RaspberryPI Black Box

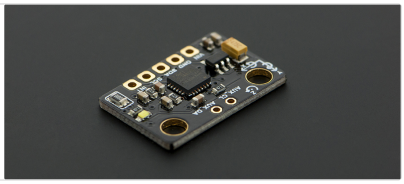
Accelerometer

MPU-6050

Fermion: MPU-6050 6 DOF Sensor (Breakout)

At the beginning, the inertial measurement unit is an electronic device that measures and reports on a craft's velocity, orientation, and gravitational forces.

https://www.dfrobot.com/product-880.html



BMI270

See an error? ※ Please confirm the specifications of the products when ordering. ※ MOQ means the minimum order quantity required to purchase each parts.※ If you have special order instructions,please note it on the ordering pages.※ The Pre-Shipment Inspection (PSI) will be applied.※ Registered users

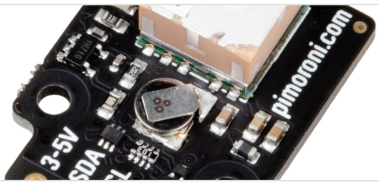
https://www.win-source.net/bosch-sensortec-bmi270.html

GPS

PA1010D GPS Breakout

Let your project know its place in the world with this tiny but ultra-sensitive global positioning breakout! View our full Breakout Garden range here!

https://thepihut.com/products/pa1010d-gps-breakout



https://github.com/pimoroni/pa1010d-python

Stable library and dependencies from GitHub:

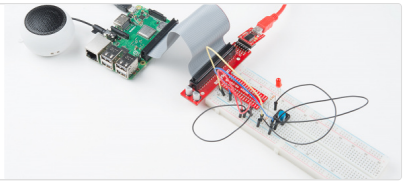
- `git clone https://github.com/pimoroni/pa1010d-python`
- `cd pa1010d-python`
- `sudo ./install.sh`
- SDA = GPIO 2 = pin3
- SCL = GPIO 3 = pin 5

Audio

Python Programming Tutorial: Getting Started with the Raspberry Pi

The Raspberry Pi is an amazing single board computer (SBC) capable of running Linux and a whole host of applications. Python is a beginner-friendly programming language that is used in schools, web development, scientific research, and in many other industries.

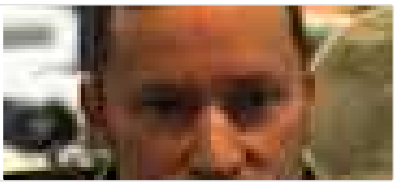
https://learn.sparkfun.com/tutorials/python-programming-tutorial-getting-started-with-the-raspberry-pi/experiment-2-play-sounds



Pygame Mixer Not Available - Raspberry Pi Forums

NotImplementedError: mixer module not available (ImportError: libSDL2_mixer-2.0.so.0: cannot open shared object file: No such file or directory)

https://forums.raspberrypi.com/viewtopic.php?t=301672



How to output audio signals through GPIO?

The audio jack channels (left and right) are provided by PWM driven GPIO (channel 0 by GPIO 12 or 18, and channel 1 by GPIO 13 or 19). So if you connect appropriate circuitry to those GPIO you will get audio. See BCM2835 ARM Peripherals for details on the GPIO and PWM peripheral.

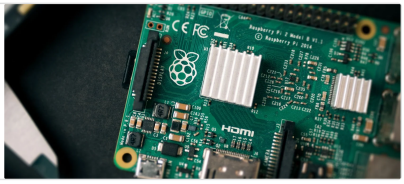
https://raspberrypi.stackexchange.com/questions/49600/how-to-output-audio-signals-through-gpio

Power off button

How to Add a Power Button to Your Raspberry Pi

It might be a fantastic, flexible little computer, but the Raspberry Pi has one key flaw: the lack of a power button. Missing a standard on/off switch can lead to problems; thankfully, you can add your own Raspberry Pi power button. Two choices are available: a DIY power button, or one you purchase.

https://www.makeuseof.com/tag/add-power-button-raspberry-pi/



Raspberry Pi Shutdown/Reset/Start Button

Shutting down a Raspberry Pi by cutting the power while it is still running is not recommended and it can lead to data corruption. The Raspberry Pi does not have a built-in shutdown/reset button, but thankfully it is fairly simple to wire one up. Note: info below applies to B+ and probably rev 2 A/B boards.

