Using the SD Flash Memory Module

This section describes the Secure Digital (SD) flash memory module (or SD card) that is used with the Cisco 1120 Connected Grid Router, and includes instructions for installing and removing the SD card.

These topics are discussed:

- SD Card Overview, page 77
- SD Card Status, page 78
- Accessing the SD Card, page 79
- SD Card Insertion and Removal, page 79
- Securing the SD Card with a Password, page 81
- Related Commands, page 82

SD Card Overview

The router features an SD card connector, which supports a single Cisco SD card. The SD card stores router data and software, including:

- Router operating software
- Running configurations
- Network management software configuration
- Network registration data
- Router firmware
- Billing data
- Outage data
- Event data

The topics in this section include:

- SD Card File System, page 77
- Sharing SD Cards Across Systems, page 78
- Supported SD Cards, page 78

SD Card File System

The SD card uses a Linux-based EXT2/3 file system. The router configuration is stored in a binary file in an invisible partition on the card.

Sharing SD Cards Across Systems

The card cannot be used to configure or operate any system other than the system with which is it shipped.

Supported SD Cards

Table 1 on page 78 lists the SD cards that can be used with the router.

Table 1   **Supported SD Flash Memory Modules**

Size
2-GB

Note: For detailed specifications about the SD flash memory module, refer to SD Flash Memory Module, page 18.
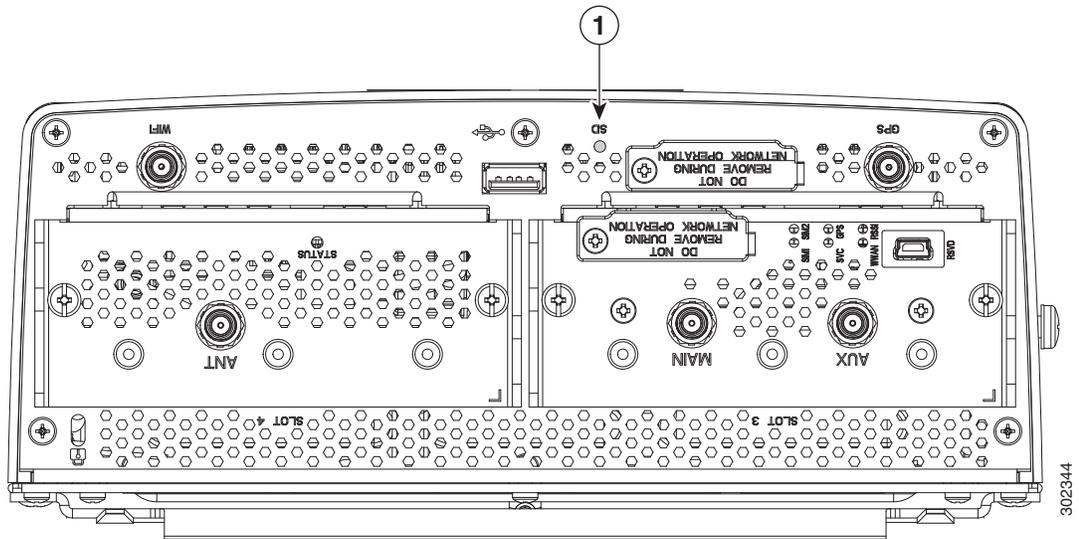
SD Card Status

You can check the SD card status by viewing the SD Card LED.

SD Card LED

The SD card LED is located next to the SD card slot (see Figure 1 on page 78).

Figure 1   **SD Card LED (Item 1)**

Figure 2   SD LED – SD Flash Memory Module LED States

Label Description	Color and State	Description
SD0 SD flash card status	Green solid	SD flash card is installed and operating normally. **Note:** If the SD Card is removed, the SD flash memory module LED remains green solid until the router is rebooted.
	Green blinking	A data transfer between the router and the SD card is in progress.
	Amber solid	■ An error occurred when the router accessed the SD flash card. ■ The router could not find a system software image.
	Amber blinking	An unsupported SD card is installed in the slot.

Accessing the SD Card

The SD card is accessed from the router exterior, though the router SD card port, shown in Figure 3 on page 79.

Caution: Removing the SD card during normal router operation will cause the router to stop operating. Do not remove the SD card while the router is operating.

