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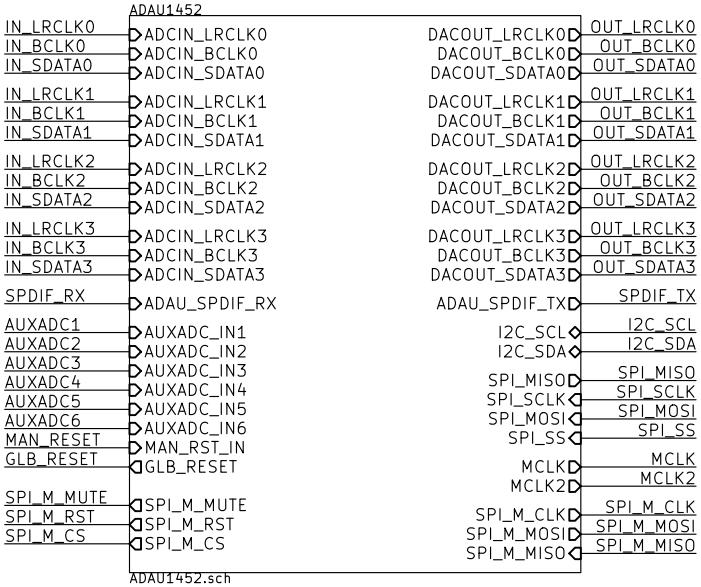
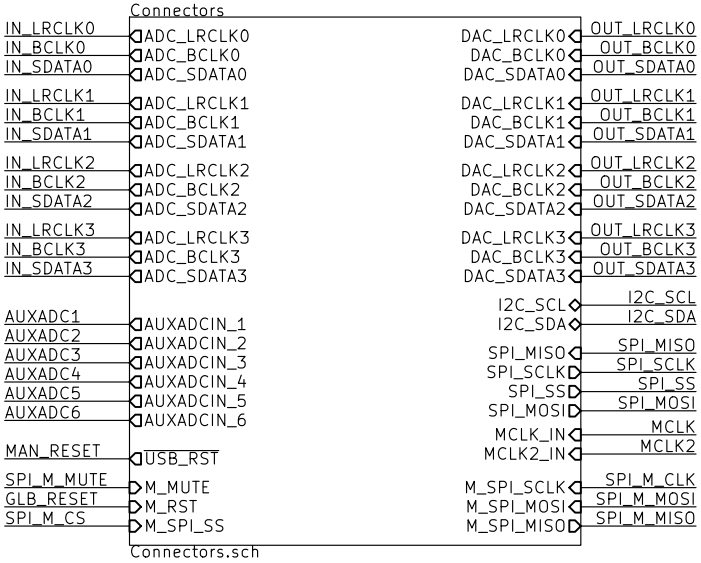
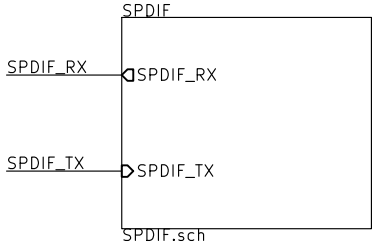
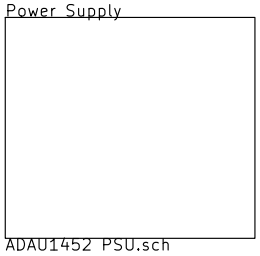
ADAU145x DSP – ADAU1452, ADAU1451, ADAU1450 all supported

Revision 2.0









Notes:

All digital I/O is 3V3. Use outside this voltage can cause damage.

See bill of materials for detailed parts information.

Trace impedance on SPI/I2C, MCLK, and I2S is designed for approx 89ohm.
26AWG ribbon cable used with Ground–Signal–Ground is approx 89ohm.

