

## 1 RigPi 3 Image Download and Installation



The RigPi 3 image contains all files required by RigPi. The following steps for downloading and installing the RigPi 3 image are detailed in this guide.

- What is needed
- Download
- Unzip
- Use Win32DiskImager to copy the image to a microSD card
- Install the card in RigPi
- Additional steps
  - Check sdCard size
  - Set screen resolution
  - Accessing RigPi 3

RigPi is a Trademark of Howard Nurse, W6HN

<https://www.rigpi.net>

<https://rigpi.groups.io>

## 1.1 What is needed

### 1. microSD Card

minimum: 32GB, Class 10

highly recommended: 32GB Samsung PRO Endurance



Samsung PRO Endurance 32GB 100MB/s (U1) MicroSDXC Memory Card with Adapter (MB-MJ32GA/AM)

[https://www.amazon.com/gp/product/B07B98GXQT/ref=ppx\\_yo\\_dt\\_b\\_asin\\_title\\_o04\\_s00?ie=UTF8&psc=1](https://www.amazon.com/gp/product/B07B98GXQT/ref=ppx_yo_dt_b_asin_title_o04_s00?ie=UTF8&psc=1)

If you are upgrading an earlier version of RigPi, it is best to start with a clean memory card. Do not reuse your original card. By preserving your original card you can revert back to it if you run into trouble.

### 2. microSD Adapter (if required, usually included with memory card)

### 3. Win32DiskImager program (included with RigPi 3 image download)

### 4. microSD USB Card Reader (if required)

Many Desktop computers can accommodate microSD cards or adapters, in which case you do not need to purchase one. The card reader shown below has a slot for microSD cards, so an adapter is not required.



[https://www.amazon.com/dp/B006T9B6R2/ref=cm\\_sw\\_em\\_r\\_mt\\_dp\\_U\\_CfdXEb36T3GD0](https://www.amazon.com/dp/B006T9B6R2/ref=cm_sw_em_r_mt_dp_U_CfdXEb36T3GD0)

5. PC to download RigPi 3 image and copy to microSD memory card.

## **1.2 Download**

The RigPi 3 Image is available for purchase and download on the MFJ web site.

<https://mfjenterprises.com/collections/rigpi>

The current image will be shown in the RigPi 3 Image caption on the site. The download file is large, nearly 5 GB, so downloading will take a long time depending on your Internet bandwidth. Download the file to a PC.

## **1.3 Unzip**

The file is downloaded in the ZIP format. Once it has been downloaded, right-click over the file and select Extract All. The unzipping process will take a few minutes to complete.

Inside the unzipped file you will find three files.

1. RigPi 3 image file with extension .img.
2. win32diskimager-1.0.0-install.exe, the installation program for Win32DiskImager. We will use Win32DiskImager to move the img file to the RigPi memory card. If you don't already have Win32DiskImager installed on your computer, double-click the installer icon to start the installation process.
3. DownloadHelp.pdf

