

96Boards ON Semiconductor Dual Camera Mezzanine: Getting Started Guide

/ **ULTRA96**

96Boards

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Overview

The 96Boards Dual Camera Mezzanine is an accessory for the the Ultra96-V2 and ships with two IAS camera modules pre-installed. To utilize the out of box image that will demonstrate camera functionality you must mate the camera mezzanine board to an Ultra96-V2 (not included). For initial setup or if the microSD card has been erased or reprogrammed, then use the instructions included in this tutorial to restore the microSD card to the latest factory image.

Setup

Software

The software required for this tutorial is:

- Etcher -- <https://etcher.io/>
- Decompression utility, such as 7-zip

Hardware

The hardware setup used to test this reference design includes:

- Host machine compatible with Etcher
- 16 GB microSD card
- microSD adapter (to full-size SD or USB) that is compatible with your host machine
- Ultra96-V2
- 96Boards Power Adapter, such as Avnet AES-ACC-U96-4APWR
- ON Semiconductor Dual Camera Mezzanine
- 2 image sensors installed (included from the factory)
- 1080p monitor
- Cable to connect Ultra96-V2 to the monitor (DP connector on Ultra96-V2)
- USB keyboard

SDcard Image Instructions

The following procedure will write the Ultra96-V2 16GB microSD card with the out of box image for the 96Board ON Semiconductor Dual Camera Mezzanine card.

WARNING – This procedure will erase everything on the microSD card, so backup anything important prior to running performing this operation.

1. Download the image archive from <http://avnet.me/DualCameraMezz>
2. Decompress the archive to extract the .img file. You should have a file named OnSemi_mezz_2020_1_1080p_OOB_yymmdd.img where *yymmdd* is the datecode of the image. The extracted image should be around 16,022,241,280 bytes large.
3. Download Etcher for your host at <https://etcher.io/> and install it.
4. Launch Etcher

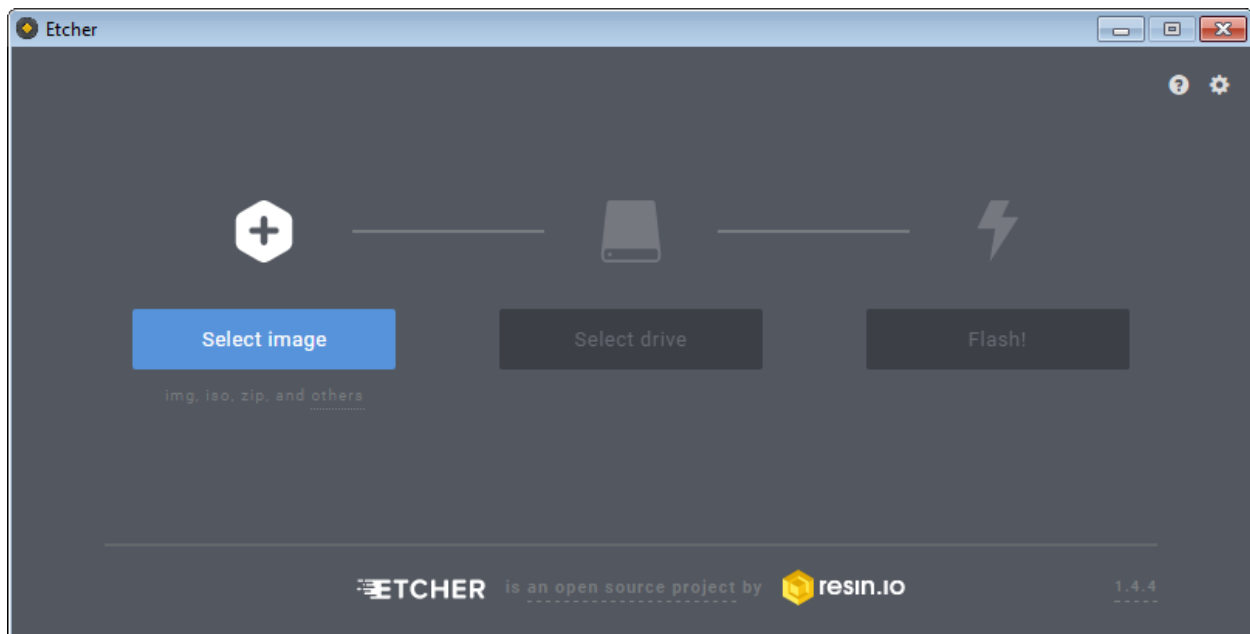


Figure 1 – Etcher Launched

- Click **Select Image**. Browse to the OnSemi_mezz_2020_1_1080p_OOB_yymmdd.img previously extracted and click **Open**.

