

DIGISOL™



DG-BR4015N

150Mbps Wireless 3G Broadband Router
User Manual

V1.1
2011-11-30

As our products undergo continuous development the specifications are subject to change without prior notice

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Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

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1. Product Information

1-1 Introduction

Thank you for purchasing DG-BR4015N 150Mbps Wireless 3G Broadband Router! DG-BR4015N is the best choice for Small office / Home office users, all computers and network devices can share a single 3G / Cable modem internet connection at high speed. Easy installation procedures allow computer users to setup a network environment in very short time - within minutes. When the number of your computers and network-enabled devices grow, you can also expand the number of network slots by simply connecting a hub or switch, to extend the scope of your network.

All computers and IEEE 802.11b/g/n wireless-enabled network devices (including PDA, cellular phone, game console, and more) can connect to this wireless router without additional cabling. With a compatible wireless card installed in your PC, you can transfer files up to 150Mbps (transfer data rate).

Other features of this router include:

- Wireless speed up to 150Mbps.
- Allows multiple users to share a single Internet line.
- Share a single 3G, Cable or xDSL internet connection.
- Access private LAN servers from the internet.
- Four wired LAN ports (10/100M) and one WAN port (10/100M)
- USB port to connect 3G USB dongle.
- Failover between primary and secondary links.
- Works with IEEE 802.11b/g/n wireless LAN devices.
- Supports DHCP (Server/Client) for easy IP-address setup.
- Advanced network and security features like: Special Applications, QoS, DMZ, Virtual Servers, Firewall.
- Allows you to monitor the router's status like: DHCP Client Log, System Log and Device/Connection Status.
- Easy to use Web-based GUI for network configuration and management Purposes.
- Remote management function allows configuration and upgrades from a remote computer (over the Internet)
- Provides Auto MDI / MDI-X function for all wired Ethernet ports.

1-2 Safety Information

In order to keep the safety of users and your properties, please follow the safety instructions as mentioned below:

1. This router is designed for indoor use only; **DO NOT** place this router outdoor.
2. **DO NOT** place this router close to a hot or humid area, like kitchen or bathroom. Also, do not leave this router in the car during summer.
3. **DO NOT** pull any connected cable with force; disconnect it from the router first.
4. If you want to place this Router at a height or mount on the wall, please make sure it is firmly secured. Falling from a height would damage the router and its accessories and warranty will be void.
5. Accessories of this router, like antenna and power supply, are dangerous to small children. **KEEP THIS ROUTER OUT OF THE REACH OF CHILDREN.**
6. The Router will get heated up when used for long time (This is normal and is not a malfunction). **DO NOT** put this Access Point on paper, cloth, or other flammable materials.
7. There's no user-serviceable part inside the router. If you find that the router is not working properly, please contact your dealer of purchase and ask for help. **DO NOT** disassemble the router, warranty will be void.
8. If the router falls into water when it's powered, **DO NOT** use your hands to pick it up. Switch the electrical power off before you do anything, or contact an experienced electrical technician for help.
9. If you smell something strange, or even see some smoke coming out from the router or power supply, remove the power supply or switch the electrical power off immediately, and call the dealer of purchase for help.

1-3 System Requirements

- Notebook or desktop computer with network adapter (wired/wireless)
- Internet connection, provided by USB (3G) or Cable modem with a RJ-45 Ethernet port.
- Web browser (Microsoft Internet Explorer 4.0 or above, Netscape Navigator 4.7 or above, Opera web browser, or Safari web browser).
- An available AC power socket (100 – 240V, 50/60Hz)

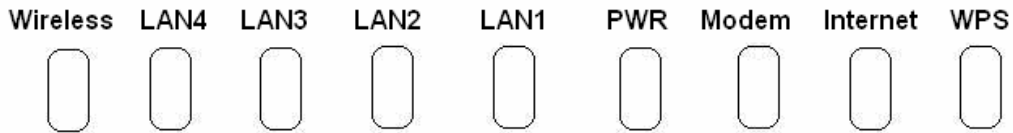
1-4 Package Contents

Before you start using this router, please check if there's anything missing in the package, and contact your dealer of purchase to claim for missing items:

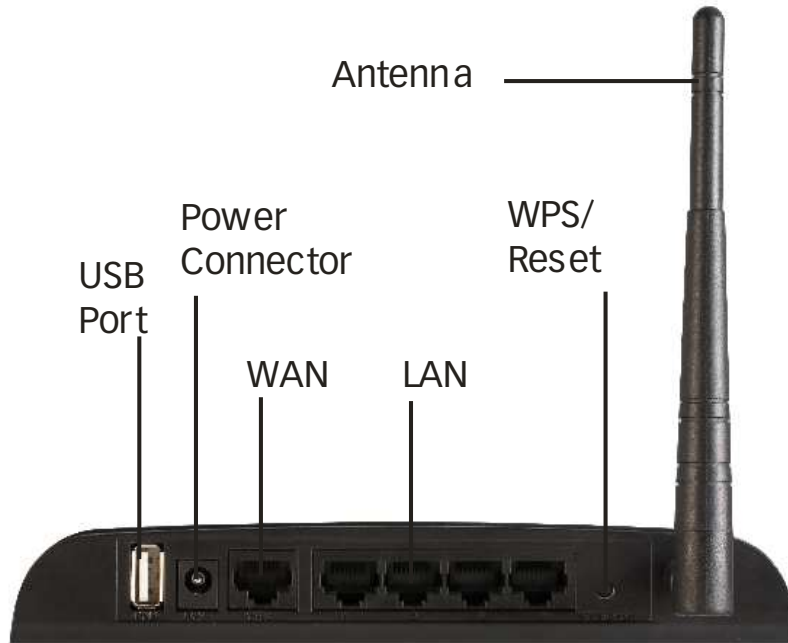
- DG-BR4015N 3G Wireless Broadband Router
- Switching power adapter (9V DC, 1A)
- Quick Installation Guide
- Installation Guide CD (includes User Manual, Utility)
- Patch chord (1 No.)

1-5 Get Familiar with your new wireless broadband router

Front Panel



LED Name	LED Color	Status	Description
Wireless	Green	ON	Wireless radio is ON.
		Blinking	Data is being transmitted or received.
		OFF	Wireless is not enabled.
LAN (1~4)	Green	ON	LAN link is UP.
		Blinking	Data is being transmitted or received.
		OFF	LAN port not in use.
PWR	Red	OFF	Power is OFF.
		ON	Power is ON.
Modem	Green	Blinking	3G Modem is initializing or initialization is failed.
		ON	3G connections are established.
Internet	Green	ON	WAN link is UP
		Blinking	Data is being transmitted or received.
		OFF	WAN link is down
WPS	Green	Blinking	WPS negotiation is enabled, waiting for the clients
		OFF	WPS negotiation is not enabled on the device.

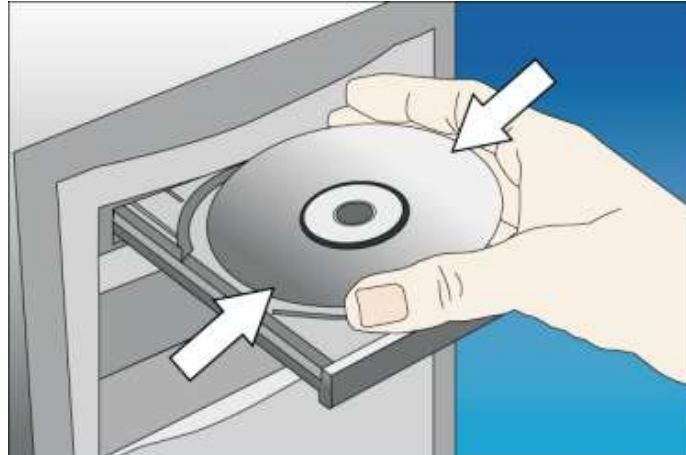
Back Panel

Interface	Description
Antenna	It is a 3dBi dipole antenna.
WPS/Reset	Press this button and hold for 10 seconds to restore all settings to factory defaults, and press this button for less than 5 seconds to start WPS function.
LAN (1~4)	Local Area Network (LAN) ports 1 to 4.
WAN	Wide Area Network (WAN / Internet) port.
Power	Power connector, connects to A/C power adapter.
USB	USB port for 3G connection.

2. System and Network Setup

2-1 Software Installation

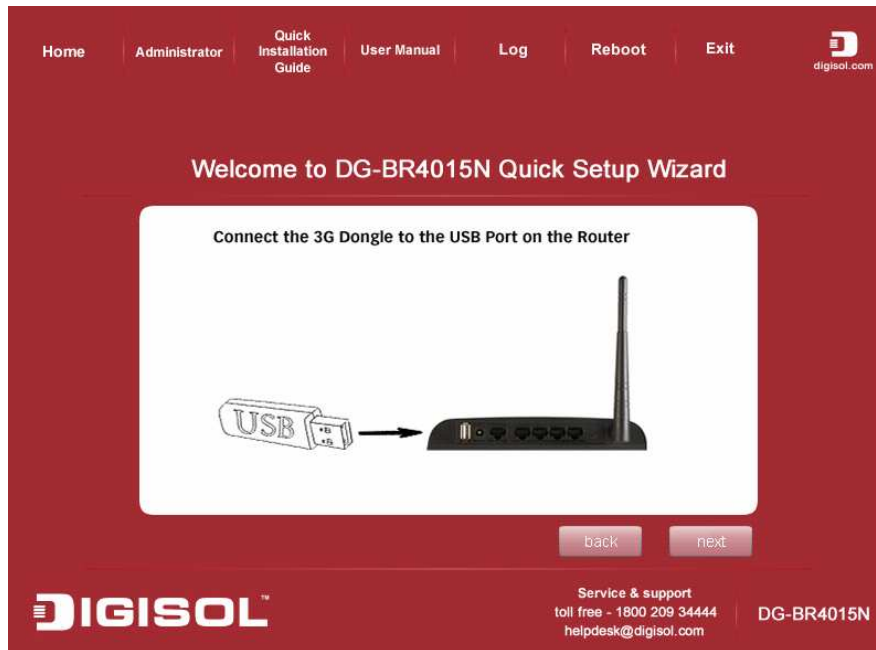
1. Insert the Setup CD into your CD-ROM drive of notebook/desktop computer.



2. Explore the CD and execute the “Autorun.exe” file. Below given screen will appear. Click ‘next’ to continue with the installation.



3. Connect 3G USB dongle to the USB port on the Router. Click 'next' to continue with the installation.



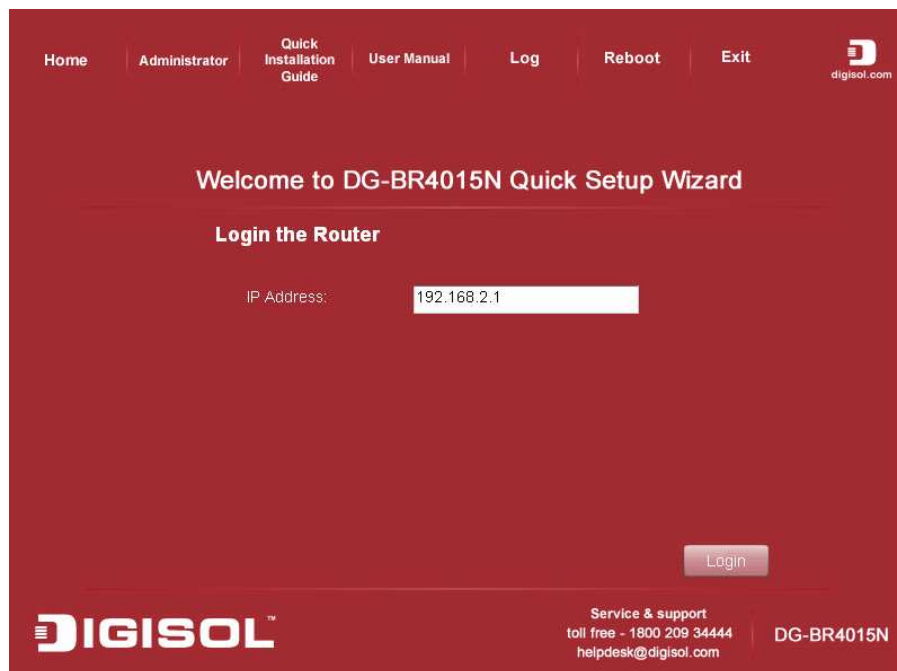
4. Power ON the router. It will take approximately 30 seconds for router to boot up completely. Ensure that all the LED's on the router are ON. If not, try the above steps again else click 'next' to continue with the installation.



5. Connect your desktop/notebook to one of the LAN ports (1~4) of the router.
Click 'next' to continue with the installation.



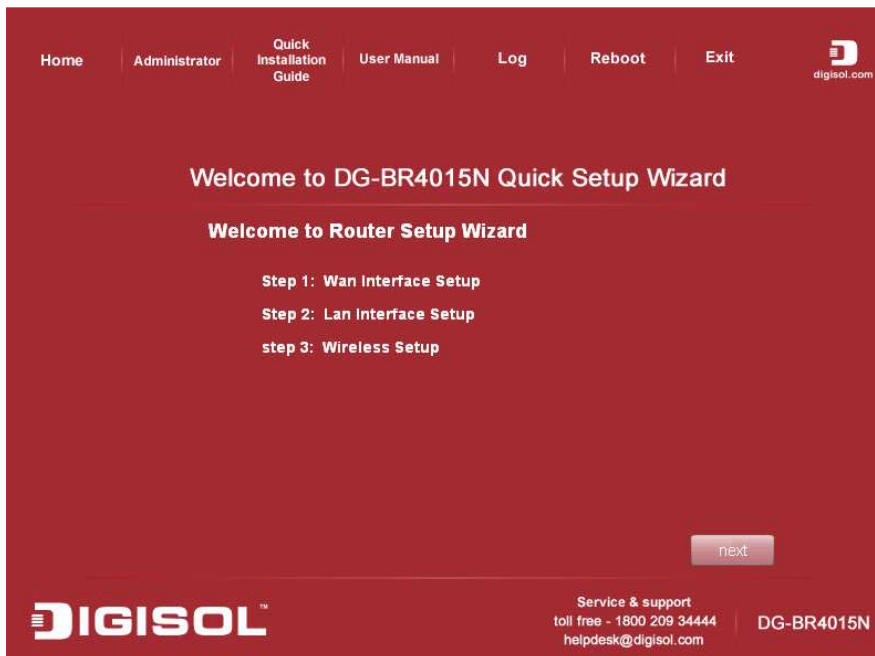
6. Enter the IP address of the router (default IP 192.168.2.1 will automatically appear). Click 'Login' to continue with the installation.



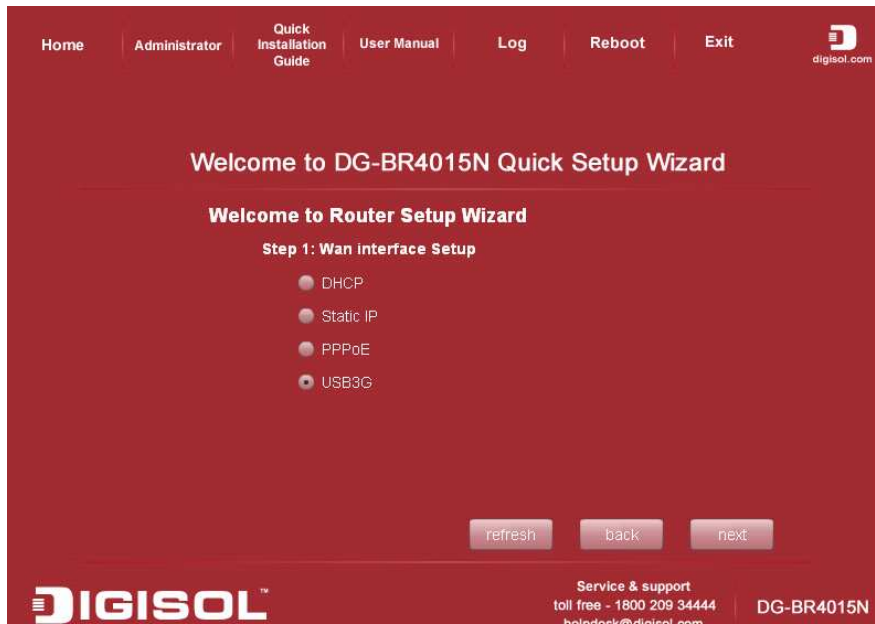
7. Default Username is admin and Password is admin. Click 'OK' to continue with the installation.



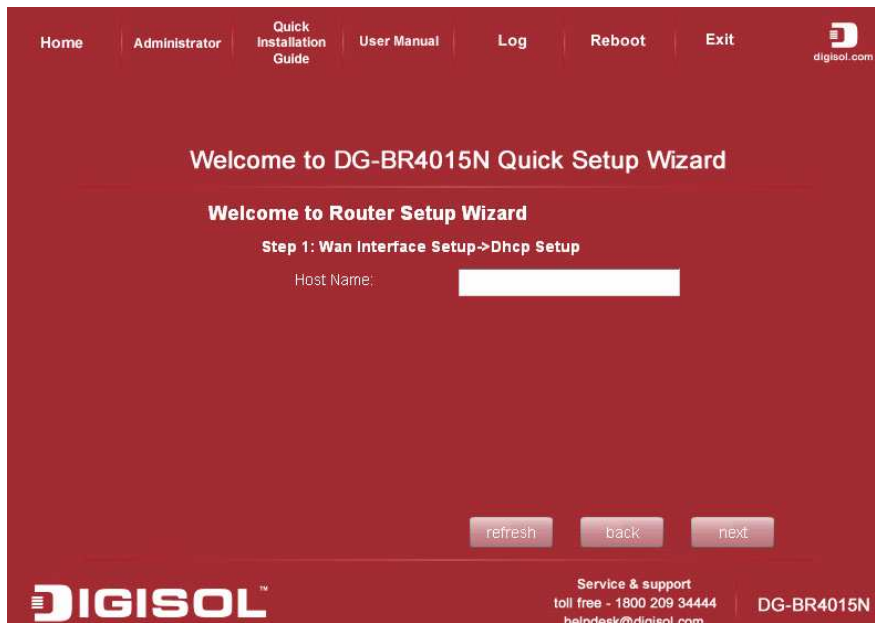
8. Below screen will display the Router Setup Wizard steps. Click 'next' to continue with the installation.



9. Select the type of Internet connection you wish to set. Click 'next' to continue with the installation.



- i) If “**Wan Interface Setup**” is set to **DHCP** then the following screen will appear. Enter any Hostname, this field is optional. Click ‘next’ to continue with the installation.



- ii) If “**Wan Interface Setup**” type is set to **Static IP** then following screen will appear. Enter the IP address, Subnet Mask, Default Gateway and DNS address provided by ISP in the screen shown below and click ‘**next**’ to continue with the installation.

The screenshot shows the 'Welcome to DG-BR4015N Quick Setup Wizard' interface. At the top, there is a navigation bar with links: Home, Administrator, Quick Installation Guide, User Manual, Log, Reboot, and Exit. The main heading is 'Welcome to Router Setup Wizard'. Below it, the step is 'Step 1: Wan interface Setup->Static IP Setup'. The form contains the following fields and values:

IP Address:	192.168.8.1
Subnet Mask:	255.255.255.0
Default Gateway:	192.168.8.254
Primary DNS:	8.8.8.8
Secondary DNS:	4.4.4.4

At the bottom of the form, there are three buttons: 'refresh', 'back', and 'next'. The footer includes the DIGISOL logo, service & support information (toll free - 1800 209 34444, helpdesk@digisol.com), and the model number DG-BR4015N.