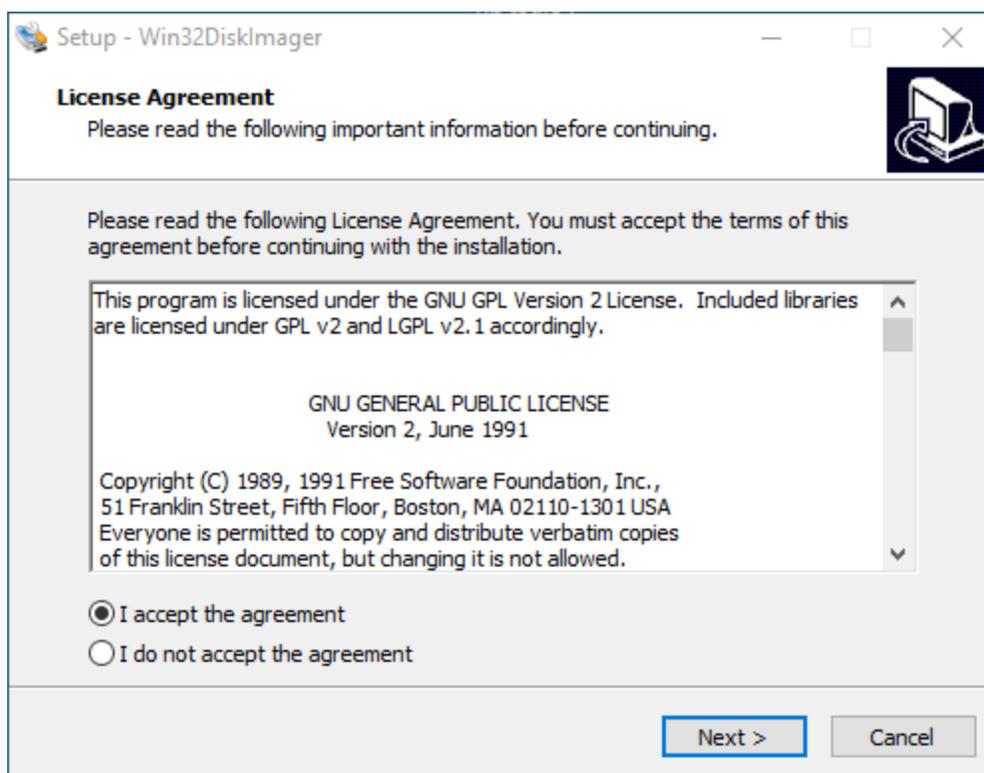
## 1.4 Using Win32DiskImager

The program Win32 Disk Imager is used to transfer the RigPi .img file to a microSD memory card. Win32 Disk Imager may already be installed on your PC. If not, use the Win32DiskImagerInstall program provided in the zipped image file folder.

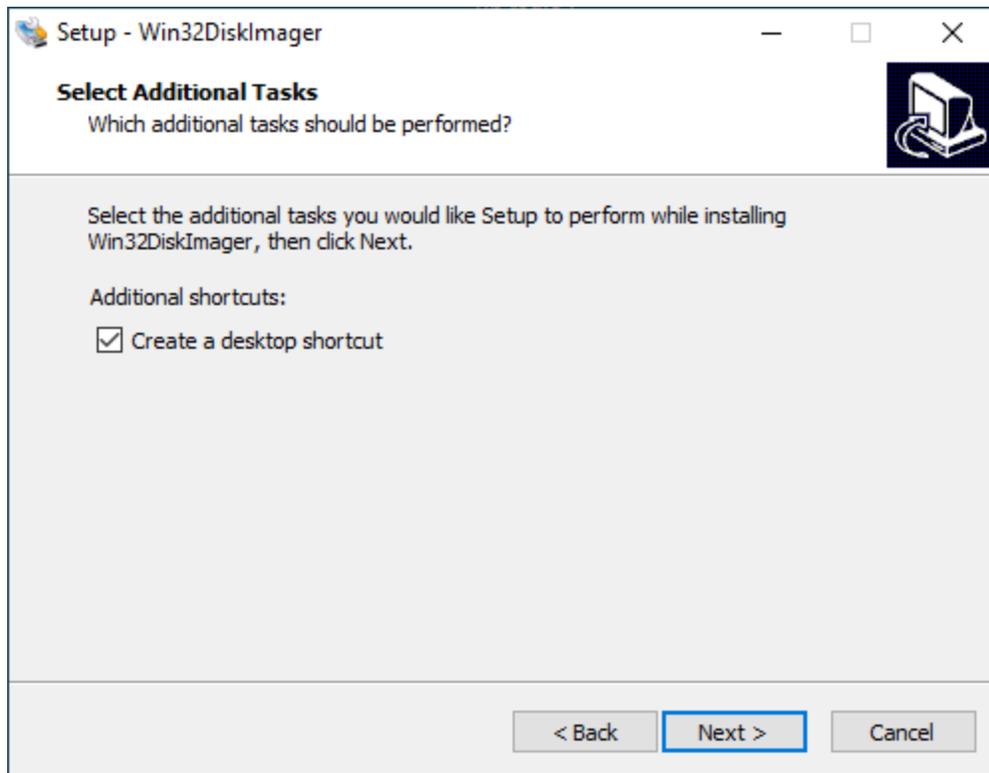
If you are upgrading an earlier version of RigPi, it is best to start with a clean memory card. Do not reuse your original card. By preserving your original card you can revert back to it if you run into trouble.

