



# Router LED Locations and States

This section describes the Cisco 1240 Connected Grid Router (CGR 1240 or router) LEDs and how to determine the overall state of the system and verify the status of specific connections, ports, and system components.

In addition to viewing the LEDs on the router hardware, you can use the router command line interface as described in [Related Commands, page 186](#) to check the system status LED state from remote locations.

These topics are discussed:

- [LED Locations and State Descriptions, page 181](#)
- [Related Commands, page 186](#)

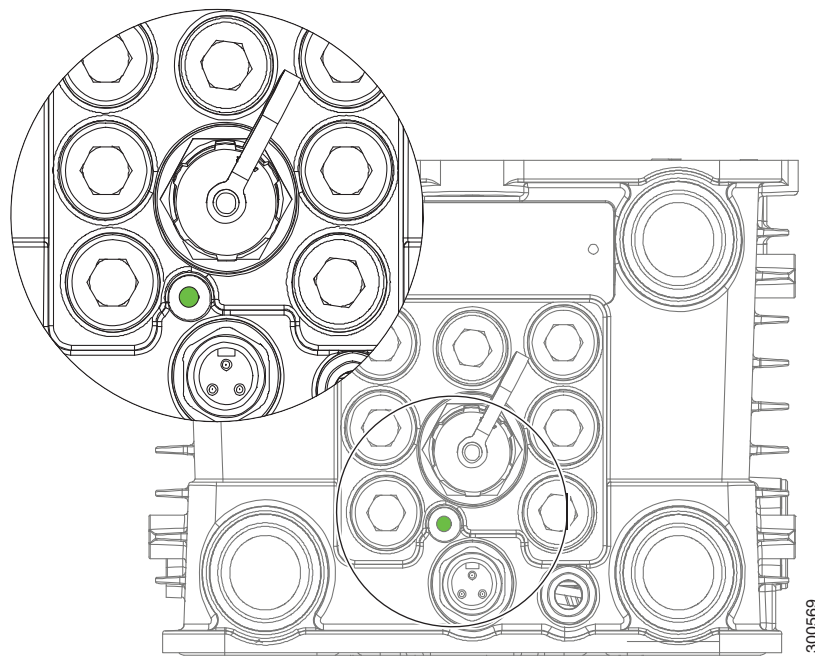
## LED Locations and State Descriptions

### SYS LED—System Status

View the system status LED to determine the overall operating and power status of the router.

A second, identical system status LED is located inside the router. See the [Alarm and Network Connection LEDs, page 182](#) for the location of the interior SYS LED.

