

# Hitachi Compute Rack Series RAID Driver Instruction Manual For Red Hat Enterprise Linux

## FASTFIND LINKS

[Document Organization](#)

[Getting Help](#)

[Contents](#)

© 2011 - 2013 Hitachi, Ltd. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or stored in a database or retrieval system for any purpose without the express written permission of Hitachi, Ltd.

Hitachi, Ltd., reserves the right to make changes to this document at any time without notice and assumes no responsibility for its use. This document contains the most current information available at the time of publication. When new or revised information becomes available, this entire document will be updated and distributed to all registered users.

Some of the features described in this document might not be currently available. Refer to the most recent product announcement for information about feature and product availability, or contact Hitachi Data Systems Corporation at <https://portal.hds.com>.

**Notice:** Hitachi, Ltd., products and services can be ordered only under the terms and conditions of the applicable Hitachi Data Systems Corporation agreements. The use of Hitachi, Ltd., products is governed by the terms of your agreements with Hitachi Data Systems Corporation.

Hitachi is a registered trademark of Hitachi, Ltd., in the United States and other countries. Hitachi Data Systems is a registered trademark and service mark of Hitachi, Ltd., in the United States and other countries.

Archivas, Essential NAS Platform, HiCommand, Hi-Track, ShadowImage, Tagmaserve, Tagmasoft, Tagmasolve, Tagmastore, TrueCopy, Universal Star Network, and Universal Storage Platform are registered trademarks of Hitachi Data Systems Corporation.

AIX, AS/400, DB2, Domino, DS8000, Enterprise Storage Server, ESCON, FICON, FlashCopy, IBM, Lotus, OS/390, RS6000, S/390, System z9, System z10, Tivoli, VM/ESA, z/OS, z9, zSeries, z/VM, z/VSE are registered trademarks and DS6000, MVS, and z10 are trademarks of International Business Machines Corporation.

All other trademarks, service marks, and company names in this document or website are properties of their respective owners.

Microsoft product screen shots are reprinted with permission from Microsoft Corporation.



# Contents

Intended audience .....	vi
Document revision level .....	vi
Document organization .....	vi
Document conventions .....	vii
Getting help .....	viii
Comments .....	viii
<b>Installing The Driver .....</b>	<b>1-1</b>
Red Hat Enterprise Linux Server 6.2 environment .....	1-2
Red Hat Enterprise Linux 5.7 environment.....	1-8





# Preface

This chapter covers the following:

- [Intended audience](#)
- [Document revision level](#)
- [Document organization](#)
- [Document conventions](#)
- [Getting help](#)
- [Comments](#)

**Notice:** The use of the Compute Rack is governed by the terms of your agreement(s) with Hitachi.

## Intended audience

This document is intended for the personnel who are involved in managing, configuring, and operating the Compute Rack.

## Document revision level

Revision	Date	Description
MK-90CRC008-00	December 2012	First release

## Document organization

The table below provides an overview of the contents and organization of this document. Click the chapter title in the left column to go to that chapter. The first page of each chapter provides links to the sections in that chapter.





Chapter	Description
Chapter 1, <a href="#">Installing The Driver</a>	Describes how to install the driver for RAID boards in the RHEL5.7 and RHEL6.2 environments. The installing RAID driver version number is "00.00.06.12".

## Document conventions

This document uses the following typographic conventions:

Convention	Description
<b>Bold</b>	Indicates text on a window, other than the window title, including menus, menu options, fields, and labels. Example: Click <b>OK</b> .
<i>Italic</i>	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: <i>copy source-file target-file</i> <b>Note:</b> Angled brackets (< >) are also used to indicate variables.
screen/code	Indicates text that is displayed on screen or entered by the user. Example: # <code>pairdisplay -g oradb</code>
< > angled brackets	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: # <code>pairdisplay -g &lt;group&gt;</code> <b>Note:</b> Italic font is also used to indicate variables.
[ ] square brackets	Indicates optional values. Example: [ a   b ] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a   b } indicates that you must choose either a or b.
vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [ a   b ] indicates that you can choose a, b, or nothing. { a   b } indicates that you must choose either a or b.
<u>underline</u>	Indicates the default value. Example: [ <u>a</u>   b ]

This document uses the following icons to draw attention to information:

Icon	Meaning	Description
	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.
<b>NOTICE</b>	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
	RESTRICTION	This indicates restrictions on the use of Expander Link Check Tool.
	TIP	This indicates advice on how to make the best use of the tool.

