



# CHAPTER 1

## Verifying Hardware Installation

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After installing the Cisco ASR 1000 Series Aggregation Services Router or replacing any of its hardware components that are field-replaceable units (FRUs), verify the installation.

This chapter includes the following sections:

- [Checking the LEDs, page 1-1](#)
- [Checking Status Using show Commands, page 1-9](#)
- [When Installation Is Not Successful, page 1-14](#)
- [For More Information, page 1-15](#)

### Checking the LEDs

Check the LEDs on the faceplates of the following FRUs:

- [Cisco ASR 1000 Series Route Processors, page 1-1](#)
- [Cisco ASR 1000 Series Embedded Services Processors, page 1-5](#)
- [Cisco ASR 1004 Router, Cisco ASR 1006 Router, page 1-6](#)
- [Shared Port Adapters, page 1-7](#)
- [Cisco ASR 1001 Built-in Gigabit Ethernet SPA LEDs, page 1-8](#)

### Cisco ASR 1000 Series Route Processors

Route processor LEDs vary according to the chassis model, as described in the following sections.

#### Cisco ASR 1013 Router

[Table 1-1](#) shows the color or state of the LEDs in the Cisco ASR 1000 Series Route Processor-2 (RP-2) that indicate a successful installation. [Figure 1-1](#) shows a view of the LEDs on the faceplate.



**Note**

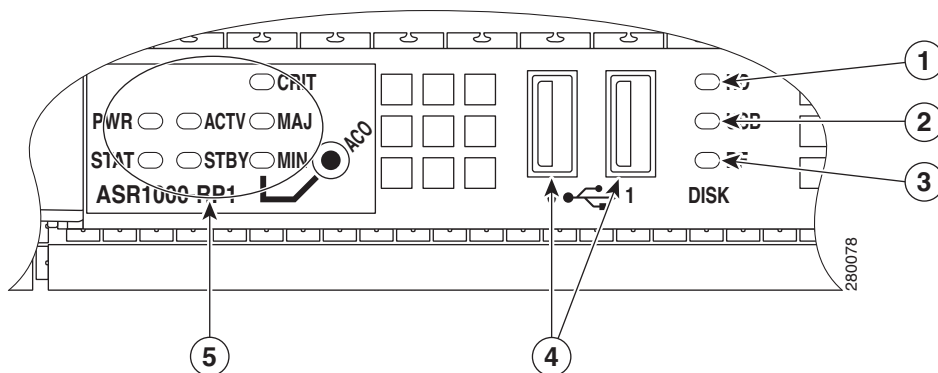
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Only Route Processor-2 (RP-2) and ESP-40 (Embedded Service Processor) are supported for installation on the Cisco ASR 1013 Router.

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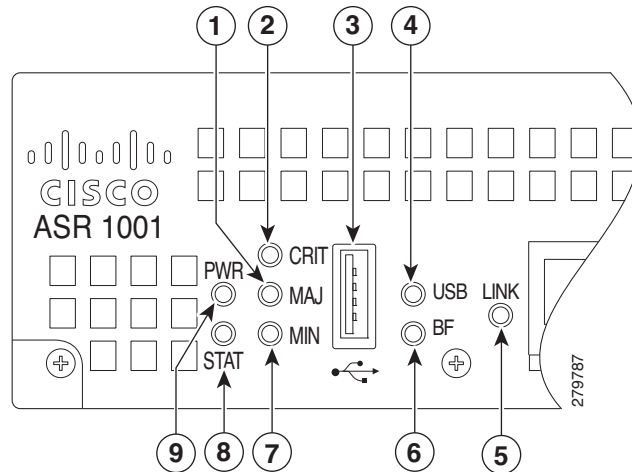
**Table 1-1 RP-2 Faceplate LEDs Indicating a Successful Installation (Cisco ASR 1013 Router)**

LED Label	Color—State	Description
PWR	Solid green	All power requirements are within specification
	Off	Off indicates that the router is in standby mode.
STAT	Solid green	Cisco IOS has successfully booted.
	Yellow	BOOT ROM has successfully loaded.
	Red	System failure.
ACTV	Green	Lit when this is the active ASR 1000 Series route processor (Cisco ASR1000-RP1 or Cisco ASR1000-RP2).
STBY	Yellow	Lit when this is the standby ASR 1000 Series route processor.
CRIT	Solid red	Critical alarm indicator. This is on at power up, turned off by software.
MAJ	Solid red	Major alarm indicator.
MIN	Amber	Minor alarm indicator.
DISK HD	Flashing green	Active indicator.
	Off	No activity.
DISK USB	Flashing green	Active indicator.
	Off	No activity.
DISK BF	Flashing green	Active indicator.
	Off	No activity.

