Siselectron
TECHNOLOGY

User Guide

SWE2520

Dual Band Indoor Access Point
Ceiling Mount Design

Table of Contents

Chapter 1

Key Features/Introduction..... 1

System Requirements / Package Contents..... 2

Applications..... 3

Technical Specifications..... 4

Physical Interface..... 5

Chapter 2

Considerations for Wireless Installation..... 6

Computer Settings..... 7

Hardware Installation..... 10

Mounting the SWE 2520..... 11

Chapter 3

Default Settings..... 13

Chapter 4

Access Point Mode..... 14

WDS AP Mode..... 15

WDS Bridge Mode..... 16

Chapter 5

Overview..... 17

Connections..... 18

Chapter 6

Operation Modes/Basic..... 19

IP Settings/SpanningTree Settings..... 20

Chapter 7

Wireless Network..... 22

Wireless Security..... 24

Wireless MAC Filtering..... 30

Wireless Advanced 31

WPS (Wi-Fi Protected Setup)..... 32

WDS Link Settings..... 33

Chapter 8

Administration..... 34

Management VLAN Settings..... 35

Wireless Traffic Shaping..... 36

SNMP Settings..... 37

Backup/Restore Settings..... 39

Auto Reboot Settings..... 40

Firmware Upgrade/TimeSettings..... 41

System Log/Tools..... 43

Ping Test Parameters/Traceroute Parameters 44

Speed Test Parameters/LED Control..... 45

Device Discovery/Reset.....46

Appendix

FCC Interference Statement..... 47

Introduction

Key Features

- High transmit power, enabling long range connectivity
- Supports IEEE802.11ac/b/g/n wireless standards with up to 450 Mbps data rate on 2.4GHz and 1300Mbps data rate on 5GHz
- Three internal 4 dBi (2.4 GHz) and three 5dBi (5 GHz) omni-directional MIMO antennas
- Can be used with included power adapter or via PoE with PoE 802.3at - capable Switches or Injectors
- Dual Band/Three Stream
- Band Steering shifts dual band clients to the 5 GHz band for to relieve network congestion on the 2.4 GHz band
- Siselectron Technology Ltd seeks the most efficient signal path to AC compatible computers and devices
- Secured Guest Network

Introduction

The SWE 2520 leverages the breakthrough speed and performance 802.11ac performance 802.11ac for connecting to laptops and other devices that need to wirelessly stream HD video or transfer large files.The SWE 2520 is an 802.11ac 3x3 Indoor Access Point. This high-powered ceiling mount Dual Band Access Point features speeds up to 450 Mbps on 2.4 GHz and up to 1300 Mbps on the 5 GHz band when associated with AC client devices. It can be configured as an Access Point, Client Bridge, or WDS (AP & Bridge) and features a high transmit RF power of 28 dBm transmit RF power on the 2.4 GHz band and 26 dBm on the 5 GHz band for long range connectivity. The SWE 2520 includes a Gigabit Ethernet port for connecting to 802.3at-capable PoE Switches and an enhanced receive sensitivity NIMO (Multiple In / Multiple Out) Out) integrated sectorized 3D antenna array.

Maximum data rates are based on IEEE 802.11 standards. Actual throughput and range may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment, and mix of devices in the network. Features and specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners. For Taiwan: Copyright © 2015 Siselectron Technology Ltd. All rights reserved.

It's an ideal solution for spacious interior environments such as large homes, small and medium-sized businesses, multiple-floor buildings, hotels, hospitals, and other venues.

The SWE 2520 also delivers up to 15x faster wireless speeds compared to legacy 802.11a/b/g wireless devices. Even though the SWE 2520 has been designed and engineered for heavy traffic and demanding business environments, in larger housing environments as it can efficiently extend the wireless range of an existing home router. This makes it especially ideal in architecturally-challenging structures, providing whole home connectivity.

To protect sensitive data during wireless transmissions, the SWE 2520 offers different encryption settings for wireless transmissions, including industry standard WPA and WPA2 encryption. The SWE 2520 also includes MAC address filtering to allow network administrators to offer network access only to known computers and other devices based on their MAC addresses.

System Requirements

The following are the Minimum System Requirements in order configure the device:

- Computer with an Ethernet interface or wireless network capability
- Windows OS (XP, Vista, 7, 8), Mac OS, or Linux-based operating systems
- Web-Browsing Application (i.e. : Internet Explorer, Firefox, Chrome, Safari, or another similar browser application)

Package Contents

The SWE 2520 package contains the following items (all items must be in package to issue a refund):

- SWE 2520 Access Point
- 12V/2A Power Adapter
- RJ-45 Ethernet Cable
- Quick Installation Guide
- Ceiling and Wall Mount Screw kit
- T-Rail Mounting kit
- Mounting Bracket

Applications

Wireless LAN (WLAN) products are easy to install and highly efficient. The following list describes some of the many applications made possible through the power and flexibility of WLANs

- Difficult-to-Wire Environments: There are many situations where wires cannot be installed, deployed easily, or cannot be hidden from view. Older buildings, sites with multiple buildings, and/or areas that make the installation of a Ethernet-based LAN impossible, impractical or expensive are sites where WLAN can be a network solution.
- Temporary Workgroups: Create temporary workgroups/networks in more open areas within a building; auditoriums, amphitheaters classrooms, ballrooms, arenas, exhibition centers, or temporary offices where one wants either a permanent or temporary Wireless LAN established.
- The Ability to Access Real-Time Information: Doctors/Nurses, Point-of-Sale Employees, and/or Warehouse Workers can access real-time information while dealing with patients, serving customers, and/or processing information.
- Frequently Changing Environments: Set up networks in environments that change frequently (i.e.: Show Rooms, Exhibits, etc.).
- Small Office and Home Office (SOHO) Networks: SOHO users require a cost-effective, easy, and quick installation of a small network.
- Wireless Extensions to Existing Ethernet-based Networks: Devices like the SWE 2520 enable network administrators, installers, and end-users to extend the range and reach of an existing Ethernet-based network.
- Training/Educational Facilities: Training sites at corporations or students at universities use wireless connectivity to exchange information between peers and easily access information for learningpurposes.

Technical Specifications

Standard:

IEEE802.11b/g/n on 2.4 GHz

IEEE 802.11ac/a/n on 5 GHz

IEEE802.3at

Antenna

Integrated 3D Sectorized Antenna

4 dBi on 2.4 GHz

5 dBi on 5 GHz

Physical Interface

1 x 10/100/1000 Gigabit Ethernet Port

1 x Reset Button

1 x Power Connector

LED Indicator

Power

WPS

WLAN (Wireless

Connection) LAN

Power Requirements

External Power

Adapter DC IN, 12V/2A

Active Ethernet (Power-over-

Ethernet) Proprietary PoE Design

Operation Modes

Access Point

WDS AP

WDS Bridge

Security

WEP (64/128bit)

WPA/WPA2 (TKIP/AES)

Hidden SSID

MAC address filtering, up to 50 fields

L2 Isolation

802.1X Authenticator (MD5/TLS/TTLS/PEAP)

Guest Network

QoS (Quality of Service)

WMM (Wireless Multimedia)

Wireless Management

Web interface (HTTP/HTTPS)

SNMP v1/v2c/v3 with MIB I/II and private MIB CLI

(Telnet/SSH)

Firmware Upgrade

Backup/Restore Settings

Save Configuration as Default

Auto Reboot

E-mail Alert/Syslog Notification

Physical Security

Kensington Security Slot

Physical/Environment Conditions

Operating:

Temperature: 32°F to 104°F (0°C to 40°C)

Humidity (Non-condensing): 90% or less

Storage:

Temperature: -4°F to 140°F (-20°C to 60 °C)

Humidity (Non-condensing): 90% or less

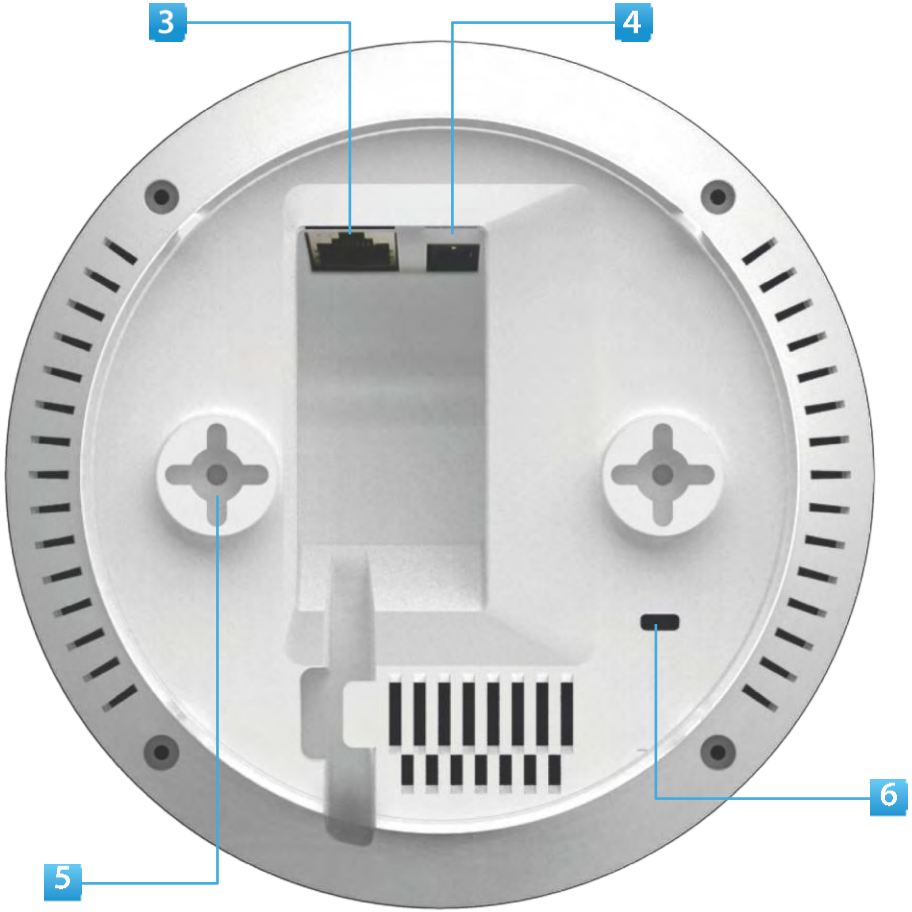
Physical Interface

Dimensions and Weights

Diameter: 6.36"

Height: 1.64"

Weight: 0.65 lbs.



