Wireless LAN AP-Route

Model:

PW8540IM

IEEE 802.11b/g

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Chapter

1

Installing Your Router

In this chapter, you'll learn how to connect your router.

System Requirement

- **Broadband Internet access**
- **Ethernet cables**
- **Wireless interface, if you want to use wireless functions**
- **Desktop or Laptop PCs with Ethernet interface**

Installation Instructions

To Connect the Router:

1. **Make sure all equipments are turned off, including the router, Desktop or Laptop PCs, the cable and DSL modem, and so on.**
2. **Connect the** WAN Port **of the router to the cable and DSL modem, Ethernet Server or the hub.**
3. **Connect your client PCs to the** LAN Ports**.**
4. **Connect the** Power Adaptor (5VDC) **to the power jack of the router and plug the power cable into the outlet.**
5. **Turn on our PCs.**

Chapter

2

Preparing Your Network

In this chapter, you'll learn what to do before configuring your network.

Before configuring your router, you need set up the computers in your network for TCP/IP networking and collect relevant ISP information if necessary.

Configuring Windows for IP Networking

Each computer in your network should be configured for TCP/IP networking. There are two ways to configure your computers:

- **You are commended to use DHCP, then you can simply choose to receive an IP address automatically. For detailed instructions, see Configure Windows to Receive Dynamic IP Address.**
- **If you don't use DHCP, you need assign an IP address to each computer manually. For detailed instructions, refer to your Windows Documentation.**

To Configure Windows to Receive Dynamic IP Address:

1. **Click** Start**, then choose** Settings > Network and Dial-up Connections**.**
2. **Select the name of your ISP connection.**

The Local Area Connection Status dialog box appears, seen in FIGURE 2-1**:**

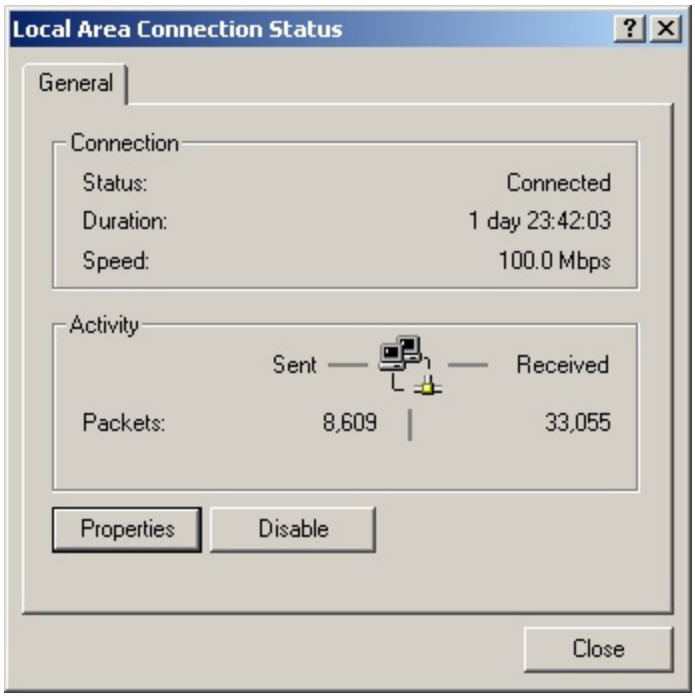


FIGURE 2-1: **Local Area Connection Status dialog box**

3. **Click** Properties**.**

The Local Area Connection Properties dialog box appears, seen in FIGURE 2-2**:**

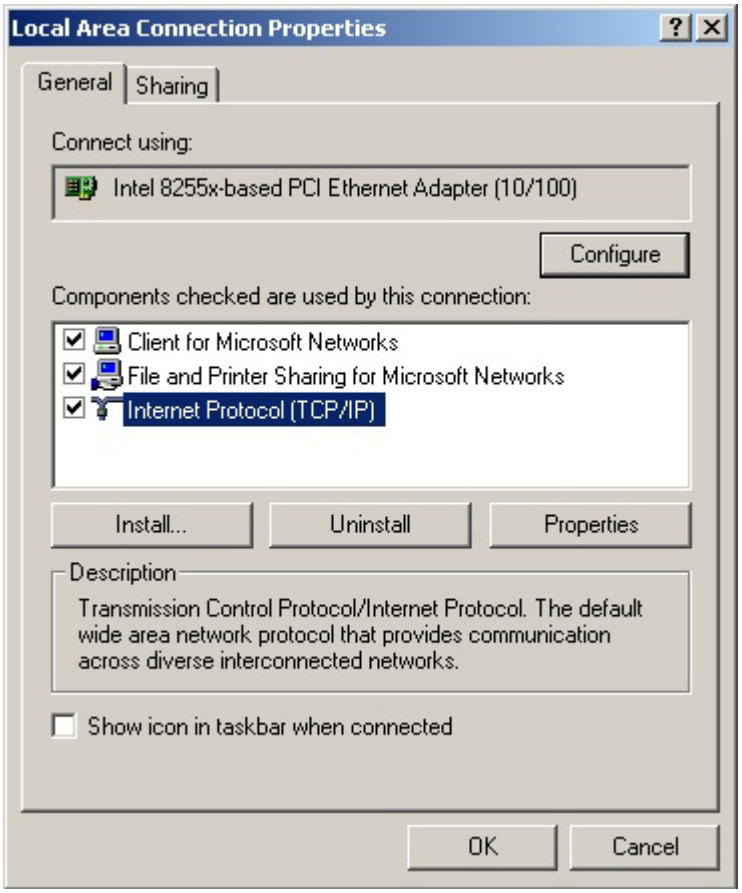


FIGURE 2-2: **Local Area Connection Properties dialog box.**

4. **Click** Internet Protocol (TCP/IP)**, then click** Properties**.**

The Internet protocol (TCP/IP) Properties dialog box appears, seen in FIGURE 2-3**:**

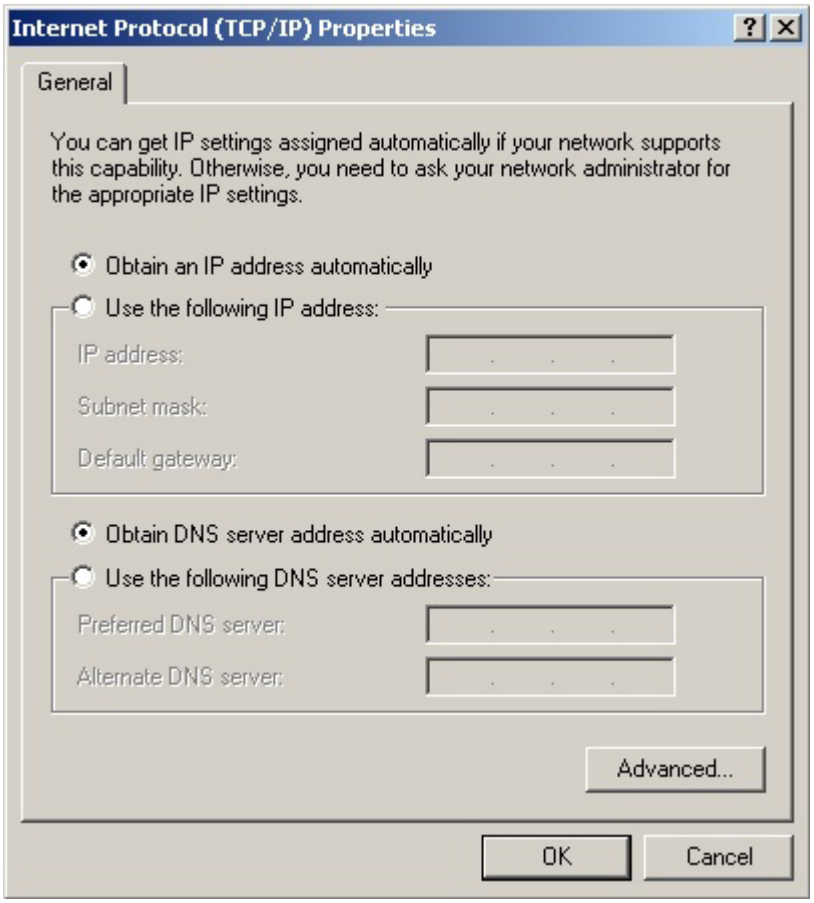


FIGURE 2-3: **Internet Protocol (TCP/IP) Properties dialog box**

5. **Click** Obtain an IP address automatically **and** Obtain DNS server address automatically**.**

6. **Click** OK**.**

You need restart your computer now or at a later time.

Note **- The procedural steps above apply to Windows 2000 only. For Windows 95/98/ME/NT/XP, refer to your Windows Documentation.**

Collecting ISP Information

You need query the relevant information from your ISP before configuring your router, for example:

- **Has your ISP assigned you a static or dynamic IP address? If you have obtained one static IP address, what is it?**
- **Does your ISP use PPPoE? If so, what is your PPPoE user name and password?**

If you are not sure of the above questions, call your ISP to clarify them.

Chapter

3

Basic Functions

In this chapter, you will learn how to use basic functions that the Company AP Router provides, including Setup, Global Address, Wireless Tools, Status, DHCP, Log and Printer.

The Company AP Router provides you a Web-based Administration Tool with which you can easily set up the router and customize the basic router settings. You can use this Web-based Tool from any computer in your network.

Notes

- **Microsoft Internet Explorer 5.0 or later is highly recommended for using this Web-based Tool.**
- **Graphics sampled in this chapter are provided for illustrations only. They may slightly differ from your own router screens.**

To Open the Web-based Administration Tool:

1. **Open the browser on your PC.**
2. **Type *http://192.168.62.1* in the** Address **bar.**

The Logon dialog box appears, seen in FIGURE 3-1**:**

FIGURE 3-1: **Logon dialog box**

3. **Type *admin* in the** User Name **box.**

4. **Type the password in the box.**

> Note **- The default password is *1234*. You can change the password on the Tools page. For detailed instructions, see To Change the Administrative Password for Your Router.**

5. **Optional. To log on to the Administration Tool once for all, select the check box of** Save this password in your password list**.**

6. **Click** OK**.**

The Company AP Router Administration Tool appears.

> Note **- The Administration Tool will time out after a period of idling, the Router may ask you to log on again.**

Setup

The Setup page allows you to edit the basic configuration parameters for your router, such as *Host Name, Domain Name, LAN IP Address, WAN IP Address, PPPoE Login, UPNP,* and so on.

In most cases, the default settings will be Okay for you. However, different ISPs (Internet Service Provider) may ask for specific requirements, please check it with your ISP if you are not sure.

To Configure Setup Parameters:

1. **Click** Setup **on the navigation bar.**

   The Setup page appears, seen in FIGURE 3-2**:**

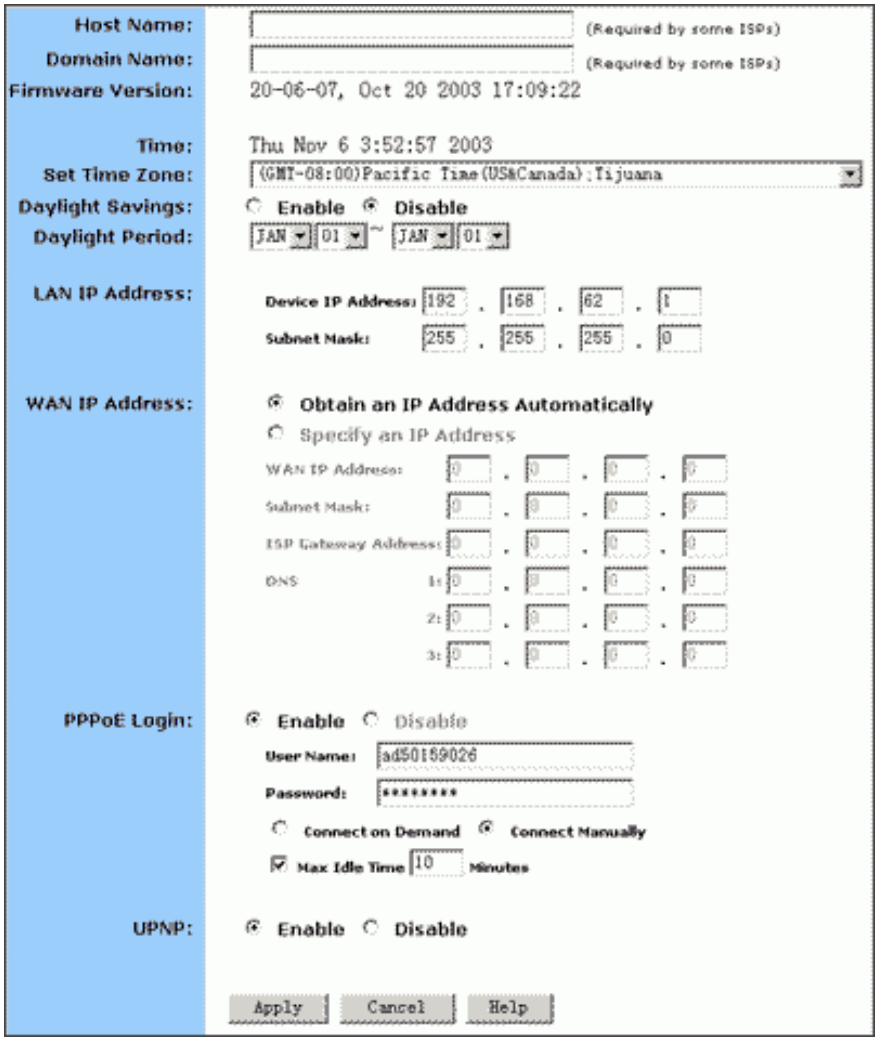


FIGURE 3-2: Setup page

2. **Type the** Host Name**,** System Name **or** Account Name **in the** Host Name **box if your ISP requires.**

3. **Type the** Domain Name **of your ISP in the box if your ISP requires, such as *xyz.isp.com*.**

4. **Optional. Review the firmware version number and date information that you are currently using.**

5. **Select a specific Time Zone from the** Set Time Zone **drop-down list, such as *(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi*.**

6. **If you want to use Daylight Savings time, click** Enable **and select the start date and end date from the** Daylight Period **drop-down lists.**

