

# WIRELESS G BROADBAND TRAVEL ROUTER USER MANUAL

MODEL 523875



INT-523875-UM-0807-03



Thank you for purchasing the INTELLINET NETWORK SOLUTIONS™ Wireless G Broadband Travel Router, Model 523875.

This router is equipped with two 10/100 M auto-sensing Ethernet ports for connecting to a LAN and cascading to another similar router. It also features 64/128-bit WEP encryption, WPA and IEEE802.1x to provide a high level of security to protect users' data and privacy. The MAC address filter prevents access to your wireless LAN from unauthorized MAC addresses, thus doubling network security, and the easily configured Web-based management utility ensures that your wireless network connection is always solid and hassle-free, allowing you to enjoy the benefits of these additional features:

- Compact design, great for traveling
- Up to 54 Mbps network data transfer rate
- Compatible with all 802.11b & g wireless products
- DHCP server assigns IP addresses for all LAN users
- Supports virtual server and DMZ (demilitarized zone)
- Supports Access Point mode, Gateway (Router) and Client mode
- Supports UPNP (Universal Plug and Play)
- Supports VPN pass-through (IPSec, PPTP, L2TP)
- Content control through URL filter
- Remote management function (enable/disable and management port)
- Lifetime Warranty

### **PACKAGE CONTENTS**

- Wireless G Broadband Travel Router
- Ethernet Cat5 RJ-45 cable, 1.0 m (3 ft.)
- User manual

## FCC CERTIFICATIONS

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.

**CAUTION:** Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

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.

## FCC RF RADIATION EXPOSURE STATEMENT

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

## CE MARK WARNING

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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**NOTE:** Some screen-shot images have been modified to fit the format of this user manual.

# INITIAL SETUP

## HARDWARE CONNECTIONS

1. Connect the Wireless G Broadband Travel Router to a power outlet.
2. Connect one end of the Ethernet cable to the router and the other end to your desktop or notebook computer.

## LED INDICATORS



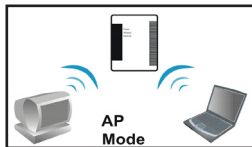
<b>Power</b> (green)	Solid when device is on.
<b>Wireless</b> (blue)	Solid when device is on. Flashing when receiving/sending data.
<b>Ethernet</b> (green)	Solid when Ethernet cable is connected. Flashing when receiving/sending data.

## OPERATION MODES

The router features three operation modes — AP (access point), GW (gateway) and Client Infrastructure — and is configured at the factory. To change the settings in order to employ more advanced configurations or change the mode of operation, use the included Web-based utility as described in subsequent sections of this manual.

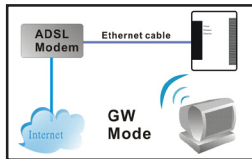
### AP MODE

When acting as an access point, the router connects all stations (desktop/notebook with wireless network adapter) to a wired network. All stations can have Internet access if only the router is connected to the Internet.



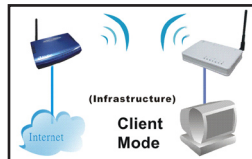
## GW MODE

When GW mode is selected, the access point will enter the gateway mode, and the wireless connection will be set up from a point-to-point local LAN to a point-to-multipoint WAN.



## CLIENT MODE (INFRASTRUCTURE)

If set to Client (Infrastructure) mode, this device can work like a wireless station when it's connected to a computer so that the computer can send packets from wired end to wireless interface.



## LOGIN

1. Turn on your computer and connect it to the Wireless G Broadband Travel Router with an Ethernet cable.
2. Make sure your wired station is set to the same subnet as the router: 192.168.1.254.
3. Start your Web browser. In the "Address" field on the menu bar, enter "http://192.168.1.254."

**NOTE:** No username or password is required for the initial login; you do, however, have the option of setting up a username and password for added security. (See the Password subsection in **Configuration via the Web/Other.**)

# CONFIGURATION VIA THE WEB

The Configuration menu on the upper panel is divided into four main sections: Mode (operation/wireless mode), Status, TCP/IP and Other. Select a section, then click the "Setup" button that corresponds to the desired subsection (e.g., Mode → Access Point, as shown below).

**WLAN Access Point**

Mode | Status | TCP/IP | Other  
System / Active Clients

*This page is used to setup different wireless mode.*

### Operation Mode

- Access Point:**  In this mode, all ethernet ports and wireless interface are bridged together and NAT function is disabled. All the WAN related function and firewall are not supported. The wireless mode is AP mode.
- Gateway:**  In this mode, the device is supposed to connect to internet via ADSL/Cable Modem. The NAT is enabled and PCs in LAN ports share the same IP to ISP through WAN port. The connection type can be setup in WAN page by using PPPoE, DHCP client, PPTP client or static IP.
- Client:**  Client-Infrastructure.

## MODE (OPERATION/WIRELESS MODE)

**WLAN Access Point**

Mode | Status | TCP/IP | Other

*This page is used to setup different wireless mode.*

### AP Mode Settings

Alias Name:

**Disable Wireless LAN Interface**

Band:  ▼

SSID:

Channel Number:  ▼

Security:

Advanced Settings:

Access Control:



## ACCESS POINT/AP MODE SETTINGS

**Alias Name:** Displays the device name.

**Disable Wireless LAN Interface:** By selecting this option, you won't be able to make a wireless connection with this access point in your network; i.e., this device will not be visible by any wireless station.

**Band:** The drop-down menu offers three options:

- 2.4 GHz (B) — 802.11b supported rate only.
- 2.4 GHz (G) — 802.11g supported rate only.
- 2.4 GHz (B+G) — Both 802.11b and 802.11g supported rate.

The default is 2.4 GHz (B+G) mode.

**SSID:** The service set identifier (SSID) differentiates one WLAN from another; therefore, all access points and devices attempting to connect to a specific WLAN must use the same SSID. It is case-sensitive and must not exceed 32 characters. A device will not be permitted to join the basic service set (BSS) unless it can provide the unique SSID. An SSID is also referred to as a network name because, essentially, it is a name that identifies a wireless network.

**Channel Number:** Allows you to set the channel manually or automatically. To set manually, just select the channel you want to specify. If "Auto" is selected, you can set the range so the router automatically surveys and chooses the channel with the best situation for communication. The number of channels supported depends on the access point's region. All stations communicating with the AP must use the same channel.

**Security:** Click "Setup" to display the Security screen and options.

- **Authentication:** Select an option from the pull-down menu; e.g., "Open system or Shared Key," "Open System," "Open System with 802.1x," "Shared Key," "WPA-RADIUS," "WPA-PSK," "WPA2-RADIUS" and "WPA2-PSK."
- **Encryption:** In the pull-down menu, select either "None" or "WEP."
- **Use 802.1x Authentication:** Select 64-bit or 128-bit encryption. Select "HEX" if using hexadecimal numbers (0-9, or A-F). Select "ASCII" if using ASCII (case-sensitive) characters. Ten hexadecimal

Wireless Security Setup

Authentication: Open system or Shared Key

Encryption: None

Apply Changes Reset

digits or five ASCII characters are needed if 64-bit WEP is used; 26 hexadecimal digits or 13 ASCII characters if 128-bit WEP is used.

- **Pre-Shared Key Format:** Select “Passphrase” or “Hex” (64 characters).
- **Pre-Shared Key:** Pre-Shared Key serves as a password. Key in an 8- to 63-character string to set the password or leave it blank, in which case the 802.1x Authentication will be activated. Make sure the same password is used on the client end.
- **Group Key Life Time:** Enter the number of seconds that will elapse before the group key changes automatically. The default is 86,400 seconds.
- **Enable Pre-Authentication:** This enables secure fast roaming without noticeable signal latency. Pre-authentication provides a way to establish a PMK (pairwise master key) security association before a client connects, with the advantage being that the client reduces the time that it's disconnected to the network.
  - **Authentication RADIUS Server:** RADIUS is an authentication authorization and accounting client-server protocol. The client is a network access server which has access to a user database with authentication information and which desires to authenticate its links.
  - **Port:** Enter the RADIUS server's port number provided by your ISP. The default is 1812.
  - **IP Address:** Enter the RADIUS server's IP address provided by your ISP.
  - **Password:** Enter the password that the AP shares with the RADIUS server.
- **Enable Accounting:** Check to enable this function.
  - **Accounting RADIUS Server:** Enter the port, IP address and password as above.
- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.

**Advanced Settings:** Click “Setup” to display the Wireless Advanced Settings screen and options.

• **Fragment**

**Threshold:** This is a mechanism for improving efficiency when high traffic flows along in the wireless network. If your 802.11g wireless LAN adapter frequently transmits large files in the wireless network, you can enter a new fragment threshold value to split the packet. The value can be set from 256 to 2346; the default value is 2346.

