

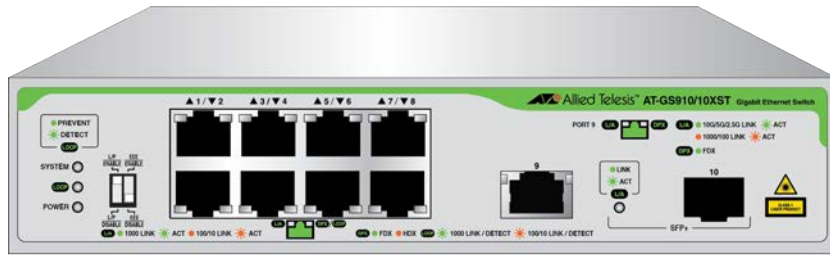
# GS910/XST Series

10 GIGABIT ETHERNET UNMANAGED SWITCHES

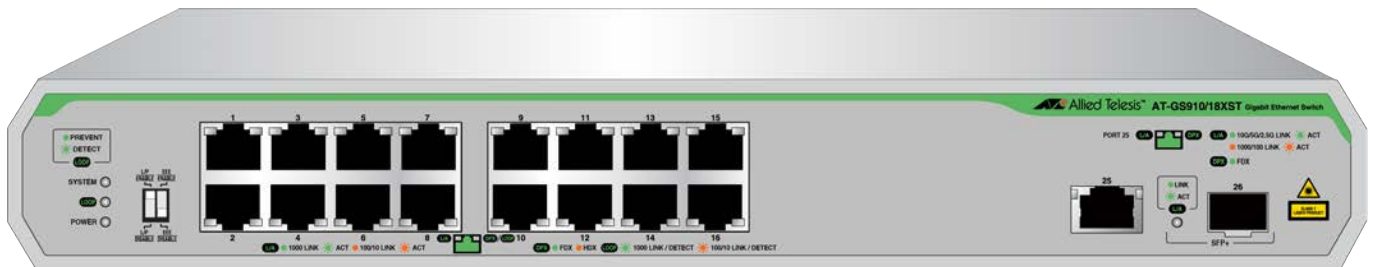
GS910/10XST

GS910/18XST

GS910/26XST



6053



6050



6040

## Installation and User's Guide

Copyright © 2023 Allied Telesis, Inc.

All rights reserved. No part of this publication may be reproduced without prior written permission from Allied Telesis, Inc. Microsoft and Internet Explorer are registered trademarks of Microsoft Corporation. Netscape Navigator is a registered trademark of Netscape Communications Corporation. All other product names, company names, logos or other designations mentioned herein are trademarks or registered trademarks of their respective owners.

Allied Telesis, Inc. reserves the right to make changes in specifications and other information contained in this document without prior written notice. The information provided herein is subject to change without notice. In no event shall Allied Telesis, Inc. be liable for any incidental, special, indirect, or consequential damages whatsoever, including but not limited to lost profits, arising out of or related to this manual or the information contained herein, even if Allied Telesis, Inc. has been advised of, known, or should have known, the possibility of such damages.

# Electrical Safety and Emissions Standards

---

This section contains the following:

- “US Federal Communications Commission”
- “Industry Canada”
- “Safety, Electro Magnetic interference, and Electro Magnetic Susceptibility” on page 4
- “Translated Safety Statements” on page 4

## US Federal Communications Commission

---

### Radiated Energy

---

**Note**

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of 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 this 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 his own expense.

---

**Note**

Modifications or changes not expressly approved of by the manufacturer or the FCC, can void your right to operate this equipment.

---

## Industry Canada

---

### Radiated Energy

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

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

# Safety, Electro Magnetic interference, and Electro Magnetic Susceptibility

---

Safety	UL62368-1 (cULus) IEC62368-1 EN62368-1 CE RoHS
Electro Magnetic Interference (EMI)	FCC Class A ICE-003: 2020, Issue 7, Class A EN55032: 2015+A11:2020, Class A CISPR 32: 2012 Class A VCCI-CISPR 32: 2016, Class A AS/NZS CISPR 32: 2015+A1:2020, Class A
Electro Magnetic Susceptibility (EMS)	EN55024: 2010 EN55035: 2017 EN61000-4-2: 2009 EN61000-4-3: 2006 + A1: 2008 + A2: 2010 EN61000-4.4: 2012 EN61000-4.5: 2014 EN61000-4-6: 2014 EN61000-4-8: 2010 EN61000-4-11: 2004 EN61000-3.2: 2014 EN61000-3.3: 2013



## Warning

In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. ⚡ E84

---

## Translated Safety Statements

---

**Important:** The ⚡ indicates that translations of the safety statement are available in the PDF document **Translated Safety Statements** posted on the Allied Telesis website at [alliedtelesis.com/support](http://alliedtelesis.com/support).

# Contents

---

<b>Preface</b> .....	7
Safety Symbols Used in this Document .....	8
Contacting Allied Telesis .....	9
<b>Chapter 1: Product Description</b> .....	11
Overview .....	12
Key Features .....	12
Components .....	14
Front Panels .....	14
Back Panel .....	15
10/100/1000 Base-T Twisted Pair Ports .....	15
100Base-TX, 1G/2.5G/5G/10G Base-T Twisted Pair Ports .....	16
SFP/SFP+ Slot .....	17
LEDs .....	19
DIP Switches .....	22
Power Connector .....	23
Loop Prevention .....	24
Root Switch .....	24
Non-root Switch .....	24
Examples with Multiple Loop Prevention Switches .....	25
Examples with Loop Prevention and Regular Switches .....	26
Examples within a Loop Prevention Switch .....	27
Guidelines for Loop Prevention .....	27
Enabling Loop Protection .....	27
Disabling Loop Protection .....	27
Energy Efficiency Ethernet (EEE) .....	28
Ethernet Switching Basics .....	29
Duplex Mode .....	29
Store-and- Forward .....	29
Backpressure and Flow Control .....	29
<b>Chapter 2: Installation</b> .....	31
Reviewing Safety Precautions .....	32
Selecting a Site for the Switch .....	34
Unpacking the Switch .....	36
Installing the Switch on a Table or Desktop .....	37
Guidelines for Installing the Switch on a Table or Desktop .....	37
Installing the Switch Flat on a Table or Desktop .....	38
Installing the Switch on a Wall .....	39
Wall-Mount Bracket Kits .....	39
Guidelines for Installing the Switch on a Wall .....	39
Installing the Switch in an Equipment Rack .....	41
Rack Mount Kits .....	41
Cabling Twisted Pair Ports .....	42
Guidelines to Connecting Twisted Pair Cables .....	42
Installing an SFP Transceiver .....	43
Guidelines to Handling SFP Transceivers .....	43
Installing an SFP Transceiver .....	43
Powering On the Switch .....	46
<b>Chapter 3: Wall Installation Using the BRKT-J22 Kit</b> .....	47
Unpacking the BRKT-J22 Wall Mount Kit .....	48

Installing a Switch Using the BRKT-J22 Wall Mount Kit .....	49
What to Prepare .....	49
Installing a Switch with the Front Panel Facing Sideways.....	49
Installing a Switch Facing Up .....	54
<b>Chapter 4: Wall Installation Using the BRKT-J24 Kit .....</b>	<b>57</b>
Unpacking the BRKT-J24 Wall Mount Kit.....	58
Installing the Switch on a Wall Using the BRKT-J24 Brackets .....	59
What to Prepare for Wall Installation.....	59
Installing the Switch on a Wall.....	59
<b>Chapter 5: Rack Installation Using the RKMT-J09 Kit .....</b>	<b>63</b>
Unpacking the RKMT-J09 Rack Mount Kit .....	64
Installing a Switch Using the RKMT-J09 Rack Mount Kit .....	65
What to Prepare .....	65
Installing a Switch Using the Rack Mount Kit .....	65
<b>Chapter 6: Rack Installation Using the RKMT-J14 Kit .....</b>	<b>67</b>
Unpacking the RKMT-J14 Rack Mount Kit .....	68
Installing a Switch Using the RKMT-J14 Rack Mount Kit .....	69
What to Prepare .....	69
Installing a Switch Using the Rack Mount Kit .....	69
<b>Chapter 7: Rack Installation Using the RKMT-J15 Kit .....</b>	<b>71</b>
Unpacking the RKMT-J15 Rack Mount Kit .....	72
Installing Two Switches in a Row of the Equipment Rack.....	73
What to Prepare .....	73
Installing Two Switches in a Row of the Equipment Rack.....	73
<b>Chapter 8: Troubleshooting .....</b>	<b>77</b>
<b>Appendix A: Technical Specifications .....</b>	<b>79</b>
Physical Specifications .....	79
Power Specifications .....	79
Environmental Specifications.....	80
RJ-45 Twisted Pair Port Connectors .....	81

# Preface

---

This manual is the installation and user's guide for the GS910/XST Series 10 Gigabit Ethernet Unmanaged Switches. The switch models included in this manual are:

- ❑ GS910/10XST
- ❑ GS910/18XST
- ❑ GS910/26XST

This Preface contains the following sections:

- ❑ "Safety Symbols Used in this Document" on page 8
- ❑ "Contacting Allied Telesis" on page 9

## Safety Symbols Used in this Document

---

This document uses the following conventions:

---

**Note**

Notes provide additional information.

---



**Caution**

Cautions inform you that performing or omitting a specific action may result in equipment damage or loss of data.

---



**Warning**

Warnings inform you that performing or omitting a specific action may result in bodily injury.

---



## Contacting Allied Telesis

---

If you need Allied Telesis technical support, visit  
**[www.alliedtelesis.com/support](http://www.alliedtelesis.com/support)**.



## Chapter 1

# Product Description

---

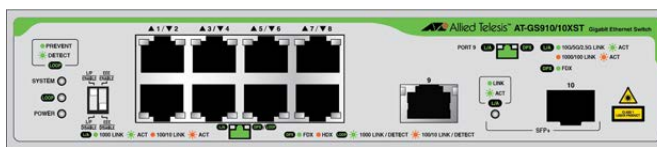
This chapter contains the follows sections:

- ❑ “Overview” on page 12
- ❑ “Components” on page 14
- ❑ “Loop Prevention” on page 24
- ❑ “Energy Efficiency Ethernet (EEE)” on page 28
- ❑ “Ethernet Switching Basics” on page 29

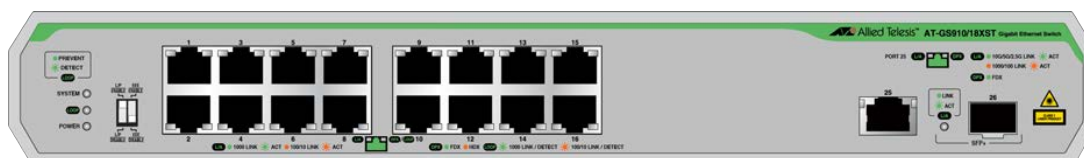
# Overview

The GS910/XST Series Switches are eco-friendly unmanaged switches with one SFP/SFP+ uplink port, one 100M/1G/2.5G/5G/10Gigabit uplink port, and 8, 16 or 24 ports of 10/100/1000Mbps. The switch provides a simple solution to integrate 10, 100, and 1000Mbps devices that exist in your network and expand the network to up to 10Gigabit speed. The GS910/XST series switches are shown in Figure 1.

## GS910/10XST



## GS910/18XST



## GS910/26XST

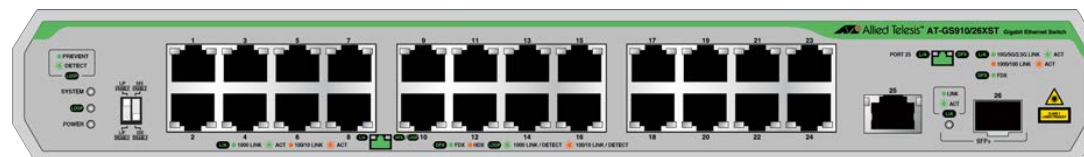


Figure 1. GS910/XST Series Switches

## Key Features

The GS910/XST series switch has the following key features:

- ❑ 8 10/100/1000Mbps twisted pair ports with RJ-45 connectors for the GS910/10XST model
- ❑ 16 10/100/1000Mbps twisted pair ports with RJ-45 connectors for the GS910/18XST model
- ❑ 24 10/100/1000Mbps twisted pair ports with RJ-45 connectors for the GS910/26XST model
- ❑ One 100M/1G/2.5G/5G/10Gbps twisted pair port with RJ-45 connector
- ❑ One 1G/10Gbps SFP/SFP+ slot
- ❑ IEEE802.3 compliant for 10Base-T

- ❑ IEEE802.3u compliant for 100Base-TX
- ❑ IEEE802.3ab compliant for 1000Base-T
- ❑ IEEE802.3bz compliant for 2.5GBase-T and 5GBase-T
- ❑ IEEE802.3an compliant for 10Gbps Ethernet
- ❑ Auto-Negotiation (IEEE 802.3u-compliant) on all ports
- ❑ Store-and-forward switching method
- ❑ Jumbo frames of 12K bytes without frame loss
- ❑ Up to 16,384 MAC address entries
- ❑ Link down power saving on 10/100/1000Mbps twisted pair ports
- ❑ Auto MDI/MDI-X on all twisted pair ports
- ❑ Head-of-Line (HOL) Blocking Prevention
- ❑ IEEE 802.3x flow control for full-duplex operation
- ❑ Back pressure flow control for half-duplex operation
- ❑ EAP/BPDU pass through
- ❑ Loop Prevention, which can be enabled or disabled from the DIP switch
- ❑ IEEE 802.3az Energy Efficient Ethernet on 10/100/1000Mbps copper ports when operating at 100/1000Mbps speed, which can be enabled or disabled from the DIP switch
- ❑ RoHS compliant
- ❑ Wall mounting and equipment rack mounting with optional brackets. See Table 1.

Table 1. Wall-mount and Rack-Mount Brackets

<b>Model</b>	<b>Wall Mounting</b>	<b>Rack Mounting</b>
GS910/10XST	BRKT-J24	RKMT-J14 RKMT-J15
GS910/18XST	BRKT-J22	RKMT-J09
GS910/26XST		

## Components

This section describes the components of the GS910/XST series switches.

