



# ARM-201E / 204E

Wired ADSL2/2+

1 / 4 Ports Modem Router

## User's Manual



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## Caution

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.

Per FCC 15.21, you are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

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# Chapter 1: Introduction

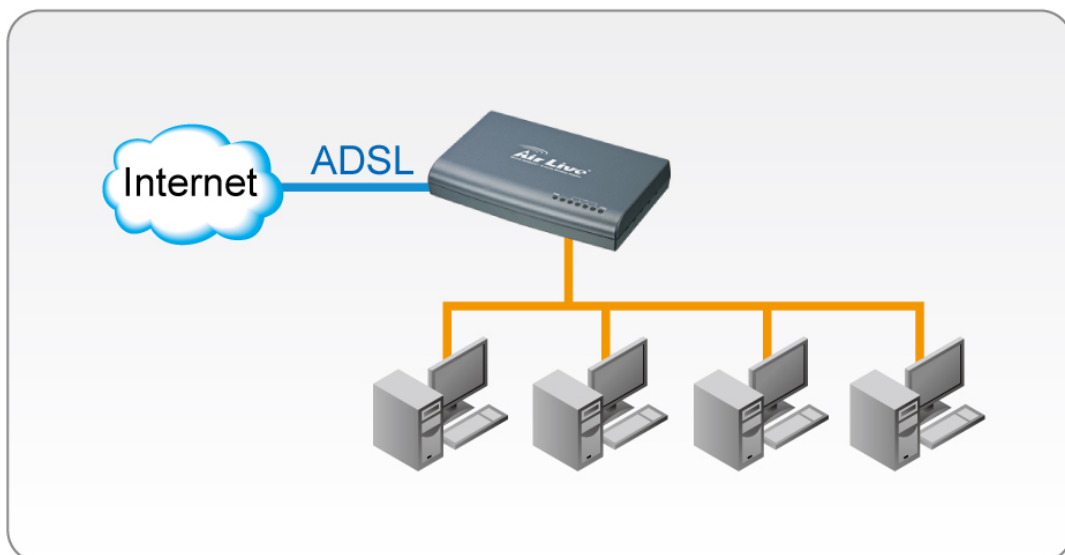
## 1.1 Introduction to this ADSL2+ router

**NOTE:** Throughout this manual, some operation illustrations are based on ARM-201E. The corresponding operations are also the same or similar for ARM-204E.

This ADSL2+ router is a full-featured ADSL router that provides Ethernet direct connections to individual PCs or local area network with 10/100 Base-T Ethernet. This product use advanced ADSL chipset solution with complete set of industry standard features and high-speed ADSL, ADSL2 and ADSL2+ Internet access solution for SOHO and residential users. User can enjoy higher quality multimedia and real-time applications such as online gaming, Video-on-Demand and other bandwidth consuming services. Also the feature-rich routing functions are seamlessly integrated to ADSL service for existing corporate or home users.

## 1.2 Product Features

### ◆ Application Diagram



### ◆ High Speed Internet Access

This ADSL router complies with ADSL / ADSL2 / ADSL2+ standards. It can support downstream rates of up to 24Mbps and upstream rates of up to 1Mbps. This ADSL router is compliant with the following standards.

- ANSI T1.413 issue 2
- ITU-T G.992.1 (G.dmt)
- ITU-T G.992.2 (G.lite)
- G.994.1 (G.hs, Multimode)
- ITU-T G.992.3 (ADSL2 G.dmt.bis)
- ITU-T G.992.4 (ADSL2 G.lite.bis)
- ITU-T G.992.5 (ADSL2+; Annex A, B, I, J, L & M)
- Reach Extended ADSL (RE ADSL)

## ◆ Setup Wizard

Supports Setup Wizard Web GUI to install this ADSL router easily and quickly.

## ◆ Multi-connection protocol support

- Multi Protocol over AAL5 (RFC1483 / 2684)
- Classical IP over ATM (RFC 1577)
- VC and LLC Multiplexing
- PPP over Ethernet (RFC 2516)
- PPP over ATM (RFC 2364)

## ◆ Network Address Translation (NAT)

Network Address Translation (NAT) allows the translation of an Internet protocol address used within one network (for example a private IP address used in a local network) to a different IP address known within another network (for example a public IP address used on the Internet).

## ◆ Universal Plug and Play (UPnP)

Universal Plug and Play is a standard that uses Internet and Web protocols to enable devices such as PCs, peripherals, intelligent appliances, and wireless devices to be plugged into a network and automatically know about each other. This protocol is used to enable simple and robust connectivity among stand-alone devices and PCs.

## ◆ Dynamic DNS Support

With Dynamic DNS support, you can have a static hostname alias for a dynamic IP address, allowing the host to be more easily accessible from various locations on the Internet. You must register for this service with a Dynamic DNS client.

## ◆ DHCP Support

DHCP (Dynamic Host Configuration Protocol) allows individual clients to obtain TCP/IP configuration at start-up from a centralized DHCP server. The ADSL router has built-in DHCP server capability enabled by default. It can assign IP addresses, an IP default gateway and DNS servers to DHCP clients. It can also act as a surrogate DHCP server (DHCP Relay) where it relays IP address assignment from the actual real DHCP server to the clients.

## ◆ Device Management

- Web-based GUI Configuration / Management
- Firmware upgrade via Web-based GUI
- Built-in Diagnostic tool and IP Ping

## ◆ SNMP (Simple Network Management Protocol) Support

It's an easy way to remote control the router via SNMP.

### ◆ **10/100M Auto-negotiation Fast Ethernet switch**

This auto-negotiation feature allows the router to detect the speed of incoming transmissions and adjust appropriately without manual intervention. It allows data transfer of either 10 Mbps or 100 Mbps in either half-duplex or full-duplex mode depending on your Ethernet network.

### ◆ **Multiple PVC (Permanent Virtual Circuits) Support**

- Supports OAM F4/F5 loop-back, AIS and RDI OAM cells.
- ATM Forum UNI 3.1/4.0 PVC
- Support up to 8PVCs.

### ◆ **Bridging / Routing support**

- Ethernet to ADSL self-learning Transparent Bridging (IEEE 802.1D)
- IP routing-RIPv2 (backward compatible with RIPv1)
- Static IP routing
- Routing (TCP/IP/UDP/ARP/ICMP)
- IP Multicast IGMP v1/v2

### ◆ **Security**

- PPP over PAP (Password Authentication Protocol; RFC1334)
- PPP over CHAP (Challenge Authentication Protocol; RFC1994)
- VPN (IPsec, PPTP, L2TP) pass through
- Built-in NAT Firewall
- IP-based Packet filtering
- Password Protected System Management

# Chapter 2: Hardware Installation

## 2.1 Package Contents

- ADSL Ethernet Router
- RJ-45 Ethernet cable
- RJ-11 Phone cable
- Power Adapter
- CD
- Quick Installation Guide

## 2.2 Front Panel Indicators and Description

Front panel of ADSL router has LED indicators to display router's operating status.

### One-Port ADSL Router Front Panel (ARM-201E)



### Descriptions of LED status

ADSL	When connection with Internet (ADSL Connected) is established, this LED will light up. When this LED is flashing: NO ADSL physical connection
DATA	When router is transferring data between Internet and router, this LED will be flashing.
LAN	When connection 10/100MB with end user is established, this LED will light up. When router is transferring data between router and end user, this LED will be flashing.
PWR	When an active power adapter is connected with router, this LED will light up.



**Four-Port ADSL Router Front Panel (ARM-204E)**

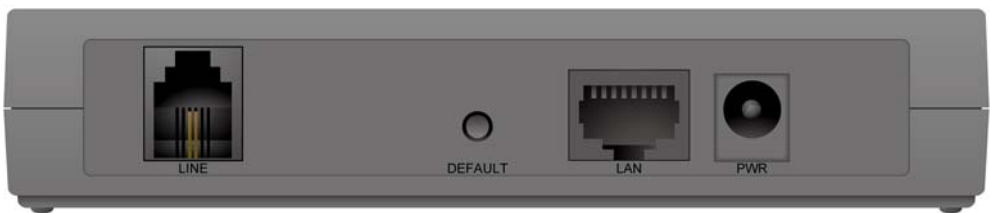


**Descriptions of LED status**

PWR	When an active power adapter is connected with router, this LED will light up.
LAN4	When port 4 connection with PC or Switch / Hub is established, this LED will light up.
LAN3	When port 3 connection with PC or Switch / Hub is established, this LED will light up.
LAN2	When port 2 connection with PC or Switch / Hub is established, this LED will light up.
LAN1	When port 1 connection with PC or Switch / Hub is established, this LED will light up.
ADSL	When connection with Internet (ADSL Connected) is established, this LED will light up. When this LED is flashing: NO ADSL physical connection

**2.3 Back Panel**

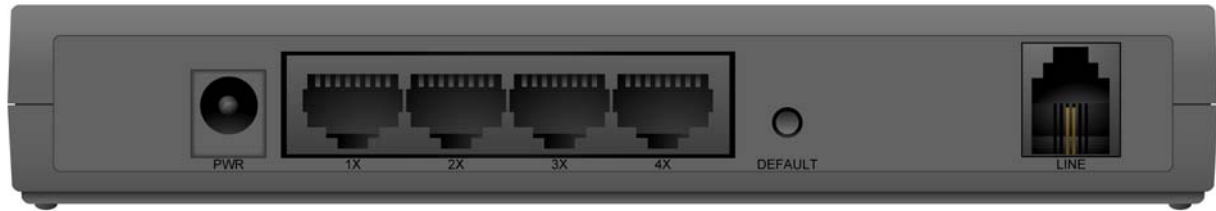
**One-Port ADSL Router Back Panel (ARM-201E)**



**Descriptions of All Connectors**

LINE	Connect with phone cable
DEFAULT	Reset button.
LAN	Connect with Ethernet Cable to Switch Hub or PC
PWR	Connect with power adapter

## Four-Port ADSL Router Back Panel (ARM-204E)



### Descriptions of All Connectors

PWR	Connect with power adapter
1X	Connect with Ethernet Cable to Switch Hub or PC
2X	Connect with Ethernet Cable to Switch Hub or PC
3X	Connect with Ethernet Cable to Switch Hub or PC
4X	Connect with Ethernet Cable to Switch Hub or PC
DEFAULT	Reset button
LINE	Connect with phone cable

## 2.4 Connect Related Devices

### 1) Connect Router to **LINE**

Plug the provided **RJ-11 phone cable** into **LINE port** on the back panel of the router and insert the other end into splitter or wall phone jack.

### 2) Connect Router to **LAN**

Plug **RJ-45 Ethernet Cable** into **LAN port** on the back panel of the router and insert the other end of the Ethernet cable on your PC's Ethernet port or switch / hub.

### 3) Connect Router to Power Adapter

Plug **Power Adapter** to **PWR** port on the back panel of the router and the other end to a power outlet.

**Warning! Use only the power adapter provided in the package. Use of other power adapters may cause hardware damage.**

# Chapter 3: Connecting ADSL2+ Router via Ethernet

You can connect ADSL2+ router with PC through either Ethernet cable. After connection is established, you can configure the host PC to be a DHCP client. You have to repeat the same steps for every host PC on your network if you use DHCP function on your router.

## 3.1 Setup ADSL2+ router via Ethernet Cable

If there is an available LAN card present on your PC, you just simply connect ADSL router and PC through the Ethernet cable. Once you establish Internet connection, you could browse the Web through the Ethernet cable.

## 3.2 Configure TCP/IP

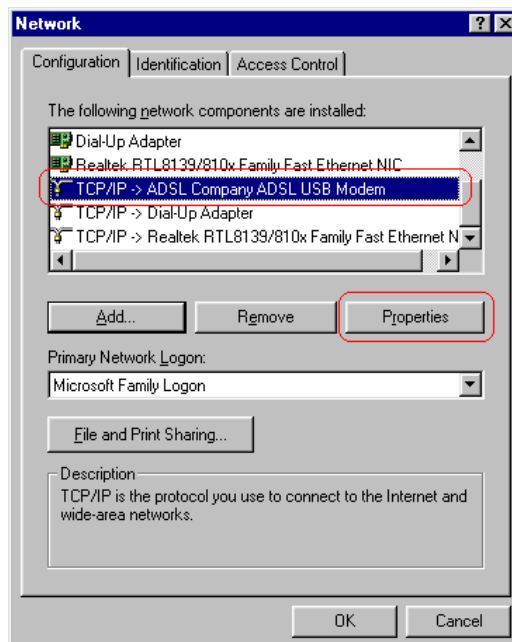
### For Windows 98SE and ME

**Step 1:** Click **Start** then **Settings** and choose **Control Panel**

**Step 2:** Double click **Network** icon.

**Step 3:** Select **Configuration** tab, then choose **TCP/IP** from the list of installed network Components and click **Properties** button.

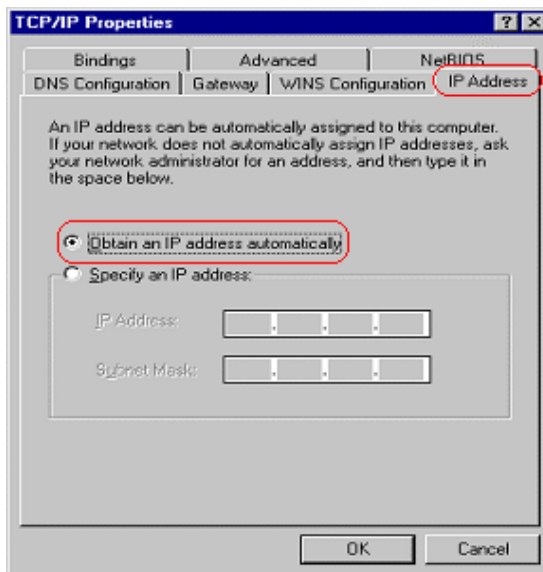
**Step 4:** You can setup the following configurations in **two** methods:



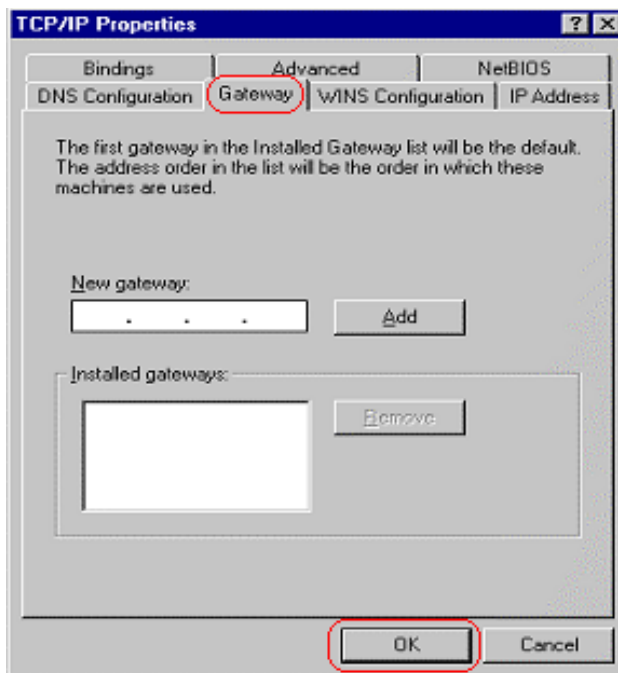
**Option1:** Get an IP from Router Automatically

Select the **IP Address** tab.

