

***WSR-3018***

***Wireless 11g Broadband Router***

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***User's Guide***

## ***FCC Caution***

1. The 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.
2. FCC RF Radiation Exposure Statement: The equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.
3. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
4. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## ***Important Safety Precautions***

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this *User's Guide* for future reference.
2. Keep this equipment away from humidity.
3. Lay this equipment on a reliable flat surface before setting it up.
4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
5. All cautions and warnings on the equipment should be noted.
6. Never pour any liquid into the opening that could damage or cause electrical shock.
7. If any of the following situations arises, get the equipment checked by a service personnel:
  - Liquid has penetrated into the equipment
  - The equipment has been exposed to moisture
  - The equipment has not work well or you can not get it work according to User's Manual
  - The equipment has dropped and damaged
  - If the equipment has obvious sign of breakage
8. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60°C OR BELOW -20°C, IT MAY DAMAGE THE EQUIPMENT.**

## *How to Use This Guide*

This User's Guide provides instructions and illustrations on how to install and use your **WSR-3018** - the Wireless 11g Broadband Router.

- ❶ Chapter 1, **Introduction**, provides a general information on the product you bought, including its application, specification, and requirements.
- ❷ Chapter 2, **Hardware Installation**, tells you how to install the product into your system.
- ❸ Chapter 3, **Configuration**, describes the Configuration Utility that lets you configure your product to connect the network quickly and easily.
- ❹ **Appendix**, includes the instructions of assigning a fixed IP address and resuming the firmware.

Please note that the setting diagrams or values in this guide are **FOR YOUR REFERENCE ONLY**. The actual settings and values depend on your system and network. If you are not sure about these information, please ask your network administrator or MIS staff for help.

## *Technical Support*

- ❶ Visit the MSI website for FAQ, technical guide, driver and software updates, and other information: <http://www.msi.com.tw/>.
- ❷ Contact our technical staff at: [support@msi.com.tw](mailto:support@msi.com.tw).

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# 1

# Introduction

## >>> 1.1 WSR-3018 - Wireless 11g

### Broadband Router

**WSR-3018 Wireless Broadband Router** (hereafter called WSR-3018), compliant with IEEE802.11g and IEEE802.11b, is designed for high throughput and fully function that leads you into the wireless network environment. In the rapid growing network environment, WSR-3018 acts as a home-end device that connects your computer to the WAN service (e.g. the Internet). With the WSR-3018, networking and sharing information throughout the house/office become an easy and flexible task. In addition, the WSR-3018 is also a switching device as an aggregating point of the wireless LAN and wired LAN clients, and as a router between LAN and WAN traffic.

Combined the SPI firewall, wireless Access Point and LAN switch into a compact package, WSR-3018 can provide you with the essential security and IP sharing function. These features build the WSR-3018 as a cutting-edge, cost-effective device that fits to SOHO/home application.

## >>> 1.2 Networking Options

WSR-3018 is a Base Station that bridges communication between computers (via wireless networking), and connects the computers to the Internet.

You can use the WSR-3018 in the following applications:

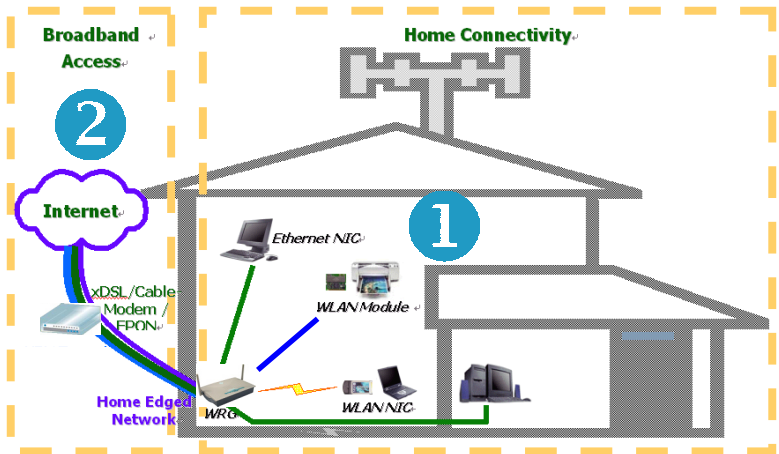
### 📍 Home connectivity

A stand-alone wireless network. As shown in the right part of the diagram below (1), the out-of-the-box mode of operation for the WSR-3018 that allows your client stations to share files and printers. Adding wireless computers is as easy as inserting a wireless client adapter and configuring the computer with the same Network Name and Key.

### 📍 Broadband access

A wireless/wired Internet access via xDSL/Cable Modem or Ethernet (2). To access the Internet via a xDSL/Cable or ISDN modem, you will need to:







- Connect the external modem to the WSR-3018 using a LAN cable.
- An ISP (Internet Service Provider) account.



*Typical Configuration of Wireless LAN*

## >>> 1.3 Features and Benefits

With WSR-3018, your network can immediately upgrade to a wireless network, providing wireless access to the LAN and WLAN, and sharing information and printers in the network.

-  **54 Mbps Data Rate (max.)/150-400 ft. Indoor Range**  
The WSR-3018 runs with data-intensive applications like MP3, multimedia, gaming and streaming video/audio - even through walls, floors and ceilings. You can get Ethernet quality networking without wires and cables - ideal for standard networking requirements.
-  **Superior Antenna Design**  
Dual dipole antennas provide superior polarized reception and diversity transmission for the best signal quality.
-  **Interoperable with any 802.11g Compliant Device**  
The WSR-3018 complies with IEEE 802.11g standard and Wi-Fi, allowing full interoperability with any Wi-Fi certified wireless product.
-  **Easy to Install and Use**  
The Configuration Utility with user-friendly and Web-based interface provides step-by-step instructions, making the WSR-3018 fast and easy to be installed and used in the network.
-  **WEP Security to Ensure Privacy**  
Supports 64-/128-bit WEP encryption, which ensures that your network signal is secure and private inband and outband of your home and office.
-  **Scalability**  
The WSR-3018 can be configured in every way to meet your needs of specific applications and installations. It also provides Flash memory for easy firmware upgrade.