1 Reset Button: Press and hold for over 10 seconds to reset to factory defaults settings

2 LED Indicators: LED lights for WPS, WLAN 5G, WLAN 2.4G, Ethernet port, and Power

3 LAN Port (802.3at PoE): Ethernet port for RJ-45 cable.

4 Power Connector: 12V DC IN for Power.

5 Ceiling (Wall) Mount Hole: Using the provided hardware, the SWE 2520 can be attached to a ceiling or wall.

6 Kensington Security Slot: To protect your SWE 2520, use the Kensington Security Slot to attach a cable lock*.

*cable lock not included

Before You Begin

This section will guide you through the installation process. Placement of the Siselectron SWE 2520 is essential to maximize the Access Point's performance. Avoid placing the SWE 2520 in an enclosed space such as a closet, cabinet, or stairwell.

Considerations for Wireless Installation

The operating distance of all wireless devices can often not be pre-determined due to a number of unknown obstacles in the environment in which the device is deployed. Obstacles such as the number, thickness, and location of walls, ceilings, or other objects that the SWE 2520's wireless signals must pass through can weaken the signal. Here are some key guidelines for allowing the SWE 2520 to have an optimal wireless range during setup.

- Keep the number of walls and/or ceilings between the SWE 2520 and other network devices to a minimum. Each wall and/or ceiling can reduce the signal strength, resulting in a lower overall signal strength.
- Building materials make a difference. A solid metal door and/or aluminum stubs may have a significant negative effect on the signal strength of the SWE 2520. Locate your wireless devices carefully so the signal can pass through drywall and/or open doorways. Materials such as glass, steel, metal, concrete, water (example: fish tanks), mirrors, file cabinets, and/or brick can also diminish wireless signal strength.
- Interference from your other electrical devices and/or appliances that generate RF noise can also diminish the SWE 2520's signal strength. The most common types of devices are microwaves or cordless phones.

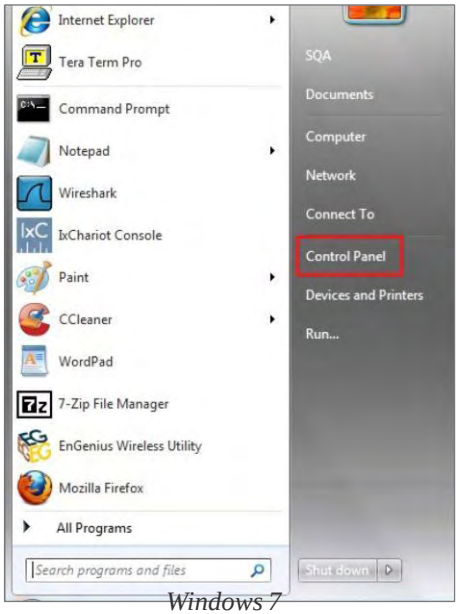
Computer Settings

Windows XP/Windows 7

In order to use the SWE 2520, you must first configure the TCP/IPv4 connection of your Windows OS computer system.

1. Click the Start button and open the Control Panel.

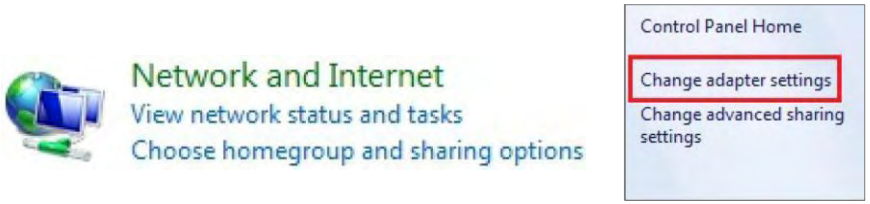
Windows XP



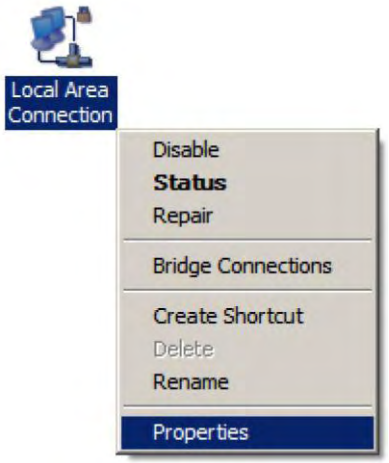
Windows 7

2a. In Windows XP, click on Network Connections.

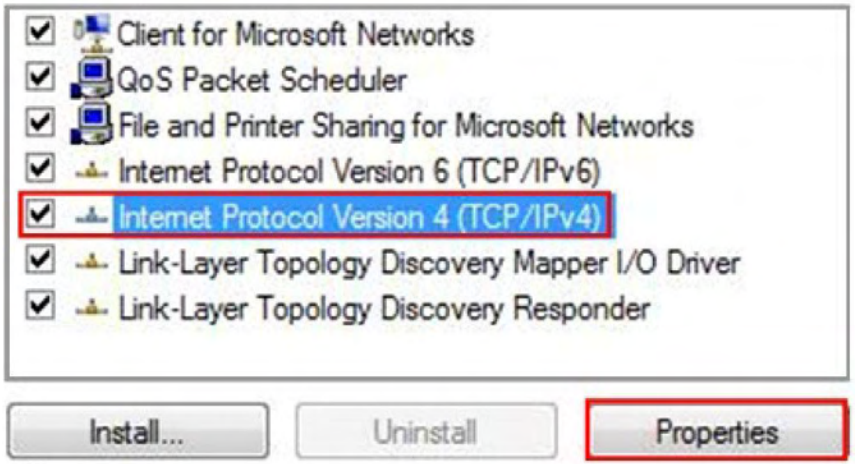
2b.In Windows 7, click View Network Status and Tasks in the Network and Internet section, then select Change Adapter Settings.



3. Right click on Local Area Connection and select Properties.



4. Select Internet Protocol Version 4 (TCP/IPv4) and then select Properties.



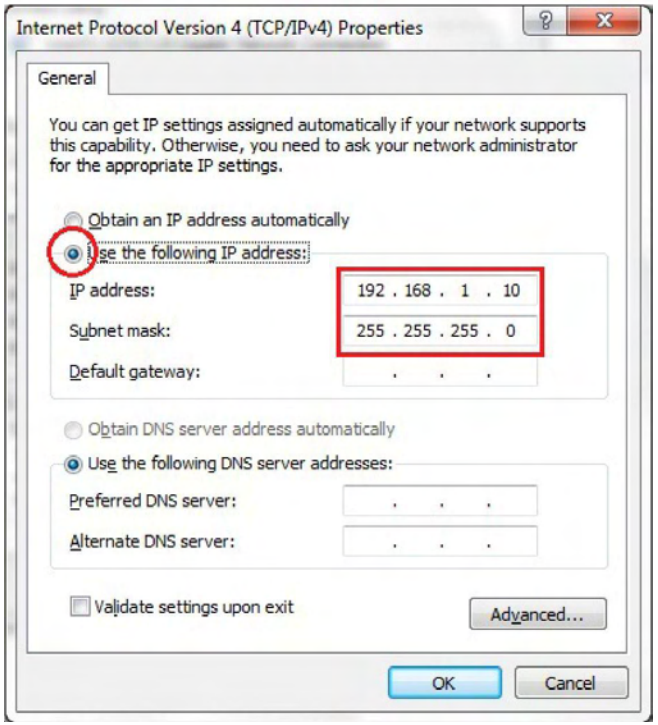
5. Select **Use the following IP address** and enter an IP address that is different from the SWE 2520 and Subnet mask, then click **OK**.

Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

For example: SWE 2520 IP address: 192.168.1.1

PCIPaddress:192.168.1.2–192.168.1.255

PC Subnet mask: 255.255.255.0



Apple Mac OS X

1. Go to System Preferences (it can be opened in the Applications folder or by electing it in the Apple Menu).

2. Select Network in the Internet & Network section.

3. Highlight Ethernet.

4. In Configure IPv4, select Manually.

5. Enter an IP address that is different from the SWE 2520 and Subnet mask, then click OK.

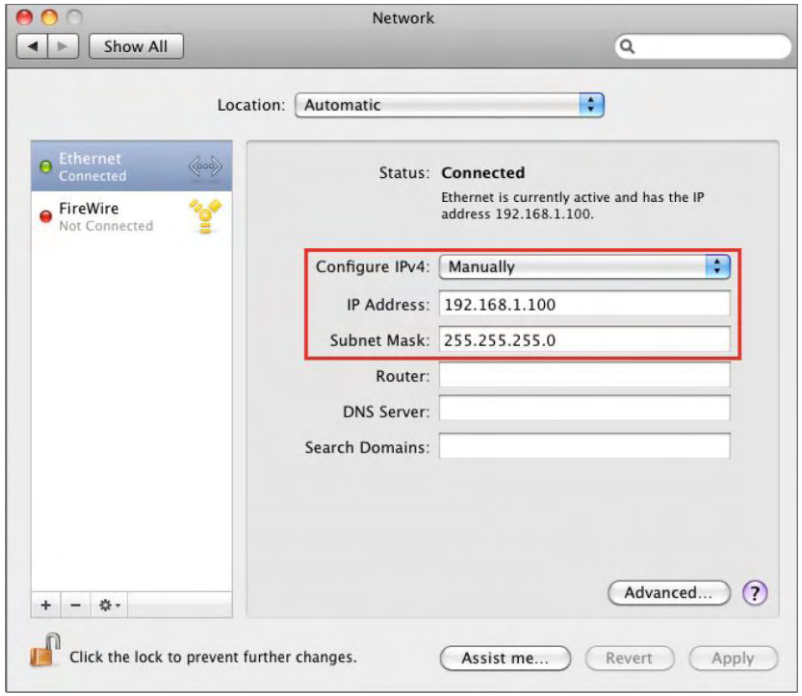
   Note: Ensure that the IP address and Subnet mask are on the same subnet as the device.

   For example: SWE 2520 IP address: 192.168.1.1

   PC IP address: 192.168.1.2–192.168.1.255

   PC Subnet mask: 255.255.255.0

6. Click Apply when finished.



Hardware Installation

1. Ensure that the computer in use has an Ethernet Controller port (RJ-45 Ethernet Port). For more information, verify with your computer's user manual.

2. Connect one end of the Category 5e Ethernet cable into the RJ-45 port of the SWE 2520 and the other end to the RJ-45 port of the computer. Ensure that the cable is securely connected to both the SWE 2520 and the computer.

