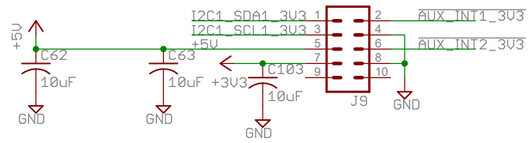
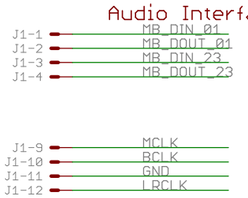
I2C AUX interface



Audio Interface

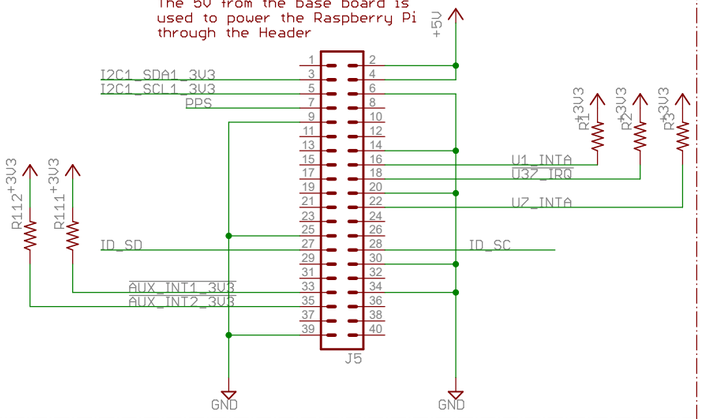


UART I2C Address 0x26/0x27

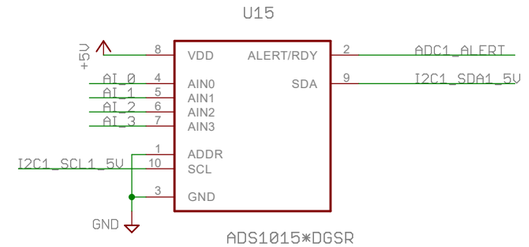
mcp23017,addr=0x27,gpiopin=23
mcp23017,addr=0x26,gpiopin=25

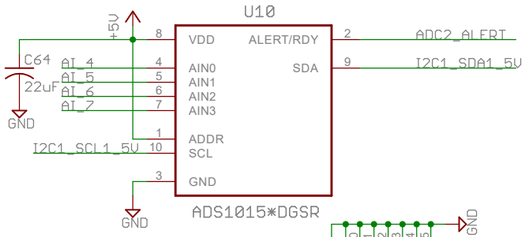
These need to be loaded as part of a controlled process outside of the Raspberry Pi "/boot/config.tx"t device tree loader. The device tree loader allows a race condition that will cause them to load in a random order which causes then to change GPIO output addresses. This causes SVXLink to talk to the wrong pins intermittently.

