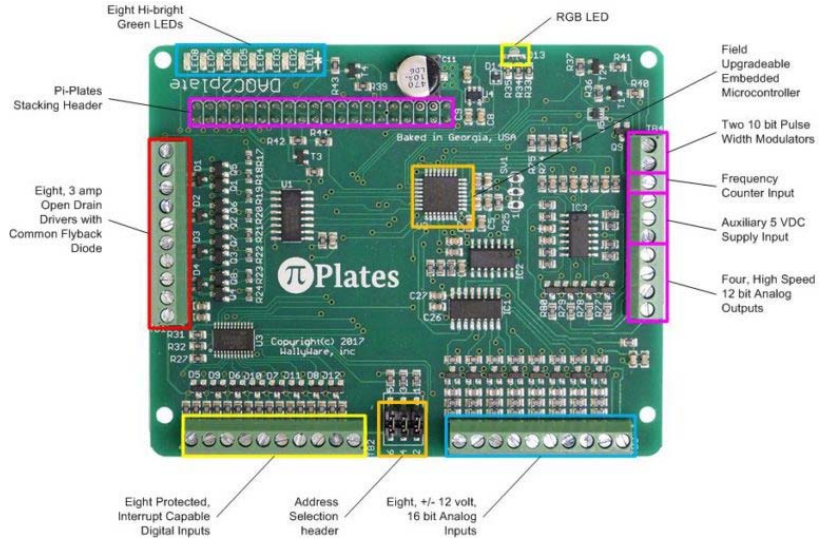
DAQC2plate



DAQC2plate

Affordable high precision multifunctional Data Acquisition and Controller board.

The Pi-Plates DAQC2plate (DAC-SEE-Too) builds upon our highly successful DAQCplate by adding greater precision, more power and more features. It includes 8 extremely powerful digital outputs for driving external devices such as relays and high current LEDs as well as eight, 16 bit, ±12 volt analog to digital inputs for precision measurements of temperature, voltage, humidity, and more. In addition there are eight digital inputs, four high speed 12 bit analog outputs (DACs), two 10 bit pulse width modulators, a dedicated input for measuring frequency, and eight general purpose indicator LEDs. Because of the speed of the DAQC2plate, it can be used as a basic digital oscilloscope or two channel function generator. Because of its precision, it can be used as scalable data logger. And, because of its power, it can be used as a dual stepper motor controller. All of the software that provides these applications is free to download. The datasheet below contains all of the features of this versatile board:

General

- Dedicated onboard processor
- Provides real time data collection
- Allows for future code updates
- Uses the SPI signals, CE1 and two dedicated GPIO pins (16 & 22)[1]
- All features accessible via rich Python command set
- Compatible with all versions of Raspberry Pi
- Design allows up to eight DAQCplates to be stacked together for eight times the I/O
- Uses less than 20mA of DC current during standby[2]
- Conforms to ROHS, FCC Part 15 Class A, and CE standards
- All inputs and outputs ESD and overvoltage protected
- Protects your Raspberry Pi while providing enhanced I/O
- Includes programmable RGB LED
- Each DAQC2plate is 100% tested and calibrated
- Detailed Online Users Guide with Examples
- Dimensions: 100mm long x 80mm wide X 20mm high

Analog Inputs

- Eight protected inputs
- -12 to +12V input range
- 16 bit resolution
- Dedicated channel for measuring power supply voltage
- Factory calibrated to +/- 2 LSBs

Analog Outputs

- Four protected outputs
- 0 to 4.096V output range
- 12 bit resolution

Digital Inputs

- 8 protected inputs
- 3.3 and 5.0 logic compatible
- Can be polled or programmed to generate an interrupt on change[3]

Open Collector Outputs

- 8 Outputs
- Indicator LEDs on each output
- 3A sink current for each channel
- Built in flyback current protection
- Maximum load voltage of 30VDC

Pulse Width Modulators

- Two protected independent outputs
- 10 bits of resolution

Auxiliary Input Power

- Allows use of more powerful and better regulated 5VDC power supply
- Reverse polarity protected