**Figure 1-1 RP-2 Faceplate LEDs for an Active RP (Cisco ASR 1013 Router)**

## Cisco ASR 1001 Router

The Cisco ASR 1001 Router faceplate has common components for each type of ASR 1001 Router configuration. [Figure 1-2](#) shows the Cisco ASR1000 front panel LEDs of the Cisco ASR 1001 Router. [Table 1-2](#) shows the color or state of the LEDs in the Cisco ASR 1001 Series Router.

**Figure 1-2 Common LEDs for Cisco ASR 1001 Router****Table 1-2 Cisco ASR 1001 LED Color or State Details**

LED Label	Color—State	Description
PWR	Solid green	Power requirements are within specification.
STAT	Solid green	Cisco IOS booted successfully.
MIN	Off	No minor alarms.
MAJ	Off	No major alarms.
CRIT	Off	No critical alarms.
BF	Green	Indicates activity of the EUSB device
Link	Green	Solid Green indicates Link, Flashing green indicates MGMT Ethernet port activity.
USB	Green	USB is green and flashes when accessed.

## Cisco ASR 1004 Router, Cisco ASR 1006 Router

Table 1-3 shows the color or state of the LEDs in the Cisco ASR 1000 Series Route Processor (RP) that indicate a successful installation. Figure 1-3 shows a view of the LEDs on the faceplate.

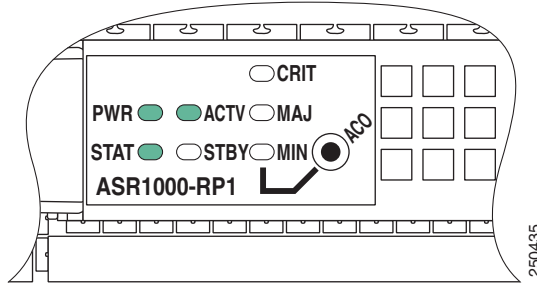
**Table 1-3 RP LEDs Indicating a Successful Installation (Cisco ASR 1004 Router, Cisco ASR 1006 Router)**

LED Label	Color—State	Description
PWR	Solid green	Power requirements are within specification.
STAT	Solid green	Cisco IOS booted successfully.
ACTV	Green	Active RP.
STBY	Yellow	Standby RP.
CRIT	Off	No critical alarms.

**Table 1-3** RP LEDs Indicating a Successful Installation (Cisco ASR 1004 Router, Cisco ASR 1006 Router) (continued)

LED Label	Color—State	Description
MAJ	Off	No major alarms.
MIN	Off	No minor alarms.

**Figure 1-3** RP Faceplate LEDs for an Active RP (Cisco ASR 1004 Router, Cisco ASR 1006 Router)



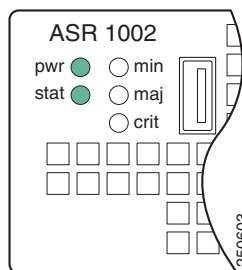
## Cisco ASR 1002 Router

Table 1-4 shows the color or state of the LEDs in the Cisco ASR 1000 Series Route Processor (RP) that indicate a successful installation. Figure 1-4 shows a view of the LEDs on the faceplate.

**Table 1-4** RP LEDs Indicating a Successful Installation (Cisco ASR 1002 Router)

LED Label	Color—State	Description
pwr	Solid green	Power requirements are within specification.
stat	Solid green	Cisco IOS booted successfully.
min	Off	No minor alarms.
maj	Off	No major alarms.
crit	Off	No critical alarms.