**Front Panels** The components of the front panels are shown in Figure 2, Figure 3, and Figure 4.

### GS910/10XST Switch

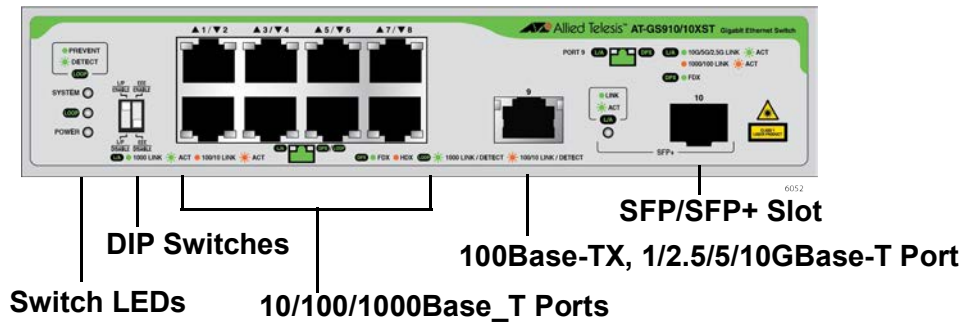


Figure 2. GS910/10XST Front Panel

### GS910/18XST Switch

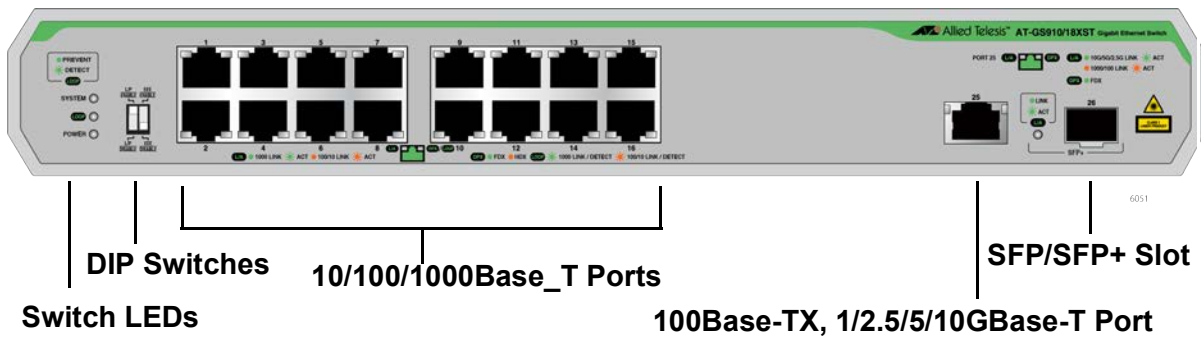


Figure 3. GS910/18XST Front Panel

### GS910/26XST Switch

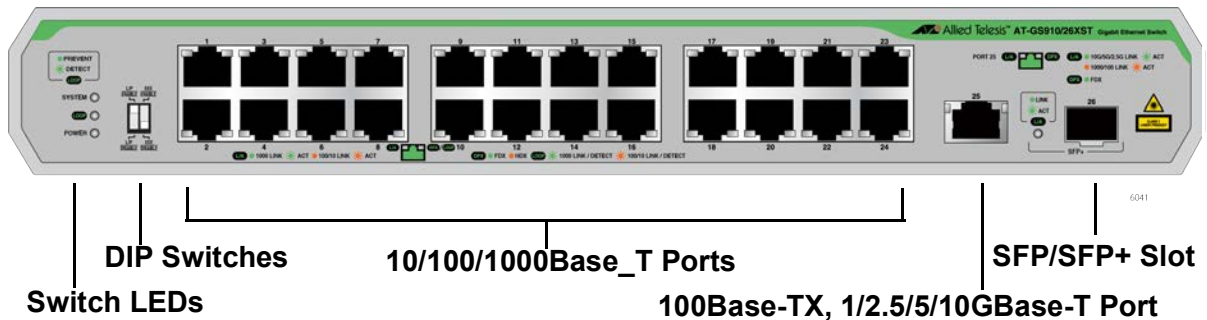


Figure 4. GS910/26XST Front Panel

## Back Panel

The GS910/XST series switch has an internal power supply with a single AC power supply socket on the rear panel. Figure 6 shows the rear panel of the GS910/10XST switch. The rear panel for the GS910/18XST and GS910/26XST is as shown in Figure 6.



Figure 5. Rear Panel for the GS910/10XST Switch



Figure 6. Rear Panel for the GS910/18XST and GS910/26XST Switches

## 10/100/1000 Base-T Twisted Pair Ports

The GS910/10XST switch has eight 10/100/1000Base-TX twisted pair ports, from port 1 to port 8; the GS910/18XST switch has 16, from port 1 to port 16; the GS910/26XST switch has 24, from port 1 to port 24.

### Connector

All the twisted pair ports feature 8-pin RJ-45 connectors. For the port pinouts, see “RJ-45 Twisted Pair Port Connectors” on page 81.

### Speed

The ports are 10Base-T, 100Base-TX, and 1000Base-T compliant and capable of 10 Mbps, 100 Mbps, and 1000 Mbps speeds.

The ports are IEEE 802.3u Auto-Negotiation compliant. With Auto-Negotiation, the switch automatically matches the highest possible common speed between the switch port and its end-node.

For example, if an end-node is capable of only 10 Mbps, the switch sets the port connected to the end-node to 10 Mbps.

## Duplex Mode

Each twisted pair port on the switch can operate in either half- or full-duplex mode. The twisted pair ports are IEEE 802.3u-compliant and automatically negotiate the duplex mode setting.

---

### Note

In order for the switch to set the duplex mode for each port correctly, the end-nodes that you connect to the switch ports also need to be configured for Auto-Negotiation. Otherwise, a duplex mode mismatch can occur, affecting network performance. For further information, refer to “Duplex Mode” on page 29.

---

## Cabling

Table 2 contains the cabling specifications for the twisted pair ports.

Table 2. Twisted Pair Cabling and Distances

Speed	Type of Cable	Maximum Operating Distance
10 Mbps	Two-pair Category 3 or better unshielded twisted pair cable	100 m (328 ft)
100 Mbps	Two-pair Category 5 unshielded twisted pair cable	100 m (328 ft)
1000 Mbps	Four-pair Category 5e unshielded twisted pair cable	100 m (328 ft)

## Auto MDI/MDI-X

All of the twisted pair ports on the switch feature auto-MDI to automatically configure themselves as MDI or MDI-X when connected to an end-node. Consequently, you can use a straight-through twisted pair cable to connect any network device to a port.

## 100Base-TX, 1G/2.5G/5G/10G Base-T Twisted Pair Ports

Port 9 on the GS910/10XST switch, port 17 on the GS910/18XST switch, and port 25 on the GS910/26XST switch are 100M/1G/2.5G/5G/10G Base-T twisted pair ports.

### Connector

The port feature 8-pin RJ-45 connector. For the port pinouts, see “RJ-45 Twisted Pair Port Connectors” on page 81.



## Speed

Port 9 on the GS910/10XST switch, port 17 on the GS910/18XST switch, and port 25 on the GS910/26XST switch are capable of 100Mbps, 1Gbps, 2.5Gbps, 5Gbps, and 10Gbps speeds. The ports are IEEE802.3u Auto-Negotiation compliant. With Auto-Negotiation, the switches automatically match the highest possible common speed between the switch port and its end-node.

## Duplex Mode

These twisted pair ports operate in the full-duplex mode.

## Auto MDI/MDI-X

These twisted pair ports feature auto-MDI to automatically configure themselves as MDI or MDI-X when connected to an end-node. Consequently, you can use a straight-through twisted pair cable to connect any network device to a port.

## SFP/SFP+ Slot

The switch supports 1G and 10G speed on one SFP/SFP+ slot. Port 10 on the GS910/10XST switch, port 18 on the GS910/18XST switch, and port 26 on the GS910/26XST switch are SFP/SFP+ ports.

Table 3 on page 17 shows a list of supported SFP transceivers:

Table 3. Supported SFP Transceivers

Supported Model	Maximum Operating Temperature
AT-SP10SR/I	85° C (185° F)
AT-SP10LR/I	85° C (185° F)
AT-SP10LR20/I	85° C (185° F)
AT-SP10ER40/I	85° C (185° F)
AT-SP10ZR80/I	85° C (185° F)
AT-SPSX	70° C (158° F)
AT-SPSX/I	85° C (185° F)
AT-SPEX	70° C (158° F)
AT-SPLX10	70° C (158° F)
AT-SPLX10/I	85° C (185° F)
AT-SPLX10a	70° C (158° F)
AT-SPLX40	70° C (158° F)

Table 3. Supported SFP Transceivers (Continued)

Supported Model	Maximum Operating Temperature
AT-SPZX80	70° C (158° F)
AT-SP10BD10/I-12	85° C (185° F)
AT-SP10BD10/I-13	85° C (185° F)
AT-SP10BD40/I-12	85° C (185° F)
AT-SP10BD40/I-13	85° C (185° F)
AT-SPBD10-13	70° C (158° F)
AT-SPBD10-14	70° C (158° F)
AT-SPBD20-13/I	85° C (185° F)
AT-SPBD20-14/I	85° C (185° F)
AT-SPBD40-13/I	85° C (185° F)
AT-SPBD40-14/I	85° C (185° F)
AT-SPTX	70° C (158° F)
AT-SP10-LRa/I	85° C (185° F)
AT-SP10T* <sup>1</sup>	85° C (185° F)
AT-SP10TM* <sup>1</sup>	85° C (185° F)
AT-SP10SR	70° C (158° F)
AT-SP10LR	70° C (158° F)
AT-SP10BD20-12	70° C (158° F)
AT-SP10BD20-13	70° C (158° F)

\*<sup>1</sup>Only 10G is supported.

### Guidelines for SFP Transceivers

Here are guidelines for SFP transceivers:

- You must purchase an SFP transceiver separately.
- An SFP model attached to the switch affects the switch's maximum operating temperature. For the switch's maximum operating temperatures, see Table 19 on page 80.
- For more information about each SFP transceiver, go to [www.alliedtelesis.com/library](http://www.alliedtelesis.com/library).

**LEDs** The switch has LEDs to display status information on the switch and ports.

### Switch LEDs

The LEDs on the front panel of the switch display status information. See Figure 7.

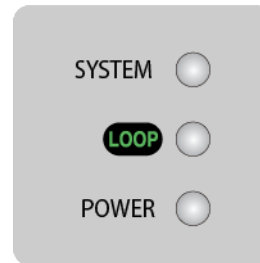


Figure 7. Switch LEDs

Table 4 describes the switch LEDs.

Table 4. Switch LEDs

LED	State	Description
SYSTEM	Red	The system is booting up.
	Off	The system operating normally.
LOOP	Green	The Loop Prevention is enabled.
	Blinking Green	A loop has been detected and the switch blocks the looped port to stop the loop.
	Off	The Loop Prevention is disabled.
POWER	Green	The switch is powered on.
	Off	The switch is not receiving power.

### LEDs for the 10/100/1000Mbps Ports

The LEDs on port 1 to port 8 on the GS910/10XST switch, port 1 to port 16 on the GS910/18XST switch, and port 1 to port 24 on the GS910/26XST switch display Link/Activity and Speed and Loop Prevention status on each port. See Figure 8 on page 20.

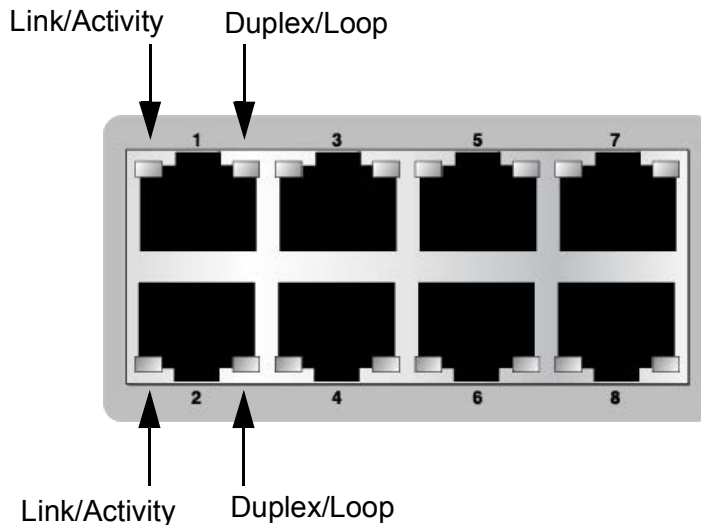


Figure 8. LEDs on 10/100/1000Mbps Ports

Table 5 describes the switch LEDs.

Table 5. 10/100/1000Mbps Port LEDs

LED	State	Description
Link/Activity	Green	The port has established a link to a network device at 1Gbps speed.
	Blinking Green	The port is transmitting or receiving frames at 1Gbps speed.
	Amber	The port has established a link to a network device at 10M or 100Mbps speed.
	Blinking Amber	The port is transmitting or receiving frames at 10M or 100Mbps speed.
	Off	The port has not established a link with a network device.
Duplex/Port Loop	Green	The port is operating in full duplex mode.
	Amber	The port is operating in half duplex mode.
	Blinking Green	A loop is detected while the port is operating at 1Gbps. The switch blocks the looped port to stop the loop.
	Blinking Amber	A loop is detected while the port is operating at 10M or 100Mbps. The switch blocks the looped port to stop the loop.
	Off	No link is established at the port.

### LEDs for the 100M/1G/2.5G/5G/10Gbps Uplink Port

The LEDs on port 9 on the GS910/10XST switch, port 17 on the GS910/18XST switch, and port 25 on the GS910/26XST switch display port status. The LED at the left top corner of the port indicates the link/activity; the LED on the right top corner indicates the duplex mode and collision occurrence. See Figure 9.

