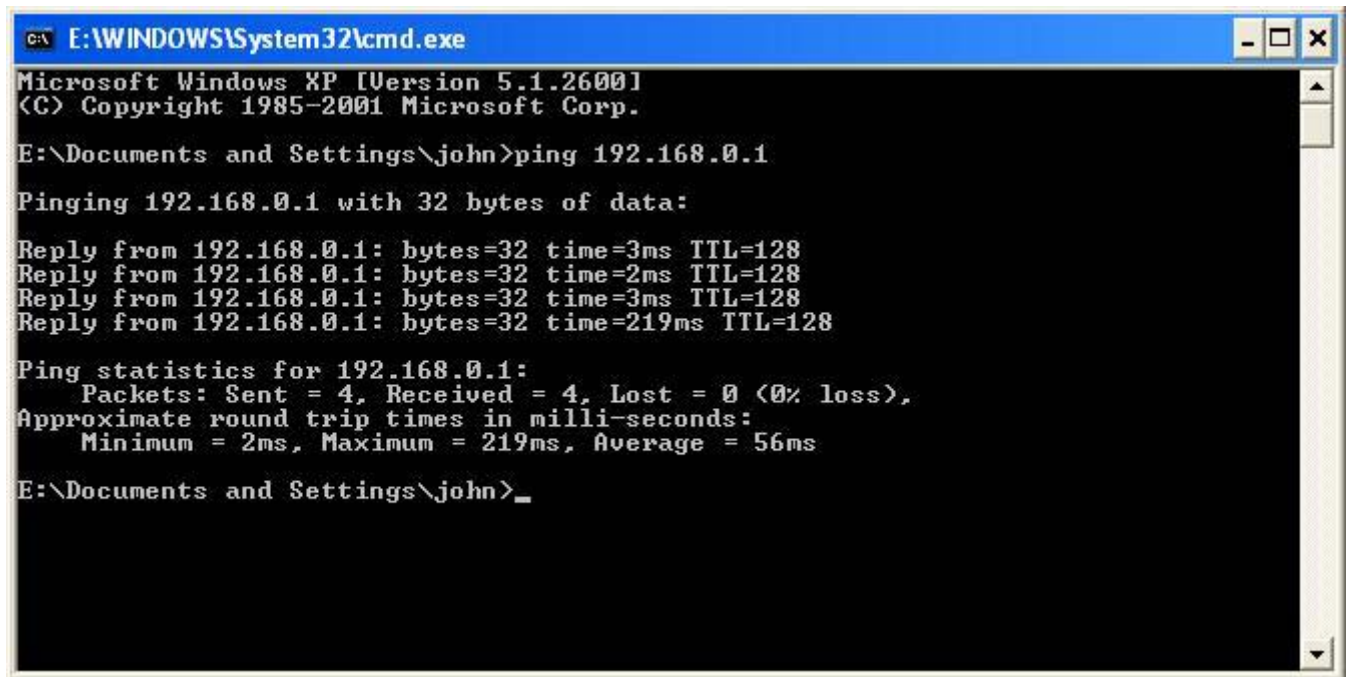


Figure20

- 2 After setting, computers are able to share data and resources with each other.
You can check wireless connection has success or not ,you can use ping command

A screenshot of a Windows XP command prompt window. The title bar reads "E:\WINDOWS\System32\cmd.exe". The window content shows the following text:

```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

E:\Documents and Settings\john>ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:

Reply from 192.168.0.1: bytes=32 time=3ms TTL=128
Reply from 192.168.0.1: bytes=32 time=2ms TTL=128
Reply from 192.168.0.1: bytes=32 time=3ms TTL=128
Reply from 192.168.0.1: bytes=32 time=219ms TTL=128

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 219ms, Average = 56ms

E:\Documents and Settings\john>_
```

Figure21

then you can see connection is successful

4. FAQ

1Q: Why my wireless LAN adapter can't auto run?

A: Because of the different computer settings, when WLAN adapter is plugged first time, the system only can find the WLAN Adapter; made autorun program cannot run normally. Then you can plug it again or reset your computer.

2Q: Why my computer comes out a picture “find a new device”, but no response for long time?

A: The reason as above. You can click cancel or reset your computer

3Q: Why my WLAN adapter can auto run successfully at first time, but have no network ICON when plug it second time?

A: Reset your computer. If your computer remain have no ICON, you can do it as following steps

Click “control set”--→system→hardware-→device manager-→network adapter, you will find a yellow exclamatory point in front of usb device, you can uninstall it .

And plug it again.

4Q: Why I cannot use Configuration Utility in WINXP system?

A: There are two different utilities to configure you wireless setting on XP, although we provide another choice, If you want use manufacture Configuration Utility, But you need to disable the Windows XP’s wireless configuration. Click **properties**, Uncheck **Use Windows configure my wireless network settings**

5Q:How I can install my wireless LAN adapter in WIN98 system?

A: First of all, you run setup profile at win98 driver from disc, after system reset ,it will find a new device “wireless LAN card” ,then you can click cancel ,or you can click next step ,system will find driver “ainu58.inf” from disc ,but because of system self ,ICON will not appear.

6Q What is the maximum number of nodes can support for infrastructure mode ? How about Ad-hoc mode ?

A: For theory : In the infrastructure mode, the maximum number of wireless nodes can up to 2048. For Ad -hoc mode, the maximum number of station is 256

7QWhat is Access Point (hotspot) ?

A: Access Point is a transparent media access control (MAC) bridge that provides access for wireless station into wired local area networks (LANs). With Access Point, wireless workstations can be added quickly and easily to an existing wired network

8QHow many APs should be used in a WLAN area?

A: It depends on how large WLAN environment you want to build. If you want to build a large WLAN area. One AP can't cover all WLAN area. You should place

more APs in the area to cover other extend area and get high quality signal.

9Q What is ESSID ?

A: 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 could 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 ESS ID and the same radio channel

10Q What is IEEE 802.11 standard ?

A: The IEEE 802.11 Wireless LAN standards subcommittee, which is formulating a standard for the industry. The objective is to enable wireless LAN hardware from different manufacturers to communicate.

Warning:

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Any change to the equipment will void FCC grant.

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.