



# Game HAT

## User Manual

### OVERVIRE

This Game HAT will turn your Raspberry Pi into a classic game console in a second, recalls you all the gaming pleasures in the memory.

### FEATURES

- 3.5inch IPS screen, 480×320 resolution
- 60 frame experience, smoothly display, no more frame loss
- Compatible with Raspberry Pi A+/B+/2B/3B/3B+ (Raspberry Pi Zero/Zero W/Zero WH requires another HDMI cable)
- Integrates battery charge circuitry, powered from one 18650 lithium battery (NOT included), plays anywhere anytime
- Battery capacity indicator
- Onboard speaker and earphone jack, listen to the familiar BGM from the old days

## PICTURES



- Game function keys according to specific game
- Start+Selection to exit current game
- Menu, Up/Left, Down/Right, Exit, this four keys on the bottom allow to adjust screen brightness/contrast, volume, etc.

## HOW TO USE

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### HARDWARE CONNECTION

1. Insert Raspberry Pi to Game HAT (GPIO pins header)
2. Connect HDMI. Insert the HDMI connector to screen and Raspberry Pi
  - If you use Raspberry Pi Zero/Raspberry Pi Zero W, you need to use HDMI cable
3. Toggle the Battery switch of Game HAT to OFF, and mount 18650 battery to it.

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### OS

We provide image with driver pre-installed, you can download test image or you can also download original RetroPie image and install driver manually.

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### METHOD 1 USING TEST IMAGE

- 1) Download test image according to your Raspberry Pi
  - [RetroPie-RPi2\\_RPi3-Image](#)
  - [RetroPie-RRi\\_zero-Image](#)
- 2) Unzip the ZIP and write the image file to TF card
- 3) Inset the ready TF card to your Raspberry Pi, toggle Battery switch to ON.
  - If battery is low, Raspberry Pi cannot start up. In this case, you can connect a 5V/2A power supply to Power interface of Game HAT for charging. Charge indicator will flicker when charging. You can play during charging but note that

Raspberry Pi will reboot automatically if you disconnect the power supply.

- If battery is full Raspberry Pi will start up normally.

- 4) After entering OS, you can choose emulators by joystick. For example, choose Nintendo emulator and press "A" to confirm.
- 5) You can see there are some games. Choose one and press "A" to enter. After cutscene, you can press "A" or "Start" key to start the game.
- 6) If you want to exit from current game, you can press buttons "Start" and "Select" at the same times
- 7) You can press the 4 buttons on the right side of Game HAT to adjust volume and brightness of LCD, Press Menu to open OSD menu, and press Up/Left or Down/Right to choose options, then press Menu to confirm option and adjust it. Finally, press Exit to exit OSD menu.

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## METHOD 2 INSTALL DRIVER MANUALLY

- [Driver for RetroPie](#)

Please download RetroPie image on [RetroPie website](#) according to the type of your Raspberry Pi.

## Download

### Pre-made images for the Raspberry Pi

The latest pre-made image of RetroPie is v4.4 – released April 14, 2018.

Contributions to the project are appreciated, so if you would like to support us with a donation you can do so here.

[Donate](#)

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  - 2.2 Debian / Ubuntu on a PC
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- 3 PetRockBlock Downloads

If you are installing RetroPie for the first time please follow the **OFFICIAL Installation Guide**

Click button to download

[Raspberry Pi 0/1](#)

md5sum: 57922a62f18f4bc4df198c35a3c1a6ed

[Raspberry Pi 2/3](#)

md5sum: 56988addb60361a2257a61c69d9fcea

- 1) Download and unzip it to get .img file
- 2) Write the .img file to TF card by Win32DiskImager.exe
- 3) After writing, copy Game HAT driver you download to root directory of the TF card.
- 4) Open the config.txt file which is also on root directory, append these statements to config file

```
hdmi_force_hotplug=1

hdmi_group=2

hdmi_mode=87

hdmi_cvt=640 480 60 1 0 0 0
```

- 5) Inset the TF card and a USB keyboard to Raspberry Pi, open Battery switch to power on Raspberry Pi. After booting, press F4 to open Terminal.
- 6) Execute commands as blow. (Make sure you have copy driver to Raspberry Pi as step 3)

```
sudo tar xzvf /boot/Game-HAT-*.tar.gz
```

```
cd Game-HAT/
```

```
sudo ./Game-HAT
```

- 7) Reboot Raspberry Pi. Long press "A" button (other keys are OK as well) to enter buttons configuration page. Configure keys as below. You can also long press "A" or other buttons to pass the configuration.



