



/User Manual

Model: WE65ac Wi-Fi Extender

Version 1.0

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Safety Warnings

For your safety, be sure to read and follow all warning notices and instructions.

- To reduce the risk of fire, use only No. 26 AWG (American Wire Gauge) or larger telecommunication line cord.
- Do NOT open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks. ONLY qualified service personnel can service the device. Please contact your vendor for further information.
- Use ONLY the dedicated power supply for your device. Connect the power cord or power adapter to the correct supply voltage (110V AC in North America or 230V AC in Europe).
- Do NOT use the device if the power supply is damaged as it might cause electrocution.
- Do NOT install nor use your device during a thunderstorm. There may be a remote risk of electric shock from lightning.
- Do NOT expose your device to dampness, dust, or corrosive liquids.
- Do NOT use this product near water, for example, in a wet basement or near a swimming pool.
- Make sure to connect the cables to the correct ports.
- Do NOT obstruct the device ventilation slots, as insufficient airflow may harm your device.
- Do NOT store things on the device.
- Connect ONLY suitable accessories to the device.

FCC Interference Statement

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Caution

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

IMPORTANT NOTE: FCC Radiation Exposure Statement:

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Welcome!

Thank you for purchasing this SmartRG product.

SmartRG proudly brings you the best, most innovative products available. SmartRG enables service providers to monitor, manage, and monetize the connected home through the design and production of reliable and highly interoperable hardware and software solutions.

As an early innovator in TR-069 remote management technology, SmartRG offers the finest in managed broadband and home networking solutions. Our products leverage various broadband access technologies and are outfitted with highly customizable software, meeting diverse service provider requirements. Based in the USA, SmartRG provides local, proactive software development and customer support. In the rapidly evolving broadband market, SmartRG helps service providers keep their businesses on the cutting edge through its laser-focused product line, leveraging the very latest in broadband access and home networking technologies. SmartRG solutions enable service providers to improve their bottom line by reducing service costs and increasing customer satisfaction.

Learn more at www.SmartRG.com.

Purpose & Scope

The purpose and scope of this document is to provide the customers of SmartRG with installation, configuration and monitoring information for the WE65ac Wi-Fi extender.

Intended Audience

The information in this document is intended for readers with a basic understanding of wireless networks.

Getting Assistance

Subscribers: If you require help with this product, please contact your service provider.

Service Providers: If you require help with this product, please open a support request.

Getting Familiar with your Extender

This section briefly describes the WE65ac extender's lights, ports, and buttons.

LED Status Indicators

The WE65ac extender has several indicator lights (LEDs) on the front. When the extender is searching for your router, the lights scroll from **TOO FAR** to **OK** to **TOO CLOSE** and back again.

The LEDs function as follows:

- If the OK LED glows white, you have found a suitable location and the connection has been made.
- If you are *too far* from the router, the TOO FAR LED glows red.
- If you are *too close* to the router, the TOO CLOSE LED glows red.

For more information, see ["Installing your WE65ac Extender"](#).

External Buttons

On the bottom of the WE65ac Wi-Fi extender are buttons used to toggle the Wi-Fi radio on and off, or reset the product. These controls are described below.

WPS Button

Wi-Fi Protected Setup™ (WPS) is a standard means for secure connection between your gateway and various wireless client devices. It is designed to simplify the pairing process between devices. For more information, see ["Installing your WE65ac Extender"](#).

Reset Button

The **Reset** button is a small hole in the bottom of the extender with the actual button mounted behind the surface. This style of push-button prevents the extender from being inadvertently reset during handling.

Using a thin wire (such as a paper clip), press the button for at least 1 second and release. The factory default settings are restored.

Warning: Do not press the **Reset** button unless you want to clear *all* of the current settings.

2.4 - 5 Slider

The **2.4-5** slider controls which band is used to connect to the wireless network. When set to **2.4**, the extender connects to the router on the 2.4GHz band and extends a 5GHz network for clients (devices such as laptops). The reverse is true when the slider is set to **5**.

Installing your WE65ac Extender

Extending the access range for your router is easy. If your router supports WPS, follow the instructions in the [""](#) section. If your router does *not* support WPS (most do not), or the WPS method fails, follow the instructions in the ["WITHOUT WPS"](#) section.

Note: The default IP address for the WE65ac extender is <http://10.0.10.254>.