7. **If you don't want to use Daylight Savings time, click** Disable**. If you select to disable the Daylight Savings,** Daylight Period **will not take effect any more.**

8. **Optional. Review the Device IP Address and Subnet Mask next to** LAN IP Address **and change the information if necessary.**

Notes

- ***Device IP Address* and *Subnet Mask* are invisible to users on the LAN (Local Area Network) only.**
- **In most cases, you need not make any change to LAN IP Address. If you change the LAN IP Address with DHCP enabled, you need to restart your client PCs; otherwise, you need reconfigure your client's IP addresses manually.**

9. **If you have enabled the** DMZ **feature on the DHCP page, review the DMZ IP Address and Subnet Address next to** DMZ IP Address **and change the information if necessary.**

10. **For WAN IP Address (Wide Area Network, also called Public IP), choose either** Obtain an IP Address automatically **or** Specify an IP Address **if your ISP has assigned you with static IPs).**

Note **- If you choose to obtain an IP Address automatically, skip** Step 11**.**

11. **Optional. If you select** Specify an IP Address**, type the** WAN IP Address**,** Subnet Mask**,** ISP Gateway Address **and** DNS **in the boxes, seen in** FIGURE 3-3**. You can collect such information from your ISP.**

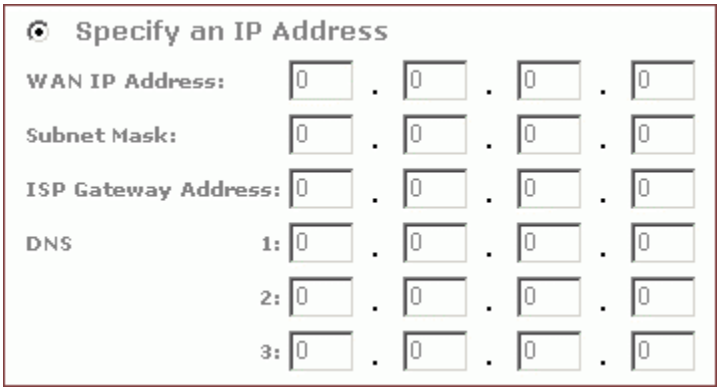


FIGURE 3-3: **WAN IP Address - Specify an IP Address**

12. **If your ISP uses PPPoE (Point to Point Protocol over Ethernet), click** Enable **next to** PPPoE Login**; otherwise, click** Disable**. For detailed instructions on how to set the PPPoE Login parameters in** FIGURE 3-4**, see** **To Set PPPoE Login Parameters** **below.**

> Notes
>
> - **Using PPPoE, your ISP can authenticate your connection with a specific user name and password for security issues.**
> - **If you enable PPPoE, make sure to uninstall all existing applications on any computer in your network.**

13. **If you want to use UPNP (Universal Plug and Play) to plug devices like PCs, routers and others into a network and to automatically know about each other, click** Enable **next to** UPNP**; otherwise, click** Disable**.**

14. **When you have completed all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Set PPPoE Login Parameters:

1. **Click** Enable **next to** PPPoE Login**.**

FIGURE 3-4: **Set PPPoE Login Parameters**

2. **Type the** User Name **and** Password **provided by your ISP.**

3. **For connection types, you can select either** Connect on Demand **or** Connect Manually**.**

4. **Optional. If you want to limit the idling minutes, select** Max Idle Time **and type a maximum number in minutes.**

Global Address

On the Global Address page, you can set up NAT (Network Address Translation) to provide internal-to-external IP address mappings.

Notes

- **If you want to use Global Address mapping, you must enable NAT on the Filters page. For detailed instructions, see To Set up a Port Filtering or Raw IP Filter.**
- **If you have chosen to retrieve an IP address automatically, you will not need to use this function. Instead, the default public IP address will display on the Global Address page.**

Have you enabled DMZ on the DHCP page? Depending on whether DMZ is enabled, you may follow different procedural steps.

What do you want to do?

- **Set up Global Address with DMZ Disabled**
- **Set up Global Address with DMZ Enabled**
- **Remove Global Addresses**

To Set up Global Address with DMZ Disabled:

1. **Click** Global Address **on the navigation bar.**

The Global Address page with DMZ Disabled appears, seen in FIGURE 3-5**:**

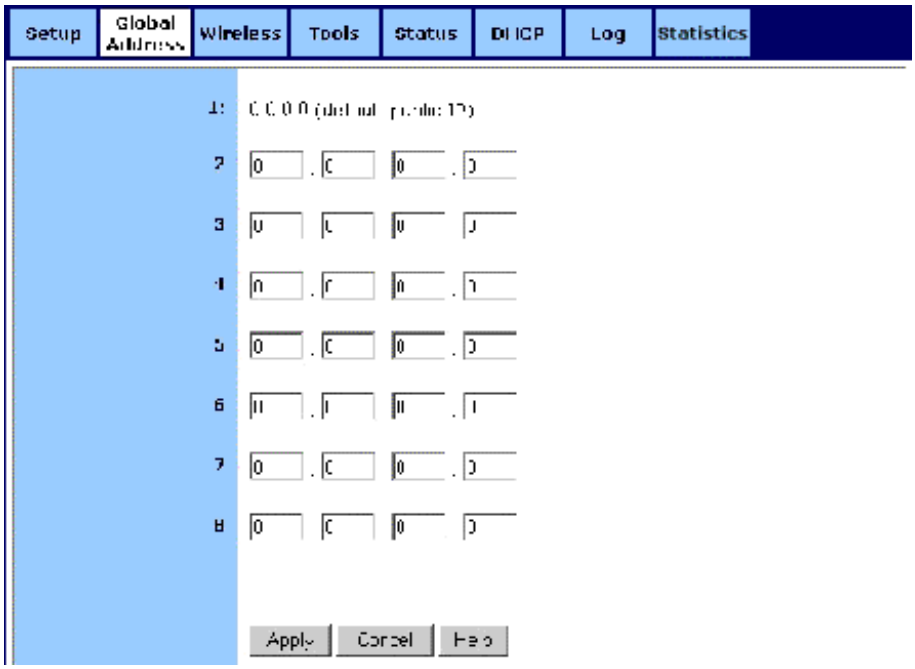


FIGURE 3-5: **Global Address Page with DMZ Disabled**

2. **Review the first line in the above figure. It shows the default WAN IP address which is specified on the Setup page. If your ISP assigns you an IP address automatically, it will display here.**

3. **In Line 2 – Line 8, you can list up to 7 additional static, external IP addresses provided by your ISP.**

4. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Set up Global Address with DMZ Enabled:

1. **Click** Global Address **on the navigation bar.**

The Global Address page with DMZ Enabled appears, seen in FIGURE 3-6**:**

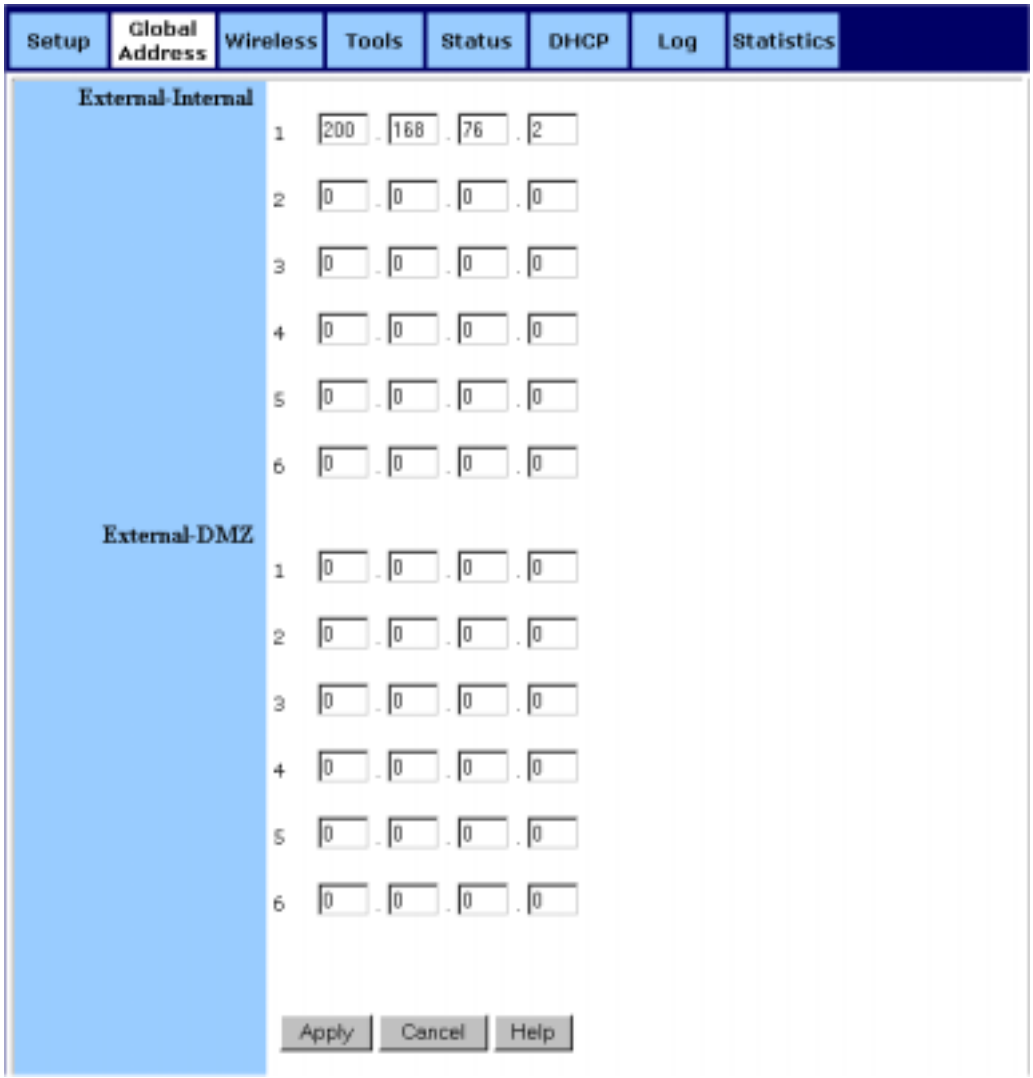


FIGURE 3-6: **Global Address Page with DMZ Enabled**

2. **Review the first line in the above figure. It shows the default WAN IP address which is specified on the Setup page. If your ISP assigns you an IP address automatically, it will display here.**

3. **Next to** External - Internal**, you can list up to 6 static, external IP addresses provided by your ISP.**

4. **Next to** External – DMZ**, define for your DMZ network up to 6 static, external global IP addresses provided by your ISP.**

5. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Remove Global Addresses:

1. **Click** Global Address **on the navigation bar.**
2. **For any entry you want to delete, enter *0.0.0.0*, and click** Apply**.**

Wireless

Using Wireless, you can configure your router for wireless access. There are three parts on the Wireless page:

- Radio Settings: **Allows you to configure your Gateway for wireless access, including *Wireless Enable/Disable*, *Mode*, *ESSID*, *Beacon Interval*, *RTS Threshold*, *Preamble Type*, *Distribution System*, and so on.**
- Security Setting: **Allows you to configure your Gateway for security issues.**
- Status: **Allows you to find out your Gateway's AP Radio statistics and wireless devices of which the AP (Access Point) is aware.**

You can easily toggle between the above three parts on the Wireless page.

On the Radio Settings page, Wireless Distribution System **as defined by the IEEE 802.11 standard has been made available on the Company AP Router now. Hence, it is possible to wirelessly connect Access Points using up to 8 MAC Addresses of PC cards, so that you can extend a wired infrastructure to locations where cabling is not available. Thus those users can roam or stay connected to the available network resources.**

What do you want to do?

- **Set the Wireless Radio Parameters**
- **Set the Wireless Security Parameters**
- **Review Wireless Status**
- **Disable Wireless**

To Set the Wireless Radio Parameters:

1. **On the Wireless page, select** Radio Settings**.**

The Radio Settings page appears, seen in FIGURE 3-7**:**

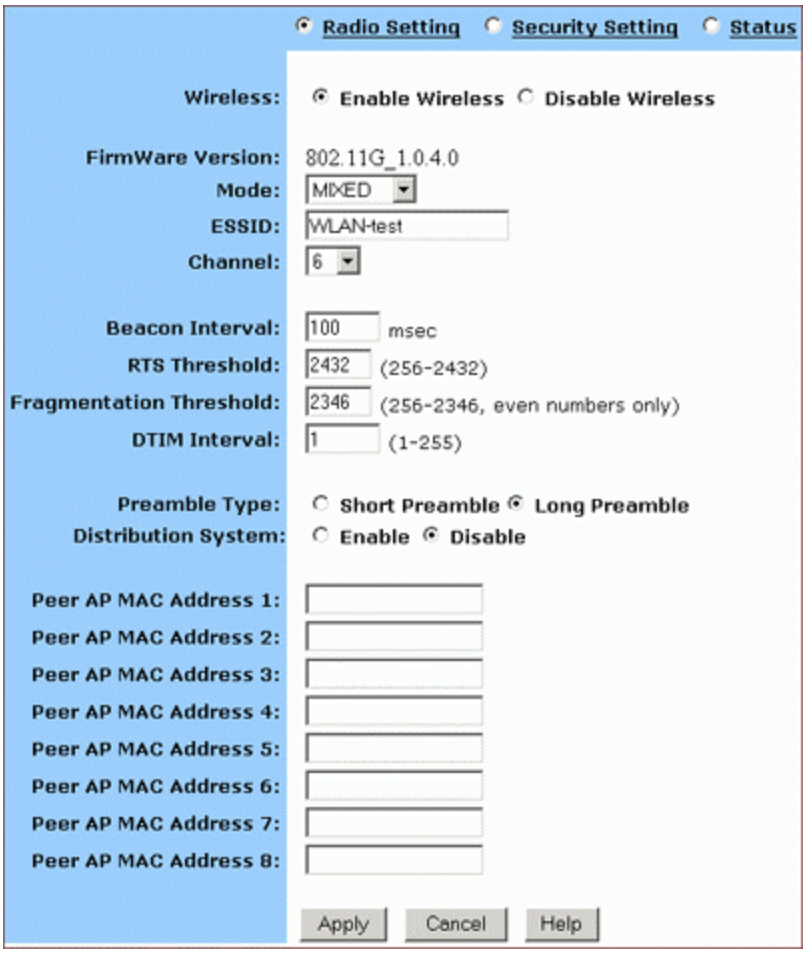


FIGURE 3-7: **Wireless – Radio Settings Page**

2. **Click** Enable **next to** Wireless**.**

3. **Optional. Review the firmware version number and date information that you are currently using.**