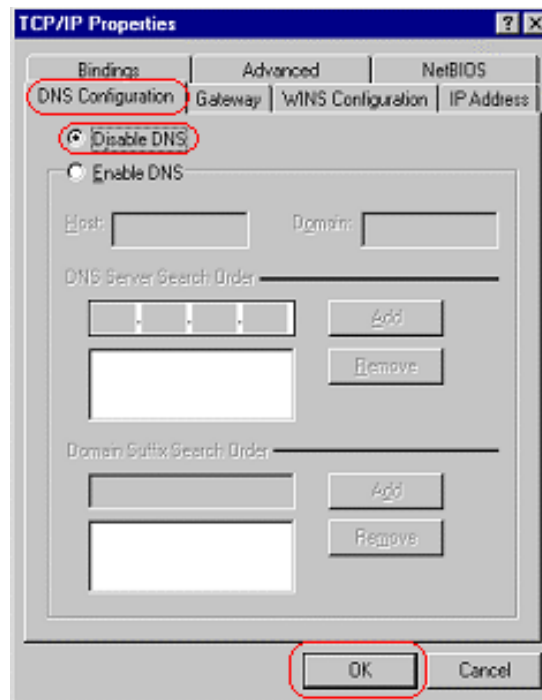
In this page, click **Obtain an IP address automatically** radio button.



1) Select **Gateway** tab and click **OK**

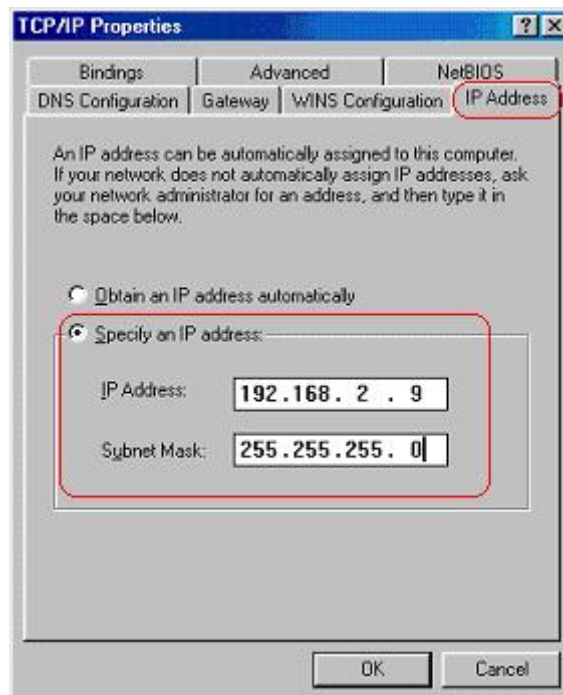


- 2) Then, select **DNS Configuration** tab and select **Disable DNS** then click **OK** to finish the configuration.

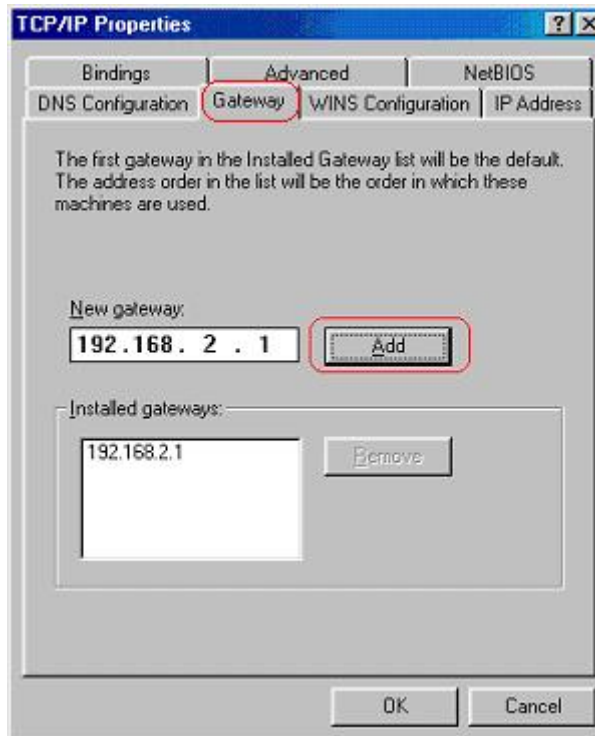


**Option2:** Configure IP Manually

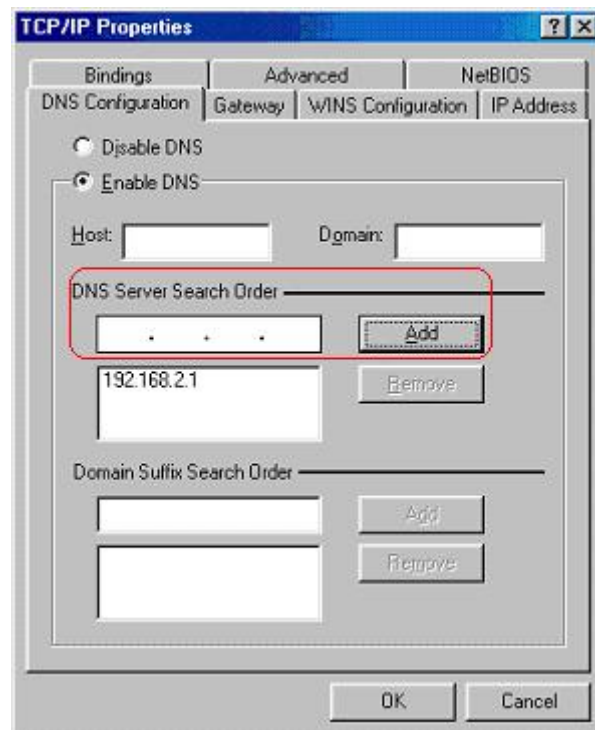
- 1) At **IP Address** tab, select **Specify an IP address**, set default IP address for the Router is **192.168.2.1**, so use **192.168.2.X** (X is a number between 2 to 254) for **IP Address** field and **255.255.255.0** for **Subnet Mask** field.



- 2) Select **Gateway** tab and add default Router IP Address “**192.168.2.1**” in the **New gateway** field and click **Add**.



- Under **DNS Configuration** tab, select **Enable DNS** and add DNS values (192.168.2.1) in **DNS Server Search Order** field then click **Add**.

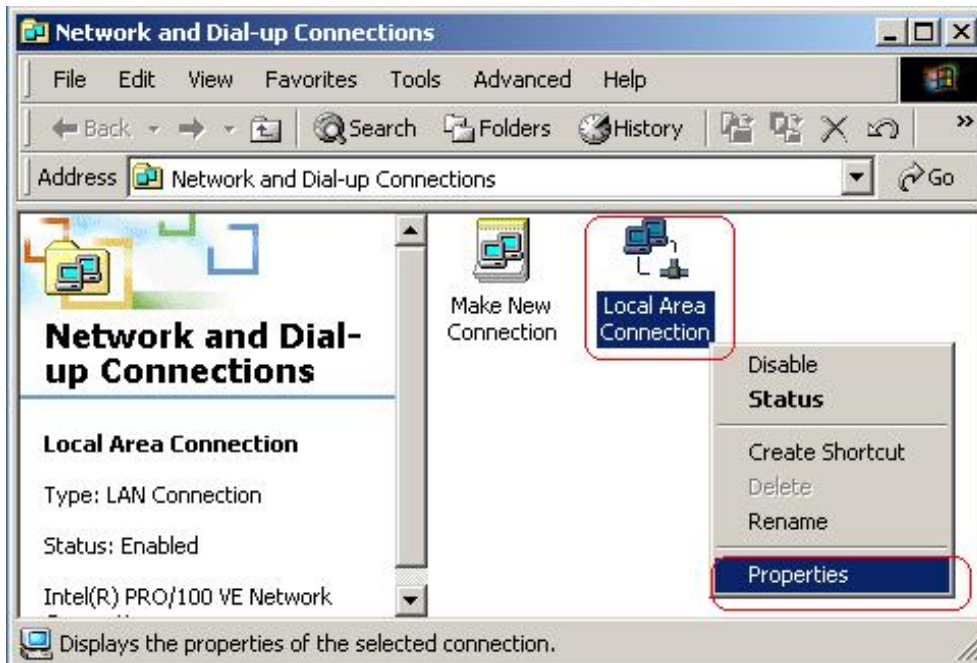


**For Windows 2000**

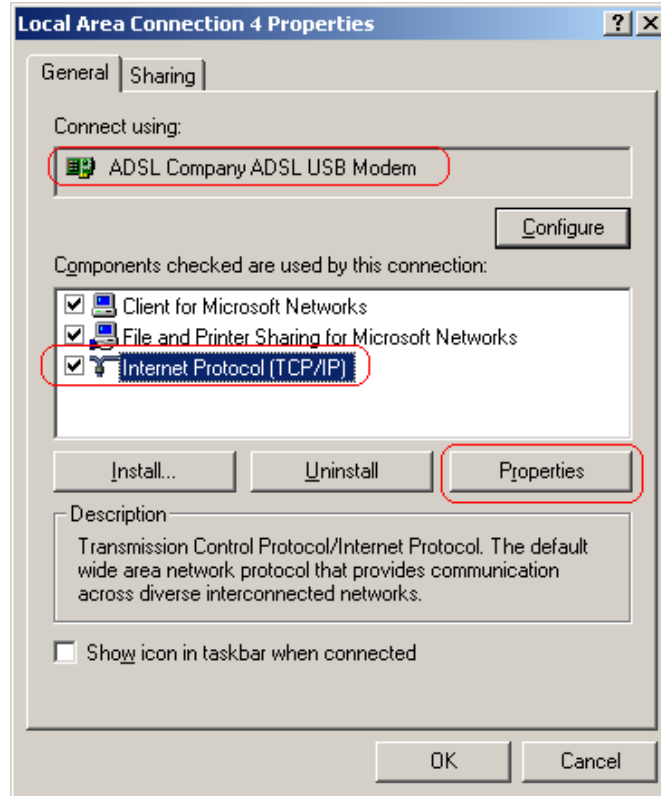
- Step 1:** (a) Right-click **My Network Places** and select **Properties** in the main window screen  
(b) Or, go to **Start / Settings / Control Panel**. In the **Control Panel**, double-click on **Network and Dial-up Connections**.



- Step 2:** Right click **Local Area Connection** (your local network hooked up with ADSL router) and select **Properties**:

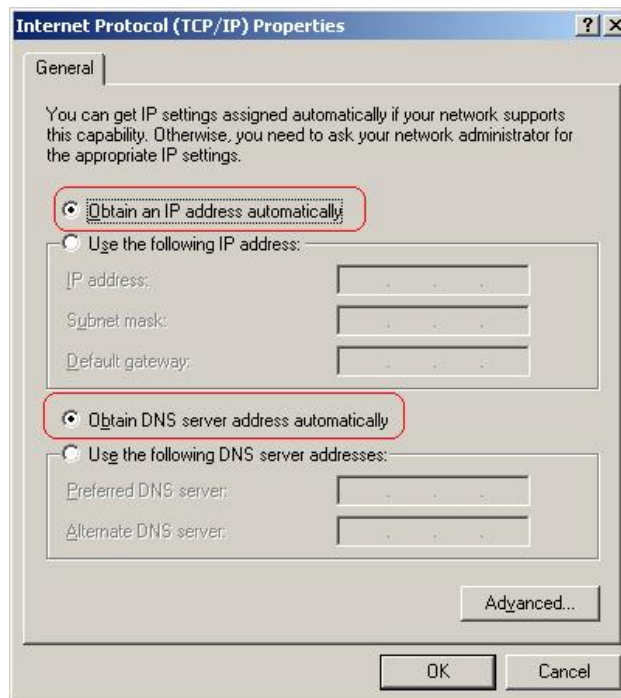


**Step 3:** Select **Internet Protocol (TCP/IP)** then click **Properties**:



**Configure IP Automatically:**

**Step 4:** Select **Obtain an IP address automatically** and **Obtain DNS server address automatically** then click **OK** to complete IP configuring process.





**Configure IP Manually:**

**Step 4:** Select **Use the following IP address** and **Use the following DNS server addresses**.

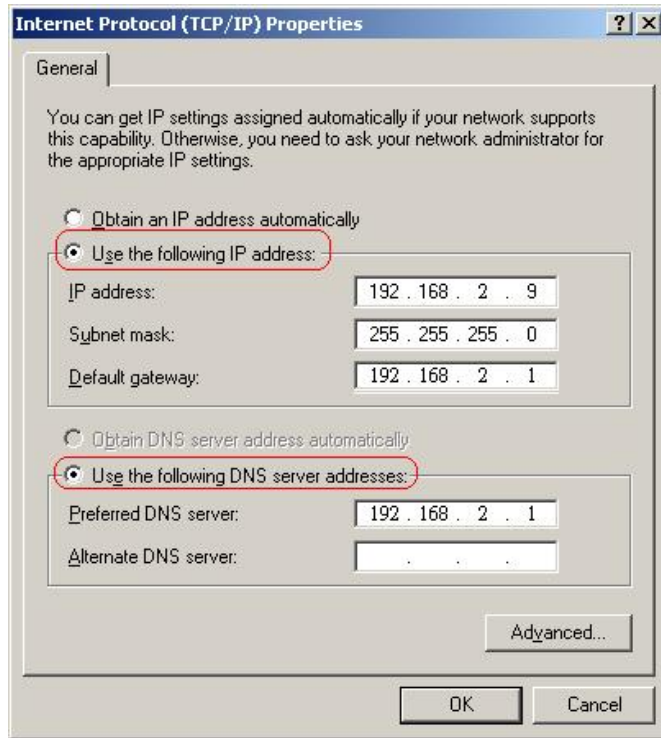
**IP address:** Fill in IP address 192.168.2.x (x is a number between 2 to 254).

**Subnet mask:** Default value is 255.255.255.0.

**Default gateway:** Default value is 192.168.2.1.

**Preferred DNS server:** Fill in preferred DNS server IP address.

**Alternate DNS server:** Fill in alternate DNS server IP address.

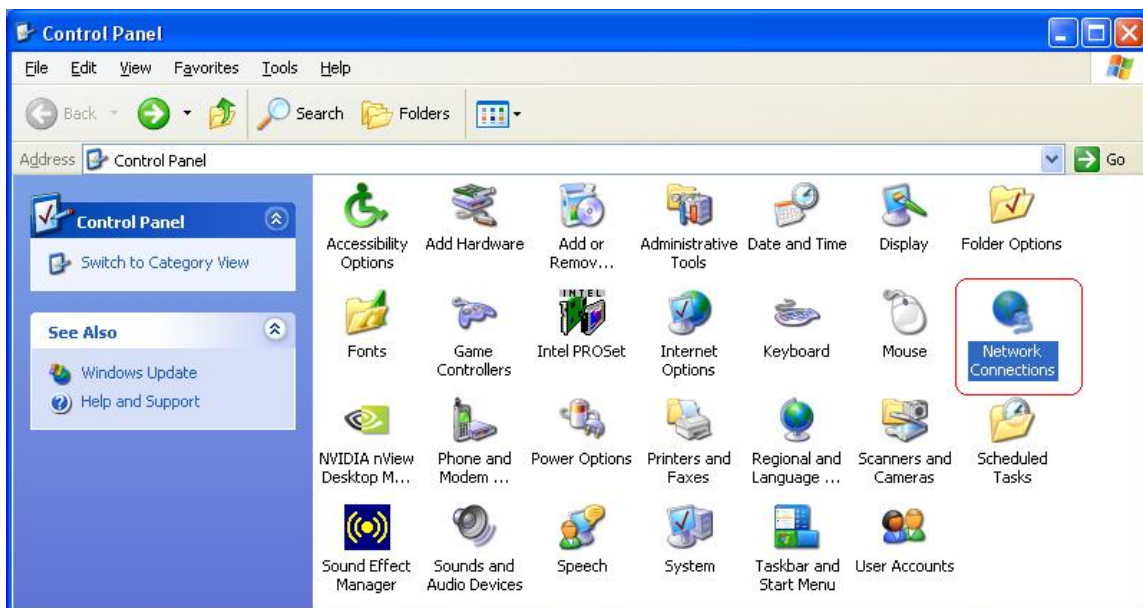


## For Windows XP

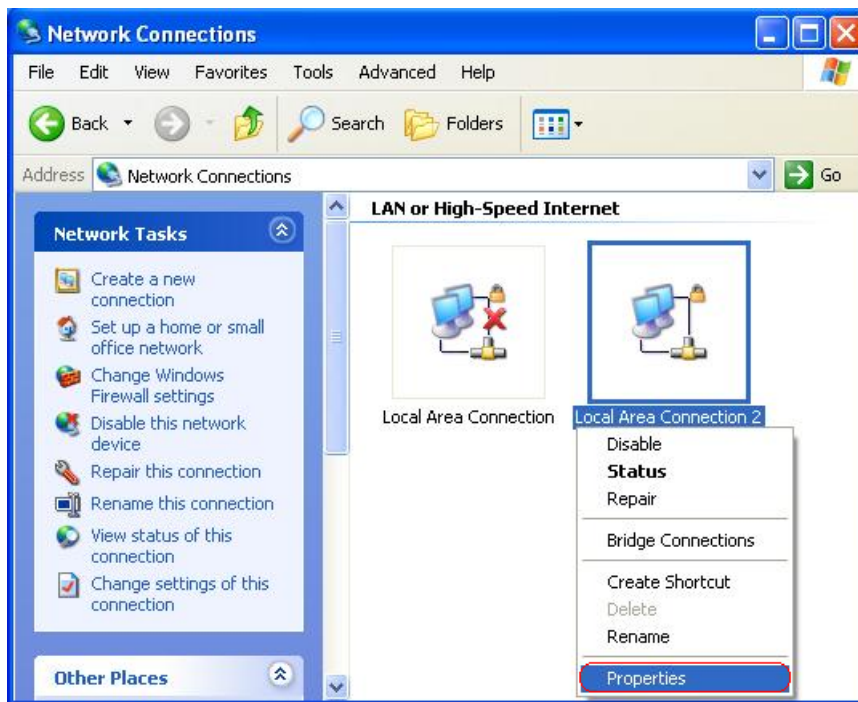
**Step 1:** Click **Start** then select **Control Panel (in the Classic View)**.



