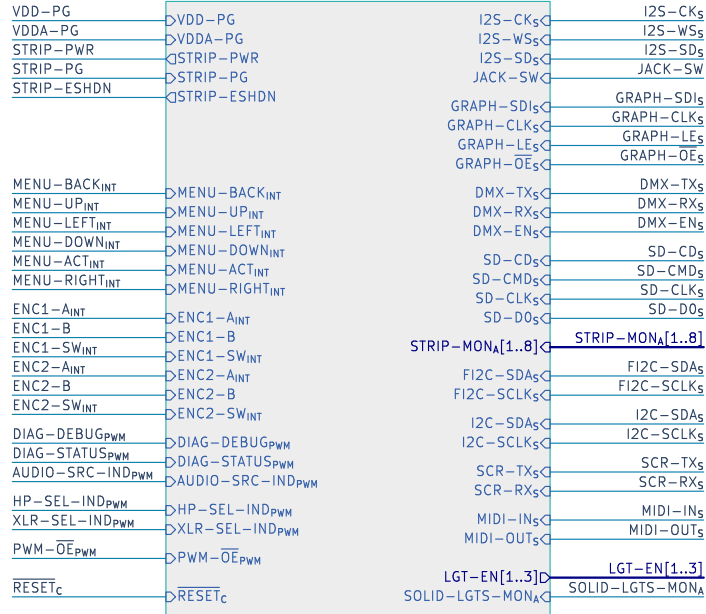
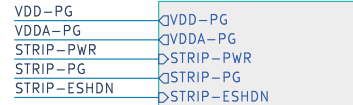


MICROCONTROLLER



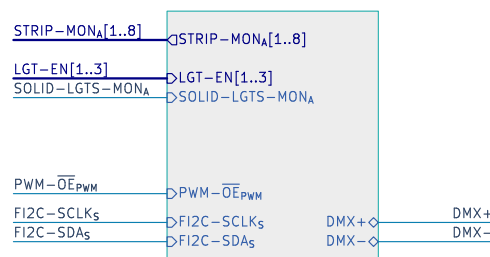
POWER



AUDIO INPUTS



RGB CONTROL



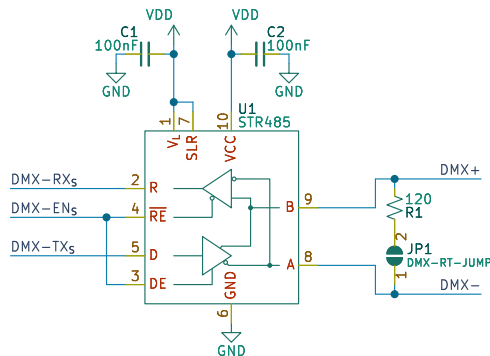
General Information

Power Rails	Description
+12V +12V _{DC}	Main power rail from external 200w power brick.
Vdrive +12V _{DC}	Switched power for LED strips.
VCC +5V _{DC}	5v supply for internal digital circuitry and LCD screen.
VAA+3.3V _{DC}	3.3v supply for the audio ADC and analog front end.
VDD+3.3V _{DC}	Main digital supply.
VDDA+3.3V _{DC}	Filtered analog supply, used for the current monitors and STM32 ADCs.
Audio	Description
XLR-REF	A line level balanced audio input.
1/4" Jack	Also a balanced input, requiring the correct wiring configuration.

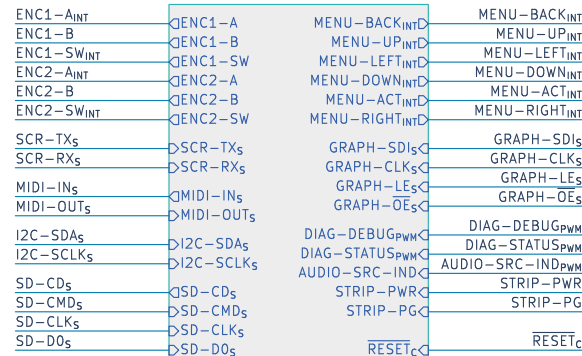
Suffix Legend

S	Serial communication lines
A	Raw analog signal lines
PWM	Pulse Width Modulation lines
INT	Interrupt lines
C	Global control lines or configuration signals
D	Debug lines

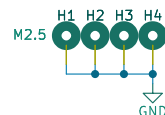
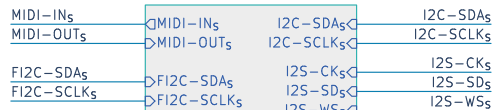
DMX TRANSEIVER