WITH WPS

To set up the extended network, press the **WPS** button on your *router* and then gently press the **WPS** button on the *extender*.

Alternatively, you can activate WPS connection as follows:

1. Connect the extender to your PC using an Ethernet cable.
2. Plug the WE65ac extender into a power outlet near your PC. The lights on the extender flash. Wait about 25 seconds while the unit starts up. When the extender is ready, a browser window opens.
3. Enter the password for the extender and click **Login**. The Connection Wizard page appears.
4. Click the **Advanced** tab and then, in the left navigation menu, click **WPS Settings**.
5. Press the **WPS** button on your router
6. Click the **WPS** button in the interface. A progress popup appears. When the connection is made, the progress popup closes.

WITHOUT WPS

Look at the back of the WE65ac extender. On the round label is information you will need to set up your extended network. This information is also on the WE65ac Settings label on the back of the Quick Start Guide included with the extender.

You may wish to note the following as a safeguard.:

- **ADMIN PASSWORD** - at the bottom of the label
- **WIFI KEY** - above the ADMIN PASSWORD
- **MAC ADDRESS** - further up on the extender

Install your extender using the instructions below:

1. Follow steps 1-3 in the **"WITH WPS"** section
2. On the Connection Wizard page, click **Start** at the bottom of the page. The Step 1 of 2 page appears.
3. Select a network from the list of available networks.
4. Click **Next**. The Step 2 of 2 page appears.

5. Enter the **Wireless Key** for the network you selected and then click **Finish**.

The extender searches for your wireless network. The lights scroll from **TOO FAR** to **OK** to **TOO CLOSE** and back again. When the extender has found your router, a success message appears in the browser window.

6. Click **OK**. The Connection Wizard summary page appears.

Warning: Do not change the SSID of the extended network to the same SSID of your base network. Any device placed between the base and the extender will not be able to identify which one to use. The device keeps trying both and cannot create a proper connection to either SSID.

7. Disconnect the Ethernet cable from the extender and your PC, and then unplug the extender.
8. Plug the extender into a power outlet halfway between your router and the area where you wish to extend WiFi coverage. The **Power** light glows white.

The extender searches for your network. The lights scroll from **TOO FAR** to **TOO CLOSE** and back again. When one of the lights glows steadily, the extender has found your network.

If the extender is too far from your router, the **TOO FAR** light glows **red**. Plug the extender into an outlet closer to the router.

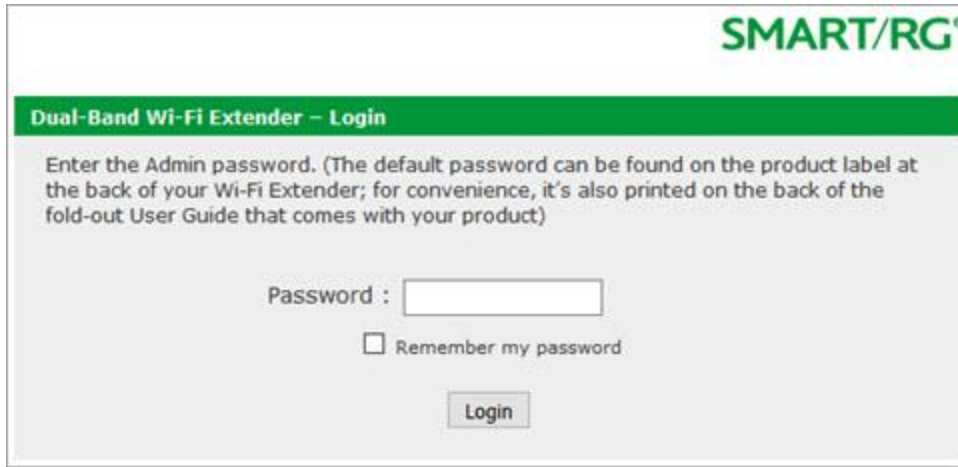
If the extender is too close, the **TOO CLOSE** light glows **red**. Plug the extender into an outlet further from the router.

When the **OK** light glows **white**, you've found a suitable location with a good signal.

Note: It is normal for the range lights to change occasionally. Wireless reception can vary according to the number of wireless devices in use at the same time, type of structure, etc.

Logging In To the WE65ac Interface

1. Start your browser and enter "http://10.0.10.254" in the address field.
2. In the **Password** field, enter the Admin password. The default password is printed on back of the unit and on the Quick Start Guide included with the product.



