



KCodes 502g

**2 USB 2.0 Hi-Speed-Port
Wireless Multifunction Router**

User's Manual

Version 1.0

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Chapter 1 Introduction

1.1 Hardware Specification

KCodes 502g is a wireless multifunction router. Besides the basic functions of router, KCodes 502g has two additional USB host ports to support FTP file server and print server. The following list shows the hardware specification for KCodes 502g.

- WAN Port x 1
- LAN Port x 4
- 802.11 b/g Wireless Module
- USB 2.0 Host Port x 2
- LED x 9
- Init Button (factory default and firmware upgrade)
- Power Adaptor Connector (DC 12V/1A)

1.2 Features

KCodes 502g supports the following features:

- IP sharing
- WAN type : static ADSL, PPPoE, automatic IP, cable modem
- Print server (LPR)
- File server (FTP)
- Supports USB storage (USB hard drives, flash disks, memory sticks)
- FAT 16/32 file systems
- DDNS
- NAT (Network Address Translation): port trigger, virtual server, virtual DMZ
- Firewall: IP filter, MAC address filter, URL filter
- Easy to upgrade new version of firmware by using Web UI
- Web-based interface configuration and management: OS independent, easy-to-use

Chapter 2 Product Overview

2.1 Package Contents

- KCodes 502g
- Power adaptor
- CD
- Quick Installation Guide

2.2 Hardware Description

2.2.1 Rear Panel

The rear panel includes a Power Inlet, a Init Button, four LAN Ports and one WAN Port.

Power Inlet: use DC IN 12V/1A adaptor.

Init Button: reset the parameters to the factory default values.

LAN Port: for twisted pair category 5 cable. The 4 LAN ports are for the connection to internal PCs.

WAN Port: for twisted pair category 5 cable. The WAN port is for the connection to ADSL modem.

2.2.2 Front Panel

The front panel includes two USB Host Ports and nine LED Indicators.

USB Host Port: USB 1.1/2.0 low, full, and Hi-Speed compliant

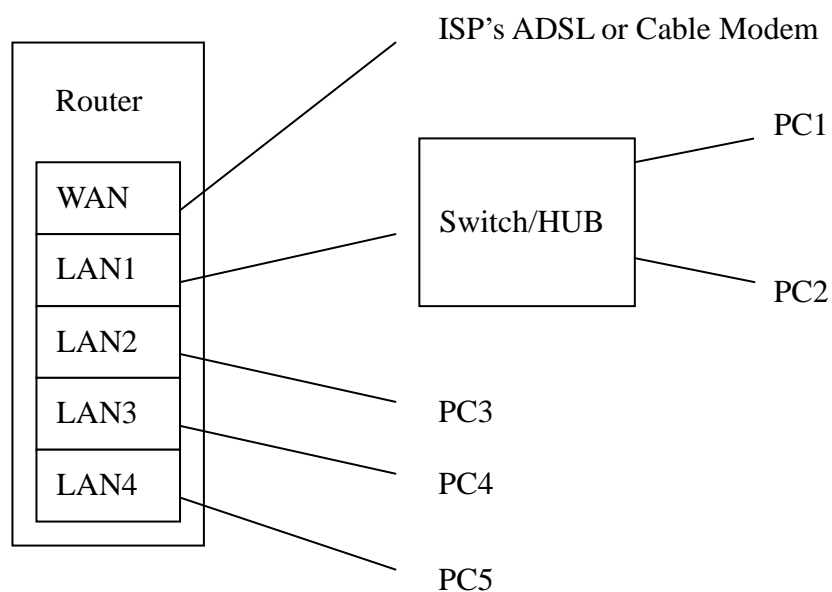
2.2.3 LED Indicators

Indicators	Behavior	Description
Power	On	Power On
	Off	Power off/System error
Link	On	Network (WAN) connected
	Off	No physical connection to network (WAN)
Status	Blinking	Activity on network (WAN)
	Off	No activity on network (WAN)
LAN1	On	Network Connected (LAN1)

	Off	No physical connection to network (LAN1)
LAN2	On	Network Connected (LAN2)
	Off	No physical connection to network (LAN2)
LAN3	On	Network Connected (LAN3)
	Off	No physical connection to network (LAN3)
LAN4	On	Network Connected (LAN4)
	Off	No physical connection to network (LAN4)
USB1	On	USB device connected (USB1)
	Blinking	Connected USB device not supported (USB1)
	Off	No physical connection to USB device (USB1)
USB2	On	USB device connected (USB2)
	Blinking	Connected USB device not supported (USB2)
	Off	No physical connection to USB device (USB2)

2.3 Typical Usage

The following diagram shows a typical usage and connection of the Router and computers. All PCs connected to LAN ports can access the Internet via ISP's ADSL or cable modem connected to WAN port.



