



# Release Notes for Catalyst 6500 Series Switch and Cisco 7600 Series Router Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON

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**Current Release: 8.5(4)—January 11, 2010**

**Past Releases: 8.5(3), 8.5(2), 8.5(1), 8.4(2), 8.1(3), 7.7(1)**

This publication describes how to determine if you need to upgrade the ROMMON on your Catalyst 6500 series or Cisco 7600 series router Supervisor Engine 720 or the Supervisor Engine 720-10GE and also provides the procedure to download the new ROMMON image from Cisco.com and then upgrade the ROMMON on your Supervisor Engine 720 or the Supervisor Engine 720-10GE.

With this procedure, you can upgrade the ROMMON image similar to the way that you upgrade the operating system software (supervisor engine software or MSFC Cisco IOS software). Without this procedure, you have to order the upgrade kit and physically replace the ROMMON (boot ROM).



## Note

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The ROMMON software upgrade procedure in this publication applies only to Supervisor Engine 720 with ROMMON software release 7.7(1) and later releases or the Supervisor Engine 720-10GE with ROMMON software release 8.5(2) and later releases.

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ROMMON software release 7.7(1) and later releases are supported in Catalyst 6500 and Cisco 7600 series systems that are running either of the following:

- Catalyst operating system on the Supervisor Engine 720 and Cisco IOS software on the MSFC3
- Cisco IOS software on the Supervisor Engine 720 and on the MSFC3

ROMMON software release 8.5(2) and later releases are supported in Catalyst 6500 and Cisco 7600 series systems that are running either of the following:

- Catalyst operating system on the Supervisor Engine 720 or the Supervisor Engine 720-10GE and Cisco IOS software on the MSFC3
- Cisco IOS software on the Supervisor Engine 720 or the Supervisor Engine 720-10GE and on the MSFC3



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## Software Images

[Table 1](#) lists the software releases for the Catalyst 6500 series switch and Cisco 7600 series router ROMMON Supervisor Engine 720 or the Supervisor Engine 720-10GE software.

**Table 1 Upgradable Modules**

<b>Supervisor Engine 720 ROMMON Software Release<sup>1</sup></b>	<b>Filename</b>
8.5(4) upgradable module ROMMON image	c6ksup 720-rm2.srec.8-5-4.srec
8.5(3) upgradable module ROMMON image	c6ksup 720-rm2.8-5-3.srec
8.5(2) upgradable module ROMMON image	c6ksup720-rm2.8-5-2.srec
8.5(1) upgradable module ROMMON image	c6ksup720-rm2.8-5-1.srec
8.4(2) upgradable module ROMMON image	c6ksup3-rm2.srec.8.4.2
8.1(3) upgradable module ROMMON image	c6ksup3-rm2.8-1-3.srec
7.7(1) upgradable module ROMMON image	c6ksup3-rm2.srec.7.7.1

1. The Supervisor Engine 720-10GE is supported in ROMMON software release 8.5(2) and later releases.

## ROMMON Image Overview

The Supervisor Engine 720 or the Supervisor Engine 720-10GE ROMMON consists of two modules:

- A resident module that is not changed during the upgrade procedure.
- An upgradable module that is updated during the upgrade procedure. This is the only module that you will download from Cisco.com.

## New and Changed Information

The following sections list new features:

- [Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Release 8.5\(4\)](#), page 3
- [Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Release 8.5\(3\)](#), page 3
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- [Supervisor Engine 720 ROMMON Release 8.5\(1\)](#), page 3
- [Supervisor Engine 720 ROMMON Release 8.4\(2\)](#), page 3
- [Supervisor Engine 720 ROMMON Release 8.1\(3\)](#), page 3

### Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Release 8.5(4)

- Support has been added to allow the SP to boot from the new mobile dual data rate (MDDR) DIMM, which is replacing the SDRAM DIMM on the Supervisor Engine 720. This support applies only to the current hardware release; previous versions of the hardware cannot use this feature.

### Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Release 8.5(3)

There are no new features in ROMMON release 8.5(3).

### Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Release 8.5(2)

ROMMON release 8.5.2 supports the Supervisor Engine 720-10GE.

ROMMON release 8.5.2 has no increased functionality for Supervisor Engine 720.

### Supervisor Engine 720 ROMMON Release 8.5(1)

There are no new features in ROMMON release 8.5(1).

### Supervisor Engine 720 ROMMON Release 8.4(2)

ROMMON release 8.4(2) supports bootdisk.

### Supervisor Engine 720 ROMMON Release 8.1(3)

There are no new features in ROMMON release 8.1(3).