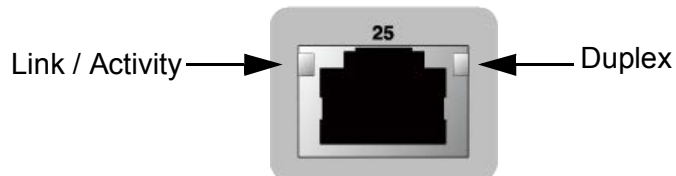


Figure 9. LEDs on 100M/1G/2.5G/5G/10Gbps Port

Table 6 describes the switch LEDs.

Table 6. 100M/1G/2.5G/5G/10Gbps Port LEDs

LED	State	Description
Link/Activity	Green	The port has established a link to a network device at 2.5G, 5G, or 10Gbps speed.
	Blinking Green	The port is transmitting or receiving frames at 2.5G, 5G, or 10Gbps speed.
	Amber	The port has established a link to a network device at 100Mbps or 1Gbps speed.
	Blinking Amber	The port is transmitting or receiving frames at 100Mbps or 1Gbps speed.
	Off	No link is established.
Duplex	Green	The port is operating in full duplex mode.
	Off	No link is established.

### LED for the SFP/SFP+ Uplink Port

The LED next to the SFP/SFP+ slot displays link status for port 10 on the GS910/10XST switch, port 18 on the GS910/18XST switch, or port 26 on the GS910/26XST switch. See Figure 10.

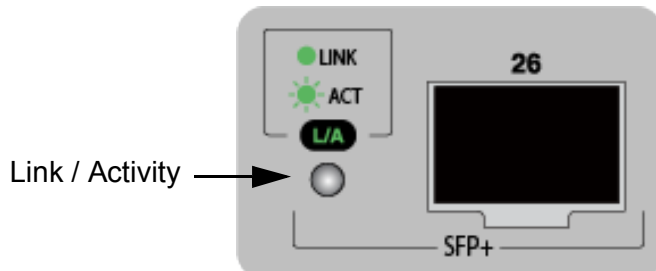


Figure 10. LED on SFP/SFP+ Port

Table 7 describes the LED for the SFP/SFP+ port.

Table 7. SFP/SFP+ Port LEDs

LED	State	Description
Link/Activity	Green	The port has established a link to a network device at 1Gbps or 10Gbps speed.
	Blinking Green	The port is transmitting or receiving frames at 1Gbps or 10Gbps speed.
	Off	No link is established.

### DIP Switches

The switch has two DIP switches on the front panel. You can turn on or off Loop Prevention and Energy Efficient Ethernet (EEE). See Figure 11.

When the DIP switch is in the up position, a function is enabled; the DIP switch is in the down position, the function is disabled.

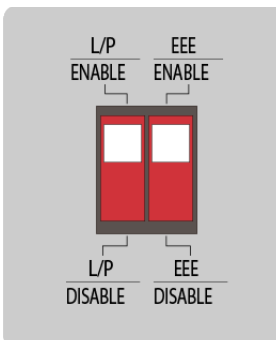


Figure 11. DIP Switches

---

**Note**

Loop Prevention and EEE are only effective on the 10/100/1000Mbps ports. Enabling or disabling these functions using the DIP switches does not affect any operations on the 100M/1G/2.5G/5G/10Gbps and SFP/SFP+ uplink ports.

---

**Power Connector**

The switch has a single AC power supply socket on the back panel. Use the power adapter that came with the switch.

To power ON or OFF the switch, connect or disconnect the power cord.

## Loop Prevention

---

The GS910/XST series switch is equipped with Loop Prevention, a feature that detects loops and blocks ports in order to reduce negative effects on the local network while keeping connectivity of devices. Loops in Ethernet networks can cause broadcast storms that consume network bandwidth and reduce network performance.

When Loop Prevention is enabled, the switch sends Loop Prevention frames periodically and detects a loop in the LAN when a port receives the Loop Prevention frame sent by the port itself. Then, the switch applies the loop prevention algorithm to block ports to relieve the loop.

When the switch detects a loop and blocks a port, the following actions are taken:

- ❑ The Loop LED starts blinking.
- ❑ The LED of the blocked port starts blinking.

### Root Switch

In a topology with multiple GS910/XST series switches, they elect a root switch when Loop Prevention is enabled on all the switches. Initially, these switches are all root switches. They send Loop Prevention frames and elect the root switch by comparing their switch priorities. The switch with the highest switch priority becomes the root switch. When multiple switches have the same highest switch priority, the switch with the lowest MAC address becomes the root switch.

### Non-root Switch

The switches, which are not selected as the root switch, are non-root switches. The root switch sends Loop Prevention frames from its ports every two seconds. A non-root switch updates the Loop Prevention frames and forwards them. A non-root switch also maintains a timer for each port and sets a timer to 16 seconds. When receiving a Loop Prevention frame at a port, a non-root switch refreshes the timer of the port. When all timers of the non-root switch reach zero, the non-root switch changes itself to a root switch and sends Loop Prevention frames.



### Examples with Multiple Loop Prevention Switches

In examples shown in Figure 12, multiple GS910/XST series switches form links and all switches are Loop Prevention enabled. Switch C has a lower MAC address than Switch A and Switch B; Switch B has a lower MAC address than Switch A. First, these switches elect a root switch by comparing the MAC addresses. In cases 1 and 2, Switch B is elected as a root switch; in case 3, Switch C is elected as a root switch. Then the root switch initiates Loop Prevention frames and non-root switches update the frames and forward them. When detecting a loop, the root switch runs the Loop Prevention algorithm to decide which port to block, and blocks a port or ports to relieve the loop.

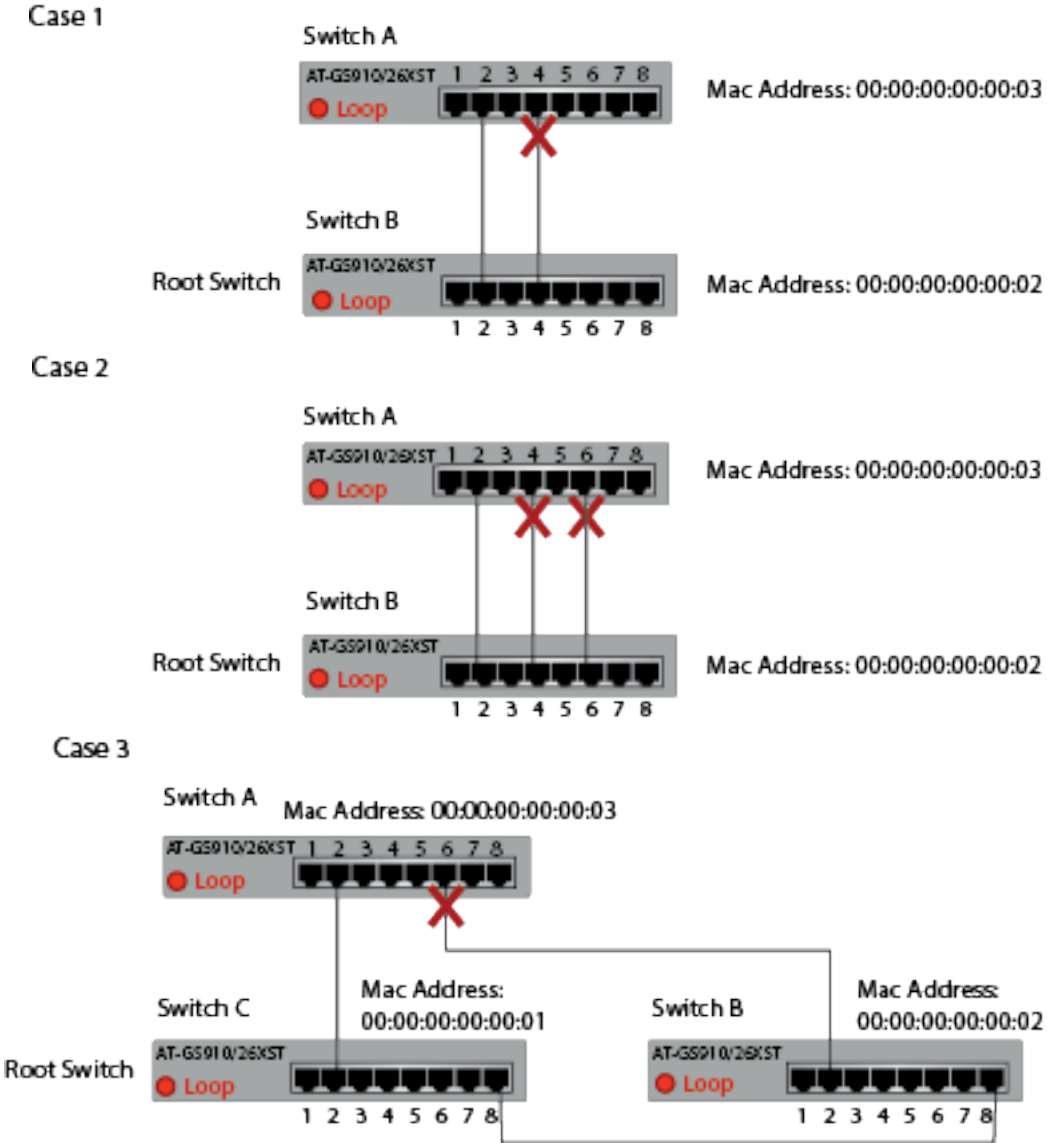


Figure 12. Multiple GS910/XST Series Switches for Loop Prevention

### Examples with Loop Prevention and Regular Switches

In examples shown in Figure 13, the GS910/XST series switch and a regular switch form links. When Loop Prevention is enabled, the GS910/XST series switch sends Loop Prevention frames. When detecting a loop, the switch blocks a port or ports except the port with the smallest number.

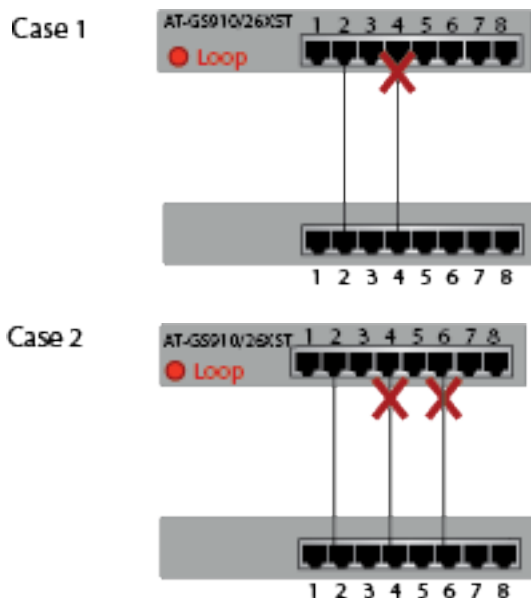


Figure 13. GS910/XST Series and Regular Switches for Loop Prevention - Case 1 and Case 2

In an example shown in Figure 14, the GS910/XST series switch and a regular switch form a link. The regular switch is causing a loop. When receiving a Loop Prevention frame, the GS910/XST series switch blocks its port.

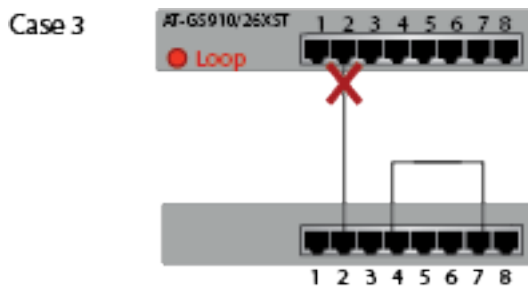


Figure 14. GS910/XST Series and Regular Switch for Loop Prevention - Case 3

## Examples within a Loop Prevention Switch

In examples shown in Figure 15, the ports of the GS910/XST series switch are connected. When Loop Prevention is enabled, the switch blocks the port with the higher port number than the link partner port.

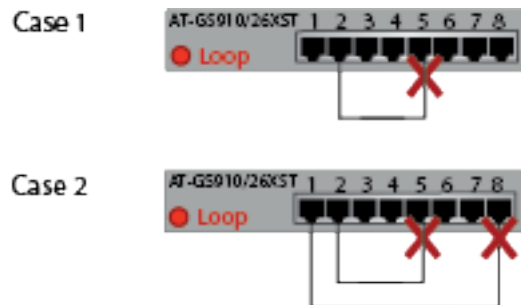


Figure 15. GS910/XST Series Switch with Loop Prevention

## Guidelines for Loop Prevention

Here are guidelines for using the Loop Prevention function:

- The switch must have a unique MAC address.
- In a topology with multiple switches with Loop Prevention enabled, these switches select a root switch.
- The switch with a lower MAC address is selected as a root switch.
- Only a root switch blocks its port(s) when a loop is detected.
- A port receives Loop Prevention frames even when the port is blocked.

## Enabling Loop Protection

To enable Loop Prevention, set the Loop Prevention DIP switch on the front panel to "L/P ENABLE."

---

### Note

Enabling Loop Prevention disables Flow Control.

---

## Disabling Loop Protection

To disable Loop Prevention, set the Loop Prevention DIP switch on the front panel to "L/P DISABLE."

---

### Note

Disabling Loop Prevention enables Flow Control.

---

## **Energy Efficiency Ethernet (EEE)**

---

The GS910/XST series switches support IEEE 802.3az Energy Efficiency Ethernet (EEE) when the twisted pair ports are operating at a speed of 100Mbps or 1000Mbps. When EEE is enabled on the switch, the power consumption to keep links at these speeds is reduced during periods of low data activity.

To enable EEE, set the EEE DIP switch to "EEE ENABLE"; to disable EEE, set the EEE DIP switch to "EEE DISABLE."

## Ethernet Switching Basics

---

An Ethernet switch interconnects network devices, such as workstations, printers, routers, and other Ethernet switches, so that they can communicate with each other by sending and receiving Ethernet frames.

### Duplex Mode

Duplex mode refers to how an end node receives and transmits data. If an end node can receive or transmit data, but not both simultaneously, it is operating in half-duplex mode. If an end node can both receive and transmit data simultaneously, the end node is operating in full-duplex mode. As such an end node capable of operating in full-duplex can handle data much faster than an end node that can only operate in half-duplex mode.