The 5V from the base board is used to power the Raspberry Pi through the Header

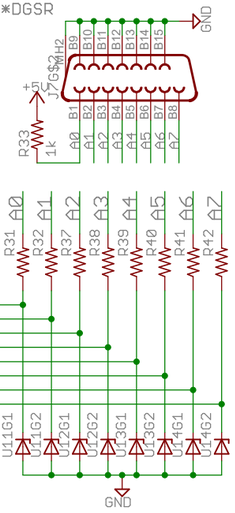


12BIT ADC - 8 CHANNELS - 5V

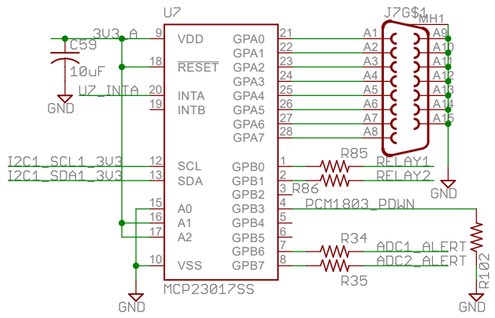


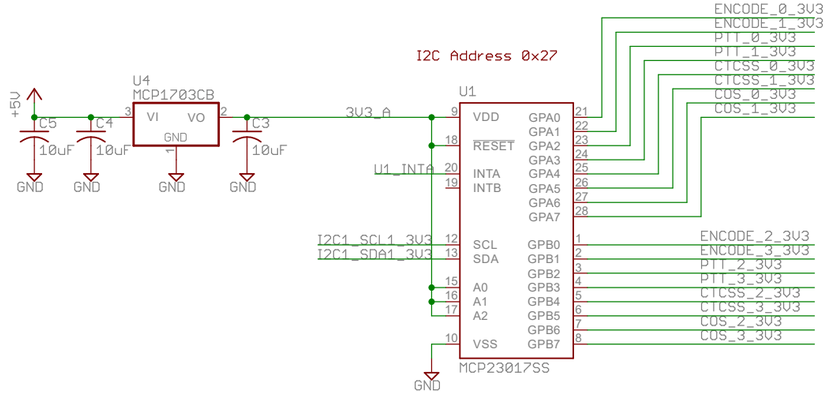


UART I2C Address 0x48/0x49
/boot/config.txt entry
#load ADS1015 (ADC) chipsets
dtoverlay=ads1015,
dtparam=cha_enable=true
dtparam=chb_enable=true
dtparam=chc_enable=true
dtparam=chd_enable=true
dtparam=addr=<0x48/0x49>
dtparam=cha_cfg=4
dtparam=chb_cfg=4
dtparam=chc_cfg=4
dtparam=chd_cfg=4
dtparam=cha_datarate=4
dtparam=chb_datarate=4
dtparam=chc_datarate=4
dtparam=chd_datarate=4
dtparam=cha_gain=2
dtparam=cha_gain=2
dtparam=cha_gain=2
dtparam=cha_gain=2



I2C Address 0x26





I2C Address 0x27

I2C ADDR = 0x27 (U1-GPIO EXPANDER)
I2C ADDR = 0x26 (U7-GPIO EXPANDER)
I2C ADDR = 0x4D (U36-GPS)
I2C ADDR = 0x48 (U15-ADC0)
I2C ADDR = 0x49 (U10-ADC1)

TITLE: PI-REPEATER-4x_REV_03	
Document Number:	REV:
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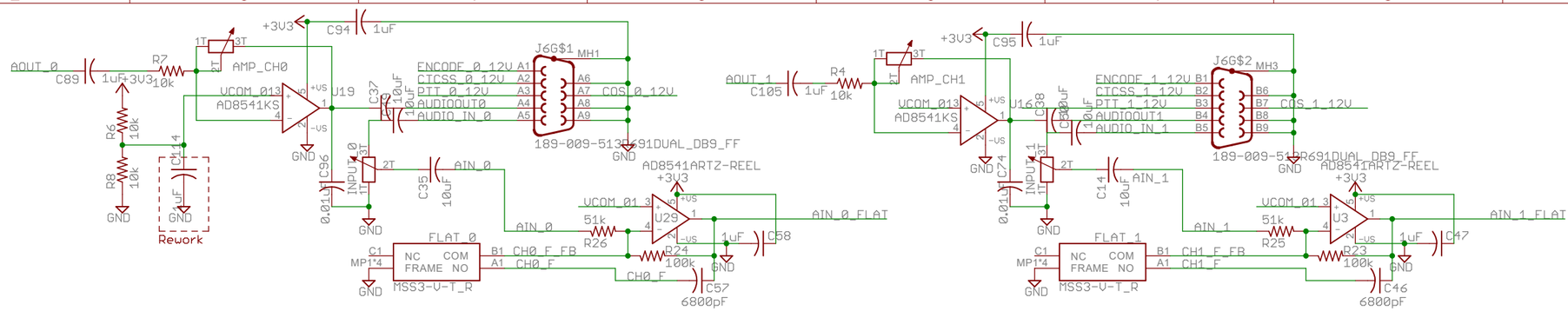