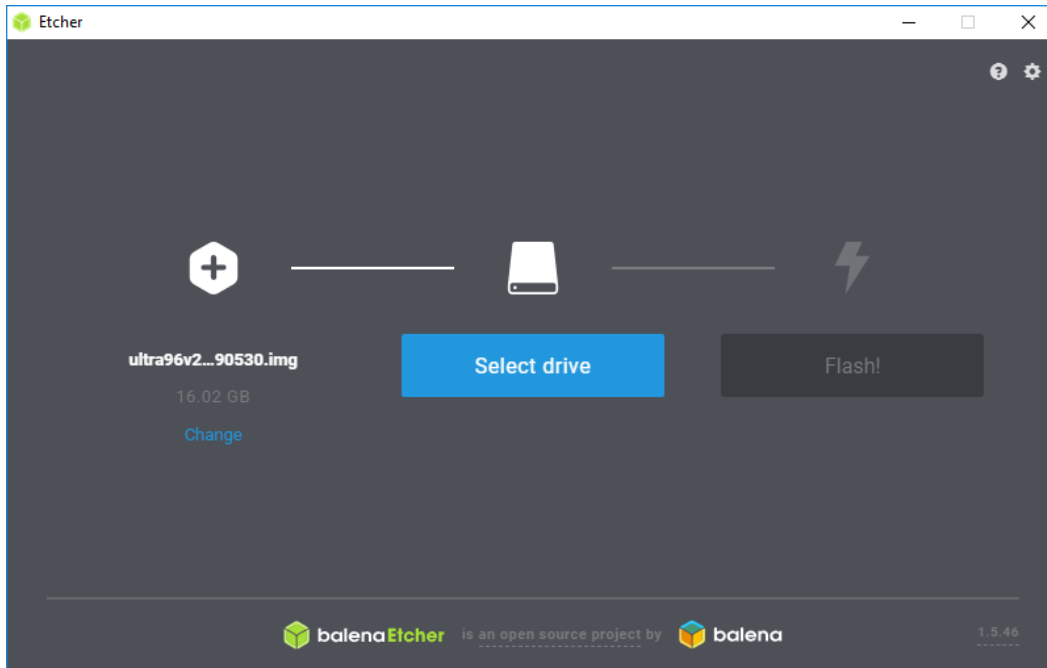


Figure 2 – Etcher with Ultra96-V2 Image Loaded

- Plug in the microSD card + adapter into your host and note the drive letter. Etcher may find your drive automatically. If not, click **Select Drive** and browse to the drive letter for your microSD card.

