

Quick Installation Guide

HSG327 v1.00

Wireless Hotspot Gateway

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FCC CAUTION

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and proven 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The device contains a low power transmitter which will send out Radio Frequency (RF) signal when transmitting. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

CE CAUTION

Declaration of Conformity with Regard to the 1999/5/EC (R&TTE Directive) for European Community, Switzerland, Norway, Iceland, and Liechtenstein

Model: HSG327

For 2.4 GHz radios, the device has been tested and passed the requirements of the following standards, and hence fulfills the EMC and safety requirements of R&TTE Directive within the CE marking requirement.

- Radio: EN 300.328.
- EMC: EN 301.489-1, EN 301.489-17,
- EMC: EN 55022 Class B, EN 55024,+ A1 + A2 including the followings:
 - EN 61000-3-2, EN 61000-3-3.
 - EN 61000-4-2, EN 61000-4-3, EN 61000-4-4,
 - EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
- Safety: EN 60950-1 + A11,

Caution:

- This declaration is only valid for configurations (combinations of software, firmware, and hardware) provided and supported by 4ipnet Inc. The use of software or firmware not provided and supported by 4ipnet Inc. may result in the equipment no longer being compliant with the regulatory requirements.

European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835 GHz. This equipment is intended to be used in all EU and EFTA countries. Outdoor use may be restricted to certain frequencies and/or may require a license for operation. Contact your local regulatory authority for compliance.

Taiwan NCC Statement

根據 NCC 低功率電波輻射性電機管理辦法 規定:

- | | |
|------|---|
| 第十二條 | 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。 |
| 第十四條 | 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時應立即停用，並改善至無干擾時方得繼續使用。
前項合法通信，指依電信法規定作業之無線電通信。
低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之擾。 |

Preface

The **4ipnet HSG327** is the most economical yet feature-rich metal housing, high speed (2 x 300Mbps), high capacity **Wireless Hotspot Gateway**, targeting small-to-medium-sized store owners who want to provide wireless Internet access services. The HSG327 is a perfect choice for hotspot operation, in terms of cost-effectiveness, deployment time, and user management.

This feature-rich product goes beyond what an operator could think of. Not only does it come with two built-in access point compliant with **IEEE 802.11 a/b/g/n**, it also offers an integrated billing system, including 10 billing templates based on 4 billing alternatives, flexible means to authenticate customers, real-time monitoring of current users, as well as customizable billing reports sent to an administrator's email boxes or FTP server periodically; designing an exclusive Web pages that interact with the users is also possible, whether by means of external URLs, HTML files, etc.

This Quick Installation Guide provides instructions and reference materials for getting started with HSG327.