**Figure 1-4** RP Faceplate LEDs for an Active RP (Cisco ASR 1002 Router)



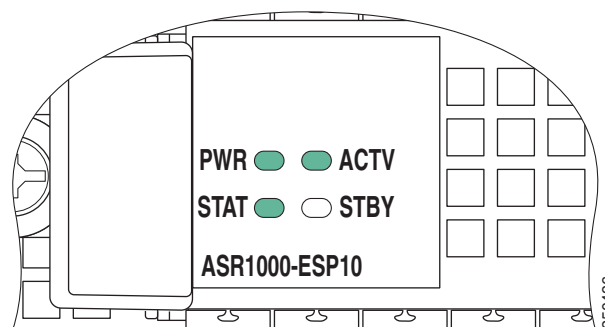
## Cisco ASR 1000 Series Embedded Services Processors

Table 1-5 shows the color or state of the LEDs in the Cisco ASR 1000 Series Embedded Services Processor (ESP) that indicate a successful installation. Figure 1-5 shows a view of the LEDs on the faceplate.

**Table 1-5** ESP LEDs Indicating a Successful Installation

LED Label	Color—State	Description
PWR	Solid green	Power requirements are within specification.
STAT	Solid green	Cisco IOS booted successfully.
ACTV	Green	Active ESP.
STBY	Yellow	Standby ESP.

**Figure 1-5** ESP Faceplate LEDs for an Active ESP



## Cisco ASR 1013 Router

Table 1-6 shows the color or state of the LEDs in the Cisco ASR 1000 Series SPA Interface Processors (SIP) that indicate a successful installation. Figure 1-6 shows a view of the LEDs on the faceplate.

**Table 1-6** SIP LEDs Indicating a Successful Installation (Cisco ASR 1013 Router)

LED Label	Color—State	Description
PWR	Solid green	SIP is powered on.
STATUS	Solid green	SIP is online.

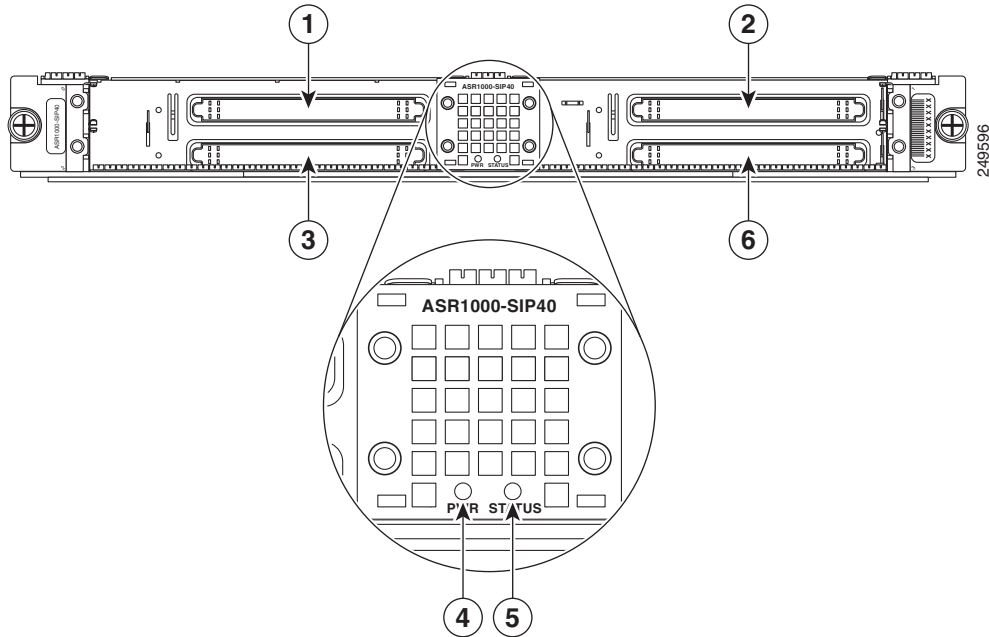
In the Cisco ASR 1013 Router, each Cisco ASR1000- SIP40 supports:

- Up to 6 ASR1000-SIP40G SIPs.
- Each SIP-40G supports:
  - Four half-height (¼ Rate or full rate or combination) SPAs with up to 24 ports per SPA
  - Two full-height (¼ Rate or full rate or combination) SPAs with up to 48 ports per SPA
  - Two half-height and 1 full-height combination that does not exceed 96 ports

**Note**

If ASR-SIP10 is inserted in slot 0 to 5 of a Cisco ASR 1013 Router then you need to upgrade CPLD and ROMMON. If ASR-SIP40 is inserted in slot 4 or 5, it behaves like the ASR-SIP10.