3. Connect the Power Adapter DC connector to the DC-IN port of the SWE 2520 and the Power Adapter to an available electrical outlet. Once both connections are secure, verify the following:

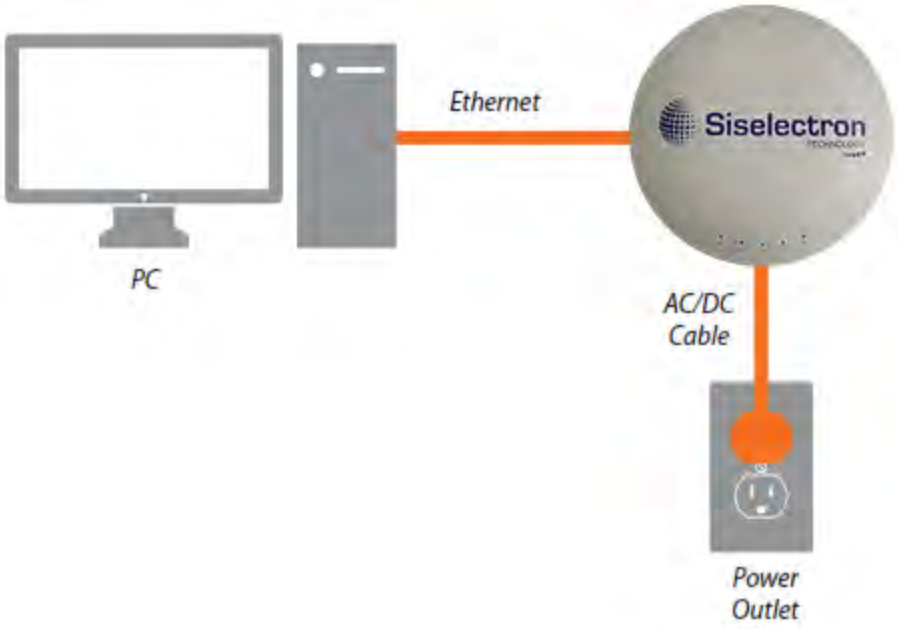
   a) Ensure that the POWER light is on (it will be orange).

   b) Ensure that the 2.4 GHz/5 GHz WLAN light is on (it will be blue for 2.4G, and green for 5G).

   c) Ensure that the LAN (Computer SWE 2520 Connection) light is on (it will be blue).

   d) Once all three lights are on, proceed to set up the Access Point using the computer.

This diagram depicts the hardware configuration.

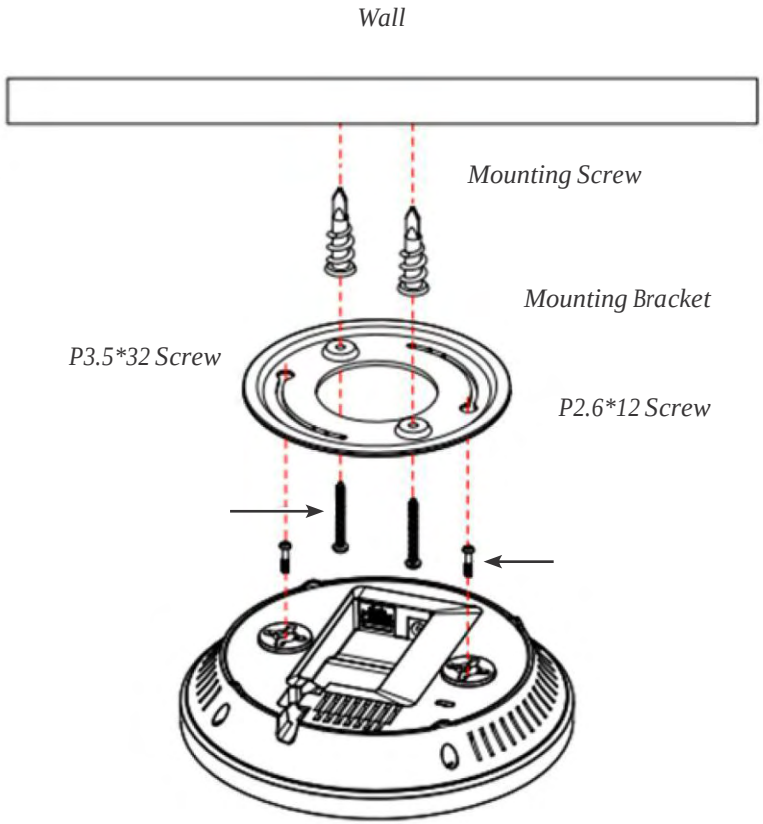


Mounting the SWE 2520

Using the provided hardware, the SWE 2520 can be attached to a ceiling or wall.

To attach the SWE 2520 to a ceiling or wall using the mounting bracket:

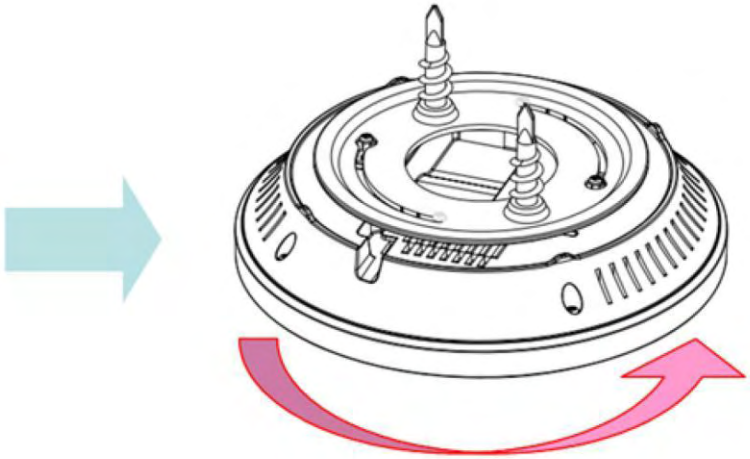
1. Attach the mounting bracket to the wall or ceiling using the provided wall/ceiling mounting hardware kit.
2. Insert the provided short screws into the bottom cover of the SWE 2520.



Leave enough of the screws exposed to ensure that the unit can be attached to the mounting bracket.

If extra space is required, use the provided spacers and long screws from from the T-Rail mounting hardware kit to increase the space between the unit and the mounting bracket.

3. Mount the SWE 2520 on the mounting bracket by rotating the unit clockwise about 90 degrees to secure it in place.

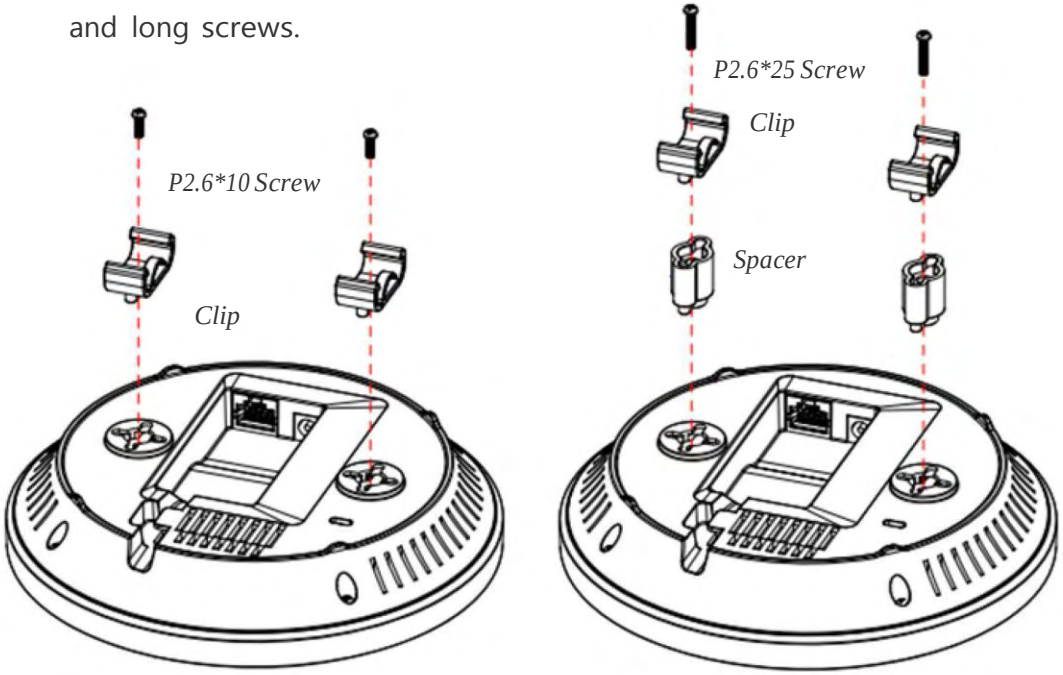


Lock the SWE 2520 by revolving

Attaching the SWE 2520 to a ceiling using the provided T-Rail connectors:

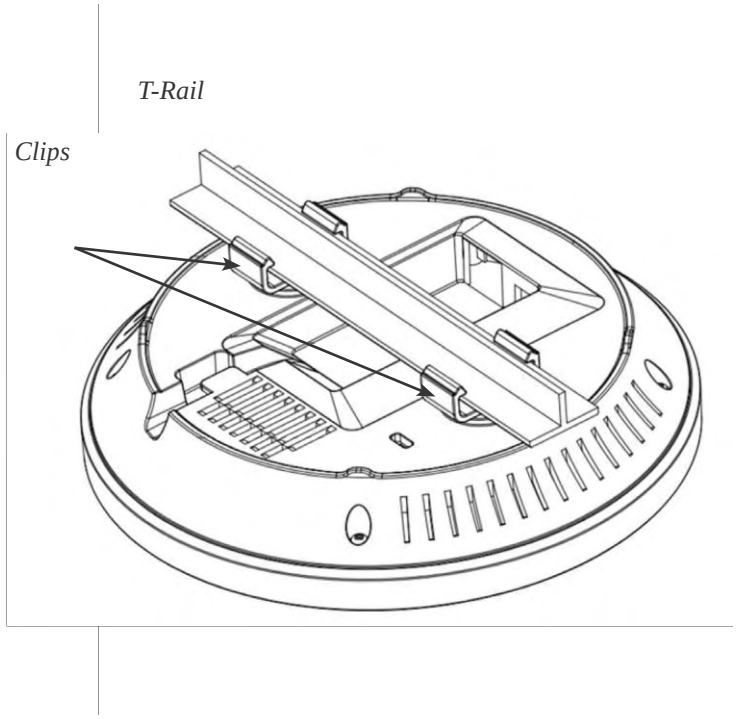
1. Attach the T-Rail connectors to the bottom cover of the SWE 2520 using the provided short screws.

