Wireless Networking Gateway

System Manual

SW Version 2.0
November 2004
P/N 213930

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This device complies with Part 15 of the FCC rules, ETSI 300 328, UL, UL/C, TUV/GS, and CE.

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 Radio Frequency Interference Statement

The Subscriber Unit 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 and to EN 301 489-1 rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment notwithstanding use in commercial, business and industrial environments. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Safety Considerations

For the following safety considerations, “Instrument” means the Wireless Networking Gateway units and its cables.

Caution

To avoid electrical shock, do not perform any servicing unless you are qualified to do so.

Line Voltage

Before connecting this instrument to the power line, make sure that the voltage of the power source matches the requirements of the instrument.

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About this Manual

This manual contains the following chapters:

- **Chapter 1 – Product Description**: Describes the Wireless Networking Gateway and its components.
- **Chapter 2 – Installation**: Describes how to install the system and its components.
- **Chapter 3 – Operation and Administration**: Describes how to use the web-based management application for configuring parameters and managing the Wireless Networking Gateway.
- **Appendix A – Print Server**: Describes how to configure the printer server.
- **Appendix B – TCP/IP Configuration for Windows 95/98:** Describes how to configure TCP/IP settings for the computers connected to the unit.
- **Appendix C – 802.1x Setting.**

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Chapter 1 - Product Description

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Introducing the Wireless Networking Gateway IDU

Alvarion's Wireless Networking Gateway Indoor Unit enables operators and service providers using Alvarion’s Broadband Wireless Access system to provide subscribers with a number of broadband services transparently.

The Wireless Networking Gateway IDU together with the SU-ODU comprises a Subscriber Unit that provides data connections to the Base Station. The four 10/100Base-T Ethernet ports connect to the user’s data equipment, providing comprehensive routing functionality and supporting various security features. User’s data equipment equipped with either IEEE 802.11b (11M) or IEEE 802.11g (54M) compatible wireless adapters can connect to the unit via its built-in Wireless LAN port, functioning as an Access Point.

The Wireless Networking Gateway IDU is powered from the mains. The Wireless Networking Gateway IDU is connected to the ODU via a category 5 Ethernet cable. This cable carries the Ethernet data between the two units as well as power (54VDC) and control signals to the ODU. It also carries status indications from the ODU.

The Wireless Networking Gateway is designed for remote management and supervision using either the built-in internal web server or SNMP.

The Wireless Networking Gateway is easily updated and upgraded as it supports remote software and configuration file download.

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Functions and Features

Router Basic Functions

- **Auto-sensing Ethernet Switch**
  Equipped with a 4-port auto-sensing Ethernet switch.

- **Printer sharing**
  Embedded print server to allow all of the networked computers to share one printer through the USB host port.

- **WAN Types**
  The router supports some WAN types, Static, Dynamic, PPPoE, PPTP, and Dynamic IP with Road Runner.

- **Firewall**
  All unwanted packets from outside intruders can be blocked to protect the Intranet.

- **DHCP Server Support**
  All of the networked computers can retrieve TCP/IP settings automatically from the Wireless Networking Gateway.

- **Web-based configuring**
  Configurable through any networked computer’s web browser using Netscape or Internet Explorer.

- **Virtual Server Support**
  Enables you to expose WWW, FTP and other services on your LAN to be accessible to Internet users.

- **User-Definable Application Sensing Tunnel**
  Users can define the attributes to support special applications requiring multiple connections, such as Internet gaming, video conferencing, Internet telephony and so on. The Wireless Networking Gateway can sense the application type and open a multi-port tunnel for it.

- **DMZ Host Support**
  Lets a specific networked computer be fully exposed to the Internet; this function is used when special application sensing tunnel feature is insufficient to allow an application to function correctly.

- **Statistics of WAN Support**
  Enables you to monitor inbound and outbound packets.

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Wireless Functions

- **High speed for wireless LAN connection**
  Up to 54 Mbps data rate by incorporating Orthogonal Frequency Division Multiplexing (OFDM).
- **IEEE 802.11b compatible (11M)**
  Allowing inter-operation among multiple vendors.
- **IEEE 802.11g compatible (54M)**
  Allowing inter-operation among multiple vendors.
- **Auto fallback**
  54M, 48M, 36M, 24M, 18M, 12M, 6M data rate with auto fallback in 802.11g mode.

  22M, 11M, 5.5M, 2M, 1M data rate with auto fallback in 802.11b (b+) mode.

Security Functions

- **Packet Filter**
  Packet Filter allows controlling access to a network by analyzing the incoming and outgoing packets and letting them pass or blocking them based on the source and destination IP addresses.
- **Domain Filter Support**
  Enables preventing users from accessing specific URLs.
- **URL Blocking Support**
  URL Blocking uses keywords to block hundreds of applicable websites connections.
- **VPN Pass-through**
  The Wireless Networking Gateway can also support VPN pass-through.
- **802.1X Support**
  When the 802.1X function is enabled, the Wireless user must be authenticated by the Wireless Networking Gateway before being allowed to use the Network services.
- **SPI Mode Support**
  When SPI Mode is enabled, the Wireless Networking Gateway checks every incoming packet and detects if this packet is valid.

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- **DoS Attack Detection Support**
  When this feature is enabled, the Wireless Networking Gateway detects and logs the DoS attack arriving from the Internet.

Advanced Functions

- **System Time**
  Allows synchronizing system time with a network time server.
- **E-mail Alert**
  The Wireless Networking Gateway can be configured to send its info by mail.
- **Dynamic DNS**
  At present, the Wireless Networking Gateway supports 3 Dynamic DNSs:.dyndns, TZO.com and dhs.org.
- **SNMP Support**
  The Wireless Networking Gateway supports SNMP V1 and V2c.
- **Routing Table**
  The Wireless Networking Gateway supports static routing and two kinds of dynamic routing: RIP1 and RIP2.
- **Schedule Rule**
  Customers can control the schedule (when to allow and when to block) for some functions, such as virtual server and packet filters.

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Specifications

Radio Specifications

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Table 錯誤! 尚未定義樣式。-1: Radio Specifications

Item	Description
Frequency	2400-2483.5 MHz
Wireless LAN Standards	Compliant with IEEE 802.11b and IEEE 802.11g (WI-FI certified)
Output Power	10, 12, 15, 17 dBm
Data Rates	■ IEEE 802.11g mode: 54M, 48M, 36M, 24M, 18M, 12M, 6M with auto fallback in. ■ IEEE 802.11b mode: 11M, 5.5M, 2M, 1M with auto fallback in.

Regulatory Standards Compliance

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Table 錯誤! 尚未定義樣式。-2: Regulatory Standards Compliance

Type	Standard
EMC	ETS EN 301 489-17
Safety	■ EN 60950 (CE) ■ IEC 60 950 US/C UL
Radio	■ ETSI 300 328 ■ FCC Part 15
Immunity	EN 55024:1998

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Environmental

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Table 錯誤! 尚未定義樣式。-3: Environmental Specifications

Item	Details
Operating temperature	0 ° C to 40 ° C
Operating humidity	5%-95% non condensing

Mechanical

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Table 錯誤! 尚未定義樣式。-4: Mechanical Specifications

Item	Details
Dimensions (W x H x D)	190.5 x 26.2 x 111 mm
Weight	0.62 kg

Electrical

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Table 錯誤! 尚未定義樣式。-5: Electrical Specifications

Item	Details
Power Transformer	100-240 VAC, 50-60 Hz, 2A max. Supplies 5 VDC (for the Wireless Networking Gateway IDU) and 55 VDC (for the ODU via the RADIO connector)
Power Consumption	■ Wireless Networking Gateway IDU (5 VDC): 10W max ■ ODU (55 VDC): 50W max.

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Chapter 2 - Installation

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Installation Requirements

Packing List

- Wireless Networking Gateway IDU
- Antenna
- Wall mounting kit
- Power Transformer
- Mains power cord

Additional Installation Requirements

- Ethernet cable(s) for connecting to the end-user's data equipment.
- Mains plug adapter or termination plug (if the power plug on the supplied AC power cord does not fit local power outlets).
- Portable PC with an Ethernet card and an Ethernet cable for configuring the Wireless Networking Gateway IDU parameters using a web browser, and for configuring the SU-ODU parameters using Telnet.
- Other installation tools and materials (a drill for wall-mounting the unit, means for securing cables to walls, etc.)

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Panels Layout and Components

Front Panel

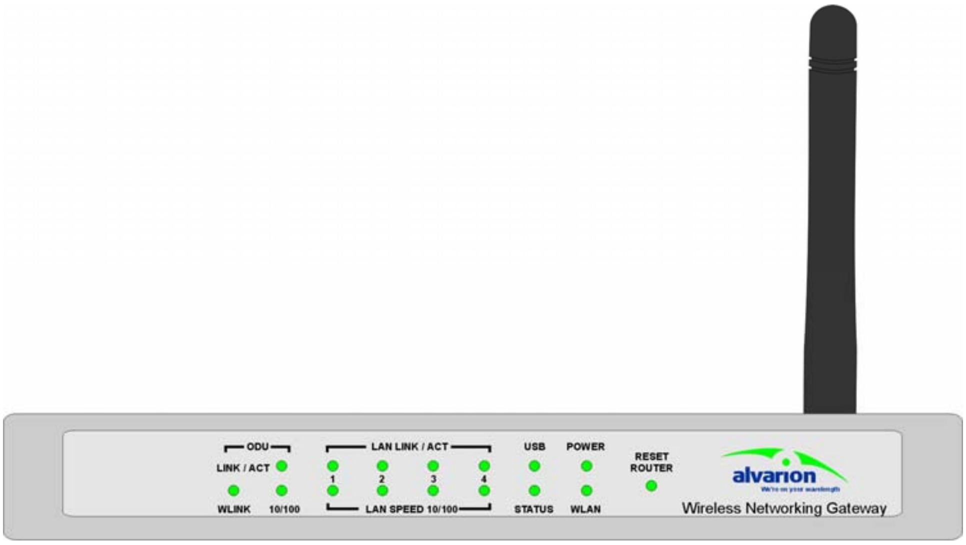

Figure 2-1: Front Panel

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Front Panel LEDs

Table 2-1: Front Panel LEDs

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LED	Function	Status	Description
POWER	Power Indication	On	Power is available.
WLAN	Wireless LAN Activity	Blinking	Sending or receiving data via wireless LAN
USB	USB Port Activity	On	The USB port is linked.
		Blinking	The USB port is sending or receiving data.
STATUS	System Status	Blinking	The unit is functioning properly.

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LED	Function	Status	Description
LAN LINK/ACT 1~4	LAN Status	On	An active station is connected to the corresponding LAN port.
		Blinking	The corresponding LAN port is sending or receiving data.
LAN SPEED 10/100 1~4	LAN Port Data Rate	On	Data rate is 100 Mbps on the corresponding LAN port.
		Off	Data rate is 10 Mbps on the corresponding LAN port.
ODU LINK/ACT	ODU Port Activity	On	The ODU port is connected to the ODU.
		Blinking	The ODU port is sending or receiving data.
ODU 10/100	ODU Port Data Rate	On	Data rate is 100 Mbps
		Off	Data rate is 10 Mbps
ODU WLINK	ODU Wireless Link Status	On	The ODU is connected with an AU

RESET ROUTER Button

Press momentarily the recessed button to reset the Wireless Networking Gateway IDU.

Resetting the IDU to Factory Defaults

Press the RESET ROUTER button for 5 seconds at least, until the STATUS LED flashes 5 times. After releasing the button, the unit will resume operation with the factory default configuration.

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Rear Panel Components

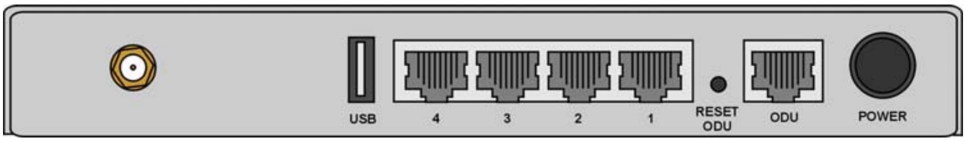

Figure 2-2: Rear Panel (without antenna)

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Rear Panel Connectors

Table 2-2: Rear Panel Connectors

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Connector	Description
POWER	DC Power Inlet from Power Transformer
ODU	Connection to ODU. Carries Ethernet, Power (55 VDC) and signaling.
Port 1-4	LAN ports for networked computers and other devices.
USB	USB Host Port for a USB printer.
Antenna (not marked)	An SMA connector for the WLAN antenna

CAUTION

Do not connect data equipment to the ODU port. The ODU port supplies DC power to the ODU, and this may harm other equipment connected to it.

RESET ODU Button

Press momentarily the recessed button to reset the ODU.

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Installation

The unit can be placed on a desktop or a shelf. Alternatively, it may be wall-mounted. The drilling template included with the unit can be used to simplify the wall installation process.