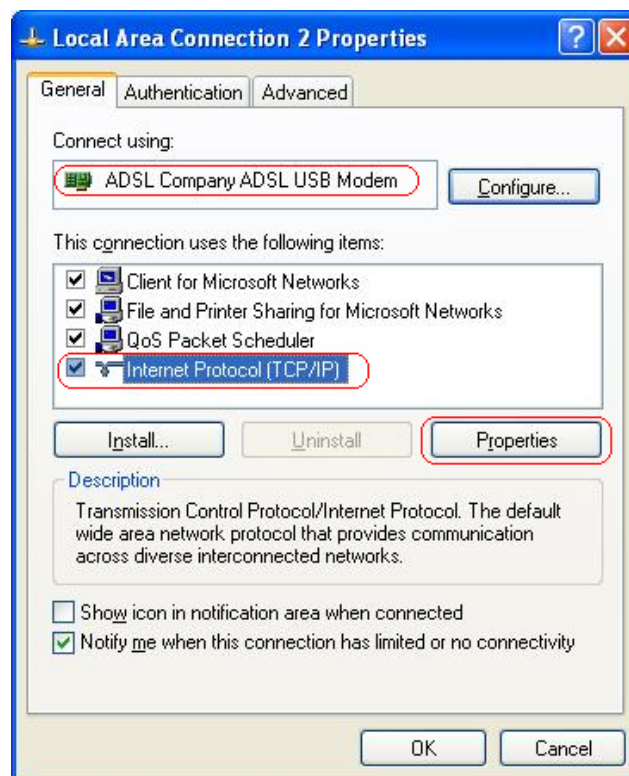
**Step 2:** Double-click **Network Connections** icon.



**Step 3:** Right-click **Local Area Connection** (local network your ADSL hooked up with) and select **Properties**:



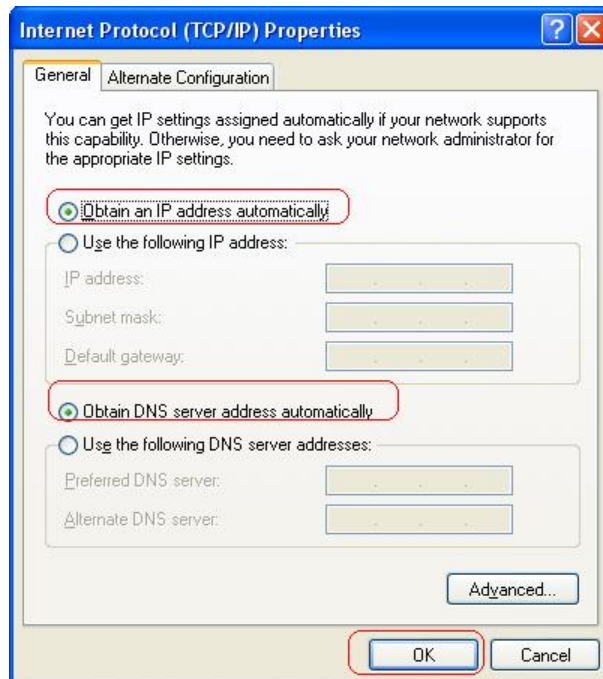
**Step 4:** Select **Internet Protocol (TCP/IP)** then click **Properties**:



### Configure IP address Automatically:

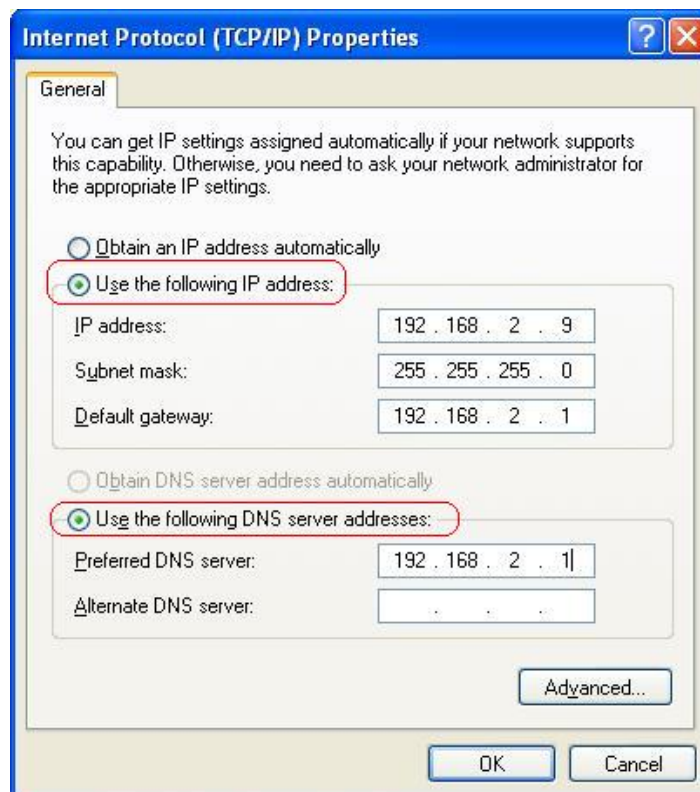
**Step 5:** Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.

Click **OK** to finish the configuration.



### Configure IP Address Manually:

**Step 5:** Select **Use the following IP address** and **Use the following DNS server addresses**.



**IP address:** Fill in IP address 192.168.2.x (x is a number between 2 to 254).

**Subnet mask:** Default value is 255.255.255.0.

**Default gateway:** Default value is 192.168.2.1.

**Preferred DNS server:** Fill in preferred DNS server IP address.

**Alternate DNS server:** Fill in alternate DNS server IP address.

You can use ping command under DOS prompt to check if you have setup TCP/IP protocol correctly and if your computer has successfully connected to this router.

1) Type **ping 192.168.2.1** under DOS prompt and the following messages will appear:

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 times<2ms TTL=64

Reply from 192.168.2.1: bytes=32 times<1ms TTL=64

Reply from 192.168.2.1: bytes=32 times<10ms TTL=64

If the communication link between your computer and router is not setup correctly, after you type **ping 192.168.2.1** under DOS prompt following messages will appear:

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.

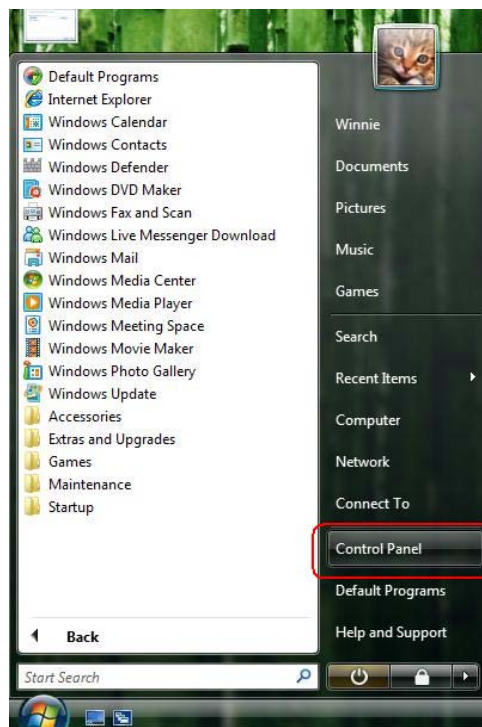
Request timed out.

Request timed out.

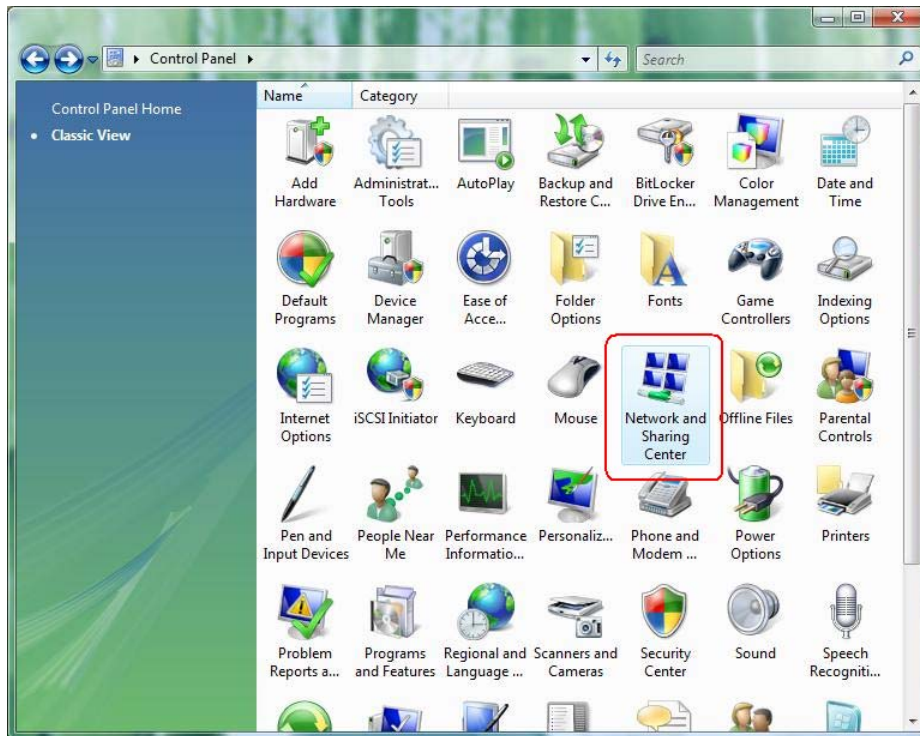
This failure might be caused by cable issue or something wrong in configuration procedure.

### **For Windows Vista**

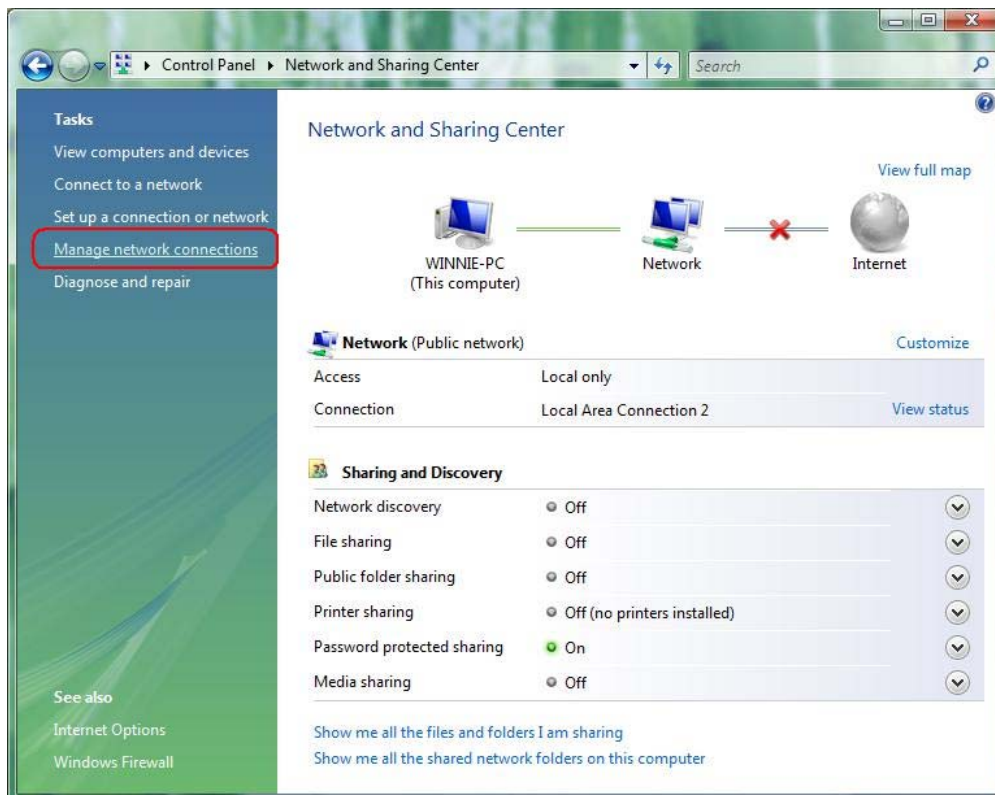
**Step 1:** Click **Start** then select **Control Panel (in the Classic View)**.



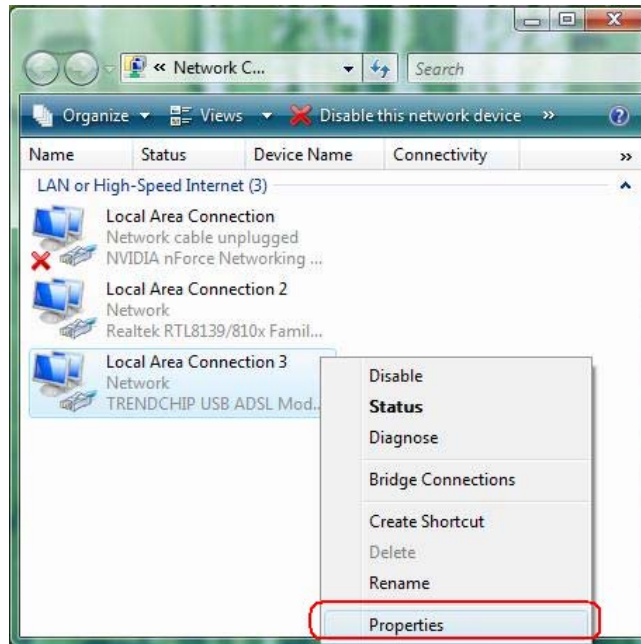
**Step 2:** Double-click **Network and Sharing Center** icon.



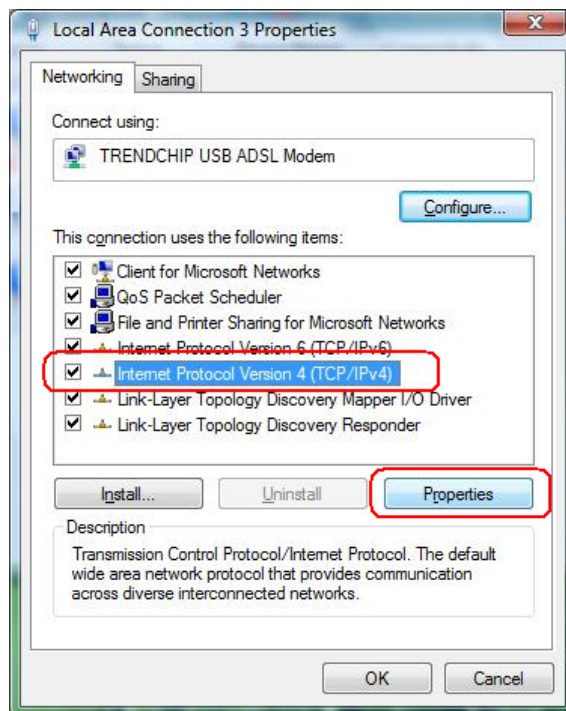
**Step 3:** Select **"Manage Network connections"**.