   Note: Two sizes of T-Rail connectors are included in the mounting hardware kit: 15/16in (2.38cm) and 9/16in (1.43cm). If extra space is required to accommodate drop ceiling tiles, use the provided spacers and long screws.



2. Line up the connected T-Rail connectors with an appropriately sized rail and press the unit onto the rail until it snaps into place.

   Note: To protect your SWE 2520, use the Kensington Security Slot to attach a cable lock (cable lock is not included).



Configuring Your Access Point

This section will show you how to configure the device using the web-based configuration interface.

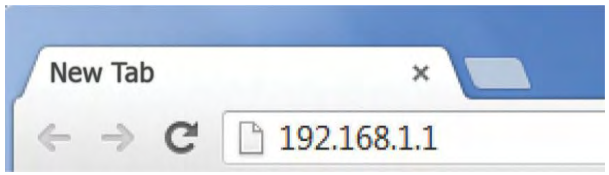
Default Settings

Please use your Ethernet port or wireless network adapter to connect the Access Point.

IP Address	192.168.1.1
Username/Password	admin/admin

Web Configuration

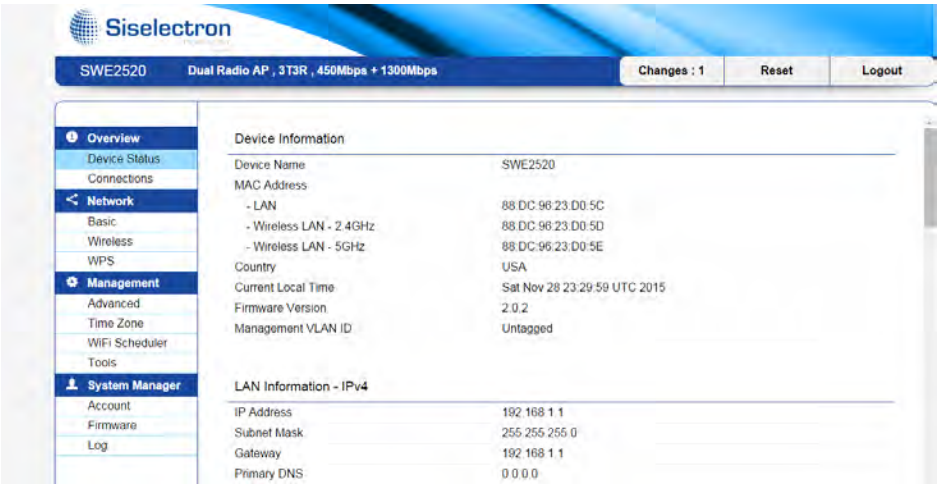
1. Open a web browser (Internet Explorer/Firefox/Safari) and enter the IP Address http://192.168.1.1.



Note: If you have changed the default LAN IP Address of the Access Point, ensure you enter the correct IP Address.

2. The default username and password are: admin. Once you have entered the correct username and password, click the **Login** button to open the web-based configuration page.

3. If successful, you will be logged in and see the SWE 2520 User Menu.



The SWE 2520 has the ability to operate in various modes. This chapter describes the operating modes of the SWE 2520.

Access Point Mode

In Access Point Mode, the SWE 2520 behaves like a central connection for stations or clients that support IEEE 802.11a/b/g/n networks. The stations and clients must be configured to use the same SSID (Service Set Identifier) and security password to associate with the SWE 2520. The SWE 2520 supports up to eight (8) SSIDs per band (16 total) at the same time for secure access.

WDS AP Mode

The SWE 2520 also supports WDS AP mode. This operating mode allows wireless connections to the SWE 2520 using WDS technology. In this mode, configure the MAC addresses in both Access Points to enlarge the wireless area by enabling WDS Link settings. WDS supports up to four (4) AP MAC addresses.

WDS Bridge Mode

In WDS Bridge Mode, the SWE 2520 can wirelessly connect different LANs by configuring the MAC address and security settings of each SWE 2520 device. Use this mode when two wired LANs located a small distance apart want to communicate with each other. The best solution is to use the SWE 2520 to wirelessly connect two wired LANs, as shown in the following figure. WDS Bridge Mode can establish up to four (4) WDS links, creating a star-like network.

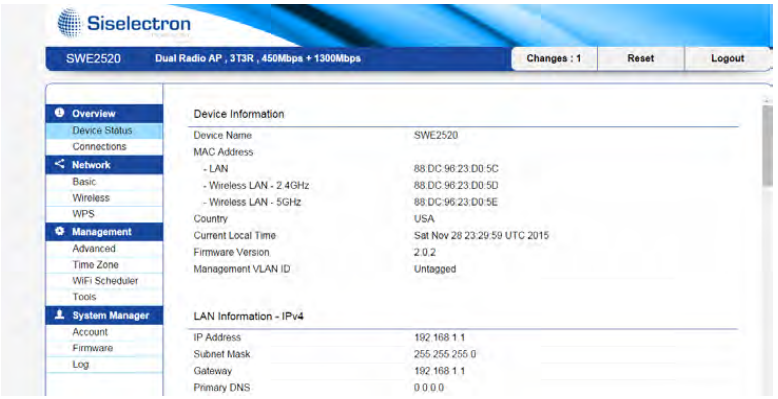
Note: WDS Bridge Mode does not act as an Access Point because Access Points linked by WDS use the same frequency channel. More Access Points connected together may lower throughput. This configuration can also be susceptible to generate endless network loops in your network, so it is recommended to enable the Spanning Tree feature to prevent this from happening. You can find information about the Spanning Tree Function on page 29.

Overview

The Overview section contains the following options:

- Device Status
- Connections

The following sections describe these options:

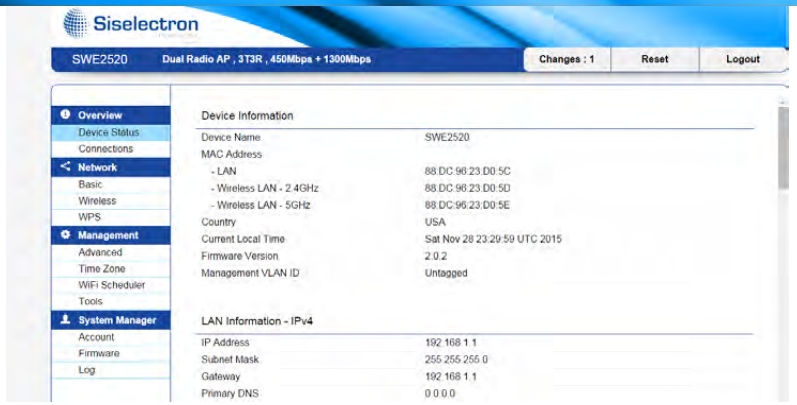


Device Status

Clicking the Device Status link under the Overview menu shows the status information about the current operating mode.

- The Device Status section shows general system information such as Device Name, MAC address, Current Time, Firmware Version, and Management VLAN ID.

  Note: VLAN ID is only applicable in Access Point or WDS AP mode.



- The LAN Information section under the Connections link shows the Local Area Network settings such as the LAN IP Address, Subnet mask, Gateway, DNS Address, DHCP Client, and STP status.

LAN Information - IPv4

IP Address	192.168.1.1
Subnet Mask	255.255.255.0
Gateway	192.168.1.1
Primary DNS	0.0.0.0
Secondary DNS	0.0.0.0
DHCP Client	Disable
Spanning Tree Protocol (STP)	Disable

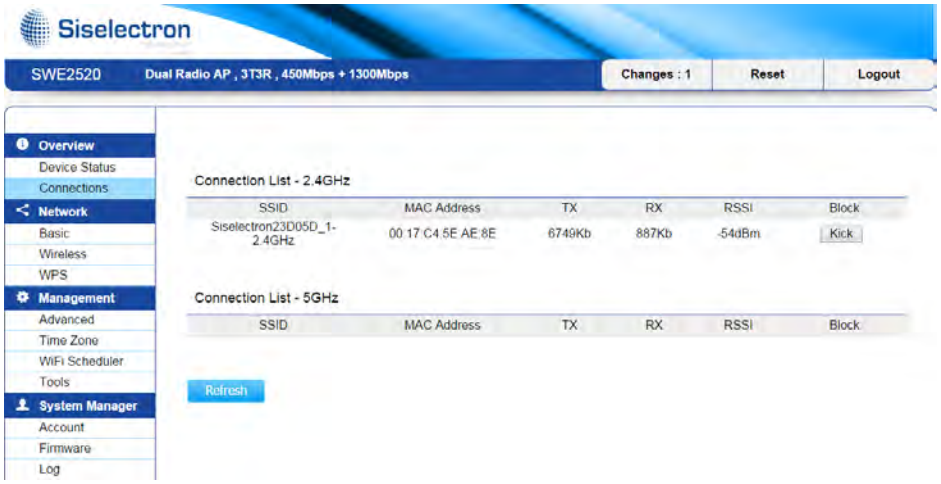
- The Current 2.4 GHz/5 GHz Wireless Settings section under the Basic link under the Network menu shows wireless information such as Operation Modes, Frequency, and Channel. Since the SWE 2520 supports multiple-SSIDs, information about each SSID and security settings are displayed.

  Note: Profile Settings is only applicable in Access Point or WDS AP mode.

Connections

The SWE 2520 automatically logs (records) events of possible interest in its internal memory. To view the logged information, click the Connections link under the Device Status menu. If there is not enough internal memory to log all events, older events are deleted from the log. When powered down or rebooted, the log will be cleared.