The twisted pair ports on the GS910/XST series switch can operate in half- or full-duplex mode for 10/100 Mbps. They are IEEE 802.3u-compliant and use Auto-Negotiation to set the duplex mode setting for you automatically.

---

#### Note

In order for a switch port to successfully Auto-Negotiate its duplex mode with a 10 or 100 Mbps end-node, the end-node should also be configured for Auto-Negotiation. Otherwise, a duplex mode mismatch can occur. A switch port using Auto-Negotiation defaults to half-duplex if it detects that the end-node is not using Auto-Negotiation. This results in a mismatch if the end-node is operating at a fixed duplex mode of full-duplex.

---

### Store-and-Forward

The GS910/XST series switch uses store-and-forward as the method for receiving and transmitting frames. When an Ethernet frame is received on a switch port, the switch does not retransmit the frame out the destination port until it has received the entire frame and stored the frame in a port buffer. It then examines the frame to determine if it is a valid frame. Invalid frames, such as fragments or runts, are discarded by the switch. This insures that only valid frames are transmitted out the switch ports and that damaged frames are not propagated on your network.

### Backpressure and Flow Control

To maintain the orderly movement of data between the end-nodes, an Ethernet switch may periodically need to signal an end-node to stop sending data. This can occur under several circumstances. For example, if two end-nodes are operating at different speeds, the switch, while transferring data between the end-nodes, might need to instruct the faster end-node to stop transmitting data to allow the slower end-node to catch up. An example of this would be when a server operating at 100 Mbps is sending data to a workstation operating at only 10 Mbps.

How a switch signals an end-node to stop transmitting data differs depending on the duplex mode of the end-node and switch port. A twisted pair port operating in half-duplex mode stops an end-node from transmitting data by forcing a collision. A collision on an Ethernet network occurs when two end-nodes attempt to transmit data using the same data link at the same time. A collision causes an end-node to stop sending data, wait for a brief period of time, and then retransmit the same data. Once the switch is ready to receive data again, the switch stops forcing collisions. This is referred to as backpressure.

A port operating in full-duplex mode uses PAUSE frames, as specified in the IEEE 802.3x standard, to stop the transmission of data from an end-node. Whenever the switch wants an end-node to stop transmitting data, it issues this frame. The frame instructs the end-node to cease transmission for a period of time specified within the frame. The switch continues to issue PAUSE frames until it is ready again to receive data from the end-node. This is referred to as flow control.

## Chapter 2

# Installation

---

This chapter contains the following sections:

- ❑ “Reviewing Safety Precautions” on page 32
- ❑ “Selecting a Site for the Switch” on page 34
- ❑ “Unpacking the Switch” on page 36
- ❑ “Installing the Switch on a Table or Desktop” on page 37
- ❑ “Installing the Switch on a Wall” on page 39
- ❑ “Installing the Switch in an Equipment Rack” on page 41
- ❑ “Cabling Twisted Pair Ports” on page 42
- ❑ “Powering On the Switch” on page 46


## Reviewing Safety Precautions

---

Review the following safety precautions before you begin to install the switch.

---

### Note


**Important:** The  indicates that translations of the safety statement are available in the PDF document *Translated Safety Statements* posted on the Allied Telesis website at [alliedtelesis.com/support](http://alliedtelesis.com/support).

---



---

### Warning


Class 1 Laser product.  L1

---



---

### Warning


To prevent electric shock, do not remove the cover. No user-serviceable parts inside. This unit contains hazardous voltages and should only be opened by a trained and qualified technician. To avoid the possibility of electric shock, disconnect electric power to the product before connecting or disconnecting the cables.  E1

---



---

### Warning


Do not work on equipment or cables during periods of lightning activity.  E2

---



---

### Warning


Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord.  E3

---



---

### Warning


Class I Equipment. This equipment must be earthed. The power plug must be connected to a properly wired earth ground socket outlet. An improperly wired socket outlet could place hazardous voltages on accessible metal parts.  E4

---



---

### Caution

Air vents must not be blocked and must have free access to the room ambient air for cooling.  E6

---



**Warning**

Operating Temperature. This product is designed for a maximum ambient temperature of 50 degrees C. ⌘ E57

---

**Note**

All Countries: Install product in accordance with local and National Electrical Codes. ⌘ E8

---

**Warning**

An insecurely attached device on a wall may fall and the falling device may lead to damaging itself or causing injuries. ⌘ E96

---

**Warning**

Do not install the device on an unstable wall or a wall affected by vibration or impact. The device may fall and falling device may lead to damaging itself or causing injuries. ⌘ E97

---

**Warning**

Do not install the device high on a wall. The device may fall and the falling device may lead to damaging itself or causing injuries. ⌘ E98

---

**Warning**

Disconnecting the Device: If the device becomes damaged or you encounter abnormality with the device, disconnect the power plug from the AC wall outlet immediately. ⌘ E100

---

**Warning**

Use appropriate screws to attach the device and brackets to a 19-inch rack. If a device is installed insecurely in a rack, it may fall, potentially causing injuries or damage to the device. ⌘ E104

---

**Caution**

Transceivers can be damaged by static electricity. Be sure to observe all standard electrostatic discharge (ESD) precautions, such as wearing an antistatic wrist strap, to avoid damaging the devices. ⌘ E92

---

## Selecting a Site for the Switch

---

Observe the following requirements when choosing a site for the GS910/XST series switch:

- ❑ If you plan to install the switch on a table, make sure that the table is level and secured.
- ❑ If you plan to install the switch on a wall, make sure that the wall is straight and secured.
- ❑ If you plan to install the switch in an equipment rack, make sure that the rack is safely secured and it will not tip over. Devices in a rack should be installed starting at the bottom, with the heavier devices near the bottom of the rack.
- ❑ The power outlet for the switch should be located near the unit and should be easily accessible.
- ❑ The site should provide for easy access to the ports on the back of the switch and the LEDs on the front of the switch should be easily viewed.
- ❑ To allow proper cooling off the switch, air flow around the unit and through its vents on the side should not be restricted.
- ❑ Do not place objects on top of the switch.
- ❑ Do not expose the switch to moisture or water.
- ❑ Ensure that the site is a dust-free environment.
- ❑ Use dedicated power circuits or power conditioners to supply reliable electrical power to the network devices.
- ❑ Table 8 contains the cabling specifications for the twisted pair ports.

Table 8. Twisted Pair Cabling and Distances

Speed	Type of Cable	Maximum Operating Distance
10 Mbps	Category 3 or better unshielded cabling	100 m (328 ft)
100 Mbps	Standard TIA/EIA 568A-compliant Category 5 or TIA/EIA 568B-compliant Enhanced Category 5 (Cat5e) unshielded cabling	
1Gbps		
2.5Gbps		
5Gbps	Standard TIA/EIA 568C-compliant Category 6 unshielded cabling	
10Gbps	Standard TIA/EIA 568C-compliant Category 6a unshielded cabling	

---

**Note**

The twisted pair ports on the switch feature Auto-MDI when operating at either 10 or 100 Mbps. Each port is individually configured as MDI or MDI-X when connected to an end-node. Consequently, you can use a straight-through twisted pair cable when connecting any network device to a twisted pair port on the switch. A port operating at 10 or 100 Mbps uses four of the eight strands in twisted pair wiring.

---

## Unpacking the Switch

To unpack the GS910/XST series switch, perform the following procedure:

1. Remove all components from the shipping package.

---

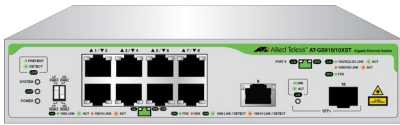
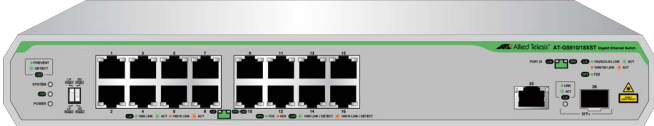


**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Place the switch on a level, secure surface.
3. Verify that the hardware components are included in your switch package. Table 9 shows a list of the components.

Table 9. Contents in the Shipping Box

Item	Image
One GS910/XST series switch	<p data-bbox="743 940 976 968">GS910/10XST Switch</p>  <p data-bbox="1036 1104 1073 1131">Or</p> <p data-bbox="743 1136 976 1163">GS910/18XST Switch</p>  <p data-bbox="1036 1312 1073 1339">Or</p> <p data-bbox="743 1352 976 1379">GS910/26XST Switch</p> 
One AC power cord	 <p data-bbox="1159 1766 1187 1780">1570</p>

4. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

## Installing the Switch on a Table or Desktop

Before installing the GS910/XST series switch on a table or desktop, review the guidelines.

### Guidelines for Installing the Switch on a Table or Desktop

Here are guidelines for installing the switch on a table or desktop:

- ❑ The GS910/XST series switch must be installed on a table or desktop with the bottom on the table or desktop in order for the switch to have proper air flow. Figure 16 shows the correct orientation.



Figure 16. Correct Installation on a Table and Desktop

The switch with the top on the table or desktop is an incorrect installation as shown in Figure 17.

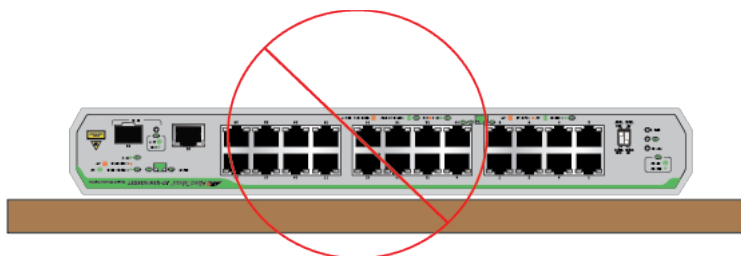


Figure 17. Correct Installation on a Table and Desktop

- ❑ Installing the GS910/18XST or GS910/26XST switch upright as shown in Figure 18 is incorrect.

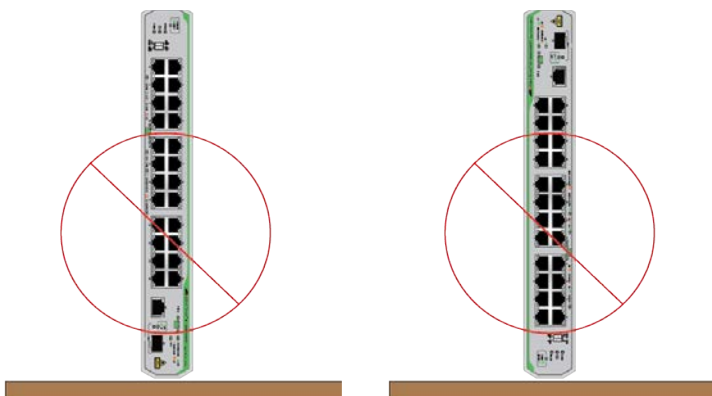


Figure 18. Incorrect Installations For GS910/18XST and GS910/26XST

- ❑ The GS910/10XST switch can be installed upright on the flat surface as shown in Figure 19. You must use the STND-03 Stand Kit to install the switch.

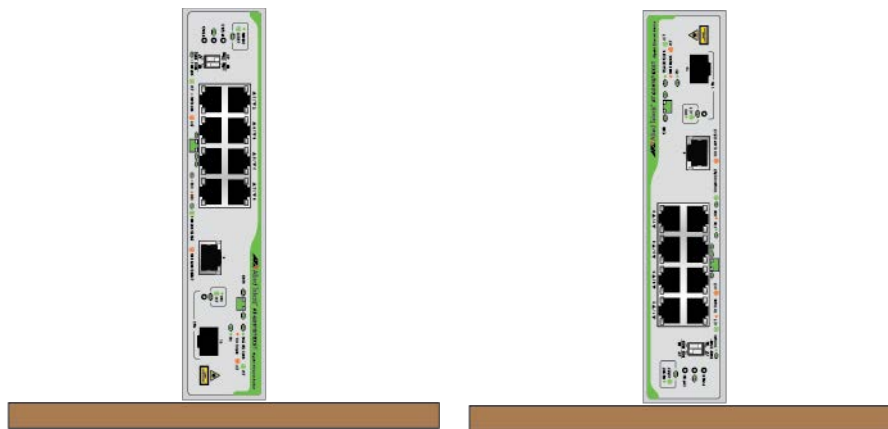


Figure 19. Vertical Installation Options for the GS910/10XST Switch

---

**Note**

The STND-03 Stand Kit must be purchased separately. For installation instructions, see “*The STND-03 Stand Kit Installation Guide.*”

---

**Installing the  
Switch Flat on a  
Table or Desktop**

To install the switch flat on a table or desktop, perform the following procedure:

1. Remove all the items from the packaging.
2. Store the packaging material in a safe place.

In the event a problem occurs and you need to return the unit, use as much of the original shipping material as possible.

3. Place the switch on a flat and secure surface, leaving ample space around the switch for ventilation.
4. Proceed to “Cabling Twisted Pair Ports” on page 42 for the cable installation.

## Installing the Switch on a Wall

---

The GS910/XST series switch can be mounted on a wall using a wall-mount bracket kit.

---

### Note

To install the GS910/XST series switch on a wall, you must purchase a wall-mount bracket kit separately.

---

### Wall-Mount Bracket Kits

Figure 10 shows wall-mount bracket kit that each GS910/XST series switch uses.

Table 10. Wall-mount Kit for the GS910/XST Series Switch

Model	Wall Mount Kit	Installation Instructions
GS910/10XST	BRKT-J24	Chapter 3, "Wall Installation Using the BRKT-J22 Kit" on page 47
GS910/18XST	BRKT-J22	Chapter 3, "Wall Installation Using the BRKT-J22 Kit" on page 47
GS910/26XST		

### Guidelines for Installing the Switch on a Wall

Before planning to install the switch on a wall, review the following guidelines:



#### Warning

An insecurely attached device on a wall may fall and the falling device may lead to damaging itself or causing injuries. ⚡ E96

---



#### Warning

Do not install the device on an unstable wall or a wall affected by vibration or impact. The device may fall and falling device may lead to damaging itself or causing injuries. ⚡ E97

---



#### Warning

Do not install the device high on a wall. The device may fall and the falling device may lead to damaging itself or causing injuries. ⚡ E98

---

### Note

Installing the device on a wall may damage the wall paint.

