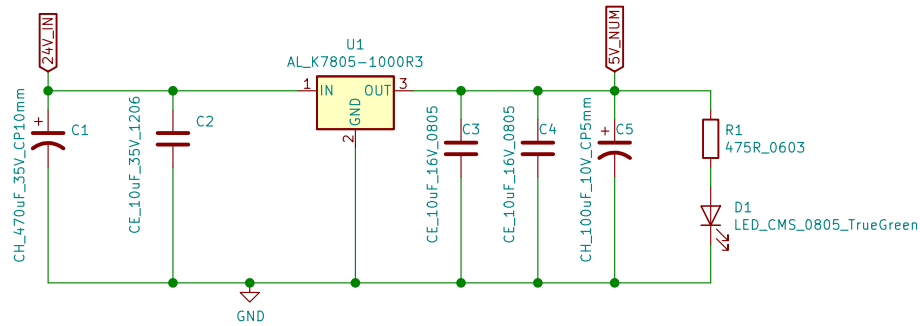


	1	2	3	4	5	6
A	<div>Sheet: PDSP-I4-08-PSU</div> <div>File: PDSP-I4-08-PSU.sch</div>	<div>Sheet: PDSP-I4-08-PREAMP-IN</div> <div>File: PDSP-I4-08-PREAMP-IN.sch</div>	<div>Sheet: PDSP-I4-08-PREAMP-OUT</div> <div>File: PDSP-I4-08-PREAMP-OUT.sch</div>			
B	<div>Sheet: PDSP-I4-08-ESP32</div> <div>File: PDSP-I4-08-ESP32.sch</div>	<div>Sheet: PDSP-I4-08-DSP</div> <div>File: PDSP-I4-08-DSP.sch</div>	<div>Sheet: PDSP-I4-08-CONNECTOR_UI_CONFIG</div> <div>File: PDSP-I4-08-CONNECTOR_UI_CONFIG.sch</div>			
C						
D						
	1	2	3	4	5	6

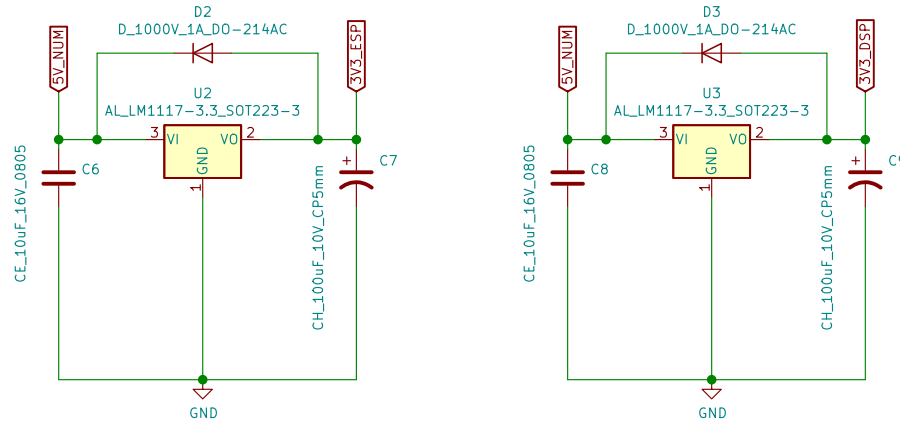
- 1 H1  
Trou\_3.2mm\_6mm\_metal
- 1 H2  
Trou\_3.2mm\_6mm\_metal
- 1 H3  
Trou\_3.2mm\_6mm\_metal
- 1 H4  
Trou\_3.2mm\_6mm\_metal

Pierre Dandine 2021-08		
<a href="https://github.com/PierroDandine/">https://github.com/PierroDandine/</a>		
Sheet: / File: PDSP-I4-08.sch		
Title: PDSP-I4-08		
Size: A4	Date: 2021-10-28	Rev: V01.00
KiCad E.D.A. kicad (5.1.5)-3		Id: 1/7