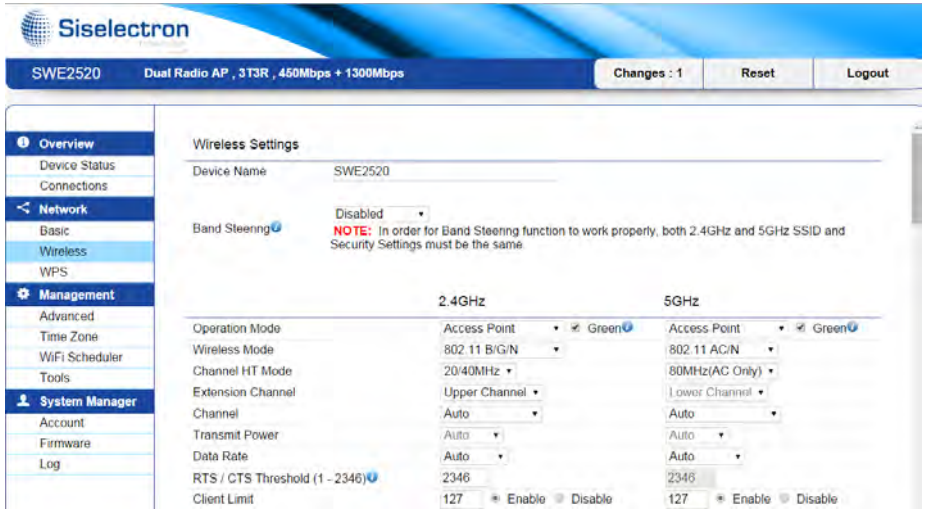
Click Refresh to refresh the Connections List page.



Operation Modes

The SWE 2520 supports three operation modes: Access Point, WDS AP, and WDS Bridge.

Device Settings



To access operation mode, click the Wireless link under the Network menu. You will see customizable wireless settings options for both 2.4 GHz and 5 GHz bands. Under Wireless settings, you will see:

Device Name: Enter a name for the device. The name you type will appear in SNMP management. This name is not the SSID and is not broadcasted to other devices.

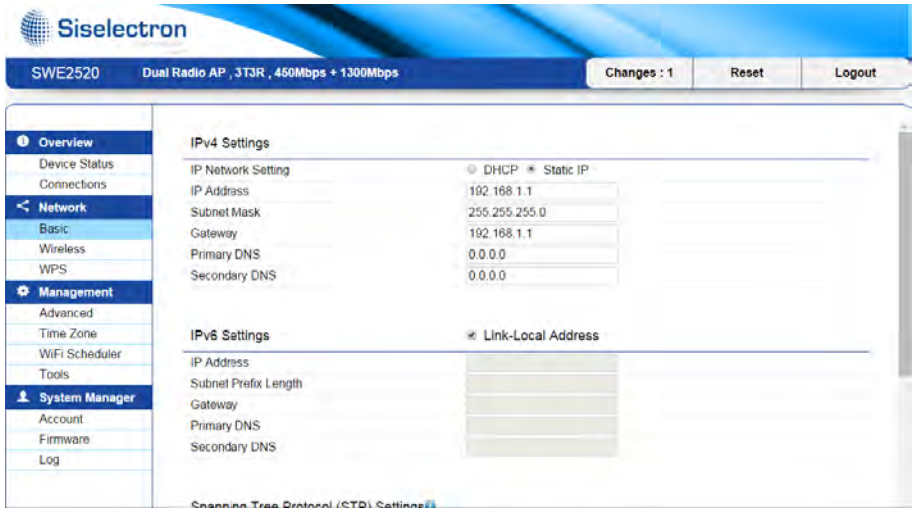
Operation Mode: Select an operating mode from the drop-down list.

Band Steering: Enable Band Steering to so Detects and allows Dual Band clients to shift to the 5 GHz band from the 2.4 GHz band, relieving network congestion and maintain optimal data traffic flow.

*Note: In order for the Band Steering feature to work properly, both the 2.4 Ghz and the 5 GHz SSID and security settings must be configured under the same settings.

Basic

This page allows you to modify the device's IP settings.



IP Network Settings

Select whether the device IP address will use the static IP address specified in the IP Address field or be obtained automatically when the device connects to a DHCP server.

IP Address: Displays the IP Address of this device.

IP Subnet Mask: Displays the IP Subnet mask of this device. Gateway:

Displays the Default Gateway of this device.
Leave it blank if you are unsure of this setting.

Primary/Secondary DNS: Displays the primary/secondary DNS address for this device.

Click Save to apply the configuration.

Spanning Tree Settings

This page allows you to modify the Spanning Tree settings. Enabling Spanning Tree protocol will prevent network loops in your LAN network.

Spanning Tree Protocol (STP) Settings

Status	○ Enable ◉ Disable	
Hello Time	2	seconds (1-10)
Max Age	20	seconds (6-40)
Forward Delay	15	seconds (4-30)
Priority	32768	(0-65535)

Save Save current setting(s)

Spanning Tree Status: Enables or disables the Spanning Tree feature

Hello Time: Specifies the Bridge Hello Time, in seconds.
This value determines how often the device sends handshake packets to communicate information about the topology throughout the entire Bridged Local Area Network.

Max Age: Specifies the Bridge Max Age, in seconds. If another bridge in the spanning tree does not send a hello packet for a long period of time, it is assumed to be inactive.

Forward Delay: Specifes the Bridge Forward Delay, in seconds. Forwarding Delay Time is the time spent in each of the Listening and Learning states before the Forwarding state is entered. This delay is provided so that when a new bridge comes onto a busy network, it analyzes data traffic before participating.

Priority: Specifies the Priority Number. A smaller number has a greater priority.

Save: Click Save to confirm the changes.

Wireless Network

This page displays the current status of the Wireless settings of the SWE 2520.

Access Point/WDS AP mode:

	2.4GHz	5GHz
Operation Mode	Access Point ▾ ☑ Green	Access Point ▾ ☑ Green
Wireless Mode	802.11 B/G/N ▾	802.11 AC/N ▾
Channel HT Mode	20/40MHz ▾	80MHz(AC Only) ▾
Extension Channel	Upper Channel ▾	Lower Channel ▾
Channel	Auto ▾	Auto ▾
Transmit Power	Auto ▾	Auto ▾
Data Rate	Auto ▾	Auto ▾
RTS / CTS Threshold (1 - 2346)	2346	2346
Client Limit	127 ◉ Enable ○ Disable	127 ◉ Enable ○ Disable
Aggregation	◉ Enable ○ Disable 32 Frames 50000 Bytes(Max)	
Multicast to Unicast Stream Conversion	○ Unicast ◉ Multicast	○ Unicast ◉ Multicast
AP Detection	Scan	Scan

Wireless Settings - 2.4GHz

Wireless Mode: Supports 802.11b/g/n mixed mode in 2.4 GHz and 802.11ac/a/n mixed mode in 5 GHz.

Channel HT Mode: The default channel bandwidth is 20/40MHz in 2.4 GHz and 20/40/80MHz in 5 GHz. The larger the channel, the better the transmission quality and speed.

Extension Channel: Select Upper or Lower channel. Your selection may affect the Auto Channel feature.

Channel/Frequency: Select the channel and frequency appropriate for your country's regulation.

Auto: Select this option to enable the Auto-Channel feature.

RTS/CTS Threshold: Specifies the threshold package size for RTC/CTS. A smaller number causes RTS/CTS packets to be sent more often and consumes more bandwidth.

Client Limits: Limits the total number of clients.

Aggregation: Merges data packets into one packet. This option reduces the number of packets, but also increases packet sizes.

AP Detection: AP Detection can select the optimal channel to use by scanning nearby areas for Access Points.

Current Profile: You can configure up to eight different SSIDs (4 in WDS AP mode) per band. If multiple client devices will be accessing the network, you can arrange the devices into SSID groups. Click Edit to configure the profile and check whether you wish to enable extra SSIDs.

Save: Click Save to confirm the changes.

2.4GHz/5 GHz SSID Profile

Under Wireless Settings, you can edit the SSID profile to fit your needs. Click Edit under the SSID you would like to make changes to.

Wireless Settings - 2.4GHz

No.	Enable	SSID	Edit	Security	Hidden SSID	Client Isolation	VLAN Isolation	L2 Isolation	VLAN ID
1	☑	Siselectron23D05D_1-2.4GHz	Edit	None	☐	☐	☐	☐	1
2	☐	Siselectron23D05D_2-2.4GHz	Edit	None	☐	☐	☐	☐	2
3	☐	Siselectron23D05D_3-2.4GHz	Edit	None	☐	☐	☐	☐	3
4	☐	Siselectron23D05D_4-2.4GHz	Edit	None	☐	☐	☐	☐	4
5	☐	Siselectron23D05D_5-2.4GHz	Edit	None	☐	☐	☐	☐	5
6	☐	Siselectron23D05D_6-2.4GHz	Edit	None	☐	☐	☐	☐	6
7	☐	Siselectron23D05D_7-2.4GHz	Edit	None	☐	☐	☐	☐	7
8	☐	Siselectron23D05D_8-2.4GHz	Edit	None	☐	☐	☐	☐	8

Wireless Settings - 5GHz

No.	Enable	SSID	Edit	Security	Hidden SSID	Client Isolation	VLAN Isolation	L2 Isolation	VLAN ID
1	☑	Siselectron23D05E_1-5GHz	Edit	None	☐	☐	☐	☐	51
2	☐	Siselectron23D05E_2-5GHz	Edit	None	☐	☐	☐	☐	52
3	☐	Siselectron23D05E_3-5GHz	Edit	None	☐	☐	☐	☐	53

SSID: Specifies the SSID for the current profile.

Suppressed SSID: Check this option to hide the SSID from clients. If checked, the SSID will not appear in the site survey.

Station Separation: Check this option to allow or prevent communication between client devices.

Wireless Security: See the Wireless Security section on page 34.

Isolation: Check the box to Enable or disable the Isolation feature.

Save: Click Save to confirm the changes.

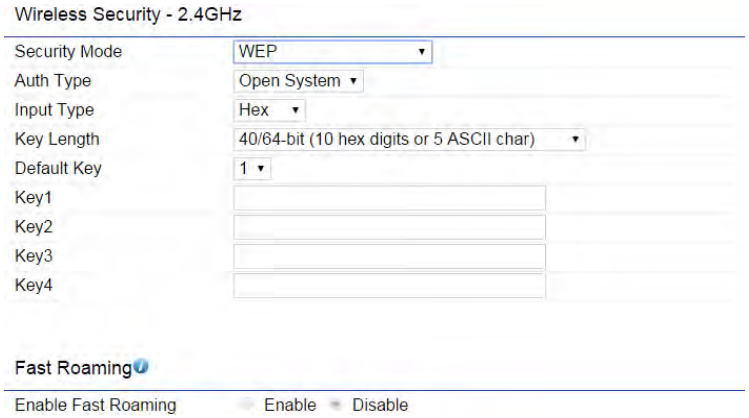
Wireless Security

The Wireless Security section lets you configure the security modes for SWE 2520:

- WEP
- WPA-PSK
- WPA2-PSK
- WPA-PSK Mixed
- WPA-Enterprise
- WPA2-Enterprise
- WPA Mixed Enterprise.