The screenshot shows the login interface for the SMART/RG Dual-Band Wi-Fi Extender. At the top right is the SMART/RG logo. Below it is a green header bar with the text "Dual-Band Wi-Fi Extender – Login". The main content area contains the following text: "Enter the Admin password. (The default password can be found on the product label at the back of your Wi-Fi Extender; for convenience, it's also printed on the back of the fold-out User Guide that comes with your product)". Below this text is a "Password :" label followed by a text input field. Underneath the input field is a checkbox labeled "Remember my password". At the bottom center is a "Login" button.

3. Click **Login**. The Connection Wizard page appears.

The screenshot shows the web interface for a Dual-Band Wi-Fi Extender. At the top, the title is "Dual-Band Wi-Fi Extender" and the SMART/RG logo is on the right. Below the title are three tabs: "Set-up", "Advanced", and "System". On the left side, there is a navigation menu with "Connection Wizard" selected, along with "Mode Settings" and "Logout". The main content area is titled "Connection Wizard" and contains the following text: "Click Start to connect the WiFi Extender to your broadband router as an alternative to using the WPS button or if your router does not support WPS." Below this, there are two sections: "Wireless Connection to Router" and "Extender Wireless Network".

Wireless Connection to Router	
Wireless network/SSID:	SmartRG-8576
Wireless band:	2.4GHz
Wireless security:	WPA2-PSK[AES]
Connection status:	Disconnected

Extender Wireless Network	
5GHz Wireless network/SSID:	SmartRG-8576-5Gext
5GHz Wireless security:	WPA2-PSK[AES]

At the bottom of the page, there are two buttons: "Start" and "Refresh".

4. Click **Start**. The Connection Wizard finds the available WiFi networks. The Step 1 of 2 page appears.

Dual-Band Wi-Fi Extender SMART/RG®

Set-up Advanced System

Connection Wizard

Mode Settings

Logout

Connection Wizard: Step 1 of 2

Select your hub/router's wireless network name from the list below and click Next.

Refresh

Number of wireless networks found on the 2.4GHz band: 27

#	SSID	MAC Address	Signal	Select
1	Smart_RG_WIFI_1	E4:F4:C6:08:8F:A8	100%	<input type="radio"/>
2	SmartRG-08ca	3C:90:66:1D:08:CC	100%	<input type="radio"/>
3	JB-655-2G	3C:90:66:2C:A7:C0	100%	<input type="radio"/>
4	SmartRG0830	3C:90:66:1D:08:32	100%	<input type="radio"/>
5	SmartRG-094e	3C:90:66:1D:09:50	100%	<input type="radio"/>
6	SmartRG-aa05	3C:90:66:2C:AA:07	100%	<input type="radio"/>
7	SmartRG-198a	64:D9:54:11:19:8D	100%	<input type="radio"/>
8	SmartRG-a388	3C:90:66:2C:A3:8A	100%	<input type="radio"/>
9	Jays_555-2G	3C:90:66:1D:08:ED	100%	<input type="radio"/>
10	8YPJL	18:18:EB:B2:24:59	100%	<input type="radio"/>
11	ab_319447NV0015D	E8:FC:AF:B3:68:7D	100%	<input type="radio"/>
12				<input type="radio"/>
13				<input type="radio"/>
14				<input type="radio"/>
15				<input type="radio"/>
16				<input type="radio"/>
17				<input type="radio"/>
18				<input type="radio"/>
19				<input type="radio"/>
20				<input type="radio"/>
21				<input type="radio"/>
22				<input type="radio"/>
23				<input type="radio"/>
24	DIRECT-roku-98z	LU:4U:ZC:FD:9D:F7	86%	<input type="radio"/>
25	SmartRG_1750	00:23:6A:66:17:56	81%	<input type="radio"/>
26	SmartRGB256	00:23:6A:44:82:58	81%	<input type="radio"/>
27	NETGEAR	00:1B:2F:D9:43:F3	20%	<input type="radio"/>

Cancel Next

5. Select the SSID to which you want to connect and click **Next**. The Step 2 of 2 page appears.

Dual-Band Wi-Fi Extender SMART/RG®

Set-up Advanced System

Connection Wizard

Mode Settings

Logout

Connection Wizard: Step 2 of 2

Enter your broadband hub/router's wireless key then click Finish.