### Installing win32diskimager

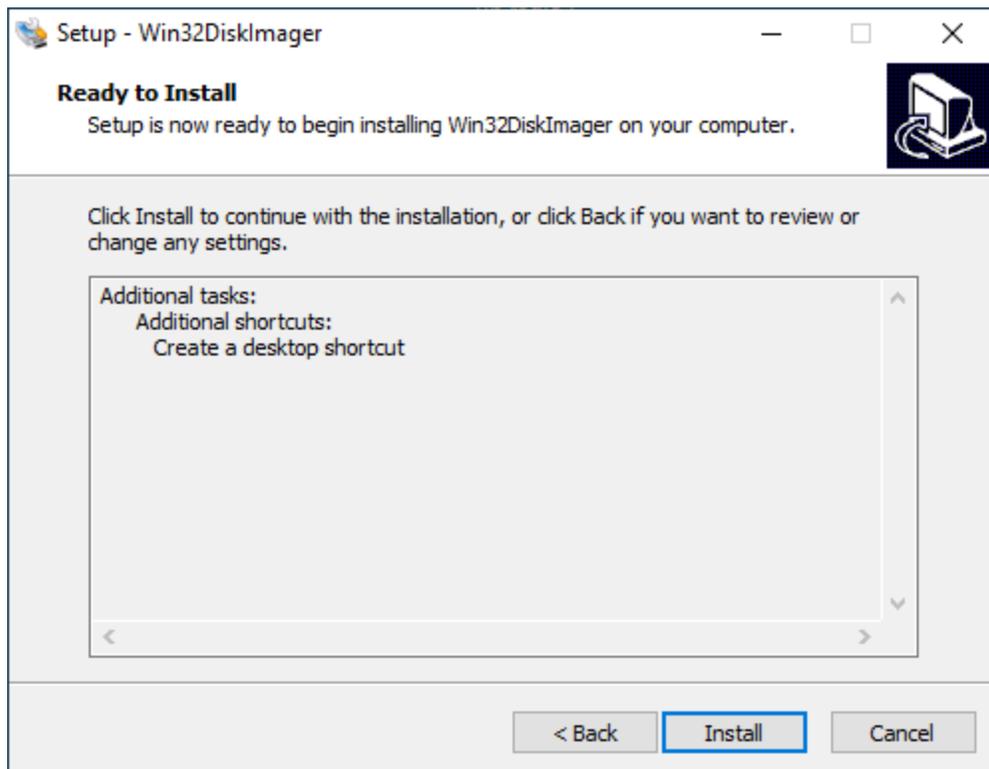
Double-click the Win32DiskImager installation file to start the installation process.



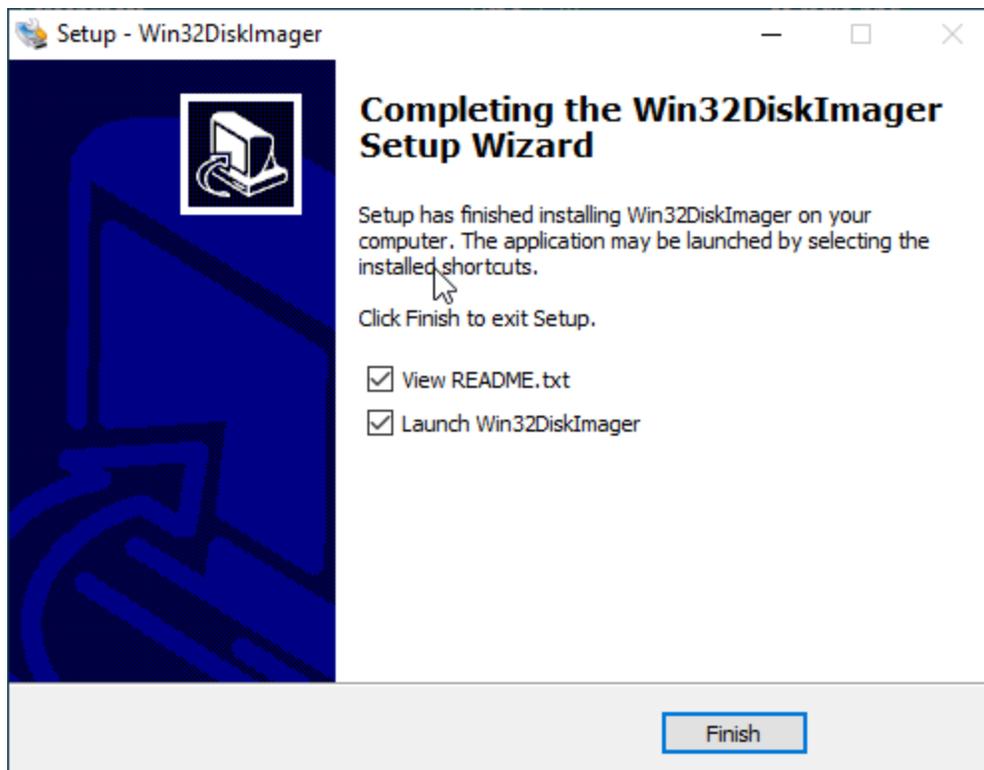
Accept the License agreement and click Next.