This term “Compute Rack” refers to all the models of the Compute Rack, unless otherwise noted.

## Getting help

When you contact <http://support.hds.com>, please provide as much information about the problem as possible, including:

- The circumstances surrounding the error or the failure
- The exact content of any error message displayed on the host system Compute Rack
- The service information messages, including reference codes and severity levels, displayed and/or logged at the Compute Rack

For technical support, visit the portal site at <https://portal.hds.com>.

## Comments

Please send us your comments on this document, if any, by e-mail to: [doc.comments@hds.com](mailto:doc.comments@hds.com). Make sure that the e-mail includes the document title and number, revision, and section(s) and paragraph(s) whenever possible.

***Thank you!*** (All comments become the property of Hitachi.)



# Installing The Driver

This chapter presents how to install the RAID driver in either of the following RHEL environments:

- [Red Hat Enterprise Linux Server 6.2 environment](#)
- [Red Hat Enterprise Linux 5.7 environment](#)

Supported OSs differ depending on the system unit on which the driver is to be installed. Make sure that your system unit supports the OS you are going to install.

# Red Hat Enterprise Linux Server 6.2 environment

This section presents how to install the RAID driver in Red Hat Enterprise Linux Server 6.2 environments.

## Things to be done before installation

### Preparing installation media

Start using the correct driver from the time of installation according to the following.



The installer is case sensitive; enter upper-case and lower-case letters correctly.

---

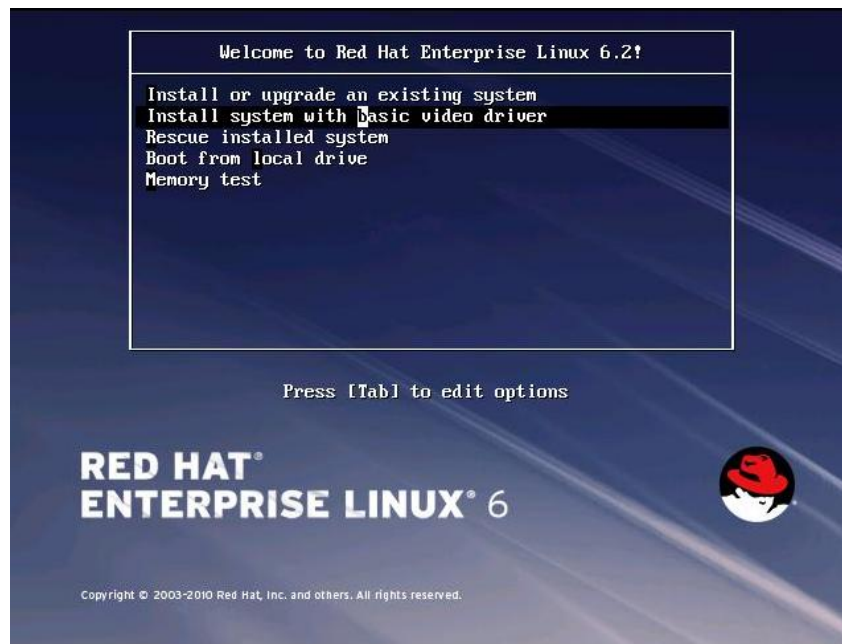
Prepare the installation media for the OS and the "Driver Kit CD".