---

- ❑ The GS910/XST series switch must be mounted with the bottom of the switch on the wall.
- ❑ The switch must be installed either horizontally or vertically in one of the orientations as shown in Figure 20.

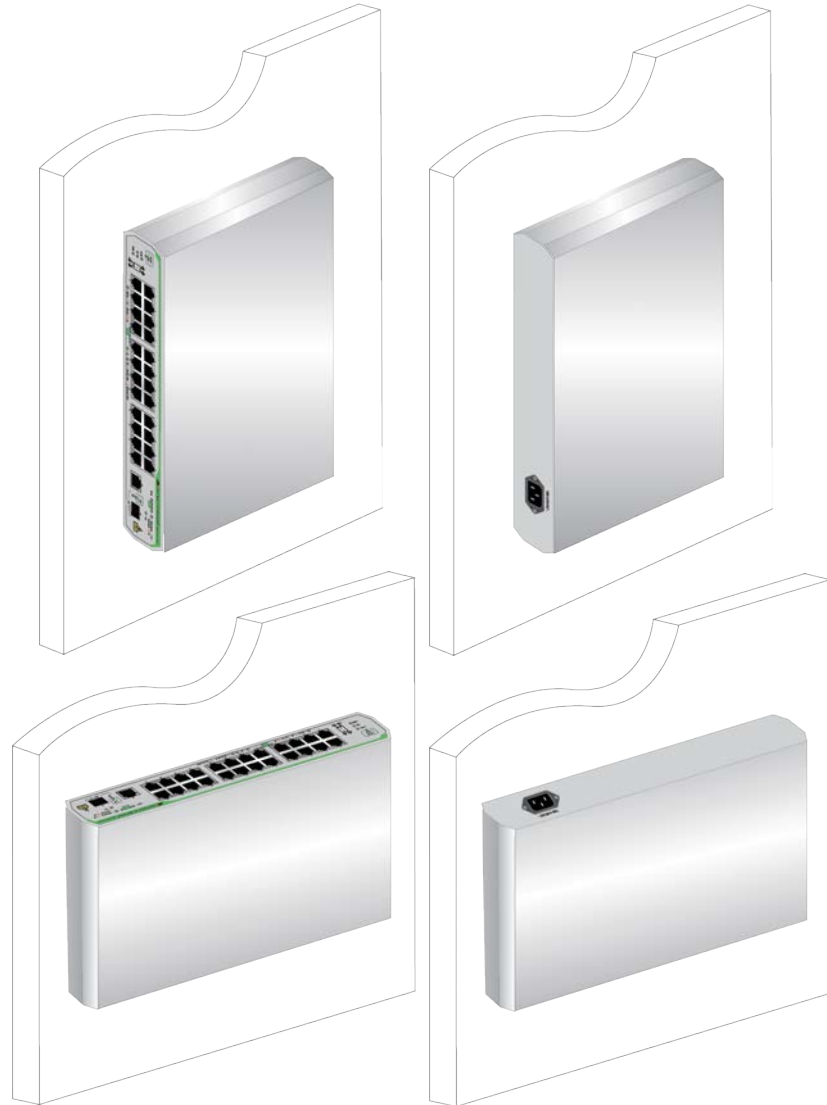


Figure 20. Correct Wall Installations



## Installing the Switch in an Equipment Rack

---

The GS910/XST series switch can be mounted on a 19-inch equipment rack using a rack-mount kit.

---

### Note

To install the GS910/XST series switch, you must purchase a rack mount kit separately.

---

**Rack Mount Kits** Figure 10 shows rack-mount kit that each GS910/XST series switch uses.

Table 11. Rack-mount Kit for the GS910/XST Series Switch

Model	Rack Mount Kit	Installation Instructions
GS910/10XST	RKMT-J14	Chapter 6, "Rack Installation Using the RKMT-J14 Kit" on page 67
	RKMT-J15	Chapter 7, "Rack Installation Using the RKMT-J15 Kit" on page 71
GS910/18XST	RKMT-J09	Chapter 5, "Rack Installation Using the RKMT-J09 Kit" on page 63
GS910/26XST		

## Cabling Twisted Pair Ports

---

After installing the GS910/XST series switch, connect twisted pair cables or/and an SFP transceiver to the ports on the switch. To install an SFP transceiver, see "Installing an SFP Transceiver" on page 43.

### **Guidelines to Connecting Twisted Pair Cables**

When connecting a twisted pair cable to a port, observe the following guidelines:

- ❑ An RJ-45 connector should fit snugly into the port on the switch. The tab on the connector should lock the connector into place.
- ❑ The ports on the switch are auto-MDI/MDI-X. You can use a straight-through twisted pair cable to connect any type of network device to a port on the switch.
- ❑ The network should not contain data loops, which can adversely affect network performance. A data loop exists when two or more network devices can communicate with each other over more than one data path.

## Installing an SFP Transceiver

---

Before installing an SFP transceiver in the switch, review the following guidelines.

### Guidelines to Handling SFP Transceivers

Here is a list of guidelines to installing an SFP transceiver:

- ❑ The switch supports 1G and 10G speed on the SFP/SFP+ slot.
- ❑ For a list of supported SFP transceivers, see Table 3 on page 17.
- ❑ The transceivers are hot-swappable. You can install them while the switch is powered on.
- ❑ The operational specifications and fiber optic cable requirements of the transceivers are provided in the documents included with the devices.
- ❑ You should install a transceiver before connecting its fiber optic cable.
- ❑ Fiber optic transceivers are dust sensitive. When a fiber optic cable is not installed, keep the dust plug on the SFP transceiver. When you remove the dust plug from the SFP transceiver, store it for the future use.
- ❑ Unnecessary removal and insertion of a transceiver can lead to premature failure.



#### Caution

Transceivers can be damaged by static electricity. Be sure to observe all standard electrostatic discharge (ESD) precautions, such as wearing an antistatic wrist strap, to avoid damaging the devices. ⚡ E92

---

### Installing an SFP Transceiver

To install an SFP transceiver, perform the following procedure:

1. Remove an SFP transceiver from its shipping container and store the packaging material in a safe location.
2. Position the SFP transceiver and slide it into port 26 until it clicks into place. See Figure 21 on page 44.

---

#### Note

The installation instructions show an SFP transceiver with an LC connector as an example. For a list of SFP transceivers that the switch supports, see Table 3 on page 17.

---



Figure 21. Installing an SFP Transceiver

3. Verify the position of the handle of the transceiver.

The handle should be in the upright position as shown in Figure 22.



Figure 22. Positioning the SFP Handle Upright

4. Connect the fiber optic cable to the transceiver as shown in Figure 23 on page 45.

The connector on the cable should fit snugly into the port and the tab should lock the connector into place.

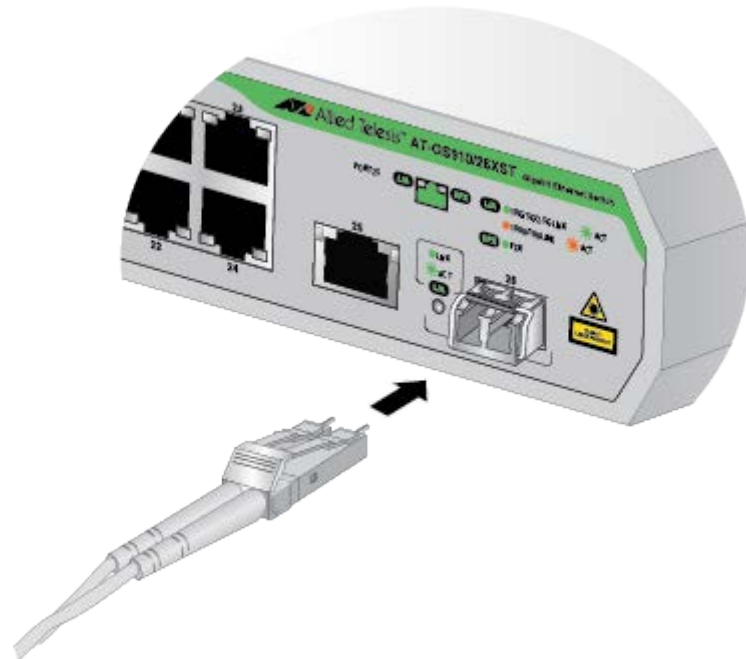


Figure 23. Connecting a Fiber Optic Cable to the SFP Transceiver

## Powering On the Switch

---

To power on the switch, perform the following procedure:

1. Before powering on the switch, review the information in “Power Specifications” on page 79.



### Warning

Power cord is used as a disconnection device. To de-energize equipment, disconnect the power cord. ⚡ E3

---

### Note

Pluggable Equipment. The socket outlet shall be installed near the equipment and shall be easily accessible. ⚡ E5

---

2. Connect the AC power cord to the AC power connector on the rear panel. See Figure 24.

GS910/XST Series 10 Gigabit Ethernet Unmanaged Switch Installation and User's Guide

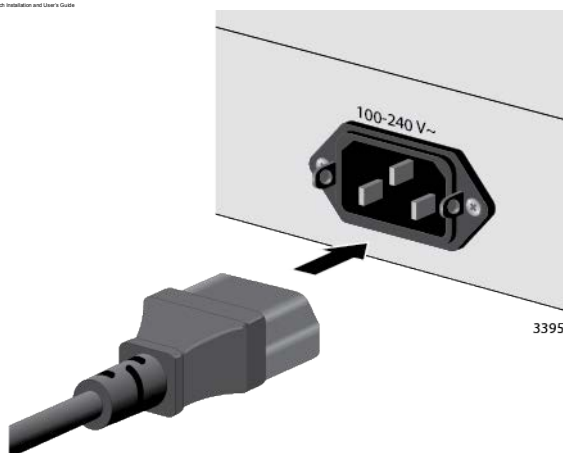


Figure 24. Connecting the AC Power Cord

3. Connect the power cord to an appropriate AC power source.
4. Verify that the POWER LED is green. If the LED is OFF, see Chapter 8, “Troubleshooting” on page 77.

The switch is now powered on and ready for network operations.



### Warning

Disconnecting the Device: If the device becomes damaged or you encounter abnormality with the device, disconnect the power plug from the AC wall outlet immediately. ⚡ E100

---

## Chapter 3

# Wall Installation Using the BRKT-J22 Kit

---

This chapter explains the procedures how to install a switch on a wall using the BRKT-J22 wall mount kit.

It contains the following sections:

- “Unpacking the BRKT-J22 Wall Mount Kit” on page 48
- “Installing a Switch Using the BRKT-J22 Wall Mount Kit” on page 49

## Unpacking the BRKT-J22 Wall Mount Kit

To unpack the BRKT-J22 wall mount kit, perform the following procedure:

1. Remove all components from the shipping package.

---

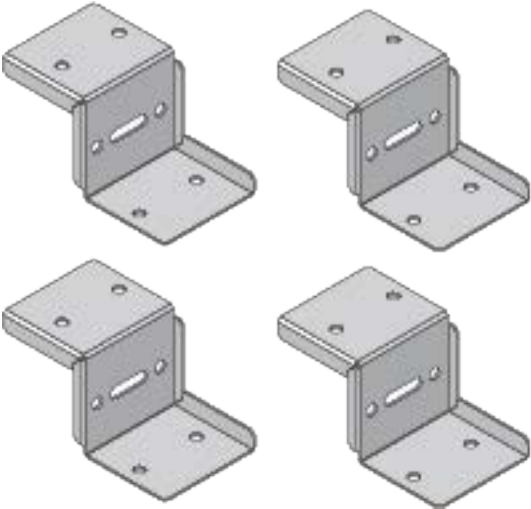
**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Verify that four brackets are included in your wall mount package listed in Table 12.

Table 12. Components in the BRKT-J22 Wall Mount Kit

	Components
Four brackets	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.



## Installing a Switch Using the BRKT-J22 Wall Mount Kit

---

This section shows you steps to install a switch on a wall using the BRKT-J22 kit.

### What to Prepare

Before installing a switch on a wall, make sure that the following items are ready.

- One BRKT-J22 wall mount kit
- Eight 4mm x 32mm wood screws for wall mounting (not included)
- Eight plastic anchors for the wood screws (not included)
- Phillips-head screwdriver
- Pencil
- Drill

---

#### Note

You must provide screws and plastic anchors to hold the brackets securely to the wall, a Phillips-head screw driver, and a pencil, and a drill.

---

### Installing a Switch with the Front Panel Facing Sideways

To install the switch on a wall with the front panel facing sideways, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32.
2. Orient the brackets against the sides of the switch.

3. Have another person hold the switch with the brackets at the location where the switch is to be installed, while use a pencil to mark the wall at the locations of the four holes in the brackets. See Figure 25.

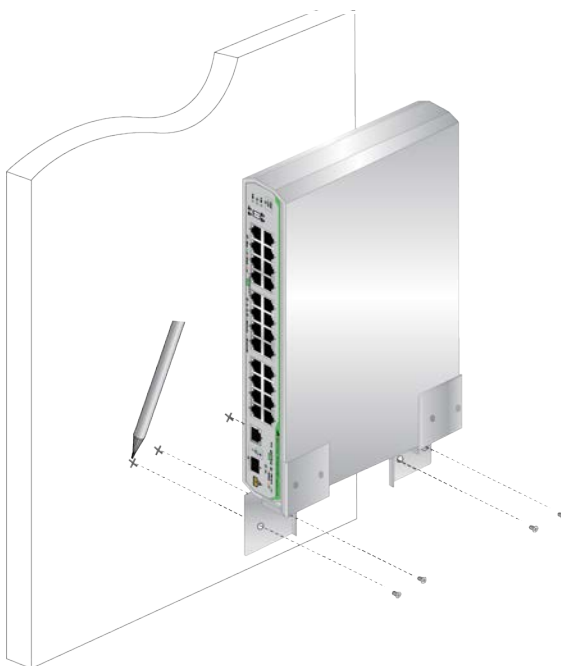


Figure 25. Marking the Screw Hole Locations

4. Pre-drill the marked locations on the wall marked in Step 3.
5. Install the four plastic anchors into the wall in the holes.
6. Position two brackets on the wall and drive screws through the holes to attach the brackets on the wall. See Figure 26.