Chapter 3 Installation

3.1 Hardware Connections

Make sure that your USB devices are powered off and that the Router's Power Adapter is disconnected.

Connect your PC to one of the Router's LAN port with a twisted-pair category 5 cable, 10baseT or 100baseTX.

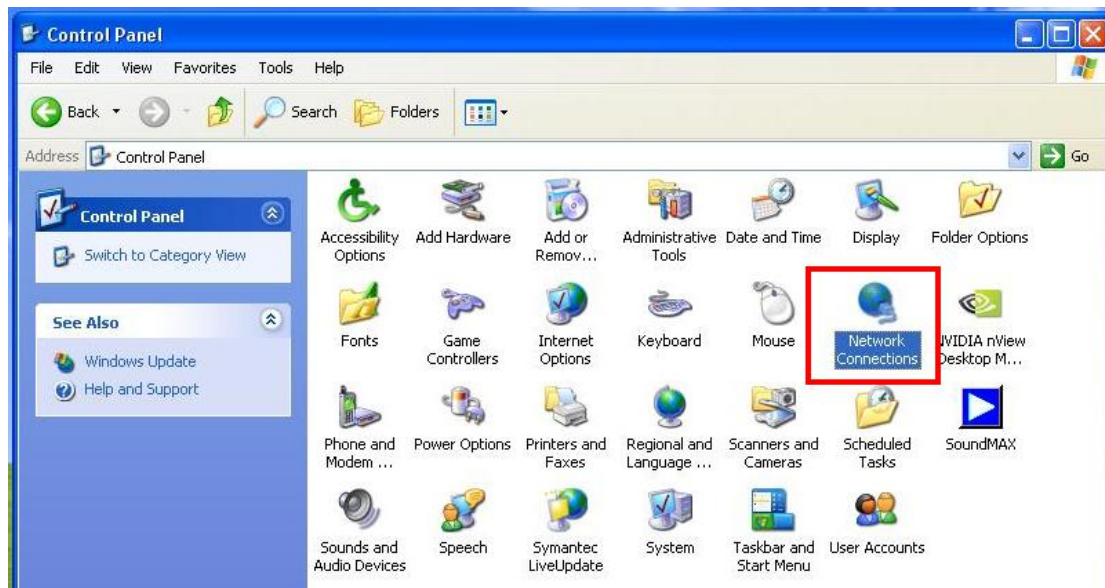
Connect the Router's WAN port to an ADSL modem with a twisted-pair category 5 cable, 10baseT or 100baseTX.

Connect the Power Adapter to the Router. The power indicator will light up and USB1 and USB2 indicators will flash in turn. When USB1 and USB2 indicators stop flashing, the Router starts to work normally. At this time, the Link indicator must light up.

3.2 IP Setting on Windows



Go to desktop and click **Start** → **Control Panel**.



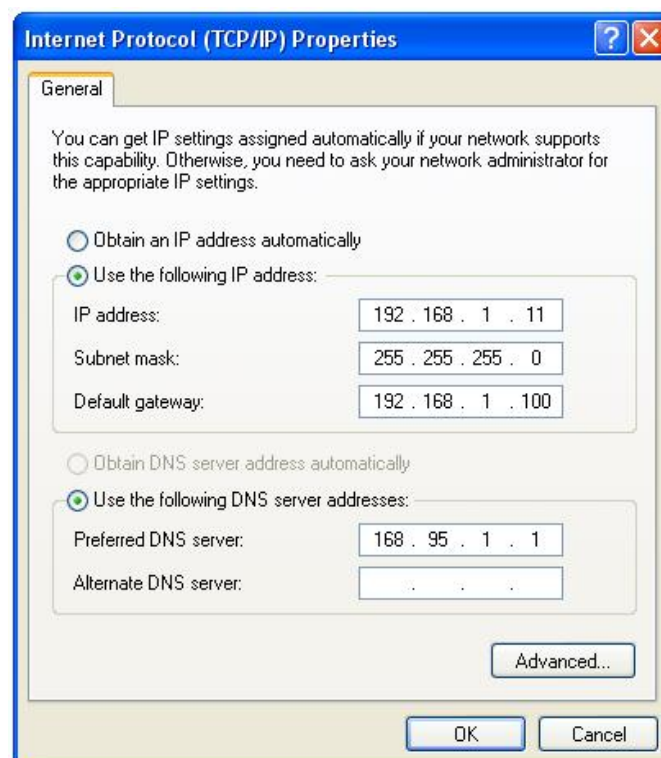
At control panel, double click **Network Connections**.