## >>> 1.4 Package Contents

Unpack the package and check all the items carefully. If any item contained is damaged or missing, please contact your local dealer immediately. Also, keep the box and packing materials in case you need to ship the unit in the future. The package should contain the following items:



- One Wireless 11g Residential Gateway - **WSR-3018**.
- One AC Power Adapter, 12VDC/1A output.
- One Ethernet cable (RJ-45).
- One Quick Start Guide.
- One CD-ROM including manual files.

## >>> 1.5 System Requirements

After installing the WSR-3018, you need the followings to configure respective network settings:

- A network-enabled computer.
- Windows 98SE/ME/2000/XP; Linux; Macintosh.
- A JavaScript-enabled web browser, such as Internet Explorer 5.0 and Netscape 6.0.

## >>> 1.6 Specifications

|                                     |   |
|-------------------------------------|---|
| <b>General Standard Compliance</b>  | - IEEE802.11g/IEEE802.11b/<br>IEEE802.3/IEEE802.3u  |
| <b>Internet Protocol Supported</b>  | TCP/IP, NAT, DHCP, HTTP,<br>PPPoE, PPTP, DNS, LPR,<br>SNTP  |
| <b>Operating Temperature</b>        | 0 ~ 55°C (32 ~ 122°F)   |
| <b>Storage Temperature</b>          | -30 ~ 70°C (-22 ~ 158°F)  |
| <b>Operating Humidity</b>           | 0 ~ 85% @ 40°C (104°F),<br>non-condensing   |
| <b>Performance Wired Data Rates</b> | 10/100Mbps auto-negotiating<br>(full-duplexing switch)  |
| <b>Wireless Data Rates</b>          | IEEE802.11b (auto-fallback)<br>- CCK: 11, 5.5Mbps<br>- DQPSK: 2Mbps<br>- DBPSK: 1Mbps<br>IEEE802.11g (auto-fallback)<br>- OFDM: 54, 48, 36, 24, 18,<br>12, 9, and 6Mbps |
| <b>Frequency</b>                    | 2.4 ~ 2.4835 GHz  |
| <b>Channel</b>                      | 14 channels   |
| <b>Wireless Range</b>               | Open Space:<br>- ≥ 170m @ 11Mbps<br>- ≥ 50m @ 54Mbps<br>Indoor:<br>- ≥ 120m @ 11Mbps<br>- ≥ 20m @ 54Mbps  |

|                               |   |  |
|-------------------------------|---|--|
|                               | <b>Wireless Transmission Power</b>                                | 17±1dBm  |
| <b>LAN</b>                    | <b>Number of Ports</b>  | Four 10/100Mbps switched Ethernet ports (RJ-45)  |
|                               | <b>Number of PCs Supported</b>                                    | Up to 253 PCs  |
|                               | <b>Routing</b>  | NAT, TCP/IP  |
| <b>WAN</b>                    | <b>Number of Ports</b>  | One 10/100Mbps Fast Ethernet port for cable/xDSL modem (RJ-45)   |
|                               | <b>Firewall</b>   | <ul style="list-style-type: none"> <li>- IP/Port Address Forwarding Filtering</li> <li>- MAC Address Forwarding Filtering</li> <li>- MAC Address Associating Filtering</li> <li>- DoS Prevention</li> <li>- Application Layer Gateway</li> <li>- Virtual DMZ</li> <li>- SPI</li> </ul> |
| <b>Physical Specification</b> | <b>Dimensions (WxDxH)</b>   | 180 x 127.7 x 32mm   |
|                               | <b>Weight</b>   | 295g   |
|                               | <b>Antenna</b>  |  |
|                               | Form factor   | Dipole type with dual external antenna   |
| Requirement                   | Peak Gain = 2dBi<br>Average Gain = 1.08dBi<br>(@ 2.45GHz, H-Plan) |  |
|                               | <b>Input Voltage</b>  | 12VDC (includes AC adapter)  |

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|                          |               |  |
|--------------------------|---------------|--|
| <b>Device Management</b> | <b>Tools</b>  | Web-based browser; event log; login password |
|                          | <b>LEDs</b>   | Power, LAN/WAN/WLAN port activity            |
| <b>Certifications</b>    | <b>U.S.</b>   | FCC Part 15 class B, Wi-Fi                   |
|                          | <b>Europe</b> | CE   |

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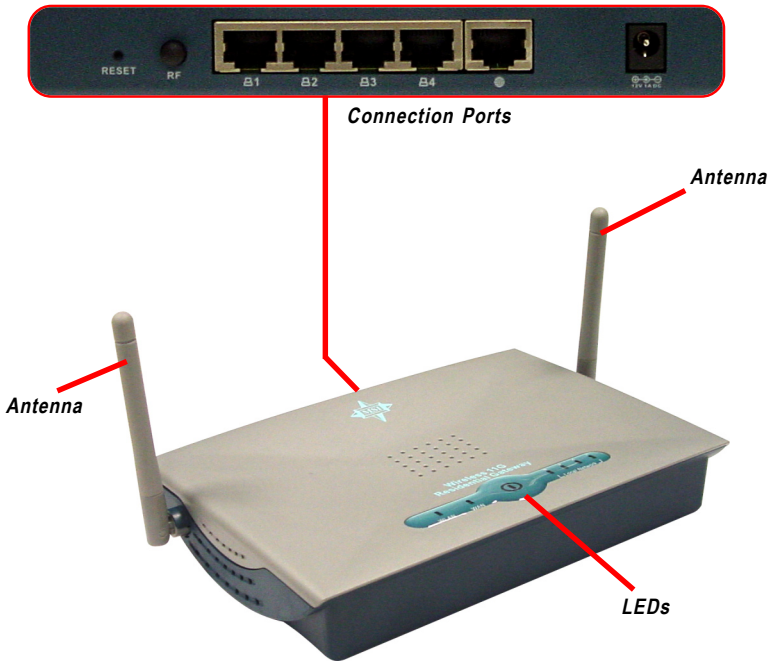
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# 2

