This document describes the steps required to record/flash a BISmark Raspberry Pi 3 (RPi) and the ODROID-C2 images to a 8GB, 16GB or 32GB SDCard class 10 (RPi compatible) using the OS X operacional system (Apple Computers). Using equivalent tools, this procedure should be possible to be executed on different operational systems such as Linux or Windows.

Requirements:

- OS X based computer with SDCard reader.
- 1 RPi **or** ODROID-C2 device .
- 1 8GB, 16GB or 32GB micro SDCard Class 10 + adapter (figure 1)

Figure 1. Micro SDCard + Adapter

Step 1. Erase the content of SDCard and select MS-DOS (FAT) as format using the visual version of the Disk Utility program (Make sure you select the SDCard to erase, not your SSD!).

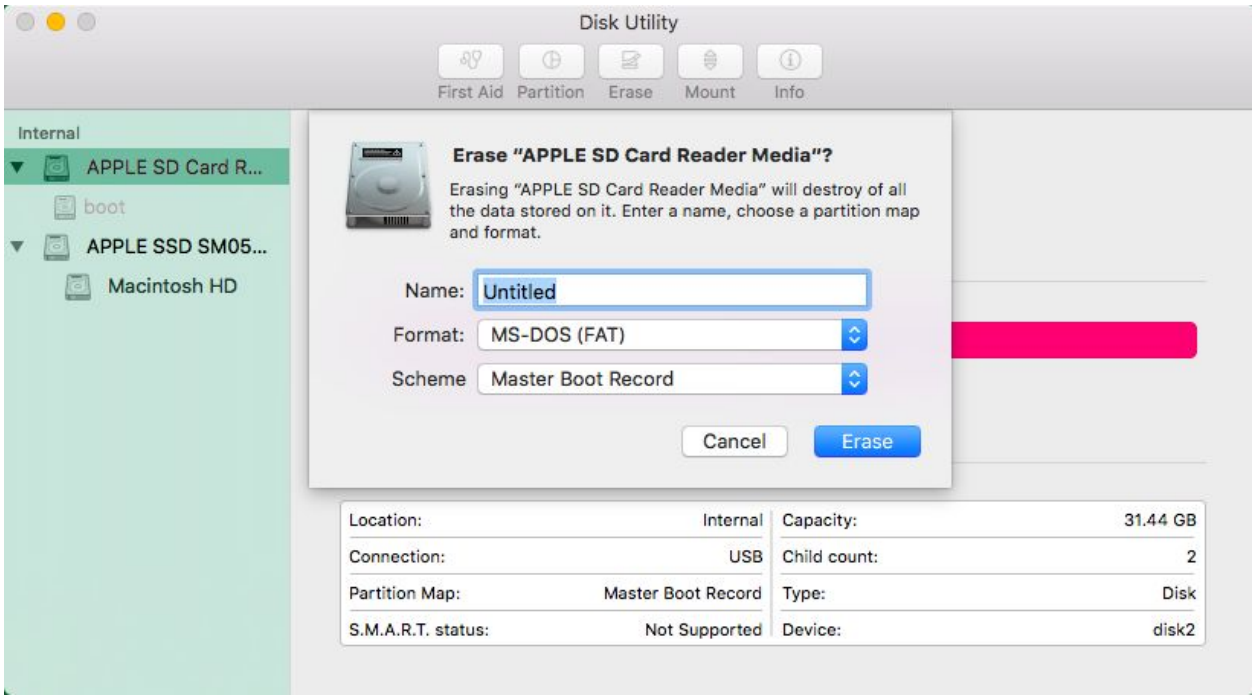


Figure 2. Disk Utility

Step 2. Use the terminal version of the Disk Utility program (**diskutil**) to identify the device name for your SDCard. In this example the SDCard is named **disk2**.

```
$ diskutil list
/dev/disk0 (internal, physical):
   #:                       TYPE NAME                    SIZE
IDENTIFIER
   0: GUID_partition_scheme                             *XXX.3 GB   disk0
   1:                  EFI EFI                           XXX.7 MB
disk0s1
   2:     Apple_CoreStorage Macintosh HD                 XXX.4 GB
disk0s2
   3:            Apple_Boot Recovery HD                  XXX.0 MB
disk0s3
/dev/disk1 (internal, virtual):
   #:                       TYPE NAME                    SIZE
     IDENTIFIER
   0:           Apple_HFS Macintosh HD                  +XXX.1 GB   disk1
                          Logical Volume on disk0s2
                          EA712B0A-XXXX-XXXX-XXXX-XXXXXXXXXXXXX
                          Unlocked Encrypted
/dev/disk2 (internal, physical):
   #:                       TYPE NAME                    SIZE
IDENTIFIER
   0:FDisk_partition_scheme                             *31.4 GB    disk2
   1:            DOS_FAT_32 UNTITLED                    31.4 GB
disk2s1
```

Step 3. Unmount the disk using the same **diskutil** program.

```
$ diskutil unmountDisk /dev/disk2
Unmount of all volumes on disk2 was successful
```

