

WF-2402
Quick Installation Guide

netis 150Mbps Wireless-N
Broadband Router

1. Check Your Package Contents

The following items should be found in your package:

- 150Mbps Wireless-N Broadband Router
- Power adapter
- Quick Installation Guide
- CD-Rom
- Ethernet cable

Make sure that the package contains above items. If any of the above items is missing or damaged, please contact the store you bought this product from.

2. Before You Begin

Minimum Requirements:

- Broadband (DSL/Cable) modem and service with Ethernet port
- 802.11n b/g/n wireless adapter or Ethernet adapter and cable for each computer
- Internet Explorer® 5.0, Firefox® 2.0 or Safari® 1.4 or higher

3. Hardware Installation

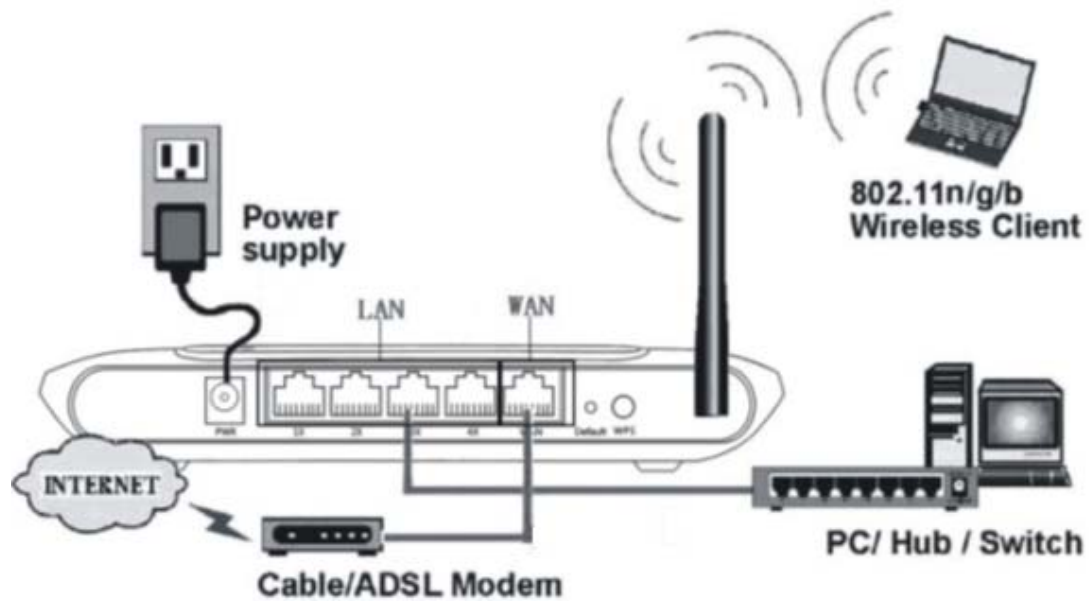


Figure 3-1

- Attach one end of an Ethernet cable to your computer's Ethernet port, and the other end to one of the LAN ports of your router.
- Connect another Ethernet cable from your Cable/DSL modem to the WAN port of your router.
- Connect the single DC output connector of the power adapter to the power jack on the back of the router and plug the Power Adapter into an AC outlet.

4. LED Indicators

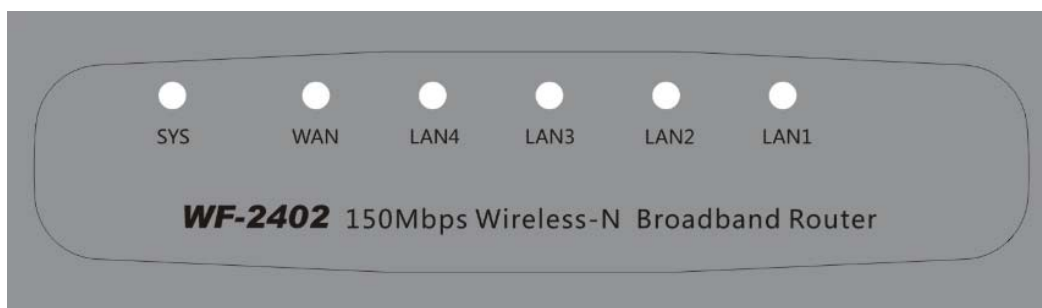


Figure 4-1

LED	Function
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SYS	Flashing	Power on
		Router system running
		WPS working (orange)
WAN	On	WAN Connection normal
	Flashing	Data transmitting
LAN	On	LAN Connection normal
	Flashing	Data transmitting