**Figure 99 System Status LED (SYS) – Router Bottom Exterior**



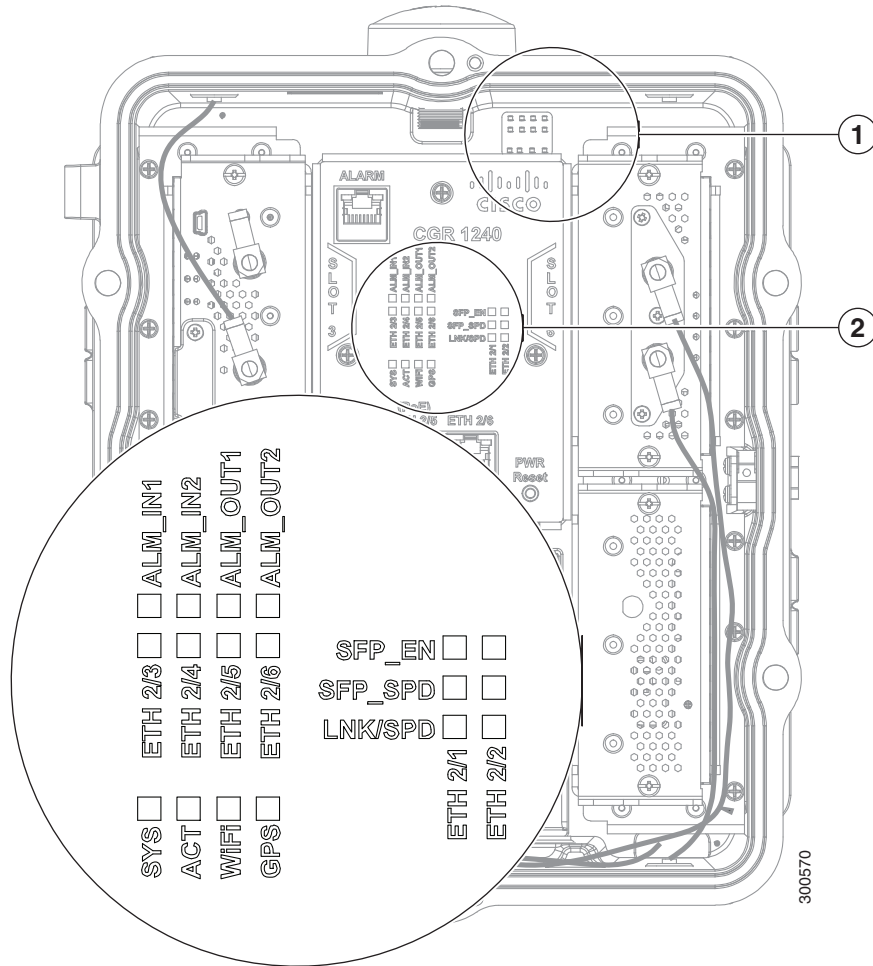
**Table 32 SYS LED Status**

Label Description	Color and State	Description
<b>SYS</b> System status	Green	Normal system operating status
	Green blinking	The system is starting up or power cycling, and loading system software, including BIOS and operating system
	Amber	System receiving power but there is an error condition
	Amber blinking	Interface is down and admin is up. To avoid, shutdown unused interfaces.
	Off	System not receiving power

## Alarm and Network Connection LEDs

The router LEDs that indicate network activity and connection status, and the LEDs that indicate alarm states, are located inside the router. To see these LEDs, you must open the router chassis according to the instructions in [Opening and Closing the Router Chassis, page 75](#).

**Figure 100 Network and Alarm LEDs – Router Front Interior**



## ALM LEDs—Alarm Status

**Table 33 Alarm LEDs**

LED Label	Color and State	Description
<b>ALM_IN1</b> <b>ALM_IN2</b>	Off	No alarm condition is present on the port
<b>ALM_OUT1</b> <b>ALM_OUT2</b>	Red solid	Alarm condition present on the port

## ETH LEDs—Fast Ethernet Interface Status

**Table 34 Fast Ethernet LEDs**

LED Label	Color and State	Description
<b>ETH 2/3</b>	Off	No link established
<b>ETH 2/4</b>	Green solid	Ethernet link established
	Amber, 2 blinks/pause	100 MB/s link speed
<b>ETH 2/5</b>	Amber, 1 blink/pause	10 MB/s link speed
<b>ETH 2/6</b>		

## SFP LEDs—Combo Port and SFP Port Status

The ETH 2/1 and ETH 2/2 interfaces are shared. Each interface (ETH 2/1 and ETH 2/2) supports either a fiber optic GE connection (using an SFP module) or a copper GE connection, but not both (see [Combo Ports, page 35](#)).

**Table 35 Combo Port LEDs—SFP Module and Gigabit Ethernet Ports**

LED Label	LED Label	Color and State	Description
<b>ETH 2/1</b> <b>ETH 2/2</b>	<b>SFP_EN</b> —This LED is active only for fiber optic (SFP module) connections on the ETH 2/1 and ETH 2/2 ports.		
		Off	No SFP installed in the port
		Green solid	Supported SFP installed in the SFP port
		Green blinking	SFP module can be removed or replaced
		Amber solid	Unsupported SFP installed in the SFP port
	<b>SFP_SPD</b> —This LED is active only for fiber optic (SFP module) connections on the ETH 2/1 and ETH 2/2 ports.		
		Green, 3 blink/pause	1000 MB/s link speed
		Green, 2 blinks/pause	100 MB/s link speed
		Off	No SFP link established on the optical GE port
	<b>LNK/SPD</b> —This LED is active only for copper GE connections on the ETH 2/1 and ETH 2/2 ports.		
		Amber, 3 blinks/pause	1000 MB/s link speed
		Amber, 2 blinks/pause	100 MB/s link speed
		Amber, 1 blink/pause	10 MB/s link speed
		Green solid	Ethernet cable connected and link established
		Off	No link established