## Hardware Installation

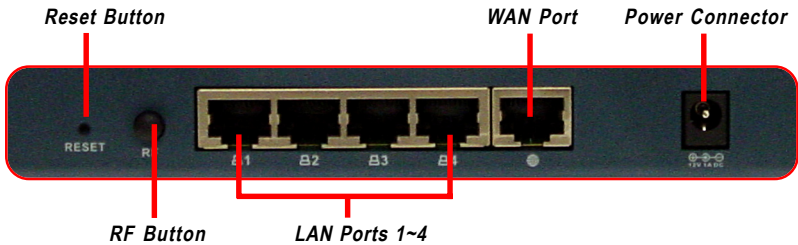
This chapter provides a quick introduction to your WSR-3018, including product view, installation and power up.

### >>> 2.1 Product View



**WSR-3018**

## >>> 2.2 Connection Ports



### Reset Button

\* Use a pointed object  
(e.g. a stretched clip)

1. Press and hold\* this button longer than 1 second to restart the WSR-3018.
2. Press and hold\* this button longer than 5 seconds, the system will reload the factory default settings.

### RF Button

This button allows you to turn on/off the wireless function.

### LAN Ports 1~4

The WSR-3018 provides four 10/100Mbps Fast Ethernet ports, allowing connection to the computers and other network devices.

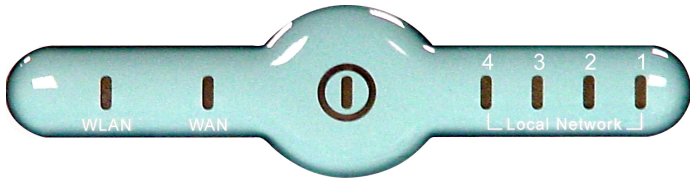
### WAN Port

This 10/100Mbps Fast Ethernet port provides connection to your xDSL/Cable Modem or Ethernet connection.

### Power Connector

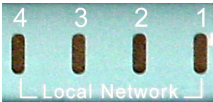
Connect the enclosed power adapter and provide power to the WSR-3018.

## >>> 2.3 LEDs



### Power

A steady **Blue** light glows to indicate the power adapter is connected.



### LAN 1~4

The **Green** light glows when there is a computer/device connected to respective port.



### WAN

A **Green** light glows when the system connects to the xDSL/Cable Modem or Ethernet connection, and it will blink when receiving/transmitting data on the link.



### Wireless Status

A **Green** light glows to indicate the status of WSR-3018's wireless networking.

## >>> 2.4 Installing Your WSR-3018

### 2.4.1 Positioning

To operate normally, the WSR-3018 should be put on a flat surface, and do not put any heavy object on it. Before connecting WSR-3018 to your devices, please note that the WSR-3018 should be placed in a location where is:

- **Easy to access**, so that you can conveniently connect it to the xDSL/Cable Modem through the WAN port, and to the computers/devices through the LAN ports.
- **Allows you to observe the LEDs clearly**, so that you may monitor the real-time networking status and take instant measures as problems arise.

### 2.4.2 Connecting Cables

1. To access to the Internet, connect one end of an Ethernet cable to the WAN port of WSR-3018, and the other end to your xDSL/Cable Modem.
2. For wired connection to the network devices, connect one end of an Ethernet cable to the LAN port (1~4) of WSR-3018, and the other end to your computers/devices.
3. For wireless connection, install the wireless adapters onto your computers, and you have to configure respective settings on your computers (refer to your wireless adapter's manual) to take full advantages of your WSR-3018.





### 2.4.3 To Power Up...

Plug the DC end of the power adapter into the power connector of WSR-3018; then, plug the AC end to an electrical outlet. The WSR-3018 is powered up immediately.