- **RTS Threshold:** This is a mechanism implemented to prevent the “Hidden Node” problem, a situation in which two stations are within range of the same access point but not within range of each other (and are thus “hidden” from each other). When a station starts to send data to the access point, it might not notice that the other station is already using the wireless medium. When these two stations send data at the same time, the transmissions might collide when arriving simultaneously at the access point, with the collision most certainly resulting in a loss of messages for both stations. When enabling RTS Threshold on a suspect “hidden station,” this station and its access point will use a request to send (RTS — also known as “ready to send”), in which the station informs the access point that it is going to transmit the data. Upon receipt, the access point will respond with a clear to send (CTS) message to all stations within its range to notify all other stations to defer transmission. It will also confirm to the requesting station that the access point has reserved it for the timeframe of the requested transmission. **NOTE:** If the “Hidden Node” problem is an issue, specify the packet size: The RTS mechanism will be activated if the data size exceeds the value you set. The default value is 2346. **CAUTION:** Enabling RTS Threshold will cause

<b>Fragment Threshold:</b>	<input type="text" value="2346"/>	(256-2346)
<b>RTS Threshold:</b>	<input type="text" value="2346"/>	(0-2346)
<b>Beacon Interval:</b>	<input type="text" value="100"/>	(20-1024 ms)
<b>Inactivity Time:</b>	<input type="text" value="30000"/>	(100-60480000 ms)
<b>Preamble Type:</b>	<input checked="" type="radio"/> Long Preamble <input type="radio"/> Short Preamble	
<b>Broadcast SSID:</b>	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	

redundant network overhead that could negatively affect the throughput performance instead of providing a remedy. This value should remain at its default setting of 2346. Should you encounter inconsistent data flow, only minor modifications of this value are recommended.

- **Beacon Interval:** This is the time between beacon transmissions. Before a station enters Power Save mode, the station needs the beacon interval to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point).
- **Inactivity Time:** The default setting is 30,000 ms.
- **Data Rate:** By default, the unit adaptively selects the highest possible rate for transmission. Select the basic rates to be used among the following options: “Auto,” “1,” “2,” “5.5,” “11” or “54 Mbps.” For most networks, the default setting is “Auto,” which is the best choice. When set to “Auto,” the transmission rate will select the optimal rate. If obstacles or interference is present, the system will automatically fall back to a lower rate.
- **Preamble Type:** A preamble is a signal used in wireless environment to synchronize the transmitting timing, including Synchronization and Start frame delimiter. **NOTE:** If you want to change Preamble Type to “Long” or “Short,” check the setting of the access point.
- **Broadcast SSID:** With “Enabled” selected, this wireless access point will broadcast its SSID to stations; when set to “Disabled,” it won’t. If stations want to connect to this wireless AP, its SSID should be known in advance to make a connection.
- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.

**Access Control:** Click “Setup” to display the Wireless Access Control screen and options.

- **Wireless Access Control Mode:** Select on option from the pull-down menu.
  - **Disable:** Select to disable this mode.

Wireless Access Control

Wireless Access Control Mode:

MAC Address:  Comment:

Current Access Control List:

MAC Address	Description	Select
-------------	-------------	--------

- **Allow Listed:** Only the stations shown in the table can associate with the AP.
- **Deny Listed:** Stations shown in the table won't be able to associate with the AP.
- **MAC Address:** Enter the MAC address of a station that's allowed to access this access point.
- **Comment:** Enter up to 20 characters in reference to the previous MAC Address field.
- **Apply Changes:** Click to save the new settings on the screen.
- **Reset:** Click to discard the data entered since the last time "Apply Changes" was clicked.
- **Delete Selected:** To delete clients on the access list (to this AP), click "Select" next to the corresponding MAC address and comments, then click "Delete Selected."
- **Delete All:** To delete all the clients on the access list (to this AP), click "Delete All" without selecting individual addresses.
- **Reset:** Click "Reset" to clear any/all selected items.

**WDS Setting:** Click "Setup" to display the WDS (wireless distribution system) Setting screen and options.

**WDS Setting**

MAC Address:  Comment:

Apply Changes Reset

**Current WDS List:**

MAC Address	Comment	Select

Delete Selected Delete All Reset

- **MAC Address:** Enter the MAC address of a station that's allowed to access this AP.
- **Comment:** Enter up to 20 characters in reference to the previous MAC Address field.
- **Apply Changes:** Click to save the new settings on the screen.
- **Reset:** Click to discard the data entered since the last time "Apply Changes" was clicked.

## WLAN Access Point

Mode | Status | TCP/IP | Other  
System / Active Clients

*This page is used to setup different wireless mode.*

### GW Mode Settings

Alias Name:	<input type="text" value="Wireless_AP"/>
<input type="checkbox"/> Disable Wireless LAN Interface	
Band:	<input type="text" value="2.4 GHz (B+G)"/>
SSID:	<input type="text" value="802.11g-AP"/>
Channel Number:	<input type="text" value="11"/>
Security:	<input type="button" value="Setup"/>
Advanced Settings:	<input type="button" value="Setup"/>
Access Control:	<input type="button" value="Setup"/>
Wan Port:	<input type="button" value="Setup"/>
Virtual Server:	<input type="button" value="Setup"/>
DMZ:	<input type="button" value="Setup"/>
Remote Management:	<input type="button" value="Setup"/>
URL Filter:	<input type="button" value="Setup"/>
MAC Filter:	<input type="button" value="Setup"/>
<input type="button" value="Apply Changes"/> <input type="button" value="Reset"/>	

## GATEWAY/GW MODE SETTINGS

**Alias Name:** Displays the device name.

**Disable Wireless LAN Interface:** By selecting this option, you won't be able to make a wireless connection with this portable router in your network; i.e., this device will not be visible by any wireless station.

**Band:** The drop-down menu offers three options:

- 2.4 GHz (B) — 802.11b supported rate only.
- 2.4 GHz (G) — 802.11g supported rate only.
- 2.4 GHz (B+G) — Both 802.11b and 802.11g supported rate.

The default is 2.4 GHz (B+G) mode.

**SSID:** The service set identifier (SSID) differentiates one WLAN from another; therefore, all access points and devices attempting to connect to a specific WLAN must use the same SSID. It is case-sensitive and

must not exceed 32 characters. A device will not be permitted to join the basic service set (BSS) unless it can provide the unique SSID. An SSID is also referred to as a network name because, essentially, it is a name that identifies a wireless network.

**Channel Number:** Allows you to set the channel manually or automatically. To set manually, just select the channel you want to specify. If "Auto" is selected, you can set the range so the router automatically surveys and chooses the channel with the best situation for communication. The number of channels supported depends on the router's region. All stations communicating with the router must use the same channel.

**Security:** Click "Setup" to display the Security screen and options.

- **Authentication:** Select an option from the pull-down menu; e.g., "Open system or Shared Key," "Open System," "Open System with 802.1x," "Shared Key,"

#### Wireless Security Setup

Authentication:  ▼

Encryption:  ▼

- "WPA-RADIUS," "WPA-PSK," "WPA2-RADIUS" and "WPA2-PSK."
- **Encryption:** In the pull-down menu, select either "None" or "WEP."
  - **Use 802.1x Authentication:** Select 64-bit or 128-bit encryption. Select "HEX" if using hexadecimal numbers (0-9, or A-F). Select "ASCII" if using ASCII (case-sensitive) characters. Ten hexadecimal digits or five ASCII characters are needed if 64-bit WEP is used; 26 hexadecimal digits or 13 ASCII characters if 128-bit WEP is used.
  - **Pre-Shared Key Format:** Select "Passphrase" or "Hex" (64 characters).
  - **Pre-Shared Key:** Pre-Shared Key serves as a password. Key in an 8- to 63-character string to set the password or leave it blank, in which case the 802.1x Authentication will be activated. Make sure the same password is used on the client end.
  - **Group Key Life Time:** Enter the number of seconds that will elapse before the group key changes automatically. The default is 86,400 seconds.
- **Enable Pre-Authentication:** This enables secure fast roaming



without noticeable signal latency. Pre-authentication provides a way to establish a PMK (pairwise master key) security association before a client connects, with the advantage being that the client reduces the time that it's disconnected to the network.

- **Authentication RADIUS Server:** RADIUS is an authentication authorization and accounting client-server protocol. The client is a network access server which has access to a user database with authentication information and which desires to authenticate its links.
- **Port:** Enter the RADIUS server's port number provided by your ISP. The default is 1812.
- **IP Address:** Enter the RADIUS server's IP address provided by your ISP.
- **Password:** Enter the password that the AP shares with the RADIUS server.
- **Enable Accounting:** Check to enable this function.
- **Accounting RADIUS Server:** Enter the port, IP address and password as above.
- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.

