



EMC Data Domain Operating System USB Installation Guide

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DD OS USB Installation Guide

This guide provides instructions for installing the Data Domain operating system (DD OS) from a USB key (a.k.a. keychain drive, thumb drive, or flash memory stick).

This installation method is intended for:

- New Data Domain systems shipped without DD OS software on the system disk
- Overwriting a system's DD OS software

Note: The procedure in this guide does not support upgrading DD OS software using Enterprise Manager or CLI commands. For information on upgrading with these methods, refer to the *Release Notes* for the DD OS version you want to install and the *Administration Guide* and *Command Reference Guide* for your current version of DD OS.

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Requirements

System Installation and Setup

If you are installing DD OS software on a new system that was shipped without DD OS installed, get the *Installation and Setup Guide* printout in the system controller's shipping box, or download it from the Product Documentation area of the Support Portal:

<https://my.datadomain.com/US/en/platform.jsp>

(Support login is required.)

Go to Section 1, "Installation and Setup Steps," and perform the steps, but stop at "Turn on the system." Do not power on the system until you are directed to do so by the instructions in this guide.

Caution: If you are performing a system controller upgrade, install the DD OS software prior to connecting external storage and starting the controller upgrade operation.

System Console

You must have one of the following consoles connected to the system:

- PS/2 or USB keyboard with a VGA monitor.
(A USB-to-PS2 converter is needed to use a PS/2 keyboard with DD880 and DD880g.)
- KVM console.
- Serial console or laptop with terminal emulation software such as Secure CRT, PuTTY, or HyperTerminal (required for running DD OS commands). A null modem cable with a DB9 female connector is required to connect a serial console or laptop to the system. Cisco "rollover" cables cannot be used.

Console connections and scenarios are described in "[Connect a Console to the System](#)" on page 16.

System Password

If the system is up and running DD OS, you must log in as `sysadmin` to:

- Issue the `system reboot` command to install DD OS software from a USB key.
- Configure DD OS software after installing it.

The Data Domain default `sysadmin` password is provided in the Knowledge Base article, "System Password Not Working," on the Data Domain Support Portal:

https://my.datadomain.com/download/kb/all/System_Password_Not_Working.html

(Support login is required.)

However, if this password has been changed, you need the new password prior to starting the procedures in this guide.

USB Key with DD OS Image

You must have a dedicated USB key, 1 GB (999 MB available) or larger, to install the software.

Instructions for downloading the USB image for DD OS and loading it onto a USB key are provided in [“Download Installation Files”](#) on page 6 and [“Write the DD OS Image to a USB Key”](#) on page 7.

Software Licenses

A *License Keys* document, with a list of all license keys purchased, is included in the shipping package with the Data Domain system controller. You need to enter license keys after installing the DD OS software and rebooting. If you do not have this printout, contact Data Domain Support.

Time Required

The typical time needed to install and configure the DD OS software is 1 hour:

- 30 minutes to install the software
- 30 minutes to configure the installed software

Download Installation Files

Note: If you are installing DD OS software on a new system shipped without this software installed, check the *Release Notes* in the system controller's shipping box and obtain the version of DD OS to be installed.

Contact Data Domain Support and request that the USB image for the version of DD OS you need be made available for downloading on the Support Portal.

Follow the steps below to download the DD OS USB image and Win32DiskImager tool (required for Windows environments). These are provided in a single Zip file.

1. Log in to the Data Domain Support Portal:

<https://my.datadomain.com/US/en/downloads.jsp>

(Support login is required.)

2. Click Download Software, then select your platform and click View.
3. Find the DD OS USB image for your system. USB image names take the form *x.x.x.x_USB_Image*, where *x.x.x.x* is the DD OS release number. For example:

Version	Date	Size
5.0.3.0_USB_Image + Details and Download	Nov 8, 2011	580.8 Mb

4. Then click the Details and Download link for the release.

Version	Date	Size
5.0.3.0_USB_Image Details and Download	Nov 8, 2011	580.8 Mb

About this release

ATTENTION: If Using Windows, a USB Image Writer utility is required to make the USB drive bootable. This is included in the download. For the latest installation instructions, click on the link below.