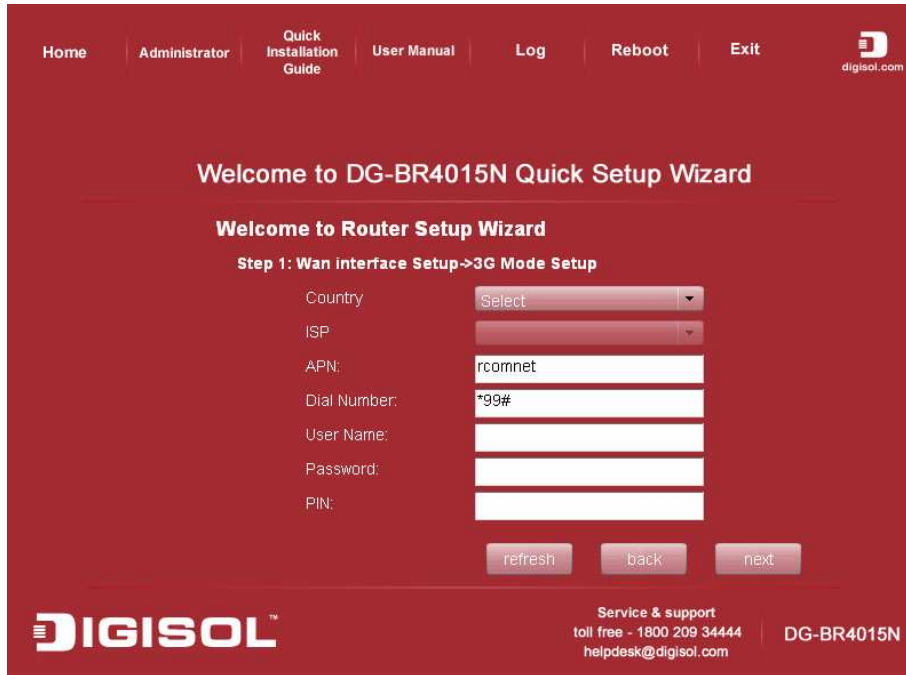
- iii) If “**Wan Interface Setup**” type is set to **PPPoE** then following page will appear. Enter the PPPoE Username and Password as provided by ISP and click ‘**next**’ to continue with the installation.

The screenshot shows the 'Welcome to DG-BR4015N Quick Setup Wizard' interface. At the top, there is a navigation bar with links: Home, Administrator, Quick Installation Guide, User Manual, Log, Reboot, and Exit. The main heading is 'Welcome to Router Setup Wizard'. Below it, the step is 'Step 1: Wan interface Setup->PPPoE Setup'. The form contains the following fields and values:

User Name:	pppoe_user
Password:	*****

At the bottom of the form, there are three buttons: 'refresh', 'back', and 'next'. The footer includes the DIGISOL logo, service & support information (toll free - 1800 209 34444, helpdesk@digisol.com), and the model number DG-BR4015N.

10. Configure the 3G connection parameters as shown in the following screen.
Click 'next' to continue with the installation.



Parameter	Description
Country	Select the Country from drop-down list. If not listed select Manual.
ISP	Select ISP from drop-down list.
APN	Enter the APN (Access Point Name) provided by ISP
Dial Number	Enter the dial number provided by your ISP
Username	Enter Username if provided by your ISP. This field is optional
Password	Enter Password if provided by your ISP. This field is optional
PIN	Enter PIN if provided by your ISP. This field is optional

11. On the following screen the Default IP address (192.168.2.1) of router is displayed. If you wish to modify the LAN IP address of the router then enter a new valid IP here. Click 'next' to continue with the installation.

Note: If your notebook/desktop computer is set to DHCP then please change it to static IP address in the same subnet as that of router IP.

Home Administrator Quick Installation Guide User Manual Log Reboot Exit digisol.com

Welcome to DG-BR4015N Quick Setup Wizard

Welcome to Router Setup Wizard

Step 2: Lan Interface Setup

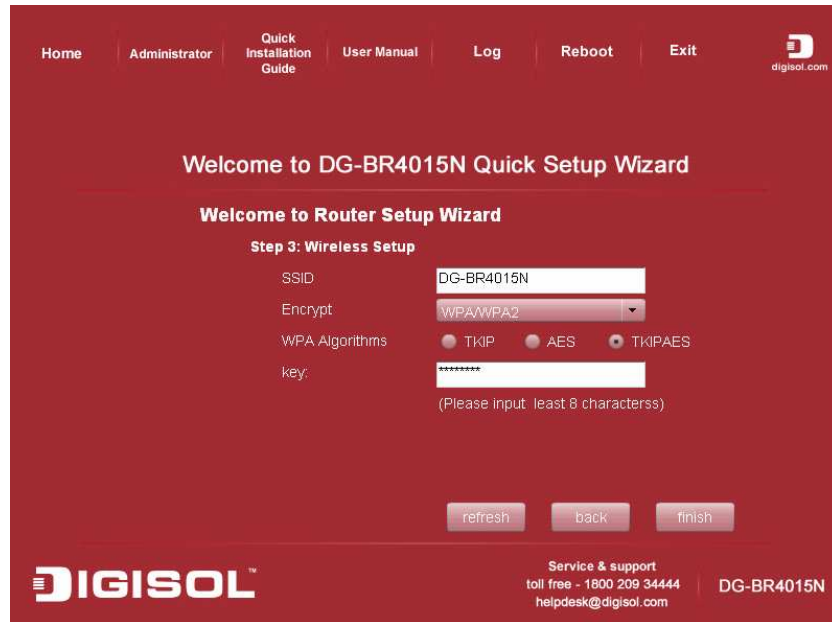
IP Address: 192.168.2.1

Subnet Mask: 255.255.255.0

refresh back next

DIGISOL™ Service & support toll free - 1800 209 3444 helpdesk@digisol.com DG-BR4015N

12. In the following screen, assign a SSID to your wireless network. Default SSID is DG-BR4015N. Secure your wireless network by selecting an encryption as WPA/WPA2. Enter 8~63 characters as encryption key. Click 'finish' to complete the installation.



Home Administrator Quick Installation Guide User Manual Log Reboot Exit

Welcome to DG-BR4015N Quick Setup Wizard

Welcome to Router Setup Wizard

Step 3: Wireless Setup

SSID: DG-BR4015N

Encrypt: WPA/WPA2

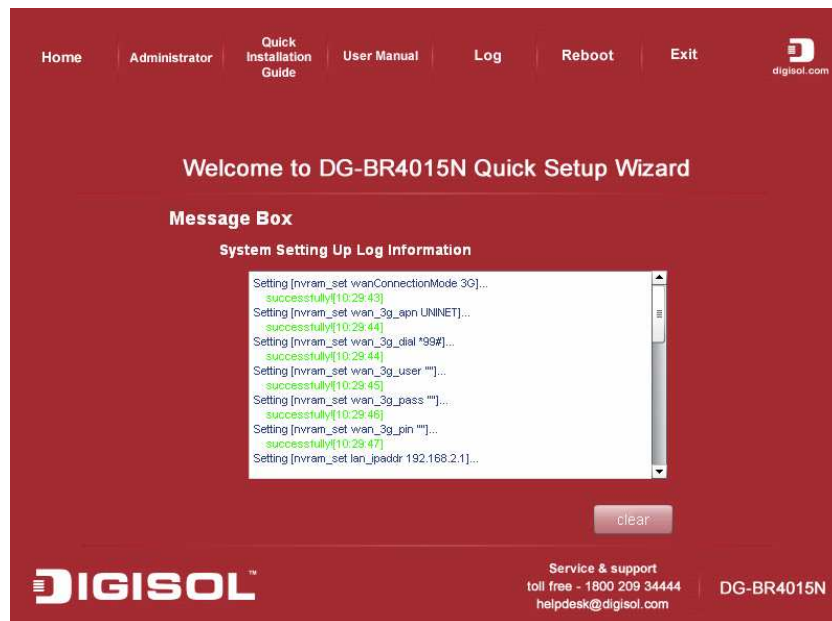
WPA Algorithms: TKIP AES TKIPAES

key: *****
(Please input least 8 characters)

refresh back finish

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toll free - 1800 209 3444
helpdesk@digisol.com DG-BR4015N

13. In this screen you can see log information. Router will update the settings. This indicates that the settings are saved to the router.



Home Administrator Quick Installation Guide User Manual Log Reboot Exit

Welcome to DG-BR4015N Quick Setup Wizard

Message Box

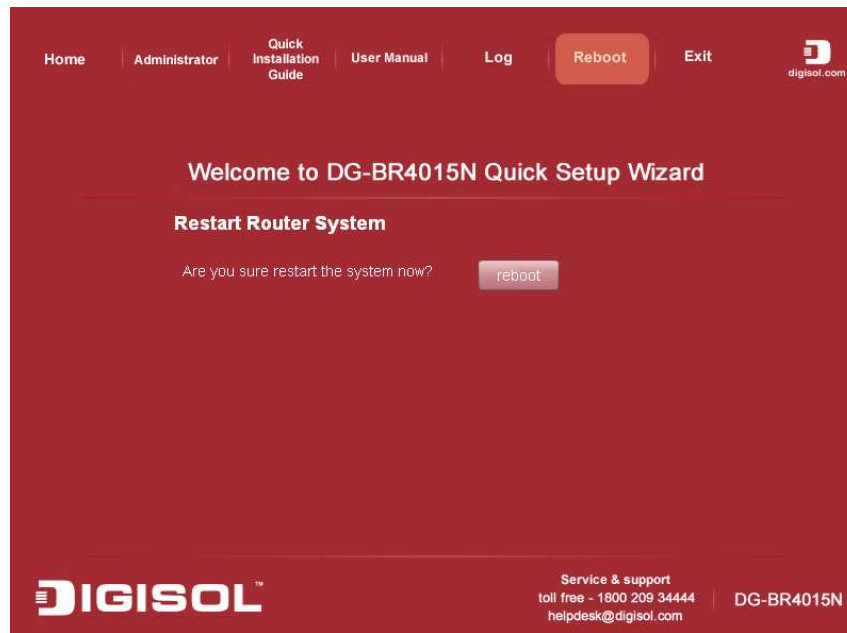
System Setting Up Log Information

```
Setting [nvram_set wanConnectionMode 3G]...
successfully(10:29 43)
Setting [nvram_set wan_3g_apn UNINET]...
successfully(10:29 44)
Setting [nvram_set wan_3g_dial *99#]...
successfully(10:29 44)
Setting [nvram_set wan_3g_user "" ]...
successfully(10:29 45)
Setting [nvram_set wan_3g_pass "" ]...
successfully(10:29 46)
Setting [nvram_set wan_3g_pin "" ]...
successfully(10:29 47)
Setting [nvram_set lan_ipaddr 192.168.2.1]...
```

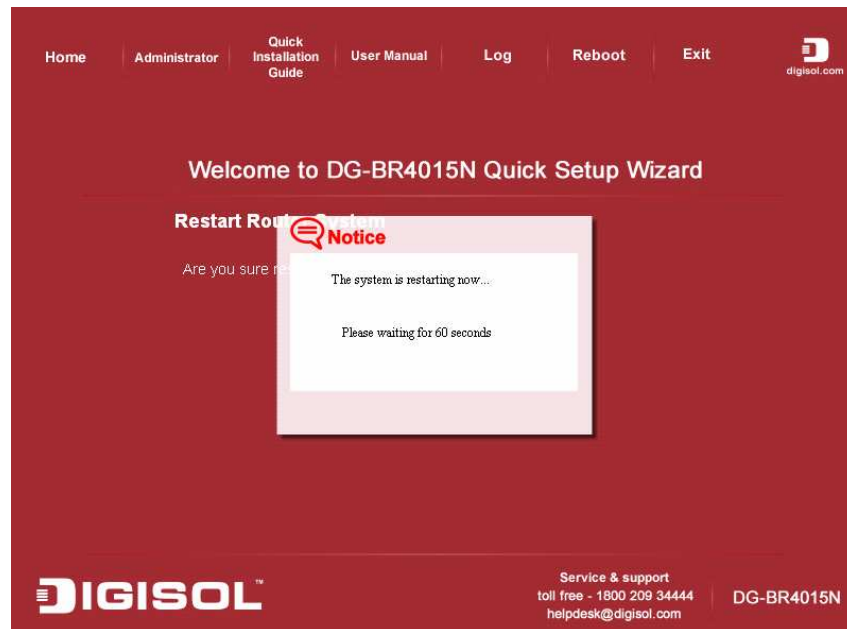
clear

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toll free - 1800 209 3444
helpdesk@digisol.com DG-BR4015N

14. Click “Reboot” button to reboot the router.



Please wait for 60 seconds till the router reboots.



Congratulations! Your router configuration is now finished.

2-2 Connecting to 3G router by web browser

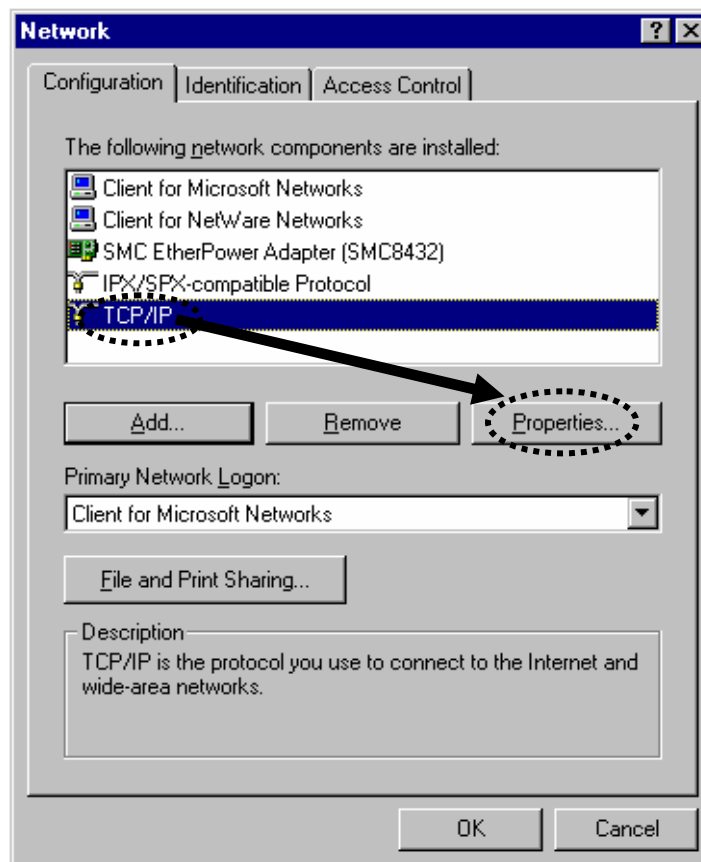
After the network connection is setup, next step is to setup the router with proper network parameters, so it can work properly in your network environment.

Please use the web browser to configure the router. A computer with wired Ethernet connection to the router is required for this first-time configuration.

Before you start to configure the router (default IP 192.168.2.1), please configure the IP address of the computer in the same network Class as that of the router.

2-2-1 Windows 95/98 IP address setup

1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Double-click 'Network' icon, and Network window will appear. Select 'TCP/IP', then click 'Properties'.



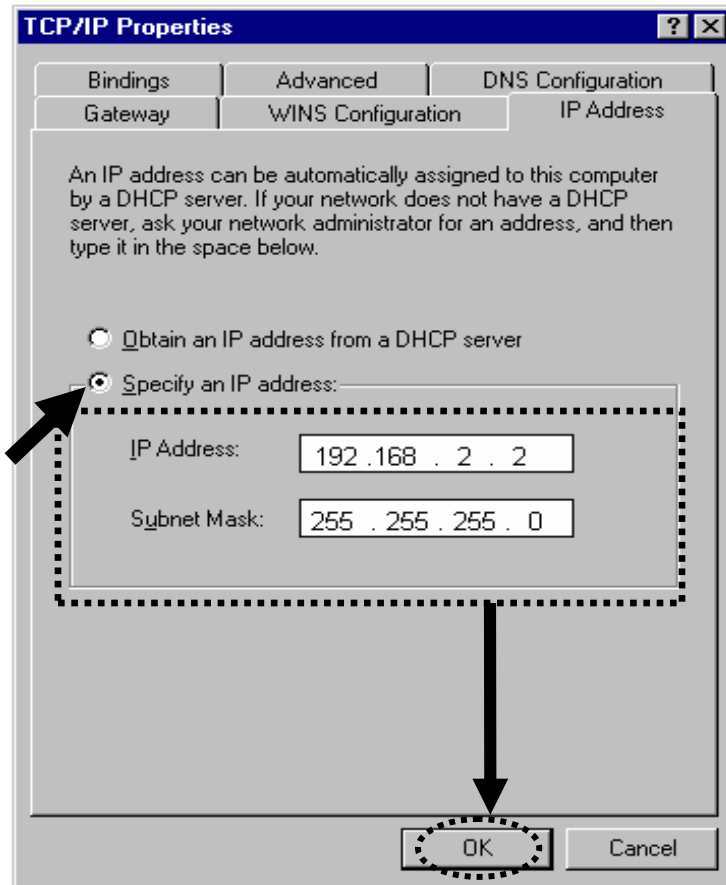
2. Select 'Specify an IP address', then input the following settings in respective field:

IP address: 192.168.2.2

Subnet Mask: 255.255.255.0

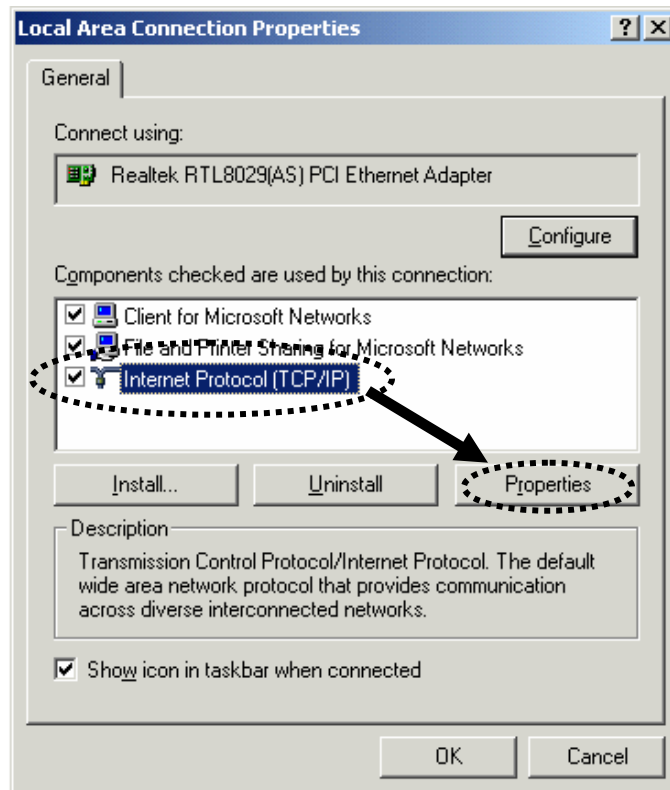
Gateway: 192.168.2.1

Click 'OK' when finish.