**Advanced Settings:** Click "Setup" to display the Wireless Advanced Settings screen and options.

### Wireless Advanced Settings

<b>Fragment Threshold:</b>	<input type="text" value="2346"/>	(256-2346)
<b>RTS Threshold:</b>	<input type="text" value="2346"/>	(0-2346)
<b>Beacon Interval:</b>	<input type="text" value="100"/>	(20-1024 ms)
<b>Inactivity Time:</b>	<input type="text" value="30000"/>	(100-60480000 ms)
<b>Preamble Type:</b>	<input checked="" type="radio"/> Long Preamble <input type="radio"/> Short Preamble	
<b>Broadcast SSID:</b>	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	
<input type="button" value="Apply Changes"/>		<input type="button" value="Reset"/>

• **Fragment**

**Threshold:** This is a mechanism for improving efficiency when high traffic flows along in the wireless network. If your 802.11g wireless LAN adapter often transmits large files in the wireless network, you can enter a new fragment threshold value to split the packet. The value can be set from 256 to 2346; the default value is 2346.

- **RTS Threshold:** This is a mechanism implemented to prevent the



“Hidden Node” problem, a situation in which two stations are within range of the same access point but not within range of each other (and are thus “hidden” from each other). When a station starts to send data to the access point, it might not notice that the other station is already using the wireless medium. When these two stations send data at the same time, the transmissions might collide when arriving simultaneously at the access point, with the collision most certainly resulting in a loss of messages for both stations. When enabling RTS Threshold on a suspect “hidden station,” this station and its access point will use a request to send (RTS — also known as “ready to send”), in which the station informs the access point that it is going to transmit the data. Upon receipt, the access point will respond with a clear to send (CTS) message to all stations within its range to notify all other stations to defer transmission. It will also confirm to the requesting station that the access point has reserved it for the timeframe of the requested transmission.

- **Beacon Interval:** This is the time between beacon transmissions. Before a station enters Power Save mode, the station needs the beacon interval to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point).
- **Inactivity Time:** The default setting is 30,000 ms.
- **Data Rate:** By default, the unit adaptively selects the highest possible rate for transmission. Select the basic rates to be used among the following options: “Auto,” “1,” “2,” “5.5,” “11” or “54 Mbps.” For most networks, the default setting is “Auto,” which is the best choice. When set to “Auto,” the transmission rate will select the optimal rate. If obstacles or interference is present, the system will automatically fall back to a lower rate.
- **Preamble Type:** A preamble is a signal in a wireless environment used to synchronize the transmitting timing, including Synchronization and Start frame delimiter. **NOTE:** If you want to change Preamble Type to “Long” or “Short,” check the setting of the access point.
- **Broadcast SSID:** With “Enabled” selected, this wireless access point will broadcast its SSID to stations; when set to “Disabled,” it won’t. If stations want to connect to this wireless AP, its SSID should



be known in advance to make a connection.

- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.

**Access Control:** Click “Setup” to display the Wireless Access Control screen and options.

• **Wireless Access Control Mode:** Select an option from the pull-down menu.

- **Disable:** Select to disable this mode.

- **Allow Listed:** Only the stations shown in the table can associate with the AP.

- **Deny Listed:** Stations shown in the table won't be able to associate with the AP.

• **MAC Address:** Enter the MAC address of a station that's allowed to access this access point.

• **Comment:** Enter up to 20 characters in reference to the previous MAC Address field.

• **Apply Changes:** Click to save the new settings on the screen.

• **Reset:** Click to discard the data entered since the last time “Apply Changes” was clicked.

• **Delete Selected:** To delete clients on the access list (to this AP), click “Select” next to the corresponding MAC address and comments, then click “Delete Selected.”

• **Delete All:** To delete all the clients on the access list (to this AP), click “Delete All” without selecting individual addresses.

• **Reset:** Click “Reset” to clear any/all selected items.

**WAN Port:** Click “Setup” to display the WAN Port Configuration screen and options.

• **WAN Access Type:** Select the WAN access type (Static IP, DHCP, PPPoE or PPTP) from the pull-down menu.

• **Attain DNS Automatically:** Select to activate as needed.

• **Set DNS Manually:** Select to activate as needed.

Wireless Access Control

Wireless Access Control Mode:

MAC Address:  Comment:

Current Access Control List:

MAC Address	Description	Select
-------------	-------------	--------

- **DNS 1–3:** Enter the DNS server IP address(es) provided by your ISP, or specify your own preferred DNS server IP address(es). **NOTE:** The DNS 2 and DNS 3 servers are optional. They will be used if/when the DNS 1 server fails.
- **Respond to WAN Ping:** Select in order for the router to respond to ping commands originating from the WAN (Internet). **NOTE:** As a security precaution, this option should *not* be selected.
- **Enable UPnP:** Universal Plug and Play (UPnP) allows Windows Me and XP to automatically configure the router for various Internet applications, such as gaming and videoconferencing. To use UPnP, select “Enable UPnP.”
- **Save:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.
- **Close:** Click to exit the current settings.

**WAN Port Configuration**

WAN Access Type: 

- Attain DNS Automatically
- Set DNS Manually

DNS 1:

DNS 2:

DNS 3:

Respond to WAN Ping  
 Enable UPnP

**Virtual Server:** Click “Setup” to display the Virtual Servers screen and options.

- **Enable Virtual Servers:** Select as needed.
- **Servers:** Make a selection from the pull-down menu.
- **Local IP Address:**

**Virtual Servers**

Enable Virtual Servers

Servers:

Local IP Address:

Protocol:

Port Range:

Description:

Current Virtual Servers Table:	Local IP Address	Protocol	Port Range	Description	Select
<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>					

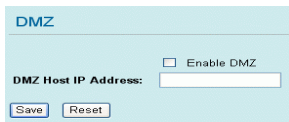
- Enter the local server’s IP address.
- **Protocol:** Select the protocol (“TCP,” “UDP” or “Both”) used by the remote system or service.
- **Port Range:** For TCP and UDP services, enter the beginning of the range of port numbers used by the service. If the service uses

a single port number, enter it in both the Start and Finish fields.

- **Description:** You may key in a description for the local IP address.
- **Save:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.
- **Current Virtual Servers Table:** Shows the current virtual servers information.

**DMZ:** Click “Setup” to display the DMZ screen and options.

- **Enable DMZ:** If the DMZ Host Function is enabled, it means that a DMZ host has been set up at a particular computer to be exposed to the Internet so that some applications/software, especially Internet/online games, can have two-way connections.

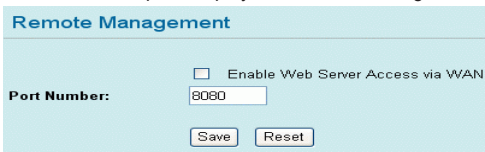


- **DMZ Host IP Address:** Enter the IP address of a particular host in your LAN that will receive all the packets originally going to the WAN port/public IP address above.
- **Save:** Click to save the current settings.
- **Reset:** Click to restore to the default values.

**NOTE:** You need to give your LAN PC clients a fixed/static IP address for the DMZ function to work properly.

**Remote Management:** Click “Setup” to display the Remote Management screen and options.

- **Enable Web Server Access via WAN:**



Select to permit remote access to the router from outside the local network. Otherwise, keep the default setting (unselected).

- **Port Number:** Enter the port number that will be open to outside access.
- **Save:** Click to save the current settings.
- **Reset:** Click to restore to the default values.

**URL Filter:** Click “Setup” to display the URL Filtering screen and options.

- **Enable URL Filtering:** Select to enable the URL filtering function.
- **URL Address:** You can block (“filter”) Web sites with specific URL addresses by entering the URLs in this field.
- **Apply Changes:** Click to save the current settings.

- **Reset:** Click to clear the current settings.

- **Current Filter Table:** Shows the current URL address filter status.

- **Delete Selected:** Select unwanted URL addresses and then click to eliminate them.

- **Delete All:** Click to delete all the URL addresses listed in the table.
- **Reset:** Click to clear the current settings.

**MAC Filter:** Click “Setup” to display the MAC Filtering screen and options.

- **Enable MAC Filtering:** Select to enable the MAC filtering function.

- **MAC Address:** For MAC filtering, enter the 12-digit MAC address in the appropriate MAC field.

- **Save:** Click to save the current settings.

- **Reset:** Click to restore to the default values.

- **Current Filter Table:** Shows the current MAC address filter status.

- **Delete Selected:** Select unwanted MAC addresses and then click to eliminate them.

- **Delete All:** Click to delete all the MAC addresses listed in the table.

- **Reset:** Click to clear the current settings.

**Apply Changes:** Click to save the current settings.

**Reset:** Click to reset this page.

**URL Filtering**

URL filter is used to deny LAN users from accessing the internet. Block those URLs which contain keywords listed below.

Enable URL Filtering

URL Address:

Current Filter Table:

URL Address	Select
	<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>

**MAC Filtering**

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Router. Here you can restrict local LAN clients to access Internet application/services by MAC Address. Use of such filters can be helpful in securing or restricting your local network.