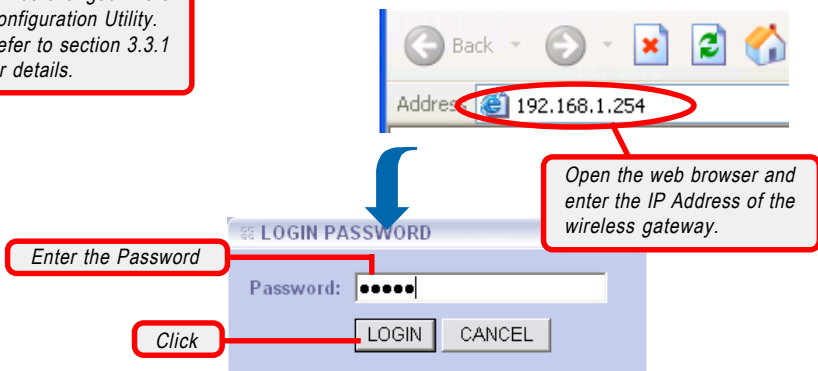
# 3

## Configuration

### >>> 3.1 Configuration Utility

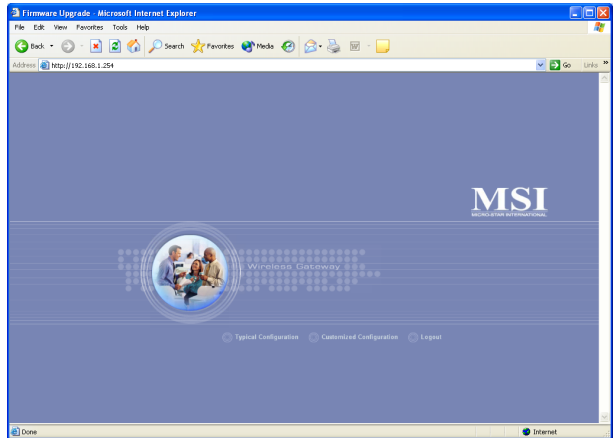
The WSR-3018 provides you with a convenient utility to customize the network settings. Whenever you want to configure the respective settings, open your web browser (e.g. Internet Explorer), and type the default IP address **192.168.1.254** in the Address bar and press [Enter]. When the password page appears, type **admin\*** in the Password box and click **LOGIN**.

\* **admin** is the default password setting of the wireless gateway, and can be changed in the Configuration Utility. Refer to section 3.3.1 for details.



Since the WSR-3018 supports DHCP Server and which is enabled by default, the computer connected to it is automatically assigned a dynamic IP address that is allowed to enter the Configuration Utility. Otherwise, you have to assign a fixed IP address to this computer within the IP address range of the WSR-3018. For example, you can assign a fixed IP address of **192.168.1.253** with a Subnet Mask of **255.255.255.0**. (For more instruction, please refer to *Appendix - A, Assigning a Fixed IP Address*.)

The Home window of the Configuration Utility will appear as below, which provides three options to select: **Typical Configuration**, **Customized Configuration**, and **Logout**.



*Home Window of the Configuration Utility*

- **Typical Configuration:** Provides a step-by-step Setup Wizard to guide you through the basic settings of the gateway. Generally, after completing the four steps in this option, your gateway can connect to the ISP.
- **Customized Configuration:** Allows you to customize the network settings of your gateway for some specific purposes, such as changing password, updating firmware, and configuring other network settings.
- **Logout:** Allows you to exit the utility and return to the password page.

## >>> 3.2 Typical Configuration

Click **Typical Configuration** in the Home window of the Configuration Utility, and the Setup Wizard appears from *Step 1* to guide you through the configuration.



### Step 1. Setting the Time Zone

- **The Menu Bar:** During the Setup Wizard, whenever you click **HOME** in the menu bar will make you return to the Home window; click **Logout** to exit the Configuration Utility.



The Menu Bar

### Step 1. Setting the Time Zone

First, you should set the Time Zone. For system management purpose, a correct time zone setting will let you have accurate time stamps on the system log. If you are in the area that within the daylight saving period, please also check the **Daylight Saving** option.

When completed, click **Next** to continue *step 2*.

## Step 2. Setting the Connection Type

According to the connection type you are using, click the respective option to configure the settings.

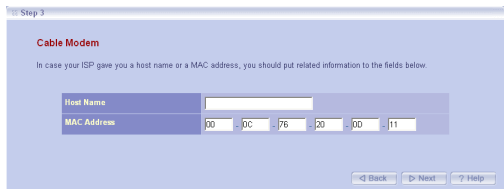


*Step 2. Setting the Connection Type*

## Step 3. Setting the Connection Type (continue)

### - Cable Modem:

If your broadband access is through a cable modem, select this option.



*If you are not sure on these settings, please ask your ISP for assistance.*

If your ISP provides you with a **Host Name** or a locked **MAC Address**, you should enter these information in the respective fields.

### - Fixed-IP xDSL:

If your broadband access is through an xDSL modem and your ISP assigned you a static IP address, select this option.

Step 3

**Fixed IP**

Please put the necessary information such as IP Address, Subnet Mask, Default Gateway and DNS server got from your ISP to the fields below.

|                 |                      |                      |                      |                      |
|-----------------|----------------------|----------------------|----------------------|----------------------|
| IP              | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| subnet mask     | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Default Gateway | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| DNS             | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

< Back   Next >   Help

Enter the necessary information in the respective fields, such as the IP address, Subnet Mask, Default Gateway and DNS server provided by your ISP.

### - xDSL-PPPoE:

If your broadband access is through an xDSL modem and your ISP did not assign you a static IP address, select this option.

Step 3

**PPPoE**

Please put the necessary information such as username and password got from your ISP to the fields below. In case your ISP gave you a service name, you should put it to the related field.

|                           |                      |                      |                      |
|---------------------------|----------------------|----------------------|----------------------|
| User Name                 | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Password                  | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Confirm Password          | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Service Name (Default:NA) | <input type="text"/> | <input type="text"/> | <input type="text"/> |

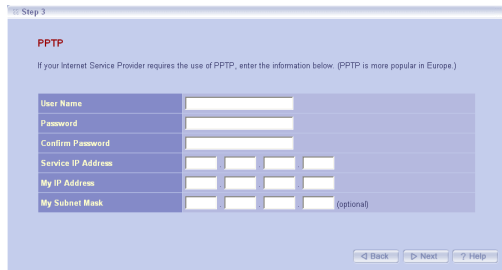
< Back   Next >   Help

Enter the necessary information in the respective fields, such as the user name and password provided by your ISP. If your ISP gave you a service name, you should put it to the respective field (the default is none).

*If you are not sure on these settings, please ask your ISP for assistance.*

## - xDSL-PPTP:

If your broadband access is through an xDSL modem and your ISP did not assign you a static IP address, select this option. (This option is used mostly in Europe.)



