



# WLR-6000

Wireless Concurrent Dual Band  
Gigabit Router 450N

(802.11a/b/g/n)



# User Manual

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Note: All the information contained in this manual was correct at the time of publication.  
However, as our engineers are always updating and improving the product, your device's software may have a slightly different appearance or modified functionality than presented in this manual.

# Introduction

Congratulations on your purchase of the WLR-6000 Wireless Concurrent Dual Band Gigabit Router 450N. The WLR-6000 is compliant with 802.11a and 802.11n and up to 6 times faster than standard 802.11g based routers while still being compatible with 802.11g & 802.11b devices. The WLR-6000 is not only a Wireless Access Point, but also doubles as a 4-port full-duplex Gigabit switch that connects your wired-Ethernet devices together at 10/100/1000 Mbps speeds.

At 300/450 Mbps wireless transmission rate, the Access Point built into the Router uses advanced MIMO (Multi-Input, Multi-Output) technology to transmit multiple streams of data in a single wireless channel, giving you seamless access to multimedia content. The robust RF signal travels farther, eliminates dead spots and extends the network range. For data protection and privacy, the WLR-6000 encodes all wireless transmissions with WEP, WPA, or WPA2 encryption.

With the built-in DHCP Server & powerful SPI firewall, the WLR-6000 protects your computers against intruders and most known Internet attacks and also provides safe VPN pass-through. With the incredible speed and QoS function of 802.11n the WLR-6000 is ideal for media-centric applications like streaming video, gaming, and VoIP telephony to run multiple media-intense data streams through the network at the same time, with no degradation in performance.

With Sitecom Cloud Security, Sitecom goes one step further and ensures that you can surf the Internet even more safely, not only on your PC, but on all the devices in your home which you use to access the Internet. It does not matter whether you surf the Internet on a laptop, a tablet, a mobile telephone or your television. Thanks to the security that is integrated in the router, all the Internet devices in your home are protected against the dangers of Internet criminality.

# 1 Key Features

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Features	Advantages
Incredible Data Rate up to 450Mbps*	<b>Heavy data payloads such as MPEG video streaming</b>
IEEE 802.11n Compliant and backwards compatible with 802.11b/g	<b>Fully Interoperable with IEEE 802.11b / IEEE802.11g compliant devices with legacy protection</b>
Four 10/100/1000 Mbps gigabit Switch Ports (Auto-Crossover)	<b>Scalability, extend your network.</b>
Firewall supports Virtual Server Mapping, DMZ, IP Filter, ICMP Blocking, SPI	<b>Avoids the attacks of Hackers or Viruses from Internet</b>
Support 802.1x authenticator, 802.11i (WPA/WPA2, AES), VPN pass-through	<b>Provide mutual authentication (Client and dynamic encryption keys to enhance security</b>
WDS (Wireless Distribution System)	<b>Make wireless AP and Bridge mode simultaneously as a wireless repeater</b>
Sitecom Cloud Security	<b>Protect your home against cybercrime while browsing.</b>

*\* Theoretical wireless signal rate based on IEEE standard of 802.11a, b, g, n chipset used. Actual throughput may vary. Network conditions and environmental factors lower actual throughput rate. All specifications are subject to change without notice.*

## 2 Package Contents

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Open the package carefully, and make sure that none of the items listed below are missing. Do not discard the packing materials, in case of return; the unit must be shipped back in its original package.

1. The WLR-6000 Router
2. A 110V~240V to 12V 1A Switching Power Adapter
3. A Quick Install Guide
4. A CD (with User Manual)
5. A Warranty card
6. An UTP cable

## 3 Cautions

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This router's design and manufacturer has your safety in mind. In order to safely and effectively use this router, please read the following before usage.

### 3.1 Usage Cautions

The user should not modify this router. The environmental temperature should be within +5 ~ +35 degrees Celsius.

### 3.2 Power

The router's power voltage is DC 12V 1A.

When using this router, please connect the supplied AC adapter or AC adapter cable to the router's power jack. When placing the adapter cable, make sure it can not get damaged or be subject to pressure. To reduce the risk of electric shock, unplug the adapter first before cleaning it. Never connect the adapter to the router in a humid or dusty area. Do not replace the adapter or cable's wire or connector.

### 3.3 Repair

If the router has a problem, you should take it to an appointed repair centre and let the specialists do the repair. Never repair the router yourself, you might damage the router or endanger yourself.

### 3.4 Disposing of the Router

When you dispose of the router, be sure to dispose it appropriately. Some countries may regulate disposal of an electrical device, please consult with your local authority.

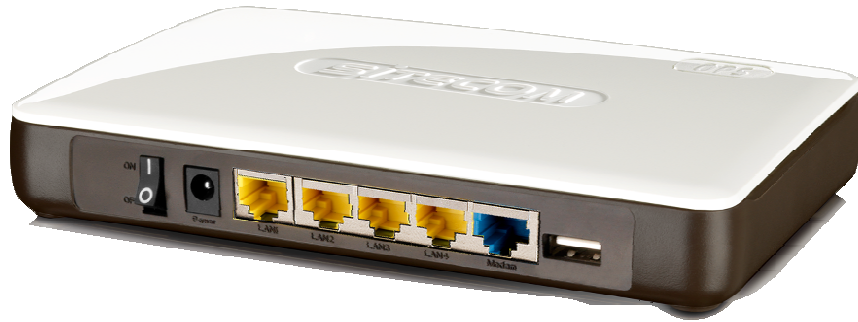
### 3.5 Others

When using this router, please do not let it come into contact with water or other liquids. If water is accidentally spilled on the router, please use a dry cloth to absorb the spillage. Electronic products are vulnerable, when using please avoid shaking or hitting the router, and do not press the buttons too hard.

- Do not let the router come into contact with water or other liquid.
- Do not disassemble the router, repair the router or change the design of the router, any damage done will not be included in the repair policy.
- Avoid hitting the router with a hard object, avoid shaking the router and stay away from magnetic fields.
- If during electrostatic discharge or a strong electromagnetic field the product will malfunction, unplug the power cable. The product will return to normal performance the next time it is powered on.

## 4 Product Layout

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Port	Description
Power connector	Connect the 12V DC adapter to this port
LAN (Yellow)	Connect your PC's or network devices to this port
WAN (Blue)	Connect your ADSL/Cable modem to this port
USB	Connect your Printer or Storage device to this port

## Backlabel

The backlabel describes the IP address, login details, SSID, security code and WPS button functionality.

The backlabel is a dark blue rectangular sticker with white text and graphics. It is divided into two main sections. The left section provides wireless connection details, including 2.4 GHz and 5 GHz SSID and WPA2 codes, and a field for the Serial No. The right section provides configuration details, including the IP address 192.168.0.1 and the username admin. Below the configuration details is a circular inset showing a hand pressing a button on the router, with a list of instructions: Press 0-5 sec. = 2.4 GHz OPS mode, Press 5-10 sec. = 5 GHz OPS mode, Press 10 sec. = Reset, and Press 15 sec. = Factory default. At the bottom of the label, there is a barcode with the number 8 716502 023653, the text 'Made in Taiwan', the Sitecom logo, and several certification icons (CE, E, and a crossed-out symbol). To the right of the logo is the text 'Model No:'. At the bottom right, there is a diagram of the router's rear panel with labels for LAN, LAN, LAN, LAN, and WAN ports, and the text 'Designed in Europe'.

To make a wireless connection with this router, choose the network:

2.4 GHz SSID:  
WPA2 code:

5 GHz SSID:  
WPA2 code:

Serial No.:

To access the router configuration, type the following IP address in your internet browser: **192.168.0.1**  
Username: **admin**

Password:

Press **0-5** sec. = 2.4 GHz OPS mode  
Press **5-10** sec. = 5 GHz OPS mode  
Press **10** sec. = Reset  
Press **15** sec. = Factory default

Designed in Europe

LAN LAN LAN LAN WAN

8 716502 023653  
Made in Taiwan

**SITECOM**  
Model No:

Button	Description
WPS BUTTON	<p>Press 0-5 seconds for 2.4 GHz WPS mode</p> <p>Press 5-10 seconds for 5 GHz WPS mode</p> <p>Press 10 seconds to reset the router</p> <p>Press 15 Seconds to reset the router to factory defaults.</p>



## LED Definition

From left to right.

Port	Description
LAN (Blue)	Shows the cable is connected.
LAN (Blue)	Shows the cable is connected.
LAN (Blue)	Shows the cable is connected.
LAN (Blue)	Shows the cable is connected.
WAN (Blue)	Shows the cable is connected.
WiFi (White)	Shows 5GHz WiFi activity.
WiFi (Blue)	Shows 2.4GHz WiFi activity.
Power (Red)	Shows the device is turned on.
OPS (White)	Shows OPS activity.



## **5 Network + System Requirements**

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To begin using the WLR-6000, make sure you meet the following as minimum requirements:

- PC/Notebook.
- Operating System – Microsoft Windows XP/2000/VISTA/7
- 1 Free Ethernet port.
- WiFi card/USB dongle (802.11 b/g/n) – optional.
- External xDSL (ADSL) or Cable modem with an Ethernet port (RJ-45).
- PC with a Web-Browser (Internet Explorer, Safari, Firefox, Opera)
- Ethernet compatible CAT5e cables.

## **6 WLR-6000 Placement**

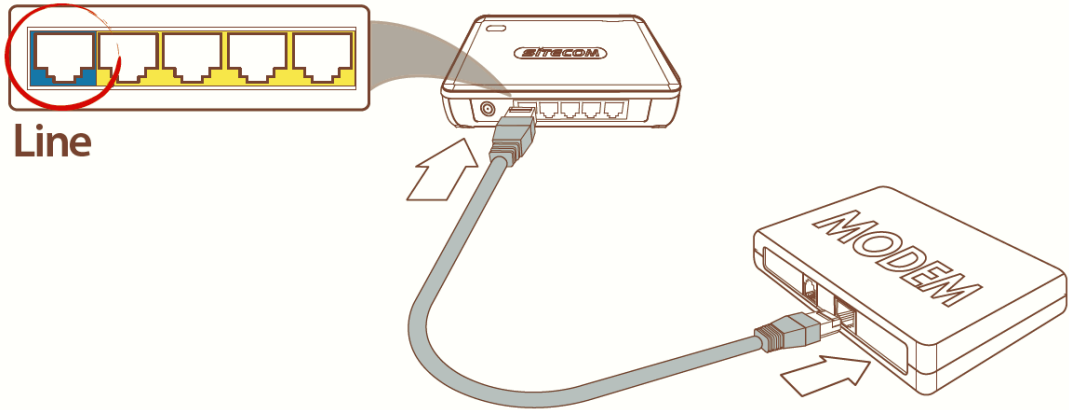
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You can place the WLR-6000 on a desk or other flat surface, or you can mount it on a wall. For optimal performance, place your Wireless Broadband Router in the center of your home (or your office) in a location that is away from any potential source of interference, such as a metal wall or microwave oven. This location must be close to a power connection and your ADSL/Cable modem.

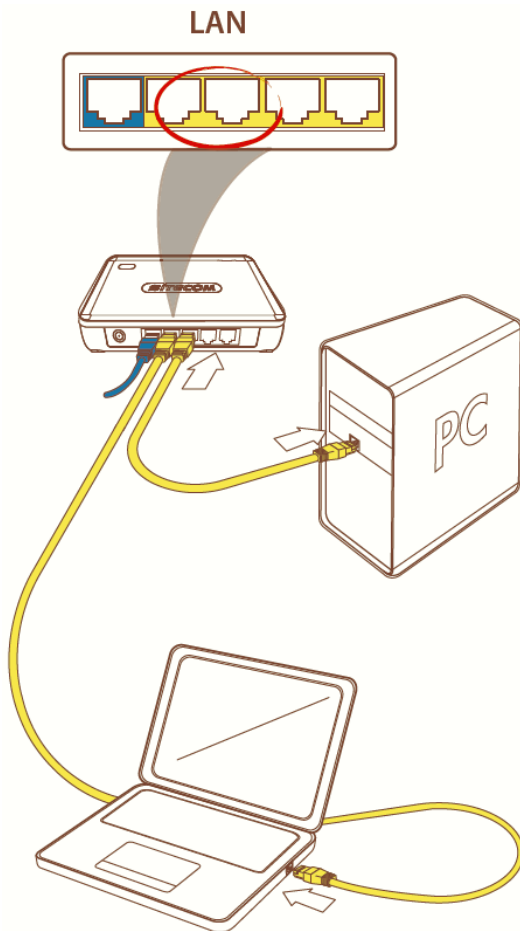
## 7 Setup LAN, WAN

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WAN connection:



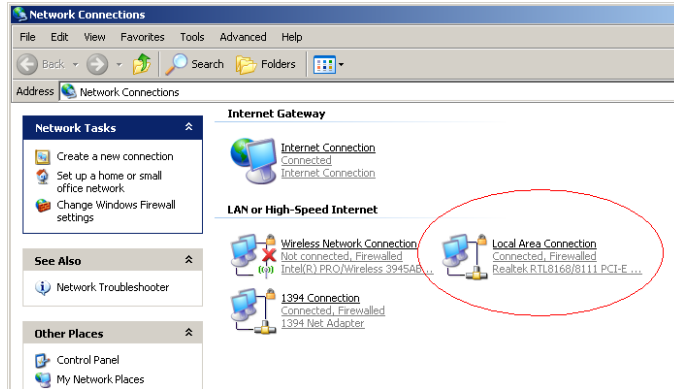
LAN connection:



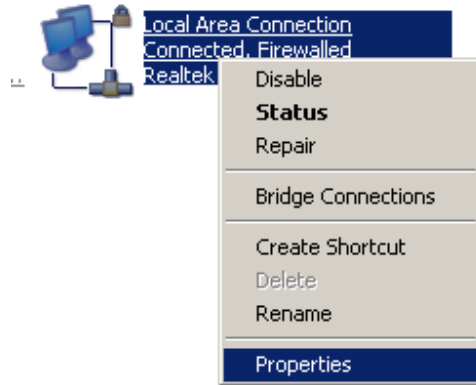
# 8 PC Network Adapter setup

## Windows XP

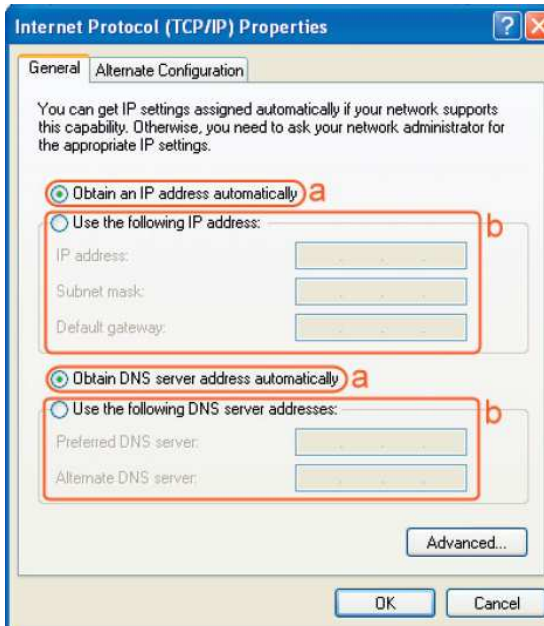
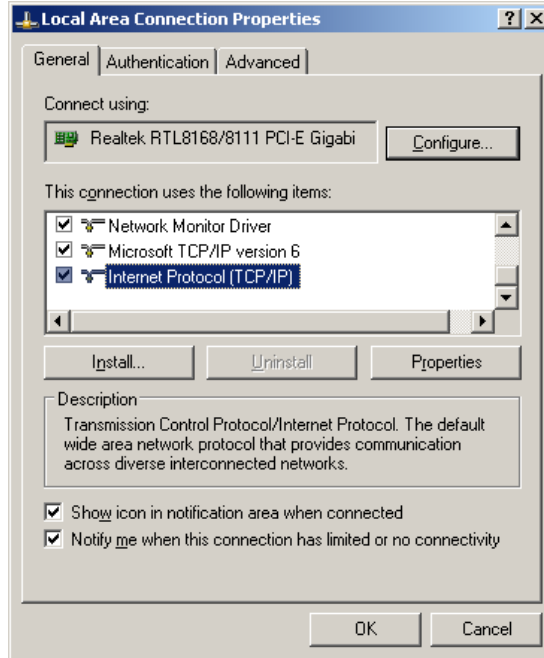
- Enter [Start Menu] → select [Control panel] → select [Network].



- Select [Local Area Connection]) icon=>select [properties]



- Select [Internet Protocol (TCP/IP)] =>Click [Properties].