For optimal performance, place the Wireless Networking Gateway in the center of your office (or your home), in a location that is away from any potential source of interference, such as a metal wall or microwave oven. This location must be close to a mains outlet and network connections.

To install the Wireless Networking Gateway IDU:

1. Assemble an RJ-45 connector with a protective cover on the indoor end of the IDU-ODU cable. The length of the IDU-ODU cable should not exceed 100m. Refer to the relevant System Manual for instructions on preparing the cable.
2. Connect the IDU-ODU cable to the ODU connector located on the rear panel.
3. Connect the power cord of the transformer to the unit's POWER socket, located on the rear panel. Connect the Mains power cord to the power transformer and to the AC mains.

NOTE

The color codes of the power cable are as follows:

Brown	Phase	~
Blue	Neutral	0
Yellow/Green	Ground	⏚

4. Once power is connected, the unit will automatically enter the self-test phase. When it is in the self-test phase, the STATUS LED will be lighted ON for about 10 seconds, and then it will blink 3 times, indicating that the self-test operation has finished. Finally, the STATUS LED will blink continuously one blink per second, indicating that the unit is functioning properly.
5. Connect a PC to one of the LAN ports and configure the basic parameters of the SU-ODU. Align the antenna of the ODU. For more information refer to the applicable sections of the relevant System Manual.
6. Use a web browser to configure the parameters of the Wireless Networking Gateway IDU. For details refer to Chapter 3.

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7. Connect the 10/100Base-T Ethernet connectors to the data equipment. The length of the Ethernet cables should not exceed 100m.

8. If a printer is to be used, connect it to the USB port using a standard USB cable. To configure the Print Server on your computer(s), refer to Appendix A - Print Server.

9. Configure the network settings of the computers for proper operation with the Wireless Networking Gateway. The default IP address of the Wireless Networking Gateway is 192.168.123.254, and the default subnet mask is 255.255.255.0. Refer to Appendix B - TCP/IP Configuration for Windows 95/98.

10. To verify data connectivity, from the end-user's PC or from a portable PC connected to the unit, try to connect to the Internet.

11. Verify proper operation using the LED indicators (see Table 2-1on page 2-3).

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Chapter 3 - Operation and Administration

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Introduction

The Wireless Networking Gateway IDU can be configured using the following methods:

- The Web Configuration Server
- An .cfg-file loaded into the unit from the web configuration server or TFTP.
- SNMP

This document describes the configuration using the Web Configuration Server.

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Accessing the Web Configuration Server

Follow the steps below to access the Web Configuration Server:

1. Connect the unit to the AC mains.

2. If a DHCP server is being used, the unit may request an IP address during power up (depending on the .cfg file in the unit).

3. If fixed IP address should be used, proceed as follows:

   - Unplug the power supply cable from the unit
   - Press the Reset Router button on the front panel.
   - Reconnect the power supply cable and keep the Reset Router button pressed for at least 5 seconds or until the unit reboots (all LEDs at the front panel will flash)
   - Release the Reset Router button

   After performing this sequence the Wireless Networking Gateway will be at "factory default" status and have the IP address 192.168.254.253 and subnet mask 255.255.255.0.

   When connecting from WAN, make sure that a remote administrator is enabled (see Security Setting > Miscellaneous Items on page 3-39), and enter the WAN IP address specified in the *System Status* window (see Status on page 3-7).

4. Open a web browser (Internet Explorer or Netscape Communicator).

NOTE

Be sure to disable the proxy on your Web browser or add the IP address of the product into the exceptions.

5. Enter the IP address of the unit in the Address (IE) or Location (Netscape) field and click **Enter**.

6. If the Web Configuration Server is password protected, you will be prompted to enter your password in order to login to the system. The default password is .

7. The Web Configuration Server main view appears on the screen.

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Log in and Log out

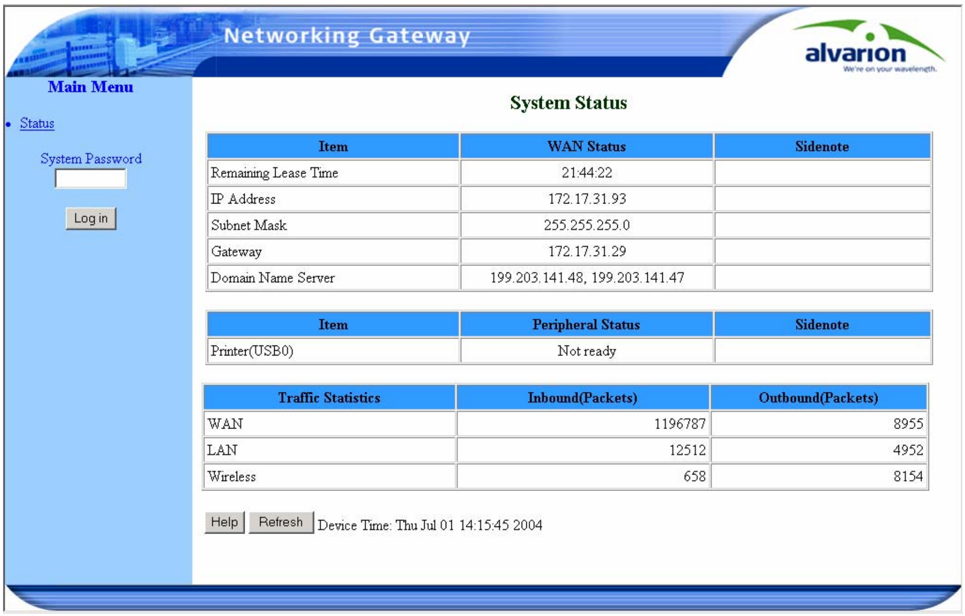
After connection is established, the networking gateway web user interface appears. There are two entry levels: for general users and for system administrators. The menus and screens vary depending on entry level. Menus and parameters that are available for Administrator entry level only, are marked in this manual with ☒

To log in as an administrator, enter the system password (the factory setting is "**private**") in the **System Password** field and click the **Log in** button.

NOTE

The default passwords for the two access levels are:

- For Administrators: **private**
- For Users: **public**



System Status

Item	WAN Status	Sidenote
Remaining Lease Time	21:44:22	
IP Address	172.17.31.93	
Subnet Mask	255.255.255.0	
Gateway	172.17.31.29	
Domain Name Server	199.203.141.48, 199.203.141.47	

Item	Peripheral Status	Sidenote
Printer(USB0)	Not ready	

Traffic Statistics	Inbound(Packets)	Outbound(Packets)
WAN	1196787	8955
LAN	12512	4952
Wireless	658	8154

Device Time: Thu Jul 01 14:15:45 2004

Figure 3: Log In Window

After successful Log in, the *Networking Gateway Main Window* appears.

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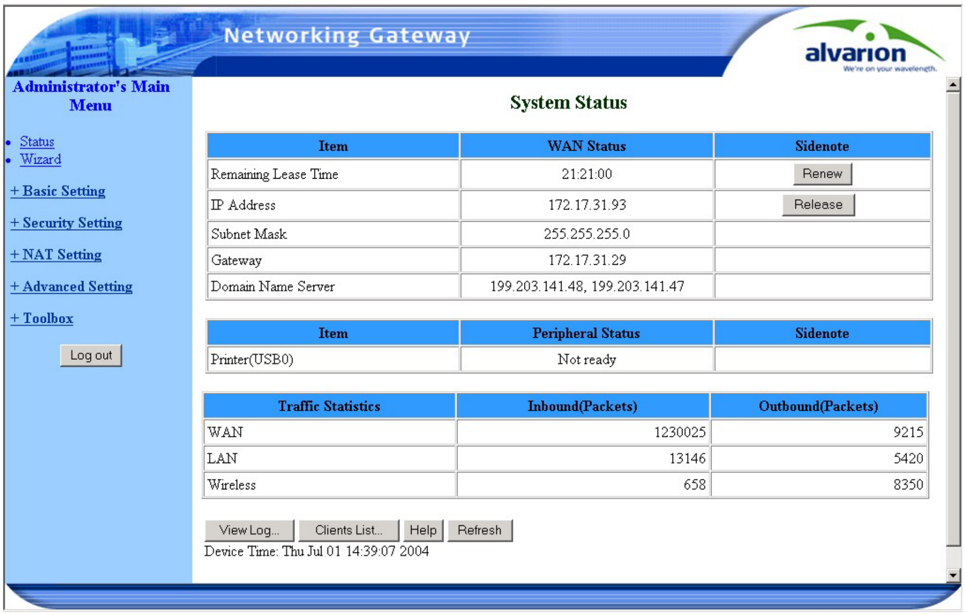

System Status

Item	WAN Status	Sidenote
Remaining Lease Time	21:21:00	Renew
IP Address	172.17.31.93	Release
Subnet Mask	255.255.255.0	
Gateway	172.17.31.29	
Domain Name Server	199.203.141.48, 199.203.141.47	

Item	Peripheral Status	Sidenote
Printer(USB0)	Not ready	

Traffic Statistics	Inbound(Packets)	Outbound(Packets)
WAN	1230025	9215
LAN	13146	5420
Wireless	658	8350

Device Time: Thu Jul 01 14:39:07 2004

Figure 4: Networking Gateway Main Window

The Menu List

The Web Configuration Server view consists of a number of menu links (to the left). Clicking on each of them expands the menu node and displays the selected page with the applicable content (configurable parameters/options or status information) in the main area.

Control Buttons

Most configuration pages include the some of the following buttons:

NOTE

Some control buttons may be disabled for user entry level (***public*** password)

- Help – Displays a help screen for the specific window.
- Refresh – Refreshes the displayed information.
- Back – Returns to the previous screen.
- Undo – Recovers the original settings.
- Save – Saves any changes made to the configuration. Most changes require rebooting the system for them to take effect.
- Cancel – Clears unsaved changes to the configuration.

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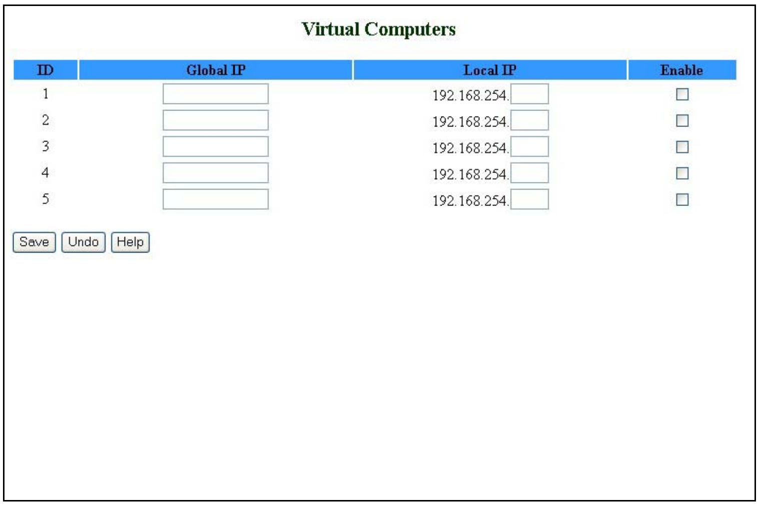
- Clients List - TBD
- Reboot
- Virtual Computers - Enables to use the original NAT feature, and to set up the one-to-one mapping of multiple global IP address and local IP address.



Virtual Computers

ID	Global IP	Local IP	Enable
1		192.168.254.	□
2		192.168.254.	□
3		192.168.254.	□
4		192.168.254.	□
5		192.168.254.	□

Figure 5: Virtual Computers

- Global IP - Enter the global IP address assigned by your ISP.
- Local IP - Enter the local IP address of your LAN PC corresponding to the global IP address.
- Enable - Check this item to enable the Virtual Computer feature.

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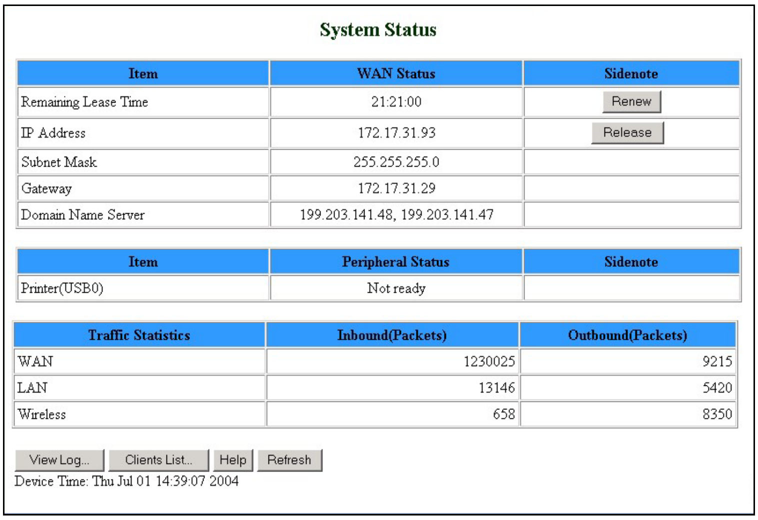
Status

The Status window appears in the main window upon successful log in. The window can be accessed at any time by clicking on the Status menu on the menu list.



