



# MIMO XR™ Wireless Broadband Router

Model # AR525W

User's Manual

Ver. 1B

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# 1. Introduction

Congratulations on your purchase of this MIMO XR™ Wireless Broadband Router. The MIMO XR™ Wireless Broadband Router allows Internet sharing and creates a dynamic wireless network for you to access your network with greater mobility. When used with other Airlink101™ MIMO XR™ wireless products, the wireless signal range extends farther than standard 802.11g products. Best of all the MIMO XR™ Wireless Broadband Router is backwards-compatible with existing 802.11g and 802.11b network devices.

This product is specifically designed for Small Office and Home Office needs. It provides a complete SOHO solution for Internet surfing and is easy to configure and operate even for non-technical users. Instructions for installing and configuring this product can be found in this manual. Before you install and use this product, please read this manual carefully for proper operation of this product.

## **Package Contents**

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

- One MIMO XR™ Wireless Broadband Router
- One RJ-45 cable
- Three Detachable Antennas
- One Power Adapter
- One Quick Installation Guide
- One 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.

## 2. Connecting the Router

**Note:** Prior to connecting the router, be sure to power off your computer, DSL/Cable modem, and the router. To achieve maximum wireless coverage, tilt the router's antennas outward at 45° angle.

**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.

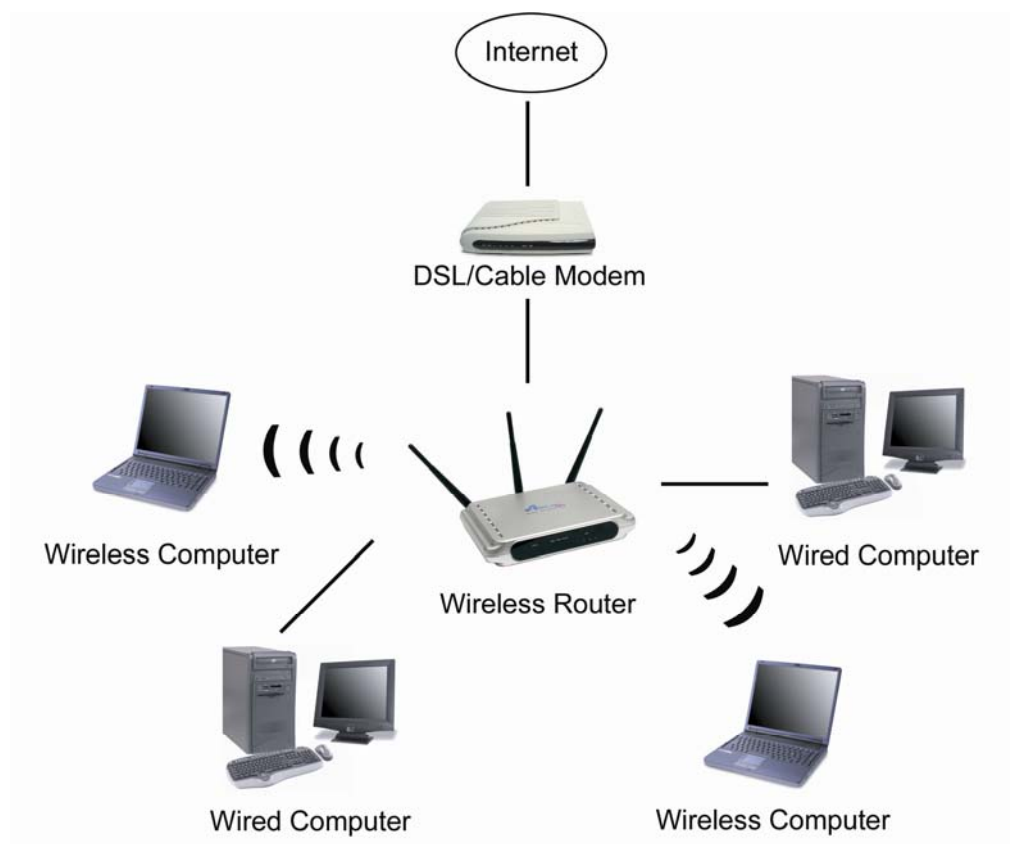
**Step 2** With another network cable, connect one end of the cable to your computer's network card and connect the other end to one of the **LAN** ports of the router.

**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.

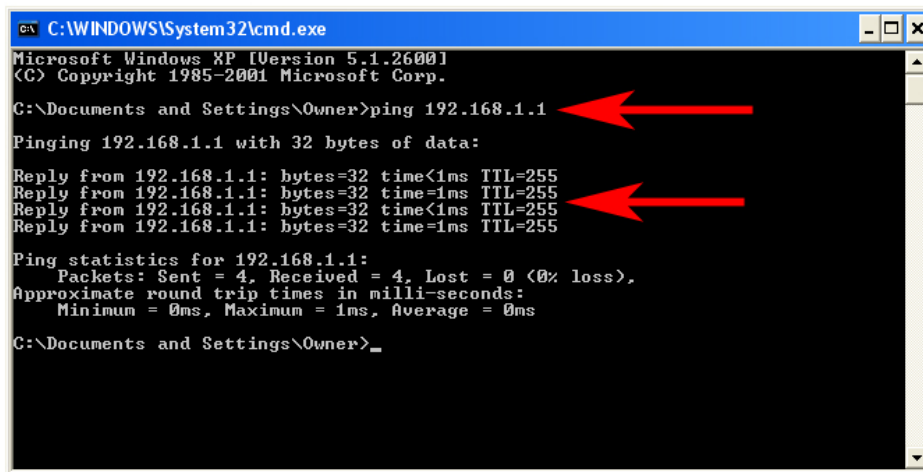
**Step 6** Make sure the **WAN**, **WLAN**, and the **LAN** ports that the computer is connected to are lit. If not, try the above steps again.



### 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 1985-2001 Microsoft Corp.

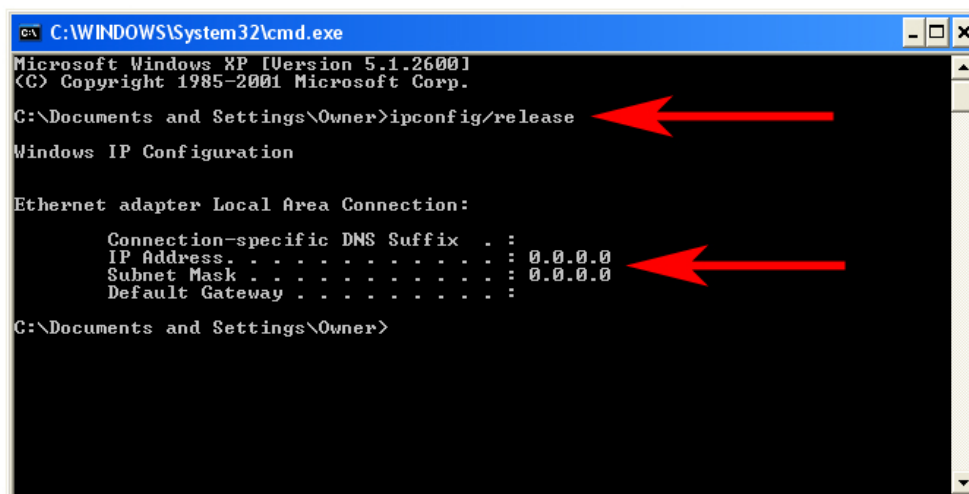
C:\Documents and Settings\Owner>ping 192.168.1.1
Pinging 192.168.1.1 with 32 bytes of data:
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time=1ms TTL=255

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, Configure the Router**.

**Step 4** For Windows 2000/XP, type **ipconfig/release** and press **Enter**.



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

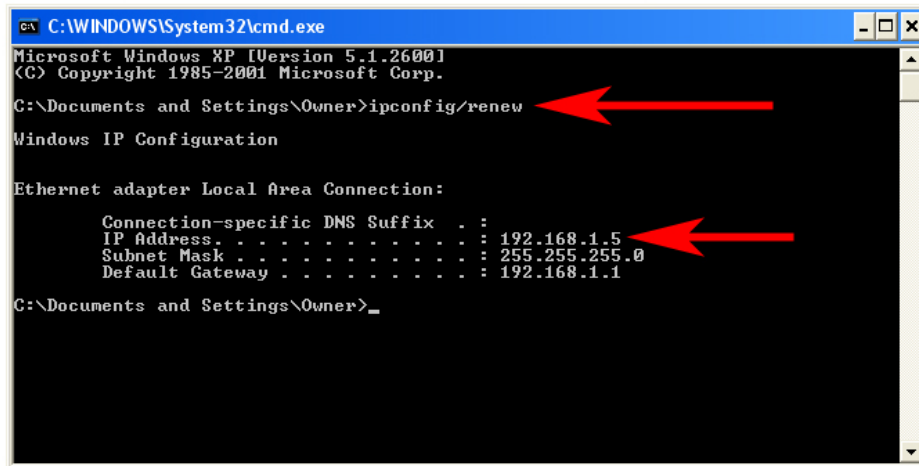
C:\Documents and Settings\Owner>ipconfig/release
Windows IP Configuration

Ethernet adapter Local Area Connection:

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

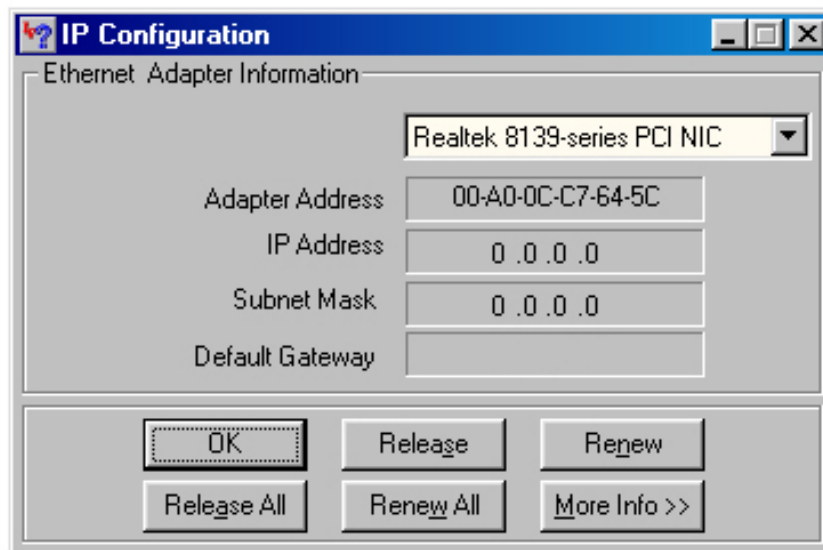
C:\Documents and Settings\Owner>
```

**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, Configure 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.

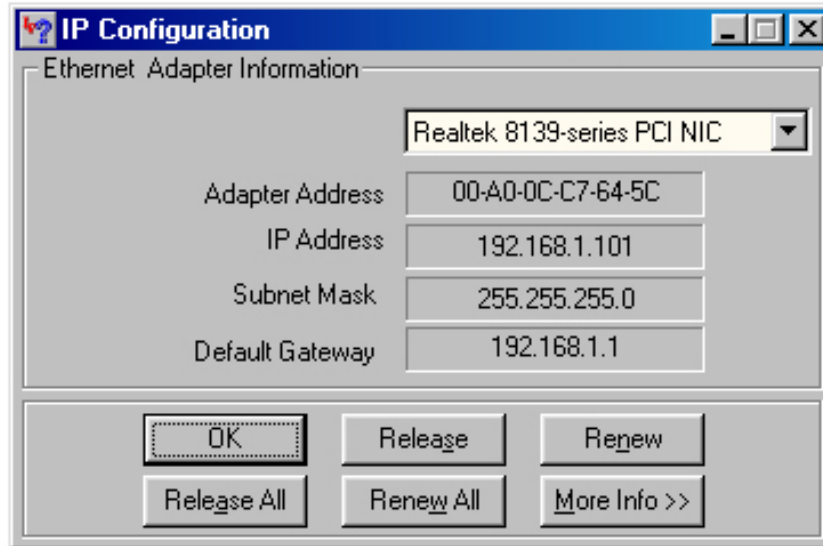


**Step 6** For Windows 95/98/ME go to **Start, Run**, type **winipcfg** and click **OK**.

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

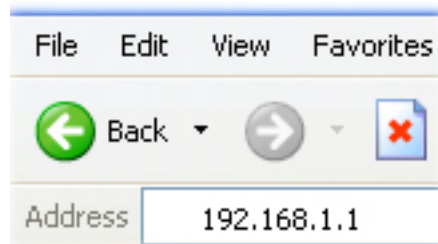


**Step 8** After your IP address is released, click **Renew**. You should get an IP address of **192.168.1.x** (where **x** is a number between 2 - 254). If you don't get an IP address, reset the router by holding in the reset button at the back of the router for 10 seconds while it is ON and try **Renew**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



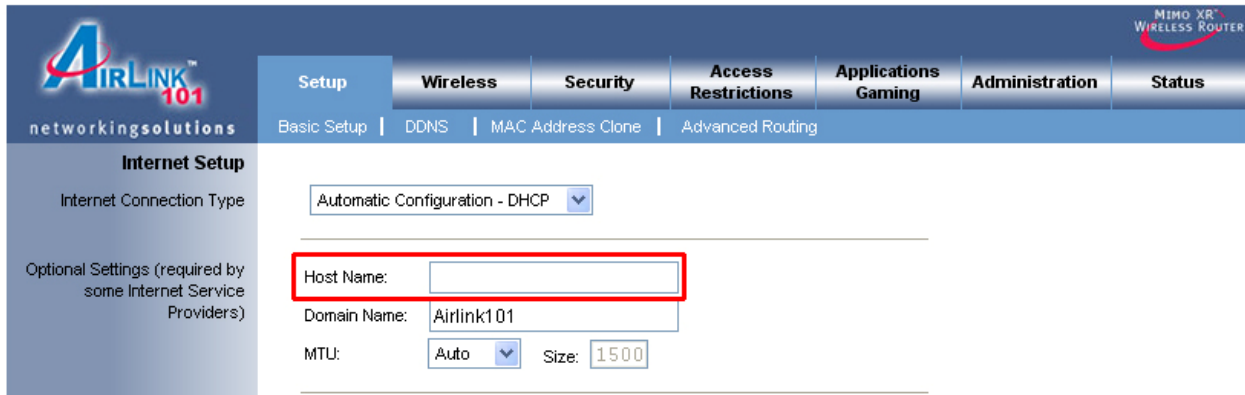
**Step 2** Enter **admin** for both the username and password fields and click **OK**.





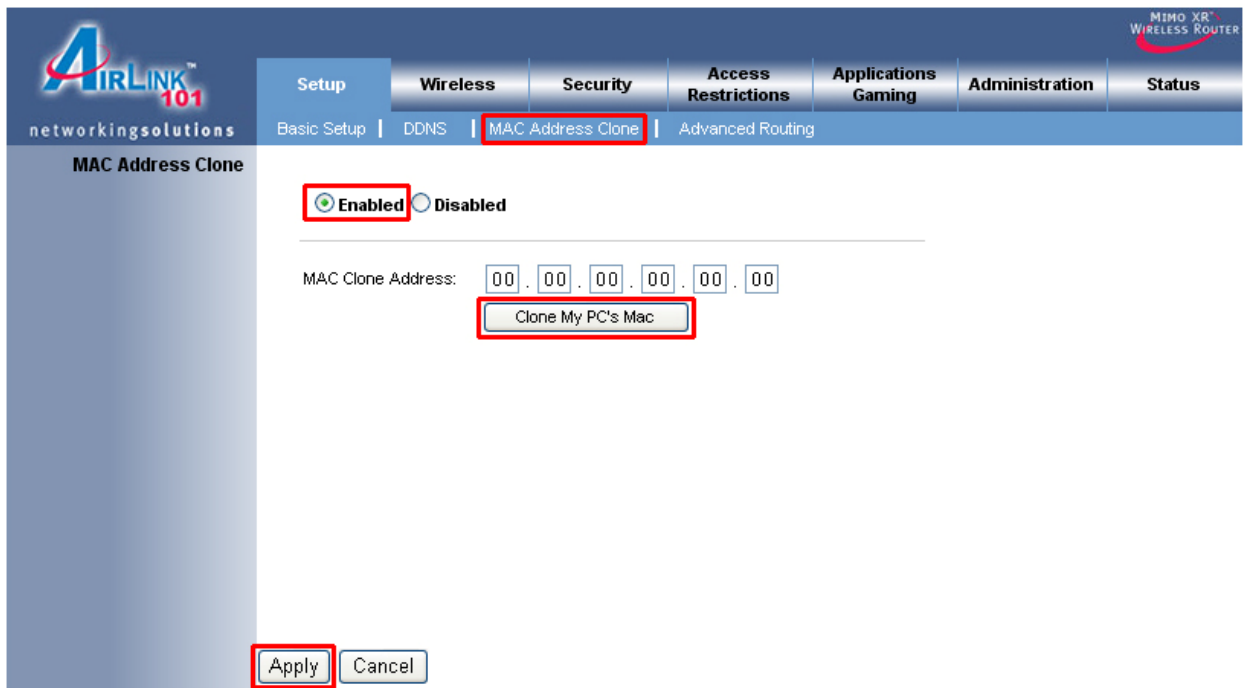
## Cable Modem

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. Click **Apply** to save the setting.



The screenshot shows the Airlink 101 web interface. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. Under the Setup tab, there are sub-tabs for Basic Setup, DDNS, MAC Address Clone, and Advanced Routing. The main content area is titled "Internet Setup" and shows the "Internet Connection Type" set to "Automatic Configuration - DHCP". Below this, there are fields for "Host Name" (highlighted with a red box), "Domain Name" (set to "Airlink101"), and "MTU" (set to "Auto") with a "Size" of "1500".

If your ISP requires a registered MAC Address, click on the **MAC Address Clone** tab, select **Enabled**, and click on the **Clone My PC's MAC** button. Click **Apply** to save the setting.



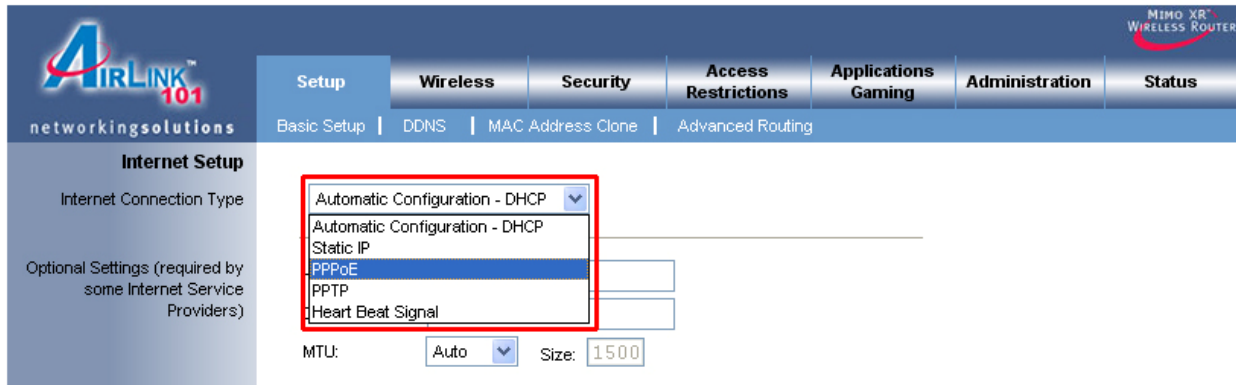
The screenshot shows the Airlink 101 web interface with the "MAC Address Clone" tab selected. The "Enabled" radio button is selected and highlighted with a red box. Below it, the "MAC Clone Address" field is shown with six input boxes containing "00". The "Clone My PC's Mac" button is also highlighted with a red box. At the bottom of the page, the "Apply" button is highlighted with a red box.

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

## DSL

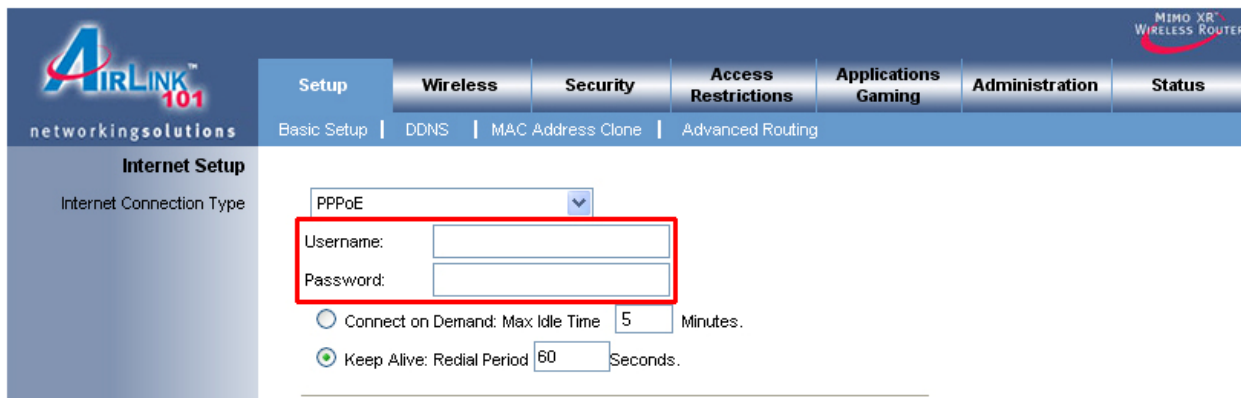
For DSL users, follow the steps below to configure the router.

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



The screenshot shows the 'Internet Setup' page for the Airlink 101 router. The 'Internet Connection Type' dropdown menu is open, showing options: 'Automatic Configuration - DHCP', 'Automatic Configuration - DHCP', 'Static IP', 'PPPoE', 'PPTP', and 'Heart Beat Signal'. The 'PPPoE' option is highlighted. Below the dropdown, the 'MTU' is set to 'Auto' and the 'Size' is '1500'.

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



The screenshot shows the 'Internet Setup' page for the Airlink 101 router. The 'Internet Connection Type' is set to 'PPPoE'. The 'Username' and 'Password' fields are highlighted with a red box. Below these fields, the 'Connect on Demand' option is selected, and the 'Max Idle Time' is set to '5' minutes. The 'Keep Alive' option is also visible, with a 'Redial Period' of '60' seconds.

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

**Example:**      **username@sbcglobal.net**

**Step 3** Click **Apply** to save the setting.

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 (Network Name): **default**  
Operating Mode: **Infrastructure**  
Authentication: **Auto**  
Channel #: **6**  
Encryption: **Disabled**

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



The screenshot shows the web interface of an Airlink 101 router. The top navigation bar includes tabs for Setup, Wireless (highlighted with a red box), Security, Access Restrictions, Applications & Gaming, Administration, and Status. Below the navigation bar, there are sub-tabs for Basic Wireless Settings, Wireless Security (selected), Wireless MAC Filter, and Advanced Wireless Settings. The main content area is titled 'Wireless Security' and 'Wireless-G Settings'. It contains four configuration fields: 'Mode' set to 'Mixed', 'Network Name (SSID)' set to 'default', 'Channel' set to '6 - 2.437GHz', and 'SSID Broadcast' set to 'Enabled'. At the bottom of the form are three buttons: 'Apply', 'Cancel', and 'Help'.

## 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 Basic Setup

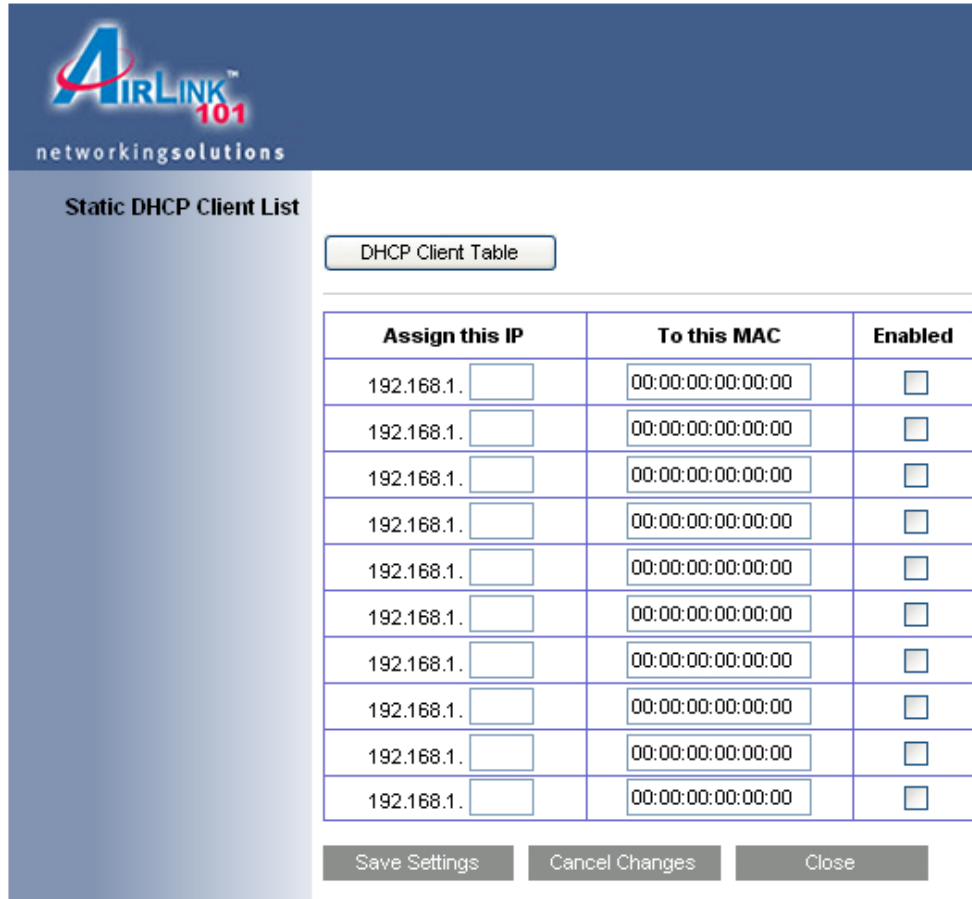
This is the default screen when you log in to the router's web configuration utility. You can setup your Internet connection here as well as configuring the DHCP settings and selecting your Time Zone.

