Raspberry Pi - Backup and restore SDCard images

In systems running on an SDCard like Raspberry Pi, it is usually needed to backup the SDCard content to a file which will be restored later in case something wrong happens. There are some tools to help doing the backup and recovery.

#raspberry-pi #sdcard

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1. Win32 Disk Imager

Win32 Disk Images is a popular and famous application on Windows to write a raw disk image to a removable device or backup a removable device to a raw image file.
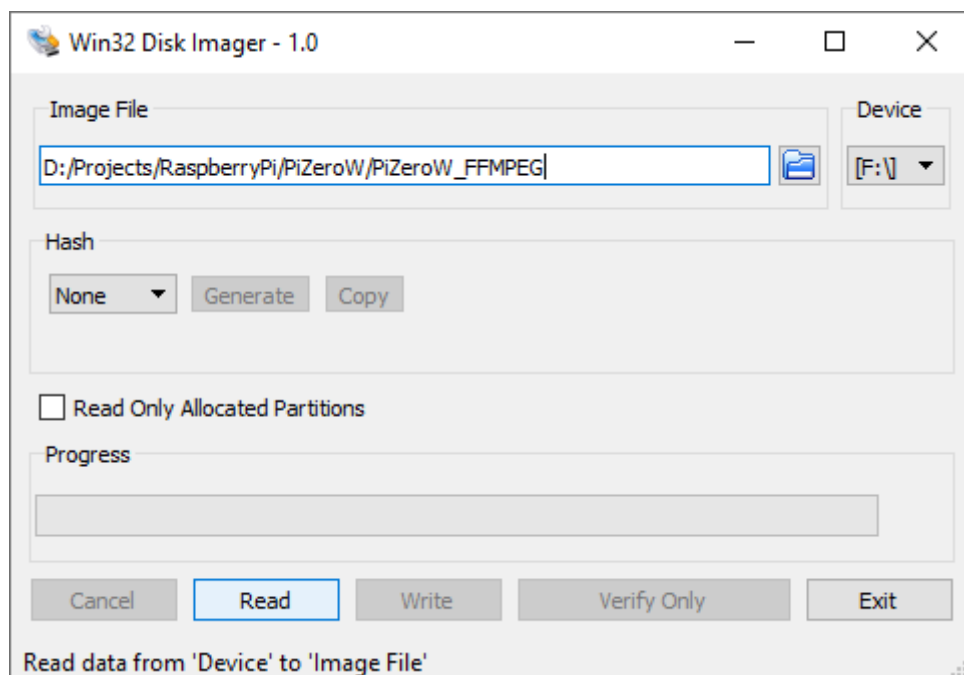
> ℹ️ **Raw image mode**
>
> Raw image mode means all bits of the device are copied to the image file. It means the size of the backup file is equal to the device's total size. This method will take a long time to complete, depending on the size of the storage device.

Download it from win32diskimager and run it as administrative right.
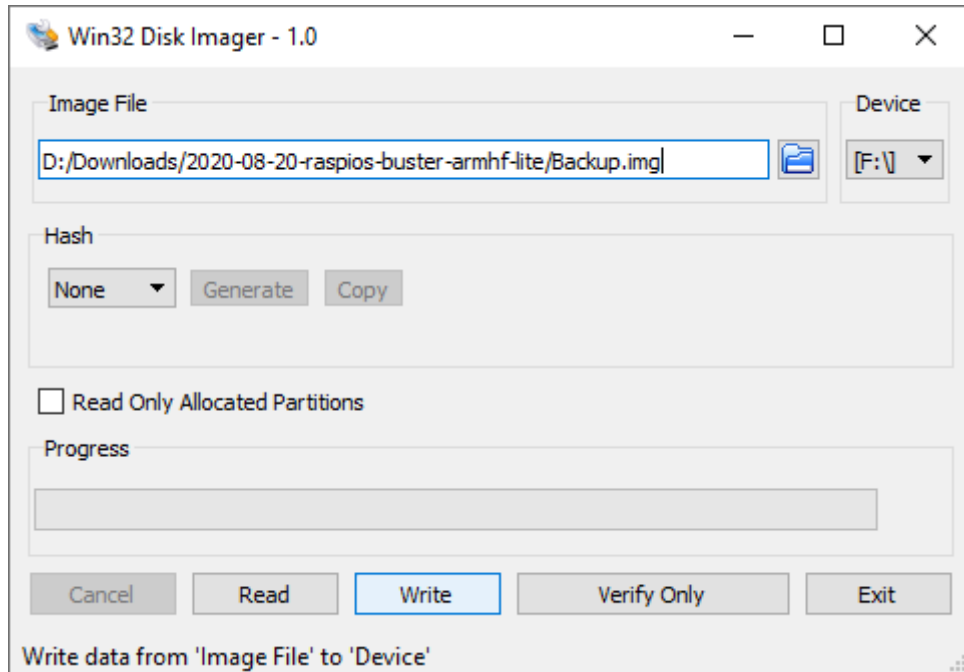
1.1. Backup