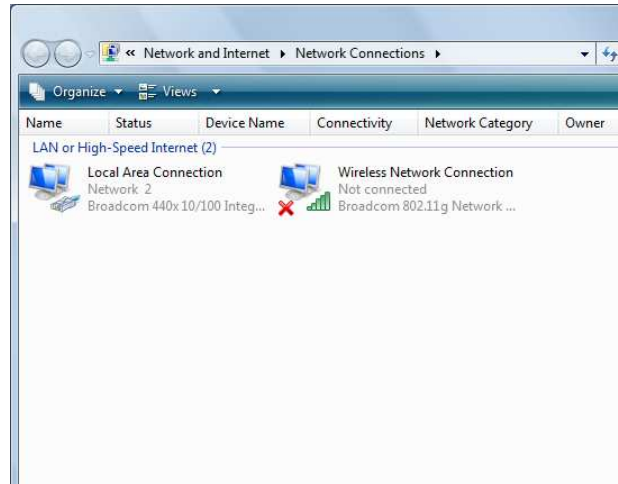


- Select the [General] tab.

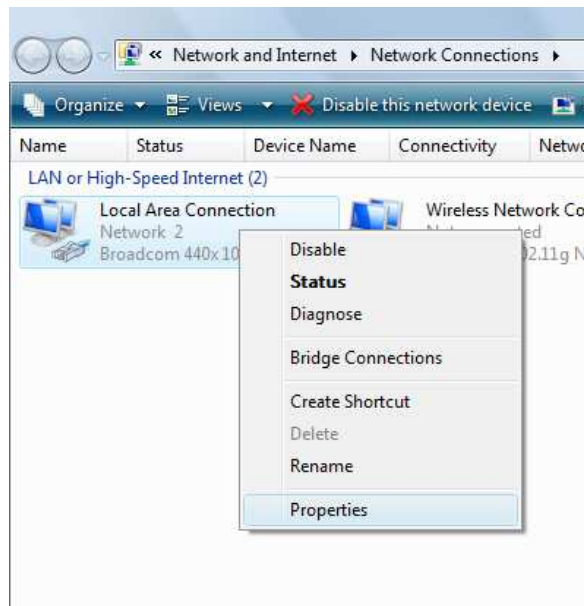
The WLR-6000 supports a [DHCP] function, please select both [Obtain an IP address automatically] and [Obtain DNS server address automatically].

## Windows Vista/Seven

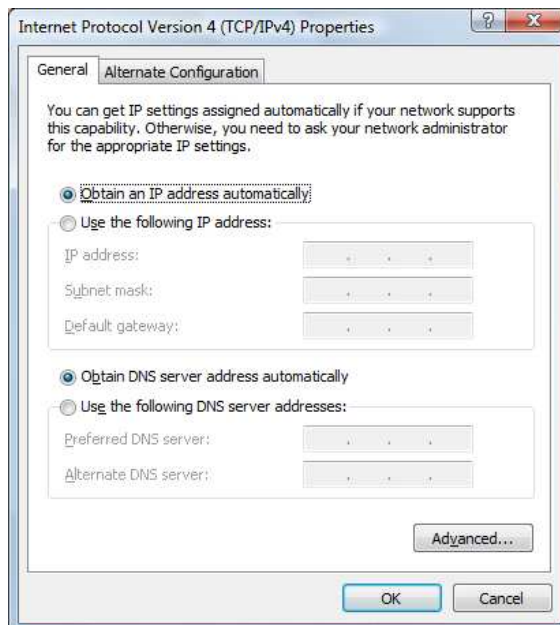
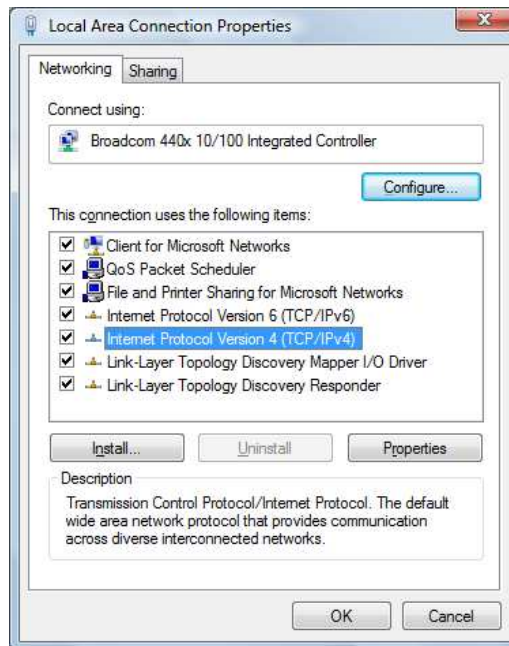
- Enter [Start Menu] → select [Control panel] → select [View network status and tasks] -> select [Manage network connections].



- Select [Local Area Connection]) icon=>select [properties]



- Select [Internet Protocol Version 4 (TCP/IPv4)] =>Click [Properties].



- Select the [General] tab.

The WLR-6000 supports a [DHCP] function, please select both [Obtain an IP address automatically] and [Obtain DNS server address automatically].

## 9 Bring up the WLR-6000

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Connect the supplied power-adaptor to the power inlet port and connect it to a wall outlet. Switch the WLR-6000 on by flipping the switch on the back of the device. The WLR-6000 automatically enters the self-test phase. During self-test phase, the Power LED will be lit continuously to indicate that this product is in normal operation.

## 10 Initial Setup WLR-6000

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### LOGIN procedure

1. OPEN your browser (e.g. Internet Explorer).



2. Type <http://192.168.0.1> in the address bar and press [Enter]

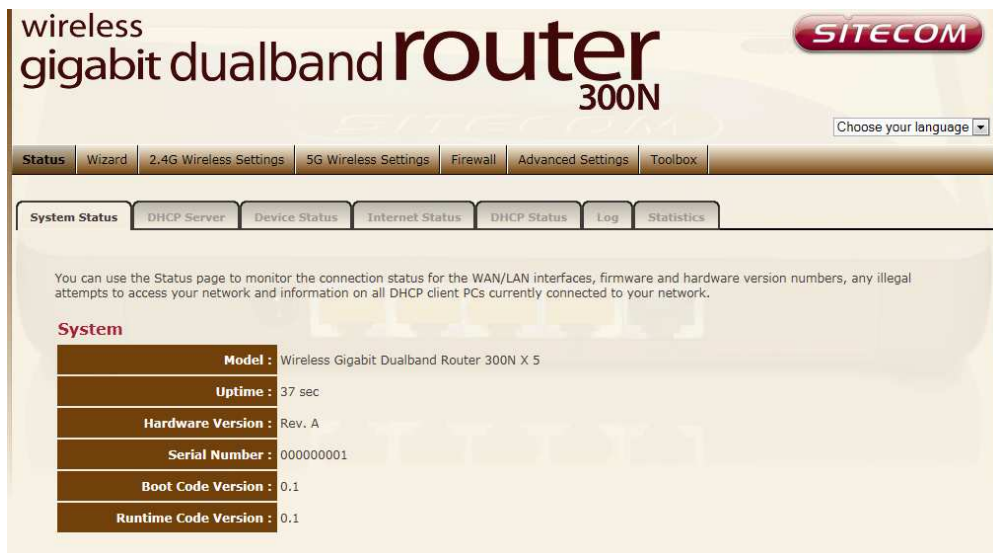




3. Type user name and password. The default username is admin, the password can be found on the back label on the bottom of your router.



4. Click **OK**.
5. You will see the home page of the WLR-6000.



The System status section allows you to monitor the current status of your router, the UP time, hardware information, serial number as well as firmware version information is displayed here.

## LAN settings

The LAN tab gives you the opportunity to change the IP settings of the WLR-6000.



The screenshot shows the LAN settings configuration page for a WLR-6000 router. The page has a navigation bar at the top with tabs for Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below this is a sub-navigation bar with tabs for System Status, DHCP Server (selected), Device Status, Internet Status, DHCP Status, Log, and Statistics. The main content area contains a text box explaining that the DHCP server can be enabled to dynamically allocate IP addresses to LAN client PCs, and that the router must have an IP address for the LAN. Below this is the LAN IP configuration section, which includes fields for IP Address (192.168.0.1), IP Subnet Mask (255.255.255.0), 802.1d Spanning Tree (Disabled), DHCP Server (Enabled), and Lease Time (Two days). The DHCP Server section includes fields for Start IP (192.168.0.100), End IP (192.168.0.200), and Domain Name (sitecomwlr6000). At the bottom right, there are Apply and Cancel buttons.

Click **<Apply>** at the bottom of this screen to save any changes.

**IP address** 192.168.0.1. It is the router's LAN IP address (Your LAN clients default gateway IP address).

**IP Subnet Mask** 255.255.255.0 Specify a Subnet Mask for your LAN segment.

**802.1d Spanning Tree** is Disabled by default. If the 802.1d Spanning Tree function is enabled, this router will use the spanning tree protocol to prevent network loops.

**DHCP Server** Enabled by default. You can enable or disable the DHCP server. When DHCP is disabled no ip-addresses are assigned to clients and you have to use static ip-addresses. When DHCP server is enabled your computers will be assigned an ip-address automatically until the lease time expires.

**Lease Time** Forever. In the Lease Time setting you can specify the time period that the DHCP lends an IP address to your LAN clients. The DHCP will change your LAN client's IP address when this time threshold period is reached.

**IP Address Pool** You can select a particular IP address range for your DHCP server to issue IP addresses to your LAN Clients.

***Note: default IP range is 192.168.0.100 ~ 192.168.0.200. If you want your PC(s) to have a static/fixed IP address, then you'll have to choose an IP address outside this IP address Pool***

**Domain Name** You can specify a Domain Name for your LAN. Or just keep the default (sitecomwlr6000).

## Device Status

View the Broadband router's current configuration settings. Device Status displays the configuration settings you've configured in the Wizard / Basic Settings / Wireless Settings section.

The screenshot displays the 'Device Status' page of a broadband router's web interface. The page is organized into several sections:

- Navigation:** A top menu bar includes 'Status', 'Wizard', '2.4G Wireless Settings', '5G Wireless Settings', 'Firewall', 'Advanced Settings', and 'Toolbox'. Below it, a sub-menu highlights 'Device Status' among other options like 'System Status', 'DHCP Server', 'Internet Status', 'DHCP Status', 'Log', and 'Statistics'.
- Introduction:** A heading reads 'View the current setting status of this device.' followed by a faint background image of a router.
- Mode:** A label 'Mode : AP' is shown.
- 2.4G Wireless Configuration:**
  - Channel :** 1
  - SSID\_1:**
    - ESSID :** 697\_2.4
    - Security :** WPA2 pre-shared key
    - BSSID :** 00:0C:F6:AE:C7:F8
    - Associated Clients :** 0

- 5G Wireless Configuration:**
- Channel :** 36
- SSID\_1:**
  - ESSID :** 697\_5
  - Security :** WPA2 pre-shared key
  - BSSID :** 00:0C:F6:AE:C7:FC
  - Associated Clients :** 0
- LAN Configuration:**
- IP Address :** 192.168.0.1
- Subnet Mask :** 255.255.255.0
- DHCP Server :** Enabled
- MAC Address :** 00:0C:F6:AE:C7:F8

## Internet Status

This page displays whether the WAN port is connected to a Cable/DSL connection. It also displays the router's WAN IP address, Subnet Mask, and ISP Gateway as well as MAC address, the Primary DNS. Press **Renew** button to renew your WAN IP address.

wireless gigabit dualband router 300N SITECOM

Choose your language ▾

Status Wizard 2.4G Wireless Settings 5G Wireless Settings Firewall Advanced Settings Toolbox

System Status DHCP Server Device Status **Internet Status** DHCP Status Log Statistics

View the current internet connection status and related information.

<b>Attain IP Protocol :</b>	Dynamic IP Address
<b>IP Address :</b>	192.168.2.2
<b>Subnet Mask :</b>	255.255.255.0
<b>Default Gateway :</b>	192.168.2.254
<b>MAC Address :</b>	00:0C:F6:AE:C7:C9
<b>Primary DNS :</b>	192.168.2.254

Renew

## DHCP Client Status

**DHCP** This page shows all DHCP clients (LAN PCs) currently connected to your network. The table shows the assigned IP address, MAC address and expiration time for each DHCP leased client. Use the Refresh button to update the available information.

You can check **Enable Static DHCP IP**. It is possible to add more static DHCP IPs. They are listed in the table **Current Static DHCP Table**. IP can be deleted at will from the table.

Click the **Apply** button to save the changed configuration.

The screenshot shows the DHCP Client Status page of a Sitecom wireless gigabit dualband router 300N. The page has a navigation menu with options: Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below this is a sub-menu with: System Status, DHCP Server, Device Status, Internet Status, DHCP Status (selected), Log, and Statistics. The main content area displays a table of DHCP leased clients with the following data:

IP address	MAC address	Expiration Time
192.168.0.100	B8:AC:6F:76:BD:1D	1 day 23:53:45

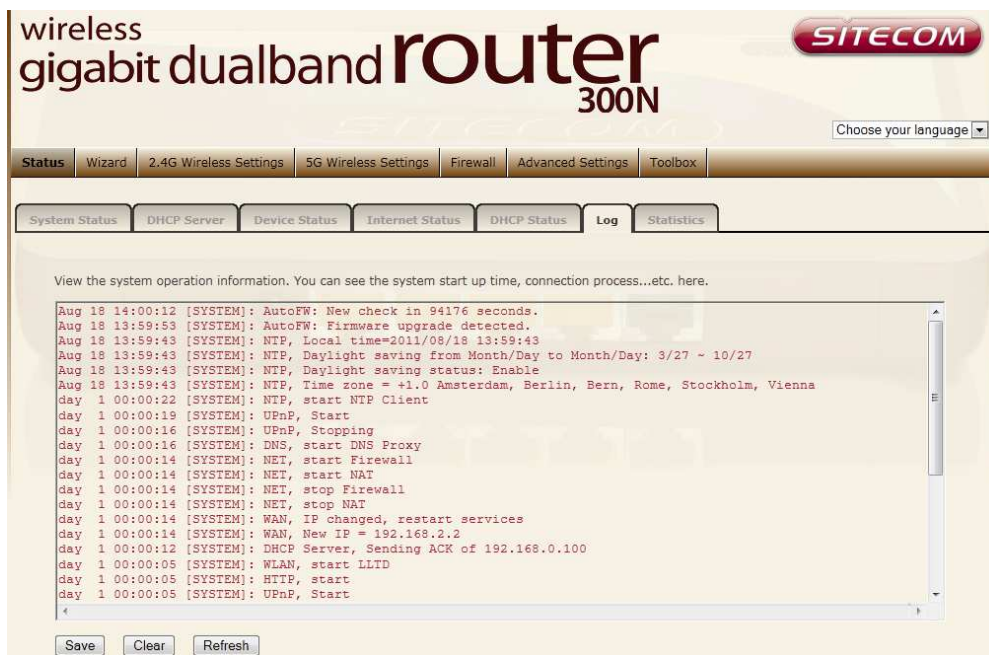
Below the table is a Refresh button and a checkbox for Enable Static DHCP IP. Underneath, there is a table for adding static DHCP IPs with input fields for IP address and MAC address, and Add and Reset buttons.

IP address	MAC address
<input type="text"/>	<input type="text"/>

At the bottom, there is a Current Static DHCP Table with columns for No., IP address, MAC address, and Select. Below this table are buttons for Delete Selected, Delete All, and Reset. At the very bottom right are Apply and Cancel buttons.

## WLR-6000 Log

View the operation log of the WLR-6000. This page shows the current system log of the Broadband router. It displays any event occurred after system start up. At the bottom of the page, the system log can be saved **<Save>** to a local file for further processing or the system log can be cleared **<Clear>** or it can be refreshed **<Refresh>** to get the most updated information. When the system is powered down, the system log will disappear if not saved to a local file.