### Backing up necessary files

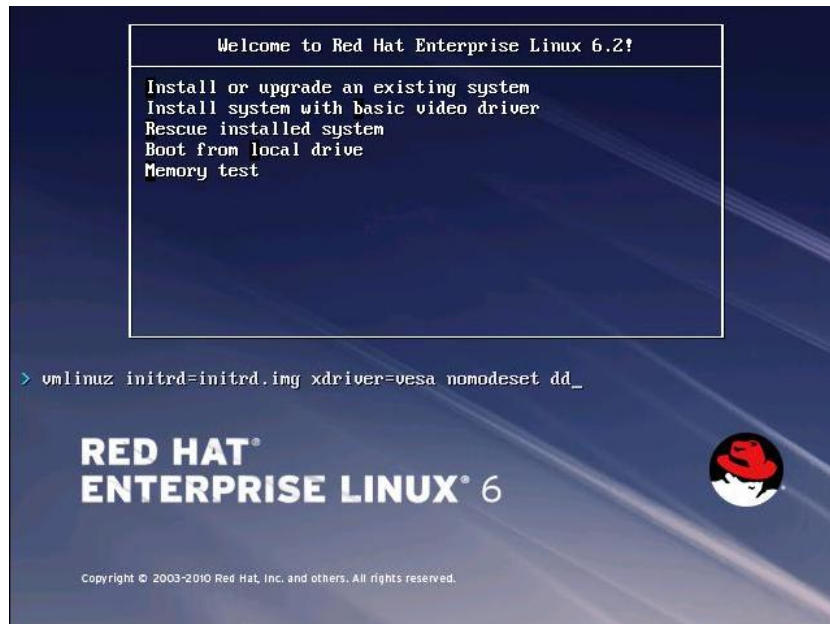
Installing the driver erases all the data in the HDD or SSD; back up files in advance.

## Installing the driver for RHEL6.2

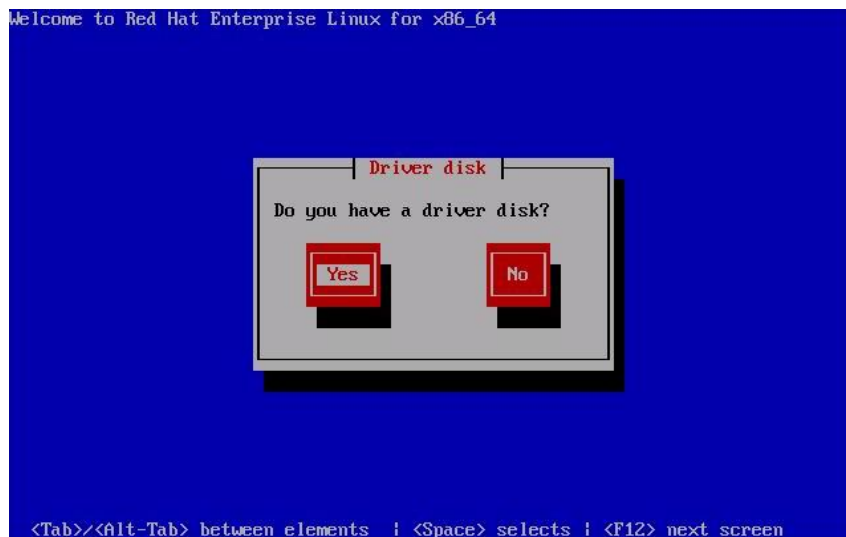
1. Power ON the system unit, and insert the installation media for RHEL6.2 in the CD/DVD drive.
2. Select "**Install system with basic video driver**", and press the **Tab** key.



- The command "`> vmlinuz initrd=initrd.img xdriver=vesa nomodeset`" appears on the screen. Then, type "`dd`" at the end of the command, and press the **Enter** key.



- The "**Driver Disk**" dialog box with "**Do you have a driver disk?**" appears. Then, press **Yes**.