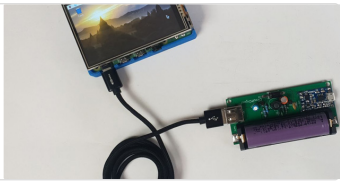
https://gilyes.com/pi-shutdown-button/

UPS/BMS

DIY Raspberry Pi UPS - An Uninterrupted Power Supply to Keep your Pi Safe during Power Failure

Raspberry Pi is a small or mini-computer that can be used in different types of small to large embedded, IoT, Industrial IoT applications. As this is a computer that could run different operating systems, a shutdown of this minicomputer is an important thing to ensure that everything is saved, the operating system properly ended all

https://circuitdigest.com/microcontroller-projects/diy-raspberry-pi-ups-hat-an-uninterrupted-power-supply-to-keep-your-pi-safe-during-power-failure



5V 3A UPS Power Supply For Raspberry Pi Arduino BeagleBoard | Projects | CircuitMaker

CircuitMaker is the best free PCB design software by Altium for Open Source Hardware Designers, Hackers, Makers, Students and Hobbyists.

https://circuitmaker.com/Projects/Details/John-Kovacs-2/5V-3A-UPS-Power-Supply-For-Raspberry-Pi-Arduino-BeagleBoard

LTC4040 5V, 2.5A Uninterruptible Power Supply (UPS) with USB-C

I have had the requirement to back-up small 5V low-powered devices such as a Foscam C1 security camera and a Raspberry PI based LoRaWAN concentrato r. Many commonly available 5V Uninterruptible Power Supplies feature a two chip design with a Li-Ion battery charger to charge the

https://www.beyondlogic.org/ltc4040-5v-2-5a-uninterruptible-power-supply-ups-with-usb-c/

Other:

- DIY LiPo Charge/Protect/5V Boost Circuit, Great Scott. Video
  - MT3608, Boost converter IC.
  - FS123F, One Cell Lithium-ion/Polymer Battery Protection IC
  - TP4056, Once Cell Battery Charge IC.

- DIY BMS (Battery Management System), Great Scott. Video
  - DW01A, Battery Protector IC
  - HY2213, Battery Charge Balance IC
  - Over current short circuit protection MOSFETs

- DIY LiPo Supercharger! (Charge, Protect, 5V/12V Boost V2). Video

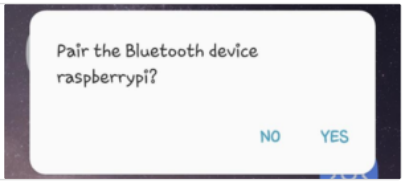
NFC

NFC Bluetooth

Setting Up Bluetooth OOB Pairing with NFC on Raspberry Pi

This post shows steps to setup Bluetooth Out-Of-Band (OOB) pairing using NFC [1] on Raspberry Pi using nfcpy [2]. The goal is to pair a phone and Raspberry Pi by just touching each other. Prerequisites (parentheses indicate my environment) pip install -U nfcpy 1-2. Verify installation by running the module.

https://scribles.net/setting-up-bluetooth-oob-pairing-with-nfc-on-raspberry-pi/

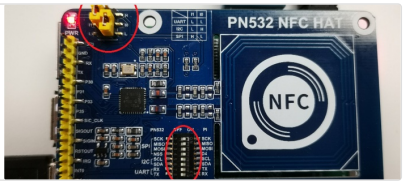


PN532 Hat

PN532 NFC HAT

PN532 NFC HAT PN532 NFC HAT for Raspberry Pi, I2C / SPI / UART Primary Attribute Category: Brand: Waveshare Website International: website Chinese: This is a Raspberry Pi NFC HAT based on PN532 operating in the 13.56MHz frequency range. It supports three communication interfaces: I2C,

https://www.waveshare.com/wiki/PN532_NFC_HAT



Raspberry Pi: clean install of NFCPY

NFCPY is a Python library allowing for Near Field Communications readers to be accessed directly from Raspberry Pi. As part of a project I am working on, I needed to install this library on a clean Raspbian install of a Raspberry Pi.