The screenshot displays the web interface of a Sitecom wireless gigabit dualband router (model 300N). The page title is "wireless gigabit dualband router 300N" with the Sitecom logo. A navigation menu includes "Status", "Wizard", "2.4G Wireless Settings", "5G Wireless Settings", "Firewall", "Advanced Settings", and "Toolbox". Below this, a sub-menu shows "System Status", "DHCP Server", "Device Status", "Internet Status", "DHCP Status", "Log", and "Statistics". The "Log" tab is active, showing system operation information. The log text is as follows:

```
Aug 18 14:00:12 [SYSTEM]: AutoFW: New check in 94176 seconds.
Aug 18 13:59:53 [SYSTEM]: AutoFW: Firmware upgrade detected.
Aug 18 13:59:43 [SYSTEM]: NTP, Local time=2011/08/18 13:59:43
Aug 18 13:59:43 [SYSTEM]: NTP, Daylight saving from Month/Day to Month/Day: 3/27 ~ 10/27
Aug 18 13:59:43 [SYSTEM]: NTP, Daylight saving status: Enable
Aug 18 13:59:43 [SYSTEM]: NTP, Time zone = +1.0 Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
day 1 00:00:22 [SYSTEM]: NTP, start NTP Client
day 1 00:00:19 [SYSTEM]: UPnP, Start
day 1 00:00:16 [SYSTEM]: UPnP, Stopping
day 1 00:00:16 [SYSTEM]: DNS, start DNS Proxy
day 1 00:00:14 [SYSTEM]: NET, start Firewall
day 1 00:00:14 [SYSTEM]: NET, start NAT
day 1 00:00:14 [SYSTEM]: NET, stop Firewall
day 1 00:00:14 [SYSTEM]: NET, stop NAT
day 1 00:00:14 [SYSTEM]: WAN, IP changed, restart services
day 1 00:00:14 [SYSTEM]: WAN, New IP = 192.168.2.2
day 1 00:00:12 [SYSTEM]: DHCP Server, Sending ACK of 192.168.0.100
day 1 00:00:05 [SYSTEM]: WLAN, start LLTD
day 1 00:00:05 [SYSTEM]: HTTP, start
day 1 00:00:05 [SYSTEM]: UPnP, Start
```

At the bottom of the log area, there are three buttons: "Save", "Clear", and "Refresh".

## WLR-6000 Statistics

Shows the counters of packets sent and received on WAN, LAN & WLAN.

The screenshot displays the web interface for a Sitecom wireless gigabit dualband router 300N. The page is titled "wireless gigabit dualband router 300N" and features the Sitecom logo. A navigation menu includes "Status", "Wizard", "2.4G Wireless Settings", "5G Wireless Settings", "Firewall", "Advanced Settings", and "Toolbox". The "Statistics" tab is selected, showing a table of packet counters for various network interfaces. The table lists "Sent Packets" and "Received Packets" for 2.4G Wireless LAN, 5G Wireless LAN, Ethernet LAN, and Ethernet WAN. A "Refresh" button is located at the bottom left of the statistics section.

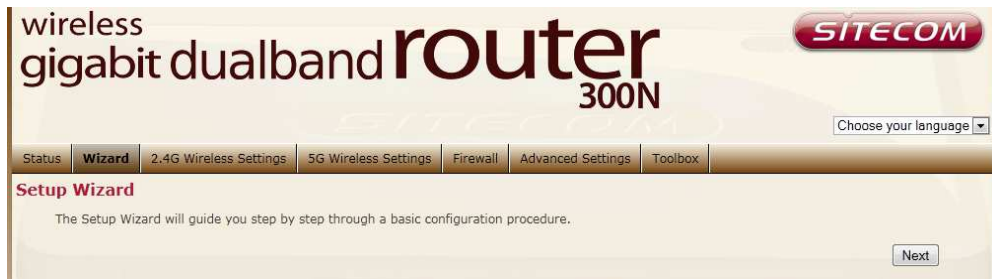
Interface	Packet Type	Count
2.4G Wireless LAN :	Sent Packets	690
	Received Packets	4565
5G Wireless LAN :	Sent Packets	45
	Received Packets	3919
Ethernet LAN :	Sent Packets	8245
	Received Packets	5229
Ethernet WAN :	Sent Packets	4288
	Received Packets	8127



# 11 Configuration Wizard

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Click **Wizard** to configure the router. The Setup wizard will now be displayed; check that the modem is connected and click **Next**.



Select your country from the Country list. Select your internet provider. Click **Next**.



Depending on the chosen provider, you may need to enter your user name and password, MAC address or hostname in the following window. After you have entered the correct information, click **Next**.

**300N WIRELESS ROUTER** **SITECOM**

Status **Wizard** Wireless Settings Firewall Advanced Settings Toolbox Choose your language ▾

Please, enter the data which is supplied by your ISP.

Login Method :	PPP over Ethernet	
Username :	<input type="text"/>	
Password :	<input type="password"/>	
Service :	<input type="text"/>	
MTU :	<input type="text" value="1452"/>	(512<=MTU Value<=1492)
Connection Type :	<input type="text" value="Keep connection"/>	<input type="button" value="Connect"/> <input type="button" value="Disconnect"/>
Idle Time :	<input type="text" value="10"/>	(1-1000 Minutes)

Click **APPLY** to complete the configuration.

# 12 Wireless Settings

---

You can set parameters that are used for the wireless stations to connect to this router for the **2.4Ghz** radio or **5Ghz** radio. The parameters include Mode, ESSID, Channel Number and Associated Client.

## Wireless Function



Enable or Disable Wireless function here. Click **Apply** and wait for module to be ready & loaded.

## Basic Settings

The screenshot shows the configuration interface for a Sitecom 300N wireless gigabit dualband router. The page title is "wireless gigabit dualband router 300N" with the Sitecom logo. A navigation bar includes "Status", "Wizard", "2.4G Wireless Settings" (selected), "5G Wireless Settings", "Firewall", "Advanced Settings", and "Toolbox". Below this is a sub-menu with "Enable", "Basic" (selected), "Advanced", "Security", "ACL", and "WPS". A descriptive text states: "This page allows you to define ESSID, and Channel for the wireless connection. These parameters are used for the wireless stations to connect to the Access Point." The configuration fields are as follows:

Mode :	AP
Power Saving :	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Band :	2.4 GHz (802.11b/g/n)
Enable SSID#:	1
SSID1 :	SitecomAEC7FC
Channel :	1

Buttons for "Apply" and "Cancel" are located at the bottom right of the form area.

**Mode** Allows you to set the AP to AP, Station, Bridge or WDS mode.

**Band** Allows you to set the AP fixed at 802.11b or 802.11g mode. You can also select B+G mode to allow 802.11b and 802.11g clients at the same time. For the 5GHz mode you can set 802.11a, 802.11n or 802.11a/n mode.

**ESSID** This is the name of the wireless signal which is broadcasted. All the devices in the same wireless LAN should have the same ESSID.

**Channel** The channel used by the wireless LAN. All devices in the same wireless LAN should use the same channel.

## Advanced Settings

This tab allows you to set the advanced wireless options. The options included are Authentication Type, Fragment Threshold, RTS Threshold, Beacon Interval, and Preamble Type. You should not change these parameters unless you know what effect the changes will have on the router.

The screenshot shows the 'Advanced Settings' tab for a wireless router. The interface includes a navigation bar with tabs for 'Status', 'Wizard', '2.4G Wireless Settings', '5G Wireless Settings', 'Firewall', 'Advanced Settings', and 'Toolbox'. Below this, there are sub-tabs for 'Enable', 'Basic', 'Advanced', 'Security', 'ACL', and 'WPS'. The 'Advanced' sub-tab is selected. A warning message states: 'These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Broadband router.' The settings are as follows:

Fragment Threshold :	2346	(256-2346)
RTS Threshold :	2347	(1-2347)
Beacon Interval :	100	(20-1024 ms)
DTIM Period :	1	(1-255)
Data Rate :	Auto	
N Data Rate :	Auto	
Channel Bandwidth :	<input checked="" type="radio"/> Auto 20/40 MHZ	<input type="radio"/> 20 MHZ
Preamble Type :	<input checked="" type="radio"/> Long Preamble	<input type="radio"/> Short Preamble
CTS Protection :	<input checked="" type="radio"/> Auto	<input type="radio"/> Always <input type="radio"/> None
Tx Power :	100 %	

Buttons for 'Apply' and 'Cancel' are located at the bottom right of the settings area.

**Authentication Type** There are two authentication types: "Open System" and "Shared Key". When you select "Open System", wireless stations can associate with this wireless router without WEP encryption. When you select "Shared Key", you should also setup a WEP key in the "Encryption" page. After this has been done, make sure the wireless clients that you want to connect to the device are also setup with the same encryption key.

**Fragment Threshold** "Fragment Threshold" specifies the maximum size of a packet during the fragmentation of data to be transmitted. If you set this value too low, it will result in bad performance.

**RTS Threshold** When the packet size is smaller than the RTS threshold, the wireless router will not use the RTS/CTS mechanism to send this packet.

**Beacon Interval** is the interval of time that this wireless router broadcasts a beacon. A Beacon is used to synchronize the wireless network.

**Data Rate** The “Data Rate” is the rate that this access point uses to transmit data packets. The access point will use the highest possible selected transmission rate to transmit the data packets.

**N Data Rate** The “Data Rate” is the rate that this access point uses to transmit data packets for N compliant wireless nodes. Highest to lowest data rate can be fixed.

**Channel Bandwidth** is the range of frequencies that will be used.

**Preamble Type** The “Long Preamble” can provide better wireless LAN compatibility while the “Short Preamble” can provide better wireless LAN performance.

**Broadcast ESSID** If you enabled “Broadcast ESSID”, every wireless station located within the coverage of this access point can discover this access point easily. If you are building a public wireless network, enabling this feature is recommended. Disabling “Broadcast ESSID” can provide better security.

**CTS Protection:** It is recommended to enable the protection mechanism. This mechanism can decrease the rate of data collision between 802.11b and 802.11g wireless stations. When the protection mode is enabled, the throughput of the AP will be a little lower due to a lot of frame-network that is transmitted.

**TX Power** can be set to a bare minimum or maximum power.

**WMM** WiFi Multi Media if enabled supports QoS for experiencing better audio, video and voice in applications.

## Security

This Access Point provides complete wireless LAN security functions, included are WEP, IEEE 802.11x, IEEE 802.11x with WEP, WPA with pre-shared key and WPA with RADIUS. With these security functions, you can prevent your wireless LAN from illegal access. Please make sure your wireless stations use the same security function, and are setup with the same security key.

## Disable

When you choose to disable encryption, it is very insecure to operate the WLR-6000.



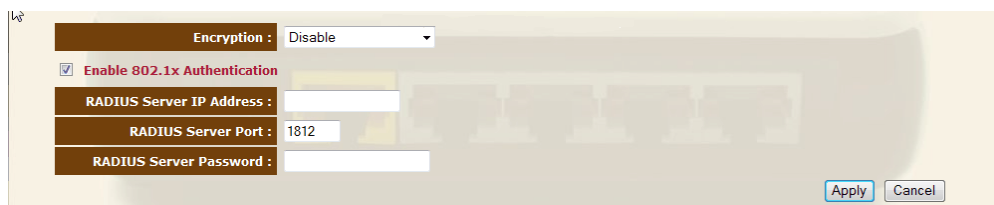
The screenshot shows the '2.4G Wireless Settings' page with the 'Security' tab selected. The page contains the following fields and options:

- SSID Selection: 697\_2.4
- Broadcast ESSID: Enable
- WMM: Enable
- Encryption: WPA pre-shared key
- WPA Type: WPA(TKIP), WPA2(AES) (selected), WPA2 Mixed
- Pre-shared Key Type: Passphrase
- Pre-sharedKey: TH82VLGUNXTV

Buttons for 'Apply' and 'Cancel' are located at the bottom right.

## Enable 802.1x Auth

IEEE 802.1x is an authentication protocol. Every user must use a valid account to login to this Access Point before accessing the wireless LAN. The authentication is processed by a RADIUS server. This mode only authenticates users by IEEE 802.1x, but it does not encrypt the data during communication



The screenshot shows the '802.1x Authentication' settings page with the following fields and options:

- Encryption: Disable
- Enable 802.1x Authentication
- RADIUS Server IP Address: [Empty field]
- RADIUS Server Port: 1812
- RADIUS Server Password: [Empty field]

Buttons for 'Apply' and 'Cancel' are located at the bottom right.

## WEP

When you select 64-bit or 128-bit WEP key, you have to enter WEP keys to encrypt data. You can generate the key by yourself and enter it. You can enter four WEP keys and select one of them as a default key. Then the router can receive any packets encrypted by one of the four keys.

The screenshot shows a configuration interface for WEP. It includes the following fields and options:

- Encryption: WEP (dropdown)
- Key Length: 64-bit (dropdown)
- Key Type: ASCII (5 characters) (dropdown)
- Default Key: Key 1 (dropdown)
- Encryption Key 1: [text input]
- Encryption Key 2: [text input]
- Encryption Key 3: [text input]
- Encryption Key 4: [text input]
- Enable 802.1x Authentication
- RADIUS Server IP Address: [text input]
- RADIUS Server Port: 1812 (text input)
- RADIUS Server Password: [text input]
- Buttons: Apply, Cancel

**Key Length** You can select the WEP key length for encryption, 64-bit or 128-bit. The larger the key will be the higher level of security is used, but the throughput will be lower.

**Key Format** You may select ASCII Characters (alphanumeric format) or Hexadecimal Digits (in the "A-F", "a-f" and "0-9" range) to be the WEP Key.

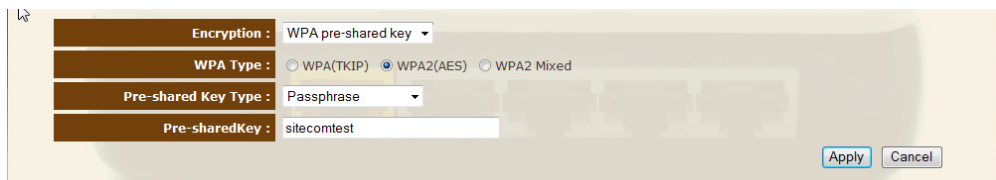
**Key1 - Key4** The WEP keys are used to encrypt data transmitted in the wireless network. Use the following rules to setup a WEP key on the device. 64-bit WEP: input 10-digits Hex values (in the "A-F", "a-f" and "0-9" range) or 5-digit ASCII character as the encryption keys. 128-bit WEP: input 26-digit Hex values (in the "A-F", "a-f" and "0-9" range) or 13-digit ASCII characters as the encryption keys.

Click <Apply> at the bottom of the screen to save the above configurations. You can now configure other sections by choosing Continue, or choose Apply to apply the settings and reboot the device.



## WPA Pre-shared Key

Wi-Fi Protected Access (WPA) is an advanced security standard. You can use a pre-shared key to authenticate wireless stations and encrypt data during communication. It uses TKIP or CCMP (AES) to change the encryption key frequently. So the encryption key is not easy to be cracked by hackers. This is the best security available.



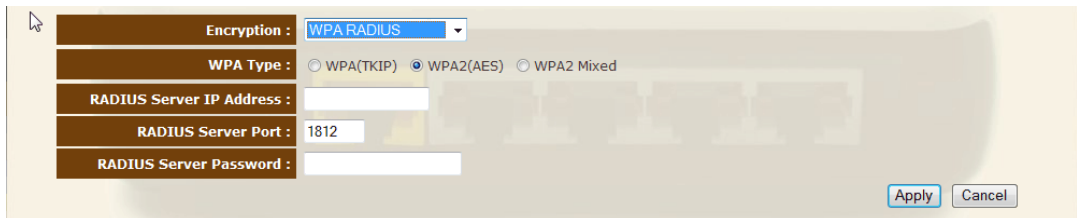
The screenshot shows a configuration window for WPA Pre-shared Key. It features a dark brown header and a light beige background. The settings are as follows:

Encryption :	WPA pre-shared key
WPA Type :	<input type="radio"/> WPA(TKIP) <input checked="" type="radio"/> WPA2(AES) <input type="radio"/> WPA2 Mixed
Pre-shared Key Type :	Passphrase
Pre-sharedKey :	sitecomtest

At the bottom right, there are two buttons: "Apply" and "Cancel".

## 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 CCMP (**AES**) to change the encryption key frequently. Press **Apply** button when you are done.



The screenshot shows a configuration window for WPA-Radius. It features a dark brown header and a light beige background. The settings are as follows:

Encryption :	WPA RADIUS
WPA Type :	<input type="radio"/> WPA(TKIP) <input checked="" type="radio"/> WPA2(AES) <input type="radio"/> WPA2 Mixed
RADIUS Server IP Address :	
RADIUS Server Port :	1812
RADIUS Server Password :	

At the bottom right, there are two buttons: "Apply" and "Cancel".

## ACL

This wireless router supports MAC Address Control, which prevents unauthorized clients from accessing your wireless network.

Status Wizard **2.4G Wireless Settings** 5G Wireless Settings Firewall Advanced Settings Toolbox

Enable Basic Advanced Security **ACL** WPS

For security reason, the Access Point features MAC Address Filtering which only allows authorized MAC Addresses to associate with the Access Point.

**MAC Address Filtering Table**

NO.	MAC address	Comment	Select
-----	-------------	---------	--------

Delete Selected Delete All Reset

**Enable Wireless Access Control**

**New :** MAC address :  Comment :  Add Reset

Apply Cancel

**Enable wireless access control** Enables the wireless access control function

**Adding an address into the list** Enter the "MAC Address" and "Comment" of the wireless station to be added and then click "Add". The wireless station will now be added into the "Current Access Control List" below. If you are having any difficulties filling in the fields, just click "Clear" and both "MAC Address" and "Comment" fields will be cleared.