Step 4. Download the latest image from http://downloads.projectbismark.net/ (~2.5 GB total transfer) and use the **tar** command to decompress the file and recover the image file.

```
$ wget -c http://downloads.projectbismark.net/rpi/bismarkrpi-2016.09.22-8GB.img.tgz
Resolving downloads.projectbismark.net... 130.207.97.66
Connecting to downloads.projectbismark.net|130.207.97.66|:80... connected.
```

```
...
$ tar xvzf bismarkrpi-2016.09.22-8GB.img.tgz
...
```

NOTE: for **ODROID-C2** use the image located at
http://downloads.projectbismark.net/rpi/bismarkdro-2016.09.12-8GB.img.tgz

Step 5. As superuser (root), copy the image to the empty SDCard using the **dd** command.
Warning: This process may take up to 3 hours to complete.

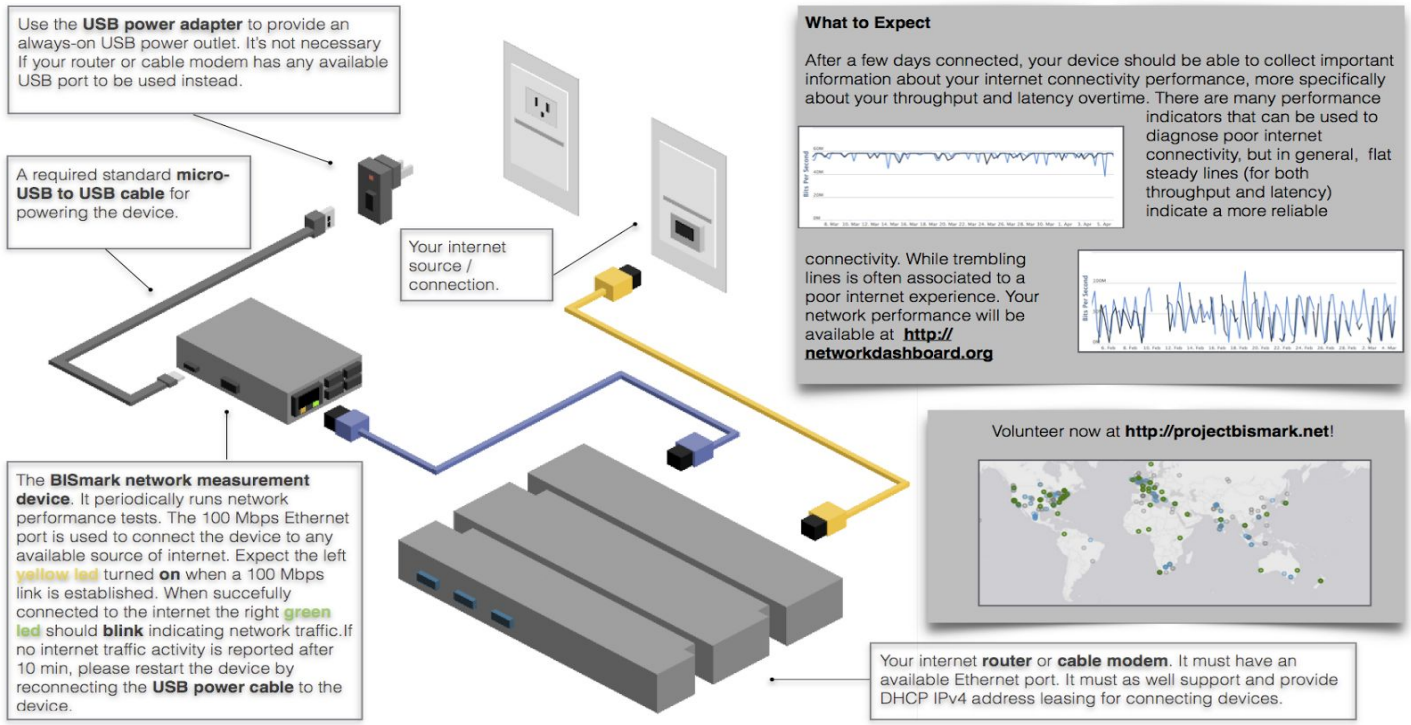
```
$ sudo dd bs=1m if=bismarkrpi-2016.09.22-8GB.img of=/dev/disk2
..
7580+0 records in
7580+0 records out
7948206080 bytes transferred in 9100.542831 secs (873377 bytes/sec)
…
```

Step 6. Re-insert the SDCard into the RPi slot, connect the ethernet cable to a source of internet and finally the mini-usb power cable. Please ensure the following:

1. The internet source must be able to provide IPv4 addressing via DHCP over Ethernet (commonly found on routers, modems and sometimes directly from wall outlets);
2. Once powered for the first time, the devices must stay connected for at least 10min.
3. The green light will blink indicating network traffic activity.

Please, contact the BISmark team and request the status of your device once connected.

BISmark - Broadband Internet Service Benchmark



Thank you for participating! - The BISmark Team