

# RetroPie Operating System

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joy-ji

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### 1. INTRODUCTION

Dear customer,

Thank you for choosing our product.

In the following we will show you what to consider when commissioning and using the Retropie system.

Should you encounter any unexpected problems during use, please do not hesitate to contact us.

#### 2. DISCLAIMER

The operating system RetroPie described here is a software package that combines several so-called emulators into a multifunctional game console unit.

An emulator is usually a software-based system, which allows external hardware to be emulated on its own hardware system. The system built up and emulated within this software behaves like the original hardware, except that the individual components (CPU, graphics card, sound card) only exist virtually and are "calculated" by the own computer hardware. Thus it is e.g. also possible to emulate on the home PC game consoles from past days and to play also the old games from earlier with new hardware. Most emulators receive these games in the form of so-called ROM files, so that they have the required game data at their disposal. These ROM files are basically binary data copies that have been extracted/read from the respective software media (such as cartridges, EEPROMs from gaming machines, CD-ROMs, etc.) of the original hardware and copied into individual data packages. In order to play the emulated game, the corresponding ROM file is required, which has been copied from the original. Please note, however, that the ownership and use of these ROM files is regulated by German copyright law, which only permits them according to §53 if the original medium of the game is in the possession of the respective user. Please note that if you do not want or cannot read the data from the respective storage media yourself and therefore obtain the required ROM files from Internet sources, this is only legal if you have the original storage media or games. Otherwise we refer to license-free ROM files, where the author of the respective game has given the rights and thus allows the open free distribution. To do this, please follow the instructions on the respective ROM files source or website.

The user is responsible for compliance with the respective license rights for the software used/used by him/her. The above text is to be understood only as an aid.

# <u>j0Y-it</u>

# 3. INSTALLATION

First, download the RetroPie operating system from the <u>RetroPie-Website</u>. Use a suitable program (e.g. <u>Etcher</u>) to copy the image file you have downloaded to a



After you have successfully completed the process, you can insert the microSD card into your Raspberry Pi and start the system.



### 4. NETWORK SETTINGS

In order to communicate with your RetroPie system on the network, it must first be integrated into your existing home network. You can either connect your Raspberry Pi to your router with a commercially available RJ45 network cable or establish a wireless connection via WiFi/WLAN.

To integrate your Raspberry Pi into your WLAN, go to "WiFi" in the RetroPie settings and follow the wizard that will appear.

BLUETOOTH CONFIGURATION EDITOR ES THEMES FILE MANAGER RASPI-CONFIG RETROARCH RETROARCH NET PLAY RETROPIE SETUP RUN COMMAND EDITOR SHOW IP	Connect to or disconnect from a wifi network and
SPLASH SCREENS	configure wifi settings.

tropic.org.uk - Retro	Pie Setup. Installation fold	er: /opt/retropie for user ;	pi			
			Please enter the WiFi keu/nass	word for thisisaMetwork		
			****			
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			/ 0K N	(Cancel)		



After you have integrated your Raspberry Pi into your network, regardless of whether by cable or WLAN, you can now display the current IP network address which will later be required for the transmission of ROM files under the menu item "Show IP".

& RETROPÉE	
AUDIO BLUETOOTH CONFIGURATION EDITOR ES THEMES FILE MANAGER RASPI-CONFIG RETROARCH RETROARCH NET PLAY RETROPIE SETUP RUN COMMAND EDITOR	
EHOW IP SPLASH SCREENS WIFI	Displays your current IP address, as well as other information provided by the command, "ip addr show."

In this case, the IP address is "192.168.1.236".

_		
	Your IP is: 192.168.1.236	
	Output of 'ip addr show':	
	<pre>1: lo: <loopback,up,lower_up> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1     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:2a:05:ed brd ff:ff:ff:ff:ff:ff     inet 192.168.1.236/24 brd 192.168.1.255 scope global</broadcast,multicast,up,lower_up></loopback,up,lower_up></pre>	
	< <u>OK</u> >	

# 5. COPY ROM-FILES / INSTALL GAMES

If the system is integrated into your network, you can now enter the IP address in a Windows Explorer window to start the transmission of the ROM files.

You can obtain this IP address by selecting "Show IP" in the RetroPie configuration menu as described in Chapter 4. Then start an Explorer window on a Windows computer and enter the IP address with the preceding character string "\\" in the upper address line. In our case "\192.168.1.236" and confirm this with "Enter".



After this you should be able to see four network folders. To copy games to your system, open the "roms" folder.





In it you will then find a sequence of folders that represent the corresponding emulable systems. For example, the folder "snes" is responsible for providing all ROM files for emulating Super Nintendo games to the SNES emulator.

