LSI Software RAID Configuration Utility

E8581
First Edition
August 2013

Content

This document provides instructions in setting up, creating, and configuring RAID sets using the **LSI Software RAID Configura**tion **Utility**. It also shows the installation of the RAID controller drivers after creating the RAID sets.

This document contains the following sections:

I.   Revision history

Revision	Revision history	Date
V1	First release	August 2013

II.   Using the LSI Software RAID Configuration Utility

The LSI Software RAID Configuration Utility allows you to create RAID 0, RAID 1, or RAID 10 set(s) from SATA hard disk drives connected to the SATA connectors supported by the motherboard.

1.   Before you start

Before you proceed, ensure that you have installed the Serial ATA hard disk drives, set the correct jumper settings of the motherboard, and have set the correct SATA mode in the BIOS setup. You can refer to following sections for the instructions in **Installing hard disk drives**, **Setting Jumpers**, and **Setting the RAID mode in BIOS**.

A.   Installing hard disk drives

The motherboard supports Serial ATA for RAID set configuration. For optimal performance, install identical drives of the same model and capacity when creating a disk array.

To install the SATA hard disks for RAID configuration:

1.   Install the SATA hard disks into the drive bays following the instructions in the system user guide.

2.   Connect a SATA signal cable to the signal connector at the back of each drive and to the SATA connector on the motherboard.

3.   Connect a SATA power cable to the power connector on each drive.

B.   Setting Jumpers

You must set the jumper settings of your motherboard to activate the **LSI Software RAID Configuration Utility.**

To set the jumper settings**,** set the 3-pin RAID_SEL1 jumper to pins 1-2.
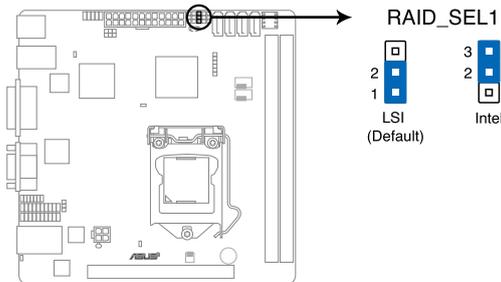
The motherboard illustration is for reference only. Visit www.asus.com for the complete list of supported motherboards,

C. Setting the RAID mode in BIOS

You must set the RAID mode in the BIOS Setup to be able to launch the RAID utilities before you can create a RAID set from the SATA hard disk drives attached to the SATA connectors supported by Intel® C22x chipset.

To do this:

1. Enter the BIOS Setup during POST.

2. Go to the **Advanced** Menu > **SATA Configuration**, then press <Enter>.

3. Set **SATA Mode** to [RAID].

4. Press <F10> to save your changes and exit the BIOS Setup.

2. Launching the LSI Software RAID Configuration Utility

To launch the LSI Software RAID Configuration Utility:

1. Turn on the system.

2. During POST, the LSI Software RAID Configuration Utility automatically detects the installed SATA hard disk drives and displays any existing RAID set(s). Press <Ctrl>+<M> to enter the utility.

```
LSI MegaRAID Software RAID BIOS Version A.11 02090932R
LSI SATA RAID Found at PCI Bus No:00 Dev No:1F
Device present at Port 0      ST3160812AS      152114MB
Device present at Port 1      ST3160812AS      152114MB
Device present at Port 2      ST3160812AS      152114MB
Device present at Port 3      ST3160812AS      152114MB
Press Ctrl-M or Enter to run LSI Software RAID Setup Utility.
```

- The LSI Software RAID Configuration Utility automatically configures to RAID 1 when the SATA to RAID Mode is enabled.

- The RAID setup screens shown in this section are for reference only and may not exactly match the items on your screen due to the controller version difference.

- When you create RAID sets with the LSI Software RAID Configuration Utility , the boot priority of the SATA optical drive has to be manually adjusted. Otherwise, the system will not boot from the connected SATA ODD.

3.   From the **LSI Software RAID Configuration Utility Management menu**, use the arrow keys to select an option then press <Enter>. Refer to **Table 1. Management Menu descriptions** below for more information.

At the bottom of the screen is the legend box. The keys on the legend box allow you to navigate through the setup menu options or execute commands. The keys on the legend box vary according to the menu level.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26, 2011
                       BIOS Version  A.11.02090932R


   ┌─Management Menu─┐
   │Configure        │
   │Initialize       │
   │Objects          │
   │Rebuild          │
   │Check Consistency│
   └─────────────────┘




                        ┌─────────────────┐
                        │ Configure VD(s) │
                        └─────────────────┘
   Use Cursor Keys to Navigate Between Items And Press Enter To Select An Option
```

Table 1. Management Menu descriptions

Menu	Description
Configure	Allows you to create RAID 0, RAID 1 or RAID 10 set using the Easy Configuration or the New Configuration command. This menu also allows you to view, add, or clear RAID configurations or select the boot drive.
Initialize	Allows you to initialize the virtual drives of a created RAID set.
Objects	Allows you to initialize virtual drives or change the virtual drive parameters.
Rebuild	Allows you to rebuild failed drives.
Check Consistency	Allows you to check the data consistency of the virtual drives of a created RAID set.

3.   Creating a RAID set

The LSI Software RAID Configuration Utility allows you to create a RAID 0, RAID 1, or RAID 10 set using two types of configurations: Easy and New.

In Easy Configuration, the virtual drive parameters are set automatically.

In New Configuration, you can manually set the virtual drive parameters.

Using Easy Configuration

To create a RAID set using the **Easy Configuration** option:

1.   From the **Management Menu**, select **Configure > Easy Configuration** then press <Enter>.
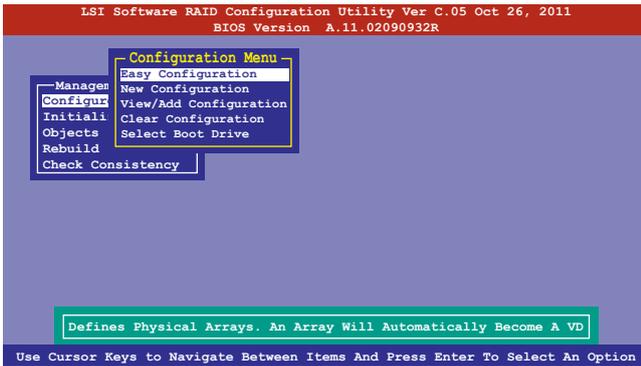
2.	The **ARRAY SELECTION MENU** displays the available drives connected to the SATA ports. Use the up/down arrow keys to select the drives you want to include in the RAID set then press <Space>. When selected, the drive indicator changes from **READY** to **ONLIN A[X]-[Y]**, where X is the array number, and Y is the drive number.

```
      LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.11.02090932R

   ┌─Managem┌──── Easy Configuration - ARRAY SELECTION MENU ────
   │Configure│                   PORT #
   │Initializ│
   │Objects  │        0  ONLIN A00-00
   │Rebuild  │        1  ONLIN A00-01
   │Check Con│        2  READY
                      3  READY



   ┌─────────────────────────────────────────────────────────┐
   │Port # 2 DISK  74.74GB HDS728080PLA380          05.01C05  │
   └─────────────────────────────────────────────────────────┘
  SPACE-Sel,ENTER-EndArray,F10-Configure,F2-Drive Info,F3-Virtual Drives,F4-HSP
```

•	The information of the selected hard disk drive displays at the bottom of the screen.

•	You need at least two identical hard disk drives when creating a RAID 1 set.

•	You need at least four identical hard disk drives when creating a RAID 10 set.

3.	Select all the drives required for the RAID set then press <F10> to configure the array setting.

4.	Press <Space> to select the configurable array.

```
      LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.11.02090932R

   ┌─Managem┌──── Easy Configuration - ARRAY SELECTION MENU ────
   │Configure│       ──── Select Configurable Array(s) ────
   │Initializ│      ┌─A-0──
   │Objects  │      │SPAN-1
   │Rebuild  │      └──────
   │Check Con│




   Cursor Keys, SPACE-(De)Select F2-Chidinfo F3-SlotInfo F10-Configure Esc-Quit
```

5. Press <F10> to begin the configuration.

The virtual drive information appears including a **Virtual Drive** menu that allows you to change the virtual drive parameters.

