# Introduction

The Cisco Systems Catalyst 2100 is an Ethernet switch for high-performance client/server workgroups. With 25 switched Ethernet ports for individual workstations and existing 10Base-T hubs, and two 100Base-TX ports for server and backbone connectivity, the Catalyst 2100 is an affordable, high-performance alternative to 10Base-T hubs.

Figure 1-1   Catalyst 2100
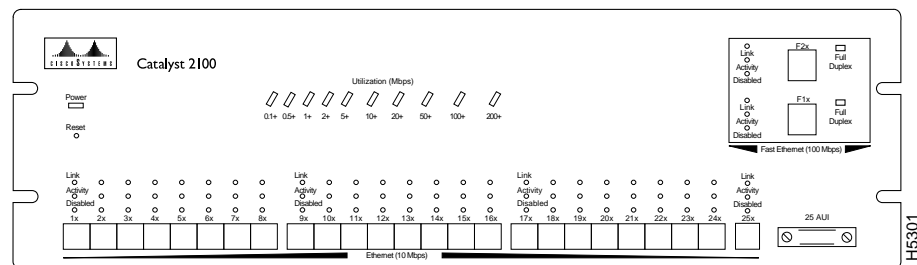
Key Features

Catalyst 2100's features can be summarized as follows:

- 25 switched 10Base-T ports
- Two switched 100Base-TX ports
- Multiple MAC address support with a 1,024 address cache shared among all 27 ports

- CollisionFree operation for full-duplex 100Base-T support provides up to 200 Mbps bandwidth

- IEEE 802.1d Spanning-Tree Protocol

- Up to 320 Mbps maximum forwarding bandwidth and a 450,000 packets-per-second (pps) aggregate packet-forwarding rate

- Shared memory architecture with 3-Mb packet buffer

- Telnet and SNMP support for in-band management and a menu-driven out-of-band management console

- Up to four port-configurable virtual LANs (VLANs)

- Multicast address registration and packet filtering

- Port security to prevent unauthorized access to the network

- Flooding controls

- Three-year standard warranty.

To learn more about these features, see the "Concepts" chapter. You can implement them via out-of-band management or Telnet, as described in the section "Configuration Menus" in the "Out-of-Band Management" chapter. Catalyst 2100 can also be managed in-band using any SNMP-compatible management station. The section "Standard MIBs and MIB Extensions" in the "In-Band Management" chapter lists the available MIB objects.

Catalyst 2100 Ports

Catalyst 2100 has 27 ports comprising the following:

- 25 switched 10Base-T ports

- Two switched 100Base-TX ports

10Base-T Ports

The 25 10Base-T ports shown in Figure 1-2 connect to single workstations, 10Base-T hubs, or any 10Base-T compatible device using RJ-45 connectors. The attached devices use standard 10Base-T adapters and wiring. Port 25 also supports an alternative AUI connection for attachment to a thick coax, thin coax, or fiber optic media transceiver.