Wireless Security

Security: WPA2-PSK(AES)

Wireless key:

(8-63 characters or 64 hex digits)

Back Finish

6. Enter the **Wireless key** (Passphrase) for the network you selected and click **Finish**. After a short wait, a success message appears on the page.

Dual-Band Wi-Fi Extender SMART/RG®

Set-up Advanced System

Connection Wizard

Mode Settings

Logout

Connection Wizard: Step 2 of 2

Success. The connection to your broadband hub/router has been established.

Success

The management address may be changed, please login again.

OK

You are connected to the selected network. The WE65ac automatically detects and broadcasts the new SSID. A message about the management address appears. Click **OK**.

7. Log into your router and look at the ARP table for the MAC address of the WE65ac. This is the MAC address printed on the back of the extender and the Quick Start Guide.
8. Note the IP address associated with that MAC address. That is the new IP address of the extender.

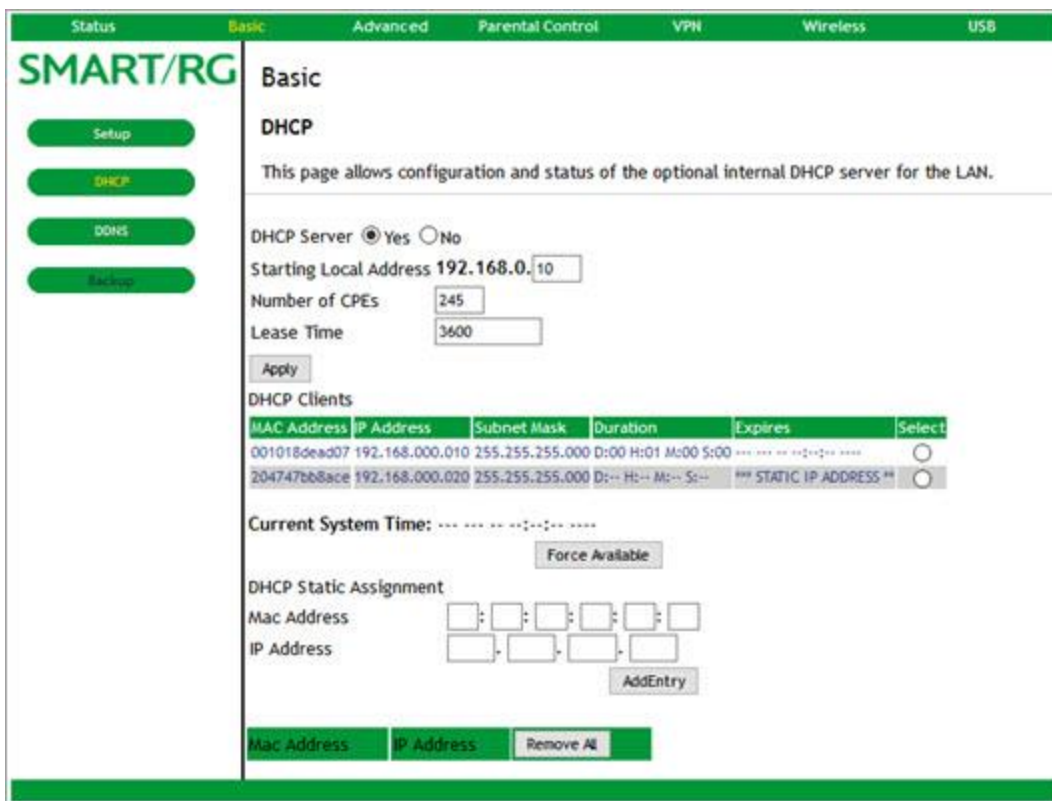
9. Enter that IP address in the address field of your browser and log into the interface.

Note: If an error message appears, click **OK** to return to the Set-up > Connection Wizard page. Verify the network and key and go through the connection steps again.

To see the WiFi status on the extender, click **Set-up** in the top navigation bar. Look at the **Connection Status** field in the **Wireless Connection to Router** section of the Connection Wizard page.

It shows that the home gateway to which the WE65ac is attached is using the 2.4GHz to backhaul traffic to the home gateway.

The WE65ac now has an IP address for managing connections from your gateway. You can find the management IP address for the extender on the DHCP page of the gateway's GUI. In the example shown below for the SR804n model, the IP address is 192.168.0.20.