Be sure to Create a desktop shortcut to make the Win32DiskImager program easy to find. Click Next.



Click Install.



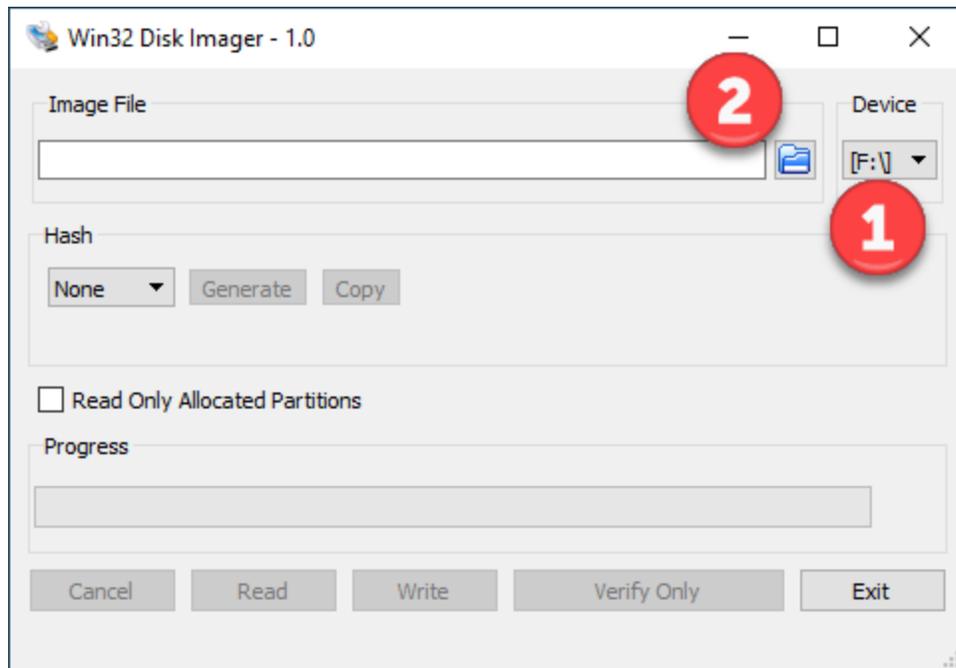
Click Finish to open Win32DiskImager.

### **Using Win32DiskImager**

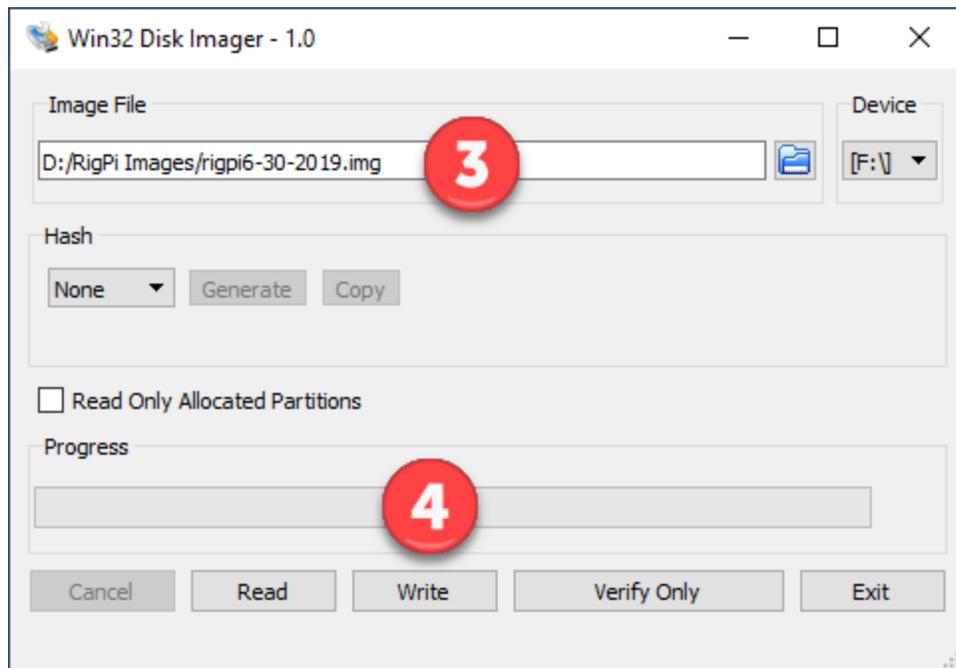
Insert the microSD memory card in a reader. You can use a slot provided for this purpose if your computer has one, or use an external USB card reader.