# Caveats

The following sections contain caveat information:

- [Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5\(4\), page 4](#)
- [Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5\(3\), page 4](#)
- [Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5\(2\), page 5](#)
- [Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.5\(1\), page 5](#)
- [Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.4\(2\), page 5](#)
- [Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.1\(3\), page 6](#)

## Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5(4)

- When setting a ROMMON variable, if the ROMMON environment is full, the ROMMON variable is deleted. The expected behavior is that the new ROMMON variable value will be ignored. This problem is resolved in ROMMON software release 8.5(4). (CSCtc29491)
- EMT call support for environment variable cleanup, current status, and size has been added to the release. The lack of this capability is resolved in ROMMON software release 8.5(4). (CSCsz96399)
- In supervisor engines with the latest SP ROMMON in which a **send brk** command is entered during bootup, and the system is directed to SP ROMMON, dir disk0 does not allow access to the device and an error message is generated. This problem is resolved in ROMMON software release 8.5(4). (CSCtc34194)
- After a successful upgrade with SP ROMMON image c6ksup3-rm2.srec, if the system is booted up using the disk0 and a **send brk** command is entered during the boot process, dir disk0 fails to read the device. If the command is entered again, disk0 will be read successfully. This problem is resolved in ROMMON software release 8.5(4). (CSCtc41826)

## Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5(3)

- The **show ver** truncates system's running image name shows 64 characters, and added support for boot filename length up to 128 characters. It can support an ION installed path of up to 128 characters.

This problem is resolved in ROMMON software release 8.5(3). (CSCso17241)

- When you enter the **send break** command and reload the switch, the autoboot fails. The following error message appears:

```
Command boot aborted due to user interrupt. Exit at the end of the BOOT string.
```

This problem occurs when you disable the **send break** command in the ROMMON image, and then try to reload the switch.

This problem is resolved in ROMMON software release 8.5(3). (CSCsq28636)

## Resolved Caveats in Supervisor Engine 720 and Supervisor Engine 720-10GE ROMMON Software Release 8.5(2)

There are no resolved caveats in Supervisor Engine 720 or Supervisor Engine 720-10GE ROMMON Software Release 8.5(2).

## Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.5(1)

- When you autoboot a Supervisor Engine 720 from the ROMMON bootflash, the following error messages appear:

```
Invalid device specified
Booting from default device
```

This problem occurs when a 512 MB CompactFlash module (WS-CF-UPG=) is installed. This problem is resolved in ROMMON software release 8.5(1). (CSCsc20443)

- When you enter the **send break** telnet command, and then try to access Simpletech CompactFlash devices, the system might suspend indefinitely. This problem is resolved in ROMMON software release 8.5(1). (CSCei92373)
- The Supervisor Engine 720 ROMMON reloads if you entered a **boot system flash disk0:** command in the configuration, but disk0: is not installed. This problem is resolved in ROMMON software release 8.5(1). (CSCsb12343)
- Xmodem support is not present on the Supervisor Engine 720 ROMMON. This problem is resolved in ROMMON software release 8.5(1). (CSCec54182)
- A TLB load fetch exception occurs when booting a device in slot0. This problem occurs because boot devices are not checked against the boot device table. This problem is resolved in ROMMON software release 8.5(1). (CSCsc26577)
- The Supervisor Engine 720 only executes the first boot command and ignores all other boot commands when the 512 MB CompactFlash module (WS-CF-UPG=) is not present. This problem is resolved in ROMMON software release 8.5(1). (CSCsf27223)

## Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.4(2)

- Supervisor Engine 720 ROMMON does not have adequate way to handle watchdog and timeout exceptions. This problem is resolved in ROMMON software release 8.4(2). (CSCeg87313)
- Autoboot function with Supervisor Engine 720 does not work. After entering a write erase command and reloading, the supervisor engine returns to ROMMON. This problem is resolved in ROMMON software release 8.4(2). (CSCed88704)
- There is no support from ROMMON to determine at run time the supervisor engine version and invoke the correct monlib vectors. This problem is resolved in ROMMON software release 8.4(2). (CSCee55664)
- Occasionally after a redundancy reset, the ROMMON image fails to come online due to an initialization problem. This problem is resolved in ROMMON software release 8.4(2). (CSCeg76624)
- Supervisor Engine 720 does not autoboot after a system reset even though autoboot is configured. This problem is resolved in release 8.4(2). (CSCeg22424)

