

Overview

The Ultracore BCS has migrated from Ubuntu v16.04 to Ubuntu v22.04 via the release of Ultracore BCS v7.0. This document outlines how to upgrade the Ultracore BCS to v7.0. This will require you to:

1. Upgrade the Ultracore BCS to v6.7.
2. Create a backup of the existing Ultracore BCS configuration.
3. Create a bootable USB device for the upgrade.
4. Install the Ultracore BCS v7.0 software package.

Upgrade the Ultracore BCS to v6.7

If you are running Ultracore BCS software v6.6 or older, you will need to upgrade the Ultracore BCS to v6.7 before you can create a backup of your configuration.

- ★ Ensure the Enable Upgrades & Support Access box is selected on the Ultracore BCS > System > Configuration > Connections > Services tab in DashBoard.

To upgrade the Ultracore BCS

1. Contact Ross Technical Support to download the Ultracore BCS v6.7 software to your DashBoard client computer.
2. Launch DashBoard on your DashBoard client computer.
3. Display the Ultracore BCS in DashBoard as follows:
 - a. Locate the **Ultracore BCS** node in the Tree View of DashBoard.
 - b. Expand the main **Ultracore BCS** node.
 - c. Expand the **Ultracore BCS** sub-node to display a list of sub-nodes in the Tree View.
 - d. Double-click the **Product Info** sub-node to display that interface in the right pane of the DashBoard window.
4. Click **Upload** (this button is located at the bottom of the Product Info interface).
5. Follow the on-screen instructions.
6. Select the BCS*update.bin upgrade file that you downloaded in step 1.
7. Monitor the upgrade process (approx. 10mins) until you see the **Upgrade Finished!** confirmation.
8. Reboot the Ultracore BCS.

The Ultracore BCS is now running v6.7 and has the DashBoard ability to backup your system configuration.

Create a Backup of the Existing Ultracore BCS Configuration

Next you will create a backup of the configuration of the Ultracore BCS.

To create a backup of the existing configuration

1. In DashBoard, select **Ultracore BCS > System > Configuration > Ultracore BCS**.
2. Locate the **Backup/Restore** area.
You may need to scroll down to the bottom of the window.
3. Click **Choose Location**.
The **File Save** dialog opens.
4. Select where on your PC the backup data file will be saved.
The default location is your Documents folder (e.g. C:\Users\UserName\Documents).
5. Click **Save**.

- A compressed backup file is generated that contains the relevant information about the Ultracore BCS.
- The backup data file is saved and the **File Save** dialog closes.
- The backup file will have a name of "backup-BCS-XXX.bin" where the XXX represents the Device ID (this ID is reported on the General Info interface).

★ Alternatively, if the destination folder is already correct, click **Save** at the bottom of the screen to transfer the backup data file to the PC.

Creating a Bootable USB Device for the Upgrade

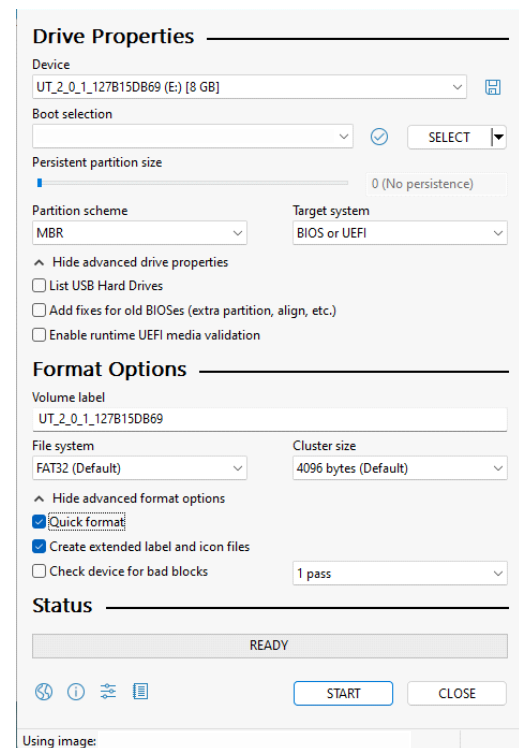
The version 7.0 release comes as a single large ISO file. To install this on an Ultracore BCS, it is necessary to transfer the file to a USB device. However, this cannot be done by simply copying the ISO file to the device. The USB must be formatted as a bootable device to allow the Ultracore BCS to boot from a temporary OS while the OS is being replaced. Creating a bootable USB can easily be performed using one of several freely available applications.

