



300N Draft 802.11n Wireless Router
Model # AR670W
User's Manual

Ver. 1A

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1. Introduction

Congratulations on your purchase of the AR670W 300N Wireless Router. The 300N Wireless Router is recommended to be used with AirLink101® 150N or 300N wireless products to provide the best performance. The high bandwidth combined with extended wireless coverage delivers fast and reliable connections for all of your networking applications.

A full range of security features such as WEP, WPA-PSK, and WPA2-PSK provide the highest level of wireless network security. The built-in Web Configuration Utility allows you to set up the router with an easy-to-use user interface. Best of all, the 300N Wireless Router works with 802.11g and 802.11b network devices ensuring compatibility with your existing wireless products.

1.1 Package Contents

Before you begin the installation, please check the items of your package:

- 300N Wireless Router
- RJ-45 Cable
- Power Adapter
- Quick Installation Guide
- Manual CD

If any item contained is damaged or missing, please contact your local dealer immediately. Also, keep the box and packaging materials in case you need to ship the unit in the future.

1.2 Features

- Industry's highest wireless data rate with IEEE 802.11n draft specification 2.0
- 2 antennas for wider coverage and stronger signal strength to eliminate dead spots
- 64-bit/128-bit WEP encryption, Pre-shared Key (PSK), and Wi-Fi Protected Access (WPA2) and WPA support provide full protection for your wireless connection
- Stronger signal strength increases the reliability and speed of wireless connections
- Great for environments with higher wireless data traffic requirements
- Fully backward-compatible with 802.11b/g devices
- Works best with AirLink101® 300N and 150N Wireless Adapters, AWLH6070, AWLH6080, AWLC6070, AWLC6080, AWLL6070, and AWLL6080

2. Connecting the Router

Note: Prior to connecting the router, be sure to power off your computer, DSL/Cable modem, and the router. You should setup the router with a wired connection first before attempting to setup any wireless connections.

Step 1 Connect one end of a network cable to the **WAN** port of the router and connect the other end of the cable to the DSL/Cable modem.

Step 2 With another network cable, connect one end of the cable to your computer's network card and connect the other end to one of the **LAN (Ethernet)** ports of the router.

Step 3 Power on the DSL/Cable modem and wait for the lights on the modem to settle down.

Step 4 Power on the router by connecting one end of the supplied power adapter to the power jack of the router and connecting the other end to an electrical outlet.

Step 5 Power on your computer.

Step 6 Make sure the **WAN**, **WLAN**, and the **LAN** ports that the computer is connected to are lit. If not, try the above steps again.

AR670W Icon Illustrations:

Power	Status	WAN	Wireless	LAN	WPS
				1 ~ 4	

Power

On: Power on

Status

Blinking: Function properly.

WAN

On: Link established

Blinking: Data transmission

Wireless

On: Wireless is ready

Blinking: Data transmission

LAN

On: Link established

Blinking: Data transmission

WPS (WiFi Protected Setup)

Blinking Green: WPS setting in progression

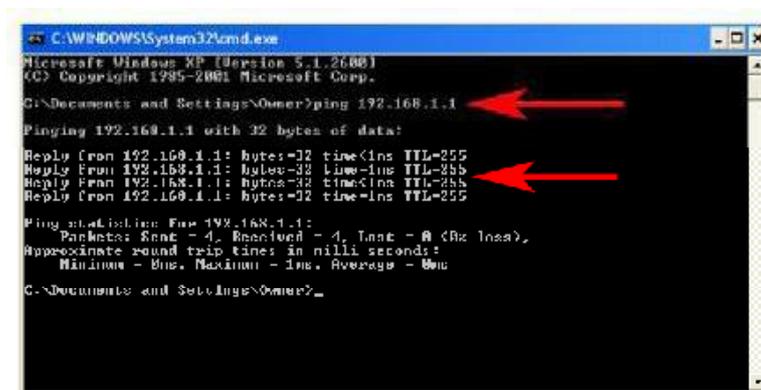
Static Green: WPS successfully set up

Blinking Red: Error found

3. Verifying Connection to the Router

Step 1 Go to **Start, Run**, type **command** (for Windows 95/98/ME) or **cmd** (for Windows 2000/XP) and click **OK**. You will see the command prompt as below.

Step 2 Type **ping 192.168.1.1** and press **Enter**. You should get four reply responses back.



```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1995-2001 Microsoft Corp.

C:\Documents and Settings\Owner>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<ins> TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Documents and Settings\Owner>
```

Step 3 If you get **Request timed out**, or **Destination host unreachable**, double-check the network cable connection between the computer and the router and try **Step 2** again. If you still encounter problem, go to the next step; otherwise proceed to **Section 3, Configuring the Router**.

Step 4 For Windows 2000/XP, type **ipconfig/release** and press **Enter**. (Windows 98se/ME users skip ahead to **Step 6**)

```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Owner>ipconfig/release

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .                : 0.0.0.0
    Subnet Mask . . . . .              : 0.0.0.0
    Default Gateway . . . . .          : 

C:\Documents and Settings\Owner>
```

Step 5 Type **ipconfig/renew** and press **Enter**. You should get an IP address of **192.168.1.x** (where **x** is a number between 2 - 254). Proceed to **Section 3, Configuring the Router**. If you don't get an IP address, reset the router by holding in the reset button at the back of the router for 10 seconds while it is ON and try **ipconfig/renew** again.

```
C:\WINDOWS\System32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Owner>ipconfig/renew

Windows IP Configuration

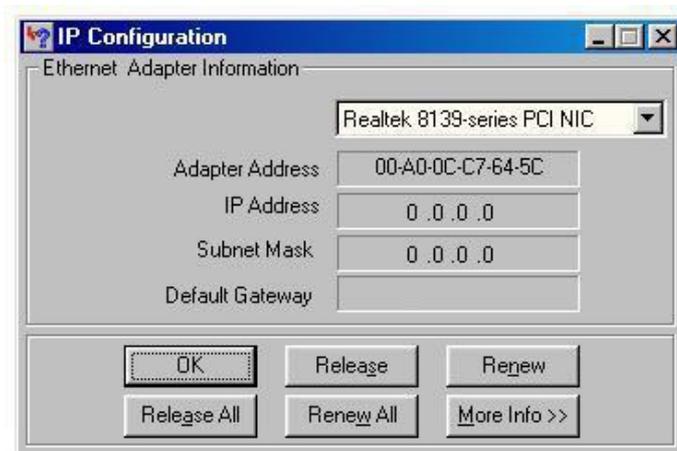
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : 
    IP Address. . . . .                : 192.168.1.5
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 192.168.1.1

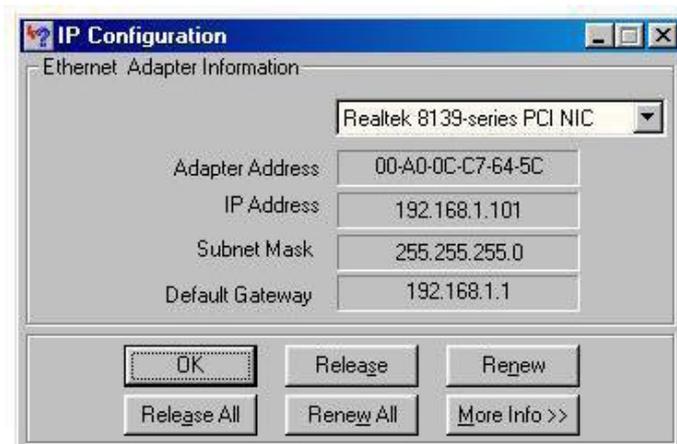
C:\Documents and Settings\Owner>
```

Step 6 For Windows 95/98/ME go to **Start, Run**, type **winipcfg** and click **OK**. (Step is not necessary for Windows 2000/XP)

Step 7 Select your network card from the drop-down menu and click **Release**.