INTERFACE CONNECTOR



TEST POINTS



Daxxn Industries

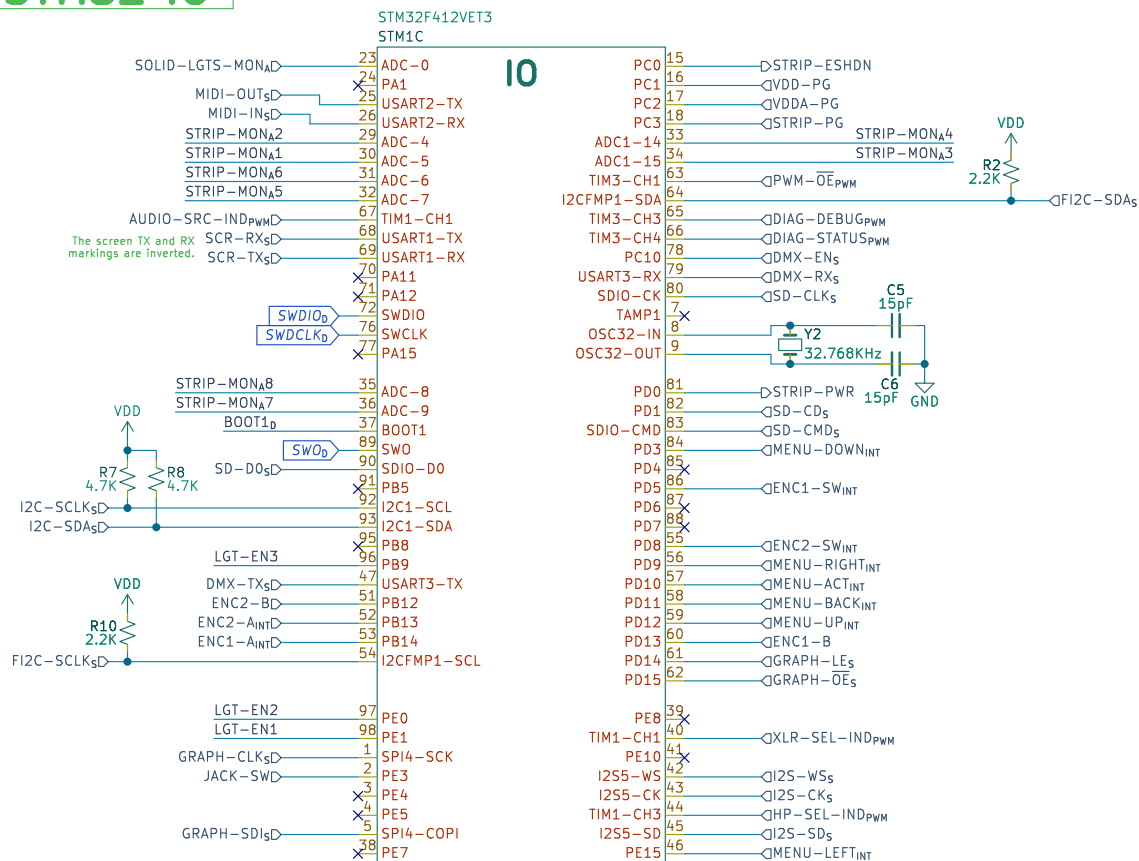
Sheet: /
File: LightDrum.kicad_sch

Title: LightDrum

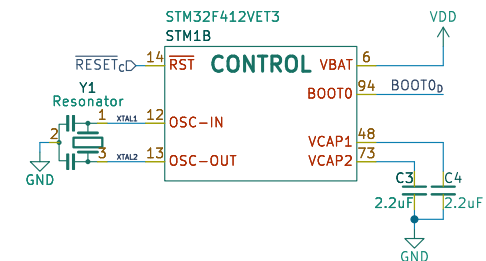
Size: A4 Date:
KiCad E.D.A. kicad (7.0.0)

Rev: REV11
Id: 1/12

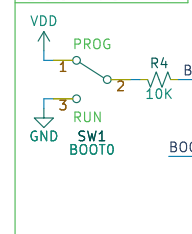
STM32 10



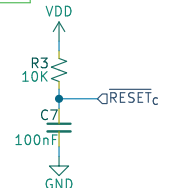
STM32 CONTROL



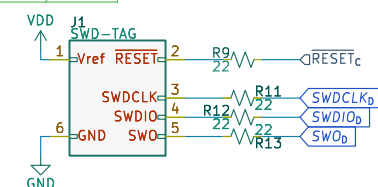
BOOT CONFIG



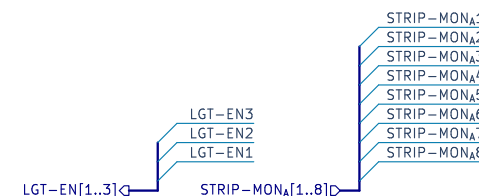
RESET



JTAG/SWD



BUS FANOUT



Daxxn Industries

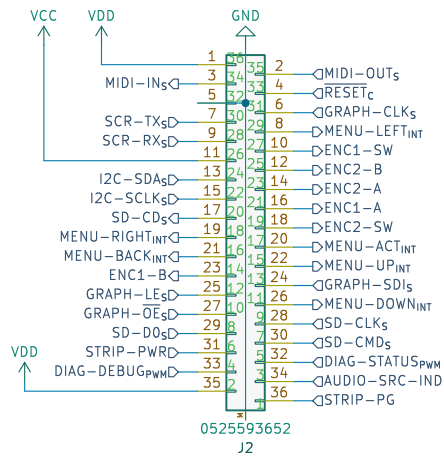
Sheet: /MICROCONTROLLER/
File: Micro.kicad_sch

Title: <i>LightDrum</i>

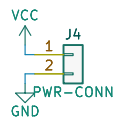
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KiCad E.D.A. kicad (7.0.0)	