Before You Begin

- We recommend an application called Rufus to perform the operation on a Microsoft® Windows® PC (<https://rufus.ie/en/>). There are several versions available in the Latest releases area of the page. The easiest to use is the one marked as Portable (currently rufus-4.9p.exe), which can be run directly, without having to install it on the PC. Just save it to a folder on your PC and run it from there.
 - You will need a USB device which is at least 4GB in size. A device with a fast write speed is useful, so USB-3 if possible, or at least USB-2.
- ★ The USB device will be completely reformatted by this operation, so any existing data on it will be lost. You will be warned about this several times while running the application.

To create a bootable USB device for the upgrade

1. Ensure the USB device is plugged into your PC.
 2. Downloaded Rufus to your PC.
 3. Run Rufus as administrator:
 - a. Right-click on the executable file.
 - b. Select Run as administrator.The Rufus (Portable) dialog opens.
 4. Use the **Device** field (at the top) to select which USB device you would like to update.
- ★ To avoid possible mistakes, it is a highly recommended to unplug all other removable USB devices from the PC for the duration of the operation. The list does not include any fixed hard drives.
5. Use the **Boot selection** field to select the **ISO** file to be written to the USB device. The Select button (top right) allows you to select the location of the ISO file on your PC.
 6. Ensure the **Partition Scheme** is set to **MBR**.
 7. Ensure the **Target system** is set to **BIOS or UEFI**.
 8. The rest of the parameters can probably be left at their default values (see example). The **File System** should be **FAT32** and **Cluster size** is **4096 bytes**.
 9. Click **START**.
 10. When the **IOShybrid image detected** dialog opens:
 - a. It is recommended that **Write in ISO Image mode** is selected.
 - b. Click **OK**.



11. If the **Download required** dialog opens, prompting to confirm which version of Grub will be installed on the device, select **Yes** to download the recommended version and continue.
12. When the final dialog box opens, it includes a warning that all the data on USB device is about to be destroyed.
13. Click **OK** to accept and to start the operation.
14. Wait 3-15 minutes, depending on the speed of your USB device.
15. When it completes, click **CLOSE** to exit the program.
16. Add one or more backup files to the USB device.
 - a. On the PC, open the USB device that you have just created.
You will see various files and folders including: *.disk, [boot], boot, casper etc.
 - b. Create a new folder at the top level of the device called **Backup** (with a capital 'B').
 - c. Copy the backup-XXX.bin file to this new Backup folder.
 - d. If you have backed up multiple Ultracore BCS units, copy the multiple backup-XXX.bin files in this folder together. The Ultracore BCS units will choose the correct one during the install.
17. Eject the USB device from your PC (right-click and select **Eject**).
18. Unplug the USB device from your PC.

Installing the Ultracore BCS v7.0 Upgrade Package

Once you have created the bootable USB device and added the backup files to it, you are ready to perform the Ubuntu upgrade on the Ultracore BCS.

- ★ While performing the upgrade, it is necessary to access the USB and HDMI ports on the back of the Ultracore BCS. If these ports cannot be accessed with the Ultracore BCS in its current installed location, move it to somewhere more convenient. A network connection is not required for the upgrade to succeed. A power supply connection will be needed.

To enable the Ultracore BCS to boot from the USB device, it is necessary to modify the boot parameters on the Ultracore BCS unit using the BIOS. **Figure 1** shows a simple configuration allowing the upgrade to be performed.

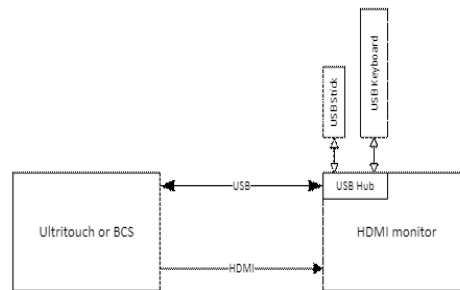


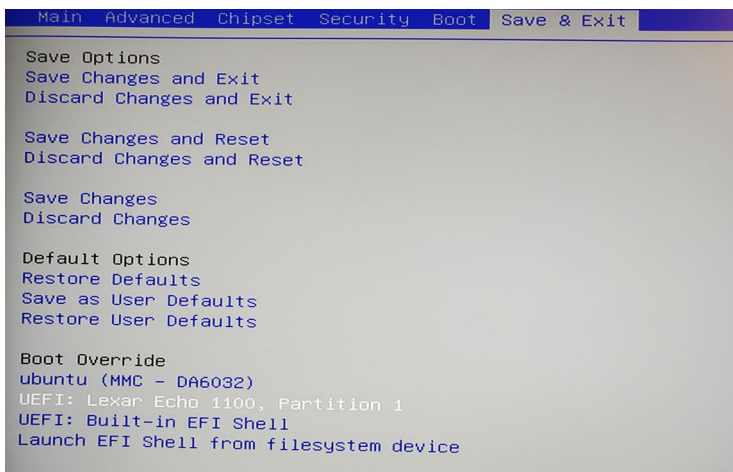
Figure 1 Example of a Simple Configuration for the Upgrade Workflow