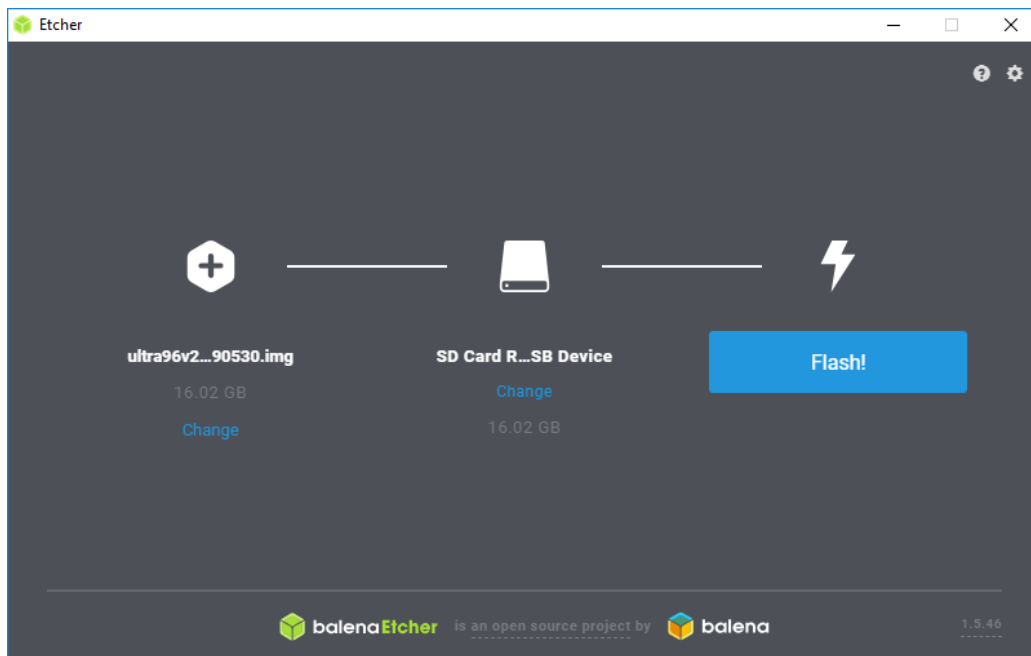


Figure 3 – Drive Selected in Etcher

WARNING – This procedure will erase everything on the microSD card, so backup anything important prior to running performing this operation.

7. Click **Flash!** to flash the microSD card.

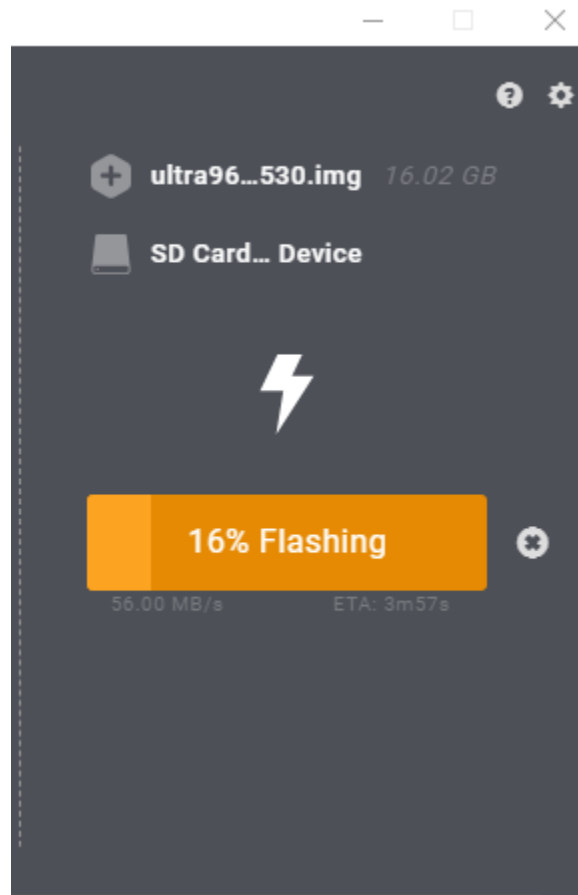


Figure 4 – Flashing in Progress

When complete, Etcher will display “Flash Complete!”