[Full documentation on this release](#)

[Download](#) [View MD5](#)

5. Click Download and accept the End User License Agreement (EULA) to start the transfer.

Note: The View MD5 button displays the value for the Zip download file. The MD5 value for the image file is in the Zip archive.

Go to the next section, [“Write the DD OS Image to a USB Key”](#) on page 7.

Write the DD OS Image to a USB Key

This section provides instructions for:

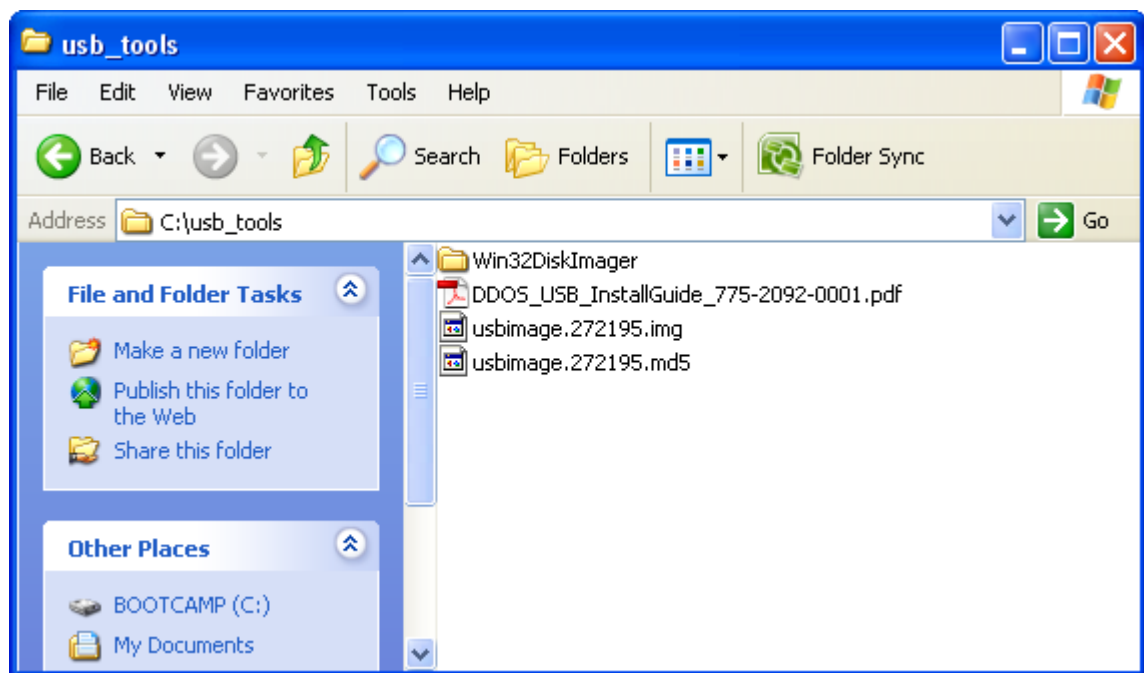
- Windows systems (see below)
- Linux/Unix systems (see [page 12](#))

Windows Systems

1. Create a USB work folder in Windows, such as C:\usb_tools.
2. Unzip the download file and move the folder contents into your USB work folder.

Your USB work folder should contain the following:

- Win32DiskImager tool folder
- This installation guide (.pdf)
- The DD OS USB image file (.img)
- The image file's MD5 checksum (.md5)