```
         LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

                        ┌── Virtual Drive(s) Configured ──┐
               LD      RAID     Size      #Stripes    StripSz    Status
    ┌──Manage
    │Configu       0     1      148.580GB     2         64KB      ONLINE
    │Initial
    │Objects
    │Rebuild
    │Check C   ┌── Virtual Drive 0 ──┐
              │RAID = 1             │
              │Units= MB            │
              │Size = 152146MB      │
              │DWC  = OFF           │
              │RA   = On            │
              │Accept               │
              │SPAN = NO            │

                         ┌─────────────────────────────────┐
                         │  Choose RAID Level For This VD   │
                         └─────────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

6. Select **RAID** from the **Virtual Drive** sub-menu then press <Enter>.

7. Select the **RAID** type from the **RAID Level** sub-menu then press <Enter>.

```
         LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

                        ┌── Virtual Drive(s) Configured ──┐
               LD      RAID     Size      #Stripes    StripSz    Status
    ┌──Manage
    │Configu       0     1      148.580GB     2         64KB      ONLINE
    │Initial
    │Objects
    │Rebuild
    │Check C   ┌── Virtual Drive 0 ──┐    ┌── RAID Level ──┐
              │RAID = 1             │    │ RAID 0         │
              │Units= MB            │    │ RAID 1         │
              │Size = 152146MB      │
              │DWC  = OFF           │
              │RA   = On            │
              │Accept               │
              │SPAN = NO            │

                         ┌─────────────────────────────────┐
                         │  Choose RAID Level For This VD   │
                         └─────────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

8. Select **Units** from the **Virtual Drive** sub-menu then press <Enter>.

9. Select the units for the virtual drive size from the **Select Units For VD Size** sub-menu then press <Enter>. The virtual drive size is automatically allocated and not configurable.

When creating a **RAID 0** set, proceed to step 12.

10. When creating a **RAID 1** or a **RAID 10** set, select **DWC** from the **Virtual Drive** menu, then press <Enter>.

11. Select **On** to enable the **Disk Write Cache (DWC)** setting then press <Enter>.

Enabling DWC can improve the performance, but with the risk of data loss.

12. After setting the values of the selected virtual drives, select **Accept** from the menu then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                      BIOS Version  A.11.02090932R

                       ┌─ Virtual Drive(s) Configured ─┐
          ┌─Manag─ │ LD    RAID    Size     #Stripes    StripSz    Status │
          │Configu│ 0      1      148.580GB    2         64KB       ONLINE │
          │Initial│                                                        │
          │Objects│                                                        │
          │Rebuild│  ┌─ Virtual Drive 0 ─┐                                 │
          │Check C│  │RAID = 1           │ ┌──────────────┐                │
                     │Units= MB          │ │              │                │
                     │Size = 152146MB    │ │              │                │
                     │DWC  = OFF         │ │              │                │
                     │RA   = On          │ │              │                │
                     │Accept             │ │              │                │
                     │SPAN = NO          │ └──────────────┘
                     └───────────────────┘

                   ┌─ Accept This VD Configuration And Go To Next VD ─┐

        Cursor Keys, SPACE-(De) Select F2-ChIdInfo F3-SlotInfo F10-Configure Esc-Quit
```

13. The ARRAY SELECTION MENU displays the configured virtual drives. Repeat steps 2 to 10 to configure the remaining available virtual drives or press <Esc> to finish the RAID configuration.

14. Select **Yes** then press <Enter> to save the configuration.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                      BIOS Version  A.11.02090932R
                   ┌─ Configuration Menu ─┐
                   │Easy Configuration    │      ┌─ Save Configuration? ─┐
        ┌─Management Menu ─│New Configuration     │      │Yes                    │
        │Configure         │View/Add Configuration│      │No                     │
        │Initialize         │Clear Configuration   │      └───────────────────────┘
        │Objects            │Select Boot Drive     │
        │Rebui.            └──────────────────────┘
        │Check  ┌───────── Virtual Drive(s) Configured ─────────┐
               │ LD    RAID    Size     #Stripes    StripSz    Status │
               │ 0      1      148.580GB    2         64KB       ONLINE │
               │                                                        │
               └────────────────────────────────────────────────────────┘

                       ┌─ Select Yes Or No ─┐

        Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

Using New Configuration

> When a RAID set already exists, using the **New Configuration** command erases the existing RAID configuration data. If you do not want to delete the existing RAID set, use the **View/Add Configuration** command to view or create another RAID configuration.
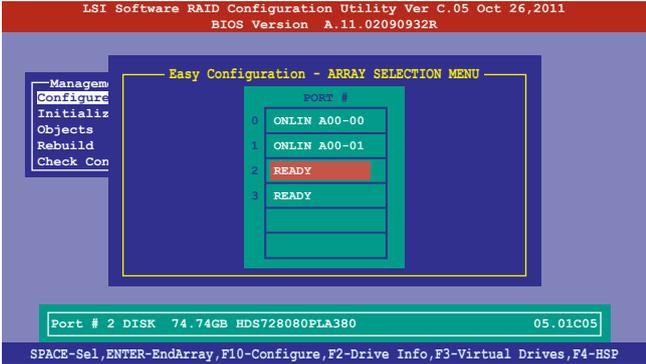
To create a RAID set using the **New Configuration** option:

1. From the **Management Menu**, select **Configure > New Configuration** then press <Enter>.
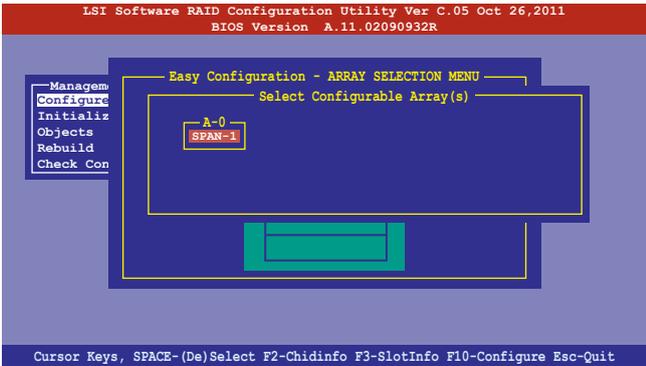
```
                 LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                           BIOS Version  A.11.02090932R

                          ┌─ Configuration Menu ─┐
                          │ Easy Configuration    │
       ┌─Management Me────┤ New Configuration     │
       │ Configure        │ View/Add Configuration│
       │ Initialize       │ Clear Configuration   │
       │ Objects          │ Select Boot Drive     │
       │ Rebuild          └───────────────────────┘
       │ Check Consistency │

              ┌──────────────────────────────────────────────────────┐
              │ Clear Existing Configuration And Start A New Configuration │
              └──────────────────────────────────────────────────────┘
        Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

2. Select Yes then press <Enter> to proceed with the configuration.

3. Select all the drives required for the RAID set then press <F10> to configure array setting.

```
                 LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                           BIOS Version  A.11.02090932R

         ┌─ Management ──┐  ┌─ Easy Configuration - ARRAY SELECTION MENU ─┐
         │ Configure     │  │              PORT #                          │
         │ Initializ     │  │  0  ONLIN A00-00                             │
         │ Objects       │  │  1  ONLIN A00-01                             │
         │ Rebuild       │  │  2  READY                                    │
         │ Check Con     │  │  3  READY                                    │
         └───────────────┘  │                                              │
                            └──────────────────────────────────────────────┘

        ┌───────────────────────────────────────────────────────────────────┐
        │ Port # 2 DISK  74.74GB HDS728080PLA380                   05.01C05  │
        └───────────────────────────────────────────────────────────────────┘
        SPACE-Sel,ENTER-EndArray,F10-Configure,F2-Drive Info,F3-Virtual Drives,F4-HSP
```

4. Press <Space> to select the configurable array.

```
       LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                      BIOS Version  A.11.02090932R

    ┌─Managem      ┌─ Easy Configuration - ARRAY SELECTION MENU ─┐
    │Configure│      │        Select Configurable Array(s)        │
    │Initializ│      │   ┌─A-0                                    │
    │Objects  │      │   │SPAN-1│                                 │
    │Rebuild  │      │   └──────                                  │
    │Check Con│      │                                            │
    └─────────     │            ┌──────────────┐               │
                     │            │              │               │
                     └────────────┴──────────────┴───────────────┘

     Cursor Keys, SPACE-(De)Select F2-Chidinfo F3-SlotInfo F10-Configure Esc-Quit
```
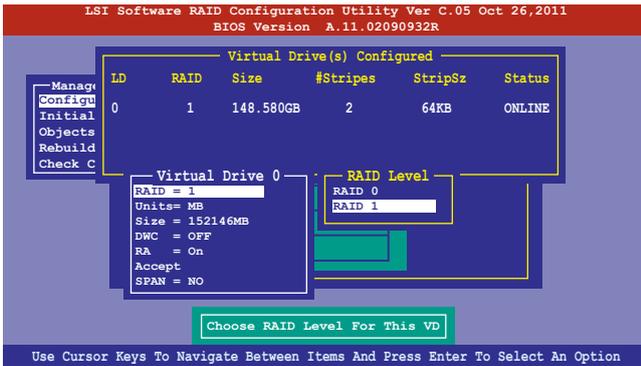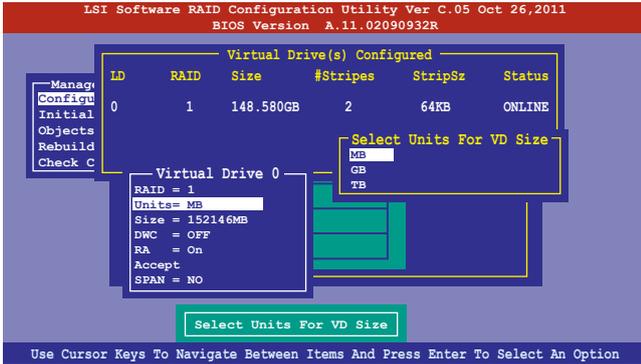
5. Press <F10> to begin the configuration.

   The virtual drive information appears including a **Virtual Drive** menu that allows you to change the virtual drive parameters.

