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for your IP network

Quick Installation Guide

HSG260 V2.10

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: HSG260

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 HSG260 is the most economical and feature rich **Wireless Hotspot Gateway**, targeting mini-size stores that want to provide small, single-point wireless Internet access service. HSG260 is a perfect choice for beginners to run hotspot businesses. It does not cost much compared to buying a pile of equipments, nor does it take the skills of an expert to glue multiple applications out of multiple freeware. Feature-packed for hotspot operation, HSG260 comes with **built-in 802.11 n/b/g MIMO access point, web server and web pages for clients to login, easy logo-loading for branding a hotspot store, simple user/visitor account management tool, payment plans, multiple credit card payment gateways, traffic logs, IP sharing** and etc. HSG260 also brings in an extra advantage - the wall-mountable, dust-proof (IP50) metal housing.

This Quick Installation Guide provides instructions and reference materials for getting started with HSG260.

Package Contents

1. HSG260 x 1
2. Quick Installation Guide x 1
3. CD-ROM (with User Manual and QIG) x 1
4. Console Cable x 1
5. Ethernet Cable x 1
6. Power Adapter (DC 5V) x 1
7. Detachable Antenna x 2

⚠️
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.
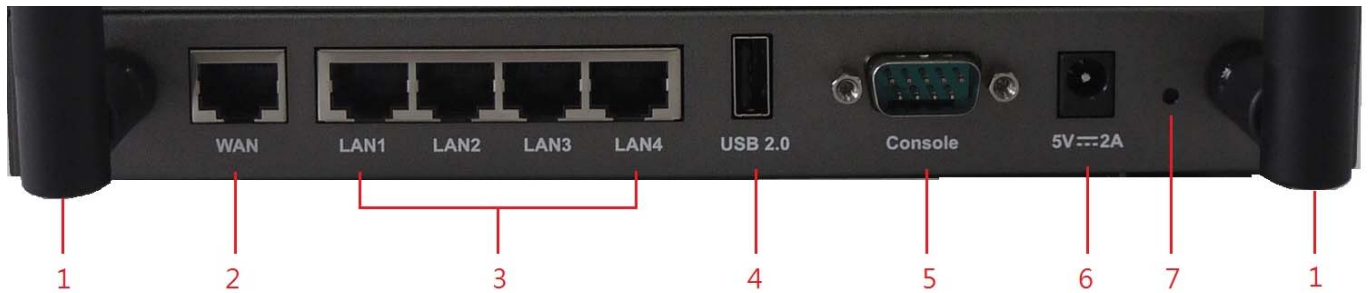
System Overview

Front Panel
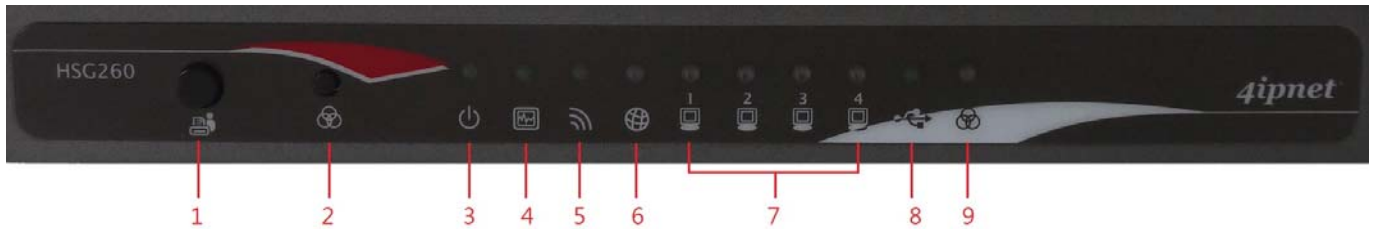
1		**Quick-Print button**	Press this button to create an on-demand account from billing plan 1 and print out through console. (Need to work with a POS printer connected via console port.)
2		**WES button**	Press and hold over 5 seconds to initiate Master WES process. Press and release to initiate Slave WES process.
3		**Power LED**	On indicates power on.
4		**Status LED**	On indicates the system ready.
5		**Wireless LED**	On indicates wireless network interface is ready for service.
6		**WAN LED**	On indicates that WAN uplink connected.
7		**LAN1 - 4 LED**	Indicates the connection status of each LAN.
8		**USB LED**	Indicates the status of USB connection. USB port reserved for future use.
9		**WES LED**	For indicating WDS connection status.