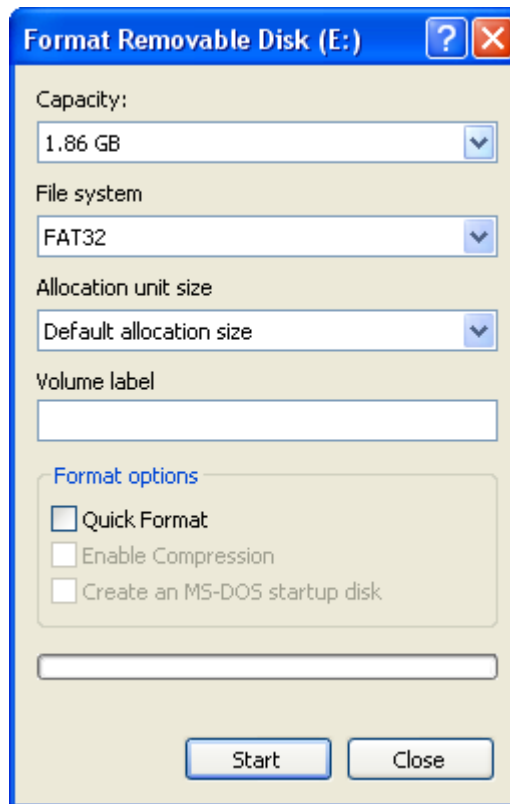


3. Format the USB key.

- a. Insert a 1 GB or larger USB key into your computer's USB port.
- b. Go to My Computer and note the letter assigned to the USB key. For example, E.

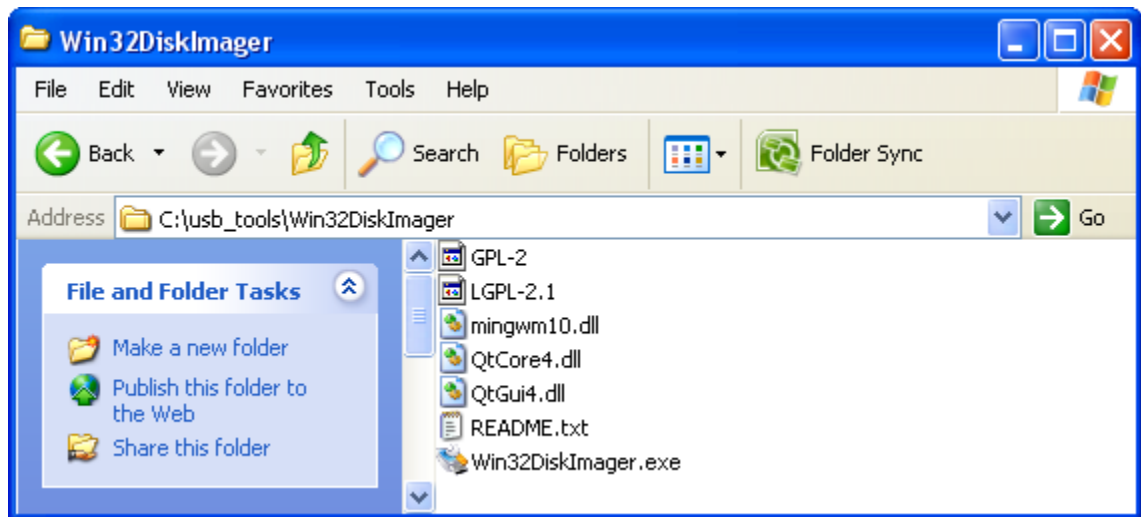
Caution: Copy off any files you want to keep; the key will be reformatted and all data will be lost.

- c. Right-click the USB key icon and select Format from the menu. The formatting menu appears.

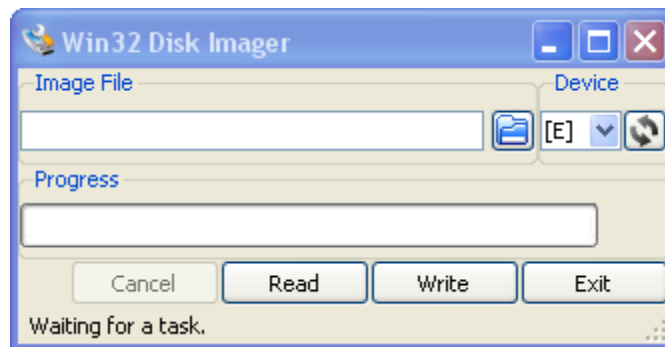


- d. Select FAT32 as the file system, clear Quick Format (if necessary), then click Start to begin formatting the USB key.