```
       LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                      BIOS Version  A.11.02090932R

                 ┌─ Virtual Drive(s) Configured ─────────────┐
    ┌─Manage     │LD     RAID     Size      #Stripes   StripSz   Status │
    │Configu│    │                                                      │
    │Initial│    │0       1     148.580GB      2        64KB     ONLINE │
    │Objects│    │                                                      │
    │Rebuild│    │                                                      │
    │Check C│    └──────────────────────────────────────────────┘
    └───────    ┌─ Virtual Drive 0 ─┐
                │RAID = 1          │
                │Units= MB         │
                │Size = 152146MB   │
                │DWC  = OFF        │
                │RA   = On         │
                │Accept            │
                │SPAN = NO         │
                └──────────────────┘
                     ┌──────────────────────────────┐
                     │ Choose RAID Level For This VD │
                     └──────────────────────────────┘
     Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

6. Select **RAID** from the **Virtual Drive** sub-menu then press <Enter>.

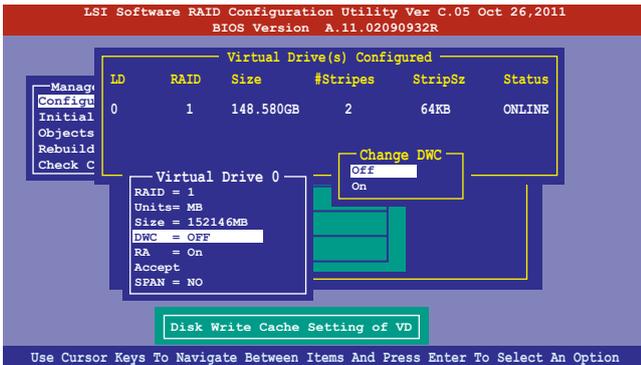7. Select the **RAID** level from the menu then press <Enter>.

```
         LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

                        ┌─ Virtual Drive(s) Configured ─┐
                        LD    RAID    Size    #Stripes   StripSz    Status
     ┌Manage
     │Configu                0     1    148.580GB    2         64KB      ONLINE
     │Initial
     │Objects
     │Rebuild
     │Check C
                   ┌─ Virtual Drive 0 ─┐  ┌─ RAID Level ─┐
                   │RAID = 1         │  │ RAID 0        │
                   │Units= MB        │  │ RAID 1        │
                   │Size = 152146MB  │  └───────────────┘
                   │DWC  = OFF       │
                   │RA   = On        │
                   │Accept           │
                   │SPAN = NO        │
                   └─────────────────┘
                        ┌ Choose RAID Level For This VD ┐

      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

8. Select **Units** from the **Virtual Drive** sub-menu then press <Enter>.

9. Select the units for the virtual drive size from the **Select Units For VD Size** sub-menu then press <Enter>.

```
         LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

                        ┌─ Virtual Drive(s) Configured ─┐
                        LD    RAID    Size    #Stripes   StripSz    Status
     ┌Manage
     │Configu                0     1    148.580GB    2         64KB      ONLINE
     │Initial
     │Objects                      ┌─ Select Units For VD Size ─┐
     │Rebuild                      │ MB                          │
     │Check C                      │ GB                          │
                   ┌─ Virtual Drive 0 ┐  │ TB                    │
                   │RAID = 1         │  └────────────────────────┘
                   │Units= MB        │
                   │Size = 152146MB  │
                   │DWC  = OFF       │
                   │RA   = On        │
                   │Accept           │
                   │SPAN = NO        │
                   └─────────────────┘
                        ┌ Select Units For VD Size ┐

      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

You can select **Size** from the Virtual Drive sub-menu to set your preferred values.
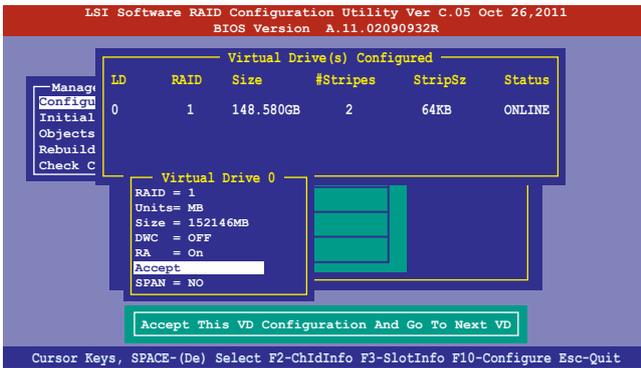
When creating a **RAID 0** set, proceed to step 12.

10. When creating a **RAID 1** or a **RAID 10** set, select **DWC** from the **Virtual Drive** menu, then press <Enter>.

11. Select **On** to enable the **Disk Write Cache (DWC)** setting then press <Enter>.
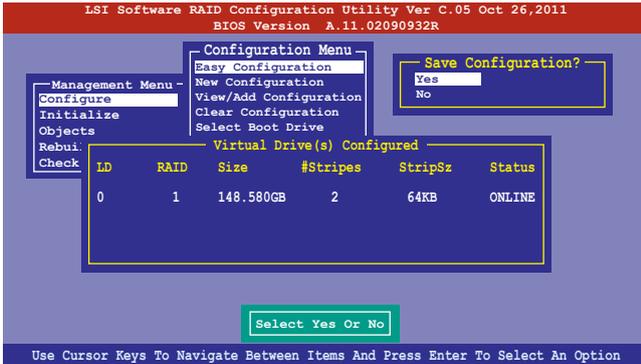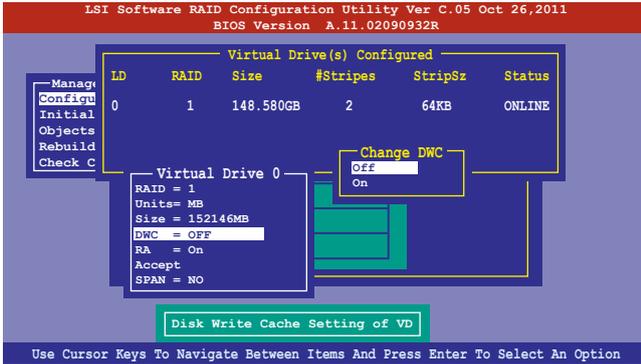

Enabling DWC can improve the performance, but with the risk of data loss.

12. After setting the values of the selected virtual drives, select **Accept** from the menu then press <Enter>.

13. The ARRAY SELECTION MENU displays the configured virtual drives. Repeat steps 2 to 10 to configure the remaining available virtual drives or press <Esc> to finish the RAID configuration.

14. Select **Yes** then press <Enter> to save the configuration.
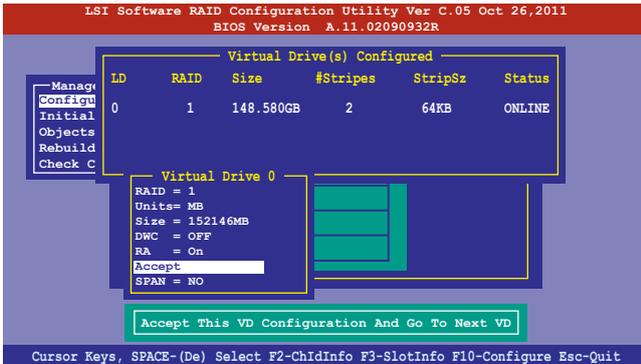
```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                       BIOS Version  A.11.02090932R

                    ┌─ Configuration Menu ─┐      ┌─ Save Configuration? ─┐
                    │ Easy Configuration   │      │ Yes                   │
   ┌─ Management Menu ─│ New Configuration  │      │ No                    │
   │ Configure         │ View/Add Configuration    └───────────────────────┘
   │ Initialize        │ Clear Configuration  │
   │ Objects           │ Select Boot Drive    │
   │ Rebui.          ┌─ Virtual Drive(s) Configured ─┐
   │ Check  │ LD    RAID    Size      #Stripes    StripSz     Status
                │
                │ 0      1    148.580GB    2          64KB       ONLINE



                         ┌─────────────────────┐
                         │  Select Yes Or No   │
                         └─────────────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```
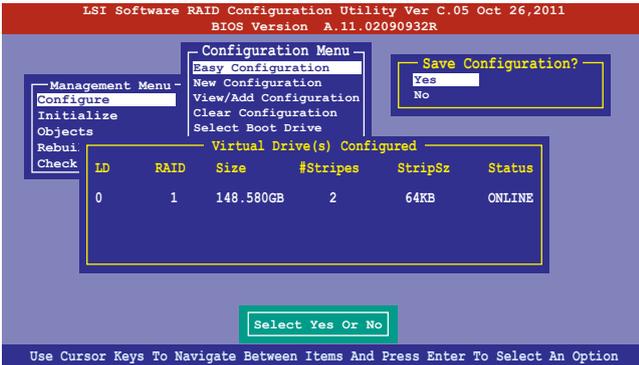
4.   Adding or viewing a RAID configuration

You can add a new RAID configuration or view an existing configuration using the **View/Add Configuration** command.

Adding a new RAID configuration

To add a new RAID configuration:

1. From the **Management Menu**, select **Configure > View/Add Configuration**, then press <Enter>.

```
          LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

                      ┌ Configuration Menu ┐
                      │ Easy Configuration   │
           ┌Management Me│ New Configuration   │
           │Configure    │ View/Add Configuration│
           │Initialize   │ Clear Configuration │
           │Objects      │ Select Boot Drive   │
           │Rebuild      └─────────────────────┘
           │Check Consistency│



                  ┌ View/Add to The Existing Configuration ┐
                  └──────────────────────────────────────────┘
          Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

2. The **ARRAY SELECTION MENU** displays the available drives connected to the SATA ports. Select the drive(s) you want to include in the RAID set, then press <Space>. When selected, the drive indicator changes from **READY** to **ONLIN A[X]-[Y]**, where X is the array number, and Y is the drive number.

```
          LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                         BIOS Version  A.11.02090932R

           ┌Managem──┌ Easy Configuration - ARRAY SELECTION MENU ┐
           │Configure│              PORT #                        │
           │Initializ│         0  ONLIN A00-00                    │
           │Objects  │         1  ONLIN A00-01                    │
           │Rebuild  │         2  READY                           │
           │Check Con│         3  READY                           │
                     │                                            │
                     │                                            │
                     └────────────────────────────────────────────┘

           ┌ Port # 2 DISK  74.74GB HDS728080PLA380          05.01C05 ┐
           └────────────────────────────────────────────────────────────┘
          SPACE-Sel,ENTER-EndArray,F10-Configure,F2-Drive Info,F3-Virtual Drives,F4-HSP
```

> The information of the selected hard disk drive displays at the bottom of the screen.