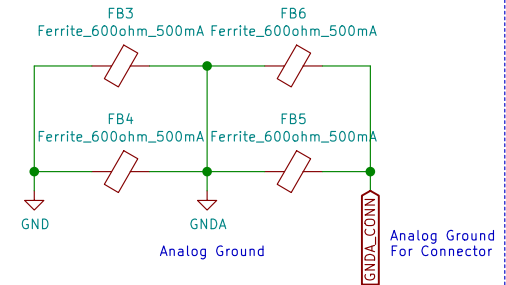
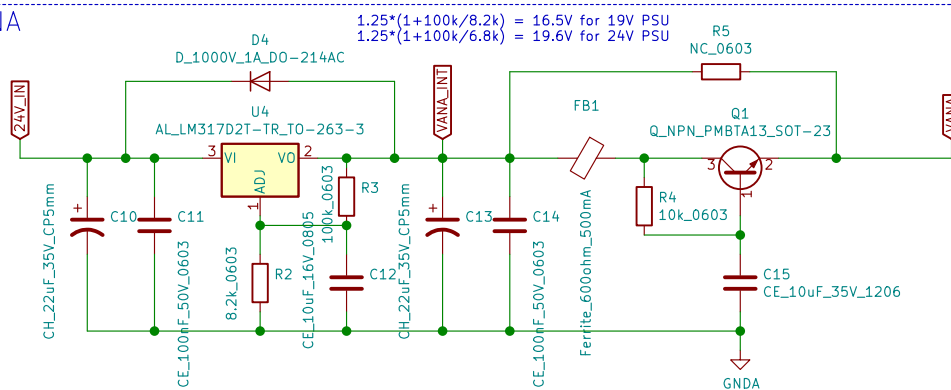
## From 24V num to 5V num



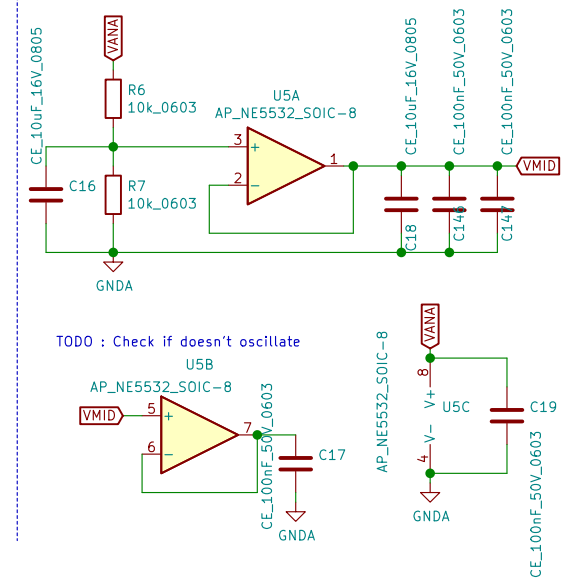
## From 5V Num to 3.3V DSP & ESP32



## VANA



## VMID Ana Generator



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2021-08

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Sheet: /PDSP-I4-08-PSU/  
File: PDSP-I4-08-PSU.sch