Package Contents

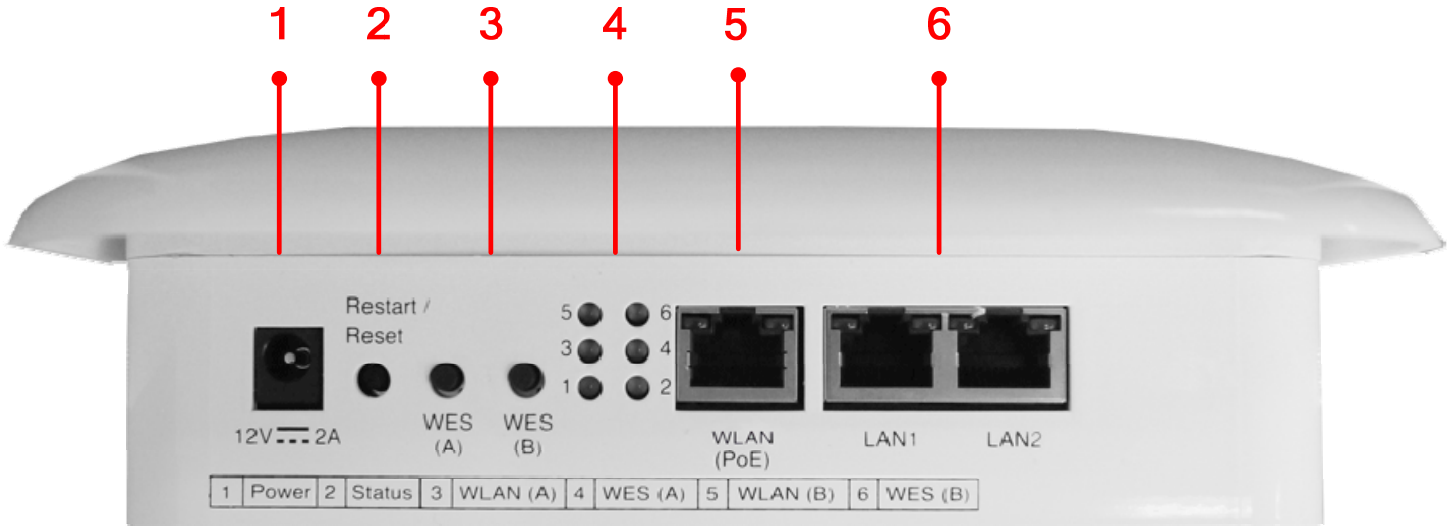
1. HSG327 x 1
2. Quick Installation Guide x 1
3. CD-ROM (with User Manual and QIG) x 1
4. Ethernet Cable x 1
5. Power Adaptor (DC 12V) x 1 (Optional)
6. Mounting Kit x 1



It is recommended to keep the original packing material for possible future shipment when repair or maintenance is required. Any returned product should be packed in its original packaging to prevent damage during delivery.

System Overview

Rear Panel



1	12V 2A	Power Jack Socket for the power adaptor.																		
2	Restart / Reset	Press once to restart the system; Press and hold for more than 5 seconds to reset to factory default.																		
3	WES Button (A / B)	WDS Easy Setup. Press the button to build up a WDS link with another peer. 2 WDS links can be set up per RF card.																		
4	LED Indicators	6 indicators that displays the states of 6 various functions or progresses. The numbers are explained on the leftmost side of the rear panel.																		
5	WAN	For attaching an Ethernet cable to an uplink service.																		
6	LAN Ports 1 - 2	The ports for connections with LAN side devices.																		
	WES LED	For indicating WDS connection status.																		
		<table border="1"> <tr> <td></td> <td>Master (Press for more than 3 seconds)</td> <td>Slave (Press once and then release right away)</td> </tr> <tr> <td>WES Start</td> <td>LED (Green) OFF and then BLINKING SLOWLY</td> <td>LED (Red) OFF and then BLINKING SLOWLY</td> </tr> <tr> <td>WES Negotiate</td> <td>BLINKING NORMALLY (Green)</td> <td>BLINKING NORMALLY (Red)</td> </tr> <tr> <td>WES Timeout</td> <td>LED (Green) ON</td> <td>LED (Red) ON</td> </tr> <tr> <td>WES Success</td> <td>LED (Red) ON</td> <td>LED (Green) ON</td> </tr> <tr> <td>WES Fail</td> <td>LED (Green) ON</td> <td>LED (Red) ON</td> </tr> </table>		Master (Press for more than 3 seconds)	Slave (Press once and then release right away)	WES Start	LED (Green) OFF and then BLINKING SLOWLY	LED (Red) OFF and then BLINKING SLOWLY	WES Negotiate	BLINKING NORMALLY (Green)	BLINKING NORMALLY (Red)	WES Timeout	LED (Green) ON	LED (Red) ON	WES Success	LED (Red) ON	LED (Green) ON	WES Fail	LED (Green) ON	LED (Red) ON
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WES Timeout	LED (Green) ON	LED (Red) ON																		
WES Success	LED (Red) ON	LED (Green) ON																		
WES Fail	LED (Green) ON	LED (Red) ON																		

Hardware Installation

Please follow the steps mentioned below to install the hardware of HSG327:

1. Place the HSG327 at a best location.

The best location for HSG327 is usually at the center of your wireless network.