4. **Enter the following basic radio parameters:**

Parameter	Description
Mode	**Selects the Wireless Mode that your Company AP Router supports from the drop-down list.** **Available options are *802.11B*, *802.11G*, and *MIXED* which supports both 802.11B and 802.11G.**
ESSID	**Type the unique identifier for the Extended Service Set which is shared by client stations in an infrastructure association, such as *WLAN-test*.** **It is case-sensitive and cannot exceed 32**

	characters.
Channel	**Selects one IEEE 802.11G channel for wireless LAN transmissions from the drop-down list.** **Specifies the bandwidth which the wireless radio operates. AP and the client stations that is associated work in one of channels from 1 to 14.**

5. **Enter the following advanced radio parameters:**

Parameter	Description
Beacon Interval	**Type the time interval in miliseconds between beacons broadcast by AP (Access Point) in the** Beacon Interval **box, such as *100*.**
RTS Threshold	**Type a number in the** RTS Threshold **box.** **Also called Request-to-Send Threshold. This field specifies the minimum size of data frames above which RTS protocol is used, ranging from 256 to 2432. RTS helps prevent data collision from hidden nodes.**
Fragmentation Threshold	**Type a number in the** Fragmentation Threshold **box.** **For efficiency in high-traffic situations, large files are split into fragments. This field specifies the default packet size, an even number ranging from 256 to 2346.**
DTIM Interval	**Type a number in the** DTIM Interval **box.** **Also called Delivery Traffic Indication Map. This field specifies the number of beacon intervals between successive DTIMs, ranging from 1 to 255.**
Preamble Type	**Select either** Short Preamble **(72 bits) or** Long Preamble **(144 bits).**
Distribution System	**If you want to use Wireless Distribution System on your Router, click** Enable **next to** Distribution System**, then type the distributed client PCs' physical addresses, as described in** Step 6**.** **Otherwise, click** Disable**.**

Note **- You can see the default values of the above advanced wireless settings on the right of the page. If you don't know how to change the settings, please leave as they are in** Figure 3-8**:**

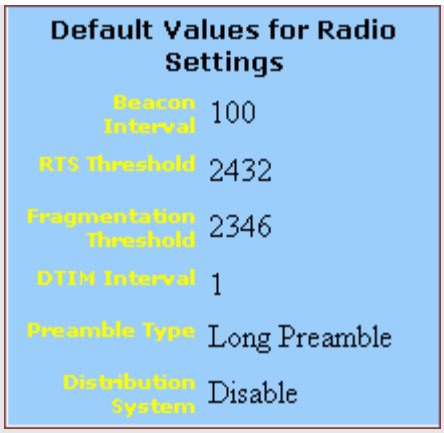


FIGURE 3-8: **Default Values for Radio Settings**

6. **Optional. If you have enabled** Distribution System**, type the physical addresses of distributed client PCs in a wireless network in the** Peer AP MAC Address 1-8 **boxes, seen in** FIGURE 3-9**:**

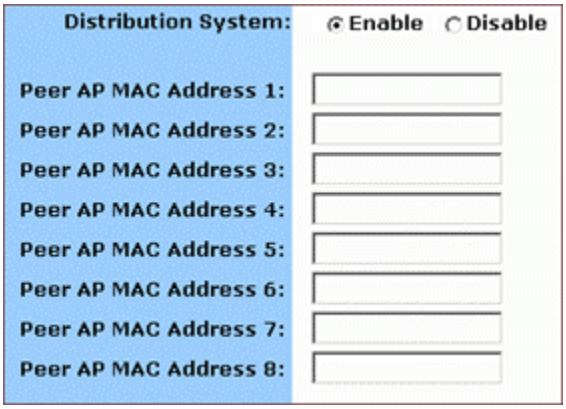


FIGURE 3-9: **Peer AP MAC Addresses for Distribution Systems**

7. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Set Wireless Security Parameters:

1. **Click** Security Settings **on the Wireless page.**

The Security Settings appears, seen in FIGURE 3-10**:**

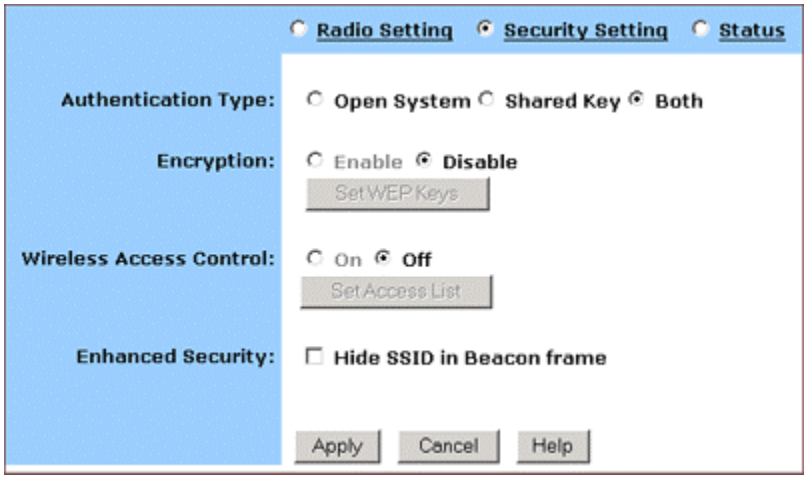


FIGURE 3-10: **Wireless – Security Settings Page**

2. **Select one of *Open System*, *Shared Key* and *Both* from the** Authentication Type **drop-down list.**

> Notes
>
> Authentication Type **indicates an authentication algorithm which can be supported by the Access Point:**
>
> - Open System: **The simplest of available authentication algorithms. Essentially it is a null algorithm. Any station that requests authentication with this algorithm may become authenticated if Open System is set at the recipient station.**
> - Shared Key: **Allows stations with a specific WEP (Wired Equivalent Privacy) Keys to be authenticated.**
> - Both: **Supports the authentications of either stations who know a shared key or those who do not.**

3. **If you want to prevent other stations without specific WEP (Wired Equivalent Privacy) keys from linking to the AP, select** Enable **next to** Encryption **and then click** Set WEP Keys **to specify relevant keys; otherwise, select** Disable**. For detailed instructions on how to set the WEP Keys, see below** **To Set WEP Keys****.**

4. **If you want to allow access to the Internet based on user's MAC (Media Access Control) address, select** On **next to Wireless Access Control and then click** Set Access List **to specify relevant MAC addresses; otherwise, click** Off**. For detailed instructions on how to specify relevant MAC addresses, see below** **To Set Wireless Access Control****.**

5. **Next to** Enhanced Security**, select either** Enable **or** Disable**. If you choose to enable the enhanced security feature, go to** Step 6**.**

6. **Optional. If you have enabled** Enhanced Security**, you can choose to hide your SSID (Service Set Identifier) in Beacon frame.**

7. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Set WEP Keys:

1. **On the Security Settings page, enable the Encryption and click** Set WEP Keys**.**

The Set WEP Keys window appears, seen in FIGURE 3-11**:**

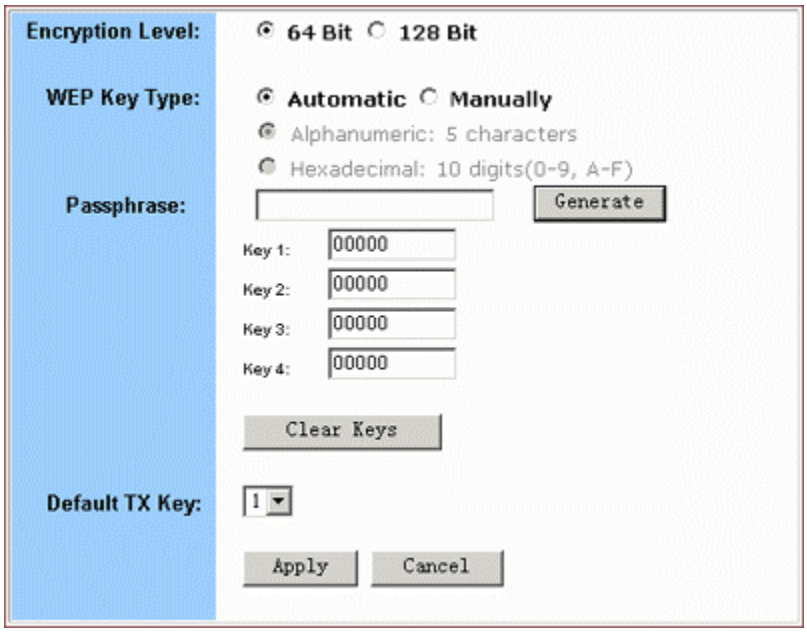


FIGURE 3-11: **Set WEP Keys Window**

2. **Select either *64 Bit* or *128 Bit* next to** Encryption Level**.**

Note **– 128 Bit encryption can provide you a more secure encryption algorithm, but it will slow down your network data transmission rates.**

3. **If you want to generate WEP Keys automatically, do the following:**

No	Action
1	**Select** Automatic **next to** WEP Key Type**.**

2 **Type a string of any words in the** Passphrase **box, and click** Generate**.**

Four newly generated WEP Keys will display in the Key 1 – Key 4**.**

3 **Optional. Click** Clear Keys **to reset all the keys to null.**

Note **– Make sure that you write down the passphrase string, so that you can refer to it if necessary.**

4. If you want to enter the key elements manually, do the following:

No	Action
1	**Select Manually next to WEP Key Type.**
2	**If you select** Alphanumeric: 5 characters**, type a string of 5 alphanumeric characters in the** Key 1 – Key 4 **boxes respectively.**
3	**If you select** Hexadecimal: 10 digits (0-9, A-F)**, type a string of 10 hexadecimal digits in the** Key 1 – Key 4 **boxes respectively.**
4	**Optional. Click** Clear Keys **to reset all the keys to null.**

5. Select the default encryption key from the Default TX Key **drop-down list, such as Key *1*.**

6. When you have completed editing all the settings, click Apply**, or click** Cancel **to undo your changes.**

To Set Wireless Access Control:

1. On the Security Settings page, set the Wireless Access Control On and click Set Access List**.**

The Window Control List window appears, seen in FIGURE 3-12**:**

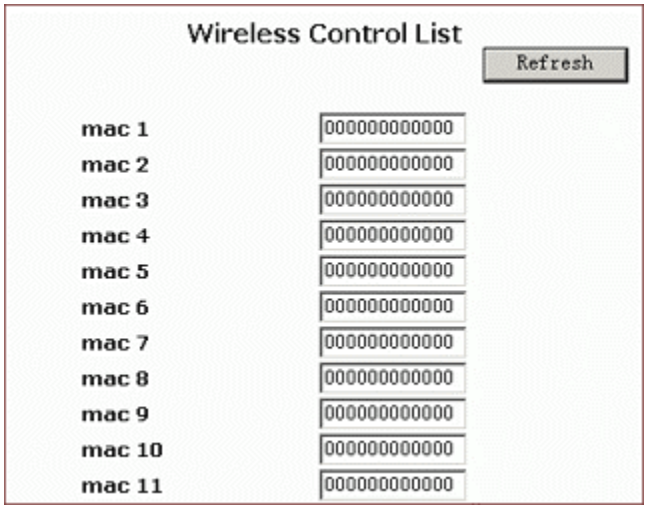


FIGURE 3-12: **Wireless Control List window**

2. **Type the MAC addresses that you want to allow to access the Internet. You can specify up to 80 MAC addresses in the list.**

3. **When you have complete editing all the MAC addresses, click** Submit**, or click** Cancel **to undo your changes.**

4. **Optional. You can click** Refresh **to see the most current MAC addresses in effect.**

To Review Wireless Status:

1. **On the Wireless page, select** Status**.**

The Status page appears with your GateWay's AP Radio statistics including *Status*, *Max.Mb/s*, *IP Addr*, *MAC Addr*, *Radio SSID*, *Receive data* and *Transmit data*. Seen in FIGURE 3-13**:**

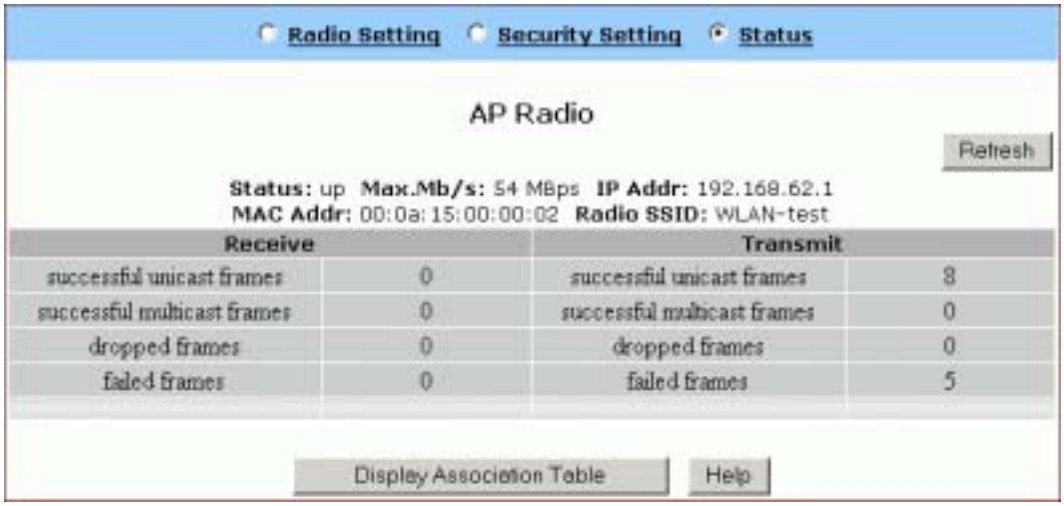


FIGURE 3-13: **Wireless – Status Page**

2. **To see the wireless devices of which the AP (Access Point) is aware, click** Display Association Table**.**