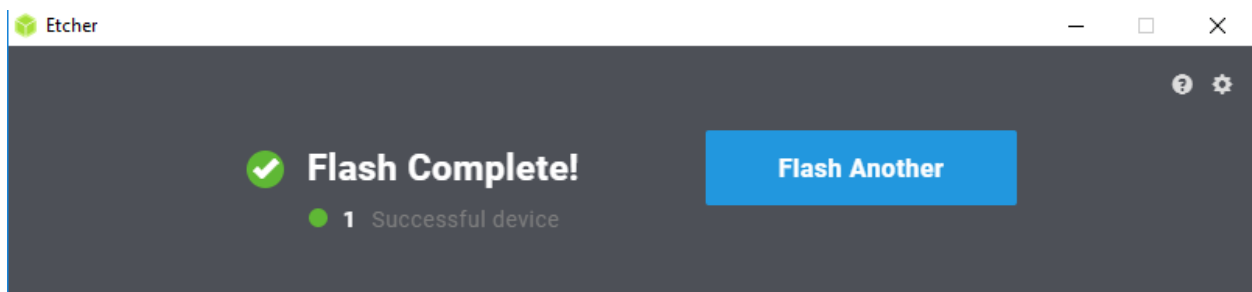
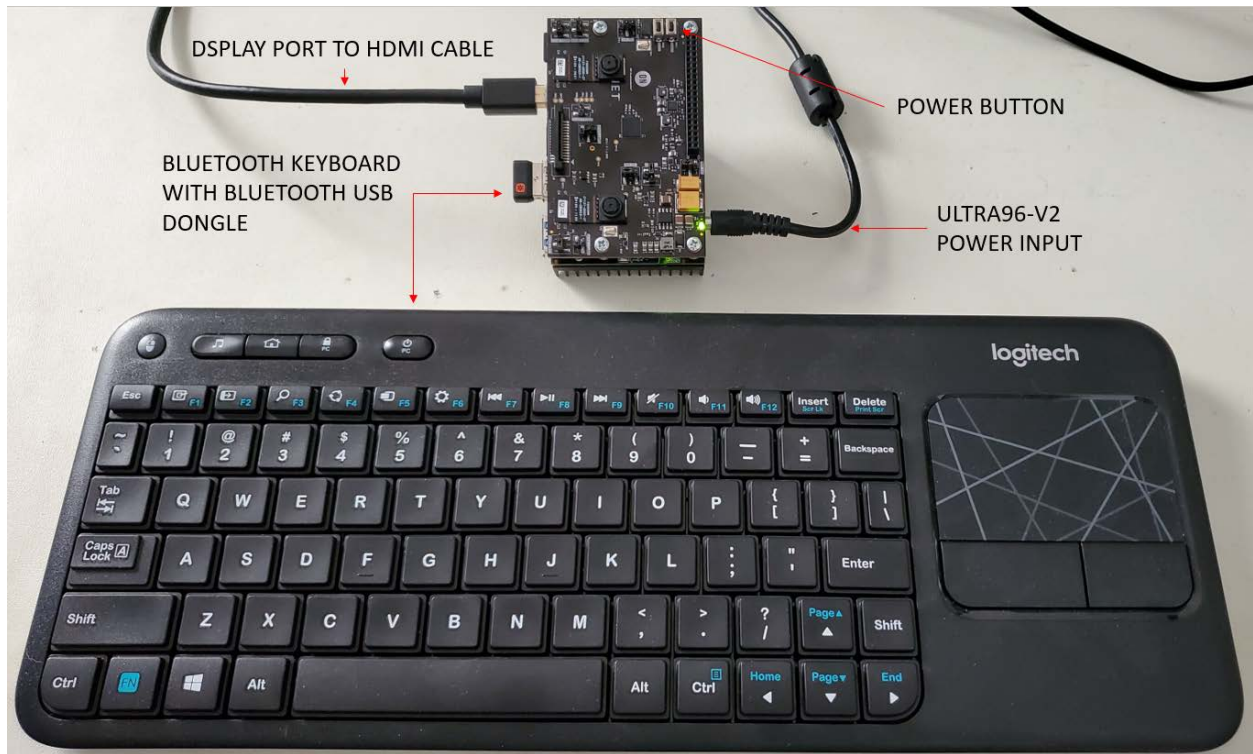


Figure 5 – Flashing Complete

Running Petalinux Out of Box Design

After the SDcard has been properly imaged, insert the card into your Ultra96-V2. You will also need to connect a USB keyboard to Ultra96-V2 as well as a 1080p monitor, using the display port connector.



Power up the board.

You will be prompted for a login and password.

Login: root

Password: root

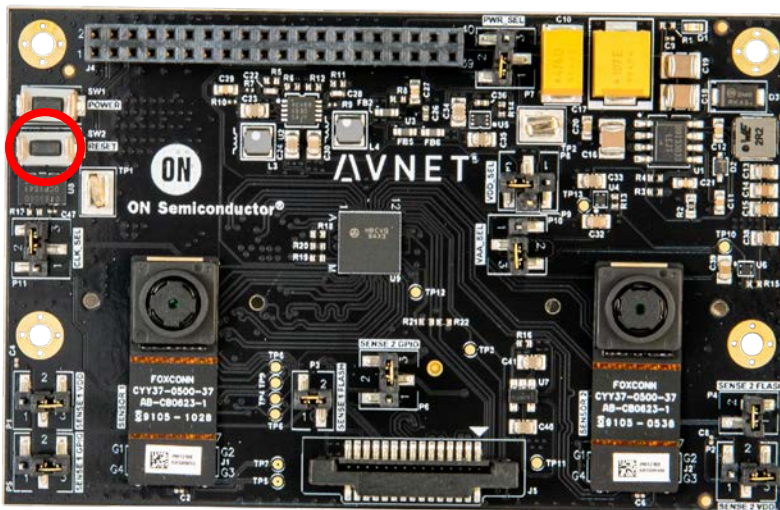
Once logged in, at the prompt type the command:

```
run_1920_1080
```


Running this command will display the two cameras capture data side by side on a 1080p monitor:



To exit the camera display routine reset the board using the reset button:



The board will reboot and return you to the Petalinux prompt.

Revision History

Date	Version	Revision
02 Sept 2020	01	Initial version