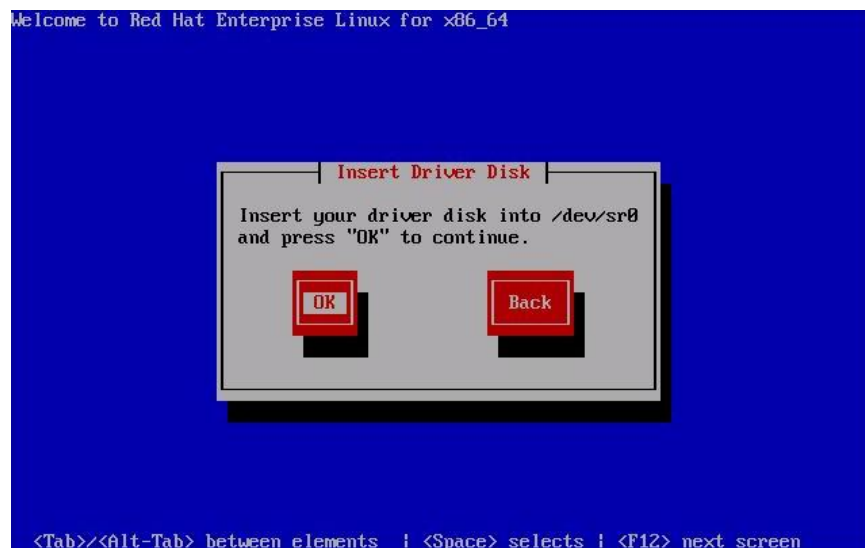


5. The “**Driver Disk Source**” dialog box appears. Then, select **sr0**, and then, press **OK**.



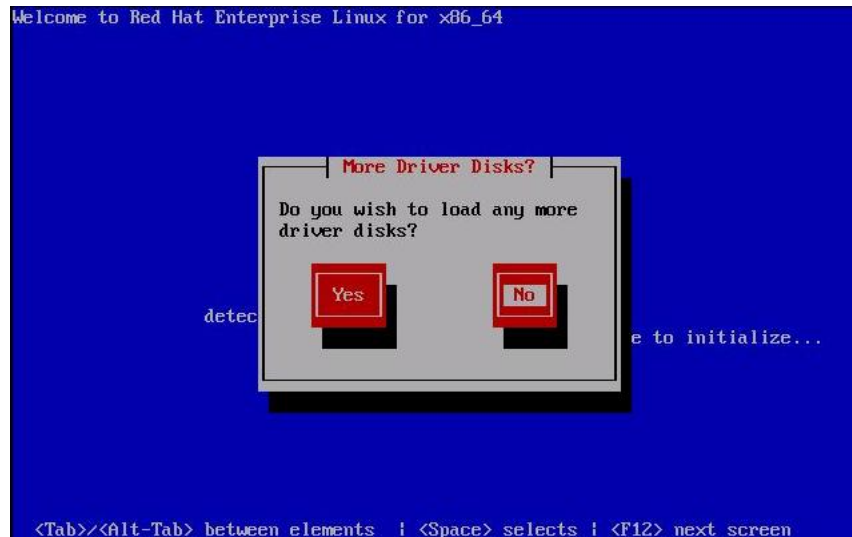
Depending on the system configuration, the CD/DVD drive may not be in **sr0**. In that case, click the correct one.

6. The “**Insert Driver Disk**” dialog box appears. Then, remove the installation media, and insert the “Driver kit” CD/DVD-ROM in the CD/DVD drive, and press **OK**.

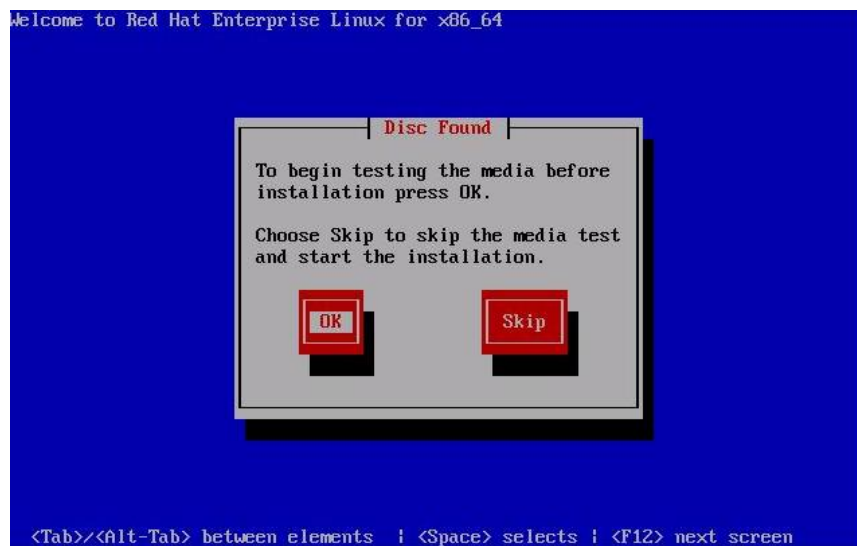


7. The message “**detecting hardware...**” appears, and then, “**waiting for hardware to initialize...**”, and the installer loads the RAID driver.