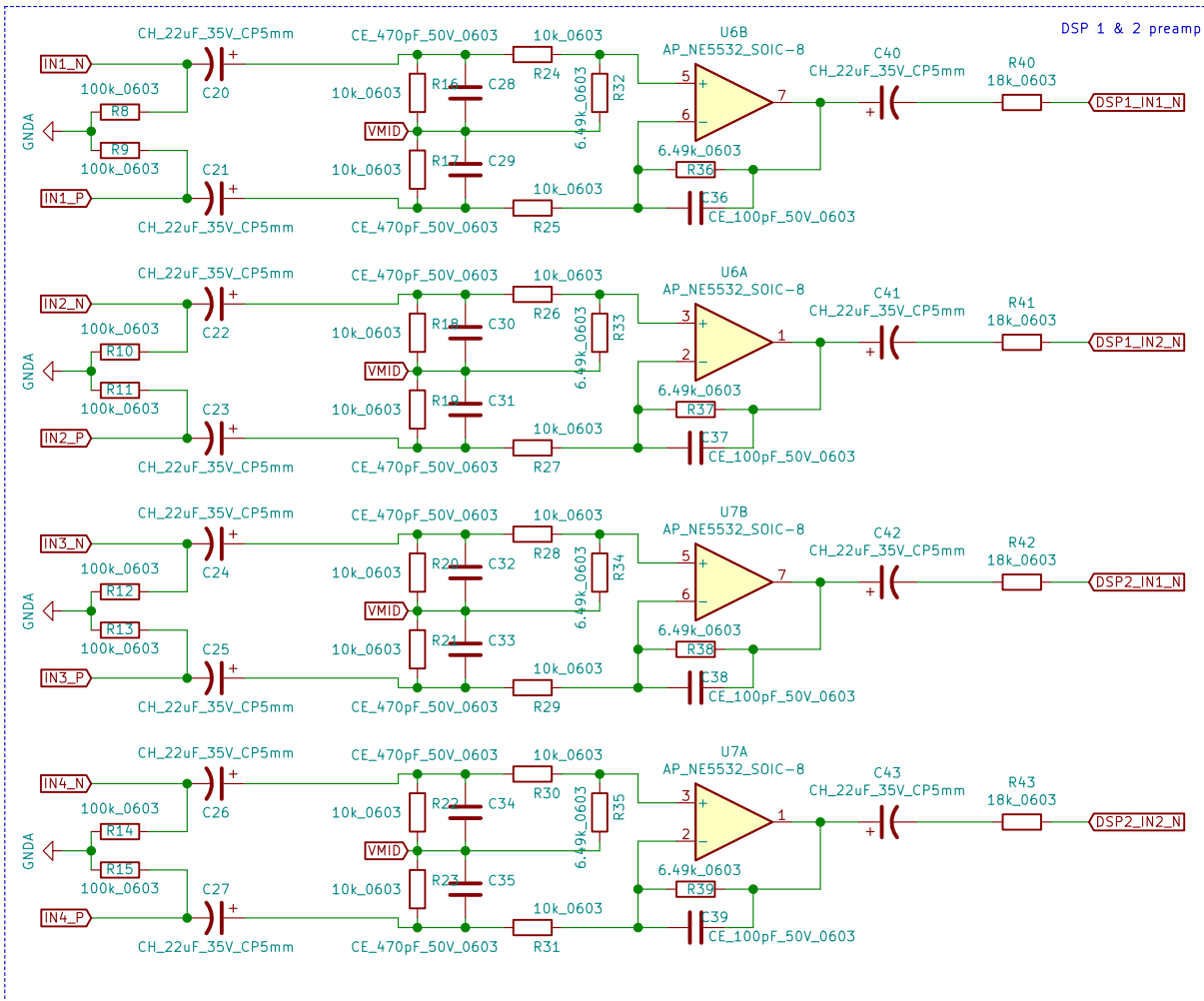
**Title: PDSP-I4-08**

Size: A4 Date: 2021-10-28

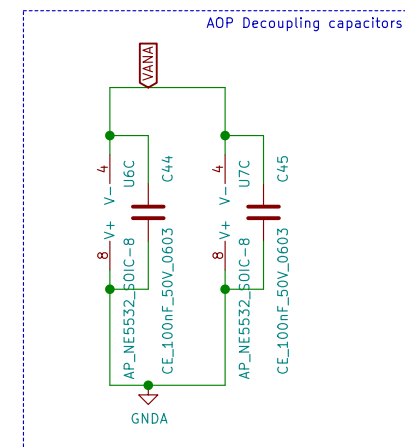
KiCad E.D.A. kicad (5.1.5)-3

**Rev: V01.00**

Id: 2/7



2VRMS IN with 18k  $((18+2)/100\mu A = 2Vrms)$   
 Need 3.08V input for 2V, so  $x1.54$   
 $\Rightarrow 10k/6.49k = 1.54$ , perfect



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Sheet: /PDSP-I4-08-PREAMP-IN/  
 File: PDSP-I4-08-PREAMP-IN.sch