Wireless Association Table

Refresh

Index	Time	Mac Address	Add/Delete from Access List
1	None	None	None

3. **Optional. You can click** Refresh **to see the most current data.**

To Disable Wireless:

1. **On the Wireless page, select** Radio Settings**.**

The Radio Settings page appears, seen in FIGURE 3-7**.**

2. **If you don't want the router to support Wireless, select** Disable**.**

Note **– None of the router's wireless functions will work unless you enable it.**

Tools

On the Tools page, you can:

- **Change the Administrative Password for Your Router**
- **Restore the Factory Default Configuration**
- **Reset Gateway**
- **Upgrade the Firmware**

! Important:

- **We strongly recommend that you change the administrative password after the first login.**
- **Restoring the default factory settings will reset** all **of the router configurations in** every page**, so we recommend that you backup the configuration data from the Gateway to your PC simply using DOS commands. In addition, you can also restore the factory defaults under the DOS window. For detailed instructions, see** **To Backup or Restore the Configuration Data Using DOS Commands****.**
- **If you want to reset the hardware, you need reset the Gateway.**
- **Before upgrading the firmware, you need download the firmware image file from the Gateway Web site and save it to your** root local drive **first.**

To Change the Administrative Password for Your Router:

1. **Click** Tools **on the navigation bar.**

The Tools page appears, seen in FIGURE 3-14**:**

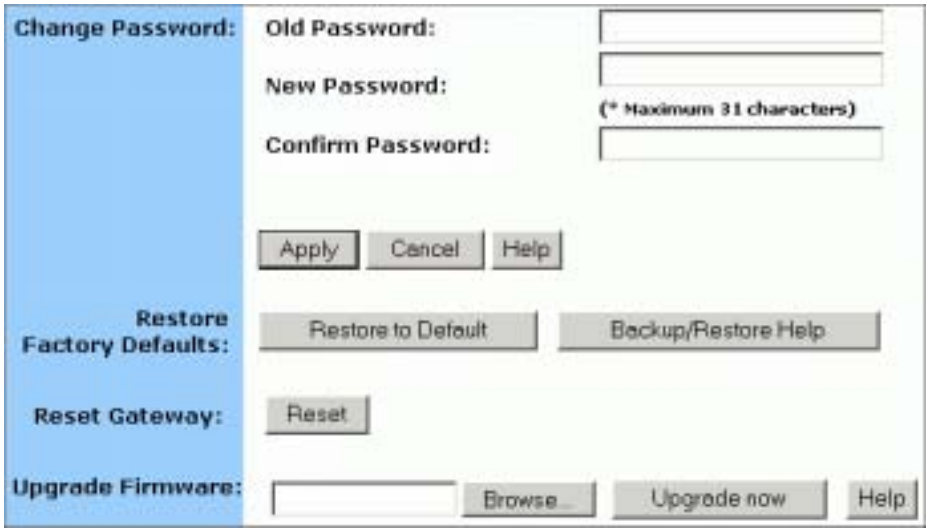


FIGURE 3-14: Tools Page

2. **Type the** Old Password **in the box. The default password is *1234*.**

3. **Type a New Password in the box.**

   Note - **Password must be less than 64 characters.**

4. **Type the new password in the** Confirm Password **box.**

To Restore the Factory Default Configuration:

1. **On the Tools page, click** Restore to Default **next to** Restore Factory Defaults**.**

   The Warning dialog box appears, see FIGURE 3-15**:**

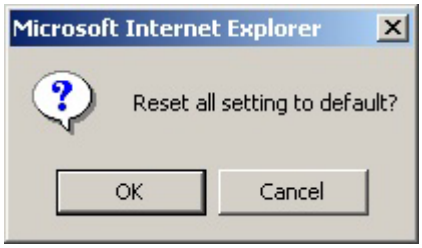


FIGURE 3-15: **Warning Dialog Box**

2. **Click** OK**.**

   ! Important:

   - **Restoring the default factory settings will reset** all **of the router configurations in** every page**, so we recommend that**

you backup the configuration data from the Gateway to your PC first using DOS commands. For details, see To Backup or Restore the Configuration Data Using DOS Commands.

- **In addition, you can also restore the factory defaults using DOS commands. For detailed instructions, see To Backup or Restore the Configuration Data Using DOS Commands.**

To Backup or Restore the Configuration Data Using DOS Commands:

For the backup of the configuration data from the Gateway to your PC, Gateway acts as a TFTP server.

To backup the configuration data**, under the DOS window, use the following command:**

tftp –i gateway_Ip_address GET filename

To restore the configuration data**, under the DOS window, use the following command:**

tftp –i gateway_Ip_address PUT filename

***gateway_Ip_address*: The IP address of the Gateway where you want to back the configuration data.**

***filename*: The file name for backup from the Gateway. It must begin with "*nvram*" which is not case-sensitive, such as "*nvram__11032003*".**

To Reset Gateway:

If you want to reset the hardware, click Reset **next to** Reset Gateway **on the Tools page.**

To Upgrade the Firmware:

1. **Download a firmware image file from the Gateway Web site and save it to your root local drive.**
2. **Type the file path and file name in the** Upgrade Firmware **box, or click** Browse **to launch a** Choose file **dialog box, seen in** FIGURE 3-15**:**

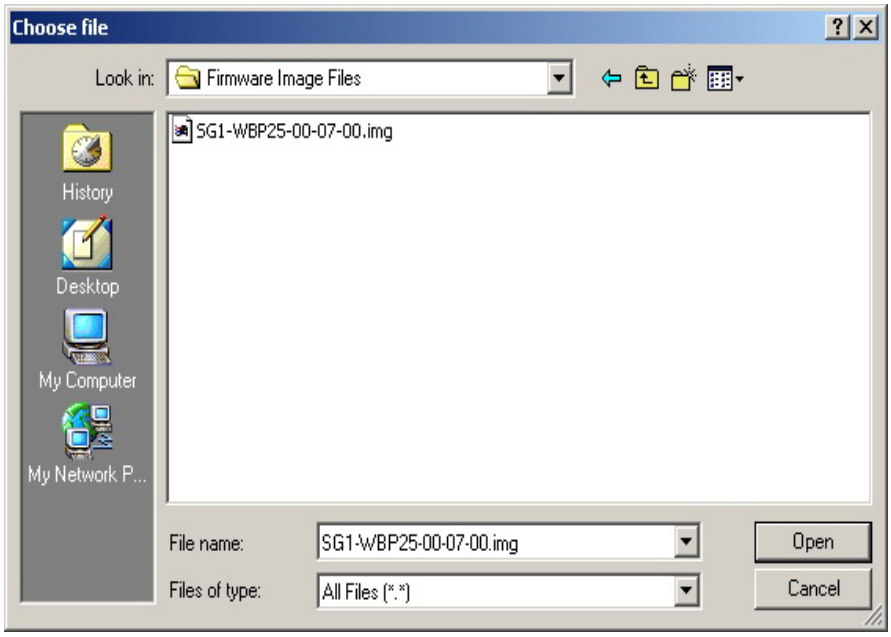


FIGURE 3-15: **Choose File Dialog Box for Upgrading Firmware**

3. **Locate the firmware you have downloaded and click** Open**.**

The Choose file dialog box closes.

4. **Click** Upgrade Now**. The firmware of the device will be upgraded.**

Caution **– The firmware upgrade may take about 10 seconds, please DONOT power off the unit when it is being upgraded.**

Status

On the Status page, you can view the most current information about your Router which will be continuously refreshed per 10 seconds, such as *Host Name, Domain, PPPoE Login, LAN/WAN* and *DDNS Status*. Different configuration may bring you to different data, compared in FIGURE 3-16 **and** FIGURE 3-17**.**

Note – **If you want to change the configuration, go to the Setup page. For detailed instructions, see Setup.**

- **If you have enabled the PPPoE Login, the Status page will display as illustrated in** FIGURE 3-16**:**

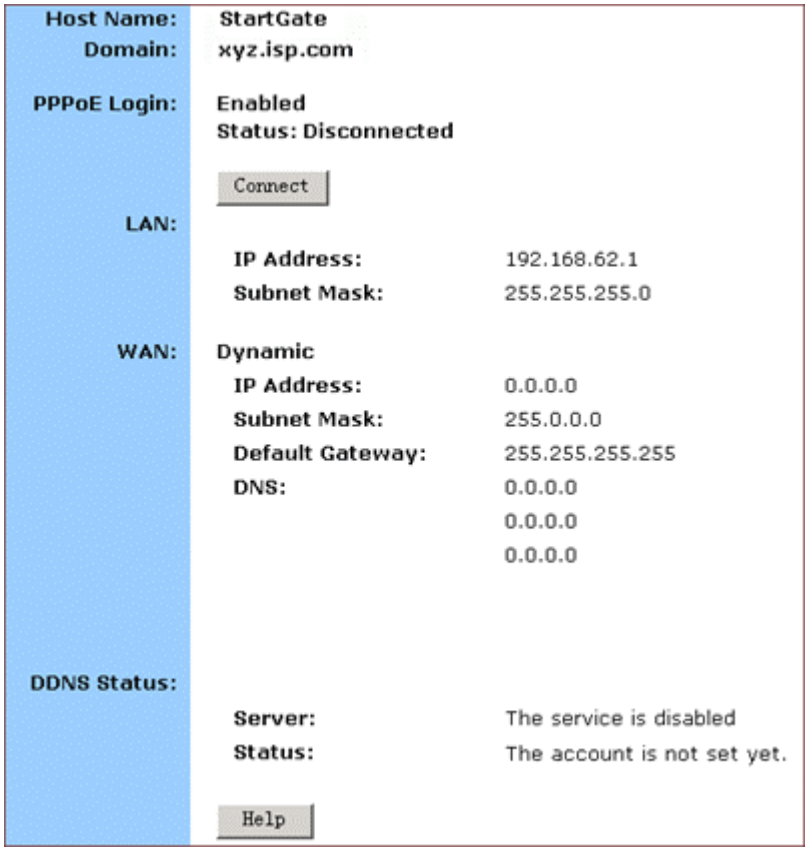


FIGURE 3-16: **Status Page with PPPoE Login Enabled**

- **If you have chosen the Dynamic IP and disabled PPPoE Login, the Status page will display as illustrated in** FIGURE 3-17**:**

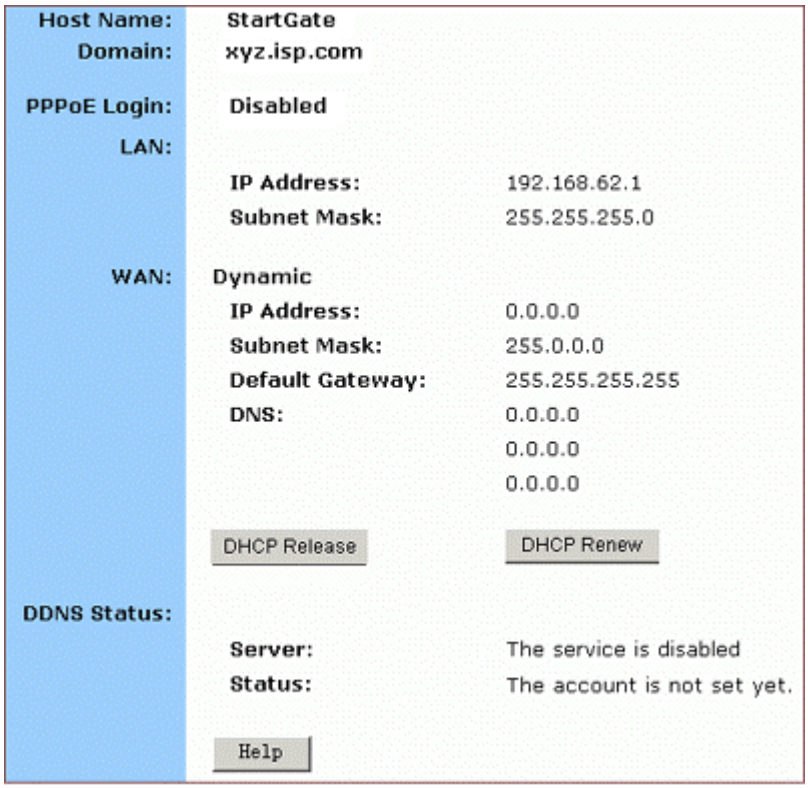


FIGURE 3-17: **Status Page with PPPoE Login Disabled**

Notes

If you have chosen the Dynamic IP and disabled PPPoE Login, you can see the DHCP Release and DHCP Renew buttons:

- **To release the most current WAN IP address, click** DHCP Release**.**
- **To renew the WAP IP address, click** DHCP Renew**.**

Status Detail:

Parameter	Description
Host Name	**Shows the name of the device.**
Domain	**Shows the domain name of the device.**

PPPoE Login	**Shows the current status of PPPoE Login:** ▪ **Disabled** ▪ **Enabled: Connected, Connecting or Disconnected.**
LAN	**Shows the current** IP Address **and** Subnet Mask **of the device, as seen by users in your internal network.**
WAN	**Shows the** IP Address**,** Subnet Mask**,** Default Gateway**, and DNS of the router, as seen by external users on the Internet.**
DDNS	**Shows the Dynamic DNS Server and Status.** **If you want to change the setting, go to the Advanced Dynamic DNS page. For details instructions, see To Configure a Dynamic DNS Server.**

DHCP

On the DHCP page, you can set your NAT/Firewall Gateway as a DHCP (Dynamic Host Configuration Protocol) server, and DHCP servers will automatically assign IP addresses to all the client PCs in your network.

Notes

- **If you want to enable DHCP, make sure that there is not already a DHCP server on your router.**
- **If you don't enable DHCP on your router, you will need to manually configure an IP address for each PC in your network; if you do enable DHCP, make sure that each PC is configured to receive an IP address automatically.**

What do you want to do then?

