SM8TAT2SA, SM16TAT2SA, and SM24TAT2SA

Smart Managed Switches, 8-/16-/24-Port Gigabit PoE+, 2-Port 100/1000 SFP

Install Guide

33716 Rev. A
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SMxTAT2SA Install Guide 33716 Rev. A

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Revision History

<table>
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<tr>
<th>Rev</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3/8/17</td>
<td>Initial release for SMxTAT2SA at v1.0.</td>
</tr>
</tbody>
</table>
Cautions and Warnings

Definitions

Cautions indicate that there is the possibility of poor equipment performance or potential damage to the equipment. Warnings indicate that there is the possibility of injury to person.

Cautions and Warnings appear here and may appear throughout this manual where appropriate. Failure to read and understand the information identified by this symbol could result in poor equipment performance, damage to the equipment, or injury to persons.

Cautions

⚠️ While installing or servicing the power module, wear a grounding device and observe all electrostatic discharge precautions. Failure to observe this caution could result in damage to, or failure of the power module.

Warnings

⚠️ **Warning**: Do not connect the power module to an external power source before installing it into the chassis. Failure to observe this warning could result in an electrical shock, even death.

**WARNING**: The power module has a provision for grounding. Equipment grounding is vital to ensure safe operation. The installer must ensure that the power module is properly grounded during and after installation. Failure to observe this warning could result in an electric shock, even death.

**WARNING**: A readily accessible, suitable National Electrical Code (NEC) or local electrical code approved disconnect device and branch-circuit protector must be part of the building's installed wiring to accommodate permanently connected equipment. Failure to observe this warning could result in an electric shock, even death.

**WARNING**: Turn the external power source OFF and ensure that the power module is disconnected from the external power source before performing any maintenance. Failure to observe this warning could result in an electrical shock, even death.

**WARNING**: Ensure that the disconnect device for the external power source is OPEN *(turned OFF)* before disconnecting or connecting the power leads to the power module. Failure to observe this warning could result in an electric shock, even death.

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Chapter 1  Introduction

The SMxTAT2SA Smart Managed GbE PoE+ switch is the next-generation Ethernet switch offering powerful L2 features with better functionality and usability. It delivers cost-effective business and transport Ethernet services via fiber or copper connections.

The SMxTAT2SA delivers 8/16/24 (10M/100M/1G) RJ45 ports with 8 PoE+ ports (supports 802.3 at/af, and total up to 130W on the SM8TAT2SA) and 2 GbE SFP ports. The SMxTAT2SA provides high hardware performance and environment flexibility for SMBs and Enterprises.

The embedded Device Managed System (DMS) feature makes the switch easy to use, configure, install, and troubleshoot in the video surveillance, wireless access, and other SMBs and Enterprises applications. The SMxTAT2SA delivers management simplicity, better user experience, and lowest total cost of ownership.

Key Features

- “Smart managed” features provide easier manageability, basic security, and QoS
- Built in Device Management System (DMS)
- DHCP Server, DHCP statistics, DHCP relay option 82, DHCP relay statistic
- PoE Port configuration and scheduling
- IEEE 802.3af/at Power over Ethernet
- IEEE 802.3az EEE Energy Efficient Ethernet standard for Green Ethernet

Benefits

Cost-effective Ethernet Switch for Enterprise-class: The switch delivers advanced functionality in a smart managed switch including DHCP client, IGMP, LLDP, etc. It has security features such as IEEE 802.1x to protect your network from unauthorized access. It helps you build on the switch’s market-leading price/performance, and provides ease of use for enterprise and SMB deployments.

Easy to Install, Configure and Troubleshoot via DMS: The Device Management System (DMS) provides embedded functions to facilitate devices management at anytime and anywhere. Its user-friendly interface helps you manage devices intuitively. It supports various IP device types (e.g. PC, IP-phone, IP-camera, WiFi-AP) to enhance manageability and save time/cost during installation/maintenance stages.

Lower TCO with EEE Design: The switch is designed to help companies save power and reduce TCO (Total Cost of Ownership) by Energy Efficient Ethernet (IEEE 802.3az). It can be used to build a green Ethernet networking environment.