Figure 3   SD Card Slot (with Cover) on Router Exterior
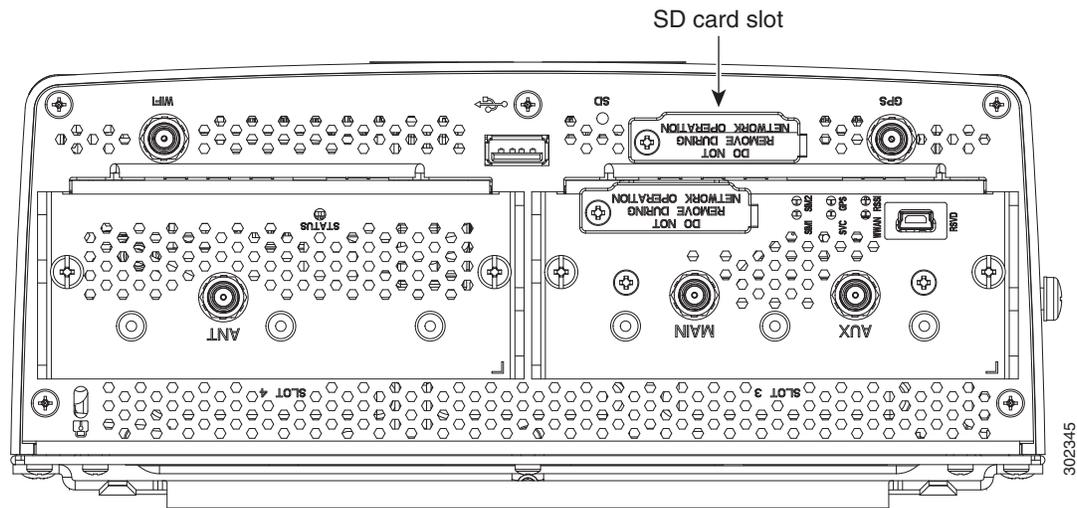
SD Card Insertion and Removal

Depending on the configuration, the router could arrive in the shipping container with the SD card already installed.

However, you might need to install or remove an SD card in the router when:

■ You are upgrading the router with software or firmware stored on the SD card.

■ The router requires an SD card with greater memory capacity.

■ You must replace a faulty or damaged SD card.

The topics in this section include:

Safety Warnings

Before performing any of the tasks in this section, read the safety warnings in Installation Safety and Site Preparation, page 5.

Preventing Electrostatic Discharge Damage

SD flash memory modules are sensitive to electrostatic discharge (ESD) damage, which can occur when electronic cards or components are handled improperly, results in complete or intermittent failures.

To prevent ESD damage, follow these guidelines:

■ Always use an ESD wrist or ankle strap and ensure that it makes good skin contact.

■ Connect the equipment end of the strap to an unfinished chassis surface.

■ Place a removed the memory card on an antistatic surface or in a static shielding bag. If the card will be returned to the factory, immediately place it in a static shielding bag.

■ Avoid contact between the card and clothing. The wrist strap protects the card from ESD voltages on the body only; ESD voltages on clothing can still cause damage.

■ Do not remove the wrist strap until the installation is complete.

Tools You Supply

You must provide a #2 Phillips screwdriver to remove the cover over the SD card slot.

Inserting and Removing the SD Card

Caution: Removing the SD card during normal router operation will cause the router to stop operating. Do not remove the SD card while the router is operating.

To install or remove a SD card:

1. Power down the router.

2. Use a Phillips screwdriver to remove the cover over the SD card slot (See Figure 3 on page 79).

3. To remove an SD card from the router:

   a. Press the SD card in slightly. The card moves outward so that it projects from the slot.

   b. Pull the SD card out of the slot.

   c. Place the SD card in an antistatic bag to protect it from static discharge.

4. To install an SD card in the router:

   a. Insert the SD card by sliding it into the SD card slot, with the connector first and the notched corner facing up. The card is keyed so that you cannot insert it the wrong way.

   b. Ensure that the card is seated in the slot connector and the edge of the card is flush with the edge of the slot.

5. Rotate the cover back in place and secure it by tightening the screw to 3.5 in-pounds.

Caution: You must replace the SD card slot cover when not using the card slot. If the card slot is not covered, the router interior could be exposed to environmental elements that can damage the router.

Securing the SD Card with a Password

Note: The CLI cited in this section work for both the CG-OS and Cisco IOS operating systems.

The SD card contents can be secured with a password. Once a password is set, the password must be supplied before data can be accessed on the SD card.

The SD card password must be set during system initialization, and you will be notified that the system must be rebooted for the new password to take effect. The password can be set at the CLI or through the CG-NMS.

To set and remove SD card passwords and display their status, see:

Setting and Removing an SD Card Password

To set a password for the SD-card, use the **sd-card password** *password* command in global configuration mode to set the password. Use the **no sd-card password** command in global configuration mode to remove the password.

Displaying the SD Card Password Status

The SD Card password status can be:

- Unlocked

- Locked

- Password set/reset, reboot pending

To determine the status of the SD card password, you can use the **show sd-card password status** command in user EXEC mode.

```
cgr1120# show sd-card password status

SD-card lock status: [Locked, reboot required to apply.]
```

The command output indicates that the SD card is password secured but the router must be rebooted for the password to apply.

The status of an SD card fully secured by a password the status is [Locked], and an SD card unsecured by a password has [Unlocked] status.

Related Commands

Note: The commands in this section work on routers using the Cisco CG-OS or Cisco IOS operating systems.

copy running-config startup-config

To save the router current software configuration to the SD card, use the **copy running-config startup-config** command in user EXEC mode:

```
cgr1120# copy running-config startup-config
[#####################################] 100%
Copy complete, now saving to disk (please wait)...
```

sd-card password

To set a password for the SD card, use the **sd-card password** *password* command in global configuration mode.

```
cgr1120(config)# sd-card password password
```

no sd-card password

To remove the SD card password, use the **no sd-card password** command in global configuration mode.

```
cgr1120(config)# no sd-card password
```

show sd-card password status

To determine the status of the SD card password, use the **show sd-card password status** command in user EXEC mode.

```
cgr1120# show sd-card password status
```