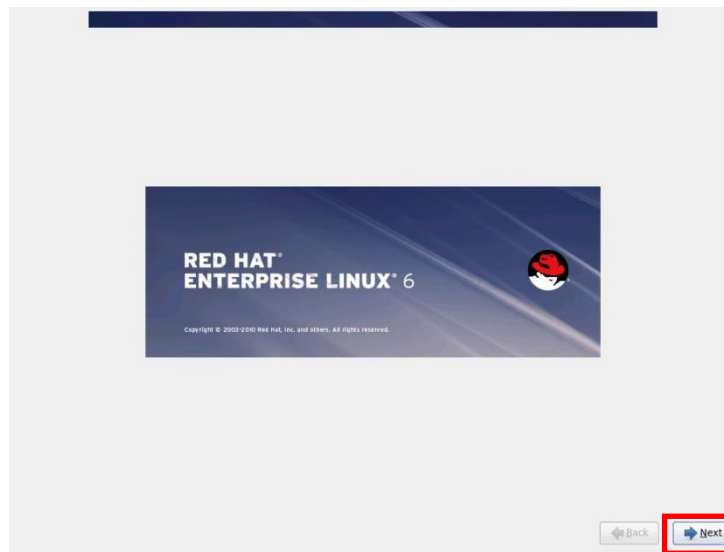
8. The following "**More Driver Disks?**" dialog box appears. Then, remove the "Driver Kit" CD/DVD-ROM from the drive; then, insert the installation media for RHEL6.2 into the drive; and then, press **No**.



9. The following "**Disc Found**" dialog box appears. Then, press **Skip**.



10. The following graphical installation window appears. Then, click **Next**.



11. Follow the instructions in the *Red Hat Enterprise Linux OS Installation Manual*.

## Confirming the installation result

After the OS installation, check the driver version as follows:

1. Log in to the OS; then, enter the following command:

```
# dmesg | grep "megasas"
```

2. Make sure that the driver version is **"00.00.06.12"**.

```
localhost login: root
Password:
Last login: Mon Mar 19 11:44:52 on tty1
[root@localhost ~]# dmesg | grep "megasas"
megasas: 00.00.06.12 Wed. Oct. 5 17:00:00 PDT 2011
megasas: 0x1000:0x0079:0x1000:0x92b1: bus 2:slot 0:func 0
megasas: FW now in Ready state
megasas: cpx is not supported.
megasas: INIT adapter done
[root@localhost ~]# _
```

# Red Hat Enterprise Linux 5.7 environment

This section presents how to install the RAID driver in Red Hat Enterprise Linux 5.7 environments.

## Things to be done before installation

### Preparing installation media

Start using the correct driver from the time of installation according to the following.



The installer is case sensitive; enter upper-case and lower-case letters correctly.

---

Prepare the installation media for the OS and the “Driver Kit CD”.

### Backing up necessary files

Installing the driver erases all the data in the HDD or SSD; back up files in advance.



## Installing the driver for RHEL5.7

1. Power ON the system unit, and insert the installation media for the RHEL5.7 in the CD/DVD drive.
2. The “**RED HAT ENTERPRISE LINUX**” window appears. Then, enter the following command.

[ When internal CD/DVD drive is used ]

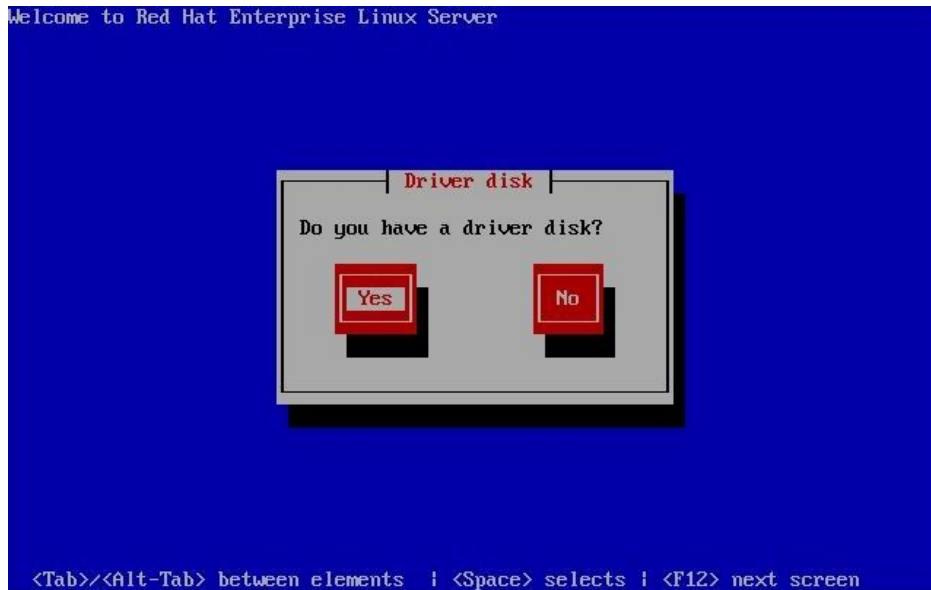
```
boot: linux dd=cdrom driverload=ahci:ata_piix nodmraid nostorage
```

