

# WS-X6624-FXS: 24-Port FXS Blade for Catalyst 6000 Series Switches

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**Cisco has announced the end of sale for the Catalyst 6000 24-Port FXS Analog Module. For more information, refer to End-of-Sale and End-of-Life for Cisco Catalyst 6000 24-Port FXS Analog Module.**

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## Introduction

This document describes the Cisco Catalyst 6000 24-Port Foreign Exchange Station (FXS) Analog Interface Module (WS-X6624-FXS). The document provides product information, specifications, compliance and configuration information, as well as known issues.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

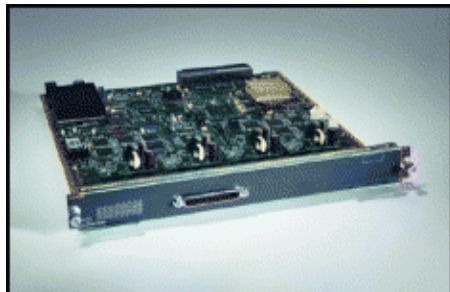
This document is not restricted to specific software and hardware versions.

### Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

## Background Information

The WS-X6624-FXS provides 24 FXS ports for analog phones, conference room speaker phones, and fax machines. The FXS module provides legacy analog devices with connectivity into the IP network. This connectivity enables the devices to utilize the IP network infrastructure for toll-bypass applications. The connectivity also enables the devices to communicate with other devices, such as IP phones and H.323 end stations.



For complete information, refer to Catalyst 6000 Family FXS Analog Interface Module.

**Note:** Cisco has announced the End-of-Sale and End-of-Life for Cisco Catalyst 6000 24-Port FXS Analog Module.

Cisco Communication Media Module (CMM) is the next generation of voice gateways and services module for Cisco Catalyst 6500 series switches and Cisco 7600 series routers. Cisco CMM is a modular line card that provides greater flexibility, better performance, and more density in a single Catalyst 6500 slot.

## Product Number

Product	Description	Catalyst OS (CatOS) Software Versions
WS-X6624-FXS	Catalyst 6000 FXS Analog Interface Module	5.5(1), 5.5(3), 6.x, 7.x and 8.x

**Note:** The recommended Supervisor Engine software version for the WS-X6624-FXS is CatOS 6.3(7). The WS-X6624-FXS is not supported with Supervisor Engine 720 in CatOS 8.1(x). But the WS-X6624-FXS is supported with Supervisor Engine 720 in CatOS 8.2(1) and later.

## Features

- G.711, G.729, and G.729A voice encoding
- Skinny Call Control Protocol (SCCP)/Media Gateway Control Protocol (MGCP) support
- Silence suppression and voice activity detection (VAD)
- Comfort noise generation
- Dual tone multifrequency (DTMF) detection
- Line echo cancellation (32 ms)
- **Ringer** Software-programmable frequency and cadence, based on country
- LED for loop active, off-hook, and ring cadence
- **Signaling** Loop start
- **Impedance** 100 ohms

- Programmable analog gain and signaling timers
- Cisco Fax Relay and Fax Pass-Through
- Modem Pass-Through (V.34)
- Switched Port Analyzer (SPAN) or port mirroring support
- Connectivity with RJ-21 cable

**Note:** For RJ-21 cable specifications, refer to the *RJ-21 (WS-X6624-FXS Only)* section of Cable Specifications.

## Specifications: Analog FXS Interface

- **Address signaling formats** In-band DTMF
- **Signaling formats** Loop start
- **Ring tone** Programmable
- **Ring voltage** Programmable, based on country
- **Ring frequency** Programmable, based on country
- **Physical connector** RJ-21
- **Distance** 100 ohms maximum loop

## Physical Specifications

- Occupies one slot in the Catalyst 6000 family platform
- **Dimensions (H x W x D)** 1.2 x 14.4 x 16 inches (3.0 x 35.6 x 40.6 centimeters [cm])

## Environmental Conditions

- **Operating temperature** 32 to 104° Fahrenheit (F) (0 to 40° Celsius [C])
- **Storage temperature** 0 to 167° F (0 to 75° C)
- **Relative humidity** 0 to 90 percent, noncondensing
- **Operating altitude** 0 to 4000 meters (m)

## Safety Compliance

- Underwriters Laboratory UL1950
- Canadian Standards Association CSA C22.2 No. 950
- European Norm EN60950
- International Electrotechnical Commission IEC60950
- Australia Standards/New Zealand Standards AS/NZS3260
- Technical specifications TS001