Rev: REV11
Id: 2/12

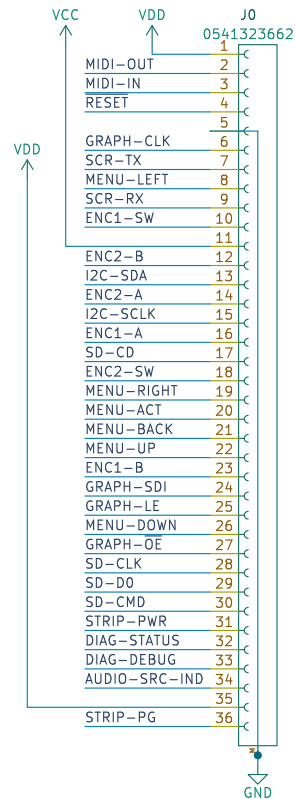
FFC INTERFACE CONNECTOR



INTERFACE POWER CONNECTOR



MATCHING CONN ON INTERFACE PCB -NOT POPULATED-



Daxxn Industries

Sheet: /INTERFACE CONNECTOR/
File: Interface_Connectors.kicad_sch

Title: LightDrum

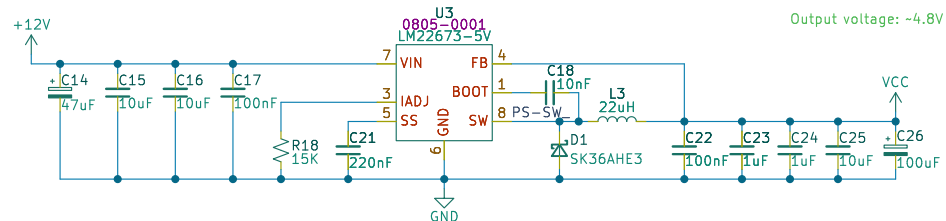
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KiCad E.D.A. kicad (7.0.0)

Date:

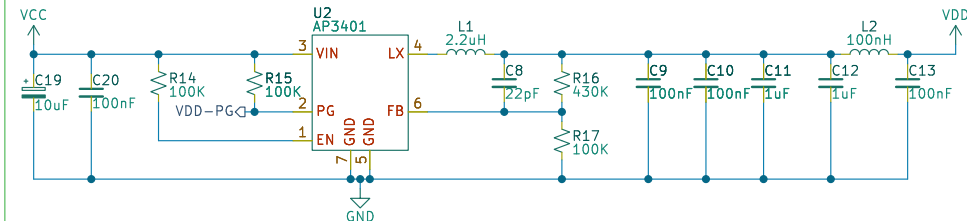
Rev: REV11

Id: 3/12

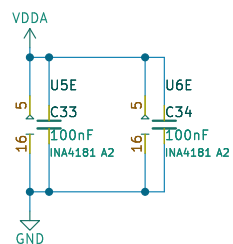
5V REGULATOR



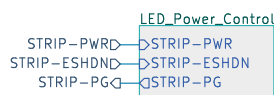
3.3V REGULATOR



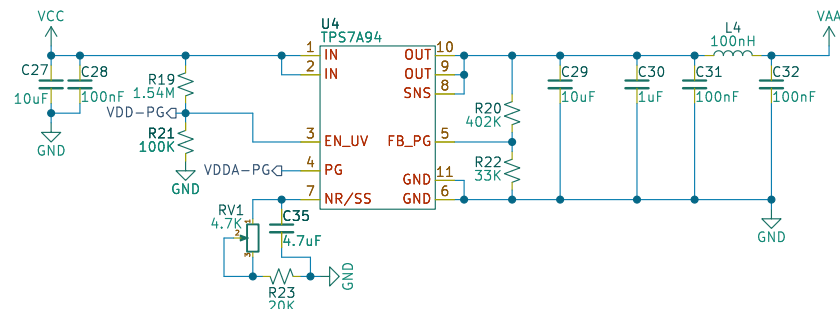
CURRENT MONITORS



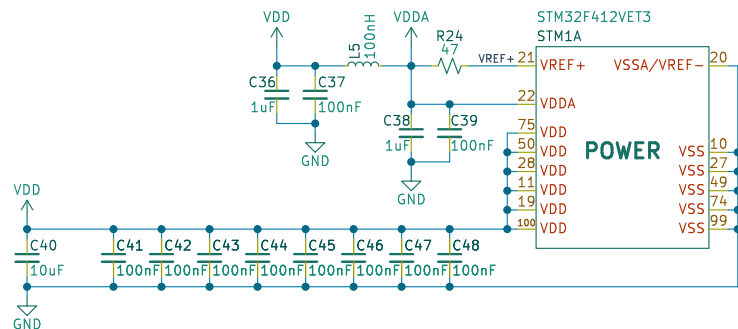
LED STRIP POWER LOCKOUT



PRECISION AUDIO POWER SUPPLY



STM32 POWER



POWER RAILS

+12V +12V _{DC}	Main power rail from external 200W power brick.
Vdrive +12V _{DC}	Switched power for LED strips.
VCC +5V _{DC}	5v supply for internal digital circuitry and LCD screen.
VAA+3.3V _{DC}	3.3v supply for the audio ADC and analog front end.
VDD+3.3V _{DC}	Main digital supply.
VDDA+3.3V _{DC}	Filtered analog supply, used for the current monitors and STM32 ADCs.