1. Select the **Image File** to save the SDCard content

2. Select the source **Device**

3. Click on **Read**

Win32 Disk Imager: save device to image

1.2. Restore

1. Select the **Image File** of the SDCard content

2. Select the target **Device**

3. Click on **Write**

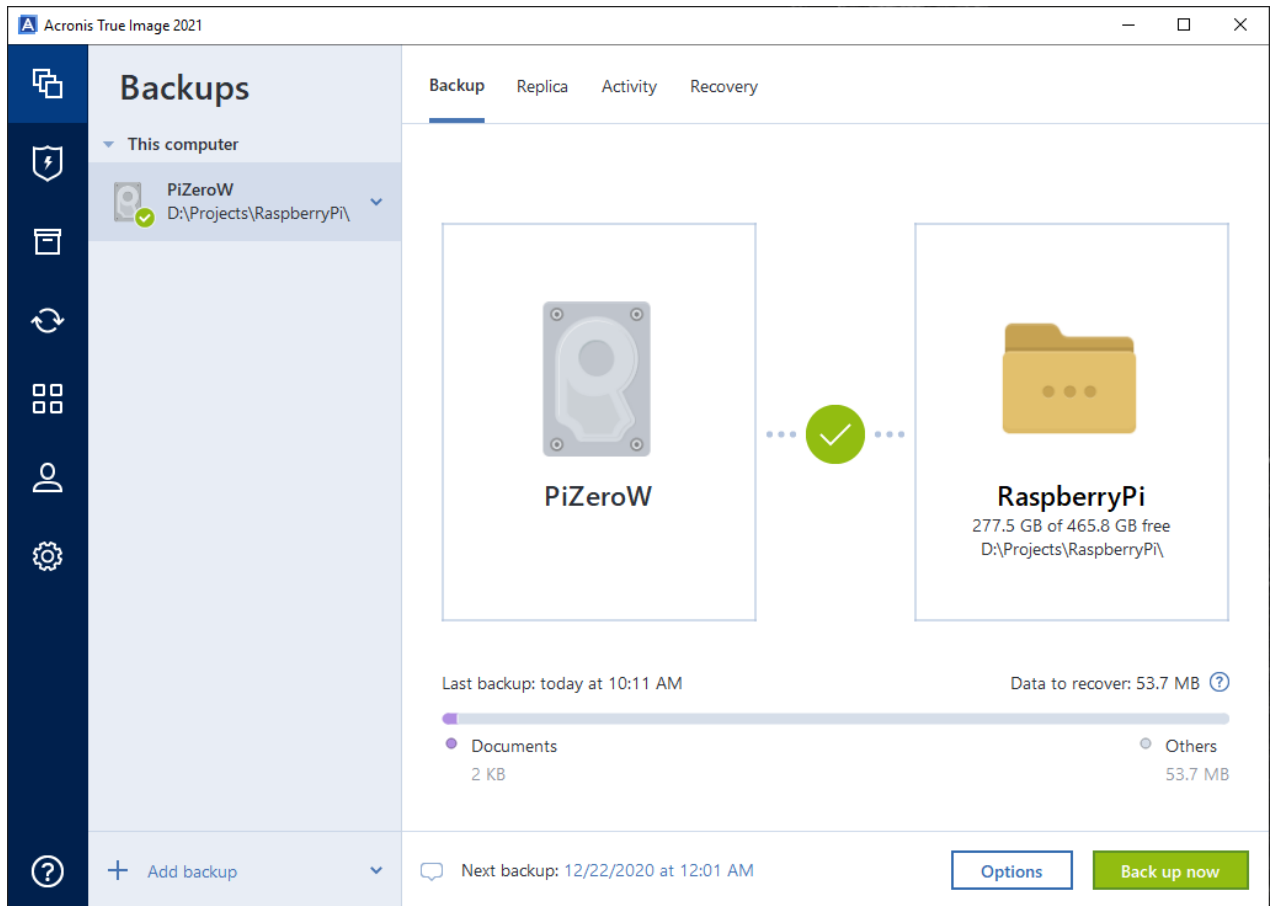*Win32 Disk Imager: restore from image to device*

2. Acronis True Image

Acronis True Image is an application that provides data protection for personal users including, backup, archive, access and recovery for Windows, macOS, iOS, and Android operating systems. This application is a commercial product, try it for free before purchasing a copy.

2.1. Backup and Restore

Acronis will not backup empty space on the SDCard, it only saves the useful data, therefore the backup progress is much faster than dumping all bits and the file size is smaller.

It also has *incremental backup mode* which only writes modified data, compared to the previous backup, therefore it can save a lot of disk space.

The restore process is as simple as the backup. There are buttons and guide to help doing those actions:

Acronis True Image: backup/restore disk