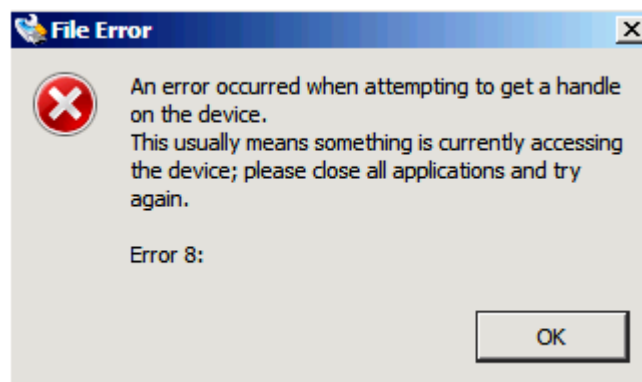
4. Write the DD OS image to the USB key.
 - a. Open the Win32DiskImager folder in your USB work folder.



- b. Double-click `Win32DiskImager.exe` to launch the application.

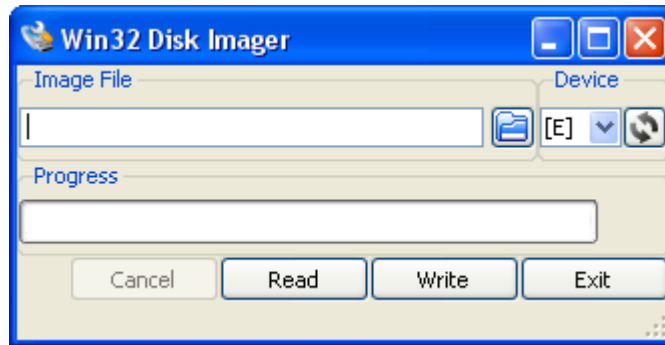


Note: When you launch Win32DiskImager, this error message may appear:

