

Build Instructions - Game Gear

Software Setup

1. **Download the Raspberry Pi Image from [here](#) and flash it onto a Micro SD card using [Balena Etcher](#) before inserting it into the Raspberry Pi.**

Hardware Assembly

1. **Solder the header pins onto the Pi and PCB. Refer to the Bill of Materials as well as the images below of the PCBs to determine where to attach the header pins.**
 - a. **The header pins for the Pi go on the main GPIO header found on the board.**
 - b. **The header pins for the PCB go in the spots labeled “Conn_***_Pin” on the PCB diagrams below.**

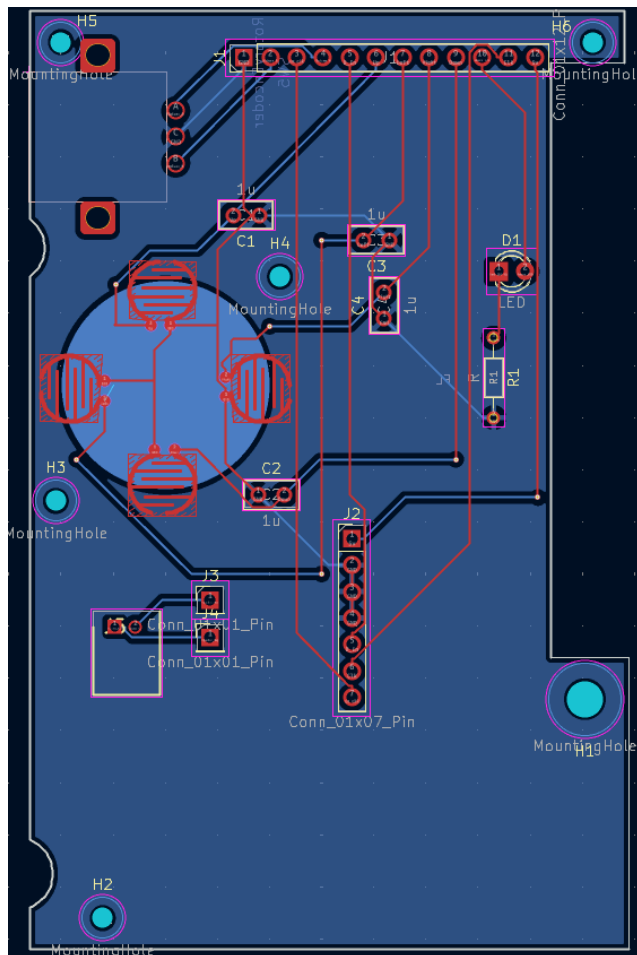


Figure 1: Left PCB.

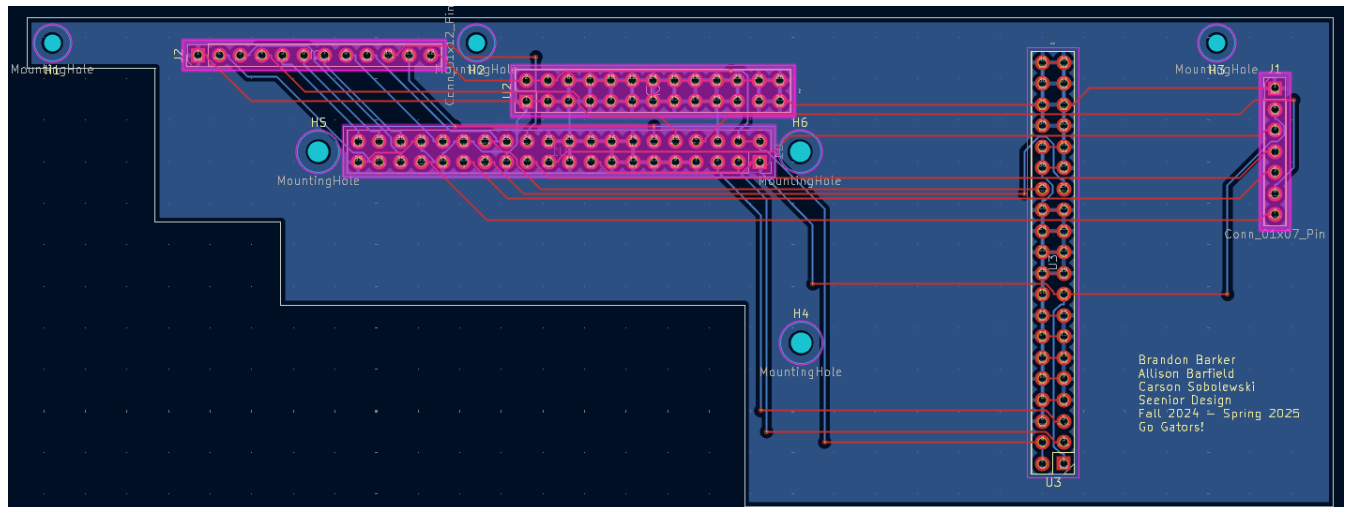


Figure 2: Center PCB.