## Resolved Caveats in Supervisor Engine 720 ROMMON Software Release 8.1(3)

- A configuration register value is programmed incorrectly on an ASIC. This problem is resolved in Supervisor Engine 720 ROMMON software release 8.1(3). (CSCed58891)
- The wrong timer counter register is programmed at bootup. This problem is resolved in Supervisor Engine 720 ROMMON software release 8.1(3). (CSCed10938)
- An access timing parameter is programmed incorrectly on an ASIC. This problem is resolved in Supervisor Engine 720 ROMMON software release 8.1(3). (CSCed44123)
- On a Supervisor Engine 720 configured to automatically boot, if the first entry in the boot string is incorrect (for example, the entry has an incorrect image name or device), the switch boots to the ROMMON prompt without searching the rest of the boot string for a valid entry. This problem is resolved in Supervisor Engine 720 ROMMON software release 8.1(3). (CSCin43658/CSCec78845)
- At bootup, the following bootstrap message is incorrectly displayed:

```
Loading bootstrap image, please wait ...
```

This problem is resolved in Supervisor Engine 720 ROMMON software release 8.1(3). (CSCed48970)

## Upgrading the Supervisor Engine 720 or the Supervisor Engine 720-10GE ROMMON Using the Catalyst Operating System Commands

To upgrade the ROMMON version on a Supervisor Engine 720 or the Supervisor Engine 720-10GE running the Catalyst operating software, perform these steps:



### Note

Before performing this procedure, you need to download the new ROMMON image from Cisco.com. The download procedure is the same procedure that you use for downloading the supervisor engine software images.

### Step 1 Check the active ROMMON information:

```
Console> (enable) rommon show

Region F1: INVALID
Region F2: INVALID
Currently running ROMMON from S (Gold) region
```

The display indicates that the active ROMMON is running in the Gold region.

### Step 2 Download the new ROMMON image from the TFTP server:

```
Console> (enable) copy tftp flash
IP address or name of remote host []? 23.255.254.226
Name of file to copy from []? tftpboot/rommon/c6ksup3-rm2.srec.8.5.1
Flash device [bootflash]?
Name of file to copy to [c6ksup3-rm2.srec.8.5.1]?

25081216 bytes available on device bootflash, proceed (y/n) [n]? y
CCCCCCCCCCC
File has been copied successfully.
```

**Step 3** Program the new ROMMON image to the bootflash device on the Supervisor Engine 720 or the Supervisor Engine 720-10GE:



**Note**

The software automatically stores the specified image to a region other than the region that accepted the last upgraded image. For example, if the last upgrade command put the image in Region F1, the current upgrade command will store the image in Region F2 and set it as the “preferred” region when the next system reset occurs. If the last upgrade command stored the image to Region F2, the current upgrade command will store the image to Region F1.

The image that is most recently stored into the Flash memory is always labeled as the “preferred” image. If you decide that you do not want this upgrade image, you can switch to the other region or the Gold region using the **rommon prefer** or **rommon invalidate** commands.

```
Console> (enable) rommon upgrade bootflash:c6ksup3-rm2.srec.8.5.1
CCCCCCCCCCC
ROMMON image upgrade in progress, will take a minute
Erasing flash
Programming flash
ROMMON image upgrade complete, Supervisor must be reset.
```

**Step 4** Check the new active ROMMON information:

```
Console> (enable) rommon show

Region F1: FIRST_RUN, preferred
Region F2: INVALID
Currently running ROMMON from S (Gold) region
```

The “Region F1” field should show “FIRST\_RUN, preferred.”

**Step 5** Reset the Supervisor Engine 720 or the Supervisor Engine 720-10GE:

```
Console> (enable) reset
This command will reset the system.
Do you want to continue (y/n) [n]? y
. . .
Powering OFF all existing linecards

System Bootstrap, Version 8.1(3)
Copyright (c) 1994-2003 by cisco Systems, Inc.
Cat6k-Sup720/SP processor with 524288 Kbytes of main memory

Autoboot executing command: "boot bootflash:"

Self decompressing the image :
#####
#####
.
.
.

Currently running ROMMON from F1 region
ROMMON upgrade successful
Boot image: bootflash:c6ksup3-rm2.srec.8.5.1
inband gmac link is up

.
.
.
```

Note that the Supervisor Engine 720 or the Supervisor Engine 720-10GE is booted with the new ROMMON stored in the F1 region.

**Step 6** After the system comes up, check the ROMMON information again:

```
Console> enable

Enter password:
Console> (enable) rommon show

Region F1: APPROVED, preferred
Region F2: INVALID
Currently running ROMMON from F1 region
```

The “Region F1” field should show “APPROVED, preferred.” The ROMMON stored in the F1 region is now the active ROMMON.