**Step 4:** Right-click **Local Area Connection** (local network your ADSL hooked up with) and select **Properties**:



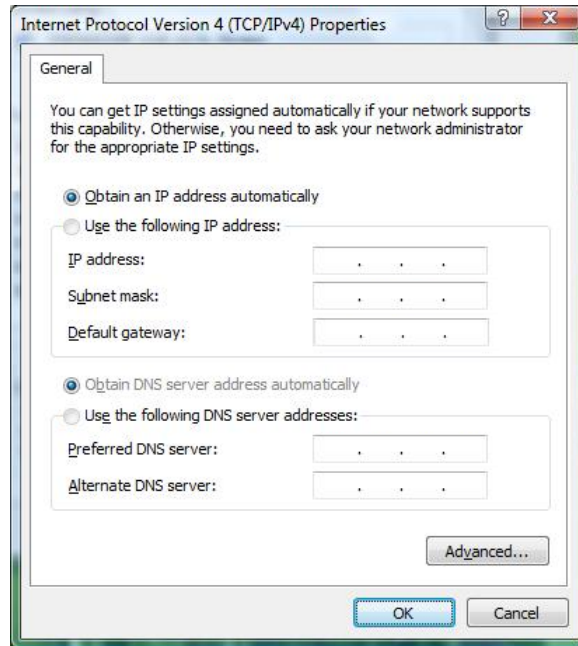
**Step 5:** Select **Internet Protocol (TCP/IP)** then click **Properties**:



### Configure IP address Automatically:

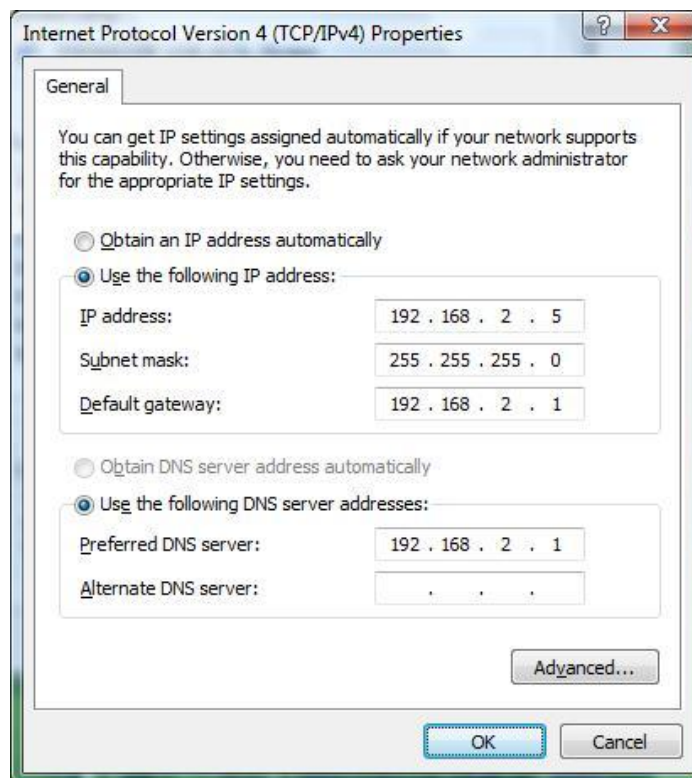
**Step 6:** Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.

Click **OK** to finish the configuration.



### Configure IP Address Manually:

**Step 7:** Select **Use the following IP address** and **Use the following DNS server addresses**.





**IP address:** Fill in IP address 192.168.2.x (x is a number between 2 to 254).

**Subnet mask:** Default value is 255.255.255.0.

**Default gateway:** Default value is 192.168.2.1.

**Preferred DNS server:** Fill in preferred DNS server IP address.

**Alternate DNS server:** Fill in alternate DNS server IP address.

You can use ping command under DOS prompt to check if you have setup TCP/IP protocol correctly and if your computer has successfully connected to this router.

2) Type **ping 192.168.2.1** under DOS prompt and the following messages will appear:

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 times<2ms TTL=64

Reply from 192.168.2.1: bytes=32 times<1ms TTL=64

Reply from 192.168.2.1: bytes=32 times<10ms TTL=64

If the communication link between your computer and router is not setup correctly, after you type **ping 192.168.2.1** under DOS prompt following messages will appear:

Pinging 192.168.2.1 with 32 bytes of data:

Request timed out.

Request timed out.

Request timed out.

This failure might be caused by cable issue or something wrong in configuration procedure.

After you enter User ID and Password, the main webpage will show as below:

**Air Live®** ARM201

**Status** | Quick Start | Interface Setup | Advanced Setup | Access Management | Maintenance | **Status** | Help

Device Info | System Log | Statistics

---

**Device Information**

Firmware Version : 2.10.5.0(UE0.C29)3.6.0.0  
 MAC Address : 00:06:4f:53:c5:31

---

**LAN**

IP Address : 192.168.2.1  
 Subnet Mask : 255.255.255.0  
 DHCP Server : Enabled

---

**WAN**

Virtual Circuit :    
 Status : Not Connected  
 Connection Type : PPPoE  
 IP Address : 0.0.0.0  
 Subnet Mask : 0.0.0.0  
 Default Gateway : 0.0.0.0  
 DNS Server : 0.0.0.0  
 NAT : Enabled

---

**ADSL**

ADSL Firmware Version : FwVer:3.6.0.0\_A\_TC3085 HwVer:T14.F7\_1.0  
 Line State : Down  
 Modulation : Multi-Mode  
 Annex Mode : ANNEX\_A

	Downstream	Upstream	
SNR Margin :	N/A	N/A	db
Line Attenuation :	N/A	N/A	db
Data Rate :	0	0	kbps

# Chapter 4: Configure ADSL2+ Router via HTML Interface

ADSL2+ Router supports a Web-based (HTML) GUI to allow users to configure Router setting via Web browser.

## 4.1 Login

- 1) Launch the Web browser.
- 2) Enter the default IP address <http://192.168.2.1>



- 3) Entry of the username and password will be displayed. Enter the default **login**

**User Name** and **Password**:

- The default login **User Name** of the administrator is **admin**, and the default **login password** is **airlive**.



The main webpage will be displayed as below:

Status	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Device Info	System Log	Statistics				
<b>Device Information</b>	Firmware Version : 2.10.5.0(UE0.C29)3.6.0.0 MAC Address : 00:06:4f:53:c5:31						
<b>LAN</b>	IP Address : 192.168.2.1 Subnet Mask : 255.255.255.0 DHCP Server : Enabled						
<b>WAN</b>	Virtual Circuit : <input type="text" value="PVC0"/> Status : Not Connected Connection Type : PPPoE IP Address : 0.0.0.0 Subnet Mask : 0.0.0.0 Default Gateway : 0.0.0.0 DNS Server : 0.0.0.0 NAT : Enabled						
<b>ADSL</b>	ADSL Firmware Version : FwVer:3.6.0.0_A_TC3085 HwVer:T14.F7_1.0 Line State : Down Modulation : Multi-Mode Annex Mode : ANNEX_A						
			Downstream	Upstream			
			SNR Margin :	N/A	N/A	db	
			Line Attenuation :	N/A	N/A	db	
			Data Rate :	0	0	kbps	

## 4.2 Quick Start

Click **Quick Start** to guide you to configure the device to connect your ISP and have Internet access within minutes. This Quick Start will guide you step by step to configure the password, time zone, and WAN settings of you device. This Wizard is a helpful guide for first time uses to the device.

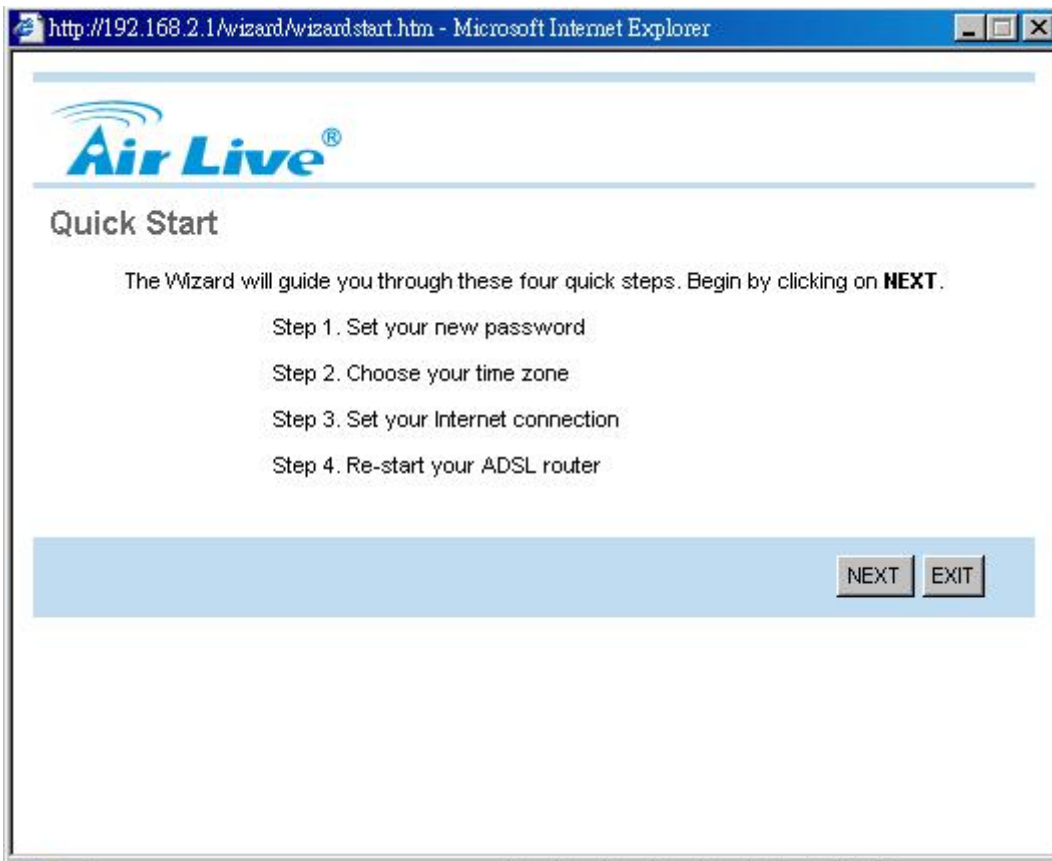
**NOTE:** It is a strong recommendation that using **Quick Start** to configure your ADSL settings.

Quick Start	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
-------------	-------------	-----------------	----------------	-------------------	-------------	--------	------

---

Quick Start

This ADSL Router is ideal for home networking and small business networking. The 'Quick Start' wizard will guide you to configure the ADSL router to connect to your ISP (Internet Service Provider). The router's easy Quick Start will allow you to have Internet access within minutes. Please follow the 'Quick Start' wizard step by step to configure the ADSL Router.



http://192.168.2.1/wizard/wizardstart.htm - Microsoft Internet Explorer

**Air Live**

### Quick Start

The Wizard will guide you through these four quick steps. Begin by clicking on **NEXT**.

- Step 1. Set your new password
- Step 2. Choose your time zone
- Step 3. Set your Internet connection
- Step 4. Re-start your ADSL router

The **Quick Start** Setup Wizard includes four quick steps: **1) Set your new password. 2) Choose your time zone. 3) Set your Internet connection. 4) Re-start your ADSL router.**

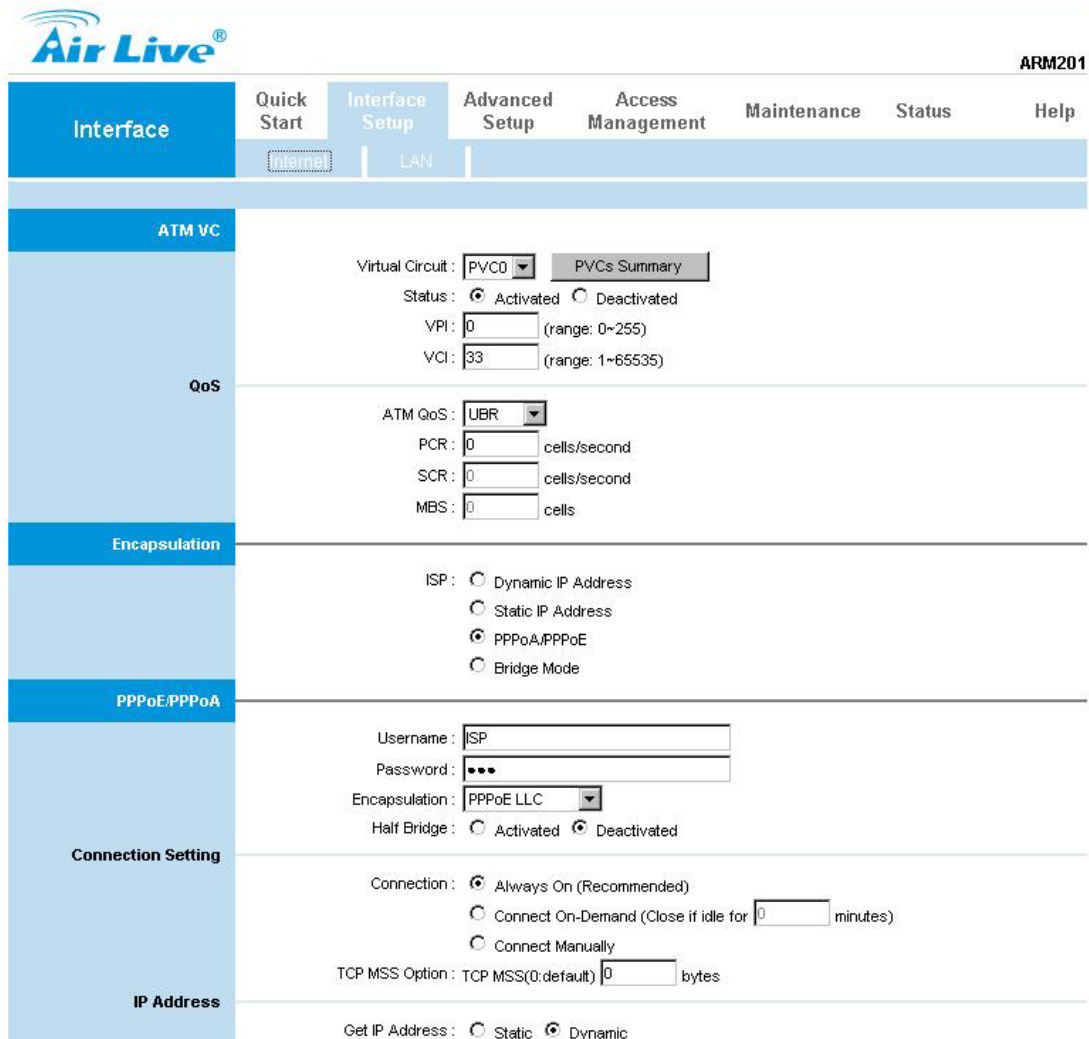
Please follow the quick start step by step to configure the device.

**Note:** If your ISP doesn't provide DNS, after you complete Quick Start configuration, please go to **Interface Setup → Internet** to configure your DNS settings.

## 4.3 Interface Setup

Click an **Interface Setup** link to set ATM VC values, ISP Encapsulation, configure multi-connection settings, and LAN configuration.