Enable MAC Filtering

MAC Address:

Description:

Current Filter Table:

MAC Address	Description	Select
		<input type="button" value="Delete Selected"/> <input type="button" value="Delete All"/> <input type="button" value="Reset"/>

## WLAN Access Point

Mode | Status | TCP/IP | Other

*This page is used to setup different wireless mode.*

### Client Mode Settings

Alias Name:	<input type="text" value="Wireless_AP"/>
Band:	<input type="button" value="2.4 GHz (B+G) v"/>
SSID:	<input type="text" value="802.11g-AP"/>
Security:	<input type="button" value="Setup"/>
Advanced Settings:	<input type="button" value="Setup"/>
Site Survey:	<input type="button" value="Setup"/>
<input type="button" value="Apply Changes"/> <input type="button" value="Reset"/>	

## CLIENT/CLIENT MODE SETTINGS

**Alias Name:** Displays the device name.

**Band:** The drop-down menu offers three options:

- 2.4 GHz (B) — 802.11b supported rate only.
  - 2.4 GHz (G) — 802.11g supported rate only.
  - 2.4 GHz (B+G) — Both 802.11b and 802.11g supported rate.
- The default is 2.4 GHz (B+G) mode.

**SSID:** The service set identifier (SSID) differentiates one WLAN from another; therefore, all access points and devices attempting to connect to a specific WLAN must use the same SSID. It is case-sensitive and must not exceed 32 characters. A device will not be permitted to join the basic service set (BSS) unless it can provide the unique SSID. An SSID is also referred to as a network name because, essentially, it is a name that identifies a wireless network.

**Security:** Click “Setup” to display the Security screen and options.

- **Authentication Type:** Select an option from the pull-down menu; e.g., “Open System or Shared Key,” “Open System,” “Open System with 802.1x,” “Shared Key,” “WPA-PSK” and “WPA2-PSK.”
- **Encryption:** Make a selection from the pull-down menu.

- **Use 802.1x Authentication:** Select 64-bit or 128-bit encryption. Select "HEX" if using hexadecimal numbers (0-9, or A-F). Select "ASCII" if using ASCII characters. Ten hexadecimal digits or five ASCII characters are needed if 64-bit WEP is used; 26 hexadecimal digits or 13 ASCII characters if 128-bit WEP is used.

Wireless Security Configuration

Authentication Type:

Encryption:

Default Key:

WEP Key 1:  (Only 5 or 10 characters.)

WEP Key 2:  (Only 5 or 10 characters.)

WEP Key 3:  (Only 5 or 10 characters.)

WEP Key 4:  (Only 5 or 10 characters.)

Type	ASCII	HEX
WEP64	5	10
WEP128	13	26

Apply Reset Close

- **Pre-Shared Key Format:** Select "Passphrase" or "Hex" (64 characters).
- **Pre-Shared Key:** Pre-Shared Key serves as a password. Key in an 8- to 63-character string to set the password or leave it blank, in which case the 802.1x Authentication will be activated. Make sure the same password is used on the client end.
- **Group Key Life Time:** Enter the number of seconds that will elapse before the group key changes automatically. The default is 86,400 seconds.
- **Enable Pre-Authentication:** This enables secure fast roaming without noticeable signal latency. Pre-authentication provides a way to establish a PMK (pairwise master key) security association before a client associates, with the advantage being that the client reduces the time that it's disconnected to the network.
- **Authentication RADIUS Server:** RADIUS is an authentication authorization and accounting client-server protocol. The client is a network access server which has access to a user database with authentication information and which desires to authenticate its links.
- **Port:** Enter the RADIUS server's port number provided by your ISP. The default is 1812.
- **IP Address:** Enter the RADIUS server's ISP-provided IP address.
- **Password:** Enter the password that the AP shares with the RADIUS server.

- **Enable Accounting:** Check to enable this function.
  - **Accounting RADIUS Server:** Enter the port, IP address and password as above.
- **Default Key:** Make a selection from the drop-down menu.
- **WEP Key 1–4:** As noted on-screen, these entries are limited to 5- or 10-character identifiers.
- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.
- **Close:** Click to exit this configuration window.

**Advanced Settings:** Click “Setup” to display the Wireless Advanced Configuration screen and options.

- **Fragment Threshold:**

This is a fragmentation mechanism for improving the efficiency when high

traffic flows along in the wireless network. If your 802.11g wireless LAN adapter often transmits large files in the wireless network, you can enter a new fragment threshold value to split the packet. The value can be set from 256 to 2346; the default value is 2346.

- **RTS Threshold:** This is a mechanism implemented to prevent the “Hidden Node” problem, a situation in which two stations are within range of the same access point but not within range of each other (and are thus “hidden” from each other). When a station starts to send data to the access point, it might not notice that the other station is already using the wireless medium. When these two stations send data at the same time, the transmissions might collide when arriving simultaneously at the access point, with the collision most certainly resulting in a loss of messages for both stations. When enabling RTS Threshold on a suspect “hidden station,” this station and its access point will use a request to send (RTS — also known as “ready to send”), in which the station informs the access point that it is going to transmit the data. Upon receipt, the access point will respond with

The screenshot shows a window titled "Wireless Advanced Configuration" with the following settings:

- Fragment Threshold:** 2346 (range 256-2346)
- RTS Threshold:** 2347 (range 0-2347)
- Data Rate:** Auto
- Preamble Type:** Long Preamble
- Tx Burst:**  Enable
- 802.11g Protection:** Auto
- Enable Watch Dog
- Watch Interval:** 1 (range 1-60 minutes)
- Watch Host:** 192.168.1.254

Buttons at the bottom: Apply, Reset, Close.



a clear to send (CTS) message to all stations within its range to notify all other stations to defer transmission. It will also confirm to the requesting station that the access point has reserved it for the timeframe of the requested transmission. **NOTE:** If the “Hidden Node” problem is an issue, specify the packet size: The RTS mechanism will be activated if the data size exceeds the value you set. The default value here is 2347. **CAUTION:** Enabling RTS Threshold will cause redundant network overhead that could negatively affect the throughput performance instead of providing a remedy. This value should remain at its default setting. Should inconsistent data flow occur, only minor modifications of this value are recommended.

- **Data Rate:** By default, the unit adaptively selects the highest possible rate for transmission. Select the basic rates to be used among the following options: “Auto,” “1,” “2,” “5.5,” “11” or “54 Mbps.” For most networks, the default setting is “Auto,” which is the best choice. When set to “Auto,” the transmission rate will select the optimal rate. If obstacles or interference is present, the system will automatically fall back to a lower rate.
- **Preamble Type:** A preamble is a signal used in wireless environment to synchronize the transmitting timing, including Synchronization and Start frame delimiter. **NOTE:** If you want to change Preamble Type to “Long” or “Short,” check the setting of the access point.
- **Tx Burst:** Click to enable the Tx burst mode.
- **802.11g Protection:** The 802.11g standard includes a protection mechanism to facilitate mixed 802.11b and 802.11g operations. (Without such a mechanism, the two standards could interfere with each other and decrease the network’s performance.)
- **Enable WatchDog:** Check to enable the WatchDog function.
- **Watch Interval:** Set the Watch Interval between 1 and 60 minutes.
- **Watch Host:** Set the Watch Host in this column.
- **Apply Changes:** Click to save and apply the current settings.
- **Reset:** Click to clear and reset the current settings.
- **Close:** Click to exit this configuration window.

**Site Survey:** This screen displays all the active access points and basic service set identifiers (BSSIDs) in the range.

- **Refresh:** Click to update the display.

**Apply Changes:**  
Click to save the current Client Mode settings.

**Reset:** Click to reset the Client Mode settings.

Site Survey

SSID	BSSID	Channel	RSSI
ZyXEL	00:e0:98:00:02:45	1	57
KenTest	00:48:48:48:48:48	11	42
3059_244	00:e0:00:00:00:1e	11	34
minatest	00:12:0e:52:0a:83	11	11
3089OP	00:90:cc:d8:ef:4f	11	21
Arthur213	00:4f:62:16:53:01	11	29
dlink	00:19:5b:5f:f2:3f	7	30

Refresh

## STATUS

This section offers a choice of two screens — System and Active Clients — to view the current status of settings established in the previous Mode section.

**WLAN Access Point**

Mode | **Status** | TCP/IP | Other  
System / Active Clients

*This page shows the current status and some basic settings of the device.*

**System Data**

**System**  
Firmware Version: WAP2101v0.1

**LAN Configuration**  
MAC Address: 00:03:7F:66:66:AA  
IP Address: 192.168.1.254  
Network Mask: 255.255.255.0  
Default Gateway:  
DHCP Server: ON  
DHCP Start IP Address: 192.168.1.33  
DHCP Finish IP Address: 192.168.1.65

**WLAN Configuration**  
MAC Address: 00:03:7F:66:66:BB  
SSID: 802.11g-AP  
Channel: 11

Refresh

## SYSTEM

**Refresh:** Click to update System Data and view any configuration changes.

### WLAN Access Point

Mode | Status | TCP/IP | Other  
System / Active Clients

This table shows the MAC address, transmission, reception packet counters and encrypted status for each associated wireless client.