3. Select all the drives required for the RAID set then press <F10> to configure array setting.

4. Press <Space> to select the configurable array.
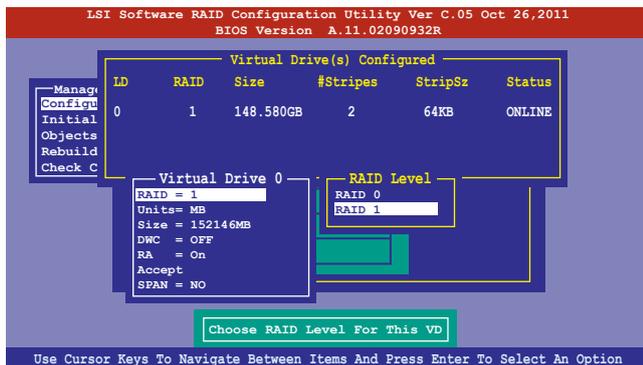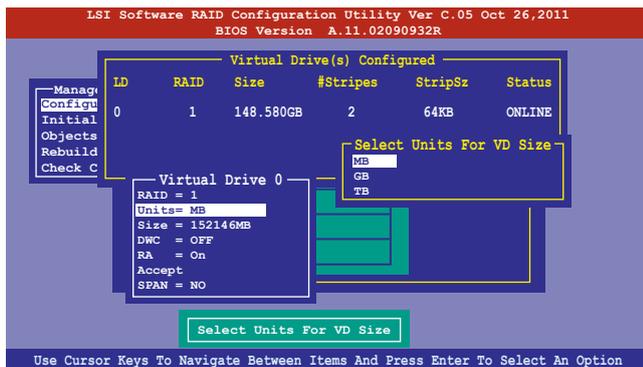
```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R


        ┌Managem┐ ┌─ Easy Configuration - ARRAY SELECTION MENU ─┐
        │Configure│ │          Select Configurable Array(s)        │
        │Initializ│ │                                              │
        │Objects  │ │    ┌─ A-0 ─┐                                 │
        │Rebuild  │ │    │SPAN-1 │                                 │
        │Check Con│ │    └───────┘                                 │
                   │                                              │
                   │                                              │
                   │              ┌──────────┐                    │
                   │              │          │                    │
                   │              └──────────┘                    │
                   └──────────────────────────────────────────────┘


      Cursor Keys, SPACE-(De)Select F2-Chidinfo F3-SlotInfo F10-Configure Esc-Quit
```

5. Press <F10> to begin the configuration.

    The virtual drive information appears including a **Virtual Drive** menu that allows you to change the virtual drive parameters.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R
                   ┌─── Virtual Drive(s) Configured ───┐
        ┌Manag┐  LD      RAID    Size     #Stripes    StripSz    Status
        │Configu│
        │Initial│  0       1      148.580GB    2          64KB       ONLINE
        │Objects│
        │Rebuild│
        │Check C│  ┌─ Virtual Drive 0 ─┐
                   │RAID = 1           │
                   │Units= MB          │
                   │Size = 152146MB    │
                   │DWC  = OFF         │
                   │RA   = On          │
                   │Accept             │
                   │SPAN = NO          │
                   └───────────────────┘
                        ┌─ Choose RAID Level For This VD ─┐
                        └─────────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

6. Select **RAID** from the **Virtual Drive** sub-menu then press <Enter>.

7. Select the **RAID** level from the menu then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R
                        ┌─ Virtual Drive(s) Configured ─┐
     ┌─Manage    LD      RAID    Size      #Stripes    StripSz    Status
     │Configu
     │Initial   0        1     148.580GB      2          64KB     ONLINE
     │Objects
     │Rebuild
     │Check C      ┌─ Virtual Drive 0 ─┐  ┌─ RAID Level ─┐
                   │RAID = 1           │  │RAID 0        │
                   │Units= MB          │  │RAID 1        │
                   │Size = 152146MB    │  │              │
                   │DWC  = OFF         │  │              │
                   │RA   = On          │
                   │Accept             │
                   │SPAN = NO          │
                   └───────────────────┘
                      ┌─ Choose RAID Level For This VD ─┐
                      └─────────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

8. Select **Units** from the **Virtual Drive** sub-menu then press <Enter>.

9. Select the units for the virtual drive size from the **Select Units For VD Size** sub-menu then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R
                        ┌─ Virtual Drive(s) Configured ─┐
     ┌─Manage    LD      RAID    Size      #Stripes    StripSz    Status
     │Configu
     │Initial   0        1     148.580GB      2          64KB     ONLINE
     │Objects
     │Rebuild            ┌─ Select Units For VD Size ─┐
     │Check C            │MB                          │
                         │GB                          │
                ┌─ Virtual Drive 0 ─┐ │TB            │
                │RAID = 1           │ └──────────────┘
                │Units= MB          │
                │Size = 152146MB    │
                │DWC  = OFF         │
                │RA   = On          │
                │Accept             │
                │SPAN = NO          │
                └───────────────────┘
                   ┌─ Select Units For VD Size ─┐
                   └────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

When creating a **RAID 0** set, proceed to step 12.

10. When creating a **RAID 1** or a **RAID 10** set, select **DWC** from the **Virtual Drive** menu, then press <Enter>.

11. Select **On** to enable the **Disk Write Cache (DWC)** setting then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                     BIOS Version  A.11.02090932R

                         ┌─ Virtual Drive(s) Configured ─┐
                         │ LD    RAID    Size    #Stripes    StripSz    Status │
  ┌─Manage              │                                                       │
  │Configu              │ 0      1    148.580GB    2         64KB      ONLINE   │
  │Initial              │                                                       │
  │Objects              │                            ┌─ Change DWC ─┐          │
  │Rebuild              │                            │ Off          │          │
  │Check C     ┌─ Virtual Drive 0 ─┐                │ On           │          │
              │ RAID = 1           │                └──────────────┘          │
              │ Units= MB          │
              │ Size = 152146MB    │
              │ DWC  = OFF         │
              │ RA   = On          │
              │ Accept             │
              │ SPAN = NO          │
              └────────────────────┘

                    ┌─ Disk Write Cache Setting of VD ─┐

    Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```
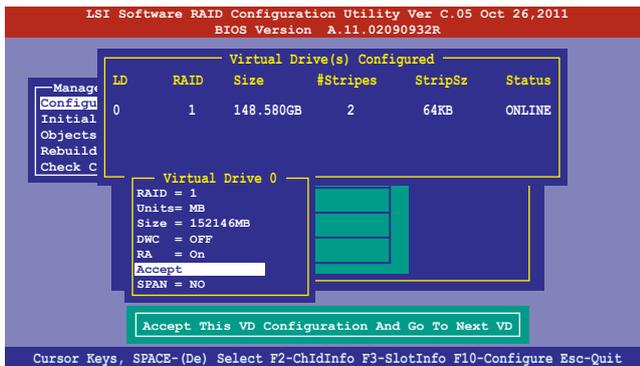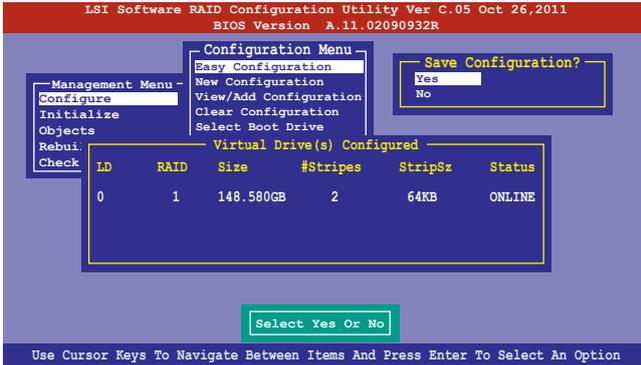
Enabling DWC can improve the performance, but with the risk of data loss.

12. After setting the values of the selected virtual drives, select **Accept** from the menu then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                     BIOS Version  A.11.02090932R

                         ┌─ Virtual Drive(s) Configured ─┐
                         │ LD    RAID    Size    #Stripes    StripSz    Status │
  ┌─Manage              │                                                       │
  │Configu              │ 0      1    148.580GB    2         64KB      ONLINE   │
  │Initial              │                                                       │
  │Objects              │                                                       │
  │Rebuild              │                                                       │
  │Check C     ┌─ Virtual Drive 0 ─┐                                           │
              │ RAID = 1           │
              │ Units= MB          │
              │ Size = 152146MB    │
              │ DWC  = OFF         │
              │ RA   = On          │
              │ Accept             │
              │ SPAN = NO          │
              └────────────────────┘

                ┌─ Accept This VD Configuration And Go To Next VD ─┐

    Cursor Keys, SPACE-(De) Select F2-ChIdInfo F3-SlotInfo F10-Configure Esc-Quit
```

13. The ARRAY SELECTION MENU displays the configured virtual drives. Repeat steps 2 to 10 to configure the remaining available virtual drives or press <Esc> to finish the RAID configuration.

14. Select **Yes** then press <Enter> to save the configuration.