System Status

Item	WAN Status	Sidenote
Remaining Lease Time	21:21:00	Renew
IP Address	172.17.31.93	Release
Subnet Mask	255.255.255.0	
Gateway	172.17.31.29	
Domain Name Server	199.203.141.48, 199.203.141.47	

Item	Peripheral Status	Sidenote
Printer(USB0)	Not ready	

Traffic Statistics	Inbound(Packets)	Outbound(Packets)
WAN	1230025	9215
LAN	13146	5420
Wireless	658	8350

Device Time: Thu Jul 01 14:39:07 2004

Figure 6: System Status

The *Status* window provides information for observing the product's working status:

- Remaining Lease Time - A counter displaying the remaining time (in hh:mm:ss) in which the user will be allocated the specific IP address. When the lease time expires, a new IP address will be automatically allocated, or the lease will be automatically renewed, depending on the settings.

  ☒ ➢ Renew – Click to reset the Lease Time.

- IP Address – The WAN IP address. (The default is 192.168.254.253)

  ☒ ➢ Release – Click to release the IP address.

  ➢ Disconnect/Connect – When in PPPoE or PPTP mode, click Disconnect to terminate session, or Connect to initiate a session.

- Subnet Mask – The Subnet mask of the device. (The default is 255.255.255.0)

- Gateway – The Gateway IP address.

- Domain Name Server – The server's domain name

刪除: 3

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刪除: Operation and Administration

- Peripheral Status: The USB Printer status: Not ready, when no printer is available. Ready, when a printer is connected and ready to print.
- Traffic Statistics- Enables to monitor inbound and outbound packets for WAN, LAN and wireless.

In addition, the Status window includes the following control button:

- View Log – opens the log file for viewing. See View Log on page 3-56.

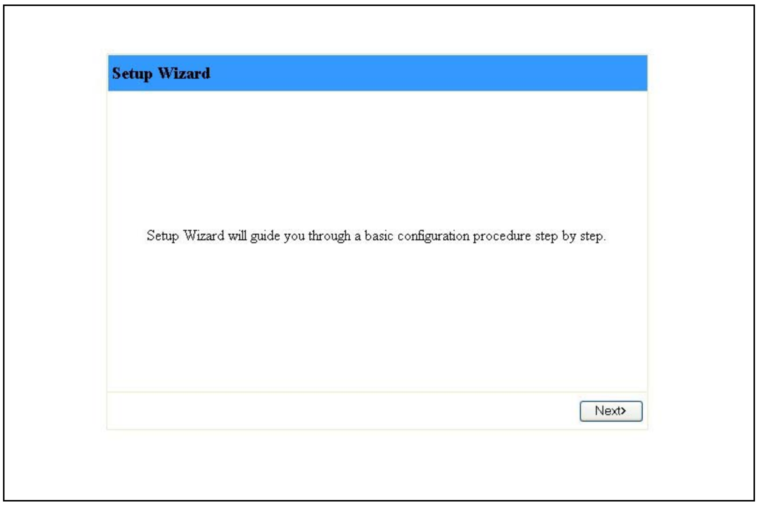
刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Wizard

The Setup Wizard will guide you through the basic configuration procedure (recommended for most users).

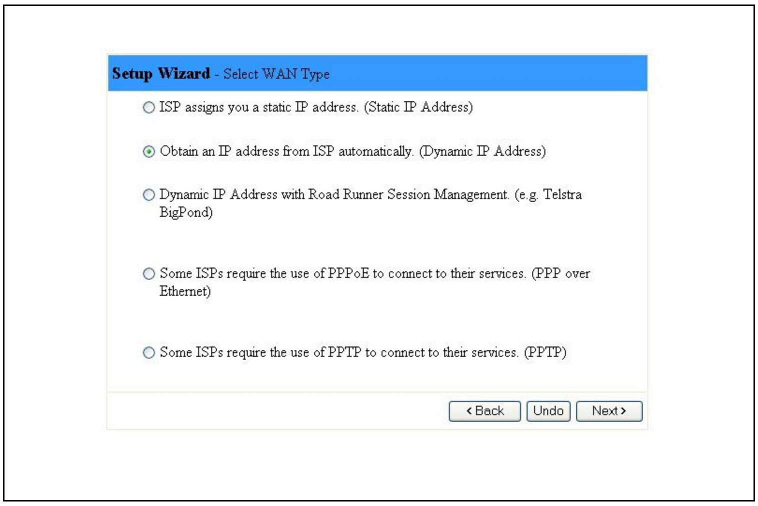


Setup Wizard

Setup Wizard will guide you through a basic configuration procedure step by step.

Figure 7: Setup Wizard

1. Click on **Next**. The *Select WAN Type* window appears.



Setup Wizard - Select WAN Type

○ ISP assigns you a static IP address. (Static IP Address)

● Obtain an IP address from ISP automatically. (Dynamic IP Address)

○ Dynamic IP Address with Road Runner Session Management. (e.g. Telstra BigPond)

○ Some ISPs require the use of PPPoE to connect to their services. (PPP over Ethernet)

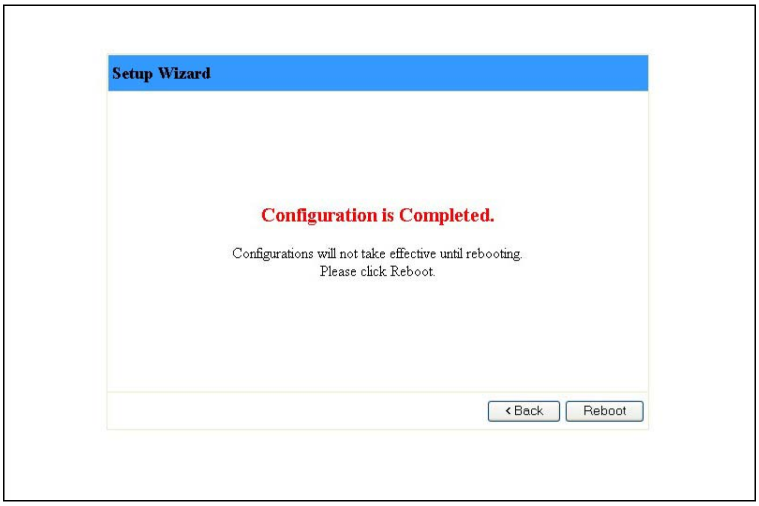
○ Some ISPs require the use of PPTP to connect to their services. (PPTP)

Figure 8: Setup Wizard - Select WAN Type

2. Follow the instructions on screen. Refer to Primary Setup – WAN Type on page 3-11 for details on each parameter.

   You can click **Back** at any time to return to previous screens and change your settings.

When initial setting is complete, the following window appears:



Setup Wizard

Configuration is Completed.

Configurations will not take effective until rebooting.
Please click Reboot.

Figure 9: Setup Wizard - Configuration Completed

3. The configurations will be effective only after rebooting your computer. Click on **Reboot** to restart your computer.

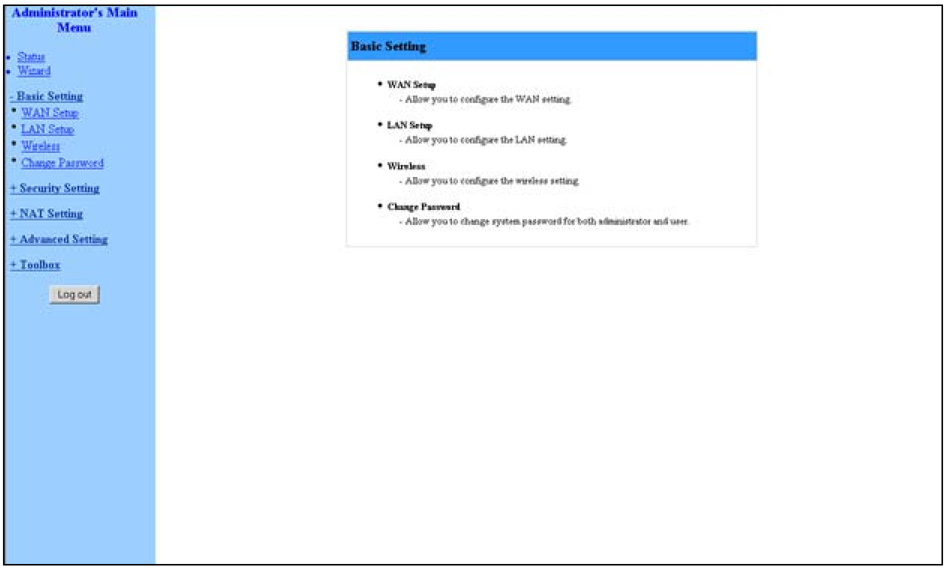
For more advance configurations, see details on the specific windows, below.

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Basic Setting

The *Basic Setting* window allows you to configure the settings for WAN, LAN, and Wireless and to change the password.



Basic Setting

- **WAN Setup**
  - Allow you to configure the WAN setting.
- **LAN Setup**
  - Allow you to configure the LAN setting.
- **Wireless**
  - Allow you to configure the wireless setting.
- **Change Password**
  - Allow you to change system password for both administrator and user.

Figure 10: Basic Setting

WAN Setup

Click on *WAN Setup* from the *Basic Setting* menu on the menu list. The *Primary Setup* window appears.

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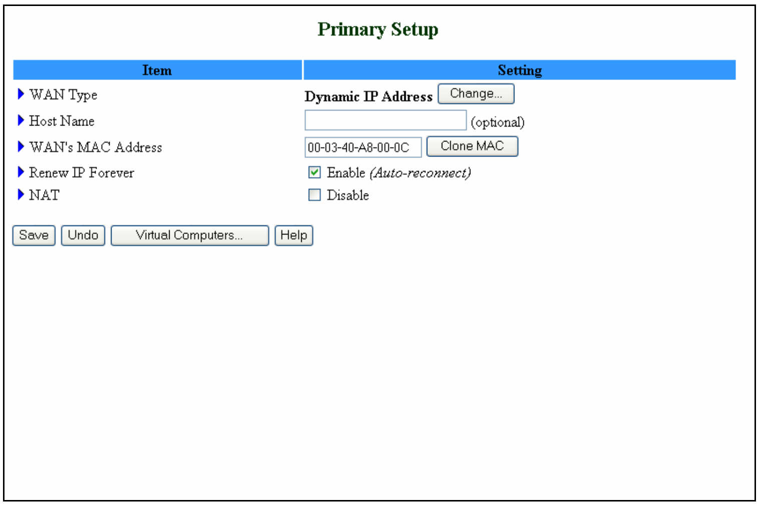
刪除: Operation and Administration



Primary Setup

Item	Setting
▸ WAN Type	Dynamic IP Address
▸ Host Name	(optional)
▸ WAN's MAC Address	00-03-40-A8-00-0C
▸ Renew IP Forever	☑ Enable *(Auto-reconnect)*
▸ NAT	□ Disable

Figure 11: WAN Setup/Primary Setup

From the *WAN Setup* window you can:

- Set the WAN type – allows you to select the WAN connection type of your ISP.
- Enter the Host Name (optional)
- Set WAN's MAC Address
- Enable/Disable Renew IP Forever
- NAT – Enable/Disable - When disabled, the gateway functions as a regular router as opposed to a NAT router. This option is available in the *Primary Setup* window for all WAN types.

NOTE

- The Reboot button is not available at first entry to the Primary Setup window and appears only after saving your changes.
- For client entry level (***public*** password), the parameter fields in all WAN type screens are disabled (for display only).

IMPORTANT

Changes to the *Primary Setup* window will take effect only after rebooting the system.

The default WAN type is **Dynamic IP Address with Road Runner Session Management**. However, you can change the WAN type as follows:

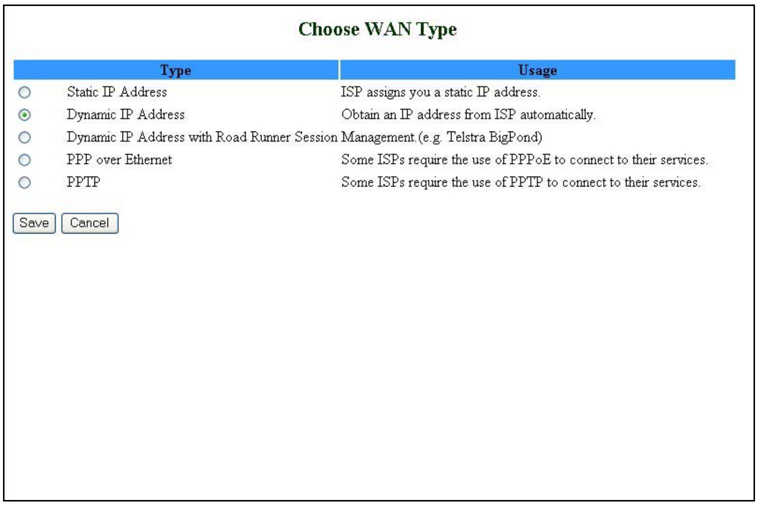
To select a different WAN type:

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

1. Click **Change**. The *Choose WAN Type* window opens.



Choose WAN Type

	Type	Usage
○	Static IP Address	ISP assigns you a static IP address.
●	Dynamic IP Address	Obtain an IP address from ISP automatically.
○	Dynamic IP Address with Road Runner Session Management.(e.g. Telstra BigPond)	
○	PPP over Ethernet	Some ISPs require the use of PPPoE to connect to their services.
○	PPTP	Some ISPs require the use of PPTP to connect to their services.