It is strongly recommended that you use WPA2-PSK. Click on the Edit button under Wireless Settings next to the SSID to configure the security settings.

WEP Encryption:



Auth Type: Select Open System or Shared Key. Input Type: ASCII: Regular Text (Recommended)

HEX: Hexadecimal Numbers (For advanced users)

Key Length: Select the desired option and ensure the wireless clients use the same setting.

Default Key: Select the Key you wish to be the Default Key. Transmitted data is ALWAYS encrypted using the Default Key; the other Keys are for decryption only. You must enter a Key Value for the Default Key.

Encryption Key: Enter the Key Value or values you wish to use. The default is None.

WPA-PSK (WPA Pre-Shared Key) Encryption:

Wireless Security - 2.4GHz

Security Mode	WPA-PSK
Encryption	Both(TKIP+AES)
Passphrase	
Group Key Update Interval	3600

Encryption: Select the WPA encryption type you would like to use. Please ensure that your wireless clients use the same settings.

Passphrase: Wireless clients must use the same Key to associate the device. If using ASCII format, the Key must be from 8~63 characters in length. If using HEXformat, the Key must be 64 HEX characters in length.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

Radius Accounting Server: Enter the IP address of the Radius accounting server.

Radius Accounting Port: Enter the port number used for connections to the Radius accounting server.

Radius Accounting Secret: Enter the secret required to connect to the Radius accounting server.

WPA2-PSK Encryption:

Wireless Security - 2.4GHz

Security Mode	WPA2-PSK
Encryption	Both(TKIP+AES)
Passphrase	
Group Key Update Interval	3600

Encryption: Select the WPA encryption type you would like to use. Please ensure that your wireless clients use the same settings.

Passphrase: Wireless clients must use the same Key to associate the device. If using ASCII format, the Key must be from 8~63 characters in length. If using HEXformat, the Key must be 64 HEX characters in length.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

WPA-PSK Mixed Encryption:

Wireless Security - 2.4G

Security Mode	WPA-PSK Mixed
Encryption	Both(TKIP+AES)
Passphrase	
Group Key Update Interval	3600

Encryption: Select the WPA encryption type you would like to use. Please ensure that your wireless clients use the same settings.

Passphrase: Wireless clients must use the same Key to associate the device. If using ASCII format, the Key must be from 8~63 characters in length. If using HEXformat, the Key must be 64 HEX characters in length.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

WPA-Enterprise Encryption:

Wireless Security - 2.4G

Security Mode	WPA-Enterprise
Encryption	Both(TKIP+AES)
Group Key Update Interval	3600
Radius Server	
Radius Port	1812
Radius Secret	
Radius Accounting	Disable
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

Encryption: Select the WPA encryption type you would like. Please ensure that your wireless clients use the same settings.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

Radius Server: Enter the IP address of the Radius server.

Radius Port: Enter the port number used for connections to the Radius server.

Radius Secret: Enter the secret required to connect to the Radius server.

Radius Accounting: Enables or disables the accounting feature.

Interim Accounting Interval: Specify how often, in seconds, the accounting data is sent out.

Note: 802.11n does not allow WEP/WPA-PSK TKIP/ WPA2-PSK TKIP security mode. The connection mode will automatically change from 802.11n to 802.11g.

WPA2Enterprise Encryption:

Wireless Security - 2.4GHz

Security Mode	WPA-Enterprise
Encryption	Both(TKIP+AES)
Group Key Update Interval	3600
Radius Server	
Radius Port	1812
Radius Secret	
Radius Accounting	Disable
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

Encryption: Select the WPA encryption type you would like. Please ensure that your wireless clients use the same settings.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

Radius Server: Enter the IP address of the Radius server.

Radius Port: Enter the port number used for connections to the Radius server.

Radius Secret: Enter the secret required to connect to the Radius server.

Radius Accounting: Enables or disables the Radius accounting feature.

Radius Accounting Server: Enter the IP address of the Radius accounting server.

Radius Accounting Port: Enter the port number used for connections to the Radius accounting server.

Radius Accounting Secret: Enter the secret required to connect to the Radius accounting server.

Interim Accounting Interval: Specify how often, in seconds, the accounting data is sent out.

Note: 802.11n does not allow WEP/WPA-PSK TKIP/ WPA2-PSK TKIP security mode. The connection mode will automatically change from 802.11n to 802.11g.

WPA Mixed Enterprise Encryption:

Wireless Security - 2.4GHz

Security Mode	WPA Mixed-Enterprise
Encryption	Both(TKIP+AES)
Group Key Update Interval	3600
Radius Server	
Radius Port	1812
Radius Secret	
Radius Accounting	Disable
Radius Accounting Server	
Radius Accounting Port	1813
Radius Accounting Secret	
Interim Accounting Interval	600

Encryption: Select the WPA encryption type you would like. Please ensure that your wireless clients use the same settings.

Group Key Update Interval: Specify how often, in seconds, the Group Key changes.

Radius Server: Enter the IP address of the Radius server.

Radius Port: Enter the port number used for connections to the Radius server.

Radius Secret: Enter the secret required to connect to the Radius server.

Radius Accounting: Enables or disables the Radius accounting feature.

Radius Accounting Server: Enter the IP address of the Radius accounting server.

Radius Accounting Port: Enter the port number used for connections to the Radius accounting server.

Radius Accounting Secret: Enter the secret required to connect to the Radius accounting server.

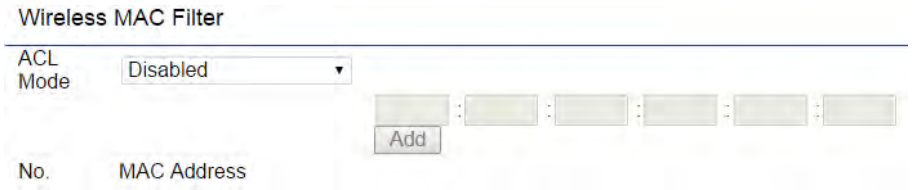
Interim Accounting Interval: Specify how often, in seconds, the accounting data sends.

Note: 802.11n does not allow WEP/WPA-PSK TKIP/ WPA2-PSK TKIP security mode. The connection mode will automatically change from 802.11n to 802.11g.

Wireless MAC Filtering

Wireless MAC Filtering is used to allow or deny network access to wireless clients (computers, tablet PCs, NAS, smartphones, etc.) according to their MAC addresses. You can manually add a MAC address to restrict permission to access SWE 2520. The default setting is: Disable Wireless MAC Filter.

Note: Only applicable in Access Point and WDS AP mode.



ACL (Access Control List) Mode: Determines whether network access is granted or denied to clients whose MAC addresses appear in the MAC address table on this page. Choices given are: Disabled, Deny MAC in the list, or Allow MAC in the list.

MAC Address: Enter the MAC address of the wireless client you wish to configure for.

Add: Click Add to add the MAC address to the MAC Address table.

Delete: Deletes the selected entries. Save:

Click Save to apply the changes.

Wireless Advanced

This page allows you to configure advanced wireless settings for the SWE 2520. It is recommended that the default settings are used unless the user has experience with more advanced networking features.

2.4 GHz/5 GHz Wireless Advanced

	2.4GHz	5GHz
Operation Mode	Access Point ☑ Green	Access Point ☑ Green
Wireless Mode	802.11 B/G/N	802.11 AC/N
Channel HT Mode	20/40MHz	80MHz(AC Only)
Extension Channel	Upper Channel	Lower Channel
Channel	Auto	Auto
Transmit Power	Auto	Auto
Data Rate	Auto	Auto
RTS / CTS Threshold (1 - 2346)	2346	2346
Client Limit	127 ◉ Enable ○ Disable	127 ◉ Enable ○ Disable
Aggregation	◉ Enable ○ Disable 32 Frames 50000 Bytes(Max)	
Multicast to Unicast Stream Conversion	○ Unicast ◉ Multicast	○ Unicast ◉ Multicast
AP Detection	Scan	Scan

Data Rate: Select a data rate from the drop-down list. The data rate affects throughput of data in the SWE 2520. The lower the data rate, the lower the throughput, though transmission distance will be lowered as well.

Transmit Power: Sets the power output of the wireless signal.

RTS/CTS Threshold: Specifies the threshold package size for RTC/CTS. A smaller number causes RTS/CTS packets to be sent more often and in turn consumes more bandwidth.

Distance: Specifies the distance between Access Points and clients. Longer distances may drop high-speed connections.

Aggregation: Merges data packets into one packet. This option reduces the number of packets, but increases packet sizes.

Save: Click Save to confirm the changes.

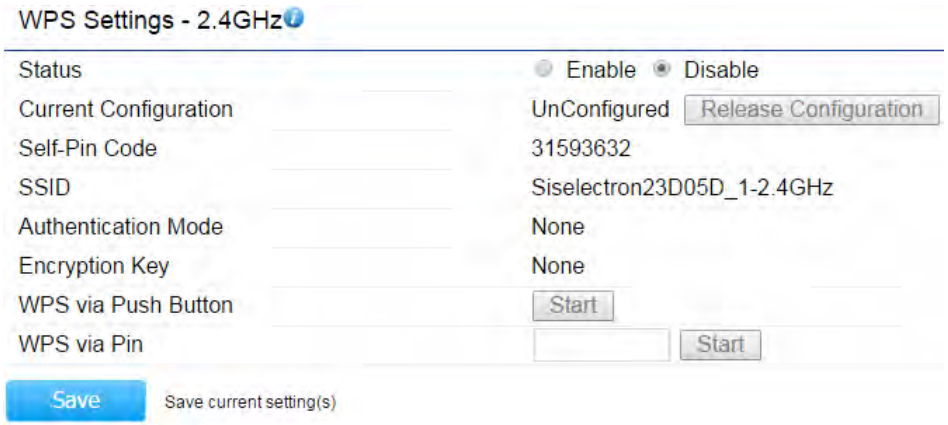
WPS (Wi-Fi Protected Setup)

The Wi-Fi Protected Setup (WPS) feature complies with the Wi-Fi Alliance WPS standard and makes it easier to quickly add client devices to an established, security-enabled Wi-Fi network.

WPS reduces the user steps required to configure a network and supports two methods that are familiar to most consumers to configure a network and enable security.