## SYS and ACT LEDs—System Status

**Table 36 System LED**

LED Label	Color and State	Description
<b>SYS</b>	<b>Note:</b> This LED has the same functionality as the SYS LED on the router exterior, described in <a href="#">SYS LED—System Status, page 181</a> .	
	Green	Normal system operating status
	Green blinking	The system is starting up or power cycling, and loading system software, including BIOS and operating system
	Amber	System receiving power but there is an error condition
	Off	System not receiving power
<b>ACT</b>	Off	No system data packet activity
	Green	System data packet activity between the system and any data port
	Green blinking	System data packet activity between the system and any data port

## WiFi LED—WiFi Link State

**Table 37 WiFi LEDs**

LED Label	Color and State	Description
<b>WiFi</b>	Green	WiFi link established
	Green blinking	WiFi link established and data transfer in progress
	Yellow	No WiFi link

## GPS LED—GPS Link State

**Table 38 GPS LED**

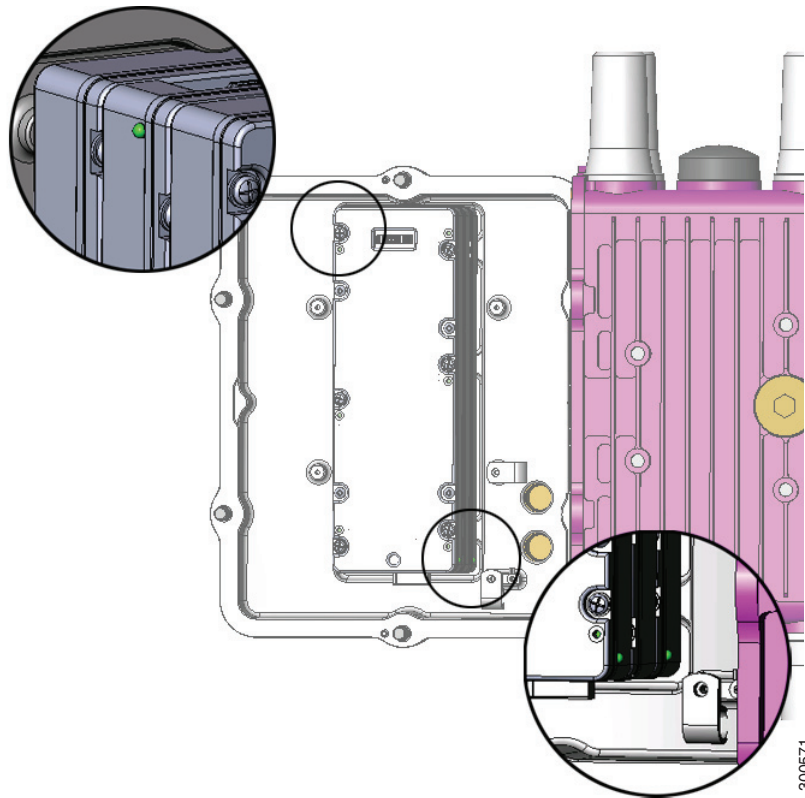
LED Label	Color and State	Description
<b>GPS</b>	Green	Locked but not receiving data
	Green blinking	Locked and receiving data
	Yellow blinking	Acquiring satellite
	Yellow solid	No GPS link

## Battery Backup Unit LED

The router supports up to three battery backup units (BBUs). When two or more BBUs are installed, they are connected to each other in a head-to-tail configuration in the router and the BBU LED are in the locations shown in [Figure 101 on page 185](#).

To see the LED for each BBU, open the router chassis as described in [Opening and Closing the Router Chassis, page 75](#).

