# ASR-102 / ACR-201 Ethernet Dongle

# **User's Manual**

Rev:01

2002/09/19

2002/09/19

Rev:01

# Safety Notes

## For Installation

- Use only the type of power source indicated on the marking labels.
- Use only the power adapter supplied with the product.
- Do not overload wall outlet or extension cords as this may increase the risk of electric shock or file. If the power cord is frayed, replace it with a new one.
- Proper ventilation is necessary to prevent the product overheating. Do not block or cover the slots and openings on the device, which are intended for ventilation and proper operation. It is recommended to mount the product with a stack.
- Do not place the product near any source of heat or expose it to direct sunshine.
- Do not expose the product to moisture. Never spill any liquid on the product.
- Do not attempt to connect with any computer accessory or electronic product without instructions from qualified service personnel. This may result in risk of electronic shock or file.
- Do not place this product on an unstable stand or table.

## For Using

- Power off and unplug this product from the wall outlet when it is not in use or before cleaning. Pay attention to the temperature of the power adapter. The temperature might be high.
- After powering off the product, power on the product at least 15 seconds later.
- Do not block the ventilating openings of this product.
- When the product is expected to be not in use for a period of time, unplug the power cord of the product to prevent it from the damage of storm or sudden increases in rating.

## For Service

Do not attempt to disassemble or open covers of this unit by yourself. Nor should you attempt to service the product yourself, which may void the user's authority to operate it. Contact qualified service personnel under the following conditions:

- If the power cord or plug is damaged or frayed.
- If liquid has been spilled into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally when the operating instructions are followed.
- If the product has been dropped or the cabinet has been damaged.
- If the product exhibits a distinct change in performance.

## Warning

- This equipment must be installed and operated in accordance with provided instructions and a minimum 20 cm spacing must be provided between computer mounted antenna and person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- 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.

## Caution

- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.

# Contents

# Before you use

This Wireless LAN Card is an IEEE 802.11b Wireless LAN adapter. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operating in 2.4GHz Direct Sequence Spread Spectrum (DSSS) radio transmission, the Wireless LAN Card transfers data at speeds up to 11Mbps. Both Ad-Hoc and Infrastructure mode are supported. For network security concern, 64/128-bit Wired Equivalent Protection (WEP) algorithm is used. In addition, its standard compliance ensures that it can communicate with any 802.11b networks.

This User's Manual contains information on how to install and configure your Wireless LAN Card. Your Wireless LAN Card will allow you to connect your computer to other Wireless LAN Card equipped computers.

## Wireless LAN Basics

This section conations some Wireless LAN basics to help you better understand how the product work together to create a wireless network.

### Local Area Network (LAN)

Simply put, a LAN is a network that exists in a relatively limited area. A network is two or more computers connected together sharing files and peripheral devices such as printers.

The Wireless LAN Card allows you to interact with other computers without having to run cables normally associated with networks. This lets you move your computer around while staying connected to your network.

There are two ways to use the Wireless LAN Card. One way is to connect directly to one or more Wireless LAN Card equipped computers, forming an Ad Hoc wireless network. The second way is to connect to an Access Point that gives you access to an existing wired LAN, forming an Infrastructure wireless network.

### Ad Hoc Network

The Ad Hoc network offers peer to peer connections between workstations, allowing communication between computers within range that have an 802.11b DSSS compatible PC card installed. A wireless Ad Hoc network can also access a wired LAN's TCP/IP service (such as e-mail and the Internet) by using a TCP/IP software on an Ethernet equipped PowerBook or notebook.

### Infrastructure Network

The infrastructure network uses an access point (or several access points) as a gateway, linking the wireless network to a wired LAN. As a result, portable workstations or desktops on your wireless network have access to all of the features of your wired LAN including e-mail, Internet access, network printers and files server.

### Roaming

Multiple Access Points can be installed to extend the wireless service coverage area for seamless wireless access. Within an extended service area, all Access Points and wireless clients must have the same Service Set Identity (SSID). Roaming among different Access Points is controlled automatically to maintain the wireless connectivity at all times.

## System Requirements

To use the Wireless LAN Card, your computer must meet the following minimum requirements:

- Windows 98/98(SE)/Me/2000/XP
- 32 MB of RAM, additional memory recommended

## Unpacking

After unpack the Wireless LAN Card, please check the contents of the package with the checklist stated below. If you find any item is missing, please contact the dealer directly.

- Wireless LAN Card
- 5V Power Adapter and power cord

# Chapter 1: Overview

Before installing the card, please take a look at the front panel and real panel of the card. Getting acquainted with both panels will be helpful for installation later.

## Physical Outlook

### Front Panel

The LEDs on the Wireless LAN Card indicate connection status and data transfer operation status, as described below:


LED Indicators

| LED | Color | State | Description |
|---|---|---|---|
| Link | Red | Blinking | Transmission mode. The faster the LED blinks, the higher the data exchange rate. |
| RX | Green | Blinking | Indicates that the data is receiving from outside. |
| TX | Green | Blinking | Indicates that the data is transferring to remote side. |
| On | Green | On | The adapter is plugged into your computer. |

### Real Panel

Take a look at the real panel of this wireless LAN card.