Note: Only applicable in Access Point and WDS AP mode.

WPS (Wi-Fi Protected Setup)



WPS: Select to enable or disable the WPS feature.

WPS Current Status: Shows whether the WPS feature is Configured or Unconfigured. When it is configured, the WPS has been used to authorize a connection between the device and wireless clients.

Self Pin Code: The PIN code for this device.

SSID: The SSID (wireless network name) used when connecting using WPS.

Authentication Mode: Displays the encryption method used by the WPS process.

Passphrase Key: This is the passphrase key that is randomly generated during the WPS process. It is required if wireless clients that do not support WPS attempt to connect to the wireless network.

WPS via Push Button: Click the Start button to initialize the WPS feature using the Push Button method.

WPS via PIN: Enter the PIN code for the wireless device and click this button to initialize WPS feature using the PIN method.

Save: Click Save to confirm the changes.

WDS Link Settings

Using WDS (Wireless Distribution System) will allow a network administrator or installer to connect to Access Points wirelessly. Doing so will extend the wired infrastructure to locations where cabling is not possible or inefficient to implement.

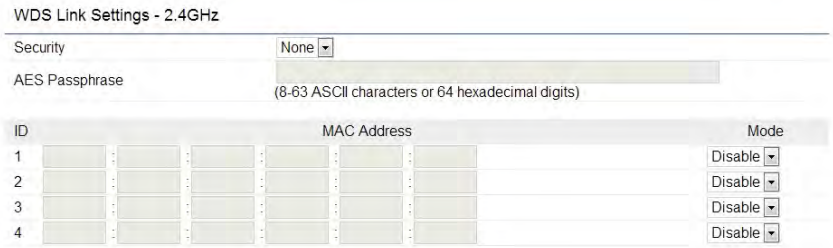
Note: Compatibility between different brands and models of Access Points is not guaranteed. It is recommended that the WDS network be created using the same models for maximum compatibility.

Also Note: All Access Points in the WDS network must use the same Channel and Security settings.

To create a WDS network, please enter the MAC addresses of the Access Points that you want included in the WDS network. There can be a maximum of four (4) Access Points.

Note: Only applicable in WDS AP and WDS Bridge modes.

2.4 GHz/5 GHz WDS Link Settings



Security: Select None or AES from the drop-down list.

AES Passphrase: Enter the Key Values you wish to use. Other Access Points must use the same Key to establish a WDS link.

MAC Address: Enter the Access Point's MAC address to which you want to extend the wireless area.

Mode: Select Disable or Enable from the drop-down list. Save:

Click Save to confirm the changes.

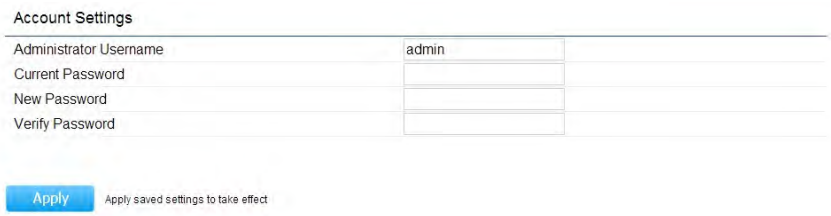
Administration

This page allows you to change the SWE 2520 username and password. By default, the username is admin and the password is admin. The password can contain from 0~12 alphanumeric characters and is case sensitive.

Username: admin

Password: admin

Account Settings



New Name: Enter a new username for logging in to the New Name field.

Current Password: Enter the current password for logging in to the Current Password field.

New Password: Enter the new password for logging in to the New Password field.

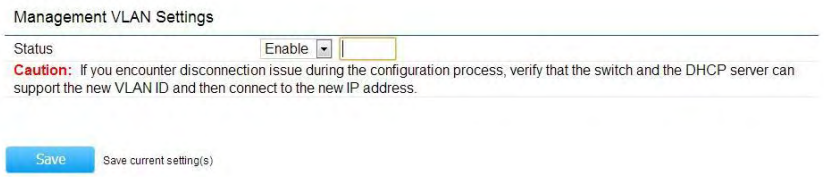
Confirm Password: Re-enter the new password in the Confirm Password field for confirmation.

Apply: Click Apply to save the changes.

Note: it is highly reccomended that you change you password to something more unique for greater security.

Management VLAN Settings

This page allows you to assign a VLAN tag to the packets. A VLAN is a group of computers on a network whose software has been configured so that they behave as if they were on a separate Local Area Network (LAN). Computers on VLAN do not have to be physically located next to one another on the LAN.



To configure VLAN tags, you must first isolate and enter a VID before enabling a VLAN under the Management VLAN ID.

Note: Only applicable in Access Point and WDS AP mode.

Profile Isolation: Restrict clients from communicating with different VIDs by checking the Isolation box for the SSID you wish to select under the Wireless Settings funtion.

VLAN ID (VID): Specifies the VLAN tag for each profile.

Management VLAN ID: If your network includes VLANs, you can specify a VLAN ID for packets pass through the Access Point with a tag. Otherwise, select No VLAN Tag.

Save: Click Save to confirm the changes.

Note:

If you reconfigure the Management VLAN ID, you may lose your connection to the SWE 2520. Verify that the DHCP server supports the reconfigured VLAN ID, then reconnect to the SWE 2520 using the new IP address.

Wireless Traffic Shaping

Traffic Shaping regulates the flow of packets leaving an interface to deliver improved Quality of Service. To edit Wireless Traffic Shaping, click Edit for the SSID you would like to configure under Wireless Settings.

Enable Traffic Shaping: select this option from the drop- down list to enable Wireless Traffic Shaping.

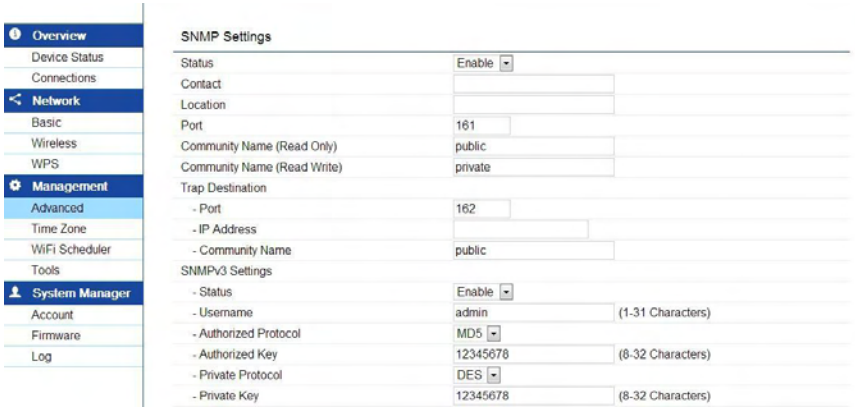
Download Limit: Specifies the wireless transmission speed used for downloading. The range is from 1~999.

Upload Limit: Specifies the wireless transmission speed used for uploading. The range is from 1~999.

Save: Click Save to confirm the changes.

SNMP Settings

This page allows you to assign the Contact Details, Location, Community Name, and Trap Settings for Simple Network Management Protocol (SNMP). This is a networking management protocol used to monitor network attached devices. SNMP allows messages (called protocol data units) to be sent to various parts of the network. Upon receiving these messages, SNMP compatible devices (called agents) returns the data stored in their Management Information Bases. To configure SNMP Settings, click under the Advanced link under the Management section.



Status: Enables or disables the SNMP feature. Contact:

Specifies the contact details of the device. Location:

Specifies the location of the device.

Port: Displays the port number.

Community Name (Read Only): Specifies the password for the SNMP community for read only access.

Community Name (Read/Write): Specifies the password for the SNMP community with read/write access.

Trap Destination Address: Specifies the port and IP address of the computer that will receive the SNMP traps.

Trap Destination Community Name: Specifies the password for the SNMP trap community.

SNMPv3 Status: Enables or disables the SNMPv3 feature.

User Name: Specifies the username for the SNMPv3. feature.

Auth Protocol: Select the Authentication Protocol type: MDS or SHA.

Auth Key: Specifies the Authentication Key for authentication.

Priv Protocol: Select the Privacy Protocol type you would like to use.

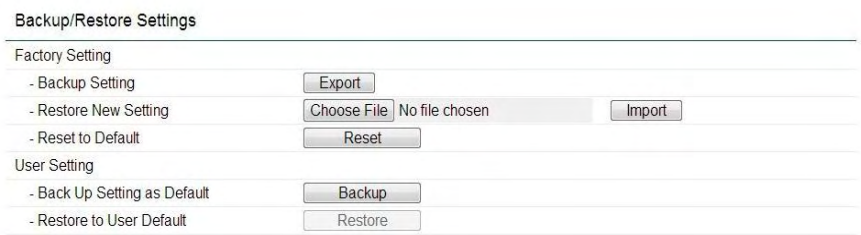
Priv Key: Specifies the Privacy Key.

Engine ID: Specifies the Engine ID for SNMPv3. Save: Click

Save to apply the changes.

Backup/Restore Settings

This page allows you to save the current device configurations. When you save custom configurations, you can also reload the saved configurations into the device through the Restore Saved Settings section from a file folder. If extreme problems occur, or if you have set the SWE 2520 incorrectly, you can use the Factory Default button in the Revert to Factory Default Settings section to restore all the configurations of the SWE 2520 to its original default settings and reload your custom configuration for more convenience. To Configure the Backup/Restore Settings, click Firmware under the Systems Manager section.



Factory Settings

Backup Settings: To restore settings that have been previously backed up, click Export, select the file, and click Restore.

Restore New Setting: Choose the file you wish restore for settings and click Import.

Reset to Default: Click the Reset button to restore the SWE 2520 to its factory default settings.

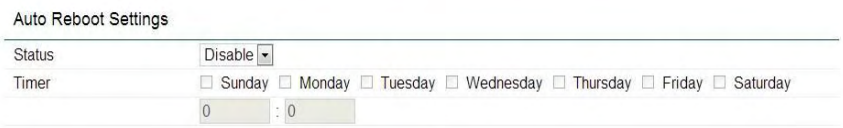
User Settings

Back Up Setting as Default: Click Backup to backup the user settings you would like to the device's memory for the default settings.

Restore to User Default: Click Restore to restore user settings to the factory standard settings.

Auto Reboot Settings

You can specify how often you would like to reboot the SWE 2520. To configure the Auto Reboot settings, click the Wi-Fi Scheduler tab on the side bar under Management.