After configuring:

- 1 Press "A" button to save configurations and exit.
  - 2 Press "B" button to cancel configurations and exit without save.
- 8) The configuration is finished and you can try to play games now.

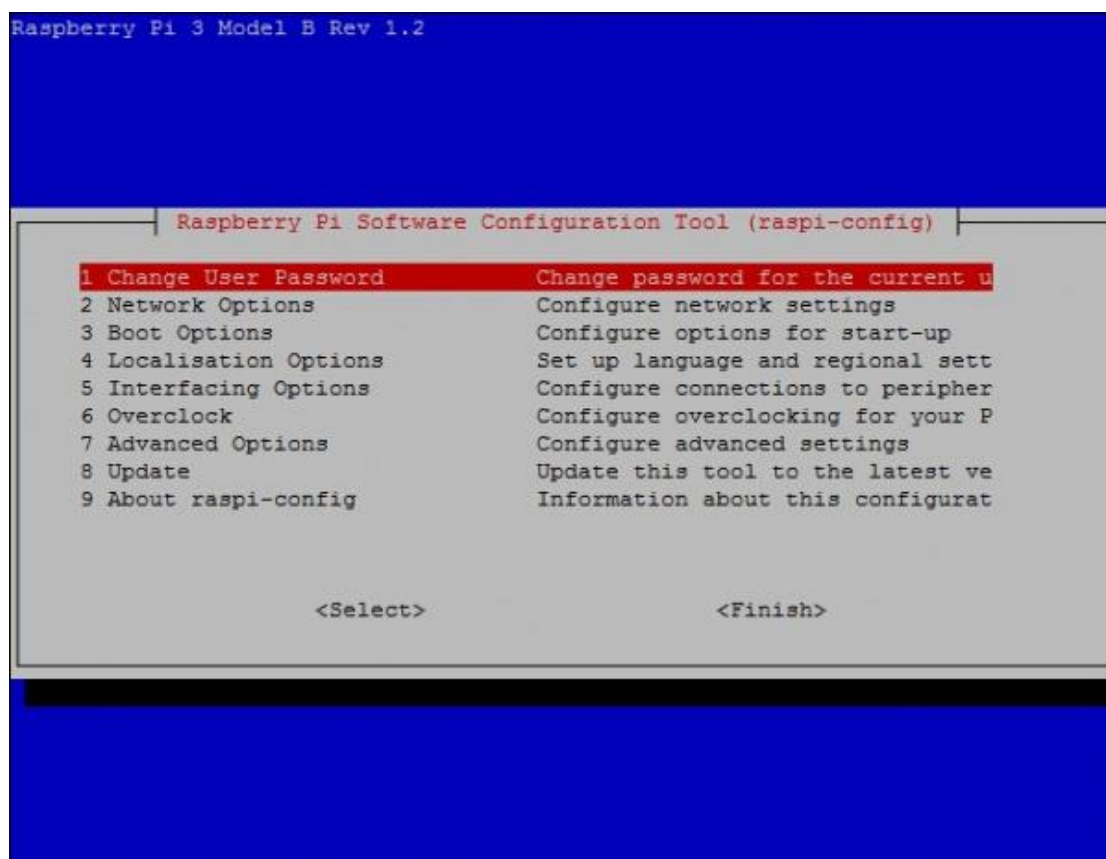
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## ADD NEW GAMES

Maybe default games in test image are not those you want, you can also add games as you like.

1. Size of most games are always large, so we need to expand filesystem fist. Choose RASPI-CONFIG on configure page and press enter





Choose 7 Advanced Options -> A1 Expand Filesystem, Enter->Finish, (physical keyboard is required)



Choose OK, and reboot.



## 2. Prepared game ROMS.

Here we recommend a really cool rom website: <http://coolrom.com/>

You can download ROMS of various games there to your PC. If you like Sony

Playstation games, you can choose.



The screenshot shows the CoolROM.com website interface. At the top, the logo reads "CoolROM.com your #1 emulation choice". Below the logo is a navigation bar with links: Home | FAQ | Tutorial | Emulators | ROMs | Queue (0). A central menu lists various emulators and game systems, including Atari 2600, Atari 5200, Atari 7800, Atari Jaguar, Atari Lynx, Commodore 64, CPS1, CPS2, MAME, Namco System 22, Neo Geo, Neo Geo CD, Neo Geo Pocket, Sega CD, Sega Dreamcast, Sega Game Gear, Sega Genesis, Sega Master System, Sega Model 2, Sega Saturn, Sony Playstation (highlighted with a red box), Sony Playstation 2, and Sony PSP New!. To the left of the menu, there is a "Welcome to CoolROM.com!" message and a "New to Emulation?" section. Below the menu, there are social sharing buttons for Facebook, Twitter, and Google+. At the bottom, there is a "Site News" section and a "Tweets by @cool\_rom" section.