**PWR -** Power connector.

**LAN -** LAN port. 10/100 Base-TX.

# Chapter 2: Installation

## Install the Wireless LAN Card

To install the wireless LAN card onto your computer, please do the following:

1. Plug one end of the Ethernet cable to the Ethernet port (LAN) on the wireless LAN card.


2. Insert the other end of the cable to the Ethernet port on the Network card of your computer.
3. Connect the supplied power adapter to the PWR port of the wireless LAN card, and plug the other end to a power outlet.
4. Turn on the power and then go to do the web configuration for the wireless LAN card.

Note: The red LED on the Wireless LAN Card will light when the Wireless LAN Card is connected to your computer.

To set up the TCP/IP address or the subnet mask, refer to **Setting Up TCP/IP** section for details.

## Uninstall the Wireless LAN Card

Should you need to uninstall the Wireless LAN Card and application software for any reason,, you should remove the hardware from your computer and then uninstall the associated software. Please proceed as follows.

1. Turn off the power of your computer.
2. Disconnect the supplied power adapter to the PWR port of the wireless LAN card.
3. Unplug the cable to the Ethernet port on the Network card of your computer.
4. Unplug the cable to the Ethernet cable to the Ethernet port (LAN) on the wireless LAN card.
5. The card is removed successfully.

# Chapter 3: Configuration

This section contains instructions for configuring the TCP/IP protocol of the Wireless LAN Card. The IP address policy depends on your wireless network. You should configure your TCP/IP protocol as instructed by your network administrator.

## Setting TCP/IP on Client PC

### For Windows 98

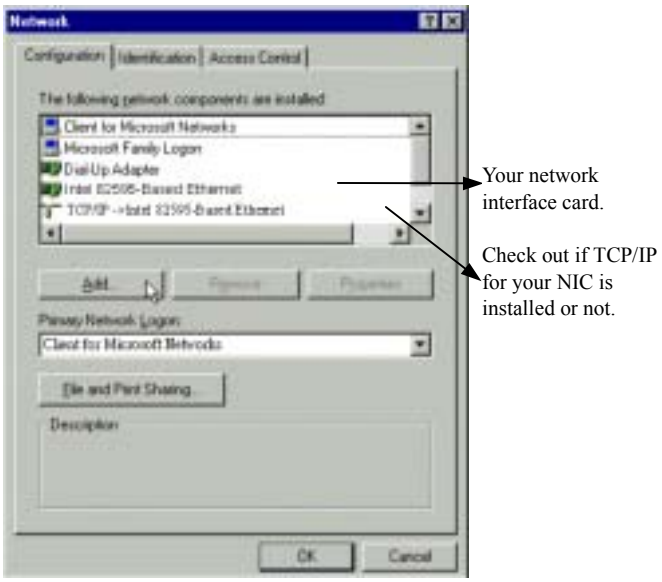
1. Click on the **Start** menu, point to **Settings** and click on **Control Panel**.


2. Double-click the **Network** icon.


3. The **Network** window appears. On the **Configuration** tab, check out the list of installed network components.

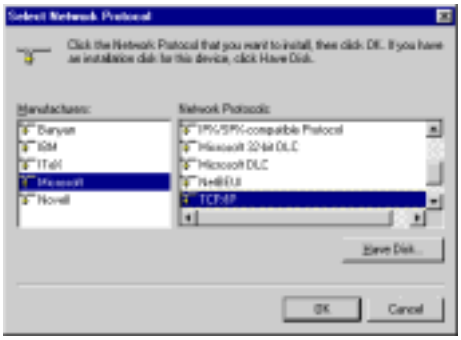
   **Option 1:** If you have **no** TCP/IP protocol, click **Add**.

   **Option 2:** If you have TCP/IP protocol, go to Step 6.




4. Highlight **Protocol** and click **Add**.

5. On the left side of the windows, highlight **Microsoft** and then select **TCP/IP** on the right side. Then click **OK**.

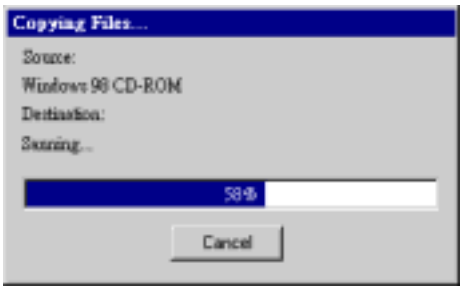



6. When returning to **Network** window, highlight **TCP/IP** protocol for your NIC and click **Properties**.

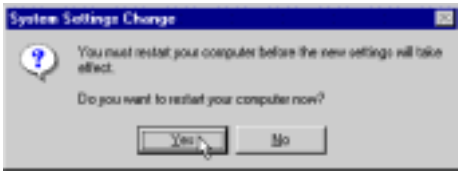

7. On **IP Address** tab:
Enable **Specify an IP address** option. Enter the **IP Address**: 192.168.1.x (x is between 2 and 254) and **Subnet Mask**: 255.255.255.0 as in figure below.