The screenshot shows the 'Basic Setup' page of the Airlink 101 web configuration utility. The page is divided into several sections: Internet Setup, Network Setup, DHCP Server Setting, and Time Settings. The 'Internet Setup' section includes a dropdown for 'Automatic Configuration - DHCP', fields for 'Host Name', 'Domain Name' (set to 'airlink101'), and 'MTU' (set to 'Auto' with a size of '1500'). The 'Network Setup' section includes fields for 'Local IP Address' (192.168.1.1) and 'Subnet Mask' (255.255.255.0). The 'DHCP Server Setting' section includes radio buttons for 'Enabled' (selected) and 'Disabled', a 'Static DHCP' button, and fields for 'Start IP Address' (192.168.1.100), 'Maximum Number of Users' (50), 'IP Address Range' (192.168.1.100-149), 'Client Lease Time' (0 minutes), and three 'Static DNS' fields (all set to 0.0.0.0) and 'WINS' fields (all set to 0.0.0.0). The 'Time Settings' section includes a dropdown for 'Time Zone' (set to '(GMT-08:00) Pacific Time (USA & Canada)') and a checkbox for 'Automatically adjust clock for daylight saving changes.' The page has a navigation bar at the top with tabs for 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications Gaming', 'Administration', and 'Status'. The 'Setup' tab is active, and sub-tabs include 'Basic Setup', 'DDNS', 'MAC Address Clone', and 'Advanced Routing'. The 'AIRLINK 101' logo is in the top left, and 'MIMO XR WIRELESS ROUTER' is in the top right. 'Apply' and 'Cancel' buttons are at the bottom.

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

## Assigning Static IP Address

If you want to assign a static IP Address to one of the computers in your network, click on the **Static DHCP** button.



The screenshot shows the AIRLINK 101 network management interface. The header includes the AIRLINK 101 logo and the text "networkingsolutions". The main content area is titled "Static DHCP Client List" and contains a "DHCP Client Table" button. Below the button is a table with three columns: "Assign this IP", "To this MAC", and "Enabled". The table contains 10 rows, each with a text input field for the IP address (pre-filled with "192.168.1."), a text input field for the MAC address (pre-filled with "00:00:00:00:00:00"), and a checkbox in the "Enabled" column. At the bottom of the table are three buttons: "Save Settings", "Cancel Changes", and "Close".

Assign this IP	To this MAC	Enabled
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>
192.168.1. <input type="text"/>	<input type="text" value="00:00:00:00:00:00"/>	<input type="checkbox"/>

Save Settings   Cancel Changes   Close

**Step 1** Enter the Static IP Address in the **Assign this IP** field.

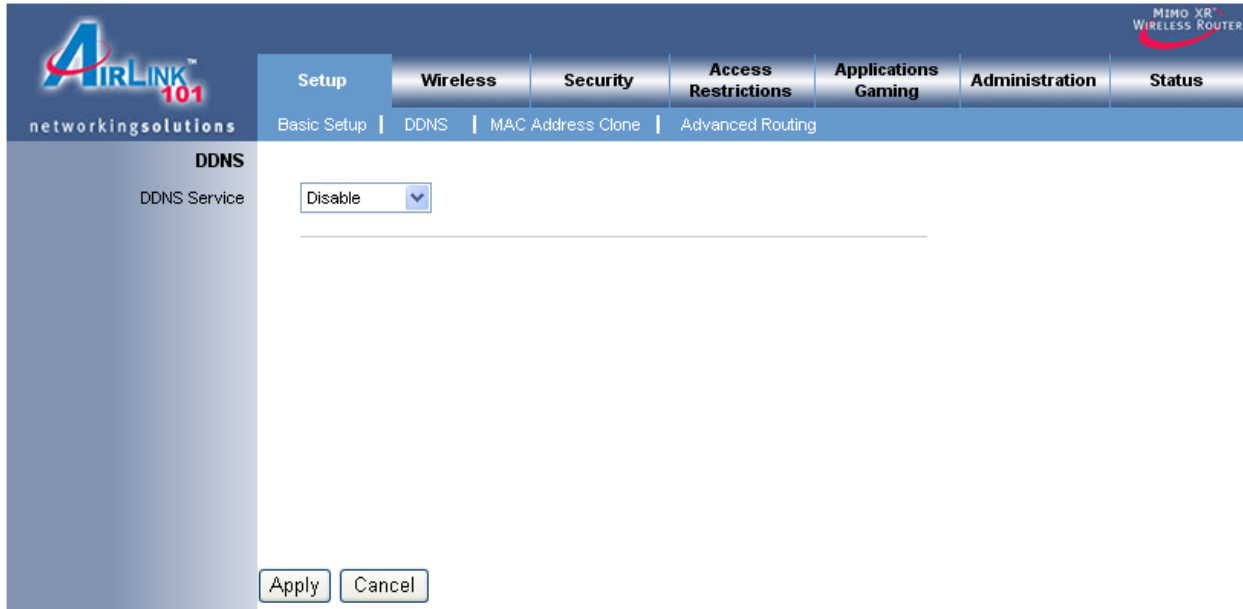
**Step 2** Enter the MAC address of the corresponding computer in the **To this MAC** field.

**Step 3** Check the **Enabled** box.

**Step 4** Click **Save Settings**.

## 6.1.2 DDNS

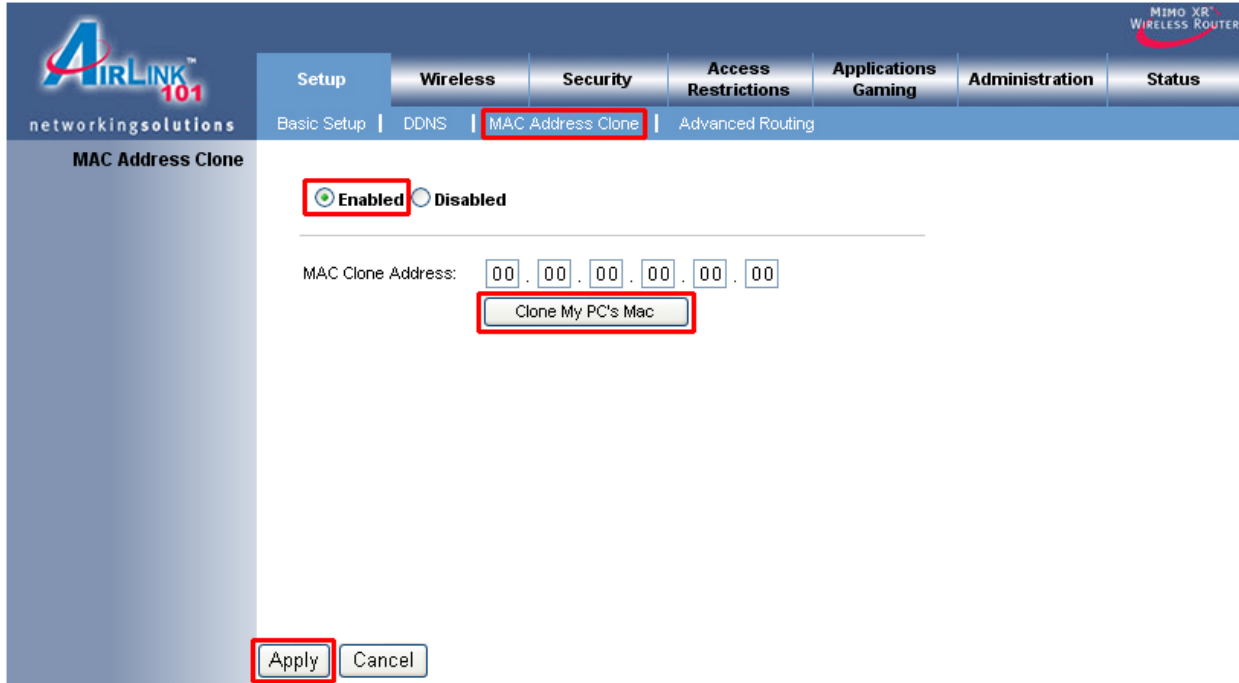
Dynamic DNS (DDNS) allows any user who wishes to access your server to reach it by a registered DNS name instead of an IP address. Before you enable **DDNS**, you need to register an account with one of the DDNS providers listed in the drop-down menu.



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

### 6.1.3 MAC Address Clone

Some ISPs require a registered MAC address to access the Internet. You can use the following steps to clone your PC's registered MAC address to access the Internet.



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

**Step 2** Click the **Clone My PC's MAC** button.

**Step 3** Click **Apply** to save the setting.

## 6.1.4 Advanced Routing

You can configure your own static routing table using the Advanced Routing function.

The screenshot shows the configuration interface for the AIRLINK 101 wireless router. The top navigation bar includes 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications Gaming', 'Administration', and 'Status'. Under 'Setup', there are sub-tabs for 'Basic Setup', 'DDNS', 'MAC Address Clone', and 'Advanced Routing'. The left sidebar is titled 'Advanced Routing' and contains three sections: 'NAT', 'Dynamic Routing (RIP)', and 'Static Routing'. The 'Static Routing' section is active and displays the following configuration options:

- NAT:**  Enabled  Disabled
- Dynamic Routing (RIP):**  Enabled  Disabled
- Static Routing:**
  - Route Entries: 1 ---
  - Enter Route Name:
  - Destination LAN IP:  .  .  .
  - Subnet Mask:  .  .  .
  - Gateway:  .  .  .
  - Interface:
  -

At the bottom of the configuration area, there are  and  buttons.

To see the current routing table, click on **Show Routing Table** button.

Be sure to click **Apply** to save each entry.



## 6.2. Wireless

### 6.2.1 Basic Wireless Settings

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