All your connections will be displayed on the window. Go to **Local Area Connection** and click mouse right button. A menu will appear, select **Properties**.



At Local Area Connection Properties window, select the **General** tab. Select **Internet Protocol (TCP/IP)** and then click **Properties**.



If you use DHCP to get IP automatically, select **Obtain an IP address automatically** and then click **OK** to finish the setting. The router supports DHCP, therefore any PC connected to LAN port of

the router can automatically get IP address.

If you get IP manually, select **Use the following IP address**. The factory default router LAN IP address is 192.168.1.100. Therefore, we use an IP address located in 192.168.1.x block to get connect to the router. Here we use 192.168.1.11 as an example. Click **OK** to finish the setting.

3.3 Access Router Home Page from Web Browser

This router can be configured through its web pages. Follow the steps below to access the router web pages.



Start your Internet browser, enter **http://192.168.1.100** and press Enter.



A dialogue box will pop up to ask you for user name and password. The factory default User name is **admin**, password is **admin**. Enter the user name and password and then click **OK** to login.

Quick Setup IP Configuration NAT Setup Firewall Setup USB Application System Setup Status & Log Logout

IP Configuration

IP Setup DHCP Server Routing Table Miscellaneous

IP Configuration - IP Setup

WAN Connection Type: Automatic IP

WAN Static IP Setting

If the connection type is ADSL static IP, please specify your static IP, subnet mask, and default gateway here. All of the information is obtained from your ISP.

IP Address:

Subnet Mask:

Default Gateway:

WAN DNS Setting

If you login successfully, the router main web page will appear and you can start to configure the router from web pages.

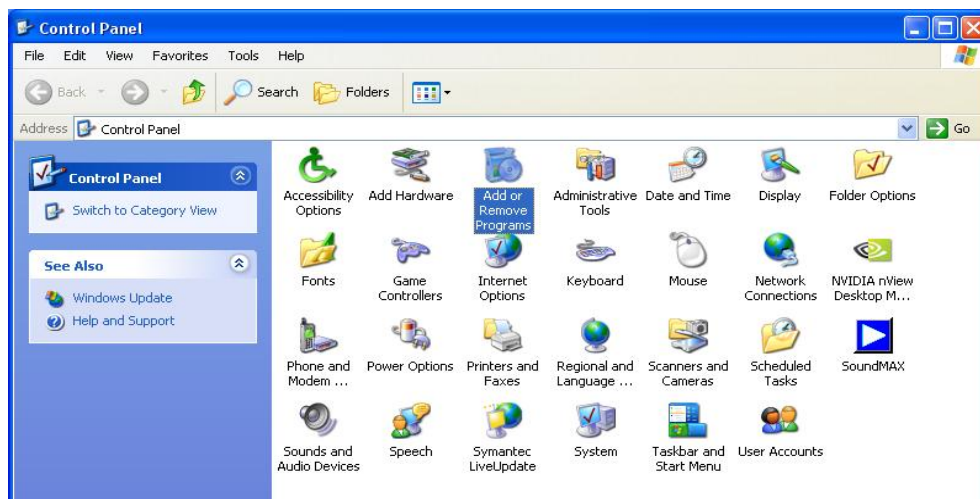
3.4 Enable UPnP on Windows

The UPnP (Universal Plug and Play) enables communication between any two devices under the command of any control device on the local network.

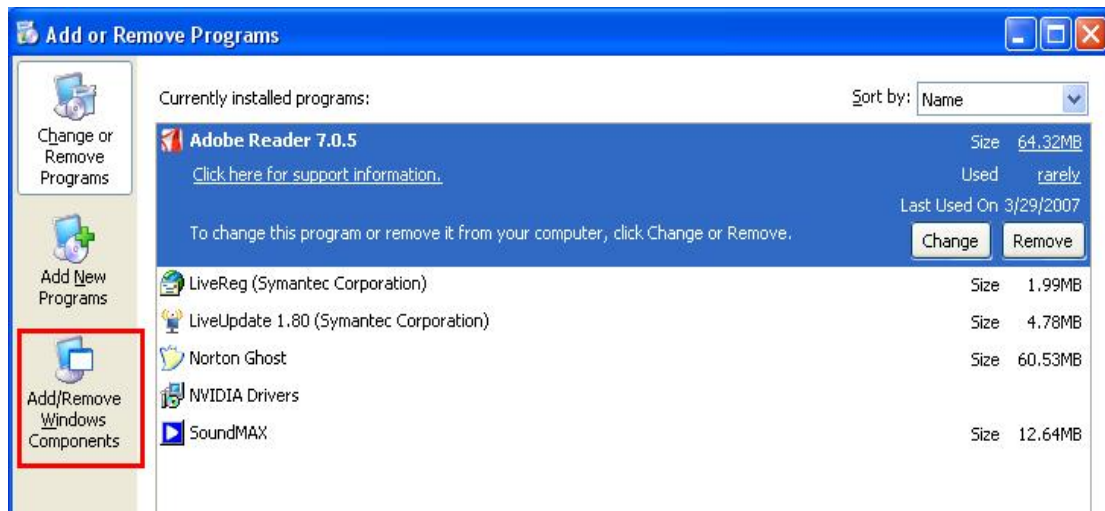
PCs that have enabled UPnP function are informed when a device, this Router, for example, is connected to the local network.