2. To supply power over to HSG327.

- (a) Connect the **DC power adapter** to the HSG327 power socket on the front panel.



Please only use the power adapter supplied with the HSG327 package. Using a different power adapter may damage this system.

3. Connect HSG327 to your outbound network device.

Connect one end of the **Ethernet cable** to the WAN port of HSG327 on the rear panel. Depending on the type of Internet service provided by your ISP, connect the other end of the cable to the ATU-Router of an ADSL, a cable modem, a switch or a hub. The WAN LED indicator should be ON to indicate a proper connection.

4. Connect HSG327 to your network device.

Connect one end of the **Ethernet cable** to the LAN1 port of HSG327 on the rear panel. Connect the other end of the cable to a PC for configuring the system. The LAN1 LED indicator should be ON to indicate a proper connection.

» **Note:**

HSG327 has two virtual zones **Private** and **Public** which are mapped to LAN1 (192.168.1.254) and LAN2 (192.168.11.254) respectively.

Now, the hardware installation is complete. For more information on installing the wall and ceiling mount kit, please refer to the Mounting Kit Installation Guide provided.



To verify the wired connection between HSG327 and your switch/router/hub, please check the LED status indication of these network devices.

Getting Started

HSG327 supports web-based configuration. Upon the completion of hardware installation, HSG327 can be configured through a PC by using its web browser with JavaScript enabled such as Internet Explorer version 6.0.

Default LAN interface IP address:

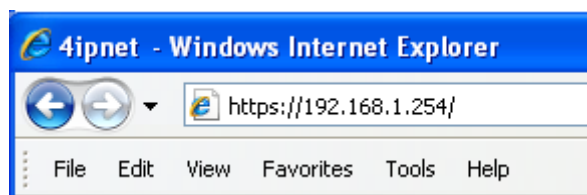
LAN1 (**192.168.1.254**) are mapped to Private Zone, no authentication required for users.

LAN2 (**192.168.11.254**) are mapped to Public Zone, authentication required for users.

» **Note:** The instructions below are illustrated with the administrator PC connected to LAN1.

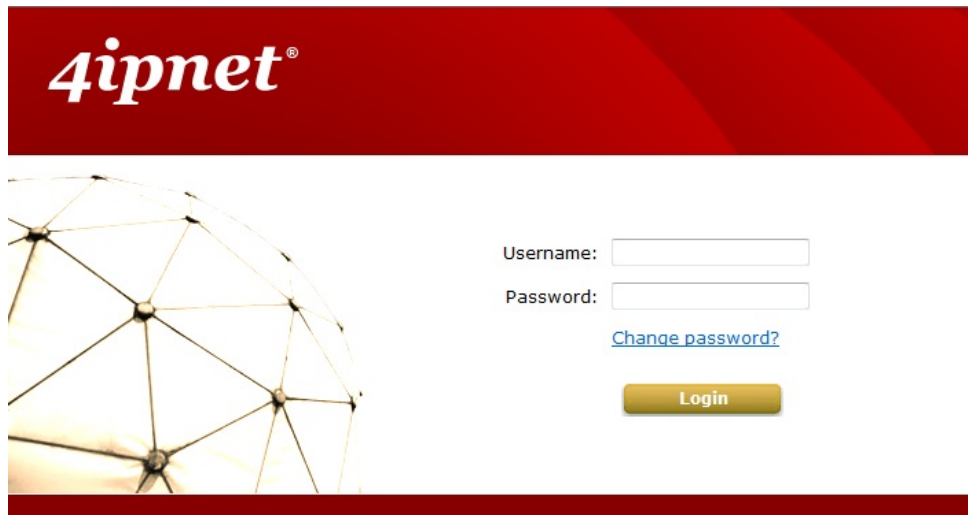
Steps:

1. Once the hardware installation is complete, set DHCP in TCP/IP settings of the administrator PC to “Obtain an IP address automatically”. Connect the PC to the LAN1 Port of HSG327. An IP address will be assigned to the PC automatically via the HSG327 built-in DHCP server.
2. Launch a web browser to access the web management interface of HSG327 by entering “**https://192.168.1.254**” or “**http://192.168.1.254**” in the address field.