Windows 10 assigns a drive letter to the memory card. You can see the drive letter using File Explorer. Be careful to use the correct drive letter. If you have another memory card in place or a USB drive, using the incorrect drive letter can overwrite the contents of the wrong device.

Start Win32DiskImager. Win32DiskImager detects a card and shows its drive name in the Device drop down list (1). Confirm that this is the correct drive letter.



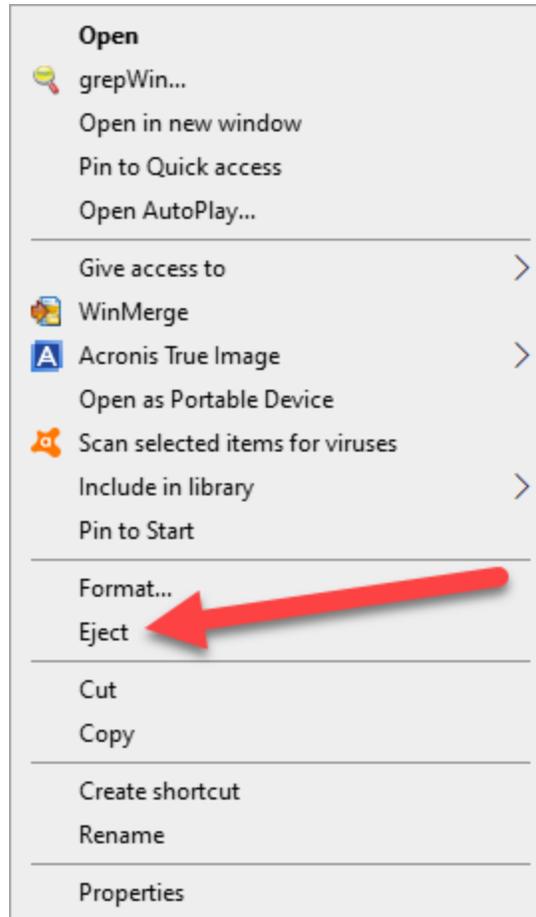
Use the File Explorer (2) to locate the RigPi .img file.



The RigPi .img file name may be different from shown (3).

Start the copy process by clicking Write (4). As the file is copied the Progress bar (4) moves to the right.

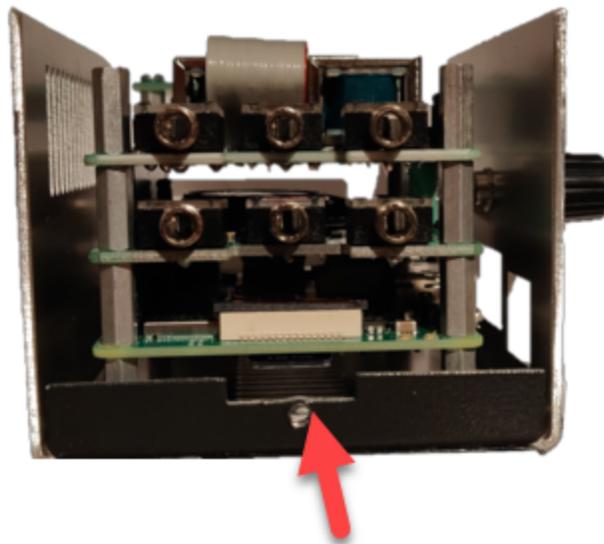
Once the copying is complete you will see a notification dialog. Exit Win32 Disk Imager and use This PC, right-click over the memory card icon and select Eject the card.



### **1.5 Install the Memory Card in RigPi**

The memory card is located on the Raspberry Pi inside the RigPi cabinet.