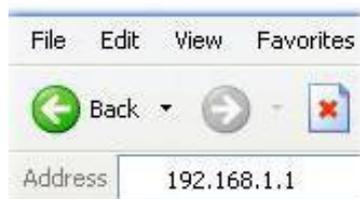


Step 8 After your IP address is released, click **Renew**. You should get an IP address of **192.168.1.x** (where **x** is a number between 2 - 254). If you don't get an IP address, reset the router by holding in the reset button at the back of the router for 10 seconds while it is ON and try **Renew** again.



4. Configuring the Router

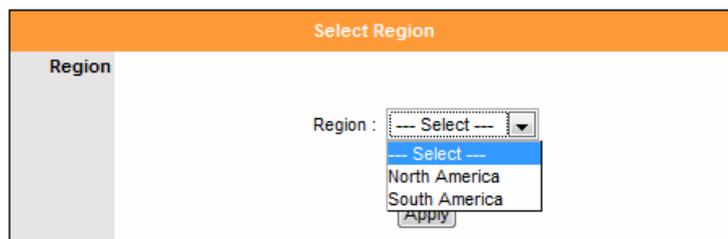
Step 1 Open the web browser and type **192.168.1.1** in the URL Address field and press **Enter**.



Step 2 Enter **admin** for both the username and password fields and click **Login**.

A screenshot of a web page titled "Draft 802.11N Wireless Router". On the left side, there is a grey vertical bar with the word "Login" in white. To the right of this bar, there are two text input fields. The first is labeled "User Name:" and contains the text "admin". The second is labeled "Password:" and contains six asterisks "*****". Below these fields is a button labeled "Login".

Step 3 Select the proper region, **North America** or **South America**, and click **Apply**.

A screenshot of a web page titled "Select Region". On the left side, there is a grey vertical bar with the word "Region" in white. To the right of this bar, there is a label "Region:" followed by a dropdown menu. The dropdown menu is open, showing three options: "-- Select --" (highlighted in blue), "North America", and "South America". Below the dropdown menu is a button labeled "Apply".

"Note: To comply with US FCC regulation, region selection is not available on all US models"

Cable Modem

For most cable modem users, you should be able to connect to the Internet without any configuration. If your ISP has provided you with a host name, enter it in the optional **Host Name** field.

The screenshot shows the 'Internet Setup' page for the AIRLINK 101 router. The 'Internet Connection Type' is set to 'Dynamic IP (DHCP)'. The 'Host Name' field contains 'AR670W'. The 'MAC Address' field is empty, and the 'Clone MAC Address' button is highlighted with a red box. Other fields include 'Primary DNS Address' (4.2.2.1), 'Secondary DNS Address' (empty), and 'MTU' (1500). The 'Apply' and 'Cancel' buttons are visible at the bottom.

Click on the **Clone MAC Address** button. Click **Apply** and **OK** to save the settings.

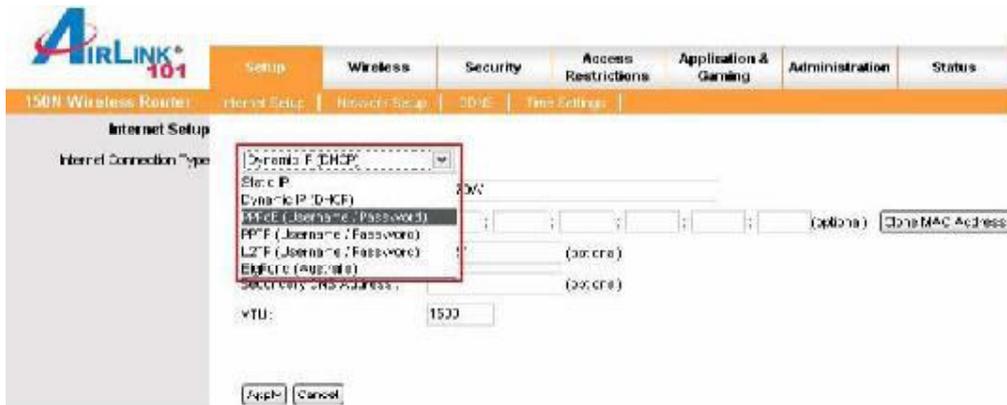
The screenshot shows the 'Internet Setup' page for the AIRLINK 101 router. The 'Clone MAC Address' button is highlighted with a red box. The 'Host Name' field contains 'AR670W'. The 'MAC Address' field is empty. Other fields include 'Primary DNS Address' (4.2.2.1), 'Secondary DNS Address' (empty), and 'MTU' (1500). The 'Apply' and 'Cancel' buttons are visible at the bottom.

If you have trouble connecting to the Internet, please refer to the **Troubleshooting** section at the end of this guide.

DSL

For DSL users, follow the steps below to configure the router.

Step 1 Select **PPPoE** from the drop-down menu.



Step 2 Enter your username and password provided by your ISP.



Note: Depending on the ISP, you may need to include the domain name with your username.

Example: username@sbcglobal.net

Step 3 Click **Apply** and **OK** to save the settings.

If you have trouble connecting to the Internet, please refer to the **Troubleshooting** section at the end of this manual.

5. Connecting to the Router Wirelessly

Below are the default wireless settings of the router. You must configure your wireless network card to the same settings in order to establish a wireless connection to the router. Please refer to your wireless network card's manual on how to configure these settings.

SSID: **default**
Operating Mode: **Infrastructure**
Authentication: **Open System**
Channel #: **6**
WEP: **disabled**

If you want to change the router's wireless settings, log in to the router and select the **Wireless** tab. Make sure that you click **Apply** and **OK** to save the settings.



For more information about wireless settings, refer to section **6.2**.

6. Web Configuration Utility

This router has a built-in web configuration utility that you can use to configure the router's settings. Simply log in to the router using your computer's web browser.

6.1 Setup

6.1.1 Internet Setup



The screenshot displays the web configuration utility for an AIRLINK 101 150M Wireless Router. The interface features a top navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration, and Status. Below this is a sub-menu for Internet Setup, with options for Basic Setup, Network Setup, DDNS, and Time Setup. The main content area is titled "Internet Setup" and includes the following fields:

- Internet Connection Type: Dynamic IP (DHCP) [selected]
- Host Name: AP370X
- MAC Address: [] : [] : [] : [] : [] (optional) [Clone MAC Address]
- Primary DNS Address: 8.8.8.8 (optional)
- Secondary DNS Address: [] (optional)
- VLAN: 1500

At the bottom of the form are "Apply" and "Cancel" buttons.

This is the default screen when you log in to the router's web configuration utility. You can setup your Internet connection here.

6.1.2 Network Setup

Network Setup allows manually configuring TCP/IP and DHCP settings.