8. When returning to **Network** window, click **OK**.


9. Wait for Windows copying files.




10. When prompted with **System Settings Change** dialog box, click **Yes** to restart your computer.



## For Windows ME

Step 1 Click on the **Start** menu, point to **Settings** and click on **Control Panel**.

Step 2 Double-click the **Network** icon.

Step 3 The **Network** window appears. On the **Configuration** tab, check out the list of installed network components.

**Option 1:** If you have **no** TCP/IP protocol, click **Add**.

**Option 2:** If you have TCP/IP protocol, go to Step 6.

Step 4 Highlight **Protocol** and click **Add**.

Step 5 On the left side of the windows, highlight **Microsoft** and then select **TCP/IP** on the right side. Then click **OK**.

Step 6 While returning to **Network** window, highlight **TCP/IP** protocol for your NIC and click **Properties**.


Step 7 On the **IP Address** tab, select **Specify an IP address**. Enter the **IP address**: **192.168.1.x** (x is between 2 and 254) and **Subnet Mask**: **255.255.255.0**. Then click **OK**.

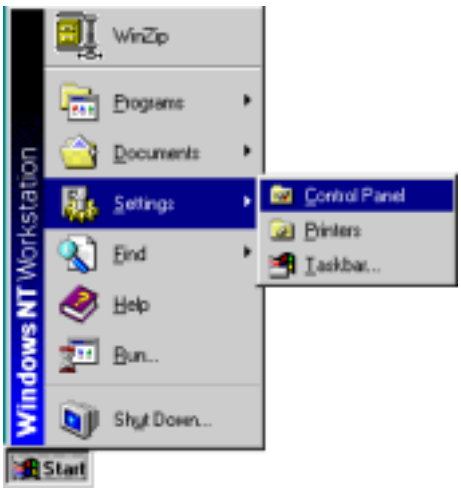

Step 8 While returning to the **Network** window, click **OK**.

Step 9 Wait for Windows copying files.

Step 10 When prompted with the **System Settings Change** dialog box, click **Yes** to restart your computer.