**Remove an address from the list** If you want to remove a MAC address from the "Current Access Control List ", select the MAC address that you want to remove in the list and then click "Delete Selected". If you want to remove all the MAC addresses from the list, just click the "Delete All" button. Click "Reset" will clear your current selections.

Click <Apply> at the bottom of the screen to save the above configurations. You can now configure other sections by choosing Continue, or choose Apply to apply the settings and reboot the device.

## WPS

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

The wireless router supports two types of WPS: WPS via Push Button and WPS via PIN code. If you want to use the Push Button, you have to push a specific button on the wireless client or in the utility of the wireless client to start the WPS mode, and switch the wireless router to WPS mode. You can simply push the WPS button of the wireless router, or click the 'Start to Process' button in the web configuration interface. If you want to use the PIN code, you have to know the PIN code of the wireless client and switch it to WPS mode, then fill-in the PIN code of the wireless client through the web configuration interface of the wireless router.

The screenshot shows a web configuration interface for a wireless router. At the top, there are tabs for 'Status', 'Wizard', '2.4G Wireless Settings', '5G Wireless Settings', 'Firewall', 'Advanced Settings', and 'Toolbox'. Below these, there are sub-tabs for 'Enable', 'Basic', 'Advanced', 'Security', 'ACL', and 'WPS'. The 'WPS' tab is selected. The main content area shows the following configuration options:

- WPS:**  Enable
- Wi-Fi Protected Setup Information:**
  - WPS Current Status:** Configured (with a 'Release configuration' button)
  - Self Pin Code:** 14544606
  - SSID:** 697\_2.4
  - Authentication Mode:** WPA2 pre-shared key
  - Passphrase Key:** TH82VLGUNXTV
  - WPS Via Push Button:** (with a 'Start to Process' button)
  - WPS Via PIN:** (with an empty input field and a 'Start to Process' button)

**WPS** Check the box to enable WPS function and uncheck it to disable the WPS function.

**WPS Current Status** If the wireless security (encryption) function of this wireless router is properly set, you'll see a 'Configured' message here. Otherwise, you'll see 'UnConfigured'.

**Self Pin Code** This is the WPS PIN code of the wireless router. You may need this information when connecting to other WPS-enabled wireless devices.

**SSID** This is the network broadcast name (SSID) of the router.

**Authentication Mode** It shows the active authentication mode for the wireless connection.

**Passphrase Key** It shows the passphrase key that is randomly generated by the wireless router during the WPS process. You may need this information when using a device which doesn't support WPS.

**WPS via Push Button** Press the button to start the WPS process. The router will wait for the WPS request from the wireless devices within 2 minutes.

**WPS via PIN** You can fill-in the PIN code of the wireless device and press the button to start the WPS process. The router will wait for the WPS request from the wireless device within 2 minutes.

## 13 Firewall Settings

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The Broadband router provides extensive firewall protection by restricting connection parameters, thus limiting the risk of hacker attacks, and defending against a wide array of common Internet attacks. However, for applications that require unrestricted access to the Internet, you can configure a specific client/server as a Demilitarized Zone (DMZ).

**Note:** To enable the Firewall settings select Enable and click Apply



## DMZ

If you have a client PC that cannot run an Internet application (e.g. Games) properly from behind the NAT firewall, then you can open up the firewall restrictions to unrestricted two-way Internet access by defining a DMZ Host. The DMZ function allows you to re-direct all packets going to your WAN port IP address to a particular IP address in your LAN. The difference between the virtual server and the DMZ function is that the virtual server re-directs a particular service/Internet application (e.g. FTP, websites) to a particular LAN client/server, whereas DMZ re-directs all packets (regardless of services) going to your WAN IP address to a particular LAN client/server.

The screenshot shows the web interface of a Sitecom wireless gigabit dualband router 300N. The page is titled "wireless gigabit dualband router 300N" and features the Sitecom logo. A navigation menu includes "Status", "Wizard", "2.4G Wireless Settings", "5G Wireless Settings", "Firewall", "Advanced Settings", and "Toolbox". The "Firewall" section is active, with sub-tabs for "Enable", "DMZ", "DoS", "Access", and "URL block". The "DMZ" tab is selected, and the "Enable DMZ" checkbox is checked. Below this, there are fields for "Public IP Address" and "Client PC IP Address". The "Dynamic IP" option is selected, with a dropdown menu showing "Session 1". There are also "Add" and "Reset" buttons. A "DMZ table" is displayed with columns for "NO.", "Public IP Address", "Client PC IP Address", and "Select". At the bottom, there are "Delete Selected", "Delete All", and "Reset" buttons, and "Apply" and "Cancel" buttons.

**Enable DMZ** Enable/disable DMZ

**Public IP Address** The IP address of the WAN port or any other Public IP addresses given to you by your ISP

**Client PC IP Address** Fill-in the IP address of a particular host in your LAN that will receive all the packets originally going to the WAN port/Public IP address above.

Click **<Apply>** at the bottom of the screen to save the above configurations.

## Denial of Service (DoS)

The Broadband router's firewall can block common hacker attacks, including Denial of Service, Ping of Death, Port Scan and Sync Flood. If Internet attacks occur the router can log the events.



**Ping of Death** Protections from Ping of Death attack

**Discard Ping From WAN** The router's WAN port will not respond to any Ping requests

**Port Scan** Protects the router from Port Scans.

**Sync Flood** Protects the router from Sync Flood attack.

## Access

You can restrict users from accessing certain Internet applications/services (e.g. Internet websites, email, FTP etc.), Access Control allows users to define the traffic type permitted in your LAN. You can control which PC client can have access to these services.

Status Wizard 2.4G Wireless Settings 5G Wireless Settings **Firewall** Advanced Settings Toolbox

Enable DMZ DoS **Access** URL block

Access Control allows users to define the traffic type permitted or not permitted in your LAN. You can control which PC uses what services or has access to.  
If both MAC filtering and IP filtering are enabled, the MAC filtering table will be checked first.

Enable MAC filtering  Deny  Allow

Client PC MAC Address	Comment
<input type="text"/>	<input type="text"/>

**MAC Filtering table:**

NO.	Client PC MAC Address	Comment	Select
-----	-----------------------	---------	--------

Enable IP Filtering Table  Deny  Allow

NO.	PC Description	PC IP Address	Client Service	Protocol	Port range	Select
-----	----------------	---------------	----------------	----------	------------	--------

**Deny** If you select "Deny" then all clients will be allowed to access Internet accept for the clients in the list below.

**Allow** If you select "Allow" then all clients will be denied to access Internet accept for the PCs in the list below.

**Filter client PCs by IP** Fill in "IP Filtering Table" to filter PC clients by IP.

**Add PC** You can click Add PC to add an access control rule for users by IP addresses.

**Remove PC** If you want to remove some PCs from the "IP Filtering Table", select the PC you want to remove in the table and then click "Delete Selected". If you want to remove all PCs from the table, just click the "Delete All" button.

**Filter client PC by MAC** Check "Enable MAC Filtering" to enable MAC Filtering.



**Add PC** Fill in "Client PC MAC Address" and "Comment" of the PC that is allowed to access the Internet, and then click "Add". If you find any typo before adding it and want to retype again, just click "Reset" and the fields will be cleared.

**Remove PC** If you want to remove some PC from the "MAC Filtering Table", select the PC you want to remove in the table and then click "Delete Selected". If you want to remove all PCs from the table, just click the "Delete All" button. If you want to clear the selection and re-select again, just click "Reset".

Click <**Apply**> at the bottom of the screen to save the above configuration.

## URL block

You can block access to some Web sites from particular PCs by entering a full URL address or just keywords of the Web site.



The screenshot shows the 'URL block' configuration page in a network management interface. At the top, there are tabs for 'Status', 'Wizard', '2.4G Wireless Settings', '5G Wireless Settings', 'Firewall', 'Advanced Settings', and 'Toolbox'. Below these, there are sub-tabs for 'Enable', 'DMZ', 'DoS', 'Access', and 'URL block'. The main content area contains a checkbox for 'Enable URL Blocking'. Below it is a text input field labeled 'URL/keyword :'. There are 'Add' and 'Reset' buttons next to the input field. Below the input field is a table titled 'Current URL Blocking Table' with three columns: 'NO.', 'URL/keyword', and 'Select'. At the bottom of the page, there are buttons for 'Delete Selected', 'Delete All', 'Reset', 'Apply', and 'Cancel'.

**Enable URL Blocking** Enable/disable URL Blocking

**Add URL Keyword** Fill in "URL/Keyword" and then click "Add". You can enter the full URL address or the keyword of the web site you want to block.

**Remove URL Keyword** If you want to remove some URL keywords from the "Current URL Blocking Table", select the URL keyword you want to remove in the table and then click "Delete Selected". If you want remove all URL keywords from the table, just click "Delete All" button. If you want to clear the selection and re-select again, just click "Reset".

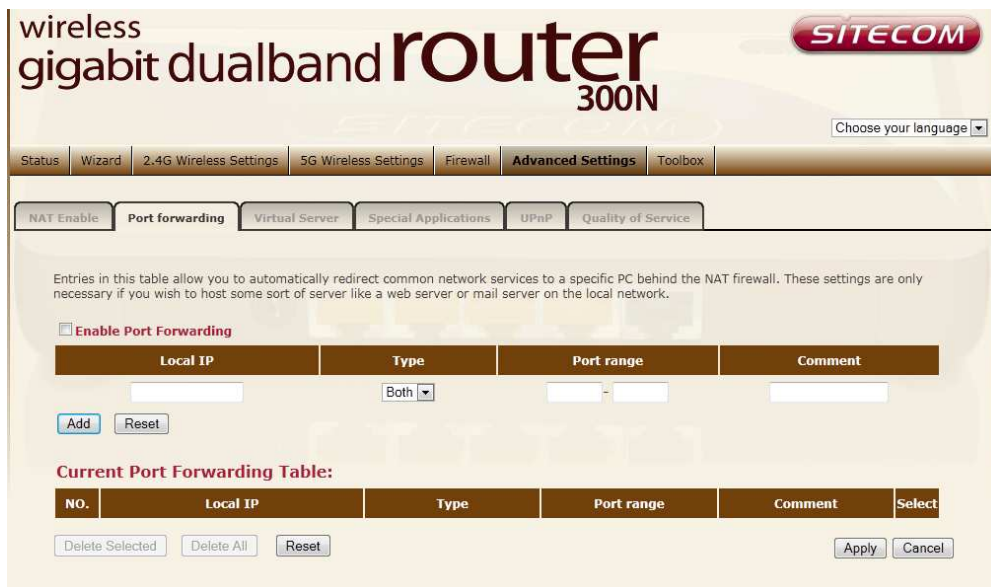
Click <**Apply**> at the bottom of the screen to save the above configurations

# 14 Advanced Settings

Network Address Translation (NAT) allows multiple users at your local site to access the Internet through a single Public IP Address or multiple Public IP Addresses. NAT provides Firewall protection from hacker attacks and has the flexibility to allow you to map Private IP Addresses to Public IP Addresses for key services such as Websites and FTP. Select Disable to disable the NAT function.

## Port Forwarding

Port Forwarding allows you to re-direct a particular range of service port numbers (from the Internet/WAN Port) to a particular LAN IP address. It helps you to host servers behind the router NAT firewall.



**Enable Port Forwarding** Enable Port Forwarding

**Local IP** This is the private IP of the server behind the NAT firewall.

**Type** This is the protocol type to be forwarded. You can choose to forward "TCP" or "UDP" packets only, or select "both" to forward both "TCP" and "UDP" packets.

**Port Range** The range of ports to be forward to the private IP.

**Comment** description of this setting.

**Add** Fill in the "Private IP", "Type", "Port Range" and "Comment" of the setting to be added and then click "Add". Then this Port Forwarding setting will be added into the "Current Port Forwarding Table" below.

**Remove** If you want to remove a Port Forwarding setting from the "Current Port Forwarding Table", select the Port Forwarding setting that you want to remove in the table and then click "Delete Selected". If you want to remove all Port Forwarding settings from the table, just click "Delete All" button. Click "Reset" will clear your current selections.

## Virtual Server

Use the Virtual Server function when you want different servers/clients in your LAN to handle different service/Internet application type (e.g. Email, FTP, Web server etc.) from the Internet. Computers use numbers called port numbers to recognize a particular service/Internet application type. The Virtual Server allows you to re-direct a particular service port number (from the Internet/WAN Port) to a particular LAN private IP address and its service port number.

The screenshot shows the web interface of a Sitecom wireless gigabit dualband router 300N. The page is titled "Virtual Server" and is part of the "Advanced Settings" menu. It includes a navigation bar with tabs for "NAT Enable", "Port forwarding", "Virtual Server", "Special Applications", "UPnP", and "Quality of Service". The main content area contains a checkbox to "Enable Virtual Server" and a table for configuring virtual servers. The table has columns for "Local IP", "Local Port", "Type", "Public Port", and "Comment". Below the table are "Add" and "Reset" buttons. A "Current Virtual Server Table" section shows a table with columns for "NO.", "Local IP", "Local Port", "Type", "Public Port", "Comment", and "Select". Below this table are "Delete Selected", "Delete All", and "Reset" buttons. At the bottom right, there are "Apply" and "Cancel" buttons.

**Enable Virtual Server** Enable Virtual Server.

**Local IP** This is the LAN client/host IP address that the Public Port number packet will be sent to.

**Local Port** This is the port number (of the above Private IP host) that the below **Public Port** number will be changed to when the packet enters your LAN (to the LAN Server/Client IP).

**Type** Select the port number protocol type (TCP, UDP or both). If you are unsure, then leave it to the default "both" setting. **Public Port** Enter the service (service/Internet application) port number from the Internet that will be re-directed to the above Private IP address host in your LAN

**Comment** The description of this setting.

**Add** Fill in the "Private IP", "Private Port", "Type", "Public Port" and "Comment" of the setting to be added and then click "Add". Then this Virtual Server setting will be added into the "Current Virtual Server Table" below.

**Reset** If you want to remove Virtual Server settings from the "Current Virtual Server Table", select the Virtual Server settings you want to remove in the table and then click "Delete Selected". If you want to remove all Virtual Server settings from the table, just click the "Delete All" button. Click "Reset" will clear your current selections.

Click <**Apply**> at the bottom of the screen to save the above configurations.

## Special Applications

Some applications require multiple connections, such as Internet games, video Conferencing, Internet telephony and others. In this section you can configure the router to support multiple connections for these types of applications.

wireless gigabit dualband router 300N SITECOM

Choose your language ▾

Status Wizard 2.4G Wireless Settings 5G Wireless Settings Firewall **Advanced Settings** Toolbox

NAT Enable Port forwarding Virtual Server **Special Applications** UPnP Quality of Service

Some applications require multiple connections, such as Internet gaming, video conferencing, Internet telephony and others. These applications cannot work when Network Address Translation (NAT) is enabled. If you need to run applications that require multiple connections, specify the port normally associated with an application in the "Trigger Port" field, select the protocol type as TCP or UDP, then enter the public ports associated with the trigger port to open them for inbound traffic.

**Enable Trigger Port**

Trigger port	Trigger type	Public Port	Public type	Comment
<input type="text"/>	Both ▾	<input type="text"/>	Both ▾	<input type="text"/>

Popular applications :  Select an application ▾

**Current Trigger-Port Table:**

NO.	Trigger port	Trigger type	Public Port	Public type	Comment	Select
-----	--------------	--------------	-------------	-------------	---------	--------

**Enable Trigger Port** Enable the Special Application function.

**Trigger Port** This is the out going (Outbound) range of port numbers for this particular application.

**Trigger Type** Select whether the outbound port protocol is "TCP", "UDP" or both.

**Public Port** Enter the In-coming (Inbound) port or port range for this type of application (e.g. 2300-2400, 47624)

**Public Type** Select the Inbound port protocol type: "TCP", "UDP" or both

**Comment** The description of this setting.

**Popular applications** This section lists the more popular applications that require multiple connections. Select an application from the Popular

Applications selection. Once you have selected an application, select a location (1-10) in the Copy to selection box and then click the Copy to button. This will automatically list the Public Ports required for this popular application in the location (1-10) you specified.

**Add** Fill in the "Trigger Port", "Trigger Type", "Public Port", "Public Type", "Public Port" and "Comment" of the setting to be added and then click "Add". The Special Application setting will be added into the "Current Trigger-Port Table" below. If you happen to make a mistake, just click "Clear" and the fields will be cleared.

**Reset** If you want to remove Special Application settings from the "Current Trigger-Port Table", select the Special Application settings you want to remove in the table and then click "Delete Selected". If you want remove all Special Application settings from the table, just click the "Delete All" button. Click "Reset" will clear your current selections.