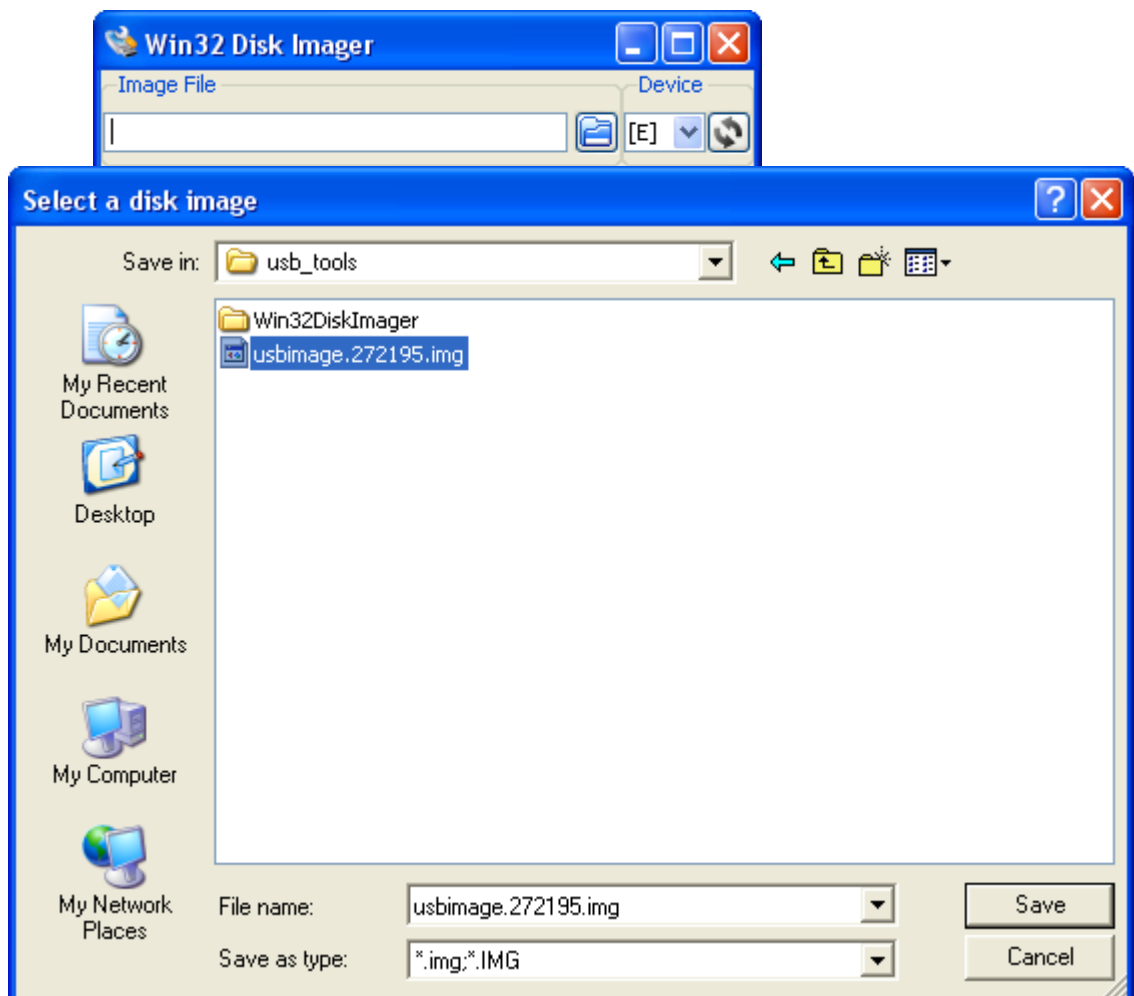


Click OK to ignore it.

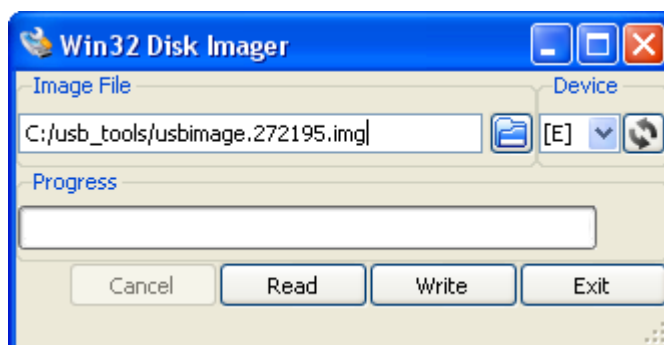
- c. Click the refresh icon. Then select the USB key to which you will write the DD OS image by clicking the down arrow icon under Device and selecting the target USB key from the list. USB device E is shown.



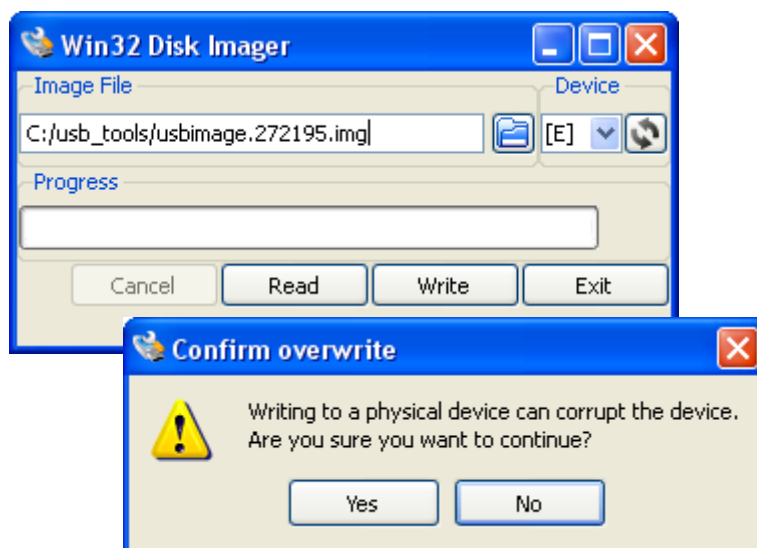
- d. Select the image file to be written to the USB key as follows:
- Click the folder icon in the Win32DiskImager window.
 - Click the up folder icon in the image selection window.
 - Select the image file and click Save.



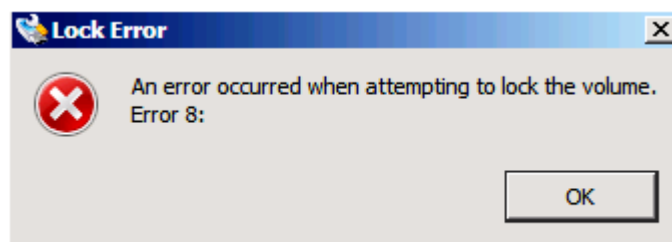
The image selection window disappears and the image name appears in the Win32DiskInstaller tool.



- e. Click Write, then Yes to confirm and start the write operation.