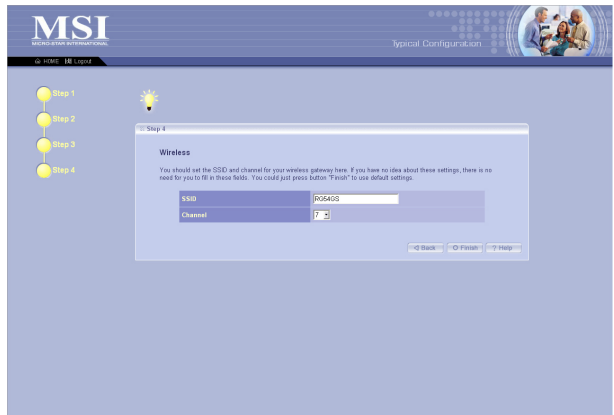
The screenshot shows a window titled "Step 3" with the heading "PPTP". Below the heading is a note: "If your Internet Service Provider requires the use of PPTP, enter the information below. (PPTP is more popular in Europe.)". The form contains several input fields: "User Name", "Password", "Confirm Password", "Service IP Address", "My IP Address", and "My Subnet Mask". The "My Subnet Mask" field has "(optional)" written next to it. At the bottom right of the form are three buttons: "Back", "Next", and "Help".

Enter the necessary information in the respective fields, such as the user name and password provided by your ISP.

When completed, click **Next** to continue *step 4*.

## Step 4. Setting the Wireless Network Settings

You could set the SSID (Network Name) and channel for your wireless gateway.



The screenshot shows a window titled "Step 4" with the heading "Wireless". Below the heading is a note: "You should set the SSID and channel for your wireless gateway here. If you have no idea about these settings, there is no need for you to fill in these fields. You could just press button 'Finish' to use default settings." The form contains two input fields: "SSID" and "Channel". The "SSID" field has "MSI" entered. At the bottom right of the form are three buttons: "Back", "Finish", and "Help".

When completed, click **Finish** to save your settings and exit the Configuration Utility.

## >>> 3.3 Customized Configuration

Typically, your wireless gateway will have no problem to connect to your ISP and let internal clients to access to the Internet without any problem after going through all steps in Typical Configuration. If you want to customize your wireless gateway for some specific purposes, you may perform the configuration here.

Click **Customized Configuration** in the Home window of the Configuration Utility, and the main window appears as below.



**Main Window of Customized Configuration**

- **The Menu Bar:** There is a menu bar in the top of the Customized Configuration window, where contains two options to exit the configuration window (**HOME** and **Logout**, as described in *page 17*); and seven options for advanced configuration: **System**, **Internet**, **LAN**, **Wireless**, **NAT** and **Firewall**, each one allows you to configure the respective settings and view the system status.



**The Menu Bar**

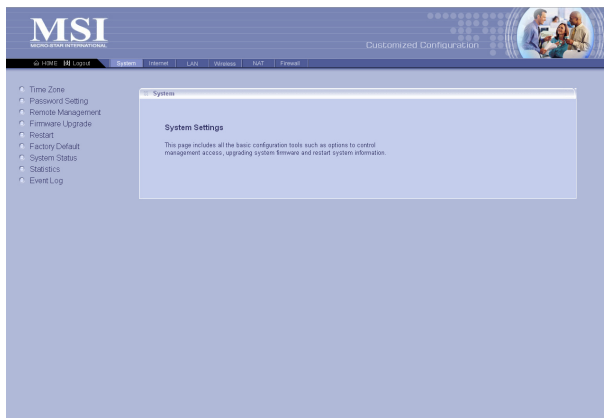


### 3.3.1 System

This page includes all the basic configuration tools such as options to control management access, upgrade system firmware and restart system.

This window includes:

- > Time Zone
- > Password Setting
- > Remote Management
- > Firmware Upgrade
- > Restart
- > Factory Default
- > System Status
- > Statistics
- > Event Log



#### > Time Zone

For system management purpose, a correct time zone setting will let you have accurate time stamps on the system log. If you use the wireless gateway in the country adopting the Daylight Saving Time, please check the **Daylight Saving** option.

#### > Password Setting

The wireless gateway is shipped with default password **admin**. This option allows you to use other password to replace the old password. First, enter the old password, and then enter the new password twice to confirm the password changed. Then, click **Apply** to save the settings.

**Tip:** Once you have changed the settings in each option, click **Apply** to save the settings, or **Cancel** to abandon. Clicking **Help** can bring up the help window.

The diagram shows a form with three input fields: 'Old Password', 'New Password', and 'Confirm New Password'. Red boxes highlight the 'Old Password' and 'New Password' labels, with red lines pointing to the corresponding input fields. The 'Confirm New Password' field is also highlighted with a red box.

### > **Remote Management**

Setting to **Enable** allows you to manage your wireless gateway through WAN connection.

### > **Firmware Upgrade**

Once you obtained a new version of firmware (e.g. downloading from the MSI website), you can update the firmware of your wireless gateway. Click **Browse** to point to the firmware file, and then click **Upgrade** to start.

---

**IMPORTANT:** *If power failure occurs during upgrading firmware, the WSR-3018 provides a second way to resume the previous firmware. For more information, refer to Appendix B, Resuming the Previous Firmware.*

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### > **Restart**

Clicking **Restart** allows you to restart your gateway through the Configuration Utility, without unplugging the power cable or pressing the Reset button longer than 1 seconds.

### > **Factory Default**

Clicking **Restore** allows you to resume the factory settings of your gateway. This function is the same as pressing the **Reset** button (on the front panel) longer than 5 seconds.

### > **System Status**

This option contains detail information of your gateway, including general information and respective network settings.

### > **Statistics**

This option contains the statistics of your gateway, such as respective networking statistics, allowing you to monitor the device clearly. Click **Refresh** to re-load the statistics.