Free Applications

- Two Channel Digital Oscilloscope with up to 1 Mhz Sample Rate
- Two Channel Function Generator
- Data Logger with Viewer and Streaming Functions
- Two port Stepper Motor Controller
- Dashboard

Compatibility

- DAQCplate
- RELAYplate
- MOTORplate
- CASEplate

Notes

1. More pins may be required if additional features are enabled
2. Current will increase as LEDs are turned on or if 5VDC is used to power open collector loads
3. GPIO 22 is required when interrupts are enabled

Free Downloadable Applications

Dual Stepper Motor Controller	Two Channel Function Generator	Dashboard

Stepper Controller
Stepper 1
Stepper 2
400
200
Step Rate
Whole Half Whole Half
Step Size
CW CCW CW CCW
Jog Direction
-709
385
Move - Step Count
MOVE
MOVE
JOG
JOG
STOP
STOP
OFF
OFF
Running on Address 1
Help
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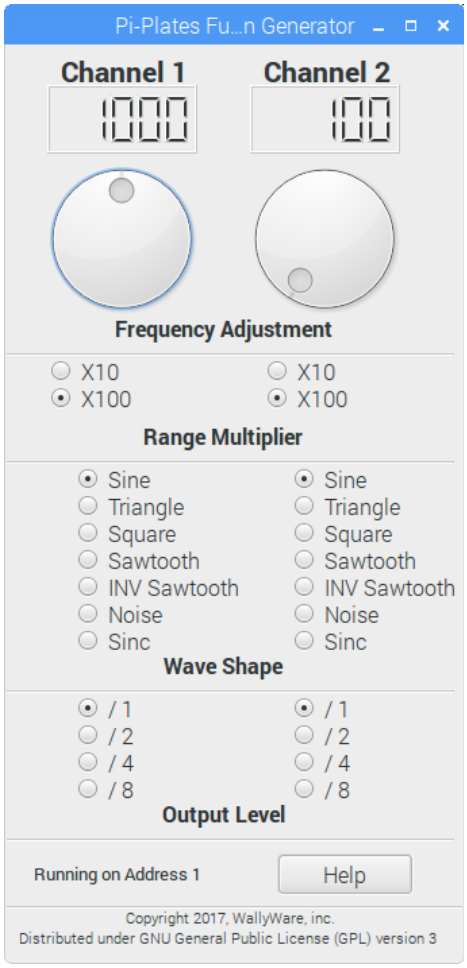
Pi-Plates Fu...n Generator
Channel 1
Channel 2
1000
100
Frequency Adjustment
X10
X100
X10
X100
Range Multiplier
Sine
Triangle
Square
Sawtooth
INV Sawtooth
Noise
Sinc
Wave Shape
/ 1
/ 2
/ 4
/ 8
Output Level
Running on Address 1
Help
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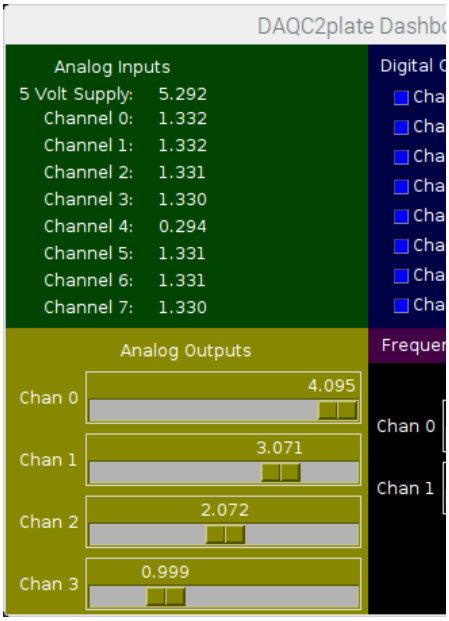
DAQC2plate Dashbo
Analog Inputs
5 Volt Supply: 5.292
Channel 0: 1.332
Channel 1: 1.332
Channel 2: 1.331
Channel 3: 1.330
Channel 4: 0.294
Channel 5: 1.331
Channel 6: 1.331
Channel 7: 1.330
Digital
Analog Outputs
Chan 0
4.095
Chan 1
3.071
Chan 2
2.072
Chan 3
0.999
Chan 0
Chan 1