Figure 12: Choose WAN Type

2. Select one of the following types:

- Static IP Address: The ISP provides you with a static IP address.
- Dynamic IP Address: Automatically obtain an IP address from the ISP.
- Dynamic IP Address with Road Runner Session Management. (e.g. Telstra BigPond) (default)
- PPP over Ethernet: Some ISPs require the use of PPPoE to connect to their services.
- PPTP: Some ISPs require the use of PPTP to connect to their services.

For each WAN type selected, a different *Primary Setup* window appears, as follows. You can change the WAN type by clicking on **Change** and selecting a different WAN type.

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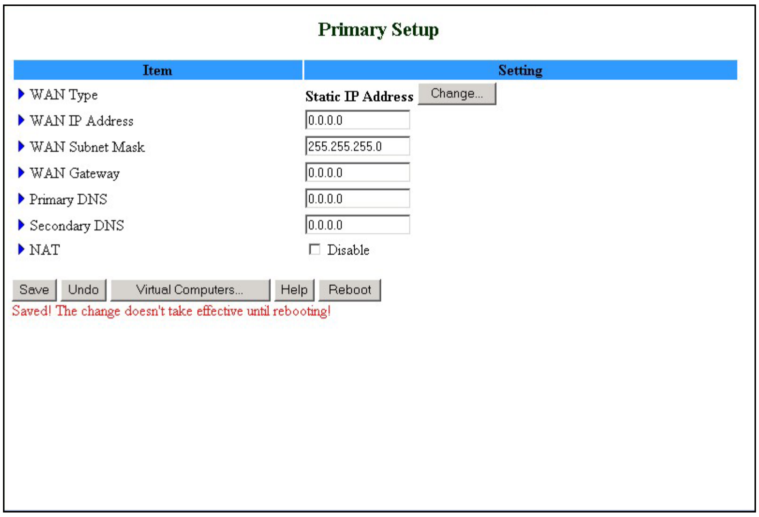
Static IP Address



Primary Setup

Item	Setting
WAN Type	Static IP Address Change...
WAN IP Address	0.0.0.0
WAN Subnet Mask	255.255.255.0
WAN Gateway	0.0.0.0
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
NAT	□ Disable

Saved! The change doesn't take effective until rebooting!

Figure 13: Primary Setup - Static IP Address

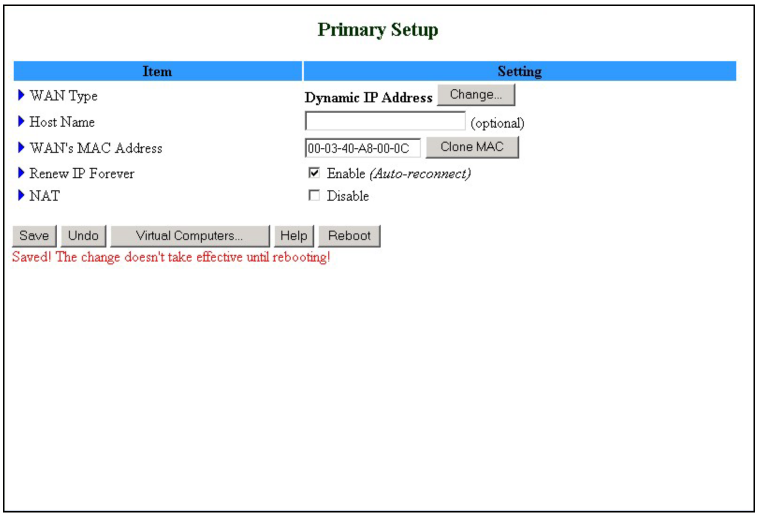
Enter the settings provided by your ISP for WAN IP Address, Subnet Mask, Gateway, Primary and Secondary DNS.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Dynamic IP Address



Primary Setup

Item	Setting
WAN Type	Dynamic IP Address Change...
Host Name	(optional)
WAN's MAC Address	00-03-40-A8-00-0C Clone MAC
Renew IP Forever	☑ Enable *(Auto-reconnect)*
NAT	□ Disable

Saved! The change doesn't take effective until rebooting!

Figure 14: Primary Setup - Dynamic IP Address

- Host Name: optional. Required by some ISPs, for example, @Home.
- WAN's MAC Address – The gateway's pre-configured MAC Address.
  - Clone MAC – Click to replace the Gateway's MAC Address with the PC's MAC Address.
  - Restore MAC – When Clone MAC is activated, the button changes to Restore MAC, to enable to restore the unit's pre-configured MAC Address.
- Renew IP Forever: When enabled, this feature will automatically renew your IP address when the lease time expires, even if the system is idle.

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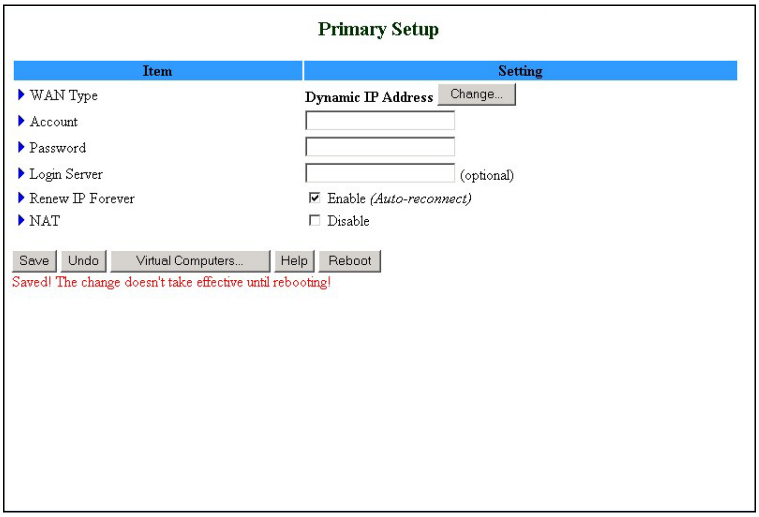
Dynamic IP Address with Road Runner Session Management



Primary Setup

Item	Setting
WAN Type	Dynamic IP Address Change...
Account	
Password	
Login Server	(optional)
Renew IP Forever	☑ Enable *(Auto-reconnect)*
NAT	□ Disable

Saved! The change doesn't take effective until rebooting!

Figure 15: Primary Setup - Dynamic IP Address with Road Runner Session Management

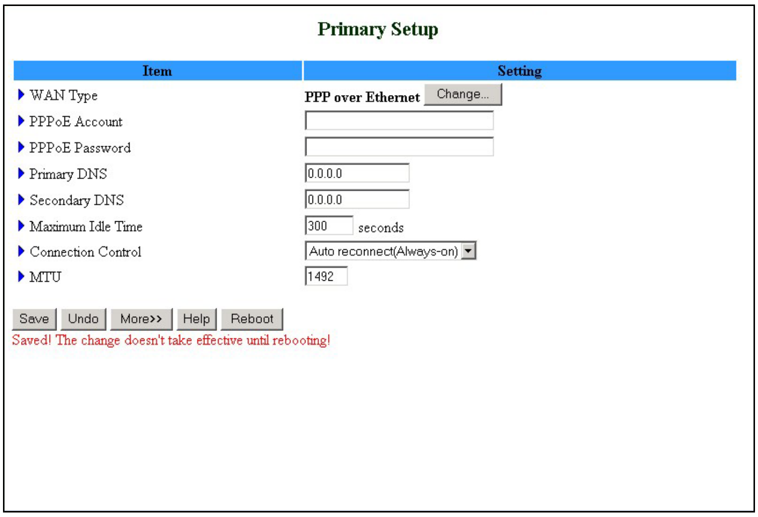
- Account – The account provided by your ISP.
- Password – The password provided by your ISP. If you do not want to change the password, leave empty.
- Login Server – The Login Server (optional). Leave empty if you want the default server.
- Renew IP Forever: When enabled, this feature will automatically renew your IP address when the lease time expires, even if the system is idle.

刪除: Renew IP Forever: When enabled, this feature will automatically renew your IP address when the lease time expires, even if the system is idle.

刪除: Operation and Administration

PPP over Ethernet

Some ISPs require the use of PPPoE to connect to their services. If this is the case, click **Change** to select PPPoE as your WAN type. The *Primary Setup* window display changes to reflect the parameters for PPPoE.



Primary Setup

Item	Setting
WAN Type	PPP over Ethernet [Change...]
PPPoE Account	
PPPoE Password	
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
Maximum Idle Time	300 seconds
Connection Control	Auto reconnect(Always-on)
MTU	1492

Saved! The change doesn't take effective until rebooting!

Figure 16: Primary Setup - PPPoE

- PPPoE Account – The account assigned to you by your ISP.
- PPPoE Password: the password assigned to you by your ISP. This field appears blank. If you don't want to change the password, leave it empty.
- Primary DNS – The DNS provided by your ISP. To use a specific DNS, enter a specific address (optional).
- Secondary DNS – The backup DNS provided by your ISP. (optional)
- Maximum Idle Time - The amount of time of inactivity before disconnecting your PPPoE session. To disable this feature, set this parameter to 0 seconds, or enable Auto-reconnect.
- Connection Control – Authentication for IP allocation. Select one of the following options:
  - Connect-on-demand – An IP address is automatically allocated whenever the user attempts to make a connection.
  - Auto reconnect(Always-on) – The system automatically connects to the ISP after restart or after connection is dropped.

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  - Manually – The user manually performs the connection.

- Maximum Transmission Unit (MTU) - Most ISPs provide an MTU value to users. The most common MTU value is 1492 bytes.

- More >> - Click to display the following parameters:

  - PPPoE Service Name (optional) - Directs to a PPPoE server.

  - Assigned IP Address (optional) – Directs to a specific server.

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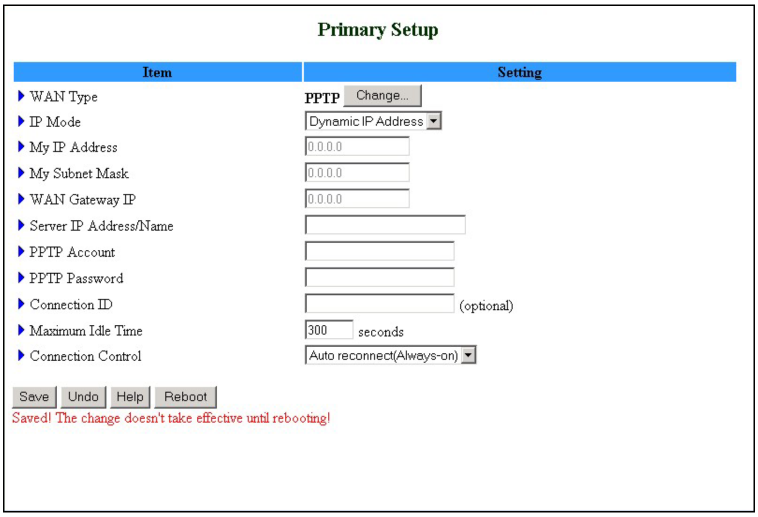
刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

PPTP

Some ISPs require the use of PPTP to connect to their services.



Primary Setup

Item	Setting
WAN Type	PPTP Change...
IP Mode	Dynamic IP Address
My IP Address	0.0.0.0
My Subnet Mask	0.0.0.0
WAN Gateway IP	0.0.0.0
Server IP Address/Name	
PPTP Account	
PPTP Password	
Connection ID	(optional)
Maximum Idle Time	300 seconds
Connection Control	Auto reconnect(Always-on)

Saved! The change doesn't take effective until rebooting!