### > **Event Log**

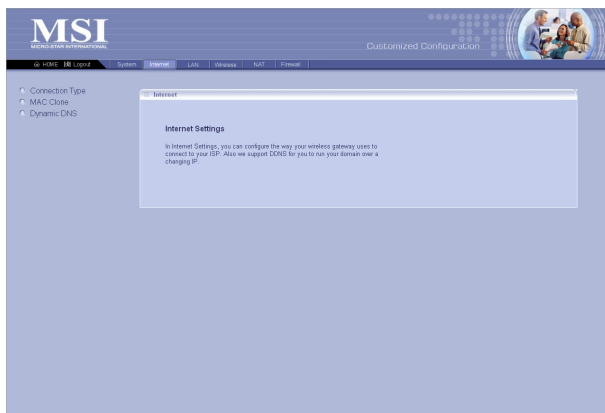
Select this option to display a list containing the event log of your gateway.

### 3.3.2 Internet

In the Internet settings window, you can configure the way your wireless gateway used to connect to your ISP.

*This window includes:*

- > *Connection Type*
- > *MAC Clone*
- > *Dynamic DNS*



#### > **Connection Type**

This option allows you to configure the way to connect to your ISP. The wireless gateway can be connected to your ISP in any of the following ways: **DHCP Client**, **PPPoE**, **Fixed IP**, and **PPTP**.

- **DHCP Client:** If your ISP gives you a host name, select this option to enter the respective information.

- **PPPoE:** If you use the xDSL modem to connect to the ISP, select this option and enter the necessary information, such as the User Name and Password. If your ISP gives you a service name, you should put it to the related field.

- **Fixed IP:** If your ISP assigns a fixed IP Address, select this option and enter the necessary information, including the IP Address, Subnet Mask, Default Gateway, Primary DNS, and Secondary DNS.

- **PPTP:** If you use the xDSL modem to connect to the ISP, select this option and enter the necessary information. (This option is used mostly in Europe.)

### > **MAC Clone**

If your ISP restricts to PCs only, use this function to copy a PC Media Access Control (MAC) address to your wireless gateway. This procedure will cause the wireless gateway to appear as a single PC.

### > **Dynamic DNS**

Setting to **Enable** allows you to run your domain over a changing IP. Choose one Dynamic DNS provider from the drop-down list box and fill in related fields to make it work. If you have problem in doing these settings, please check with the Dynamic DNS provider that you choose.

*Enable this function*

*Choose one provider*

|   |   |
|---|---|
| Dynamic DNS   |   |
| <input checked="" type="radio"/> Enable <input type="radio"/> Disable |   |
| Dynamic DNS Provider  | DynDNS.org ▾                              |
| Host Name   | <input type="text"/>                      |
| User Name   | <input type="text"/>                      |
| Password  | <input type="text"/>                      |
| My IP Address   | 0.0.0.0                                   |
| Update Manually   | <input type="button" value="Update Now"/> |
| Status  |   |

### 3.3.3 LAN

In the LAN settings window, you can configure the IP address and DHCP server for your wireless gateway.

This window includes:

- > IP Setting
- > DHCP Server
- > DHCP IP-MAC mapping
- > DHCP Client List
- > MAC Filter

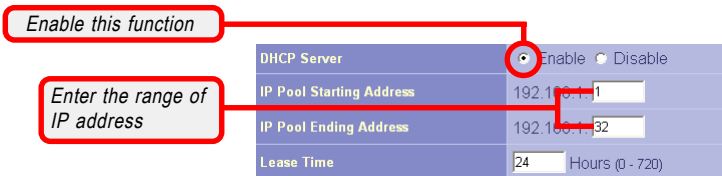


#### > IP Setting

You can setup IP address information for the LAN ports of your gateway.

#### > DHCP Server

Your wireless gateway can act as a DHCP server, and can assign IP addresses to your clients automatically. The assigned IP addresses will be within the range of IP pool that you have specified in this option. For example, not including the default IP address **192.168.1.254** of the LAN port, you can configure the range from **192.168.1.1** to **192.168.1.253**.



#### > DHCP IP-MAC mapping

You can specify the IP address and hardware address association for a manual binding to a DHCP client.

> **DHCP Client List**

This option is used to display the DHCP clients assigned by the DHCP server. Click **Refresh** to re-load the statistics.

> **MAC Filter**

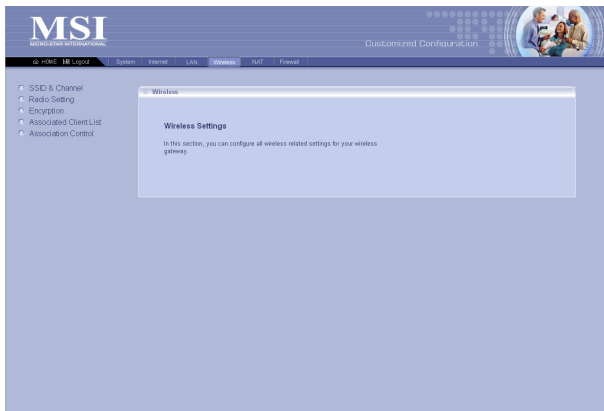
This option allows you to limit the computer to access the Internet. When you enable this option and set up the respective settings, only the computer with a MAC address in the MAC list can access the Internet.

### 3.3.4 Wireless

In this section, you can configure all wireless related settings for your wireless gateway.

This window includes:

- > SSID & Channel
- > Radio Setting
- > Encryption
- > Associated Client List
- > Association Control



#### > SSID & Channel

This option is used to set the SSID (Network Name) and channel for your wireless gateway. If you have changed the SSID or Channel settings, click **Apply** to save the settings.