- Set Your Router as a DHCP Server
- View the Active IP Table
- Disable DHCP on Your Router

To Set Your Router as a DHCP Server:

1. **Make sure that there is not already a DHCP server on your router.**
2. **Make sure that each PC in your network is configured to receive an IP address automatically.**
3. **Click** DHCP **on the navigation bar.**

The DHCP page appears, seen in FIGURE 3-18**:**

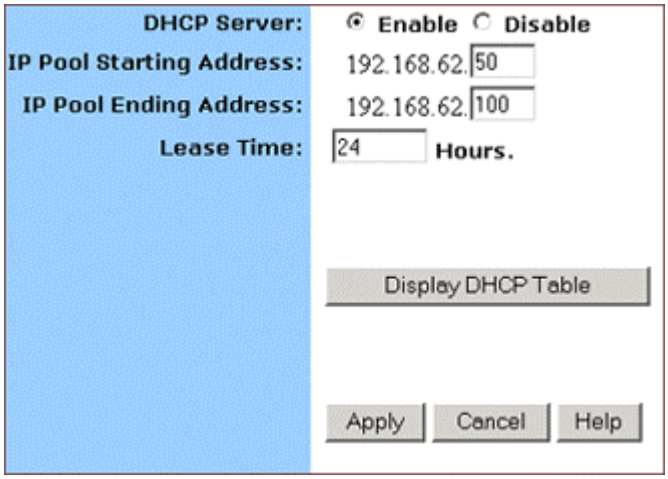


FIGURE 3-18: DHCP Page

4. **Click** Enable **next to DHCP Server.**

5. **Type a** IP Pool Starting Address **to designate the first IP address that can be assigned to a PC in your network.**

6. **Type a** IP Pool Ending Address **to designate the last IP address that can be assigned to a PC in your network.**

7. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Disable DHCP on Your Router:

1. **On the DHCP page, click** Disabled **next to DHCP Server.**

2. **Click** Apply**.**

To View the Active IP Table:

1. **If you want to find out the information about PCs that have been assigned IP addresses by the DHCP server, click** Display DHCP Table**.**

***DHCP Server IP Address*, *Client Host Name*, *IP Address* and *MAC Address* for each active client PC will be listed out in the table, seen in** FIGURE 3-19**:**

DHCP Active IP Table

Refresh

DHCP Server IP Address: 192.168.62.1

Index	Client Host Name	IP Address	MAC Address
1	swlab2	192.168.62.51	00:06:5b:a5:7b:59

FIGURE 3-19: **DHCP Active IP Table**

2. **Optional. Click** Refresh **to obtain the most current data.**

Note – **If you have enabled the DMZ and LAN features, you can also find the relevant information in the** DHCP Active IP Table for DMZ Zone **and the** DHCP Active IP Table for LAN**.**

Log

On the Log page, you can set up Access Log and view log files that record the access activity of LAN and WAN client PCs, including *Session Event Log*, *Block Event Log*, *Intrusion Event Log* and *Wireless Event Log*.

What do you want to do?

- **Set up Access Log on Your Router**
- **View Session Event Log**
- **View Block Event Log**
- **View Intrusion Event Log**
- **View Wireless Event Log**

To Set up Access Log on Your Router:

1. **Click** Log **on the navigation bar.**

   The Log page appears, seen in FIGURE 3-20**:**

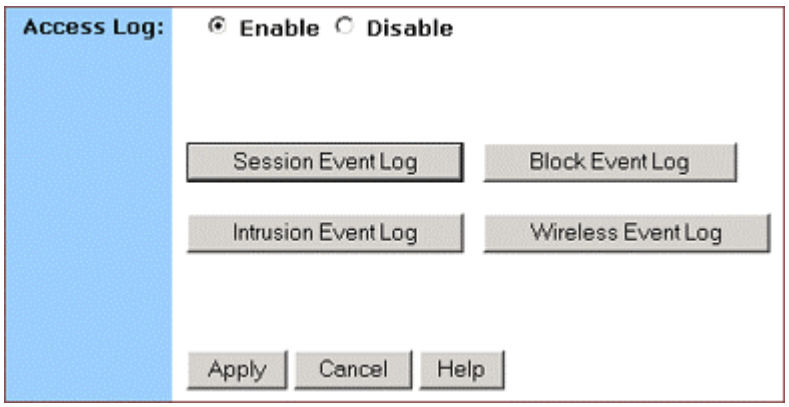


   FIGURE 3-20: Log Page

2. **Select** Enable**.**

3. **Click** Apply**, or click** Cancel **to undo your changes.**

To View Session Event Log:

1. **Click** Session Event Log **on the Log page.**

   The Session Event Log Table appears, including each session event entry information like *Record Name*, *Transport type*, *Source IP* and so on, seen in FIGURE 3-21**:**

Session Event Log Table

Clear Refresh

Index	Record Time	Transport Type	Source IP	Source Port (Type:Code)	Destination IP	Destination Port (Type:Code)	Terminate Reason
1	2003.11.06 03:34:22	ICMP	61.173.63.220	0:8	61.171.242.88	0:0	POLICY_MIGRATION
2	2003.11.06 03:34:45	ICMP	218.80.56.153	0:8	61.171.242.88	0:0	POLICY_MIGRATION
3	2003.11.06 03:34:38	UDP	61.171.242.88	123	192.5.41.40	123	POLICY_MIGRATION
4	2003.11.06 03:35:49	ICMP	61.172.27.50	0:8	61.171.242.88	0:0	TIMEOUT
5	2003.11.06 03:36:41	ICMP	61.172.104.82	0:8	61.171.242.88	0:0	TIMEOUT

FIGURE 3-21: **Session Event Log Table**

2. **Optional. Click** Refresh **to obtain the most current data.**

3. **Optional. Click** Clear **to delete all the log information.**

To View Block Event Log:

1. **Click** Block Event Log **on the Log page.**

   The Block Event Log Table appears, including each block event entry information like *Record Name*, *Transport type*, *Source IP* and so on, seen in FIGURE 3-22**:**

Block Event Log Table

Clear Refresh

Index	Record Time	Transport Type	Source IP	Source Port (Type:Code)	Destination IP	Destination Port (Type:Code)	Terminate Reason
1	2003.11.06 03:34:46	TCP	218.80.56.153	3820	61.171.242.88	135	Default Defense
2	2003.11.06 03:34:52	TCP	218.80.56.153	3820	61.171.242.88	135	Default Defense
3	2003.11.06 03:35:01	TCP	61.171.212.54	3196	61.171.242.88	445	Default Defense
4	2003.11.06 03:35:04	TCP	61.171.212.54	3196	61.171.242.88	445	Default Defense
5	2003.11.06 03:36:00	TCP	195.117.228.35	4066	61.171.242.88	2098	Default Defense

FIGURE 3-22: **Block Event Log Table**

2. **Optional. Click** Refresh **to obtain the most current data.**

3. **Optional. Click** Clear **to delete all the log information.**

To View Intrusion Event Log:

1 . **Click** Intrusion Event Log **on the Log page.**

The Intrusion Event Log Table appears, including each intrusion event entry's *Record Name* and *Intrusion Type*, seen in FIGURE 3-23**:**

Intrusion Event Log Table

Clear Refresh

Index	Record Time	Intrusion Type
1	None	None

FIGURE 3-23: **Intrusion Event Log Table**

2. **Optional. Click** Refresh **to obtain the most current data.**

3. **Optional. Click** Clear **to delete all the log information.**

To View Wireless Event Log:

1. **Click** Wireless Event Log **on the Log page.**

The Session Event Log Table appears, including each wireless event entry's *Time*, *Severity* and *Description*, seen in FIGURE 3-24**:**

Wireless Event Log Table

Refresh

Index	Time	Severity	Description
1	2003.11.06 03:33:10	Info	WLAN zone information is not set
2	2003.11.06 03:33:11	Info	WLAN Access Point started
3	2003.11.06 03:49:42	Info	WLAN zone information is not set
4	2003.11.06 03:49:42	Info	WLAN Access Point started
5	2003.11.06 03:50:42	Info	WLAN zone information is not set
6	2003.11.06 03:50:42	Info	WLAN Access Point started
7	2003.11.06 03:51:42	Info	WLAN zone information is not set
8	2003.11.06 03:51:42	Info	WLAN Access Point started
9	2003.11.06 03:52:12	Info	WLAN zone information is not set
10	2003.11.06 03:52:12	Info	WLAN Access Point started

FIGURE 3-24: **Wireless Event Log Table**

2. **Optional. Click** Refresh **to obtain the most current data.**

3. **Optional. Click** Clear **to delete all the log information.**

To Disable Access Log on Your Router:

1. **On the Log page, click** Disabled **next to Access Log.**
2. **Click** Apply**.**

Statistics

On the Statistics page, you can view the statistics information of LAN, WAN and AP (Access Point) Radio ports, including *Status*, *Max.Mb/s*, *IP Addr* and *MAC Addr*, *Receive data* and *Transmit data*.

You can click Statistics **on the navigation bar, and then the Statistics page appears, seen in** FIGURE 3-25**:**

LAN | WAN | AP

LAN Statistics

Refresh

Status: up **Max.Mb/s:** 100.0 **IP Addr:** 192.168.62.1 **MAC Addr:** 00:0a:15:00:00:00

Receive		Transmit	
total bytes	180771	total bytes	2673637
unicast pkts	4542	unicast pkts	2001
multicast pkts	160	multicast pkts	1764
discards	0	discards	0
errors	0	errors	0
unknown protocols	901	packets queued	0

WAN Statistics

Refresh

Status: up **Max.Mb/s:** 100.0 **IP Addr:** 0.0.0.0 **MAC Addr:** 00:0a:15:00:00:01

Receive		Transmit	
total bytes	0	total bytes	1800
unicast pkts	0	unicast pkts	0
multicast pkts	0	multicast pkts	30
discards	0	discards	0
errors	0	errors	0
unknown protocols	0	packets queued	0

AP Radio

Refresh

Status: up **Max.Mb/s:** 54 MBps **IP Addr:** 192.168.62.1 **MAC Addr:** 00:0a:15:00:00:02
Radio SSID: WLAN-test

Receive		Transmit	
successful unicast frames	0	successful unicast frames	9
successful multicast frames	0	successful multicast frames	0
dropped frames	0	dropped frames	0
failed frames	0	failed frames	3

FIGURE 3-25: **Statistics Page**

The Statistics page includes three parts:

- LAN Statistics: **Lists out the data on the LAN port.**
- WAN Statistics: **Lists out the data on the WAN port.**
- AP Radio: **Lists out the data on the Access Point's radio.**

Note **- You can also click Refresh in any part above to obtain the most current data.**

Printer

The Print Server is designed to provide simple and efficient printer sharing. All users on the LAN, regardless of operating system or network protocol, will be able to use the printers connected to the Printer Server. By connecting your printer to a Print Server instead of a file server or workstation, you will offload system resources, increase printing performance and allow different network protocols to be used simultaneously.

On the Printer page, you can set up a Printer Server and configure its settings for printing share.

What do you want to do then?

- **Set up the Print Server on Your Router**
- **View the Printing Task Queue**
- **Disable the Print Server on Your Router**

To Set up the Print Server on Your Router:

1. **Click** Printer **on the navigation bar.**

   The Printer page appears, seen in FIGURE 3-26**:**

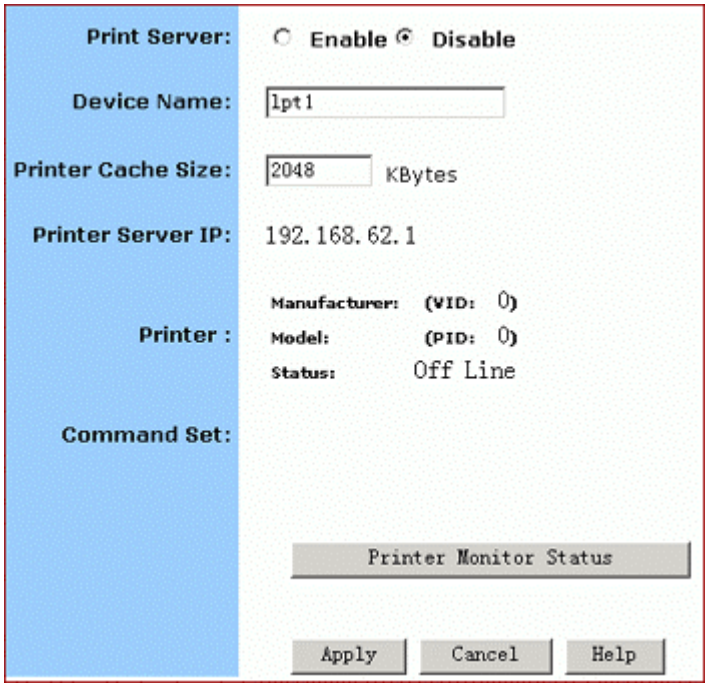


FIGURE 3-26: Printer Page

2. **Select** Enable **next to Print Server.**

3. **Enter the following information in the boxes:**

Parameter	Description
Device Name	**Unique name of the print server hardware used for identification purposes. Client PCs in the network will use it as printing queue name.**
Printer Cache Size	**Used for system evaluation. If the printer does not work properly, you may argument this value, such as 4096, 8192.** **The same value as your printer supports is recommended.**

4. **Review the relevant information:**

Parameter	Description
Printer Server IP	**Shows the IP address of the Printer Server. It equals to the LAN IP address.**
Printer	**Shows the *Manufacturer* and *VID (Vendor ID)*, *Model* and *PID (Product ID)* and *Status* of the current printer connected to the device's USB port.**

Command Set	**Shows the command set of the printer, i.e., when a printer is connected to the print server, it will display here.**

5. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To View the Printing Task Queue:

1. **On the Printer page, click** Printer Monitor Status**.**

   The Printer Monitor Status Table appears, seen in FIGURE 3-27**:**

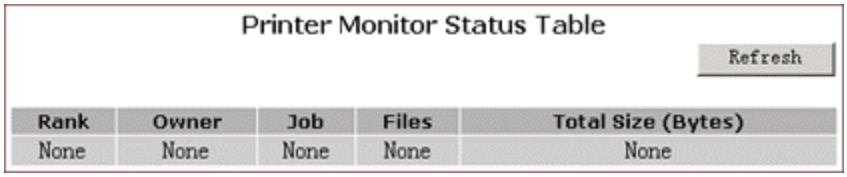


FIGURE 3-27: **Printer Monitor Status Table**

2. **Optional. Click** Refresh **to see the most current printing tasks.**

To Disable the Print Server on Your Router:

1. **On the Printer page, click** Disable **next to Print Server.**
2. **Click** Apply**.**

Chapter

4

Advanced Function

In this chapter, you will learn how to use the advanced administrative functions that the Company AP Router provides, including Virtual Server, Filters, IP/URL Block, Special Apps, DMZ Host, MAC Clone, Dynamic DNS, Proxy DNS and SNMP.