Figure 17: Primary Setup - PPTP

- IP Mode – select one of the following options:
  - Dynamic IP Address (this is the default setting)
  - Static IP Address
- My IP Address – The private IP address assigned by your ISP.
- My Subnet Mask - The private subnet mask assigned by your ISP.
- WAN Gateway IP – The WAN Gateway IP address.
- Server IP Address/Name: the IP address/Name of the PPTP server.
- PPTP Account – The account assigned by your ISP.
- PPTP Password - The password assigned by your ISP. If you do not want to change the password, leave this field empty.
- Connection ID - Enter the connection ID if your ISP requires it (optional).
- Maximum Idle Time - The amount of time of inactivity before disconnecting your PPTP session. To disable this feature, set this parameter to 0 seconds, or enable Auto-reconnect.
- Connection Control – Authentication for IP allocation. Select one of the following options:

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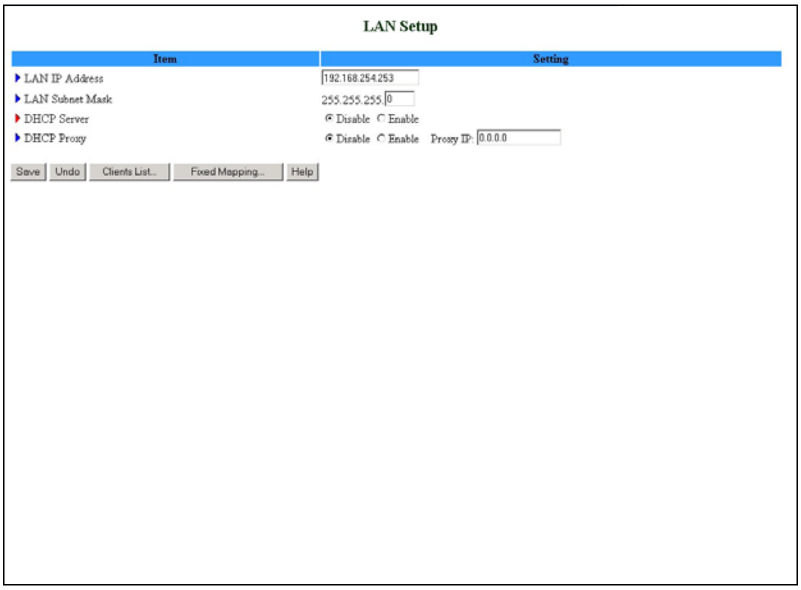
- Connect-on-demand – An IP address is automatically allocated whenever the user attempts to make a connection.
- Auto reconnect(Always-on) – The system automatically connects to the ISP after restart or after connection is dropped.
- Manually – The user manually performs the connection.

刪除: Authentication for IP allocation. Select one of the following options: <#>Connect-on-demand – An IP address is automatically allocated whenever the user attempts to make a connection. <#>Auto reconnect(Always-on) – The system automatically connects to the ISP after restart or after connection is dropped. Manually – The user manually performs the connection.

LAN Setup

Select *Basic Setting* > *LAN Setup* submenu on the menu list. The *LAN Setup* window opens.



LAN Setup

Item	Setting
LAN IP Address	192.168.254.253
LAN Subnet Mask	255.255.255. 0
DHCP Server	● Disable ○ Enable
DHCP Proxy	● Disable ○ Enable Proxy IP: 0.0.0.0

Figure 18: LAN Setup

Enter the following parameters:

- LAN IP Address – Sets the local IP address of the device. The users on your network must use this LAN IP address as their default gateway. You can change it as necessary.
- LAN Subnet Mask – Sets the subnet mask to the LAN IP address.
- DHCP Server – Enable/Disable to turn off this service. When enabled, the LAN Setup window display changes (indicated by the red icon), and the following parameters are displayed (see Figure 19):
  - Range of IP addresses Pool – Specify the starting and ending address for DHCP clients.
  - Domain suffix – Specify the domain suffix for DHCP clients.

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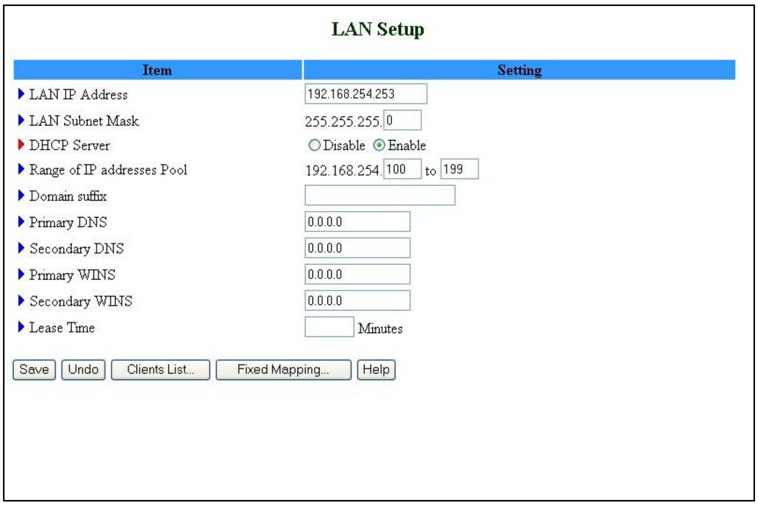
- ➢ Primary DNS – Specify the primary DNS for DHCP clients.
- ➢ Secondary DNS – Specify the secondary DNS for DHCP clients.
- ➢ Primary WINS – Specify the primary WINS address for DHCP clients.
- ➢ Secondary WINS – Specify the secondary WINS address for DHCP clients.
- ➢ Lease Time – The time set (in minutes) for IP allocation.

- ■ DHCP Proxy – This parameter is available only when DHCP Server is disabled.



LAN Setup

Item	Setting
LAN IP Address	192.168.254.253
LAN Subnet Mask	255.255.255. 0
DHCP Server	○ Disable ● Enable
Range of IP addresses Pool	192.168.254. 100 to 199
Domain suffix	
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
Primary WINS	0.0.0.0
Secondary WINS	0.0.0.0
Lease Time	Minutes

Figure 19: LAN Setup - DHCP Enabled

In addition, the LAN Setup window includes the following control buttons:

- ■ Clients List – Opens a list of the current mapping of the IP and MAC address for each DHCP client.

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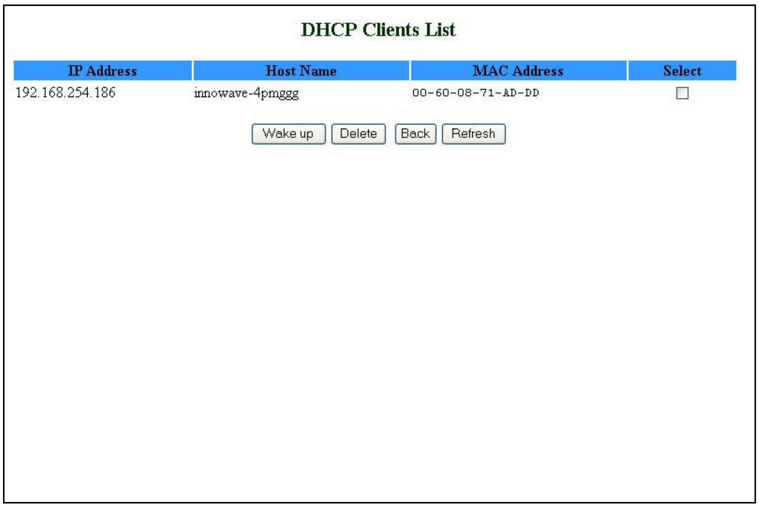

DHCP Clients List

IP Address	Host Name	MAC Address	Select
192.168.254.186	innowave-4pmggg	00-60-08-71-AD-DD	□

Figure 20: DHCP Clients List

From the *DHCP Clients List* window you can:

- Wake up – TBD
- Delete – Delete the selected clients.
- Fixed Mapping – Opens the *MAC Address Control* window for assigning a specific IP address to the specified MAC address for DHCP clients (see MAC Address Control on page 3-25 for further details).

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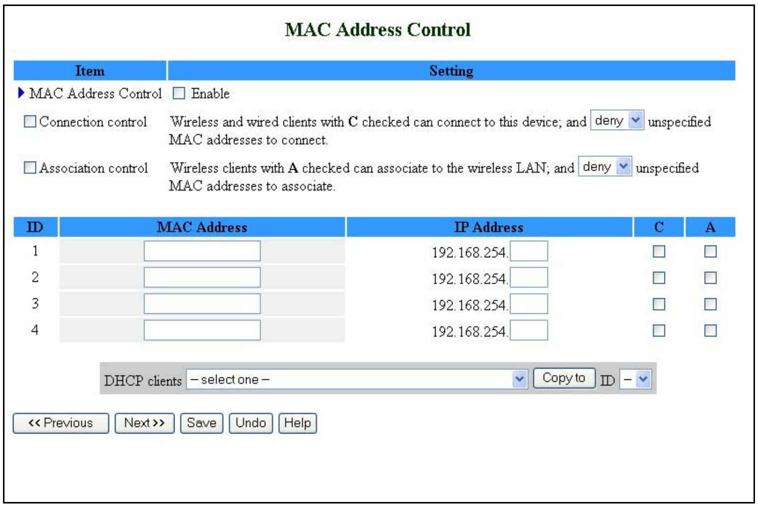
刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



MAC Address Control

Item	Setting
MAC Address Control	□ Enable
□ Connection control	Wireless and wired clients with C checked can connect to this device; and deny unspecified MAC addresses to connect.
□ Association control	Wireless clients with A checked can associate to the wireless LAN; and deny unspecified MAC addresses to associate.

ID	MAC Address	IP Address	C	A
1		192.168.254.	□	□
2		192.168.254.	□	□
3		192.168.254.	□	□
4		192.168.254.	□	□

DHCP clients – select one – Copy to ID –

<< Previous | Next >> | Save | Undo | Help

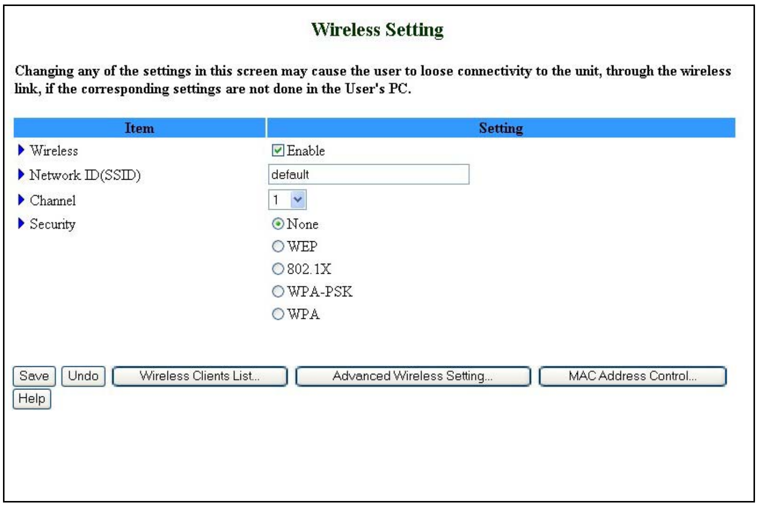
Figure 21: MAC Address Control

Wireless Setting

Wireless settings allow you to set the wireless configuration items.

CAUTION

Changing any of the parameters may cause loss of wireless link connectivity to the unit if the settings do not match the settings on the User's PC.



Wireless Setting

Changing any of the settings in this screen may cause the user to loose connectivity to the unit, through the wireless link, if the corresponding settings are not done in the User's PC.

Item	Setting
Wireless	☑ Enable
Network ID(SSID)	default
Channel	1
Security	● None ○ WEP ○ 802.1X ○ WPA-PSK ○ WPA

Save | Undo | Wireless Clients List... | Advanced Wireless Setting... | MAC Address Control... | Help

Figure 22: Wireless Setting

- Wireless – Enable/Disable – Check the Enable box to enable this service. The default setting is "Enable".

- Network ID (SSID): Network ID is used for identifying the Wireless LAN (WLAN). Client stations can roam freely over this product and other Access Points that have the same Network ID. (The factory setting is "default".)
- Channel: The radio channel number. The permissible channels depend on the Regulatory Domain.
- Security: Select the data privacy algorithm you want to protect your data when being transferred from one station to another. The available security protocols are:
  - ➢ None – No encryption is applied. (default)
  - ➢ WEP (Wired Equivalent Privacy) – Encrypts frames transmitted through a wireless module using a pre-entered WEP key. You can configure 4 key sets and select one to apply as follows:
    - □ WEP 64 bit - 10 hexadecimal digits
    - □ WEP 126 bit – 26 hexadecimal digits
    - □ WEP 258 bit – 58 hexadecimal digits
  - ➢ 802.1x – When enabled, the wireless user must be authenticated before it is allowed to use the network services. One implementation of 802.1x (the most common one) is through a RADIUS server on your LAN, containing an authentication database.
    - □ Encryption Key Length – Select either 64 or 128 bits for the encryption key.
    - □ RADIUS Server IP – The 802.1x server's IP address.
    - □ RADIUS Port – The 802.1x server's service port.
    - □ RADIUS Shared Key – Key value shared by the RADIUS server and the networking gateway. The key value is consistent with the one in the RADIUS server.
  - ➢ WPA-PSK – Accepts WPA clients only. Manually enter a pre-share key (encryption key) as follows:
    - □ Pre-share key mode: ASCII or HEX can be selected.
    - □ Pre share key: 32 ASCII characters or 64 hexadecimal digits pre-share key (encryption key).