## For Windows NT

1. Click **Start**, point to **Settings**, and then click **Control Panel**.

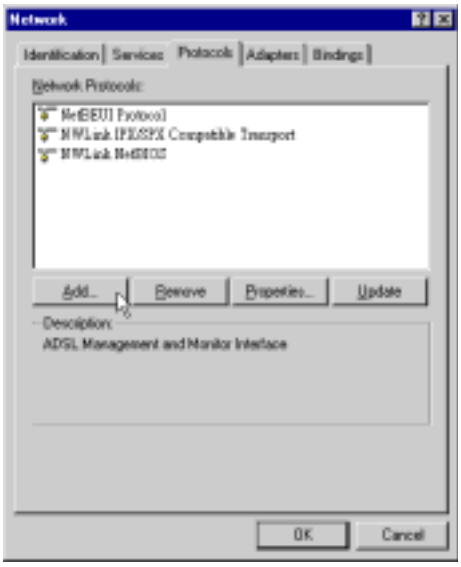



2. Double-click the **Network** icon.

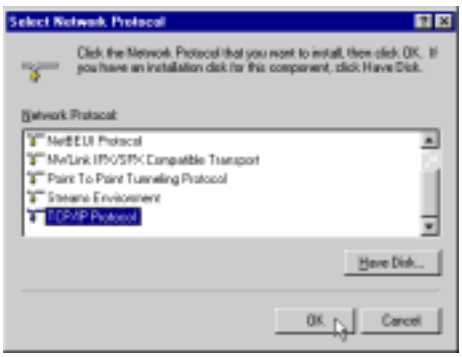

3. The **Network** window appears. On the **Protocols** tab, check out the list of installed network components.

   **Option 1:** If you have **no** TCP/IP Protocol, click **Add**.

   **Option 2:** If you have TCP/IP Protocol installed, go to Step 7.

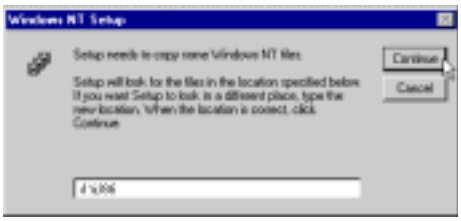



4. Highlight **TCP/IP Protocol** and click **OK**.

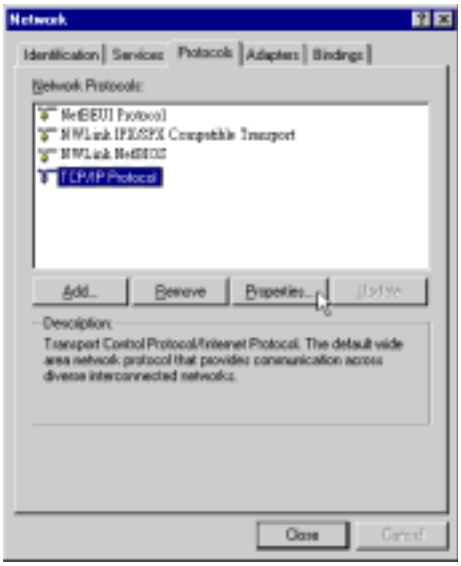


5. Click **Yes** to use DHCP.


6. Insert the Windows NT CD into your CD-ROM drive and type the location of the CD. Then click **Continue**.

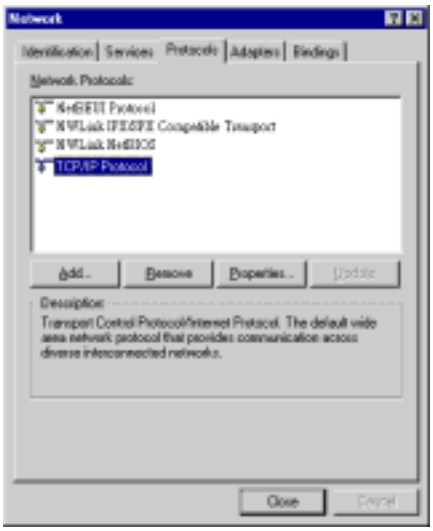



7. Returning to the **Network** window, you will find the **TCP/IP Protocol** among the list. Select **TCP/IP Protocol** and click **Properties**.

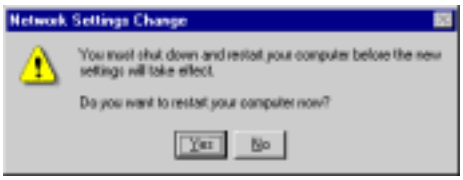


8. Enable **Specify an IP address** option. Enter the **IP Address**: 192.168.1.x (x is between 2 and 254) and **Subnet Mask**: 255.255.255.0 as in figure below.


9. When returning to **Network** window, click **Close**.



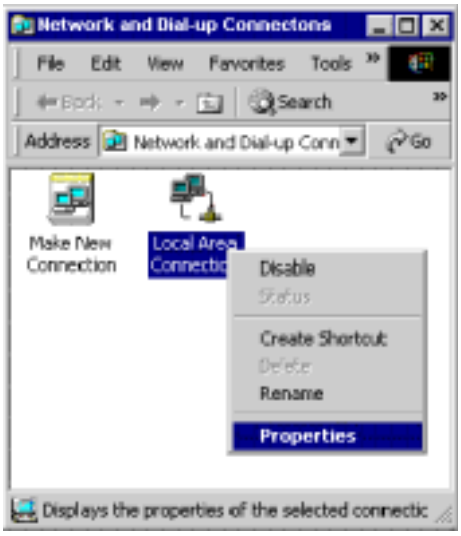

10. When prompted with **Network Settings Change** dialog box, click **Yes** to restart your computer.



## For Windows 2000

1. From the Start menu, point to Settings and then click Network and Dial-up Connections.


2. Right-click the **Local Area Connection** icon and then click **Properties**.

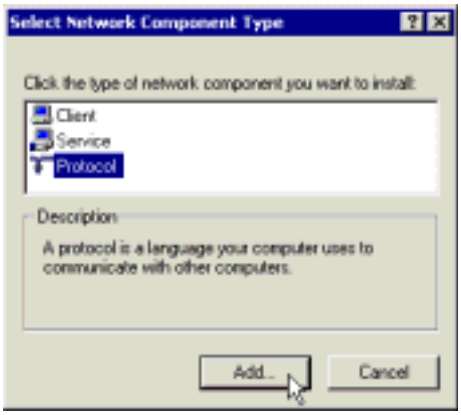



3. On the **General** tab, check out the list of installed network components.

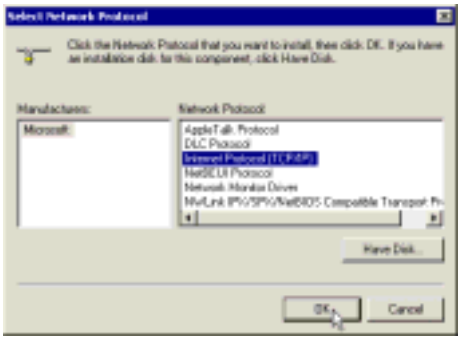
   **Option 1:** If you have **no** TCP/IP Protocol, click **Install**.

   **Option 2:** If you have TCP/IP Protocol, go to Step 6.


4. Highlight **Protocol** and then click **Add**.




5. Click Internet Protocol (TCP/IP) and then click OK.




6. When returning to Local Area Connection Properties window, highlight Internet Protocol (TCP/IP) and then click Properties.


7. Under the **General** tab, enable **Use the following IP Address**. Enter the **IP address**: **192.168.1.x** (x is between 2 and 254) and **Subnet Mask**: **255.255.255.0**. Then click **OK**. When prompted to restart your computer, reboot it to enable the settings.

## For Windows XP

Step 1 From the **Start** menu, point to **Control Panel** and then click **Network and Internet Connections**.

Step 2 Click **Network Connection** and then click **Properties**.