Figure 1-2   Catalyst 2100 Ports
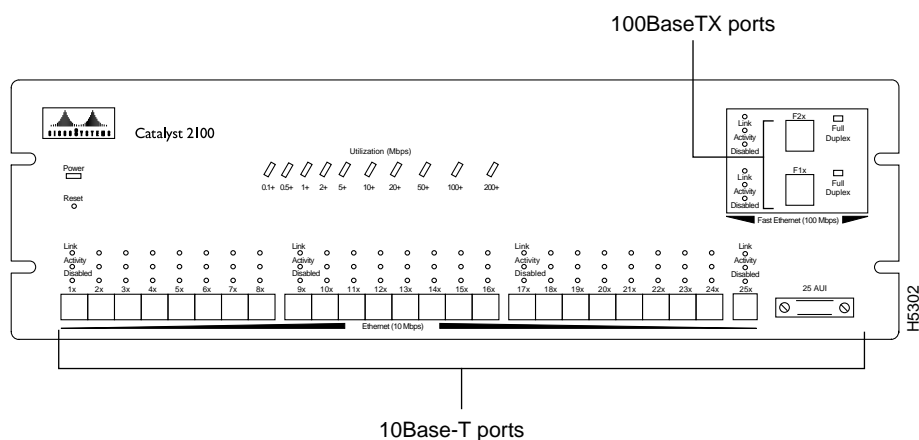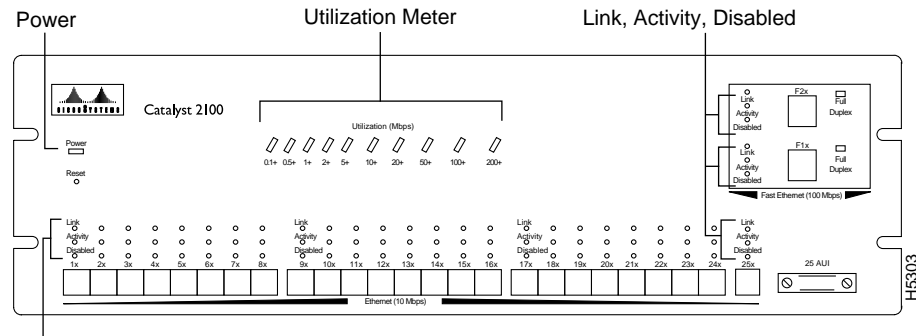

100Base-TX Ports

The two 100Base-TX ports provide 100 Mbps of bandwidth to servers and backbones. One or both of the 100Base-TX ports can be set to CollisionFree full-duplex mode for simultaneous 100 Mbps transmission and receipt. Each 100Base-TX port is internally bridged to the other Catalyst 2100 ports. Connections are with RJ-45 connectors, as shown in Figure 1-2.

Catalyst 2100 LEDs

Catalyst 2100 has an extensive range of LEDs that allow you to easily monitor network activity and performance. Figure 1-3 shows the location of the LEDs.

Figure 1-3   LEDs

Power   Utilization Meter   Link, Activity, Disabled

Catalyst 2100

Utilization (Mbps)

Power

Reset

0.1+ 0.5+ 1+ 2+ 5+   10+   20+   50+   100+ 200+

Link
Activity
Disabled

Link
Activity
Disabled

Link
Activity
Disabled

Link
Activity
Disabled

1x 2x 3x 4x 5x 6x 7x 8x   9x 10x 11x 12x 13x 14x 15x 16x   17x 18x 19x 20x 21x 22x 23x 24x 25x

Link
Activity
Disabled
F2x
Full Duplex

Link
Activity
Disabled
F1x
Full Duplex

Fast Ethernet (100 Mbps)

25 AUI

Ethernet (10 Mbps)

H5303

Link, Activity, Disabled

Power This LED lights when Catalyst 2100 is turned on. If it does not come on, see the section "Diagnosing Problems" in the "Troubleshooting" chapter.

Link This LED indicates that the port is properly connected to a powered on device. It is on when the link-integrity test passes and off when it fails.

Activity This LED blinks when the port is transmitting or receiving data. If the traffic level is high, it will blink continuously. It is off when there is no activity.

Disabled This LED is on when the port is disabled or suspended. This could be due to a network-connection error or secure-address violation, or the port could have been manually disabled by an administrator.

Full-duplex This LED is on when the port is operating in full-duplex mode. When off, the port is operating in half-duplex mode.

Utilization meter This group of LEDs measures Catalyst 2100's current and peak bandwidth use in Mbps. Current bandwidth is shown with a series of lit LEDs topped by a rapidly blinking one. Peak utilization for a 24-hour period is recorded at midnight each day and indicated by the right-most solidly lit LED. Table 1-1 shows the bandwidth associated with each of the 10 LEDs.