The screenshot shows the configuration interface for an AIRLINK 101 150N Wireless Router. The 'Network Setup' section is active, with sub-sections for 'Route IP' and 'DHCP Server Settings'. The 'DHCP Server' is set to 'Enabled'. The 'Static DHCP Settings' section is highlighted with a red box and contains one entry with the following details:

Static DHCP Settings	
DHCP Entries:	1 (---) [Delete This Entry] [Static DHCP List]
Enable:	<input checked="" type="checkbox"/> Enabled
Name:	[Computer Name] [Computer Name]
IP Address:	192 . 168 . 2 . []
MAC Address:	[] : [] : [] : [] : [] : []
	[Copy Your PC's MAC Address]

Assigning Static DHCP Settings

Step 1 Select **Enabled** in the under the Static DHCP Settings section

Step 2 Select a computer name from the drop-down menu or enter a name associated with this Static IP Address

Step 3 Enter the Static IP Address in the **IP Address** field

Step 4 Enter the MAC address of the corresponding computer in the **MAC Address** field

Remember to click **Apply** and **OK** to save your changes.

6.1.3 DDNS

Dynamic DNS (DDNS) allows any user who wishes to access your server to reach it by a registered DNS name instead of an IP address. Before you enable **DDNS**, you need to register an account with one of the DDNS providers listed in the drop-down menu.

DNS Service	Enable DDNS	Server Address	User Name	Username	Password
	Enabled	DyDNS.org			

To Enable DDNS, select the DDNS provider you have registered with and enter the required fields. Click **Apply** and **OK** to save the settings.

6.1.4 Time Settings

Time Settings allow you to configure the router clock.

The screenshot shows the 'Time Settings' page for an AIRLINK 101 router. The page has a navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration, and Status. The 'Time Settings' tab is active. The page displays the current device time as 'Dec 19, 2007 13:29:54'. Under 'Synchronize the device's clock', three radio buttons are present: 'Automatic (Simple Network Time Protocol)' (selected), 'Your computer's clock', and 'Manual (Enter your own settings)'. The 'Time Zone' is set to '(GMT-08:00) Pacific Time (US & Canada); Tijuana'. A 'Daylight Saving' checkbox is checked. Under 'Get the time automatically via Network Time Protocol (NTP)', the 'NTP Server' is 'clock.isc.org' and the 'Interval' is '24 hrs'. At the bottom, there are 'Apply' and 'OK' buttons.

Automatic connects to the internet and synchronizes the router's clock with time provided by accurate timeservers on the internet. Using this feature requires that your router have a working internet connection.

Your computer's clock allows you to synchronize the router's clock with your computer's system clock

Manual provides you with the option of setting your own date and time.

Click **Apply** and **OK** to save the settings.

6.2. Wireless

6.2.1 Basic Wireless Settings

You can configure the router's basic wireless settings on this screen.



Mode: Choose from Mixed (n/g/b), Mixed (g/b), Wireless-11n Only, Wireless-11g Only, Wireless-11b Only, or Disabled to stop wireless function.

Network Name (SSID): You can change the router's SSID in this field. The SSID is the name that your router sends out wirelessly. Once you have changed the SSID, your network clients need to re-connect themselves using the new SSID.

Channel: Select the desired channel.

Changing channels is useful when you are experiencing slow, unstable wireless connections, or if you are unable to establish a wireless connection at all.

Your router has 11 channels available (1-11). Start with channel 1 and work your way up. Each time you change channels on the router, restart the wireless computers and then try to connect. If the computers are able to connect, test the channel out for a while and make sure that they hold the connection. Keep changing channels until you find one that gives you a stable connection.

All the network clients need to be using the same channel.

SSID Broadcast: Choose to enable or disable the broadcasting of your SSID.

6.2.2 Wireless Security

You can configure wireless security such as WEP or WPA encryption on this screen.

The screenshot shows the 'Wireless Security' configuration page for an AIRLINK 101 router. The 'Security Mode' is currently set to 'Disabled'. Under the 'WPA Protected Setup' section, the 'Enable' checkbox is checked, and the 'Current PIN' is '90512333'. The 'WPA Protected Status' is 'Enabled / Configured'. There are buttons for 'Generate New PIN', 'Reset PIN to Default', 'Refresh', 'Inquire', and 'Add/Modify/Delete/Clone'. At the bottom, there are 'Apply' and 'Cancel' buttons.

Note: It is recommended that you use WPA-PSK or WPA2-PSK encryption over WEP if your wireless clients support it. All of the wireless clients must use the same security settings in order to connect to the router.

WEP

To enable WEP, select **WEP** from the **Security Mode**.

The screenshot shows the 'Wireless Security' configuration page for an AIRLINK 101 router with WEP selected. The 'Security Mode' is set to 'WEP'. The 'Authentication Type' is 'Shared Key', 'Encrypt Length' is '64bits', and 'Key Type' is 'HEX'. There are input fields for 'WEP Key 1' through 'WEP Key 4' and a 'Default Key' dropdown.

Authentication Type: Select "Shared Key"

Encryption: Choose **64 bits**

Key Type: Choose **HEX**

WEP Key 1: Enter a 10 digit number. This will be your wireless password. An easy one to remember is a phone number with area code (ex: 8887463238). You do not need to enter anything in WEP Key 2, 3 and 4.

Default Key: Select key 1

Click **Apply** and **OK** to save the settings.

WPA

To enable WPA, select **WPA-PSK** or **WPA2-PSK** from the **Security Mode**.

The screenshot shows the configuration interface for the AIRLINK 101 150N Wireless Router. The 'Security' tab is selected, and the 'Wireless Security' sub-tab is active. The 'Security Mode' is set to 'WPA-PSK', 'Encryption Methods' is 'TKIP', and 'Passphrase Format' is 'ASCII'. The 'Passphrase' field is empty. 'Key Renewal' is set to '1500' seconds. Below this, the 'WPA Protected Setup' section is visible, with 'Enable' checked and 'Current PIN' set to '40510283'. There are buttons for 'Generate New PIN' and 'Reset PIN to Default'. At the bottom, there are 'Apply' and 'Cancel' buttons.

Encryption Methods: Select either **TKIP** or **AES** as the encryption method. AES is only supported by some newer cards, so make sure that your card supports AES before selecting that option. TKIP will work with most cards. If you are unsure, choose TKIP.

Passphrase: Enter a passphrase between 8 to 63 characters long. For best security, use a passphrase that is at least 30 characters long.

Key Renewal: Enter the desired key renewal time in seconds. It is best to leave this at the default setting of 1500.

Click **Apply** and **OK** to save the settings.

WPA with RADIUS

If you are using a RADIUS server in your network for authentication, you may choose **WPA** or **WPA2** from the **Security Mode**.

The screenshot shows the configuration interface for the AIRLINK 101 router. The 'Wireless Security' tab is selected. The 'Security Mode' is set to 'WPA' and 'Encryption Methods' is set to 'TKIP'. The 'RADIUS Server' field is empty, and the 'RADIUS Port' is set to '1812'. The 'Shared Key' field is empty. The 'Key Renewal' is set to '1500' seconds. Below this, the 'WiFi Protected Setup' section has the 'Enable' checkbox checked, and the 'Current PIN' is '9061187'. There are buttons for 'Generate New PIN', 'Reset PIN to Default', and 'Read in Unconfigured'. At the bottom, there are 'Apply' and 'Cancel' buttons.

Encryption Methods: Select either **TKIP** or **AES** as the encryption method.