**Figure 1-6 SIP Faceplate LEDs (Cisco ASR 1013 Router)**

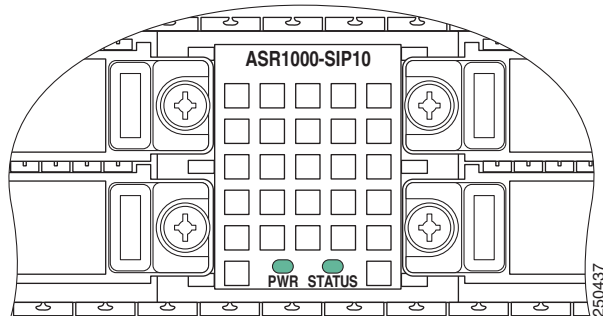


## Cisco ASR 1004 Router, Cisco ASR 1006 Router

Table 1-7 shows the color or state of the LEDs in the Cisco ASR 1000 Series SPA Interface Processors (SIP) that indicate a successful installation. Figure 1-7 shows a view of the LEDs on the faceplate.

**Table 1-7 SIP LEDs Indicating a Successful Installation (Cisco ASR 1004 Router, Cisco ASR 1006 Router)**

LED Label	Color—State	Description
PWR	Solid green	SIP is powered on.
STATUS	Solid green	SIP is online.

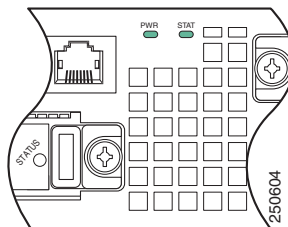
**Figure 1-7 SIP Faceplate LEDs (Cisco ASR 1004 Router, Cisco ASR 1006 Router)**

## Cisco ASR 1002 Router

Table 1-8 shows the color or state of the LEDs in the Cisco ASR 1000 Series SPA Interface Processors (SIP) that indicate a successful installation. Figure 1-8 shows a view of the LEDs on the faceplate.

**Table 1-8 SIP LEDs Indicating a Successful Installation (Cisco ASR 1002 Router)**

LED Label	Color—State	Description
PWR	Solid green	SIP is powered on.
STAT	Solid green	SIP is online.

**Figure 1-8 SIP Faceplate LEDs (Cisco ASR 1002 Router)**

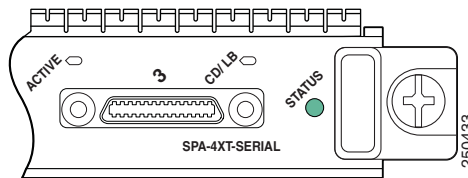
## Shared Port Adapters

Table 1-9 shows the color or state of the LED the shared port adapter (SPA) that indicates a successful installation. Figure 1-9 shows a view of the LED on the faceplate.

**Table 1-9 SPA LED Indicating a Successful Installation**

LED Label	Color—State	Description
STATUS	Solid green	SPA is powered on and is operational.

Figure 1-9 SPA Faceplate LED



## Cisco ASR 1001 Built-in Gigabit Ethernet SPA LEDs

The Cisco ASR 1001 Router has a Built-in Gigabit Ethernet SPA, which is installed. [Table 1-10](#) shows the Built-in SPA LEDs details.

**Table 1-10** Cisco ASR 1001 Router Built-in Gigabit Ethernet SPA Successful Installation

LED Label	Color—State	Description
GE SFP STATUS	Amber or Green	Off indicates port is not enabled by software. Amber indicates the port is enabled by software, but Ethernet Link is not yet established. Green indicates the port is enabled by software and that an Ethernet Link has been established.

## AC and DC Power Supplies

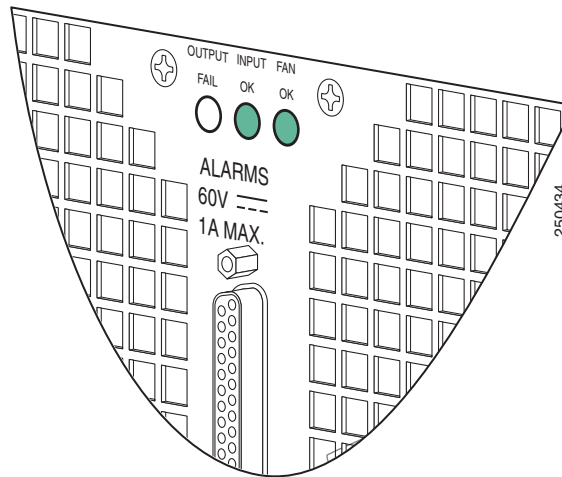
[Table 1-11](#) shows the color or state of the LEDs that indicate a successful installation. [Figure 1-10](#) shows a view of the LEDs on the faceplate.

