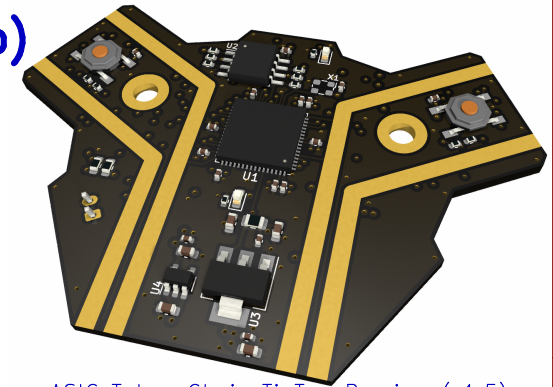


ASIC Tekno Controller Circuit (Tip Top)



ASIC Tekno Chain TipTop Preview (v1.5)

This PCB showcases and uses the ASIC, leveraging caravel to bit-bang a string of APA102C addressable LEDs.

The design here maximizes for pretty, so the idea is to reduce usage of silk and traces on top layer as much as possible.

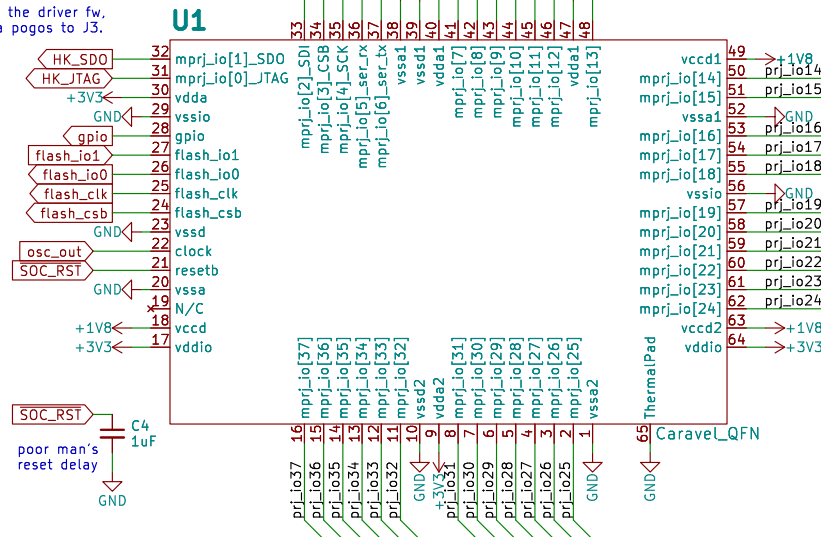
The LEDs behave well, even down to 3v3. Heavy LDO used in case we went there, but feeding off LiPo directly works well.

This version uses FFC connectors but these have proven as reliable as expected in the scenario, and will be swapped out for something more resilient in future iterations.

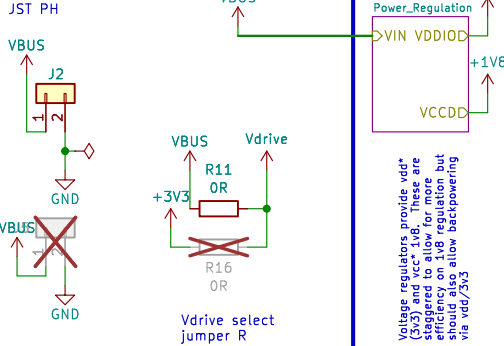
This is an extension of my caravel MVP, that adds in a few switches and connections for addressable LED strip.

LEDs are hosted on two types of chain link modules, angled and straight, according to Adam's design.

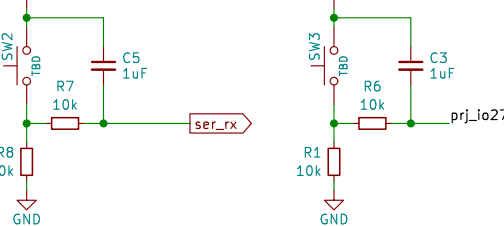
Flash hosts the driver fw, program via pogos to J3.