2-2-2 Windows 2000 IP address setup

1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Double-click 'Network and Dial-up Connections' icon, Right click on 'Local Area Connection' and select 'Properties', Local Area Connection Properties window will appear. Select 'Internet Protocol (TCP/IP)', then click 'Properties'



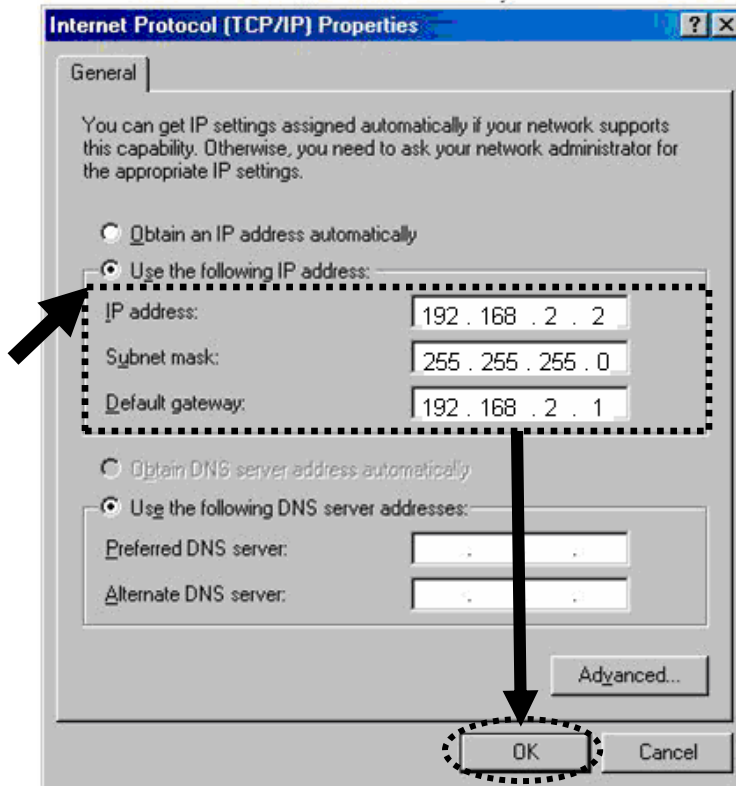
2. Select 'Use the following IP address', then input the following settings in respective field:

IP address: 192.168.2.2

Subnet Mask: 255.255.255.0

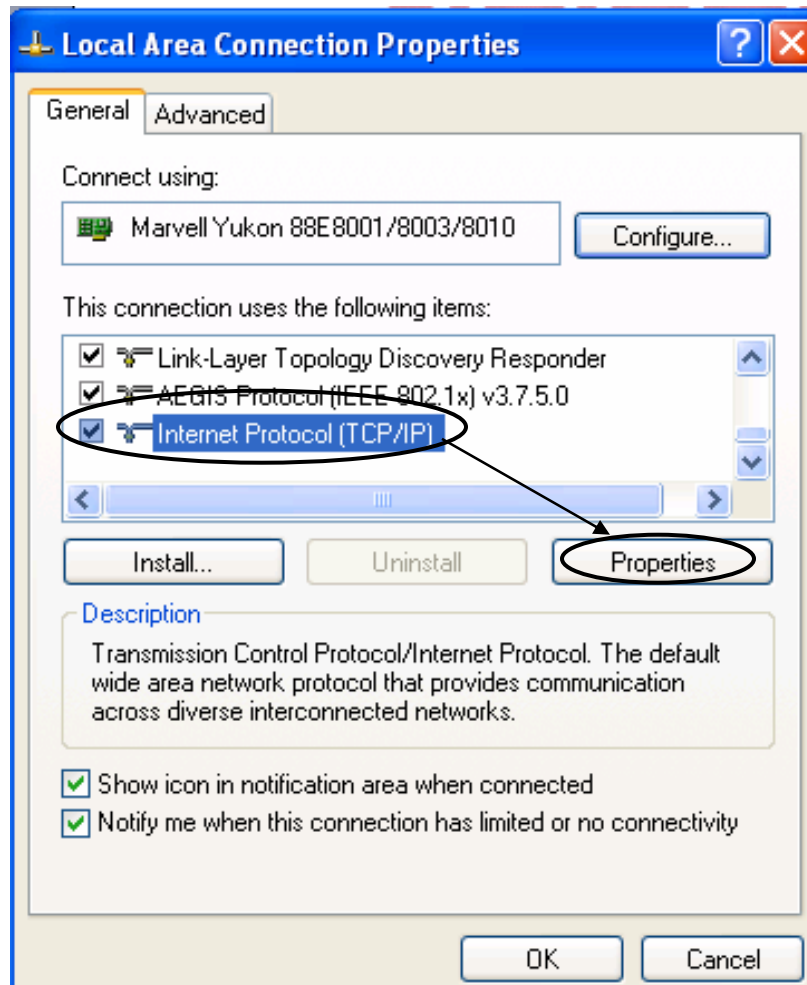
Default gateway: 192.168.2.1

Click 'OK' when finish.



2-2-3 Windows XP IP address setup

1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Click 'Network Connections', Right click on 'Local Area Connection' and select Properties, Local Area Connection Properties window will appear. Select 'Internet Protocol (TCP/IP)', and then click 'Properties'.



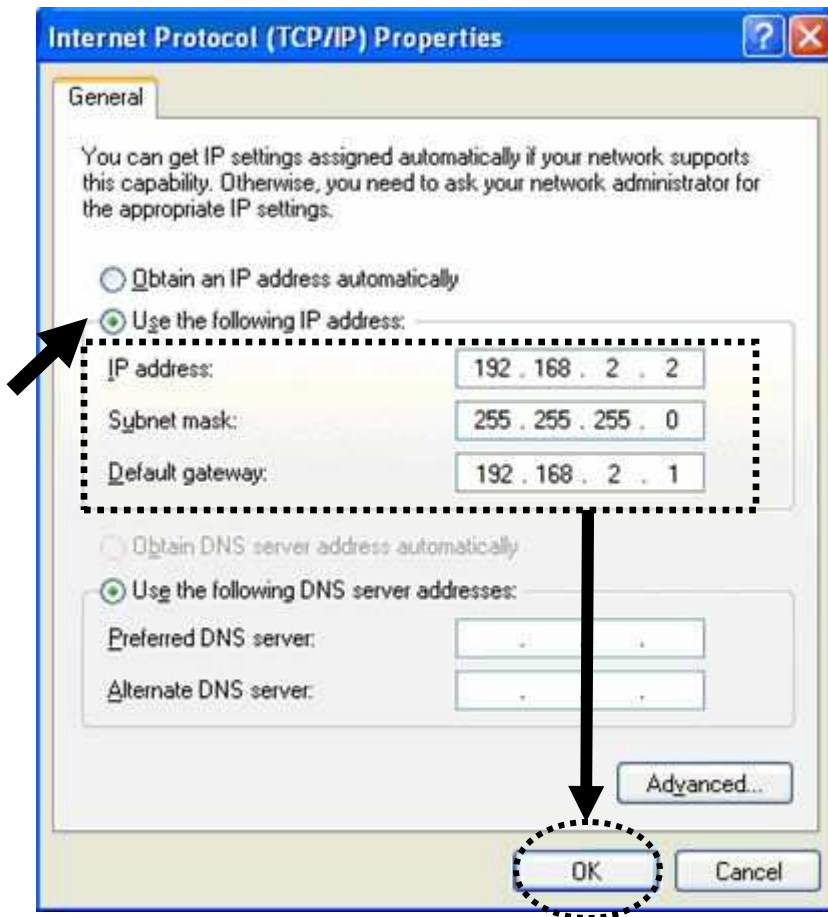
2. Select 'Use the following IP address', then input the following settings in respective field:

IP address: 192.168.2.2

Subnet Mask: 255.255.255.0

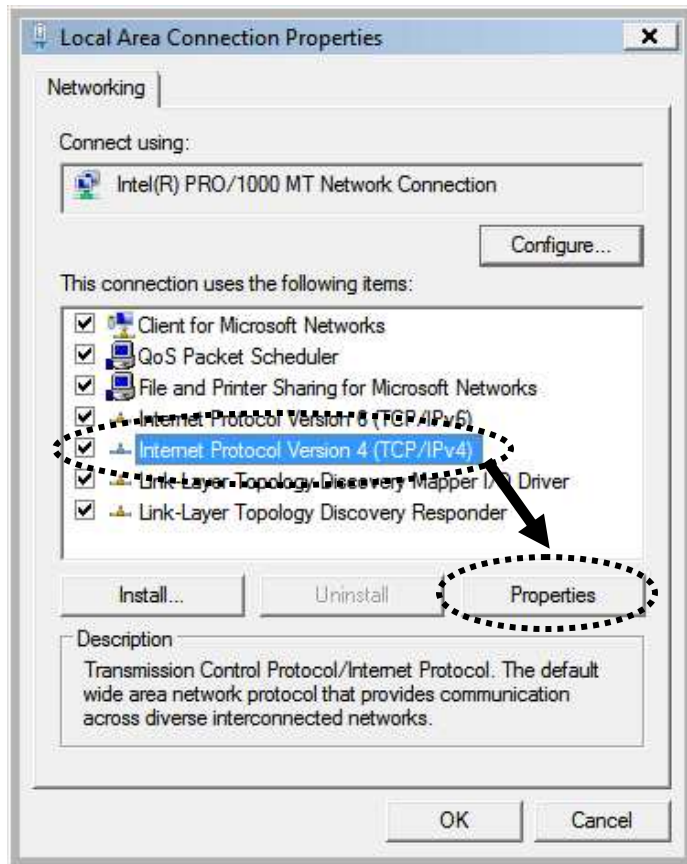
Default gateway: 192.168.2.1

Click 'OK' when finish.



2-2-4 Windows Vista IP address setup

1. Click 'Start' button (it should be located at lower-left corner of your computer), then click control panel. Click on 'View Network Status and Tasks' and then click on 'Manage Network Connections'. Right-click 'Local Area Connection', then select 'Properties'. Local Area Connection Properties window will appear, select 'Internet Protocol Version 4 (TCP/IPv4)', and then click 'Properties'



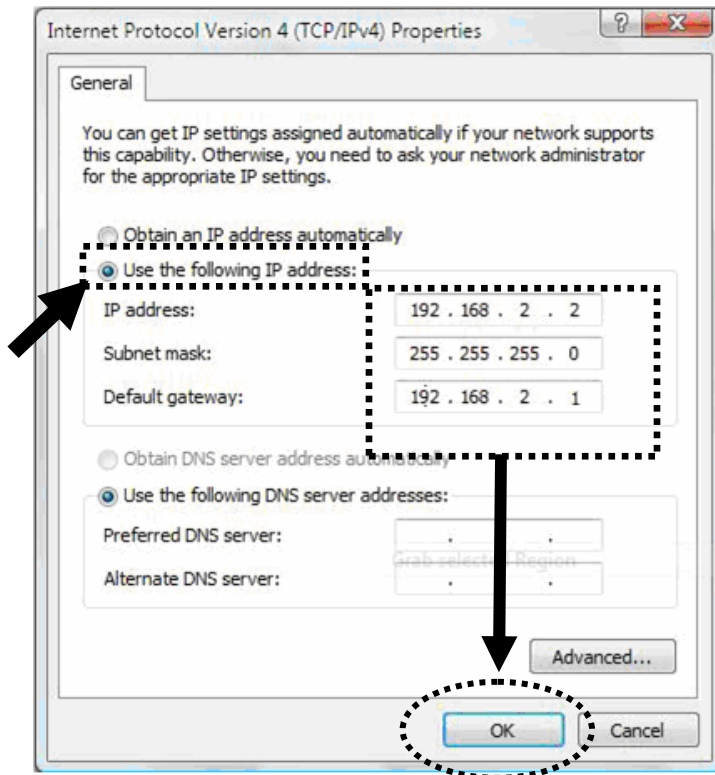
2. Select 'Use the following IP address', then input the following settings in respective field:

IP address: 192.168.2.2

Subnet Mask: 255.255.255.0

Default gateway: 192.168.2.1

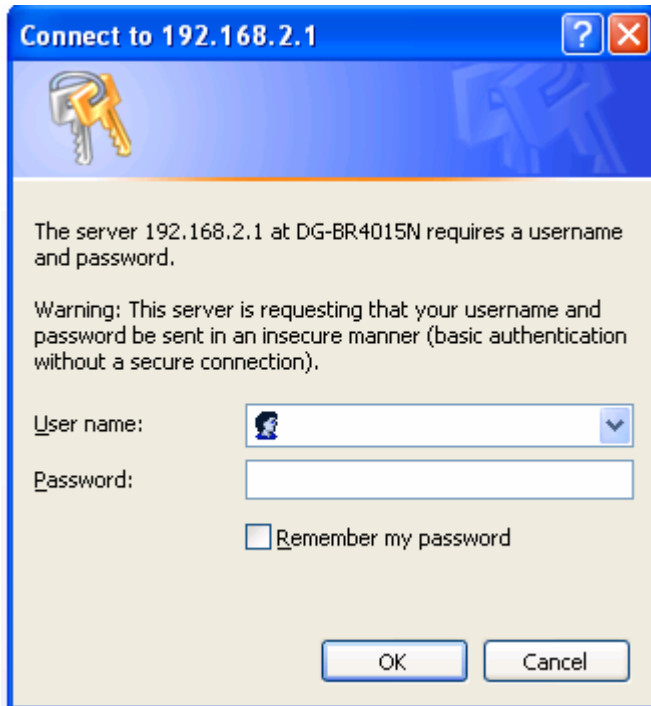
Click 'OK' when finish.



2-3 Accessing router's web GUI

After you assign an IP address to the computer, open the web browser (Internet Explorer 5.x or above, Firefox, or Netscape) and type the IP address of router in the address bar as 'http://192.168.2.1' and hit 'Enter' to establish connection.

You should see the following authentication window:



Please input user name and password in the field respectively, default user name is 'admin', and default password is 'admin', then press 'OK' button to enter into web management interface of this router:

Following is the Web GUI interface of the router.

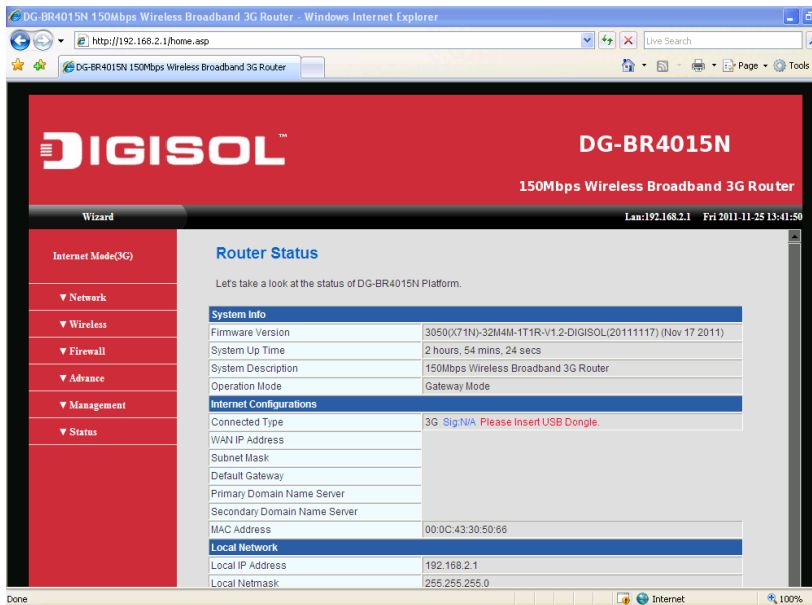


TIP: This page shows the eight major setting categories: Wizard, Internet Mode (3G), Network, Wireless, Firewall, Advance, Management, Status. You can jump to another category directly by clicking the link.

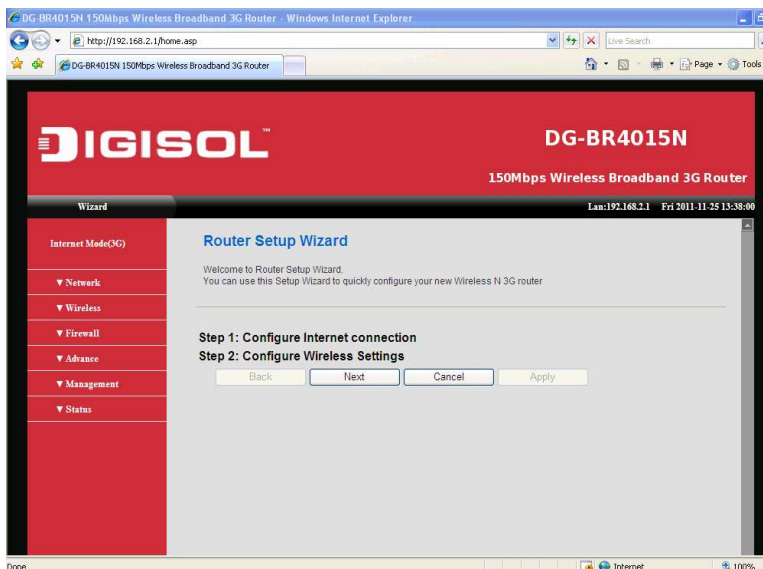
NOTE: If you can't see the web management interface, and you're being prompted to input user name and password again, it means you didn't input username and password correctly. Please retype user name and password again. If you're certain about the user name and password you typed please go to Troubleshooting section to perform a factory reset to set the password back to default value.

2-4 Using Router Setup Wizard

This router provides a ‘Quick Setup Wizard’ procedure, which will help you to complete all required settings you need to access the Internet quickly. Please follow the instructions mentioned below to complete the ‘Quick Setup’:



Please go to Quick Setup menu by clicking ‘Wizard’ button. And the following window will be displayed:

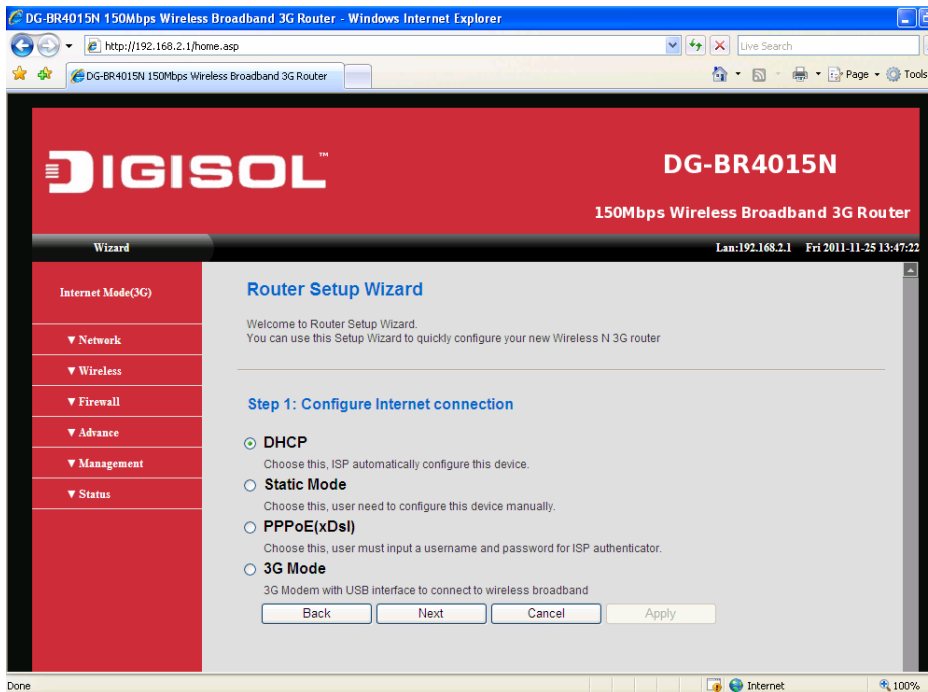


Here, you can configure the router using wizard in 2 simple steps.

Step 1 : Configure Internet Connection

Step 2 : Configure Wireless Settings

Click 'Next' to continue with the Router Setup Wizard and the following window will appear to configure Internet connection.