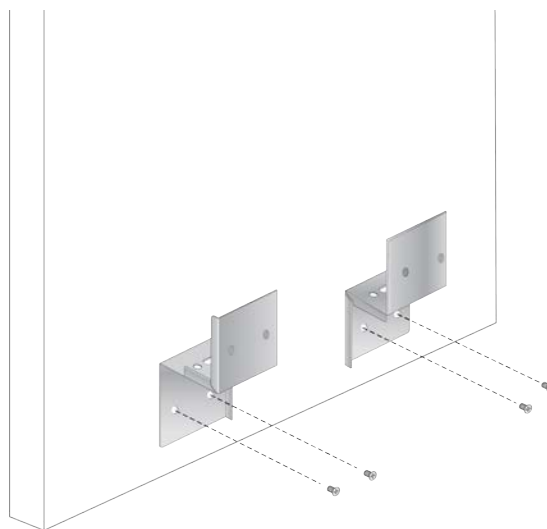


Figure 26. Driving the Screws through the Holes

7. Make sure that the two brackets are installed securely.
8. Slide the switch into the brackets on the wall as shown in Figure 27.

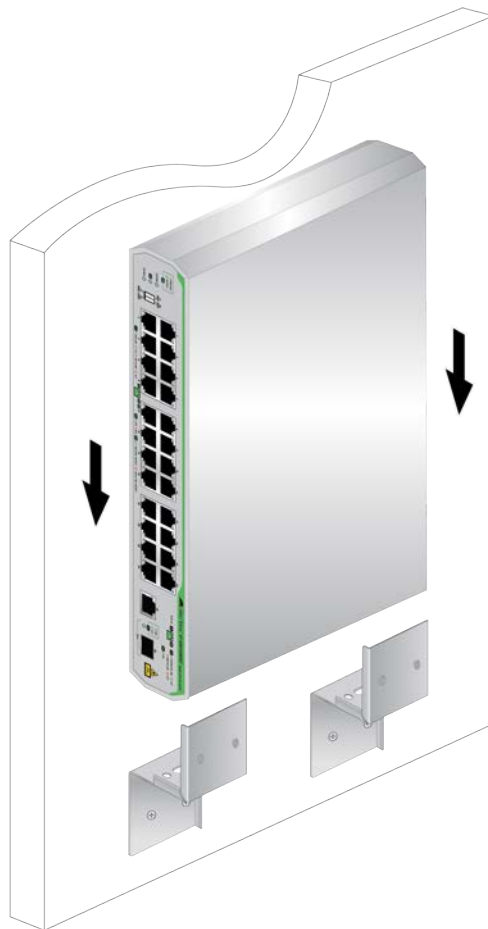


Figure 27. Placing the Switch into the Brackets

9. Position the two brackets on top of the switch and use a pencil to mark the wall with the locations of the four holes in the brackets. See Figure 28.



Figure 28. Marking the Screw Hole Locations for the Top Brackets

10. Remove the two brackets from the top of the switch.
11. Pre-drill the marked locations on the wall at the locations marked in Step 9.
12. Install the four plastic anchors into the wall in the holes.

13. Place the two brackets back on the top of the switch and drive screws through the holes to attach the brackets on the wall. See Figure 29.

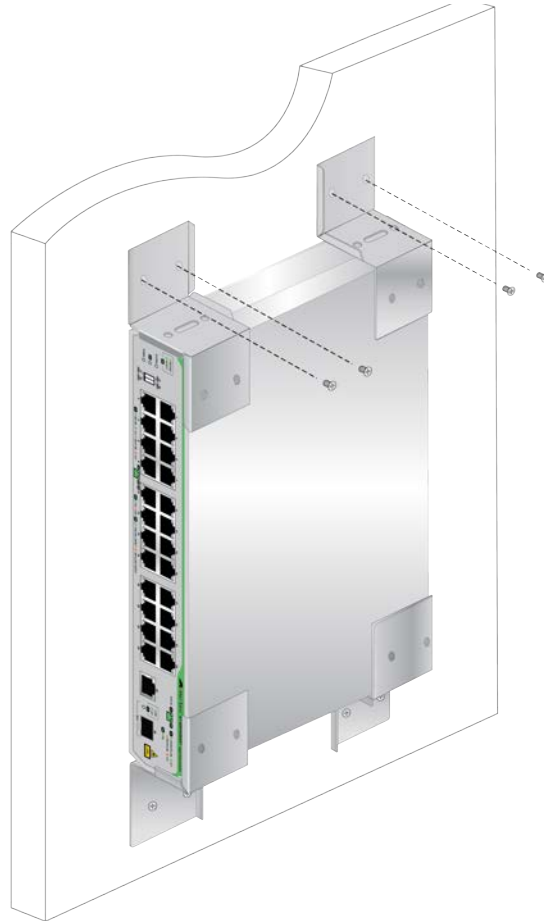


Figure 29. Securing the Top Brackets to the Wall

14. Make sure that the brackets are installed securely.
15. Proceed to “Cabling Twisted Pair Ports” on page 42.

## Installing a Switch Facing Up

To install the switch on a wall with the front panel facing up, install the brackets to support the switch from the sides as shown in Figure 30.

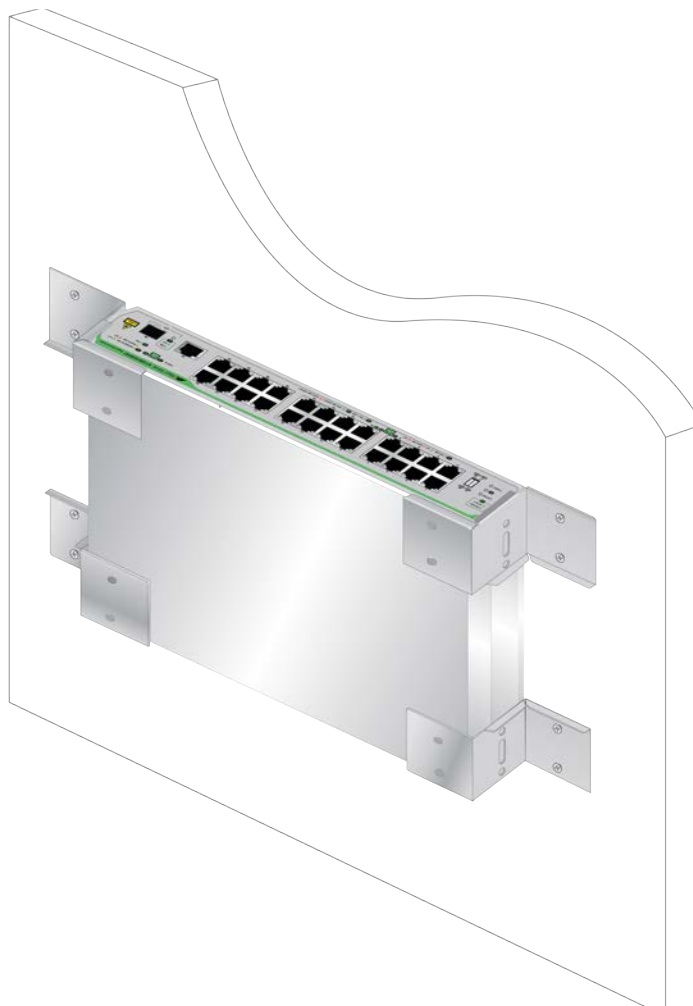


Figure 30. Installing the Brackets to Support the Switch

To install the switch on a wall with the front panel facing up, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32.
2. Orient the brackets against the sides of the switch.
3. Have another person hold the switch with the brackets at the location where the switch is to be installed, while use a pencil to mark the wall at the locations of the four holes in the brackets.
4. Pre-drill the marked locations on the wall marked in Step 3.
5. Install the four plastic anchors into the wall in the holes.

6. Position two brackets on the wall and drive screws through the holes to attach the brackets on the wall.
7. Make sure that the two brackets are installed securely.
8. Slide the switch into the brackets on the wall.
9. Position the two brackets on top sides of the switch and use a pencil to mark the wall with the locations of the four holes in the brackets.
10. Remove the two brackets from the top of the switch.
11. Pre-drill the marked locations on the wall at the locations marked in Step 9.
12. Install the four plastic anchors into the wall in the holes.
13. Place the two brackets back on the top sides of the switch and drive screws through the holes to attach the brackets on the wall.
14. Proceed to “Cabling Twisted Pair Ports” on page 42.





## Chapter 4

# Wall Installation Using the BRKT-J24 Kit

---

This chapter contains the follows sections:

- “Unpacking the BRKT-J24 Wall Mount Kit” on page 58
- “Installing the Switch on a Wall Using the BRKT-J24 Brackets” on page 59

## Unpacking the BRKT-J24 Wall Mount Kit

To unpack the BRKT-J24 wall mount kit, perform the following procedure:

1. Remove all components from the shipping package.

---

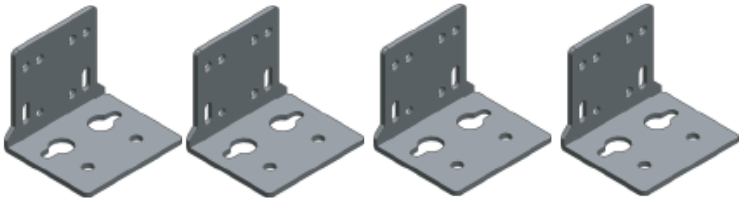

**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Verify that One pair of brackets is included in your wall mount package listed in Table 13.

Table 13. Components in the BRKT-J24 Wall Mount Kit

	<b>Components</b>
Four brackets	
16 M4x6mm screws	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

## Installing the Switch on a Wall Using the BRKT-J24 Brackets

---

The switch can be mounted on a wall using the BRKT-J24 wall mount bracket kit.

### What to Prepare for Wall Installation

You need the following items to install the switch on a wall:

- Four BRKT-J24 brackets
- 16 M4mm x 6mm screws to attach the brackets to the switch (included in the BRKT-J24 kit)
- Eight 4mm x 32mm wood screws for wall mounting (not included)
- Phillips-head screwdriver
- Pencil
- Drill

---

#### Note

You must provide screws to attach the brackets to the switch, a cross-head screwdriver, a pencil, and a drill.

---

### Installing the Switch on a Wall

To install the switch on a wall, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32 and “Selecting a Site for the Switch” on page 34 before performing this procedure.
2. Place all the items from the packaging on a work table.
3. Attach each bracket to the switch using four screws as shown in Figure 31 on page 60.

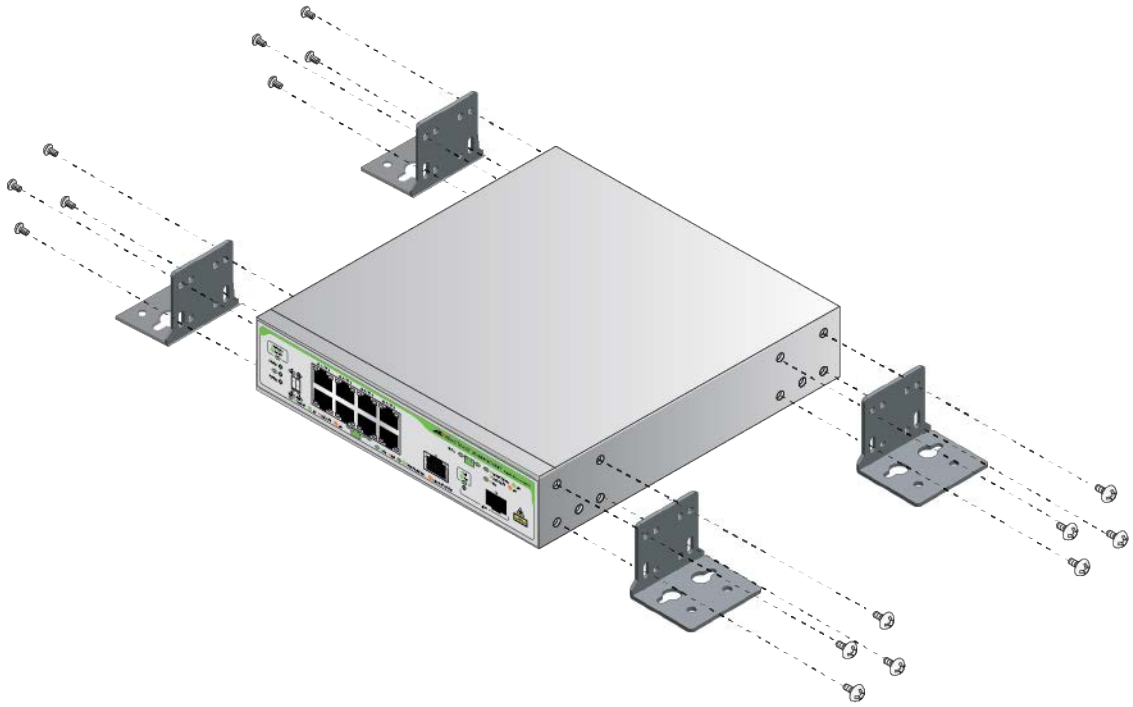


Figure 31. Attaching the Wall Brackets

4. While another person holds the switch at the wall location, mark the holes with a pencil.
5. Pre-drill the marked holes.
6. While another person holds the switch at the wall location, secure the switch to the wall using the eight wall mounting screws. See Figure 32 on page 61.