## Electromagnetic Compliance (EMC)

- European Compliance CE Marking
- FCC Part 15 (Code of Federal Regulations [CFR] 47) Class A
- European Norm EN55022 Class A with unshielded twisted-pair (UTP); EN55022 Class B with foil twisted-pair (FTP)
- Comite International Special des Perturbation Radioelectriques CISPR22 Class A with UTP; CISPR22 Class B with FTP
- Voluntary Control Council for Information Technology Equipment VCCI Class A with UTP; Class B with FTP
- Australia Standards/New Zealand Standards AS/NZS 3548 Class A with UTP; AS/NZS 3548 Class

B with FTP

## Network Management

- Dial control MIB

**Note:** Refer to RFC 2128 .

- The Cisco dial control MIB

**Note:** This is an extension of RFC 2128 .

- CISCO-VOICE-DIAL-CONTROL-MIB Voice Dial Control MIB
- CISCO-VOICE-IF-MIB Voice Interface MIB
- CISCO-VOICE-ANALOG-IF-MIB Voice Analog Interface MIB
- CISCO-DSP-MGMT-MIB Digital Signal Processing Management MIB
- **Ethernet MIBs**
  - ◆ RFC 1157
  - ◆ RFC 1643
  - ◆ RFC 1493
  - ◆ RFC 1213
  - ◆ RFC 1573
  - ◆ RFC 1757
  - ◆ Cisco Stack MIB

## Configuration

- In order to configure a VoIP network with Catalyst 6000 switches, refer to Configuring a Voice-Over-IP Network.
- For WS-X6624-FXS installation, refer to Catalyst 6000 Family 24-Port FXS Analog Interface Module Installation Note.
- In order to configure a WS-X6624 FXS blade with Cisco CallManager 3.x, refer to Configuring the Catalyst 6000/6500 WS-X6624 FXS Blade with Cisco CallManager 3.0. The WS-X6624 FXS blade receives configuration via TFTP. The WS-X6624-FXS uses SCCP (3.0)/MGCP (3.1, 3.2, 3.3) in order to communicate with the Cisco CallManager server for the setup and teardown of calls.
- For fax configuration on a Cisco WS-X6624 with an H.323 gateway, refer to Fax Configuration on a Cisco WS-X6624 with an H.323 Gateway.

## Known Issues

- On the WS-X6624-FXS analog interface module, the **show spantree** command displays the port status as `not-connected`. This error does not affect operation. The problem is resolved in CatOS 7.3(1). For more information, refer to Cisco bug ID CSCds00575 ( registered customers only ) .
- The WS-X6624-FXS analog voice module fails to come online and register with Cisco CallManager when you use Supervisor Engine CatOS 7.2(2). This problem is resolved in CatOS 7.3(1). For more information, refer to Cisco bug ID CSCdx30559 ( registered customers only ) .
- Voice modules, such as a WS-X6624-FXS and a WS-X6608-T1/E1, fail to register with Cisco CallManager if you use a WS-X6148-GE-TX for the CallManager connection. Use another type of module, such as a WS-X6148-RJ45V, for the Cisco CallManager connection. This problem is resolved in Cisco CallManager Version 3.3(3)sr1. For more information, refer to Cisco bug ID CSCeb38168 ( registered customers only ) .
- If you issue the **show port** command on a switch with voice modules, such as WS-X6624-FXS and WS-X6608-T1, the **show port** command appears to hang. Also, port information for the voice

module does not print. And, at times, the digital signal processor (DSP) on the voice module can reset. This problem is resolved in CatOS 8.3(3). For more information, refer to Cisco bug ID CSCec01126 ( registered customers only) .

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## Related Information

- **Fax Configuration on a Cisco WS-X6624 with an H.323 Gateway**
  - **Cisco AVVID Gateway Support for Fax Relay and Fax Pass-Through**
  - **Voice Hardware Compatibility Matrix (Cisco 17/26/28/36/37/38xx, VG200, Catalyst 4500/4000, Catalyst 6xxx)**
  - **End-of-Sale and End-of-Life for Cisco Catalyst 6000 24-Port FXS Analog Module**
  - **Voice Technology Support**
  - **Voice and IP Communications Product Support**
  - **Recommended Reading: Troubleshooting Cisco IP Telephony**
  - **Technical Support & Documentation – Cisco Systems**
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