**Figure 101 Battery Backup LED Location**

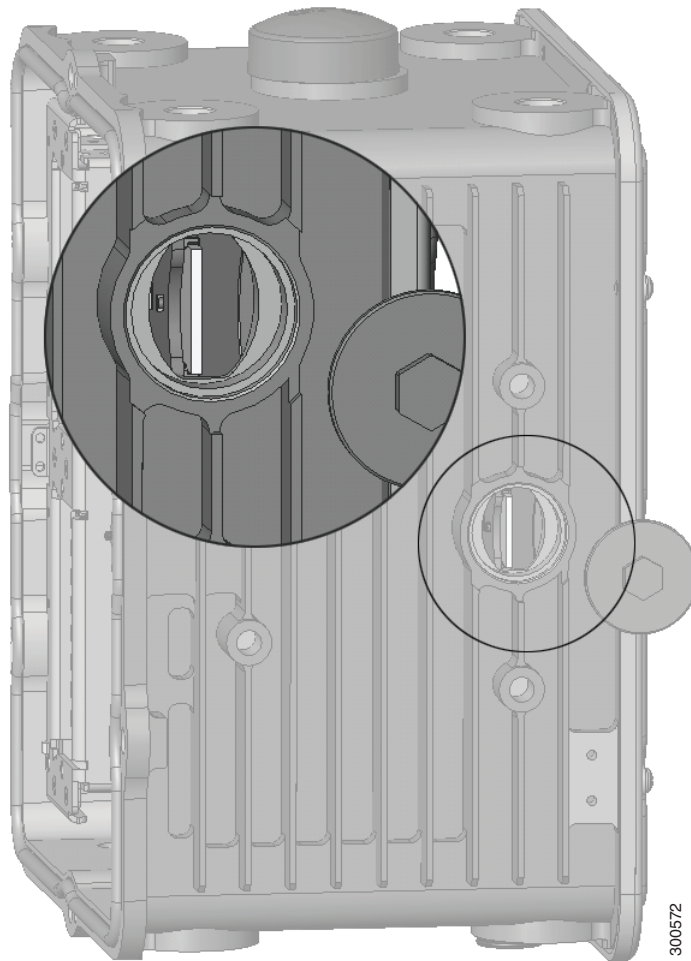


LED	Color and State	Description
BBU (no label)	Green solid	Idle state
	Green blinking	Charging
	Amber blinking	Discharging (providing power to the system)
	Amber slow blinking	Disabled with the system software
	Alternate Red/green blinking	Initializing
	Red blinking	Bootloader mode
	Red slow blinking	Test mode
	Red solid	BBU failure
	Off	Disconnected from router or completely discharged

## SD Flash Memory Module LED – SD Card Status

To see the SD card and the SD LED, you must remove the exterior plug that covers the router SD card port, as shown in [Figure 102 on page 186](#).

Figure 102 SD Card (SD0)– Router Right Side Exterior



Label	Color and State	Description
<b>SD0</b>	Green	SD flash card installed and operating normally  <b>Note:</b> If the SD Card is removed, the SD flash memory module LED remains green until the router is rebooted.
	Green blinking	SD flash card data transfer in process
	Amber	<ul style="list-style-type: none"> <li>■ Error when system accesses the SD flash card</li> <li>■ Router cannot locate a system software image</li> </ul>
	Amber blinking	Unsupported SD card installed in the slot

## Related Commands

Commands related to displaying LED status information for the different operating systems (Cisco CG-OS and Cisco IOS) used on the CGR 1240 router are presented in this section.

An example of the usefulness of the command is that during normal operation, the router can be installed at the top of an outdoor pole or other inaccessible location, and you may not be able to view the SYS LED on the router hardware. In this case, you can view the status of the LED from a remote location using the router CLI.

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The range of commands presented includes:

- [Displaying Router SYS LED Status Command, page 187](#)
- [Displaying Interface Status Command, page 188](#)

## Displaying Router SYS LED Status Command

A show command can be used to display the SYS LED status in text format. There are two SYS LEDs on the CGR router: the first SYS LED is located on the router exterior (see [Figure 99 on page 181](#)) and the second is inside the router chassis (see [Figure 100 on page 182](#)). [Table 32 on page 182](#) describes the SYS LED status.

The operating system show commands are:

- [Cisco CG-OS show led Command, page 187](#)
- [Cisco IOS show platform led Command, page 187](#)

### Cisco CG-OS show led Command

On a CGR 1240 router using the Cisco CG-OS operating system, use the **show led** command in any command mode to view the status of the router SYS LED.

This example shows the **show led** command output:

```
CGR1240> show led
System LED: green, solid

Summary of LED status provider:
Client      | State
-----
cellular 3/1 | Blinking

--- end of list ---
CGR-1040>
```

### Cisco IOS show platform led Command

On a CGR 1240 router using the Cisco IOS operating system, use the **show platform led** command in global configuration mode to view the status of the router SYS LED.

```
CGR-1240# show platform led

LED STATUS:
=====

FE PORTS : FE2/3 FE2/4 FE2/5 FE2/6
LINK/ENABLE LED : OFF OFF OFF OFF
SPEED LED : unknown unknown unknown unknown

GE PORTS : GE2/1 GE2/2
LINK/ENABLE LED : GREEN GREEN
SPEED LED : 1Gbps 1Gbps

SFP PORTS : SFP1 SFP2
LINK/ENABLE LED : OFF OFF
SPEED LED : unknown unknown
=====
```

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System LED: amber, blinking  
Activity LED: blinking

## Displaying Interface Status Command

The Cisco CG-OS and Cisco IOS operating systems use the show interface command to display status information about the router interfaces in privileged EXEC mode.