Find the games you want and download it. For example:

[http://coolrom.com/roms/psx/39719/Tekken\\_3.php](http://coolrom.com/roms/psx/39719/Tekken_3.php) Click to download

**ROMs » Sony Playstation » I » Tekken 3**




**NOTE:** Play this ISO on your PC by using a compatible emulator. New? Read our [tutorial!](#)  
 » Recommended emulator: [ePSXe](#) (Windows) | [OpenEmu](#) (Mac)  
 » You need to extract this ISO using: [7-Zip](#) (Windows) | [The Unarchiver](#) (Mac)

» [Play this on your Android / iPhone / Windows Phone!](#)



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You may click the link below to download your file

 **Download Now\***
 OR
  **Add to Queue**
 OR
  **Play Online Now**

\* This file will be downloaded through the CoolROM Downloader making the download process much faster and ensuring the file is virus-free.

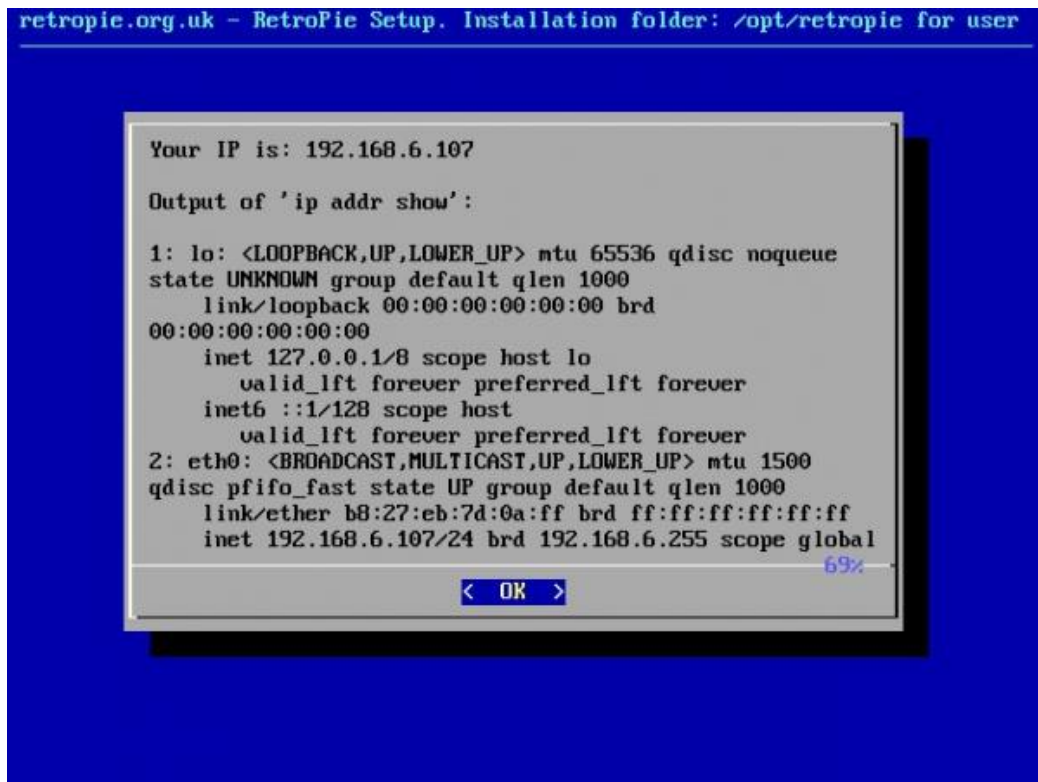
[Alternative download link \(with ads and timer\)](#)

unzip the zip you download to get ROMs as below

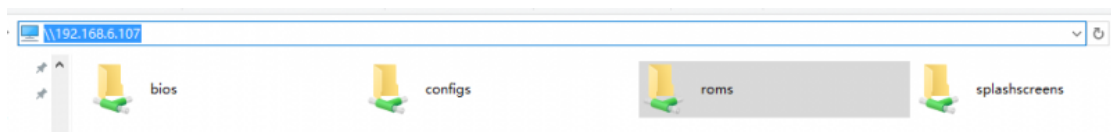
| 名称   | 修改日期            | 类型      | 大小         |
|--|-----------------|---------|------------|
|  readme.html            | 2012/4/2 2:38   | HTML 文件 | 1 KB       |
|  Tekken 3 (Track 1).bin | 2012/4/25 23:37 | BIN 文件  | 617,708 KB |
|  Tekken 3 (Track 2).bin | 2012/4/25 23:37 | BIN 文件  | 27,053 KB  |
|  Tekken 3 (Track 3).bin | 2012/4/25 23:37 | BIN 文件  | 27,386 KB  |
|  Tekken 3.cue           | 2012/11/19 3:41 | CUE 文件  | 1 KB       |

