Smart Breadboard Documentation

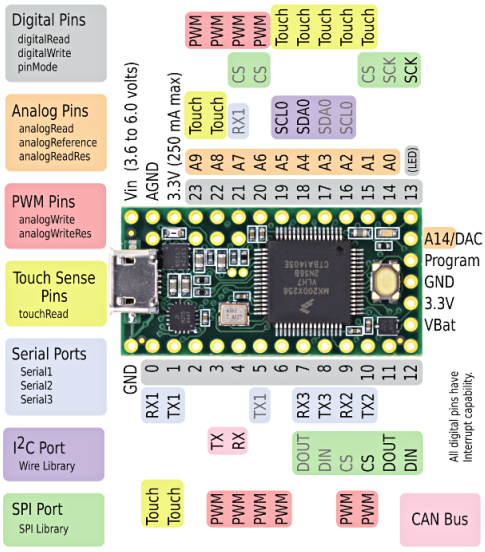
September 16, 2017

1 Pinout

Main		
PCB Board		Teensy Pinout
1	EN	4
2	S0	12
3	S1	11
4	S2	10
5	S3	9
6	S4	A0
7	VCC	3.3 V
8	GND	GND

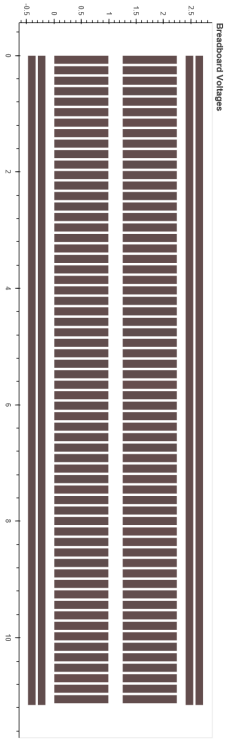
Auxillary		
PCB Board		Teensy Pinout
1	S0	8
2	S1	7
3	S2	6
4	S3	5

Teensy Breakout Board	
Breakout Board	Teensy Pinout
1	3.3 V
2	GND
3	GND
4	A0
5	4
6	5
7	6
8	7
9	8
10	9
11	10
12	11
13	12



2 Description

Left column : 0 - 61
Left NEG rail: 62
Left POS rail: 63
Right column : 64 - 125
Right NEG rail: 127
Right POS rail; 126



Format to control:
Evaluate all nodes:
all*

Evaluate a single node with time:
nodeIndex,samplingRate + "+" + "single"

3 Materials and Assembly Process

3.1 Materials

Quantity	Item Description
9	16-channel multiplexer
9	100k resistor
9	0.1uF capacitor
6	Flat head 4-40 x 5/8" screw
8	Flat head 6-32 x 3/4" screw
8	Acrylic spacers (3.25 mm thick)
8	Nylon spacers 6-32
1	Acrylic sheet clear
1	Teensy microcontroller
256	Pogo pins

3.2 Assembly Process

- Solder the surface mount components to the PCB
- Use another blank PCB board as a rig to solder the pogo pins
- Laser cut the 6mm thick acrylic sheet
- Check with PCB for up/down orientation
- Countersink the acrylic using the mill press
- Tap the 4-40 holes for the solderless breadboard
- Place the 6-32 screws in first and then secure the breadboard using flat head screws (Note: If the acrylic threading could not hold the upward force of the PCB, consider using slightly longer screws and secure with 4-40 nuts.)