Sheet: /
File: DSP–ADAU1452.sch

Title: ADAU145x DSP – ADAU1452, ADAU1451, ADAU1450 supported

Size: A4	Date: 2016–05–25	**Rev: 2.0**
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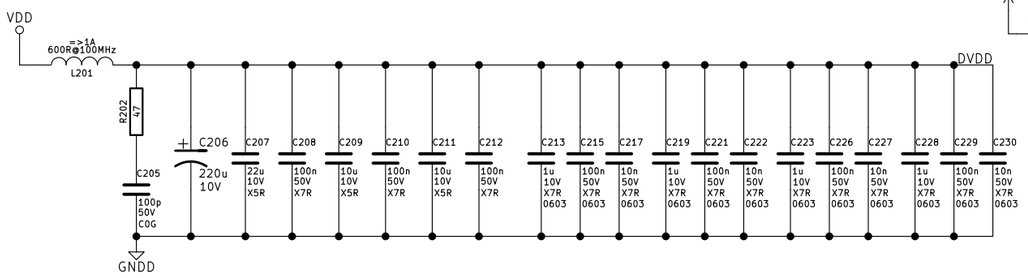
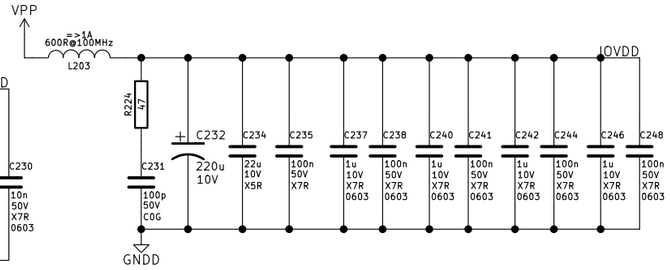
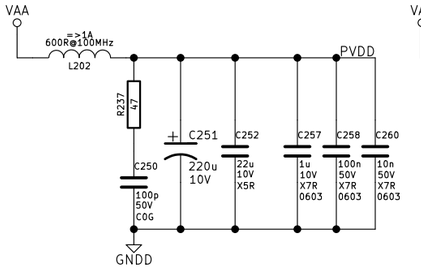
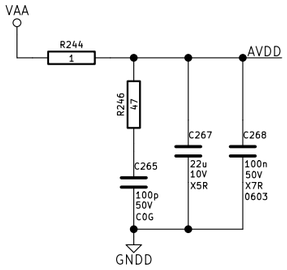
ADAU1452 (ADAU1451/ADAU1450)

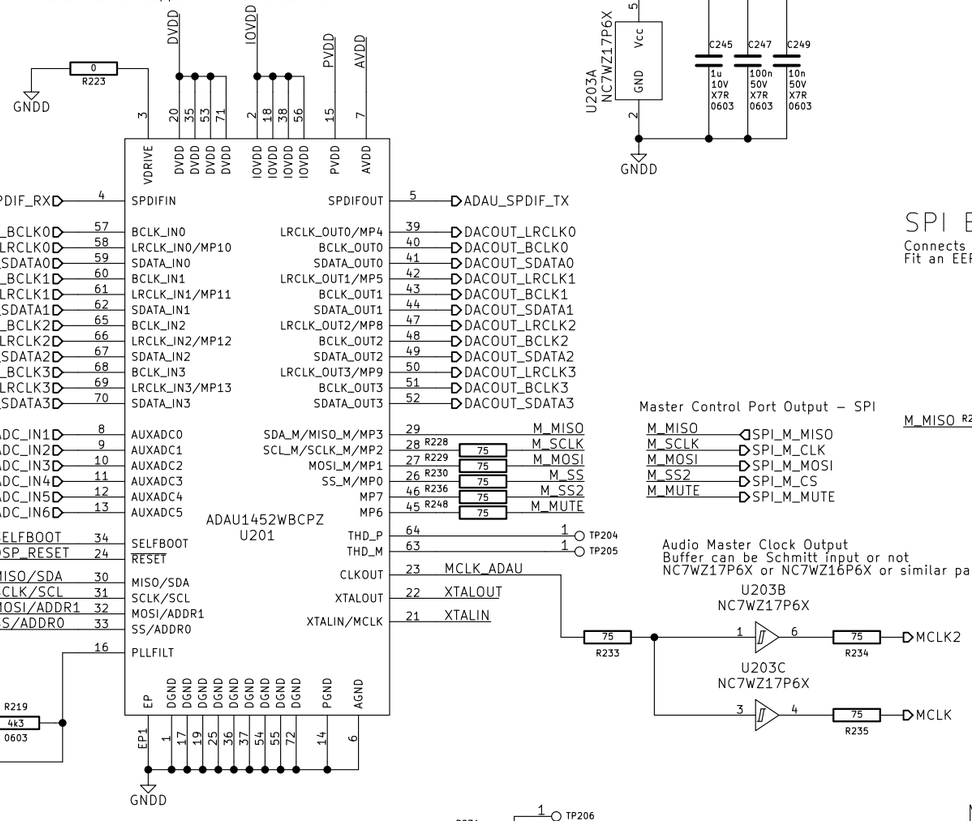


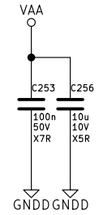






U201 can be either ADUA1452, ADAU1451, or ADAU1450.
SPDIF is not support on the ADAU1450.