» **Note:** “**https**” is used for a secured connection.

3. The following Administrator Login Page will then appear. Enter “**admin**” (the default value) in the *Username* and *Password* fields, and then click **Login** to log in.



4. The **Home Page** will appear after a successful login.



►► **Note:** To logout, simply click **Logout** at the upper right hand corner of the interface to return to the Administrator Login Page.

Common Settings

< Setup Wizard >


HSG327 provides a **Setup Wizard** for quick configuration. To quickly configure HSG327 by using the **Setup Wizard**, click on the **Setup Wizard** button to start the configuration process.




Step 1. General

- Enter a new administrator's password in the **New Password** field, and re-enter it again in the **Verify Password** field (a maximum of 20 characters and no spaces allowed in between).
- Select an appropriate time zone from the **Time Zone** drop-down list box and enter the URL of a valid NTP server to set up the system time.
- Client's browser will be redirected after logging into the system successfully. The redirected page can be assigned instead of the default setting of client's browser by enabling **Portal URL** and configuring a desired one.
- Click **Next** to continue.



 For security concern, it is strongly recommended to change the administrator's password.

 HSG327 supports NTP time synchronization. If NTP is the option selected, it is strongly recommended to make sure the NTP server is reachable and alive.

Step 2. WAN and Wireless Interfaces

For setting up both wired WAN and Wireless LAN interfaces:

- Select a proper type of Internet connection for WAN interface from the following three available connections: **Static**, **Dynamic**, or **PPPoE**. Your ISP or network administrator can advise on the connection type available to you. Below depicts an example for **Dynamic**.



- Click **Next** to continue.