Advanced Power over Ethernet Management: The model includes PoE+ options to power IP devices with power-saving features like Power scheduling and PoE configuration.
Specifications

Models

This manual documents three similar models as described below. The models differ mainly in port count. Model differences are noted where applicable throughout this manual.

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM8TAT2SA</td>
<td>Smart Managed PoE+ layer 2 Switch with 20Gbps switching capacity and Smart management (Web GUI, SNMP, Telnet, CLI); PoE scheduling, APR, and DMS feature support. Port support description: Eight 10/100/1000Base-T + two 100/1000 SFP Slots. Includes 19” rack mount brackets and country specific power cord.</td>
</tr>
<tr>
<td>SM16TAT2SA</td>
<td>Smart Managed PoE+ layer 2 Switch with 36Gbps switching capacity and Smart management (Web GUI, SNMP, Telnet, CLI); PoE scheduling, APR, and DMS feature support. Port support description: Sixteen 10/100/1000Base-T + two 100/1000 SFP Slots. Includes 19” rack mount brackets and country specific power cord.</td>
</tr>
<tr>
<td>SM24TAT2SA</td>
<td>Smart Managed PoE+ layer 2 Switch with 52Gbps switching capacity and Smart management (Web GUI, SNMP, Telnet, CLI); PoE scheduling, APR, and DMS feature support. Port support description: Twenty-four 10/100/1000Base-T + two 100/1000 SFP Slots. Includes 19” rack mount brackets and country specific power cord.</td>
</tr>
</tbody>
</table>

Port Configuration

<table>
<thead>
<tr>
<th>Total Ports</th>
<th>RJ45 (10M/100M/1G)</th>
<th>Uplinks (100M/1G)</th>
<th>Telnet</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM8TAT2SA = 10</td>
<td>8</td>
<td>2 SFP</td>
<td>Via any RJ45 port</td>
</tr>
<tr>
<td>SM16TAT2SA = 18</td>
<td>16</td>
<td>2 SFP</td>
<td>Via any RJ45 port</td>
</tr>
<tr>
<td>SM24TAT2SA = 26</td>
<td>24</td>
<td>2 SFP</td>
<td>Via any RJ45 port</td>
</tr>
</tbody>
</table>

Hardware Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Forwarding Capacity (Mpps)</th>
<th>Switching Capacity (Gbps)</th>
<th>Mac Table (K)</th>
<th>Jumbo Frames (Bytes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM8TAT2SA</td>
<td>14.88</td>
<td>20</td>
<td>8</td>
<td>9216</td>
</tr>
<tr>
<td>SM16TAT2SA</td>
<td>26.784</td>
<td>36</td>
<td>8</td>
<td>9216</td>
</tr>
<tr>
<td>SM24TAT2SA</td>
<td>38.688</td>
<td>52</td>
<td>8</td>
<td>9216</td>
</tr>
</tbody>
</table>

Environmental Range

<table>
<thead>
<tr>
<th>Operating Temperature</th>
<th>Storage Temperature</th>
<th>Operating Humidity</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fahrenheit</td>
<td>Centigrade</td>
<td>Fahrenheit</td>
<td>Feet</td>
</tr>
<tr>
<td>32 to 122</td>
<td>0 to 50</td>
<td>-4 to 158</td>
<td>&lt; 10000</td>
</tr>
</tbody>
</table>
Dimensions, Weights, Mounting

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (WxHxD)</th>
<th>Weight</th>
<th>Mounting Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM8TAT2SA</td>
<td>220 x 44 x 242</td>
<td>&lt;2</td>
<td>Desktop, Wall, Rack</td>
</tr>
<tr>
<td>SM16TAT2SA</td>
<td>442 x 44 x 211</td>
<td>&lt;3</td>
<td>Desktop, Wall, Rack</td>
</tr>
<tr>
<td>SM24TAT2SA</td>
<td>442 x 44 x 211</td>
<td>&lt;3</td>
<td>Desktop, Wall, Rack</td>
</tr>
</tbody>
</table>

