

# RetroPie

Congratulations! When you see this tutorial document, it means that you have discovered the magical world of RetroPie, and all the games you played in your childhood will be within reach!

Don't know what RetroPie is? Don't worry and keep looking down, you will be excited with playing the RetroPie game on CrowPi2!

## What is RetroPie



RetroPie is a free game console emulator, it can turn your Raspberry Pi, ODroid or computer into a retro game console! RetroPie supports more than 50+ host systems, including Atari 2600, PS2, Wii, and classic Nintendo FC, GBA and PS, which we are familiar with in childhood. RetroPie provides an SD card image file on the Raspberry Pi. After burning to the SD card, you can run a variety of different emulators. After transferring the ROMs to the Raspberry Pi, you can start to enjoy classic games.

# Hardware

CrowPi2	x1
Micro SD card (RetroPie system is pre-installed in part of kits)	x1
SD card reader	x1

For some CrowPi2 kits that already provide RetroPie image cards, you can skip directly to the step of configuring Controllers

# Installation

## 1. Download

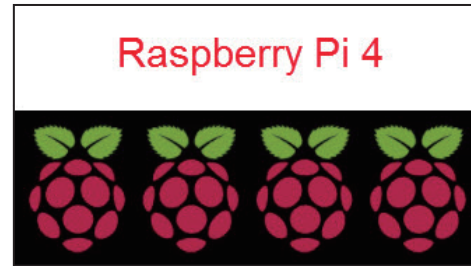
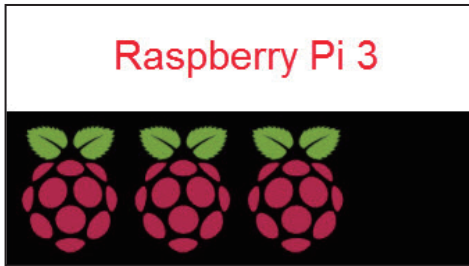
There are currently 3 versions of RetroPie available for download, namely Raspberry Pi 0/1, Raspberry Pi 2/3, and Raspberry Pi 4. You can visit the RetroPie official website (<https://retropie.org.uk/download/>) to download.

Click button to download

<b>Raspberry Pi 0/1</b> md5: 98b4205ad0248d378c6776e20c54e487	<b>Raspberry Pi 2/3</b> md5: 2e082ef5fc2d7cf7d910494cf0f7185b
<b>Raspberry Pi 4</b> md5: 9154d998cba5219ddf23de46d8845f6c	

Note: that you need to download the SD image for your version of Raspberry Pi.

If you are not sure what version of the Raspberry Pi you are using, you can count the number of Raspberry Pi when the CrowPi2 is booting. For example, if you use Raspberry Pi 3, then when it boots up, it should display 3 Raspberry Pis and for Raspberry Pi 4 should display 4 Raspberry Pis:



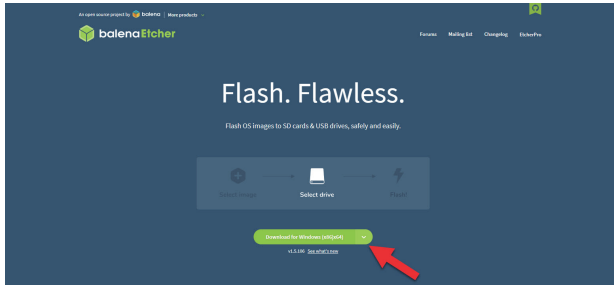
## 2. Install

To install the RetroPie SD image on your MicroSD card, you need to prepare a MicroSD card reader to plug it into your computer. The following describes how to install the RetroPie image on a Windows computer:

### Step 1:

You need a software to flash the RetroPie image to SD card. We recommend using the Etcher, which you can download from this here:

<https://www.balena.io/etcher/>



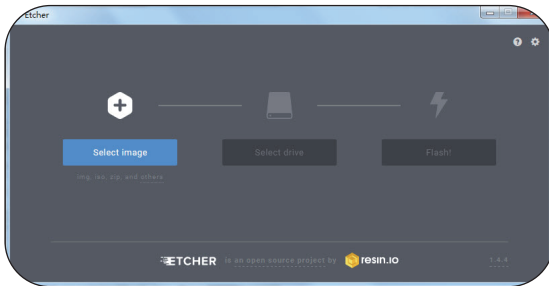
Click “Download for Windows” button indicated in the picture:

After downloading the software, follow the instruction to install, and then open the Etcher software.