**Table 1-11** AC and DC Power Supply LEDs Indicating a Successful Installation

LED Label	Color—State	Description
INPUT OK	Green	Input voltage is within normal operating range.
FAN OK	Green	All fans are operational.
OUTPUT FAIL	Off	Output voltage is within normal operating range.



**Figure 1-10 AC and DC Power Supply Faceplate LEDs**



## Checking Status Using show Commands

Use the **show platform** and **show environment all** commands to check the online and environmental status of each FRU after installation.

The **show platform** command displays the online status information for router FRUs. The State column in **show platform** command output should display “ok” for SIPs, SPAs, power supplies, and fans. For RPs (shown as R0, R1) and ESPs (shown as F0, F1), the State column should display “ok, active” or “ok, standby.”



### Note

There is only one LED for each Power Supply on Cisco ASR 1001 Router and it is green when powered-up.

```
Router# show platform
Chassis type: ASR1001
```

Slot	Type	State	Insert time (ago)
0	ASR1001	ok	23:28:16
0/0	4XGE-BUILT-IN	ok	23:27:23
0/1	SPA-2XOC12-POS	ok	23:27:21
0/2	ASR1001-IDC-4XGE	ok	23:27:23
R0	ASR1001	ok	23:28:16
R0/0		ok, active	23:28:16
F0	ASR1001	ok, active	23:28:16
P0	Unknown	ps, fail	never
P1	ASR1001-PWR-AC	ok	23:27:50
P2	ASR1001-FANTRAY	ok	23:27:51

Slot	CPLD Version	Firmware Version
0	0902010A	12.2(20090526:143323) [gschnorr-mcp_...
R0	09020110	12.2(20090526:143323) [gschnorr-mcp_...
F0	0902010A	12.2(20090526:143323) [gschnorr-mcp_...

```
Router# show platform
Chassis type: ASR1013
```

Slot	Type	State	Insert time (ago)
0	ASR1000-SIP10	ok	1w0d
1	ASR1000-SIP40	ok	1w0d
1/1	SPA-5X1GE-V2	ok	1w0d
2	ASR1000-SIP40	ok	1w0d
2/1	SPA-1X10GE-L-V2	ok	1w0d
2/3	SPA-1X10GE-L-V2	ok	1w0d
3	ASR1000-SIP40	ok	1w0d
3/3	SPA-4XT3/E3	ok	1w0d
4	ASR1000-SIP40	ok	1w0d
4/2	SPA-5X1GE-V2	ok	1w0d
4/3	SPA-4XCT3/DS0	ok	1w0d
5	ASR1000-SIP40	ok	1w0d
R0	ASR1000-RP2	ok, active	1w0d
R1	ASR1000-RP2	ok, standby	1w0d
F0	ASR1000-ESP40	ok, active	1w0d
F1	ASR1000-ESP40	ok, standby	1w0d
P0	ASR1013-PWR-AC	ok	1w0d
P1	ASR1013-PWR-AC	ps, fail	1w0d
P2	ASR1013-PWR-AC	ok	1w0d
P3	ASR1013-PWR-AC	ps, fail	1w0d

Slot	CPLD Version	Firmware Version
0	00200800	15.0(1r)S
1	00200800	15.0(1r)S
2	00200800	15.0(1r)S
3	00200800	15.0(1r)S
4	00200800	15.0(1r)S
5	00200800	15.0(1r)S
R0	10021901	15.0(1r)S
R1	10021901	15.0(1r)S
F0	1001270D	15.0(1r)S
F1	1001271D	15.0(1r)S

```
Router# show platform
Chassis type: ASR1006
```

Slot	Type	State	Insert time (ago)
------	------	-------	-------------------

```

0          ASR1000-SIP10      ok          18:23:58
0/0        SPA-5X1GE-V2      ok          18:22:38
0/1        SPA-8X1FE-TX-V2   ok          18:22:33
0/2        SPA-2XCT3/DS0     ok          18:22:38
1          ASR1000-SIP10      ok          18:23:58
1/0        SPA-2XOC3-POS     ok          18:22:38
1/1        SPA-8XCHT1/E1     ok          18:22:38
1/2        SPA-2XT3/E3       ok          18:22:38
R0         ASR1000-RP1       ok, active  18:23:58
F0         ASR1000-ESP10     ok, active  18:23:58
P0         ASR1006-PWR-AC    ok          18:23:09
P1         ASR1006-FAN       ok          18:23:09