```
          LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R
                     ┌─ Configuration Menu ─┐
                     │ Easy Configuration   │    ┌─ Save Configuration? ─┐
   ┌─Management Menu─┤ New Configuration    │    │ Yes                   │
   │ Configure       │ View/Add Configuration│   │ No                    │
   │ Initialize      │ Clear Configuration  │    └───────────────────────┘
   │ Objects         │ Select Boot Drive    │
   │ Rebui┌──────────── Virtual Drive(s) Configured ────────────┐
   │ Check│ LD     RAID    Size        #Stripes     StripSz    Status │
         │                                                            │
         │ 0       1     148.580GB       2           64KB      ONLINE │
         │                                                            │
         └────────────────────────────────────────────────────────────┘


                            ┌─────────────────────┐
                            │  Select Yes Or No   │
                            └─────────────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

5.   Initializing the virtual drives

After creating the RAID set(s), you must initialize the virtual drives. You may initialize the virtual drives of a RAID set(s) using the **Initialize** or **Objects** command on the **Management Menu**.
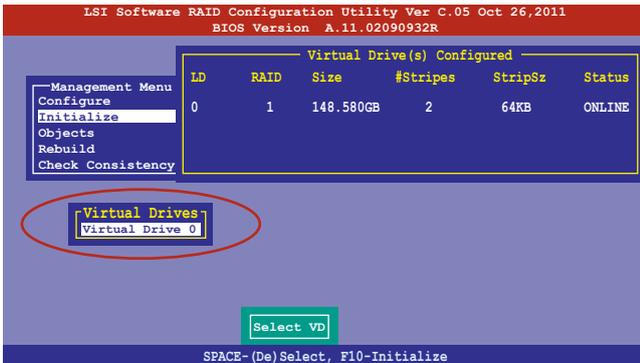
Using the Initialize command

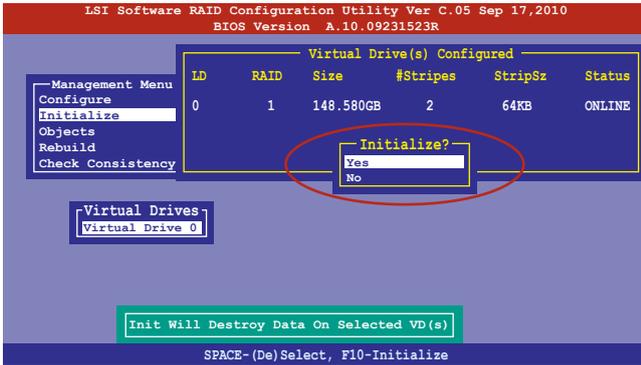To initialize the virtual drive using the Initialize command:

1.   From the **Management Menu**, select **Initialize** then press <Enter>.

2.   The screen displays the available RAID set(s) and prompts you to select the virtual drive to initialize. Use the arrow keys to select the virtual drive from the **Virtual Drive** selection then press <Space>.
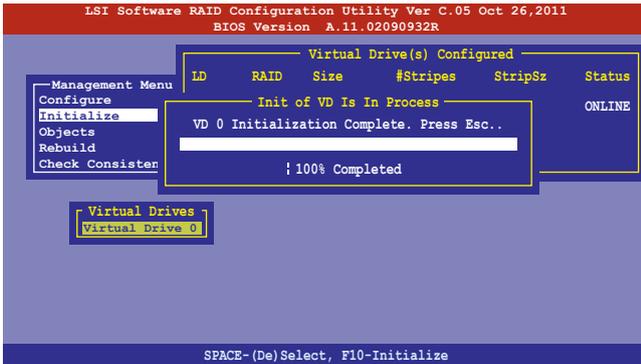
3.	Press <F10> to start initialization. When prompted, select **Yes** from the **Initialize?** dialog box then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010
                        BIOS Version  A.10.09231523R

                            ┌── Virtual Drive(s) Configured ──┐
                            LD    RAID    Size     #Stripes    StripSz    Status
  ┌─Management Menu─┐
  │Configure        │       0     1      148.580GB    2          64KB      ONLINE
  │Initialize       │
  │Objects          │              ┌── Initialize?──┐
  │Rebuild          │              │Yes             │
  │Check Consistency│              │No              │
                                   └────────────────┘

     ┌─Virtual Drives─┐
     │Virtual Drive 0 │
     └────────────────┘



        ┌──Init Will Destroy Data On Selected VD(s)──┐

              SPACE-(De)Select, F10-Initialize
```

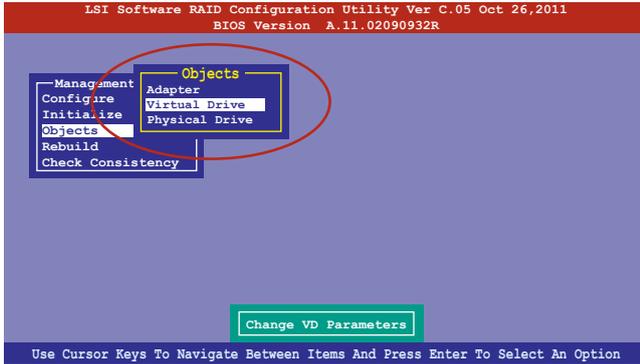⚠️ Initializing a virtual drive erases all data on the drive.

4.	A progress bar appears on screen. If desired, press <Esc> to abort initialization. After the initialization is complete, press <Esc>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R

                            ┌── Virtual Drive(s) Configured ──┐
                            LD    RAID    Size     #Stripes    StripSz    Status
  ┌─Management Menu─┐
  │Configure        │          ┌── Init of VD Is In Process ──┐       ONLINE
  │Initialize       │
  │Objects          │          VD 0 Initialization Complete. Press Esc..
  │Rebuild          │
  │Check Consisten  │          ┌──────────────────────────────┐
                                        ┊100% Completed

     ┌─Virtual Drives─┐
     │Virtual Drive 0 │
     └────────────────┘



              SPACE-(De)Select, F10-Initialize
```
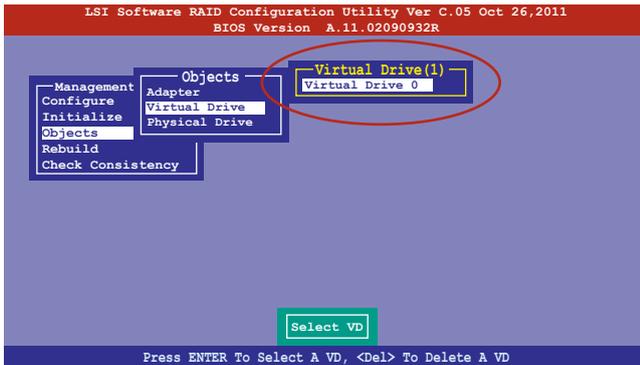
Using the Objects command

To initialize the virtual drives using the **Objects** command
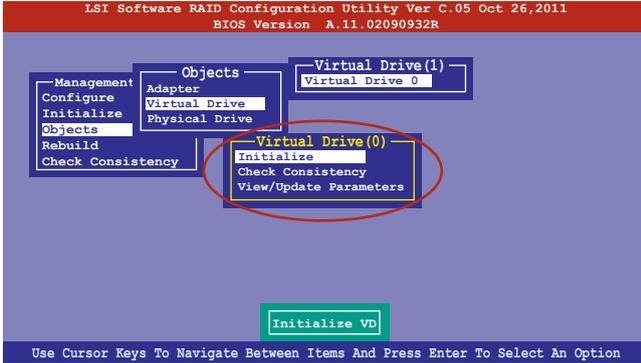
1.   From the **Management Menu**, select **Objects > Virtual Drive** then press <Enter>.
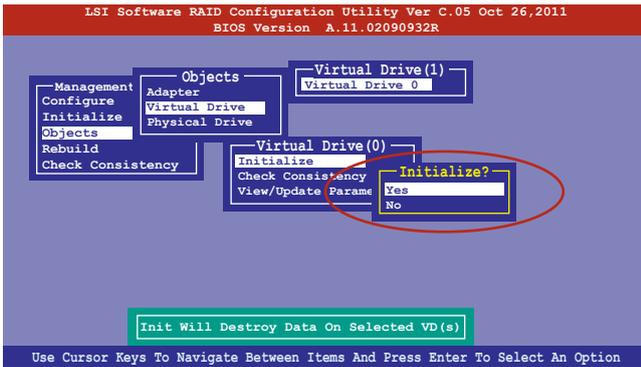

2.   Select the virtual drive to initialize from the **Virtual Drives** sub-menu then press <Enter>.

3. Select **Initialize** from the pop-up menu then press <Enter> to start initialization.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                     BIOS Version  A.11.02090932R

                                          ┌─Virtual Drive(1)─┐
                     ┌────Objects────┐     │ Virtual Drive 0  │
   ┌─Management      │ Adapter       │     └──────────────────┘
   │ Configure       │ Virtual Drive │
   │ Initialize      │ Physical Drive│
   │ Objects         └───────────────┘┌──Virtual Drive(0)──┐
   │ Rebuild                          │ Initialize         │
   │ Check Consistency                │ Check Consistency  │
   └──────────────────                │ View/Update Parameters │
                                      └────────────────────┘



                              ┌──────────────┐
                              │ Initialize VD│
                              └──────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

4. When prompted, press the <Space> to select **Yes** from the **Initialize?** dialog box then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                     BIOS Version  A.11.02090932R