5. Configure Your Computer

You can manage the 150Mbps Wireless-N broadband router through the Web browser-based configuration utility. To configure the device via Web browser, at least one properly configured computer must be connected to the device via Ethernet or wireless network. The router is configured with the **default IP address of 192.168.1.1** and **subnet mask of 255.255.255.0** and its DHCP server is enabled by default.

Here we use Windows XP for example. If your network settings are not already set and you need to complete this step, the configurations are similar for the other operating systems.

- Open **My Computer** on your desktop or through the Start menu, right click on **My Network Places** in the **Other Places** menu to the left and select **Properties**. Right click on your **Local Area Connection** in the window that appears and select **Properties**. In the properties window that appears, under “This connection uses the following items:” select **Internet Protocol (TCP/IP)** and then click the **Properties** button below.



Figure 5-1

- Select **obtain an IP address automatically** and **obtain DNS server address automatically**, click **OK**

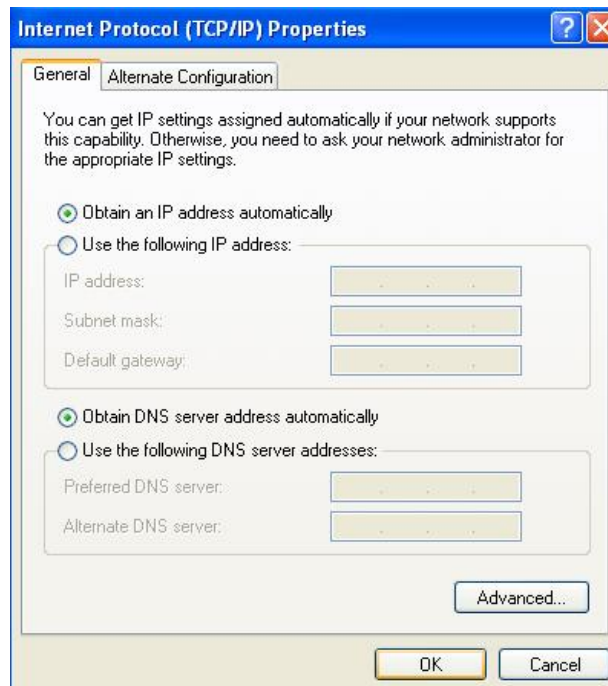


Figure 5-2

- Back in the previous window, click **OK**

6. Log In to Router Interface

- Open a web browser (Safari, Internet Explorer, etc.) on the computer you have just connected to the router, type <http://192.168.1.1> in the address bar, and press enter