Daxxn Industries

Sheet: /POWER/
File: Power.kicad_sch

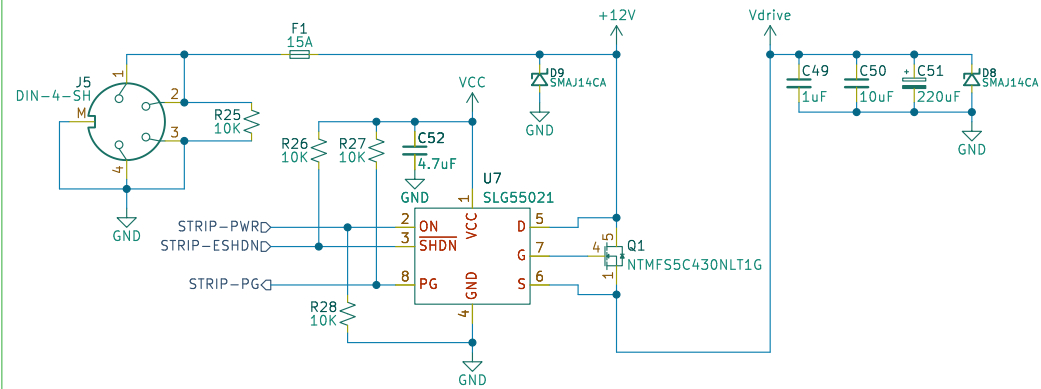
Title: LightDrum

Size: A4 Date:
KiCad E.D.A. kicad (7.0.0)

Rev: REV11
Id: 4/12

RGB STRIP POWER LOCKOUT

Uses new 12V 196W power supply. N-Ch MOSFET (Q1) is used to cut or supply power to all the LED strips.



Daxxn Industries

Sheet: /POWER/LED_Power_Control/
File: LED_Power_Control.kicad_sch

Title: LightDrum

Size: A4
KiCad E.D.A. kicad (7.0.0)

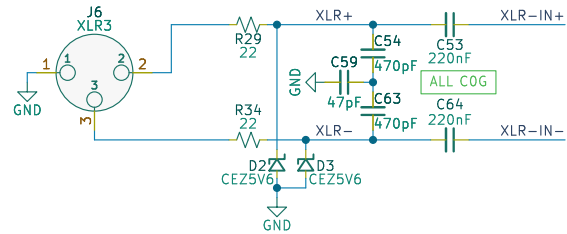
Date:

Rev: REV11

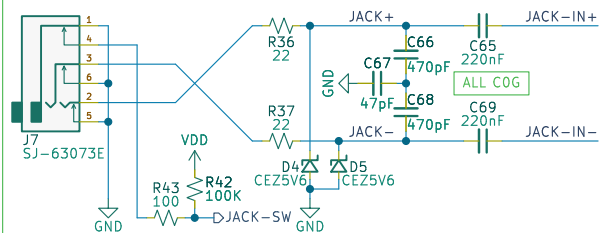
Id: 5/12

AUDIO INPUTS

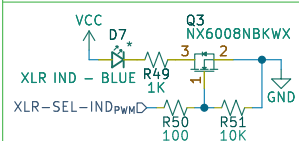
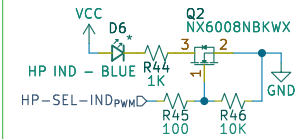
XLR INPUT



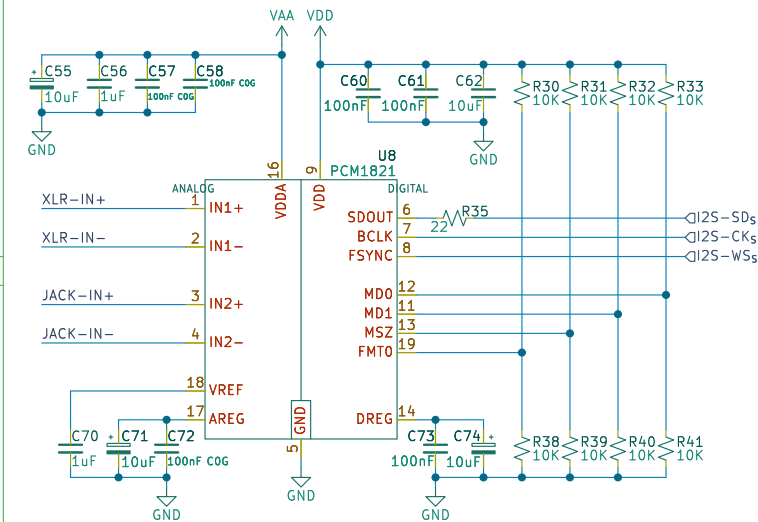
HEADPHONE JACK INPUT



AUDIO SOURCE INDICATORS



AUDIO CODEC



PCM1821 Strapping Options

	MSZ	HIGH	R31	Master Mode
X	13	LOW	R39	Slave Mode
	FMT0	HIGH	R30	TDM Mode
X	19	LOW	R38	I2S Mode
	(Master) MD0	HIGH	R33	System clock with frequency $512 \times f_s$ - MD1 pin as MCLK
	12	LOW	R41	System clock with frequency $256 \times f_s$ - MD1 pin as MCLK
X	(Slave) MD0	HIGH	R33	Low latency filters
	12	LOW	R41	Linear phase filters
X	(Slave) MD1	HIGH	R32	DRE is enabled with DRE_LVL = -36 dB and DRE_MAXGAIN = 24 dB
	11	LOW	R40	DRE is disabled