### 4.3.1 Internet



**Air Live** ARM201

Interface | Quick Start | **Interface Setup** | Advanced Setup | Access Management | Maintenance | Status | Help

Internet | LAN

---

**ATM VC**

Virtual Circuit: PVC0 PVCs Summary

Status:  Activated  Deactivated

VPI: 0 (range: 0~255)

VCI: 33 (range: 1~65535)

---

**QoS**

ATM QoS: UBR

PCR: 0 cells/second

SCR: 0 cells/second

MBS: 0 cells

---

**Encapsulation**

ISP:  Dynamic IP Address  
 Static IP Address  
 PPPoA/PPPoE  
 Bridge Mode

---

**PPPoE/PPPoA**

Username: ISP

Password: ●●●

Encapsulation: PPPoE LLC

Half Bridge:  Activated  Deactivated

---

**Connection Setting**

Connection:  Always On (Recommended)  
 Connect On-Demand (Close if idle for 0 minutes)  
 Connect Manually

TCP MSS Option: TCP MSS(0:default) 0 bytes

---

**IP Address**

Get IP Address:  Static  Dynamic

#### [ATM VC]

ATM settings are used to connect to your ISP. Your ISP provides VPI, VCI, settings to you. In this Device, you can totally setup 8 PVCs on different encapsulations if you apply 8 different virtual circuits from your ISP. You need to activate the VC to take effect. For PVCs management, you can use ATM QOS to setup each PVC traffic line's priority.

**Virtual Circuit:** Select the VC number you want to setup.

**VPI:** Virtual Path Identifier. The valid range for the VPI is 0 to 255.

**VCI:** Virtual Channel Identifier. The valid range for the VCI is 1 to 65635 (0 to 31 is reserved for local management of ATM traffic).

**ATM QoS:** Select the Quality of Service types for this Virtual Circuit. The ATM QoS types include CBR(Constant Bit Rate), VBR(Variable Bit Rate) and UBR (Unspecified Bit Rate). These QoS types are all controlled by the parameters specified below, including PCR, SCR, and MBS.

**PCR:** Peak Cell Rate.

**SCR:** Sustained Cell Rate.

**MBS:** Maximum Burst Size.

**[Encapsulation]**

**Dynamic IP:** Select this option if your ISP provides you an IP address automatically. This option is typically used for Cable services. Please enter the Dynamic IP information accordingly.

**Static IP:** Select this option to set static IP information. You will need to enter in the encapsulation type (1483 Bridged IP LLC, 1483 Bridged IP VC-Mux, 1483 Routed IP LLC (IPoA), 1483 Routed IP VC-Mux), IP address, subnet mask, and gateway address provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which is 4 IP octets separated by a dot (x.x.x.x). The Router will not accept the IP address if it is not in this format.

**PPPoA/PPPoE:** Select this option if your ISP requires you to use a PPPoE connection. This option is typically used for DSL service. Select Dynamic PPPoE to obtain an IP address automatically for your PPPoE connection. Selection Static PPPoE to use static IP address for your PPPoE connection. Please enter the information accordingly.

**Username:** Enter your username for your PPPoE/PPPoA connection.

**Password:** Enter your password for your PPPoE/PPPoA connection

**Encapsulation:** For both PPPoE/PPPoA connections, you need to specify the type of Multiplexing, either LLC or VC mux.

**Connection Setting:** For PPPoE/PPPoA connection, you can select Always on or Connect on-demand. Connect on demand is dependent on the traffic. If there is no traffic (or Idle) for a pre-specified period of time, the connection will tear down automatically. And once there is traffic send or receive, the connection will be automatically on.

**IP Address:** For PPPoE/PPPoA connection, you need to specify the public IP address for this ADSL Router. The IP address can be either dynamically (via DHCP) or given IP address provide by your ISP. For Static IP, you need to specify the IP address, Subnet Mask and Gateway IP address.

**Bridge Mode:** The modem can be configured to act as a bridging device between your LAN and your ISP. Bridges are devices that enable 2 or more networks to communicate as if they are 2 segments of the same physical LAN. Please set the Connection type.



Interface	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Internet	LAN	ADSL2+   DSL   Cable   GPRS   GSM   UWB   WCDMA   XDSL   Other				
Encapsulation	ISP: <input type="radio"/> Dynamic IP Address <input type="radio"/> Static IP Address <input checked="" type="radio"/> PPPoA/PPPoE <input type="radio"/> Bridge Mode						
PPPoE/PPPoA	Username: <input type="text" value="ISP"/> Password: <input type="password" value="..."/> Encapsulation: <input type="text" value="PPPoE LLC"/> Half Bridge: <input type="radio"/> Activated <input checked="" type="radio"/> Deactivated						
Connection Setting	Connection: <input checked="" type="radio"/> Always On (Recommended) <input type="radio"/> Connect On-Demand (Close if idle for <input type="text" value="0"/> minutes) <input type="radio"/> Connect Manually TCP MSS Option: TCP MSS(0:default) <input type="text" value="0"/> bytes						
IP Address	Get IP Address: <input type="radio"/> Static <input checked="" type="radio"/> Dynamic Static IP Address: <input type="text" value="0.0.0.0"/> IP Subnet Mask: <input type="text" value="0.0.0.0"/> Gateway: <input type="text" value="0.0.0.0"/> NAT: <input type="text" value="Enable"/> Default Route: <input checked="" type="radio"/> Yes <input type="radio"/> No TCP MTU Option: TCP MTU(0:default) <input type="text" value="0"/> bytes Dynamic Route: <input type="text" value="RIP1"/> Direction <input type="text" value="Both"/> Multicast: <input type="text" value="Disabled"/>						
<input type="button" value="SAVE"/>							

### [NAT]

**NAT:** Select this option to Activate/Deactivated the NAT (Network Address Translation) function for this VC. The NAT function can be activated or deactivated per PVC basis.

**Default Router:** Select whether this PVC will be default router for internet data.

### [Dynamic Route]

**RIP (Routing Information Protocol):** Select this option to specify the RIP version, including **RIP1**, **RIP2-B** and **RIP2-M**. RIP2-B & RIP2-M are both sent in RIP-2 format, the difference is that RIP2-M using Multicast and RIP2-B using Broadcast format.

**RIP Direction:** Select this option to specify the RIP direction. **None** is for disabling the RIP function. **Both** means the ADSL Router will periodically send routing information and accept routing information then incorporate into routing table. **IN only** means the ADSL router will only accept but will not send RIP packet. **OUT only** means the ADSL router will only sent but will not accept RIP packet.

**[Multicast]**

**IGMP (Internet Group Multicast Protocol):** It is a session-layer protocol used to establish membership in a multicast group. The ADSL supports both IGMP version **IGMP-v1** & **IGMP-v2**. Select **None** to disable it.

**Note:** Every time you change one setting, you must click **SAVE** button once, and then go to next setting's change.

**4.3.2 LAN**

There are the IP settings of the **LAN** Interface for the device. These settings may be referred to as Private settings. You may change the LAN IP address if needed. The LAN IP address is provided to your internal network and cannot be seen on the Internet.

The screenshot shows the 'Air Live' web interface for device 'ARM201'. The 'Interface Setup' tab is selected, and the 'LAN' interface is active. The configuration is divided into three main sections: Router Local IP, DHCP, and DNS. In the Router Local IP section, the IP Address is 192.168.2.1, the Subnet Mask is 255.255.255.0, Dynamic Route is set to RIP2-B with Direction None, Multicast is Disabled, and IGMP Snoop is Disabled. The DHCP section shows DHCP is Enabled. The DNS section shows DNS Relay is set to Use Auto Discovered DNS Server Only, with Primary and Secondary DNS Servers set to N/A. At the bottom, there are 'SAVE' and 'CANCEL' buttons.

**[Router Local IP]**

**IP Address:** Enter the IP address of your ADSL router in dotted decimal notation, for example, 192.168.2.1 (default setting).

**IP Subnet Mask:** Your ADSL router will automatically calculate the subnet mask based on the IP address that you assign. Unless you are implementing sub netting, use the subnet mask computed by the ADSL router.

**Dynamic Route:** Select the Dynamic Route from **RIP1**, **RIP2-B**, and **RIP2-M**. Please refer to **Internet** → **Dynamic Route**. The only difference is the interface.

**Direction:** Select the RIP direction from **None**, **Both**, **In Only** and **Out Only**.

**Multicast:** IGMP (Internet Group Multicast Protocol) is a session-layer protocol used to establish membership in a multicast group. The ADSL router supports both **IGMP-v1** and **IGMP-v2**. Select **None** to disable it. Please refer to **Internet→ Multicast**. The only difference is the interface.

### **[DHCP Server]**

The DHCP Server gives out IP addresses when a device is booting up and request an IP to be logged on to the network. That device must be set as a DHCP client to obtain the IP address automatically. By default, the DHCP Server is enabled. The DHCP address pool contains the range of the IP address that will automatically be assigned to the client on the network.

**Starting IP address:** The starting IP address for the DHCP server's IP assignment.

**IP Pool Count:** The max user pool size.

**Lease Time:** The length of time for the IP lease.

### **[DHCP Relay]**

A DHCP relay is a computer that forwards DHCP data between computers that request IP addresses and the DHCP server that assigns the addresses. Each of the device's interfaces can be configured as a DHCP relay. If it is enable, the DHCP requests from local PCs will forward to the DHCP server runs on WAN side. To have this function working properly, please run on router mode only, disable the DHCP server on the LAN port, and make sure the routing table has the correct routing entry.

**DHCP Server IP for relay agent:** The DHCP server IP Address runs on WAN side.

### **[DNS Relay]**

The DNS Configuration allows the user to set the configuration of DNS.

**DNS Rely Selection:** If user wants to disable this feature, he just needs to set both Primary & Secondary DNS to 0.0.0.0. Using DNS relay, users can setup DNS server IP to 192.168.2.1 on their computer. If not, device will perform as NO DNS relay.

## 4.4 Advanced Setup

### 4.4.1 Firewall

User can enable or disable firewall feature of the ADSL router in the page.

**Air Live** ARM201

Advanced | Quick Start | Interface Setup | **Advanced Setup** | Access Management | Maintenance | Status | Help

Firewall | Routing | NAT | QoS | ADSL

**Firewall**

Firewall :  Enabled  Disabled  
 SPI :  Enabled  Disabled  
 (WARNING: If You enabled SPI, all traffics initiated from WAN would be blocked, including DMZ, Virtual Server, and ACL WAN side.)

SAVE CANCEL

### 4.4.2 Routing

This table lists IP address of Internet destinations commonly accessed by your network. When a computer requests to send data to a listed destination, the device uses the Gateway IP to identify the first Internet router it should contact to route the data most efficiently. Select this option will list the routing table information. You can press **ADD ROUTE** to edit the static route.

**Air Live** ARM201

Advanced | Quick Start | Interface Setup | **Advanced Setup** | Access Management | Maintenance | Status | Help

Firewall | **Routing** | NAT | QoS | ADSL

**Routing Table List**

#	Dest IP	Mask	Gateway IP	Metric	Device	Use	Edit	Drop
1	192.168.2.0	24	192.168.2.1	1	enet0	1598		
2	default	0	Node1	2	Idle	2		

ADD ROUTE

#### [Static Route]

Select this option to set Static Routing information.

The screenshot shows the AirLive ARM201 web interface. At the top left is the AirLive logo. At the top right is the model number ARM201. Below the logo is a navigation menu with the following items: Quick Start, Interface Setup, Advanced Setup (selected), Access Management, Maintenance, Status, and Help. Under 'Advanced Setup', there are sub-menus: Firewall, Routing, NAT (selected), QoS, and ADSL. The main content area is titled 'Static Route'. It contains the following configuration fields:

- Destination IP Address: 0.0.0.0
- IP Subnet Mask: 0.0.0.0
- Gateway IP Address:  0.0.0.0  PVC0
- Metric: 0
- Announced in RIP: Yes

At the bottom of the form are four buttons: SAVE, DELETE, BACK, and CANCEL.

**Destination IP Address:** This parameter specifies the IP network address of the final destination.

**IP Subnet Mask:** Enter the subnet mask for this destination.

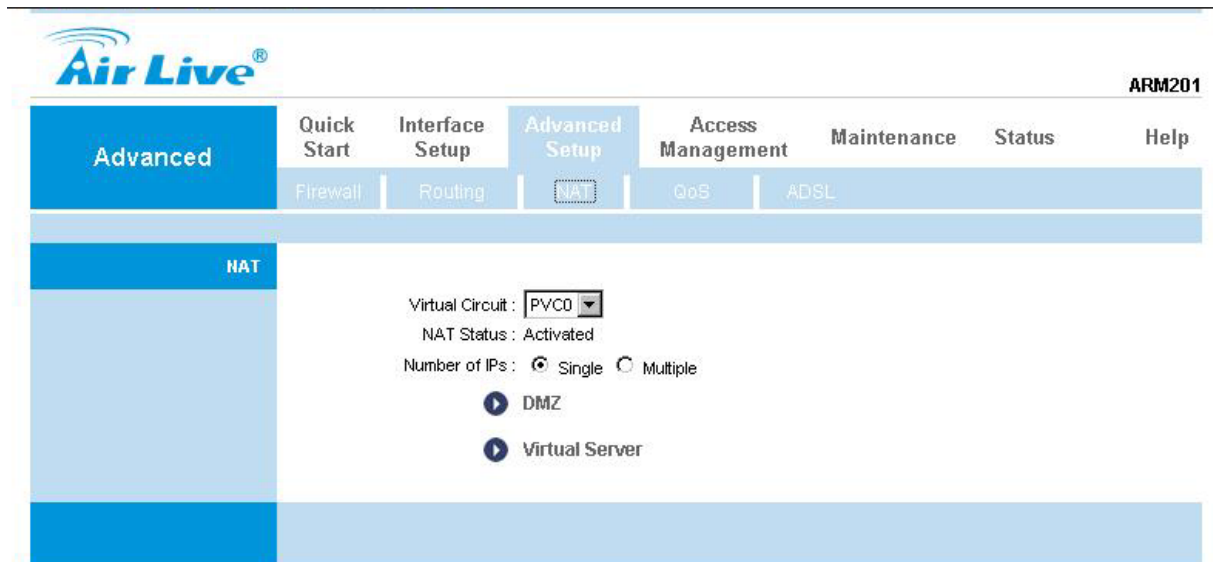
**Gateway IP Address:** Enter the IP address of the gateway. The gateway is an immediate neighbor of your ADSL Router that will forward the packet to the destination. On the LAN, the gateway must be a router on the same segment as your Router; over Internet (WAN), the gateway must be the IP address of one of the remote nodes.

**Metric:** Metric represents the “cost” of transmission for routing purposes. IP Routing uses hop count as the measurement of cost, with a minimum of 1 for directly connected networks. Enter a number that approximates the cost for this link. The number need not to be precise, but it must be between 1 and 15. In practice, 2 or 3 is usually a good number.

**Announced in RIP:** This parameter determines if the ADSL router includes the router to this remote node in its RIP broadcasts. If you choose **Yes**, the router in this remote node will be propagated to other hosts through RIP broadcasts. If No, this route is kept private and is not included in RIP broadcasts.

#### 4.4.3 NAT

**Network Address Translation (NAT)** is a method for disguising the private IP addresses you use on your LAN as the public IP address you use on the Internet. You define NAT rules that specify exactly how and when to translate between public and private IP addresses. Simply select this option to setup the NAT function for your ADSL router.