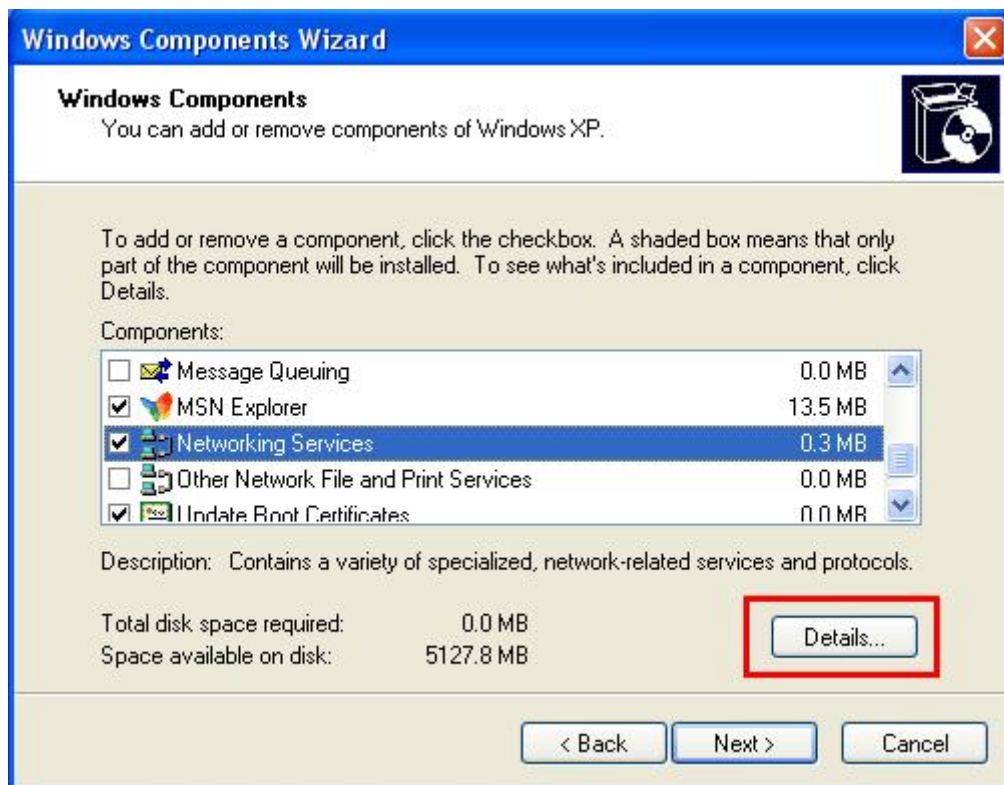
Go to desktop and click **Start** → **Control Panel**.



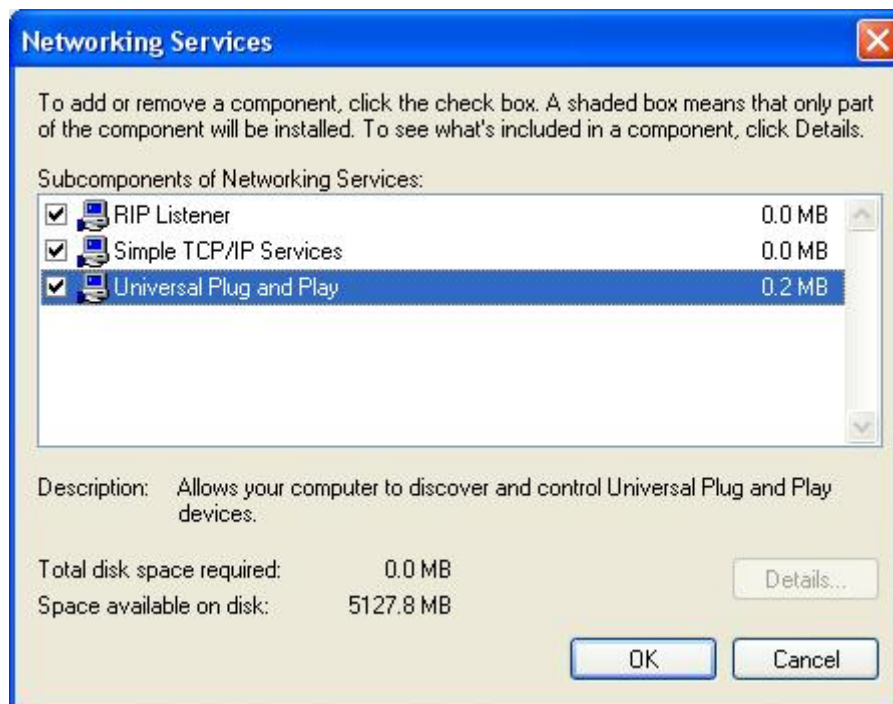
At Control Panel window, double click **Add or Remove Programs**.