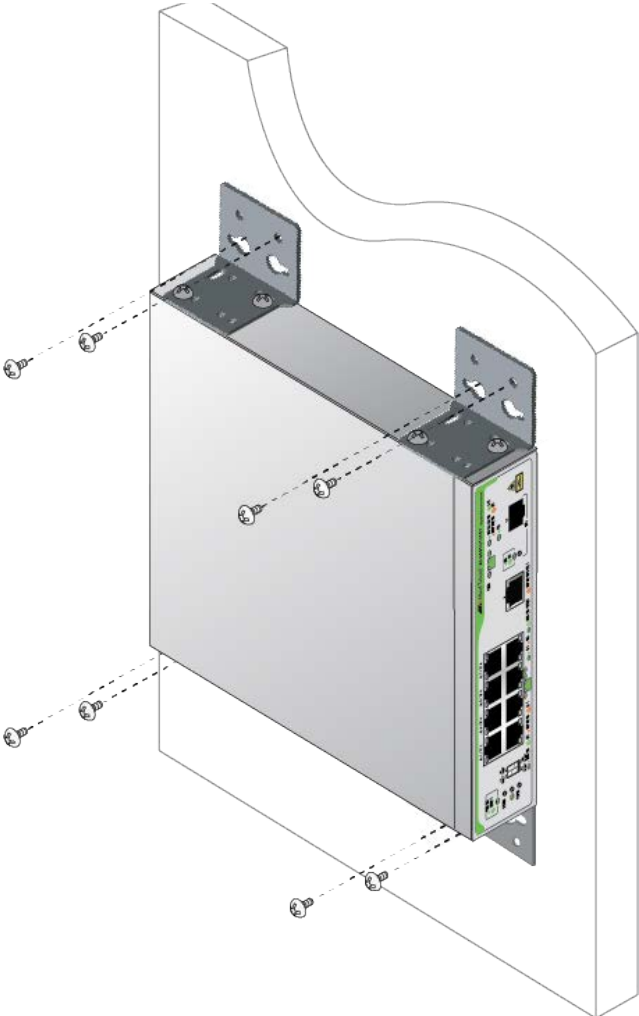


Figure 32. Installing the Switch on the Wall



## Chapter 5

# Rack Installation Using the RKMT-J09 Kit

---

This chapter explains the procedures how to install a switch in a 19-inch equipment rack using the RKMT-J09 rack mount kit.

It contains the following sections:

- “Unpacking the RKMT-J09 Rack Mount Kit” on page 64
- “Installing a Switch Using the RKMT-J09 Rack Mount Kit” on page 65

## Unpacking the RKMT-J09 Rack Mount Kit

To unpack the RKMT-J09 rack mount kit, perform the following procedure:

1. Remove all components from the shipping package.

---

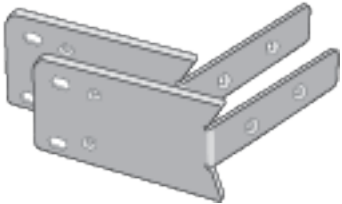


**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Verify that all hardware components are included in your rack mount package listed in Table 14.

Table 14. Components in the RKMT-J09 Rack Mount Kit

	Components
Two Brackets	
Two Handles	
Eight M3x6mm screws	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.



## Installing a Switch Using the RKMT-J09 Rack Mount Kit

This section shows you steps to install a switch in an equipment rack using the RKMT-J09 kit.

### What to Prepare

Before installing a switch to an equipment rack, make sure that the following items are ready.

- ❑ An RKMT-J09 rack mount kit
- ❑ 19-inch equipment rack
- ❑ Four screws for the equipment rack
- ❑ Phillips-head screw driver

### Installing a Switch Using the Rack Mount Kit

To install a switch in a rack using the RKMT-J09 rack mount kit, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32.
2. Place all the items from the packaging on a work table.
3. Attach the handle to bracket with M3x6mm screws using a Phillip-head screw driver as shown in Figure 33.

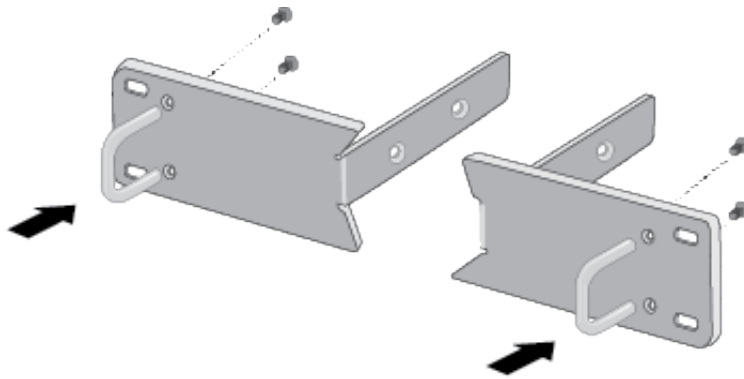


Figure 33. Attaching Handles to Brackets

4. Attach the bracket units to the switch with M3x6mm screws using a Phillip-head screw driver as shown in Figure 34 on page 66.

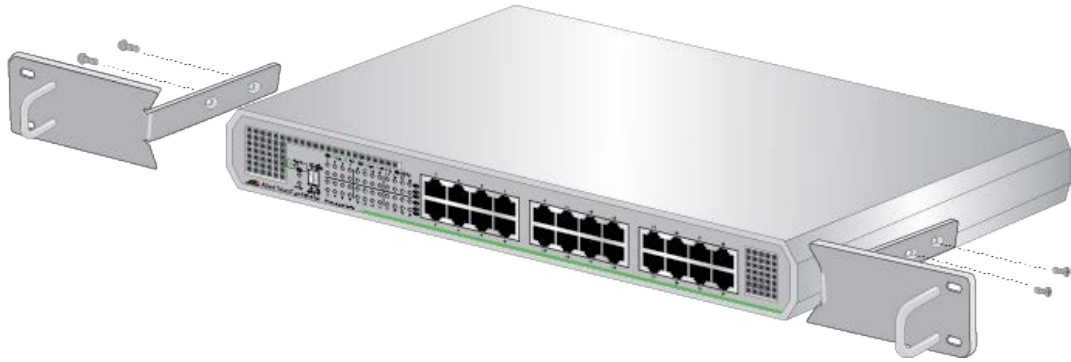


Figure 34. Attaching the Plates to the Switch

5. Mount the switch in a standard 19-inch equipment rack with four equipment rack screws as shown in Figure 35.

---

**Note**

The equipment rack screws are not included in the RKMT-J09 rack mount kit.

---



Figure 35. Attaching the Switch to Equipment Rack

## Chapter 6

# Rack Installation Using the RKMT-J14 Kit

---

This chapter contains the follows sections:

- “Unpacking the RKMT-J14 Rack Mount Kit” on page 68
- “Installing a Switch Using the RKMT-J14 Rack Mount Kit” on page 69

## Unpacking the RKMT-J14 Rack Mount Kit

To unpack the RKMT-J14 rack mount kit, perform the following procedure:

1. Remove all components from the shipping package.

---

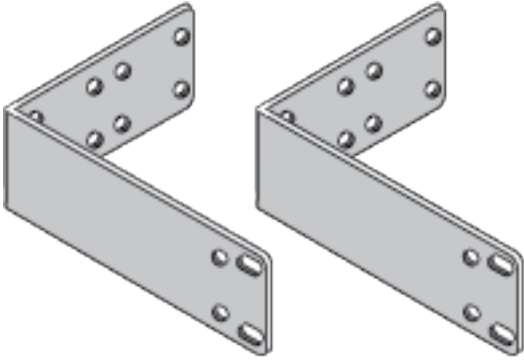



**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Verify that all hardware components are included in your rack mount package listed in Table 15.

Table 15. Components in the RKMT-J14 Rack Mount Kit

	Components
Two Brackets	
Two Handles	
Four M3x6mm screws for handles	
Eight M4x6mm screws	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.

## Installing a Switch Using the RKMT-J14 Rack Mount Kit

This section shows you steps to install a switch in an equipment rack using the RKMT-J14 kit.

### What to Prepare

Before installing a switch to an equipment rack, make sure that the following items are ready.

- ❑ Two RKMT-J14 rack mount brackets
- ❑ Two RKMT-J14 handles
- ❑ Four M3x6mm screws
- ❑ Eight M4x6mm screws
- ❑ Four screws for the equipment rack (not included)
- ❑ Phillips-head screw driver (not included)

### Installing a Switch Using the Rack Mount Kit

To install a switch in a rack using the RKMT-J14 rack mount kit, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32 and “Selecting a Site for the Switch” on page 34 before performing this procedure.
2. Place all the items from the packaging on a work table.
3. Attach the handles to the brackets as shown in Figure 36.

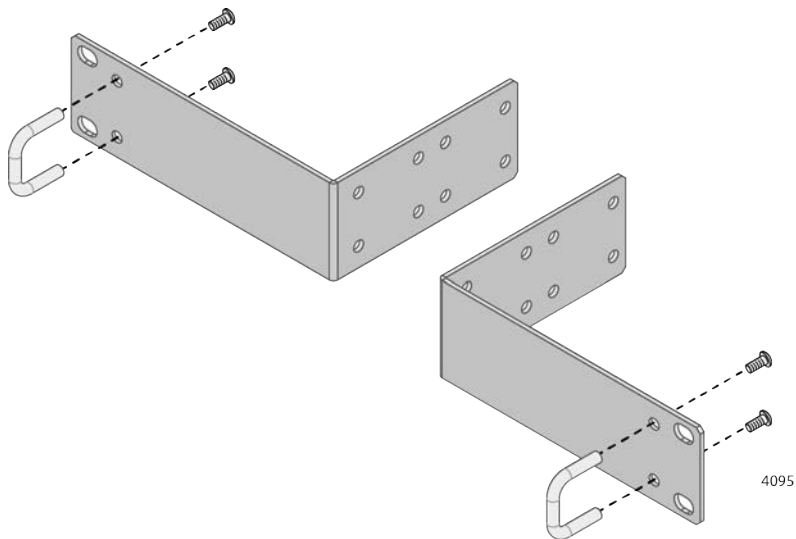


Figure 36. Attaching the Handles to the Brackets

4. Attach the two rack mount brackets to the sides of the switch with the eight bracket screws as shown in Figure 37.

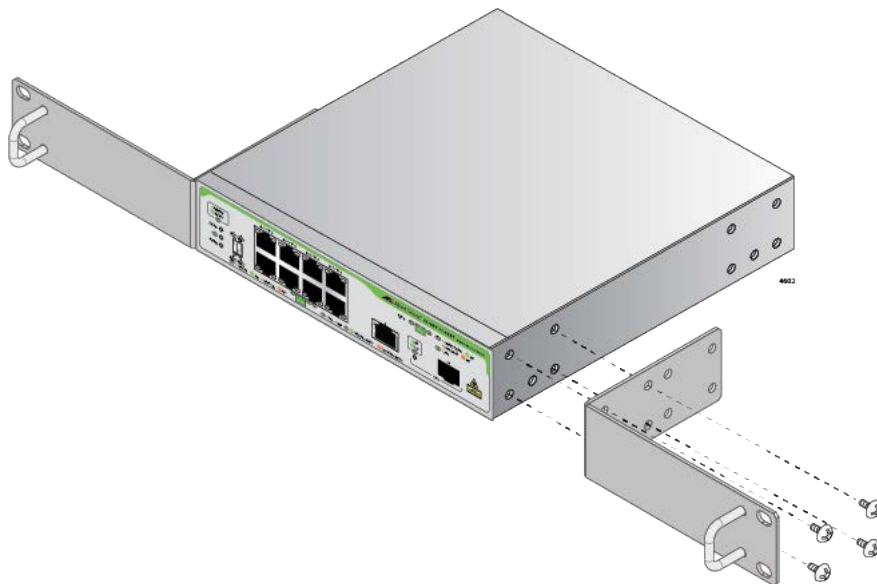


Figure 37. Installing the Brackets on the Switch

5. While another person holds the switch in the equipment rack, secure it with standard equipment rack screws as shown in Figure 38.

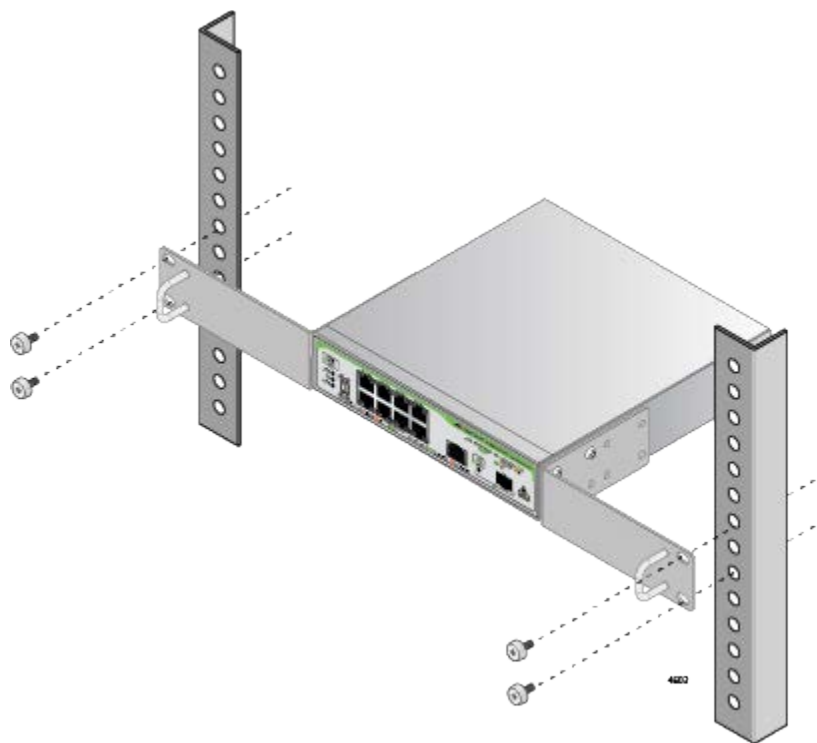


Figure 38. Mounting the Switch in an Equipment Rack

## Chapter 7

# Rack Installation Using the RKMT-J15 Kit

---

This chapter contains the follows sections:

- “Unpacking the RKMT-J15 Rack Mount Kit” on page 72
- “Installing Two Switches in a Row of the Equipment Rack” on page 73

## Unpacking the RKMT-J15 Rack Mount Kit

To unpack the RKMT-J15 rack mount kit, perform the following procedure:

1. Remove all components from the shipping package.

---



**Note**

Store the packaging material in a safe location. You must use the original shipping material if you need to return the unit to Allied Telesis.

