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## Cisco WS-C2960X-24TD-L

# Cisco Catalyst 2960X-24TD-L Network Switch User Manual

Model: WS-C2960X-24TD-L

## 1. INTRODUCTION

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This manual provides essential information for the installation, operation, and maintenance of the Cisco Catalyst 2960X-24TD-L Network Switch. The Cisco Catalyst 2960-X Series switch is designed to provide intelligent services such as application visibility, Smart operations, and Layer 3 routing, delivering best-in-class energy efficiency.

## 2. PRODUCT OVERVIEW

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The Cisco Catalyst 2960X-24TD-L is a high-performance network switch designed for enterprise-level connectivity. It features a robust set of capabilities to manage and secure your network infrastructure.



Figure 1: Front view of the Cisco Catalyst 2960X-24TD-L Network Switch. This image displays the 24 Gigabit Ethernet ports and the two 10 Gigabit SFP+ uplink ports, along with status indicators.

## Key Features:

- **Ethernet Port Configuration:** 24 10/100/1000 Gigabit Ethernet ports, 2 10G SFP+ uplink ports.
- **Device Management:** Supports Web UI, over-the-air access via Bluetooth, and Command-Line Interface (CLI).
- **Console Access:** SNMP (Simple Network Management Protocol) and RJ-45 or USB console access for direct management.
- **Security:** Features include 802.1X authentication, Switched Port Analyzer (SPAN), and Bridge Protocol Data Unit (BPDU) Guard for enhanced network security.
- **Mounting Type:** Designed for rack mounting.

## 3. SETUP

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### 3.1 Unpacking and Inspection

Carefully unpack the switch and inspect it for any signs of damage. Ensure all components listed in the packing list are present. The package typically includes the switch unit and rack-mount accessories.

### 3.2 Rack Mounting

The switch is designed for standard 19-inch rack mounting. Use the provided rack-mount brackets and screws to secure the switch in a suitable rack. Ensure adequate ventilation around the unit.

1. Attach the rack-mount brackets to the sides of the switch using the supplied screws.
2. Align the switch with the rack posts and secure it using appropriate rack screws.

3. Ensure the switch is level and firmly seated in the rack.

### 3.3 Connecting Power

Connect the power cord to the AC power connector on the rear panel of the switch and then to a grounded electrical outlet. The switch will power on automatically.

### 3.4 Connecting Network Cables

Connect Ethernet cables from your network devices (computers, servers, other switches) to the 24 Gigabit Ethernet ports. For high-speed uplinks, use SFP+ transceivers and fiber optic cables in the 10G SFP+ uplink ports.

### 3.5 Initial Configuration Access

For initial configuration, connect a console cable (RJ-45 or USB) from your management workstation to the console port on the switch. Use a terminal emulation program (e.g., PuTTY, Tera Term) with the following settings:

- Baud Rate: 9600
- Data Bits: 8
- Parity: None
- Stop Bits: 1
- Flow Control: None

Alternatively, the switch supports web UI management and Bluetooth access for initial setup.

## 4. OPERATING THE SWITCH

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Once powered on and initially configured, the switch operates autonomously. Management tasks typically involve configuring VLANs, IP addresses, security features, and monitoring network traffic.

### 4.1 Management Interfaces

- **Command-Line Interface (CLI):** Accessible via console port, Telnet, or SSH. Provides full control over switch functions.
- **Web User Interface (Web UI):** Accessible via a web browser after assigning an IP address to the switch. Offers a graphical interface for common configurations and monitoring.
- **Bluetooth:** For over-the-air access and initial setup using a compatible mobile application.

### 4.2 Basic Configuration Examples (CLI)

*Note: These are simplified examples. Refer to the comprehensive Cisco IOS documentation for detailed configuration guides.*

#### Setting an IP Address:

```
Switch> enable
Switch# configure terminal
Switch(config)# interface vlan 1
Switch(config-if)# ip address 192.168.1.10 255.255.255.0
Switch(config-if)# no shutdown
Switch(config-if)# exit
Switch(config)# ip default-gateway 192.168.1.1
Switch(config)# end
Switch# write memory
```

## Creating a VLAN:

```
Switch> enable
Switch# configure terminal
Switch(config)# vlan 10
Switch(config-vlan)# name Sales
Switch(config-vlan)# exit
Switch(config)# interface FastEthernet0/1
Switch(config-if)# switchport mode access
Switch(config-if)# switchport access vlan 10
Switch(config-if)# end
Switch# write memory
```

## 5. MAINTENANCE

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### 5.1 Firmware Updates

Regularly check the Cisco support website for the latest firmware updates. Applying updates can improve performance, add new features, and address security vulnerabilities. Follow Cisco's official documentation for the correct update procedure.

### 5.2 Cleaning

Keep the switch and its ventilation openings free from dust and debris. Use a soft, dry cloth for external cleaning. Do not use liquid cleaners or aerosols directly on the device.

### 5.3 Environmental Considerations

Ensure the switch operates within its specified temperature and humidity ranges. Maintain proper airflow in the rack to prevent overheating. The upper temperature rating is 40 degrees Celsius.

## 6. TROUBLESHOOTING

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### 6.1 Power Issues

- **No Power:** Verify the power cord is securely connected to both the switch and the power outlet. Check the power outlet with another device.
- **Power LED Off:** If the power LED is off, ensure the power supply is functioning correctly.

### 6.2 Connectivity Issues

- **No Link Light:** Check the Ethernet cable connection at both ends. Try a different cable or port. Ensure the connected device is powered on and functioning.
- **Network Access Problems:** Verify IP address configuration, VLAN assignments, and gateway settings. Check for any security policies that might be blocking traffic.

### 6.3 System Reset

In cases of severe configuration errors or system unresponsiveness, a factory reset might be necessary. Consult Cisco documentation for the specific procedure to reset the switch to its default settings. *Warning: A factory reset will erase all configurations.*

## 7. SPECIFICATIONS

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The following table outlines the key technical specifications for the Cisco Catalyst 2960X-24TD-L Network Switch:

Feature	Specification
Model Number	WS-C2960X-24TD-L
Ethernet Ports	24 x 10/100/1000 Gigabit Ethernet
Uplink Ports	2 x 10G SFP+
RAM	512 MB
Flash Memory Size	128 MB
Data Transfer Rate	1 Gigabits Per Second (per port)
Item Dimensions (LxWxH)	17.5 x 11 x 1.75 inches
Item Weight	0.32 ounces (Note: This weight seems unusually low for a network switch, typically it's in pounds. Using provided data.)
Upper Temperature Rating	40 Degrees Celsius
Voltage	240 Volts
Included Components	Switch - 24 ports - managed - stackable

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## 8. WARRANTY AND SUPPORT

### 8.1 Warranty Information

The Cisco Catalyst 2960X-24TD-L Network Switch comes with an **Enhanced Limited Lifetime Warranty**. This warranty covers defects in materials and workmanship under normal use. For full details regarding terms, conditions, and duration of the warranty, please refer to the official Cisco warranty statement available on their website or contact Cisco support.

### 8.2 Technical Support

For technical assistance, troubleshooting, or further information, please contact Cisco Technical Support. Have your product model number (WS-C2960X-24TD-L) and serial number ready when contacting support. You can find support resources, documentation, and contact information on the official Cisco website.