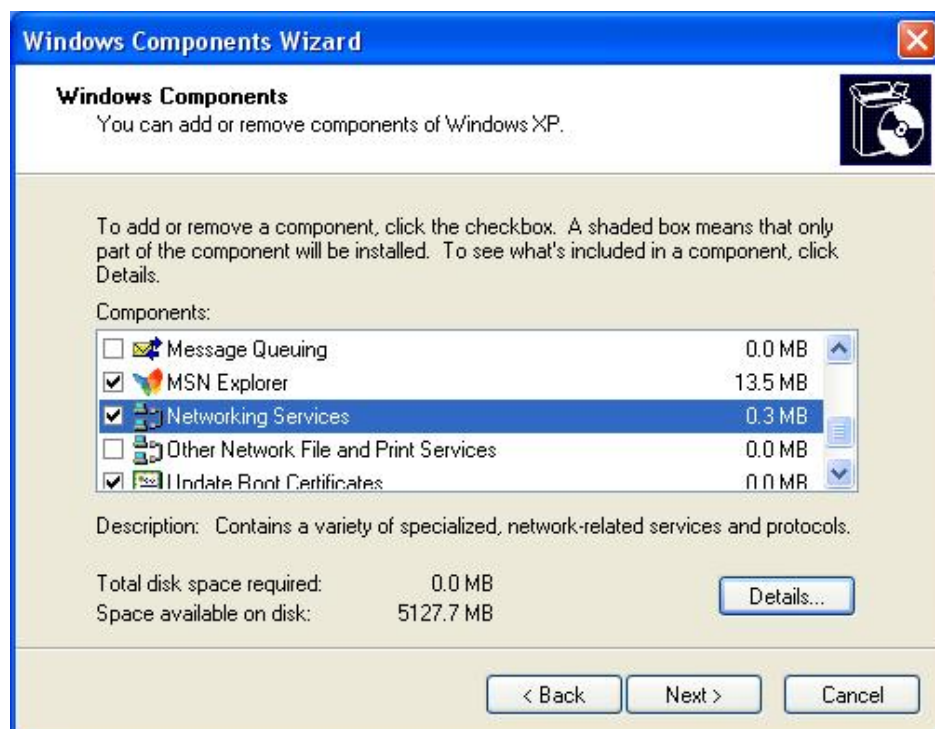
Click **Add/Remove Windows Components**.



Select **Network Services** and then click **Details**.



Tick **Universal Plug and Play** and then click **OK**.



Back to this window, click **Next**. Windows will install the component automatically.

- Depends on the version of your OS, the original Windows CD might be required after this step. If so, please insert your original Windows CD.



Click **Finish**.



Once the UPnP is enabled, the computer will be informed by this icon when a new device is connected to the local network. You can click this icon to get the UPnP-supported device list.

Chapter 4 Settings

4.1 Quick Setup

Quick Setup IP Configuration NAT Setup Firewall Setup USB Application System Setup Status & Log Logout

Quick Setup supports 4 WAN Connection Types - ADSL Dialup (PPPoE), ADSL Static IP, Automatic IP and Cable Modem (DHCP). If you do not know your WAN type, consult your ISP. Start quick setup by selecting your WAN Connection Type from the drop-down list.

4.1.1 ADSL Dialup (PPPoE)

If your ISP provides you the ADSL Dialup, please follow the following steps to setup your WAN connection.