#### > Radio Setting

This option allows you to configure the operation parameters of the AP radio settings\*.

|                    |                                      |               |
|--------------------|--------------------------------------|---------------|
| Beacon Period      | <input type="text" value="100"/>     | TUs (1-65535) |
| RTS Threshold      | <input type="text" value="2347"/>    | (0-2347)      |
| Fragment Threshold | <input type="text" value="2346"/>    | (800-2346)    |
| DTIM Period        | <input type="text" value="3"/>       | (1-255)       |
| Mode               | <input type="text" value="Auto"/>    |               |
| Basic Rate         | <input type="text" value="Default"/> |               |
| Transmit Rate      | <input type="text" value="Auto"/>    |               |

*\* These settings are for advanced users or MIS staff only. If you do not know how to set these parameters, you are recommended to use the default value.*

### > Encryption

This option allows you to configure the setting of data encryption. The WEP key must be set before the data encryption is enforced.

**Enable WEP**

|                     |   |
|---------------------|---|
| Data Encryption     | <input checked="" type="radio"/> Enable <input type="radio"/> Disable |
| Authentication Type | Both  |
| WEP Key 1           | <input type="text"/> 64-bit   |
| WEP Key 2           | <input type="text"/> 64-bit   |
| WEP Key 3           | <input type="text"/> 64-bit   |
| WEP Key 4           | <input type="text"/> 64-bit   |

### > Associated Client List

This option is to display information of stations that are currently associating to your wireless gateway.

### > Association Control

This option allows you to control which PC can connect to the wireless LAN. If you enabled this feature, only PCs with MAC address located in Association Control List can connect to the wireless LAN.



### 3.3.5 NAT

NAT (Network Address Translation) allows multiple users at your local site to access the Internet over a single-user account. It can also prevent hacker attacks by mapping local addresses to public addresses for key services, such as Web or FTP.

*This window includes:*  
> *Static NAT Setting*  
> *Virtual Server*  
> *Special Applications*



#### > **Static NAT Setting**

Use the Static NAT screen for the Network Address Translation (NAT) process that provides internal to external IP address mapping. It also includes a list of Global IP if you have setup.

#### > **Virtual Server**

You can configure the wireless gateway as a virtual server, so that remote users can access the services (e.g. Web or FTP) at your local site via public IP addresses. It also includes a list of Virtual Server if you have setup (maximum 32 entries).

#### > **Special Applications**

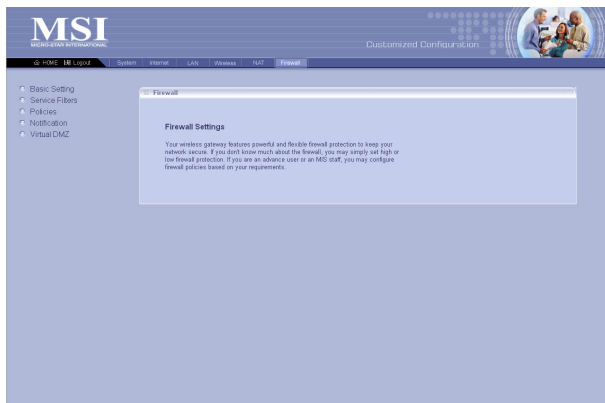
Some special applications, such as Internet gaming, video conference and Internet telephony, require multiple connections. This feature allows these applications to work properly. It also includes a list of Special Applications if you have setup (maximum 32 entries).

### 3.3.6 Firewall

The wireless gateway provides extensive firewall protection by restricting connection parameters to eliminate the risk of hacker attacks.

This window includes:

- > Basic Setting
- > Service Filters
- > Policies
- > Notification
- > Virtual DMZ



#### > Basic Setting

You can set up the level of firewall protection in this option. For general use, the user can just configure the firewall through the Firewall Protection option (**High**, **Low**, and **Disable**), which include pre-defined configuration for the respective options. For advanced settings, please ask the network manager for assistance.

#### > Service Filters

You can use this window to create and apply filters that can selectively block traffic to pass in and out of your network according to Protocol Type or Port Number. It also includes a list of Filters if you have setup (maximum 32 entries).

#### > Policies

Policies are the core of your firewall configuration. You may define and schedule your rules for inbound/outbound traffic.

---

**IMPORTANT:** Any incorrect setting in this option may cause the gateway malfunctioned. If you are not sure of the settings, please ask the network manager for help.

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### > **Notification**

You can enable Email Notification function. Once enabled, you should configure the respective settings in the following fields. This is a useful feature when you want to acquire the security log remotely.

### > **Virtual DMZ**

If you have a local client PC that cannot run an Internet application properly from behind the NAT firewall, you can open the client up to unrestricted two-way Internet access by defining a virtual DMZ. It also includes a list of DMZ if you have setup.

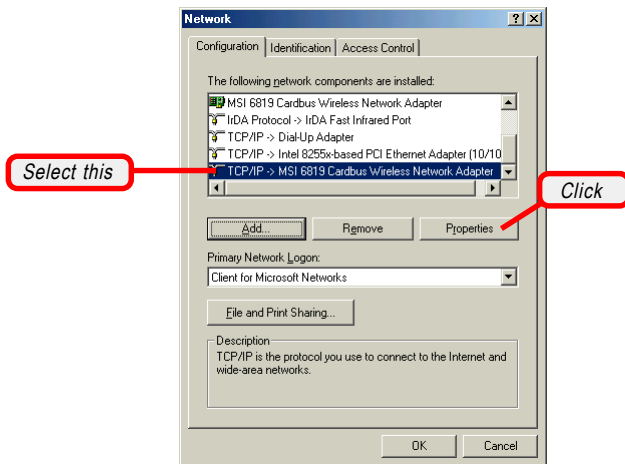
# Appendix

## Appendix A - Assigning a Fixed IP Address

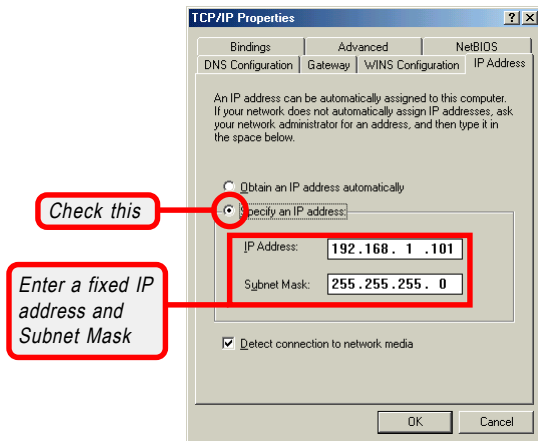
To configure the WSR-3018, you will need to assign a fixed IP address to this computer within the IP address range of the WSR-3018.