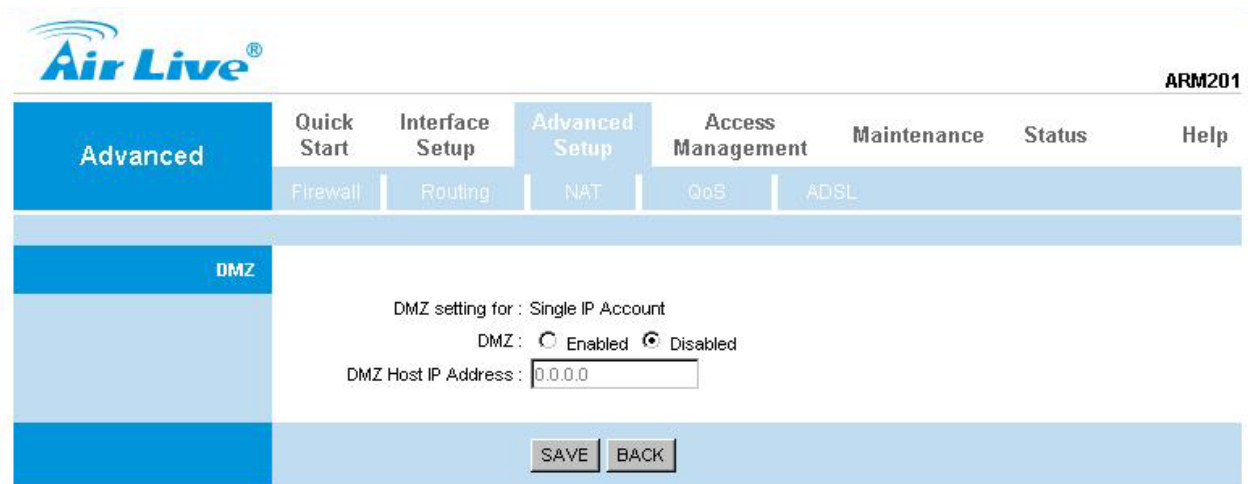


**Virtual Circuit (VC):** The Virtual Circuit (VC) properties of the ATM VC interface identify a unique path that your ADSL/Ethernet router uses to communicate via the ATM-based network with the telephone company central office equipment.

**NAT Status:** This field shows the current status of the NAT function for the current VC.

**Number of IPs:** This field is to specify how many IPs are provided by your ISP for current VC. It can be single IP or multiple IPs.

**Note:** For VCs with single IP, they share the same DMZ & Virtual servers; for VCs with multiple IPs, each VC can set DMZ and Virtual servers. Furthermore, for VCs with multiple IPs, they can define the Address Mapping rules; for VCs with single IP, since they have only one IP, there is no need to individually define the Address Mapping rule.



### [DMZ]

A **DMZ** (de-militarized zone) is a host between a private local network and the outside public network. It prevents outside users from getting direct access to a server that has company data. Users of the public network outside the company can access only the DMZ host.

**DMZ Host IP Address:** Enter the specified IP Address for DMZ host on the LAN side

**Advanced**
Quick Start
Interface Setup
Advanced Setup
Access Management
Maintenance
Status
Help

Firewall
Routing
NAT
QoS
ADSL

Virtual Server

Virtual Server for : Single IP Account

Rule Index :

Application :

Protocol :

Start Port Number :

End Port Number :

Local IP Address :

**Virtual Server Listing**

Rule	Application	Protocol	Start Port	End Port	Local IP Address
1	-	-	0	0	0.0.0.0
2	-	-	0	0	0.0.0.0
3	-	-	0	0	0.0.0.0
4	-	-	0	0	0.0.0.0
5	-	-	0	0	0.0.0.0
6	-	-	0	0	0.0.0.0
7	-	-	0	0	0.0.0.0
8	-	-	0	0	0.0.0.0
9	-	-	0	0	0.0.0.0
10	-	-	0	0	0.0.0.0
11	-	-	0	0	0.0.0.0
12	-	-	0	0	0.0.0.0
13	-	-	0	0	0.0.0.0
14	-	-	0	0	0.0.0.0
15	-	-	0	0	0.0.0.0
16	-	-	0	0	0.0.0.0

### [Virtual Server]

The Virtual Server is the server or server(s) behind NAT (on the LAN), for example, Web server or FTP server, that you can make visible to the outside world even though NAT makes your whole inside network appear as a single machine to the outside world.

**Rule Index:** The Virtual server rule index for this VC. You can specify up to 10 rules. All the VCs with single IP will use the same Virtual Server rules.


**Start & End port number:** Enter the specific Start and End Port number you want to forward. If it is one port only, you can enter the End port number the same as Start port number. For example, set the FTP Virtual server, you can set the start and end port number to 21.

**Local IP Address:** Enter the IP Address for the Virtual Server in LAN side.

#### 4.4.4 QoS

##### [QoS (Quality of Service)]

This option will provide better service of selected network traffic over various technologies. Deploying QoS management to guarantee that all application receive the service levels required and sufficient bandwidth to meet performance expectations is indeed one important aspect of modem enterprise network.


ARM201

<b>Advanced</b>	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	Firewall	Routing	NAT	QoS	ADSL		

---

Quality of Service

Rule

QoS:  Activated  Deactivated

Summary: [QoS Settings Summary](#)

---

Rule Index:

Active:  Activated  Deactivated

Application:

Physical Ports:

Destination MAC:

IP:

Mask:

Port Range:  ~

Source MAC:

IP:

Mask:

Port Range:  ~

Protocol ID:

Vlan ID Range:  ~

IPP/DS Field:  IPP/TOS  DSCP

IP Precedence Range:  ~

Type of Service:

DSCP Range:  ~  (Value Range: 0 ~ 63)

802.1p:  ~

---

IPP/DS Field:  IPP/TOS  DSCP

IP Precedence Remarking:

Type of Service Remarking:



#### 4.4.5 ADSL

Select this option to set ADSL Mode and ADSL Type information.

The screenshot shows the AirLive ARM201 web interface. At the top left is the 'Air Live' logo, and at the top right is the model number 'ARM201'. Below the logo is a navigation bar with several tabs: 'Advanced', 'Quick Start', 'Interface Setup', 'Advanced Setup', 'Access Management', 'Maintenance', 'Status', and 'Help'. The 'Advanced Setup' tab is selected, and within it, the 'ADSL' sub-tab is active. The main content area shows the ADSL configuration form. It includes two dropdown menus: 'ADSL Mode' is set to 'Auto Sync-Up' and 'ADSL Type' is set to 'ANNEX A'. At the bottom of the form area is a 'SAVE' button.

**ADSL Mode:** You can set your **ADSL mode** in this section. The option has Auto Sync-up, ADSL2+, ADSL2, G.DMT, T1.413, G.LITE

**ADSL Type:** ANNEX A, ANNEX I, ANNEX A/L, ANNEX M, ANNEX A/I/J/L/M

## 4.5 Access Management

### 4.5.1 ACL

Go to **Access Management** → **ACL** to enable remote management. You may use telnet or Web to remotely manage the ADSL Router. User just needs to enable Telnet or Web and give it an IP address that wants to access the ADSL Router. The default IP 0.0.0.0 allows any client to use this service to remotely manage the ADSL Router.

The screenshot shows the AirLive ARM201 web interface. The top navigation bar includes 'Access Management', 'Quick Start', 'Interface Setup', 'Advanced Setup', 'Access Management', 'Maintenance', 'Status', and 'Help'. The 'Access Management' section is expanded to show 'ACL', 'Filter', 'SNMP', 'UPnP', 'DDNS', and 'CWMP'. The 'Access Control Setup' section is active, showing 'ACL' as 'Deactivated'. Below this, there are fields for 'ACL Rule Index' (1), 'Active' (No), 'Secure IP Address' (0.0.0.0 ~ 0.0.0.0), 'Application' (Web), and 'Interface' (Both). At the bottom, there is a table with columns 'Index', 'Active', 'Secure IP Address', 'Application', and 'Interface', and three buttons: 'SAVE', 'DELETE', and 'CANCEL'.

**ACL:** There has **Activated** & **Deactivated** option. The default setting is **Deactivated** which means all IP can access via router. If you choose **Activated**, you only can access via router by listed IP addresses.

**ACL Rule Index:** Index number from 1 and up to 16.

**Active:** Once you choose **Yes** then you can access the IP via router.

**Application:** Each of these labels denotes a service that you may use to remotely manage the Router. Choices are **Web**, **FTP**, **Telnet**, **SNMP**, **Ping**, **ALL**.

**Interface:** Select the access interface. Choices are **WAN**, **LAN** and **Both**.

#### For Example:

How to set your ACL?

1. You must choose **Activated** to enable your ACL function.
2. Select the ACL Rule Index number (up to 16 number)
3. You can set the specific **Secure IP address** or set **0.0.0.0** for all IPs.
4. Choose the **Application** which you want to access for this ACL Rule index.
5. Select the **Interface** you want to access from.
6. After all settings are ready, click **SAVE** and continue next ACL Rule Index setting.

Access Management	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	ACL	Filter	SNMP	UPnP	DDNS	CWMP	

---

**Access Control Setup**

ACL:  Activated  Deactivated

---

**Access Control Editing**

ACL Rule Index:

Active:  Yes  No

Secure IP Address:  ~  (0.0.0.0 ~ 0.0.0.0 means all IPs)

Application:

Interface:

---

**Access Control Listing**

Index	Active	Secure IP Address	Application	Interface
1	Yes	0.0.0.0-0.0.0.0	Web	LAN
2	Yes	0.0.0.0-0.0.0.0	Telnet	LAN
3	No	0.0.0.0-0.0.0.0	FTP	Both
4	No	0.0.0.0-0.0.0.0	SNMP	Both
5	No	0.0.0.0-0.0.0.0	Ping	LAN
6	No	0.0.0.0-0.0.0.0	ALL	LAN

**[Note]**

1. You must set one ACL index to access your router via LAN interface. If you don't, your router cannot access other listed IP Address. (Refer to Index 1).
2. Remember! Once you activate your ACL function, you only can access via router by listed Secure IP Address.

#### 4.5.2 IP Filter

The Router provides extensive firewall protection by restricting connection parameters to limit the risk of intrusion and defending against a wide array of common hacker attackers. Go to **Access Management** → **Filter** to set different IP filter rules of a given protocol (TCP, UDP, or ICMP) and a specific direction (incoming, outgoing, or both) to filter the packets.

IP Filter is a more complex filtering tool, based more on IP and custom rules. Each of the indices can hold six rules, and each interface can have four associated indices, allowing 24 rules per interface. If all six rules in an index are Next rules, the data will be sent to the next index for filtering.

<b>Access Management</b>	<b>Quick Start</b>	<b>Interface Setup</b>	<b>Advanced Setup</b>	<b>Access Management</b>	<b>Maintenance</b>	<b>Status</b>	<b>Help</b>
	ACL	<b>Filter</b>	SNMP	UPnP	DDNS	CWMP	

---

**Filter**

**Filter Type**

Filter Type Selection: IP / MAC Filter

---

**IP / MAC Filter Set Editing**

IP / MAC Filter Set Index: 1

Interface: PVC0

Direction: Both

---

**IP / MAC Filter Rule Editing**

IP / MAC Filter Rule Index: 1

Rule Type: IP

Active:  Yes  No

---

Source IP Address: [ ] (0.0.0.0 means Don't care)

Subnet Mask: [ ]

Port Number: 0 (0 means Don't care)

---

Destination IP Address: [ ] (0.0.0.0 means Don't care)

Subnet Mask: [ ]

Port Number: 0 (0 means Don't care)

---

Protocol: TCP

Rule Unmatched: Forward

---

**IP / MAC Filter Listing**

IP / MAC Filter Set Index: 1      Interface: -      Direction: -

#	Active	Src Address/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
1	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-

**Filter Type:** You can select **IP/MAC Filter**, **Application**, and **URL Filter** type.

**IP/MAC Filter Set Index:** The IP/MAC Filter Set Index from 1 to 12 and each index can set up to 6 IP Filter.

**Interface:** Choices from **PVC0** to **PVC7** and **LAN**.

**Direction:** Choices are **Both**, **Incoming** and **Outgoing**. Select which direction of data flow you wish to apply the filters to. **Note** that **Incoming and Outgoing** are from the point of view of your router, relative to the interface you select. **For WAN**, data coming from outside your system is considered Incoming and data leaving your system is Outgoing. **For LAN**, data leaving your system is considered Incoming and data entering your system is Outgoing.

**IP/MAC Filter rule Index:** The IP/MAC Filter rule Index from 1 to 6.

**IP/MAC Filter Rule Editing:** Select the IP/MAC Filter Rule Index you wish to modify.

**Active:** Toggle this rule index on or off with Yes or No, respectively.

**Source IP Address:** Enter the source IP address you wish to deny access to your system.

**Subnet Mask:** Enter the subnet mask of the source IP address.

**Port Number:** Enter the port number of the source IP address. Note that 0 means all that ports are allowed.

**Destination IP Address:** Enter the destination IP address that you wish to deny access to your system.

**Subnet Mask:** Enter the subnet mask of the destination IP address

**Port Number:** Enter the port number of the destination IP address. Note that 0 means that all ports are allowed

**Protocol:** Select the protocol to filter. Choices are TCP, UDP, and ICMP.

**Rule Unmatched:** Choices are **Forward** and **Next**. Select what happens to the data in question if the rule you are currently editing is unmatched. Next means that the data is then compared to the next IP filter rule. Forward means that the data will be allowed into your system. Note that a Forward rule should be the last rule, as no data will be compared to rules after a Forward rule.

**IP/MAC Filter Set Index:** Select the IP/MAC filter set you wish to view.

**For Example**

**Access Management** | Quick Start | Interface Setup | Advanced Setup | **Access Management** | Maintenance | Status | Help

ACL | Filter | SNMP | UPnP | DDNS | CWMP

**Filter**

**Filter Type**

Filter Type Selection: IP / MAC Filter

**IP / MAC Filter Set Editing**

IP / MAC Filter Set Index: 1  
Interface: PVC0  
Direction: Outgoing

**IP / MAC Filter Rule Editing**

IP / MAC Filter Rule Index: 1  
Rule Type: IP  
Active:  Yes  No

Source IP Address: 0.0.0.0 (0.0.0.0 means Don't care)  
Subnet Mask: 0.0.0.0  
Port Number: 0 (0 means Don't care)

Destination IP Address: 0.0.0.0 (0.0.0.0 means Don't care)  
Subnet Mask: 0.0.0.0  
Port Number: 0 (0 means Don't care)

Protocol: TCP  
Rule Unmatched: Next

**IP / MAC Filter Listing**

IP / MAC Filter Set Index	1	Interface	PVC0	Direction	Outgoing		
#	Active	Src Address/Mask	Dest IP/Mask	Src Port	Dest Port	Protocol	Unmatched
1	No	0.0.0.0/ 0.0.0.0	0.0.0.0/ 0.0.0.0	0	0	TCP	Next
2	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-

Please follow below steps to set your IP Filter:

1. **IP Filter Set Editing:** Choose your **IP Filter Set Index**, Interface and Direction options. **Remember, Interface and Direction functions are affected with IP Filter Set Index.** EX: if your 1<sup>st</sup> index set of IP filter set PVC0 as Interface and Outgoing as Direction, so the list of 1<sup>st</sup> IP Filter will be PVC0 and Outgoing as their settings.
2. **IP Filter Rule Editing:** Select the **IP Filter Rule Index** (up to 6 numbers for each set index) and choose **Active** option. As below example, **Source IP Address** is 192.168.2.4, **Subnet Mask** is 255.255.255.255, **Destination IP Address & Subnet Mask** is 0.0.0.0, **Port Number** is 80. And, **Protocol** sets TCP. From this setting, it filters 192.168.2.14, so it cannot access the web. **Notice**, each IP Filter Set Index can has up to 6 filters IP. At “**Rule Unmatched**” option, you must choose **NEXT** until the last filter IP choose **Forward**.
3. After every setting is done, click **SAVE** to continue next IP Filter Editing.

### 4.5.3 SNMP

The **Simple Network Management Protocol (SNMP)** is used for exchanging information between network devices. It enables a host computer to access configuration, performance, and other system data that resides in a database on the modem. The host computer is called a *management station* and the modem is called an *SNMP agent*. The data that can be accessed via SNMP is stored in a *Management Information Database (MIB)* on the modem.