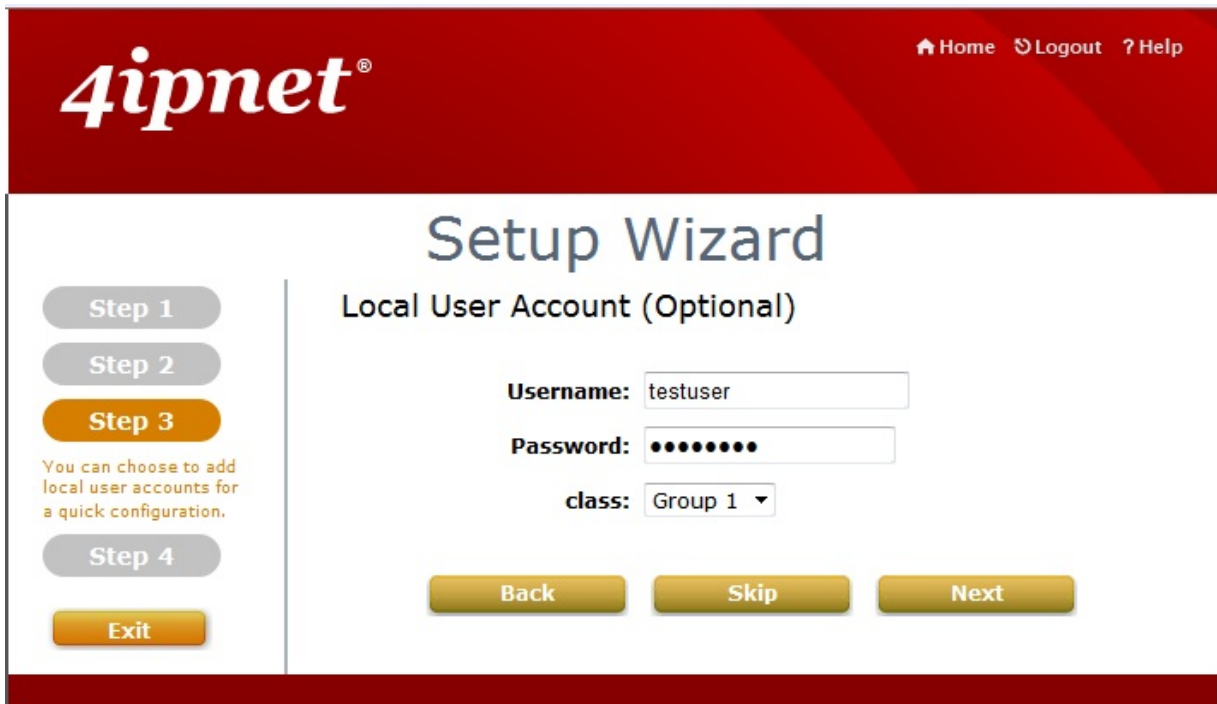
►► **Note:**

HSG327 supports two Virtual Access Points, one under **Private** zone and one under **Public** zone, with ESSID "HSG327-1" and "HSG327-2" respectively by default. The ESSID for VAP under Private is not broadcasted by default.

Detailed configurations for these two VAP can be performed under **Main Menu >> System >> Zone Configuration**.

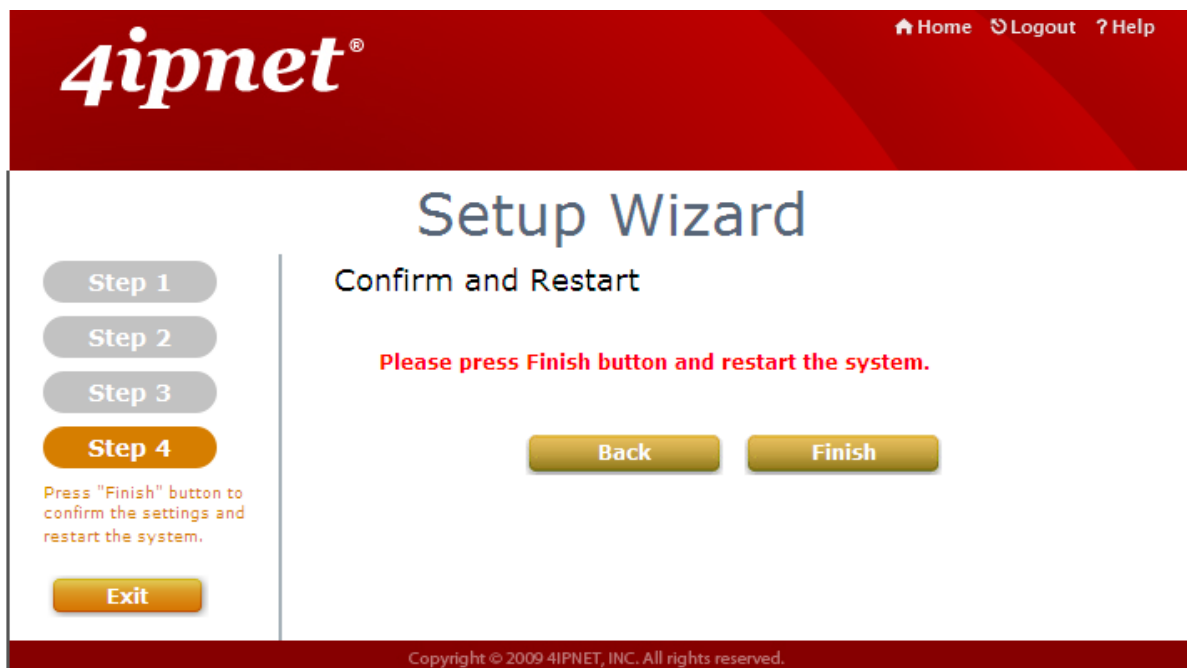
Step 3. Add Local User Account (Optional)

- A new user can be added to the Local User database. To add a user here, enter the **Username** (e.g. testuser), **Password** (e.g. testuser), **MAC Address** (optional, to specify the valid MAC address of this user) and assign an **Applied Group** to this particular user (or use the default **None**).
- Click **Next** to continue.