### Under Windows 98SE/ME

1. Go to **Start -> Settings -> Control Panel**.
2. Double-click the **Network** icon.
3. The Network window appears as below. Select the **TCP/IP** item, and click **Properties** to bring up the **TCP/IP Properties** window.



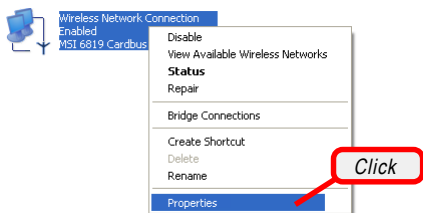
4. Choose the **IP Address** tab and check the **Specify an IP Address** option. Then, enter an IP address into the empty field. Suggested IP Address Range is **192.168.1.1 to 192.168.1.253**, and suggested Subnet Mask is **255.255.255.0**.



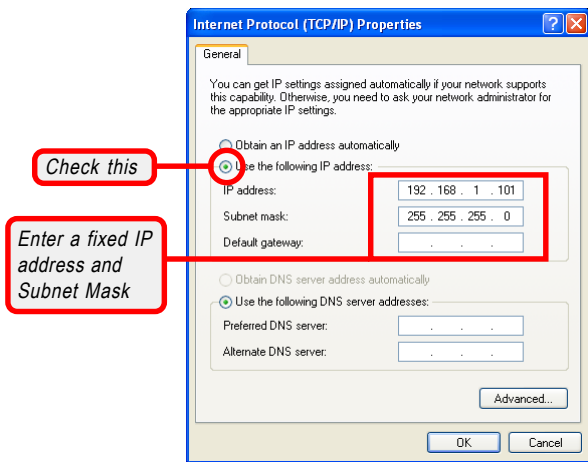
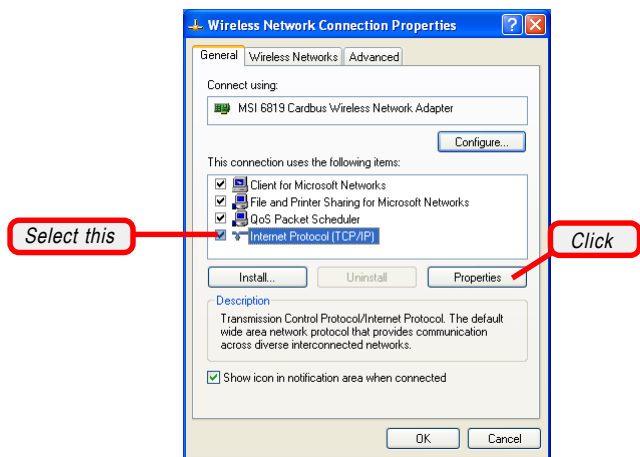
5. Click **OK**. Then, click **Yes** when prompted to reboot the computer.

**Q Under Windows 2000/XP**

1. Click **Start** and choose **Control Panel** to open the **Control Panel** window.
2. Double-click the **Network Connection** icon to open the **Network Connection** window.
3. Right-click the **Network Adapter** icon and click **Properties** from the shortcut menu.



4. When the **Connection Properties** window appears, choose the **General** tab and select **Internet Protocol [TCP/IP]**, and click **Properties** to bring up the **Internet Protocol [TCP/IP] Properties** window.
5. Check **Use the following IP address**. Then, enter an IP address into the empty field. Suggested IP Address Range is **192.168.1.1 to 192.168.1.253**, and suggested Subnet Mask is **255.255.255.0**.



### Configuring a fixed IP address

6. Click **OK** to complete the configuration.

## Appendix B - Resuming the Previous Firmware

The WSR-3018 allows you to upgrade its firmware conveniently from the Configuration Utility. It means that you can obtain the latest function and take most advantage of your WSR-3018. However, there is some risk when you are upgrading firmware, such as power failure. If, unfortunately, power failure occurs during upgrading firmware, the WSR-3018 may not work anymore. To protect your investment, SANE0 provides a second way to resume the gateway's original firmware before upgrading, and keep the gateway working normally.

To resume the firmware:

1. Connect the gateway to a computer, and then connect the power cable. Assign a fixed IP address to this computer within the IP address range of the gateway. (See Appendix A for detail instruction.)
2. Click **Start** at the taskbar and select **Run**.
3. If you are using Window 2000/XP operating system, type **cmd** in the Open box and press [Enter]. (For Windows 98SE/ME, you should type **command**.)
4. Type **ftp -i [host IP address] put [source]\*** in the pop-up DOS window and press [Enter].
5. Wait for a few seconds, and the original firmware will be re-loaded into the gateway. Then, you can enter the Configuration Utility and use the gateway again.

\* host IP address - the gateway's IP address, such as **192.168.1.254**.  
source - the path and filename of the firmware, such as **D:\WSR-3018.gzh**.

**Tip:** Type **tfpp** and press [Enter] in the DOS window can bring up the respective instruction for its parameter.