## UPnP

With UPnP, all PCs in your Intranet will discover this router automatically, so you don't have to configure your PC and it can easily access the Internet through this router.



**UPnP Feature** You can enable or Disable the UPnP feature here. After you enable the UPnP feature, all client systems that support UPnP, like Windows XP, can discover this router automatically and access the Internet through this router without having to configure anything. The NAT Traversal function provided by UPnP can let applications that support UPnP connect to the internet without having to configure the virtual server sections.

## QoS

QoS can let you classify Internet application traffic by source/destination IP address and port number. You can assign priority for each type of application and reserve bandwidth for it. The packets of applications with higher priority will always go first. Lower priority applications will get bandwidth after higher priority applications get enough bandwidth. This can let you have a better experience in using critical real time services like Internet phone, video conference ...etc. All the applications not specified by you are classified as rule name "Others". The rule with a smaller priority number has a higher priority; the rule with a larger priority number has a lower priority. You can adjust the priority of the rules by moving them up or down.

wireless gigabit dualband router 300N SITECOM

Choose your language ▾

Status Wizard 2.4G Wireless Settings 5G Wireless Settings Firewall **Advanced Settings** Toolbox

NAT Enable Port forwarding Virtual Server Special Applications UPnP **Quality of Service**

Quality of Service (QoS) refers to the capability of a network to provide better service to selected network traffic. The primary goal of QoS is to provide priority including dedicated bandwidth, controlled jitter and latency (required by some real-time and interactive traffic), and improved loss characteristics. Also important is making sure that providing priority for one or more flows does not make other flows fail.

QoS Enable

**Current QoS Table :**

Priority	Rule Name	Upload Bandwidth	Download Bandwidth	Select
----------	-----------	------------------	--------------------	--------

Add Edit Delete Selected Delete All Move Up Move Down Reset

Apply Cancel

**Enable/Disable QoS** You can check "Enable QoS" to enable QoS functionality for the WAN port.

**Add a QoS rule into the table** Click "Add" then enter a form of the QoS rule. Click "Apply" after filling out the form the rule will be added into the table.

**Remove QoS rules from the table** If you want to remove QoS rules from the table, select the QoS rules you want to remove in the table and then click "Delete Selected". If you want remove all QoS rules from the table, just click the "Delete All" button. Clicking "Reset" will clear your current selections.

**Edit a QoS rule** Select the rule you want to edit and click “Edit”, then enter the detail form of the QoS rule. Click “**Apply**” after editing the form and the rule will be saved.

**Adjust QoS rule priority** You can select the rule and click “Move Up” to make its priority higher. You also can select the rule and click “Move Down” to make its priority lower.

## USB port

You can use the USB port in Server mode as a Samba server for filesharing in your home network or in NetUSB mode as a virtual USB port on your computer. Please note that for NetUSB mode you need the Control Center software installed on your computer.



The screenshot shows a web-based configuration interface for a network device. At the top, there is a navigation bar with tabs: Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, **Advanced Settings**, and Toolbox. Below this, there is a sub-menu with tabs: NAT Enable, Port forwarding, Virtual Server, Special Applications, UPnP, Quality of Service, and **USB port**. The main content area contains a text block: "You can use the USB port in Server mode as a Samba server for filesharing in your home network or in NetUSB mode as a virtual USB port on your computer. Please note that for NetUSB mode you need the Control Center software installed on your computer." Below this is the "USB Access Mode" section with two radio buttons: "Server Mode" (selected) and "NetUSB Mode". Underneath is the "Server Information" section with several input fields: "Server Name" (pre-filled with "SMBSERVER"), "Workgroup" (pre-filled with "WORKGROUP"), "Description (optional)", "Administrator" (pre-filled with "admin"), "New Password", and "Confirm Password". At the bottom right of the form are "Apply" and "Cancel" buttons.

**Server name** Enter a name for the network share.

**Workgroup** If you wish to add the share to your workgroup enter the workgroup name here.

**Description** Enter a desired description for the share.

**Administrator** Enter a desired username for access to the share.

**New Password** Enter the password for access to the share and confirm this password by re-entering it in the **Confirm password** field

For **netUSB** make sure the radio button next to netUSB is selected and press apply. Please see Addendum MultiFunction Printserver Control Center for more information about netUSB.

# 15 TOOLBOX Settings

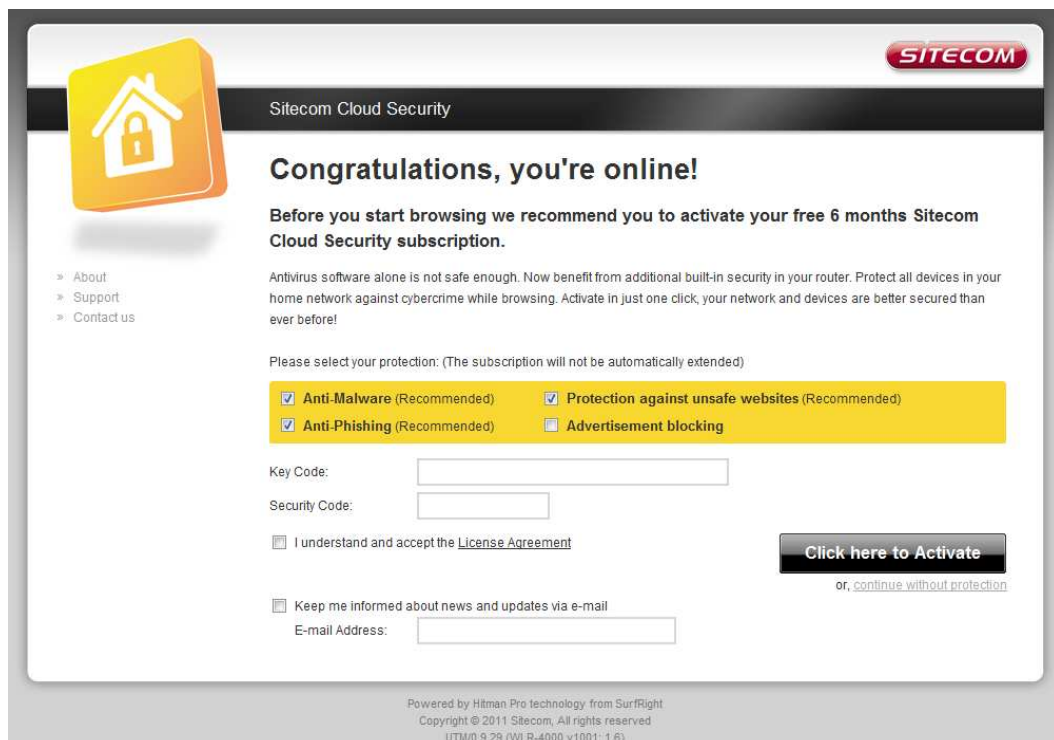
## Sitecom Cloud Security

Antivirus software alone is not safe enough. You can now benefit from additional built-in security in your modem or router. Protect all devices in your home network against cybercrime while browsing. Activate in just one click, your network and devices are better secured than ever before.

Your Sitecom device comes with a 6 month free *Sitecom cloud security* subscription.

After you have set up your Sitecom device for internet access, open the webbrowser and enter <http://www.sitecomcloudsecurity.com> in the address bar.

If the device has been properly configured the following web page should be shown.



Here you can select which security features you would like to use.

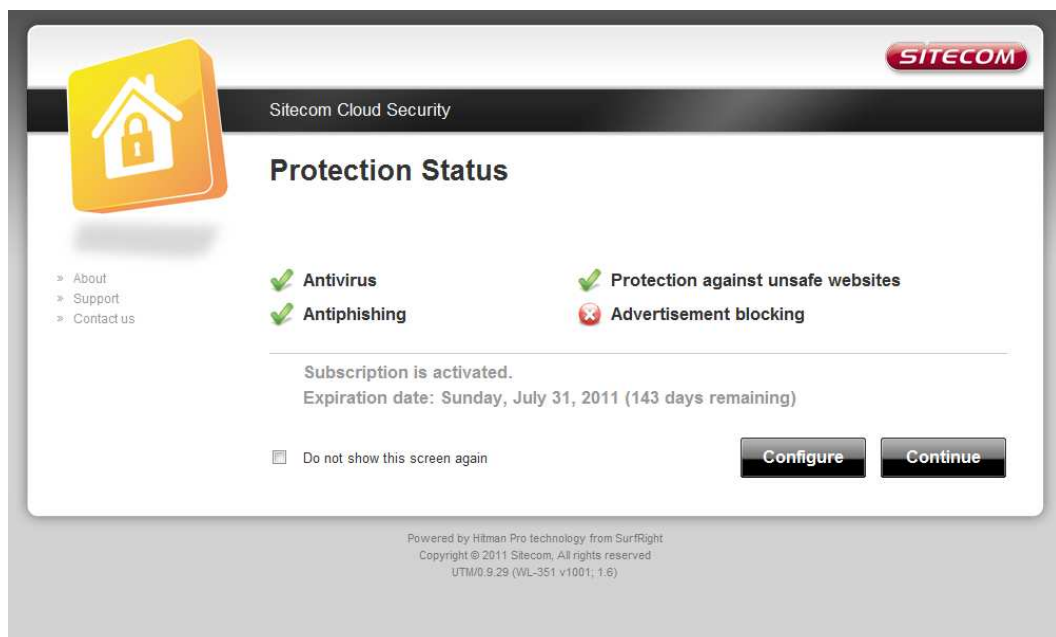
The *Stecom Coud Scurity* service offers the following protection options:

- Anti-Mlware

- Anti-Phishing
- Protection against unsafe websites
- Advertisement blocking

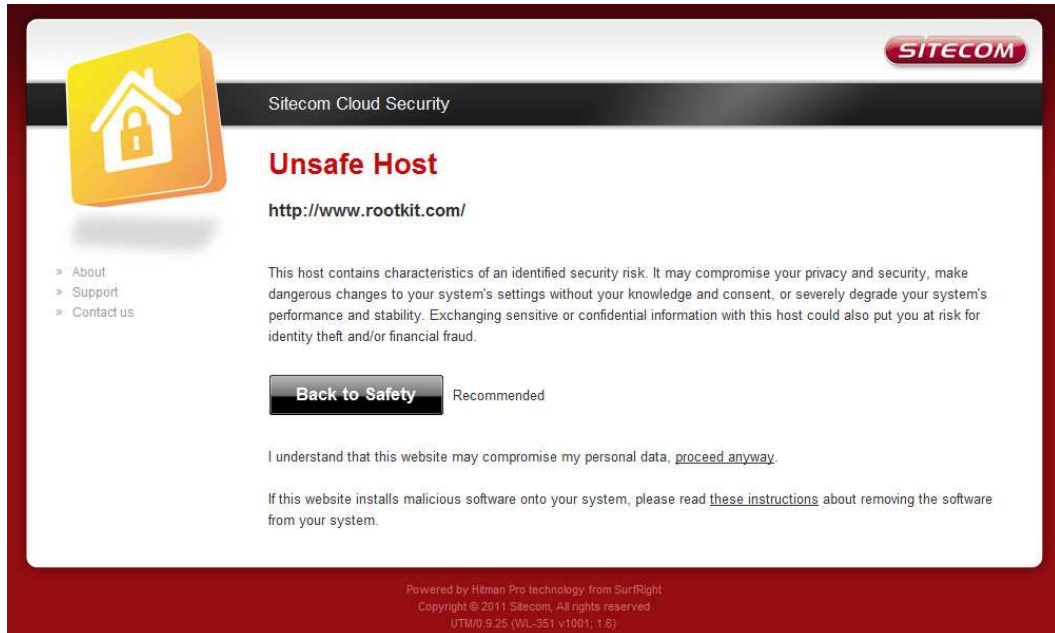
After selecting your preferred protection options, enter the Key code and Security code that you have received with your Sitecom product.

Before you can now activate your subscription you will have to accept the license agreement. After this click the activation button. You will be shown the status of your *Sitecom cloud security* and the expiration date of your current subscription.



The screenshot displays the 'Protection Status' page of the Sitecom Cloud Security interface. At the top left is a yellow house icon with a lock, and at the top right is the 'SITECOM' logo. Below the logo is a navigation menu with links for 'About', 'Support', and 'Contact us'. The main content area shows the status of four protection features: 'Antivirus' (checked), 'Antiphishing' (checked), 'Protection against unsafe websites' (checked), and 'Advertisement blocking' (unchecked). A message states 'Subscription is activated.' with an expiration date of 'Sunday, July 31, 2011 (143 days remaining)'. There is a checkbox for 'Do not show this screen again' and two buttons: 'Configure' and 'Continue'. At the bottom, it mentions 'Powered by Hitman Pro technology from SurRight' and provides copyright information for 2011 Sitecom.

With the protection of *unsafe websites* activated the *Sitecom Cloud Security* will always check if a website is safe. If it is not safe it will inform you that is not safe to enter.

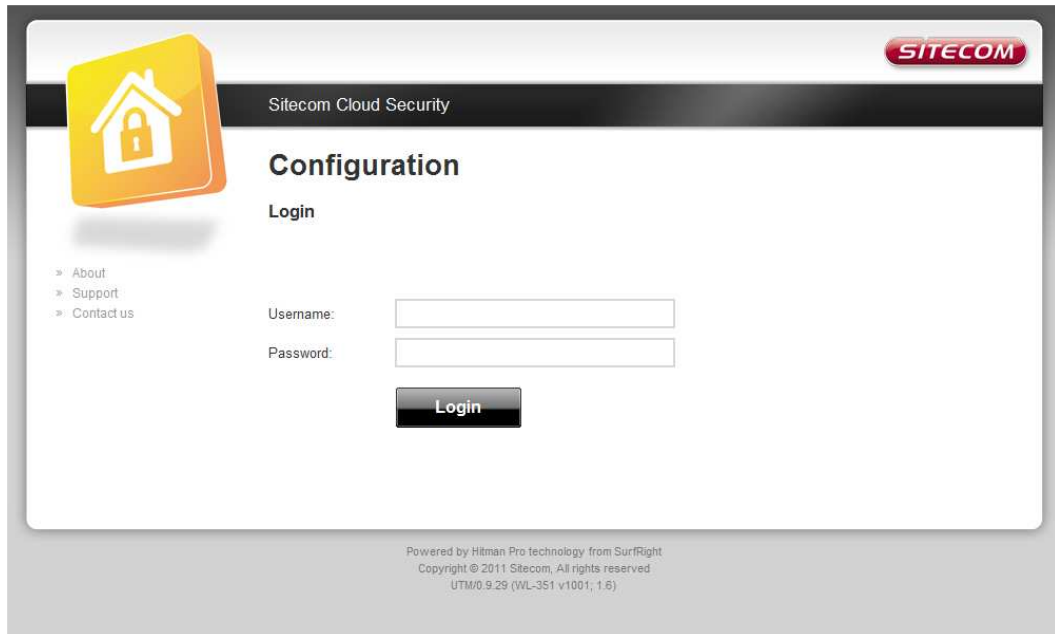


The screenshot shows a security warning interface. At the top right is the 'SITECOM' logo. Below it, the text 'Sitecom Cloud Security' is displayed. On the left is a yellow square icon with a white house and a padlock. The main heading is 'Unsafe Host' in red, followed by the URL 'http://www.rootkit.com/'. A paragraph explains the security risk: 'This host contains characteristics of an identified security risk. It may compromise your privacy and security, make dangerous changes to your system's settings without your knowledge and consent, or severely degrade your system's performance and stability. Exchanging sensitive or confidential information with this host could also put you at risk for identity theft and/or financial fraud.' Below this is a 'Back to Safety' button with the word 'Recommended' next to it. A line of text reads: 'I understand that this website may compromise my personal data, [proceed anyway](#).' Another line of text says: 'If this website installs malicious software onto your system, please read [these instructions](#) about removing the software from your system.' At the bottom, small text states: 'Powered by Hitman Pro technology from SurRight. Copyright © 2011 Sitecom. All rights reserved. UTM/0.9.25 (VL-351 v1001, 1.6)'.

If you still wish to visit this webpage click on 'proceed anyway'. Alternatively click 'Back to Safety' so that your security will not be breached.

If you wish to change your security options or to extend your subscription at any time, open <http://www.sitecomcloudsecurity.com> from your web browser.