Sample output is presented in these sections:

- [Cisco CG-OS show interface Command, page 188](#)
- [Cisco IOS show interface Command, page 189](#)

## Cisco CG-OS show interface Command

This example shows **show interface** command output for a CGR 1240 router running a Cisco CG-OS operating system:

```
CGR1240> show interface

Ethernet0 is up, line protocol is up
  Hardware is Lance, address is 0019.076c.1a78 (bia 0019.076c.1a78)
  Internet address is 172.28.231.193/23
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec, rely 255/255, load 1/255
  Encapsulation ARPA, loopback not set, keepalive set (10 sec)
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Queueing strategy: fifo
  Output queue 0/40, 0 drops; input queue 5/75, 32 drops
  5 minute input rate 10000 bits/sec, 27 packets/sec
  5 minute output rate 10000 bits/sec, 26 packets/sec
    16076431 packets input, 1280716531 bytes, 27 no buffer
  Received 1809290 broadcasts, 0 runts, 0 giants
    1105 input errors, 0 CRC, 0 frame, 0 overrun, 1105 ignored, 0 abort
    0 input packets with dribble condition detected
    16196175 packets output, 1011044938 bytes, 0 underruns
    19 output errors, 184 collisions, 3 interface resets
    0 babbles, 0 late collision, 1474 deferred
    19 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
Serial0 is administratively down, line protocol is down
  Hardware is HD64570
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, rely 255/255, load 1/255
  Encapsulation HDLC, loopback not set, keepalive set (10 sec)
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/64/0 (size/threshold/drops)
    Conversations 0/0 (active/max active)
    Reserved Conversations 0/0 (allocated/max allocated)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts, 0 runts, 0 giants
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 output buffer failures, 0 output buffers swapped out
    0 carrier transitions
  DCD=down DSR=down DTR=down RTS=down CTS=down
```



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## Cisco IOS show interface Command

This example shows **show interface** command output for a CGR 1240 router running a Cisco IOS operating system:

```
CGR1240> show interface

GigabitEthernet0/1 is up, line protocol is up
  Hardware is iGbE, address is 0022.bdec.f0f9 (bia 0022.bdec.f0f9)
  Internet address is 192.168.1.254/24
  MTU 1500 bytes, BW 1000000 Kbit/sec, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto Duplex, Auto Speed, media type is internal
  output flow-control is unsupported, input flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:06:39, output 00:00:06, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    8579 packets input, 612922 bytes, 0 no buffer
    Received 994 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 497 multicast, 0 pause input
    58519 packets output, 6541254 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    1 lost carrier, 0 no carrier, 0 pause output
    0 output buffer failures, 0 output buffers swapped out
Dot11Radio2/1 is administratively down, line protocol is down
  Hardware is 802.11N 2.4GHz Radio, address is 5cda.d4ad.092a (bia 5cda.d4ad.092a)
  MTU 1500 bytes, BW 72000 Kbit/sec, DLY 0 usec,
    reliability 0/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/30 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 unknown protocol drops
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier
    0 output buffer failures, 0 output buffers swapped out
FastEthernet2/3 is down, line protocol is down
  Hardware is Fast Ethernet, address is 0022.bdec.f0f3 (bia 0022.bdec.f0f3)
  MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
```

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```
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 2 interface resets
  0 unknown protocol drops
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 pause output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet2/4 is administratively down, line protocol is down
Hardware is Fast Ethernet, address is 0022.bdec.f0f4 (bia 0022.bdec.f0f4)
MTU 1500 bytes, BW 100000 Kbit/sec, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 unknown protocol drops
  0 babbles, 0 late collision, 0 deferred
  47966 lost carrier, 0 no carrier, 0 pause output
  0 output buffer failures, 0 output buffers swapped out
```