RADIUS Server: Enter the IP Address of your RADIUS server.

RADIUS Port: Enter the port number of your RADIUS server.

Shared Key: Enter the shared key.

Key Renewal: Enter the desired key renewal time in seconds.

Click **Apply** and **OK** to save the settings.

WiFi Protected Setup

Wi-Fi Protected Setup™ (**WPS**) is a new and easy way to configure the encryption for your wireless network clients. In order to use it with your router, firstly, you must configure the wireless encryption on the router. You can find instructions for configuring it in the User Manual located on the CD that came with your router. Secondly, you will need to have wireless adapters that support this feature. If your wireless adapters do not support WPS, you will need to set up the wireless security manually and you can skip this section.

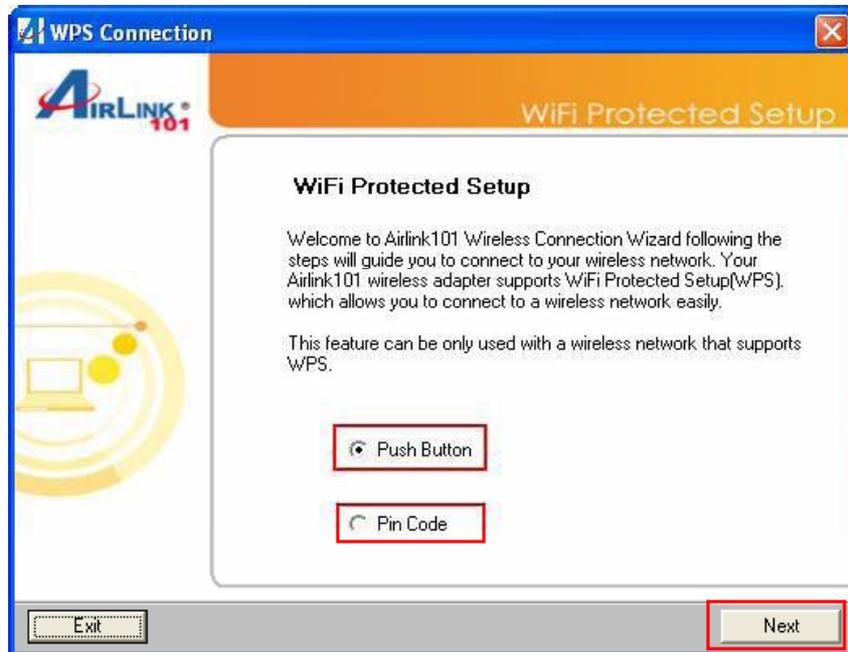
In the instructions below, we are going to use the utility, Wireless Monitor that comes with the Airlink101® 300N or 150N Wireless Adapters, AWLC6070, AWLC6080, AWLH6070, AWLH6080, AWLL6070, and AWLL6080 as the example.

First, go to the computer with the Airlink101 150N or 300N wireless adapter and open the Wireless Monitor. Under AP List, click on the wireless you try to connect to and click on the **WPS Connect** button.



Note: If you do not see the **WPS Connect** button, you can go to www.airlink101.com to download the latest utility and driver.

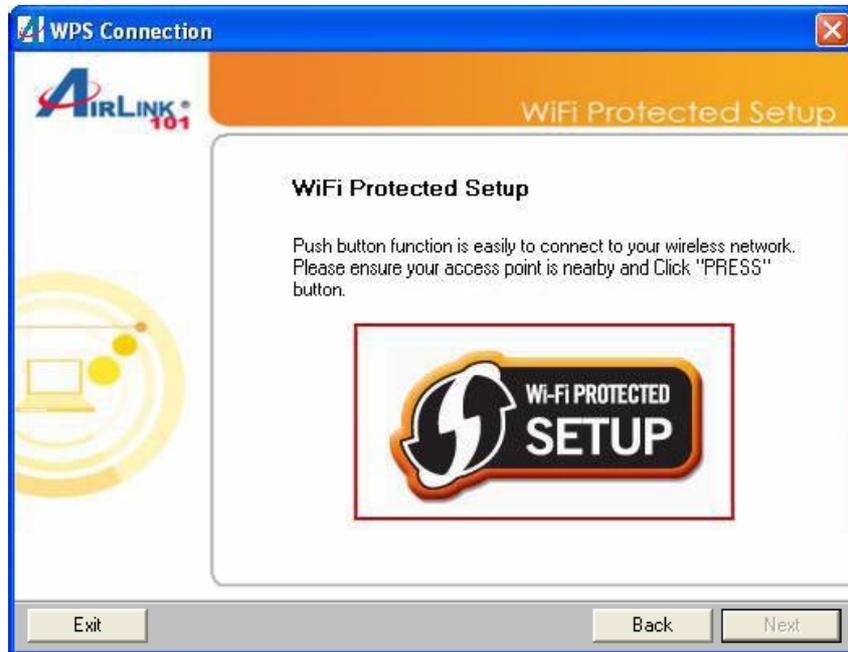
Choose your configuration method, either **Push Button** or **Pin Code** and click **Next**.



Write down the **PIN** if you are using Pin Code method and click **next**.



If you choose Push Button method, make sure that you click on the **Wi-Fi Protected Setup** button.



Go to your routers configuration screen and click on **Wireless**. Then click **Wireless security**. Make sure that the Wi-Fi Protected Setup **Enable** box is checked. Then click the **Add Wireless Device Wizard** button.



If you are using Pin Code method, enter the Pin Code in the **Pin Number** box and click **connect**. If you are using Push Button method, click on **Virtual Push Button** **OR** the physical push button on the router.

Draft: 802.11n Wireless Router

WPA Protected Setup

There are two ways to add a wireless device to your wireless network: PIN or Push Button.

If the wireless device you want to add only supports a PIN number, enter its PIN number below and press the "Connect" button. It will help you to add this device to your wireless network.

PIN number:

If the wireless device you wish to use has a button available, you may use the "Virtual Push Button" you prefer.

Push Button:

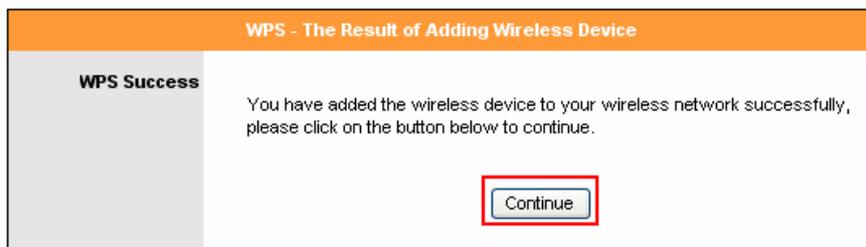


After a few moments both the router configuration screen and the adapter configuration screen should show a message telling you that you are connected.

Click **Finish** on the adapter screen.