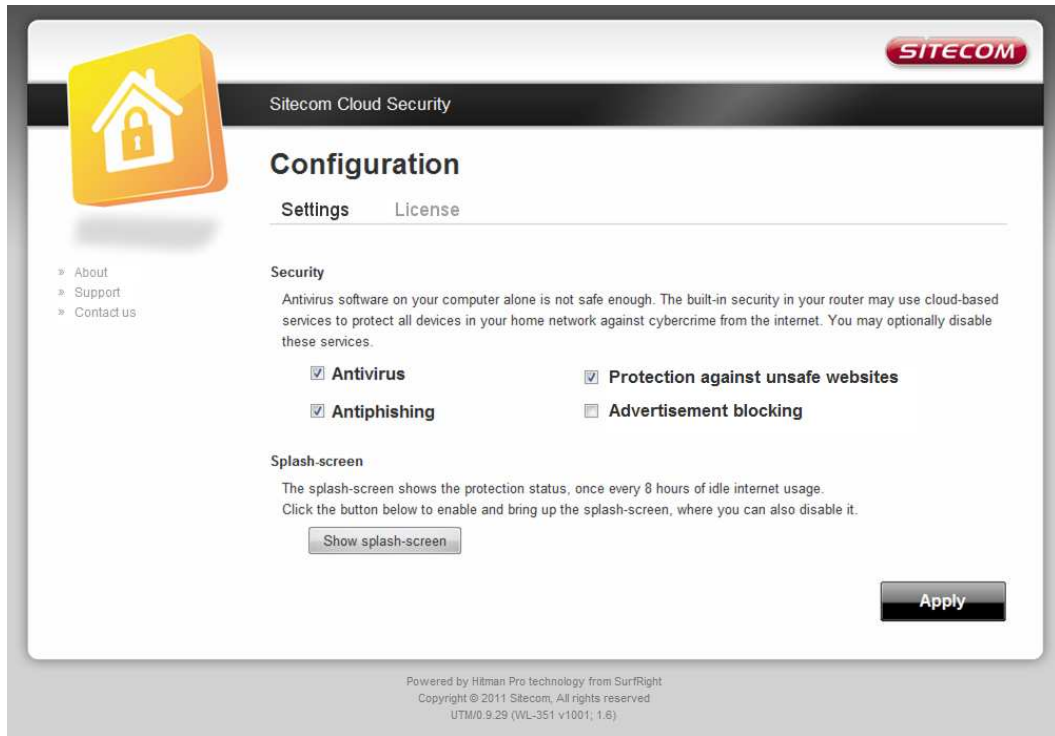
You will be asked for a username and password. These can be found on the backlabel on the bottom of your Sitecom router or modem.



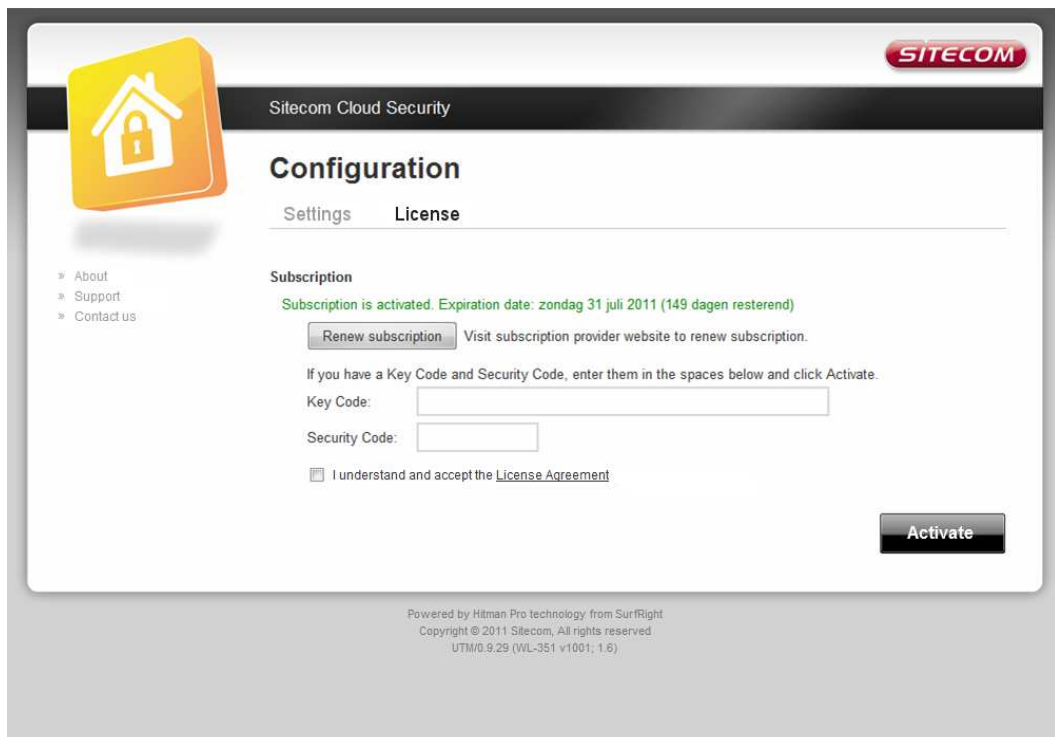
The screenshot displays the 'Sitecom Cloud Security' configuration interface. At the top right is the 'SITECOM' logo. Below it, the text 'Sitecom Cloud Security' is centered. On the left, there is a large orange icon of a house with a padlock. Below the icon are three links: 'About', 'Support', and 'Contact us'. The main heading is 'Configuration', followed by a sub-heading 'Login'. The login section contains two input fields: 'Username:' and 'Password:'. Below these fields is a black 'Login' button. At the bottom of the page, there is small text: 'Powered by Hitman Pro technology from SurfRight', 'Copyright © 2011 Sitecom, All rights reserved', and 'UTM/0.9.29 (WL-351 v1001; 1.6)'.

If the login succeeded you can click on 'Settings' to change your security options.





Or click 'License' to renew your subscription.



If you wish to disable Sitecom cloud security at any time, open the webpage of your Sitecom product and log in with the supplied credentials (these can be

found on the back label on the bottom of your Sitecom device).

Go to Toolbox and select "Sitecom Cloud Security".



Click the "Disable" radio button and click 'Apply' for the settings to take effect.

## Password change options

You can change the password required to log into the broadband router's system web-based management. Passwords can contain 0 to 12 alphanumeric characters, and are case sensitive.



The screenshot shows the web management interface for a Sitecom wireless gigabit dualband router 300N. The page title is "wireless gigabit dualband router 300N" with the Sitecom logo. A navigation menu includes Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below this is a sub-menu with Sitecom Cloud Security, Password, Timezone, Remote, Firmware, Back-up, Reset, and DDNS. The main content area contains the following text: "You can change the password which is required to log on to the router. By default, the password is admin. Passwords can contain 0 to 30 alphanumeric characters, and are case sensitive." Below this text are three input fields labeled "Current Password:", "New Password:", and "Confirm Password:". At the bottom right of the form are "Apply" and "Cancel" buttons.

**Current Password** Fill in the current password to allow changing to a new password.

**New Password** Enter your new password.

**Confirmed Password** Enter your new password again for verification purposes.

Click **<Apply>** at the bottom of the screen to save the above configurations

## Time Zone

The Time Zone allows your router to base its time on the settings configured here, which will affect functions such as Log entries and Firewall settings.



The screenshot shows the configuration page for the Time Zone on a Sitecom wireless gigabit dualband router 300N. The page has a navigation bar with tabs for Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below the navigation bar, there are sub-tabs for Sitemcom Cloud Security, Password, Timezone, Remote, Firmware, Back-up, Reset, and DDNS. The main content area contains the following settings:

- Set Time Zone :** (GMT+01:00)Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna
- Time Server Address :** europe.pool.ntp.org
- Daylight Saving :**  Enable From March 27 To October 27

At the bottom right, there are buttons for Apply and Cancel.

**Set Time Zone** Select the time zone of the country you are currently in. The router will set its time based on your selection.

**Time Server Address** You can set an NTP server address.

**Enable Daylight Savings** The router can also take Daylight savings into account. If you wish to use this function, you must check/tick the enable box to enable your daylight saving configuration (below).

**Start Daylight Savings Time** Select the period in which you wish to start daylight Savings Time

**End Daylight Savings Time** Select the period in which you wish to end daylight Savings Time

Click <**Apply**> at the bottom of the screen to save the above configurations

## Remote Management

The remote management function allows you to designate a host in the Internet the ability to configure the Broadband router from a remote site. Enter the designated host IP Address in the Host IP Address field.



The screenshot shows the configuration page for a Sitecom wireless gigabit dualband router 300N. The page has a navigation menu with tabs for Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below this is a sub-menu with tabs for Sitecom Cloud Security, Password, Timezone, Remote, Firmware, Back-up, Reset, and DDNS. The 'Remote' tab is selected. The main content area contains a text box explaining the remote management function: "The remote management function allows you to designate a host from the Internet to have management/configuration access to the router from a remote site. Enter the designated host IP Address in the Host IP Address field." Below this is a table with three columns: Host Address, Port, and Enable. The Host Address field is empty, the Port field contains '8080', and the Enable field has a checked checkbox. At the bottom right are 'Apply' and 'Cancel' buttons.

Host Address	Port	Enable
<input type="text"/>	<input type="text" value="8080"/>	<input checked="" type="checkbox"/>

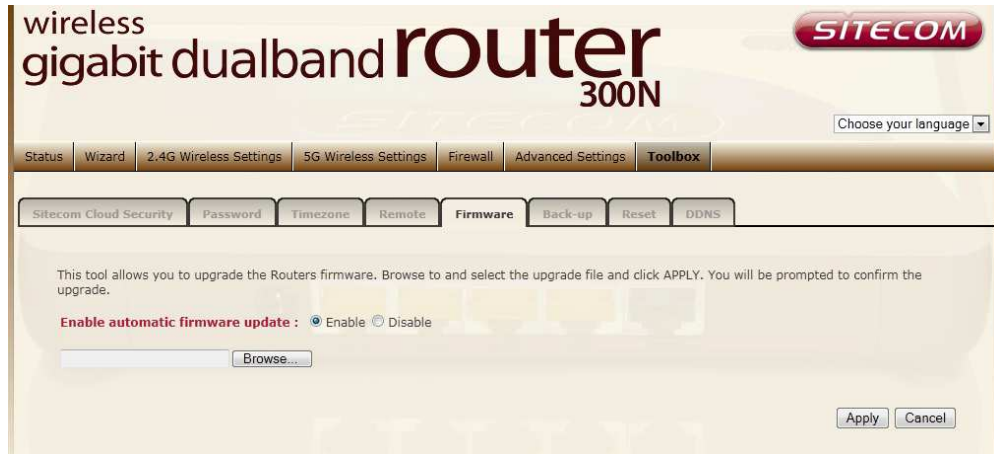
**Host Address** This is the IP address of the host in the Internet that will have management/configuration access to the Broadband router from a remote site. If the Host Address is left 0.0.0.0 this means anyone can access the router's web-based configuration from a remote location, providing they know the password.

**Port** The port number of the remote management web interface.

**Enabled** Select "**Enabled**" to enable the remote management function.

Click <**Apply**> at the bottom of the screen to save the above configurations.

## Firmware Upgrade



The screenshot shows the web interface for the Sitecom 300N wireless gigabit dualband router. The page title is "wireless gigabit dualband router 300N" with the Sitecom logo. A language selection dropdown is visible. The navigation menu includes Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. The Firmware section is active, showing options for Sitecom Cloud Security, Password, Timezone, Remote, Firmware, Back-up, Reset, and DDNS. The main content area contains instructions: "This tool allows you to upgrade the Routers firmware. Browse to and select the upgrade file and click APPLY. You will be prompted to confirm the upgrade." Below this, there is a section for "Enable automatic firmware update" with radio buttons for "Enable" (selected) and "Disable". A file selection field with a "Browse..." button is present. At the bottom right, there are "Apply" and "Cancel" buttons.

**Firmware Upgrade** This tool allows you to upgrade the Broadband router's system firmware. To upgrade the firmware of your Broadband router, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your PC.

Once you've selected the new firmware file, click <**Apply**> at the bottom of the screen to start the upgrade process

## Backup Settings

The Backup screen allows you to save (Backup) the router's current configuration settings. When you save the configuration setting (Backup) you can re-load the saved configuration into the router through the Restore selection. If extreme problems occur you can use the Restore to Factory Defaults selection, this will set all configurations to its original default settings (e.g. when you first purchased the router).



Use the "Backup" tool to save the Broadband router current configuration to a file named "**config.bin**" on your PC. You can then use the "Restore" tool to restore the saved configuration to the Broadband router. Alternatively, you can use the "Restore to Factory Defaults" tool to force the Broadband router to perform a power reset and restore the original factory settings.

## Reset

You can reset the router's system should any problem exist. The reset function essentially re-boots your router's system.





## DDNS

DDNS allows you to map the static domain name to a dynamic IP address. You must get an account, password and your static domain name from the DDNS service providers. This router supports DynDNS, TZO and other common DDNS service providers.

The screenshot shows the DDNS configuration page for a Sitecom wireless gigabit dualband router 300N. The page has a navigation bar with tabs for Status, Wizard, 2.4G Wireless Settings, 5G Wireless Settings, Firewall, Advanced Settings, and Toolbox. Below this is a sub-navigation bar with tabs for Sitecom Cloud Security, Password, Timezone, Remote, Firmware, Back-up, Reset, and DDNS. The main content area contains a text box explaining DDNS: "DDNS allows users to map a static domain name to a dynamic IP address. You must get an account, password and your static domain name from the DDNS service provider..". Below this is a form with the following fields: "Dynamic DNS" with radio buttons for "Enable" and "Disable" (the "Disable" option is selected); "Provider" with a dropdown menu showing "3322(qdns)"; "Domain Name" with a text input field; "Account/E-mail" with a text input field; and "Password/Key" with a text input field. At the bottom right of the form are "Apply" and "Cancel" buttons.

**Enable/Disable** Enable or disable the DDNS function of this router

**Provider** Select a DDNS service provider

**Domain name** Fill in your static domain name that uses DDNS

**Account/E-mail** The account that your DDNS service provider assigned to you

**Password/Key** The password you set for the DDNS service account above

Click <**Apply**> at the bottom of the screen to save the above configurations.

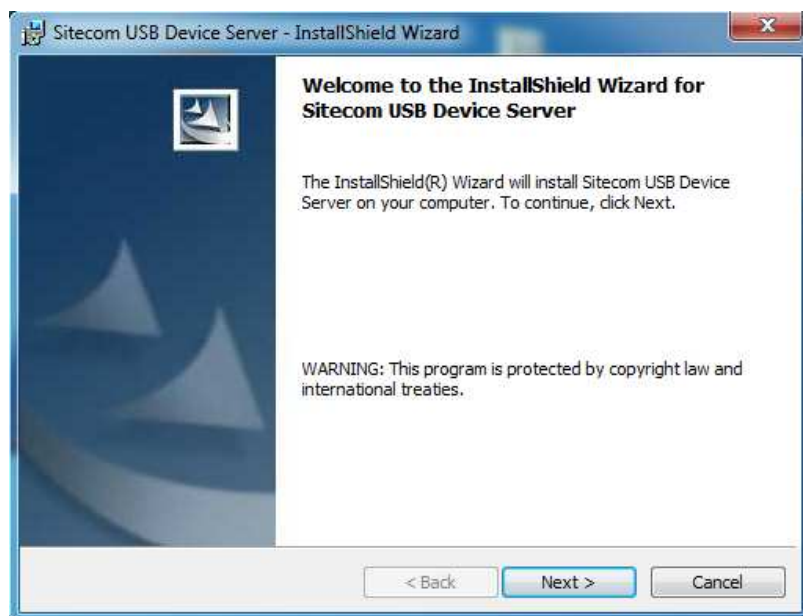
# Addendum Multi-function printserver Control Center

The netUSB functionality of your router requires additional software to work with your computer. The following will describe how the software can be installed and used.

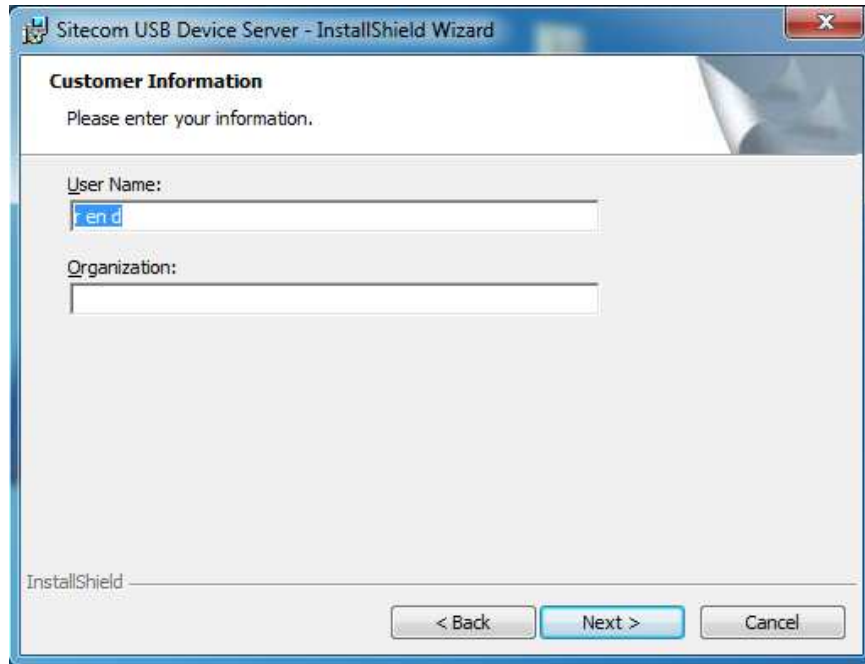
## Windows

Insert the cd-rom that was included with your router and select install utility from the cd-menu.