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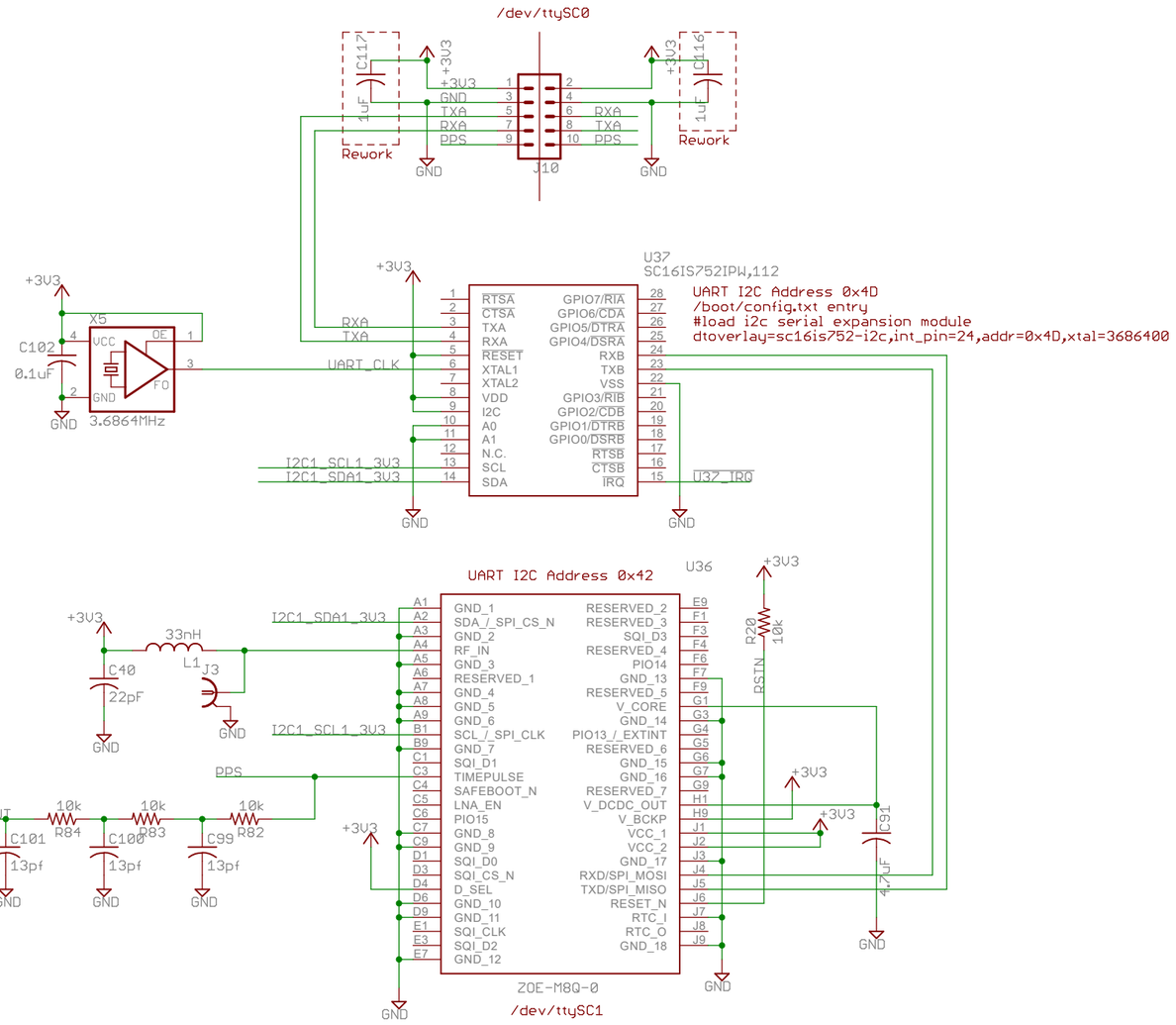

