

Deliverable 3: Transferring Games to Raspberry Pi

Objective

The purpose of this guide is to explore and explain the different ways to transfer legally owned ROMs and homebrew games to a Raspberry Pi. We will assume that the reader already possesses ROM files and focus purely on transfer methods.

Methods of Transferring Games

Below is a comparison of three main transfer methods:

Method	Tools Required	Skill Level	Network Needed	Speed
SD Card File Copy	SD Card Reader, PC	Beginner	✗	Fast
SSH File Transfer	Raspberry Pi + SSH enabled, PC	Intermediate	✓	Moderate
Web Interface	Raspberry Pi (RetroPie Web GUI)	Easy	✓	Moderate

1 SD Card File Copy

This is the simplest method and requires direct access to the Raspberry Pi’s microSD card using a computer.

Requirements

- SD card reader
- A computer
- File manager (e.g., Windows Explorer, Finder)

Steps

1. Shut down your Raspberry Pi.
2. Remove the microSD card.
3. Insert the microSD card into your computer.
4. Navigate to the following directory:

/retropie/roms/

5. Copy your legally owned ROMs into the appropriate folder (e.g., `nes`, `snes`, `gba`).
6. Safely eject the SD card and insert it back into the Raspberry Pi.
7. Power on the Pi. The games should appear in the RetroPie menu.

 **Tip:** If your system doesn’t show a `/retropie` folder, it may need to be created by first booting the Pi with RetroPie and letting it initialize the file structure.

2 SSH File Transfer

SSH allows remote file access. We'll use an SCP client like **WinSCP** or **Terminal** to transfer ROMs.

Requirements

- SSH enabled on Raspberry Pi
- PC with SSH client (Terminal on macOS/Linux or WinSCP on Windows)
- Raspberry Pi IP address

Enable SSH on Raspberry Pi

On your Raspberry Pi:

```
sudo raspi-config
```

Then navigate through the menu:

Interfacing Options -> SSH -> Enable

Steps (Windows + WinSCP)

Install WinSCP from:
<https://winscp.net/eng/download.php>

Open WinSCP and configure:

File protocol: SCP

Hostname: raspberrypi.local or your Pi's IP address

Username: pi

Password: raspberry (default, change if needed)

After logging in, navigate to:

```
/home/pi/RetroPie/roms/
```

Drag and drop your ROMs into the appropriate folder (e.g., nes, snes, etc.)

Restart your Raspberry Pi to see the new games.

macOS/Linux with Terminal (SCP)

If you are using macOS or Linux, open a terminal and use:

```
scp yourgame.rom pi@<raspberrypi_ip>:/home/pi/RetroPie/roms/nes/
```

Replace <raspberrypi_ip> with your actual Pi's IP address and yourgame.rom with your actual file name.

3 RetroPie Web Interface

RetroPie includes a simple web manager that lets you upload ROMs using your browser.

Requirements

Raspberry Pi with RetroPie installed

Web browser (on the same Wi-Fi network)

Web Manager enabled

Install RetroPie Web Manager

Open a terminal on your Raspberry Pi and run:

```
cd RetroPie-Setup sudo ./retropie_setup.sh
```

Navigate the setup script:

Manage Packages -> Manage core packages -> retropie-manager -> Install from source or binary

Once installed, start the web manager with:

```
sudo systemctl start retropie-manager
```

Access Web Manager from Browser

Find your Pi's IP address:

```
hostname -I
```

On your browser, go to:

http://<your_pi_ip>:8000

Replace <your_pi_ip> with your Raspberry Pi's IP.

Click on the "ROMs" section.

Choose the console folder and click "Upload ROM".

4 Samba (Network Shared Folders - Windows/macOS)

Requirements

Raspberry Pi on the same network

Windows or macOS computer

Enable (if needed):

```
sudo apt update  
sudo apt install samba samba-common-bin
```

From Windows

Open File Explorer

Type in address bar:

`\raspberrypi\`

Open roms folder and copy ROMs into it.

From macOS

Open Finder > Go > Connect to Server...

Enter:

`smb://raspberrypi.local`

Login with pi / raspberry, then open roms and copy files.

5 FTP File Transfer

Requirements

```
Raspberry Pi  
  
FTP client (e.g., FileZilla)
```

Install FTP server

```
sudo apt update  
sudo apt install vsftpd
```

Start the service:

```
sudo systemctl start vsftpd  
sudo systemctl enable vsftpd
```

Connect via FileZilla

```
Host: raspberrypi.local or IP  
  
Username: pi  
  
Password: raspberry  
  
Port: 21
```

Navigate to:

```
/home/pi/RetroPie/roms/
```

And drag your ROMs into the system folder.

Notes

```
Do not rename or delete default folders inside /roms/.  
  
After uploading new ROMs, restart the Raspberry Pi.  
  
Use only legally acquired ROMs or open-source/homebrew games.
```

Helpful Links

- [RetroPie Documentation](#)
- [WinSCP Download](#)
- [SSH Overview](#)
- [Filezilla](#)
- [Samba Ubuntu](#)