[ When external USB-CD/DVD drive is used ]

```
boot: linux dd (USB-CD/DVD)
```



3. The “**Driver disk**” dialog box with “**Do you have a driver disk?**” appears. Then, press **Yes**.

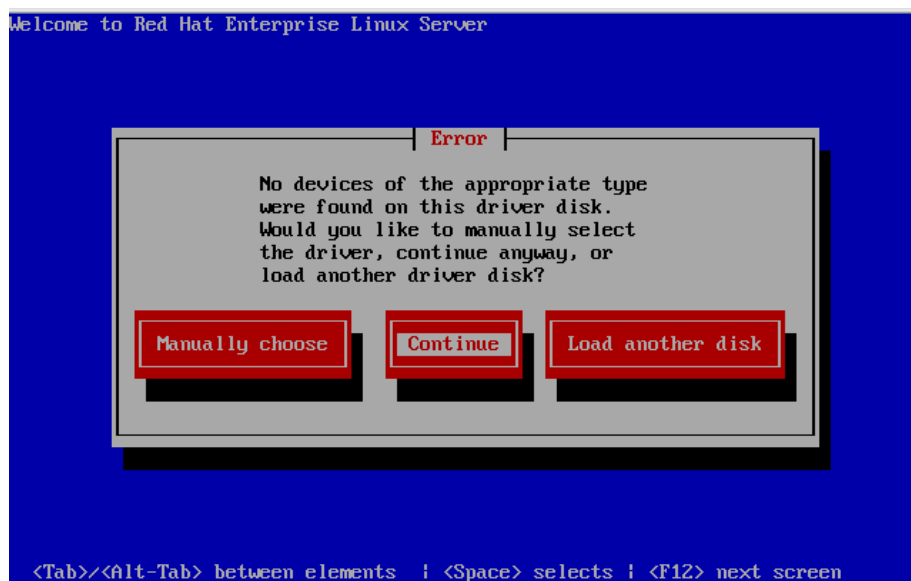


4. The following “**Insert Driver Disk**” dialog box appears. Remove the installation media for RHEL5.7 from the CD/DVD drive, insert the “Driver kit” CD/DVD-ROM into the CD/DVD drive, and press **OK**.

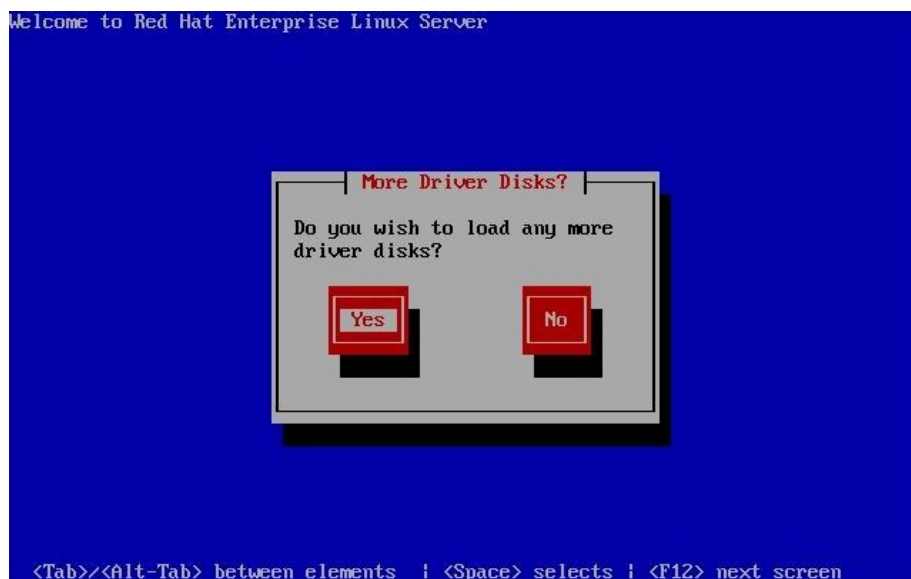


If a USB-CD/DVD is used, go to Step 6; otherwise, go to Step 5.