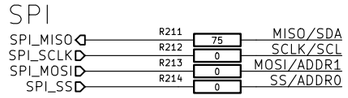


Slave control port

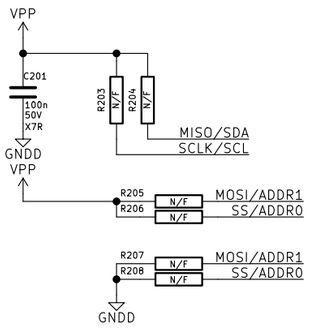
Used for external control and programming. Fitting R209/R210 and removing R211–R214 enables I2C. This will disable the slave SPI port P511.

I2C

SPI

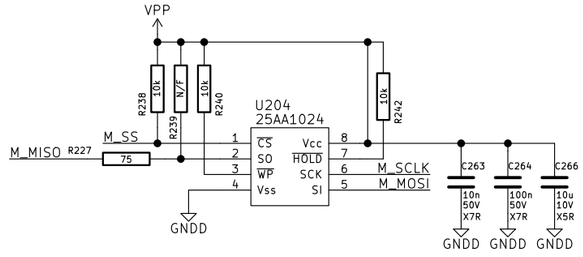


Slave I2C Pull-ups and Address



SPI EEPROM

Connects to master serial port
Fit an EEPROM such as the 24AA1024 to allow selfboot operation

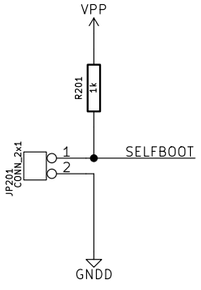


Master Control Port Output – SPI

Audio Master Clock Output
Buffer can be Schmitt input or not
NC7WZ17P6X or NC7WZ16P6X or similar parts

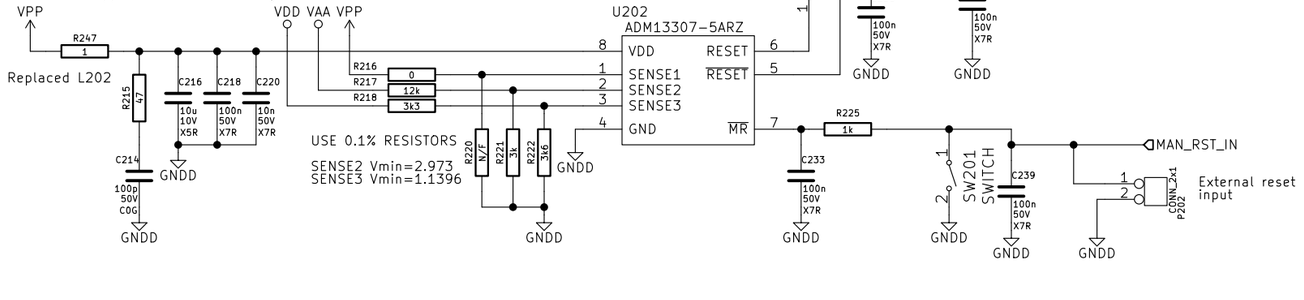
Selfboot Jumper

Leave P201 open for selfboot.
Short P201 to disable self boot and program the EEPROM.
Short to use I2C/SPI external control instead of selfboot.

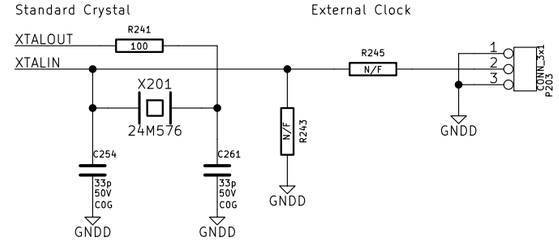


Voltage Monitor Reset

Generate a global reset based on voltage rails.
Use ADM13307-5ARZ only! (Sense1=3v3, Sense2/3=Adj).
Supports external reset signal.



