Configuring for the First Time

This section describes the initial steps of configuring the Catalyst 4224 and outlines the features of the Cisco IOS command line interface (CLI). Use this tool when you configure Catalyst 4224 interfaces.

This section contains the following topics:

First-Time Configuration

This section contains the following topics:

Booting the Catalyst 4224

The factory configures the Catalyst 4224 to automatically load a Cisco IOS image. The software configuration register in the Catalyst 4224 determines where to find the image. The factory sets this register to load the Cisco IOS image into boot flash memory from configuration register 0x0101. This register enables autoboot at register 0x0103.

Table 2-1 shows the Catalyst 4224 default configuration.

Table 2-1   Catalyst 4224 Default Configuration

Feature	Default Value
Host name	Router
Interface configuration	None
VLAN configuration	None
Password encryption	Disabled
Break to console	Ignore

After booting the Catalyst 4224 for the first time, you can configure the interfaces and then save the configuration to a file in NVRAM.

Downloading an Image to Boot Flash Memory

Note   Before you can download an image, you must first configure the management port. See "Configuring the Management Port" section on page 2-3.

If you have already configured the Catalyst 4224, you can download a run-time image from a TFTP server on the network. TFTP downloads can take place over the Ethernet management port.

To download an image to boot flash memory, use privileged mode to enter the following command:

copy tftp: [*/directory*] */filename* [*/directory*] */filename*

Connecting a Terminal

To connect a terminal to the console port using the cable and adapters provided with the Catalyst 4224, connect to the port using the RJ-45-to-RJ-45 cable and RJ-45-to-DB-25 DTE adapter or RJ-45-to-DB-9 DTE adapter (labeled Terminal).

Check the documentation that came with your terminal to determine the baud rate. The baud rate of the terminal must match the default baud rate (9600 baud) of the console port.

Set up the terminal as follows:

- 9600 baud
- Eight data bits
- No parity
- Two stop bits
- No flow control

Connecting a Modem

Connect the modem to the port using the RJ-45-to-RJ-45 cable and the RJ-45-to-DB-25 DCE adapter (labeled Modem).

Configuring the Management Port

You can manage the Catalyst 4224 through the 10/100 management port by assigning it an IP address.

⚠️

Caution By default, the Fast Ethernet interface does not route data traffic. Cisco recommends that you do not override this default configuration.

If the Ethernet 10/100 management port is up and an IP address has been configured, the Catalyst 4224 selects the IP address assigned to the 10/100 Ethernet management port.

If the selected network management IP address is removed or the interface or subinterface associated with this IP address is shut down, the Catalyst 4224 selects another IP address as a replacement.

If all the interfaces are down or no IP address has been assigned to any interface or subinterface that is running, the IP address for network management is 0.0.0.0.

Interface Numbering

The Catalyst 4224 has three slots in which you can install interface cards:

- Slot 1 supports voice interface cards (VICs), WAN interface cards (WICs), and voice and WAN interface cards (VWICs).
- Slot 2 supports VICs, WICs, and VWICs.
- Slot 3 supports VICs and VWICs but does not support WICs.
- Slot 4 supports an eight-Port FXS RJ21 Module.
- Slot 5 supports 10/100 Ethernet switching ports.

Each individual interface is identified by a slot number and a port number. The slots are numbered as follows:

- Slot 0 supports the following interfaces embedded in the mainboard:
    - Console port (con 0)
    - Ethernet Management port (Fast Ethernet 0/0)
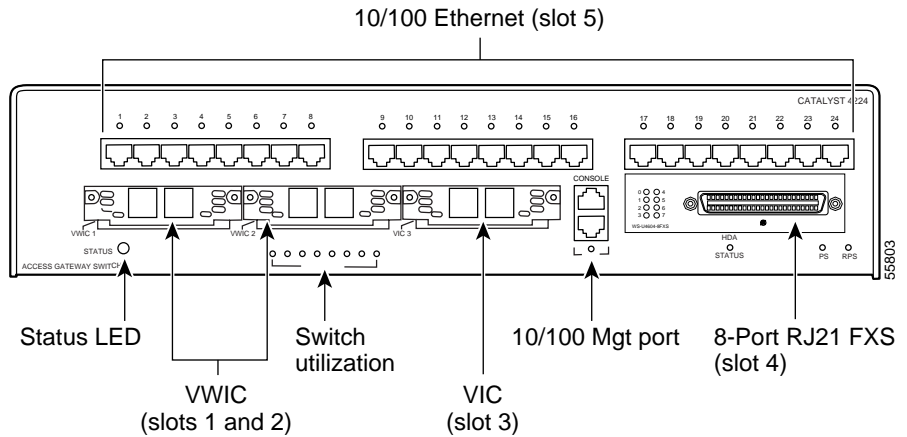- Slot 1 ports are numbered from right to left (1/1 and 1/0).

Note   On the WIC-2A/S, the top slot is 1 and the bottom slot is 0.