Table 1-1 **Activity Meter LED Information**

| LED	LED Label	Mbps Activity
Far left (1)	0.1+	0.1 - 0.5
	0.5+	0.5 - 1
	1+	1 - 2
	2+	2 - 5
	5+	5 - 10
	10+	10 - 20
	20+	20 - 50
	50+	50 - 100
	100+	100 - 200
Far right (10)	200+	200 - 320

Catalyst 2100 Reset Switch

The reset switch should only be used if Catalyst 2100 does not respond to network management or packet forwarding has stopped. Resetting a Catalyst 2100 has the same effect as turning it off and on. The reset switch is located below the power LED on the Catalyst 2100 front panel as shown in Figure 1-3.

Reset the Catalyst 2100 by inserting an unbent paper clip into the hole. All configuration values are saved when the Catalyst 2100 is reset.

Catalyst 2100 Rear Panel

Figure 1-4   The Catalyst 2100 Rear Panel
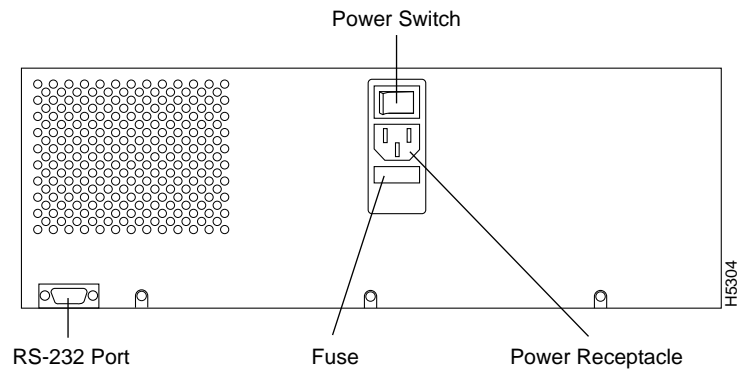
The rear panel contains the following components:

- Power Switch

  The power switch shown in Figure 1-4 turns the Catalyst 2100 on and off.

- Power Receptacle

  The Catalyst 2100 power supply is an auto-ranging unit supporting input voltages between 100-200 VAC. Plug the power cord into the power receptacle located on the rear panel of the Catalyst 2100.

- Fuse

  A universal fuse receptacle is located below the power receptacle. Always replace this fuse with a 3A, 250V fuse.

- RS-232 Port

  The management console can be run with Telnet or through an ASCII terminal. Use this port to connect the necessary modem or terminal to the Catalyst 2100.

Configuring and Managing Catalyst 2100

You can configure and manage a Catalyst 2100 using any SNMP-compatible management station or with the Catalyst 2100 management console using the RS-232 port and an ASCII terminal. You can also access the management console with Telnet.

Using the Catalyst 2100 Management Console

The Catalyst 2100 management console provides a simple, menu-driven interface for configuring and monitoring your network. The application is password protected and will lock out a user who fails to enter the password within a definable number of attempts. In such a case, the network administrator can be alerted via in-band management.

Most of the statistics and information generated by the Catalyst 2100 are available through the Catalyst 2100 management console. You can continue to use it even when the network is down.

SNMP Management

Catalyst 2100 is fully manageable by any SNMP-compatible management station. The product supports all pertinent SNMP MIB II variables as well as a comprehensive set of MIB extensions designed for maximum support of Catalyst 2100's hub and switching capabilities.

Note The Catalyst 2100 SNMP MIB objects are documented in a separate manual, *Catalyst 2000 MIB Reference Manual*. You can order it from Cisco Systems or your authorized reseller.

Supported Network Management Platforms

Catalyst 2100's SNMP MIB objects are supplied in ASCII format for compiling into any SNMP network management system for use with a general MIB browser. In addition, the Catalyst 2100 MIB is pre-complied and supplied with installation procedures for the following management platforms:

- Novell NMS

- SunNet Manager

- HP Openview SNMP Management Platform

Before you can use one of these platforms, you need to customize it to understand the Catalyst 2100 MIB. Turn to "Supported Network Management Platforms" in the "In-Band Management" chapter for more information.