#### Active Wireless Client Table

MAC Address	Chan	Tx Rate (Mbps)	RSSI	Tx Packet	Rx Packet
00:13:ce:84:75:74	11	1M	7	3	47008

Refresh

## ACTIVE CLIENTS

**Refresh:** Click to update the Active Wireless Client Table and view any configuration changes.

## TCP/IP

This section presents a screen in which you can change the settings to reconfigure the LAN Interface Setup.

### WLAN Access Point

Mode | Status | TCP/IP | Other

This page is used to configure the parameters for local area network which connects to the LAN port of your Access Point. Here you may change the setting for IP address, subnet mask, DHCP, etc...

#### LAN Interface Setup

IP Address:

Subnet Mask:

Default Gateway:

DHCP:  Server IP:

DHCP Client Range:  -

DNS Server:

## LAN INTERFACE SETUP

**IP Address:** This is the device's local address. (Default: 192.168.1.254.)

**Subnet Mask:** Default: 255.255.255.0.

**Default Gateway:** Shows the default gateway IP address.

**DHCP:** Select "Server" from the drop-down menu to enable the router to distribute IP addresses (DHCP server) and activate the Server IP field to accept a starting IP address; select "Disable" to disallow such distribution.

**Server IP:** This is the starting IP address when "Server" is selected in the "DHCP" drop-down menu.

**DHCP Client Range:** This is the starting address of this local IP network address pool, a continuous IP address segment. Keeping the default value as 192.168.1.1 should work in most cases, as should the default maximum of 253.

**Show Client:** Click to show the Active DHCP Client table.

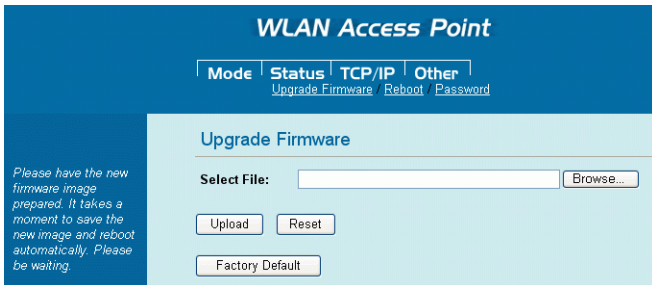
**DNS Server:** Enter the domain name service IP address.

**Apply Changes:** Click to save and apply any changes in the settings.

**Reset:** Click to restore settings to default values.

## OTHER

This section offers a choice of three screens: Upgrade Firmware, Reboot and Password Setup.



The screenshot shows the 'WLAN Access Point' configuration interface. At the top, there are four tabs: 'Mode', 'Status', 'TCP/IP', and 'Other'. Under the 'Other' tab, there are three sub-links: 'Upgrade Firmware', 'Reboot', and 'Password'. The 'Upgrade Firmware' sub-link is selected, and the page content is displayed in a light blue box. On the left side of this box, there is a text box with the message: 'Please have the new firmware image prepared. It takes a moment to save the new image and reboot automatically. Please be waiting.' The main content area contains the following elements: a 'Select File:' label followed by a text input field and a 'Browse...' button; an 'Upload' button and a 'Reset' button; and a 'Factory Default' button.

## UPGRADE FIRMWARE

**Browse:** Click to find and open the firmware file (the browser will display the correct file path).

**Upload:** Click to upgrade the selected firmware.

**Reset:** Click to restore default values.

The screenshot shows the 'WLAN Access Point' configuration page. At the top, there are four tabs: 'Mode', 'Status', 'TCP/IP', and 'Other'. Below the 'Status' tab, there are three links: 'Upgrade Firmware', 'Reboot', and 'Password'. The main heading is 'Reboot System'. On the left side, there is a blue box with the text: 'Anytime you want to warm boot this device tfor any purposes.' Below the heading, there is a 'Reboot System:' label followed by a 'Reboot' button.

## REBOOT SYSTEM

**Reboot:** Click to reboot the hardware.

The screenshot shows the 'WLAN Access Point' configuration page. At the top, there are four tabs: 'Mode', 'Status', 'TCP/IP', and 'Other'. Below the 'Status' tab, there are three links: 'Upgrade Firmware', 'Reboot', and 'Password'. The main heading is 'Password Setup'. On the left side, there is a blue box with the text: 'For the administrator's first time login, it is strongly recommended to set your user password for security issue.' Below the heading, there are two labels: 'New Password:' and 'Confirmed Password:', each followed by an empty text input field. At the bottom, there are two buttons: 'Apply Change' and 'Reset'.

## PASSWORD SETUP

**New Password:** The maximum input is 36 alphanumeric characters.

**NOTE:** Passwords are case-sensitive.

**Confirmed Password:** Enter the new password again to confirm.

**Apply Changes:** After filling in the two fields above, click to save.

**Reset:** Click to clear the settings.

# COMPUTER CONFIGURATION

TCP/IP network, Internet and/or wireless settings may need to be checked for each connected PC to ensure they're correct and compatible.

## TCP/IP NETWORK SETTINGS

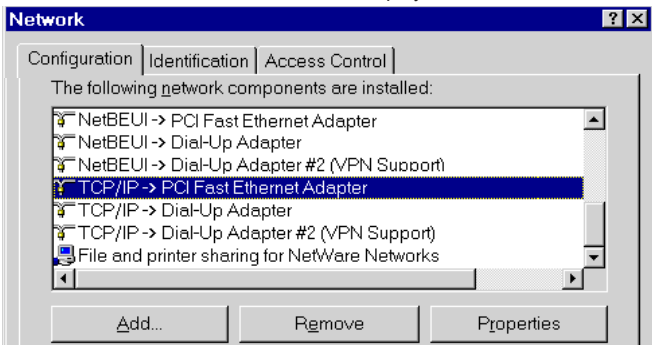
For PCs with the following Windows platforms, this is the first step in ensuring smooth operation in conjunction with the router. Because the router uses the TCP/IP network protocol for all functions, it is critical that the TCP/IP protocol be installed and configured on each PC.

If using the default router settings and the default Windows TCP/IP settings, no changes need to be made. By default, the router will act as a DHCP server, automatically providing a suitable IP address (and related information) to each PC when the PC boots. For all non-server versions of Windows, the default TCP/IP settings act as a DHCP client.

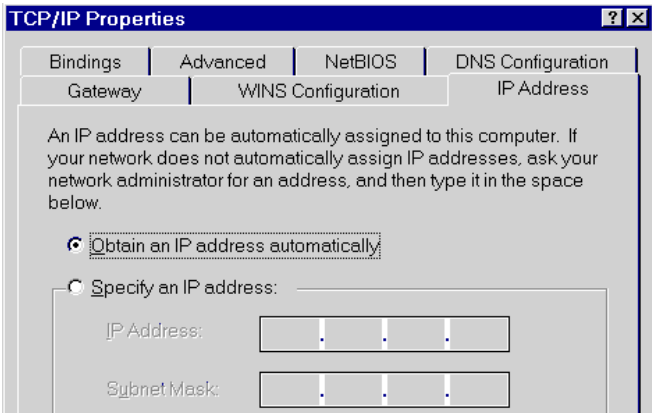
If using a fixed (specified) IP address, the gateway must be set to the router's IP address, and the DNS should be set to the ISP-provided address.

### TCP/IP SETTINGS FOR WINDOWS 98/ME

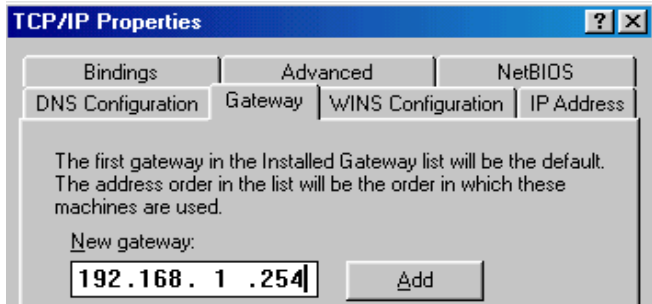
1. Go to the Control Panel and click to display the Network screen.