Quick Setup	
Select Internet Connection Type	
The router supports four connection types to the Internet. Please choose one of them from the drop-down menu. Consult your ISP if you don't know the connection type.	
WAN Connection Type:	ADSL Dialup (PPPoE) ▼
<div>Next</div>	

[Page 1] Select **ADSL Dialup** from the drop-down list.

Quick Setup	
Set Your Account to ISP	
Your Internet connection type is ADSL dialup (PPPoE) and you have been assigned a dynamic IP from your Internet Service Provider (ISP). You can obtain the user name and the password of the ADSL account from your ISP.	
User Name:	<input type="text"/>
Password:	<input type="password"/>
<div>Previous</div>	<div>Next</div>

[Page 2] Input the User Name and Password provided by your ISP. Click **Next**.

Quick Setup	
Set Internet Access Policy	
Select your Internet access policy to block specified services at specified time period.	
Blocked Services:	<input type="checkbox"/> WWW <input type="checkbox"/> ICQ <input type="checkbox"/> TELNET <input type="checkbox"/> FTP <input type="checkbox"/> MSN Messenger
Time of Day to Block Services:	<input type="text"/> : <input type="text"/> - <input type="text"/> : <input type="text"/>
<div>Previous</div> <div>Apply</div>	

[Page 3] Click the services that you want to block and input the time period that you want the selected services to be blocked. If you don't want to block any services, leave all options empty.

4.1.2 Static IP

If your ISP provides you the static IP, please follow the following steps to setup your WAN connection.

Quick Setup	
Select Internet Connection Type	
The router supports four connection types to the Internet. Please choose one of them from the drop-down menu. Consult your ISP if you don't know the connection type.	
WAN Connection Type:	<div>ADSL Static IP</div>
<div>Next</div>	

[Page 1] Select **ADSL Static IP** from the drop-down list.

Quick Setup	
WAN IP Setting	
Your Internet connection type is ADSL static IP and you have been assigned a static IP from your Internet Service Provider (ISP).	
IP Address:	<input type="text"/>
Subnet Mask:	<input type="text"/>
Default Gateway:	<input type="text"/>
WAN DNS Setting	
DNS Server1:	<input type="text"/>
DNS Server2:	<input type="text"/>
<input type="button" value="Previous"/>	<input type="button" value="Next"/>

[Page 2] Input the IP Address, Subnet Mask, Default Gateway, and DNS Server provided by your ISP.

Quick Setup	
Set Internet Access Policy	
Select your Internet access policy to block specified services at specified time period.	
Blocked Services:	<input type="checkbox"/> WWW <input type="checkbox"/> ICQ <input type="checkbox"/> TELNET <input type="checkbox"/> FTP <input type="checkbox"/> MSN Messenger
Time of Day to Block Services:	<input type="text"/> : <input type="text"/> - <input type="text"/> : <input type="text"/>
<input type="button" value="Previous"/>	<input type="button" value="Apply"/>

[Page 3] Click the services that you want to block and input the time period that you want the selected services to be blocked. If you don't want to block any services, leave all options empty.

4.1.3 Automatic IP

If your ISP provides you the automatic IP, please follow the following steps to setup your WAN connection.

Quick Setup	
Select Internet Connection Type	
The router supports four connection types to the Internet. Please choose one of them from the drop-down menu. Consult your ISP if you don't know the connection type.	
WAN Connection Type:	Automatic IP
<div>Next</div>	

[Page 1] Select Automatic IP from the drop-down list.

Quick Setup	
Set Internet Access Policy	
Select your Internet access policy to block specified services at specified time period.	
Blocked Services:	<input type="checkbox"/> WWW <input type="checkbox"/> ICQ <input type="checkbox"/> TELNET <input type="checkbox"/> FTP <input type="checkbox"/> MSN Messenger
Time of Day to Block Services:	<input type="text"/> : <input type="text"/> - <input type="text"/> : <input type="text"/>
<div>Previous</div> <div>Apply</div>	

[Page 2] Click the services that you want to block and input the time period that you want the selected services to be blocked. If you don't want to block any services, leave all options empty.

4.1.4 Cable Modem (DHCP)

If your ISP provides you the Cable Modem (DHCP), please follow the following steps to setup your WAN connection.

Quick Setup	
Select Internet Connection Type	
The router supports four connection types to the Internet. Please choose one of them from the drop-down menu. Consult your ISP if you don't know the connection type.	
WAN Connection Type:	Cable Modem (DHCP)
<div>Next</div>	

[Page 1] Select Cable Modem (DHCP) from the drop-down list.