## Upgrading the Supervisor Engine 720 or the Supervisor Engine 720-10GE ROMMON Using Cisco IOS Commands

To upgrade the ROMMON version on your Supervisor Engine 720 or the Supervisor Engine 720-10GE using Cisco IOS commands, perform these steps:



**Note**

Before performing this procedure you need to download the new ROMMON image from Cisco.com. The download procedure is the same procedure that you use for downloading the supervisor engine software images.

**Step 1** Check the active ROMMON information:

```
Router# show rom-monitor slot 5 sp

Region F1:APPROVED, preferred
Region F2:INVALID
Currently running ROMMON from F1 region
Router#
```

The display indicates that the active ROMMON is running in region1.

**Step 2** Program the new ROMMON image to the flash device on the Supervisor Engine 720 or the Supervisor Engine 720-10GE:

```
Router# upgrade rom-monitor slot 5 sp file tftp://tftpboot-users/c6ksup3-rm2.srec.8.5.1

ROMMON image upgrade in progress
Erasing flash
Programming flash
Verifying new image
ROMMON image upgrade complete
The card must be reset for this to take effect
Router#
```



**Step 3** Check the new active ROMMON information:

```
Router# show rom-monitor slot 5 sp
Region F1:APPROVED
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F1 region
Router#
```

**Step 4** Reload the runtime image on the Supervisor Engine 720 or the Supervisor Engine 720-10GE:

```
Router# reload
Proceed with reload? [confirm]
```

**Note**

Be sure to complete Step 5 before performing either or the following actions:

- An online insertion and removal (OIR) of the Supervisor Engine 720 or the Supervisor Engine 720-10GE.
- A power cycling of the Supervisor Engine 720 or the Supervisor Engine 720-10GE. The ROMMON upgrade might fail if you perform either of these actions before verifying that the runtime image successfully booted.

**Step 5** After the system comes up, check the ROMMON information again:

```
Router# show rom-monitor slot 5 sp
Region F1:APPROVED
Region F2:APPROVED, preferred
Currently running ROMMON from F2 region
Router#
```

The “Region F2” field should show “APPROVED, preferred.” The ROMMON stored in the Region F2 is now the active ROMMON.

## Storing More Than One ROMMON Image

The procedures in this section are optional and should be used only if you have multiple versions of the upgraded ROMMON image stored on the Supervisor Engine 720 or the Supervisor Engine 720-10GE. These procedures describe how to select a particular ROMMON image for booting and how to disqualify a particular ROMMON region.

These sections show how to select a stored ROMMON image for booting:

- [Selecting a Stored ROMMON Image on Systems Running the Catalyst Operating System on the Supervisor Engine 720 or the Supervisor Engine 720-10GE, page 10](#)
- [Selecting a Stored ROMMON Image on Systems Running Cisco IOS on the Supervisor Engine 720 or the Supervisor Engine 720-10GE, page 11](#)

## Selecting a Stored ROMMON Image on Systems Running the Catalyst Operating System on the Supervisor Engine 720 or the Supervisor Engine 720-10GE

There are three regions (including the Gold region) where versions of the ROMMON image can be stored. You can use the **rommon prefer** and **rommon invalidate** commands to switch between regions.

The ROMMON software upgrade feature allows you to have two upgraded ROMMON images (one in region F1, the second in region F2) in addition to the Gold ROMMON stored on the one-time programmable (OTP) EPROM section of the ROMMON. Use the **rommon preference** command to select which ROMMON will be the preferred ROMMON the next time that the system is booted. You can change the preference as often as you like. The changes do not take effect until you reset the system.

To select a particular ROMMON image stored on the Supervisor Engine 720 or the Supervisor Engine 720-10GE, perform this task:

---

### Step 1 Change the ROMMON preference.

```
Console> (enable) rommon prefer F2
```

```
ROMMON in region F2 now has the highest boot preference.
Supervisor must be reset for this to take effect.
```

```
Console> (enable) rommon show
```

```
Region F1: FIRST_RUN
Region F2: FIRST_RUN, preferred
Currently running ROMMON from F1 region
```

```
Console> (enable) rommon prefer F1
```

```
ROMMON in region F1 now has the highest boot preference.
Supervisor must be reset for this to take effect.
```

```
Console> (enable) rommon show
```

```
Region F1: FIRST_RUN, preferred
Region F2: FIRST_RUN
Currently running ROMMON from F1 region
```

### Step 2 You can also disqualify a specific region of ROMMON and use the other region or go back to using the Gold ROMMON stored in the OTP EPROM section by using the **rommon invalidate** command.