	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

Rear Panel

1	**Antenna connector**	Reverse SMA connectors for attaching antenna as shown in figure 2.
2	**WAN**	For attaching an Ethernet cable to an uplink service.
3	**LAN 1- 4**	Attach Ethernet cables here for connecting to the wired local network.
4	**USB 2.0**	Reserved for future use.
5	**Console**	Attach the serial cable here to access console interface.
6	**5V ⎓ 2 A**	Attach the power adapter here.
7	**Restart / Reset**	Press once to restart the system; Press and hold for more than 5 seconds to reset to factory default.

Right-Side Panel

There is a hole on the right side for Kensington lock. If it is not used, admin can fill the hole with the rubber plug given.

Hardware Installation

Please follow the steps mentioned below to install the hardware of HSG260:

1. **Place the HSG260 at a best location.**

The best location for HSG260 is usually at the center of your wireless network.

2. **To supply power over to HSG260.**

(a) Connect the **DC power adapter** to the HSG260 power socket on the front panel.

> ⚠️ *Please only use the power adapter supplied with the HSG260 package. Using a different power adapter may damage this system.*

3. **Connect HSG260 to your outbound network device.**

Connect one end of the **Ethernet cable** to the WAN port of HSG260 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 HSG260 to your network device.**

Connect one end of the **Ethernet cable** to the LAN1 port of HSG260 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:** | HSG260 has two virtual zones **Private** and **Public** which are mapped to LAN1/LAN2 (192.168.1.254) and LAN3/LAN4 (192.168.11.254) respectively. |

Now, the hardware installation is completed.

> ⚠️ *To double verify the wired connection between HSG260 and your switch/router/hub, please check the LED status indication of these network devices.*

Getting Started

HSG260 supports web-based configuration. Upon the completion of hardware installation, HSG260 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 & LAN2 (**192.168.<u>1</u>.254**) are mapped to Private Zone, no authentication required for users.

LAN3 & LAN4 (**192.168.<u>11</u>.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 HSG260. An IP address will be assigned to the PC automatically via the HSG260 built-in DHCP server.

2. Launch a web browser to access the web management interface of HSG260 by entering **"https://192.168.1.254"** or **"http://192.168.1.254"** in the address field.
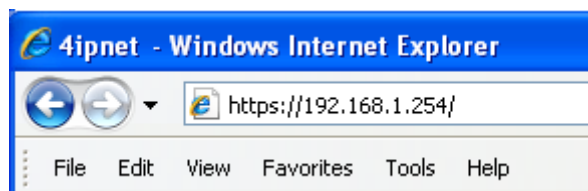
> ▸▸ **Note:** **"https"** is used for a secured connection.

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.
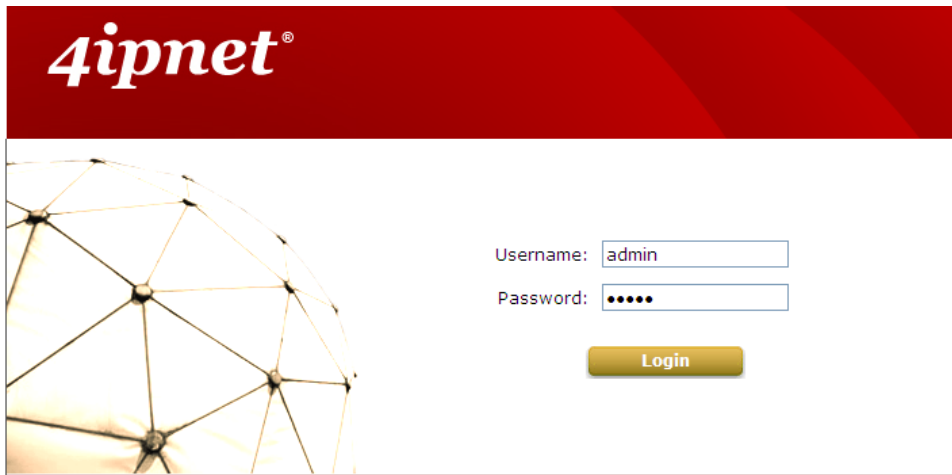