                                          ┌─Virtual Drive(1)─┐
                     ┌────Objects────┐     │ Virtual Drive 0  │
   ┌─Management      │ Adapter       │     └──────────────────┘
   │ Configure       │ Virtual Drive │
   │ Initialize      │ Physical Drive│
   │ Objects         └───────────────┘┌──Virtual Drive(0)──┐
   │ Rebuild                          │ Initialize         │
   │ Check Consistency                │ Check Consistency  ┌─Initialize?─┐
   └──────────────────                │ View/Update Parame │ Yes         │
                                      └──────────────────  │ No          │
                                                           └─────────────┘

                         ┌──────────────────────────────────┐
                         │ Init Will Destroy Data On Selected VD(s)│
                         └──────────────────────────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```
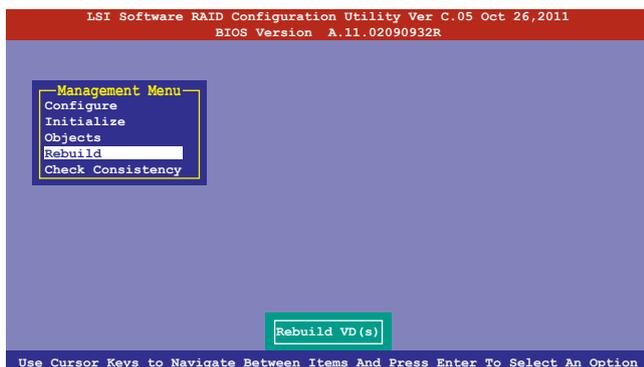
5. A progress bar appears on screen. If desired, press <Esc> to abort initialization. After the initialization is complete, press <Esc>.
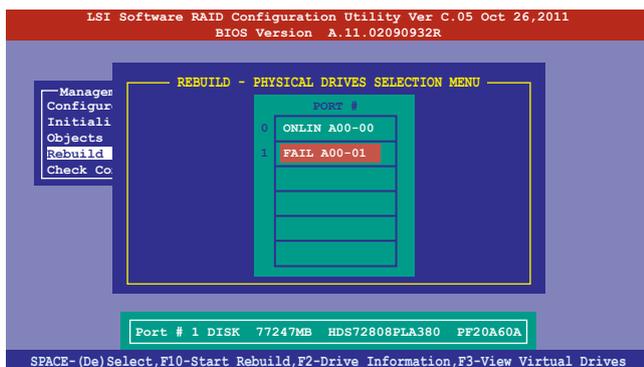
6.   Rebuilding failed drives

You can manually rebuild failed hard disk drives using the **Rebuild** command in the **Management Menu**.
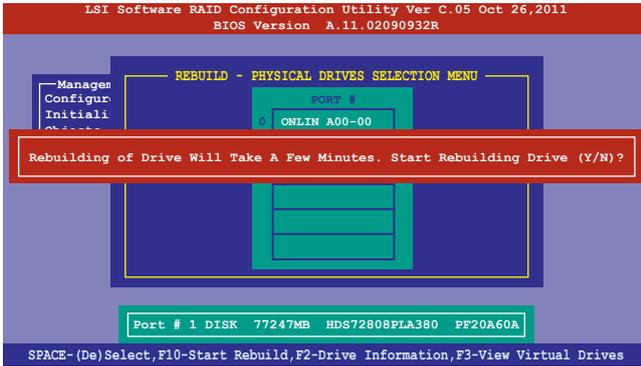
To rebuild a failed hard disk drive:

1.   From the **Management Menu**, select **Rebuild** then press <Enter>.

2.   The **PHYSICAL DRIVES SELECTION MENU** displays the available drives connected to the SATA ports. Select the drive you want to rebuild then press <Space>.

3.   After selecting the drive to rebuild, press <F10>. When prompted, press <Y> to rebuild
     the drive.

4.   When rebuild is complete, press any key to continue.

7. Checking the drives for data consistency

You can check and verify the accuracy of data redundancy in the selected virtual drive. The utility can automatically detect and/or detect and correct any differences in data redundancy depending on the selected option in the **Objects > Adapter** menu.
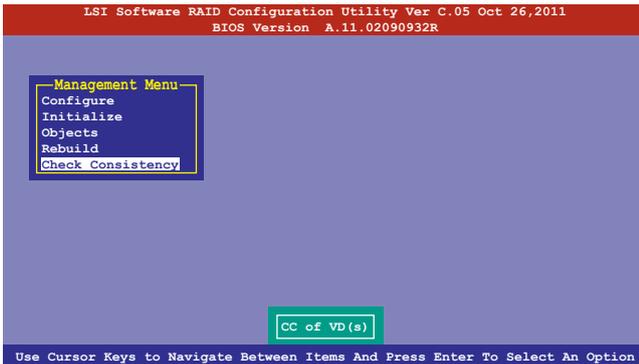
> The **Check Consistency** command is available only for virtual drives included in a RAID 1 or RAID 10 set.
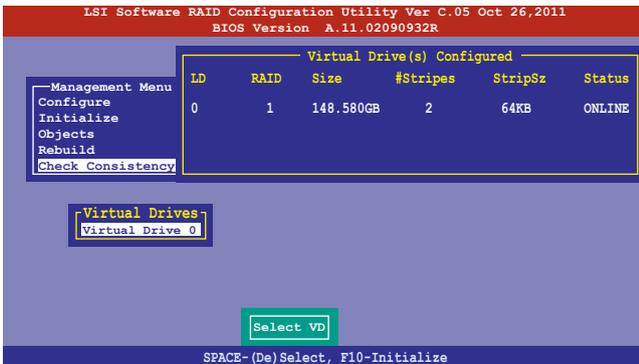
Using the Check Consistency Command

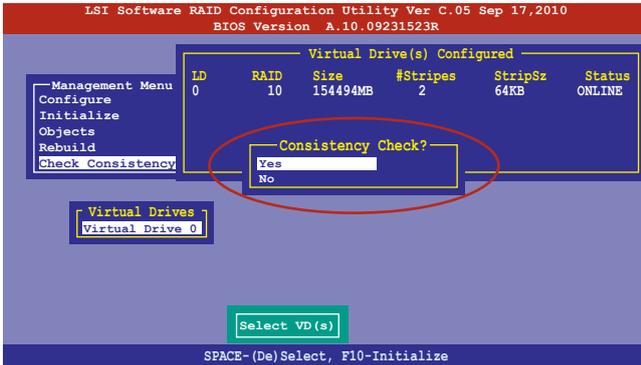To check data consistency using the **Check Consistency** command:

1. From the **Management Menu**, select **Check Consistency** then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.11.02090932R

        ┌─Management Menu─┐
        │Configure        │
        │Initialize        │
        │Objects           │
        │Rebuild           │
        │Check Consistency │
        └─────────────────┘




                            ┌─────────────┐
                            │  CC of VD(s) │
                            └─────────────┘
        Use Cursor Keys to Navigate Between Items And Press Enter To Select An Option
```
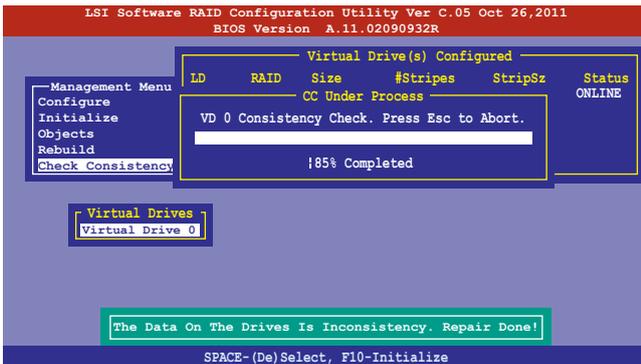
2. The screen displays the available RAID set(s) and prompts you to select the virtual drive to check. Press <Space> to select the virtual drive from the **Virtual Drive** sub-menu then press <F10>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.11.02090932R
                        ┌─────── Virtual Drive(s) Configured ───────┐
                        │ LD    RAID    Size       #Stripes    StripSz    Status │
        ┌─Management Menu─┤                                                       │
        │Configure        │ 0      1     148.580GB    2          64KB      ONLINE │
        │Initialize        │                                                       │
        │Objects           │                                                       │
        │Rebuild           │                                                       │
        │Check Consistency │                                                       │
        └─────────────────┘└──────────────────────────────────────────────────────┘
        ┌─Virtual Drives─┐
        │Virtual Drive 0 │
        └────────────────┘


                            ┌─────────────┐
                            │  Select VD   │
                            └─────────────┘
                    SPACE-(De)Select, F10-Initialize
```

3.   When prompted, use the arrow keys to select **Yes** from the **Consistency Check?** dialog box then press <Enter>.

```
     LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010
                    BIOS Version  A.10.09231523R
                           Virtual Drive(s) Configured
                    LD      RAID    Size      #Stripes    StripSz    Status
   Management Menu  0        10    154494MB      2          64KB     ONLINE
   Configure
   Initialize
   Objects
   Rebuild                        Consistency Check?
   Check Consistency        Yes
                            No
        Virtual Drives
        Virtual Drive 0


                         Select VD(s)

                    SPACE-(De)Select, F10-Initialize
```

A progress bar appears on screen showing the progress of the consistency check.

```
     LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.11.02090932R
                           Virtual Drive(s) Configured
                    LD      RAID    Size      #Stripes    StripSz    Status
   Management Menu         CC Under Process                          ONLINE
   Configure
   Initialize          VD 0 Consistency Check. Press Esc to Abort.
   Objects
   Rebuild
   Check Consistency                 ¦85% Completed
        Virtual Drives
        Virtual Drive 0


               The Data On The Drives Is Inconsistency. Repair Done!
                    SPACE-(De)Select, F10-Initialize
```

4.   While checking the disk consistency, press <Esc> to display the following options.

   •   **Stop**   -   Stops the consistency check. The utility stores the percentage of disk checked. If you restart the consistency check, it will continue from the percentage it stopped and continues the checking with the remaining percentage that is not yet checked.