To disqualify a specific ROMMON region, enter these commands:

```
Console> (enable) rommon invalidate F1
```

```
Do you want to mark F1 region INVALID [n]?y
```

```
done!
```

```
Supervisor must be reset for this to take effect.
```

```
Console> (enable) rommon invalidate F2
```

```
Do you want to mark F2 region INVALID [n]?y
```

```
done!
```

```
Supervisor must be reset for this to take effect.
```

```
Console> (enable) rommon show
```

```
Region F1: INVALID
Region F2: INVALID
Currently running ROMMON from F1 region
```

```

Console> (enable) reset
This command will reset the system.
Do you want to continue (y/n) [n]? y
. . .
Powering OFF all existing linecards
Console> . . .

System Bootstrap, Version 6.1(3)
Copyright (c) 1994-2000by cisco Systems, Inc.
c6k_sup2 processor with 131072 Kbytes of main memory

Autoboot executing command: "boot bootflash:"

Self decompressing the image :
#####
#####
. . .

Currently running ROMMON from S (Gold) region
Boot image: bootflash:cat6000-sup2.6-1-3.bin
inband gmac link is up
.
.
.

```

The display indicates that the active ROMMON is running in the Gold region.

## Selecting a Stored ROMMON Image on Systems Running Cisco IOS on the Supervisor Engine 720 or the Supervisor Engine 720-10GE

There are three regions (including the Gold region) where versions of the ROMMON image can be stored. You can use the **upgrade rom-monitor slot preference** and **upgrade rom-monitor slot preference** commands to switch between regions.

The ROMMON software upgrade feature allows you to have two upgraded ROMMON images (one in region F1, the second in region F2) in addition to the Gold ROMMON stored on the one-time programmable (OTP) EPROM section of the ROMMON. Use the **upgrade rom-monitor slot preference** command to select which ROMMON will be the preferred ROMMON the next time that the system is booted. You can change the preference as often as you like. The changes do not take effect until you reset the system.

To select a particular ROMMON image stored on the Supervisor Engine 720 or the Supervisor Engine 720-10GE, perform this task:

### Step 1 Change the ROMMON preference:

```

Router# show rom-monitor slot 5 sp
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
Router# upgrade rom-monitor slot 5sp preference region1

```

```

You are about to mark F1 region of SP ROMMON in slot 5 as the boot preference region,
proceed[n]? y
Router#

```

**Step 2** Reload the supervisor engine for the change to take effect:

```
Router# reload
Proceed with reload? [confirm]

<output truncated>
```

**Step 3** Verify the change:

```
Router# show rom-monitor slot 5 sp
Region F1:APPROVED, preferred
Region F2:APPROVED
Currently running ROMMON from F1 region
```

---

You can also disqualify a specific region of ROMMON and use the other region or go back to using the Gold ROMMON stored in the OTP EPROM section by using the **upgrade rom-monitor slot invalidate** command.

To disqualify a specific ROMMON region, perform these steps:

---

**Step 1** Disqualify a specific ROMMON region:

```
Router# show rom-monitor slot 5 sp
Region F1:FIRST_RUN
Region F2:FIRST_RUN, preferred
Currently running ROMMON from F2 region
```

```
Router# upgrade rom-monitor slot 5 sp invalidate region2
```

```
You are about to mark F2 region of SP ROMMON in slot 5 as an invalid region,
proceed[n]? y
Router#
```

**Step 2** Reload the supervisor engine for the change to take effect:

```
Router# reload
Proceed with reload? [confirm]

<output truncated>
```

**Step 3** Verify the change:

```
Router# show rom-monitor slot 5 sp
Region F1:FIRST_RUN
Region F2:INVALID
Currently running ROMMON from S (Gold) region
```

---

## Additional Documentation

The following documents are available for the Catalyst 6500 series switches:

- *Catalyst 6500 Series Switch Quick Software Configuration*
- *Catalyst 6500 Series Switch Installation Guide*
- *Catalyst 6500 Series Switch Module Installation Guide*

- *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*
- *Catalyst 6500 series Switch Cisco IOS Command Reference*
- *Catalyst 6500 Series Switch Cisco IOS System Message Guide*
- *Catalyst 6500 Series Switch Software Configuration Guide*
- *Catalyst 6500 series Switch Command Reference*
- *Catalyst 6500 series Switch Command Reference*
- *Catalyst 6500 Series Switch System Message Guide*

## Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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This document is to be used in conjunction with the documents listed in the [“Additional Documentation”](#) section.

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