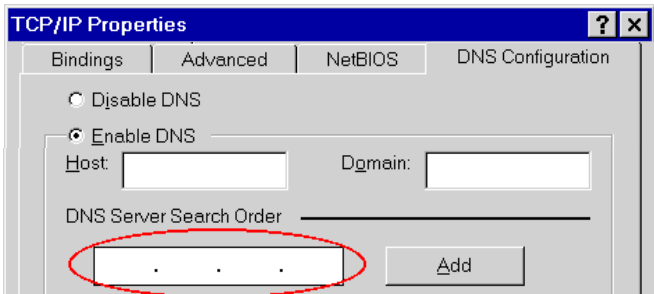
2. On the Configuration tab, select the TCP/IP protocol; click "Properties."



3. On the IP Address tab, to use DHCP select “Obtain an IP address automatically.” This is the default Windows setting, which is recommended so the router will act as a DHCP server. Restart the PC to ensure it obtains an IP address from the router.  
If the PC is already configured, select “Specify an IP Address” and check with your network administrator before making the following changes.



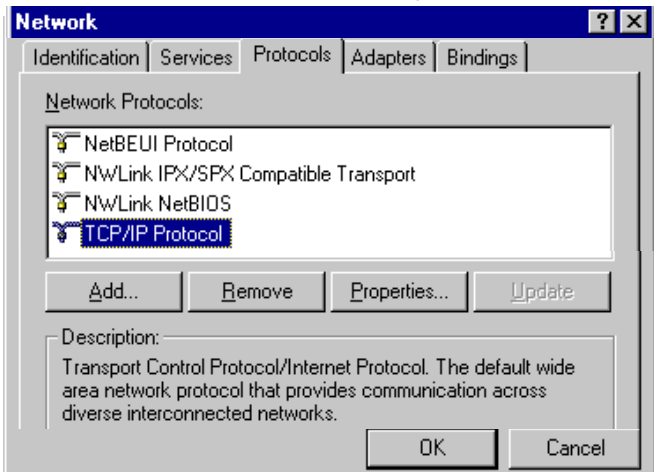
4. On the Gateway tab, enter the router’s IP address in the “New gateway” field and click “Add.”



5. On the DNS Config tab ("Enable DNS" selected), ensure the ISP-provided DNS address is in the "DNS Server Search Order" field; click "Add."

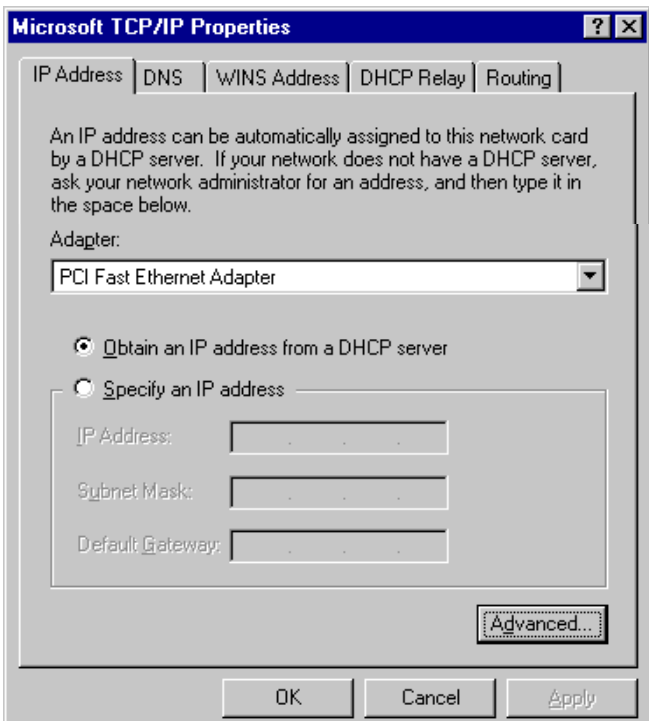
## TCP/IP SETTINGS FOR WINDOWS NT

1. Go to the Control Panel and click to display the Network screen.



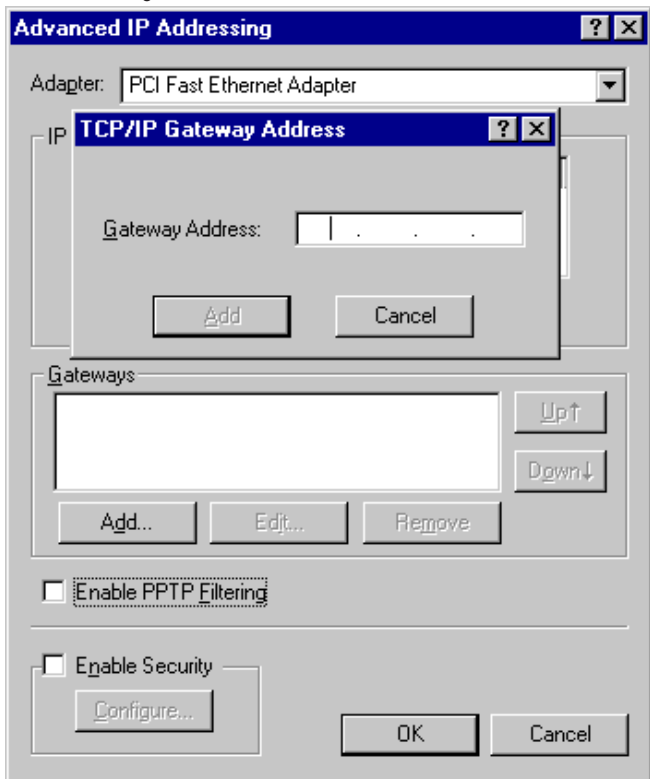
2. On the Protocols tab, select the TCP/IP protocol and click "Properties."



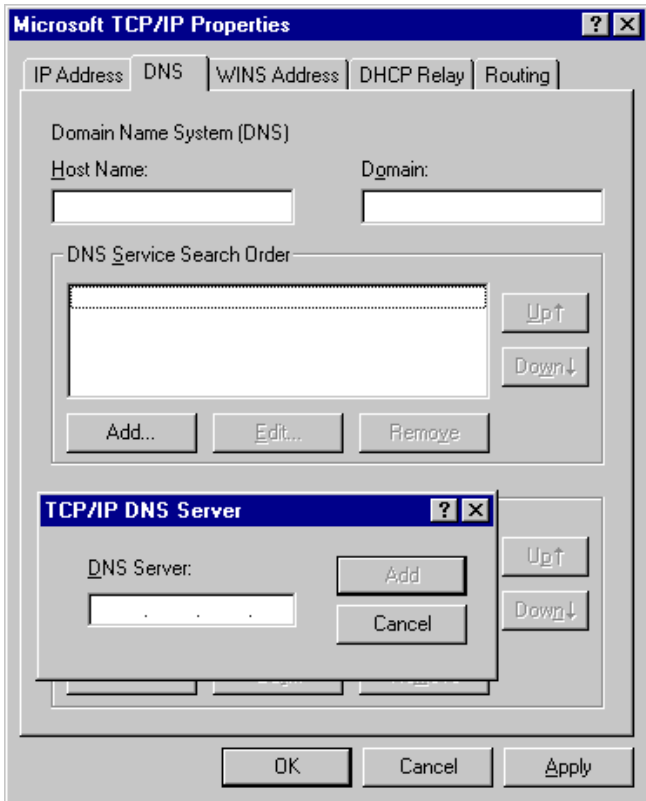


3. On the IP Address tab, select the network card for your LAN from the "Adapter" drop-down menu.
4. To use DHCP, select "Obtain an IP address FROM A DHCP Server." This is the default Windows setting, which is recommended so the router will act as a DHCP server. Restart the PC to ensure it obtains an IP address from the router.  
If the PC is already configured, select "Specify an IP Address" and check with your network administrator before making the following changes.

5. Still on the IP Address tab, click “Advanced” to display the Advanced IP Addressing screen.



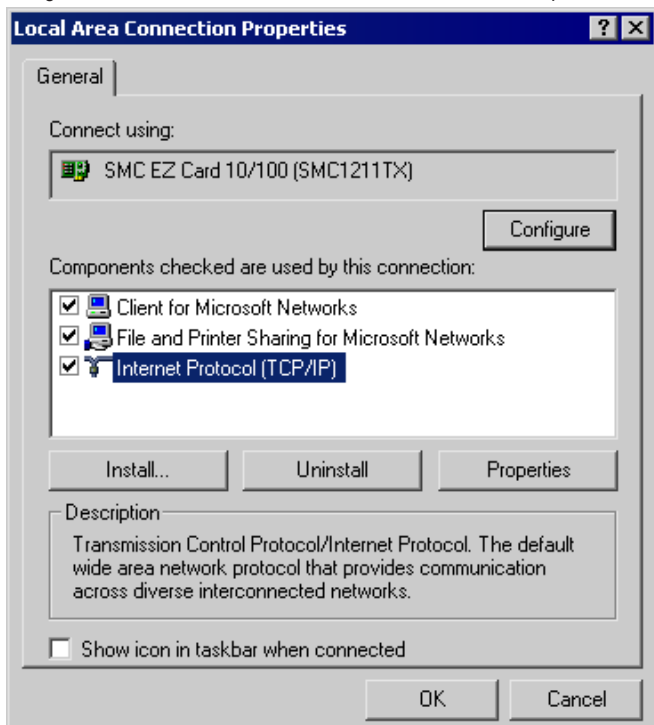
6. In the Gateways panel, click “Add” to display the Gateway Address field and enter the router’s IP address. **NOTE:** Click “Up” to list the router first in the field. Click “Add” to clear/close the Gateway Address screen; click “OK” to close Advanced IP Addressing.