Voltage and Frequency

<table>
<thead>
<tr>
<th>AC Input Voltage and Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
</tbody>
</table>

PoE Power Capacity

<table>
<thead>
<tr>
<th>Available PoE Power</th>
<th>Ports That Support PoE (15.4W) and PoE+ (30.0W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>130W</td>
<td>Each of ports 1 – 8 support PoE/ PoE+ within available PoE Power.</td>
</tr>
<tr>
<td>250W</td>
<td>Each of ports 1 - 16 support PoE/ PoE+ within available PoE Power.</td>
</tr>
<tr>
<td>370W</td>
<td>Each of ports 1 - 24 support PoE/ PoE+ within available PoE Power.</td>
</tr>
</tbody>
</table>

Certifications

Electromagnetic Emissions (EMC) and Safety

- EMC: CE, FCC Part 15 Class A
- Safety: IEC-60950-1

Software Features

Layer 2 Switching

- **Spanning Tree Protocol (STP)**
  - Standard Spanning Tree 802.1d
  - Rapid Spanning Tree (RSTP) 802.1w
  - Multiple Spanning Tree (MSTP) 802.1s

- **Trunking**
  - Link Aggregation Control Protocol (LACP) IEEE 802.3ad
  - Static aggregation

- **VLAN**
  - Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs).
  - Port-based VLAN; 802.1Q tag-based VLAN; Protocol based VLAN; IP subnet-based VLAN; Private VLAN Edge (PVE); MAC-based VLAN; Q-in-Q (double tag) VLAN; GARP VLAN Registration Protocol (GVRP)

- **DHCP Relay**
  - Relay of DHCP traffic to DHCP server in different VLAN.
  - Works with DHCP Option 82
### IGMP v1/v2 Snooping
IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups.

### IGMP Querier
IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router.

### IGMP Proxy
IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router.

### MLD v1/v2 Snooping
Delivers IPv6 multicast packets only to the required receivers.

### Multicast VLAN Registration (MVR)
It uses a dedicated manually configured VLAN, called the multicast VLAN, to forward multicast traffic over Layer 2 network in conjunction with IGMP snooping.

### Security

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure Sockets Layer (SSL)</td>
<td>SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch</td>
</tr>
</tbody>
</table>
| IEEE 802.1X                      | • IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions  
• Supports IGMP-RADIUS based 802.1X  
• Dynamic VLAN assignment |
| Layer 2 Isolation Private VLAN Edge | PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks |
| Port Security                    | Locks MAC addresses to ports, and limits the number of learned MAC address                  |
| IP Source Guard                  | Prevents illegal IP address from accessing to specific port in the switch                   |
| RADIUS                           | Supports RADIUS authentication switch as a client                                             |
| Storm Control                    | Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port |
| DHCP Snooping                     | A feature acts as a firewall between untrusted hosts and trusted DHCP servers              |
| Loop Protection                  | Prevents unknown unicast, broadcast, multicast loops in Layer 2 switching                    |

### Quality of Service (QoS)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Queue</td>
<td>Supports 8 hardware queues</td>
</tr>
</tbody>
</table>
| Scheduling                   | • Strict priority and weighted round-robin (WRR)  
• Queue assignment based on DSCP and class of service |
| Classification               | • Port based  
• 802.1p VLAN priority based                                    |
| Rate Limiting                | • Ingress policer  
• Egress shaping and rate control  
• Per port                                                        |

### Management

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Mirroring</td>
<td>Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch’s Ports) ports can be mirrored to single destination port. A single session is supported.</td>
</tr>
</tbody>
</table>
### IEEE 802.1ab (LLDP)
- Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network. Support LLDP-MED extensions.