4. The **Home Page** will appear after a successful login.

▸▸ **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 >

HSG260 provides a **Setup Wizard** for quick configuration. To quickly configure HSG260 by using the **Setup Wizard**, click on the **Setup Wizard** button to start the configuration process.
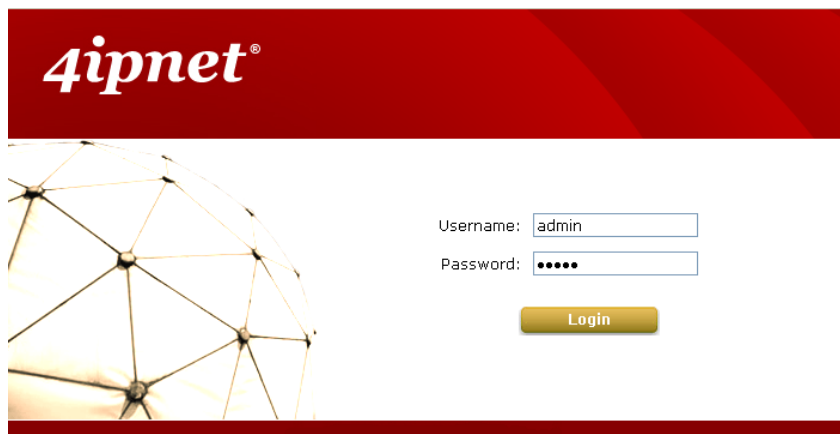
Step 1. General

- 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.*

> ⚠️ *HSG260 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 **Wireless** radio button.

- Select desired wireless **Band**, **Channel**, and **ESSID** for public zone.

- Click **Next** to continue.

▶ **Note:**	HSG260 supports two Virtual Access Points, one under **Private** zone and one under **Public** zone, with ESSID "HSG260-1" and "HSG260-2" 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. Authentication Settings for Public Zone

- For public zone (by default, authentication is enabled), authentication can be enabled or disabled. Clients shall log in the system before using network service if **Auth Required** is enabled.

When authentication is enabled, a default authentication server shall be configured. HSG260 supports 4 kinds of authentication servers including Server 1 (LOCAL), Server 2 (RADIUS), Server 3 (RADIUS), and On-demand (ONDEMAND).

- By default, the **Default Auth Server** is ONDEMAND.

- Use default or set your desired **Postfix**, apply a **Policy** if needed.

- An On-demand account can be created from a default billing plan and added to the database via the **Create** button. If On-demand accounts are not required, click **Next** to go directly to **Step 4**. However, it is recommended to create one account in order to verify the system's readiness upon completion of this **Setup Wizard**.

Creating an On-demand Account	
Plan : Account Type	1 : Duration-time
Username/Password Creation	System created ▾
Activation Time	From account creation time
Elapsed Time	4 hour(s)
Total Price	0
Reference	[ ] Add a reference related to this account (for example, the customer's name)
External ID	[ ] Enter an external ID such as Library ID No.
Please confirm the information and press Create button to create an account.	

[Create]   [Cancel]

⇩

Welcome!

Username	zvm6@ondemand
Password	882k933r
Plan : Account Type	1 : Duration-time
Elapsed Time	Valid for 4 hour(s) elapsed time
Total Price	0
Reference	
External ID	

ESSID : HSG260-2

Shared Wireless Key: None (Open System)

Your account is activated at 2011/10/06 13:52

Your first time login must be done before 2011/10/06 17:52

The account will be expired in 4 hours after account activation.

Thank You!

[Send to POS]   [Printout]   [Close]

Note: To make a better print-out ticket, you may need to cofigure the browser settings (for example, Page Setup) as well as the printer settings (for example, Preferences) before printing out the page.

- After you have printed out the ticket or noted down the Username and Password information. Close the account information window, return to Setup Wizard and click **Next** to continue.

▸ **Note:**	1.	HSG260 supports four authentication servers, with internal authentication databases (LOCAL、ONDEMAND) and external authentication databases (RADIUS).
	2.	The complete name format is **userid@postfix**. Userid is the username and postfix is used by the system to determine the authentication server.
	3.	For hotspot deployments, it is recommended to use ONDEMAND. For details regarding other authentication databases, please refer to the user manual.
	4.	For Policy and Billing Plan configuration, please refer to the user manual for detail.