1. Power down RigPi using the RigPi SETTINGS>System settings window.
2. Remove the micro USB power connector and connected cables.
3. Remove the screw at each end of RigPi to remove the top lid.
4. The memory card is located on the bottom (Raspberry Pi) board on the end opposite the USB connectors. There is a notch in the RigPi case to allow you to remove the card with tweezers or long-nose pliers.



5. Insert the new memory card.
6. Replace the top lid and the two screws.
7. Reconnect all but the power cable.
8. Reconnect the power cable and RigPi will boot.
9. Access RigPi from another computer using rigpi2.local.

## 1.6 Further Steps

### Expand Memory to fill Card

Use the following steps to confirm that RigPi 3 is taking full advantage of the size your memory card. This step may be required for large memory cards.

1. Log into the Raspberry Pi desktop.

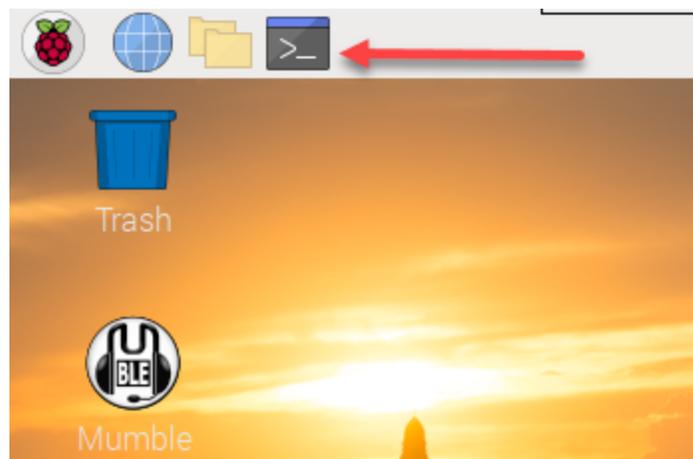
Log in by 1) using VNC Viewer on another computer, or by 2) connecting an HDMI monitor, mouse and keyboard to the Raspberry Pi before powering up.

VNC Viewer allows you to access the Raspberry Pi desktop from another computer. This approach eliminates the need to connect a monitor/keyboard/mouse to the Raspberry Pi. Full instructions for installing VNC Viewer are provided on the RealVNC web site shown below. A VNC server is running on the Raspberry Pi. It isn't necessary to sign up for a RealVNC account or install a server to use the Raspberry Pi server.

VNC Viewer is a free download from RealVNC.

<https://www.realvnc.com/en/connect/download/viewer/>

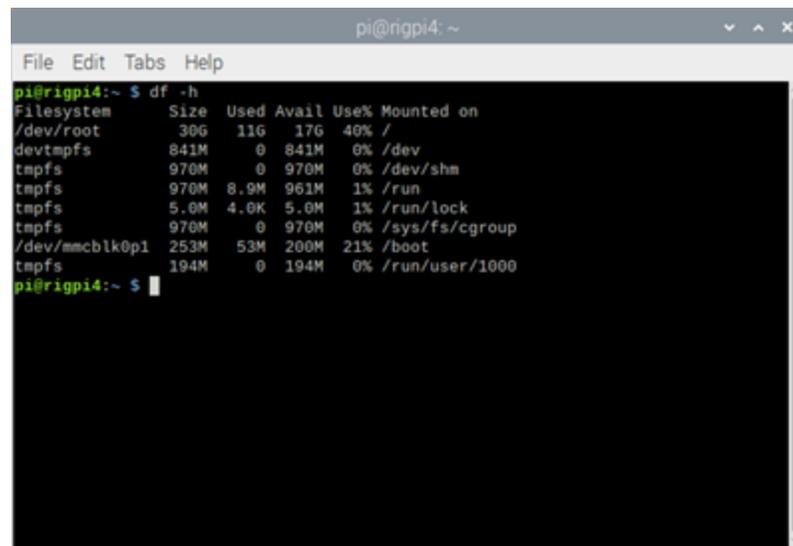
When connecting using VNC Viewer, use the username pi and password 7388. VNC Viewer connects to the Raspberry Pi through the Internet. VNC Viewer requires the Raspberry Pi IP address. You may be able to use rigpi.local instead of the IP address depending on your computer. If rigpi.local doesn't work, you can find the IP address for the Raspberry Pi by locating it in the attached devices list in your router.



