



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

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.

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.

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.

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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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:

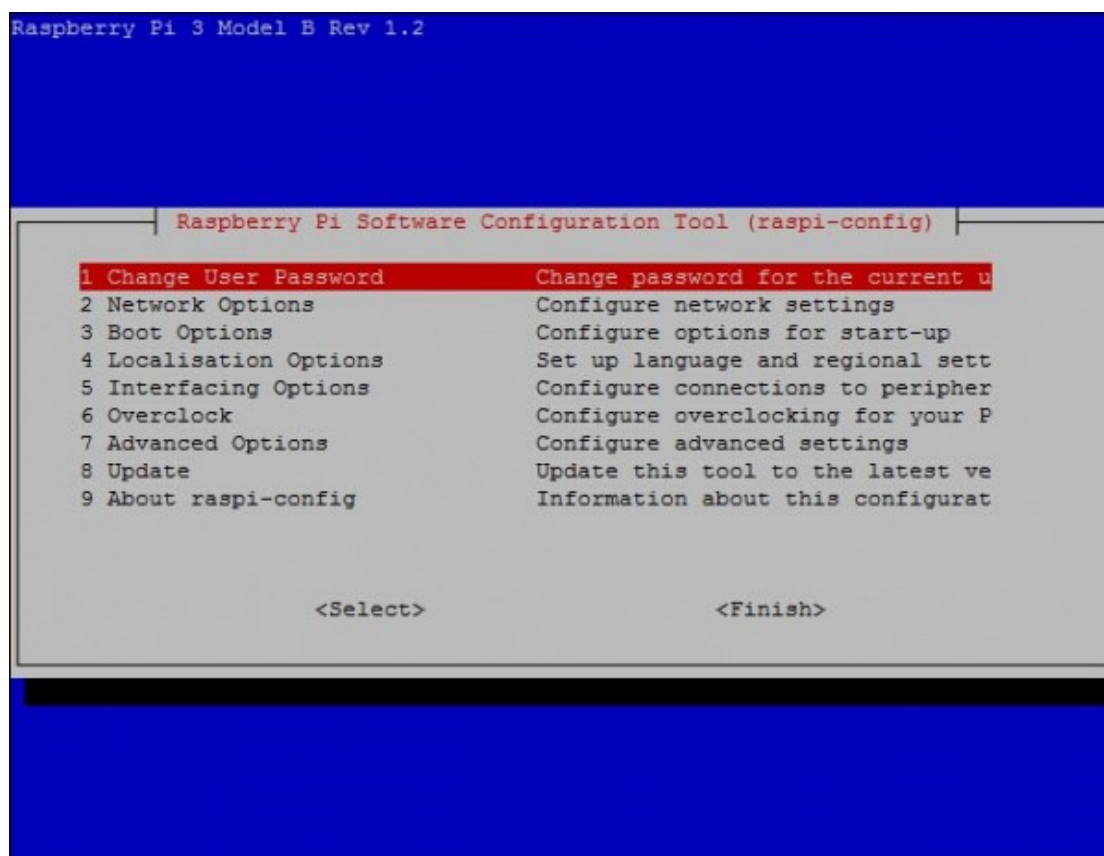
- 1 Press "A" button to save configurations and exit.
 - 2 Press "B" button to cancel configurations and exit without save.
- 8) The configuration is finished and you can try to play games now.

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.

Download game ROMS

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.



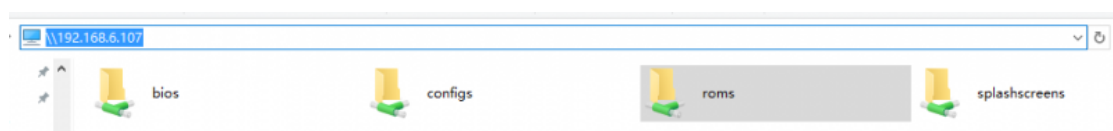
```
retropie.org.uk - RetroPie Setup. Installation folder: /opt/retropie for user

Your IP is: 192.168.6.107

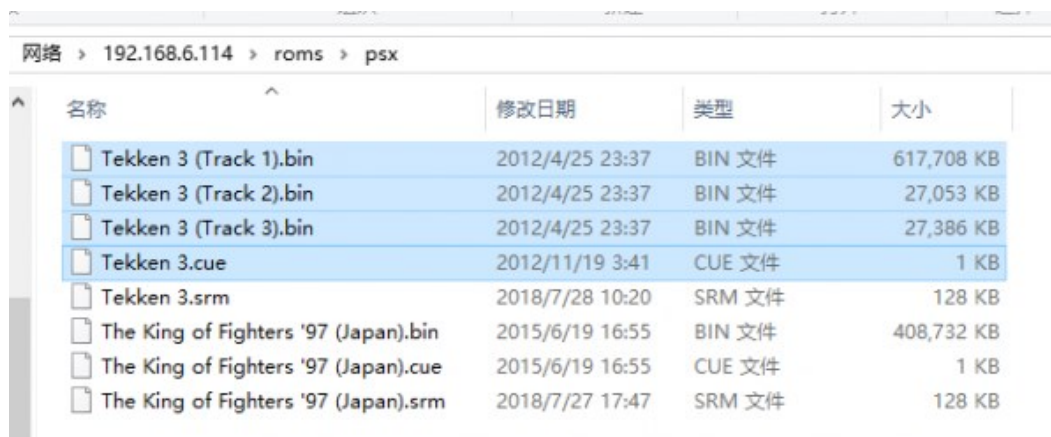
Output of 'ip addr show':

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue
state UNKNOWN group default qlen 1000
  link/loopback 00:00:00:00:00:00 brd
00:00:00:00:00:00
  inet 127.0.0.1/8 scope host lo
    valid_lft forever preferred_lft forever
  inet6 ::1/128 scope host
    valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500
qdisc pfifo_fast state UP group default qlen 1000
  link/ether b8:27:eb:7d:0a:ff brd ff:ff:ff:ff:ff:ff
  inet 192.168.6.107/24 brd 192.168.6.255 scope global
  69%
```

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