   •   **Continue**   -   Continues the consistency check.

   •   **Abort**   -   Aborts the consistency check. When you restart checking, it starts from zero percent.

5.   When checking is complete, press any key to continue.

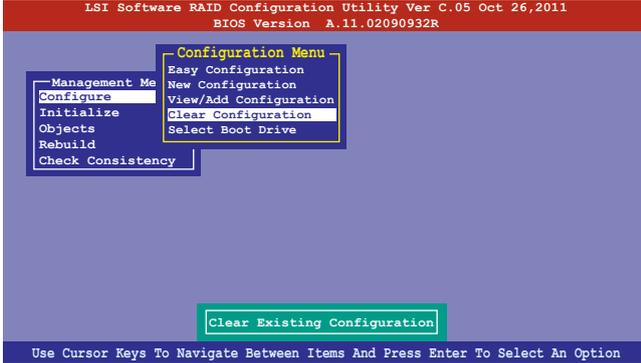## Using the Objects command

To check data consistency using the **Objects** command:

1. From the **Management Menu**, select **Objects** then select **Virtual Drive** from the sub-menu.

2. Use the arrow keys to select the virtual drive you want to check then press <Enter>.

3. Select **Check Consistency** from the pop-up menu then press <Enter>.

4. When prompted, use the arrow keys to select **Yes** from the dialog box to check the drive.

5. When checking is complete, press any key to continue.

8.   Deleting a RAID configuration

To delete a RAID configuration:

1. From the **Management Menu**, select **Configure** > **Clear Configuration** then press
    <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R

                        ┌─ Configuration Menu ─┐
                        │ Easy Configuration   │
        ┌─Management Me ─│ New Configuration    │
        │ Configure      │ View/Add Configuration│
        │ Initialize     │ Clear Configuration  │
        │ Objects        │ Select Boot Drive    │
        │ Rebuild        └──────────────────────┘
        │ Check Consistency│


                        ┌────────────────────────────┐
                        │ Clear Existing Configuration │
                        └────────────────────────────┘
        Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

2. When prompted, use the arrow keys to select **Yes** from the **Clear Configuration?**
    dialog box, then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                        BIOS Version  A.11.02090932R

                        ┌─ Configuration Menu ─┐
                        │ Easy Configuration   │
        ┌─Management Me ─│ New Configuration    │
        │ Configure      │ View/Add Configuration│
        │ Initialize     │ Clear ┌─ Clear Configuration? ─┐
        │ Objects        │ Select│ Yes                    │
        │ Rebuild        │       │ No                     │
        │ Check Consistency│     └────────────────────────┘


                        ┌────────────────────────────┐
                        │ Clear Existing Configuration │
                        └────────────────────────────┘
        Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

The utility clears all the current array(s).
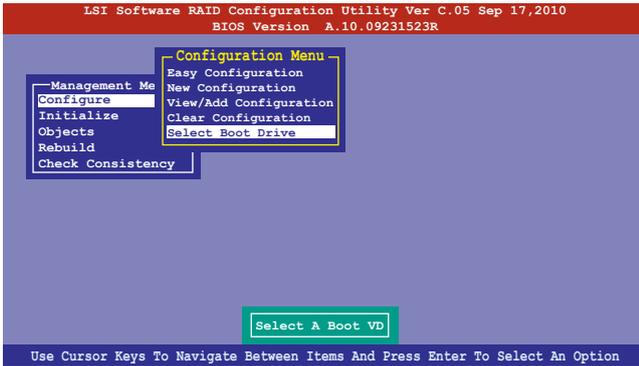
3. Press any key to continue.
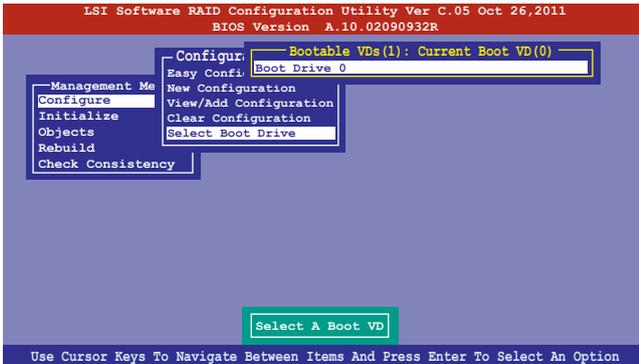
9. Selecting the boot drive from a RAID set

You must have created a new RAID configuration before you can select the boot drive from a RAID set. See section **5.2.1 Creating a RAID set: Using New Configuration** for details.

To select the boot drive from a RAID set

1. From the **Management Menu**, select **Configure** > **Select Boot Drive**, then press <Enter>.

```
LSI Software RAID Configuration Utility Ver C.05 Sep 17,2010
                    BIOS Version  A.10.09231523R

                    ┌─ Configuration Menu ─┐
                    │ Easy Configuration   │
   ┌─Management Me  │ New Configuration    │
   │Configure       │ View/Add Configuration│
   │Initialize      │ Clear Configuration  │
   │Objects         │ Select Boot Drive    │
   │Rebuild         └──────────────────────┘
   │Check Consistency┘




                    ┌─────────────────────┐
                    │  Select A Boot VD   │
                    └─────────────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

2. When prompted, use the arrow keys to select the bootable virtual drive from the list, then press <Enter>.

```
LSI Software RAID Configuration Utility Ver C.05 Oct 26,2011
                    BIOS Version  A.10.02090932R

            ┌─ Configur ──┐┌─ Bootable VDs(1): Current Boot VD(0) ─┐
            │ Easy Confi  ││ Boot Drive 0                          │
   ┌─Management Me         │ New Configuration  └──────────────────┘
   │Configure       │ View/Add Configuration
   │Initialize      │ Clear Configuration
   │Objects         │ Select Boot Drive
   │Rebuild         └──────────────────────┘
   │Check Consistency┘




                    ┌─────────────────────┐
                    │  Select A Boot VD   │
                    └─────────────────────┘
   Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

3. The virtual drive is selected as boot drive. Press any key to continue.

10.   Enabling the Disk Write Cache (DWC)

You may manually enable the RAID controller's Disk Write Cache option after creating a RAID set to improve the data transmission performance.
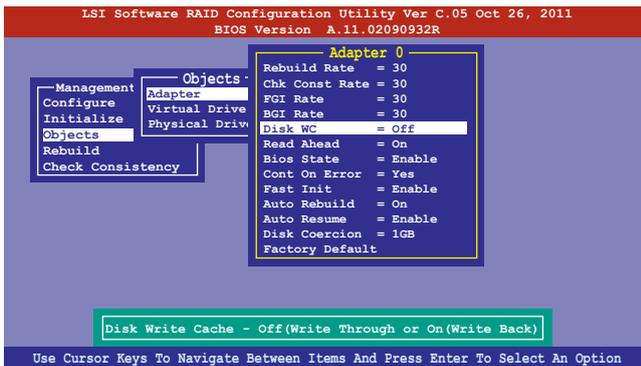
> ⚠️ When you enable DWC, you may lose data when a power interruption occurs while transmitting or exchanging data among the drives.

> ✎ The WriteCache function is recommended for RAID 1 and RAID 10 sets. You have to manually configure the Adapter and the Virtual Drive of the RAID set you created.
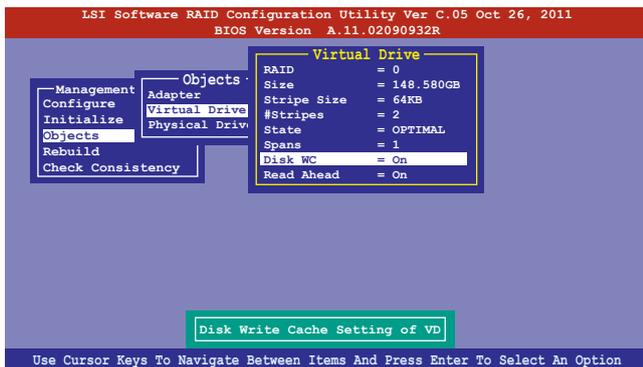
To enable DWC:

1.   From the **Management Menu**, select **Objects** > **Adapter.** Select an existing adapter then press <Enter> to display the adapter properties.

2.   Select **Disk WC** then press <Enter>.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26, 2011
                     BIOS Version  A.11.02090932R
                                  ─ Adapter 0 ──────────
                                 Rebuild Rate    = 30
               ──── Objects ─    Chk Const Rate = 30
      ─Management    Adapter      FGI Rate       = 30
      Configure      Virtual Drive BGI Rate      = 30
      Initialize     Physical Driv Disk WC       = Off
      Objects                      Read Ahead    = On
      Rebuild                      Bios State    = Enable
      Check Consistency            Cont On Error = Yes
                                   Fast Init     = Enable
                                   Auto Rebuild  = On
                                   Auto Resume   = Enable
                                   Disk Coercion = 1GB
                                   Factory Default


         ┌──────────────────────────────────────────────────┐
         │ Disk Write Cache - Off(Write Through or On(Write Back) │
         └──────────────────────────────────────────────────┘
      Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option
```

3.   Select **On** from the **Change DWC** and press <Enter> to turn on the option.

4.   Go to **Management Menu**, select **Objects** > **Virtual Drive.** Select an existing Virtual Drive and press <Enter>.

5. Select **View/Update Parameters** and press <Enter> to display the Virtual Drive properties.

6. Select **Disk WC** then press <Enter>.

7. Select **On** from the **Change DWC** and press <Enter> to turn on the option.