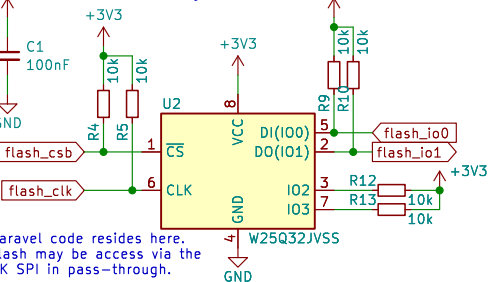
Power Source



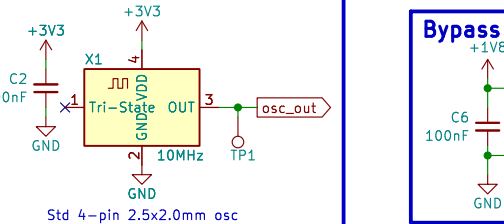
Debounced Switches



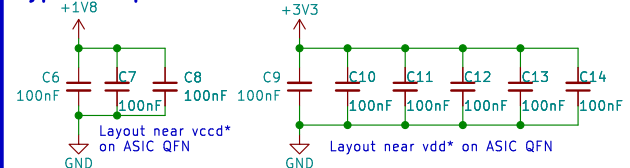
Flash Memory



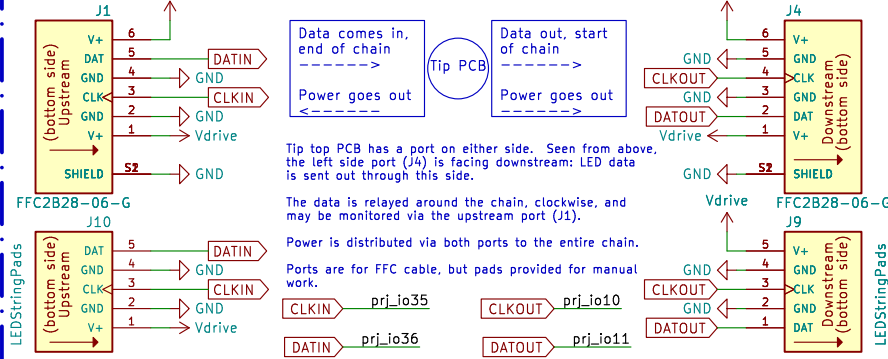
CMOS Clock Osc



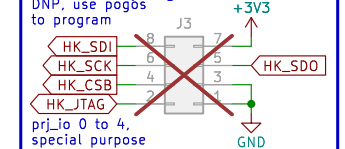
Bypass Caps



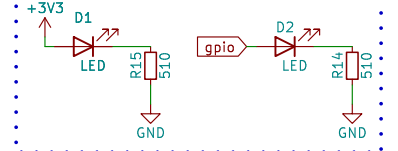
RGB LED Chain Interface Ports



Housekeeping SPI



Power Good and GPIO LED



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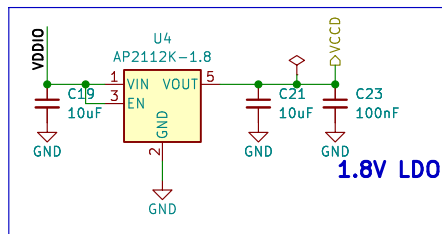
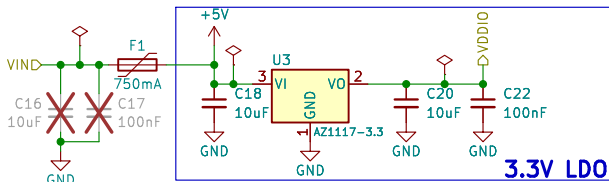
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KiCad E.D.A. kicad 7.0.9-7.0.9-ubuntu22.04.1