```

```

Slot      CPLD Version      Firmware Version
-----
0         06120701             12.2(33r)XN2
1         06120701             12.2(33r)XN2
R0        07082312             12.2(33r)XN2
F0        07051680             12.2(33r)XN2

```

The **show environment all** command displays system temperature, voltage, fan, and power supply conditions. (It does not display environmental information for SPAs.) The State column in **show environment all** output should show “Normal,” except for fans where it indicates fan speed. A fan speed of 65% is normal.

```

Router# show environment all
Sensor List: Environmental Monitoring

```

Sensor	Location	State	Reading
V1: VMA	F0	Normal	1801 mV
V1: VMB	F0	Normal	1206 mV
V1: VMC	F0	Normal	1206 mV
V1: VMD	F0	Normal	1103 mV
V1: VME	F0	Normal	1005 mV
V1: 12v	F0	Normal	11967 mV
V1: VDD	F0	Normal	3295 mV
V1: GP1	F0	Normal	905 mV
V2: VMA	F0	Normal	3295 mV
V2: VMB	F0	Normal	2495 mV
V2: VMC	F0	Normal	1499 mV
V2: VMD	F0	Normal	1098 mV
V2: VME	F0	Normal	1000 mV
V2: VMF	F0	Normal	1000 mV
V2: 12v	F0	Normal	11923 mV
V2: VDD	F0	Normal	3295 mV
V2: GP1	F0	Normal	751 mV
Temp: Inlet	F0	Normal	27 Celsius
Temp: Asic1	F0	Normal	44 Celsius
Temp: Exhaust1	F0	Normal	36 Celsius
Temp: Exhaust2	F0	Normal	34 Celsius
Temp: Asic2	F0	Normal	40 Celsius
V1: VMA	0	Normal	1103 mV
V1: VMB	0	Normal	1201 mV
V1: VMC	0	Normal	1503 mV
V1: VMD	0	Normal	1801 mV
V1: VME	0	Normal	2495 mV
V1: VMF	0	Normal	3295 mV
V1: 12v	0	Normal	11967 mV
V1: VDD	0	Normal	3295 mV
V1: GP1	0	Normal	751 mV
V1: GP2	0	Normal	903 mV
V2: VMB	0	Normal	1201 mV
V2: 12v	0	Normal	11967 mV

```

V2: VDD          0          Normal          3291 mV
V2: GP2          0          Normal          903 mV
Temp: Left       0          Normal          28 Celsius
Temp: Center     0          Normal          29 Celsius
Temp: Asic1     0          Normal          42 Celsius
Temp: Right      0          Normal          27 Celsius
V1: VMA         1          Normal          1103 mV
V1: VMB         1          Normal          1201 mV
V1: VMC         1          Normal          1503 mV
V1: VMD         1          Normal          1801 mV
V1: VME         1          Normal          2495 mV
V1: VMF         1          Normal          3295 mV
V1: 12v         1          Normal          11953 mV
V1: VDD         1          Normal          3291 mV
V1: GP1         1          Normal          754 mV
V1: GP2         1          Normal          903 mV
V2: VMB         1          Normal          1206 mV
V2: 12v         1          Normal          11967 mV
V2: VDD         1          Normal          3291 mV
V2: GP2         1          Normal          905 mV
Temp: Left       1          Normal          28 Celsius
Temp: Center     1          Normal          30 Celsius
Temp: Asic1     1          Normal          44 Celsius
Temp: Right      1          Normal          28 Celsius
PEM Iout        P0          Normal          37 A
PEM Vout        P0          Normal          12 V AC
PEM Vin         P0          Normal          116 V AC
Temp: PEM       P0          Normal          28 Celsius
Temp: FC        P0          Fan Speed 65%   25 Celsius
Temp: FM        P1          Normal          1 Celsius
Temp: FC        P1          Fan Speed 65%   25 Celsius
V1: VMA         R0          Normal          1118 mV
V1: VMB         R0          Normal          3315 mV
V1: VMC         R0          Normal          2519 mV
V1: VMD         R0          Normal          1811 mV
V1: VME         R0          Normal          1513 mV
V1: VMF         R0          Normal          1220 mV
V1: 12v         R0          Normal          12011 mV
V1: VDD         R0          Normal          3300 mV
V1: GP1         R0          Normal          913 mV
V1: GP2         R0          Normal          1247 mV
Temp: CPU       R0          Normal          29 Celsius
Temp: Outlet    R0          Normal          30 Celsius
Temp: Inlet     R0          Normal          25 Celsius
Temp: Asic1    R0          Normal          30 Celsius