Step 3 On the **General** tab, check out the list of installed network components.

**Option 1:** If you have **no** TCP/IP Protocol, click **Install**.

**Option 2:** If you have TCP/IP Protocol, go to Step 6.

Step 4 Highlight **Protocol** and then click **Add**.

Step 5 Click **Internet Protocol(TCP/IP)** and then click **OK**.

Step 6 On the **Local Area Connection Properties** window, highlight **Internet Protocol (TCP/IP)** and then click **Properties**.

Step 7 Under the **General** tab, enable **Use the following IP address**. Enter the **IP address**: **192.168.1.x** (x is between 2 and 254) and **Subnet Mask**: **255.255.255.0**. Then click Ok

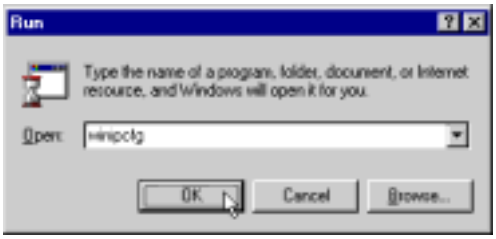

# Renew IP Address on Client PC

There is a chance that your PC does not renew its IP address after the wireless LAN card is on line and the PC can not access the Internet. Please follow the procedures below to renew PC's IP address.

## For Windows 98

1. Select **Run** from the **Start** menu.


2. Type **`winipcfg`** in the dialog box and the click **OK**.



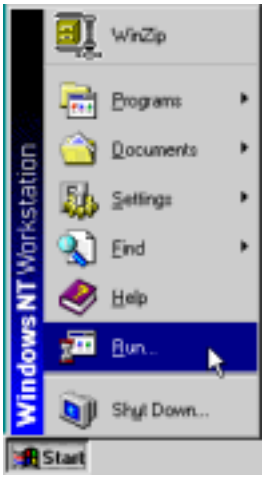

3. When the figure below appears, click Release and then Renew to get an IP address.


## For Windows ME

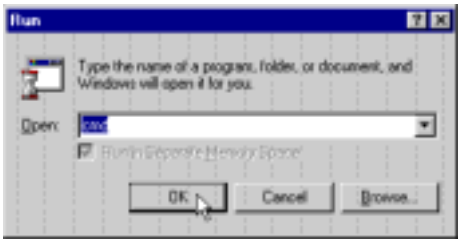
1. Select **Run** from the **Start** menu.
2. Type **`winipcfg`** in the dialog box and the click **OK**.
3. When the figure below appears, click **Release** and then **Renew** to get an IP address.


## For Windows NT

1. Select **Run** from the **Start** menu.




2. Type **`cmd`** in the dialog box and the click **OK**.




3. Type **`ipconfig`** at prompt. Then you will see the IP information from DHCP server.

4. If you want to get a new IP address, type **`ipconfig /release`** to release the previous IP address and then type **`ipconfig /renew`** to get a new one.

## For Windows 2000

1. From the **Start** menu, point to **Programs**, **Accessories** and then click **Command Prompt**.

2. Type **`ipconfig`** at prompt. Then you will see the IP information from DHCP server.

3. If you want to get a new IP address, type **`ipconfig/release`** to release the previous IP address and then type **`ipconfig/renew`** to get a new one.

## For Windows XP

1. From the **Start** menu, point to **Programs**, **Accessories** and then click **Command Prompt**.
2. Type **`ipconfig`** at prompt. Then you will see the IP information from DHCP server.
3. If you want to get a new IP address, type **`ipconfig /release`** to release the previous IP address and then type **`ipconfig /renew`** to get a new one.

# Chapter 4: Web Configuration

## Using the Web-Based Manager

Once your host PC is properly configured as described in previous chapters, please proceed as follows:

1. Start your web browser and type the private IP address of the Wireless LAN Card in the URL field: **192.168.1.3.**
2. When connecting to the device, you will be prompted to enter username and password. Simply keep the username and the password to be blank and Click **Yes**.