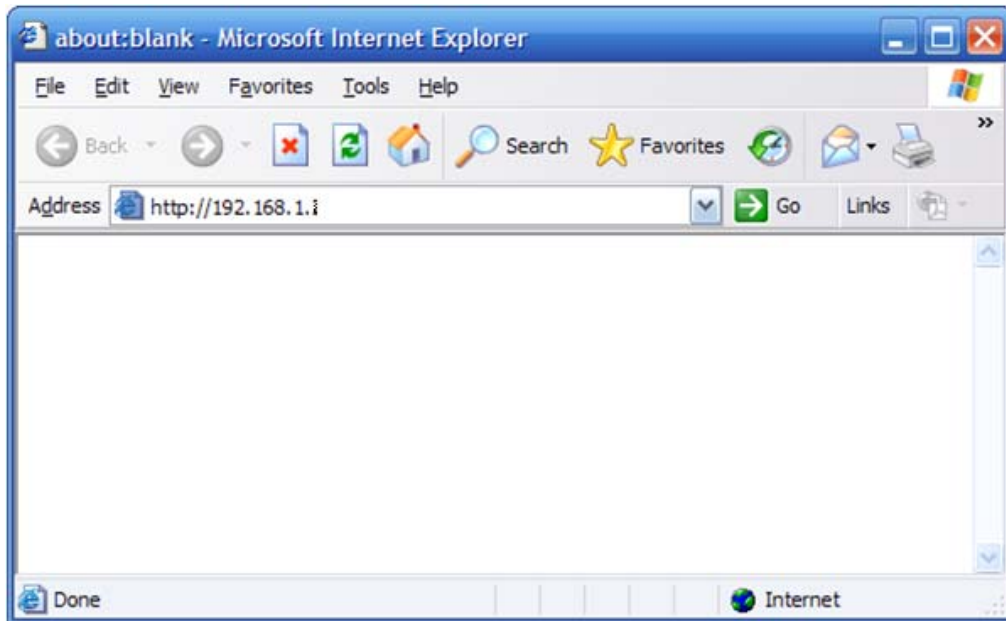


Figure 6-1

- In the pop-up window, enter the user name **guest** and password **guest** and then click OK



Figure 6-2

- After you have logged in, the router's user interface will be displayed. The left menu shows the main options to configure the system, and the right screen is the summary information for viewing and adjusting the configurations.

7. Router Setup

7.1. Internet Connection Settings

➤ Most connections utilize a dynamic IP (DHCP) and the default is already set to this. If you have another connection type (like static IP), you will need to click on 'Convenient Setup' in the menu and input information given you by your service provider and then click save.



Figure 7-1

➤ You may already be connected to the Internet. Click on 'System Information' - 'Internet access' to see if you have an IP, Gateway, etc (refer to the following picture). If not, your service provider probably requires you clone the MAC address of your computer to the router. To do so, click on 'Internet Setup' in the menu, then click on 'Clone MAC Address' button to get your computer's MAC address in according to your Internet connection type, and then click the 'Save' button below.

Internet Access	LAN Info	AP Info	Secondary AP	System	Statistics
Connection Type: DHCP					
MAC Address: 08:10:74:00:00:03					
IP Address: 0.0.0.0					
Subnet Mask: 0.0.0.0					
Default Gateway: 0.0.0.0					
Primary DNS:					
Secondary DNS:					
MTU : 1496					
		Connect			
Current version: APR-R4A4-V1.1.17-Netis(WF-2402),2010.08.23 13:49.					
		Refresh			

Figure 7-2

➤ If you are still not connected, or experience an erratic connection, your modem may have the same IP as the router (192.168.1.1). You will need to change the router's IP. Click on 'LAN Setup'- 'LAN IP Address' and you will see this IP in the main interface. You may edit it to something different (192.168.2.1 for example). After entering the new IP, click on 'Save' below, the router will reboot, and you will need to enter the user name and password again. Check your system status for IP again, and test connection.

Note: You will need to enter the new IP in the browser to access the user interface for any future setting changes.

LAN IP Address	DHCP Server	DHCP Client Info
System IP Setup		
IP Address	<input type="text" value="192.168.1.1"/>	
Subnet Mask	<input type="text" value="255.255.255.0"/>	
		Save

Figure 7-3

7.2. Advanced Settings

7.2.1. Restore to Factory Default

If the router ever freezes in a setting change process or if you can't access it because you can't remember the IP you have given it or other problem, you may have to utilize the reset button on the back of the router to put it back to factory settings. You have to press and hold this button

for a few seconds (2-6s) with a pencil when it is working, then release and it will restore settings to the factory configuration.

The other way to restore factory settings is through the same user interface used in setup. Click on 'System management'- 'Restore', and click on the 'Restore' button.

7.2.2. Password Change

You may wish to change the router's password. To do so, click on 'System Management'- 'Password setup', enter a new password and then confirm it.