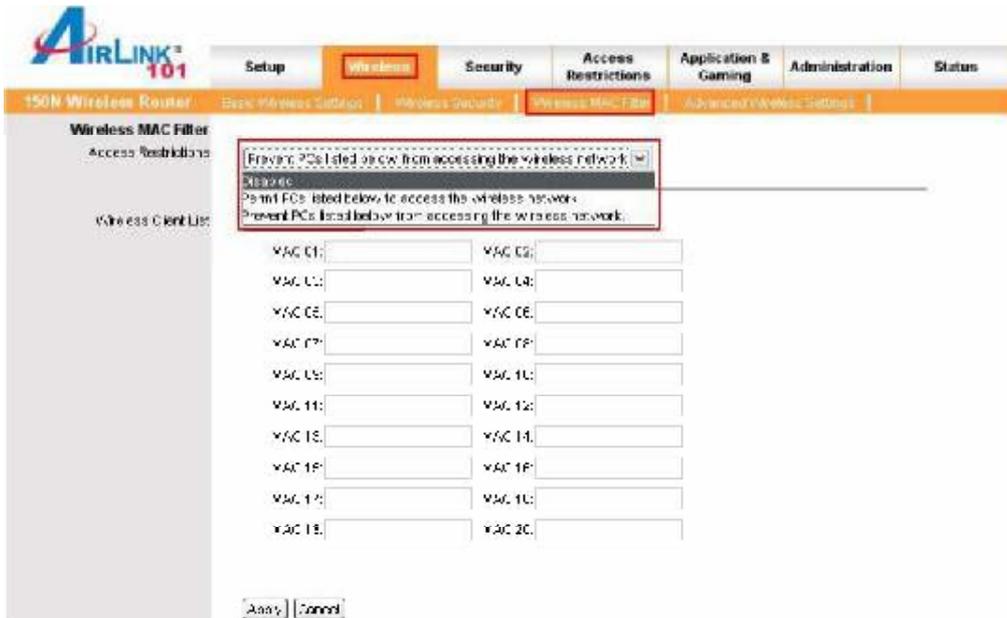


Click **Continue** on the router configuration screen.



6.2.3 Wireless MAC Filter

You can restrict certain wireless clients from accessing the router by specifying their MAC address and enabling access restriction. This should not be used as a security feature in place of encryption.



From the pull down menu, select whether the specified wireless clients will be prevented or permitted to access the wireless network. Enter their MAC address in the fields below and click **Apply** and **OK** to save the settings.

6.2.4 Advanced Wireless Settings

You can configure various advanced wireless settings on this screen. These settings are for advanced users ONLY. Most users will want to leave these settings alone.

The screenshot shows the 'Advanced Wireless Settings' page for the AirLink 101. The page has a navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration, and Status. Below the navigation bar, there are sub-tabs for Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The Advanced Wireless Settings section contains several configuration options:

Transmission Rate	Auto
Transmission Power	Full
CTS Protection Mode	Disable
Beacon Interval	100 (Default: 100 Milliseconds, Range: 0 - 2346)
DTIM Interval	1 (Default: 1, Range: 1 - 255)
Fragmentation Threshold	2346 (Default: 2346, Range: 256 - 2346, even)
RTS Threshold	2346 (Default: 2346, Range: 0 - 2346)
Poll function	Disable

At the bottom of the page, there are 'Apply' and 'Cancel' buttons.

Transmission Rate: Select from Auto, 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48 and 54 Mbps.

Transmission Power: Select from full, half, quarter, eighth, min.

CTS Protection Mode: Select from disable, enable, auto.

Beacon Interval: Enter a value from the valid range of 0 to 2346. The default value is 100 Milliseconds

DTIM Interval: Enter a value from the valid range of 0 to 255. The default value is 1.

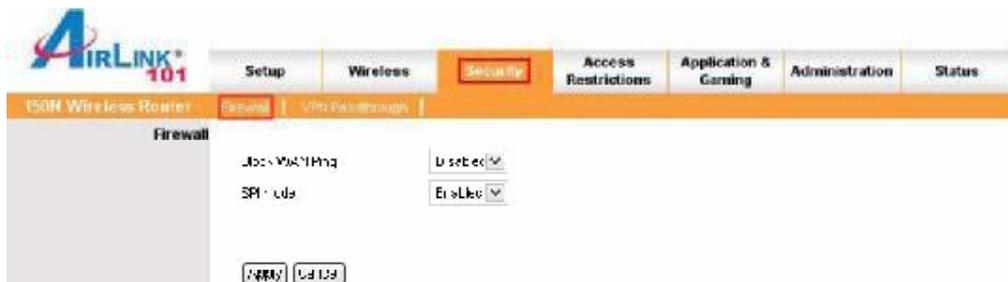
Fragmentation Threshold: Enter an even number from 256 to 2346. The default value is 2346.

RTS Threshold: Enter a value from the valid range of 0 to 2346. The default value is 2346.

Click **Apply** and **OK** to save the settings.

6.3 Security

6.3.1 Firewall



Block WAN Ping: This setting blocks remote users from being able to ping your internet IP address.

SPI Mode: Select to enable or disable Stateful Packet Inspection. This setting provides an additional level of security.

However, it may slow down some applications such as VOIP Phones and other services that require constant streams of data. You can disable this feature to eliminate lag problems with VOIP Phones.

It can also prevent VPN clients from working properly. If you are having trouble connecting to your VPN, you may want to disable this feature.

Click **Apply** and **OK** to save the settings.

6.3.2 VPN Passthrough

You can select to enable or disable the passthrough of **IPSec**, **L2TP**, and/or **PPTP** for connecting to a VPN.



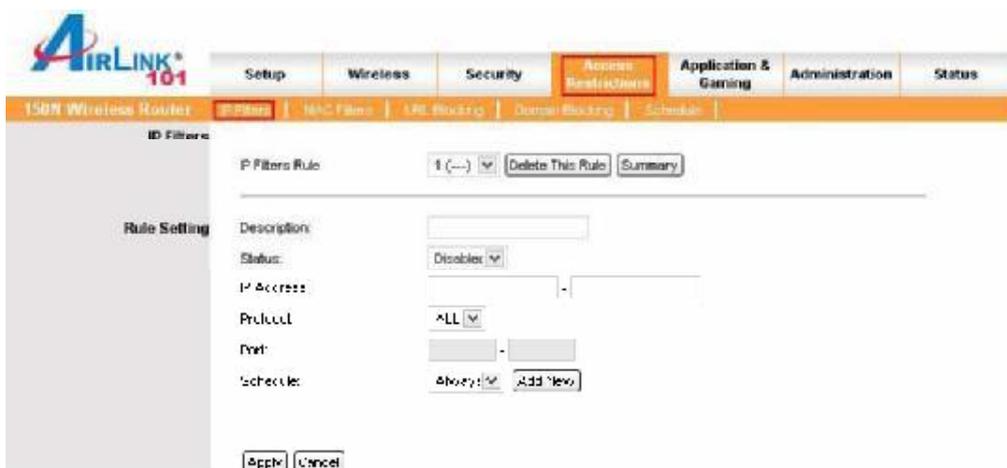
Click **Apply** and **OK** to save the settings.

6.4 Access Restrictions

You can setup policies that deny or allow specific clients to access the Internet based on IP address, MAC address, URL, Domain or a specified time.

6.4.1 IP Filters

Set up policies based on IP addresses.



Description: Enter a name for the policy.

Status: Choose to enable or disable the selected policy.

IP Addresses: Specify the range of IP addresses you wish to block from your router.