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

➢ WPA (Wi-Fi Protected Access) – improves data protection and implements access control to Wireless LAN systems. Frames transmitted through a wireless module are encrypted using a Pre-share key (PSK) or a key received from the RADIUS server.

- □ RADIUS Server IP – The 802.1x server's IP address.
- □ RADIUS Port – The 802.1x server's service port.
- □ RADIUS Shared Key – Key value shared by the RADIUS server and the networking gateway. The key value is consistent with the one in the RADIUS server.

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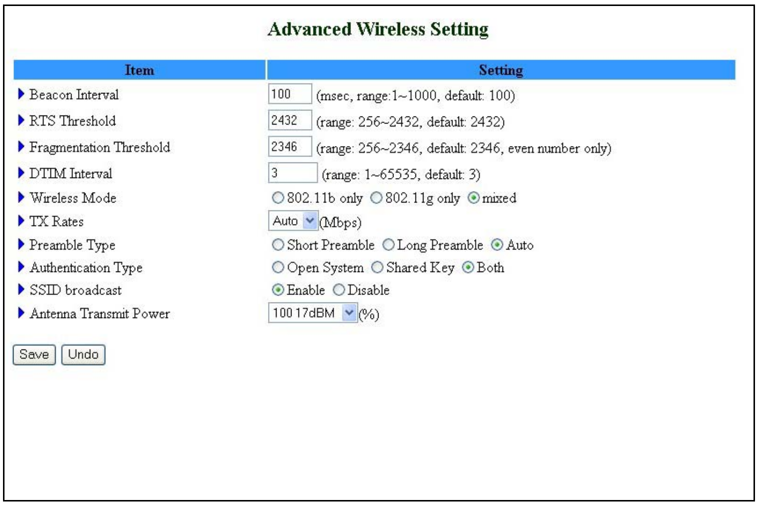
刪除: <#>RADIUS Server IP – The 802.1x server's IP address.
<#>RADIUS Port – The 802.1x server's service port.
<#>RADIUS Shared Key – Key value shared by the RADIUS server and the networking gateway. The key value is consistent with the one in the RADIUS server.

IMPORTANT

If you enable the 802.1x or WPA feature, you must have a RADIUS server available.

Advanced Wireless Setting

Clicking the **Advanced Wireless Setting** button that appears in the *Wireless Setting* window opens the *Advanced Wireless Setting* window.



Advanced Wireless Setting

Item	Setting
Beacon Interval	100 (msec, range:1~1000, default: 100)
RTS Threshold	2432 (range: 256~2432, default: 2432)
Fragmentation Threshold	2346 (range: 256~2346, default: 2346, even number only)
DTIM Interval	3 (range: 1~65535, default: 3)
Wireless Mode	○ 802.11b only ○ 802.11g only ● mixed
TX Rates	Auto (Mbps)
Preamble Type	○ Short Preamble ○ Long Preamble ● Auto
Authentication Type	○ Open System ○ Shared Key ● Both
SSID broadcast	● Enable ○ Disable
Antenna Transmit Power	100 17dBM (%)

Figure 23: Advanced Wireless Setting

Enter the following parameters:

- Beacon Interval – Specify the intervals (in milliseconds) between beacons (the range is 1~1000 milliseconds, the default is 100 milliseconds).

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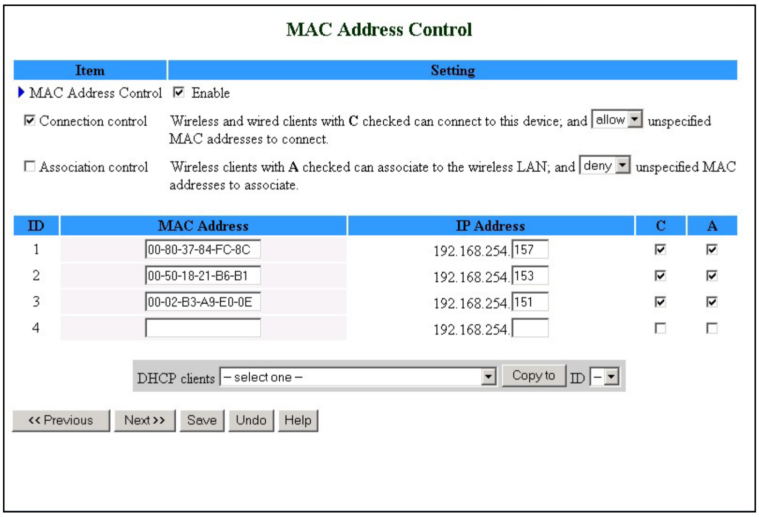
- RTS Threshold – Specify the packet size above which a Request To Send will be performed (the range is 256~2432, the default is 2432).
- Fragmentation Threshold – Specify the packet size above which fragmentation will be performed (the range is 256~2346 even numbers only, the default is 2346).
- DTIM Interval – [TBD]
- Wireless Mode – The wireless mode supported: 802.11b, 802.11g, or both.
- TX Rates – Select the transmission rate from the dropdown list.
- Preamble Type – Select short/long or automatic preamble to be assigned to each packet.
- Authentication Type – [TBD]
- SSID Broadcast – [TBD what is SSID?] Enable/Disable broadcasting the network's ID.
- Antenna Transmit Power – Select the antenna's transmission power from the dropdown list.

MAC Address Control

MAC Address Control allows you to assign different access rights for different users and to assign a fixed IP address to a specific MAC address.

NOTE

All the settings in this page will take effect only when MAC Address Control is set to "Enable".



MAC Address Control

Item	Setting
MAC Address Control	☑ Enable
☑ Connection control	Wireless and wired clients with C checked can connect to this device; and allow unspecified MAC addresses to connect.
□ Association control	Wireless clients with A checked can associate to the wireless LAN; and deny unspecified MAC addresses to associate.

ID	MAC Address	IP Address	C	A
1	00-80-37-84-FC-8C	192.168.254.157	☑	☑
2	00-50-18-21-B6-B1	192.168.254.153	☑	☑
3	00-02-B3-A9-E0-0E	192.168.254.151	☑	☑
4		192.168.254.	□	□

DHCP clients – select one –

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刪除: Set TCP/IP Protocol for Working with NAT Router

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- MAC Address Control – Check "Enable" to enable the MAC Address Control feature.

- Connection control – Check the "Connection control" check box to enable controlling which wired and wireless clients can connect to this device. If a client is denied the connection to this device, he will not be able to access the Internet either. Select **allow/deny** to allow or deny clients whose MAC addresses are not in the "Control table" (see below) to connect to this device. ("deny" is the default setting.)

  A wired client who is allowed to connect to the device has full access to the Internet and to network resources. When denied the connection to the device, he can communicate with other clients on the wired LAN, but cannot connect to the Internet, use the Print Server function, communicate with clients on the wireless LAN, or use the Web configuration.

- Association control – "Association" refers to the exchanging of information between wireless clients and the device to establish a link between them. A wireless client is able to transmit and receive data to the device only after successful association. Check "Association control" check box to control which wireless clients can associate to the wireless LAN. If a client is denied the association to the wireless LAN, he will not be able to send or receive any data via this device. Select **allow/deny** to allow or deny clients whose MAC addresses are not in the "Control table" to associate to the wireless LAN.

  A wireless client who is allowed both to associate to the wireless LAN and to connect to the device has full access to the Internet and to network resources.

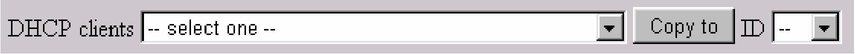
  When allowed to associate to the wireless LAN, but denied to connect to the device, he can communicate with other clients on the LAN (wired and wireless), but cannot connect to the Internet, use the Print Server function, or use the Web configuration.

  When denied to associate to the wireless LAN, the client cannot communicate with other clients on the LAN (wired or wireless), connect to the internet, use the Print Server function, or use the Web configuration. [TBD – provide a summary table]

NOTE

Association control does not affect wired clients.

- Control table - Each row in the control table indicates the MAC address and the mapped IP address of a single client. The table shows the following parameters:
  - MAC Address – The MAC address of a specific client.
  - IP Address – The expected IP address of the corresponding client. Leave empty if you do not want to specify an IP address for the corresponding client.
  - C - When "**Connection control**" is checked, checking "**C**" will allow/deny (depending on the connection control setting) the corresponding client to connect to this device.
  - A - When "**Association control**" is checked, checking "**A**" will allow/deny (depending on the association control setting) the corresponding client to associate to the wireless LAN.
- DHCP clients Combo box – Facilitates the process of entering the MAC address.



Select a specific client in the "DHCP clients" Combo box and click on **Copy to** to copy the MAC address of the selected client to the selected ID in the "ID" Combo box

The control table is divided into several pages. Use the **<< Previous page** and **Next Page >>** buttons to jump to a different page.

Change Password

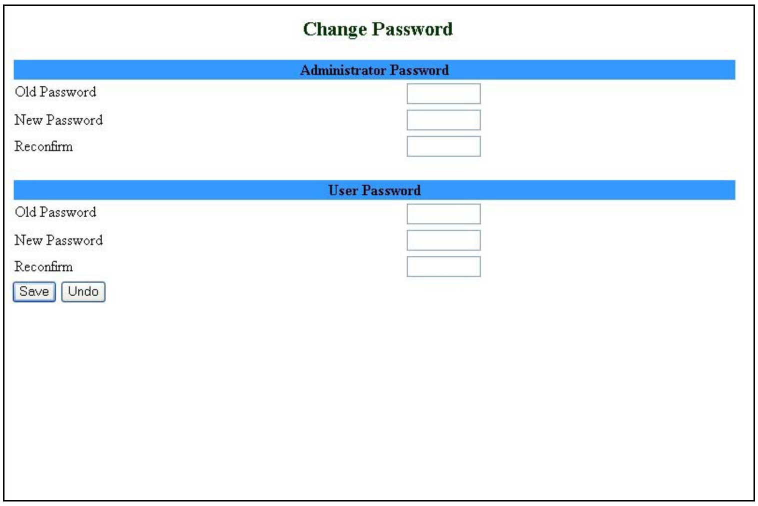
The *Change Password* window allows you to change the system password. For security reasons, it is strongly recommended that you do so.

To access change password:

1. Select *Basic Setting* > *Change Password* submenu on the menu list. The *Change Password* window opens.

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



Change Password

Administrator Password

Old Password

New Password

Reconfirm

User Password

Old Password

New Password

Reconfirm

Figure 24: Change Password

2. Type in the old password in the Old Password box.

3. Type in the new password in the New Password box.

4. Re-type the new password in the Reconfirm box.

5. Click **Save** to save the new password(s).

Follow this procedure for the Administrator Password level, for the User Password level, or for both password levels.

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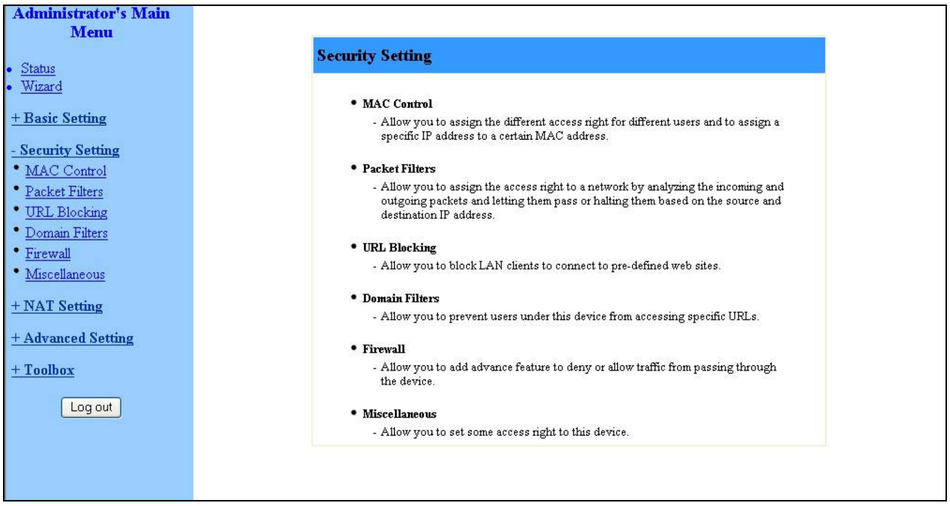
Security Setting

Click on the *Security Setting* menu on the menu list to display the submenus and the *Security Setting* window.



Security Setting

- MAC Control
  - Allow you to assign the different access right for different users and to assign a specific IP address to a certain MAC address.
- Packet Filters
  - Allow you to assign the access right to a network by analyzing the incoming and outgoing packets and letting them pass or halting them based on the source and destination IP address.
- URL Blocking
  - Allow you to block LAN clients to connect to pre-defined web sites.
- Domain Filters
  - Allow you to prevent users under this device from accessing specific URLs.
- Firewall
  - Allow you to add advance feature to deny or allow traffic from passing through the device.
- Miscellaneous
  - Allow you to set some access right to this device.

