

# JackTrip boxes - replication guide

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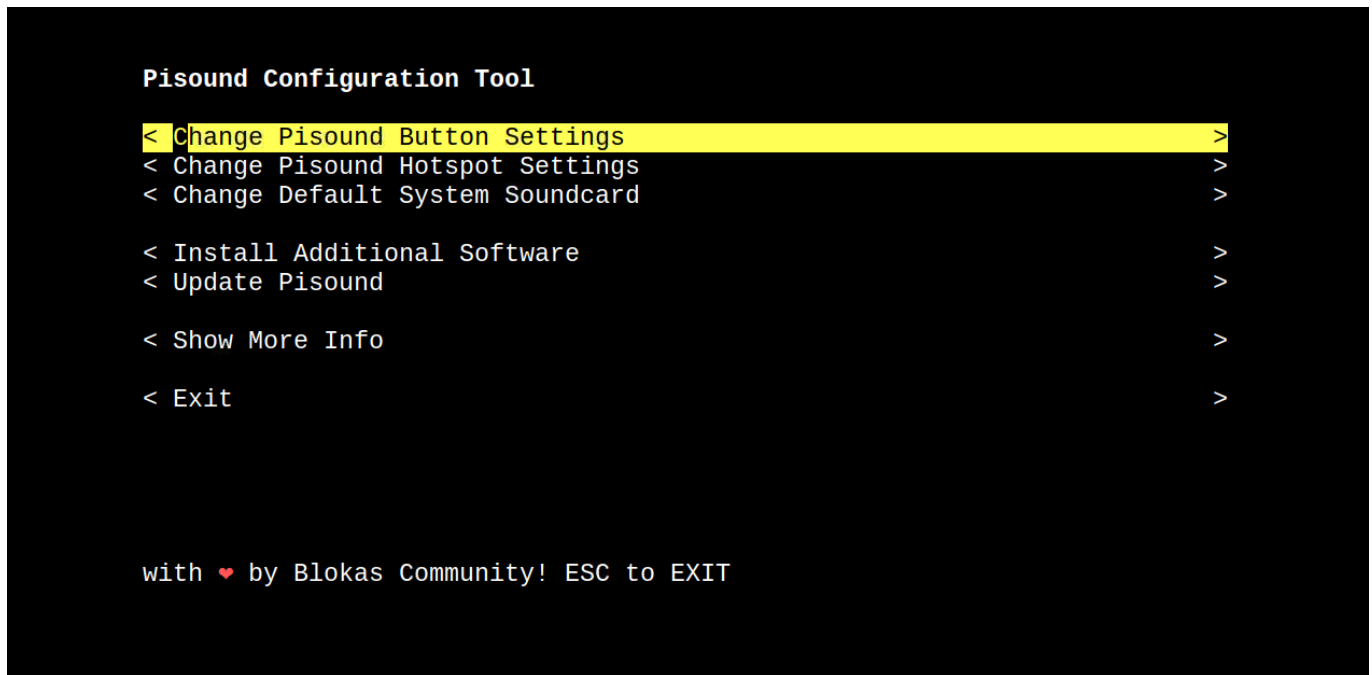
## BOM

To replicate the JackTrip boxes, you'll need:

- 1 Raspberry Pi 4 B 4GB with enclosure
- 1 SD card (min 8GB), and an SD card reader if needed
- 1 power supply compatible with the Raspberry Pi
- 1 audio interface
- 1 USB cable to connect the audio interface
- 1 power supply
- 1 ethernet cable

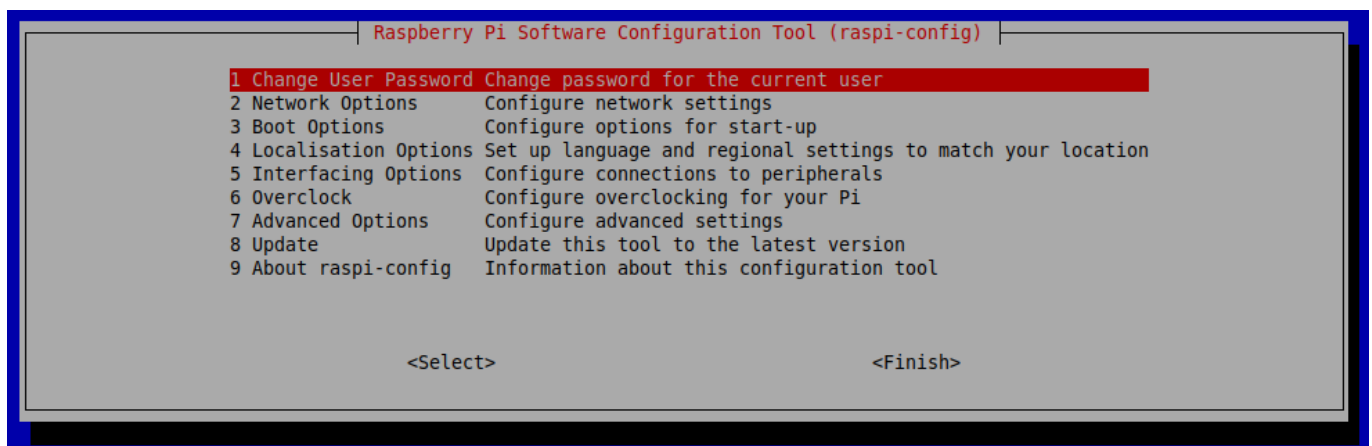
## Hardware assembly

- Follow the instructions available for the Raspberry Pi enclosure purchased. For the first 2 boxes, the enclosure instructions are available at <https://www.canakit.com/pi-case>
- Flash the JackTrip box image (**jacktripbox.img.gz**) into the SD card using [ApplePiBaker](#), [balenaEtcher](#), or diskutil (dd).
- Put the SD card on the JackTrip box, connect the audio interface/cables according to the [user guide](#), and turn the Raspberry Pi on. You can use a monitor, keyboard to control the JackTrip box during setup. It is also possible to connect to the JackTrip box using *ssh*.
- Enter PiSound configuration: `sudo pisound-config`
  - Change Pisound HotSpot settings:
    - ssid: **jacktrip00X** (use SPU's ID)



(image source: [PiSound documentation](#))

- Enter Raspi-Config: `sudo raspi-config`
  - System options:
    - Hostname: `jacktrip00X` (use chosen ID)



(image source: [Raspberry Pi documentation](#))

## Configuring Jack

If the user wants to replace the audio interface or try different settings, we can run the `patchbox` command and change the Jack audio configuration.

The recommended configuration for the Scarlett Solo is `Sr=48000, bs=128, period=3`. More aggressive configurations can be tested in faster networks, as the Scarlett Solo can use `Sr=96000, bs=128, period=2` locally without any issues.

## Setting the server IP for JackTrip client boxes

- Edit the `jacktrip_client.service` file: `nano ~/.config/systemd/user/jacktrip_client.service`

- Replace the IP at the line `ExecStart=/home/patch/sources/jacktrip/buildddir/jacktrip -c 192.168.1.1 --clientname jacktrip_client` for the new IP address
- Save the file (Ctrl+O, then hit ENTER in *nano*) and exit (Ctrl+X in *nano*).
- Update the systemctl daemon: `systemctl --user daemon-reload`
- Restart the service: `systemctl --user restart jacktrip_client.service`
- To check connection (if the server is available and accessible through the given IP): `systemctl --user status jacktrip_client.service`