---

2. Verify that One pair of brackets is included in your wall mount package listed in Table 16.

Table 16. Components in the RKMT-J15 Rack Mount Kit

	Components
Tray	
Four M4x6mm screws	

3. If any item is missing or damaged, contact your Allied Telesis sales representative for assistance.



## Installing Two Switches in a Row of the Equipment Rack

This section shows you steps to install two switches on a row of the equipment rack using the RKMT-J15 rack mount kit.

### What to Prepare

Before installing two switches on a row of the equipment rack, make sure that the following items are ready.

- ❑ One RKMT-J15 tray
- ❑ Four M4x6mm screws
- ❑ Four screws for the equipment rack (Not included)
- ❑ Phillips-head screwdriver (Not included)

### Installing Two Switches in a Row of the Equipment Rack

To install the switch on an equipment rack, perform the following procedure:

1. Review “Reviewing Safety Precautions” on page 32 and “Selecting a Site for the Switch” on page 34.
2. Place all the items from the packaging on a work table.
3. Mount the RKMT-J15 tray in a 19-inch equipment rack using four equipment rack screws. See Figure 39

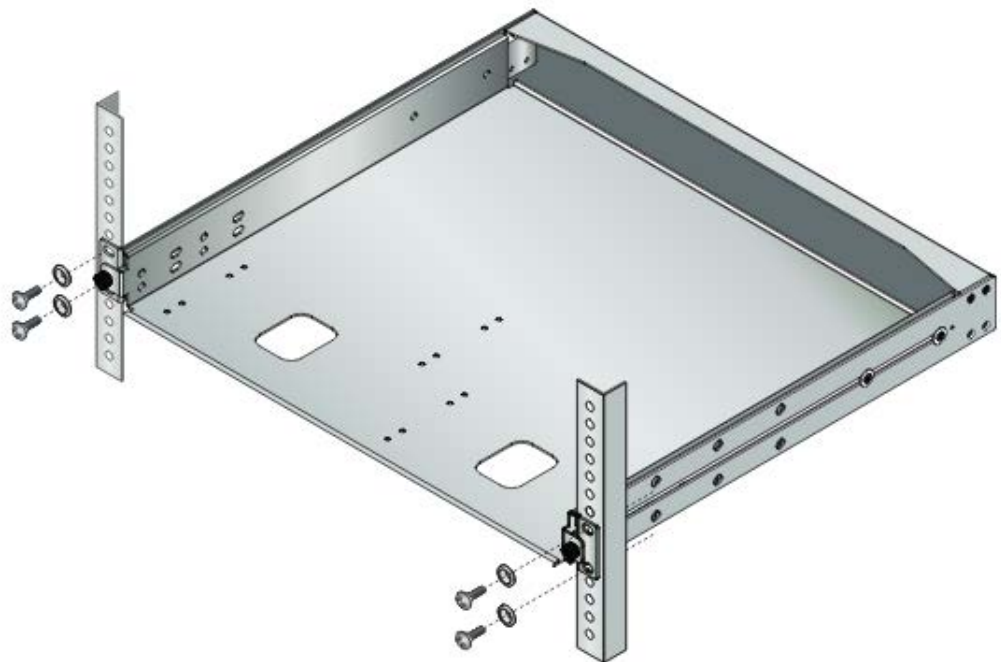


Figure 39. Installing the RKMT-J15 Tray in an Equipment Rack

4. Turn the tray fixing screws on counter clockwise and pull out the tray. See Figure 40.

You can draw the tray to a maximum of 250mm from the tray chassis.

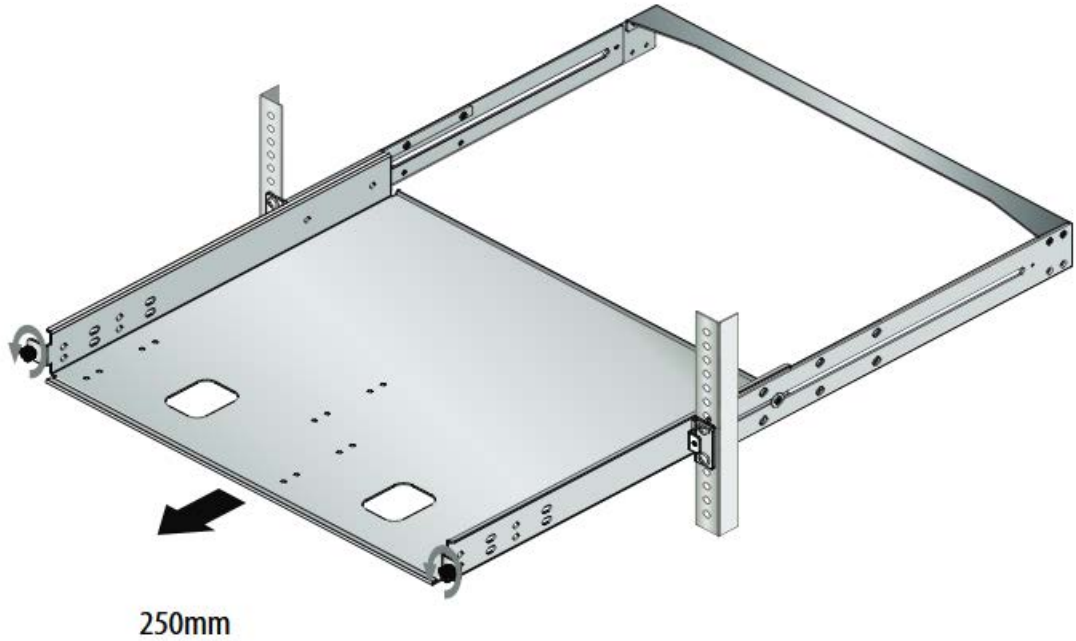


Figure 40. Pulling out the RKMT-J15 Tray

5. Place a switch in the tray and secure the switch to the tray with the head screws through the holes on the slide rail weld. See Figure 41 on page 75.

---

**Note**

Install one switch at a time.

---

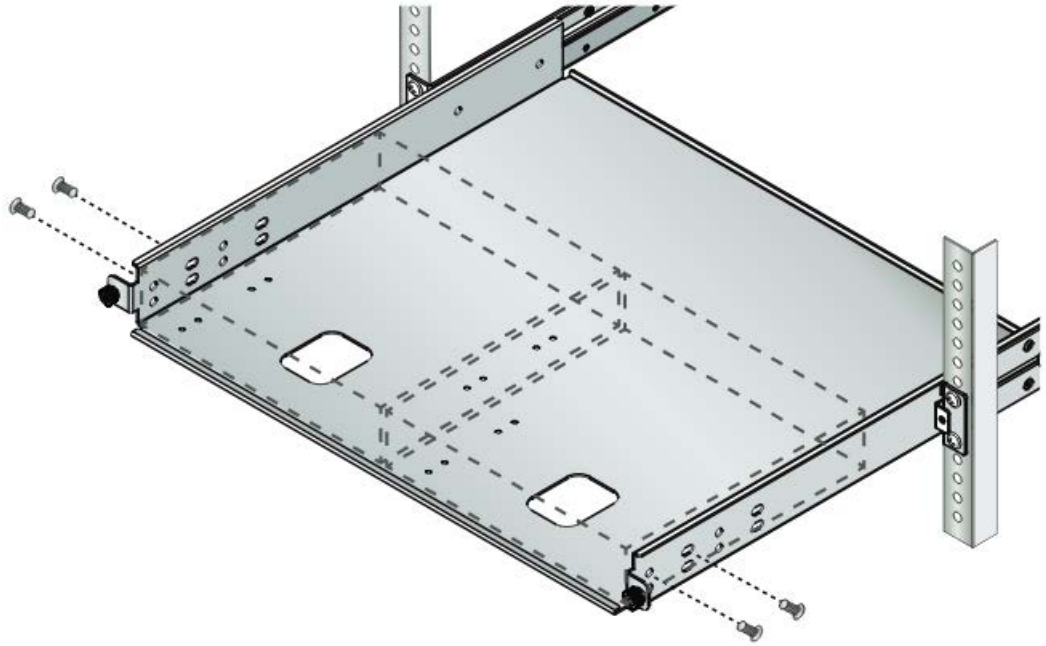


Figure 41. Placing the Switch in the RKMT-J15 Tray

6. Slide the tray back to its original position and turning the tray fixing screws on clockwise as shown in Figure 42.

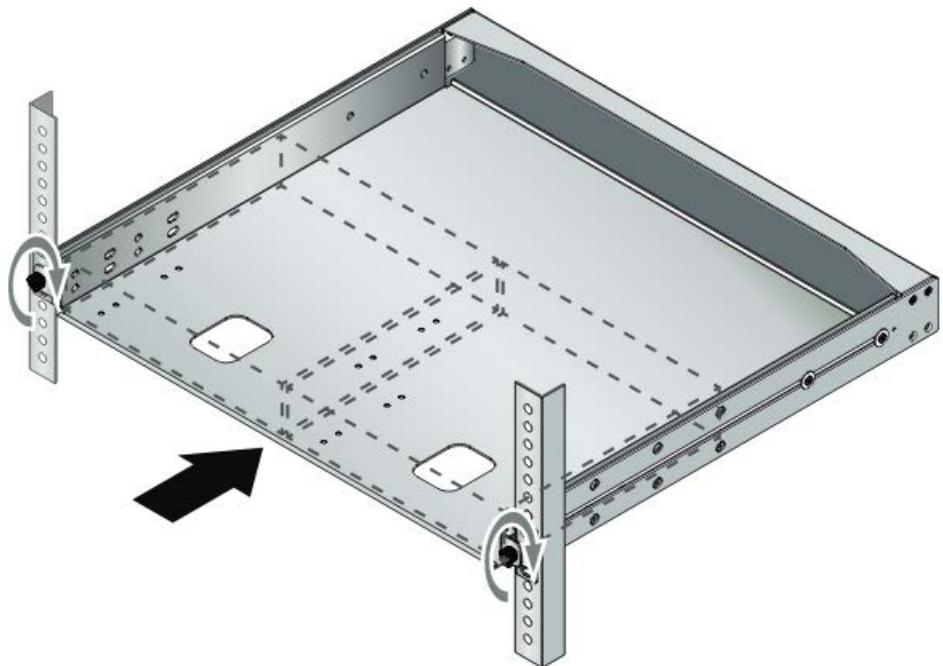


Figure 42. Securing the RKMT-J15 Tray in an Equipment Rack



## Chapter 8

# Troubleshooting

---

This chapter contains information on how to troubleshoot the switch in the event a problem occurs.

---

**Note**

If you are still unable to resolve the problem after following the instructions in this chapter, contact Allied Telesis Technical Support for assistance. Refer to “Contacting Allied Telesis” on page 9.

---

Check the POWER LED on the front of the switch. If the LED is OFF, indicating that the unit is not receiving power, do the following:

- Verify that the power cord is securely connected to the power source and to the connector on the back panel of the switch.
- Verify that the power outlet or power supply has power by connecting another device to it.
- Try connecting the unit to another power source.
- Try using a different power cord.
- Verify that the voltage from the power source is within the required levels for your region.

Verify that the L/A LED for each port is green or amber. If an L/A LED is OFF, do the following:

- Verify that the end-node connected to the port is powered ON and is operating properly.
- Verify that the twisted pair cable is securely connected to the port on the switch and to the port on the end-node.
- Ensure that the twisted pair cable does not exceed 100 meters (328 feet).
- Verify that you are using the appropriate category of twisted pair cable. See Table 2 on page 16 for the twisted pair cabling specifications for each speed.



## Appendix A

# Technical Specifications

---

This appendix contains the following sections:

- “Physical Specifications”
- “Power Specifications” on page 79
- “Environmental Specifications”
- “RJ-45 Twisted Pair Port Connectors” on page 81

## Physical Specifications

---

Table 17. Physical Specifications

	<b>Dimensions (W x D x H)</b>	<b>Weight</b>
GS910/10XST	210 mm x 275 mm x 42.5 mm (8.3 in. x 10.8 in.c x 1.6 in.)	1.9 kg (4.2 lb)
GS910/18XST	341 mm x 210 mm x 44 mm (13.4 in. x 8.3 in.c x 1.7 in.)	3.6 kg (7.9 lb)
GS910/26XST		2.9 kg (6.4 lb)

## Power Specifications

---

Table 18. Power Specifications

<b>Parameter</b>	<b>Value</b>
Input Voltage Range	100 - 240 VAC
Input Frequency	50/60 Hz
Rated Current	0.7 A

## Environmental Specifications

---

Table 19. Environmental Specifications

Parameter		Value
Operating Temperature	Without an SFP	0° C to 50° C (32° F to 122° F)
	With an SFP with the max operating temperature 85° C (185° F)	0° C to 50° C (32° F to 122° F)
	With an SFP with the max operating temperature 70° C (158° F)	0° C to 45° C (32° F to 113° F)
Storage Temperature		-25° C to 70° C (-13° F to 158° F)
Operating Humidity		5% to 90% non-condensing
Storage Humidity		5% to 95% non-condensing



## RJ-45 Twisted Pair Port Connectors

This section lists the connectors and connector pinouts for the GS910 series switch and its components.

Figure 43 illustrates the pin layout to an RJ-45 connector and port.

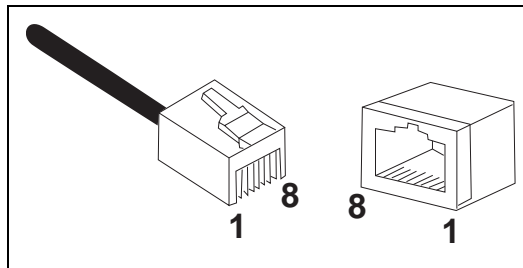


Figure 43. RJ-45 Connector and Port Pin Layout

Table 20 lists the RJ-45 pin signals when a twisted pair port is operating in the MDI configuration.

Table 20. MDI Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	TX+
2	TX-
3	RX+
6	RX-

Table 21 lists the RJ-45 port pin signals when a twisted pair port is operating in the MDI-X configuration.

Table 21. MDI-X Pin Signals (10Base-T or 100Base-TX)

Pin	Signal
1	RX+
2	RX-
3	TX+
6	TX-