## Step 2:

Then, you will see the following software interface:

Click the “Select image” button to select the RetroPie image that has been downloaded:

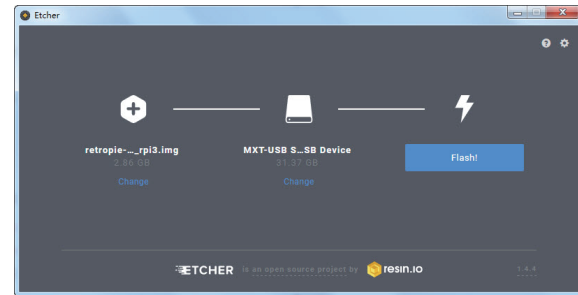


### Step 3:

Insert the MicroSD card into the card reader:



Then plug the card reader into the USB port of the computer, at this time "Select drive" will automatically select the inserted MicroSD card as the device (if the MicroSD card is not automatically selected, please make sure that the MicroSD card and the card reader are in good contact with the computer):



### Step 4:

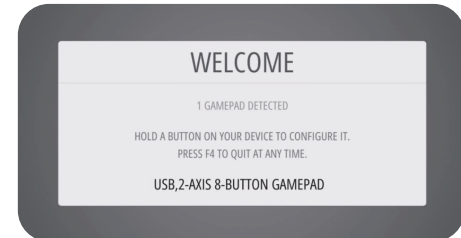
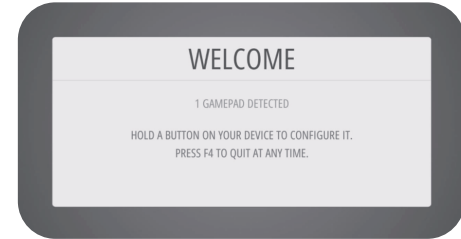
Click the "Flash" button to burn the RetroPie image to the MicroSD card. When the software pops up the successful burning message, you have completed the RetroPie image installing! Now, remove the MicroSD card from the card reader and install it on the Raspberry Pi on the back of the CrowPi2.

# Configure Controllers

On first boot your filesystem will be expanded automatically, you will then be welcomed with the following screen– this menu will configure your controls for both Emulationstation and RetroArch Emulators:

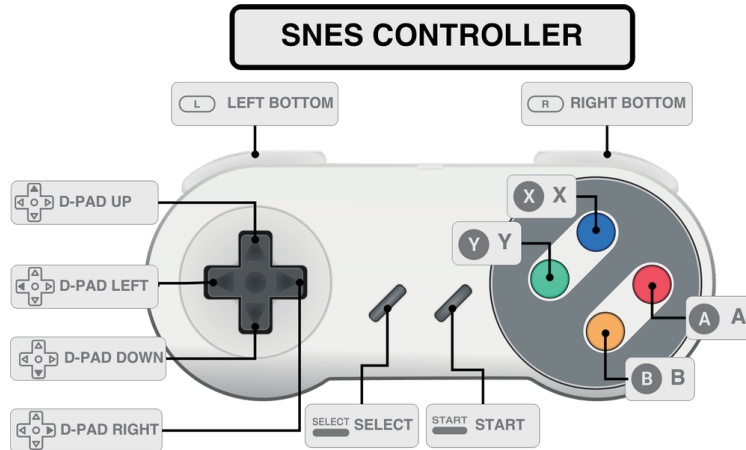
Hold down any button on your keyboard or gamepad and the name will appear at the bottom and then open up into a configuration menu:

Follow the onscreen instructions to configure your gamepad (you can also configure the keyboard and use it for gaming). If you run out of buttons just hold down a button to skip each unused button. When you get to OK press the button you have configured as "A".