2. Click the Terminal icon to open the Terminal window.
3. To confirm the memory card usage, enter the command

```
df -h
```

4. You will see how much of the memory card is used.

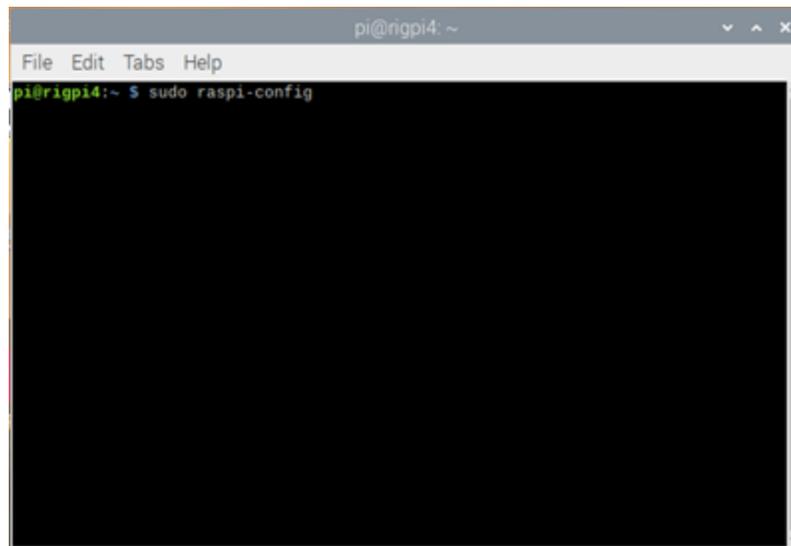


```
pi@rigpi4: ~  
File Edit Tabs Help  
pi@rigpi4:~ $ df -h  
Filesystem      Size  Used Avail Use% Mounted on  
/dev/root        30G   11G   17G   40% /  
devtmpfs         841M    0   841M    0% /dev  
tmpfs            970M    0   970M    0% /dev/shm  
tmpfs            970M  8.9M   961M    1% /run  
tmpfs            5.0M  4.0K   5.0M    1% /run/lock  
tmpfs            970M    0   970M    0% /sys/fs/cgroup  
/dev/mmcblk0p1  253M   53M  200M   21% /boot  
tmpfs            194M    0   194M    0% /run/user/1000  
pi@rigpi4:~ $
```

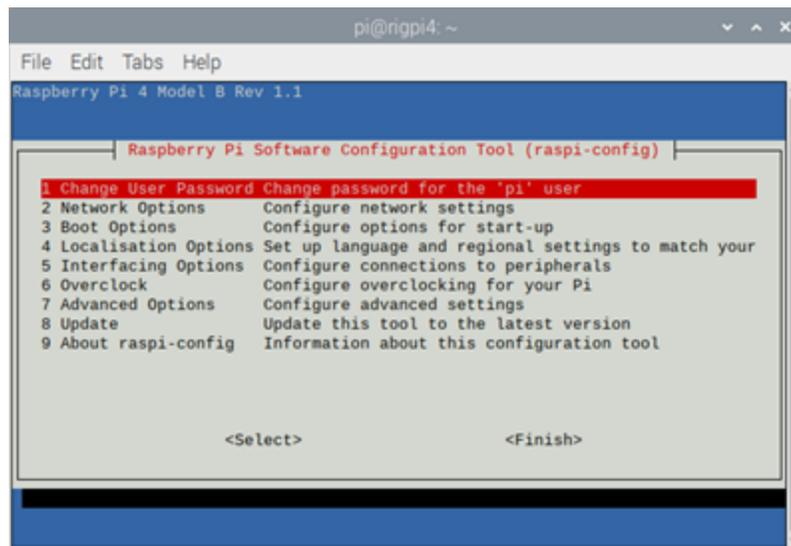
5. If the RigPi image hasn't been expanded to fill the card, type the command

```
sudo raspi-config
```

followed by Enter.