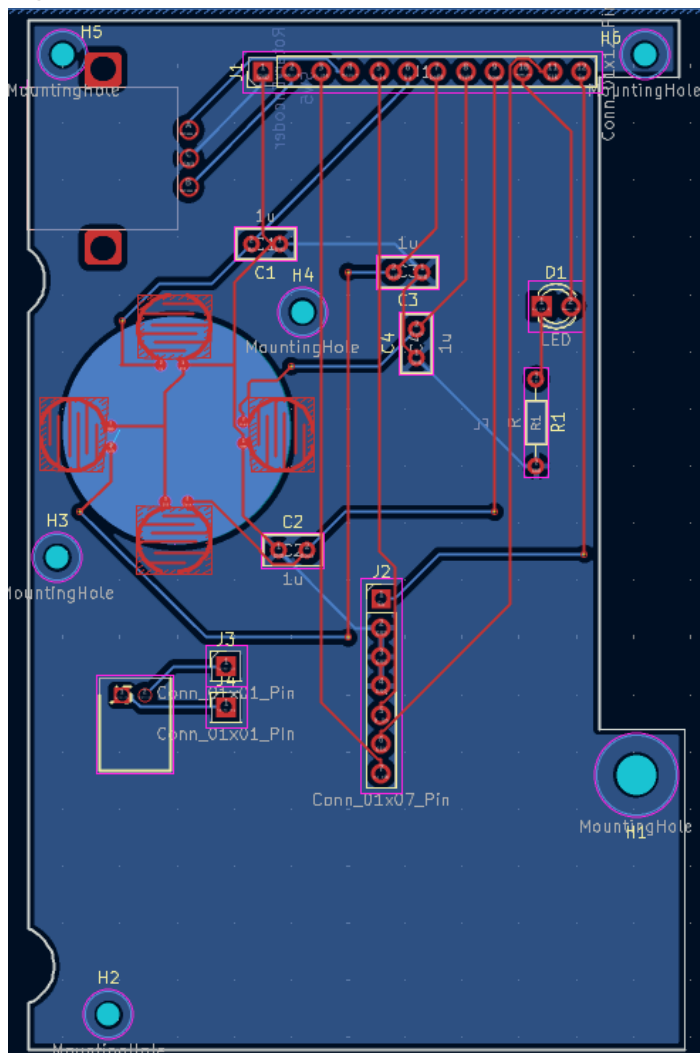


Figure 3: Right PCB.

2. Place and solder all components to the PCB according to the Bill of Materials. Most components are labeled with their corresponding identifiers on the PCB, indicating where they go. For all others, refer to the above images or the PCB design files on GitHub directly.
3. Solder the power switch to one end of wires and solder the other end to the J5 header on the PiJuice board as shown below.

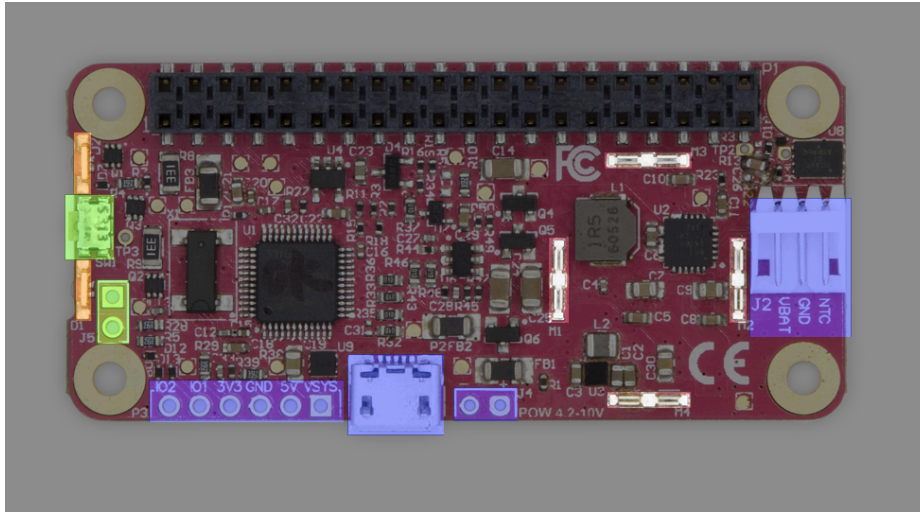


Figure 4: Wires for the power switch should be soldered to J5, highlighted in green on the left.