- Slot 2 ports are numbered from right to left (2/1 and 2/0).
- Slot 3 ports are numbered from right to left (3/0 and 3/1).

When you configure an interface, identify the interface name before the slot and port numbers. For example, if you install a serial T1 VWIC interface in Slot 2, port 0 would be labeled as serial 2/0.

Figure 2-1 shows the Catalyst 4224 front panel.

Figure 2-1   Catalyst 4224 Front Panel

10/100 Ethernet (slot 5)

Status LED

VWIC
(slots 1 and 2)

Switch
utilization

VIC
(slot 3)

10/100 Mgt port

8-Port RJ21 FXS
(slot 4)

Using the Cisco IOS CLI

Cisco voice gateways run versions of Cisco IOS software that includes specialized adaptations for Voice over IP (VoIP) and Media Gateway Control Protocol (MGCP). If you are familiar with other versions of Cisco IOS, you will find configuring Cisco voice gateways straightforward because you will use the Cisco IOS CLI, with which you are familiar.

If you have never used the Cisco IOS CLI, you should still be able to perform the configuration required using the instructions and examples provided in this guide. To help get you started, this section provides a brief overview of some of the main features of the CLI. For further information, refer to the Cisco IOS configuration guides and command references for details about specific commands.

This section contains the following topics:

- Getting Help, page 2-6
- Command Modes, page 2-6
- Disabling a Command or Feature, page 2-8
- Saving Configuration Changes, page 2-8

Getting Help

Use the question mark (?) and arrow keys to help you enter commands, as follows:

- For a list of available commands, enter a question mark, for example:

  ```
  Gateway> ?
  ```

- To complete a command, enter a few known characters followed by a question mark (with no space), for example:

  ```
  Gateway> s?
  ```

- For a list of command variables, enter the command followed by a space and a question mark, for example:

  ```
  Gateway> show ?
  ```

- To redisplay a command you previously entered, press the Up Arrow key. You can continue to press the Up Arrow key for more commands.

Command Modes

The Cisco IOS interface is divided into different modes. Each command mode permits you to configure different components on your gateway. The commands available at any given time depend on which mode you are currently using. Entering a question mark (**?**) at the prompt displays a list of commands available for each command mode. Table 2-2 lists the most common command modes.

Table 2-2   Common Command Modes

Command Mode	Access Method	Gateway Prompt Displayed	Exit Method

User EXEC	Log in.	`hostname>`
		
		The default is
		`router>`
			Use the **logout** command.

Privileged EXEC	From user EXEC mode, enter the **enable** command.	`hostname#`
		
		The default is
		`router#`
			To exit to user EXEC mode, use the **disable**, **exit**, or **logout** command.

Table 2-2   Common Command Modes (continued)

Command Mode	Access Method	Gateway Prompt Displayed	Exit Method

Global configuration	From the privileged EXEC mode, enter the **configure terminal** command.	`hostname (config)#`
		
		The default is
		`router (config)#`
			To exit to privileged EXEC mode, use the **exit** or **end** command, or press **Ctrl-Z**.

Interface configuration	From the global configuration mode, enter the **interface** *type number* command, such as **FastEthernet int 0/0**.	`hostname (config-if)#`
		
		The default is
		`router (config-if)#`
			To exit to global configuration mode, use the **exit** command.
			
			To exit directly to privileged EXEC mode, press **Ctrl-Z**.

Dial-peer configuration	From the global configuration mode, enter the dial-peer voice command, such as **dial-peer voice 1 pots/voip.**	`hostname(config-dial-peer)`
		
		The default is
		`router (config-dial-peer)#`
			To exit to global configuration mode, use the **exit** command.
			
			To exit directly to privileged EXEC mode, press **Ctrl-Z**.

Timesaver   Each command mode restricts you to a subset of commands. If you are having trouble entering a command, check the prompt and enter the question mark (**?**) for a list of available commands. You might be in the wrong command mode or using the wrong syntax.

In the following example, which uses the default prompt (router>), notice how the prompt changes after each command to indicate a new command mode:

```
router> enable
Password: <enable password>
router# configure terminal
router(config-if)# line 0
router(config-line)# controller t1 1/0
router(config-controller)# exit
router(config)# exit
router#
%SYS-5-CONFIG_I: Configured from console by console
```

The last message is normal and does not indicate an error. Press **Return** to return to the prompt.

![Note icon]

Note   You can press **Ctrl-Z** in any mode to return immediately to privileged EXEC mode (router#), instead of entering **exit**, which returns you to the previous mode.

Disabling a Command or Feature

If you want to undo a command you entered or disable a feature, enter the keyword **no** before most commands; for example, **no mgcp**.

Saving Configuration Changes

You need to enter the **copy running-config startup-config** command to save your configuration changes to nonvolatile random-access memory (NVRAM), so the changes are not lost if there is a system reload or power outage; for example:

```
router# copy running-config startup-config

Building configuration...
```

![Note icon]

Note   It might take a minute or two to save the configuration to NVRAM. After the configuration has been saved, the privileged EXEC mode prompt (router#) reappears.