

DQMusicBox: How to prepare the micro-SD card image

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1 Introduction

This document describes how to create a DQMusicBox system image – a .img file. I (Ross) am probably the only person that needs this document. Mostly people making a DQMusicBox will use the fruit (the .img file) of the process described here -- you don't need to create your own custom .img file unless you really want to.

2 No warranty

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3 Prepare the disk image

This is a record of how I created the disk image. You only need to read this information if you wish to do your own Raspian configuration.

3.1 Install DietPi on 2GB micro-SD card

Install DietPi (light version of Raspbian) i.e. follow these instructions: <http://dietpi.com/phpbb/viewtopic.php?f=8&t=9#p9>. I installed v140. I used the [Win32 Disk Imager](#) (free) to write the disk image to the micro-SD card, and that worked well.

3.2 Boot & configure DietPi

Move the micro-SD card to the Pi, boot DietPi. After a build process, you will be prompted to make some choices. When prompted, choose to install the following:

```
DietPi Config : Audio Options: Soundcard = rpi-bcm2835-ultrahq-3.5mm
DietPi Software Optimized : Hardware Projects : RPi.GPIO
DietPi-Software : Software Additional : System : ALSA
DietPi-Software : Software Additional : Development : Git Client
```

The download & installation process took 15 minutes for me on a Pi 3.

3.3 Install firmware update for greatly improved audio quality

By default, the Pi's built-in headphone jack outputs OK audio quality. This firmware update provides excellent audio quality, as per this [thread](#). [jdb](#) did excellent work.

This firmware update changes bits on the SD card, not on the Pi itself.

```
sudo apt-get install rpi-update
sudo rpi-update
sudo reboot
sudo nano /DietPi/config.txt add the following line at end of file: audio_pwm_mode=2
sudo reboot
```

3.4 Install VLC (music player)

This might take 45 minutes...

```
sudo apt-get install vlc-noX
```

3.5 adduser pi

```
sudo adduser pi
```

3.6 Install/clone dqmusicbox, enable

```
cd /home/pi  
git clone https://github.com/rosswesleyporter/dqmusicbox/  
sudo chmod 755 dqmusicbox/bin/dqmusicbox.py
```

3.7 Install Python bindings for VLC

```
cd /home/pi  
sudo git clone https://github.com/oaubert/python-vlc  
cp python-vlc/generated/vlc.py dqmusicbox/bin  
chmod 755 dqmusicbox/bin/vlc.py
```

3.8 Add shell script to automatically start the musicbox

```
cd /home/pi  
sudo cp dqmusicbox/bin/dqmusicbox.sh /etc/init.d  
sudo chmod 755 /etc/init.d/dqmusicbox.sh  
sudo update-rc.d dqmusicbox.sh defaults
```

For more information, see Stephen Christopher Phillips' [terrific page](#).

3.9 Reboot

```
sudo reboot
```

3.10 Shutdown

Provided that the reboot went well, shutdown so we can remove the micro-SD card.

```
sudo shutdown -h now
```

3.11 Use Win32DiskImager to create the master image

Remove the micro-SD card from your Pi and place in the card reader of your computer. Use Win32DiskImager to create an image of DQMusicBox that you just nicely configured.