Daxxn Industries

Sheet: /AUDIO INPUTS/
File: Audio-Inputs.kicad_sch

Title: LightDrum

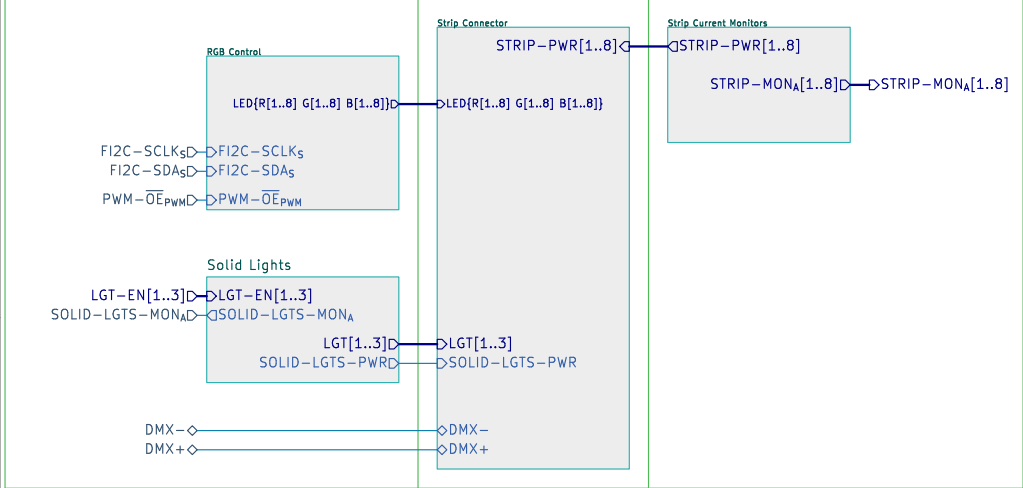
Size: A4 Date:
KiCad E.D.A. kicad (7.0.0)

Rev: REV11
Id: 6/12

PCA9634 LED DRIVERS

CONNECTOR

CURRENT MONITORS



LED STRIP CHANNEL TABLE (TODO: UPDATE TABLE)

	CH1 CH0	CH2 CH1	CH3 CH2	CH4 CH3	CH5 CH4	CH6 CH5	CH7 CH6	CH8 CH7
RED	PWM0-3	PWM1-1	PWM1-7	PWM2-6	PWM0-5	PWM1-0	PWM1-6	PWM2-3
GREEN	PWM0-4	PWM0-1	PWM1-4	PWM2-2	PWM0-2	PWM0-7	PWM1-5	PWM2-5
BLUE	PWM0-6	PWM1-3	PWM2-0	PWM2-4	PWM0-0	PWM1-2	PWM2-1	PWM2-7

Daxxn Industries

Sheet: /RGB CONTROL/
File: RGB_Control.kicad_sch

Title: LightDrum

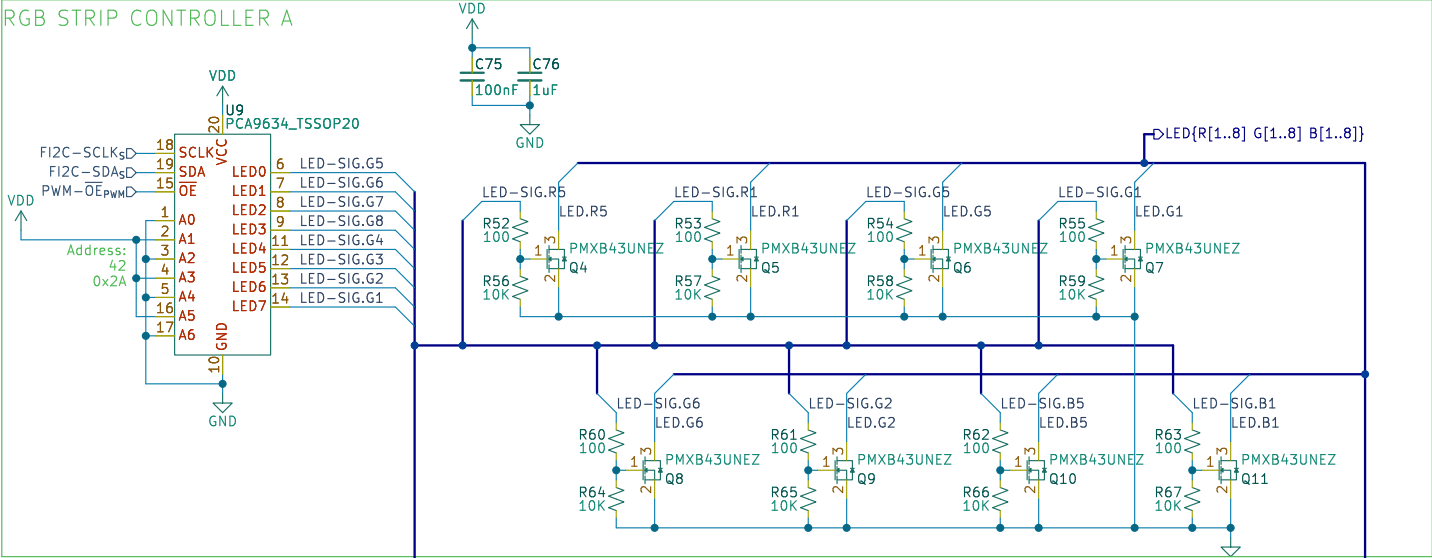
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Date:

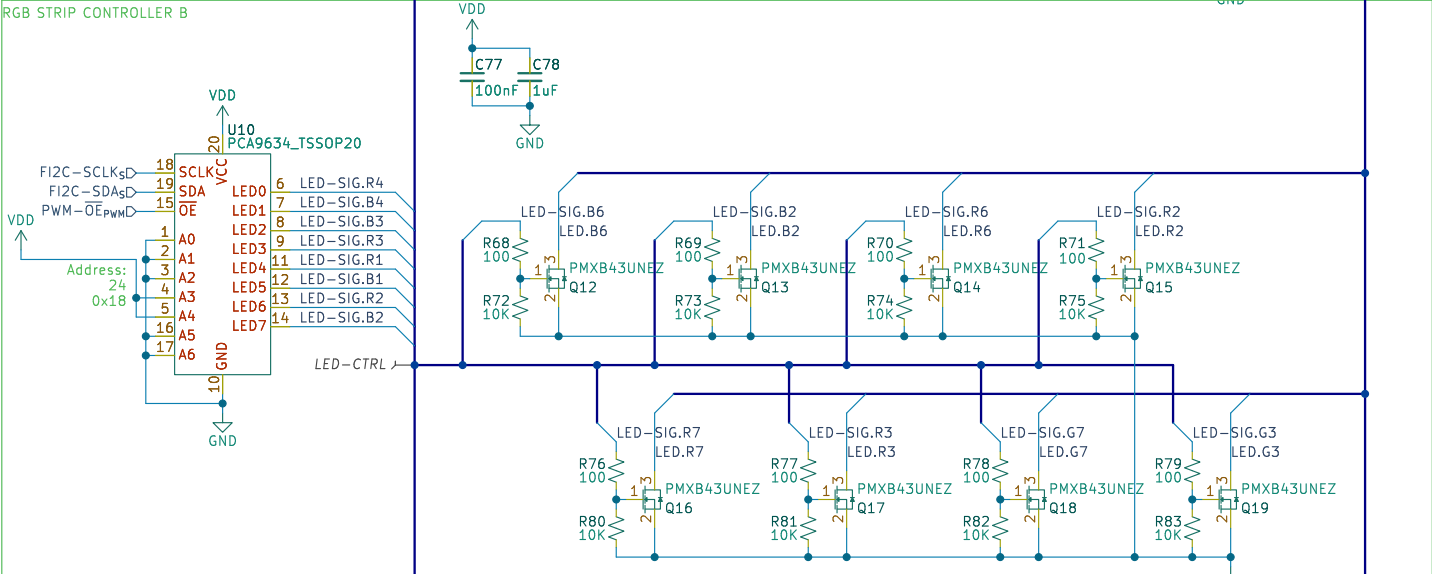
Rev: REV11

Id: 7/12

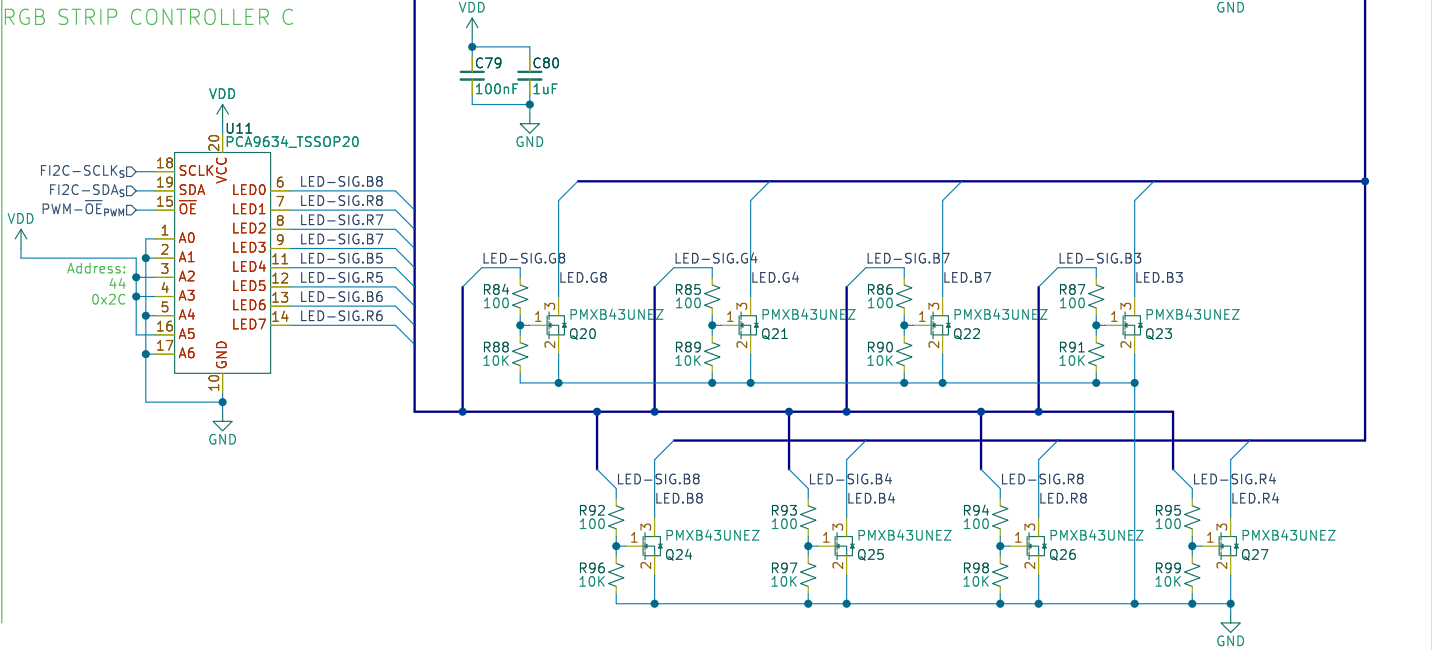
RGB STRIP CONTROLLER A



RGB STRIP CONTROLLER B



RGB STRIP CONTROLLER C



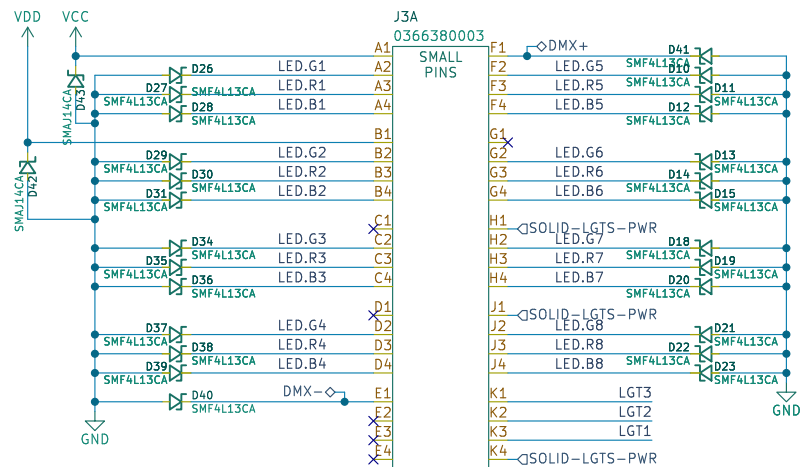
Daxxn Industries

Sheet: /RGB CONTROL/RGB Control/
File: RGB_Control-1.kicad_sch

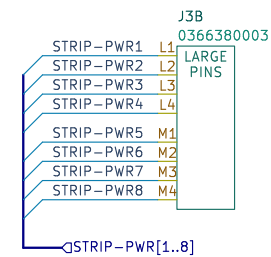
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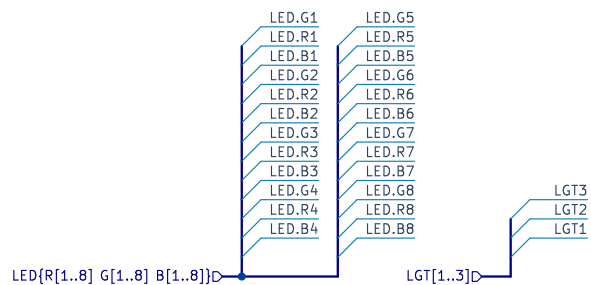
Id: 8/12