Step1: Please choose the **Internet connection type** you're using in this page. There are 4 types of Internet connection, they are:

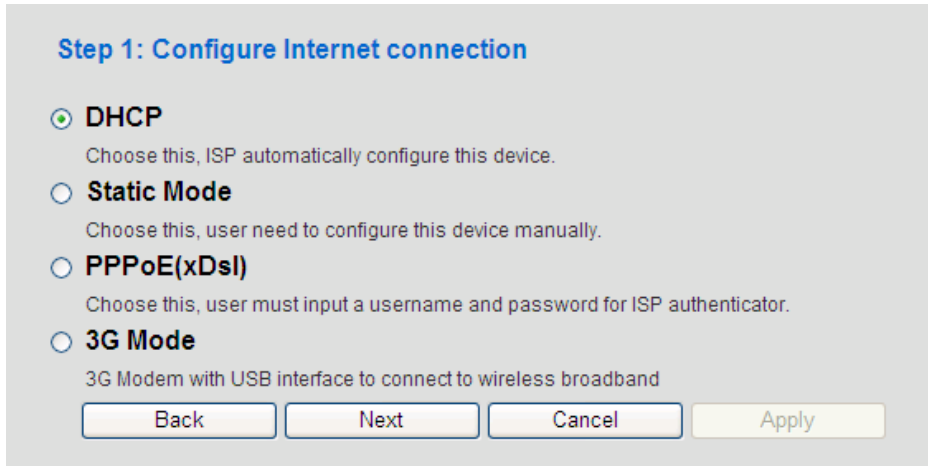
- A. DHCP**
- B. Static Mode**
- C. PPPoE (xDSL)**
- D. 3G**

If you're not sure, please contact your Internet service provider. A wrong Internet connection type will cause connection problem, and you will not be able to connect to internet.

If you want to go back to previous step, please press 'Back' button at the bottom of this page. Press 'Cancel' to restart the Wizard.

A. Setup procedure for DHCP

Click on 'DHCP' in Internet connection as shown in the below screen.



Step 1: Configure Internet connection

DHCP
Choose this, ISP automatically configure this device.

Static Mode
Choose this, user need to configure this device manually.

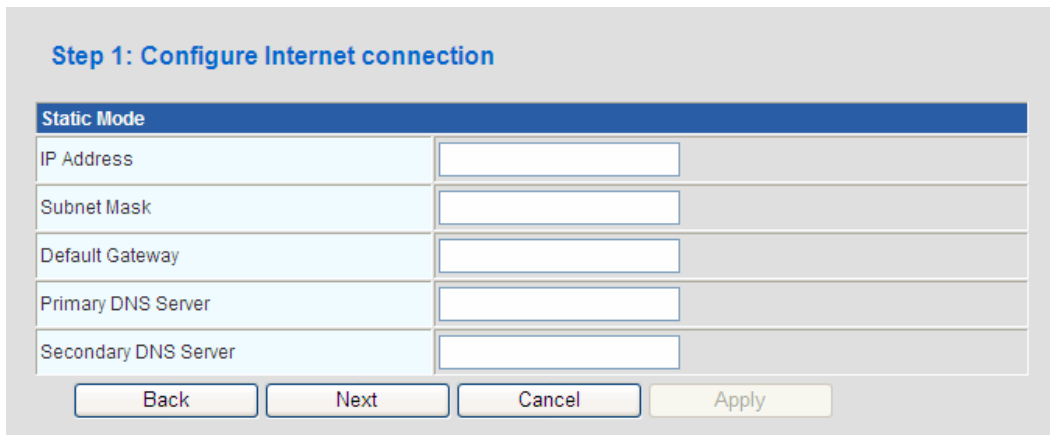
PPPoE(xDsl)
Choose this, user must input a username and password for ISP authenticator.

3G Mode
3G Modem with USB interface to connect to wireless broadband

Click 'Next' to continue with the router setup wizard.

B. Setup procedure for Static mode

Click on 'Static Mode' in Internet connection and below screen will appear.



Step 1: Configure Internet connection

Static Mode

IP Address	<input type="text"/>
Subnet Mask	<input type="text"/>
Default Gateway	<input type="text"/>
Primary DNS Server	<input type="text"/>
Secondary DNS Server	<input type="text"/>

Here are descriptions of every setup item:

Parameter	Description
IP address	Please input IP address assigned by your service provider.
Subnet Mask	Please input subnet mask assigned by your service provider
Default Gateway	Please input the default gateway assigned by your service provider.
Primary DNS Server	Please input the IP address of primary DNS server provided by your service provider.
Secondary DNS Server	Please input the IP address of secondary DNS server provided by your service provider.

NOTE: You must use the addresses provided by your Internet service provider, wrong setting value will cause connection problem.

NOTE: You can choose this Internet connection method if your service provider assigns a fixed IP address (also know as static address) to you, and not using DHCP or PPPoE protocol. Please contact your service provider for further information.

When you finish with all settings, press ‘Next’; if you want to go back to previous menu, click ‘Back’.

C. Setup procedure for PPPoE mode

Click on ‘PPPoE xDSL’ in Internet connection and below given screen will be displayed.

Step 1: Configure Internet connection

PPPoE Mode	
User Name	<input type="text"/>
Password	<input type="password"/>
Verify Password	<input type="password"/>
Operation Mode	Keep Alive <input type="button" value="v"/>
	Keep Alive Mode: Redial Period <input type="text" value="60"/> seconds
	On demand Mode: Idle Time <input type="text" value="5"/> minutes

Here are descriptions of every setup item:

Parameter	Description
Username	Enter the username provided by ISP
Password	Enter the password provided by ISP
Verify Password	Re-enter password to verify

There are 3 types of Operation Modes:

- Keep Alive - Internet connection is always alive.
- On Demand - Only connects to Internet when there's a connect attempt.
- Manual - Only connects to Internet when 'Connect' button is pressed, and disconnects when 'Disconnect' button is pressed.

Idle Time Out: Specify the time to shutdown internet connection after no internet activity is detected by specified minutes. This option is only available when connection type is 'Connect on Demand'.

D. Setup Procedure for 3G

Please select your STATE, local ISP, and then input the local ISP's APN, PIN, Dial Number; username, password; click 'Next' to continue.

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type:

3G Mode

STATE:

ISP:

APN:

PIN:

Dial Number:

Username:

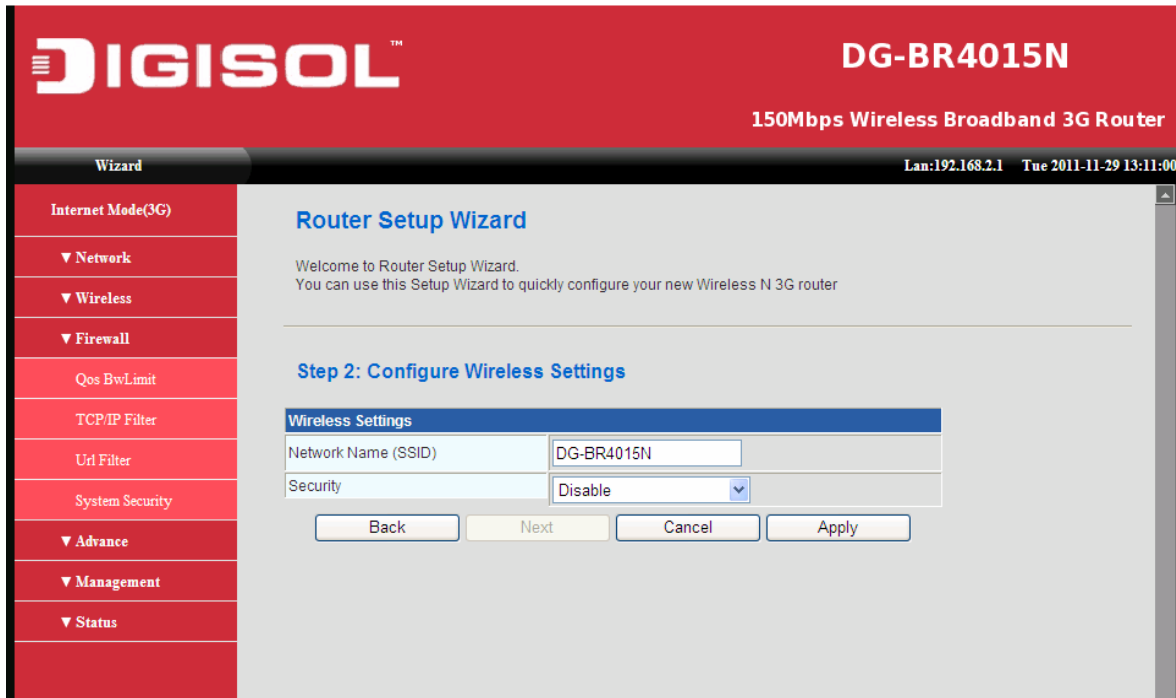
Password:

USB 3G modem:

MAC Clone

Enabled:

Step2: Configure Wireless Settings.



Here is the description of every setup item.

Parameter	Description
Network Name (SSID)	Allows you to change the SSID. Default SSID is DG-BR4015N.
Security	Please secure the wireless network using WEP or WPA/WPA2 security. Default is Disable.

When you finish with all settings, press '**Apply**'; if you want to go back to previous menu, click '**Back**'.

You will get message "**Settings successful**" after applying the settings.

2-5 Internet Mode Setup (3G).

Configure Internet mode setup manually.

2-5-1 3G mode

If your ISP Internet mode is 3G, then configure the following parameters.

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type: 3G

3G Mode

STATE:	Manual
ISP:	▼
APN	UNINET
PIN	
Dial Number	*99#
Username	
Password	
USB 3G modem	AutoDetect

MAC Clone

Enabled	Disable
---------	---

Apply
Cancel

Parameter	Description
State	Enter state from pull-down menu. If not listed select Manual.
APN	Enter the APN (Access Point Name) provided by ISP.
Dial Number	Enter the dial number provided by your ISP.
Username	Enter Username if provided by your ISP. This field is optional.
Password	Enter Password if provided by your ISP. This field is optional.
PIN	Enter PIN if provided by your ISP. This field is optional.

Click Apply to continue with the installation.

2-5-2 Static (Fixed IP) mode

If your connection mode is static IP, then configure the following parameters.

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type: STATIC (fixed IP) ▼

Static Mode	
IP Address	<input style="width: 90%;" type="text"/>
Subnet Mask	<input style="width: 90%;" type="text"/>
Default Gateway	<input style="width: 90%;" type="text"/>
Primary DNS Server	<input style="width: 90%;" type="text"/>
Secondary DNS Server	<input style="width: 90%;" type="text"/>
MAC Clone	
Enabled	Disable ▼

Apply
Cancel

Parameter	Description
IP address	Please input IP address assigned by your service provider.
Subnet Mask	Please input subnet mask assigned by your service provider
Default Gateway	Please input the default gateway assigned by your service provider.
Primary DNS Server	Please input the IP address of primary DNS server provided by your service provider.
Secondary DNS Server	Please input the IP address of secondary DNS server provided by your service provider.
MAC Address	Some ISPs require end-user's MAC address to access their network. Click "Fill my MAC", register your PC's MAC address. You can also manually input the MAC address.

Click Apply to continue with the installation.

2-5-3 DHCP Mode

This router to automatically obtain IP address from your ISP, in DHCP mode. If your ISP does not provide any IP network parameters, select the connection and Input Hostname.

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type: DHCP (Auto config) ▼

DHCP Mode

Hostname (optional):

MAC Clone

Enabled: Disable ▼

Apply Cancel

Click Apply to continue with the installation.

2-5-4 PPPoE Mode

If your ISP provides PPPoE connection, select the PPPoE option. And enter the following parameters.

Wide Area Network (WAN) Settings

You may choose different connection type suitable for your environment. Besides, you may also configure parameters according to the selected connection type.

WAN Connection Type: PPPoE (ADSL) ▼

PPPoE Mode

User Name: pppoe_user

Password: ●●●●●●●●

Verify Password: ●●●●●●●●

Operation Mode

Mode: Keep Alive ▼

Fail-Over: Disable ▼

Keep Alive: Redial 60 seconds

On demand: Idle Time 5 minutes

MAC Clone

Enabled: Disable ▼

Apply Cancel

Parameter	Description
Username	Enter the username provided by ISP
Password	Enter the password provided by ISP
Verify Password	Re-enter password to verify
Operation Mode	<ul style="list-style-type: none"> ▪ Connect Keep Alive: Connect automatically to the Internet after rebooting the system or connection failure. ▪ Connect on Demand: In this mode, the Internet connection can be terminated. ▪ Connect Manual: Connect to the Internet by users manually.

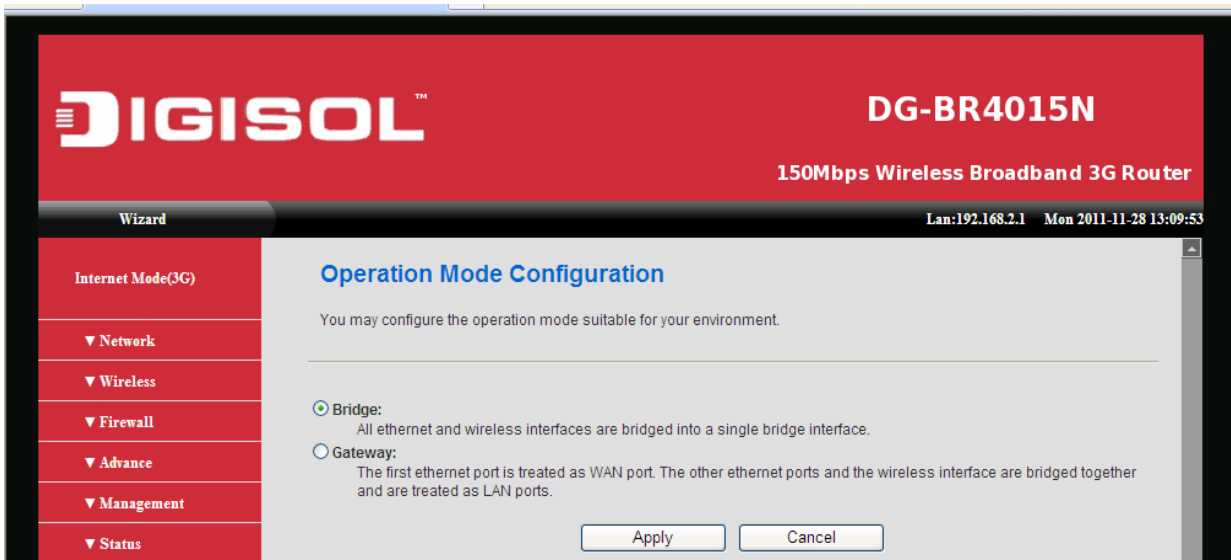
Click “Apply” to continue with the installation.

2-6 Operation Mode

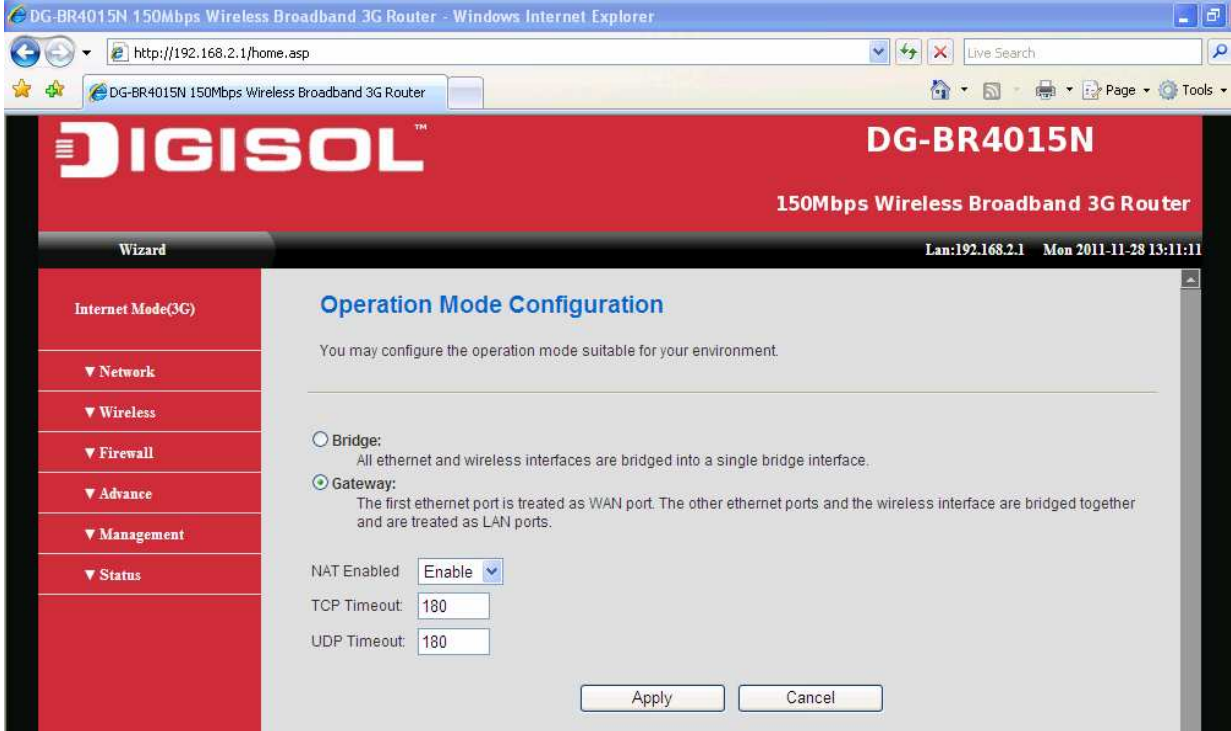
Please click ‘Network menu on the left of web management interface, and the following screen will be displayed on your web browser.

Here you can configure the operation mode which is suitable for your environment. The default setting is Gateway. Router supports 2 operation modes.

- **Bridge:** All Ethernet and wireless interfaces are bridged into a single bridge interface. When Bridge mode is applied, NAT gets disabled.



- **Gateway:** The first Ethernet port is treated as WAN port. The other Ethernet ports and the wireless interface are bridged together and are treated as LAN ports.