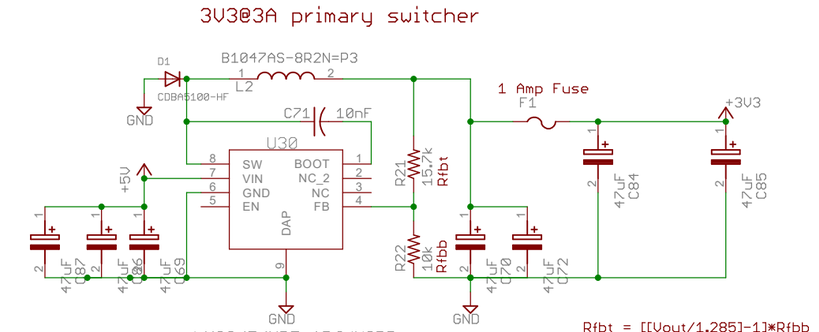

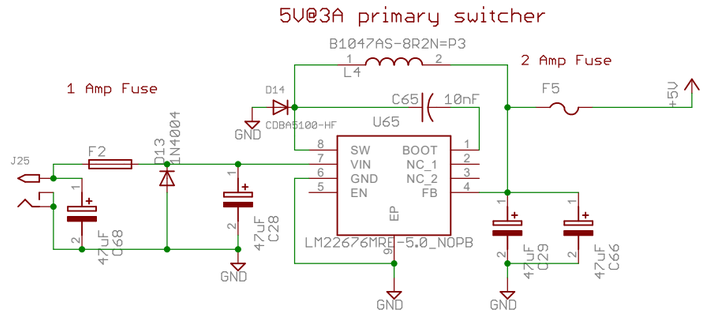

Debugging GPS hint:
"GPTXT, NMEA unknown msg" errors when using command
$cat /dev/ttySC<0/1>

apply this command to disable local echo
$stty -F /dev/ttySC<0/1> -echo

TITLE: PI-REPEATER-4x_REV_03	
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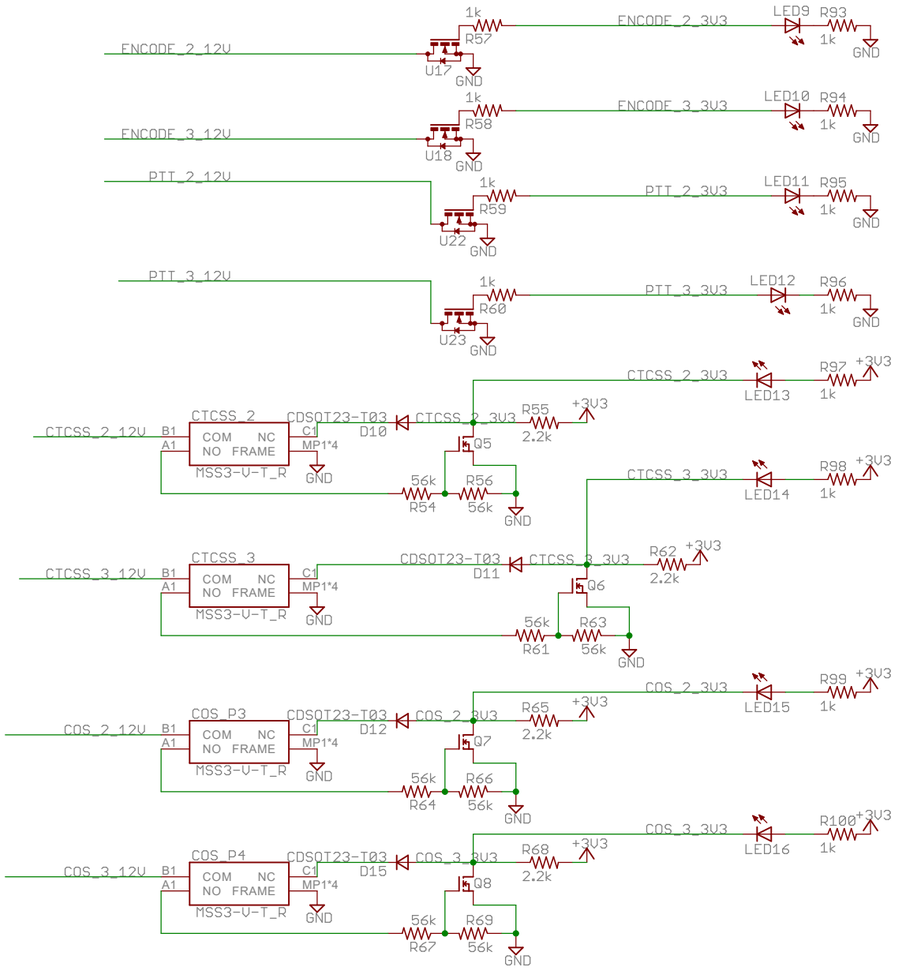