The screenshot shows the web interface for the Airlink 101 router. The top navigation bar includes 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications Gaming', 'Administration', and 'Status'. The 'Wireless' tab is active, showing sub-tabs for 'Basic Wireless Settings', 'Wireless Security', 'Wireless MAC Filter', and 'Advanced Wireless Settings'. The 'Basic Wireless Settings' sub-tab is selected. The main content area is titled 'Wireless Network' and contains the following settings:

- Wireless:  Enabled  Disabled
- Network Mode:
- Network Name(SSID):
- Channel:
- SSID Broadcast:  Enabled  Disabled

At the bottom of the settings area are 'Apply' and 'Cancel' buttons.

**Wireless:** Select to Enable or Disable the wireless feature of the router.

**Network Mode:** Choose from Mixed (B & G), Wireless-B only, and Wireless-G only.

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

**Channel:** Select the desired channel. All the network clients need to use the same channel.

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

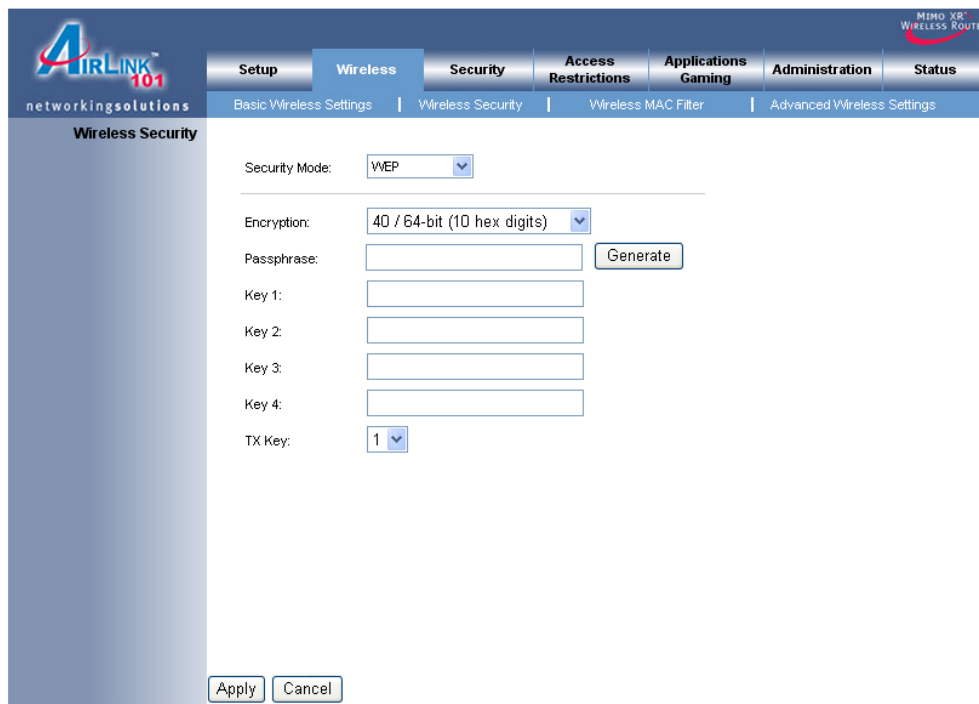
## 6.2.2 Wireless Security

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

**Note:** It is recommended that you use WPA encryption over WEP if your wireless clients support WPA. 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 MIMO XR Wireless Router. The page is divided into several tabs: Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. Under the 'Wireless' tab, there are sub-tabs for Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The 'Wireless Security' sub-tab is active. The 'Security Mode' dropdown is set to 'WEP'. The 'Encryption' dropdown is set to '40 / 64-bit (10 hex digits)'. There is a 'Passphrase' field with a 'Generate' button. Below the passphrase field are four text boxes labeled 'Key 1', 'Key 2', 'Key 3', and 'Key 4'. At the bottom, there is a 'TX Key' dropdown set to '1' and 'Apply' and 'Cancel' buttons.

**Encryption:** Choose from **64 bits** or **128 bits**

**Passphrase:** You can enter a passphrase and click on the **Generate** button and the router will automatically generate four WEP keys for you.

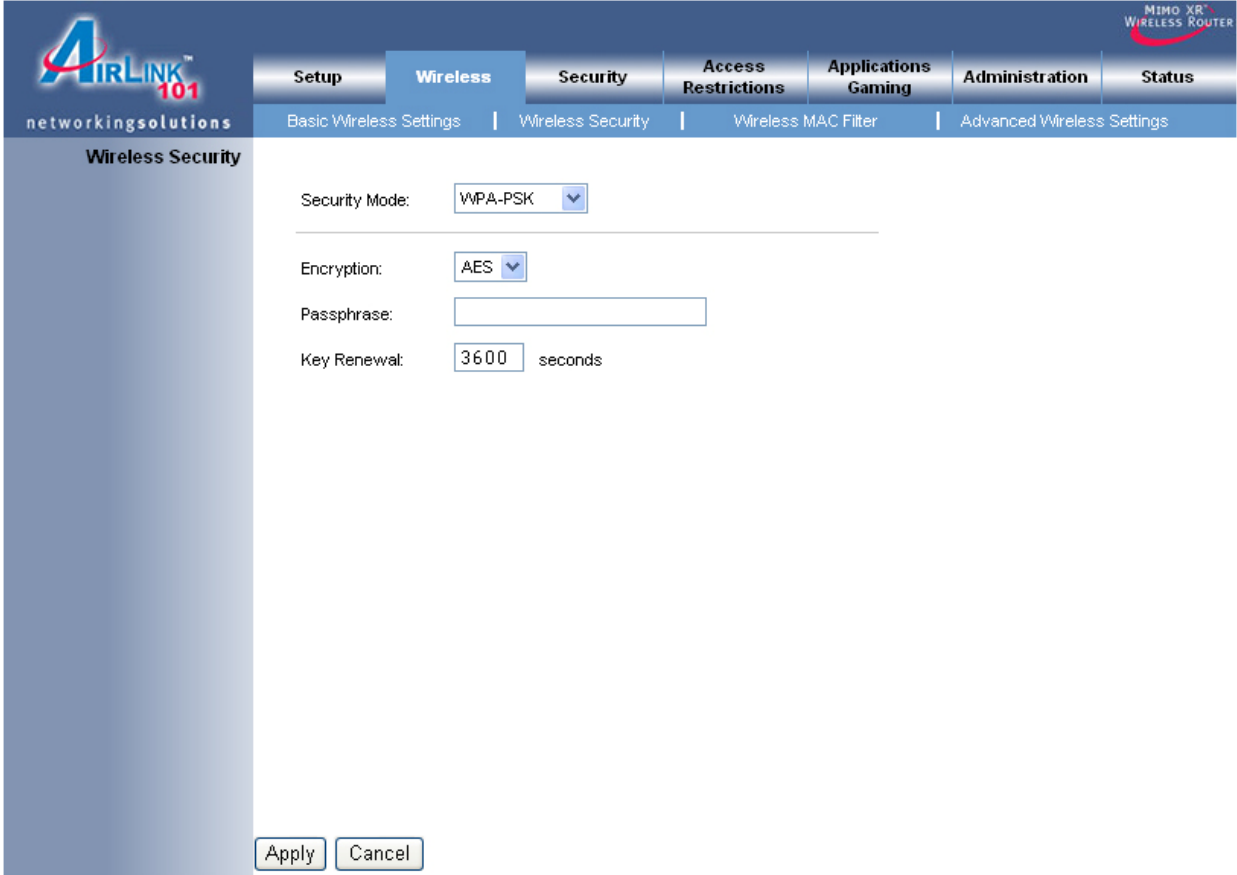
**WEP Key 1 – 4:** Manually assign a passphrase for each key. If you selected **64 bits** encryption, enter **10** HEX characters (0-F) for each key. If you selected **128 bits** encryption, enter **26** HEX characters (0-F) for each key.

**TX Key:** Select a key to be the active key.

Click **Apply** to save the setting.

## WPA

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



The screenshot shows the configuration interface for a MIMO XR Wireless Router. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. Under the Wireless tab, there are sub-tabs for Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The main content area is titled "Wireless Security" and contains the following settings:

- Security Mode: WPA-PSK (dropdown menu)
- Encryption: AES (dropdown menu)
- Passphrase: (empty text input field)
- Key Renewal: 3600 seconds (text input field)

At the bottom of the configuration area, there are "Apply" and "Cancel" buttons.

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

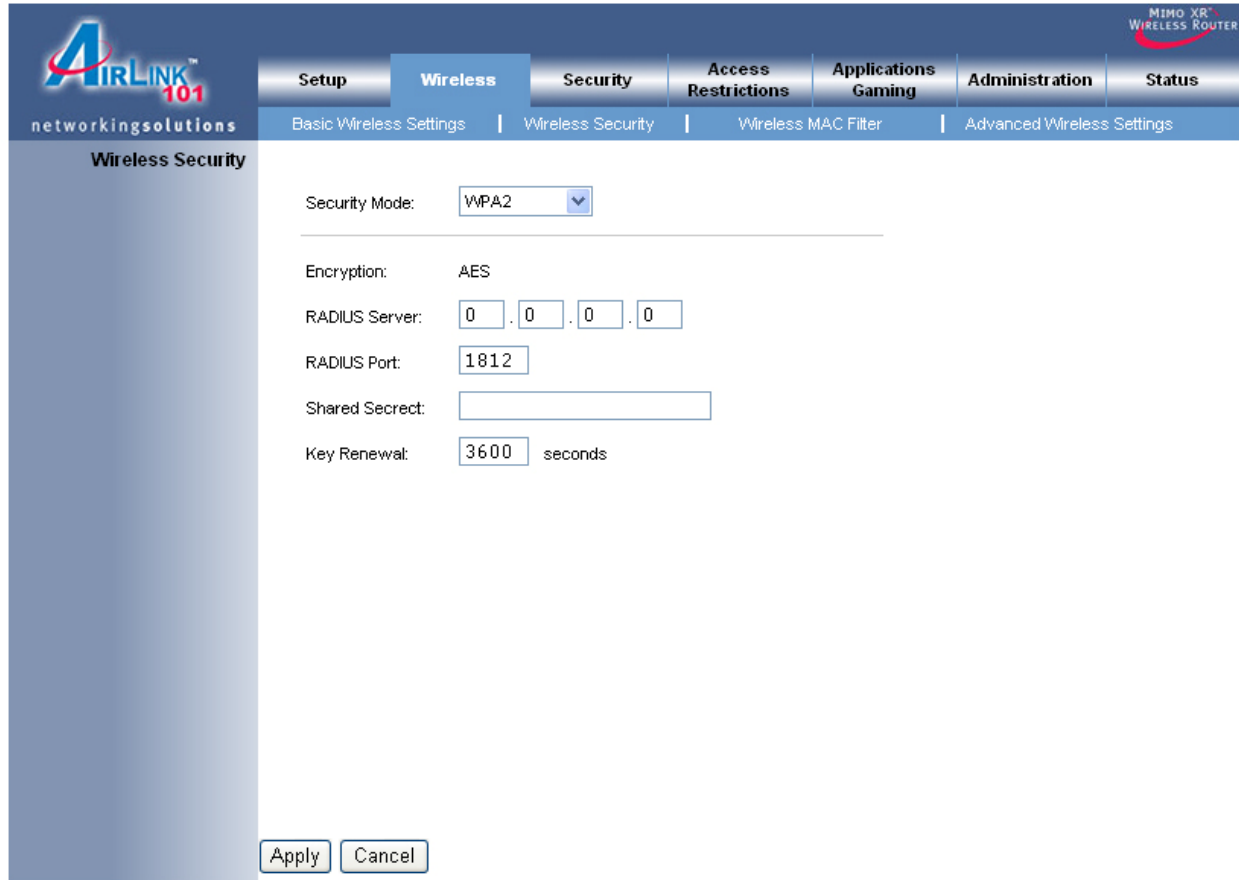
**Passphrase:** Enter a passphrase between 8 to 63 characters long.

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

Click **Apply** to save the setting.

## 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 a MIMO XR Wireless Router. The main menu includes Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. The 'Wireless' menu is expanded to show Basic Wireless Settings, Wireless Security, Wireless MAC Filter, and Advanced Wireless Settings. The 'Wireless Security' page is active, displaying the following settings:

- Security Mode: WPA2 (selected from a dropdown menu)
- Encryption: AES
- RADIUS Server: 0 . 0 . 0 . 0
- RADIUS Port: 1812
- Shared Secret: (empty text field)
- Key Renewal: 3600 seconds

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

**Encryption Methods:** Select either **TKIP** or **AES** as the encryption method. (WPA2 uses AES only).

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

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

**Shared Secret:** Enter the shared key.

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

Click **Apply** to save the setting.

## 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.

**networkingsolutions** AIRLINK™ 101 MIMO XR™ WIRELESS ROUTER

Setup | **Wireless** | Security | Access Restrictions | Applications Gaming | Administration | Status

Basic Wireless Settings | Wireless Security | **Wireless MAC Filter** | Advanced Wireless Settings

**Wireless MAC Filter**

Enabled  Disabled

Access Restriction

Prevent PCs listed below from accessing the wireless network.

Permit PCs listed below to access the wireless network.

MAC Address Filter List

Wireless Client Table	
MAC 1:	00:00:00:00:00:00
MAC 2:	00:00:00:00:00:00
MAC 3:	00:00:00:00:00:00
MAC 4:	00:00:00:00:00:00
MAC 5:	00:00:00:00:00:00