Step 4. Confirm and Restart

- Click **Finish** to save current settings and restart the system.
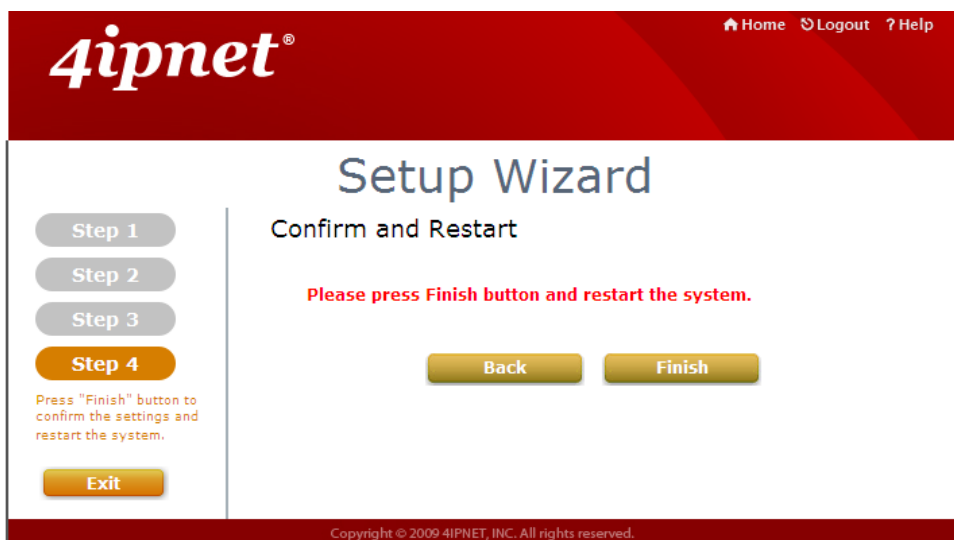
- A confirmation dialog box will then appear. Click **OK** to continue.

- A **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.

< User Login >

To verify whether the configuration of the new on-demand user account(s) created via the *Setup Wizard* has been completed successfully:

1. Connect a client device (e.g. laptop, PC) with wireless interface to scan the configured ESSID of HSG260 (e.g. **"HSG260-2"**) and get associated with this ESSID.

2. The client device will obtain an IP address automatically via DHCP from HSG260. Open a web browser on a client device, access any URL, and then the default **User Login Page** will appear.

3. Enter the *Username* and *Password* of an on-demand account previously generated via Setup Wizard (e.g. **"testuser@ondemand"** as the *Username* and **"testuser"** as the *Password*); then Click **Submit**.

	The postfix can be omitted only when the default authentication option is used. For example, **"ONDEMAND"** is the default authentication option at this system; therefore, you may enter either **"testuser"** or **"testuser@ondemand"** in the *Username* field.
▶▶ **Note:**	

Congratulations!

The Login Success Page will appear after a client has successfully logged into HSG260 and has been authenticated by the system.

The appearance of Login Success Page means that HSG260 has been installed and configured properly.
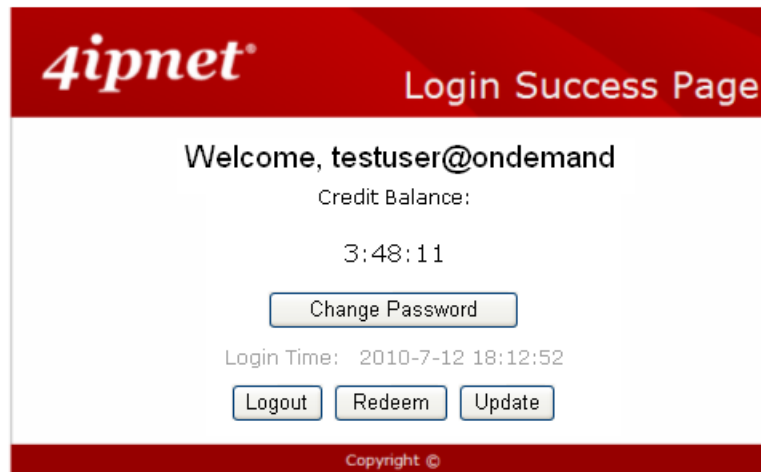
▸ **Note:**	Please be noticed that closing Login Success Page will force clients to log out HSG260.

Deployment Example

< Small Hotspot Network Environment >

Nowadays, wireless network service is common and popular in a hotspot network environment. HSG260 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.

HSG260 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 HSG260 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 HSG260 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 **Zone Configuration** tab.

➢ Select a desired wireless band from ***Band*** drop-down list.