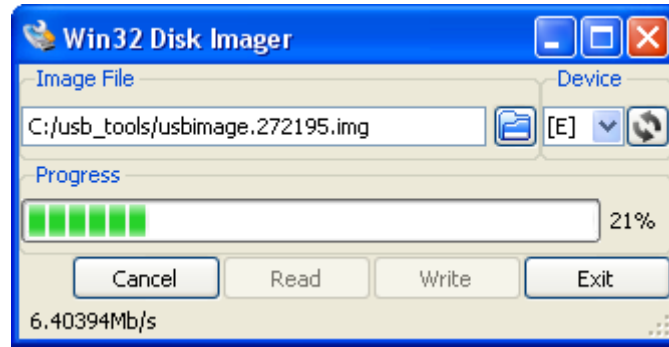


Note: When you click Write, this message may appear.



This error indicates that the USB key is being used by other processes, such as being opened by Internet Explorer when it is plugged in. To continue, close these processes and try again.

The write operation starts, indicated by progress bars.



When the write operation completes, click Exit to quit the program.

- f. Go to My Computer, right-click the USB key, and select Eject to unmount it. Then remove the key from your computer.

Go to [“Install and Configure DD OS Software”](#) on page 14.

Linux/Unix Systems

1. Log in to your Linux or Unix computer as root.
2. Create a USB work directory to hold the download files.
3. Unzip the download file and move the folder contents into your USB work directory.

Your USB work folder should contain the following:

- Win32DiskImager tool subdirectory (not used for Linux/Unix)
- This installation guide (.pdf)
- The DD OS USB image file (.img)
- The image file’s MD5 checksum (.md5)

4. Insert a 1 GB or larger USB key into your computer’s USB port.

Caution: Copy off any files you want to keep; the key will be reformatted and all data will be lost.

5. Run `mount` to find the device name, or, if your system does not automount, run `dmesg` and look for USB information:

```
# mount
```

or

```
# dmesg
```

An example device name is `/dev/sdc`.

6. Unmount the USB drive.

For example, to unmount device `/dev/sdc` enter:

```
# umount /dev/sdc
```

7. Write the DD OS image to the USB key.

For example, to write image `/ws/toolsbin/mkusb2/usbimage.272195.img` to USB key `/dev/sdc`, enter the following command as root:

```
# dd if=/ws/toolsbin/mkusb2/usbimage.272195.img of=/dev/sdc
```

8. Sync the USB key:

```
# sync;sync;sync
```

9. Remove the USB key from your computer.

Go to [“Install and Configure DD OS Software”](#) on page 14.

Install and Configure DD OS Software

Caution: If you are performing a system controller upgrade, install the DD OS software prior to connecting external storage and starting the controller upgrade operation.