MAC 6:	00:00:00:00:00:00
MAC 7:	00:00:00:00:00:00
MAC 8:	00:00:00:00:00:00
MAC 9:	00:00:00:00:00:00
MAC 10:	00:00:00:00:00:00
MAC 11:	00:00:00:00:00:00
MAC 12:	00:00:00:00:00:00
MAC 13:	00:00:00:00:00:00
MAC 14:	00:00:00:00:00:00
MAC 15:	00:00:00:00:00:00
MAC 16:	00:00:00:00:00:00

Apply Cancel

Select **Enabled** and choose 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** to save the setting.

## 6.2.4 Advanced Wireless Settings

You can configure various advanced wireless settings on this screen.

The screenshot shows the configuration interface for the AIRLINK 101 MIMO XR WIRELESS ROUTER. The page is titled "Advanced Wireless" and is part of the "Wireless" settings section. The interface includes a navigation bar with tabs for Setup, Wireless, Security, Access Restrictions, Applications 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" section contains the following settings:

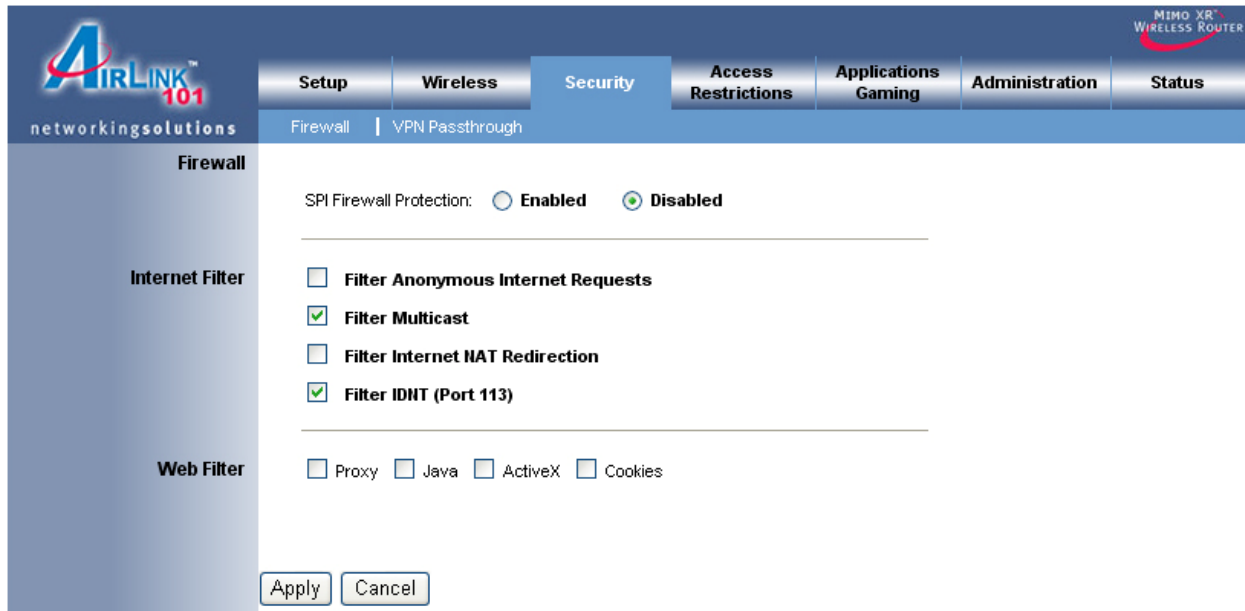
- Frame Burst Mode:  Enabled  Disabled (Default: Enabled)
- AP Isolation:  Enabled  Disabled (Default: Disabled)
- Authentication Type: Auto (Default: Auto)
- Basic Rate: Default (Default: Default)
- Transmission Rate: Auto (Default: Auto)
- Transmission Power: Full (Default: Full)
- CTS Protection Mode: Auto (Default: Auto)
- Beacon Interval: 100 (Default: 100, Milliseconds, Range: 20~1000 )
- DTIM Interval: 1 (Default: 1, Range: 1 - 255)
- Fragmentation Threshold: 2346 (Default: 2346, Range: 256 - 2346)
- RTS Threshold: 2346 (Default: 2346, Range: 256 - 2346)

At the bottom of the settings section, there are "Apply" and "Cancel" buttons.

Click **Apply** to save the setting.

## 6.3 Security

### 6.3.1 Firewall



**SPI Firewall Protection:** Select to enable or disable Stateful Packet Inspection.

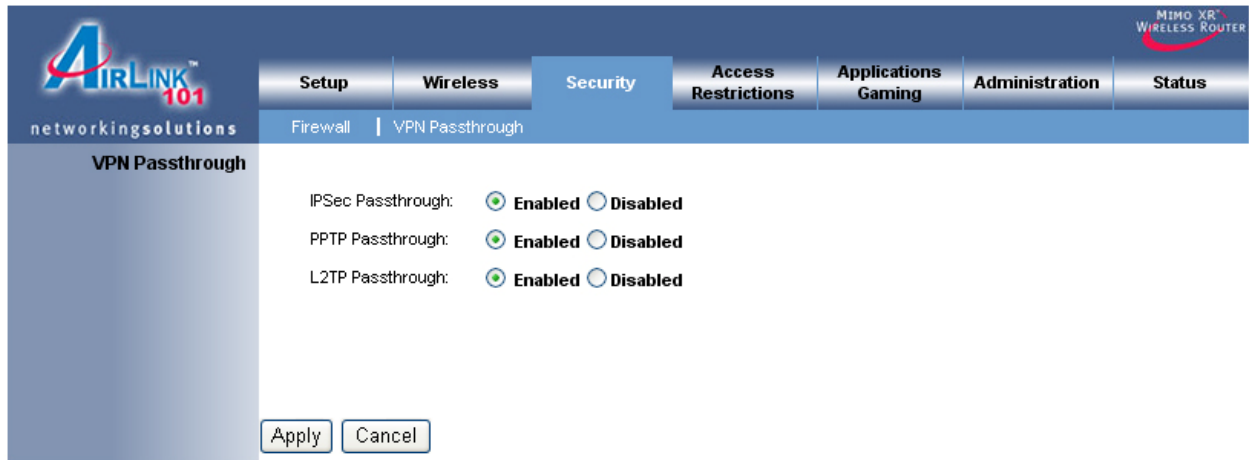
**Internet Filter:** Place a check to enable various Internet filter including Anonymous Internet Requests, Multicast packets, NAT Redirection, and IDNT port.

**Web Filters:** You can select to filter Proxy, Java, ActiveX, and/or Cookies.

Click **Apply** to save the setting.

## 6.3.2 VPN Passthrough

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



Click **Apply** to save the setting.



## 6.4 Access Restrictions

### 6.4.1 Internet Access Policy

You can setup policies that deny or allow specific clients to access the Internet.

The screenshot displays the configuration interface for an Internet Access Policy on an AIRLINK 101 wireless router. The interface is organized into several sections:

- Access Policy:** A dropdown menu showing '1()' and buttons for 'Delete This Policy' and 'Summary'.
- Enter Policy Name:** A text input field.
- Status:** Radio buttons for 'Enabled' and 'Disabled'.
- Applied PCs:** An 'Edit List' button with the note '(This Policy applies only to PCs on the List.)'
- Access restriction:** Radio buttons for 'Deny' (selected) and 'Allow'. A note states 'Internet access during selected days and hours.'
- Schedule:** 'Days' section with checkboxes for 'Everyday', 'Sun', 'Mon', 'Tue', 'Wed', 'Thu', 'Fri', and 'Sat'. 'Times' section with a '24 Hours' radio button and two time selection dropdowns.
- Website Blocking by URL Address:** Four text input fields labeled 'URL 1' through 'URL 4'.
- Website Blocking by Keyword:** Four text input fields labeled 'Keyword 1' through 'Keyword 4'.
- Blocked Applications:** A table with two columns: 'Applications' and 'Blocked List'. The 'Applications' column lists protocols and port ranges: DNS [53-53], HTTP [80-80], HTTPS [443-443], FTP [21-21], POP3 [110-110], IMAP [143-143], SMTP [25-25], NNTP [119-119], and SNMP [161-161]. The 'Blocked List' column is currently empty. Navigation buttons '>>' and '<<' are between the columns. A note above the table states: 'Note: only three applications can be blocked per policy.'
- Application Name:** A text input field.
- Port Range:** Two text input fields separated by a tilde '~'.
- Protocol:** A dropdown menu currently set to 'TCP'.
- Buttons:** 'Add', 'Modify', and 'Delete' buttons are located below the application configuration fields. 'Apply' and 'Cancel' buttons are at the bottom of the page.

**Enter Policy Name:** Enter a name for the policy.

**Status:** Choose to enable or disable the selected policy.

**PCs:** Click on the **Edit List** button to specify the network clients. Policy only applies to the PCs that are in the list.

**AIRLINK™ 101**  
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**List of PCs**

MAC Address

01	00:00:00:00:00:00	06	00:00:00:00:00:00
02	00:00:00:00:00:00	07	00:00:00:00:00:00
03	00:00:00:00:00:00	08	00:00:00:00:00:00
04	00:00:00:00:00:00	09	00:00:00:00:00:00
05	00:00:00:00:00:00	10	00:00:00:00:00:00

IP Address

01	192.168.1.0	04	192.168.1.0
02	192.168.1.0	05	192.168.1.0
03	192.168.1.0	06	192.168.1.0

IP Address Range

01	192.168.1.0 ~ 0	03	192.168.1.0 ~ 0