Protocol: Select protocol from All, TCP, UDP or ICMP

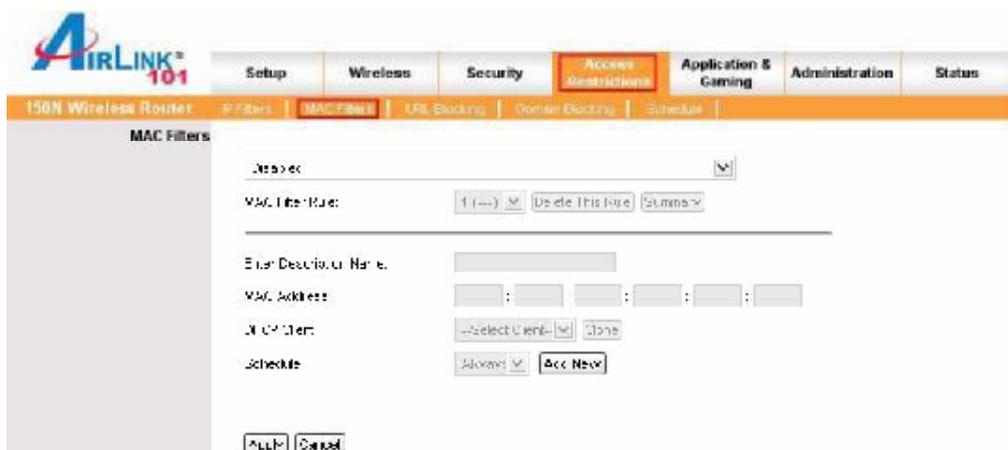
Port: Enter the range of ports you wish to block from the specified IP addresses

Schedule: Enter a schedule time

To view all of the policies, click the **Summary** button.

6.4.2 MAC Filters

Block or allow access to the network for devices with specific MAC addresses.



Enter Description Name: Enter a name for the policy.

MAC Address: Enter a MAC address

DHCP Client: Select DHCP client on your network.

To view all the policies, click the **Summary** button.

6.4.3 URL Blocking

You can block the specified clients from accessing certain websites by URL.

Enter the URL or the Keyword you wish to block.

Click **Apply** and **OK** to save the settings.



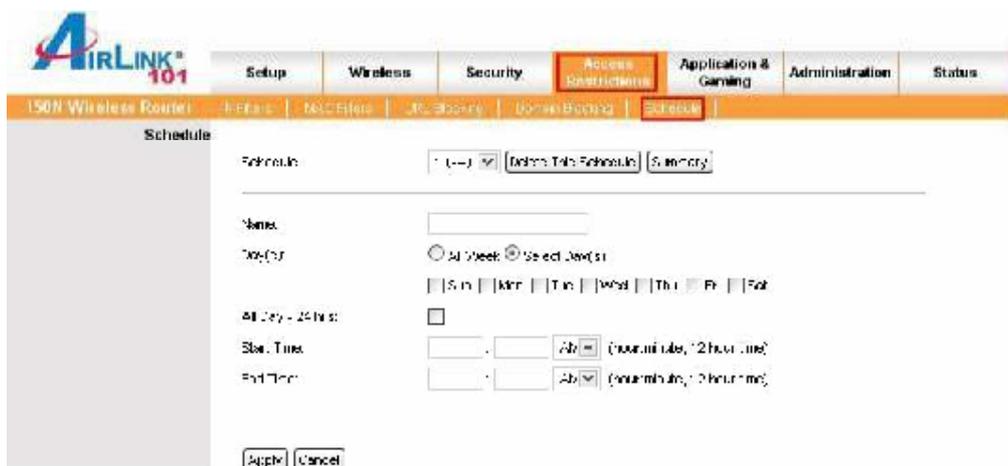
6.4.4 Domain Blocking

Block users from accessing specific domains on the internet.



6.4.5 Schedule

Select a time range in which the specified clients to access the Internet by **Day** and **Time**.



6.5 Applications & Gaming

6.5.1 Port Range Forwarding

If you want to host an FTP or online gaming server, you must open up ports on the router. This page allows you to setup port forwarding for the specified applications.

Before using forwarding, you should assign static IP addresses to the designated PCs.

The screenshot shows the 'Port Range Forwarding' configuration page for an AIRLINK 101 150N Wireless Router. The page has a navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming (selected), Administration, and Status. Below the navigation bar, there are sub-tabs for Port Range Forwarding, Port Range Triggering, DMZ, and QoS. The main content area is titled 'Port Range Forwarding' and includes a section for 'Application Name' with five dropdown menus, all set to 'None'. Below this is a table with the following columns: Start - End Port, Protocol, To IP Address, Enabled, and Schedule. The table contains 15 rows, each with a Start - End Port field, a Protocol dropdown (all set to 'Both'), a To IP Address field (all set to '192.168.2.'), an Enabled checkbox (all unchecked), and a Schedule dropdown (all set to 'Always'). At the bottom of the page, there are 'Apply' and 'Cancel' buttons.

If you are only forwarding one port, you can put it in both the **Start** and **End** Port boxes.

Protocol: If you don't know which one to choose, select both.

To IP Address: This should be the IP address of the computer you want to forward the ports to.

Make sure that you check the **Enabled** box to activate the setting, then click **Apply** and **OK** to save the settings.

6.5.2 Port Range Triggering

Port triggering allows the router to keep track of outgoing data for specific port numbers. The router remembers which computer sends out what data, so that when the requested data returns through the router, the data is sent back to the proper computer by way of IP address and port mapping rules.



The screenshot shows the configuration interface for the AIRLINK 101 150N Wireless Router. The navigation menu includes Setup, Wireless, Security, Access Restrictions, Application & Gaming (highlighted), Administration, and Status. The sub-menu includes Port Range Forwarding, Port Range Triggering (highlighted), DMZ, and QoS. The main content area is titled "Port Range Triggering" and contains a table with the following columns: Application Name, Triggered Port Range, Trigger Protocol, Public Port, Public Protocol, and Enabled. There are 10 rows in the table, each with empty input fields for the first four columns and a dropdown menu for the fifth column. Below the table are "Apply" and "Cancel" buttons.

Application Name	Triggered Port Range	Trigger Protocol	Public Port	Public Protocol	Enabled
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>
		Both		Both	<input type="checkbox"/>

Click **Apply** and **OK** to save the settings.

6.5.3 DMZ

DMZ (De-Militarized Zone) Host is a host without the protection of the router's firewall. It allows a computer to be exposed to unrestricted two-way communication with the Internet. You should only use this feature when the Port Forwarding function fails to make an application work.



DMZ: Select to enable or disable DMZ.

Host IP Address: Specify the IP address of the computer you wish to use with DMZ.

Note: Any DMZ host should have a new static IP address assigned to it because its IP address may change when using the DHCP function.

Click **Apply** and **OK** to save the settings.

6.5.4 QoS

The QoS (Quality of Service) feature allows you to specify which applications or computers have bandwidth priority over others, as opposed to letting all computers and applications share the bandwidth equally.

The screenshot shows the configuration interface for the Airlink 101 150N Wireless Router. The 'Applications & Gaming' tab is active. The 'QoS (Quality of Service)' section is expanded, showing 'CoS Management' set to 'Manual'. The 'Internet (WAN) Bandwidth' is configured with '2 Mbps' for Downstream and '512 Kbps' for Upstream. Under 'Category', 'Applications' is selected. A table for adding rules is visible with columns for Name, IP, Port Range, and Priority. The Priority is set to 'High'. There is an 'Add' button below the table. At the bottom, there are 'Apply' and 'Cancel' buttons.

There are pre-configured options for some popular applications that you are able to choose from. You can also set manual QoS rules:

First choose **Manual**, then click **Apply**.