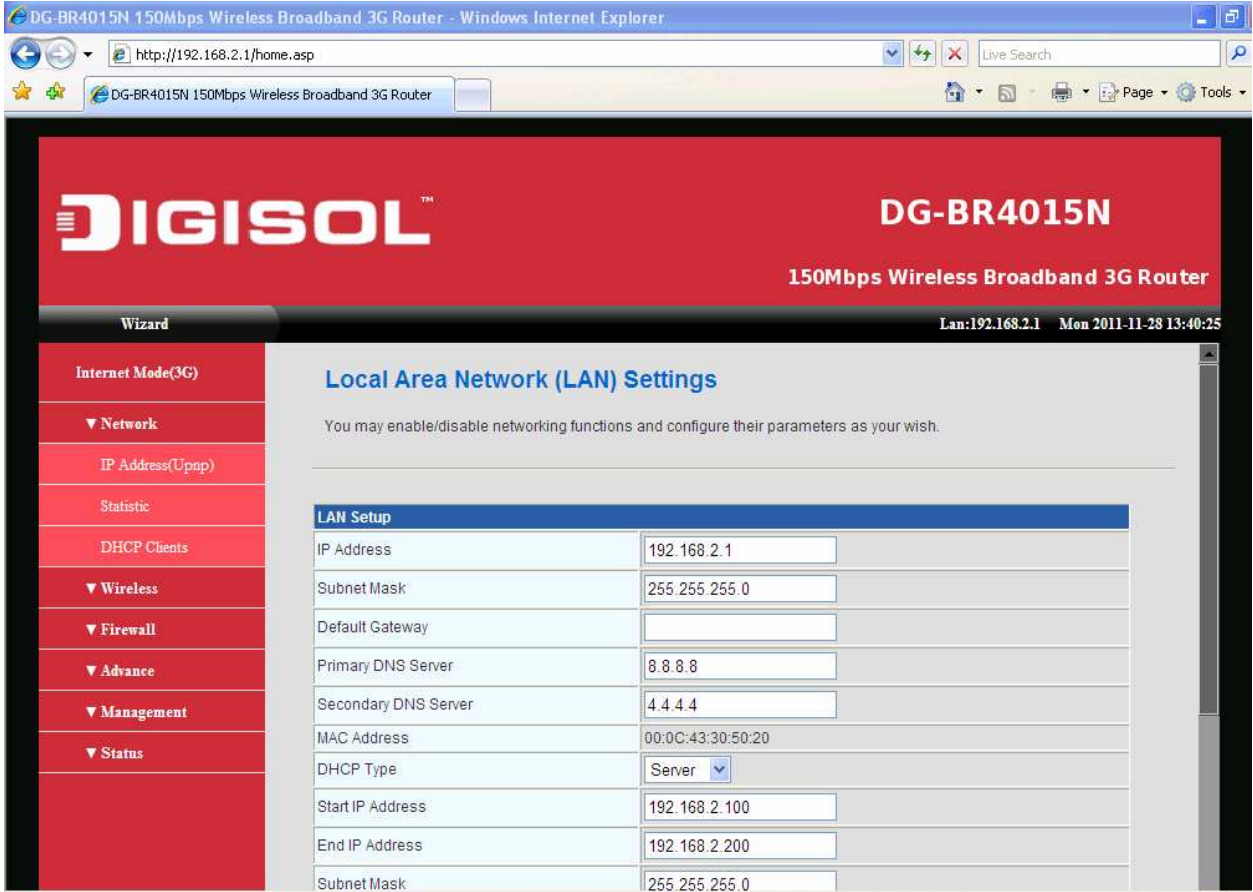
Parameter	Description
NAT	NAT can be enabled or disabled as suitable for user environment.
TCP Timeout	The TCP timeout controls how long transmitted data may remain unacknowledged before a connection is forcefully closed. Increasing the user timeouts allows established TCP connections to survive extended periods of disconnection.
UDP Timeout	The UDP timeout controls how long UDP data may remain unacknowledged before a connection is forcefully closed. Increasing the user timeouts allows established UDP connections to survive extended periods of disconnection.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-6-1 IP Address (UPnP)

In this section you can configure LAN parameters.

Please click ‘**IP Address (UPnP)**’ menu on the left of web management interface, under the ‘**Network**’ tab and the following screen will be displayed on your web browser.



Here are descriptions of every setup item:

Parameter	Description
IP address	Please input the IP address of this router.
Subnet Mask	Please input subnet mask for this network.
Default Gateway	Please input default gateway for this network.
Primary DNS	Please input the primary DNS address for this network.
Secondary DNS	Please input the secondary DNS address for this network.
MAC Address	Shows the Router LAN MAC address.

DHCP Type	Assign IP address dynamically to the DHCP clients. Default is Enabled.
Start IP Address	Please input the Start IP address for this network.
End IP Address	Please input the End IP address for this network.
Subnet Mask	Please input subnet mask for this network.
Primary DNS	Please input the primary DNS address for this network.
Secondary DNS	Please input the secondary DNS address for this network.
Default Gateway	Please input default gateway for this network.
Lease Time	Enter the lease time for DHCP clients.
Spanning Tree	Enable 802.1d to start spanning tree function. Default is Disabled.
LLTD	LLTD is used by to display a graphical representation of the local area network (LAN) or wireless LAN (WLAN), to which the computer is connected. Default is Disabled.
UPnP	UPnP enabled clients are discovered dynamically. Default is Disabled.
DNS Proxy	Enable the DNS Proxy that will relay users'/clients' DNS requests to a real DNS server IP address. Users no need to specify real DNS server IP address. Default is Enabled.

Recommended Value if you don't know what to fill:

IP Address: 192.168.2.1
 Subnet Mask: 255.255.255.0
 802.1d Spanning Tree: Disabled
 DHCP Server: Enabled

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-6-2 Statistics

Here you can view the statistics of 3G router such as memory statistics, WAN/LAN Tx and Rx and all interface statistics.

Please click '**Statistic**' menu on the left of web management interface, under the '**Network**' tab and the following screen will be displayed on your web browser.

The screenshot shows the web management interface for the DG-BR4015N router. The left sidebar contains a navigation menu with the following items: Wizard, Internet Mode(3G), Network (expanded), IP Address(Upnp), Statistic (selected), DHCP Clients, Wireless (expanded), Firewall (expanded), Advance (expanded), Management (expanded), and Status (expanded). The main content area is titled 'Statistic' and includes a sub-header 'Take a Look at The DG-BR4015N Statistics'. Below this, there are three tables:

Memory	
Memory total:	29044 kB
Memory left:	10984 kB

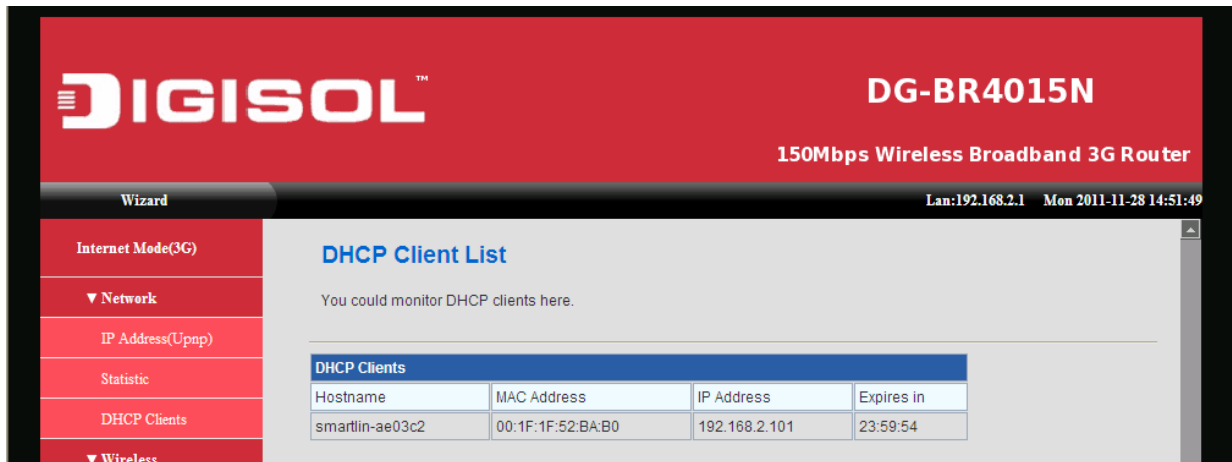
WAN/LAN	
WAN Rx packets:	1019
WAN Rx bytes:	92614
WAN Tx packets:	3859
WAN Tx bytes:	2292405
LAN Rx packets:	1019
LAN Rx bytes:	92614
LAN Tx packets:	3859
LAN Tx bytes:	2292405

All interfaces	
Name	imq1
Rx Packet	0
Rx Byte	0
Tx Packet	0

2-6-3 DHCP Client List

Here you can view the DHCP clients connected to the router.

Please click '**DHCP Clients**' menu on the left of web management interface, under the '**Network**' tab and the following screen will be displayed on your web browser.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N router. The page title is "DHCP Client List". Below the title, it says "You could monitor DHCP clients here." There is a table with the following data:

DHCP Clients			
Hostname	MAC Address	IP Address	Expires in
smartlin-ae03c2	00:1F:1F:52:BA:B0	192.168.2.101	23:59:54

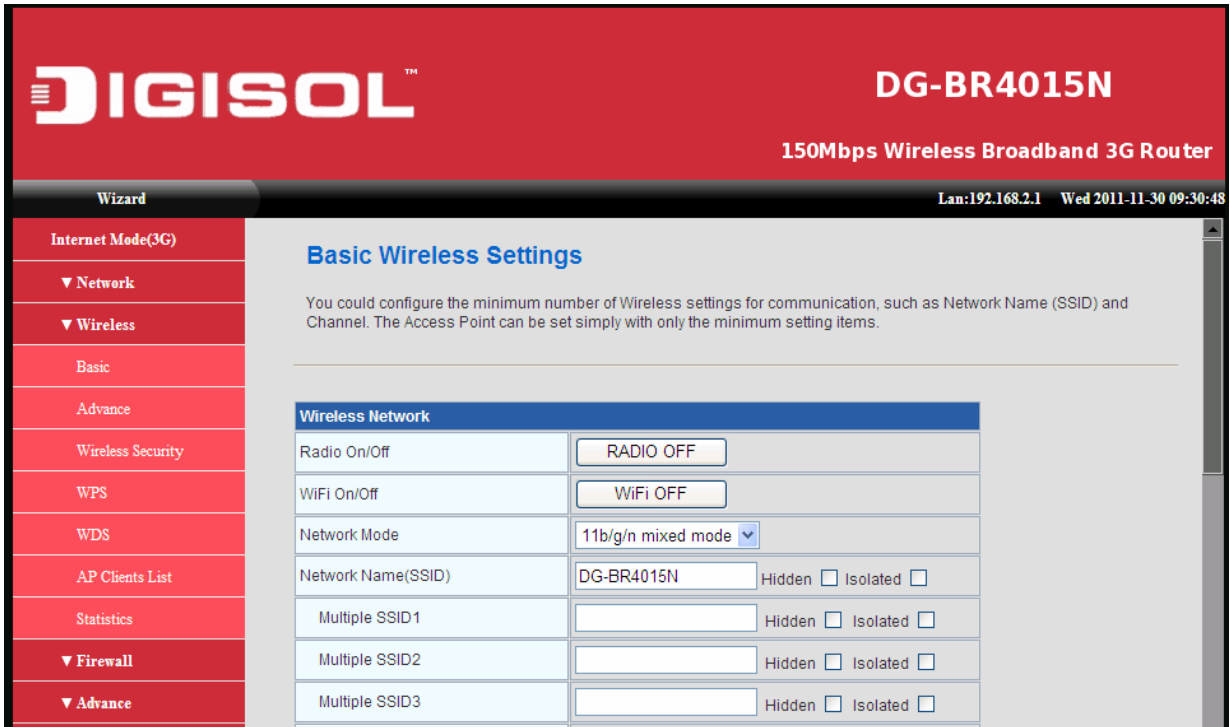
2-7 WIRELESS

The wireless settings can be quickly configured as a wireless access point for roaming client by setting the access identifier (Network name) and channel number. It also supports data encryption and client filtering. The Wireless Settings contains the following sections:

- Basic
- Advanced
- Wireless Security
- WPS
- WDS
- AP Clients List
- Statistics

2-7-1 Basic Wireless Setting

This function allows you to define SSID, and Channel for the wireless connection. These parameters are used for the wireless stations to connect to the Access Point. Click 'Basic' under Wireless, below screen will prompt for Basic Setting.



Here are the descriptions of every setup item:

Parameter	Description
RADIO ON / OFF	RADIO indicates the wireless operating status. The wireless can be turned ON or OFF. When the radio is ON, the following parameters are in effect.
WiFi ON / OFF	Similar to RADIO ON / OFF. Wireless can be turned ON or OFF.
Network Mode	If all of the wireless devices you want to connect with this router can connect in the same transmission mode, you can improve performance slightly by choosing the appropriate wireless mode. If you have some devices that use a different transmission mode, choose the appropriate wireless mode. There are many different configuration options available to choose from. Use the drop down list to select the wireless mode.

Network Name (SSID)	When you are browsing for available wireless networks, this is the name that will appear in the list (unless Visibility Status is set to Hidden, see below). This name is also referred to as the SSID.
Multiple SSID (1~7)	To add additional wireless Network Names simply add the name to the Multiple SSID field and click on apply at the bottom of the page.
Broadcast Network Name (SSID)	SSID broadcast can be disabled.
AP Isolation	If enabled, will isolate communication between the clients connected to router wirelessly.
MBSSID Isolation	If enabled, will isolate communication between the clients from different SSID.
BSSID	MAC Address of AP
Frequency (Channel)	Radio Channel that wireless AP/Router uses to communicate with wireless clients.
HT Physical Mode description	
Operating Mode	<ul style="list-style-type: none"> ▪ Mixed mode: Provides backward compatibility with IEEE 802.11n/g/b devices. ▪ Green Field: Used for pure network of 802.11n access point and clients, taking full advantage of high-throughput capabilities of MIMO architecture.
Channel Bandwidth	20 MHz: Allows only single channel operation (20MHz). 20/40 MHz: Allows both single channel operations.
Guard Interval	The guard interval is the period in nanoseconds that the Gateway listens between packets.
MCS(Modulation Coding Scheme):	The Modulation and Coding Scheme(MCS) is a value that determines the modulation, coding and number of spatial channels. (Options: value [range] = 0~7 (1 Tx Stream), 8~15 (2 Tx Stream), 32 and auto (33). Default is auto.
Reverse Direction Grant	When enabled Reverse Direction Grant, the wireless AP/Router can reduce the transmitted data packet collision by using the reverse direction protocol. The RDG improves transmission performance and scalability in a wireless.
Aggregation MSDU	This option enables MAC Service Data Unit (MSDU) aggregation. Default is disable.
Auto Block ACK	Select to block ACK (Acknowledge Number) or not during data transferring.
Decline BA Request	Select to reject peer BA-Request or not

Other	
HT TxStream	HT means High Throughput. The number of HT TxStream means how many antennas will transmit data simultaneously.
HT RxStream	The number of HT RxStream means how many antennas will receive data simultaneously.

When you finish with all settings, please click ‘**Apply**’ button to continue with other setup procedures.

2-7-2 Advance

You can configure wireless using advance feature to fine tune the wireless network.

Please click ‘**Advance**’ menu on the left of web management interface, under the ‘**Wireless**’ tab and the following screen will be displayed on your web browser.

Advanced Wireless	
BG Protection Mode	Auto
Beacon Interval	100 ms (range 20 - 999, default 100)
Data Beacon Rate (DTIM)	1 ms (range 1 - 255, default 1)
Fragment Threshold	2346 (range 256 - 2346, default 2346)
RTS Threshold	2347 (range 1 - 2347, default 2347)
TX Power	100 (range 1 - 100, default 100)
Short Preamble	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Short Slot	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Tx Burst	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Pkt Aggregate	<input checked="" type="radio"/> Enable <input type="radio"/> Disable

Here are the descriptions of every setup item.

Parameter	Description
BG Protection Mode	This mode is a protection mechanism that prevents collisions among 802.11b/g modes. Below are the choices.
Auto	BG protection mode goes ON or OFF automatically as needed. <ul style="list-style-type: none"> ▪ ON: BG protection mode is always ON. ▪ OFF: BG protection mode is always OFF.
Beacons	Beacons are packets sent by a wireless router to synchronize wireless devices. Specify a Beacon Period value between 20 and 1000. The default value is set to 100 milliseconds
DTIM	A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages. When the wireless router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Wireless clients detect the beacons and awaken to receive the broadcast and multicast messages. The default value is 1. Valid settings are between 1 and 255.
Fragment Threshold	Wireless frames can be divided into smaller units (fragments) to improve performance in the presence of RF interference and at the limits of RF coverage. Fragmentation will occur when frame size in bytes is greater than the Fragmentation Threshold. This setting should remain at its default value of 2346 bytes. Setting the Fragmentation value too low may result in poor performance.
RTS Threshold	When an excessive number of wireless packet collisions are occurring, wireless performance can be improved by using the RTS/CTS (Request to Send/Clear to Send) handshake protocol. The wireless transmitter will begin to send RTS frames (and wait for CTS) when data frame size in bytes is greater than the RTS Threshold. This setting should remain at its default value of 2346 bytes.
Tx Power	Adjusts the power of radio signals transmitted from the AP. The higher the transmission power, the farther the transmission range. You also have to ensure that high-power signals do not interfere with the operation of other radio devices in the service area.
Short Preamble	Enables the length of the signal preamble that is used at the start of a transmission.
Short Slot	Sets the basic unit of time the wireless AP/Router uses for calculating waiting times before data is transmitted. Enabling a short time slot can increase data throughput on the wireless AP/Router, but requires that all clients can support a short time slot.
Tx Burst	Allows the wireless Router to deliver better throughput in the same period and environment in order to increase speed.
Pkt_Aggregate	Increase efficiency by aggregating multiple packets of application data into a single transmission frame. In this way, 802.11n networks can send multiple data packets with the fixed overhead cost of just a single frame.
WMM	Here you can configure WMM parameters.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-7-3 Wireless Security

It's very important to set wireless security settings properly. If you don't, hackers and malicious users can reach your network and valuable data without your consent and this will cause serious security problem.

To set wireless security settings, Please click '**Wireless Security**' menu on the left of web management interface, under the '**Wireless**' tab and then follow the instructions mentioned below to set wireless security settings:

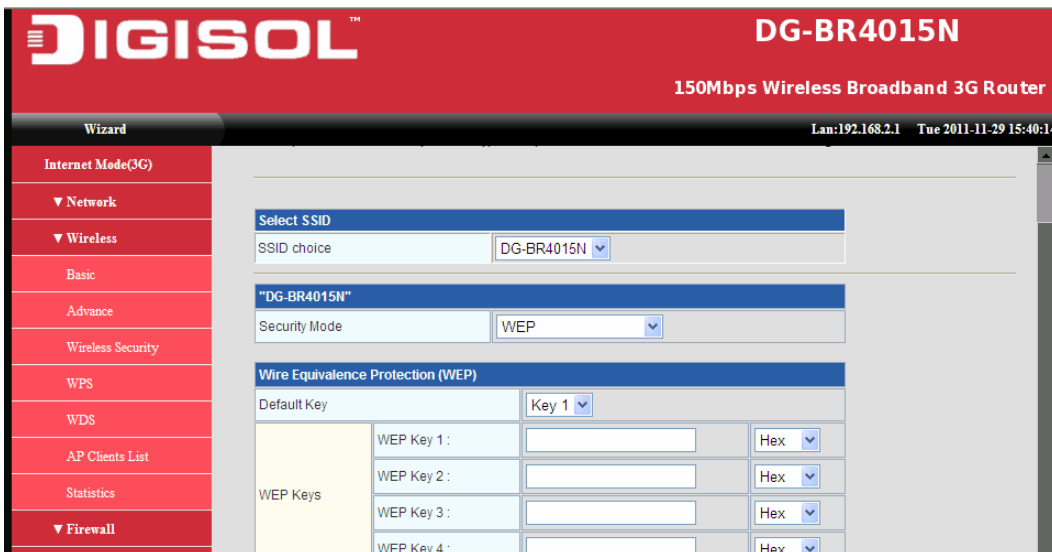
Wireless Security if selected Disable

When you select this mode, data encryption is disabled, and every wireless device in proximity will be able to connect to your wireless router if no other security measure is enabled (like Access Control or disable SSID broadcast).

Only use this option when you really want to allow everyone to use your wireless router, and you don't care if there's someone reading the data you transfer over network without your consent.

A. WEP

When you select this mode, the wireless router will use WEP encryption, and the following setup menu will be shown on your web browser.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N 150Mbps Wireless Broadband 3G Router. The interface is titled "Wizard" and shows the "Wireless Security" configuration page. The left sidebar contains a navigation menu with options: Internet Mode(3G), Network, Wireless, Basic, Advance, Wireless Security, WPS, WDS, AP Clients List, Statistics, and Firewall. The main content area is titled "DG-BR4015N" and "150Mbps Wireless Broadband 3G Router". It displays the following settings:

- Select SSID:** SSID choice is set to "DG-BR4015N".
- "DG-BR4015N":** Security Mode is set to "WEP".
- Wire Equivalence Protection (WEP):** Default Key is set to "Key 1".
- WEP Keys:** There are four rows for WEP Key 1, WEP Key 2, WEP Key 3, and WEP Key 4. Each row has an input field and a "Hex" dropdown menu.