### Web GUI Interface
- Built-in switch configuration utility for browser-based device configuration

### Dual Image
- Independent primary and secondary images for backup while upgrading

### UPnP
- The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play

### DHCP Server
- Support DHCP server to assign IP to DHCP clients

### SNMP
- SNMP v1, v2c, v3 with traps, and SNMP v3 user-based security model (USM)

### Firmware Upgrade
- Web browser upgrade (HTTP/HTTPS) and TFTP

### NTP
- Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched

### Other Management
- HTTP/HTTPS; DHCP Client; Cable Diagnostics; Syslog; IPv6 Management

### Device Management System (DMS)

#### Graphical Monitoring
- **Topology view**: Support intuitive way to configure and manage switches and devices with visual relations.
- **Floor view**: Easily drag and drop PoE devices and help you to build smart workforces.
- **Map view**: Efficiently drag and drop devices and monitor surroundings on Google map.

#### Find My Switch
- The front panel LEDs flash for 15 seconds to visually identify the switch.

#### Traffic Monitoring
- Display visual chart of network traffic of all devices and monitor every port at any time.

#### Troubleshooting
- Network diagnostic between master switch and devices. Supports protection mechanism, such as rate-limiting to protect your devices from brute-force downloading.

### Power over Ethernet (PoE)

#### Port Configuration
- Supports per port PoE configuration function

#### PoE Scheduling
- Supports per port PoE scheduling to turn on/off the PoE powered devices (PDs).

#### Auto Power Reset (APR)
- Auto checks the link status of PDs. Reboots PDs if there are no responses.

#### Power Delay
- The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs
About This Manual

This manual describes how to install, configure, and troubleshoot the SMxTAT2SA switch, including how to:

- Check the switch status by reading the LED behavior.
- Reset the switch or to restore the switch to factory defaults.
- Install the switch.
- Use a Web browser to initially configure the switch.
- Troubleshoot switch installation.

Related Manuals

Other related manuals include:

- SMxTAT2SA Quick Start Guide, 33715
- SMxTAT2SA Web User Guide, 33717
- SMxXAT2SA CLI Reference, 33718

For Transition Networks Drivers, Firmware, Manuals, etc. go to the Product Support webpage (logon required). For Application Notes, Brochures, Data Sheets, Specifications, etc. go to the Support Library (no logon required). Note that this manual provides links to third party web sites for which Transition Networks is not responsible.
Chapter 2  Introduction and Product Description

Overview

This section describes the SMxTAT2SA switch, including descriptions of:

- Front and Back Panels.
- Reset the switch or to restore the switch to factory defaults.
- Mode/Reset button operation and functions.

Front and Back Panels

The front panels are similar except for port counts. The back panels are similar except for overall width.

![Figure 1: SM8TAT2SA Front and Back Panels](image1)

![Figure 2: SM16TAT2SA Front and Back Panels](image2)
Figure 3: SM24TAT2SA Front and Back Panels
LED Descriptions

The LEDs on the front panel provide switch status checking and monitoring. There are three types of LEDs as follows:

System LED
Indicates if the switch is powered up correctly, indicates if there is a system alarm triggered for troubleshooting.

Mode LEDs
Indicate the mode of all ports on the switch. You can press the Mode/Reset button sequentially to switch between the two modes (Link/Activity/Speed mode and PoE mode).

Port Status LEDs
Indicate the current status of each port. You can check these LEDs to understand the port status in different modes, after changing the mode by pressing Mode/Reset button.

The LED indicators are described in the following tables.

### Table 1: System LED

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System</td>
<td>Green</td>
<td>On</td>
<td>The switch is powered ON correctly.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Off</td>
<td>The switch is not receiving power.</td>
</tr>
<tr>
<td></td>
<td>Red</td>
<td>On</td>
<td>An abnormal state, such as exceeding operating temperature range, has been detected in the switch.</td>
</tr>
</tbody>
</table>

### Table 2: Mode LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Link/Act/Speed</td>
<td>Green</td>
<td>On</td>
<td>The Port Status LEDs are displaying link status, network activity and speed of each port.</td>
</tr>
<tr>
<td>PoE</td>
<td>Green</td>
<td>On</td>
<td>The RJ45 Port Status LEDs are displaying PoE powering status of each port.</td>
</tr>
</tbody>
</table>
By pressing the **Mode/Reset** button for less than 2 seconds to change LED modes (Link/Act/Speed Mode or PoE Mode) you can check the port status by reading the LED behaviors per the table below.