⇩

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 General Settings	
RF Card	RF Card1 ▾
Band	802.11g+802.11n ▾ ☐ Pure 11n
Short Preamble	⦿ Enabled ○ Disabled
Short Guard Interval	⦿ Enabled ○ Disabled
Channel Width	20 MHz ▾
Channel	Auto ▾
Max Transmit Rate	Auto ▾
Transmit Power	Medium ▾
DTIM Period	1 (1-255ms)
ACK Timeout	100 (0-255ms)

Step 2: Configure Public Zone Settings

➤ Click the **System** menu.

➤ Click the **Zone Configuration** tab.

➤ Click **Configure** button of 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: **HSG260-2**.

➤ Click **Apply** at the bottom of this page.

Wireless Settings :RF1 VAP 2		
Basic	VAP Status :	◉ Enable ○ Disable
	ESSID :	HSG260-2 *
Security	Security Type :	None ▼
Advanced	Beacon Interval :	100 (25-500ms)
	RTS Threshold :	2346 (1-2346)
	Fragment Threshold :	2346 (256-2346)
	Broadcast SSID :	◉ Enable ○ Disable
	Station Isolation :	○ Enable ◉ Disable
	WMM :	◉ Enable ○ Disable
	IGMP Snooping :	◉ Enable ○ Disable

Step 4: Configure ESSID for Private Zone

➤ Enter a desired **ESSID** for Private Zone in Wireless Settings: **HSG260-1**. *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 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 :	◉ Enable ○ Disable
	ESSID :	HSG260-1 *
Security	Security Type :	None ▾
Advanced	Beacon Interval :	100 (25-500ms)
	RTS Threshold :	2346 (1-2346)
	Fragment Threshold :	2346 (256-2346)
	Broadcast SSID :	○ Enable ◉ Disable
	Station Isolation :	○ Enable ◉ Disable
	WMM :	◉ Enable ○ Disable
	IGMP Snooping :	◉ Enable ○ Disable

Step 5: Confirm Configuration and Restart

➤ Click *Restart* once all configurations are done.

You should restart the system to activate the changes. Restart.

[Apply]   [Cancel]

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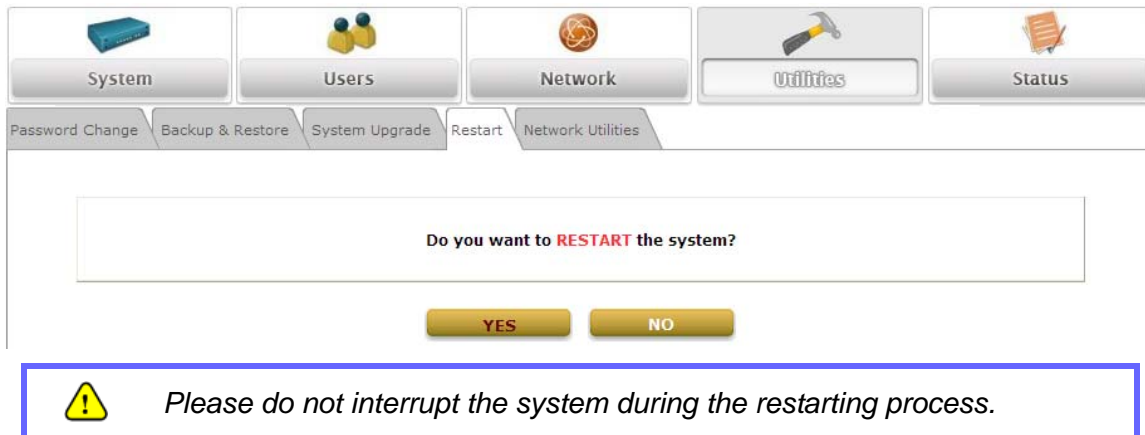
For further configuration and information, please refer to the User's Manual.

If you have purchased **4ipnet's Network Ticket Generator** and wish to incorporate it into your Hotspot, please follow the Connection Guide of Network Ticket Generator after you have installed and configured your HSG260.

If you have purchased **4ipnet's POS Printer** and wish to incorporate it into your Hotspot, please follow the Connection Guide of HSG260 Ticket Generator after you have installed and configured your HSG260.

For further information on HSG260-WTG/HSG260-WTG2, please refer to Appendix G of the User's Manual.

P/N: 21020120817