**Title: PDSP-I4-08**

Size: A4 Date: 2021-10-28

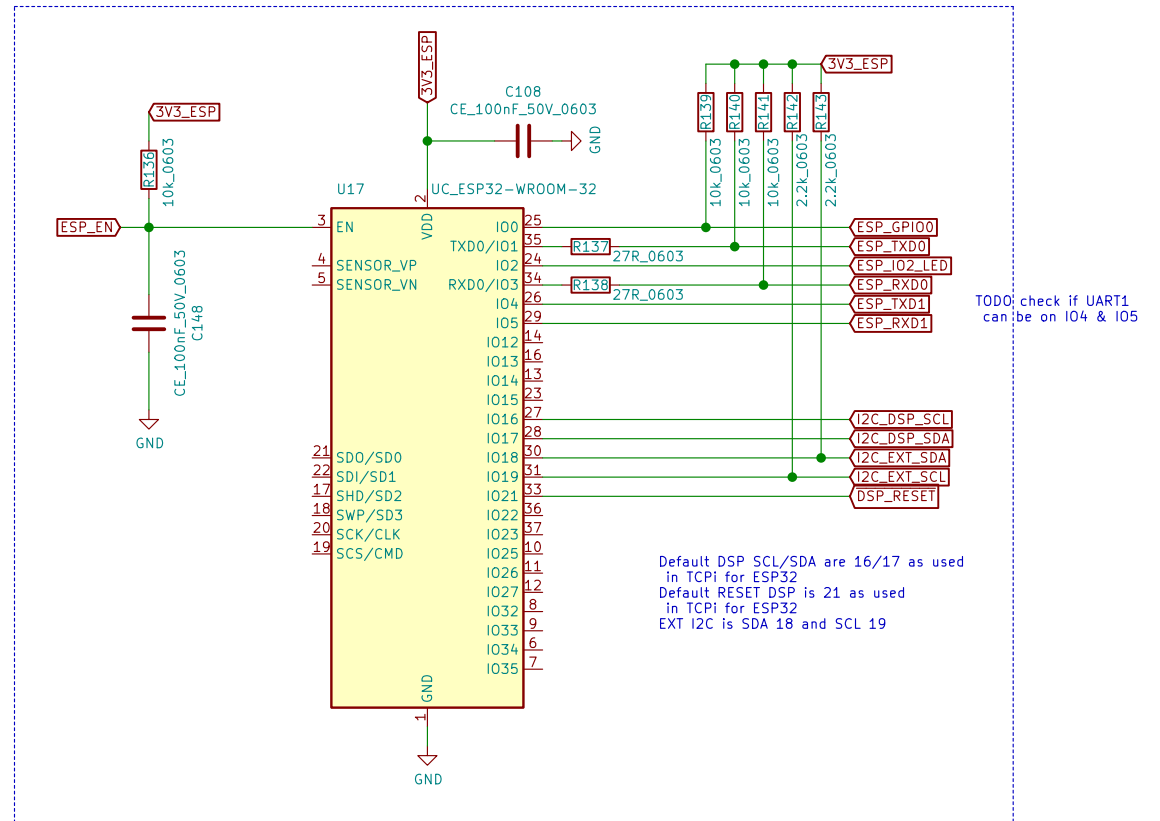
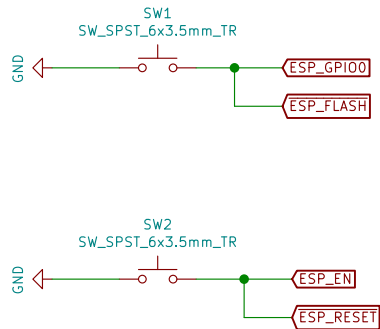
KiCad E.D.A. kicad (5.1.5)-3