7.2.3. Firmware Upgrade

Click on 'System Management'- 'Upgrade.' You will be able to browse to select a newer firmware version you have downloaded and then click on the 'Upgrade' button to proceed.

7.2.4. Wireless Security Settings

To protect your wireless network from unauthorized user access, you may wish to set up wireless security. Click 'Wireless Management'- 'AP Setup' - 'Security'. Five different encryption modes - "None", "WEP", "WPA-PSK", "WPA2-PSK" and "WPA/WPA2-PSK" - are provided. WEP authentication mode is not recommended when WPS is enabled.

➤ If you want to use WEP, you can select ASCII characters (alphanumeric) or Hexadecimal ('A-F', 'a-f' and '0-9'). For 64-bit WEP, input 10 Hex values (in the 'A-F', 'a-f' and '0-9' range) or 5 ASCII characters. For 128-bit WEP, input 26 Hex values (in the 'A-F', 'a-f' and '0-9' range) or 13 ASCII characters

AP Security Setup	
Authentication Type	WEP
WEP	
WPS enable, please not use wep!	
Key Length	<input checked="" type="radio"/> 64 bits <input type="radio"/> 128 bits
Key Mode	<input checked="" type="radio"/> HEX <input type="radio"/> ASCII
Key	<input type="text"/>
<input type="button" value="Save"/>	

Figure 7-4

- If you want to use WPA/ WPA2/ WPA&WPA2 to encrypt, you can select ASCII characters (alphanumeric format) or Hexadecimal digits ('A-F', 'a-f' and '0-9'). No matter what type you select, input 64 Hex values (in the 'A-F', 'a-f' and '0-9' range) or 8-63 ASCII characters.

The screenshot shows the 'AP Security Setup' configuration page. At the top, there are tabs for 'Basic', 'Security', 'WDS', 'Host Filter', 'Host List', 'Site Survey', 'WPS', and 'Advanced'. The 'Security' tab is selected. The 'Authentication Type' is set to 'WPA-PSK'. Below this, the 'Pre-Shared Key' section includes:

- Encryption Type: TKIP, AES, TKIP & AES
- Key Mode: HEX, ASCII
- Key: [Empty text input field]
- Key Renewal (60-86400 seconds): 86400

 A 'Save' button is located at the bottom right of the configuration area.

Figure 7-5

- You can use WPS (Wi-Fi Protected Setup) to secure your wireless network if the connecting wireless device is also WPS enabled.

The screenshot shows the 'WPS Settings' configuration page. At the top, there are tabs for 'Basic', 'Security', 'WDS', 'Host Filter', 'Host List', 'Site Survey', 'WPS', and 'Advanced'. The 'WPS' tab is selected. The 'WPS Settings' section includes:

- WPS Status: Enable, Disable
- AP PIN Code: 66170099 (Generated PIN)

 A 'Save' button is located below this section. The 'WPS PIN Settings' section has a 'Wireless Host PIN Code' input field and a 'Connect' button. The 'WPS PBC Settings' section has a 'Connect' button. At the bottom, there is a 'WPS Configuration' table:

Security Mode	Authentication Type	Key Format	Key
None			

Figure 7-6

Method 1: Button

- ✧ Push and hold WPS button on back of Router until WPS LED flashes
- ✧ Push WPS button on wireless network adapter and hold for about 3-5 seconds
- ✧ A safe connection will be established automatically in a moment
- ✧ The reverse – pushing and holding WPS button on adapter briefly, then pushing and

holding WPS button on router briefly – may also be utilized

Method 2: PIN

- ✧ Select this router for connection in your OS network connections or wireless adapter software settings
- ✧ Choose to enter the WPS PIN of the router and provide default router WPS PIN printed on label on bottom of router. This PIN may be changed though, and you may do so/confirm current PIN in the router's user interface – click ‘Wireless Management’- ‘AP Setup’ - ‘WPS’ and you will be able to see the AP PIN as well as generate a new one and save it
- ✧ Alternatively, you may choose to utilize a WPS PIN provided by your wireless adapter and enter it in the router in the same part of the user interface - click ‘Wireless Management’- ‘AP Setup’ - ‘WPS’ and enter adapter PIN for ‘Wireless Host PIN Code’.