The Web-based Administration Tool provides you some advanced services on the Advanced Function navigation bar, such as Filtering and cloning your MAC addresses.

In most cases, basic functions are Okay. If you want to set the advanced configuration, you will need to toggle to the Advanced Function navigation bar first.

To Toggle between Basic Functions and Advanced Functions:

1. **To toggle to the Advanced window, click** Advanced **on the right side of the Basic window, seen in** FIGURE 4-1**:**

FIGURE 4-1: **Advanced Button on the Basic Window**

2. **Once you are already in the Advanced window, click** Basic **on the right side of the Advanced window to return to the Basic Window, seen in** FIGURE 4-2**:**

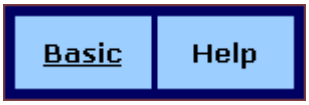


FIGURE 4-2: **Advanced Button on the Basic Window**

Virtual Servers

In some situations, you might want users on the Internet to be able to access servers on your LAN, such as an FTP Server, Telnet Server or Web Server. Such remote services are accomplished by creating *Virtual Server*.

Each virtual server has its own IP address and shares a single public IP address. It is defined by the Protocol type (*TCP*, *UDP* or *Both*) and a TCP/UDP/Both port number. Only the enabled virtual servers can be accessed by remote users over the Internet.

Note - **Configuring virtual servers may cause filters to be automatically created on the Filters page.**

What do you want to do?

- **Set up a Client PC on the LAN as a Virtual Server**
- **Delete Virtual Servers on the LAN**

To Set up a Client PC on the LAN as a Virtual Server:

1. **On the Advanced navigation bar, click** Virtual Servers**.**

   The Virtual Servers page appears with a list of existing virtual servers, seen in FIGURE 4-3**:**

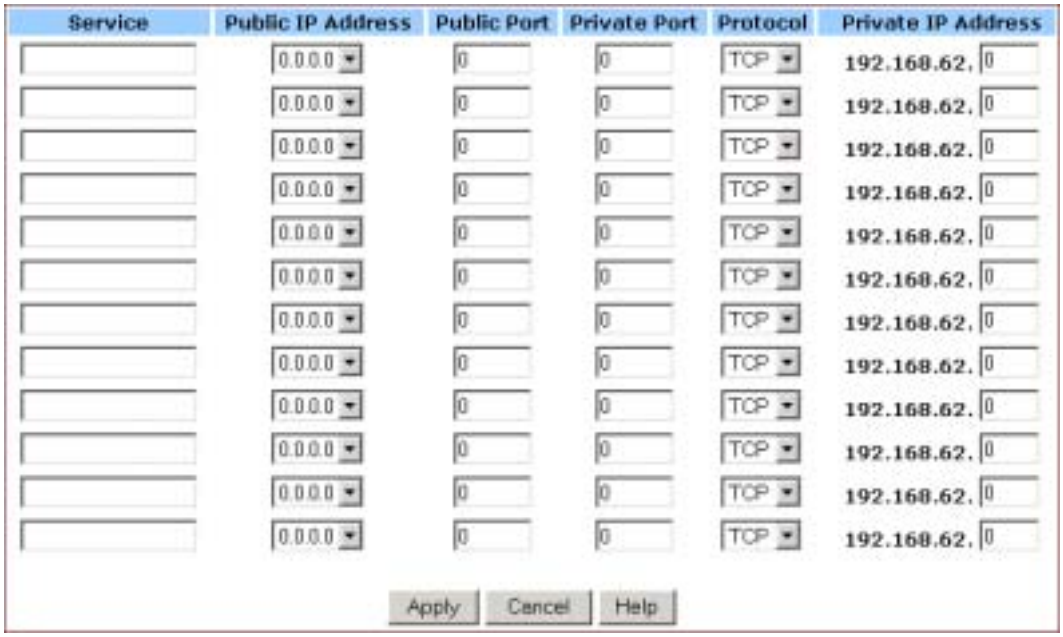


FIGURE 4-3: **Virtual Servers Page**

2. **If you have enabled DMZ and your Gateway is not configured to retrieve an IP address automatically, select either of the following options from the** Choose Interface **drop-down list:**

   (1) External – Internal: **To set up Virtual Server in your LAN network.**

   (2) External – DMZ: **To set up Virtual Servers in your DMZ network.**

3. **If you are using the Windows XP operating system, type a remote service name in the** Service **box.**

   Note **– It is only available for client PCs using Windows XP. Because Windows XP takes an advantage of the UPnP (Universal Plug and Play) feature of the Company AP Router, it allows client PCs that support UPnP to identify the router automatically.**

4. **Select a** Public IP Address **from the drop-down list.**

   Note **– The IP Address of a DMZ host will not appear in the list.**

5. **Type a port number in the** Public Port **and** Private Port **boxes, such as *80* for HTTP. For help on which port to choose, refer to Well-known Ports on the right of the page, seen in** FIGURE 4-4**:**

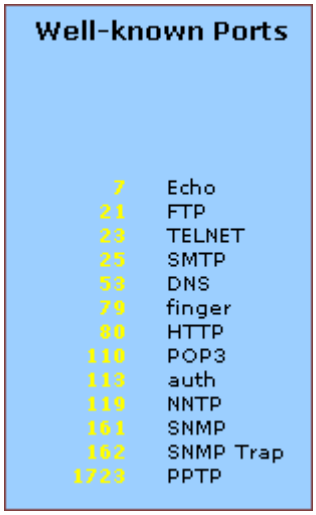


FIGURE 4-4: **Well-know Ports**

Notes

- Public Port **is the TCP/UDP/Both port number used by the server PC on the WAN. It is also called the external port number because this port number is visible to the users on the Internet.**
- Private Port **is the TCP/UDP/Both port number used by the server PC on the LAN. The designated Public Port will be translated into this internal port number.**

6. **Select one of *TCP*, *UDP* and *Both* from the** Protocol **drop-down list.**
7. **Type a local IP address of the server PC on the LAN in the** Private IP Address **box.**
8. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete Virtual Servers on the LAN:

1. **On the Advanced navigation bar, click** Virtual Servers**.**

   A list of existing virtual servers appears.

2. **For any virtual server you want to delete, select *0.0.0.0* from the** Public IP Address **drop-down list.**
3. **Click** Apply**.**

Filters

On the Filters page, you can set up filters that can selectively allow traffic to pass in and out of your network. The Company AP Router comes with 9 factory default filters for you.

In addition to 9 default filters, some filters may be created automatically to allow Virtual Servers **or** Special Applications **to function.**

We strongly recommend that you choose an empty row when you want to set up new filters, because overwriting or deleting these filters may cause some services to be disabled, for example, your client PCs may NOT **be able to access the Internet.**

> Note – **If you have overwritten or deleted the factory default filters, you can retrieve them at a later time using the Restore Factory Defaults function on the Tools page. For detailed instructions, see To Restore the Factory Default Configuration.**

What do you want to do?

- **Set up a Port Filtering or Raw IP Filter**
- **Delete a Port Filtering or Raw IP Filter**

To Set up a Port Filtering or Raw IP Filter:

1. **On the Advanced navigation bar, click** Filters**.**

   The Filters page appears, seen in FIGURE 4-5**:**

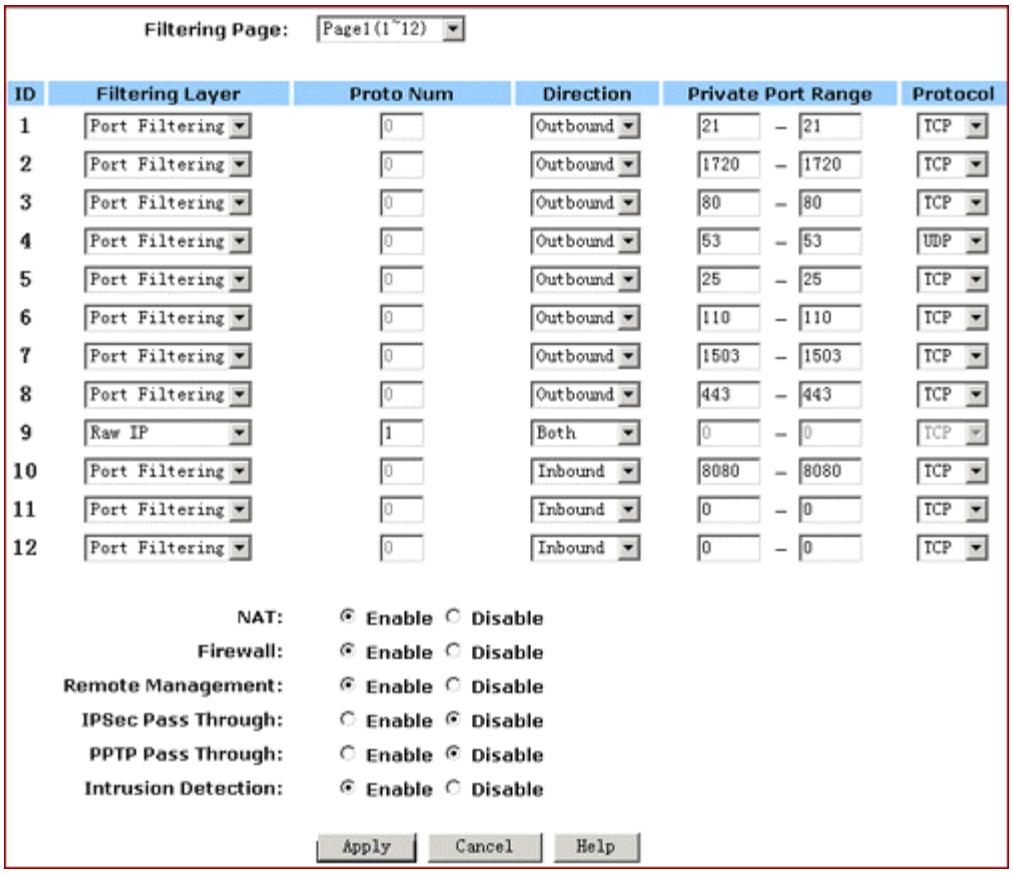


FIGURE 4-5: **Filters Page**

2. **Select an option from the** Filtering Page **drop-down list:** ***1~12, 13~24, 25~36.***

3. **If you select** Port Filtering **from the** Filtering Layer **drop-down list, do the following:**

No	Action
1	**Select a traffic direction from the drop-down list:** ***Inbound, Outbound*** **and** ***Both.***
2	**Type the start port number and end port number that you want to allow in the** Private Port Range **boxes.**
3	**Select a protocol type from the drop-down list:** ***TCP, UDP*** **and** ***Both.***

4. **If you select** Raw IP **from the** Filtering Layer **drop-down list, do the following:**

No	Action
1	**Type an IP Protocol Number in the Proto Num box.** Note - **It ranges from 0 to 255, but can not be 6 (TCP) or 17 (UDP); otherwise, this port filter will not work.**
2	**Select a traffic direction from the drop-down list: *Inbound*, *Outbound* and *Both*.**
3	**Select an option from the Protocol drop-down list: *TCP*, *UDP* and *Both*.**

5. **Optional. Select** Enable **or** Disable **for the following additional filtering options:**

Parameter	Description
NAT	**Allows you to set up NAT (Network Access Translation).**
Firewall	**Allows you to protect your network with a firewall.**
Remote Management	**Allows you to access your router's Web-based Administration Tool through your WAN connection.**
IPSec Pass Through	**Allows you to use IP Security Pass Through.**
PPTP Pass Through	**Allows you to use PPTP (Point-to-Point Tunneling Protocol), used to enable VPN sessions.**
Intrusion Detect	**Allows you to detect and record intrusion attempts into your network.**

6. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete Filters:

You can delete any existing Port Filtering or Raw IP filer, but make sure that you are deleting an unwanted one, otherwise deleting the filters associated with Virtual Servers or Special Applications may cause to services to collapse down.

To Delete a Port Filtering Filter:

1. **On the Filters page, for any Raw IP filter you want to delete, type *0* in the** Private Port Range **boxes.**

2. **Click** Apply**.**

To Delete a Raw IP Filter:

1. **On the Filters page, for any Raw IP filter you want to delete, type *0* in the** Proto Num **box.**

2. **Click** Apply**.**

IP/URL Block

On the IP/URL Block page, you can create filters that can selectively block users from specific IP addresses and domain names to pass in and out of your network. The Company AP Router provides two ways of blocking users:

- IP Block: **Allows you to block a single IP address or a range of IP addresses.**
- URL Block: **Allows you to block up to 36 domain names.**

> Note – **This IP/URL Block feature will block in both directions from specified IP addresses or domain names.**

What do you want to do?