Quick Setup	
Set Internet Access Policy	
Select your Internet access policy to block specified services at specified time period.	
Blocked Services:	<input type="checkbox"/> WWW <input type="checkbox"/> ICQ <input type="checkbox"/> TELNET <input type="checkbox"/> FTP <input type="checkbox"/> MSN Messenger
Time of Day to Block Services:	<input type="text"/> : <input type="text"/> - <input type="text"/> : <input type="text"/>
<div>Previous</div> <div>Apply</div>	

[Page 2] Click the services that you want to block and input the time period that you want the selected services to be blocked. If you don't want to block any services, leave all options empty.

4.2 IP Configuration

Quick Setup **IP Configuration** NAT Setup Firewall Setup USB Application System Setup Status & Log Logout

IP Configuration allows you to configure some basic functions including IP Setup, DHCP Server, Routing Table and Miscellaneous.

4.2.1 IP Setup

Quick Setup IP Configuration NAT Setup Firewall Setup USB Application System Setup Status & Log Logout

IP Configuration

IP Setup DHCP Server Routing Table Miscellaneous

You can use IP Setup section to configure your WAN connection and LAN IP. WAN connections are divided into four types, each type require different settings. Please check your WAN connection type and follow the corresponding instruction to complete the setting.

ADSL Dialup (PPPoE)

IP Configuration - IP Setup	
WAN Connection Type:	ADSL Dialup (PPPoE) ▼
WAN Static IP Setting	
If the connection type is ADSL static IP, please specify your static IP, subnet mask, and default gateway here. All of the information is obtained from your ISP.	
IP Address:	<input type="text"/>
Subnet Mask:	<input type="text"/>
Default Gateway:	<input type="text"/>
WAN DNS Setting	
Get DNS Server automatically?	<input checked="" type="radio"/> Yes <input type="radio"/> No
DNS Server1:	<input type="text"/>
DNS Server2:	<input type="text"/>
PPPoE Account	
User Name:	<input type="text"/>
Password:	<input type="password"/>
MTU:	1454 ▼
WAN MAC Address Setting	
WAN MAC Address:	<input type="text"/>
LAN IP Setting	
Please specify the LAN IP address and its subnet mask here.	
IP Address:	<input type="text"/>
Subnet Mask:	<input type="text"/>
<input type="button" value="Cancel"/> <input type="button" value="Apply"/>	

WAN Connection Type:

Select **ADSL Dialup (PPPoE)** from the drop-down list.

WAN DNS Setting:

Select **Yes** to get DNS Server automatically.

PPPoE Account:

Input the user name and password provided by your ISP.

The MTU value can be changed if required.

WAN MAC Address Setting:

This has a default value given by the manufacturer and you are recommended not to change this value.

LAN IP Setting:

There is a default LAN IP given by the manufacturer. You can change this as required. Please note that you should use the new IP address to login to this router.

Apply/Cancel:

Click **Apply** to save the settings or click **Cancel** to aboard.

ADSL Static IP

IP Configuration - IP Setup	
WAN Connection Type:	ADSL Static IP
WAN Static IP Setting	
If the connection type is ADSL static IP, please specify your static IP, subnet mask, and default gateway here. All of the information is obtained from your ISP.	
IP Address:	
Subnet Mask:	
Default Gateway:	
WAN DNS Setting	
Get DNS Server automatically?	<input type="radio"/> Yes <input checked="" type="radio"/> No
DNS Server1:	
DNS Server2:	
PPPoE Account	
User Name:	
Password:	
MTU:	1454
WAN MAC Address Setting	
WAN MAC Address:	
LAN IP Setting	
Please specify the LAN IP address and its subnet mask here.	
IP Address:	192.168.1.100
Subnet Mask:	255.255.255.0
<input type="button" value="Cancel"/> <input type="button" value="Apply"/>	

WAN Connection Type:

Select **ADSL Dialup (PPPoE)** from the drop-down list.

WAN IP Setting:

Input the IP Address, Subnet Mask and Default Gateway provided to you by your ISP.

WAN DNS Setting:

Select **No** to set the DNS manually and input the DNS Server IP. If you don't know, please check with your ISP.

The MTU value can be changed if required.

WAN MAC Address Setting:

This has a default value given by the manufacturer and you are recommended not to change this value.

LAN IP Setting:

There is a default LAN IP given by the manufacturer. You can change this as required. Please note that you should use the new IP address to login to this router.

Apply/Cancel:

Click **Apply** to save the settings or click **Cancel** to aboard.