In **Name**, enter a label for your new rule.

Enter the IP address of the computer you are configuring the rule for in the **IP** box.

For **Port Range**, enter a start and end port for your rule.

Select the **Priority** you want to set for the rule. The higher the priority you set for the rule, the more bandwidth that application will be able to use. When you are finished, click **Add**

6.6 Administration

6.6.1 Management

The Management screen allows you to change the router's login password as well as other administrative settings.

The screenshot shows the AIRLINK 101 Management interface. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration (selected), and Status. Below this, a sub-menu bar contains Management (selected), Log, Diagnostics, Factory Defaults, Firmware Upgrade, and Restart. The main content area is titled 'Management' and is divided into several sections:

- Router Password:** Fields for 'Router Password' and 'Re-enter to Confirm', both containing '1234'.
- Remote Router Access:** A 'Remote Management' dropdown set to 'Disabled', an 'IP Address' field with a tooltip that reads '(***) must be an IP Address', and a 'Port' dropdown set to '8080'.
- UPnP:** A dropdown menu set to 'Enabled'.
- Webcast Streams:** Two dropdown menus, 'Enable Multicast Streams' and 'Wireless enhance mode', both set to 'Disabled'.
- Backup and Restore:** A 'Backup' button, a 'File Path' input field, a 'Browse...' button, and a 'Restore' button.

At the bottom of the form are 'Apply' and 'Cancel' buttons.

Router Password: Set the router's login password.

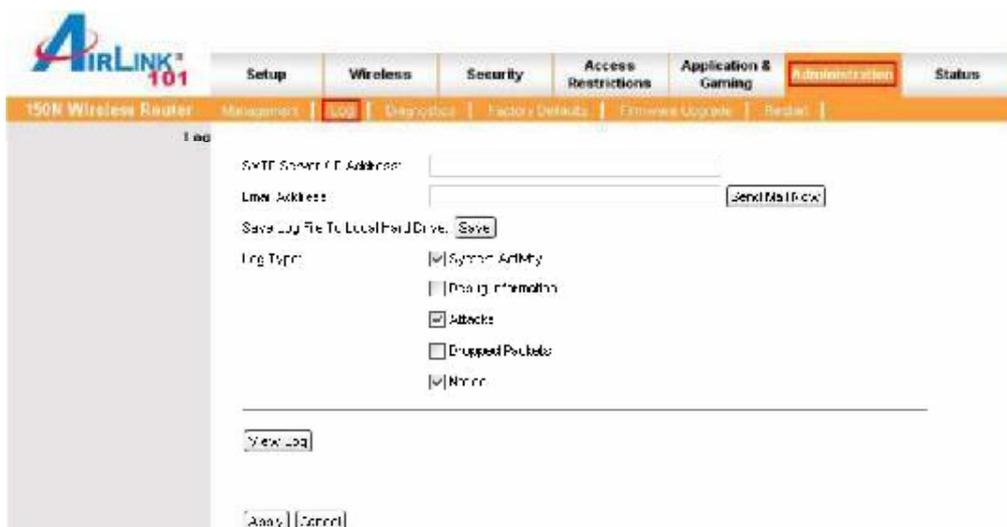
Remote Router Access: Select to enable or disable remote management/upgrade of the router. You can allow remote management from any IP Address or a specified IP Address as well as the port number.

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.

Backup and Restore: You can choose to backup the router's settings so that you don't have to manually configure the settings again if you reset the router to factory default.

6.6.2 Log

You can choose to enable or disable logging of your network activity on this screen.



The screenshot shows the configuration interface for an AIRLINK 101 150N Wireless Router. The 'Log' tab is selected in the top navigation bar. The page contains the following fields and options:

- SMTP Server IP Address:** A text input field.
- Email Address:** A text input field with a **Send Mail Now** button to its right.
- Save Log File To Local Hard Drive:** A checkbox with a **Save** button to its right.
- Log Type:** A list of checkboxes:
 - System Activity
 - Debug Information
 - Attacks
 - Dropped Packets
 - Notice
- View Log:** A button located below the Log Type section.
- Apply** and **OK** buttons at the bottom of the form.

SMTP Server / IP Address: Enter your internet service provider's outgoing email server address.

Email Address: Enter an email address where you would like the log to be sent.

Send Mail Now: Send the log file to the specified the email address.

Save Log File to Local Hard Drive: Save the current log information to a file on your computer.

Log Type: Specify the information you want the system to log. Options include System Activity, Debug Information, Attacks, Dropped Packets, and Notice.

View Log: Allows you to see logged information related to System Activity, Debug Information, Attacks, Dropped Packets, and Notice.

Click **Apply** and **OK** to save the settings.

6.6.3 Diagnostics

The Diagnostics screen allows you to perform **Ping** tests.



Ping Test: Enter the IP or URL Address you wish to ping and click **Ping**.

6.6.4 Factory Defaults

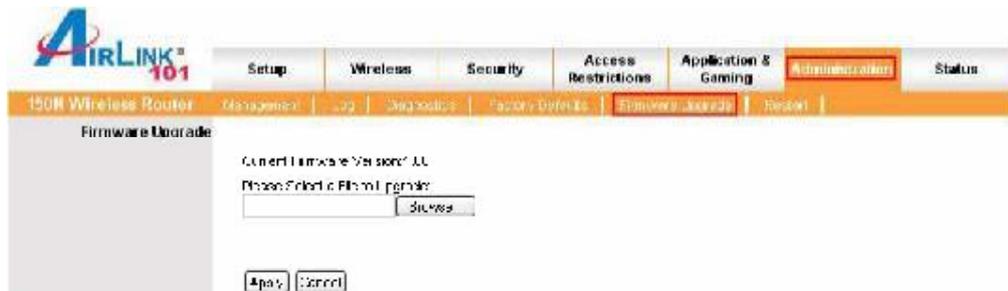
The Factory Defaults screen allows you to set all the router's settings to the factory default. You can use this anytime you think that you've changed settings that have stopped the router from working. Resetting to defaults will undo all of your changes.



Click on the **Factory Defaults** button to restore all the settings to default.

6.6.5 Firmware Upgrade

The Firmware Upgrade screen allows you to upgrade the router's firmware.



You may download the new firmware from the Airlink101 website www.airlink101.com

Click on **Browse**, then browse to the new firmware and click **Apply**.

Note: Do not power off the router during the firmware upgrading, otherwise your router may be damaged permanently.

6.6.6 Restart

The Restart page allows you to restart the router without restoring the settings to factory default.



Click on the **Restart** button to restart the router.

6.7 Status

6.7.1 Router

The Router screen displays a summary of all router status information, including the firmware version.

The screenshot displays the AIRLINK 101 router's status page. At the top, there is a navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration, and Status. The Status tab is selected. Below the navigation bar, the page is titled "150N Wireless Router" and "Router". The main content area is divided into two sections: "Router Information" and "Internet Connection".

Router Information

Firmware Version	1.11
Current Time	14:06:00 12/19/2011
Internet MAC Address	00:14:68:12:01:51
Hardware	4P570K

Internet Connection

Connection Type	Dynamic IP
Connection Status	connected
IP Address	192.168.1.10
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.1
DNS1	8.8.8.8
DNS2	8.8.4.4

Buttons:

Click on the **Refresh** button to reload the screen.