Status: Enables or disables the Auto Reboot feature.

Timer: Specifies the time and frequency in rebooting the SWE 2520 by Min, Hour, Day and/or Week.

Click Save to apply the changes.

Firmware Upgrade

This page allows you to upgrade the Firmware of the SWE 2520. Check out siselectron.com.tw periodicaly for updates.

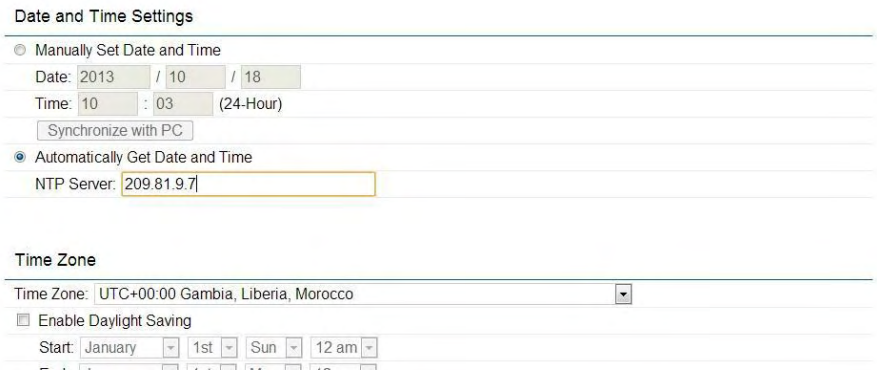
To Perform the Firmware Upgrade:

1. Click the Choose File button and navigate the OS File System to the location of the Firmware upgrade file.
2. Select the upgrade file. The name of the file will appear in the Upgrade File field.
3. Click the Upload button to commence the Firmware upgrade.

Note: The device is unavailable during the upgrade process and must restart when the upgrade is completed. Any connections to or through the device will be lost.

Date and Time Settings

This page allows you to set the internal clock of the SWE 2520. To access the Date and Time settings, click Time Zone under the Management tab on the side bar.



Manually Set Date and Time: Manually specify the date and time.

Synchronize with PC: Click to Synchronize the SWE 2520 with the computer's internal clock.

Automatically Get Date and Time: Enter the IP address of an NTP server or use the default NTP server to have the internal clock set automatically.

Time Zone: Choose the time zone you would like to use from the drop-down list.

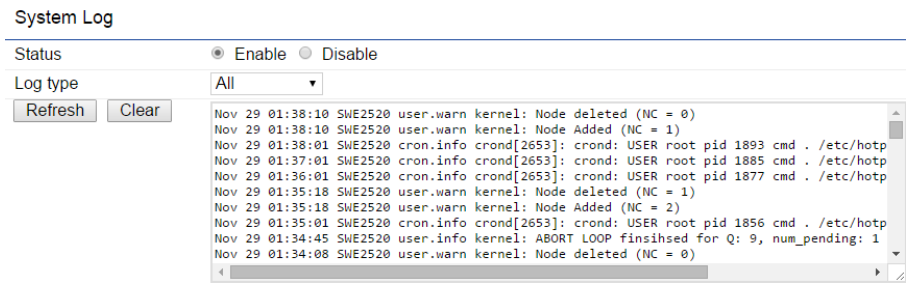
Enable Daylight Savings: Check the box to enable or disable daylight

savings time for ther SWE 2520. Next, enter the dates that correspond to the present year's daylight savings start and end times.

Apply: Click **Apply** to save the changes.

System Log

This page allows you to setup the System Log and local log functions for the SWE 2520. Click Log under the Systems Manager section to open up the System Log page.



Status: Enables or disables the System Log function. Log Type:

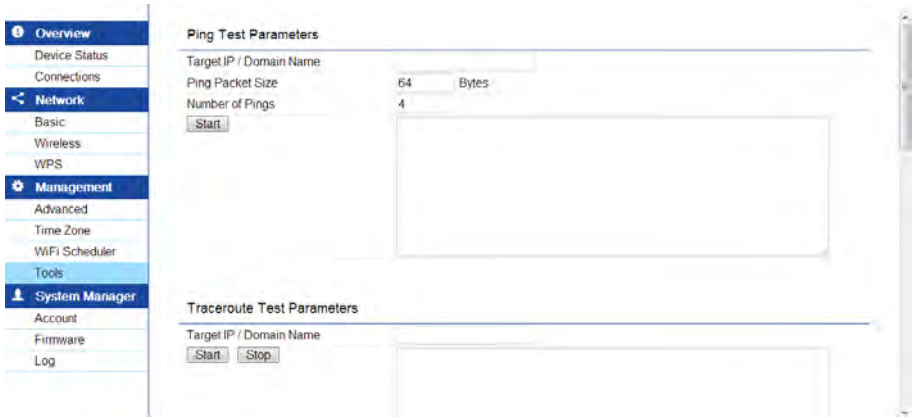
Select the Log Type mode you would like to use.

Remote Log: Enables or disables the Remote Log feature. If enabled, enter the IP address of the Log you would like to remote to.

Log Server IP Address: Enter the IP address of the log server.

Tools

This page allows you to analyze the connection quality of the SWE 2520 and trace the routing table to a target in the network.



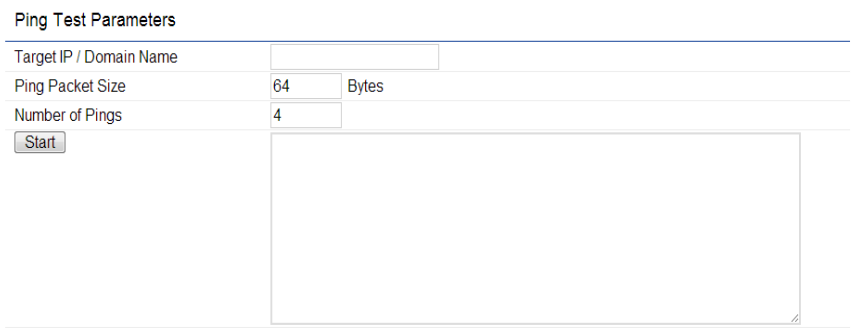
Ping Test Parameters

Target IP/Domain Name: Enter the target IP address you would like to search.

Ping Packet Size: Enter the packet size in bytes for each ping that will be sent.

Number of Pings: Enter the number of times you wish to ping.

Start Ping: Click Start to begin pinging the target device (via IP).

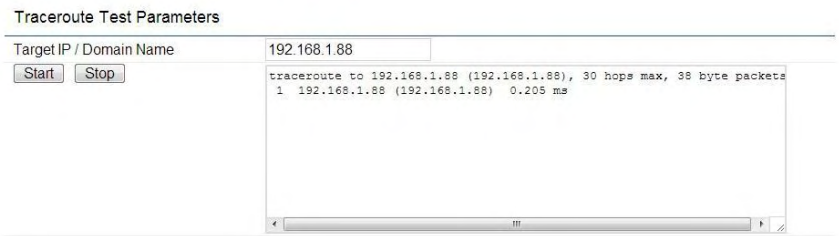


Traceroute Parameters

Target IP/Domain Name: Enter an IP address or domain name you wish to trace.

Start: Click Start to begin the trace route operation. Stop:

Halts the traceroute test.

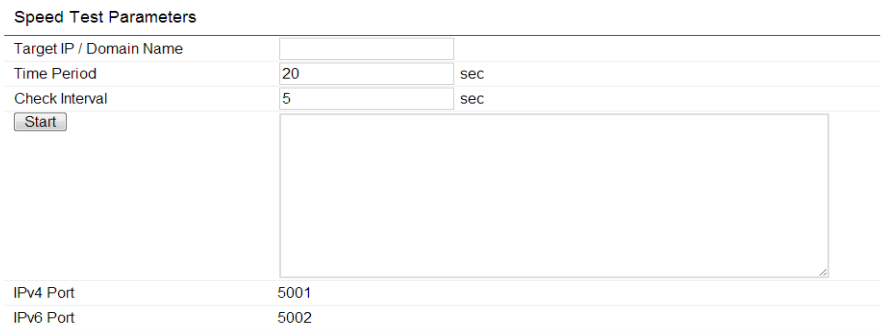


Speed Test Parameters

Target IP/Domain Name: Enter an IP address or domain name you wish to run a Speed Test for.

Time Period/Check Interval: Enter the time in seconds that you would like the test to run for and in how many intervals.

Start: Click to start the Speed Test.



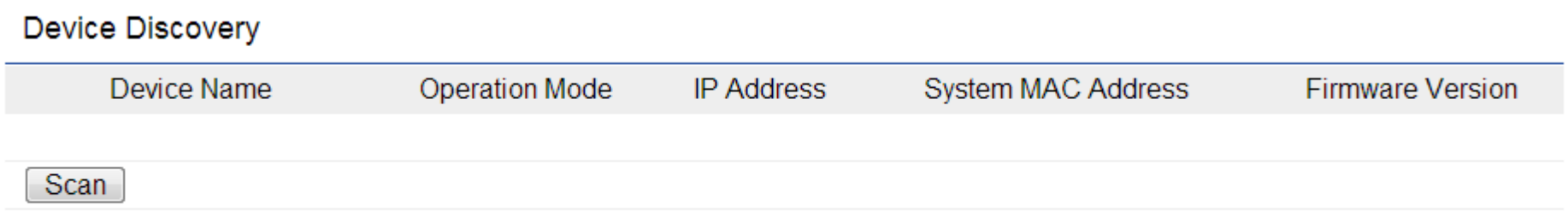
LED Control

This page allows you to control the LED control functions: Power status, LAN interface, 2.4 GHz/5 GHz WLAN interface and WPS

Click Apply to save the settings after selecting your choices choices from the drop-down list.

Device Discovery

Under Device Discovery, you can choose for the SWE 2520 to Automatically scan for local devices to connect to. Click Scan to begin the process.



Reset

In some circumstances, you may be required to force the device to reboot. Click Reset at the top right corner of the dahboard to reboot the SWE 2520.

FCC Interference Statement

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 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 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.

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.

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

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30cm between the radiator & your body.

CE 0560 ①

English	Hereby, Siselectron Technology Ltd. declarates that the SWE 2520 is in compliance with the essential requirementsand other relevants provisions of Directive 1999/5/EC.
Español (Spanish)	Por medio de la presente, Siselectron Technology Ltd. declara que el SWE 2520 cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la directiva 1999/5/CE.