**Get Community:** Select to set the password for incoming Get- and GetNext request from management station.

**Set Community:** Select to set the password for incoming Set request from management station.

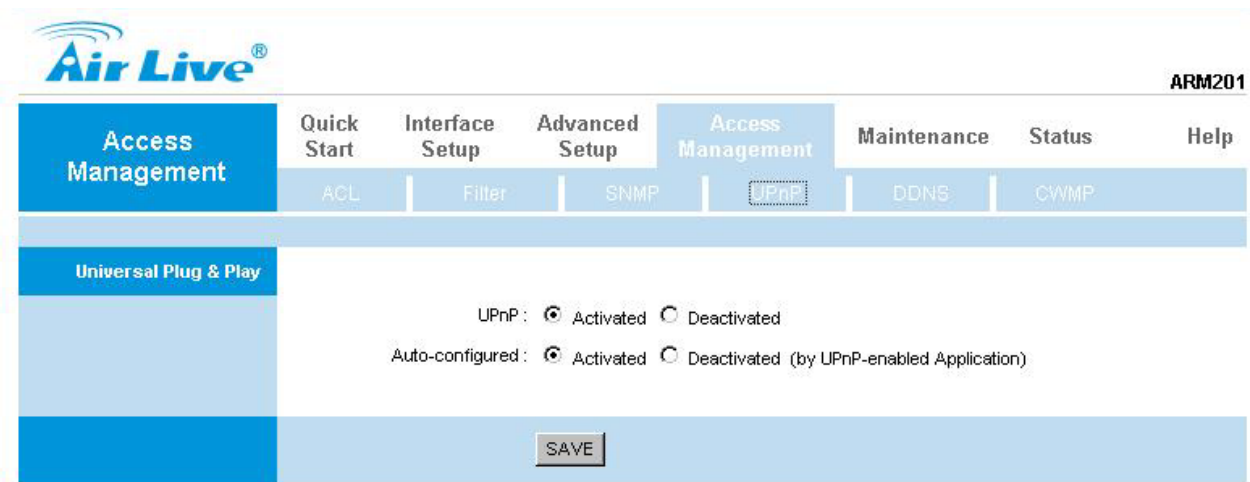
### 4.5.4 UPnP

**UPnP (Universal Plug and Play)** is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. An UPnP device can dynamically join a network, obtain an IP address, convey its capabilities and learn about other devices on the network. In turn, a device can leave a network smoothly and automatically when it is no longer in use. UPnP broadcasts are only allowed on the LAN.

**UPnP (Universal Plug and Play):** You can choose “**Activated**” or “**Deactivated**” option from this session.

**Auto-Configured (by UPnP Application):** UPnP network devices can automatically configure network addressing, announce their presence in the network to other UPnP devices and enable exchange of simple product and service descriptions. Choose “**Activated**” option to allow UPnP-enabled applications to automatically configure the ADSL Router so that they can communicate through the ADSL Router, for example by using NAT traversal, UPnP applications automatically reserve a NAT forwarding port in order to communicate with another UPnP enabled device; this eliminates the need to manually configure port forwarding for the UPP enabled application. If you don’t want to make configuration changes through UPnP, just choose “**Deactivated**”.

**SAVE:** Click **SAVE** to save the setting to the ADSL Router.



#### 4.5.5 DDNS

The **Dynamic Domain Name System** allows you to update your current dynamic IP address with one or many dynamic DNS services so that anyone can contact you (in NetMeeting, CU-SeeMe, etc.). You can also access your FTP server or Web site on your own computer using a DNS-like address (for instance myhost.dhs.org, where my host is a name of your choice) that will never change instead of using an IP address that changes each time you reconnect. Your friends or relatives will always be able to call you even if they don't know your IP address. First of all, you need to have registered a dynamic DNS account with www.dyndns.org. This is for people with a dynamic IP from their ISP or DHCP server that would still like to have a DNS name. The Dynamic DNS service provider will give you a password or key.

Access Management	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	ACL	Filter	SNMP	UPnP	DDNS	CWMP	
<b>Dynamic DNS</b>							
Dynamic DNS: <input type="radio"/> Activated <input checked="" type="radio"/> Deactivated Service Provider: <input type="text" value="www.dyndns.org"/> My Host Name: <input type="text"/> E-mail Address: <input type="text"/> Username: <input type="text"/> Password: <input type="text"/> Wildcard support: <input type="radio"/> Yes <input checked="" type="radio"/> No							
<input type="button" value="SAVE"/>							

**Dynamic DNS:** Choose the option for **Activated** or **Deactivated** DDNS.

**Service Provider:** The default Dynamic DNS service provider is [www.dyndns.org](http://www.dyndns.org).

**My Host Name:** Type the domain name assigned to your ADSL by your Dynamic DNS provider.

**E-mail Address:** Type your e-mail address.

**Username:** Type your user name.

**Password:** Type the password assigned to you.

**Wildcard support:** Select **Yes** or **No** to turn on DYNDNS Wildcard.

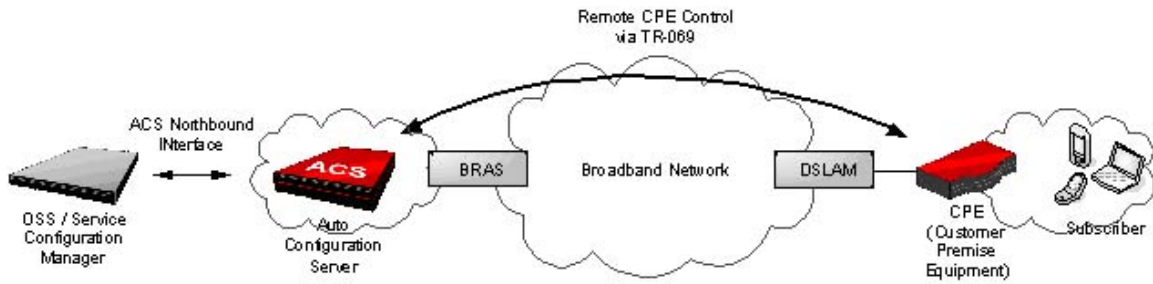
**DYNDNS Wildcard** --> Enabling the wildcard feature for your host causes \*.yourhost.dyndns.org to be aliased to the same IP address as yourhost.dyndns.org. This feature is useful if you want to be able to use, for example, www.yourhost.dyndns.org and still reach your hostname.

**SAVE:** Click **SAVE** to save your changes.

#### 4.5.6 CWMP

**TR-069** is a **CPE WAN Management Protocol (CWMP)**. As a bidirectional SOAP/HTTP based protocol it provides the communication between **CPE** and **Auto Configuration Servers (ACS)**. It includes both a safe auto configuration and the control of other CPE management functions within an integrated framework. In the course of the boom of the broadband market, the number of different Internet access possibilities grew as well (e.g. modems, routers, gateways, Set-top box, paddles, VoIP-phones). At the same time the configuration of this equipment became more complicated -- too complicated for the end-users. For this reason the TR-069 standard was developed. It provides the possibility of auto configuration of these access types. The technical specifications are managed and published by the DSL Forum. Using TR-069 the terminals can get in contact with the **Auto Configuration Servers (ACS)** and establish the configuration automatically. Accordingly other service functions can be provided. TR-069 is the current standard for activation of terminals in the range of DSL broadband market.





**ARM201**

Access Management	Quick Start	Interface Setup	Advanced Setup	Access Management	Maintenance	Status	Help
	ACL	Filter	SNMP	UPnP	DDNS	<input type="checkbox"/> TIME	
<b>CWMP Setup</b>							
<b>Login ACS</b>	CWMP: <input type="radio"/> Activated <input checked="" type="radio"/> Deactivated						
<b>Connection Request</b>	URL: <input style="width: 100%;" type="text"/> User Name: <input style="width: 80%;" type="text"/> Password: <input style="width: 80%;" type="text"/>						
<b>Periodic Inform</b>	Path: <input style="width: 100%; border-bottom: 1px solid black;" type="text" value="tr069"/> Port: <input style="width: 50%;" type="text" value="80"/> UserName: <input style="width: 80%;" type="text"/> Password: <input style="width: 80%;" type="text"/>						
	Periodic Inform: <input checked="" type="radio"/> Activated <input type="radio"/> Deactivated Interval: <input style="width: 50%;" type="text" value="0"/>						
<input type="button" value="SAVE"/> <input type="button" value="CANCEL"/>							

## 4.6 Maintenance

### 4.6.1 Administration

There is only one account that can access Web-Management interface-**Administration**. Admin has read/write access privilege. In this web page, you can set new password for admin.

The screenshot shows the Air Live web management interface. The top navigation bar includes 'Maintenance', 'Quick Start', 'Interface Setup', 'Advanced Setup', 'Access Management', 'Maintenance', 'Status', and 'Help'. The 'Maintenance' sub-menu is active, showing 'Administration', 'Time Zone', 'Firmware', 'SysRestart', and 'Diagnostics'. The 'Administrator' section is visible, with fields for 'Username : admin', 'New Password', and 'Confirm Password'. There are 'SAVE' and 'CANCEL' buttons at the bottom.

**New Password:** Type the new password in this field.

**Confirm Password:** Type the new password again in this field.

**Note:** If you ever forget the password to log in, you may press the **RESET** button up to 6 second to restore the factory default settings. The Factory Default Settings for User Name & Password are **admin & airlive**.

### 4.6.2 Time Zone

The system time is the time used by the device for scheduling services. You can manually set the time or connect to a NTP (Network Time Protocol) server. If an NTP server is set, you will only need to set the time zone. If you manually set the time, you may also set Daylight Saving dates and the system time will automatically adjust on those dates.

The screenshot shows the Air Live web management interface. The top navigation bar includes 'Maintenance', 'Quick Start', 'Interface Setup', 'Advanced Setup', 'Access Management', 'Maintenance', 'Status', and 'Help'. The 'Maintenance' sub-menu is active, showing 'Administration', 'Time Zone', 'Firmware', 'SysRestart', and 'Diagnostics'. The 'Time Synchronization' section is visible, with options for 'Synchronize time with' (NTP Server automatically, PC's Clock, Manually), 'Time Zone' (dropdown menu), 'Daylight Saving' (Enabled, Disabled), and 'NTP Server Address' (0.0.0.0). There are 'SAVE' and 'CANCEL' buttons at the bottom.

**Current Date/Time:** This field displays an updated Date and Time when you reenter this menu.

**[Time Synchronization]**

**Synchronize time with:** You can choose *“NTP Server automatically”, “PC’s Clock”, or “Manually”* to coordinate the time.

**Time Zone:** Choose the Time Zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).

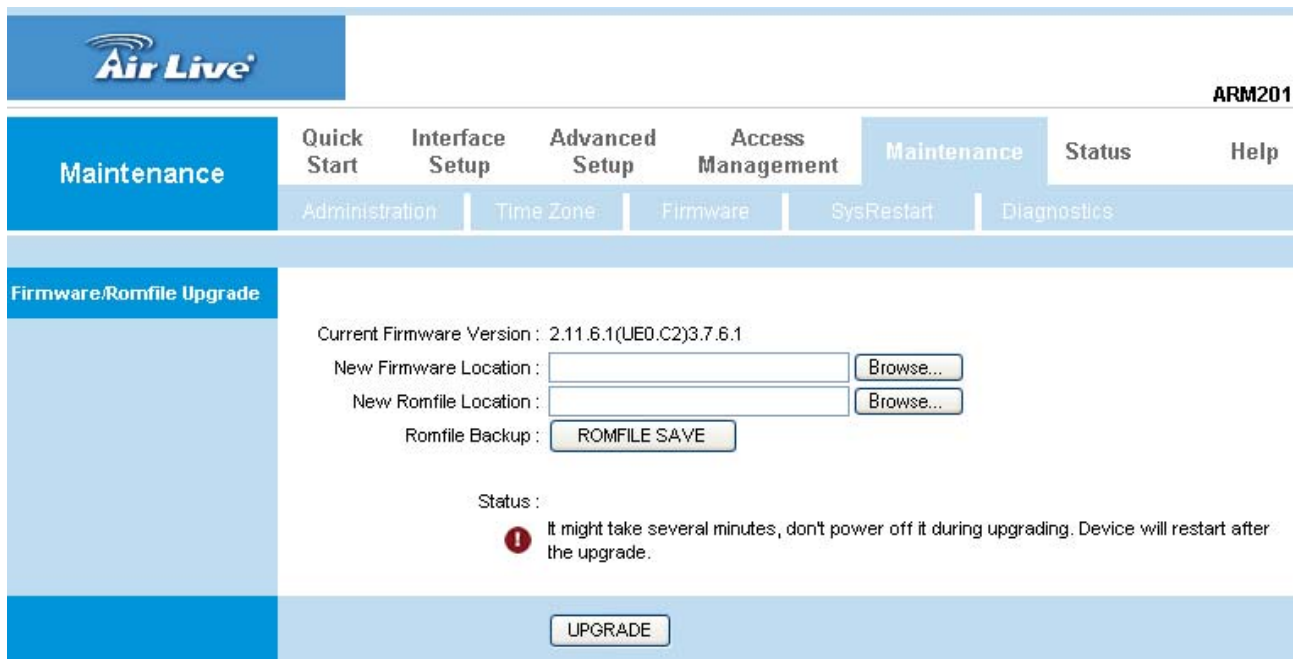
**Daylight Saving:** Choose **“Enabled”** or **“Disabled”** to use daylight savings time.

**NTP Server Address:** Type the IP address or domain name of your timeserver. Check with your ISP/network administrator if you are unsure of this information.

### 4.6.3 Firmware

You can upgrade the **firmware** of the router in this page. Make sure the firmware you want to use is on the local hard drive of the computer. Click on **Browse** to browse the local had drive and locate the firmware to be used for the update. Then press **UPGRADE** to upload new Firmware. **It might take several minutes, don’t power off it during upgrading. Device will restart after the upgrade!!**

After a success upload, the system automatically restarts. Please wait for the device to finish restarting. This should take about 2 minutes or more. You need to log in again if you want to access the device.



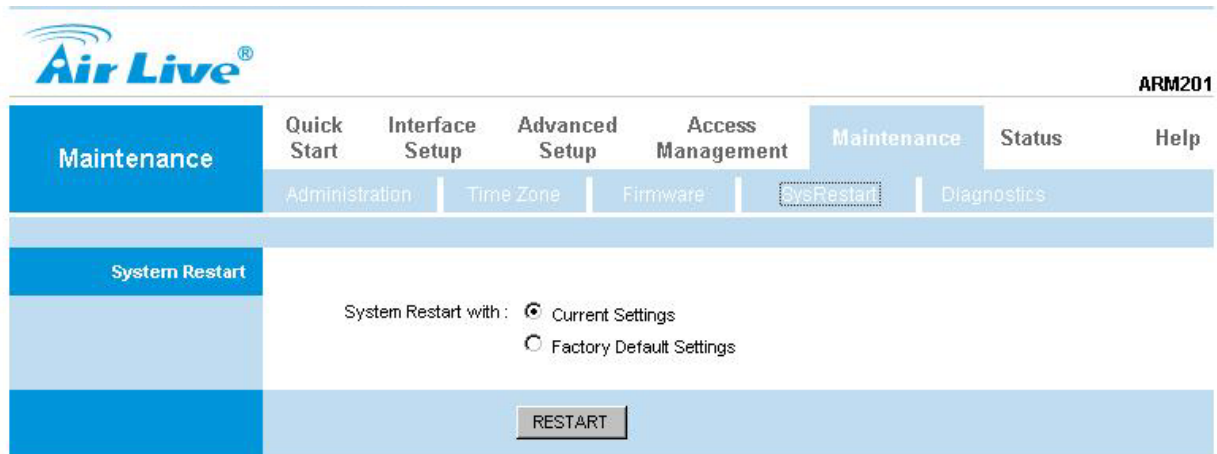
**Current Firmware Ver.:** This field displays the current firmware version.

**New Firmware Location:** Type in the location of the file you want to upload in this field or click **Browse...** to find it.

**UPGRADE:** Click **UPGRADE** to begin the upload process.

#### 4.6.4 System Restart

The SysRestart screen allows you to restart your router with either its current settings still in place or the factory default settings.