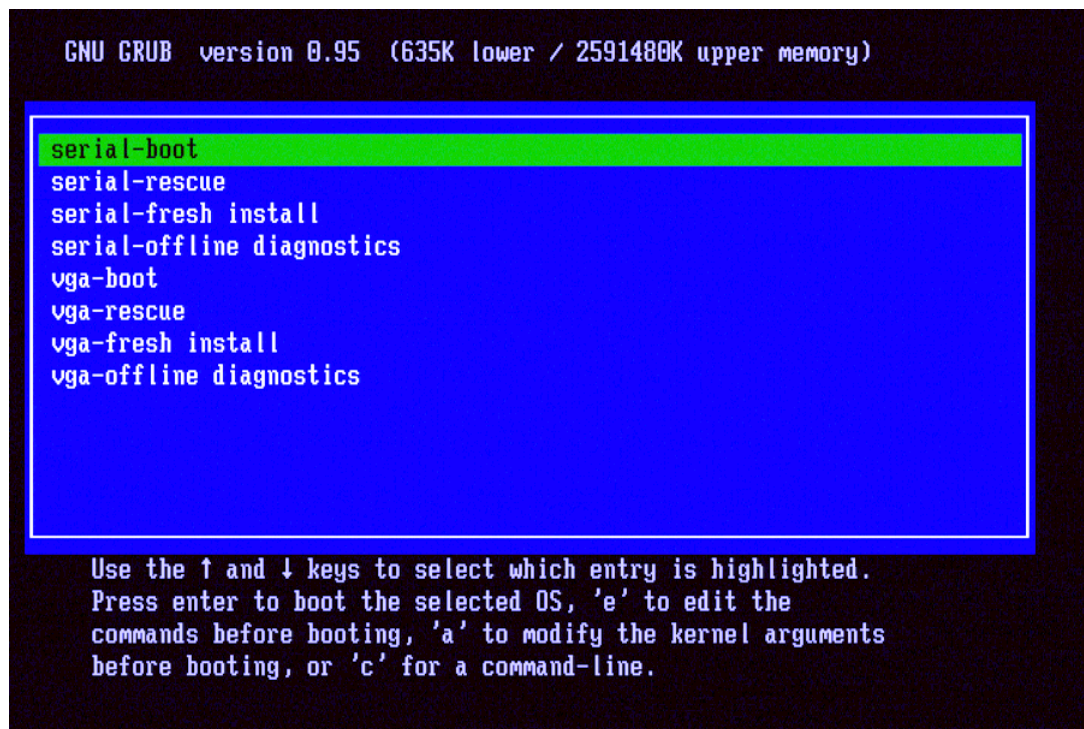
1. Insert the USB key with the DD OS image into a USB port on the system. (For USB port locations, refer to your system's *Hardware Overview* manual.)
2. If the system is powered down, power up the system according to the installation and setup guide and skip to step 4.
3. If the system is powered up with a system prompt on the console, then log in as sysadmin (see "System Password" on page 4) and enter:

```
# system reboot
```

Answer yes to the Are you sure? prompt.

Note: If you cannot boot the system from the USB key, contact Data Domain Support as BIOS changes may be required.

4. After the system boots from the USB key, the console displays a boot menu.



Scroll down using the down arrow key and highlight the fresh install option for your console type. Then press Enter to select it.

Note: Offline diagnostics are not available for all releases. DD690 systems are not supported for offline diagnostics.

5. Before software installation starts, the following prompt appears:

```
Confirm: Do you want to delete all existing data?  
[deleteallexistingdata/quit]
```

Warning: Entering `deleteallexistingdata` destroys the information on all system controller disks and expansion disks, including DD OS software, configuration settings, and data.

Continue with the DD OS installation by manually entering:

```
deleteallexistingdata
```

Note: If there is no response after you enter the prompt phrase, verify that the correct interface was selected in the boot menu.

6. After installation completes, the system automatically reboots.

Remove the USB key when the installation process prompts that it will be rebooting.

Note: Remove the USB key now to ensure rebooting from the system disk. You do not use the USB key after DD OS is installed on the system.

7. After the system reboots from disk, you are prompted to accept the End User License Agreement (EULA) and then to log in.

Note: Service personnel should respond to the EULA prompt as follows:

- If the customer is present, show the customer the EULA, and how to view it later. Then you or the customer can accept the EULA and continue with the installation.
- If the customer is not present, press `Ctrl+C` to continue and the customer can accept the EULA later (when the customer first logs on to the system). Under no circumstances are you to accept the EULA for the customer.

8. At the prompt, log in as `sysadmin` with the default system password (see “[System Password](#)” on page 4), then change this password to a password of your choice.

9. You are prompted to enter additional configuration information, including license keys. Follow the instructions as prompted.

Note: A *License Keys* document, with a list of all license keys purchased, is included in the shipping package with the Data Domain system controller. If you do not have this printout, contact Data Domain Support.

For complete information on DD OS configuration, refer to the *Initial Configuration Guide* or *Administration Guide* for your system, available in the Product Documentation area of the Support Portal:

<https://my.datadomain.com/US/en/platform.jsp>

(Support login is required.)

10. After software configuration is complete, all DD OS commands and system resources are available.

Connect a Console to the System

If your system has a console connected, skip to “[Download Installation Files](#)” on page 6.

Data Domain systems provide the following connectors for attaching a console:

- DIN-type connectors for a PS/2 keyboard and a mouse (except DD880 and DD880g)
- USB-A receptacle port for a USB keyboard
- DB15 female for a VGA connection
- DB9 male for a serial connection

Figure 1 shows the ways in which you can connect a console or laptop to a Data Domain system.