Here are descriptions of every setup item:

Parameter	Description
Default Tx Key	When 'WEP' Encryption is enabled then 'Key 1' will appear in this field.
Key Format	There are two types of key format: ASCII and Hex. When you select a key format, the number of characters of key will be displayed.
Encryption Key 1	Input WEP key characters here, the number of characters must be the same as the number displayed at 'Key Format' field. You can use any alphanumerical characters (0-9, a-z, and A-Z) if you select 'ASCII' key format, and if you select 'Hex' as key format, you can use characters 0-9, a-f, and A-F. You must enter at least one encryption key here, and if you have entered multiple WEP keys, they should not be the same.
Policy	If Enabled, as per the policy defined clients will be either allowed or rejected to connect wireless network.
MAC	Enter the MAC address of client.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

B. WPA-PSK/WPA2-PSK

The WPA or WPA2 mode uses a common password phrase, called a Pre-Shared Key, that must be manually distributed to all clients that want to connect to the network.

Specify a key as an easy-to-remember form of letters and numbers. The WPA/WPA2 Preshared Key can be input as ASCII string (8-63 characters).

Following screen appears if you select WPA-WPA2-PSK.

The screenshot displays the 'Wireless Security/Encryption Settings' page for the DIGISOL DG-BR4015N router. The page is titled 'Wireless Security/Encryption Settings' and includes a sub-header 'Setup the wireless security and encryption to prevent from unauthorized access and monitoring.' The configuration options are as follows:

Select SSID	
SSID choice	DG-BR4015N

"DG-BR4015N"	
Security Mode	WPA-WPA2-PSK

WPA	
WPA Algorithms	<input type="radio"/> TKIP <input type="radio"/> AES <input type="radio"/> TKIPAES
Pass Phrase	12345678
Key Renewal Interval	3600 seconds (0 ~ 4194303)

Access Policy (ACL)	
Policy	Disable
Add a station Mac:	

Here are the descriptions of every setup item.

Parameter	Description
TKIP	TKIP will change the encryption key frequently to enhance the wireless LAN security.
AES	AES uses CCMP protocol to change encryption key frequently. AES can provide high level encryption to enhance the wireless LAN security.
TKIP/AES	TKIP or AES based on the other communication peer automatically.
Pass Phrase	The Pass phrase key is used to authenticate and encrypt data transmitted over the wireless network. Enter at least 8 character pass phrase as the pre-shared keys.
Key renewal Interval	Router generates key that is actually used for the encryption between the host and router at interval defined.
Policy	You can also secure wireless by defining policy.
Add a station MAC	Enter the station MAC Address that will be either allowed or rejected as per the policy defined.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

C. WPA-RADIUS

Wi-Fi Protected Access (WPA) is an advanced security standard. You can use an external RADIUS server to authenticate wireless stations and provide the session key to encrypt data during communication. It uses TKIP or AES to change the encryption key frequently, and this will improve security.

Following screen appears if you select 'WPA-RADIUS'.

The screenshot displays the web management interface for the DIGISOL DG-BR4015N router. The interface is titled "150Mbps Wireless Broadband 3G Router" and shows the "WPA-RADIUS" configuration page. The left sidebar contains a navigation menu with options: Internet Mode(3G), Network, Wireless, Basic, Advance, Wireless Security, WPS, WDS, AP Clients List, Statistics, and Firewall. The main content area is divided into sections: "SSID choice" (set to DG-BR4015N), "Security Mode" (set to WPA-RADIUS), "WPA" (with radio buttons for TKIP, AES, and TKIPAES), "Key Renewal Interval" (set to 3600 seconds), and "Radius Server" (with fields for IP Address, Port (1812), Shared Secret, and Session Timeout (0)). The top right corner shows the LAN IP address (192.168.2.1) and the current date and time (Wed 2011-11-30 10:49:10).

Here are the descriptions of every setup items.

Parameter	Description
TKIP	TKIP will change the encryption key frequently to enhance the wireless LAN security.
AES	AES uses CCMP protocol to change encryption key frequently. AES can provide high level encryption to enhance the wireless LAN security.
TKIP/AES	TKIP or AES based on the other communication peer automatically.
Key renewal Interval	Router generates key that is actually used for the encryption between the host and router at interval defined.
IP Address	The IP address of external RADIUS server.
Port	The service port of the external RADIUS server.
Shared Secret	The password used by external RADIUS server.
Session Timeout	RADIUS server sets timeout session for the clients as per the credit available.
Idle Timeout	Clients will be timeout if it remains idle for time specified.
Policy	You can also secure wireless by defining policy.
Add a station MAC	Enter the station MAC Address that will be either allowed or rejected as per the policy defined.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

D. WPA2-RADIUS

WPA2 is advanced and upgraded form of WPA. WPA2 provides better and secure wireless network as compared to WPA.

Following screen appears if you select ‘WPA2-RADIUS’

The screenshot displays the configuration page for the DIGISOL DG-BR4015N 150Mbps Wireless Broadband 3G Router. The interface is titled "Wizard" and shows the "Wireless" section selected in the left-hand menu. The "Security Mode" is set to "WPA2-RADIUS". Under the "WPA" section, the "WPA Algorithms" are set to "TKIP", "AES", and "TKIPAES". The "Key Renewal Interval" is set to 3600 seconds, and the "PMK Cache Period" is set to 10 minutes. The "Pre-Authentication" option is set to "Disable". Under the "Radius Server" section, the "IP Address", "Port", "Shared Secret", and "Session Timeout" fields are visible.

WPA	
WPA Algorithms	<input type="radio"/> TKIP <input type="radio"/> AES <input type="radio"/> TKIPAES
Key Renewal Interval	3600 seconds (0 ~ 4194303)
PMK Cache Period	10 minute
Pre-Authentication	<input checked="" type="radio"/> Disable <input type="radio"/> Enable

Radius Server	
IP Address	
Port	1812
Shared Secret	
Session Timeout	0

Here are the descriptions of every setup items:

Parameter	Description
TKIP	TKIP will change the encryption key frequently to enhance the wireless LAN security.
AES	AES uses CCMP protocol to change encryption key frequently. AES can provide high level encryption to enhance the wireless LAN security.
TKIP/AES	TKIP or AES based on the other communication peer automatically.
Key renewal Interval	Router generates key that is actually used for the encryption between the host and router at interval defined.
PMK Cache Period	WPA2 wireless clients and wireless AP cache the results of 802.1X authentications. Therefore, access is much faster when a wireless client roams back to a wireless access point to which the client already authenticated.
Preauthentication	WPA2 wireless client can perform an 802.1X authentication with other wireless access points in its range when it is still connected to its current wireless access point.
IP Address	The IP address of external RADIUS server.
Port	The service port of the external RADIUS server.
Shared Secret	The password used by external RADIUS server.
Session Timeout	RADIUS server sets timeout session for the clients as per the credit available.
Idle Timeout	Clients will be timeout if it remains idle for time specified.
Policy	You can also secure wireless by defining policy.
Add a station MAC	Enter the station MAC Address that will be either allowed or rejected as per the policy defined.

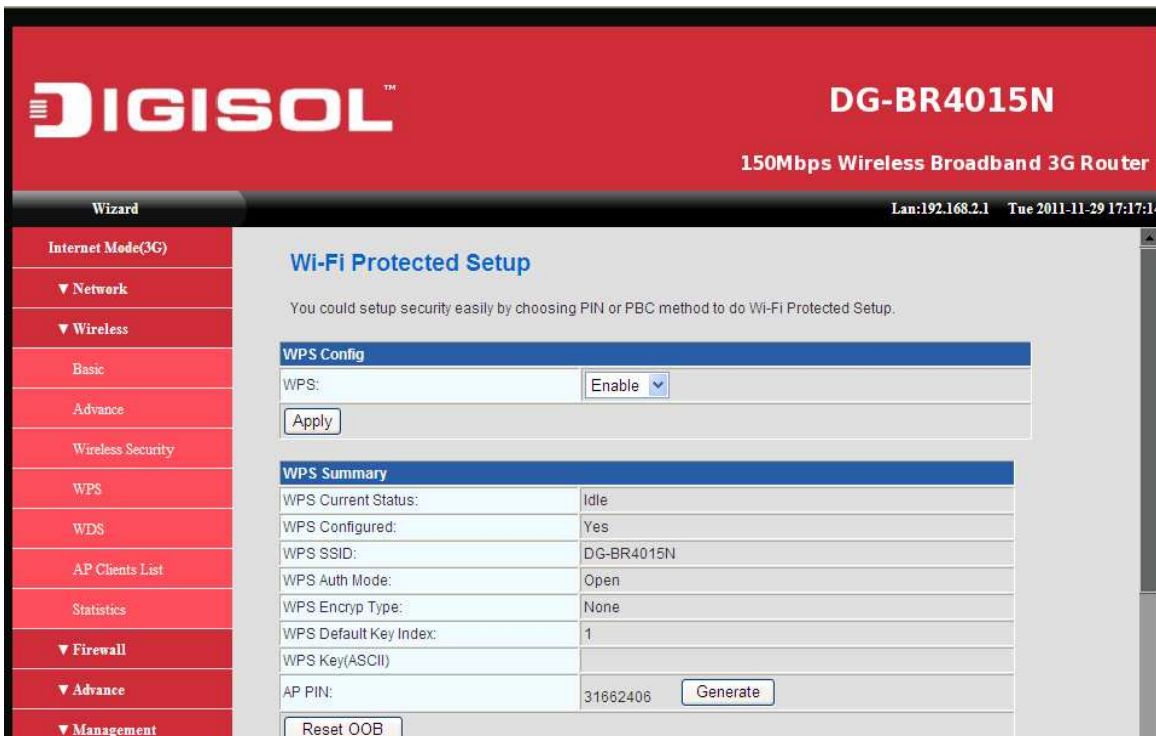
When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-7-4 WPS (Wi-Fi Protected Setup)

Wi-Fi Protected Setup (WPS) is the simplest way to build connection between wireless network clients and this wireless router. You don't have to select encryption mode and input a long encryption passphrase every time when you need to setup a wireless client, you only have to press a button on wireless client and this wireless router, and the WPS will do the rest for you.

This wireless router supports two types of WPS: Push-Button Configuration (PBC), and PIN code. If you want to use PBC, you have to push a specific button on the wireless client to start WPS mode, and switch this wireless router to WPS mode too. You can push Reset/WPS button of this wireless router, or click 'Start PBC' button in the web configuration interface to do this; if you want to use PIN code, you have to know the PIN code of wireless client and switch it to WPS mode, then provide the PIN code of the wireless client you wish to connect to this wireless router.

Please click '**WPS**' menu on the left of web management interface, under the '**Wireless**' tab, and the following screen will be displayed on your web browser.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N router. The page title is "Wi-Fi Protected Setup". Below the title, there is a sub-header "WPS Config" with a dropdown menu set to "Enable" and an "Apply" button. Below that is a "WPS Summary" table with the following data:

WPS Summary	
WPS Current Status:	Idle
WPS Configured:	Yes
WPS SSID:	DG-BR4015N
WPS Auth Mode:	Open
WPS Encryp Type:	None
WPS Default Key Index:	1
WPS Key(ASCII)	
AP PIN:	31662406 <input type="button" value="Generate"/>

At the bottom of the summary table, there is a "Reset OOB" button. The left sidebar shows a navigation menu with "Wireless" selected, and "WPS" highlighted under the "Wireless Security" section. The top right corner of the interface shows the LAN IP address (192.168.2.1) and the current date and time (Tue 2011-11-29 17:17:14).

Here are the descriptions of every setup item.

Parameter	Description
WPS mode	Select Enable from drop down list to start WPS function.
PBC	Select PBC if you wish to connect using push button. Also, enable PBC on clients so they can connect with WPS security.
PIN	Enter the PIN obtained from client into the router so as to connect using WPS security.

You can view the WPS current status under summary.

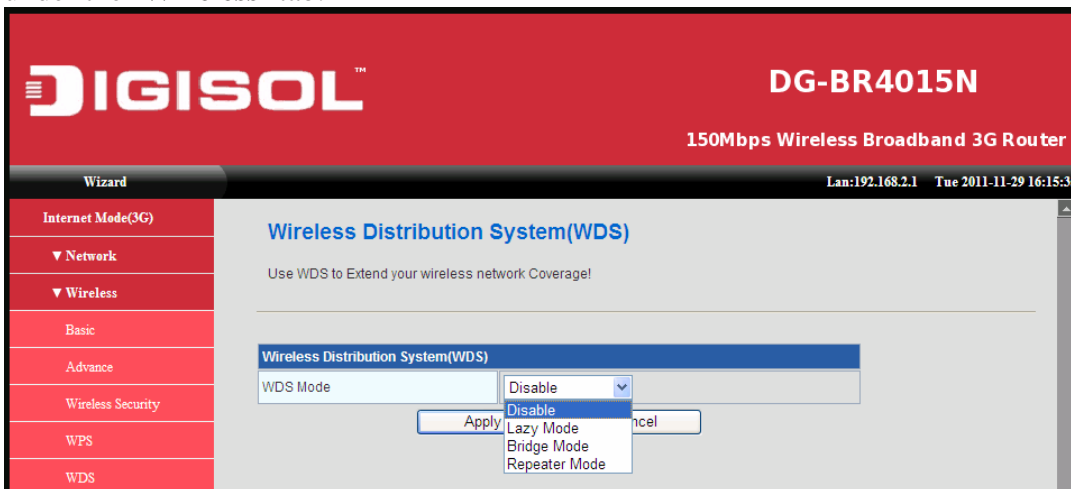
2-6-5 WDS (Wireless Distribution System)

WDS mode is used to extend the wireless network coverage. The AP/Router can be linked to other AP using WDS. To set up links between access point units, you must configure the Wireless Distribution System (WDS) forwarding table by specifying the wireless MAC address of all units to which you want to forward traffic.

This uses the MAC addresses of the station and that of the AP connected to it on the transmitting LAN, and the MAC addresses of the AP functioning as a wireless repeater/bridge and that of the station connected to it on a neighboring LAN in the 802.11 frame header.

Note: The wireless AP/Router does not support the spanning tree algorithm. WDS links should be configured appropriately to avoid causing loops on the network.

To set **WDS** settings, Please click ‘**WDS**’ menu on the left of web management interface, under the ‘**Wireless**’ tab.



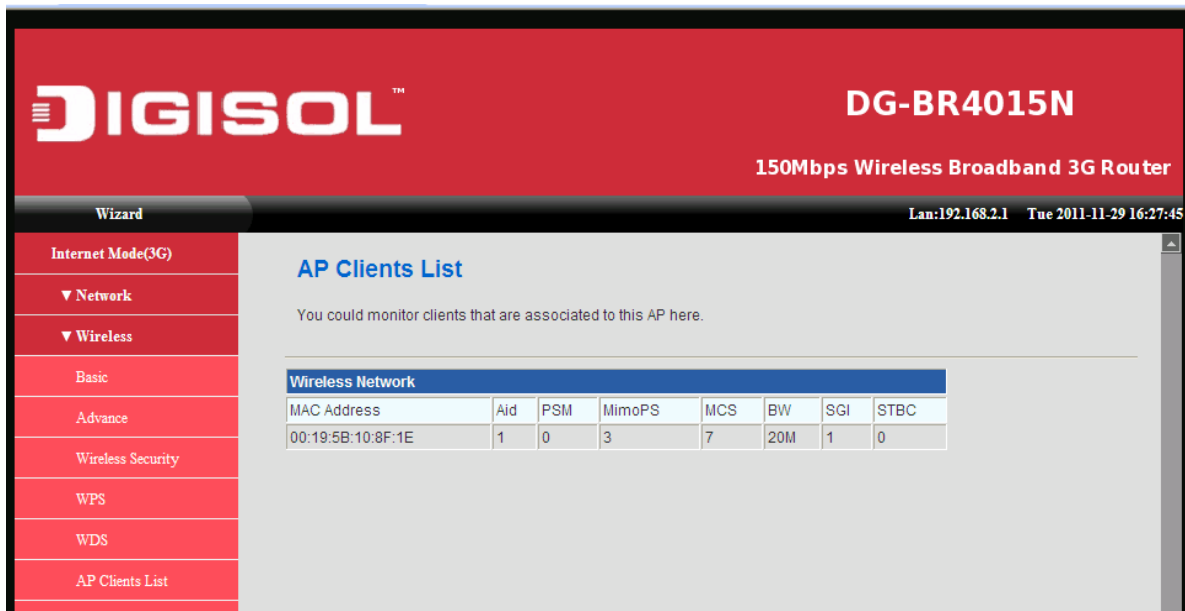
Here are the descriptions of every setup item.

Parameter	Description
WDS Mode	WDS mode is disabled by default. You can set WDS in 3 different modes.
Lazy Mode	Operates in an automatic mode that detects and learns WDS peer addresses without the need to configure a WDS list entry This feature allows the wireless AP/Router to associate with other AP/Router in the network and use their WDS MAC list.
Bridge Mode	Operates as a standard bridge that forwards traffic between WDS links (links that connect to other AP/wireless bridges). Here you need to configure WDS MAC list.
Repeater Mode	Operates as a wireless repeater, extending the range for remote wireless clients and connecting them to an AP using repeater mode.

If you are finish with the settings, please click ‘**Apply**’ button to continue with setup procedure.

2-7-6 AP Clients List

Displays the Clients lists that are associated to AP/Router.



The screenshot shows the web interface for the DIGISOL DG-BR4015N router. The page is titled 'AP Clients List' and includes a navigation menu on the left with options like 'Internet Mode(3G)', 'Network', 'Wireless', 'Basic', 'Advance', 'Wireless Security', 'WPS', 'WDS', and 'AP Clients List'. The main content area displays a table of wireless network clients.

Wireless Network							
MAC Address	Aid	PSM	MimoPS	MCS	BW	SGI	STBC
00:19:5B:10:8F:1E	1	0	3	7	20M	1	0

2-7-7 Statistics

Displays the Wireless Tx/Rx statistics.