### Table 3: Port Status LEDs

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>When Link/Act/Speed Mode LED Lit</strong></td>
</tr>
<tr>
<td><strong>RJ45 Ports</strong></td>
<td></td>
<td></td>
<td><strong>When Link/Act/Speed Mode LED Lit</strong></td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>On</td>
<td>The port is enabled and established a link to connected device, and the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>connection speed is 1000Mbps.</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Blinking</td>
<td>The port is transmitting/receiving packets, and the connection speed is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1000Mbps.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>On</td>
<td>The port is enabled and established a link to connected device, and the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>connection speed is 10/100Mbps.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Blinking</td>
<td>The port is transmitting/receiving packets, and the connection speed is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10/100Mbps.</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>Off</td>
<td>The port has no active network cable connected, or it is not established a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>link to connected device. Otherwise, the port may have been disabled through</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the switch user interface.</td>
</tr>
<tr>
<td><strong>SFP Ports</strong></td>
<td></td>
<td></td>
<td><strong>When Link/Act/Speed Mode LED Lit</strong></td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>On</td>
<td>The port is enabled and established a link to connected device, and the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>connection speed is 1000Mbps.</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Blinking</td>
<td>The port is transmitting/receiving packets, and the connection speed is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1000Mbps.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>On</td>
<td>The port is enabled and established a link to connected device, and the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>connection speed is 100Mbps.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Blinking</td>
<td>The port is transmitting/receiving packets, and the connection speed is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100Mbps.</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>Off</td>
<td>The port has no active network cable connected, or it is not established a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>link to connected device. Otherwise, the port may have been disabled through</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the switch user interface.</td>
</tr>
</tbody>
</table>
### When PoE Mode LED Lit

<table>
<thead>
<tr>
<th>LED</th>
<th>Color</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJ45 Ports</td>
<td>Green</td>
<td>On</td>
<td>The port is enabled and supplying power to connected device.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>On</td>
<td>An abnormal state, such as overload status, has been detected in the switch.</td>
</tr>
<tr>
<td></td>
<td>--</td>
<td>Off</td>
<td>The port has no active network cable connected, or it is not connected a PoE PD device. Otherwise, the port may have been disabled through the switch user interface.</td>
</tr>
</tbody>
</table>

---

**Mode/Reset Button**

By pressing the Mode/Reset button for certain period of time, you can perform the following tasks.

**Change Port Status LED Mode**: to read the port status correctly in the two different modes (Link/Act/Speed mode or PoE mode).

**Reset the Switch**: to reboot and get the switch back to the previous configuration settings saved. The First Time Wizard is presented again after pressing the Reset button.

**Restore the Switch to Factory Defaults**: to restore the original factory default settings back to the switch.

**Note**: Based on the table below, you can judge which task is being performed by reading the LED behaviors while pressing the Mode/Reset button. *Once the LED behaviors are correctly displayed, you may release the button.*

---

**Table 4: Mode/Reset Button Descriptions**

<table>
<thead>
<tr>
<th>Task to Perform</th>
<th>Press Button for ..</th>
<th>SYS LED Behavior</th>
<th>Port Status LED Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change LED Mode</td>
<td>0 ~ 2   seconds</td>
<td>ON Green</td>
<td>LED status will be changed according the mode selected.</td>
</tr>
<tr>
<td>Reset the Switch</td>
<td>2 ~ 7   seconds</td>
<td>Blinking Green</td>
<td>ALL LEDs Are OFF.</td>
</tr>
<tr>
<td>Restore to Defaults</td>
<td>7 ~ 12  seconds</td>
<td>Blinking Green</td>
<td>ALL LEDs Stay ON.</td>
</tr>
</tbody>
</table>
Chapter 3   Installation

Package Contents

- The Switch
- AC Power cord (country specific)
- Four adhesive rubber feet
- Printed Quick Start Guide
- 19” Rack Mount brackets

**Caution:** The switch is an indoor device. If it is to be used with outdoor devices such as outdoor IP cameras or outdoor Wi-Fi APs, then you are strongly suggested to install a surge protector or surge suppressor in order to protect the switch.