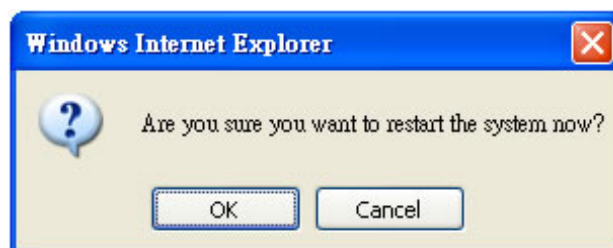


Step 4. Confirm and Restart

- Click **Finish** to save current settings and restart the system.



- A confirmation dialog box will then appear. Click **OK** to continue.



- The **Confirm and Restart** message will appear on the screen during the restarting process. Please do not interrupt the system until the Administrator Login Page appears.



►► **Note:** The system is trying to locate a DNS server at this stage. Therefore, a longer startup time is required if the configured DNS cannot be found.

- When the following Administrator Login Page appears, it means the restart process is now completed.



Deployment Example

< **Small Hotspot Network Environment** >

Nowadays, wireless network service is common and popular in a hotspot network environment. HSG327 provides wireless network service with authentication required for clients in Public Zone. Wireless clients in the Public Zone and Private Zone are isolated from other wireless clients within the same zone when **Station Isolation** feature is enabled. Using wireless instead of wired service helps hotspot owners to build network service quickly.

HSG327 supports two zones, **Private** and **Public**. In the **Private Zone**, authentication is not required to access the network via wired and wireless. Administrator can access the Web Management Interface (WMI) of HSG327 through the wired LAN port. Waiters or waitresses can send orders back to the electrical menu system via wireless hand set devices. In **Public Zone**, by default, **Authentication Required** is enabled, so wired and wireless clients in Public Zone are required to get authenticated successfully before surfing the Internet.



*The switches deployed under HSG327 must be **Layer 2 switches** only.*

Configuration Steps:

Step 1: Configure Wireless Band for the Wireless interface

- Click **Main Menu** in the homepage. Click the **System** menu, then **Service Zones** tab.
- Select a desired wireless band from **Band** drop-down list.



System Users Network Utilities Status

General WAN WAN Traffic IPv6 LAN Port Mapping Service Zones

[Main Menu](#) > [System](#) > Service Zone

Service Zone Settings						
Service Zone Name	Applied Policy	IP Address	Network Alias	DHCP Pool	LAN Port Mapping	Details
	Default Authn Option	IPv6 Address			Status	
Private	Policy 1	192.168.1.254	N/A	192.168.1.1 ~ 192.168.1.100	<input checked="" type="checkbox"/> <input type="checkbox"/>	Configure
	Disabled	N/A			Enabled	
Public	Policy 1	192.168.11.254	N/A	192.168.11.1 ~ 192.168.11.100	<input type="checkbox"/> <input checked="" type="checkbox"/>	Configure
	Server 1	N/A			Enabled	

Wireless General Settings	
RF Card	RF Card1
Band	802.11g+802.11n <input type="checkbox"/> Pure 11n
Short Preamble	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Short Guard Interval	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Channel Width	20 MHz
Channel	6
Max Transmit Rate	Auto
Transmit Power	Highest
DTIM Period	1 (1-255ms)
ACK Timeout	0 (0-255ms)

[Apply](#) [Cancel](#)

Step 2: Configure Public Zone Settings

- Click the **System** menu.
- Click the **Service Zones** tab.
- Click the **Configure** button for Public.