4. Attach the PCBs to the case using the mounting holes shown below.

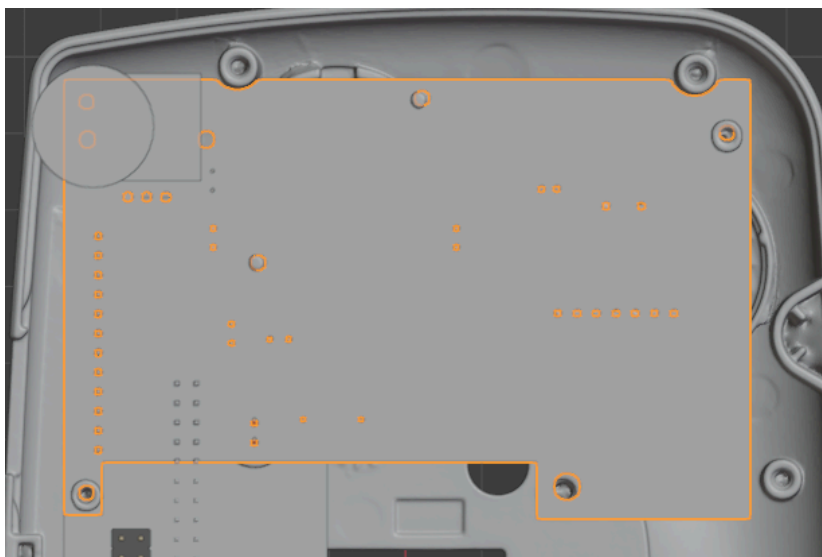


Figure 5: PCB holes align with mounting holes on the front of the case.

5. Attach the screen via an HDMI ribbon cable to the Pi's HDMI port.

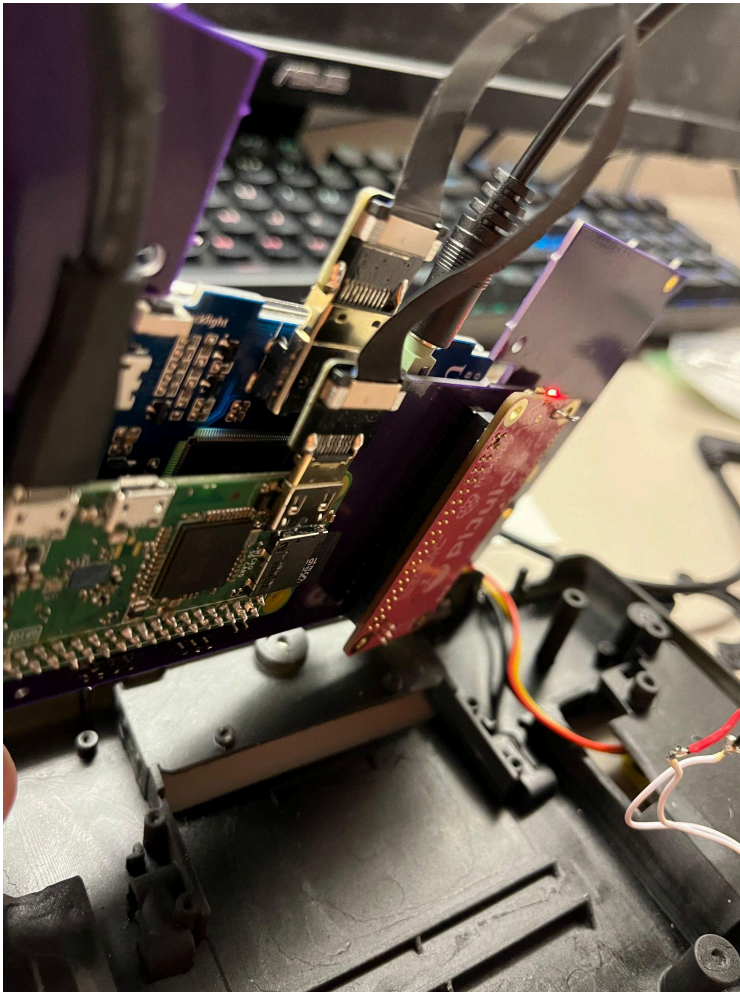


Figure 6: HDMI ribbon cable connection.