To install the upgrade package

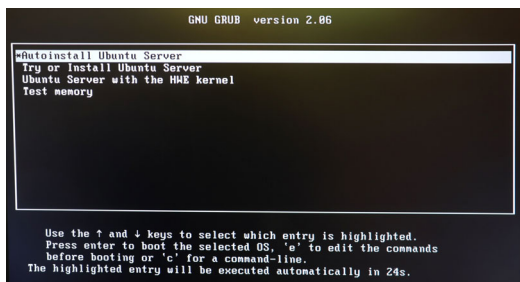
1. Connect a USB keyboard to the Ultracore BCS.
 2. Connect an HDMI monitor to the Ultracore BCS.
 3. Provide the ability to attach the USB to the Ultracore BCS via a powered USB hub.
- ★ HDMI monitors often include a powered two-port USB hub, which is ideal for this process.
4. Power up the Ultracore BCS.
 5. Wait about one to two seconds, then press **ESC** on the USB keyboard.
 6. Repeatedly press **ESC** about once per two seconds until the BIOS menu displays on the HDMI monitor (and the LCD display). It shouldn't take more than two or three repeats.

7. If a dialog prompts **Exit Without Saving?**:
 - a. Use the arrow keys to select **No**.
 - b. Press **Enter**.
 8. If the grub monitor prompt opens (a black screen), return to the BIOS menu as follows:
 - a. At the grub prompt, type `fwsetup`.
 - b. Press **Enter**.
 9. If you are using a legacy Ultracore BCS (it does not report Ultracore BCS HR in DashBoard or on the hardware):
 - a. In the **BIOS** menu, select **Advanced > CSM Configuration**.
 - b. Select **Boot option filter**.
 - c. Select **UEFI only**.
 - d. In the **BIOS** menu, select the **Save & Exit** tab.
 - e. Select **Save Changes and Exit**.
 10. If you are using an Ultracore BCS HR:
 - a. In the **BIOS** menu, select the **Boot** tab.
 - b. Select **Boot mode select**.

The **Boot mode select** dialog opens.
 - c. Select **UEFI**.
 - d. In the **BIOS** menu, select the **Save & Exit** tab.
 - e. Locate the **Boot Override** area at the bottom of the tab.
- ★ The USB device must be connected before powering up the Ultracore BCS. Otherwise, it will not display in this list of choices.
- A list of boot options is provided. If your USB device was plugged in at boot up it should be present in this list. The name that appears for the USB device varies based on the manufacturer. It might include the word "USB" in it, or the name of the manufacturer (e.g. SanDisk), or a short description such as:
- Generic Flash Device
 - USB Device: General UDisk 5.0
 - UEFI: General UDisk 5.0
- f. Use the up/down arrow keys to select the USB device.
 - g. Press **Enter**.
- In the following example, the user plugged in the USB device reported as "Lexar Echo 1100".



11. Monitor the Ultracore BCS as it reboots from the ISO image on the USB device. Refer to the following image.



12. It will start counting down from 2 seconds to AutoInstall Ubuntu Server.

13. Installation commences. It will take approximately 10 minutes to complete this first phase (patience is required).

14. At the end of the first phase, the Ultracore BCS will automatically power itself down.

15. Unplug the USB from the Ultracore BCS.

16. Power up the Ultracore BCS.

17. Monitor the Ultracore BCS as it progresses with the second phase of the installation.

★ A number of worrying messages may display during this phase. This is normal and can be ignored.

18. At the end of the second phase, the Ultracore BCS will automatically power itself down.

19. Unplug the HDMI monitor and USB cabling.

20. If necessary, return the Ultracore BCS to its normal location and re-connect the network cable(s).

21. Power up the Ultracore BCS.

The unit now boots into the Ultracore BCS v7.0 application, running under the Ubuntu 22.04 operating system.

22. Once the Ultracore BCS is running and the main interface displays on the front panel:

a. Notice that the **Active Database** field (bottom left corner) now reports "default" or "TMP-DB...".

b. Wait approximately 3-10 minutes as the Ultracore BCS continues to load the backup file.

c. The Ultracore BCS reboots automatically after the loading is completed.

d. Wait until the Ultracore BCS is running once again and the main interface displays on the front panel.

e. Verify that the original database and the correct IP address are reported, and the licenses are restored.