**Rev: V01.00**

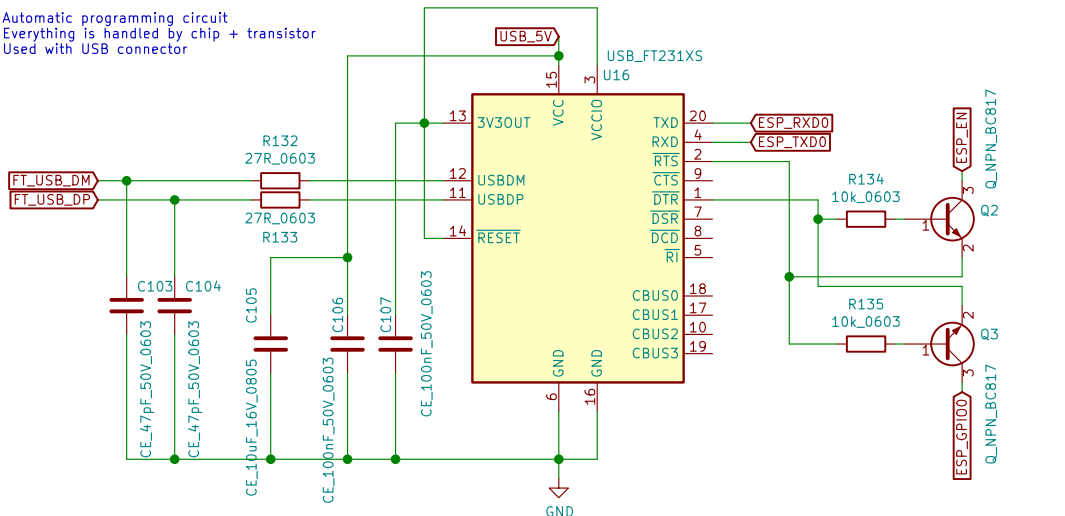
Id: 3/7



- To boot ESP in programming mode,  
Push GPIO0 (Flash) button then release EN/Reset button
- To boot ESP in normal mode,  
Let GPIO0 (Flash) button up, then release EN/Reset button,  
or simply boot



Automatic programming circuit  
Everything is handled by chip + transistor  
Used with USB connector

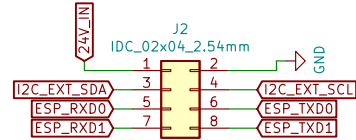
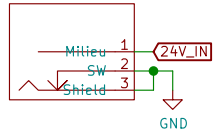


Rev: V01.00  
Id: 5/7



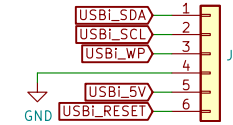
PSU IN  
Can be removed for direct wier soldering:

J1  
Embase\_DC\_5.5x2.1-2.5mm\_TR\_CD



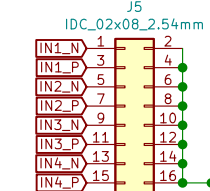
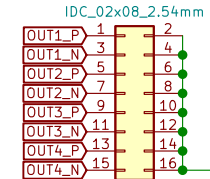
Extension connector for front I/O  
For now, just another i2c, 24V and UART to flash ESP32  
2 extra pins for future use (other UART ??)

JST\_PH-6.2mm\_Vertical

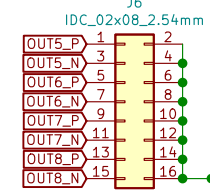


USBi connection using clone WONDOM DB-DP11219 pinout

AUDIO EXT CONN

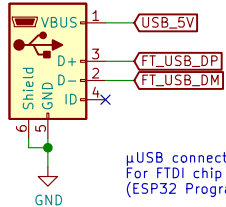


IN polarity  
is inverted to  
have same XLR  
interface board  
in mirror



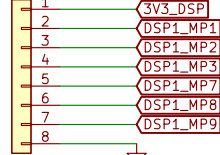
GNDA\_CONN  
Specific GND to avoid noise

J8  
USB\_B\_Micro\_Vertical\_LTR

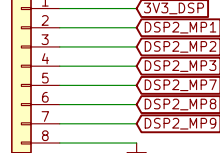


μUSB connector  
For FTDI chip  
(ESP32 Programming)