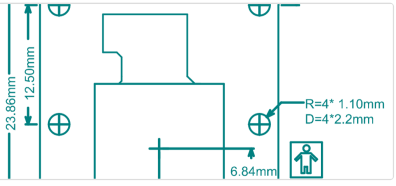
https://khekker.blogspot.com/2014/01/raspberry-pi-clean-install-of-nfcpy.html

Dual Cameras

Pivariety IMX219 8MP*2 360 Degree Panoramic Camera Module - Arducam

Arducam Pivariety is a Raspberry Pi camera solution to take the advantage of using its hardware ISP functions. Using Arducam Pivariety camera modules, users can get better performance and a wider variety of camera, lens options. For a long time, Raspberry Pi users are limited to use the closed-source

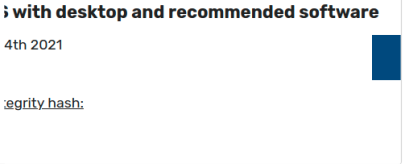
https://www.arducam.com/docs/cameras-for-raspberry-pi/pivariety/pivariety-imx219-8mp2-360-degree-panoramic-camera-module/



How to install and build Raspberry Pi Kernel Driver for Arducam Pivariety Camera

In order to ensure the normal working of the hardware, the driver needs to operate according to standard procedures. These operations are cumbersome. Generally, only the hardware manufacturer understands the specific details. One of the main tasks of the driver is to ensure that the hardware

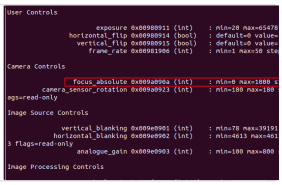
https://www.arducam.com/docs/cameras-for-raspberry-pi/pivariety/how-to-install-kernel-driver-for-pivariety-camera/



How to access and program the Pivariety Camera using Command Line, Python, OpenCV, and GStreamer

Contents1. libcamera-dev and libcamera-apps Installation1.1. Use pre-compiled binaries1.1.1 Install libcamera1.1.2 Install libcamera-apps1.2. Build from the source code1.2.1 Install dependency1.2.2 Download and compile libcamera1.2.3 Download and compile libepoxy1.2.4 Download and compile libcamera-apps1.2.5 Select the correct

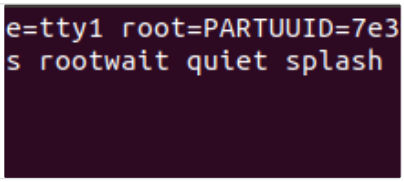
https://www.arducam.com/docs/cameras-for-raspberry-pi/pivariety/how-to-access-and-program-the-pivariety-camera-using-command-line-python-opencv-and-gstreamer/



Troubleshooting - Arducam

3:45:35.833744413] [6019] INFO RPI raspberrypi.cpp:611 Sensor: / base/soc/i2c0mux// - Selected mode: 5344×4012-pRAA [3:45:35.948442507] [6019] ERROR V4L2 v4l2_videodevice.cpp:1126 /dev/video14[17:cap]: Unable to request 4 buffers: Cannot allocate

https://www.arducam.com/docs/cameras-for-raspberry-pi/pivariety/troubleshooting/



RaspberryPI SPI

I want to use spi0 and spi1 at the same time

Raspberry Pi Stack Exchange is a question and answer site for users and developers of hardware and software for Raspberry Pi. It only takes a minute to sign up. Sign up to join this community I want to use LCD and mcp3208 simultaneously. spi0(gpio8,9,10,11) is port for LCD and spi1(gpio16,19,20,21) is port

https://raspberrypi.stackexchange.com/questions/61430/i-want-to-use-spi0-and-spi1-at-the-same-time

- add this to /boot/config.txt and reboot

https://github.com/codebugtools/codebug_tether/issues/17