5. The installer loads the RAID driver and the following **"Error"** dialog box appears. Then, press **Continue**.



6. The following **"More Driver Disks?"** dialog box appears. Then, remove the "Driver Kit" CD/DVD-ROM from the CD/DVD drive; then, insert the installation media for RHEL5.7 into the CD/DVD drive; and then, press **No**.

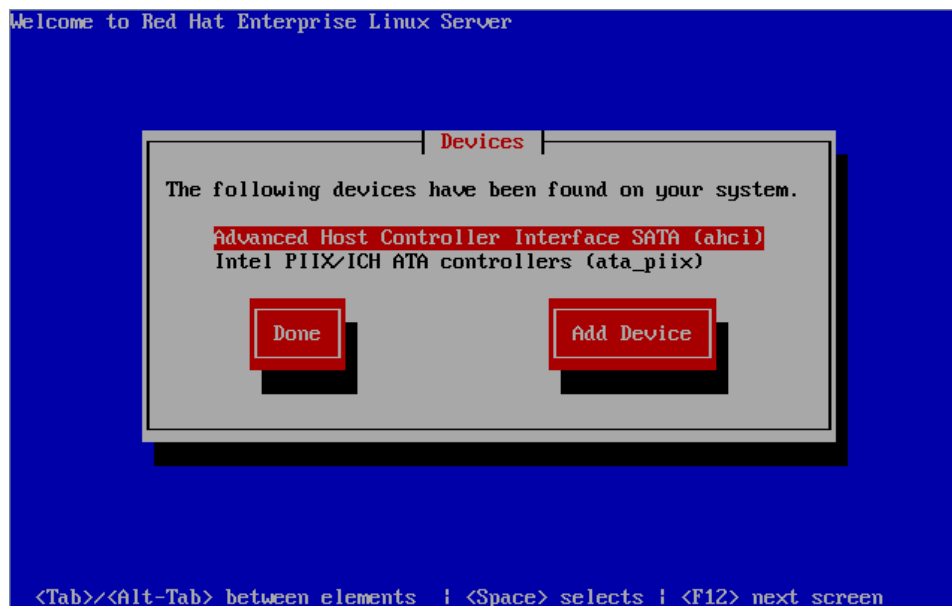


7. The following “**CD Found**” dialog box appears. To test the media, press **OK**; otherwise, press **Skip**.

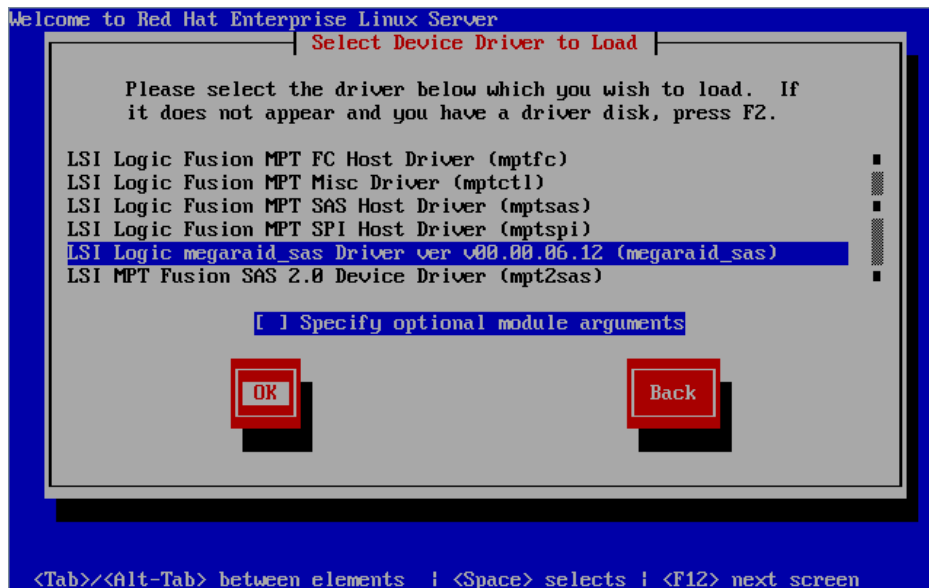


If a USB-CD/DVD is used, go to Step 11; otherwise, go to Step 8.