Figure 25: Security Setting Window

MAC Control

MAC Address Control allows you to assign different access rights for different users and to assign a fixed IP address to a specific MAC address. See MAC Address Control on page 3-26.

刪除: MAC Address Control allows you to assign different access rights for different users and to assign a fixed IP address to a specific MAC address.

Packet Filters

Packet Filter enables you to control which packets are allowed to pass through the networking gateway. When selecting the *Packet Filters* submenu on the menu list, the *Outbound Packet Filter* window opens.

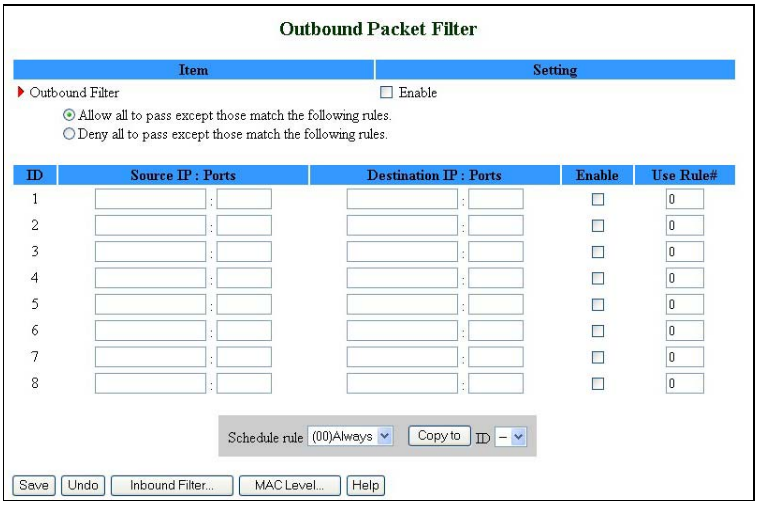
NOTE

The **Inbound Filter…** button at the bottom of the window toggles between the *Outbound* and *Inbound Packet Filter* windows. The button's text will change from **Inbound Filter…** to **Outbound Filter…** accordingly.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard



Outbound Packet Filter

Item	Setting
Outbound Filter	□ Enable

● Allow all to pass except those match the following rules.
○ Deny all to pass except those match the following rules.

ID	Source IP : Ports	Destination IP : Ports	Enable	Use Rule#
1	:	:	□	0
2	:	:	□	0
3	:	:	□	0
4	:	:	□	0
5	:	:	□	0
6	:	:	□	0
7	:	:	□	0
8	:	:	□	0

Schedule rule (00)Always · Copy to ID --

Figure 26: Packet Filter Initial Window

The Outbound filter applies on all outbound packets. The Inbound filter applies only on packets that are destined to Virtual Servers or DMZ host. You can select one of the following filtering policies:

- Allow all to pass except those match the specified rules
- Deny all to pass except those match the specified rules

You can specify up to 8 rules for each direction, inbound and outbound. For each rule, you can define the following:

- Source IP address – You can define a single IP address (4.3.2.1) or a range of IP addresses (4.3.2.1-4.3.2.254). An empty field denotes all IP addresses.
- Source port address - You can define a single port (80) or a range of ports (1000-1999). Add prefix "T" or "U" to specify a TCP or UDP protocol. For example, T80, U53, U2000-2999. No prefix indicates both TCP and UDP protocols. An empty field denotes all port addresses.
- Destination IP address - You can define a single IP address (4.3.2.1) or a range of IP addresses (4.3.2.1-4.3.2.254). An empty field denotes all IP addresses.
- Destination port address - You can define a single port (80) or a range of ports (1000-1999). Add prefix "T" or "U" to specify a TCP or UDP protocol. For example, T80, U53, U2000-2999. No prefix indicates both TCP and UDP protocols. An empty field denotes all port addresses.

刪除: 3

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刪除: Operation and Administration

- Enable – Check to enable the rule. Each rule can be enabled or disabled individually.
- Use Rule# - *Packet Filter* can work with *Scheduling Rules*. For details, please refer to *Schedule Rule* on page 3-52.
- Schedule rule – Facilitates the process of selecting a scheduling rule for each ID.

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刪除: *Schedule Rule*

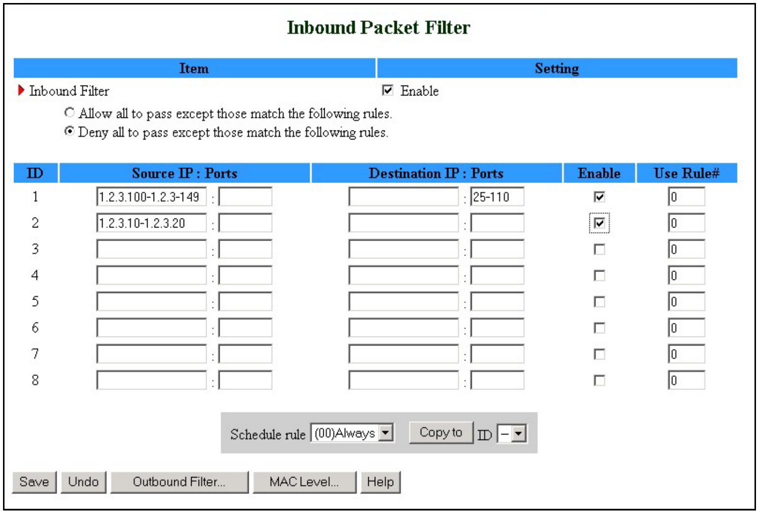
Click **Save** to save your Inbound/Outbound Packet Filter settings.

Inbound Filter

To enable *Inbound Packet Filter* click on the **Inbound Filter** button and check the *Enable* box in the *Inbound Packet Filter* window.

In the following examples, the SMTP Server (25), POP Server (110), Web Server (80), FTP Server (21), and News Server (119) are defined in the Virtual Server or DMZ Host.

Example 1:



Inbound Packet Filter

Item	Setting
Inbound Filter	☑ Enable

○ Allow all to pass except those match the following rules.
● Deny all to pass except those match the following rules.

ID	Source IP : Ports		Destination IP : Ports		Enable	Use Rule#
1	1.2.3.100-1.2.3-149			25-110	☑	0
2	1.2.3.10-1.2.3.20				☑	0
3					☐	0
4					☐	0
5					☐	0
6					☐	0
7					☐	0
8					☐	0

Schedule rule (00)Always

Figure 27: Inbound Packet Filter – Example 1

In this example, IPs (1.2.3.100-1.2.3.149) are allowed to send mail (port 25), receive mail (port 110), and browse the Internet (port 80).

IPs (1.2.3.10-1.2.3.20) are allowed to perform all operations.

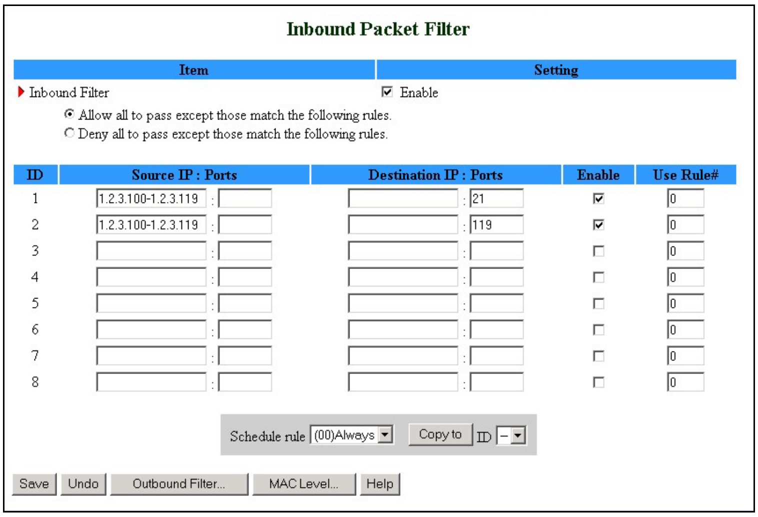
All other IPs are all blocked from performing any operation.

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Example 2:



Inbound Packet Filter

Item	Setting
Inbound Filter	☑ Enable

● Allow all to pass except those match the following rules.
○ Deny all to pass except those match the following rules.

ID	Source IP : Ports		Destination IP : Ports		Enable	Use Rule#
1	1.2.3.100-1.2.3.119			21	☑	0
2	1.2.3.100-1.2.3.119			119	☑	0
3					□	0
4					□	0
5					□	0
6					□	0
7					□	0
8					□	0

Schedule rule (00)Always Copy to ID --

Figure 28: Inbound Packet Filter - Example 2

In this example, IPs (1.2.3.100-1.2.3.119) are allowed to do everything except read net news (port 119) and transfer files via FTP (port 21).

All other IPs are all allowed to perform all operations.

Outbound Filter

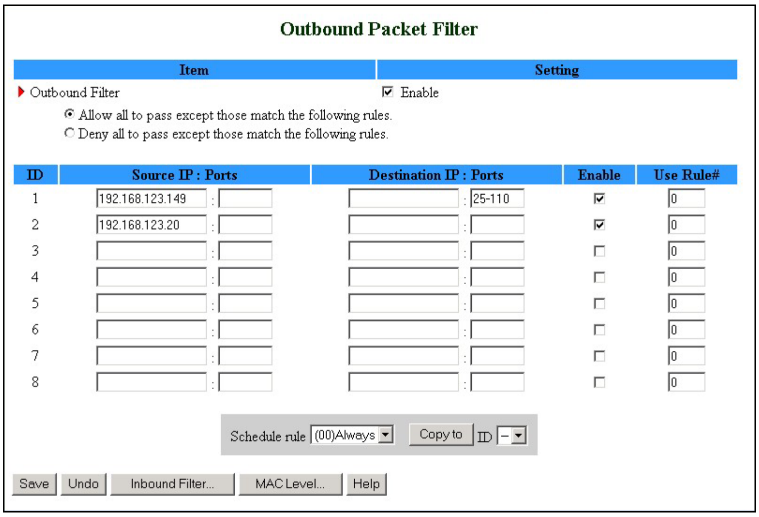
To enable *Outbound Packet Filter*, click on the **Outbound Filter** button and check the *Enable* box in the *Outbound Packet Filter* window.

刪除: 3

刪除: 3

刪除: Operation and Administration

Example 1:



Outbound Packet Filter

Item	Setting
Outbound Filter	☑ Enable
● Allow all to pass except those match the following rules.	
○ Deny all to pass except those match the following rules.	

ID	Source IP : Ports		Destination IP : Ports		Enable	Use Rule#
1	192.168.123.149			25-110	☑	0
2	192.168.123.20				☑	0
3					□	0
4					□	0
5					□	0
6					□	0
7					□	0
8					□	0

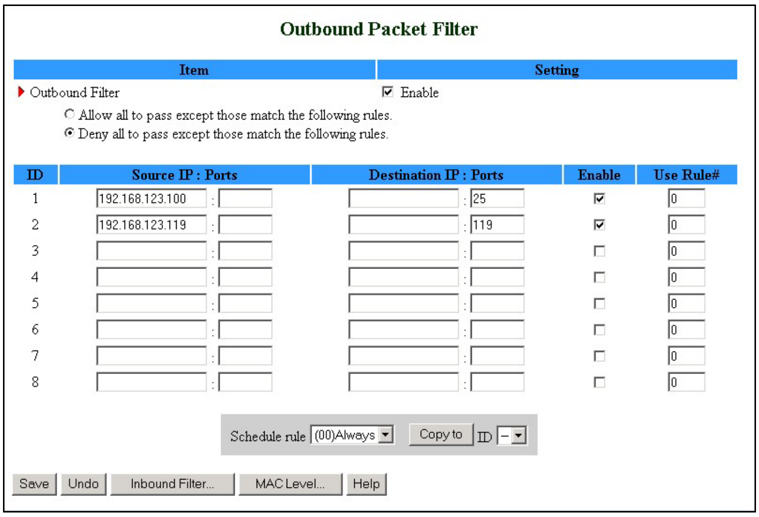
Figure 29: Outbound Packet Filter - Example 1

In this example, IP (192.168.123.149) is restricted from sending mail (port 25), receiving mail (port 110), and browsing the Internet (port 80). It is allowed to perform all other operations.

IP (192.168.123.20) is blocked from performing any operation.

All other IPs are allowed to perform all operations.

Example 2:



Outbound Packet Filter

Item	Setting
Outbound Filter	☑ Enable
○ Allow all to pass except those match the following rules.	
● Deny all to pass except those match the following rules.	