Compliant with 802.3at in Environment A when using an isolated power supply. For 802.3at Environment B applications, i.e. building to building, copper to copper endpoint connections: 1) use an Ethernet network isolator module (PoE disabled), or 2) use mid-span injector(s), e.g. MIL-L100i, L1000i-at, between this switch’s PSE port and link partner PD port.

Mounting the Switch on a Wall

**Step 1:** Install user-supplied screws on the appropriate location on the all, and be aware of the dimensional limitation of the screws.

![Figure 4: Install screws to the wall](image)

**Figure 4: Install screws to the wall**

**Step 2:** Make sure that the switch is attached securely to wall.

![Figure 5: Attaching switch to the wall](image)

**Figure 5: Attaching switch to the wall**
Mounting the Switch on Desk or Shelf

Step 1: Verify that the workbench is sturdy and reliably grounded.

Step 2: Attach the four adhesive rubber feet to the bottom of the switch.

Figure 6: Attaching the Rubber Feet
Mounting the Switch in a 19-inch Rack

**Step 1:** Attach the mounting brackets to both sides of the chassis. Insert screws and tighten them with a screwdriver to secure the brackets.

![Figure 7: Attaching Brackets to the Switch](image)

**Step 2:** Place the switch on a rack shelf in the rack. Push it in until the oval holes in the brackets align with the mounting holes in the rack posts.

**Step 3:** Attach the brackets to the posts. Insert screws and tighten them.

![Figure 8: Attaching Brackets to the Rack Post](image)
Connecting the AC Power Cord

**Step 1:** Connect the AC power cord to the AC power receptacle of switch.

**Step 2:** Connect the other end of the AC power cord to the AC power outlet.

**Step 3:** Check the SYS LED. If it is ON, the power connection is correct.

![Figure 9: Connecting AC power cord](image)

Installing SFP Modules

You can install or remove a mini-GBIC SFP module from a SFP port without having to power off the switch. **Note:** With Mode set to Auto these Copper SFPs can be used: TN-SFP-T-MG, TN-GLC-T-MG, and TN-GLC-T.

**Note:** see the related SFP device manual for important Safety warnings. See the Transition Networks [SFP page](https://www.transition.com) for our full line of SFP transceivers.

**Step 1:** Insert the module into the SFP port.

**Step 2:** Press firmly to ensure that the SFP module seats into the connector.

![Figure 10: Installing a SFP Module into a SFP Port](image)
Chapter 4  Initial Switch Configuration

Initial Switch Configuration Using Web Browsers

When you power up the switch the first time, a First Time Wizard is presented. On subsequent power ups, you can perform the initial switch configuration using a web browser. See the Quick Start Guide for First Time Wizard information. For managing other switch features, refer to the Web user guide for details.

For the initial configuration stage, you must reconfigure your PC’s IP address and subnet mask so as to make sure the PC can communicate with the switch. After changing PC’s IP address (for example, 192.168.1.250), then you can access the Web interface of the switch using the switch’s default IP address as shown below.

The initial switch configuration procedure is as follows:

Note: The switch’s factory default IP address is **192.168.1.77**, and the factory default Subnet Mask is **255.255.255.0**.

Initial Switch Configuration Procedure

The initial switch configuration procedure is as follows:

1. Power up the PC that you will use for the initial configuration. Make sure the PC has an Ethernet RJ45 connector to be connected to the switch via standard Ethernet LAN cable.

2. Reconfigure the PC’s IP address and Subnet Mask as below, so that it can communicate with the switch. To change the PC’s IP address for a PC running Windows® 7/8.x/10, is as follows:
   
a) Type “**network and sharing**” into the **Search box** in the **Start Menu**.
   
b) Select **Network and Sharing Center**.
   
c) Click on **Change adapter settings** on the left of PC screen.

   Note: You can also skip steps a to c, by pressing **WinKey+R** and type “**ncpa.cpl**” command to get to step d directly.

   d) Right-click on your local adapter and select **Properties**
   
e) In the **Local Area Connection Properties** window highlight **Internet Protocol Version 4 (TCP/IPv4)** then click the **Properties** button.