If you wish to configure more than one controller, you can do so from the start menu of emulationstation. For more details on manual controller configurations see this page: <https://retropie.org.uk/docs/RetroArch-Configuration/>

For the SNES controller in our CrowPi2 kit (only available in part of kits), see the following diagrams for reference:



# Hotkey

The Hotkey button enables you to press it in combination with another button to access functions such as saving, loading, and exiting in emulators. It is suggested to use the Select button as the hotkey. The following chart shows the default hotkey combinations. For example, if you chose Select as your Hotkey, that means you hold down Select while pressing the other button to execute the command.

**Note: Hotkey combinations are specific to the retroarch/libretro based emulators.**

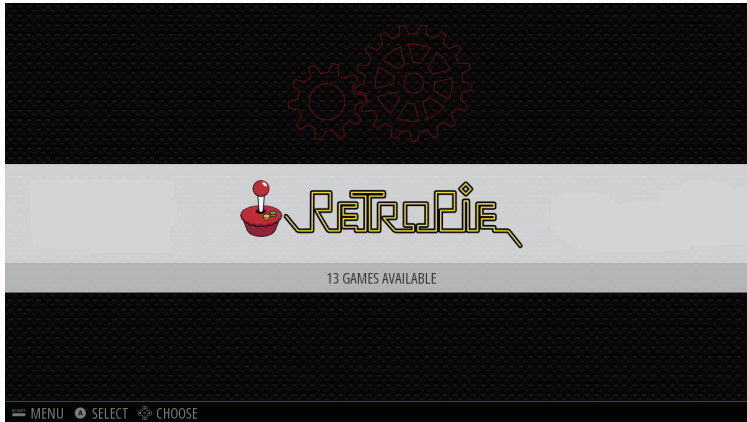
Hotkey Combination	Action
Hotkey+Start	Exit
Hotkey+Right Shoulder	Save
Hotkey+Left Shoulder	Load
Hotkey+Right	Input State Slot Increase
Hotkey+Left	Input State Slot Decrease
Hotkey+X	RGUI Menu
Hotkey+B	Reset

For more information about hotkeys, you can visit this link:  
<https://retroPie.org.uk/docs/RetroArch-Configuration/#hotkeys>



# EmulationStation

When you first see EmulationStation you may wonder why you don't see systems like the SNES or Game Boy– worry not– they are installed on the system, roms just need to be added to their respective rom folders before they will become visible. Transferring roms are described in the following steps.



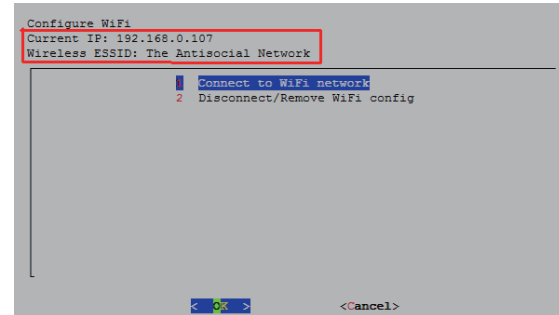
## What is ROM

ROM is an electronic version of the game cassette. Loading ROM in the emulator is equivalent to inserting a cassette in a physical game machine. ROM is related to copyright, you need to find it yourself.

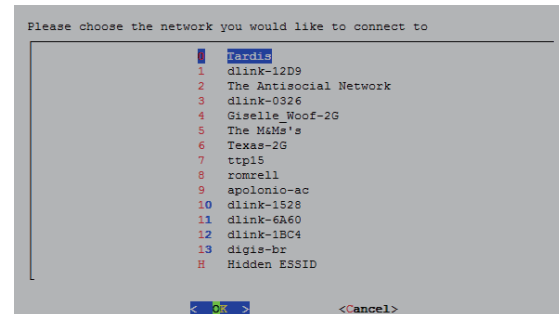
# WiFi configuration

Through WiFi, you can transfer ROM to RetroPie system. But first, you need to configure WiFi. You can follow the steps below to configure:

1. Connect to WiFi network



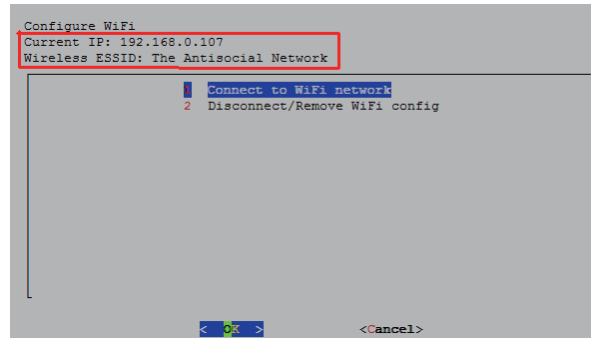
2. Choose your WiFi from a list



3. Type your WiFi password(may take a moment to connect)



4. Once configured you will see your IP address



## Transferring ROMs

Due to the nature/complexity of Copyright/Intellectual Property Rights Law, which differs significantly from Country to Country, ROMs cannot be provided with RetroPie and must be provided by the user. You should only have ROMs of games that you own.

You can download games at this link: <https://www.downloadroms.io/>

You should put the corresponding rom game in the corresponding folder in the /roms directory. For example, if the game you downloaded is a .nes game, you should put the game in the directory /roms/nes

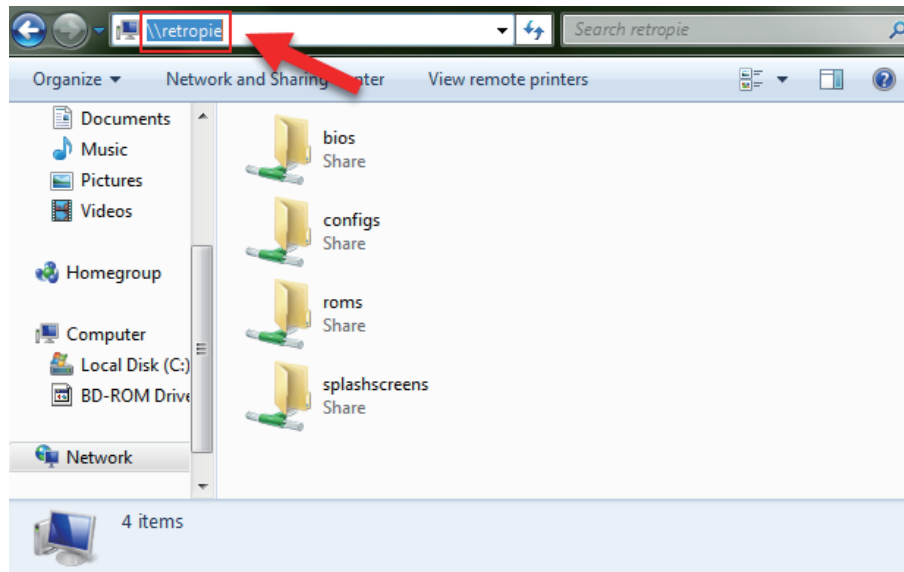
After you have downloaded the ROM, there are three main methods of transferring roms, USB copy, Samba-Shares, and SFTP. The following mainly introduces the two methods of USB copy and Samba-Shares.

## USB

- Ensure that your USB is formatted to FAT32 or NTFS
- First create a folder called retroPie on your USB stick
- Plug it into the pi and wait for it to finish blinking
- Pull the USB out and plug it into a computer
- Add the roms to their respective folders (in the retroPie/roms folder)
- Plug it back into the Raspberry Pi
- Wait for it to finish blinking
- Refresh emulationstation by choosing restart emulationstation from the start menu
- Then you can see the simulators and games that have been classified

# Samba-Shares

- If on Windows type \\retropie into the computer folder. You can also replace retropie with your Raspberry Pi's IP address



- Copy the downloaded ROM file to the corresponding directory of the roms folder (for example, put the .nes game in the directory roms/nes)
- Refresh emulationstation by choosing restart emulationstation from the start menu
- Then you can see the simulators and games that have been classified