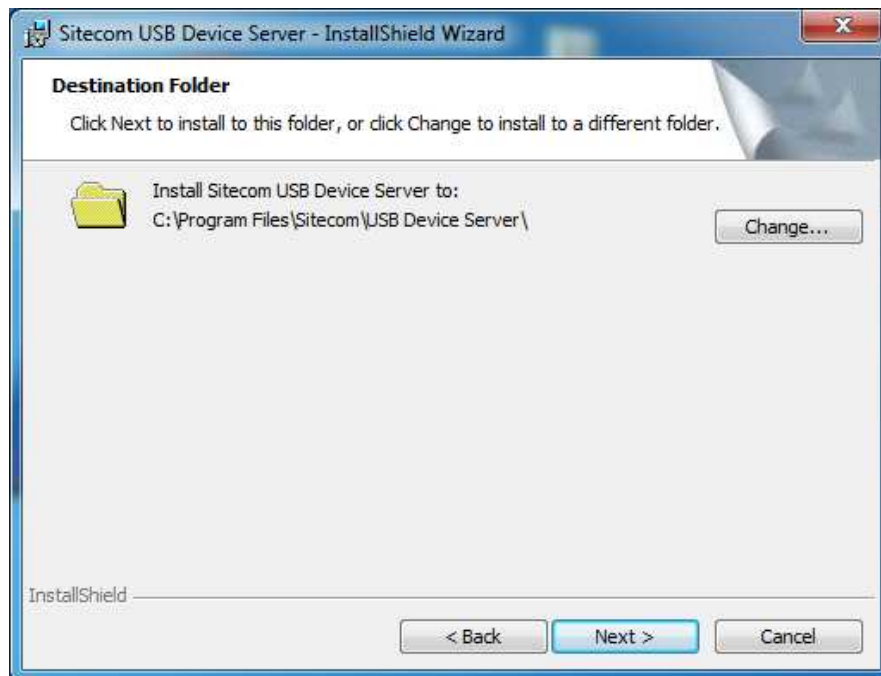
The software will inform you about what will be installed.



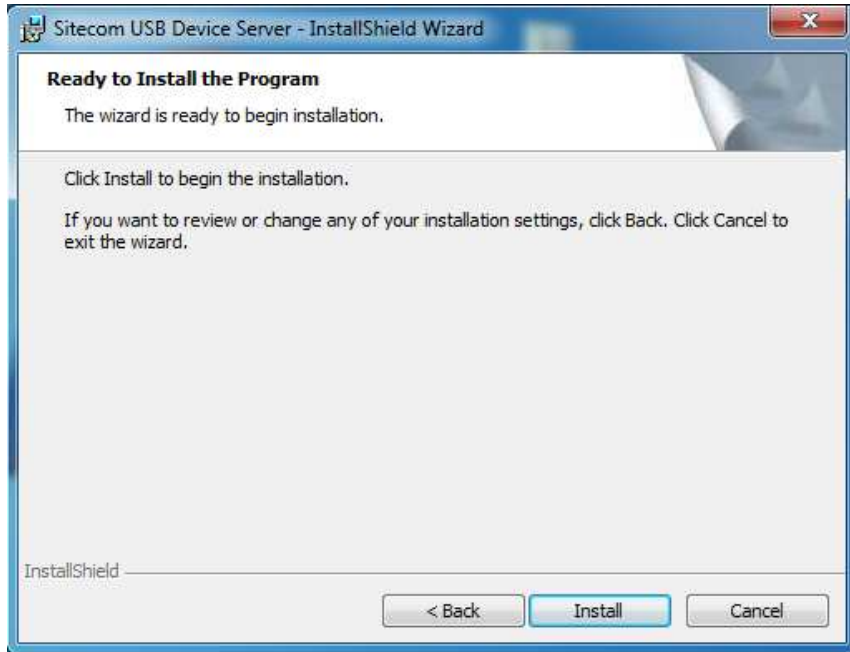
Click **Next** to continue the installation.



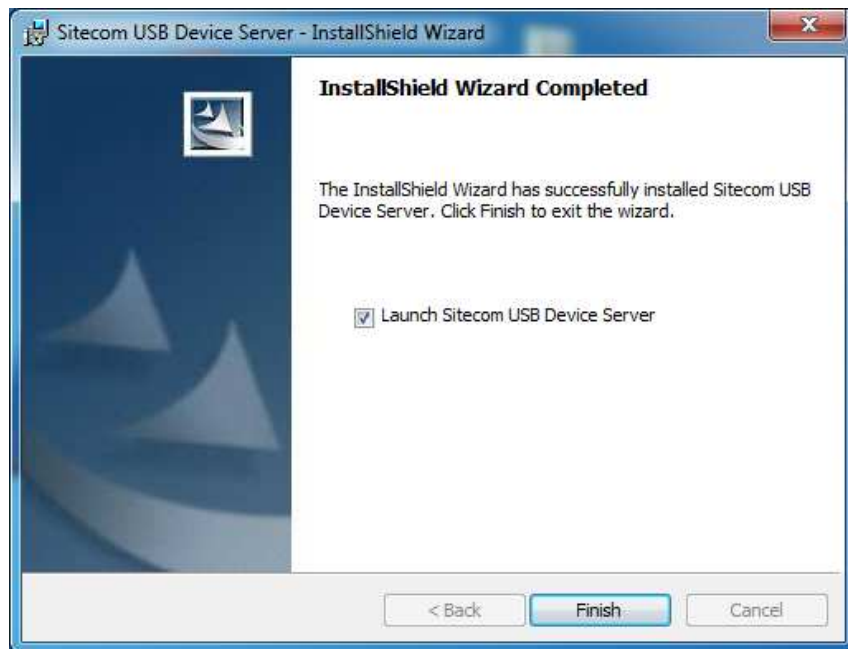
Enter your username and organization if applicable and click **Next** to continue.



Choose a folder where the software should be installed or keep it to default and click **Next** to continue.



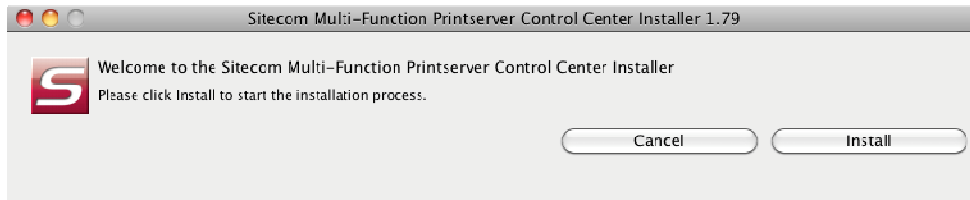
The software is now ready to be installed, Click **Install** to continue.



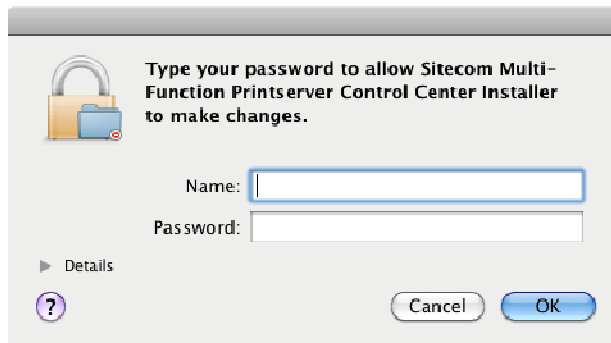
Once the installation is finished the software will inform you. If **Launch Sitecom USB Device Server** is checked the software will automatically be launched after you clicked **Finish**.

## Mac

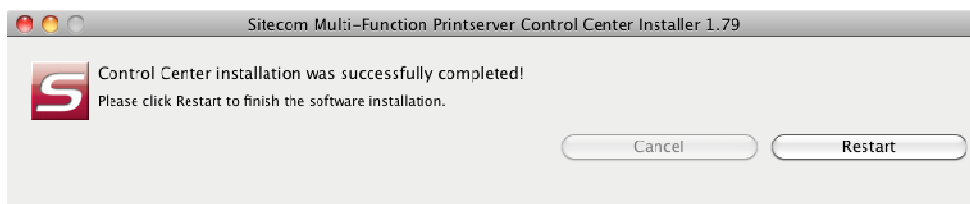
Insert the cd-rom that was included with your router and select install utility from the cd-menu.



Click **Install** to continue installation.



Enter your Mac username and password and click **OK** to continue.



Once the installation is finished the software will inform you and requires to restart the system.

## Connect & Disconnect

“NetUSB” allows you to use USB printers when they’re actually connected to the Sitecom USB server.

The “connect” operation is a software operation that simulates an actual USB device plug-in. Therefore, when you do a “connect” operation in the Control Center, the PC can detect a USB device’s plug-in, although actually you do not plug in any USB device to your PC. Similarly, the “disconnect” operation is a software operation that simulates the disconnection of the USB device.

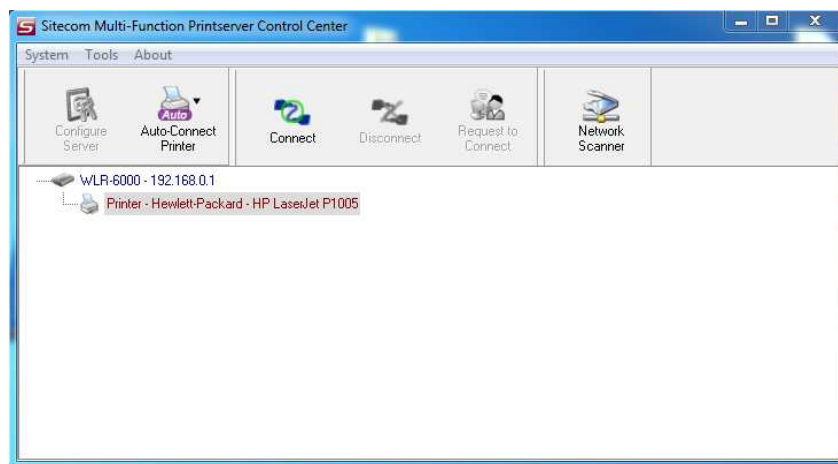
**Note**

If a USB device is “connected” by a PC, we say that PC has the ownership of the USB device. Only one PC can get the ownership of a USB device at the same time.

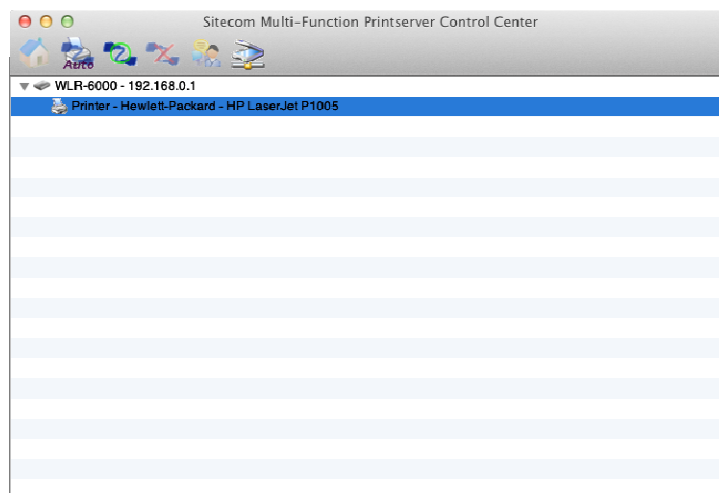
## NetUSB installation

The steps to do installation for USB devices, like MFPs:

- Make sure the Sitecom WLR-6000 is turned on.
- Connect the USB device to Sitecom WLR-6000.
- Run the Control Center. In the “USB MFP Server List” window, you can see the host names and IP addresses all of the Sitecom servers (in blue) on the network, as shown below.

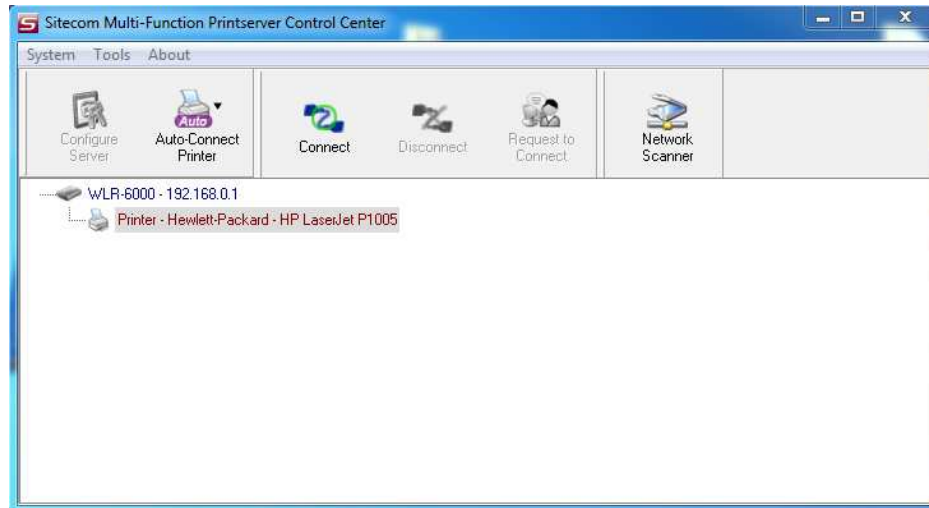


Windows



Mac OS

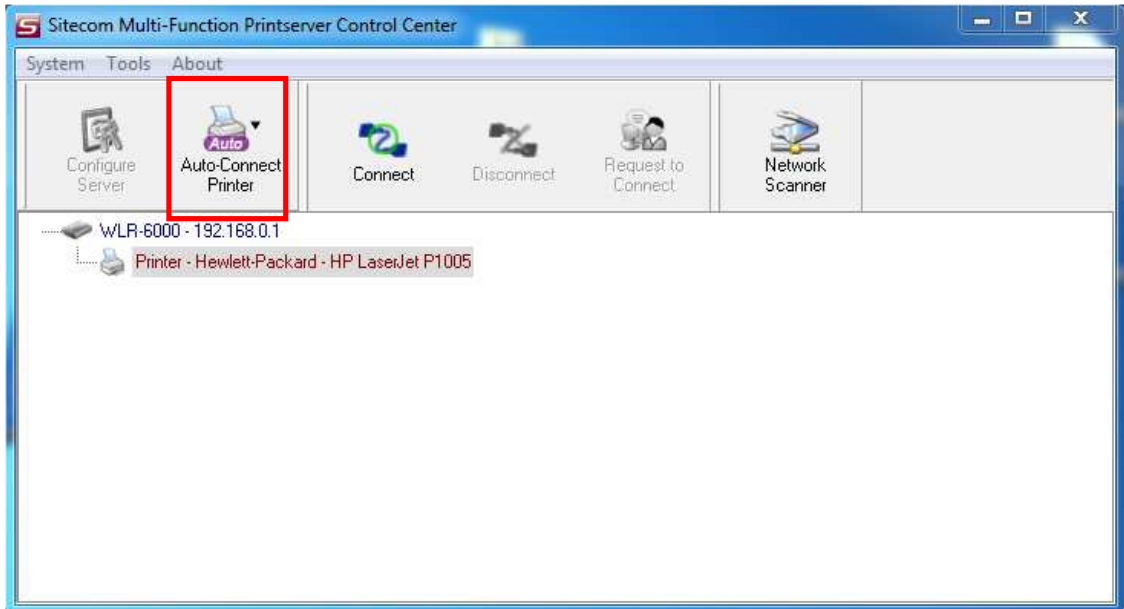
- Click the server. Then all USB devices attached to the server will be shown.