7. On the DNS tab, click "Add" in the DNS Service Search Order panel to display the DNS Server field and enter the DNS provided by your ISP. Click "Add" to clear/close the DNS Server screen; click "OK" to close Properties.

## TCP/IP SETTINGS FOR WINDOWS 2000

1. Go to the Control Panel → Network → Dial-Up Connection, then right-click the Local Area Connection icon and select Properties.



2. On the General tab, select the TCP/IP protocol and click “Properties.”
3. To use DHCP, select “Obtain an IP address automatically.” This is the default Windows setting, which is recommended so the router will act as a DHCP server. Restart the PC to ensure it obtains an IP address

## Internet Protocol (TCP/IP) Properties



### General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address:

Subnet mask:

Default gateway:

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

Advanced...

OK

Cancel

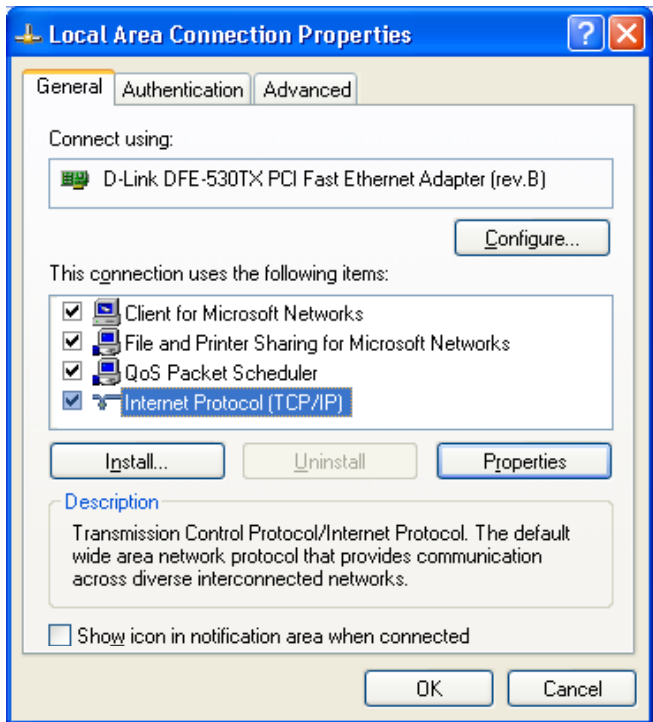
from the router.

To use a fixed IP address, if the PC is already configured, select “Use the following IP address.” Check with your network administrator before making the following changes.

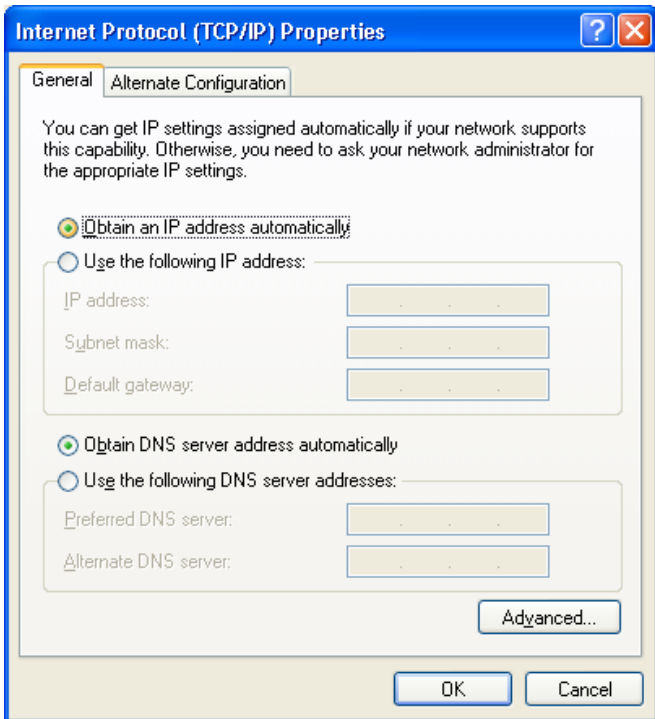
4. Enter the router’s IP address in the “Default gateway” field and click “OK.” (Ask your LAN administrator for the assigned IP address.) If the DNS server fields are empty, select “Use the following DNS server addresses” and enter the DNS address(es) provided by your ISP; then click “OK.”

## TCP/IP SETTINGS FOR WINDOWS XP

1. Go to the Control Panel → Network, then right-click the Local Area Connection icon and select Properties.



2. On the General tab, select the TCP/IP protocol and click “Properties.”
3. To use DHCP, select “Obtain an IP address automatically.” This is the default Windows setting. Using this is recommended so the router will act as a DHCP server. Restart the PC to ensure it obtains an IP address from the router.



To use a fixed IP address, if the PC is already configured, select “Use the following IP address.” Check with your network administrator before making the following changes.

4. Enter the router’s IP address in the “Default gateway” field and click “OK.” (Ask your LAN administrator for the assigned IP address.) If the DNS server fields are empty, select “Use the following DNS server addresses” and enter the DNS address(es) provided by your ISP; then click “OK.”

# INTERNET ACCESS

To configure a computer in order to use the Wireless G Broadband Travel Router for Internet access, first ensure that the DSL modem, cable modem or other relevant permanent connection is functional. Then follow the appropriate procedure below to configure the browser to access the Internet via the LAN, rather than by a dial-up connection.

## WINDOWS 9x/ME/2000

1. Go to Start Menu → Settings → Control Panel → Internet Options.
2. On the Connection tab, click "Setup."
3. Select "I want to set up my Internet connection manually, or I want to connect through a local area network (LAN)" and click "Next."
4. Select "I connect through a local area network (LAN)" and click "Next."
5. Ensure all of the boxes on the following Local Area Network Internet Configuration screen are unchecked.
6. Check the "No" option when prompted "Do you want to set up an Internet mail account now?"
7. Click "Finish" to close the Internet Connection Wizard. Setup is complete.

## WINDOWS XP

1. Go to Start Menu → Control Panel → Network → Internet Connections.
2. Select "Set up or change your Internet connection."
3. On the Connection tab, click "Setup."
4. Cancel the pop-up Location Information screen.
5. On the New Connection Wizard screen, click "Next."
6. Select "Connect to the Internet" and click "Next."
7. Select "Set up my connection manually" and click "Next."
8. Select "Connect using a broadband connection that is always on" and click "Next."
9. Click "Finish" to close the New Connection Wizard. Setup is complete.

## ACCESSING AOL

To access AOL through the Wireless G Broadband Travel Router, the AOL for Windows software must be configured to use TCP/IP network access rather than a dial-up connection.





1. Start the AOL for Windows communication software. **NOTE:** Only Version 2.5, 3.0 or later will work.
2. Click "Setup."
3. Select "Create Location" and change the location name from "New Locality" to "Wireless Router."
4. Click "Edit Location"; select "TCP/IP" in the Network field. (Leave the "Phone Number" field blank.)
5. Click "Save," then "OK." Configuration is complete. **NOTE:** Before clicking "Sign On," ensure you're using the "Wireless Router" location.

## MACINTOSH

1. Open the TCP/IP Control Panel.
2. Select "Ethernet" from the "Connect via" pop-up menu.
3. Select "Using DHCP Server" from the "Configure" pop-up menu. The "DHCP Client ID" field can be left blank.
4. Close the TCP/IP panel, saving your settings.

**NOTE:** If using manually assigned IP addresses instead of DHCP, enter the router's IP address in the "Router Address" field and ensure the DNS settings are correct.

## LINUX

1. Set the Wireless G Broadband Travel Router as the "Gateway." **NOTE:** Ensure you are logged in as "root" before attempting any changes.

To continue using a fixed IP address (by default, most Unix installations use a fixed IP address), enter the router's IP address in the "Default Gateway" field and ensure the DNS settings are correct.

To act as a DHCP client (recommended), follow the steps below. **NOTE:** This procedure may vary depending on the version of Linux and the X Window shell.

1. Start the X Window client.
2. Go to Control Panel → Network.
3. Select the Interface entry for your network card (normally, "eth0").
4. Click "Edit"; set the Protocol to "DHCP"; save this data.