Mode Settings

On this page, you can select the mode for your WE65ac extender.

Warning: When you change the mode, the extender reboots once you click **Apply**.

1. In the top navigation bar, click **Set-up** and then click **Mode Settings** in the left menu. The following page appears.



2. To change the mode, accept the default of **Extender mode**. The other options are **Repeater mode**, , and **AP mode** are not supported in the initial GA release of this product.
3. Click **Apply**.

Advanced

In this section, you can configure connection details, extended wireless network settings, WPS settings, and manage device access.

Connection to Router

On this page, you can configure the SSID and authentication method, and enter a new key phrase for your gateway.

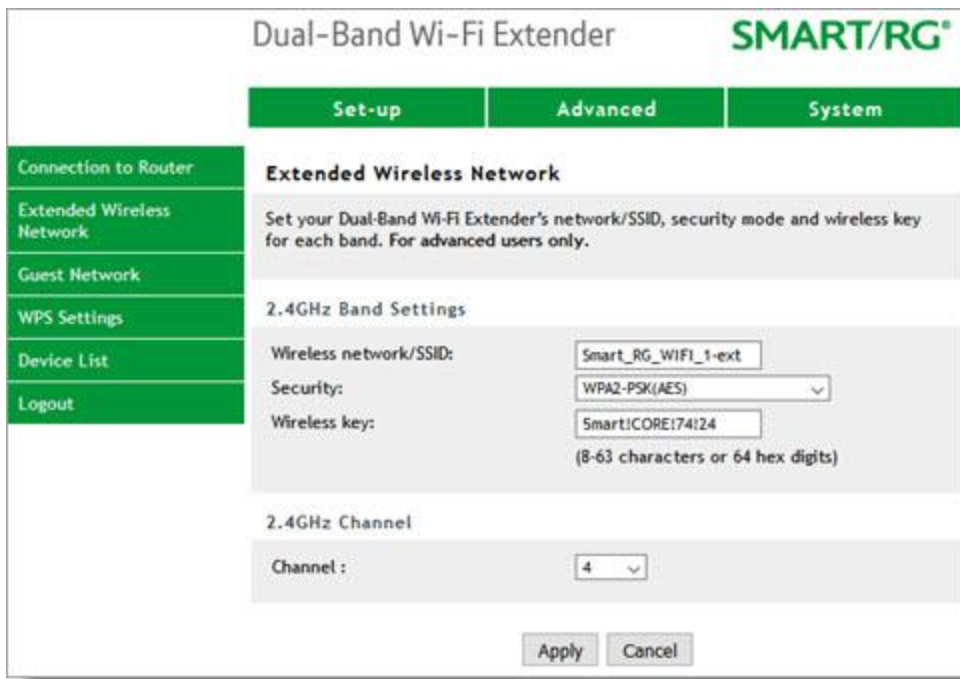
1. In the top navigation bar, click **Advanced**. The Connection to Hub/Router page appears.

2. Modify the settings as needed. The default values are generated from your selections during setup.
3. Click **Apply**.

Extended Wireless Network

On this page you can configure the SSIDs, authentication method, and wireless key for both channels on the extender.

1. In the top navigation bar, click **Advanced** and then click **Extended Wireless Network** in the left menu. The Extended Wireless Network page appears.



2. If you want to use the same settings for both channels, click the **Use the same...** checkbox at the top of the page.
3. To enable the 5GHZ channel, click the **Enable 5GHZ wireless** checkbox in the **5GHz Band Settings** section.
4. Complete the remaining fields, using the information in the following table.
5. When your changes are completed, click **Apply**.

Field	Description
Wireless network/SSID	The SSID of the wireless network.
Security	Select the authentication method for your extender. The default is
Wireless key	Enter the wireless key for the extender (found on the back of the extender & in the Quick Start Guide).
Channel	(5GHz channel only) Select a specific channel number or accept the default of Auto .

Guest Network

On this page, you can set up two networks, each with its own SSID and key, for guests to use.

1. In the top navigation bar, click **Advanced** and then click **Guest Network** in the left menu. The Advanced > Guest Network page appears.

