Camera

[Camera datasheet | Coral](https://coral.ai/docs/camera/datasheet/) \*\*\* decided

[Microsoft Word - HM01B0-MNA-00FT870\_DS\_preliminary\_v01 (Ltd.)\_FX01FF-608H-1-20191114.docx (digikey.com)](https://mm.digikey.com/Volume0/opasdata/d220001/medias/docus/4886/HM01B0-MNA-00FT870.pdf)

Camera Algorithm help

[Accurate detection and identification of insects from camera trap images with deep learning | PLOS Sustainability and Transformation](https://journals.plos.org/sustainabilitytransformation/article?id=10.1371/journal.pstr.0000051)

[tensorflow - How to embed/deploy an arbitrary machine learning model on microcontrollers? - Artificial Intelligence Stack Exchange](https://ai.stackexchange.com/questions/25775/how-to-embed-deploy-an-arbitrary-machine-learning-model-on-microcontrollers)

Possible Micro Controller

[Data Sheet (nuvoton.com)](https://www.nuvoton.com/export/resource-files/DS_M0A21_M0A23_Series_EN_Rev1.01.pdf)

(we need a MCU with SPC and integrated graphics) the one above does not contain graphics

[Dev Board datasheet | Coral](https://coral.ai/docs/dev-board/datasheet/) \*\*\*decided

Motion Sensor

[101020060 Seeed Technology Co., Ltd | Development Boards, Kits, Programmers | DigiKey](https://www.digikey.com/en/products/detail/seeed-technology-co.,-ltd/101020060/5487425?utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=PMax%20Shopping_Product_Low%20ROAS%20Categories&utm_term=&utm_content=&gclid=Cj0KCQjwvL-oBhCxARIsAHkOiu3pTNt5nY33O8l-pwUMkChnkbFDEz5wkp06q4mX2NTB6Fc5CSsVDVAaAuHIEALw_wcB)

Speaker info

Rats to 60-72 kHz. Insects like Mosquitoes, Flies hate frequencies around 38-44 kHz.

(lizards, rodents, and flies react to separate frequencies: 52-60kHz, 60-72kHz, and 38-44kHz respectively)

[Assessment of short-term exposure to an ultrasonic rodent repellent device | The Journal of the Acoustical Society of America | AIP Publishing](https://pubs.aip.org/asa/jasa/article/144/4/2501/598840/Assessment-of-short-term-exposure-to-an-ultrasonic)

[Ultrasonic Frequencies For Repelling Insects & PestsBack ButtonSearch IconFilter Icon (electroschematics.com)](https://www.electroschematics.com/ultrasound-and-insects/#:~:text=Ultrasound%20pest%20chasers%20are%20designed,responds%20to%2038%2D44%20kHz.)

[CUSA-TR50-05-2000-W68 Datasheet - Ultrasonic Transceivers | Ultrasonic Sensors | CUI Devices](https://www.cuidevices.com/product/resource/cusa-tr50-05-2000-w68.pdf) -56kHz

[Ultrasonic Xmtr 40khz 120db - 255-400ST16-ROX (electromaker.io)](https://www.electromaker.io/shop/product/ultrasonic-xmtr-40khz-120db?srsltid=AfmBOoo99hqRPxKjFQ7_dZ5HuYBjXTGcAm-PhanVGzbRtJJ8H81oafzWfYE)

[BOOSTXL-TUSS4470 Ultrasonic Transducer EVM - TI | Mouser](https://www.mouser.com/new/texas-instruments/ti-boostxl-tuss4470-evaluation-module/)

[400ST/R160 (mouser.com)](https://www.mouser.com/datasheet/2/911/T400S16-1369697.pdf) ***Mfr. Part #***[400SR16M](https://www.mouser.com/ProductDetail/Pro-Wave-Electronics/400SR16M?qs=gTYE2QTfZfQyvQRhg8yGxA%3D%3D)

[web (mouser.com)](https://www.mouser.com/datasheet/2/911/T400S10-1369632.pdf) ***Mfr. Part #***[400SR10P](https://www.mouser.com/ProductDetail/Pro-Wave-Electronics/400SR10P?qs=gTYE2QTfZfS2JpP4EseLOw%3D%3D) - 40kHz

PUI audio UTR-1440K-TT transducer ←– probably this one(center frequency 40KHz)

Signal generator

AD9850 DDS

Battery - <https://www.digikey.com/en/products/detail/jauch-quartz/LI18650JP2S2P-PCM-2-WIRES-70MM/9562752>

Pest Research- <https://www.electroschematics.com/ultrasound-and-insects/#:~:text=Insect%20and%20pest%20repellent%20frequencies%201%20Dogs%3A%2022-25,38-44%20kHz%208%20Lizards%3A%2052-60%20kHz%20More%20items>