Service Zone Settings						
Service Zone Name	Applied Policy	IP Address	Network Alias	DHCP Pool	LAN Port Mapping	Details
	Default Authen Option	IPv6 Address			Status	
Private	Policy 1	192.168.1.254	N/A	192.168.1.1 ~ 192.168.1.100		Configure
	Disabled	N/A			Enabled	
Public	Policy 1	192.168.11.254	N/A	192.168.11.1 ~ 192.168.11.100		Configure
	Server 1	N/A			Enabled	

Step 3: Configure ESSID for Public Zone

- Enter a desired **ESSID** for Public Zone in Wireless Settings for both RF cards **RF1** and **RF2: HSG327-2**.
- Click **Apply** at the bottom of this page.

Wireless Settings :RF1 VAP 2	
Basic	VAP Status : <input checked="" type="radio"/> Enable <input type="radio"/> Disable ESSID : <input type="text" value="HSG327-2"/> *
Security	Security Type : <input type="text" value="None"/> ▼
Advanced	Beacon Interval : <input type="text" value="100"/> (25-500ms) RTS Threshold : <input type="text" value="2346"/> (1-2346) Fragment Threshold : <input type="text" value="2346"/> (256-2346) Broadcast SSID : <input checked="" type="radio"/> Enable <input type="radio"/> Disable Station Isolation : <input type="radio"/> Enable <input checked="" type="radio"/> Disable WMM : <input checked="" type="radio"/> Enable <input type="radio"/> Disable IGMP Snooping : <input checked="" type="radio"/> Enable <input type="radio"/> Disable

Wireless Settings :RF2 VAP 2	
Basic	VAP Status : <input checked="" type="radio"/> Enable <input type="radio"/> Disable ESSID : <input type="text" value="HSG327-2"/> *
Security	Security Type : <input type="text" value="None"/> ▼
Advanced	Beacon Interval : <input type="text" value="100"/> (25-500ms) RTS Threshold : <input type="text" value="2346"/> (1-2346) Fragment Threshold : <input type="text" value="2346"/> (256-2346) Broadcast SSID : <input checked="" type="radio"/> Enable <input type="radio"/> Disable Station Isolation : <input type="radio"/> Enable <input checked="" type="radio"/> Disable WMM : <input checked="" type="radio"/> Enable <input type="radio"/> Disable IGMP Snooping : <input checked="" type="radio"/> Enable <input type="radio"/> Disable

Step 4: Configure ESSID for Private Zone

- Enter a desired **ESSID** for Private Zone in Wireless Settings: **HSG327-1**. *Note: Private Zone ESSID is not broadcasted by default but can be Enabled.*
- Select a desired **Security Type** for Private Zone for security enhancement if needed.
- Click **Apply** at the bottom of this page.

Service Zone Settings						
Service Zone Name	Applied Policy	IP Address	Network Alias	DHCP Pool	LAN Port Mapping	Details
	Default Authen Option	IPv6 Address			Status	
Private	Policy 1	192.168.1.254	N/A	192.168.1.1 ~ 192.168.1.100		Configure
	Disabled	N/A			Enabled	
Public	Policy 1	192.168.11.254	N/A	192.168.11.1 ~ 192.168.11.100		Configure
	Server 1	N/A			Enabled	



Wireless Settings :RF1 VAP 1	
Basic	VAP Status : <input checked="" type="radio"/> Enable <input type="radio"/> Disable ESSID : <input type="text" value="HSG327-1"/> *
Security	Security Type : <input type="text" value="None"/>
Advanced	Beacon Interval : <input type="text" value="100"/> (25-500ms) RTS Threshold : <input type="text" value="2346"/> (1-2346) Fragment Threshold : <input type="text" value="2346"/> (256-2346) Broadcast SSID : <input type="radio"/> Enable <input checked="" type="radio"/> Disable Station Isolation : <input type="radio"/> Enable <input checked="" type="radio"/> Disable WMM : <input checked="" type="radio"/> Enable <input type="radio"/> Disable IGMP Snooping : <input checked="" type="radio"/> Enable <input type="radio"/> Disable