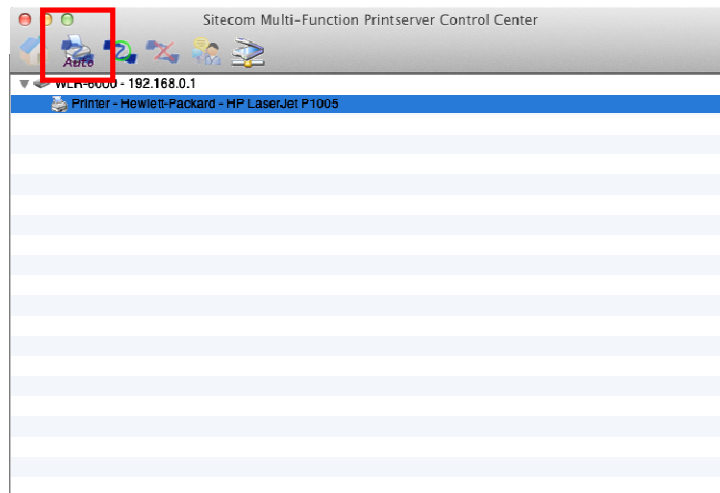
- Please follow the user manual of the USB device to install its driver. For example, you may put the driver CD of the USB device in the CDROM player to install the driver.



- When you are asked to plug in the USB device into PC's USB port, click the desired USB device in the Control Center and then click the "Auto-Connect Printer" button to do the connect operation and get the ownership of the USB device. The computer name of the device owner will be shown at the end of the device.



Windows



Mac OS

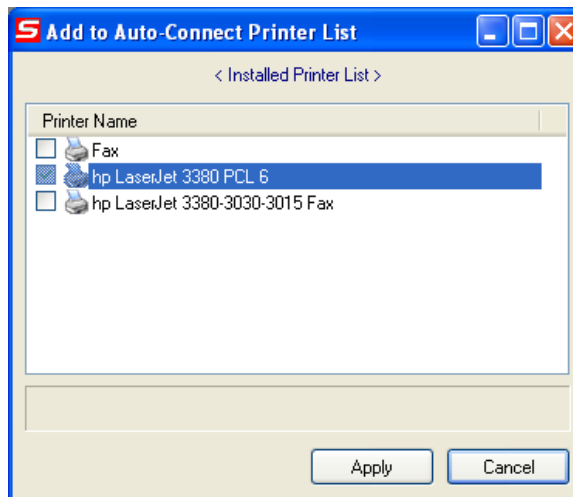
- PC will automatically detect that the USB device is plugged-in. On the right side of the Windows Task Bar, you can see the information of the new device. Continue to follow the user manual of the USB device to do the rest jobs of installation, until the driver installation has finished.

After the installation, you can see the newly created devices on the PC. If the USB device is a MFP, you can see a new printer and a new scanner from the "Control Panel".

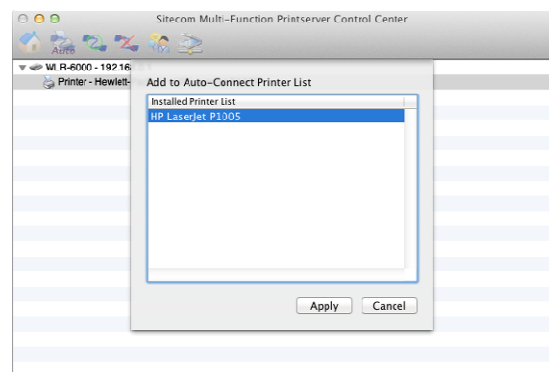
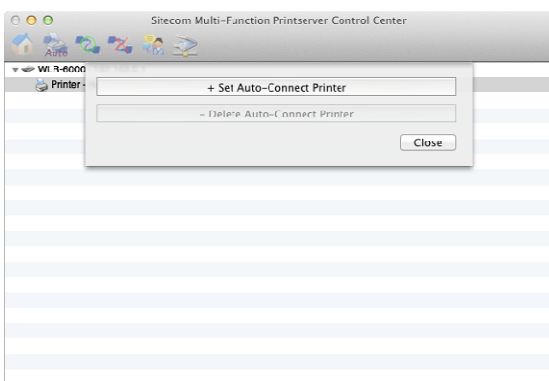
## NetUSB Printing using Auto-Connect Printer

After the driver is installed, you can see a newly created printer in the Control Panel. Follow the steps below to perform NetUSB printing.

- In the Control Center, click the MFP server that has the desired printer (or MFP) attached.
- Click the desired printer (or MFP).
- Click the "Auto Connect Printer" button and choose "Set Auto-Connect Printer". The following figure will appear.
- Choose the desired printer. The desired printer must be the Windows printer (this is a logical printer) that matches the printer attached on the MFP server (this is a physical printer). Then click the "Apply" button.



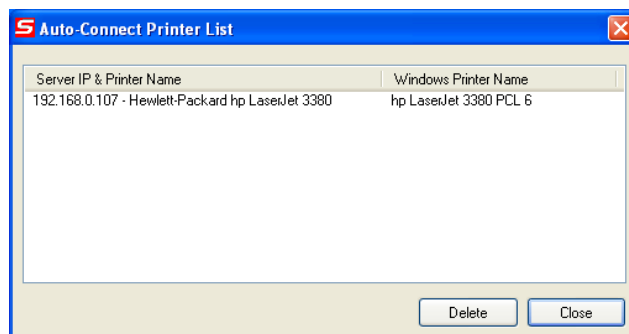
Windows



Mac OS

- Then, the printer will be marked as an "Auto-Connected Printer" in red.

- If you choose "Auto-Connected Printer List" in the "Tools" menu, you can see a newly created item that describes the association between the Windows printer and the physical printer on the server.

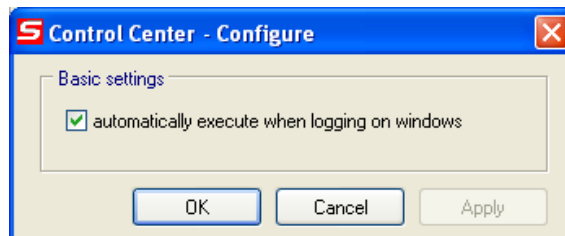
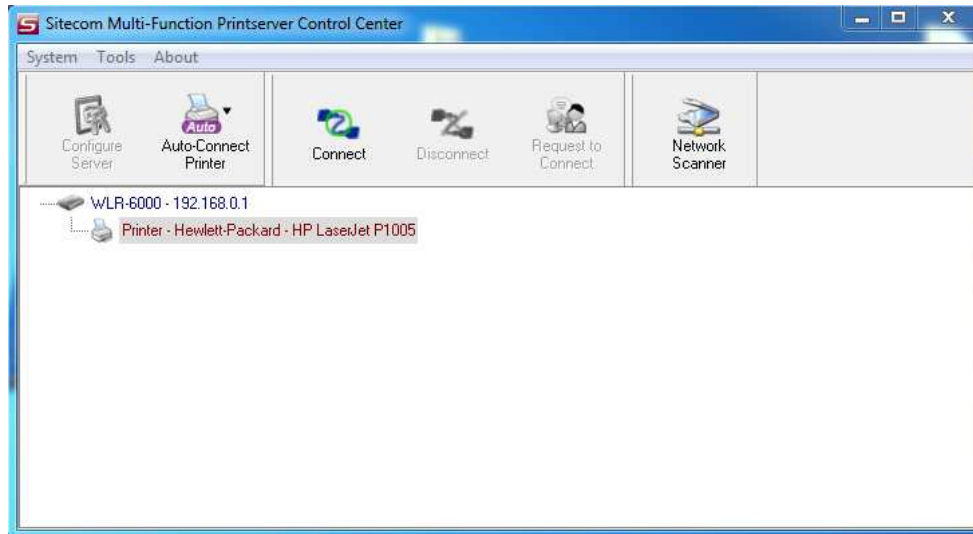


- Then try to issue a print job to the desired printer. You will see the Control Center will automatically do a connect operation and, once the print job finished, it will hold the connection. However, the connection will be released immediately when another user do the printing afterward. At the same time, the printer is automatically disconnected with your PC.
- When you do a print job again. The control center will automatically do a connecting operation on printing again. This is so-called "Auto Connect / Disconnect" operation.

#### Note

Under the "Auto-Connected Printer" setting, it is **NOT necessary to manually press the "Connect" button** when printing. If you press the "Connect" button for printing, please make sure to **click "Disconnect" button after you finish the printing**. Otherwise, other users cannot print properly. It is because you are the only ownership of the connected printer.

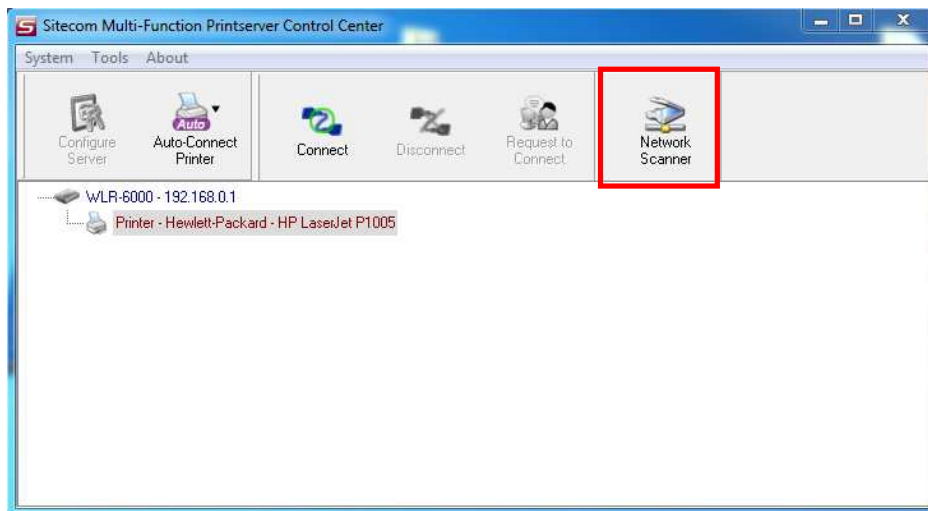
- You can make the Control Center be run automatically after you login Windows. To do this, you choose the "Configuration" item in the "Tools" menu. The following window will appear. Click on the check box and then on the "OK" button. This feature is enabled by default.



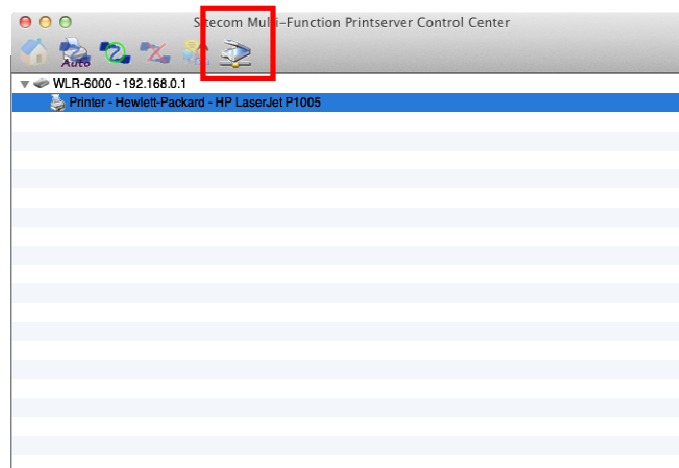
- If you would like to break the association between the Windows printer and the physical printer, just highlight the association and click the "Delete" button in the "Auto-Connected Printer List".

## NetUSB Scanning using Network Scanning

- In the Control Center, click the MFP server that has the desired MFP attached.
- Click the desired MFP.
- Click the "Network Scanner" button.

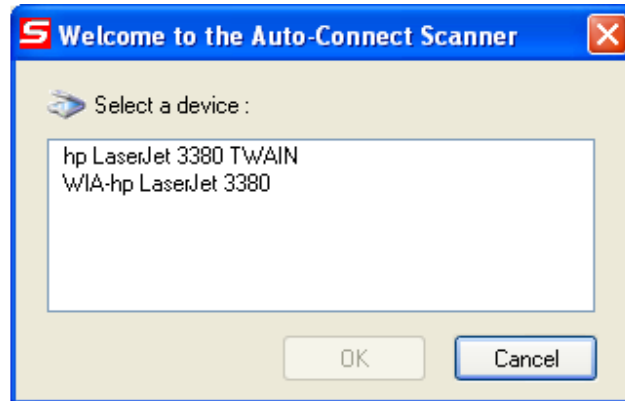


Windows

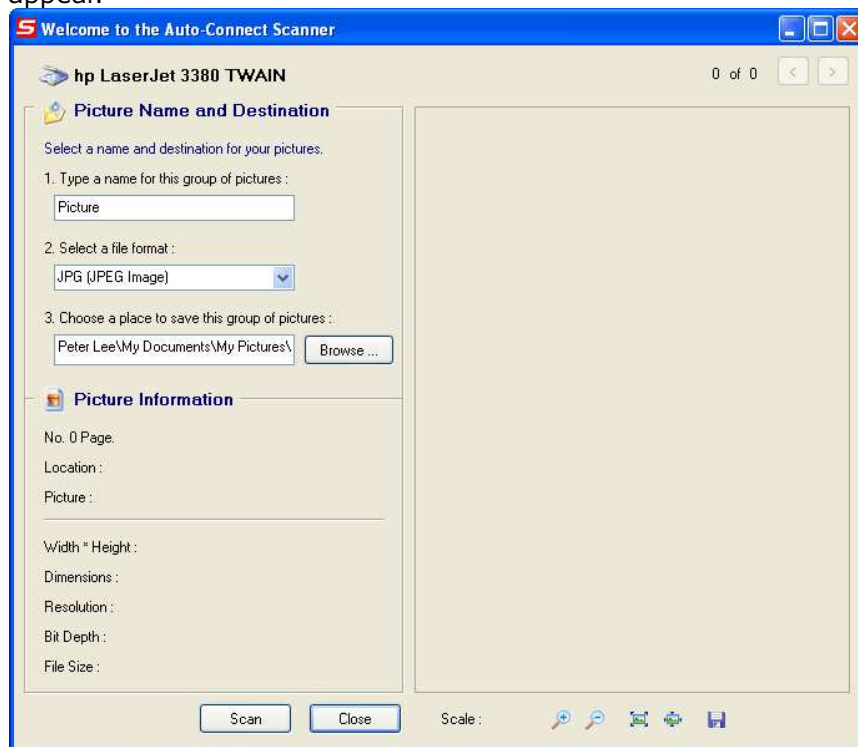


Mac OS

- Then you can see that the Control Center will automatically do a “connect” operation. The following window will appear.



- Choose one of TWAIN or WIA item. Click “OK”. The following window will appear.



- Follow the usual steps to do scanning.

Parts of the firmware of the WLR-6000 Wireless Broadband router are subject to the [GNU general public license](#).

## Appendix A: Licensing Information

This product includes third-party software licensed under the terms of the [GNU General Public License](#). You can modify or redistribute this free software under the terms of the [GNU General Public License](#). Please see Appendix B for the exact terms and conditions of this license.

Specifically, the following part of this product is subject to the GNU GPL:

#	Package name	Source
1	Linux v2.6.21	<a href="http://www.kernel.org">www.kernel.org</a>
2	Iptables v1.3.5	<a href="http://www.netfilter.org/">www.netfilter.org/</a>
3	Bridge-utils v1.2	<a href="http://bridge.sourceforge.net/">bridge.sourceforge.net/</a>
4	Busybox v1.7.5	<a href="http://www.busybox.net/">www.busybox.net/</a>
5	Rp-pppoe v3.8	<a href="http://freshmeat.net/projects/rp-pppoe/">freshmeat.net/projects/rp-pppoe/</a>
6	Pptp-client v1.7.1	<a href="http://pptpclient.sourceforge.net/">pptpclient.sourceforge.net/</a>
7	Ppp v2.4.3	<a href="http://ppp.samba.org/">ppp.samba.org/</a>
8	Udhcp v0.9.9-pre	<a href="http://udhcp.busybox.net/">udhcp.busybox.net/</a>
9	iproute2 v2.6.16-060323	<a href="http://www.linux-foundation.org/en/Net:Iproute2">www.linux-foundation.org/en/Net:Iproute2</a>
10	Dnsmasq v2.39	<a href="http://www.thekelleys.org.uk/dnsmasq/doc.html">www.thekelleys.org.uk/dnsmasq/doc.html</a>
11	Ez-ipupdate v3.0.11b8	<a href="http://ez-ipupdate.com/">ez-ipupdate.com/</a>
12	Libupnp v1.6.0	<a href="http://upnp.sourceforge.net/">upnp.sourceforge.net/</a>
13	Wireless-tools v28	RaLink SDK 3.1.0.0
14	U-boot v1.1.3	RaLink SDK 3.1.0.0
15	gcc-3.3.6	RaLink SDK 3.1.0.0
16	Uclibc-0.9.29	RaLink SDK 3.1.0.0
17	ntfs-3g_ntfsprogs-2011.4.12	<a href="http://www.tuxera.com/community/ntfs-3g-download/">http://www.tuxera.com/community/ntfs-3g-download/</a>
18	hotplug2-1.0	<a href="http://code.google.com/p/hotplug2/">http://code.google.com/p/hotplug2/</a>

## Availability of source code

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