6.7.2 Local Network

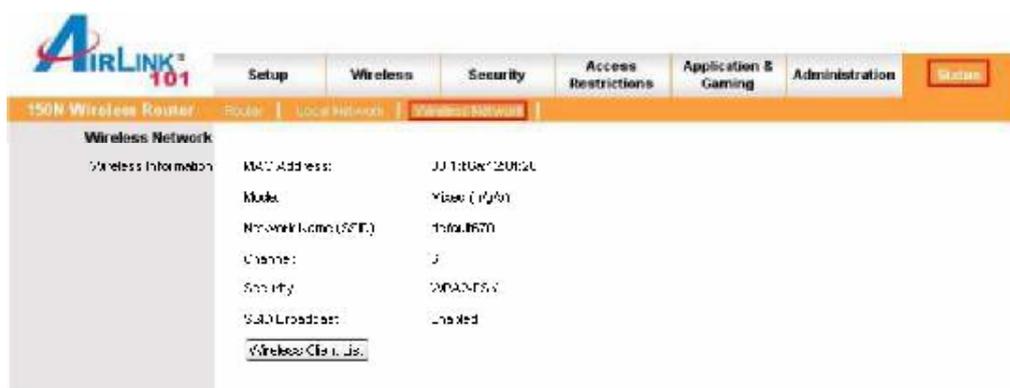
The Local Network screen displays status information regarding your Local Area Network.



Click on the **DHCP Client Table** to display a list of DHCP clients in your network.

6.7.3 Wireless Network

The Wireless Network screen displays status information regarding your wireless network.



7. Troubleshooting

If you have trouble connecting to the Internet, try the following steps.

Step 1 Power off the Cable/DSL modem, router, and computer and wait for **5 minutes**.

Step 2 Turn on the Cable/DSL modem and wait for the lights on the modem to settle down.

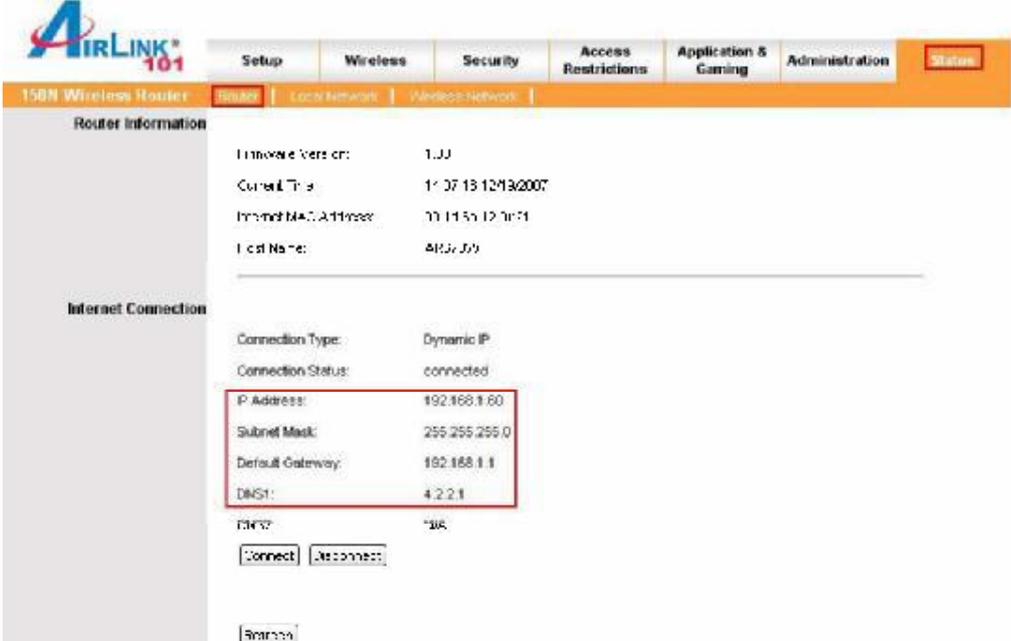
Step 3 Turn on the router and wait for the lights on the router to settle down.

Step 4 Turn on the computer.

Step 5 Reconfigure the router as described in **Section 3**.

Step 6 Log in to the router and select the **Status** tab.

Step 7 Verify that the **IP Address**, **Default Gateway**, and at least one of the **DNS** fields have valid numbers assigned to them (instead of all 0's).



The screenshot shows the web interface of an AIRLINK 101 wireless router. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Application & Gaming, Administration, and Status. The Status tab is selected, and the 'Internet Connection' section is expanded. The following table displays the current connection details:

Router Information	
Firmware Version:	1.11
Current Time:	11:37:13 12/13/2007
Internet MAC Address:	78:11:51:12:7a:71
Host Name:	AIRLINK

Internet Connection	
Connection Type:	Dynamic IP
Connection Status:	connected
IP Address:	192.168.1.60
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.1
DNS1:	4.2.2.1
DNS2:	0.0.0.0

Below the table are buttons for 'Connect', 'Disconnect', and 'Refresh'.

If each field has a valid number assigned, the router is connected to the Internet.

Appendix A – Specifications

Standards

- IEEE 802.11b / 802.11g
- IEEE 802.11n draft 2.0

Ports

- 1 x WAN port
- 4 x 10/100Mbps LAN port

Antenna type

- 3 External 2dBi antennas

Security

- WEP 64/128-bit
- WPA2, WPA

LEDs

- Power, Status, WAN, WLAN, LAN, WPS

Advanced Features

- Quality of Service (QoS)
- WMM
- Stateful Packet Inspection (SPI) / DoS
- VPN Pass-through

WiFi Protected Setup

- PIN (Personal Identification Number)
- PBC (Push button configuration)

System Requirement

- Windows®, Mac®, or Linux® operating system
- Internet Explore 5.5 or above
- Installed Ethernet adapter
- Recommended use with 300N and 150N Wireless Adapters: AWLH6070, AWLH6080, AWLC6070, AWLC6080, AWLC6070, and AWLL6080 for best compatibility

Power

- 5V / 2A

Dimensions

- 225 x 120 x 30 mm (L x W x H)

Temperature

- Operating Temperature: 0°C to 40°C

Humidity

- 10% to 95% Non-Condensing

Warranty

- Limited 1-year warranty

Certification

- FCC, CE, IC, UL, TUV

Appendix B – Information

Federal Communication Commission Interference Statement

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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 Radiation Exposure Statement:

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

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

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

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

Industry Canada Statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device

This device has been designed to operate with an antenna having a maximum gain of 2.0 dBi.

Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the EIRP is not more than required for successful communication.

IMPORTANT NOTE:

IC Radiation Exposure Statement:

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

European Union Notice

Radio products with the CE marking comply with the R&TTE Directive (1999/5/EC), the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN 60950-1 Product Safety
- EN 300328 Technical requirement for radio equipment
- EN 301 489-1/-17 General EMC requirements for radio equipment

Technical Support

E-mail: support@airlink101.com

Toll Free: 1-888-746-3238

Web Site: www.airlink101.com

*Theoretical maximum wireless signal rate derived from IEEE 802.11g standard and IEEE 802.11n draft specification version 2.0. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, mix of wireless products used, radio frequency interference (e.g., cordless telephones and microwaves) as well as network overhead lower actual data throughput rate. Specifications are subject to change without notice. All products and trademarks are the property of their respective owners. Copyright ©2008 AirLink101®