```

The **show environment all** command output shows an example of one power supply in the Cisco ASR 1001 Router:

```

Router# show environment all
Sensor List: Environmental Monitoring
Sensor      Location      State      Reading
PEM Iout    P1           Normal    13 A
PEM Vout    P1           Normal    12 V AC
PEM Vin     P1           Normal    231 V AC
Temp: Inlet P1           Normal    27 Celsius
Temp: Internal P1         Normal    35 Celsius
V1: VMA     R0           Normal    3295 mV
V1: VMB     R0           Normal    1000 mV
V1: VMC     R0           Normal    2495 mV
V1: VMD     R0           Normal    2460 mV
V1: VME     R0           Normal    1201 mV
V1: VMF     R0           Normal    1796 mV
V1: 12v    R0           Normal    11967 mV

```

V1: VDD	R0	Normal	4970 mV
V1: GP1	R0	Normal	1201 mV
V1: GP2	R0	Normal	903 mV
V2: VMA	R0	Normal	1098 mV
V2: VMB	R0	Normal	1000 mV
V2: VMC	R0	Normal	1499 mV
V2: VMD	R0	5% high	1206 mV
V2: VME	R0	Normal	1098 mV
V2: VMF	R0	Normal	1054 mV
V2: 12v	R0	Normal	11953 mV
V2: VDD	R0	Normal	4985 mV
V2: GP1	R0	5% high	812 mV
V2: GP2	R0	20% low	2497 mV
Temp: Middle	R0	Normal	54 Celsius
Temp: CPU Die	R0	Normal	46 Celsius
Temp: Top Left	R0	Normal	44 Celsius
Temp: Asic1	R0	Normal	67 Celsius
Temp: Inlet	R0	Normal	35 Celsius
Temp: Asic3	R0	Normal	65 Celsius
Temp: Rear	R0	Minor	60 Celsius
Temp: Asic2	R0	Normal	60 Celsius
Temp: Mid Frnt	R0	Normal	50 Celsius
Temp: MCH Die	R0	Normal	70 Celsius
Temp: FC	R0	Fan Speed 65%	35 Celsius

To display the Field Programmable Devices (FPD) on Cisco ASR 1001 Router, use the **show hw-module all fpd** command:

```
Router# show hw-module all fpd
```

```
==== =====
Slot Card Type                H/W  Field Programmable  Current  Min. Required
                               Ver.  Device: "ID-Name"   Version  Version
==== =====
0/0 4XGE-BUILT-IN             1.0  1-GE I/O FPGA      1.10     1.10
-----
0/1 SPA-2XOC12-POS           1.0  1-I/O FPGA         1.1      1.1
-----
0/2 ASR1001-IDC-4XGE         1.1  1-GE I/O FPGA      1.10     1.10
==== =====
```

To display the Field Programmable Devices (FPD) on Cisco ASR 1013 Router, use the **show hw-module all fpd** command:

```
Router# show hw-module all fpd
```

```
==== =====
Slot Card Type                H/W  Field Programmable  Current  Min. Required
                               Ver.  Device: "ID-Name"   Version  Version
==== =====
4/2 SPA-2CHT3-CE-ATM         1.0  3-SPAMON           1.4      1.4
                               6-IOFPGA           2.25     2.25
                               9-UFE              1.10     1.10
-----
5/0 SPA-5X1GE-V2             1.2  1-GE I/O FPGA      1.10     1.10
-----
5/1 SPA-8X1GE-V2             1.1  1-GE I/O FPGA      1.10     1.10
-----
5/2 SPA-4XT3/E3              1.1  1-ROMMON           2.12     2.12
                               2-I/O FPGA         1.1      1.1
                               3-E3 FPGA          1.4      1.4
                               4-T3 FPGA          1.4      1.4
==== =====
```

# When Installation Is Not Successful

This section discusses the following items to check or troubleshoot when installation is not successful:

- [Physical Connections, page 1-14](#)
- [Mechanical Damage, page 1-14](#)
- [Alarm LED Is Illuminated, page 1-14](#)
- [Status LED Remains Amber, page 1-15](#)
- [LEDS Are Not Illuminated on a Power Supply, page 1-15](#)

## Physical Connections

Rule out an easily-fixed physical connection problem by verifying that:

- Power supplies are plugged in and switched on.
- Cables are connected.
- All FRUs are seated correctly.

