SD Card Image Instructions

Before updating your SD card, we recommend backing up your host pc so that you do not lose any data if you select the wrong partition during the write process.

1. Download the SD card image archive onto the pc you will be using (this should be a Linux based machine; a virtual machine will work if you do not have a Linux host) and unzip the archive.
2. Plug in the micro SD card and check that your Linux environment can see it using the command lsblk (if you are using a vm you will have to passthrough to your vm). Make sure to note which drive it appears as so that you do not accidently overwrite another partition, for these instructions our SD card appears as sdb.
3. Navigate to the folder where you have downloaded the image and use the following command to write the image

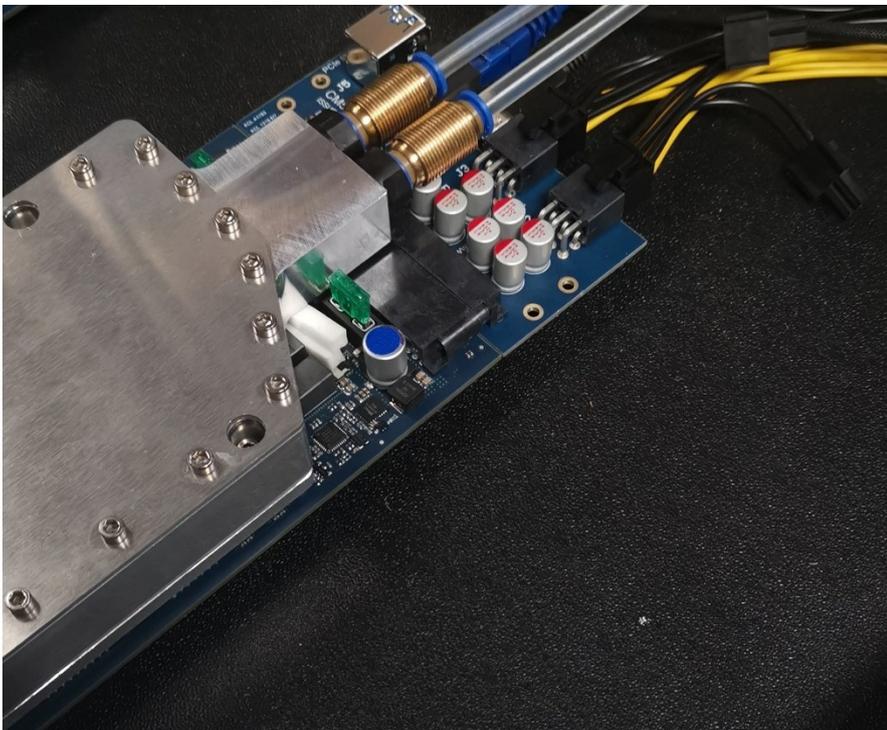   *sudo dd if=cm5_denarius_auto_start_v1 of=/dev/sdb bs=1M*

   Remember to change sdb to the correct drive for your micro sd card.

4. Once the image has finished being written to the card, use the command

   sudo sync

   to ensure that the filesystem is fully synced before removing the SD card.

5. If your Cairnsmore 5 has a blue sticker (as shown in the image below) then you can immediately start using the updated SD card.

6. If not then you will also need to update the Cyclone V FPGA image. To do this you will first need to install the Quartus programmer if it is not already installed. To download the Quartus programmer, first go to

http://fpgasoftware.intel.com/18.1/?edition=standard&platform=windows&download_man ager=direct, then click on the Additional Software tabs and click on "Quartus Prime Programmer and Tools".

During the installation, choose to install the USB Blaster drivers when the installer gives you the option.

7. Once you have installed the Quartus programmer, use the Simple Interface Board to connect the Cairnsmore 5 to your host pc and open the Quartus programmer. If Quartus has detected the onboard programmer it should show in the hardware field as a USB Blaster and you will have the option to use the auto detect function.

8. Once you have run the autodetect button you should see something similar to the image below (you will have to select the exact device IDs first - this is 10AX115H4E3 for the Arrias).

To program the Cyclone V spi flash with the updated jic file you need to double click on the entry in the file column for the 5CSEBA2 device and select the jic file (this should add the flash device automatically) then tick the Program/Configure option for the MT25QL256 device. Then press the start button to begin programming. Once this has finished you should be ready to begin using the updated SD card.