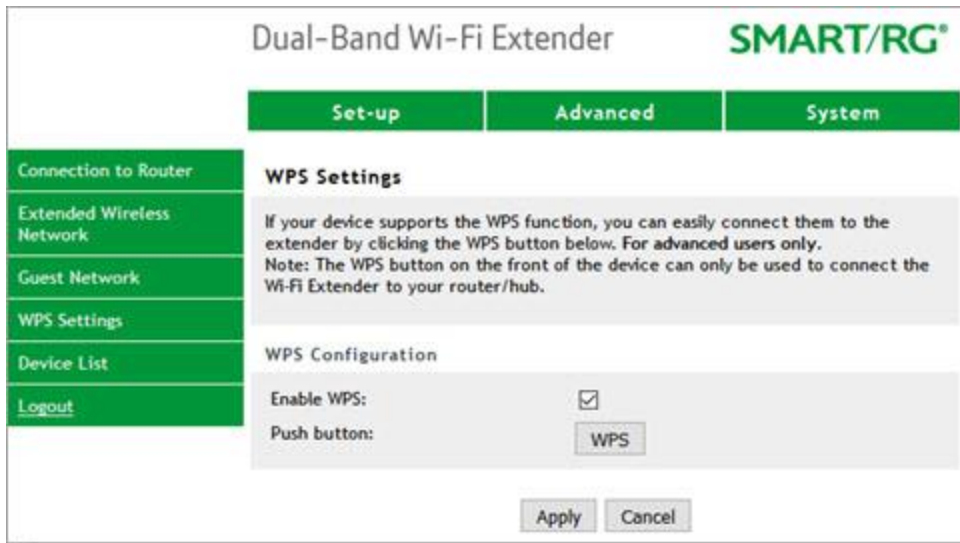
The screenshot shows the 'Dual-Band Wi-Fi Extender' web interface for SMART/RG. The top navigation bar includes 'Set-up', 'Advanced', and 'System'. The left sidebar menu has 'Connection to Router', 'Extended Wireless Network', 'Guest Network', 'WPS Settings', 'Device List', and 'Logout'. The main content area is titled 'Guest Network' and contains the following text: 'You can setup a separate network for your guests with it's own network name (SSID) and wireless key.' Below this, there are two sections for '2.4GHz Band Wireless Settings'. Each section has an 'Enable Guest Network' checkbox (unchecked), a 'Guest Network Name (SSID)' text input field (containing 'SmartRG-SmartHome' for the first and 'SmartRG-Public' for the second), and a 'Security Mode' dropdown menu (set to 'None'). At the bottom of the settings area are 'Apply' and 'Cancel' buttons.

2. In the **Guest Network Name (SSID)** field, enter a name for this network that your guests can easily identify.
3. In the **Security Mode** field, select the type of network authentication that you want applied. The default is None, but using this option is not recommended. Options are **WPA-PSK (TKIP)**, **WPA2-PSK (AES)**, and **WPA-PSK (TKIP) + WPA2-PSK (AES)**.
4. To configure the second guest network, repeat Steps 2 and 3.
5. To activate a network. click the **Enable Guest Network** check box above its **SSID** field.
6. Click **Apply** to save your changes.

WPS Settings

On this page, you can enable or disable WPS. WPS is enabled by default.

1. In the top navigation bar, click **Advanced** and then click **WPS Settings** in the left menu. The WPS Settings page appears.



2. To activate WPS with the extender, click the **WPS** button.
3. To disable WPS, clear the **Enable WPS** checkbox.
4. Click **Apply**.

Connecting Devices

Now that setup is complete, you can connect your WiFi client devices (Smartphone, tablet, laptop, etc.) to the new, extended network. Look for a network name with “ext” at the end.

For example, if your existing WiFi network is named “SmartRG-1234”, the extended WiFi network name would be:

- SmartRG-1234-ext (on the 2.4GHz band), or
- SmartRG-1234-5Gext (on the 5GHZ band)

Log in with the same WiFi password that you use for your router. Your device connects to the extended network.

Device List

On this page, you can view statistics for the devices connected to the extender.

1. In the top navigation bar, click **Advanced** and then click **Device List** in the left menu. The Advanced > Device List page appears, showing a list of the clients connected to your extender’s wireless networks.

The screenshot shows the SMART/RG Dual-Band Wi-Fi Extender web interface. At the top, there are three tabs: "Set-up", "Advanced", and "System". The "Device List" page is active, showing a list of connected devices. The interface includes a sidebar with navigation options: "Connection to Router", "Extended Wireless Network", "Guest Network", "WPS Settings", "Device List", and "Logout".