02	192.168.1.0 ~ 0	04	192.168.1.0 ~ 0

Save Settings    Cancel Changes    Close

You can specify each client by its MAC Address or IP Address. You can also specify a group of clients by entering their IP Address Range. Once you have specified all the clients, click **Save Settings**.

**Access Restrictions:** Select to **Deny** or **Allow** the specified clients to access the Internet by **Day** and **Time**.

Access restriction

**Deny**    Internet access during selected days and hours.

**Allow**

---

Schedule

**Days:**  Everyday     Sun     Mon     Tue     Wed     Thu     Fri     Sat

**Times:**  24 Hours     00 : 00 ~ 00 : 00

## Blocked Application Port

Select which application port to block, if any, when the specified PCs have Internet access.

For your convenience, 10 preset applications and their ports are listed. If you have a custom application, manually enter its name, port range, protocol and click **Add**.

**Blocked Applications**

**Note:** only three applications can be blocked per policy.

Applications		Blocked List
DNS [ 53~53 ]		<input type="text"/>
HTTP [ 80~80 ]		
HTTPS [ 443~443 ]		
FTP [ 21~21 ]		
POP3 [ 110~110 ]	>>	
IMAP [ 143~143 ]	<<	
SMTP [ 25~25 ]		
NNTP [ 119~119 ]		
SNMP [ 161~161 ]		

---

<b>Application Name</b>	<input type="text"/>
<b>Port Range</b>	<input type="text"/> ~ <input type="text"/>
<b>Protocol</b>	TCP <input type="button" value="v"/>

## Website Blocking

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

**Website Blocking by URL Address**

URL 1:  URL 2:

URL 3:  URL 4:

---

**Website Blocking by Keyword**

Keyword 1:  Keyword 2:

Keyword 3:  Keyword 4:

Enter the URL or the Keyword you wish to block.

Click **Apply** to save the setting.

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

## 6.5 Applications & Gaming

### 6.5.1 Single Port Forwarding

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

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

**Single Port Forwarding**

Application Name

None ▾

None ▾

None ▾

None ▾

None ▾

External Port	Internal Port	Protocol	To IP address	Enable
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
---	---	---	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>
<input type="text"/>	<input type="text"/>	TCP ▾	192 . 168 . 1 . 0	<input type="checkbox"/>

Apply Cancel

Click **Apply** to save the setting.

## 6.5.2 Port Range Forwarding

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

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

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MIMO XR WIRELESS ROUTER

Setup Wireless Security Access Restrictions Applications Gaming Administration Status

Single Port Forwarding | Port Range Forwarding | Port Range Triggering | DMZ | Qos

**Port Range Forwarding**

Application Name

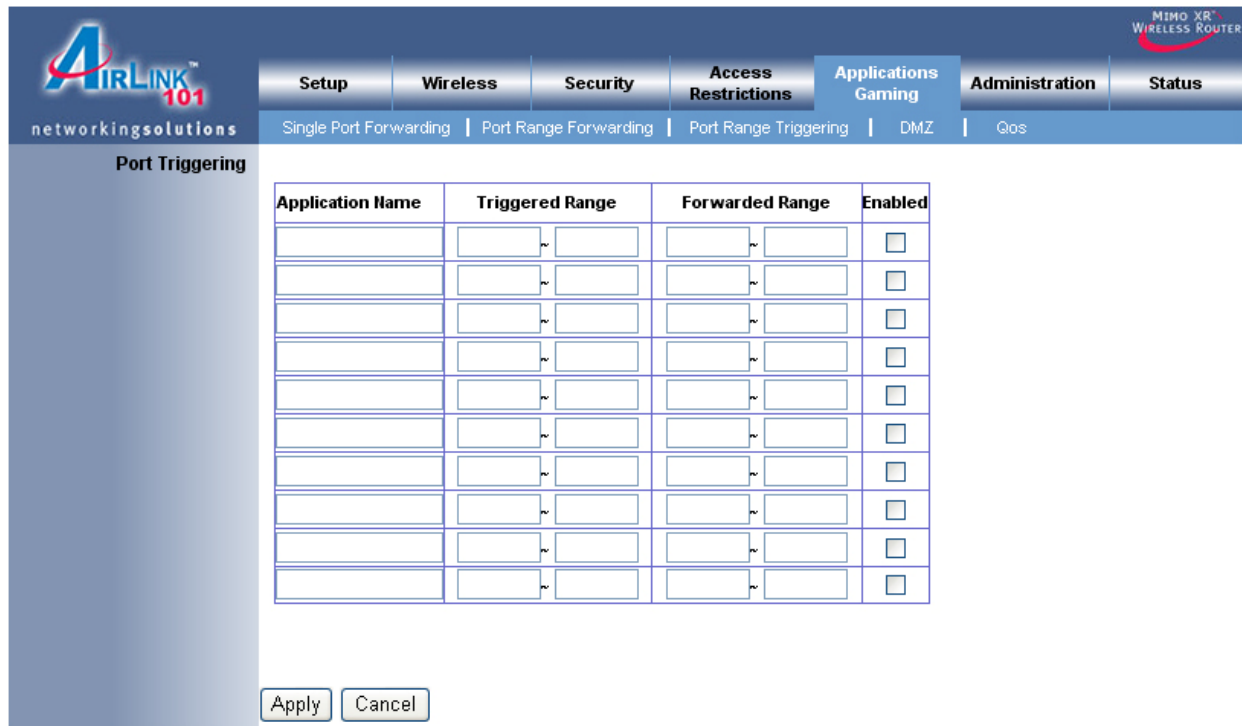
Start ~ End Port	Protocol	To IP address	Enable
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>
<input type="text"/> ~ <input type="text"/>	TCP	192.168.1. <input type="text"/>	<input type="checkbox"/>

Apply Cancel

Click **Apply** to save the setting.

### 6.5.3 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 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.



**networkingsolutions** AIRLINK 101 MIMO XR WIRELESS ROUTER

Setup | Wireless | Security | Access Restrictions | **Applications Gaming** | Administration | Status

Single Port Forwarding | Port Range Forwarding | **Port Range Triggering** | DMZ | Qos

**Port Triggering**

Application Name	Triggered Range	Forwarded Range	Enabled
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>
	<input type="text"/> ~ <input type="text"/>	<input type="text"/> ~ <input type="text"/>	<input type="checkbox"/>

Apply Cancel

Click **Apply** to save the setting.

## 6.5.4 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.

**Warning:** Setting your computer as a DMZ host exposes it to various security vulnerabilities. This feature should be used only when needed.

The screenshot shows the configuration interface for the DMZ feature on an AIRLINK 101 router. The interface includes a navigation menu at the top with tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming (selected), Administration, and Status. Below the navigation menu, there are sub-tabs for Single Port Forwarding, Port Range Forwarding, Port Range Triggering, DMZ (selected), and Qos. The main content area is titled 'DMZ' and contains the following settings:

- DMZ status:  Enabled  Disabled
- Source IP Address:  Any IP Address  [0].[0].[0].[0]~[0]
- Destination:  IP Address: 192.168.1.[0]  MAC Address: 00:00:00:00:00:00

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