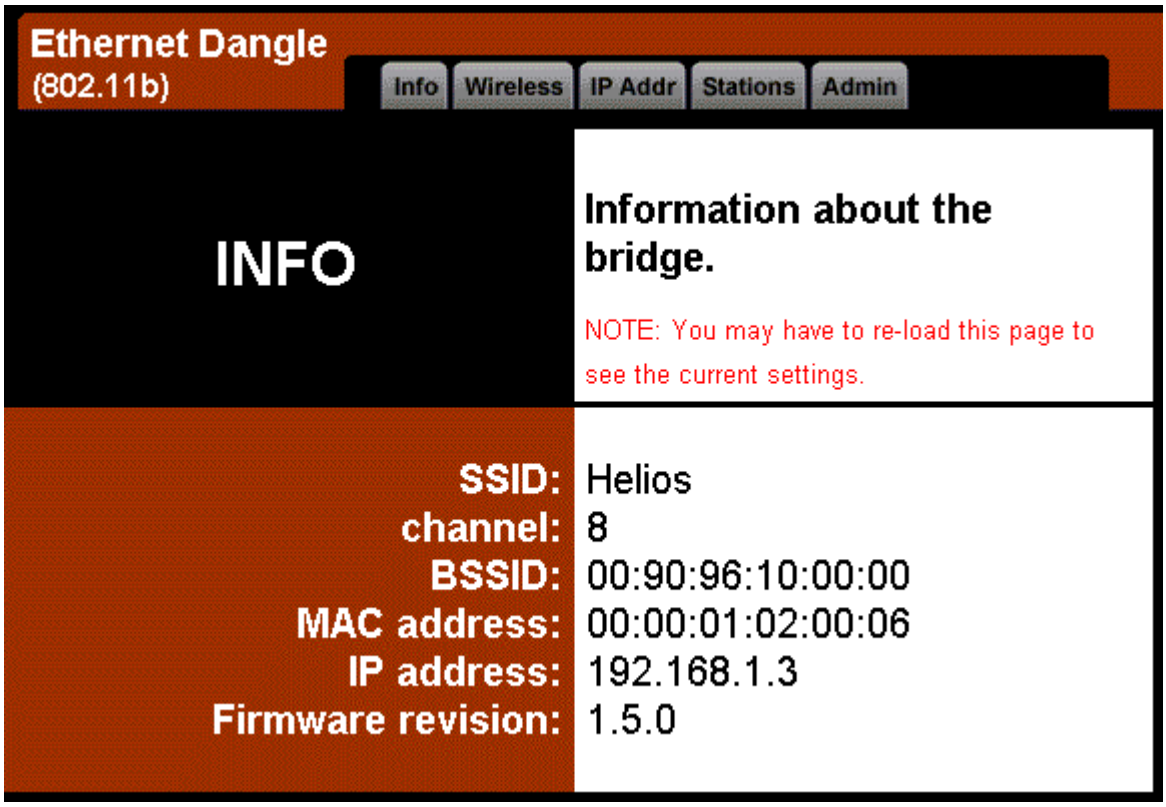
If the login is successfully, the main web page appears. From now on the Wireless LAN Card acts as a web server sending HTML pages/forms on your request. Please fill out these pages/forms and apply them to the Wireless LAN Card.

### To Have the New Settings Take Effect

After you finished the web configuration and save the settings, you have to click **Reboot** under Admin web page to reboot your Wireless LAN Card. Then the new settings can take effect.

## Info

Info shows the basic information about wireless LAN card such as SSID, channel using, BSSID, MAC address of the card, IP address, firmware revision and so on. This page gives you an overview for the LAN card.




## Wireless

This page allows you to configure the wireless settings for wireless LAN card.


**Operation Mode:** You can connect your computer to a network in one of the following two ways.
**Ad-Hoc**, Connecting to other Wireless LAN Card equipped computers, forming a wireless network.
**Infrastructure**, Connecting to a wired/wireless network through an Access Point.

**SSID:** Service Set ID. Displays the current SSID of the Access Point/wireless station (Ad-hoc mode).

**Channel:** The operating radio channel number.

**Transmission Rate:** Decides the speed of the data transmission. Choose the rate that you want to use.

**WEP Enabled:** Allows you to enable WEP key for using. Please check the box for activating the function.

**WEP Key Length:** To enable WEP encryption function, select your encryption length as 64-bit or 128-bit. Either 64-bit or 128-bit WEP keys can be generated from user-defined characters or manual entry.

**WEP key to use:** Because you can set WEP key 1 to 4 at the same time, yet you can use only one at one time. Choose the WEP key that you want to use.

**Shared Key Authentication:** Check this item to use Shared Key function. If you do not check the box, the wireless LAN card will use Open Key function automatically.

**Wired Equivalent Privacy Mechanism**

The privacy security function can enhance wireless media security by encryption technology. All wireless clients must set the same encryption key to maintain the tightened communication with the wireless LAN card properly. The Authenticate Algorithm options are:

When the wired Equivalent Privacy Mechanism is Turns off. Using Open-key as authentication algorithm, you are

running the risk of allowing some unauthorized wireless LAN cards that have the capability of eavesdropping your SSID to associate itself to the device.

Turns on encryption. Wired Equivalent Privacy Mechanism is Turns on. You should select the encryption key length as 64- or 128- bit key. Then enter the encryption key in Key Entry fields.

Note: When Wired Equivalent Privacy Mechanism is enabled, the wireless client must be configured with exactly the same encryption level (64 or 128-bit) and encryption key as identified in the wireless LAN card, so that access to the unit is allowed.

## IP Address

This page allows you to set the IP address for wireless LAN card for connecting to the network.


**IP Address:** Enter the IP address for the wireless LAN card..

**IP Subnet:** Enter the IP Subnet address that you get from your ISP.

**IP Gateway:** Enter the IP Gateway address that you get from your ISP.

**Device name:** Enter the name for the wireless LAN card for identification while connecting to some other wireless access points. This is an optional setting.