Device List

All devices connected to your Dual-Band Wi-Fi Extender.

Wired Devices

#	IP Address	MAC Address	Device Name
1	10.0.10.2	20:47:47:88:8A:CE	dadamo-lapto

Wireless Devices using the 2.4GHz Band

#	IP Address	MAC Address	Device Name
---	------------	-------------	-------------

2. To refresh the data, click [Refresh](#).

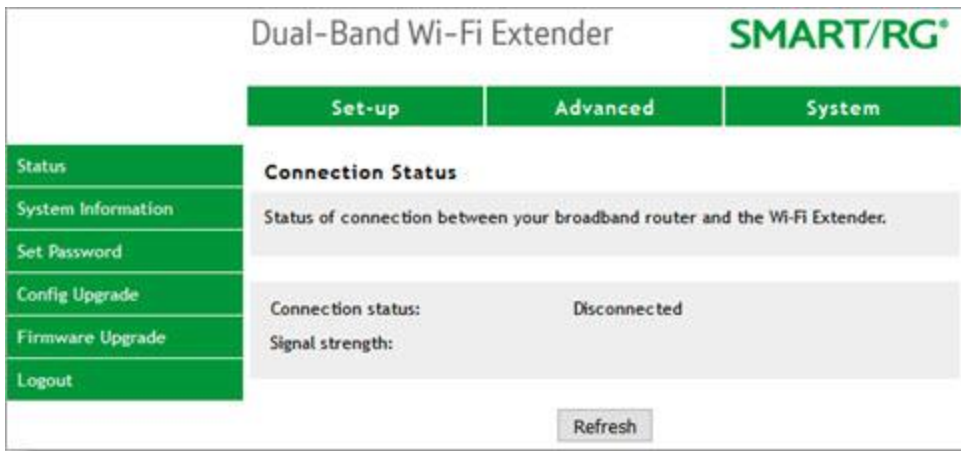
System

In this section, you can view signal strength and system information, change the Admin password, upgrade the firmware on the extender, and log out.

Status

In the top navigation bar, click **System**. The Status page appears, showing the connection status and the signal strength.

If the WE65AC has been configured correctly to connect to your home gateway, **Connection status** is shown as **Connected**.



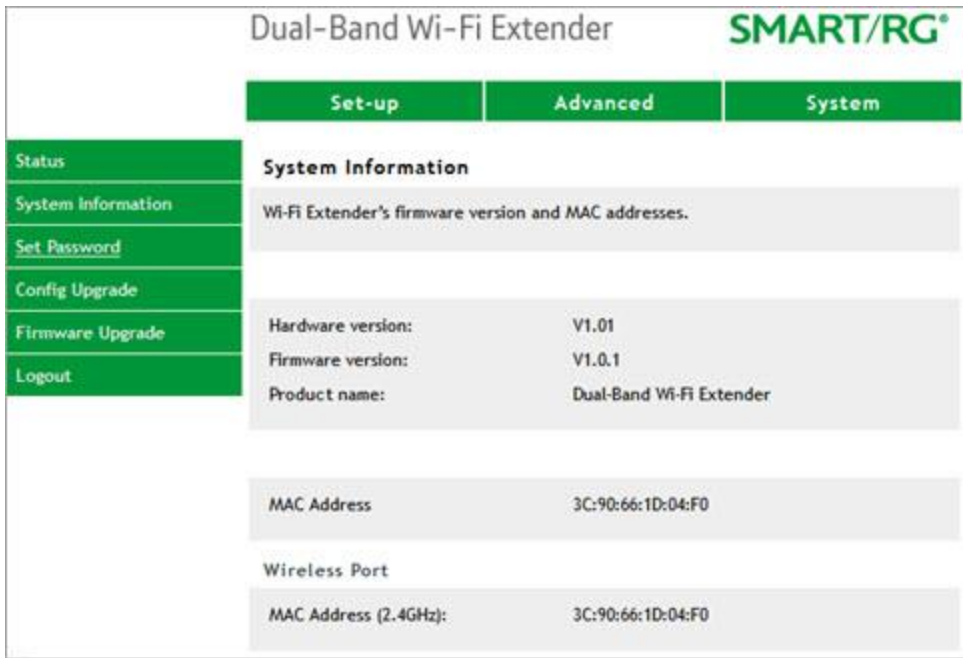
If the Backhaul connection is not configured, **Connection status** is shown as **Disconnected**.