Wireless Settings :RF2 VAP 1	
Basic	VAP Status : <input checked="" type="radio"/> Enable <input type="radio"/> Disable ESSID : <input type="text" value="HSG327-1"/> *
Security	Security Type : <input type="text" value="None"/>
Advanced	Beacon Interval : <input type="text" value="100"/> (25-500ms) RTS Threshold : <input type="text" value="2346"/> (1-2346) Fragment Threshold : <input type="text" value="2346"/> (256-2346) Broadcast SSID : <input type="radio"/> Enable <input checked="" type="radio"/> Disable Station Isolation : <input type="radio"/> Enable <input checked="" type="radio"/> Disable WMM : <input checked="" type="radio"/> Enable <input type="radio"/> Disable IGMP Snooping : <input checked="" type="radio"/> Enable <input type="radio"/> Disable

Step 5: Confirm Configuration and Restart

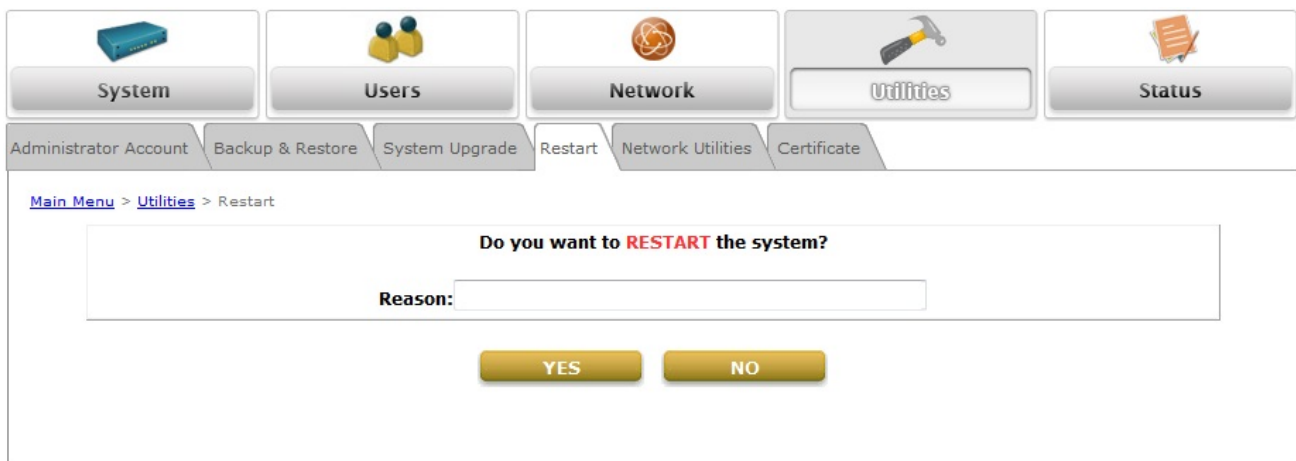
- Click **Restart** once all configurations are done.

You should restart the system to activate the changes. [Restart.](#)



Step 6: Restart the System

A confirmation message of “**Do you want to restart the system?**” will appear. Click **YES** to start the restarting process. A confirmation dialog box will then pop out. Click **OK** to continue.



Please do not interrupt the system during the restarting process.

For further configuration and information, please refer to the User's Manual.

If you have purchased **4ipnet's Wireless Ticket Generator** and/or **4ipnet's POS Printer** and wish to incorporate it into your Hotspot, please follow the Connection Guide of Wireless Ticket Generator after you have installed and configured your HSG327.

For further information on HSG327-WTG/HSG327-WTG2, please refer to Appendix G of the User's Manual.