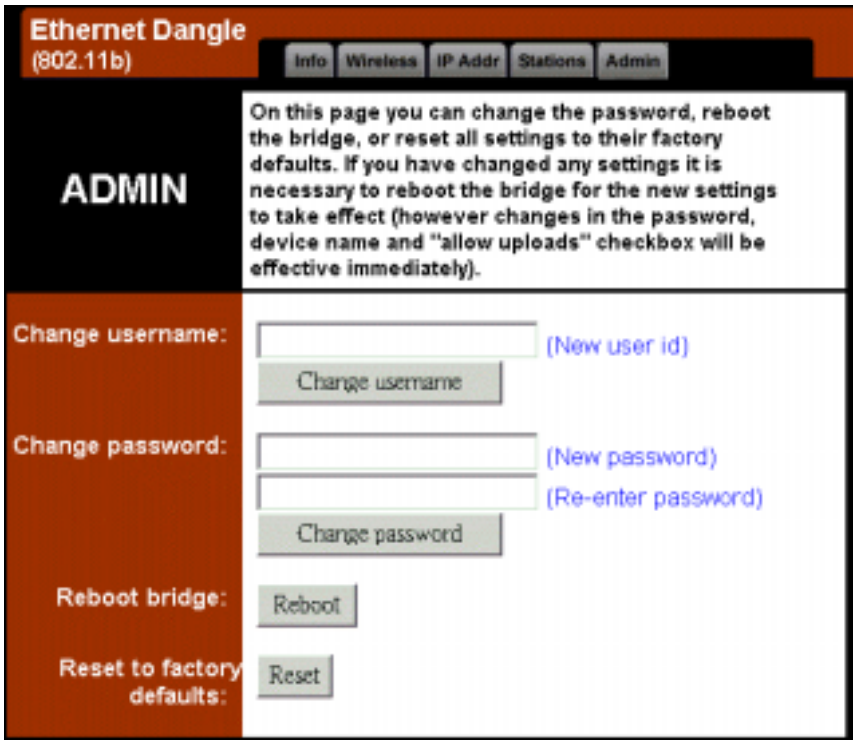
**Allow firmware upgrade:** This is use to update firmware by using this web page, simply check the box and click Apply. For normal operation, please uncheck this item.

## Stations

This page shows the information of the devices, stations that the wireless LAN card is connected. It is just for reference. You can refresh this page for getting the newly information at any time.


## Admin

This setting allows you to set for password and activate the remote management.




**Change username:** Type in the username that you want to use for login. After you typed in, please press **Change username** button to activate it for next time.

**Change Password:** Type another new password in the first box if you don't want to use current one.

Type the new password again in the second box for confirmation. After you make sure the modification, please press **Change password** button to activate it.

**Reboot bridge:** After you finished all the configuration, please press the **Reboot** button to reboot the wireless LAN card.

**Reset to factory defaults:** If you are not satisfied with the new settings and want to use the factory settings instead, please press Rest button to return to the default status.

# Chapter 5: Troubleshooting

## Radio Interference

You may be able to eliminate any interference by trying the following:

- Reseat the Wireless LAN Card.
- Increase the distance between the wireless computers and the device causing the radio interference.
- Plug the computer equipped with the Wireless LAN Card into an outlet on a different branch circuit from that used by the affecting device.
- Consult the dealer or an experienced radio technician for help.
- Keep the computer with the Wireless LAN Card away from the microwave oven and large metal objects.

## Card Not Detected

If the Wireless LAN Card is not detected, try the following:

- Make sure the Wireless LAN Card is properly installed.
- Contact your dealer for additional testing if there is a hardware problem with the Wireless LAN Card.

## Cannot Connect to Another Wireless LAN Card

If you cannot make a connection to another Wireless LAN Card from your computer, it could be due to one of the following reasons:

- Incorrect SSID. Make sure the SSID is the same for all computers that have a Wireless LAN Card.
- Changes are not being recognized by your computer. Please restart your computer.
- If in Ad Hoc mode, make sure the **Log on to Windows NT domain** check box is not selected in the **Client for Microsoft Networks Properties** dialog box in the **Network Configuration** tab.
- Incorrect IP Address or Subnet Mask. Check these settings in the **TCP/IP Properties** dialog box in the **Network Configuration** tab.

## Poor Link Quality

If the Link Quality display stays in the Poor range, it could be due to one of the following reasons:

- Radio interference.
- Distance between Wireless LAN Card and Access Point is too far. Decrease the distance between the Wireless LAN Card and Access Point (or another card).

## Cannot Connect to Access Point

If you cannot make a connection to the Access Point, it could be due to one of the following reasons:

- Make sure the Wireless LAN Card and Access Point have no physical connection problems.
- Make sure the SSID for the Wireless LAN Card is the same as the Access Point.
- Make sure the privacy type is the same as that of Access Point. Also, make sure the Default Key is the same for both computers.

# Chapter 6: Glossary

### 10BaseT
An IEEE standard (802.3) for operating 10 Mbps Ethernet networks (LANs) with twisted pair cabling and a wiring hub.

### Access Point
An internetworking device that seamlessly connects wired and wireless networks. Access Points combined with a distributed system support the creation of multiple radio cells that enable roaming throughout a facility.