**NOTE:** To apply the changes, use the "Deactivate" and "Activate" buttons, if available, or restart the system.

## OTHER UNIX SYSTEMS

1. Enter the router's IP address in the "Gateway" field for the network card and ensure the DNS settings are correct.

## WIRELESS LANs & STATION CONFIGURATION

All wireless stations selected to use the Wireless G Broadband Travel Router's access point, regardless of the operating system used by the client, must have compatible settings as shown below.

**Mode:** The mode must be set to "Infrastructure." **NOTE:** The access point is always in Infrastructure mode.

**SSID (ESSID):** This must match the value used on the router in order for various wireless stations and the access point — collectively referred to as a basic service set, or BSS — to communicate with each other.

**WEP:** Wired Equivalent Privacy (WEP) is a standard for encrypting data before it's transmitted. It's impossible to prevent "snoopers" from receiving any data transmitted by your wireless stations, but if the data is encrypted then it's meaningless unless the receiver can decrypt it.

By default, WEP on the router is disabled. If WEP remains disabled on the router, all stations must also have WEP disabled. If WEP is enabled on the router, each station must use the same setting ("Off," "64 Bit" or "128 Bit") as the router. This also applies to WEP Key (for either 64- or 128-bit encryption) and WEP Authentication (either "Open System" or "Shared Key"). **NOTE:** By default, this router will allow both 802.11b and 802.11g connections.

**Channels:** Though not a concern in terms of network compatibility, the selection of wireless channels — which determines the radio frequencies used for communication between stations and access points — is nonetheless important to consider for network performance.

Access points use a fixed channel, which allows you to choose a channel that provides the least interference and best performance. In the U.S. and Canada, 11 channels are available. If using multiple access points, it is better if adjacent access points use different channels to reduce interference.



In Infrastructure mode, wireless stations normally scan all channels looking for an access point. If more than one access point can be used, the one with the strongest signal is used. (This can only happen within an ESS.)

## COMMON CONNECTION TYPES

<b>CABLE MODEMS</b>		
<b>Type</b>	<b>Details</b>	<b>ISP Data Required</b>
Dynamic IP address	Your IP address is automatically allocated when you connect to your ISP.	Usually, none. However, some ISPs may require you to use a particular hostname, domain name or MAC (physical) address.
Static (fixed) IP address	Your ISP allocates a permanent IP address to you.	IP address is allocated to you. Some ISPs may also require you to use a particular hostname, domain name or MAC address.
<b>DSL MODEMS</b>		
<b>Type</b>	<b>Details</b>	<b>ISP Data Required</b>
Dynamic IP address	Your IP address is automatically allocated when you connect to your ISP.	None.
Static (fixed) IP address	Your ISP allocates a permanent IP address to you.	IP address is allocated to you.
PPPoE	You connect to the ISP only when required. The IP address is usually allocated automatically.	Username and password.
PPTP	Used mainly in Europe. You connect to the ISP only when required. The IP address is usually automatically allocated, but may be static (fixed).	<ul style="list-style-type: none"> <li>• PPTP server IP address.</li> <li>• Username and password.</li> <li>• IP address allocated to you, if static (fixed).</li> </ul>
<b>OTHER MODEMS (E.G., BROADBAND WIRELESS)</b>		
<b>Type</b>	<b>Details</b>	<b>ISP Data Required</b>
Dynamic IP address	Your IP address is automatically allocated when you connect to your ISP.	None.
Static (fixed) IP address	Your ISP allocates a permanent IP address to you.	IP address is allocated to you.

# TROUBLESHOOTING

**Problem:** Can't connect to the Wireless G Broadband Travel Router to configure it.

**Solution:** Check that Wireless G Broadband Travel Router is properly installed/turned on, and that any LAN connections are okay. Ensure that your PC and the router are on the same network segment. (If you don't have a router, this must be the case.) If your PC is set to "Obtain an IP Address automatically" (DHCP client), restart it.

If your PC uses a fixed (static) IP address, ensure it's using an IP address within the range 192.168.1.1 – 192.168.1.253 and is thus compatible with the Wireless G Broadband Travel Router's default IP address of 192.168.1.254. Also, the network mask should be set to 255.255.255.0 to match the router. In Windows, you can check these settings by using Control Panel-Network to check the properties for the TCP/IP protocol.

**Problem:** When a URL or IP address is entered, a timeout error displays.

**Solution:** Check if other PCs work. If they do, ensure that your PC's IP settings are correct. If using a fixed (static) IP address, check the network mask, default gateway and DNS, as well as the IP address.

If the PCs are configured correctly but still not working, check that the Wireless G Broadband Travel Router is connected and turned on. Connect to it and check its settings. (If you can't connect to it, check the LAN and power connections.)

If the router is configured correctly, check that the Internet connection (DSL/cable modem, etc.) is working correctly.

**Problem:** Some applications don't run properly when using the router.

**Solution:** The Wireless G Broadband Travel Router processes the data passing through it, so it is not transparent. Use the Special Applications feature to allow the use of Internet applications which do not function correctly.

If this doesn't solve the problem, you can use the DMZ function.

**NOTE:** This should work with most applications, but it is a security risk since the firewall is disabled, and only one PC can use this feature.

**Problem:** The PC can't locate the Wireless G Broadband Travel Router.

**Solution:** Your PC is set to Infrastructure Mode. (Access points are always in Infrastructure mode.)

The SSID on your PC and the router are the same. Remember that the SSID is case-sensitive; for example "Workgroup" does not match "workgroup."

Both your PC and the Wireless G Broadband Travel Router must have the same setting for WEP. The default setting for the router is disabled, so your wireless station should also have WEP disabled.

If WEP is enabled on the router, your PC must also have WEP enabled, and the key must match.

If the router's Wireless screen has "Allow LAN access to selected Wireless Stations only" selected, then each of your wireless stations need to have been selected, or access will be blocked. To check if radio interference is causing a problem, see if connection is possible when close to the Wireless G Broadband Travel Router. Remember that the connection range can be as little as 100 feet in poor environments.

**Problem:** The wireless connection speed is very slow.

**Solution:** The wireless system will connect at the highest possible speed depending on the distance and the environment. To obtain the highest speed, consider the following options.

Try adjusting the location and orientation of the router. If interference is the problem, changing to another channel may show a marked improvement.

Other devices may be causing interference: Switch them off to see if the problem is resolved. Any "noisy" devices should be shielded or relocated.

Your environment may tend to block the transmission between the wireless stations. This will mean high access speed is only possible when close to the router.

# SPECIFICATIONS

## Standards

- IEEE 802.11b (11 Mbps Wireless LAN)
- IEEE 802.11g (54 Mbps Wireless LAN)
- IEEE 802.3 (10Base-T Ethernet)
- IEEE 802.3u (100Base-TX Fast Ethernet)
- IEEE 802.1X (Network Access Control)

## General

- WAN/LAN port: 1 RJ-45 10/100 Mbps data port
- LAN to WAN throughput: 8 Mbps
- Flash: 4 MB
- Memory: 16 MB SDRAM
- LEDs: Power, Ethernet, Wireless
- Input power: 100 – 240 V AC

## Certifications & approvals

- Safety: EN 60950
- EMC: FCC Part 15B Class B, CE EN 55022 Class B
- Wireless: FCC Part 15C Class B, CE EN 300 328, CE EN 301 489-1, CE EN 301 489-7

## Router

- Chipset: Atheros AR2317
- Supported WAN connection types:
  - Dynamic IP (DHCP for cable service)

- Static IP
- PPPoE (for DSL)
- Protocols: CSMA/CA, CSMA/CD, TCP/IP, UDP, ICMP, PPPoE, NTP, NAT, DHCP, DNS
- NAT:
  - Virtual server
  - DMZ (demilitarized zone)
- Supports UPNP (Universal Plug and Play)
- Supports DHCP (client/server)
- Supports PPPoE (DSL), DHCP (cable) and static IP
- Supports VPN PPTP pass-through

## Wireless

- Chipset: Atheros AR2317
- Wireless frequency range: 2.300 – 2.500 GHz
- Modulation technologies:
  - 802.11b: Direct Sequence Spread Spectrum (DSSS): DBPSK, DQPSK, CCK
  - 802.11g: Orthogonal Frequency Division Multiplexing (OFDM): BPSK, QPSK, 16QAM, 64QAM
- Channels: US/Canada, 11; Europe, 13; Japan: 14
- Data rates:
  - IEEE 802.11b (11 Mbps, 5.5 Mbps, 2 Mbps, 1 Mbps)
  - IEEE 802.11g (54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps)

## Environmental

- Dimensions (W x L x H): 164 x 108 x 30 mm; (6.5 x 4.3 x 1.2 in.)
- Weight: 1.25 kg (2.7 lbs.)
- Operating temperature: 0 – 50°C (32 – 122°F)
- Operating humidity: 10 – 90% RH, non-condensing
- Storage temperature: -20 – 70°C (0 – 158°F)







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