Automatic IP

IP Configuration - IP Setup	
WAN Connection Type:	Automatic IP
WAN Static IP Setting	
If the connection type is ADSL static IP, please specify your static IP, subnet mask, and default gateway here. All of the information is obtained from your ISP.	
IP Address:	
Subnet Mask:	
Default Gateway:	
WAN DNS Setting	
Get DNS Server automatically?	<input checked="" type="radio"/> Yes <input type="radio"/> No
DNS Server1:	
DNS Server2:	
PPPoE Account	
User Name:	
Password:	
MTU:	1454
WAN MAC Address Setting	
WAN MAC Address:	
LAN IP Setting	
Please specify the LAN IP address and its subnet mask here.	
IP Address:	192.168.1.100
Subnet Mask:	255.255.255.0
<input type="button" value="Cancel"/> <input type="button" value="Apply"/>	

WAN Connection Type:

Select **Automatic IP** from the drop-down list.

WAN DNS Setting:

Select **Yes** to get DNS Server automatically.

WAN MAC Address Setting:

This has a default value given by the manufacturer and you are recommended not to change this value.

LAN IP Setting:

There is a default LAN IP given by the manufacturer. You can change this as required. Please note that you should use the new IP address to login to this router.

Apply/Cancel:

Click **Apply** to save the settings or click **Cancel** to aboard.

Cable Modem (DHCP)

IP Configuration - IP Setup	
WAN Connection Type:	Cable Modem (DHCP) ▼
WAN Static IP Setting	
If the connection type is ADSL static IP, please specify your static IP, subnet mask, and default gateway here. All of the information is obtained from your ISP.	
IP Address:	
Subnet Mask:	
Default Gateway:	
WAN DNS Setting	
Get DNS Server automatically?	<input checked="" type="radio"/> Yes <input type="radio"/> No
DNS Server1:	
DNS Server2:	
PPPoE Account	
User Name:	
Password:	
MTU:	1454 ▼
WAN MAC Address Setting	
WAN MAC Address:	
LAN IP Setting	
Please specify the LAN IP address and its subnet mask here.	
IP Address:	192.168.1.100
Subnet Mask:	255.255.255.0
<div>Cancel</div> <div>Apply</div>	

WAN Connection Type:

Select **Automatic IP** from the drop-down list.

WAN DNS Setting:

Select **Yes** to get DNS Server automatically.

WAN MAC Address Setting:

This has a default value given by the manufacturer and you are recommended not to change this value.

LAN IP Setting:

There is a default LAN IP given by the manufacturer. You can change this as required. Please note that you should use the new IP address to login to this router.

Apply/Cancel:

Click **Apply** to save the settings or click **Cancel** to aboard.

4.2.2 DHCP Server

IP Configuration

IP Setup DHCP Server Routing Table Miscellaneous

DHCP Server supports up to 253 IP addresses for you local network. Follow the instructions to configure DHCP Server.

Enable DHCP Server:

Select **Yes** to enable or **No** to disable DHCP Server.

Domain Name:

Domain Name is the name which you had registered from NIC (Network Information Center). Ignore this part if managers don't apply for a domain name.

IP Pool Starting/Ending Address:

You can use this to set the IP range that the DHCP server can offer.

WINS (Windows Internet Naming Service) Server:

Input a WINS server IP if there is a WINS Server in the local network.

Apply/Cancel:

Click **Apply** to save the settings or click **Cancel** to aboard.

IP Configuration - DHCP Server	
You can set up the router as a DHCP Server which automatically assigns IP addresses to DHCP clients in your local network.	
Enable DHCP Server?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Domain Name:	<input type="text"/>
IP Pool Starting Address:	<input type="text" value="192.168.0.1"/>
IP Pool Ending Address:	<input type="text" value="192.168.0.254"/>
WINS Server Setting	
Primary WINS Server :	<input type="text"/>
Secondary WINS Server :	<input type="text"/>
<div>Cancel</div> <div>Apply</div>	

4.2.3 Routing Table

IP Configuration

IP Setup DHCP Server **Routing Table** Miscellaneous

Routing Table page allows you to set routing rules to this router. This includes static routing and dynamic routing.

IP Configuration - Routing Table

Static Route

This function allows you to add more routing rules into the router. It is useful if you have more than one subnet in your LAN.

Static Routing Table
Add Del Help

Network / Host IP	Netmask	Gateway

Dynamic Route

RIP Setup: ☐ Disable ☐ Rip1 ☐ Rip2

Cancel Apply

Static Route:

Input the IP address of a destination network or a host of the routing rule. It could be a host address like **192.168.123.100** or a network address, such as **192.168.0.0**. Click **Add** to add the rule to the routing table or select a rule from the table and then click **Del** to delete the rule.

Dynamic Route:

If you don't want to set any dynamic routing rule, select **Disable**. The default value is Rip2 and the router will build a routing table and get a path to the destination automatically.

4.2.4 Miscellaneous