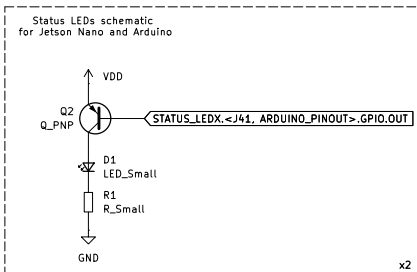
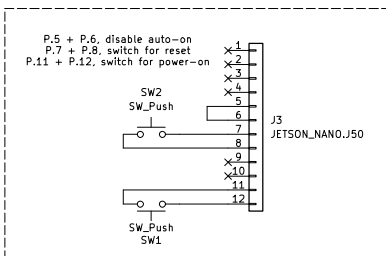


Jetson Nano Wiring



Developer Kit Module Interfaces

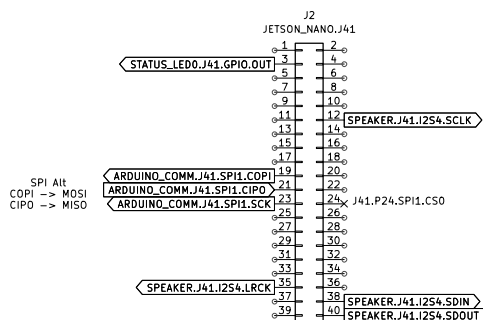
Interface/Type	Device Connected
JETSON_NANO.J13CSI	Raspberry Pi Camera Board v2 - 8MP (Adafruit #3099)
JETSON_NANO.J6/HDMI	TFP401 HDMI/DVI Decoder (Adafruit #2218)
JETSON_NANO.J32.PORT1/USB	LCD Display (Adafruit #1680)
JETSON_NANO.J33.PORT1/USB	Wifi Dongle (TP-Link)
JETSON_NANO.J33.PORT1/USB	Microphone (Sparkfun COM-18488) - Potentially use USB extender to physically place in the proper spot.

SPI Resources
- <https://learn.sparkfun.com/tutorials/serial-peripheral-interface-spi/all>

Audio Resources
- <https://www.sparkfun.com/sparkfun-i2s-audio-breakout-max98357a.html>
- <https://www.sparkfun.com/usb-2-0-mini-microphone-dongle.html>

Screen Resources
- <https://www.adafruit.com/product/1680>
- <https://www.adafruit.com/product/2218>

Camera Resources
- <https://marketplace.nvidia.com/en-us/enterprise/robotics-edge/?category=cameras&page=1&limit=15>
- <https://developer.nvidia.com/blog/selecting-the-right-camera-for-the-nvidia-jetson-and-other-embedded-systems/>
- <https://www.adafruit.com/product/3099>



To Do List

- Circuits to Build
- * Jetson Nano (done)
 - Power, reset buttons (done)
 - Camera (done)
 - Screen (done)
 - Audio (done)
 - Microphone (done)
 - Status lights (LEDs) (done)
 - Internet (done)
 - * Arduino/Jetson interface (done)
 - Arduino (done)
 - pot/knob controller (done)
 - Servo limit switch (done)
 - Servo Driver (done)
 - Status Lights (done)
 - * Power System (todo)

Sub-Circuits

audio

File: audio.kicad_sch

arduino

File: arduino.kicad_sch

Microphone Investigation

Currently, we have the OSEPP Sound Sensor Module, that gives us an analog voltage reading of the current environmental noise. We would need to pass these values back which would be a bit of a pain. Or if we want the Jetson nano to analyze them.

Note also the OSEPP sound sensor is made for sound ranges 10-55Hz, whereas human noise is in the -90-155Hz for male.

I think the better path would be to get a USB microphone so that it can be directly recorded through the Jetson Nano. Instead of trying to pass analog values back to the Jetson nano

Alexander Adranly

Sheet: /
File: radiohead-sys.kicad_sch

Title: Radiohead Animatronic

Size: A4 Date: 2025-03-28
KiCad E.D.A. 9.0.0

Rev: 1
Id: 1/3