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	megadrive	01.09.2016 17:14	Dateiordner				
	📜 msx	01.09.2016 17:14	Dateiordner				
	📕 n64	01.09.2016 17:14	Dateiordner				
	📕 neogeo	01.09.2016 17:14	Dateiordner				
	📕 nes	01.09.2016 17:14	Dateiordner				
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You usually copy the rom files into the folder as a zipped file (not unzipped).

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Datei Start Freigeben Ansicht			
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Name	Änderungsdatum	Тур	Größe
😑 rom.zip	08.09.2016 18:13	ZIP archive	340 KB
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✓ 6 <sup>6</sup> > 6			
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After you have restarted your Raspberry Pi, a new emulable system should be available in the main menu, with the corresponding game list consisting of the copied ROM files.



#### SPECIAL CASE: MAME [ARCADE ROMS]:

#### Managing ROMs

dankcushions edited this page 8 days ago  $\cdot$  82 revisions

RetroPie uses forks of the MAME and FinalBurn Alpha emulators that work well on the Raspberry Pi hardware, but are based on older versions of the original code. Your ROMs may be for earlier or later versions of MAME/FBA and if they are, they most likely will not work.

To understand what a MAME ROM is and contains and why they are different between different emulator versions, check out: Demystifying MAME ROMs Tutorial by ChoccyHobNob.

You may also find this forum post explains how arcade emulators work with RetroPie: How to use MAME with RetrroPie - Help Guide

The following chart is a quick reference for all the arcade emulators in RetroPie.

Emulator	Romset	# of ROMs	.DAT Files	Compatibility List
mame4all	0.37b5	2270	.DAT	List
Ir-imame4all	0.37b5	2270	.DAT	List
lr-mame2003	0.78	4705	.DAT	List
lr-mame2010	0.139	8782	.DAT	List
advmame94	0.94	5563	.DAT	List



The MAME emulation system also allows the emulation of arcade machines. The difference to normal consoles is that the games/software in gaming machines are not contained in individual elements such as cartridges/floppy disks/CDs, but are distributed over several chips in the machine. In order to simulate a certain machine, a complete set of "dumps" (English binary copy) of all chips must be available. If you do not read out a gaming machine yourself, but obtain the data from other sources, you will come across the term "Romset". This term has become established as a description of a summary of several ROM files: To save storage space, it is possible that not all required chip copies are contained in one ROM file - since the chips installed in gaming machines can also be the same across several machine families, only a single copy of the corresponding repeatedly appearing chip is made available in one ROM set.

This is the reason why it may occur that ROM files cannot be played back by the emulator some ROM sources only offer incomplete ROM files. If you do not read the respective game machine yourself, we recommend that you read the documentation of the respective ROM source-this usually shows how an incomplete ROM file can be completed.

The arcade emulators used in RetroPie are prepared for different "Rome sets". You can find a list of the rosets for which the respective emulator works and thus into which folder the ROM files must be copied in the RetroPie documentation under:

https://github.com/retropie/retropie-setup/wiki/Managing-ROMs

# 6. EMULATOR LISTING

RetroPie software includes a variety of emulators for different systems. Which systems can be emulated exactly, where in each case the respective ROM files have to be copied and which ROM files do not or only insufficiently function due to compatibility, can be found in the extensive documentation of RetroPie under the link: https://github.com/retropie/retropie-setup/wiki





# 7. EMULATOR SETUP

When starting a game from the game list of a system, you will see the following window before starting the actual game:

Launching robby (mame4all)
Press a button to configure
Errors are logged to /dev/shm/runcommand.log

Meanwhile, press any button to start the emulator configuration menu, where you can make settings for each game.

This is useful, for example, if you want to change the emulator software used in the course of a higher compatibility.

System: mam Emulator: m Video Mode: ROM: robby	e-mame4all ame4all
2 4 5 10 11 X Q	Select default emulator for mame-mame4all (mame4all) Select emulator for rom () Select default video mode for mame4all () Select video mode for mame4all + rom () Select framebuffer res for mame4all () Select framebuffer res for mame4all + rom () Launch Exit (without launching)
	<mark>&lt; <u>о</u>к &gt;</mark>



### 8. SUPPORT

We also support you after your purchase. If there are any questions left or if you encounter any problems, feel free to contact us by mail, phone or by our ticket-support-system on our website.

E-Mail:	service@joy-it.net
Ticket-System:	http://support.joy-it.net
Phone:	+49 (0)2845 98469 - 66 (11- 18 o'clock)

For more information, please visit our website:

## www.joy-it.net