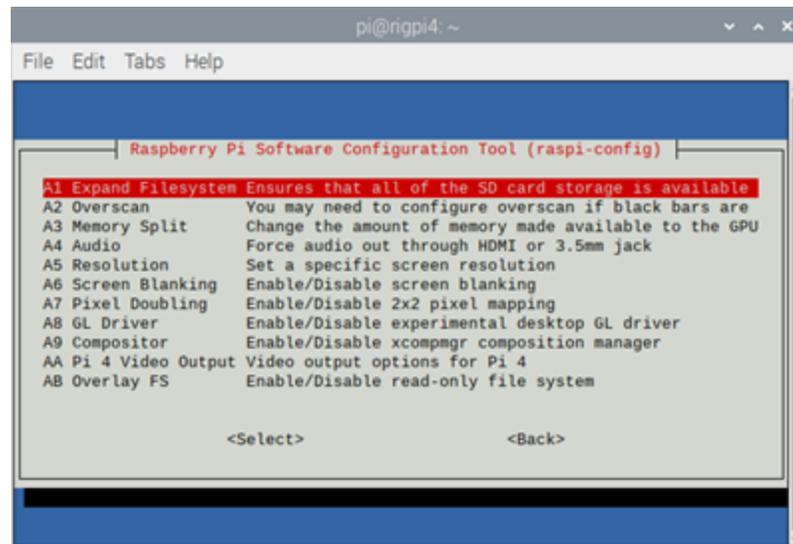


```
pi@rigpi4: ~  
File Edit Tabs Help  
pi@rigpi4:~$ sudo raspi-config
```

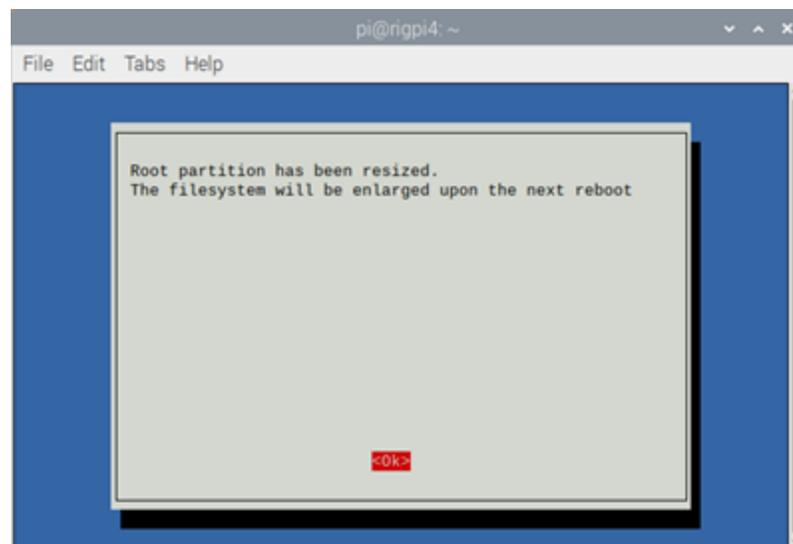


```
pi@rigpi4: ~  
File Edit Tabs Help  
Raspberry Pi 4 Model B Rev 1.1  
Raspberry Pi Software Configuration Tool (raspi-config)  
1 Change User Password Change password for the 'pi' user  
2 Network Options Configure network settings  
3 Boot Options Configure options for start-up  
4 Localisation Options Set up language and regional settings to match your  
5 Interfacing Options Configure connections to peripherals  
6 Overclock Configure overclocking for your Pi  
7 Advanced Options Configure advanced settings  
8 Update Update this tool to the latest version  
9 About raspi-config Information about this configuration tool  
  
<Select> <Finish>
```

6. Use the down-arrow key to move the selected row down to number 7, Advanced Options and press Enter.



7. Press Enter to select A1 Expand Filesystem...
8. Press Enter to select OK.
9. In the main Raspberry Pi Configuration window, tab to the Finish option and press Enter.



10. Press Enter to accept the option to Reboot Now. After the Raspberry Pi has rebooted you will have full use of the memory card.

## **Set Screen Resolution**

The Raspberry Pi desktop is set to a resolution of 640 X 480. To change to a higher resolution, open the Application menu on the desktop and go to Preferences>Screen Configuration. In the Configuration window go to Configure->Screens>HDMI-1>Resolution and select the resolution you wish to use. Go to Configure->Apply to set the resolution.

## **Accessing RigPi**

RigPi 3 can be accessed by entering rigpi3.local in a browser's navigation bar. If your browser can't find rigpi3.local, it may be necessary to install Bonjour on your computer. See RigPi Help for details. Alternatively you can use the IP address of RigPi 3 as found in the list of connected devices in your router.

## **Upgrading from an Earlier RigPi Version**

All settings from RigPi versions older than 2.0 must be re-entered in RigPi 3. This includes macros you have created. RigPi 2 supports saving and restoring macros so you won't have to manually restore your macros in the future.