**DQMusicBox: How to prepare the micro-SD card image**

25 June 2017

# 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.

# No warranty

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# 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.

## Install DietPi on 2GB micro-SD card

Install DietPi (light version of Rasbian) 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](http://sourceforge.net/projects/win32diskimager/) (free) to write the disk image to the micro-SD card, and that worked well.

## 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:

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| 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.

## 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](https://www.raspberrypi.org/forums/viewtopic.php?f=29&t=136445&hilit=audio+quality). [jdb](https://www.raspberrypi.org/forums/memberlist.php?mode=viewprofile&u=76304&sid=1215aa1e64a5a0074d45ce53c4e32d08) did excellent work. This firmware update changes bits on the SD card, not on the Pi itself.

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| 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 |

## Install VLC (music player)

This might take 45 minutes…

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| sudo apt-get install vlc-noX |

## adduser pi

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| sudo adduser pi |

## Install/clone dqmusicbox, enable

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

## Install Python bindings for VLC

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| 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 |

## Add shell script to automatically start the musicbox

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| 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](http://blog.scphillips.com/posts/2013/07/getting-a-python-script-to-run-in-the-background-as-a-service-on-boot/).

## Reboot

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| sudo reboot |

## Shutdown

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

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| sudo shutdown –h now |

## 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.