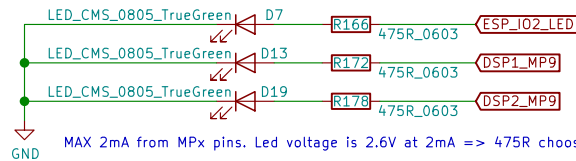
J9  
Molex\_PicoBlade\_1x08\_P1.25\_Vertical\_MX1.25



J10  
Molex\_PicoBlade\_1x08\_P1.25\_Vertical\_MX1.25



Header for MP pins (Optional)  
To be used if required external LED, IO, POT etc...  
(Remove internal LED then)

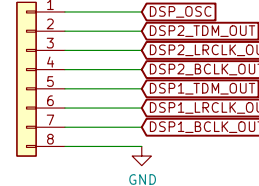


MAX 2mA from MPx pins. Led voltage is 2.6V at 2mA => 475R choosen

LEDs (Optional)

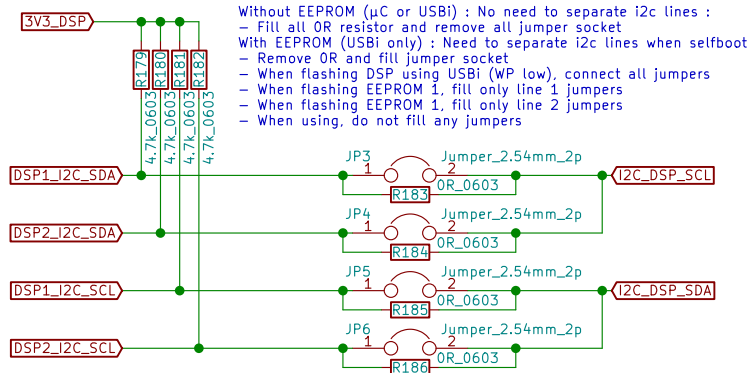
I2S on MP in case of require 2 boards = 4 DSP on same I2S bus

J7  
Molex\_PicoBlade\_1x08\_P1.25\_Vertical\_MX1.25

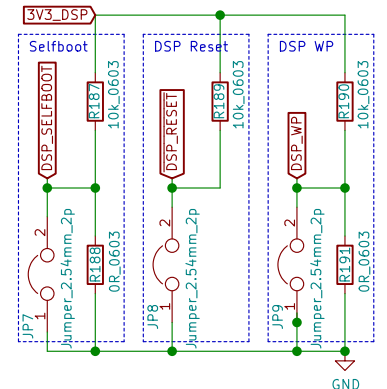


- 1 = DSP OSC (not required)
- 2 = DSP1 MP0 / DSP2 MP6
- 3 = DSP1 MP4 / DSP2 MP10
- 4 = DSP1 MP5 / DSP2 MP11
- 5 = DSP1 MP6 / DSP2 MP0
- 6 = DSP1 MP10 / DSP2 MP4
- 7 = DSP1 MP11 / DSP2 MP5

Pull-Up supposed to be 2.2k, but sometimes 2 in //, sometimes not



Without EEPROM (μC or USBi) : No need to separate I2c lines :  
- Fill all 0R resistor and remove all jumper socket  
With EEPROM (USBi only) : Need to separate I2c lines when selfboot  
- Remove 0R and fill jumper socket  
- When flashing DSP using USBi (WP low), connect all jumpers  
- When flashing EEPROM 1, fill only line 1 jumpers  
- When flashing EEPROM 1, fill only line 2 jumpers  
- When using, do not fill any jumpers



If selfboot with EEPROM :  
- On WP, connect 10k pull-up, and jumper down (used to flash DSP & EEPROM)  
- On SELFBOOT, connect 10k pull-up (no jumper required)  
If μC control :  
- Connect 0R down on WP and SELFBOOT (no jumper required)  
Note :  
- WP of both DSP are connected together to have only one jumper  
- On RESET, connect jumper down and 10k pull-up to be able to reset both DSP

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2021-08

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Sheet: /PDSP-I4-08-CONNECTOR\_UI\_CONFIG/  
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Title: PDSP-I4-08

Size: A4 Date: 2021-10-28  
KiCad E.D.A. kicad (5.1.5)-3

Rev: V01.00  
Id: 7/7