

Manual for Telephone Bell

Box Contents

- 1x Raspberry Pi 3 Model B
- 1x 32 GB SD card
- Black and Brown wires for foot pedal
- Black, White and Brown wires for debug console
- USB Mini to USB-A cable
- 2 A USB AC adapter
- 3.5 mm stereo audio cable
- Two alligator clips

Wire connections

- Raspberry Pi GPIO 4 pin to tip of ¼” pedal cable
- Raspberry Pi Ground pin to sleeve of ¼” pedal cable
- Black UART Ground wire to Raspberry Pi Ground pin
- White UART TX wire to Raspberry Pi UART TX pin
- Brown UART RX wire to Raspberry Pi UART RX pin
- 3.5 mm headphone cable from Raspberry Pi to portable speaker
- Micro USB to 2 A AC adapter
- Giant enter button to Raspberry Pi USB-A

Operation

Foot pedal down is a vintage Western Electric telephone bell.

Foot pedal down + punch giant enter button rings bell and starts playing wakeup.wav file. This file can be anything in the wav format. As of this writing it is the song Chop Suey by System of a Down.

Punching the button alone does nothing. Talk to Lee to change this behavior. If you can't find Lee, you'll want to edit the file sample-player.py. Remote source code is also on <http://github.com/lazzarello/bell-ringer>

Debug connections

The USB to serial connector can be connected from the UART pins (see wire connections) to a PC. With the screen utility, you can get a shell on the device and even see the kernel boot logs! Do so with

```
screen /dev/ttyUSB0 115200
```

The filesystem is in read-only mode for power loss safety. To enter write mode, run `sudo raspi-config` and choose Performance Options / Overlay File System, reboot, followed by the same menu to put /boot into writable mode. Reboot a second time. Change files.

Wifi is disabled, ethernet is enabled with DHCP. If you have an ethernet switch or a PC with a DHCP server, you can ssh to the device at hostname `bell-ringer.local` with username “pi” and password “raspberry”.