- **Block a Single IP Address**
- **Block a Range of IP Address**
- **Block a Specific Domain Name**
- **Delete a Specific or All IP Blocks**
- **Delete a Specific or All URL Blocks**

To Block a Single IP Address:

1. **Do either of the following:**

   - **Click** IP/URL Block **on the Advanced navigation bar.**
   - **If you are on the URL Block page, select** IP Block **on the upper of the page.**

The IP Block page appears, seen in FIGURE 4-6**:**

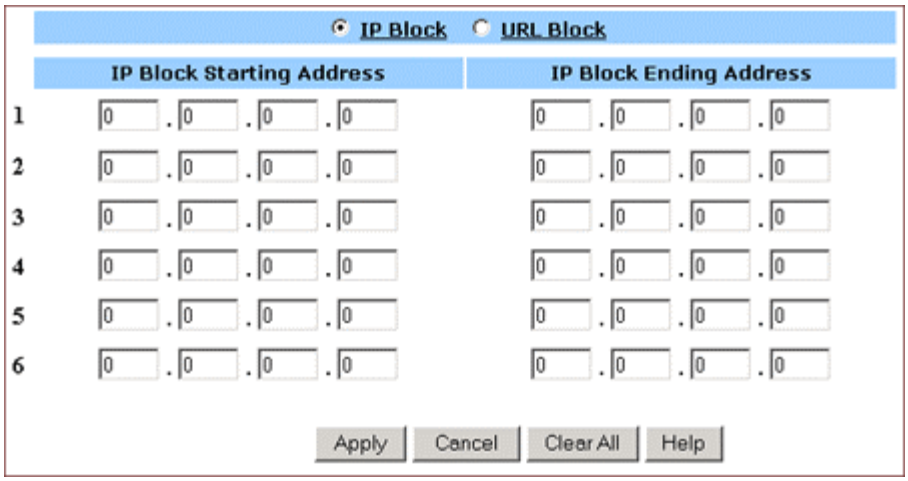


FIGURE 4-6: **IP Block Page**

2. **In Line 1 – Line 6, type the same IP addresses in both** IP Block Starting Address **and** IP Block Ending Address **boxes respectively.**

3. **Optional. You can click** Clear All **to conveniently delete all the existing IP addresses and then do** Step 2**.**

4. **When you have completed editing all the IP addresses you want to block, click** Apply**, or click** Cancel **to undo your changes.**

To Block a Range of IP Address:

1. **Do either of the following:**

   - **Click** IP/URL Block **on the Advanced navigation bar.**
   - **If you are on the URL Block page, select** IP Block **on the upper of the page.**

   The IP Block page appears, seen in FIGURE 4-6**.**

2. **In Line 1 – Line 6, type the different IP addresses in both** IP Block Starting Address **and** IP Block Ending Address **boxes respectively.**

3. **Optional. You can click** Clear All **to conveniently delete all the existing IP addresses and then do** Step 2**.**

4. **When you have completed editing all the IP addresses you want to block, click** Apply**, or click** Cancel **to undo your changes.**

To Block a Specific Domain Name:

1. **Click** IP/URL Block **on the Advanced navigation bar.**

   The IP Block page appears, seen in FIGURE 4-6**.**

2. **Select** URL Block **on the IP Block page.**

   The URL Block page appears, seen in FIGURE 4-7**:**

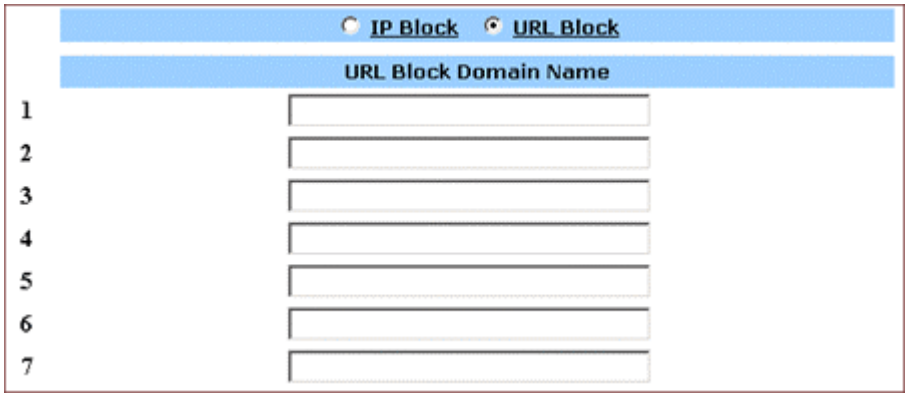


FIGURE 4-7: **URL Block Page**

3. **In Line 1 – Line 36, type the URLs you want to block.**

4. **Optional. You can click** Clear All **to conveniently delete all the existing URLs and then do** Step 2**.**

5. **When you have completed editing all the domain names you want to block, click** Apply**, or click** Cancel **to undo your changes.**

To Delete a Specific or All IP Blocks:

1. **On the IP Block page, do either of the following:**

   - **For any IP block you want to delete, type *0.0.0.0* in both** IP Block Starting Address **and** IP Block Ending Address **boxes respectively.**
   - **If you want to delete all IP blocks, click** Clear All**.**

2. **Click** Apply**.**

To Delete a Specific or All URL Blocks:

1. **On the URL Block page, do either of the following:**

   - **For any domain name block you want to delete, clear out the URL in the box.**

- **If you want to delete all URL blocks, click** Clear All**.**

2. **Click** Apply**.**

Special Apps

On the Special Apps page, you can authorize certain ports to communicate with PCs outside your network. It may be necessary for multi-session applications, such as online games and voice conferencing.

There are two ways of set up new special applications on your router:

- Popular Application Copy**: Allows you to select one of frequently used applications from the** Popular Applications **drop-down list and copy it to your Special Application Table. Available options are *AIM*, *Diablo II (1)*, *Diablo II (2)*, *StarCraft*, *StarCraft III*, *ICUII*, *FTP*, *CUseeMe*, *MSN Messenger* and *Real Player*.**
- Manual Configuration**: If the application you want to configure is not in the Popular Applications list, you can configure its settings manually.**

Before configuring a new special application, would you please check the list of those popular applications first? If it is already in the list, we recommend that you use the Popular Application Copy unless you know exactly which settings to choose.

Notes

- **Configuring special applications may cause filters to be automatically created on the Filters page.**
- **The Company AP Router provides two factory default special applications for FTP and NetMeeting, if you overwrite them or any other existing application, they will not work.**

What do you want to do?

- Copy a Popular Application to a Specific Line
- Configure a Special Application Manually
- Delete Special Applications

To Copy a Popular Application to a Specific Line:

1. **On the Advanced navigation bar, click** Special Apps**.**

   The Popular Applications list appears on the Special Apps page, seen in FIGURE 4-8**:**

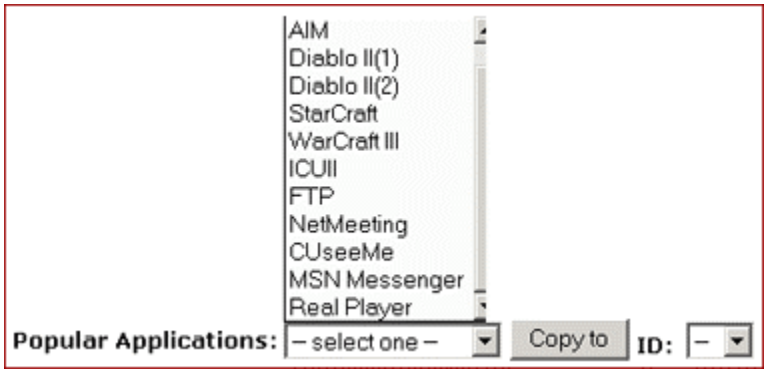


FIGURE 4-8: **Popular Applications List**

2. **Select an option from the** Popular Applications **drop-down list, including *AIM*, *Diablo II (1)*, *Diablo II (2)*, *StarCraft*, *StarCraft III*, *ICUII*, *FTP*, *CUseeMe*, *MSN Messenger* and *Real Player*.**
3. **Select a specific line number from the** ID **drop-down list.**

   Note **– Make sure the specified ID presents an empty line unless you want to overwrite an existing application.**

4. **Click** Copy to**.**

   The selected application's configuration is added to your Special Applications Table on the upper of the page.

5. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Configure a Special Application Manually:

1. **On the Advanced navigation bar, click** Special Apps**.**

   The Special Apps page appears, seen in FIGURE 4-8**:**

ID	Protocol	Trigger Port Range	Maximum Activity Interval	Session Chaining	Chaining on UDP	Address Replacement	Address Translation Type	Two Way Only
1	TCP	21 - 21	3000	Disable	Disable	Disable	TCP	Enable
2	TCP	1720 - 1720	30000	Enable	Disable	Enable	TCP	Disable
3	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
4	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
5	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
6	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
7	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
8	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
9	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
10	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
11	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable
12	TCP	0 - 0	50	Enable	Enable	Enable	TCP	Enable

Apply Cancel Help

FIGURE 4-8: **Special Apps Page**

2. **Select a line corresponding to a specific ID.**

Note – **Make sure you have selected an empty line unless you want to overwrite an existing application.**

3. **Enter the following configuration information:**

Parameter	Description
Protocol	**Specifies the communication protocol used by the application.** **Available options are *TCP*, *UDP* and *Both*.**
Trigger Port Range	**Range of ports used for outgoing traffic. It will trigger the Gateway to accept certain incoming requests.**
Maximum Activity Interval	**Maximum number of miliseconds after the port trigger function, within which incoming requests will be accepted.**
Session Chaining	**Allows you to select either** Enable **or** Disable**.** **Specifies whether dynamic sessions can be chained, allowing multi-session triggering.**
Chaining on	**Allows you to select** Enable **or** Disable **only when**

UDP	**Session Chaining is enabled.** **Specifies whether the session chaining is allowed on UDP.**
Address Replacement	**Allows you to select** Enable **or** Disable **only when Chaining on UDP is enabled.** **Specifies whether binary address replacement should be performed.**
Address Translation Type	**Allows you to select** TCP **or** UDP **only when Address Replacement is enabled.** **Specifies whether address translation is performed on TCP or UDP packets.**
Two Way Only	**Allows you to select either** Enable **or** Disable**.** **Specifies that a new session is allowed to be initiated from the same remote host.**

4. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete Special Applications:

1. **On the Special Apps page, for any application you want to delete, type *0 – 0* in the** Trigger Port Range **box.**

2. **Click** Apply**.**

DMZ Host

On the DMZ Host page, you can expose one or more client PCs in your network to the Internet. It is often used for online games that require unstricted two-way communications.

The total number of DMZ (Demilitarized Zone) hosts you can have depends on how many Global Addresses you have configured on the Global Address page. For example, if you have defined 5 Global Addresses (including the default IP), you are limited to 5 DMZ hosts. Since the maximum number of Global Addresses is 8**, the total number of DMZ hosts you can configure is also** 8**.**

Caution – **Once a PC in your network is designated as DMZ host, it will not have any firewall protection.**

What do you want to do?

- **Designate a PC in Your Network as a DMZ Host**
- **Delete DMZ Hosts**

To Designate a PC in Your Network as a DMZ Host:

1. **On the Advanced navigation bar, click** DMZ Host**.**

   The DMZ Host page appears, seen in FIGURE 4-9**:**

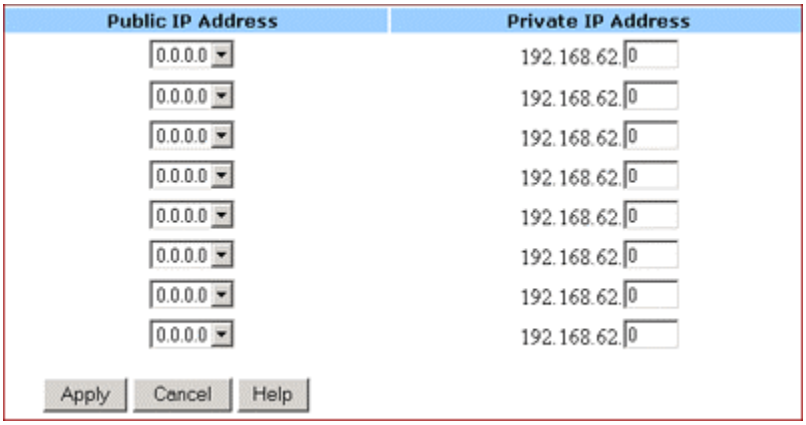


FIGURE 4-9: **DMZ Host Page**

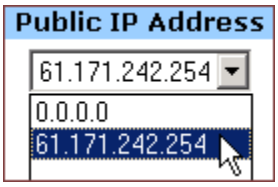
2. **Select a** Public IP Address **from the drop-down list.**

3. **Type the IP address of a PC in your network that you want to designate as a DMZ Host in the** Private IP Address **box.**

4. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete DMZ Hosts:

1. **On the DMZ Host page, for any DMZ host you want to delete, select *0.0.0.0* from the** Public IP Address **drop-down list.**



2. **Click** Apply**.**

MAC Clone

If your ISP restricts services at a PC level, using MAC Clone, you can copy a PC MAC (Media Access Control) address to the router. Then what story will begin? The router will appear as a single PC, and multiple PCs in your network will access the Internet via this "*Single PC*".

To Clone the MAC Address:

1. **On the Advanced navigation bar, click** MAC Clone**.**

   The MAC Clone page appears with the current WAN port address and the factory default MAC address for your convenience, seen in FIGURE 4-10**:**

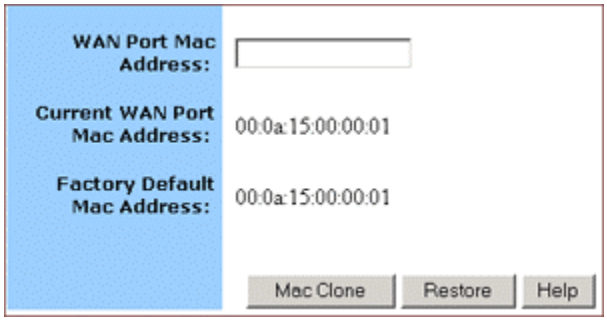


FIGURE 4-10: **MAC Clone Page**

> Note – **You may need to use the Ethernet MAC address of the NIC (Network Interface Card) that your PC is registered with your ISP.**

2. **Click** Mac Clone**, or click** Restore **to retrieve the default settings.**

Dynamic DNS

On the Dynamic DNS page, you can tie up your domain name to a dynamic DNS provider. These providers allow you to associate a static hostname with a dynamic IP address, then you can connect to the Internet with a dynamic IP address and use applications that require a static IP address.

The Company AP Router supports three dynamic DNS providers:

- **DynDNS.org**
- **no-IP.com**
- **no-IP.com**

What do you want to do?