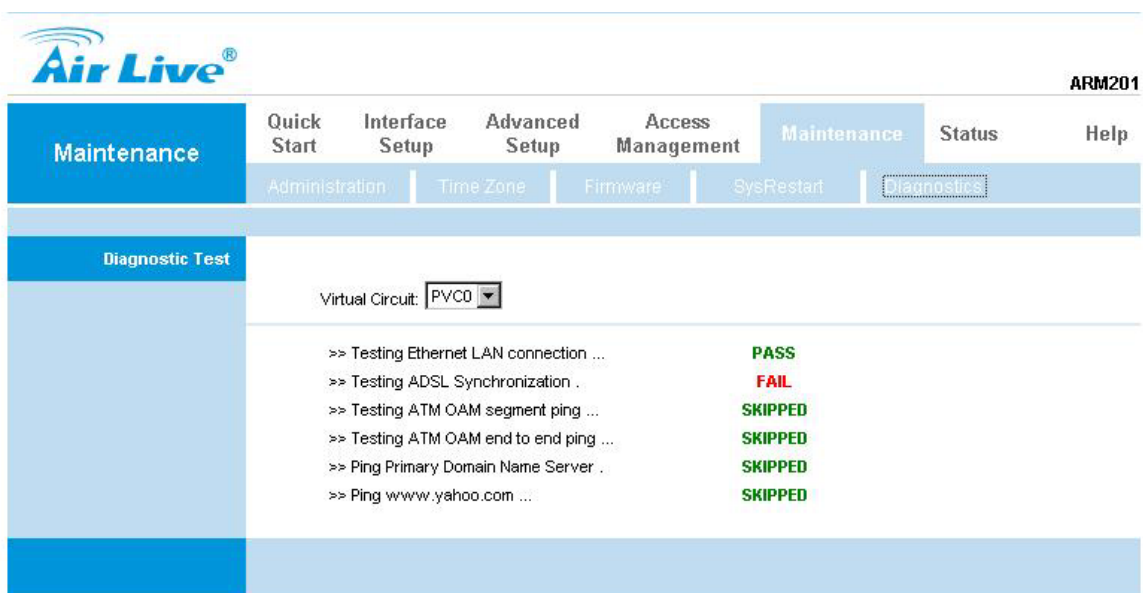
If you wish to restart the router using the factory default settings (for example, after a firmware upgrade or if you have saved an incorrect configuration), select **Factory Default Settings** to reset to factory default settings. Otherwise, you can select **Current Settings**. You may also reset your router to factory settings by holding the **DEFAULT** button on the back panel of your router in for 10-12 second while the router is turned on.

#### 4.6.5 Diagnostic

The **Diagnostic Test** page shows the test results for the connectivity of the physical layer and protocol layer for LAN & WAN sides.

**Note:** 1) User ONLY can view PVC0's Diagnostic Test connection.

2) "Testing ADSL Synchronization" might take 30 sec to execute the Diagnostic Test.



## 4.7 Status

### 4.7.1 Device Info

The **Device Info** screen is a tool that you use to monitor your ADSL Router. It shows the Firmware Version, WAN, LAN, and MAC address information. Note that these fields are read-only and are not meant for diagnostic purposes. Except the Virtual Circuit, click the drop-down list and select the name of the Virtual Circuit on which the system status is to be shown.

**Air Live** ARM201

[Quick Start](#) | 
 [Interface Setup](#) | 
 [Advanced Setup](#) | 
 [Access Management](#) | 
 [Maintenance](#) | 
 [Status](#) | 
 [Help](#)

[Device Info](#) | 
 [System Log](#) | 
 [Statistics](#)

---

**Device Information**

Firmware Version : 2.10.5.0(UE0.C29)3.6.0.0  
 MAC Address : 00:06:4f:53:c5:31

---

**LAN**

IP Address : 192.168.2.1  
 Subnet Mask : 255.255.255.0  
 DHCP Server : Enabled

---

**WAN**

Virtual Circuit :    
 Status : Not Connected  
 Connection Type : PPPoE  
 IP Address : 0.0.0.0  
 Subnet Mask : 0.0.0.0  
 Default Gateway : 0.0.0.0  
 DNS Server : 0.0.0.0  
 NAT : Enabled

---

**ADSL**

ADSL Firmware Version : FwVer:3.6.0.0\_A\_TC3085 HwVer:T14.F7\_1.0  
 Line State : Down  
 Modulation : Multi-Mode  
 Annex Mode : ANNEX\_A

	Downstream	Upstream	
SNR Margin :	N/A	N/A	db
Line Attenuation :	N/A	N/A	db
Data Rate :	0	0	kbps

#### [Device Information]

**Firmware Version:** This field displays current firmware version.

**MAC Address:** The MAC (Media Access Control) or Ethernet address unique to your modem.

## [LAN]

**IP Address:** The LAN port IP address

**Subnet Mask:** The LAN port IP subnet mask.

**DHCP Server:** The status of **DHCP** Server (Enabled or Disabled)

## [WAN]

**Virtual Circuit:** Click the drop-down list and select the name of the Virtual Circuit on which the system status is to be shown.

**Status:** Connected or Not Connected

**Connection Type:** The WAN Connection Type.

**IP Address:** The WAN port IP address

**Subnet Address:** The WAN port IP subnet mask.

**Default Gateway:** The IP address of the default gateway, if applicable.

**DNS Server:** The IP address of the DNS Server

## [ADSL]

**ADSL Firmware Version:** This field displays current ADSL firmware version.

**Line States:** This field displays the ADSL connection process and status.

**Modulation:** This field displays the ADSL modulation status for G.dmt or T1.413.

**Annex Mode:** This field displays the ADSL annex modes for Annex A or Annex B. **Downstream and Upstream:** Status of SNR Margin, Line Attenuation and Data Rate

**SNR Margin:** Amount of increased noise that can be tolerated while maintaining the designed BER (bit error rate). The SNR Margin is set by Central Office DSLAM. If the SNR Margin is increased, bit error rate performance will improve, but the data rate will decrease. Conversely, if the SNR Margin is decreased, bit error rate performance will decrease, but the data rate will increase.

**Line Attenuation:** Attenuation is the decrease in magnitude of the ADSL line signal between the transmitter (Central Office DSLAM) and the receiver (Client ADSL Modem), measured in dB. It is measured by calculating the difference in dB between the signal power level received at the Client ADSL Router and the reference signal power level transmitted from the Central Office DSLAM.

**Data Rate:** This field displays the ADSL data rate

## 4.7.2 System Log

The **System Log** displays data generated or acquired by routine system communication with other devices, such as the results of negotiations with the ISP's computers for DNS and gateway IP addresses. The device keeps a running log of events and activities occurring on the Router. You can click **Save Log** to display a Windows File Download dialog box that enables opening or saving the contents of the log to your PC. To remove all entries from the list, click **Clear Log**. New entries will begin accumulating. If the device is rebooted, the logs are automatically cleared.

**AirLive**® ARM201

**Status** Quick Start Interface Setup Advanced Setup Access Management Maintenance **Status** Help

Device Info **System Log** Statistics

**System Log**

```
1/1/2000 0:28:11> SNMP TRAP 2: link down
1/1/2000 0:28:33> SNMP TRAP 3: link up
1/1/2000 0:28:57> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 0:29:45> Last errorlog repeat 4 Times
1/1/2000 0:29:52> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 0:33:42> Last errorlog repeat 56 Times
1/1/2000 0:33:45> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 0:33:54> Last errorlog repeat 4 Times
1/1/2000 0:34:3> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 0:34:22> Last errorlog repeat 4 Times
1/1/2000 0:34:28> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 0:34:29> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 1:3:44> Last errorlog repeat 4 Times
1/1/2000 1:3:44> SNMP TRAP 2: link down
1/1/2000 1:16:1> SNMP TRAP 3: link up
1/1/2000 1:16:23> netMakeChannDial: err=-3001
rn_p=804ac488
1/1/2000 1:17:1> Last errorlog repeat 5 Times
1/1/2000 1:17:47> netMakeChannDial: err=-3001
```

CLEAR LOG SAVE LOG

### 4.7.3 Statistic

The ADSL Router keeps **statistic** of traffic that passes through it. You are able to view the amount of packets that passes through the Router on both the WAN port & the LAN port. The traffic counter will reset if the device is rebooted. You can select Ethernet/ADSL to view the statistics report of LAN/WAN.

The screenshot shows the AirLive router web interface. At the top left is the AirLive logo. At the top right is the model number ARM201. Below the logo is a navigation menu with tabs: Quick Start, Interface Setup, Advanced Setup, Access Management, Maintenance, Status, and Help. The 'Status' tab is selected. Underneath, there are sub-tabs: Device Info, System Log, and Statistics. The 'Statistics' sub-tab is active. The main content area is titled 'Traffic Statistics' and shows 'Interface :  Ethernet  ADSL'. Below this is a table with two columns: 'Transmit Statistics' and 'Receive Statistics'. The table contains the following data:

Transmit Statistics		Receive Statistics	
Transmit Frames	0	Receive Frames	0
Transmit Multicast Frames	659	Receive Multicast Frames	0
Transmit total Bytes	174911	Receive total Bytes	0
Transmit Collision	0	Receive CRC Errors	0
Transmit Error Frames	0	Receive Under-size Frames	0

At the bottom of the statistics area is a 'REFRESH' button.

#### [Ethernet]

The Ethernet screen gives you information on how much data your router has transmitted and received across the Ethernet connection. Click on REFRESH to update the screen.

This screenshot is identical to the one above, showing the 'Traffic Statistics' page for the Ethernet interface. The 'Interface' is set to Ethernet, and the table shows the following data:

Transmit Statistics		Receive Statistics	
Transmit Frames	0	Receive Frames	0
Transmit Multicast Frames	659	Receive Multicast Frames	0
Transmit total Bytes	174911	Receive total Bytes	0
Transmit Collision	0	Receive CRC Errors	0
Transmit Error Frames	0	Receive Under-size Frames	0

#### [ADSL]

The ADSL screen gives you information about how much data your router has transmitted or received across the ADSL connection. Click on REFRESH to update the screen.

This screenshot shows the 'Traffic Statistics' page for the ADSL interface. The 'Interface' is set to ADSL. The table contains the following data:

Transmit Statistics		Receive Statistics	
Transmit total PDUs	0	Receive total PDUs	0
Transmit total Error Counts	0	Receive total Error Counts	0



# Chapter 5: Troubleshooting

If the router is not function properly, first check this session for simple troubleshooting before contacting your Internet service provider (ISP) for support.

## 5.1 Using LEDs to Diagnose Problems

The LEDs are useful aides for finding possible problem causes.

### 5.1.1 Power LED

The PWR LED on the front panel does not light up.

STEPS	CORRECTIVE ACTION
1	Make sure that the power adaptor is connected to the router and plugged in to an appropriate power source. Use only the supplied power adaptor.
2	Check that the router and the power source are both turned on and the router is receiving sufficient power.
3	Turn the router off and on.
4	If the error persists, you may have a hardware problem. In this case, you should contact your vendor.

### 5.1.2 LAN LED

The LAN LED on the front panel does not light up.

STEPS	CORRECTIVE ACTION
1	Check the Ethernet cable connections between your router and the computer or hub.
2	Check for faulty Ethernet cables.
3	Make sure your computer's Ethernet card is working properly.
4	If these steps fail to correct the problem, contact your local distributor for assistance.

### 5.1.3 ADSL LED

The ADSL LED on the front panel does not light up.

STEPS	CORRECTIVE ACTION
1	Check the telephone wire and connections between the router ADSL port and the wall jack.
2	Make sure that the telephone company has checked your phone line and set it up for ADSL service.
3	Reset your ADSL line to reinitialize your link to the DSLAM.
4	If these steps fail to correct the problem, contact your local distributor for assistance.

## 5.2 Problems with the Web Interface

I cannot access the web Interface.

STEPS	CORRECTIVE ACTION
1	Make sure you are using the correct IP address of the router. Check the IP address of the router.
2	Make sure that there is not a console session running.
3	Check that you have enabled web service access. If you have configured a secured client IP address, your computer's IP address must match it. Refer to the chapter on remote management for details.
4	For WAN access, you must configure remote management to allow server access from the WAN (or all).
5	Your computer's and the router's IP addresses must be on the same subnet for LAN access.
6	If you changed the router's LAN IP address, then enter the new one as the URL.
7	Remove any filters in LAN or WAN that block web service.

The web Interface does not display properly.

STEPS	CORRECTIVE ACTION
1	Make sure you are using Internet Explorer 5.0 and later versions.
2	Delete the temporary web files and log in again.  In Internet Explorer, click <b>Tools</b> , <b>Internet Options</b> and then click the <b>Delete Files ...</b> button.  When a <b>Delete Files</b> window displays, select <b>Delete all offline content</b> and click <b>OK</b> . (Steps may vary depending on the version of your Internet browser.)

## 5.3 Problems with the Login Username and Password

I forgot my login username and/or password.

STEPS	CORRECTIVE ACTION
1	If you have changed the password and have now forgotten it, you will need to upload the default configuration file. This will erase all custom configurations and restore all of the factory defaults including the password.
2	Press the <b>DEFAULT</b> button for five seconds, and then release it. When the <b>ADSL</b> LED begins to blink, the defaults have been restored and the router restarts.
3	The default username is " <b>admin</b> ". The default password is " <b>airlive</b> ". The <b>Password</b> and <b>Username</b> fields are case-sensitive. Make sure that you enter the correct password and username using the proper casing.
4	It is highly recommended to change the default username and password. Make sure you store the username and password in a safe place.

## 5.4 Problems with LAN Interface

I cannot access the router from the LAN or ping any computer on the LAN.

STEPS	CORRECTIVE ACTION
1	Check the Ethernet LEDs on the front panel. A LAN LED should be on for a port that has a PC connected. If it is off, check the cables between your router and the PC. Make sure you have uninstalled any software firewall for troubleshooting.
2	Make sure that the IP address and the subnet mask is consistent between the router and the workstation.

## 5.5 Problems with WAN Interface

Initialization of the ADSL connection failed.

STEPS	CORRECTIVE ACTION
1	Check the cable connections between the ADSL port and the wall jack. The ADSL LED on the front panel of the router should be on.
2	Check that your VPI, VCI, type of encapsulation and type of multiplexing settings are the same as what you collected from your telephone company and ISP.
3	Restart the router. If you still have problems, you may need to verify your VPI, VCI, type of encapsulation and type of multiplexing settings with the telephone company and ISP.

I cannot get a WAN IP address from the ISP.

STEPS	CORRECTIVE ACTION
1	Ensure that all other devices connected to the same telephone line as your router (e.g. telephones, fax machines, analogue modems) have a line filter connected between them and the wall socket (unless you are using a Central Splitter or Central Filter installed by the qualified and licensed electrician), and ensure that all line filters are correctly installed and right way around.
2	Missing line filters or line filters installed the wrong way around can cause problems with your ADSL connection, including causing frequent disconnects.

Frequent loss of ADSL line sync (disconnects).

STEPS	CORRECTIVE ACTION
1	The ISP provides the WAN IP address after authenticating you. Authentication may be through the user name and password, the MAC address or the host name.
2	The username and password apply to PPPoE and PPOA encapsulation only. Make sure that you have entered the correct <b>Service Type</b> , <b>User Name</b> and <b>Password</b> (be sure to use the correct casing).

## 5.6 Problems with the Internet Access

I cannot access the Internet.

STEPS	CORRECTIVE ACTION
1	Make sure the router is turned on and connected to the network.
2	If the ADSL LED is off, refer to <i>Section 5.1.3</i>
3	Verify your WAN settings.
4	Make sure you entered the correct user name and password.
5	For wireless stations, check that both the router and wireless station(s) are using the same ESSID, channel and WEP keys (if WEP encryption is activated).

Internet connection disconnects.

STEPS	CORRECTIVE ACTION
1	Check the schedule rules.
2	If you use PPPoA or PPPoE encapsulation, check the idle time-out setting.
3	Contact your ISP.