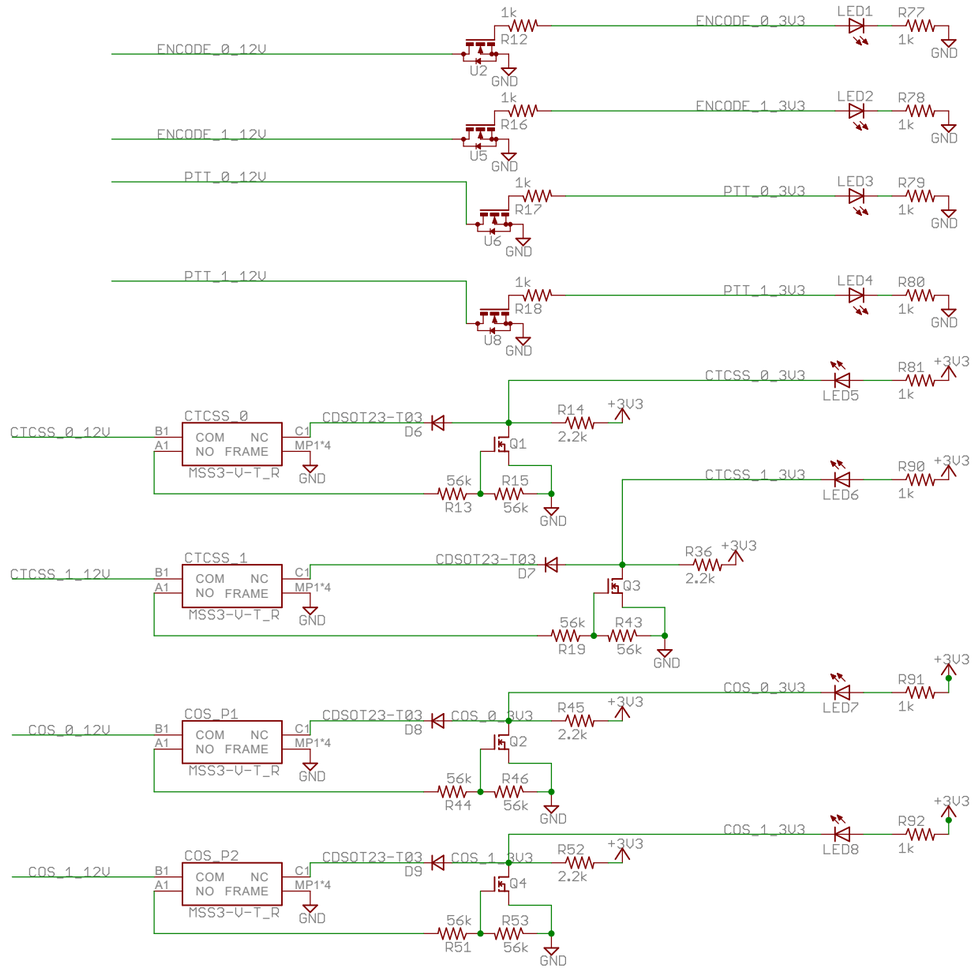

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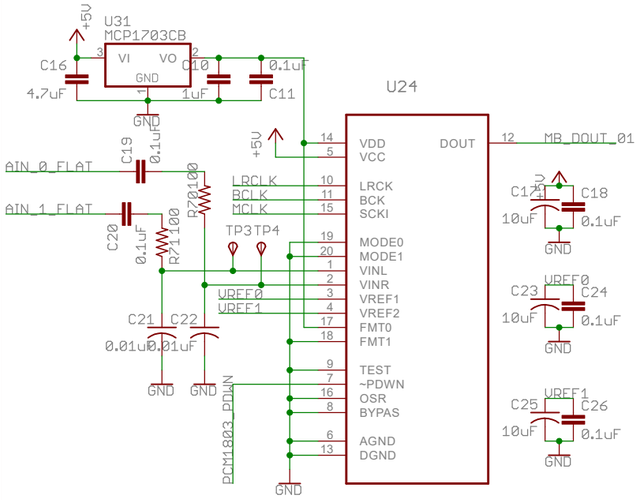
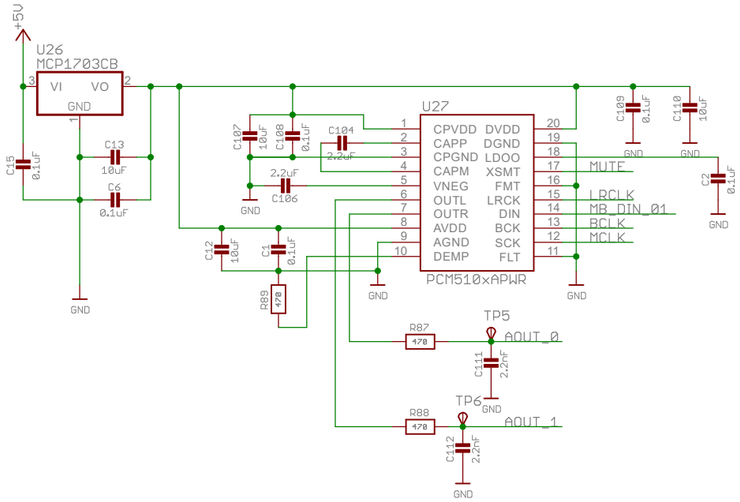
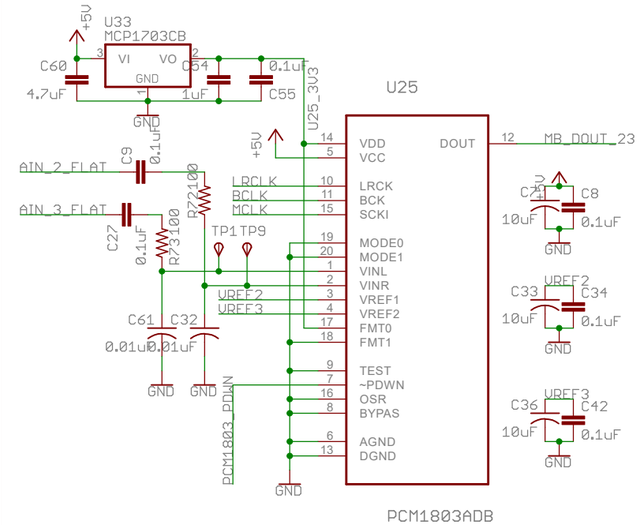
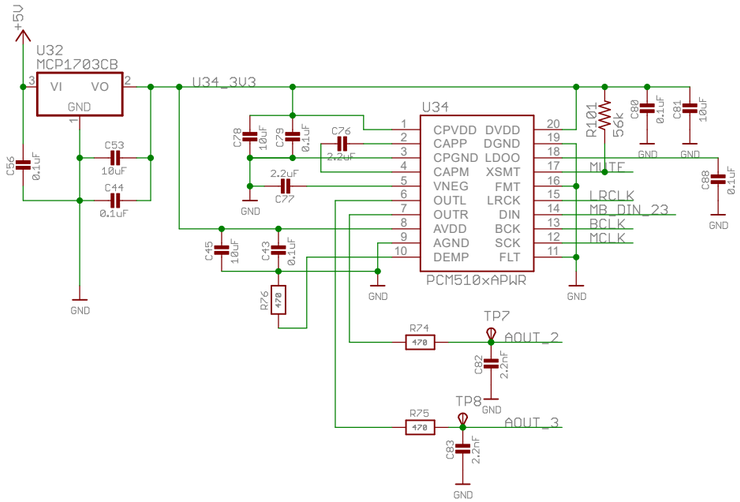
Date: 2/22/2024 7:57:50 AM	Sheet: 4/5









PCM1803_PDWN is gpio controlled and needs to be set to 3.3V after the system boots to get input audio working.

This is easiest done by setting it as an active LOW output GPIO in SVXLink GPIO config file

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