   Note: Be sure to record all your PC’s current IP settings to be able to restore them later.

   f) Select the radio button **Use the following IP address** and enter in the IP for the PC (e.g. any IP address not in use, and in between **192.168.1.2** and **192.168.1.254**), Subnet mask (e.g. **255.255.255.0**), Gateway (e.g. **192.168.1.77**), and DNS server(s) (e.g. **192.168.1.77**). Then click **OK**.

   Note: You need to do this for each PC that will be configured with this switch.

   g) Click **Apply** then **OK**. The switch’s default IP address will be automatically configured to 192.168.1.1.

   Note: You can also configure the switch’s default IP address using the command prompt. For example, to set the default IP address to 192.168.1.1, type the following command: **ipconfig /all** to check the current IP settings, then **ipconfig /setbox 192.168.1.1** to set the default IP address. You can also use the command **ipconfig /registerdns** to register DNS server(s) if necessary.

   h) Connect to the switch using a web browser by entering the switch’s default IP address (192.168.1.1) in the address bar.

   i) Set the password for the administrator account to a strong and unique password.

   j) Click the **Apply** button to save changes and restart the switch.

   k) The switch will automatically restart, and the configuration process is complete.

   Note: You can also use the command prompt to configure the switch’s default IP address using the command **ipconfig /setbox** and **ipconfig /registerdns** if necessary.

   l) Connect to the switch using a web browser by entering the new default IP address in the address bar.

   m) Set the password for the administrator account to a strong and unique password.

   n) Click the **Apply** button to save changes and restart the switch.

   o) The switch will automatically restart, and the configuration process is complete.
255.255.255.0), and Default gateway that corresponds with your network setup. Then enter your Preferred and Alternate DNS server addresses.

g) Click OK to change the PC’s IP address.

3. Power up the switch to be initially configured, and wait until it has finished its start-up processes.

4. Connect the PC to any port on the switch using a standard Ethernet cable, and check the port LED on the switch to make sure the link status of the PC’s is OK.

5. Run your Web browser on the PC; enter the factory default IP address, so as to access the switch’s Web interface.

If your PC is configured correctly, you will see the login page of the switch as shown below.

![Web Interface Login page](image)

**Figure 11: Web Interface Login page**

If you do not see the above login page, perform these steps:

- Refresh the web page.
- Check to see if there is an IP conflict issue.
- Clean browser cookies and temporary internet files.
- Check your PC settings again and repeat step 2.

6. Enter the factory default username and password in login page.

7. Click “Login” to log into the switch.

**Note:** The factory default Username and Password of the switch is admin.

See the *SMxTAT2SA Web User Guide* for more information.
Chapter 5   Troubleshooting, Warranty, Support and Compliance Information

Troubleshooting

The following table provides steps to troubleshoot problems by taking actions based on the suggested solutions.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Suggested Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM LED is Off</td>
<td>The switch is not receiving power.</td>
<td>1. Check if correct power cord is connected firmly to the switch and to the AC outlet socket. &lt;br&gt;2. Perform power cycling the switch by unplugging and plugging the power cord back into the switch. &lt;br&gt;3. If the LED is still off, try to plug power cord into different AC outlet socket to make sure correct AC source is supplied.</td>
</tr>
<tr>
<td>SYSTEM LED is Red</td>
<td>An abnormal state was detected by the switch.</td>
<td>Check the system log to understand the abnormal state (e.g. exceeding operating temperature range) and take corresponding actions to resolve.</td>
</tr>
<tr>
<td>Port Status LED is Off in the Link/Act/Speed Mode</td>
<td>The port is not connected or the connection is not working.</td>
<td>1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and connected device. &lt;br&gt;2. Make sure the connected device is up and running correctly. &lt;br&gt;3. If the symptom still exists, try different cable or different port to tell if it is related to the cable or specific port. &lt;br&gt;4. Check if the port is disabled in the configuration settings via WEB user interface.</td>
</tr>
<tr>
<td>Port Status LED is Off in PoE Mode</td>
<td>The port is not supplying power</td>
<td>1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and connected device. &lt;br&gt;2. Make sure the correct Ethernet cables are used. &lt;br&gt;3. If symptom still exists, try different cable or different port in order to identify if it is related to the cable or specific port. &lt;br&gt;4. Check if the port is disabled in the configuration settings via WEB user interface.</td>
</tr>
</tbody>
</table>
Recording Device and System Information

After performing the troubleshooting procedures, and before calling or emailing Technical Support, please record as much information as possible in order to help the Transition Networks Tech Support Specialist.