**DMZ:** Select to enable or disable DMZ.

**Source IP Address:** Select any source IP address or specify a source IP address.

**Destination:** Specify the Destination by its IP Address or MAC Address.

**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** to save the setting.

## 6.5.5 QoS

QoS (Quality of Service) manages information as it is transmitted and received. It ensures better service to those applications with a higher priority.

The screenshot shows the QoS configuration interface for an AIRLINK 101 wireless router. The navigation menu includes Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. The Applications Gaming section is active, showing QoS settings.

**QoS (Quality of Service)**

Wireless

WMM Support:  Enabled  Disabled (Default: Enabled)

No Acknowledgement:  Enabled  Disabled (Default: Enabled)

Internet Access Priority:  Enabled  Disabled

Category: Applications

Applications	MSN Messenger
Priority	Medium (Recommend)
<input type="button" value="Add"/>	

Summary

Priority	Name	Information		

Click **Apply** to save the setting.



## 6.6 Administration

### 6.6.1 Management

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

The screenshot displays the 'Administration' page of the AIRLINK 101 router's web interface. The page is titled 'AIRLINK 101 networkingsolutions' and features a navigation menu with tabs for 'Setup', 'Wireless', 'Security', 'Access Restrictions', 'Applications Gaming', 'Administration', and 'Status'. Below the navigation menu, there are sub-tabs for 'Management', 'Log', 'Diagnostics', 'Factory Default', and 'Firmware Upgrade'. The main content area is divided into several sections:

- Router Password:** Includes fields for 'Router Password' and 'Re-enter to confirm', both masked with dots.
- Web Access:** Contains radio buttons for 'Use HTTPs' (Disabled) and 'Web Utility Access via Wireless' (Enabled).
- Remote Access:** Includes radio buttons for 'Remote Management' (Disabled), 'Use HTTPs' (Disabled), and 'Remote Upgrade' (Disabled). It also has a radio button for 'Allow Remote IP Address' (Any IP Address) and a field for 'Remote Management Port' (8080).
- Backup and Restore:** Features 'Backup Configurations' and 'Restore Configurations' buttons.
- UPnP:** Includes radio buttons for 'UPnP' (Enabled).
- Allow Users to Configure:** Includes radio buttons for 'Allow Users to Configure' (Disabled) and 'Allow Users to Disable Internet Access' (Disabled).

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

**Router Password:** Set the router's log in password.

**Web Access:** Select to enable or disable HTTPs and Wireless access for the Web Configuration Utility.

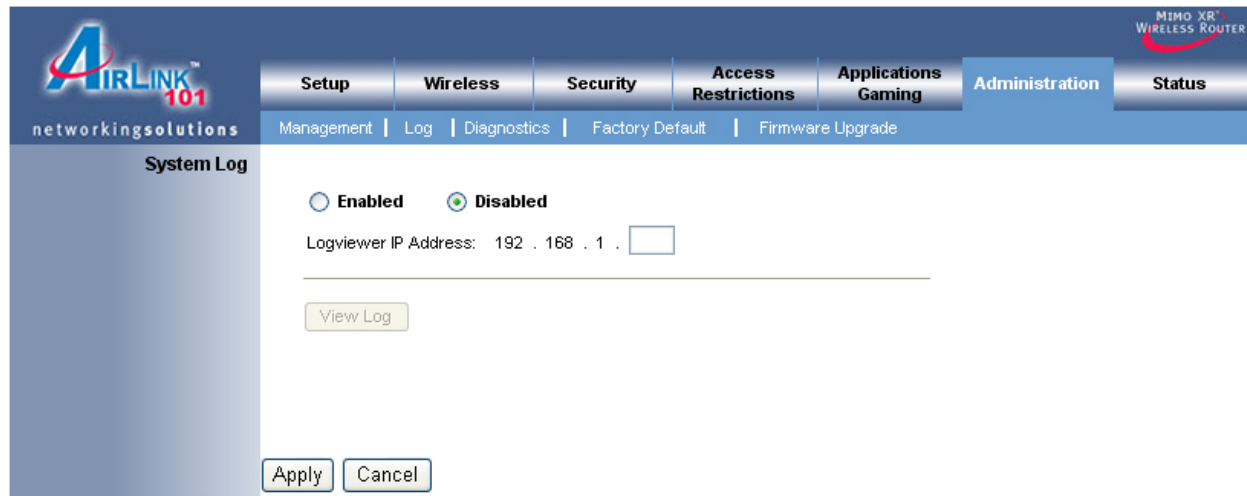
**Remote Router Access:** Select to enable or disable remote management/upgrade of the router. You can allow remote management from any IP Address or a specified IP Address as well as the port number.

**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.

**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.

## 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 the AIRLINK 101 wireless router. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration (selected), and Status. Below the navigation bar, there are links for Management, Log, Diagnostics, Factory Default, and Firmware Upgrade. The main content area is titled "System Log" and contains the following elements:

- Two radio buttons for "Enabled" and "Disabled". The "Disabled" option is selected.
- A text field for "Logviewer IP Address" with the value "192 . 168 . 1 ." and an empty input box.
- A "View Log" button.
- "Apply" and "Cancel" buttons at the bottom.

Click **Apply** and to save the setting.

### 6.6.3 Diagnostics

The Diagnostics screen allows you to perform Ping and Traceroute tests.

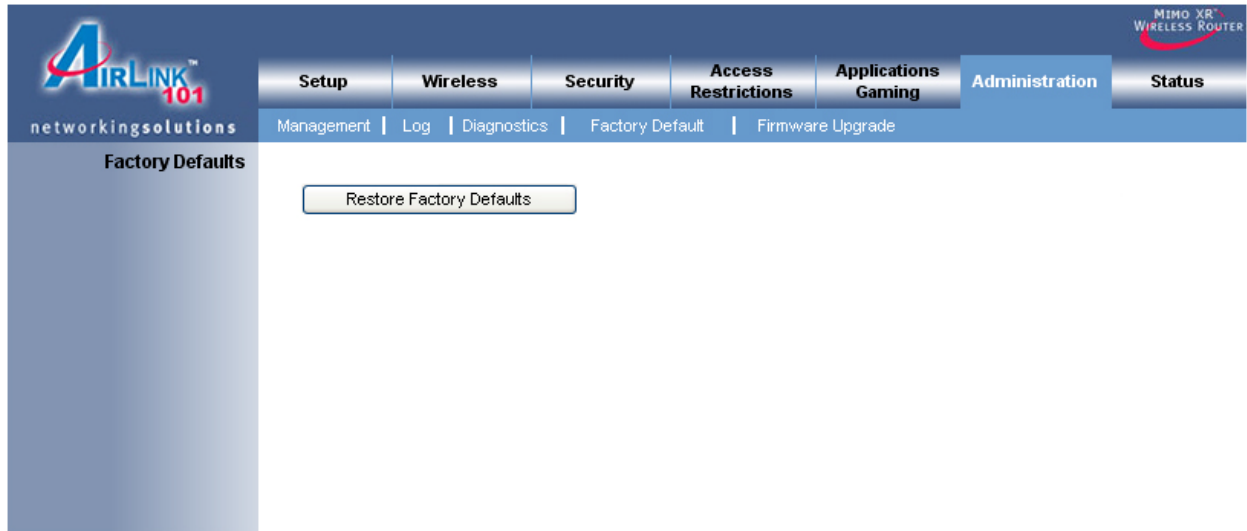
The screenshot displays the web interface of an AIRLINK 101 MIMO XR WIRELESS ROUTER. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration (selected), and Status. Below this, a secondary menu lists Management, Log, Diagnostics (selected), Factory Default, and Firmware Upgrade. The main content area is titled 'Diagnostics' and contains two sections: 'Ping Test' and 'Traceroute Test'. The 'Ping Test' section has three input fields: 'IP or URL Address' (empty), 'Packet Size' (64 bytes, with a range of 32-65500), and 'Times to Ping' (5, with a dropdown arrow). A 'Start to Ping' button is located below these fields. The 'Traceroute Test' section has one input field: 'IP or URL Address' (empty), with a 'Start to Traceroute' button below it.

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

**Traceroute:** Enter the IP or URL Address you wish to trace and click **Start to Traceroute**.

## 6.6.4 Factory Defaults

The Factory Defaults screen allows you to set all the router's settings to the factory default.



Click on the **Restore 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.

**AIRLINK 101**  
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MIMO XR WIRELESS ROUTER