- **Configure a Dynamic DNS Server**
- **Disable a Dynamic DNS Server**

To Configure a Dynamic DNS Server:

1. **On the Advanced navigation bar, click** Dynamic DNS**.**

   The Dynamic Server page appears, seen in FIGURE 4-12**:**

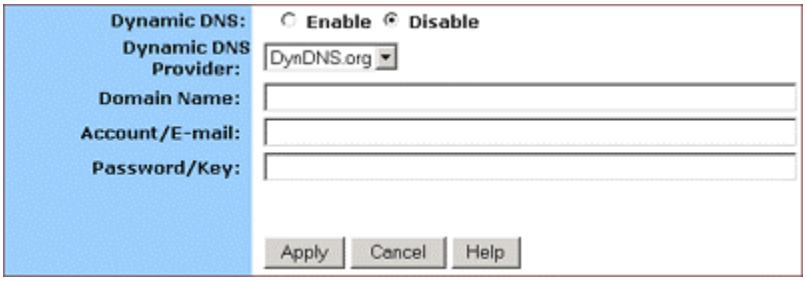


   FIGURE 4-12: **Dynamic DNS page**

2. **Select** Enable **next to** Dynamic DNS**.**

3. **Select one of *DynDNS.org*, *no-IP.com*, *no-IP.com* from the Dynamic DNS Provider drop-down list.**

4. **Type your** Domain Name **in the box.**
5. **Type your** Account **or** E-mail **in the box.**
6. **Type your** Password **or** Key **in the box.**
7. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Disable a Dynamic DNS Server:

1. **On the Dynamic DNS page, select** Disable **next to** Dynamic DNS**.**
2. **Click** Apply**.**

Proxy DNS

On the Proxy DNS page, you can map a domain name to a server IP address. Acting as a DNS server for internal and DMZ networks, it allows you to connect to local machines in your network without using an external DNS server. It simplifies the configuration and management of your network.

What do you want to do?

- **Configure a Proxy DNS Server**
- **Delete a Specific or All Proxy DNS Servers**
- **Disable the Proxy DNS on Your Router**

To Configure a Proxy DNS Server:

1. **On the Advanced navigation bar, click** Proxy DNS**.**

   The Proxy DNS page appears, seen in FIGURE 4-13**:**

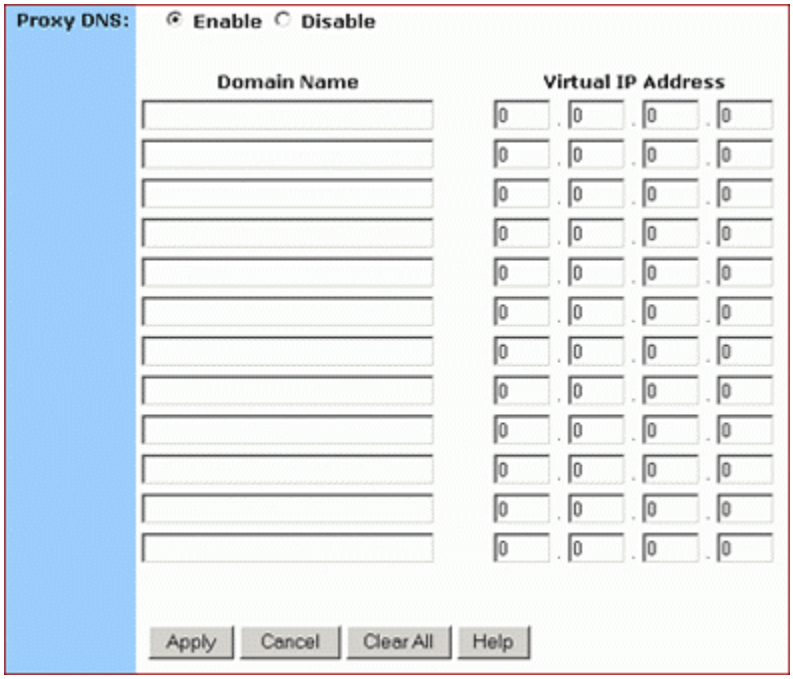


FIGURE 4-13: **Proxy DNS Page**

2. **Select** Enable **next to** Proxy DNS**.**

3. **Type a name for one PC in your network that you want to use as a Proxy DNS server in the** Domain Name **box.**

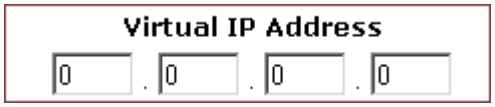
4. **Type the IP address for the PC in the** Virtual IP Address **box.**

5. **Optional. If you want to delete all the existing Proxy DNS servers first, click** Clear All **and do** Step 3 **and** Step 4**.**

6. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete a Specific or All Proxy DNS Servers:

1. **On the Proxy DNS page, for any Proxy DNS server you want to delete, type *0.0.0.0* in the** Virtual IP Address **box.**

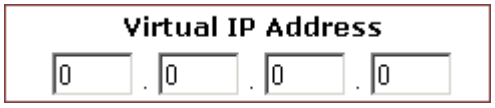


2. **If you want to delete all the existing Proxy DNS servers, click** Clear All**.**

3. **Click** Apply**.**

To Disable the Proxy DNS on Your Router:

1. **On the Proxy DNS page, for any Proxy DNS server you want to delete, type *0.0.0.0* in the** Virtual IP Address **box.**



2. **If you want to delete all the existing Proxy DNS servers, click** Clear All**.**

3. **Click** Apply**.**

SNMP

The Simple Network Management Protocol (SNMP) is an application layer protocol that facilities the exchange of management information between network devices. It is part of TCP/IP (Transmission Control protocol/Internet Protocol) suite and enables you to control and monitor the network in a simple way.

On the SNMP page, you can edit the basic Agent information and also configure up to 6 SNMP trap receiver's IP Addresses. When a trap condition occurs, your router will send an SNMP trap message to any NMS (Network Management System) specified as trap receivers, for example, when power supply errors occur.

Notes

- NMS (Network Management System) **is an SNMP management application together with the computer it runs on.**
- **Currently the Company AP Router supports SNMPv1 (SNMP version 1) and SNMPv2 (SNMP version 2) which have a number of features in common except for some enhancements.**

And moreover, you can specify different community names for authenticating access to the management information, which function as embedded passwords:

- Read: **Gives you READ access to all the management information, but does not allow WRITE access.**
- Write: **Gives you both READ and WRITE access to all the management information.**

Note **– The community name definitions on your NMS must match at least one of the above two community name definitions.**

What do you want to do?

- **Configure Agent Information, SNMP Trap Host IP Addresses and Community Names on Your Router**

- **Delete an Existing SNMP Trap Receiver**
- **Delete SNMP Community Names**

To Configure Agent Information, SNMP Trap Host IP Addresses and Community Names on Your Router:

1. **On the Advanced navigation bar, click** SNMP**.**

   The SNMP page appears, seen in FIGURE 4-14**:**

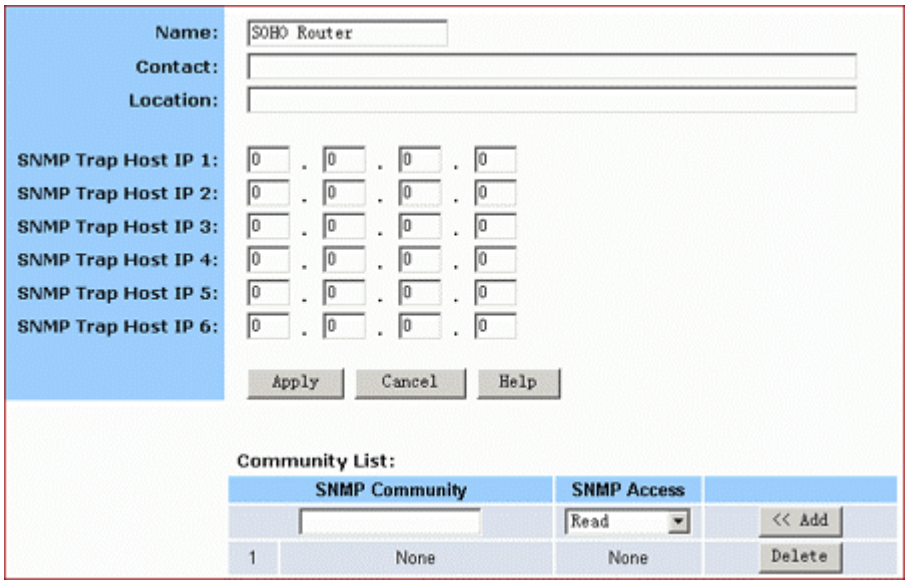


   FIGURE 4-14: SNMP Page

2. **Enter the following Agent information:**

Parameter	Description
Name	**Specifies an administratively-assigned name for this managed node, like *SOHO Router*.** **It is a string of the maximum 31 alphanumeric characters.**
Contact	**Specifies the contact person of this managed node, plus phone number, Email address, etc.** **It is a string of the maximum of 255 alphanumeric characters.**
Location	**Specifies the physical location of this managed node, for example, city, address and specific office location.**

	It is a string of the maximum of 255 alphanumeric characters.

3. **To send SNMP trap messages to any NMS, type up to 6 trap receiver' IP addresses in the** SNMP Trap Host IP Address 1 **–** SNMP Trap Host IP Address 6 **boxes.**

4. **To secure SNMP with community names, do the following:**

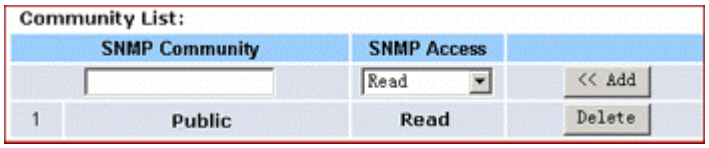
No	Action
1	**Type a string in the** SNMP Community **box, like *Public*.**
2	**Select an option from the** SNMP Access **drop-down list, for example, *Read*.**
3	**Click** Add**. If you want to add more community names, do** Step 4.1 **–** Step 4.3 **again.**

Note **– Usually, we define a string of "*Public*" for Read access and "*Private*" for Read-Write access.**

5. **When you have completed editing all the settings, click** Apply**, or click** Cancel **to undo your changes.**

To Delete an Existing SNMP Trap Receiver:

1. **On the SNMP page, for any SNMP trap receiver that you want to delete, enter *0.0.0.0* in the** SNMP Trap Host IP Address **box.**



2. **Click** Apply**.**

To Delete SNMP Community Names:

1. **On the SNMP page, for any SNMP community name that you want to delete, click** Delete **in the corresponding row.**

2. **Click** Apply**.**

Static Routing

The Static Routing is used to configure static routes to remote networks manually, where the route is predefined and is not supervised by the Routing Information Protocol (RIP). It can explicitly reduce the network traffic and speed the Internet connects for a small network.

However, it may fall into a certain disadvantage. When a static router involves more than one Hop, if the connection to the next hop goes down, the router cannot be aware of the invalid path and continues to route traffic on this hop.

On the Static Routing page, you can add up to 20 static routes by indicating:

- **Destination LAN IP address and Subnet Mask**
- **Remote gateway**
- **Hop**
- **Router interface through which to forward the packets to the destination.**

> Note – **If the network topology changes, you may have to make changes to the static routing tables for relevant static routes.**

What do you want to do?

- **Add a New Static Route**
- **Delete a Static Route**

To Add a New Static Route:

1. **On the Advanced navigation bar, click** Routing**.**

   The Static Routing page appears, seen in FIGURE 4-15**:**

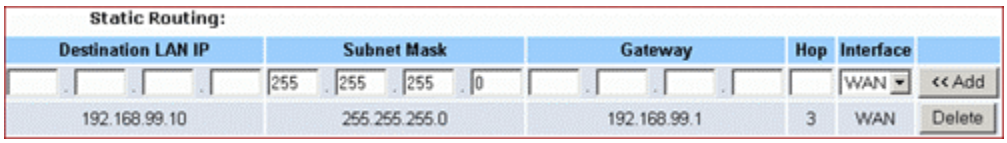


FIGURE 4-15: **Static Routing Page**

2. **Enter the following static route information:**

Parameter	Description
Destination LAN IP	**Specifies the network address of the remote LAN segment. For standard class "C" LANs, the network address is the first 3 fields of this Destination LAN IP, the 4th field can be left at 0.**
Subnet Mask	**Specifies the Subnet Mask used on the remote LAN segment. For class "C" networks, the standard Network Mask is 255.255.255.0.**
Gateway	**Specifies the IP Address of the router on the local LAN segment to which this device is attached.** **Note that it is NOT the router on the remote LAN segment.**
Hop	**Specifies the number of routers that must be traversed to reach the remote LAN segment. Valid values are *1* to *16*.**
Interface	**Specifies the interface through which the router goes to the next hop or a particular network. Available options are WAN, LAN and DMZ.**

3. **Click** <<Add**.**

   The new static route appears in the static routing list.

To Delete a Static Route:

1. **On the Static Routing page, for any static route that you want to delete, review the relevant information, seen in** FIGURE 4 – 15**.**

3. **Click** Delete**.**

Federal Communication Commission Interference Statement

1 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS, PART 15

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:

1. Reorient or relocate the receiving antenna.

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

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.

(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

FCC RF Exposure Statement:
This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its

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

In order to maintain compliance with the FCC RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use only with supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

2 REGULATORY INFORMATION / DISCLAIMERS

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, or the substitution of the connecting cables and equipment other than manufacturer specified. It is the responsibility of the user to correct any interference caused by such unauthorized modification, substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

CE Warning:

Regulatory statement (R&TTE / WLAN IEEE 802.11 b/g)

European Standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz; In France, the equipment must be restricted to the

2.4465-2,4835GHzfrequency range and must be restricted to indoor use.

CE Declaration of Conformity:

For the following equipment: Wireless LAN Card Bus

CE0984①

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC),

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low-voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC. The equipment was passed. The test was performed according to the following European standards:

- **EN 300 328-2 V1.2.1 (2001-08)**
- **EN 301 489-1 V.1.4.1 (2002-04) / EN 301 489-17 V.1.2.1 (2002-04)**
- **EN 50371: 2002**
- **EN 60950: 2000**