The screenshot shows the Digisol DG-BR4015N web interface. The top header is red with the Digisol logo and the model name 'DG-BR4015N' and '150Mbps Wireless Broadband 3G Router'. A navigation menu on the left includes 'Internet Mode(3G)', 'Network', 'Wireless', 'Basic', 'Advance', 'Wireless Security', 'WPS', 'WDS', 'AP Clients List', 'Statistics', 'Firewall', and 'Advance'. The main content area is titled 'Transmit/Receive Statistics' and contains a table with the following data:

Transmit Statistics	
Tx Success	13692
Tx Retry Count	125
Tx Fail after retry	3
RTS Successfully Receive CTS	0
RTS Fail To Receive CTS	0

Receive Statistics	
Frames Received Successfully	363308
Frames Received With CRC Error	177654

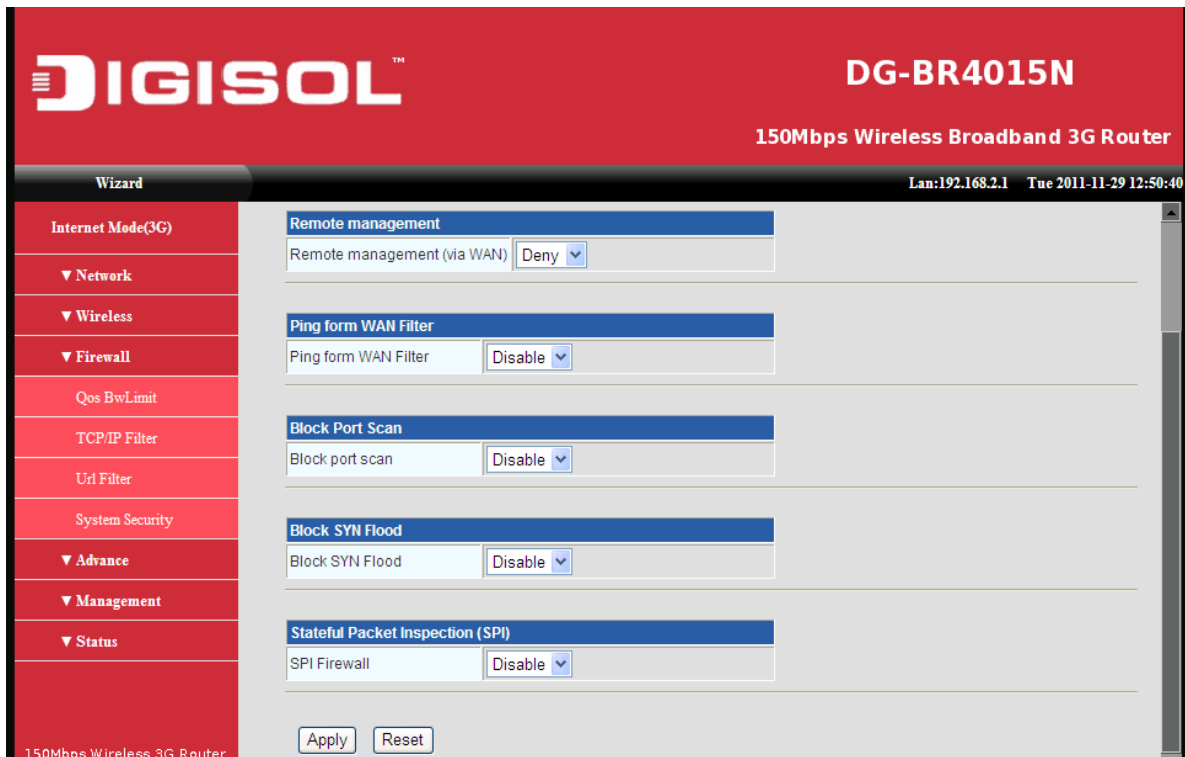
SNR	
SNR	25, n/a, n/a

A 'Reset Counters' button is located at the bottom of the statistics section.

2-8 Firewall

A **firewall** is designed to permit or deny network transmissions based upon a set of rules and is frequently used to protect networks from unauthorized access while permitting legitimate communications to pass. The firewall can also block users from accessing the specific URL.

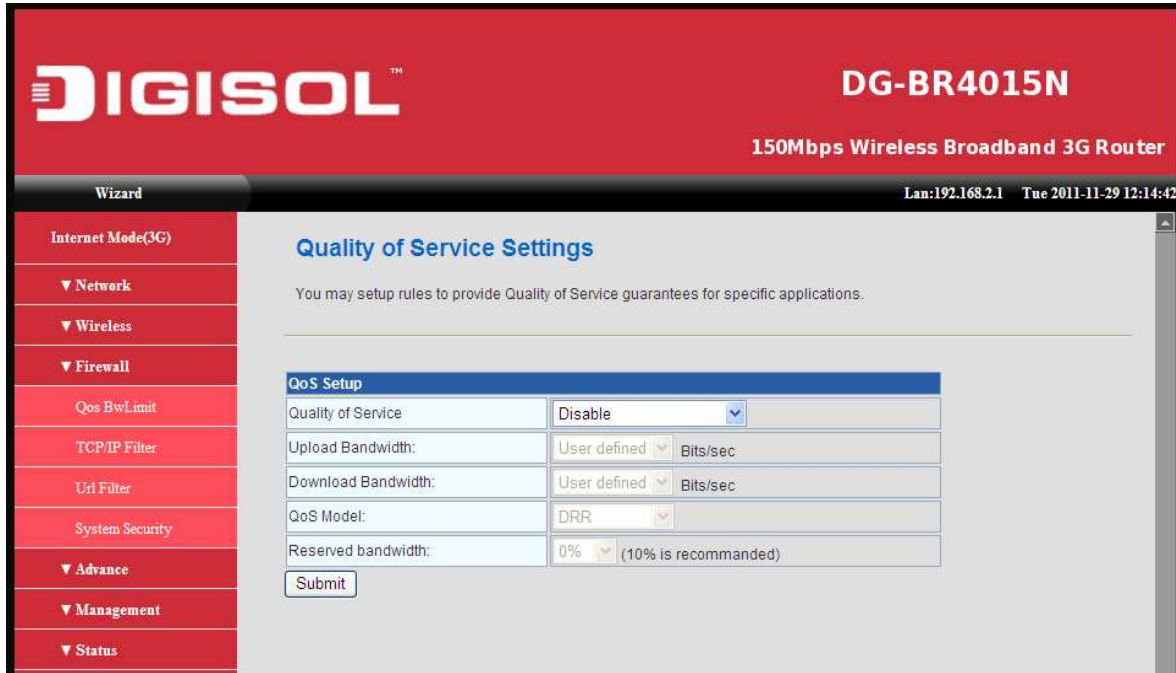
Please click '**Firewall**' menu on the left of web management interface, and the following screen will be displayed on your web browser.



2-8-1 QoS (Quality of Service)

You may setup rules to provide Quality of Service guarantees for specific applications.

To set QoS settings, Please click '**QoS BwLimit**' menu on the left of web management interface, under the '**Firewall**' tab and following screen will be displayed.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N router. The page is titled 'Quality of Service Settings' and contains a 'QoS Setup' form. The form has the following fields:

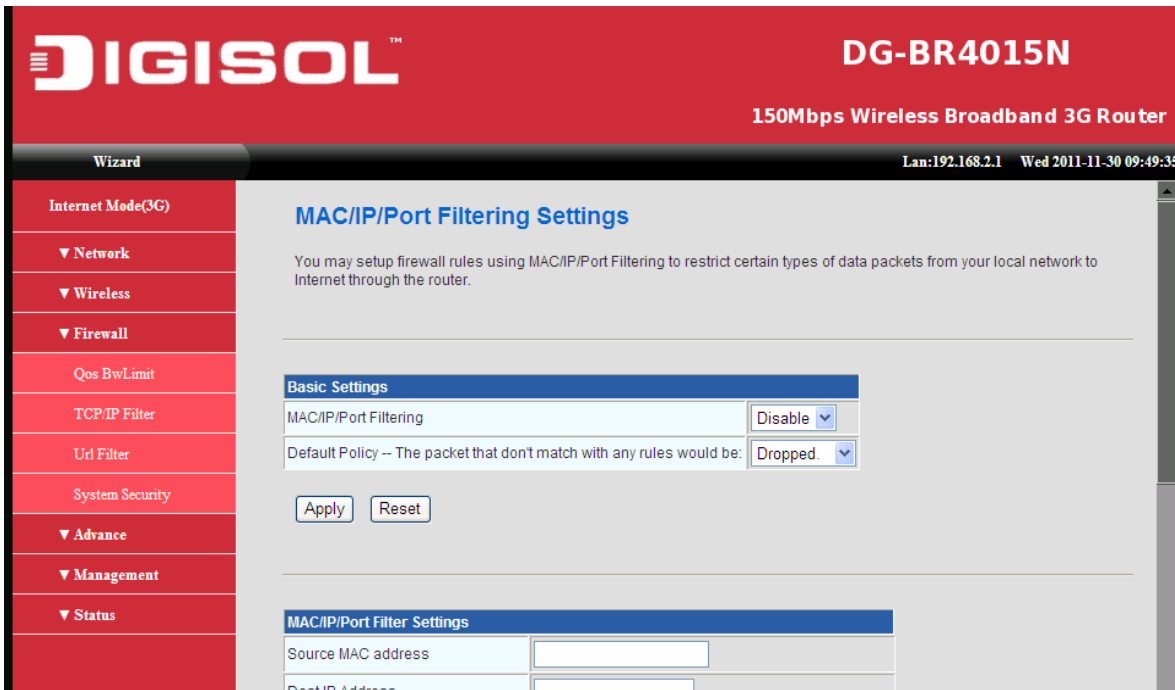
QoS Setup	
Quality of Service	Disable
Upload Bandwidth:	User defined Bits/sec
Download Bandwidth:	User defined Bits/sec
QoS Model:	DRR
Reserved bandwidth:	0% (10% is recommended)
Submit	

If you are finish with the settings, please click '**Submit**' button to continue with setup procedure.

2-8-2 TCP/IP Filter

In this section you can setup firewall rules using MAC/IP/Port Filtering to restrict certain types of data packets from your local network to Internet through the router.

Please click ‘**TCP/IP Filter**’ menu on the left of web management interface, under the ‘**Firewall**’ tab and the following screen will be displayed on your web browser.



By default, the MAC/IP/Port Filtering feature is disabled.

Note : When Access Control is disabled, every device on the LAN has unrestricted access to the Internet. However, if you enable Filtering, Internet access is restricted / allowed for those devices that have an Access Control Policy configured for them. All other devices will match with default policy and will be dropped or allowed as per the default policy configured.

Here are the descriptions of every setup item.

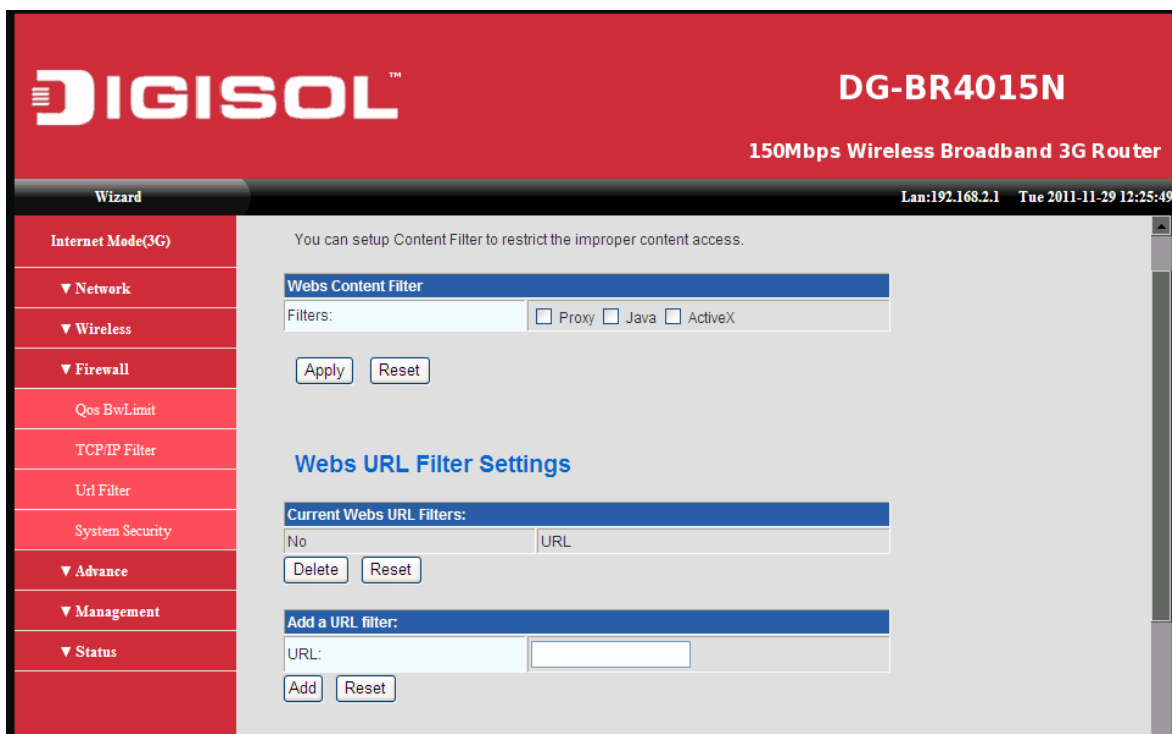
Parameter	Description
Source MAC Address	Enter the Source MAC Address.
Dest IP Address	Enter the Dest IP Address.
Source IP Address	Enter the Soure IP Address.
Protocol	Enter the Protocol TCP/UDP/ICMP.
Dest Port Range	Enter Destination port range.
Source Port Range	Enter Source port range.
Action	Enter the Action either Accept or Reject.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-8-3 URL Filter

URL Filter is a web solution that blocks web-sites access according the URL Filter String.

Please click '**URL Filter**' menu on the left of web management interface, under the '**Firewall**' tab and the following screen will be displayed on your web browser.



Here is the description of every setup items:

Parameter	Description
Web Content Filter	There are 3 options. When this options are checked it will filter objects supporting proxy, java and active X.
Web URL Filter	URL Filter blocks web-sites access according to the URL Filter String.
Web Host Filter	URL Filter blocks web-sites access according to the Keyword String.

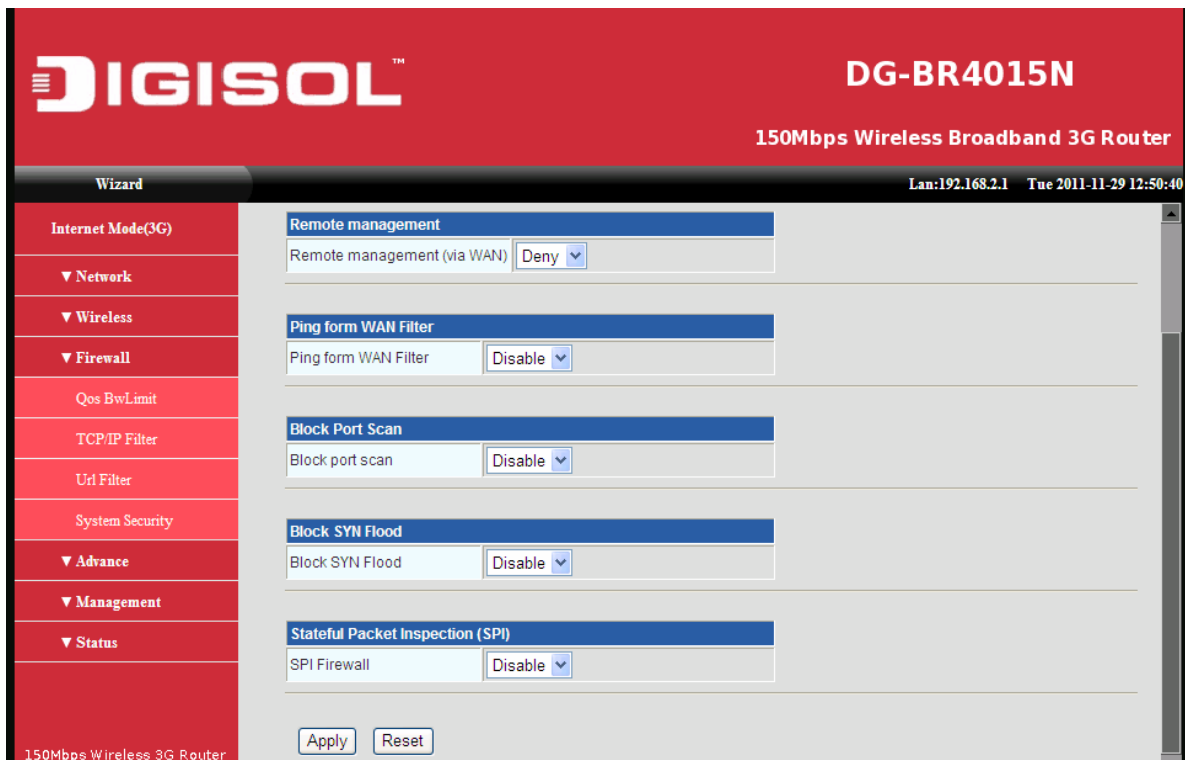
Click on '**Add**' to add the URL strings for filtering. If you want to delete any of the URL string click '**Delete**' button.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-8-4 System Security

You can configure system firewall to protect AP/Router from attacks.

Please click **'System Security'** menu on the left of web management interface, under the **'Firewall'** tab and the following screen will be displayed on your web browser.



Here are the descriptions of every setup item.

Parameter	Description
Remote Management	Allows you to access router remotely.
Ping from WAN Filter	If Enabled, will block all ICMP packets on the WAN port.
Block Port Scan	To block the suspected port scan flood.
Block SYN Flood	To block the suspected SYN flood.
SPI	Stateful Packet Inspection keeps track of the state of network connections (such as TCP streams, UDP communication) traveling across it.

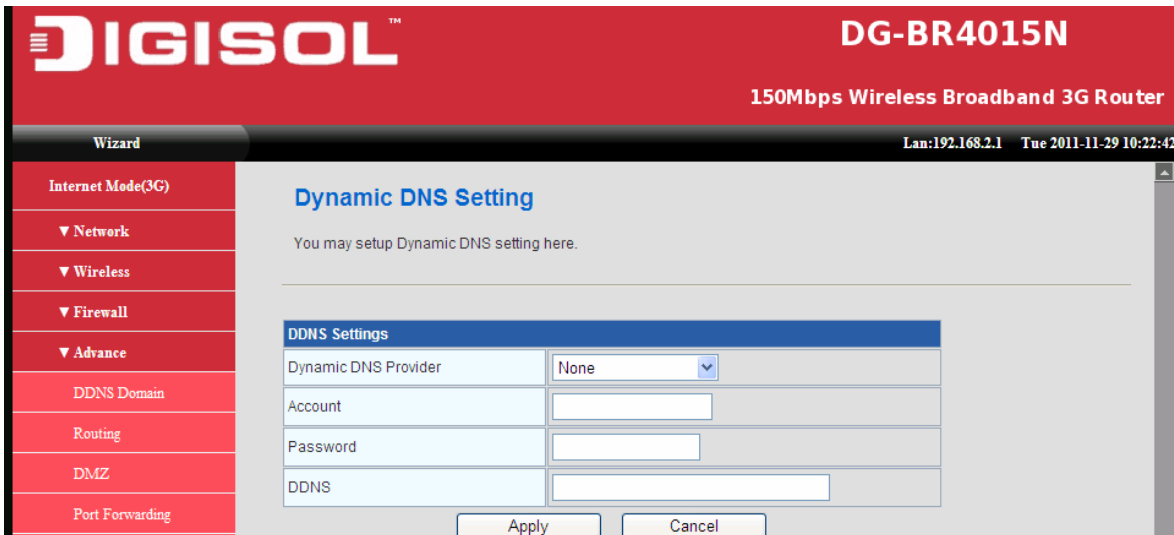
When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-9 Advance

In this section you can configure advance setting like DDNS, Routing, DMZ, Port Forwarding and run System command as a root.

2-9-1 DDNS Domain

Use DDNS only if you have purchased your own domain name and registered with a dynamic DNS service provider. The following screen is displayed when you click on '**DDNS**' menu on the left of web management interface, under the '**Advance**' tab.



The screenshot shows the 'Dynamic DNS Setting' page in the DIGISOL web management interface. The page title is 'Dynamic DNS Setting' and it includes a sidebar with navigation options like Network, Wireless, Firewall, Advance, DDNS Domain, Routing, DMZ, and Port Forwarding. The main content area has a 'DDNS Settings' table with fields for Dynamic DNS Provider (set to None), Account, Password, and DDNS. There are 'Apply' and 'Cancel' buttons at the bottom.

Here are the descriptions of every setup item.