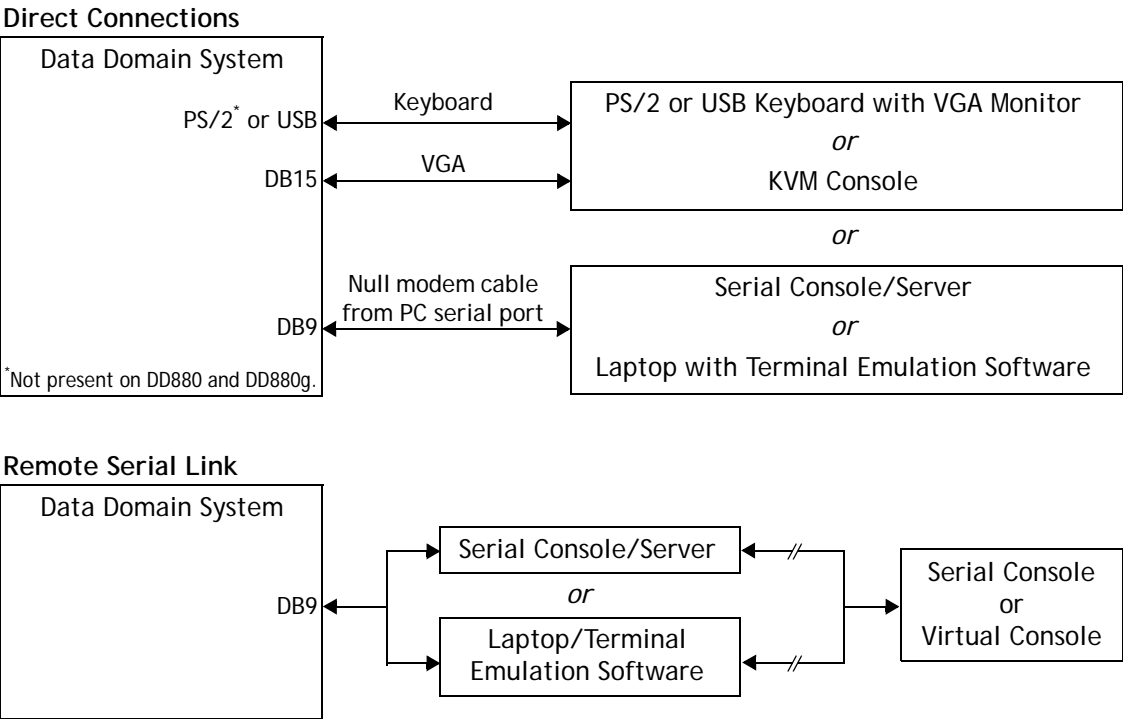


Figure 1: System Console Connections

PS/2 and KVM Keyboards

Note: DD880 and DD880g systems do not provide a PS/2 port. A USB-to-PS2 converter is needed to use a PS/2 keyboard with these systems.

Make sure that the system is powered off when you connect a PS/2 or KVM keyboard to the system's DIN-type connector. The PS/2 keyboard does not function at all unless it is plugged in before the system is powered up.

The system confirms the presence of the keyboard during powerup by flashing the Num Lock, Scroll Lock, and Caps Lock LEDs once.

For more information, refer to the Knowledge Base article, "Connecting a PS/2 Keyboard," on the Data Domain Support Portal:

https://my.datadomain.com/download/kb/all/Connecting_a_PS-2_Keyboard.html

(Support login is required.)

Serial Consoles and Laptops

Configure the terminal software to use the correct COM port with the following settings:

- Baud rate: 9600
- Bits: 8
- Parity: None
- Stop bits: 1
- Flow control: None
- Terminal emulation type: VT100

Note: The default terminal emulation type for PuTTY is ESC[n~. Change this to VT100+; otherwise, function keys do not work properly.

For more information, refer to the Knowledge Base article, "Connecting to a Data Domain System with a Serial Cable," on the Data Domain Support Portal:

https://my.datadomain.com/download/kb/all/Connecting_to_the_Data_Domain_System_with_a_Serial_Cable.html

(Support login is required.)

If you cannot achieve a working link between the system and the console or laptop, contact Data Domain Support as BIOS changes may be required.