### 3. Update ROMs

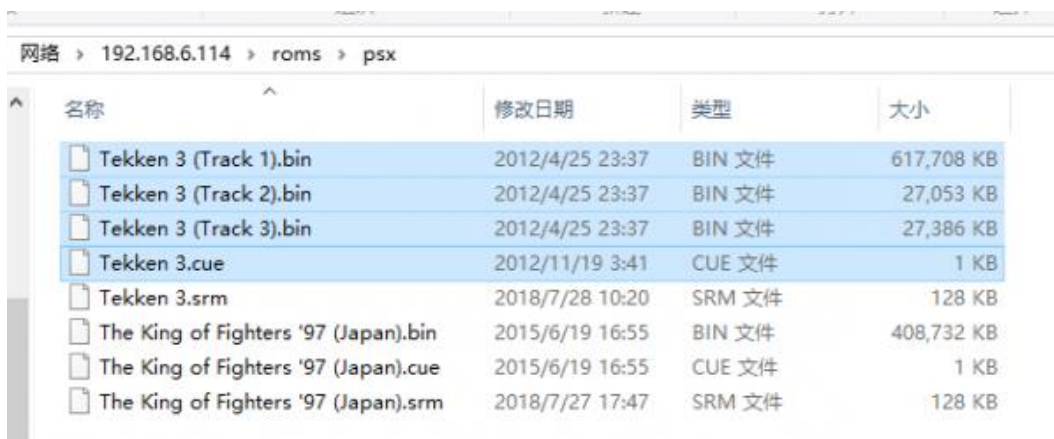
Connect your Raspberry Pi to network (Make sure the network you connect is in the same LAN as your PC). Find SHOW IP in Retropie list, press "A" to query current IP address of your Raspberry Pi.



Open it with the IP address on your PC



Copy ROMs to related directory as below



Then on emulator choose page, you can press "Start" ->QUIT->RESTART

EMULATIONSTATION, press "A" to confirm. Then restart emulator, you can find

the game added.

## OTHER COMMON OPERATIONS

For more operations, you can read [Retropie Instructions](#)

### PINS (LCD)

If the pins which are note with NC it means that the pins is not used by LCD, you can use them for other usage.

| PIN | Identity | Description      |
|-----|----------|------------------|
| 1   | 3.3V     | 3.3V power input |
| 2   | 5V       | 5V Power input   |
| 3   | NC       | NC               |
| 4   | 5V       | 5V power input   |
| 5   | NC       | NC               |
| 6   | GND      | Ground           |
| 7   | Select   | BCM=4, WPI=7     |
| 8   | NC       | NC               |
| 9   | GND      | Ground           |
| 10  | NC       | NC               |
| 11  | NC       | NC               |
| 12  | TL       | BCM=18, WPI=1    |
| 13  | NC       | NC               |
| 14  | GND      | Ground           |
| 15  | NC       | NC               |
| 16  | TR       | BCM=23, WPI=4    |
| 17  | 3.3V     | 3.3V power input |
| 18  | NC       | NC               |

|    |       |                |
|----|-------|----------------|
| 19 | NC    | NC             |
| 20 | GND   | Ground         |
| 21 | NC    | NC             |
| 22 | NC    | NC             |
| 23 | NC    | NC             |
| 24 | NC    | NC             |
| 25 | GND   | Ground         |
| 26 | NC    | NC             |
| 27 | NC    | NC             |
| 28 | NC    | NC             |
| 29 | UP    | BCM=5, WPI=21  |
| 30 | GND   | Ground         |
| 31 | DOWN  | BCM=6, WPI=22  |
| 32 | B     | BCM=12, WPI=26 |
| 33 | LEFT  | BCM=13, WPI=23 |
| 34 | GND   | Ground         |
| 35 | RIGHT | BCM=19, WPI=24 |
| 36 | X     | BCM=16, WPI=27 |
| 37 | A     | BCM=26, WPI=25 |
| 38 | Y     | BCM=20, WPI=28 |
| 39 | GND   | GND            |
| 40 | START | BCM=21, WPI=29 |