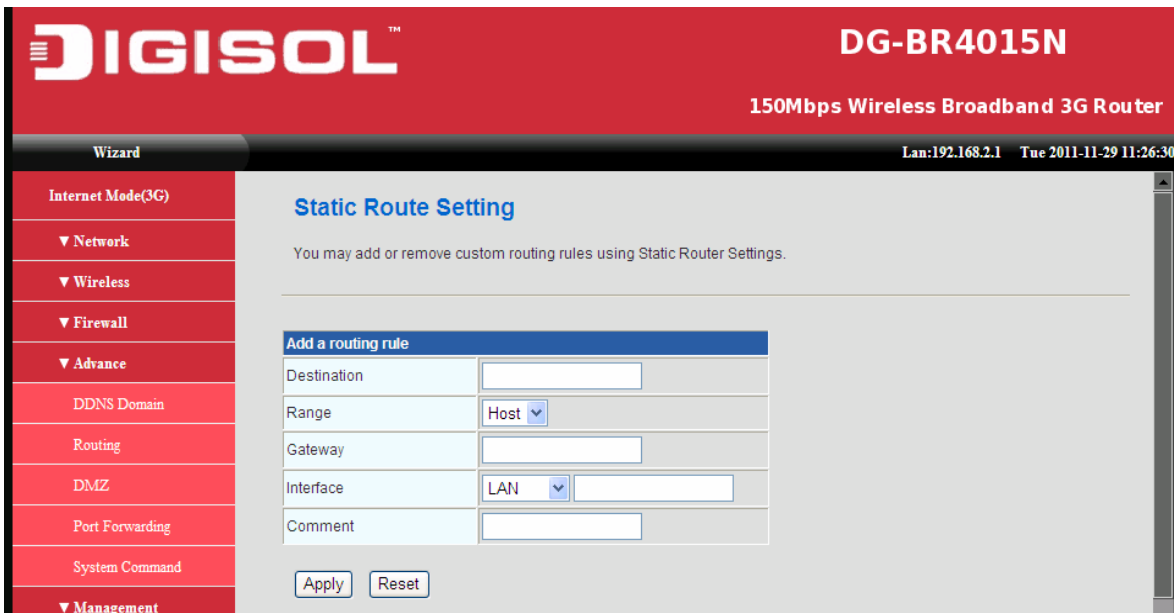
Parameter	Description
Dynamic DNS Provider	Select a dynamic DNS service provider from the drop-down list.
Account	Enter the account provided by your service provider.
Password	Enter the password provided by your service provider.
DDNS	Enter your host name, for example: myhost.mydomain.net.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-9-2 Routing

With static routing, the router can forward packets according to your routing rules. In this section you can manually create and remove static route.

The following screen is displayed when you click on '**Routing**' menu on the left of web management interface, under the '**Advance**' tab.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N 150Mbps Wireless Broadband 3G Router. The interface is in the 'Advance' tab, specifically the 'Routing' sub-tab. The main content area is titled 'Static Route Setting' and includes a description: 'You may add or remove custom routing rules using Static Router Settings.' Below this is a form titled 'Add a routing rule' with the following fields:

- Destination:
- Range: Host
- Gateway:
- Interface: LAN
- Comment:

At the bottom of the form are 'Apply' and 'Reset' buttons. The left sidebar contains a navigation menu with the following items: Internet Mode(3G), Network, Wireless, Firewall, Advance, DDNS Domain, Routing, DMZ, Port Forwarding, System Command, and Management. The top right corner of the interface shows the LAN IP address (192.168.2.1) and the current date and time (Tue 2011-11-29 11:26:30).

Here is the description of every setup items.

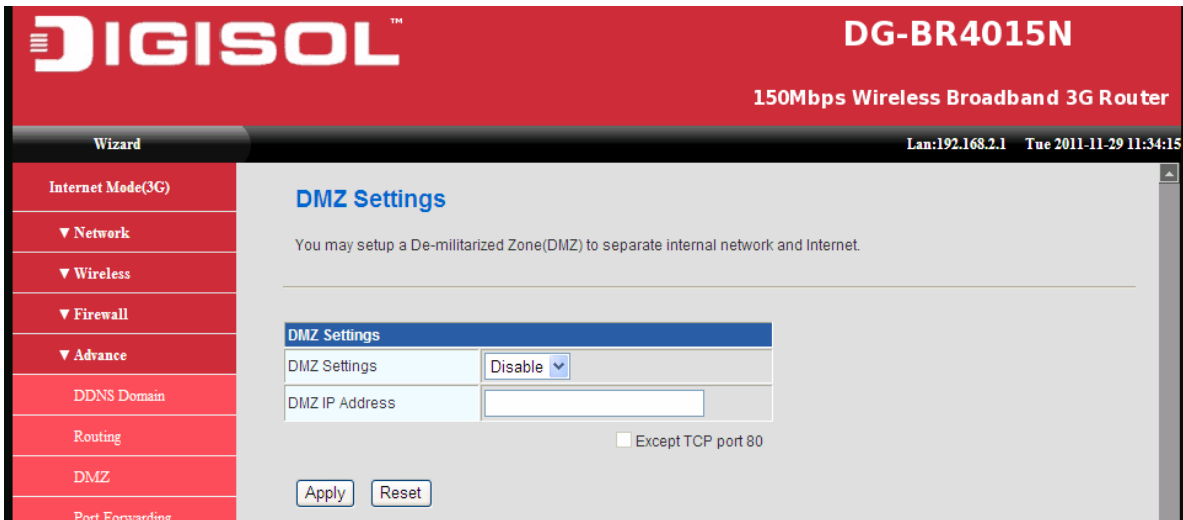
Parameter	Description
Destination	Destination IP address of packets that will take this route
Range	Select either range of IP address or Single host
Gateway	Specifies the next hop to be taken if this route is used. A gateway of 0.0.0.0 implies there is no next hop, and the IP address matched is directly connected to the router on the interface specified LAN or WAN.
Interface	Specifies the interface : LAN or WAN that the IP packet must use to transit out of the router, when this route is used.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-9-3 DMZ

DMZ means "Demilitarized Zone." If an application has trouble working from behind the router, you can expose one computer to the Internet and run the application on that computer.

The following screen is displayed when you click on '**DMZ**' menu on the left of web management interface, under the '**Advance**' tab.



The screenshot shows the web management interface for the DIGISOL DG-BR4015N router. The page is titled "DMZ Settings" and is part of the "Advance" tab. The interface includes a sidebar with navigation options like "Internet Mode(3G)", "Network", "Wireless", "Firewall", "Advance", "DDNS Domain", "Routing", "DMZ", and "Port Forwarding". The main content area contains the following text and controls:

- DMZ Settings** (Section Header)
- Description: "You may setup a De-militarized Zone(DMZ) to separate internal network and Internet."
- DMZ Settings: A dropdown menu currently set to "Disable".
- DMZ IP Address: A text input field.
- Except TCP port 80: A checkbox that is currently unchecked.
- Buttons: "Apply" and "Reset".

Here is the description of every setup items:

Parameter	Description
DMZ Settings	Putting a computer in the DMZ may expose that computer to a variety of security risks. Use of this option is only recommended as a last resort.
DMZ IP Address	Specify the LAN IP address of the LAN computer that you want to have unrestricted Internet communication.
Except TCP port 80	If you wish to block port 80 enable this option.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-9-4 Port Forwarding

This function allows you to redirect a single port or consecutive ports of Internet IP address to the same port of the IP address on a local network. The port number(s) of Internet IP address and private IP address (the IP address on local network) must be the same. If the port number of Internet IP address and private IP address is different, please use 'Virtual Server' function, described in next section.

Please click '**Port Forwarding**' menu on the left of web management interface, under the '**Advance**' tab and the following screen will be displayed on your web browser.



Here is the description of every setup items:

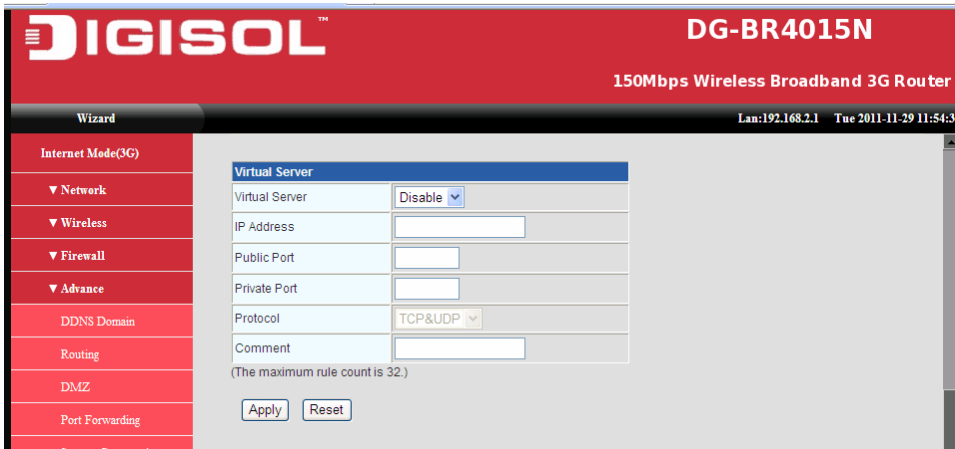
Parameter	Description
Port Forwarding	Specifies whether the entry will be active or inactive.
IP Address	The IP address of the system on your internal network that will provide the virtual service, for example 192.168.2.20
Port Range	Enter the range of TCP or UDP ports to be opened.
Protocol	Select the protocol used by the service. The common choices UDP, TCP, and both UDP and TCP can be selected from the drop-down menu.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

Virtual Server

This function allows you to redirect a port on Internet IP address (on WAN port) to a specified port of an IP address on local network, so you can setup an Internet service on the computer on local network, without exposing it on Internet directly. You can also build many sets of port redirection, to provide many different Internet services on different local computers via a single Internet IP address.

Please click '**Virtual Server**' menu on the left of web management interface, under the '**Advance**' tab and the following screen will be displayed on your web browser.



Here is the description of every setup items:

Parameter	Description
Virtual Server	Specifies whether the entry will be active or inactive.
IP Address	The IP address of the system on your internal network that will provide the virtual service, for example 192.168.2.20
Public Port	The port that will be accessed from the Internet.
Private Port	The port that will be used on your internal network.
Protocol	Select the protocol used by the service. The common choices UDP, TCP, and both UDP and TCP can be selected from the drop-down menu.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures. If you want to reset the setting click on '**Reset**'.

2-9-5 System Command

In this section, you can run a system command as root.



When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-10 Management

In this section you can configure the admin password, NTP setting, Factory setting and Upload firmware.

2-10-1 System Management

Please click '**Management**' tab and the following screen will be displayed on your web browser.

The screenshot displays the web management interface for the DIGISOL DG-BR4015N 150Mbps Wireless Broadband 3G Router. The interface is titled 'Wizard' and shows the 'Management' tab selected in the left sidebar. The main content area is divided into three sections: Language Settings, Administrator Settings, and NTP Settings. The Language Settings section shows 'English' selected in a dropdown menu. The Administrator Settings section shows the 'Account' field set to 'admin' and the 'Password' field masked with dots. The NTP Settings section shows the 'Current Time' as 'Sat Jan 1 00:36:39 UTC 2000', the 'Time Zone' as '(GMT+05:30) India', and the 'NTP Server' field empty. Each section has 'Apply' and 'Cancel' buttons. The top right corner displays the LAN IP address 'Lan:192.168.2.1' and the date/time 'Tue 2011-11-29 09:36:03'. The bottom left corner shows '150Mbps Wireless 3G Router Copyright ©2011'.

Here is description of every setup items.

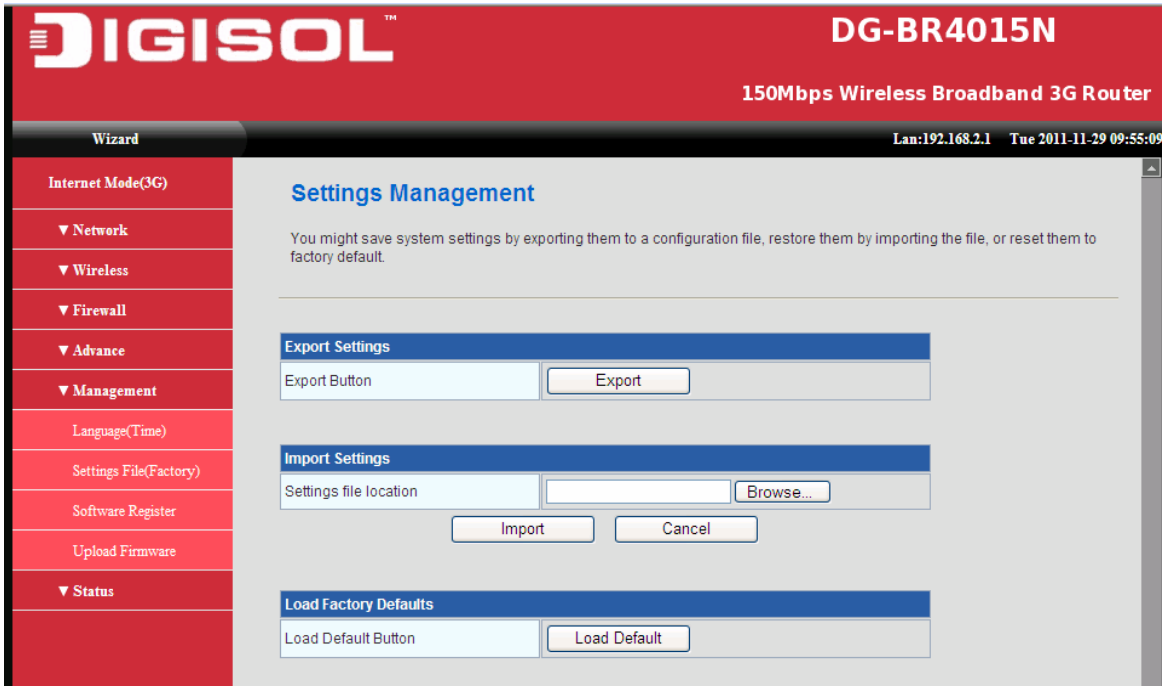
Parameter	Description
Language Settings	Select English or Simple Chinese as per the user need. Recommended is English.
Administrator Setting	Enter a password for the user "admin", who will have full access to the Web-based management interface.
NTP Settings	
Current Time	Displays the time currently maintained by the router. If this is not correct, use the following options to configure the time correctly.
Time Zone	Select your local time zone from drop down menu
NTP Server	Select a Network Time Server for synchronization. You can type in the address of a time server. If you have trouble using one server, enter another.
Sync with Host	Select this option if you want to sync router time with your desktop.

When you finish with all settings, please click '**Apply**' button to continue with other setup procedures.

2-10-2 Settings File (Factory)

In this section you can save system settings, by exporting the configuration file, restoring by importing the file or reset router to factory default setting.

Please click ‘**Settings File (Factory)**’ menu on the left of web management interface, under the ‘**Management**’ tab and the following screen will be displayed on your web browser.



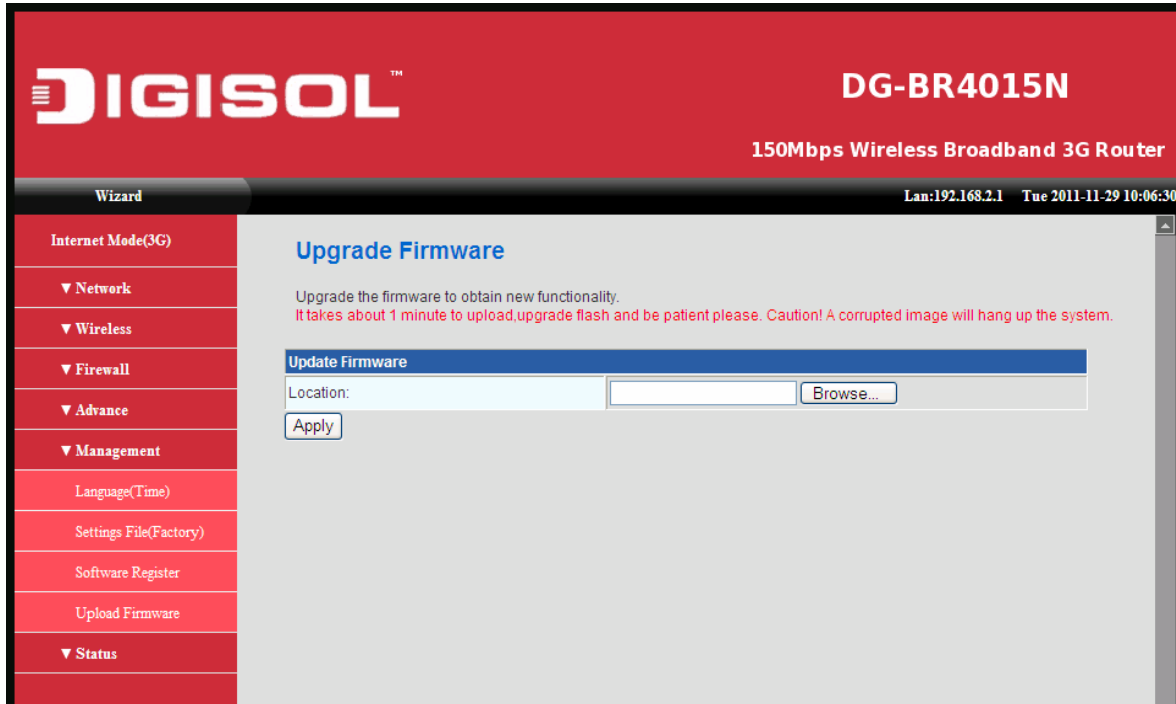
Here is the description of every setup items.

Export Settings.	This option allows you to export and then save the router's configuration to a file on your computer. Be sure to save the configuration before performing a firmware upgrade
Import Settings	Use this option to restore previously saved router configuration settings.
Load Factory Default	This option restores all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost. If you want to save your router configuration settings, use the Export Settings option above.

2-10-3 Upload Firmware

Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the router.

Please click **'Upload Firmware'** menu on the left of web management interface, under the **'Management'** tab and the following screen will be displayed on your web browser.



2-11 Status

In this section, you can look at the status of 3G wireless Router, such as System Info, Internet Configurations, and Local Network.

The screenshot shows the 'Router Status' page in the DIGISOL web interface. The page title is 'Router Status' and it includes a sub-header 'Let's take a look at the status of DG-BR4015N Platform.' The page is divided into two main sections: 'System Info' and 'Internet Configurations'.

System Info	
Firmware Version	3050(X71N)-32M4M-1T1R-V1.2-DIGISOL(20111117) (Nov 17 2011)
System Up Time	33 mins, 36 secs
System Description	150Mbps Wireless Broadband 3G Router
Operation Mode	Gateway Mode

Internet Configurations	
Connected Type	3G Sig:N/A Please Insert USB Dongle.
WAN IP Address	
Subnet Mask	
Default Gateway	
Primary Domain Name Server	
Secondary Domain Name Server	

2-11-1 Syslog

In this section you can view the log generated. Click '**Refresh**' to get new log message and click '**Clear**' to clear the syslog table.

The screenshot shows the 'System Log' page in the DIGISOL web interface. The page title is 'System Log' and it includes a sub-header 'You can see a professional linux system log'. There are two buttons: 'Refresh' and 'Clear'. The log entries are as follows:

```

Jan 1 00:00:26 DG-BR4015N user.warn kernel:
Jan 1 00:00:26 DG-BR4015N user.warn kernel: eth2 mii.o query= phy_id:0, address:1 retval:7849
Jan 1 00:00:26 DG-BR4015N user.warn kernel: Ralink APSoC Ethernet Driver Initialization. v2.0 256
Jan 1 00:00:26 DG-BR4015N user.warn kernel: MAC_ADRH -- : 0x0000000c
Jan 1 00:00:26 DG-BR4015N user.warn kernel: MAC_ADRL -- : 0x43305077
Jan 1 00:00:26 DG-BR4015N user.alert kernel: PROC INIT OK!
Jan 1 00:00:26 DG-BR4015N user.info kernel: IMQ starting with 2 devices...
Jan 1 00:00:26 DG-BR4015N user.info kernel: IMQ driver loaded successfully.
Jan 1 00:00:26 DG-BR4015N user.info kernel: Hooking IMQ before NAT on PREROUTING.
    
```

2-11-2 Reboot

It is useful for restarting when you are not near the device.