ID	Source IP : Ports		Destination IP : Ports		Enable	Use Rule#
1	192.168.123.100			25	☑	0
2	192.168.123.119			119	☑	0
3					□	0
4					□	0
5					□	0
6					□	0
7					□	0
8					□	0

Figure 30: Outbound Packet Filter - Example 2

刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

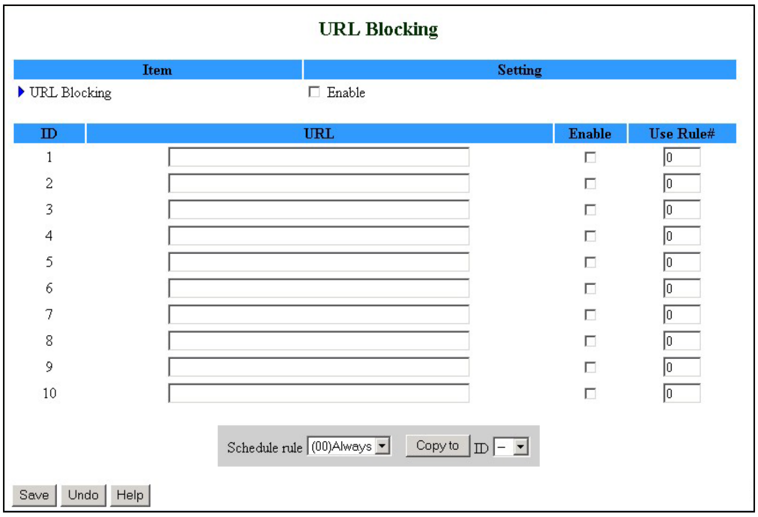
刪除: Wizard

In this example, IPs (192.168.123.100) and (192.168.123.119) can only read net news (port 119) and send mail (port 25). They are blocked from performing any other operation.

All other IPs are blocked from performing any operation.

URL Blocking

When enabled, this feature blocks LAN computers from connecting to pre-defined Web sites.



URL Blocking

Item	Setting
URL Blocking	☐ Enable

ID	URL	Enable	Use Rule#
1		☐	0
2		☐	0
3		☐	0
4		☐	0
5		☐	0
6		☐	0
7		☐	0
8		☐	0
9		☐	0
10		☐	0

Schedule rule (00)Always

Figure 31: URL Blocking

Enter the following parameters:

- URL Blocking – Enable/Disable - Check to enable the URL Blocking feature.
- URL - If any part of the Web site's URL matches the pre-defined word specified in this field, the connection will be blocked.
  For example, you can use a pre-defined word "sex" to block all Web sites whose URLs contain the word "sex".
- Enable - Checked to enable the rule. Each rule can be enabled or disabled individually.
- Use Rule# - *URL Blocking* can work with *Scheduling Rules*. For details, please refer to *Schedule Rule* on page 3-52.
- Schedule rule – Facilitates the process of selecting a scheduling rule for each ID.

刪除: *Schedule Rule*

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Click **Save** to save your settings.

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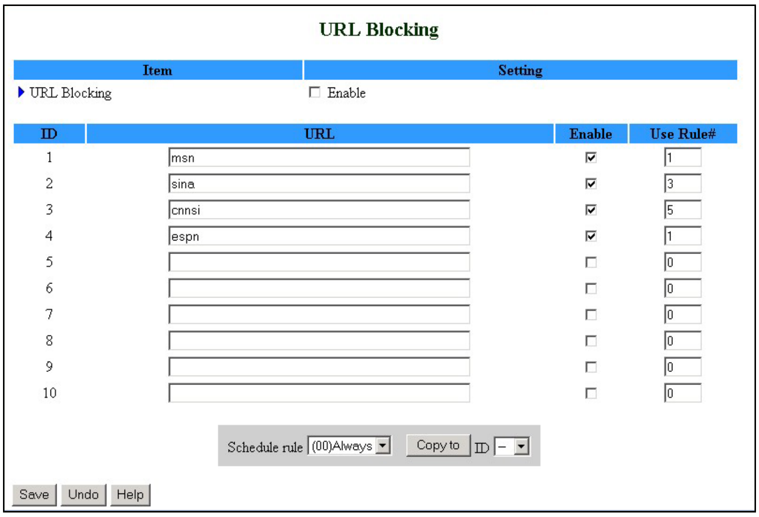
刪除: 3

刪除: Operation and Administration

URL Blocking - Example



URL Blocking

Item	Setting
▸ URL Blocking	□ Enable

ID	URL	Enable	Use Rule#
1	msn	☑	1
2	sina	☑	3
3	cnnsi	☑	5
4	espn	☑	1
5		□	0
6		□	0
7		□	0
8		□	0
9		□	0
10		□	0

Schedule rule (00)Always Copy to ID --

Figure 32: URL Blocking Example

In this example:

1. All URLs which include the string "msn" will be blocked, and the action will be recorded in the log file.
2. All URLs which include the string "sina" will be blocked, and the action will be recorded in the log file.
3. All URLs which include the string "cnnsi" will be blocked, and the action will be recorded in the log file.
4. All URLs which include the string "espn" will be blocked, and the action will be recorded in the log file.

If the Enable box is not checked for a specific rule, the rule will not be applied and the matching URLs will not be blocked.

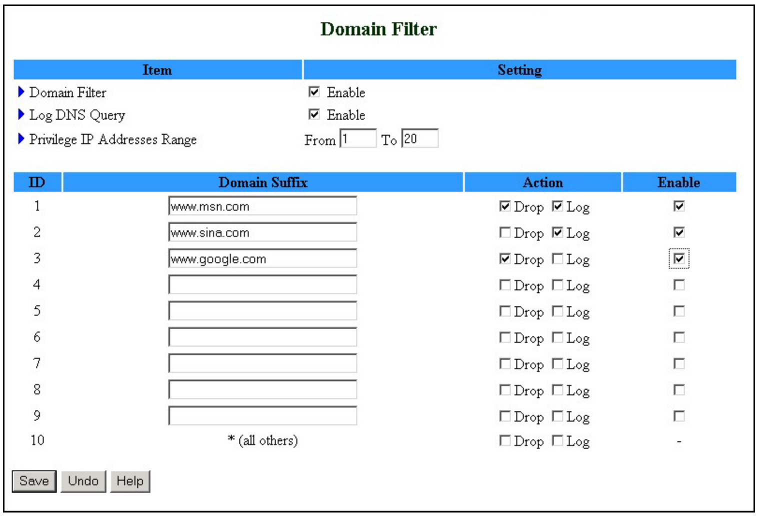
Domain Filter

When enabled, the Domain Filter feature blocks LAN computers from connecting to pre-defined Web sites.

NOTE

While URL Blocking uses keywords to block all Web sites whose URL includes the pre-specified keyword, Domain Filter blocks a single pre-defined Web site by specifying the suffix (such as .com, .org, etc.).

刪除: Operation and Administration



Domain Filter

Item	Setting
Domain Filter	☑ Enable
Log DNS Query	☑ Enable
Privilege IP Addresses Range	From 1 To 20

ID	Domain Suffix	Action	Enable
1	www.msn.com	☑ Drop ☑ Log	☑
2	www.sina.com	□ Drop ☑ Log	☑
3	www.google.com	☑ Drop □ Log	☑
4		□ Drop □ Log	□
5		□ Drop □ Log	□
6		□ Drop □ Log	□
7		□ Drop □ Log	□
8		□ Drop □ Log	□
9		□ Drop □ Log	□
10	* (all others)	□ Drop □ Log	-

Figure 33: Domain Filter

Up to 9 Domain Suffixes can be defined, and for each rule you can specify the desired action to be taken when a user attempts to access that domain. For each rule you can define the following:

- Domain Filter – Check to enable the Domain Filter feature to prevent users from accessing specific URLs.
- Log DNS Query – Check to enable logging users' attempts to enter the specified URLs.
- Privilege IP Addresses Range – Sets a group of hosts and allows them to access the network without restriction. (From: 1~254, To: 1~254)
- Domain Suffix - A suffix of URL to be restricted. For example, ".com", "xxx.com".
- Action – You can specify the type of action you want performed when someone attempts to access the specific URL that meets the domain-suffix:
  - **Drop** – Check to block access.
  - **Log** – Check to log the access attempt.
- Enable - Check to enable the rule. Each rule can be enabled/disabled individually.

In the example above (Figure 33):

刪除: 3

刪除: 3

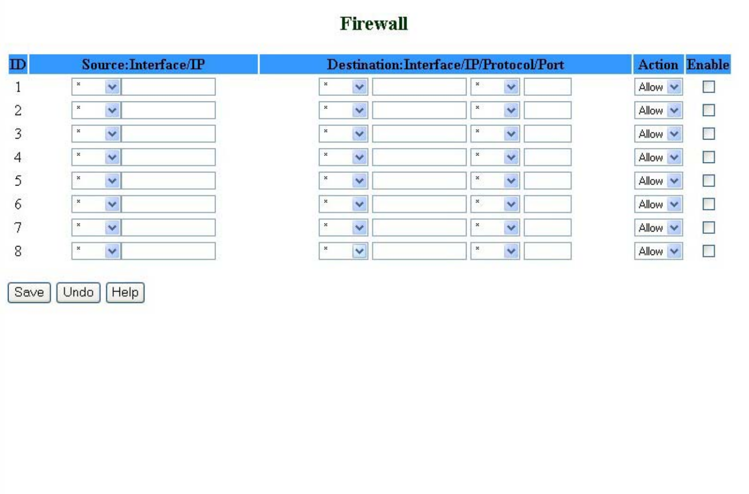
刪除: Operation and Administration

1. The URL "www.msn.com" will be blocked, and the action will be recorded in the log file.
2. The URL "www.sina.com" will not be blocked, but any attempt to enter the Web site will be recorded in the log file.
3. The URL "www.google.com" will be blocked, but the action will not be recorded in the log file.
4. IP address X.X.X.1~ X.X.X.20 can access network without restriction.

Click **Save** to save your settings.

Firewall

Firewall rules deny/allow traffic from passing through the device.



Firewall

ID	Source:Interface/IP		Destination:Interface/IP/Protocol/Port				Action	Enable
1	*		*		*		Allow	□
2	*		*		*		Allow	□
3	*		*		*		Allow	□
4	*		*		*		Allow	□
5	*		*		*		Allow	□
6	*		*		*		Allow	□
7	*		*		*		Allow	□
8	*		*		*		Allow	□

Figure 34: Firewall

Up to 8 rules can be specified for each direction of traffic: inbound and outbound. For each rule, you can define the following:

- Source IP address, from LAN to WAN
- Destination IP address, from LAN to WAN
- Destination Protocol: TCP, UPD or ICMP
- Destination port number
- Action – Allow/Deny (default – Allow)
- Enable – Check to enable the rule. Each rule can be enabled/disabled individually.

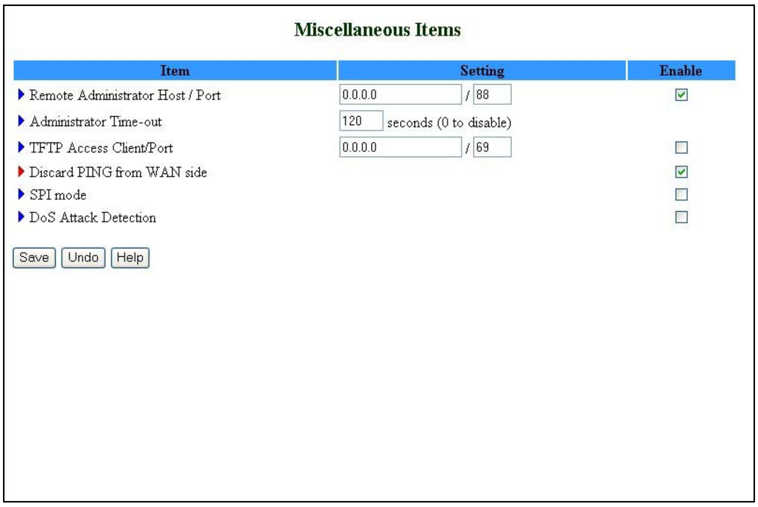
刪除: Operation and Administration

刪除: Set TCP/IP Protocol for Working with NAT Router

刪除: Wizard

Click **Save** to save your settings.

Miscellaneous Items



Miscellaneous Items

Item	Setting	Enable
Remote Administrator Host / Port	0.0.0.0 / 88	☑
Administrator Time-out	120 seconds (0 to disable)	
TFTP Access Client/Port	0.0.0.0 / 69	☐
Discard PING from WAN side		☑
SPI mode		☐
DoS Attack Detection		☐

Figure 35: Miscellaneous Items

From the Miscellaneous Items window you can set the following:

- Remote Administrator Host/Port - Enables the user to perform administration tasks from a remote host. When enabled, only the specified IP address can perform remote administration. If the specified IP address is 0.0.0.0, any host can connect to this device in order to perform administration tasks. You can use subnet mask bits "/nn" notation to specify a group of trusted IP addresses. For example, "10.1.2.0/24".

NOTE

When Remote Administration is enabled, the web server port will automatically change to 88. You can change the web server port to another port.

- Administrator Time-out - The time of no activity to logout automatically. Set it to zero to disable automatic time-out.
- TFTP Access Client/Port – When enabled, the specified IP address with the specified port can access the device through the TFTP client utility.
- Discard PING from WAN side - When enabled, any ping packet from WAN will be discarded.