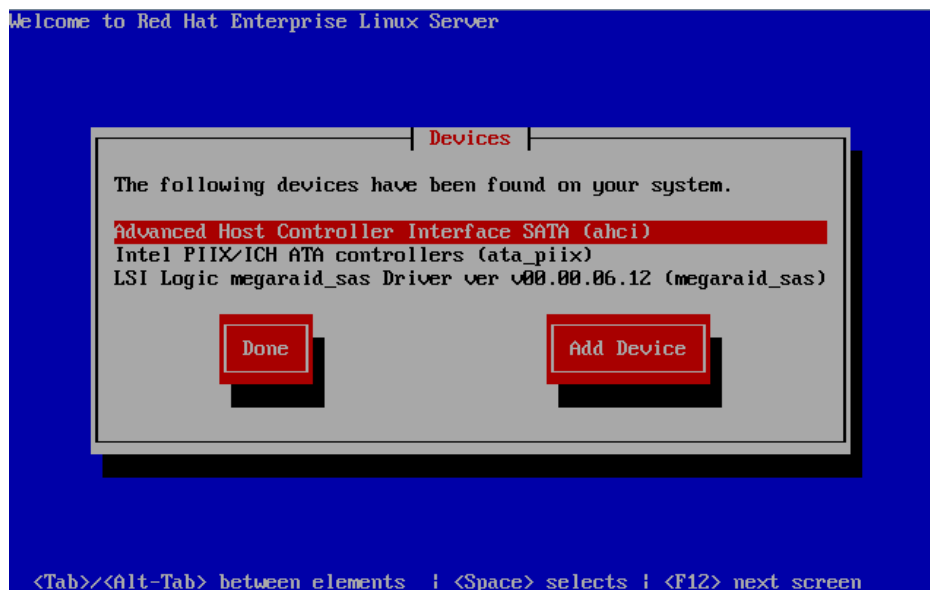
8. The following “**Devices**” dialog box appears. Then, press **Add Device**.



9. The following **"Select Device Driver to Load"** dialog box appears. Then, select **"LSI Logic megaraid sas Driver ver v00.00.06.12 (megaraid\_sas)"**, and then, press OK.



10. The **"Devices"** dialog box appears. Then, check if **"LSI Logic megaraid sas Driver ver v00.00.06.12 (megaraid\_sas)"** is added; and then, press **Done**.



11. The following graphical installation window appears. Then, click **Next**.



12. Follow the instructions in the *Red Hat Enterprise Linux OS Installation Manual*.

## Confirming the installation result

After the OS installation, check the driver version number as follows:

1. Log in to the OS; then, enter the following command:  
**# dmesg | grep "megasas"**
2. Check if the driver version number is "**00.00.06.12**".

```
localhost login: root
Password:
Last login: Mon Mar 19 11:44:52 on tty1
[root@localhost ~]# dmesg | grep "megasas"
megasas: 00.00.06.12 Wed Oct 5 17:00:00 PDT 2011
megasas: 0x1000:0x0079:0x1000:0x9261: bus 2:slot 0:func 0
megasas: FW now in Ready state
megasas: cpx is not supported.
megasas: INIT adapter done
[root@localhost ~]# _
```

## **Hitachi Data Systems**

### **Corporate Headquarters**

2845 Lafayette Street  
Santa Clara, California 95050-2639  
U.S.A.

[www.hds.com](http://www.hds.com)

### **Regional Contact Information**

#### **Americas**

+1 408 970 1000

[info@hds.com](mailto:info@hds.com)

#### **Europe, Middle East, and Africa**

+44 (0) 1753 618000

[info.emea@hds.com](mailto:info.emea@hds.com)

#### **Asia Pacific**

+852 3189 7900

[hds.marketing.apac@hds.com](mailto:hds.marketing.apac@hds.com)