POWER PINS



BUS FANOUT



Daxxn Industries

Sheet: /RGB CONTROL/Strip Connector/
File: Strip_Connector.kicad_sch

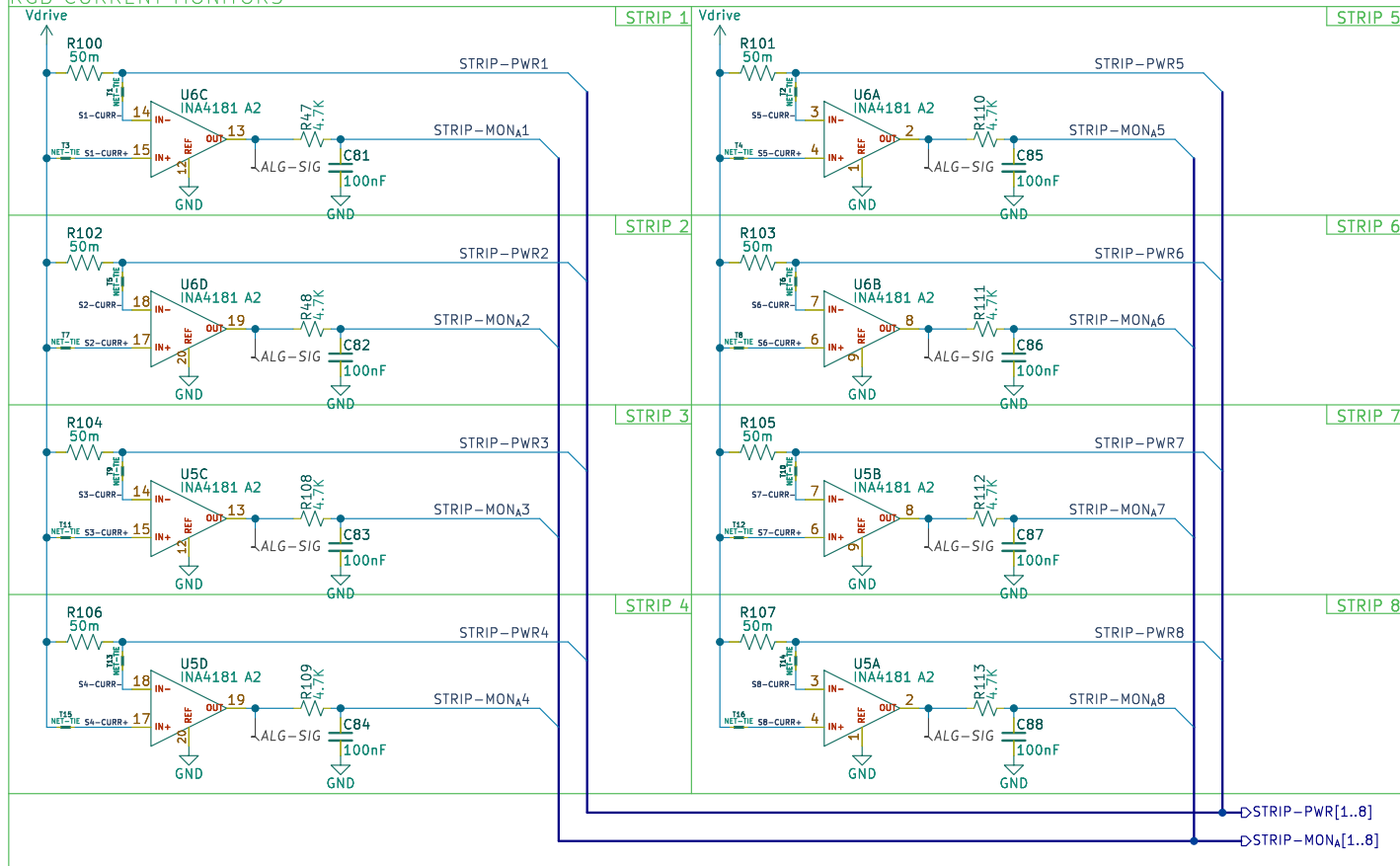
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Size: A4	Date:
KiCad E.D.A. kicad (7.0.0)	

Date:

Rev: REV11
Id: 11/12

RGB CURRENT MONITORS



Daxxn Industries

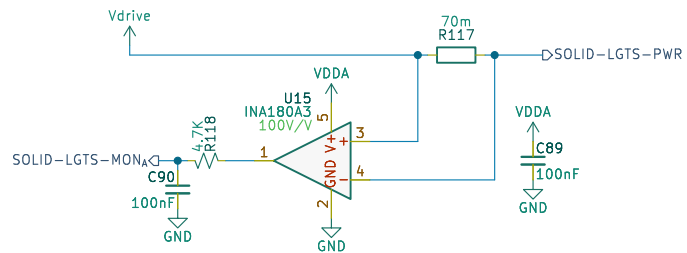
Sheet: /RGB CONTROL/Strip Current Monitors/
File: Strip_CM.kicad_sch

Title: LightDrum

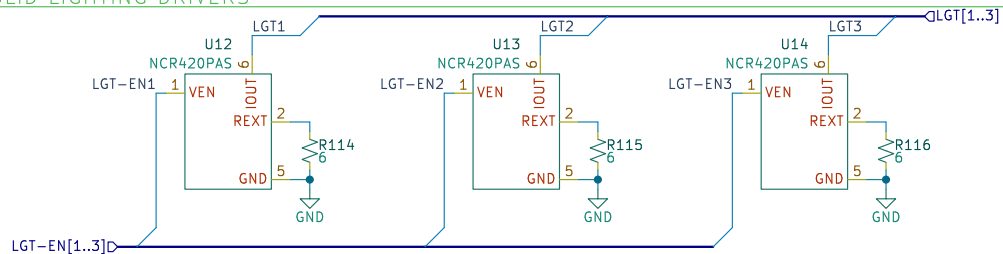
Size: A4 Date:
KiCad E.D.A. kicad (7.0.0)

Rev: REV11
Id: 12/12

SOLID LIGHTING CURRENT MONITOR



SOLID LIGHTING DRIVERS



Sheet: /RGB CONTROL/Solid Lights/
File: SolidLights.kicad_sch

Title:

Size: A4

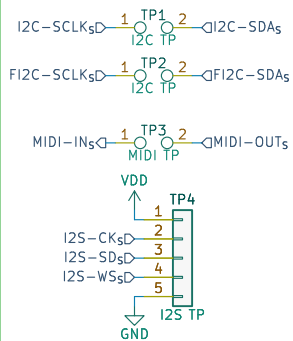
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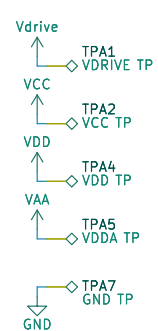
Rev:

Id: 13/12

SIGNALS



POWER



Daxxn Industries

Sheet: /TEST POINTS/

File: TestPoints.kicad_sch

Title: LightDrum

Size: A4

Date:

Rev: REV11

KiCad E.D.A. kicad (7.0.0)

Id: 14/12