- 6. Solder the speaker wires to the audio jack cable and plug it into the screen.**

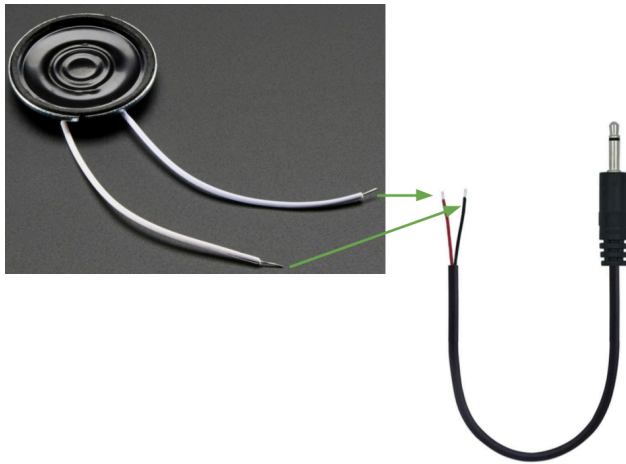


Figure 7: Diagram for soldering the speaker to the two-wire aux adapter, allowing easy connection to the HDMI screen.

- 7. Connect the cartridge slot to the JoeyGG reader and attach via a USB-C cable.**



Figure 8: Cartridge slot soldered to JoeyGG reader, running a "Sonic the Hedgehog" cartridge.

8. Route the charging cable to the outside of the case.

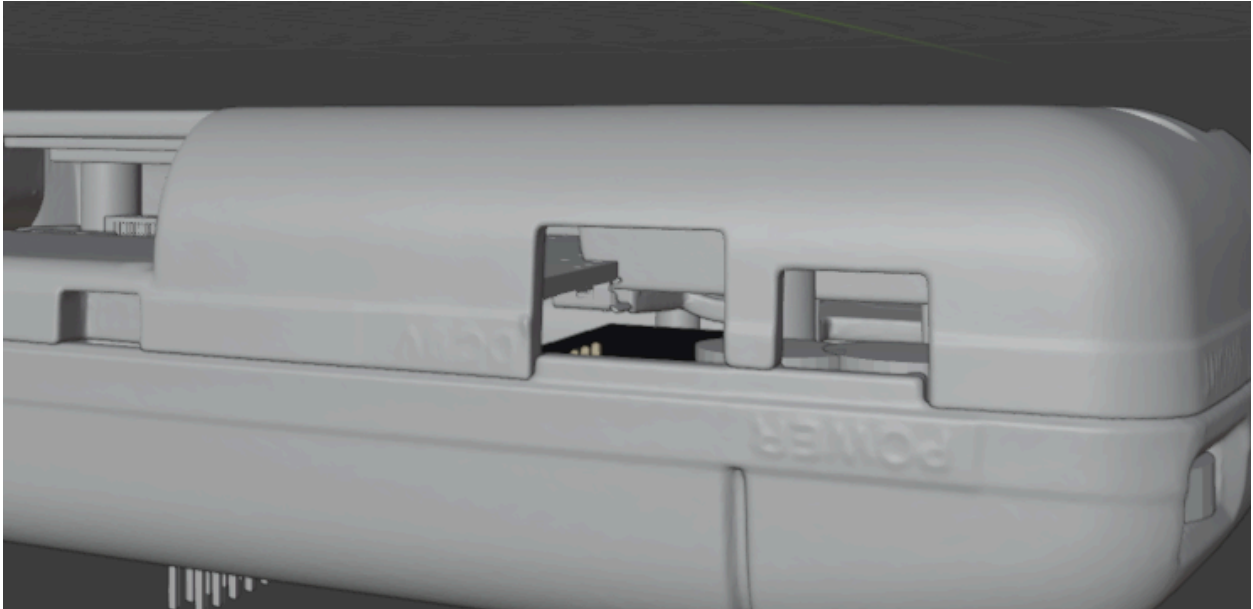


Figure 9: The charging cable route is here next to the power switch.

9. Power on the system with the power switch.



Figure 10: Splash Screen indicates that the system is successfully booting.

10. Plug in a cartridge to test.



Figure 11: The cartridge will automatically boot on insertion.

11. Close the case by attaching the back shell and screwing it to the front shell.