## Mechanical Damage

Examples of mechanical damage are a bent flange on a power supply or bent pins on a connector. If you detect mechanical damage:

- Do *not* attempt to straighten pins or repair mechanical damage.
- If you can see damaged pins, do *not* attempt to insert an assembly (SPA, SIP, ESP, or RP) into any slot. Doing so can damage the assembly or the chassis.
- Return the damaged equipment.

## Alarm LED Is Illuminated

If the CRIT, MAJ, or MIN alarm LED is illuminated, determine the cause of the alarm by doing *one* of the following:

- Review the alarm message. The **logging alarm** command must be enabled for the system to send alarm messages to the console. The following is an example of an alarm message that was generated when a SPA was removed without a graceful deactivation of the SPA:

```
*Aug 22 13:27:33.774: %ASR1000_OIR-6-REMSPA: SPA removed from subslot 1/1, interfaces disabled
```

```
*Aug 22 13:27:33.775: %SPA_OIR-6-OFFLINECARD: SPA (SPA-4XT-SERIAL) offline in subslot 1/1
```

- Enter the **show facility-alarm status** command. The following example shows a critical alarm that is generated when a SPA is removed from the system:

```
Router# show facility-alarm status
System Totals  Critical: 1  Major: 0  Minor: 0

Source           Severity      Description [Index]
-----
subslot 1/1      CRITICAL      Active Card Removed OIR Alarm [0]
```



**Note** A critical alarm "Active Card Removed OIR Alarm" is generated even if a SPA is removed after performing graceful deactivation.

## Status LED Remains Amber

As Cisco IOS boots on a FRU, the status LED is amber or yellow. When Cisco IOS has successfully booted, the status LED becomes solid green.

If the status LED remains amber or yellow, check the console for alarm messages. The **logging alarm** command must be enabled for the system to send alarm messages to the console.

If there is no information on the console, some setting or error is not allowing Cisco IOS to boot. Contact Cisco Support; it is possible you might need to replace the FRU.

## LEDS Are Not Illuminated on a Power Supply

### DC Power Supply

If LEDs are not illuminated on the DC power supply, many times the problem is reversed polarity. Check the DC input power supply to see if the positive and negative lead wires are swapped.

### AC Power Supply

If LEDs are not illuminated on the AC power supply, there is no input power or the power cord is not fully seated. If the power cord is fully seated, check the input power.

## For More Information

For more information about the topics discussed in this chapter, see the following documents:

Topic	Document
Command descriptions	<a href="#">Cisco IOS Master Command List, All Releases</a> <a href="#">Command Lookup Tool</a> (Requires Cisco.com user ID and password) <a href="#">OL-17665-04</a>
Graceful Deactivation of a SIP or SPA: Online insertion and removal (OIR)	“Installing and Removing a SIP” chapter in the <a href="#">Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Hardware Installation Guide</a>

<b>Topic</b>	<b>Document</b>
LEDs for the RP, ESP, SIP, and AC and DC power supplies	“Cisco ASR 1000 Series Routers Components Overview” chapter in the <a href="#">Cisco ASR 1000 Series Router Hardware Installation Guide</a>
LEDs for the SIP and SPA	<a href="#">Cisco ASR 1000 Series Aggregation Services Routers SIP and SPA Hardware Installation Guide</a>
Cisco ASR 1001 Router Quick-Start	<a href="#">Cisco ASR 1001 Router Quick Start Guide</a>
Overview, Installation, and Detailed information of Cisco ASR 1001 Router	<a href="#">Cisco ASR 1000 Series Router Hardware Installation Guide</a>
Cisco ASR 1013 Router Quick-Start	<a href="#">Cisco ASR 1013 Router Quick Start Guide</a>