Setup | Wireless | Security | Access Restrictions | Applications Gaming | **Administration** | Status

Management | Log | Diagnostics | Factory Default | Firmware Upgrade

**Firmware Upgrade**

Please Select a File to Upgrade:

**Warning:** Upgrading firmware may take a few minutes, please don't turn off the power or press the reset button.

0%

**Upgrade must NOT be interrupted !!**

You must download and unzip the new firmware first from [www.airlink101.com](http://www.airlink101.com)

Click on **Browse** to browse to the new firmware, and click **Start to Upgrade**.

## 6.7 Status

### 6.7.1 Router

The Router screen displays various status of the router including the firmware version.

The screenshot shows the AIRLINK 101 router's status page. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. The Status tab is selected, and the sub-navigation bar shows Router, Local Network, and Wireless Network. The main content area is divided into two sections: Router Information and Internet Connections. Router Information displays the following details: Firmware Version: v1.0.18, Current Time: Thu Jul 21 22:01:53 2005 (GMT -08:00), Internet MAC Address: 00:14:A5:01:4F:41, Host Name, and Domain Name: Airlink101. Internet Connections displays: Connection Type: Automatic Configuration - DHCP, Internet IP Address: 192.168.1.1, Subnet Mask: 255.255.255.0, Default Gateway: 192.168.1.1, DNS 1: 192.168.1.1, DNS 2: 0.0.0.0, DNS 3: 0.0.0.0, and MTU: Auto. At the bottom, there are buttons for IP Address Release, IP Address Renew, and Refresh.

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

## 6.7.2 Local Network

The Local Network screen displays various status about your Local Area Network.

The screenshot displays the web interface of an AIRLINK 101 MIMO XR WIRELESS ROUTER. The interface features a top navigation bar with the following tabs: Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. Below the navigation bar, there are three sub-tabs: Router, Local Network (which is currently selected), and Wireless Network. The main content area is divided into two sections: Local Network and DHCP Server. The Local Network section displays the following information: Local MAC Address: 00:14:A5:01:4F:40, Router IP Address: 192.168.1.1, and Subnet Mask: 255.255.255.0. The DHCP Server section displays the following information: DHCP Server: Enable, Start IP Address: 192.168.1.100, and End IP Address: 192.168.1.149. A button labeled "DHCP Clients Table" is located below the DHCP Server information.

Local MAC Address:	<b>00:14:A5:01:4F:40</b>
Router IP Address:	<b>192.168.1.1</b>
Subnet Mask:	<b>255.255.255.0</b>

---

DHCP Server :	<b>Enable</b>
Start IP Address:	<b>192.168.1.100</b>
End IP Address:	<b>192.168.1.149</b>

[DHCP Clients Table](#)

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

### 6.7.3 Wireless Network

The Wireless Network screen displays various status about your wireless network.

The screenshot shows the configuration interface for an AirLink 101 MIMO XR Wireless Router. The top navigation bar includes tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. The 'Wireless' tab is selected, and the 'Wireless Network' sub-tab is active. The main content area displays the following wireless network settings:

MAC Address:	<b>00:14:A5:01:4F:40</b>
Mode:	<b>Mixed</b>
Network Name (SSID):	<b>default</b>
Channel:	<b>6</b>
Security:	<b>Disable</b>
SSID Broadcast:	<b>Enable</b>



## 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.

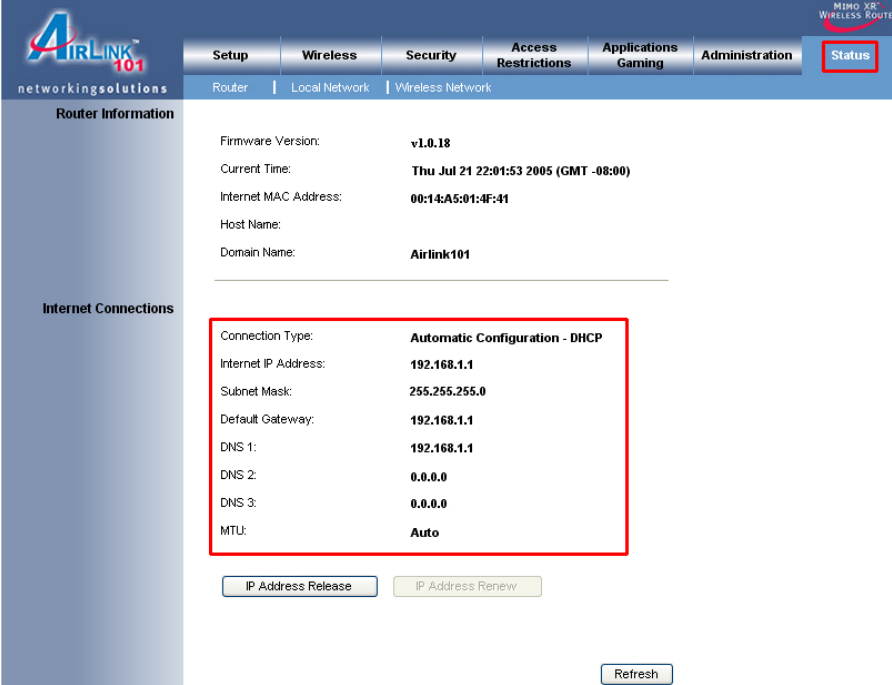
**Step 3** Turn on the router and wait for the lights on the router to settle down.

**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 displays the Airlink 101 router's status page. The interface includes a navigation menu with tabs for Setup, Wireless, Security, Access Restrictions, Applications Gaming, Administration, and Status. The Status tab is selected, showing Router Information and Internet Connections. The Internet Connections section is highlighted with a red box, displaying the following configuration:

Connection Type:	Automatic Configuration - DHCP
Internet IP Address:	192.168.1.1
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.1.1
DNS 1:	192.168.1.1
DNS 2:	0.0.0.0
DNS 3:	0.0.0.0
MTU:	Auto

Below the table are buttons for IP Address Release, IP Address Renew, and Refresh.

If you see all 0's, click on the **IP Renew** button (for Cable Modem users) or the **Connect** button (for DSL users).

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

## Technical Support

E-mail: [support@airlink101.com](mailto:support@airlink101.com)

Toll Free: 1-888-746-3238

Web Site: [www.airlink101.com](http://www.airlink101.com)

\*Theoretical maximum wireless signal rate based on IEEE standard 802.11g specifications. 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.

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