To update the data, click **Refresh**.

System Information

On this page you can view the hardware, firmware and MAC address information of the extender.

In the top navigation bar, click **System** and then click **System Information** in the left menu. The System > System Information page appears, showing detailed information about the extender.



Set Password

On this page, you can change the Admin password.

1. In the top navigation bar, click **System** and then click **Set Password** in the left menu. The following page appears.



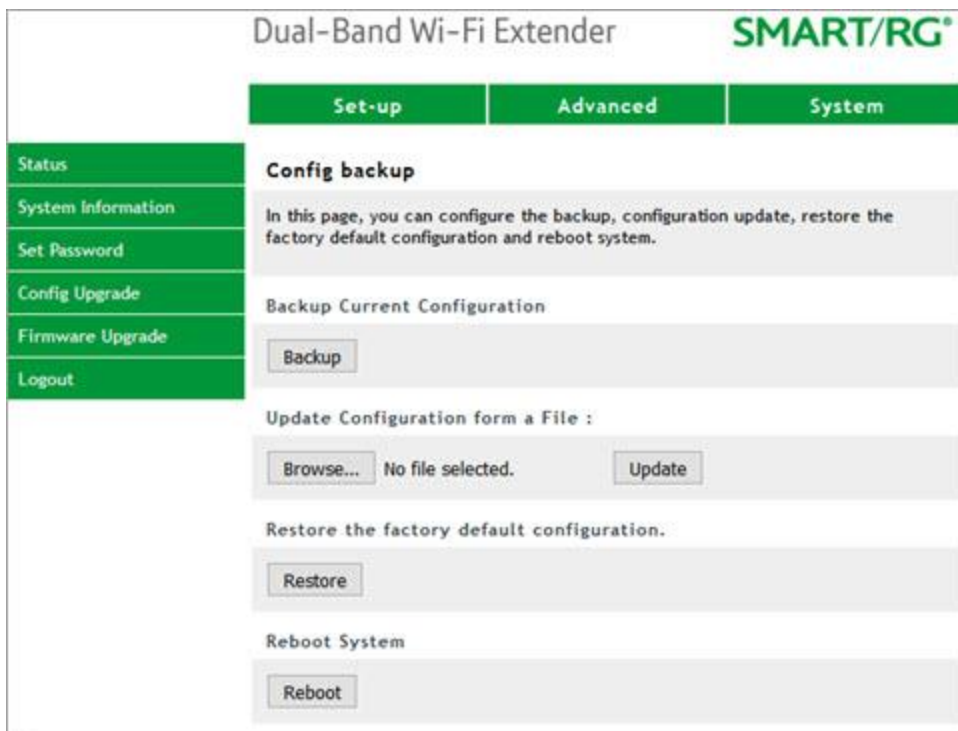
2. In the **Old password** field, enter the current Admin password.
3. In the **New password** and **Confirm password** fields, enter the new password.
4. Click **Apply**. The password is changed immediately.

There is no need to log out or restart the gateway; you can proceed with other tasks.

Config Upgrade

On this page, you can backup and restore configuration files for your extender.

1. In the top navigation bar, click **System** and then click **Config Upgrade** in the left menu. The following page appears.



2. To backup the current configuration settings, click **Backup**. A backup file named config.xml is created and downloaded to your defined download folder.
3. To upload a saved configuration file, click **Browse** to select the file and then click **Update**. The extender reboots and a progress message appears, counting down from 40 seconds. When the browser is ready, the login window opens.
4. To clear the current configuration settings and return to the factory default configuration, click **Restore**. The extender reboots and a progress message appears, counting down from 40 seconds. When the browser is ready, the login window opens.
5. To restart the extender, click **Reboot**. When the extender is ready to use, the login window opens.

Firmware Upgrade

On this page, you can upgrade the extender's firmware.

1. In the top navigation bar, click **System** and then click **Firmware Upgrade** in the left menu. The following page appears.

2. Click **Browse** to select the firmware file that you want to upload.
3. To clear the current configuration settings, click the **Clear config** checkbox.
4. Click **Upload and Install**. The extender reboots and a progress message appears, counting down from 40 seconds. When the browser is ready, the login window opens.

Revision History

Revision	Date	LAN ports
1.0	July 2016	Initial release of this user manual.