1. Select the SMxTAT2SA Configuration > System > Information menu path. From the CLI, use the show commands needed to gather the information below or as requested by the TN Support Specialist.

2. Record SMxTAT2SA Model Information:
   - Product ID: _____________________________
   - Serial #: ___________________________
   - MAC Address: ________________________
   - Board Rev: _________________________
   - Chip ID: ____________________________
   - System Uptime: _____________________
   - Software Version: __________________

3. Record the Monitor menu information:
   - Monitor > System > Information: _____________________________
   - Monitor > System > IP Status: _______________________________
   - LED Status: _____________________________________________

4. Provide additional information to your Tech Support Specialist. See the “Troubleshooting” section above.
   - Your Transition Networks service contract number: _____________________________
   - A description of the failure: ________________________________________________
   - A description of any action(s) already taken to resolve the problem (e.g., changing mode, rebooting, etc.): ________________________________

5. The serial and revision numbers of all involved Transition Networks products in the network:
   __________________________________________________________________________

6. A description of your network environment (layout, cable type, etc.): ________________
   __________________________________________________________________________

7. Network load and frame size at the time of trouble (if known): ________________
   The device history (i.e., have you returned the device before, is this a recurring problem, etc.):
   __________________________________________________________________________

8. Any previous Return Material Authorization (RMA) numbers: ________________________

Serial Label on Unit (left) and Serial Label on Box (right)
Limited Lifetime Warranty
To return a defective product for warranty coverage, contact Transition Networks’ technical support department for a return authorization number.

Contact Us
Technical Support
Technical support is available 24-hours a day
    US and Canada: 1-800-260-1312
    International: 00-1-952-941-7600
Main Office
tel: +1.952.941.7600 | toll free: 1.800.526.9267 | fax: 952.941.2322
sales@transition.com | techsupport@transition.com | customerservice@transition.com
Address
    Transition Networks
    10900 Red Circle Drive
    Minnetonka, MN 55343, U.S.A.

Firmware: Keep your products up to date by downloading the latest firmware. You must log in or create an account to download firmware. For further assistance contact us at +1.952.358.3601, 1.800.260.1312, or at techsupport@transition.com.

Compliance Information
FCC Regulations
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at the user's own expense.

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.

Canadian Regulations
This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.
Declaration of Conformity (DoC)

EU Declaration of Conformity

SM8TAT2SA EU Compliance

SM16TAT2SA and S24TAT2SA EU Compliance

SMxTAT2SA 47 CFR FCC Rules and Regulations
Part 15 Subpart B – Class A Digital Device and Canada Standard ICES-003 Issue 6, Class A
Electrical Safety Warnings

Electrical Safety
IMPORTANT: This equipment must be installed in accordance with safety precautions.

Elektrische Sicherheit
WICHTIG: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

Elektrisk sikkerhed
VIGTIGT: Dette utstyret skal installeres i overensstemmelse med sikkerhedsadvarslerne.

Elektrische veiligheid
BELANGRIJK: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

Sécurité électrique
IMPORTANT: Cet équipement doit être utilisé conformément aux instructions de sécurité.

Sähköturvallisuus
TÄRKEÄÄ: Tämä laite on asennettava turvaohjeiden mukaisesti.

Sicurezza elettrica
IMPORTANTE: questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

Elektrisk sikkerhet
VIKTIG: Dette utstyret skal installeres i samsvar med sikkerhetsregler.

Segurança elétrica
IMPORTANTE: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

Seguridad eléctrica
IMPORTANTE: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

Elsäkerhet
OBS! Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används.