Rev: 1.6

Id: 1/2

Voltage Regulators



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Sheet: /Power_Regulation/

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Size: User

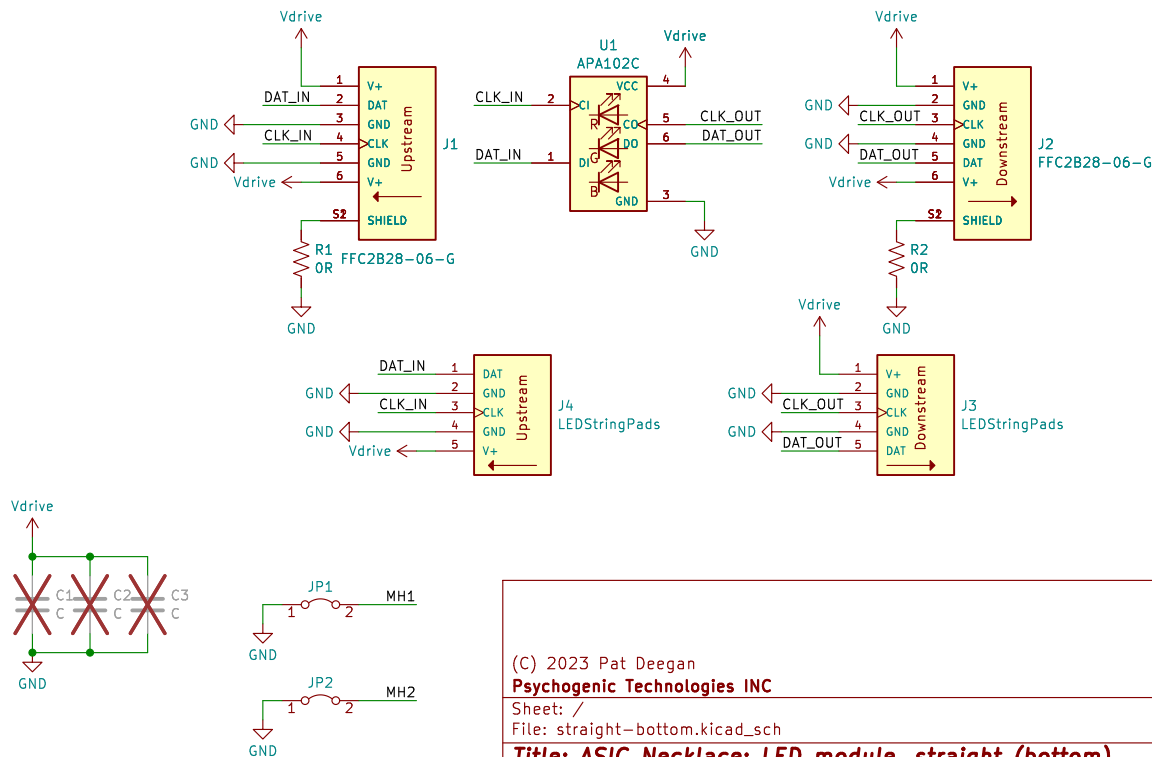
Date: 2023-10-23

Rev: 1.0

KiCad E.D.A. kicad 7.0.9-7.0.9-ubuntu22.04.1

Id: 2/2

ASIC Necklace: LED module, straight (bottom)



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Sheet: /

File: straight-bottom.kicad_sch

Title: ASIC Necklace: LED module, straight (bottom)

Size: User

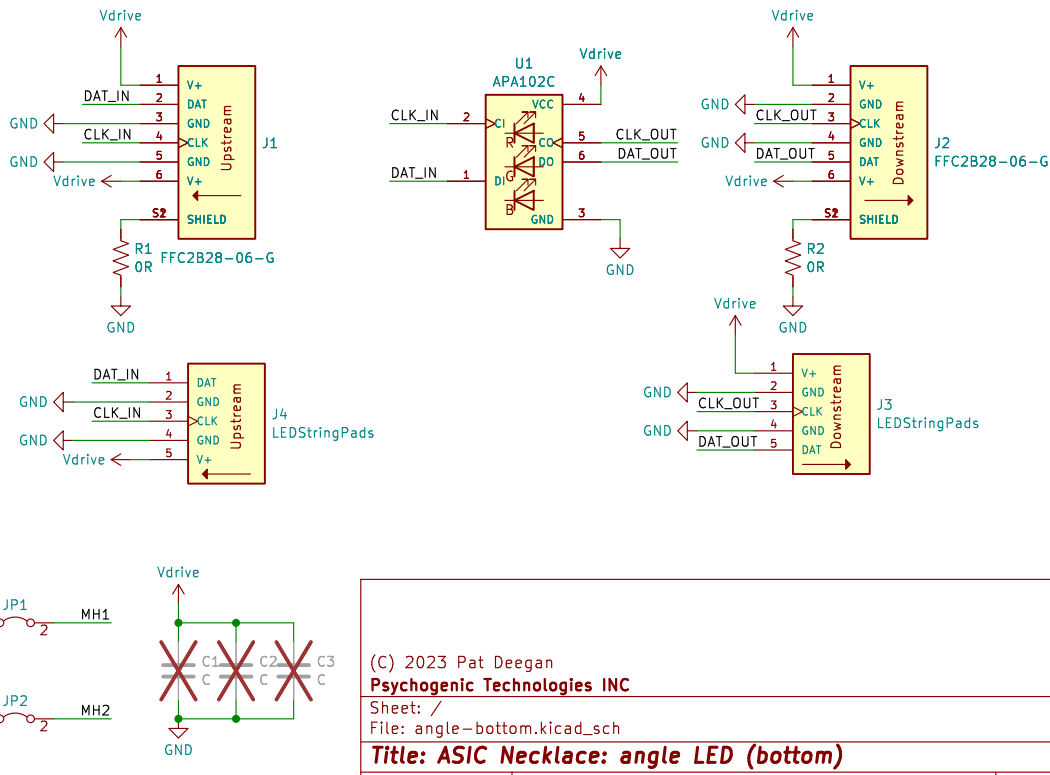
Date:

Rev: 1.1

KiCad E.D.A. kicad 7.0.9-7.0.9-ubuntu22.04.1

Id: 1/1

ASIC Necklace: LED module, angled (bottom)



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 Sheet: /
 File: angle-bottom.kicad_sch

Title: ASIC Necklace: angle LED (bottom)

Size: User Date:
 KiCad E.D.A. kicad 7.0.9-7.0.9-ubuntu22.04.1

Rev: 1.0
 Id: 1/1