### Ad Hoc
A network composed solely of stations within mutual communication range of each other (no Access Point connected).

### BSS
*Basic Service Se*t. A set of stations controlled by a single coordination function.

### Channel
A medium used to pass protocol data units that can be used simultaneously in the same volume of space by other channels of the same physical layer, with an acceptably low frame error ratio due to mutual interference.

### Encapsulated
An Ethernet address mode that treats the entire Ethernet packet as a whole and places it inside an 802.11 frame along with a new header.

### ESS
*Extended Service Se*t. A set of one or more interconnected Basic Service Sets (BSSs) and integrated Local Area Networks (LANs) can be configured as an Extended Service Set.

### Ethernet
The most widely used medium access method, which is defined by the IEEE 802.3 standard. Ethernet is normally a shared media LAN; i.e., all the devices on the network segment share total bandwidth. Ethernet networks operate at 10Mbps using CSMA/CD to run over 10BaseT cables.

### Gateway
A network component that acts as an entrance to another network.

### IEEE 802.11
The IEEE 802.xx is a set of specifications for LANs from the Institute of Electrical and Electronic Engineers (IEEE). Most wired networks conform to 802.3, the specification for CSMA/CD-based Ethernet networks or 802.5, the specification for token ring networks. 802.11 defines the standard for wireless LANs encompassing three incompatible (non-interoperable) technologies: Frequency Hopping Spread Spectrum (FHSS), Direct Sequence Spread Spectrum (DSSS), and Infrared. IEEE standards ensure interoperability between systems of the same type.

### Infrastructure
A wireless network centered about an Access Point. In this environment, the Access Point not only provides communication with the wired network but also mediates wireless network traffic in the immediate neighborhood.

### IP
*Internet Protoco*l. The standard protocol within TCP/IP that defines the basic unit of information passed across an Internet connection by breaking down data messages into packets, routing

and transporting the packets over network connections, then reassembling the packets at their destination. IP corresponds to the network layer in the ISO/OSI model.

# Appendix: Specifications

## Software

### *Standards Compliance*

- IEEE 802.11 / 802.11b Standard
- IEEE 802.3 Standard
- IEEE 802.1d MAC Bridges Standard

### *Wireless LAN Features*

- Fully compliant with IEEE 802.11 / IEEE 802.11b DSSS devices
- Provide 11 / 5.5 / 2 / 1 Mbps wireless connectivity to the wireless clients
- Auto fallback data rate under noisy environment
- IEEE 802.11 Wireless function
- Distributed Coordination Function (DCF)
  - *CSMA/CA*
  - *Backoff Procedure*
  - *NAV Management*
  - *ACK Procedure*
  - *Retransmission of unacknowledged frames*
- RTS/CTS Handshake
- Duplicate Detection and Recovery
- Beacon Generation
- Probe Response
- Fragmentation and Reassembly
- Wired Equivalent Privacy Algorithm
- Authentication Algorithm
- Power Management
- Short Preamble and Long Preamble
- Association / Re-association / De-association

### *Operation Modes*

- Wireless Station

### *Roaming*

- Seamless roaming within the 802.11 and 802.11b wireless LAN infrastructure

### *Security Features*

- Support ESSID network identification for security
- Support 64-bit and 128-bit WEP Data Encryption and Decryption
- Support Authentication: Open System, Shared Key and Both

### *Configuration and Management*

- Clear LED Indicators for real time monitor current network status
- Web-based Management function running on Win98/SE, WinME, Win2K, WinXP and other platforms

## Hardware

### *Interface*

- One 2.4GHz RF interface for Wireless LAN connection
- One 10 Mbps Ethernet LAN connection

### *Radio Characteristics*

- Frequency Band: 2.400 ~ 2.4835 GHz ISM Band (subject to local regulations)
- Spreading: Direct Sequence Spread Spectrum (11-chip Barker sequence)
- Modulation
  - CCK: 11Mbps and 5.5Mbps
  - DQPSK: 2Mbps
  - DBPSK: 1Mbps
- Number of Channels
  - 11 Channels (US, Canada)
  - 13 Channels (Europe)
  - 14 Channels (Japan)
- Data Rate: bps / 5.5Mbps / 2Mbps / 1Mbps
- Antenna: internal antenna and one external antenna supporting diversity
- Transmit Power: dBm (typical)
- Receiver Sensitivity: 80dBm @ FER < 8%

### *Power Requirement and Operation Environment Requirement*

- Power Adapter Input: 100V~240V / 50Hz~60Hz, DC Output: 5V / 2A (L-Type)
- Power Consumption Rx: 1.75W, Tx: 2W
- Temperature Operating 0°C to 40°C, Storage -10°C to 65°C
- Relative Humidity 5% to 80% (non-condensing)

### *Regulatory Approvals and Compliance*

- EMI/Immunity FCC part 15
- Safety UL/cUL, CE, VCCI Class B, TELEC, JATE

### *Physical*

- Dimensions 116.77 mm (L) × 75.47 mm (W)

### *Certification*

- Wi-Fi Certified