```
        LSI Software RAID Configuration Utility Ver C.05 Oct 26, 2011
                     BIOS Version  A.11.02090932R
                               ┌──── Virtual Drive ────┐
                               │ RAID        = 0        │
                   ┌─ Objects ─┤ Size        = 148.580GB│
        ┌Management│ Adapter    │ Stripe Size = 64KB     │
        │Configure │ Virtual Drive│ #Stripes  = 2        │
        │Initialize│ Physical Driv│ State     = OPTIMAL  │
        │Objects   │            │ Spans       = 1        │
        │Rebuild   │            │ Disk WC     = On       │
        │Check Consistency      │ Read Ahead  = On       │
        └──────────            └────────────────────────┘



                      ┌────────────────────────────────┐
                      │ Disk Write Cache Setting of VD  │
                      └────────────────────────────────┘
        ┌──────────────────────────────────────────────────────────┐
        │ Use Cursor Keys To Navigate Between Items And Press Enter To Select An Option │
        └──────────────────────────────────────────────────────────┘
```

8. After configuring the DWC options of the Adapter and the Virtual Drive, press any key to continue.

III. RAID driver installation

After creating the RAID sets for your server system, you are now ready to install an operating system to the independent hard disk drive or bootable array.

This part provides the instructions on how to install the LSI MegaRAID controller drivers during OS installation.

1. Red Hat® Enterprise Linux OS 5.x

To load the LSI MegaRAID controller driver when installing Red Hat® Enterprise Linus OS 5.x:

1. Boot the system from the Red Hat® OS installation CD.

2. At the **boot:**, type **linux dd** then press <Enter>.

```
-  To install or upgrade in graphical mode, press the <ENTER> key.
-  To install or upgrade in text mode, type: linux text <ENTER>.
-  Use the function keys listed below for more information.
[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue]
boot: linux dd
```

3. Select **Yes** using the <Tab> key when asked if you have a driver disk, then press <Enter>.
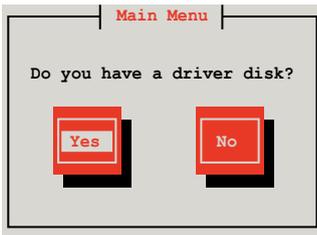
```
┌──────┤ Main Menu ├──────┐

  Do you have a driver disk?

      Yes           No

```

4. Insert the Red Hat® Enterprise RAID driver disk into the USB floppy disk drive.

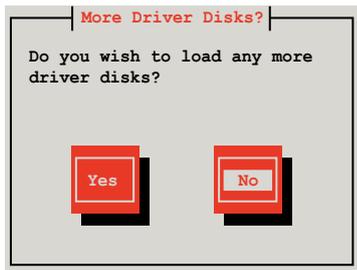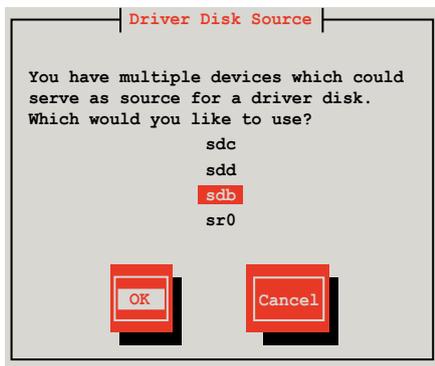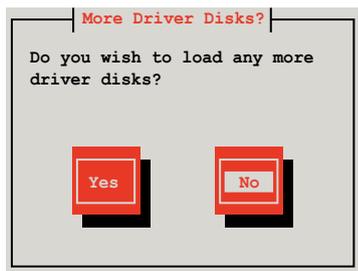   Write-protect the floppy disk to avoid computer virus infection.

    If the Red Hat® Enterprise RAID driver is stored in a USB flash drive, insert the USB flash drive into an available USB port.

5 . Choose a source for the driver disk, select **OK**, then press <Enter>.

```
┌───────────┤ Driver Disk Source ├───────────┐
│                                             │
│  You have multiple devices which could      │
│  serve as source for a driver disk.         │
│  Which would you like to use?               │
│                    sdc                       │
│                    sdd                       │
│                    sdb                       │
│                    sr0                       │
│                                             │
│                                             │
│      ┌──────┐          ┌──────────┐         │
│      │  OK  │          │  Cancel  │         │
│      └──────┘          └──────────┘         │
│                                             │
└─────────────────────────────────────────────┘
```

The drivers for the RAID card are installed to the system.

6. Select **No** when asked to load additional RAID controller drivers then press <Enter>.

```
┌─────────┤ More Driver Disks? ├─────────┐
│                                        │
│  Do you wish to load any more          │
│  driver disks?                         │
│                                        │
│                                        │
│      ┌───────┐       ┌───────┐         │
│      │  Yes  │       │  No   │         │
│      └───────┘       └───────┘         │
│                                        │
└────────────────────────────────────────┘
```

7. Follow the on-screen instructions to finish the OS installation.

2. Red Hat® Enterprise Linux OS 6.x

To install the LSI MegaRAID controller driver when installing Red Hat® Enterprise Linux 6.x OS:

1.   Boot the system from the Red Hat® OS installation CD.

2.   Press <Tab> to edit options.
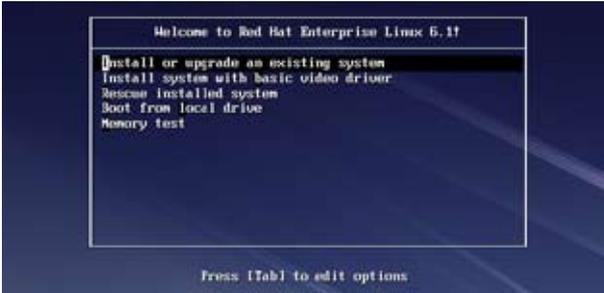
3.   While booting from DVD, press <ESC> to provide the third party driver. Enter the following command at the **boot: `Linux dd`** then press <ENTER>.

4.   Insert the Red Hat® Enterprise RAID driver disk into the USB floppy disk drive.

       Write-protect the floppy disk to avoid computer virus infection.

       If the Red Hat® Enterprise RAID driver is stored in a USB flash drive, insert the USB flash drive into an available USB port.

5 . Choose a source for the driver disk, select **OK**, then press <Enter>.

```
┌──────────┤ Driver Disk Source ├──────────┐
│                                            │
│  You have multiple devices which could     │
│  serve as source for a driver disk.        │
│  Which would you like to use?              │
│                  sdc                       │
│                  sdd                       │
│                  sdb                       │
│                  sr0                       │
│                                            │
│                                            │
│      ┌──────┐        ┌────────┐            │
│      │  OK  │        │ Cancel │            │
│      └──────┘        └────────┘            │
│                                            │
└────────────────────────────────────────────┘
```

The drivers for the RAID card are installed to the system.

6. Select **No** when asked to load additional RAID controller drivers then press <Enter>.

```
┌──────┤ More Driver Disks? ├──────┐
│                                   │
│  Do you wish to load any more     │
│  driver disks?                    │
│                                   │
│                                   │
│    ┌──────┐      ┌──────┐         │
│    │ Yes  │      │  No  │         │
│    └──────┘      └──────┘         │
│                                   │
└───────────────────────────────────┘
```

7. Follow the onscreen instructions to finish the OS installation.

Preparing the Linux Driver

Ensure that there is another computer with a Linux-based OS to create the RAID driver. When creating the RAID driver, you may refer to the examples below which uses a 64-bit SUSE Linux system to create a 64-bit RAID driver for SUSE11 sp1.

1. Copy the image file into the Linux system.

   Example: `megasr-15.00.0120.2012-1-sles11-ga-x86_64.img`

2. Create a folder.

   Example: `image`

3. Mount the image file into the image folder using this command format:

   `mount -oloop [image file name] image`

   Example: `mount -oloop megasr-15-15.00.0120.2012-1-sles11-ga-x86__64.img image`

4. Copy the contents of the image directory, labeled as **01**, into a FAT32 USB drive.

5. Rename the **01** folder to **CD Image**.

3. Installing SUSE 11 Linux OS

To install the LSI MegaRAID controller driver when installing SUSE 11 Linux Enterprise Server OS:
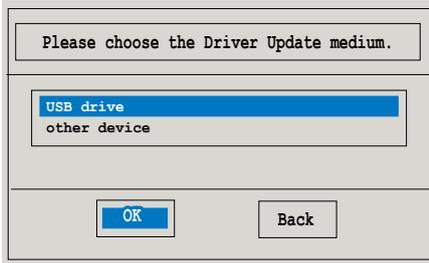
1. Boot the system from the SUSE OS installation CD.

2. Use the arrow keys to select **Installation** from the **Boot Options** menu.

3. Use the USB drive to provide the third-party driver during the OS installation.

Press <F6>, select **Yes** from the menu, then press <Enter>.

4. On the following screen, select **USB drive** as the driver update medium, select **OK**, then press <Enter>.

```
┌─────────────────────────────────────────┐
│ Please choose the Driver Update medium.  │
├─────────────────────────────────────────┤
│ ┌─────────────────────────────────────┐ │
│ │ USB drive                           │ │
│ │ other device                        │ │
│ └─────────────────────────────────────┘ │
│                                          │
│     ┌────────┐        ┌────────┐         │
│     │   OK   │        │  Back  │         │
│     └────────┘        └────────┘         │
└─────────────────────────────────────────┘
```

5. Select **Back** and follow the onscreen instructions to finish the installation.