7.2.5. WDS (Wireless Distribution System)

If you are using this router to spread the wireless coverage of another router, or to spread the coverage to another router, you can use WDS. For this example, WDS will be established between a router that the MAC address is 00-22-4f-cc-ae-f5 (R1) and another router that the MAC address is 00-22-4f-bc-af-5d (R2). The MAC address is printed on a label on the bottom of the router, or may be seen both netis routers. Please follow the steps below, but keep in mind that if one router in this setup is not netis you should first confirm it is capable of WDS and its interface menu may be considerably different:

R1:

- It should first be established that routers function normally as a routers not in a network involving WDS, and R1 (the router connected to a modem) should be configured below from a starting point where it was individually functional.
- Click on ‘Wireless Management’- ‘AP Setup’- ‘Security’ and select and save None as authentication type
- Click on ‘Wireless Management’- ‘AP Setup’- ‘Basic’ and select and save radio mode as WDS or AP + WDS
- Click on ‘Wireless Management’- ‘AP Setup’- ‘Security’ and select and save None as WDS authentication type or select a WDS security type, enter key and save. Note that some other brands of router may not have the option of or be compatible in WDS wireless security. For key parameters, please refer to [Wireless security settings](#)

Figure 7-7

- Click on 'Wireless Management' - 'AP Setup' - 'WDS.' You may choose to click on AP Scan to scan for R2, select R2 in the window that appears and click on the connect button at the bottom of the list in this window. The SSID/name and MAC address of R2 will automatically be entered, and you can click on the Add button to finalize. Alternatively, you may manually enter the name and MAC address of R2 then click add.

Figure 7-8

R2:

- Select 'LAN setup' - 'LAN IP address', change the IP address to something in line with R1. If R1 is 192.168.1.1 change the R2 to 192.168.1.90 or if the R1 is 192.168.2.1 change the R2 to 192.168.2.90 and so on. Click on the save button below, and the router will reboot automatically. You should note what this new IP is as you will need it for future access to the user interface of this router
- Select 'LAN setup' - 'DHCP Server', select disable DHCP server
- Click on 'Wireless Management' - 'AP Setup' - 'Security' and select and save None as authentication type
- Click on 'Wireless Management' - 'AP Setup' - 'Basic' and select and save radio mode as WDS or AP + WDS

- Click on 'Wireless Management' - 'AP Setup' - 'Security' and select and the same WDS security settings as for R1
- Click on 'Wireless Management' - 'AP Setup' - 'WDS.' You may choose to click on AP Scan to scan for R1, select R1 in the window that appears and click on the connect button at the bottom of the list in this window. The SSID/name and MAC address of R1 will automatically be entered, and you can click on the Add button to finalize. Alternatively, you may manually enter the name and MAC address of R1 then click add.

Note:

- Please make sure the channel matches in both routers. Click on 'Wireless management' - 'AP Setup' - 'Basic', check that channels are the same, and change and save if necessary
- As there are sometimes compatibility issues between brands, you may need to use Wireless-G and not Wireless-N. Change settings in both routers. In the netis router click on 'Wireless management' - 'AP Setup' - 'Basic' and select and save a setting that does not include Wireless-N
- Please make sure that R1 and R2 are in the same IP range, that is if the IP of R1 is 192.168.1.1, then the IP address of R2 should be 192.168.1.x (the range of x runs from 1 through 255 but 1 should not be used as it is already taken by R1, and other equipment in the network having static/permanent IPs should also be avoided.
- Please make sure the WDS authentication type and key in both routers are the same, or turned off for both and as there are sometimes compatibility issues between brands, you may need to disable all security.

FCC Statement

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

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

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

This equipment complies with Part 15 of FCC RF Rules. Operation is subject to the following two conditions:

- 1) This device may not cause interference and
- 2) This device must accept any interference, including interference that may cause undesired operation of the device.

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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