Master Clock – Two Options



Sheet: /ADAU1452/
File: ADAU1452.sch

Title: ADAU145x DSP – ADAU1452, ADAU1451, ADAU1450 supported

Size: A3	Date: 2016-05-25	**Rev: 2.0**
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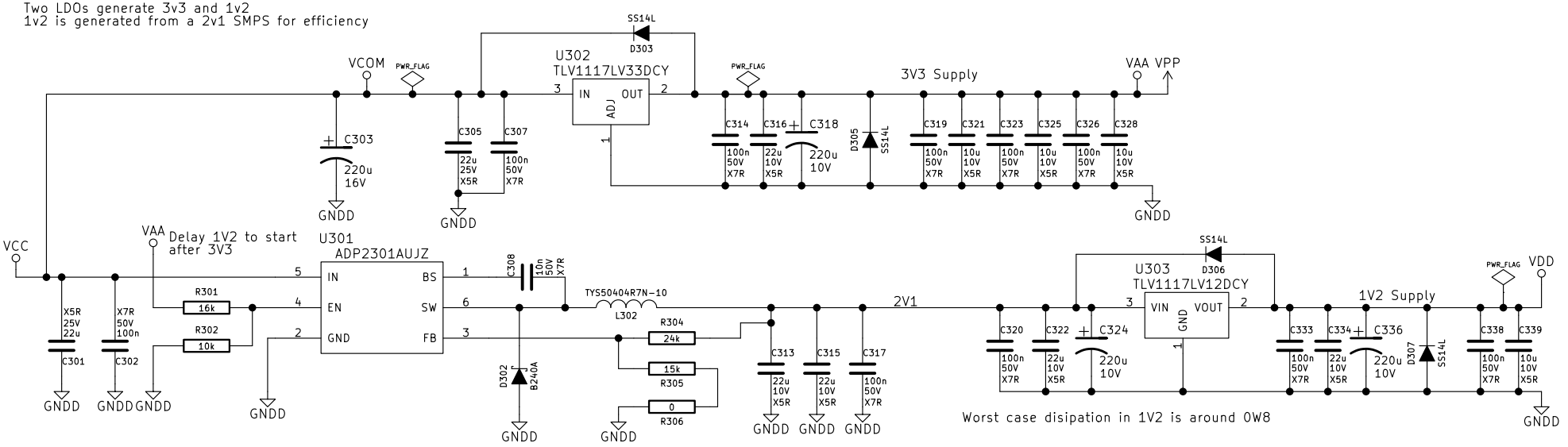
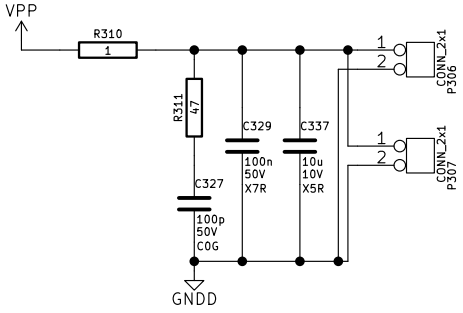
Power Supply

Two LDOs generate 3v3 and 1v2
1v2 is generated from a 2v1 SMPS for efficiency

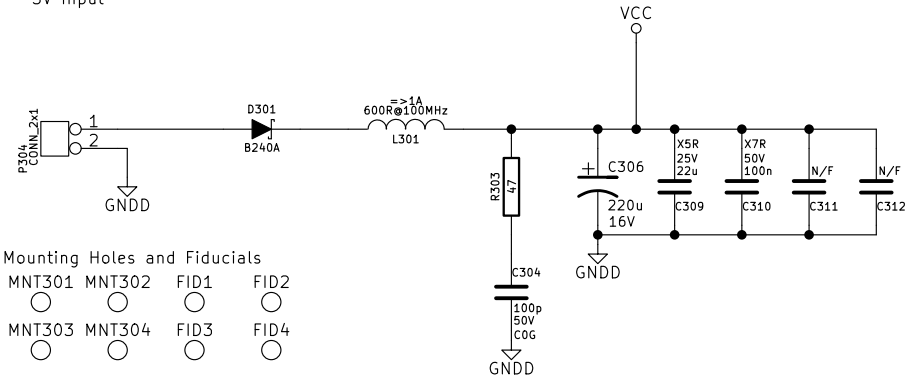


External 3V3 connections.
Do not overload these!
Recommend 100mA max.



Power Input

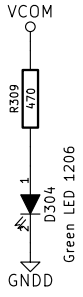
5V Input



Mounting Holes and Fiducials

MNT301 MNT302 FID1 FID2

MNT303 MNT304 FID3 FID4



Sheet: /Power Supply/
File: ADAU1452 PSU.sch

Title: ADAU145x DSP – ADAU1452, ADAU1451, ADAU1450 supported

Size: A4	Date: 2016-05-25	**Rev: 2.0**
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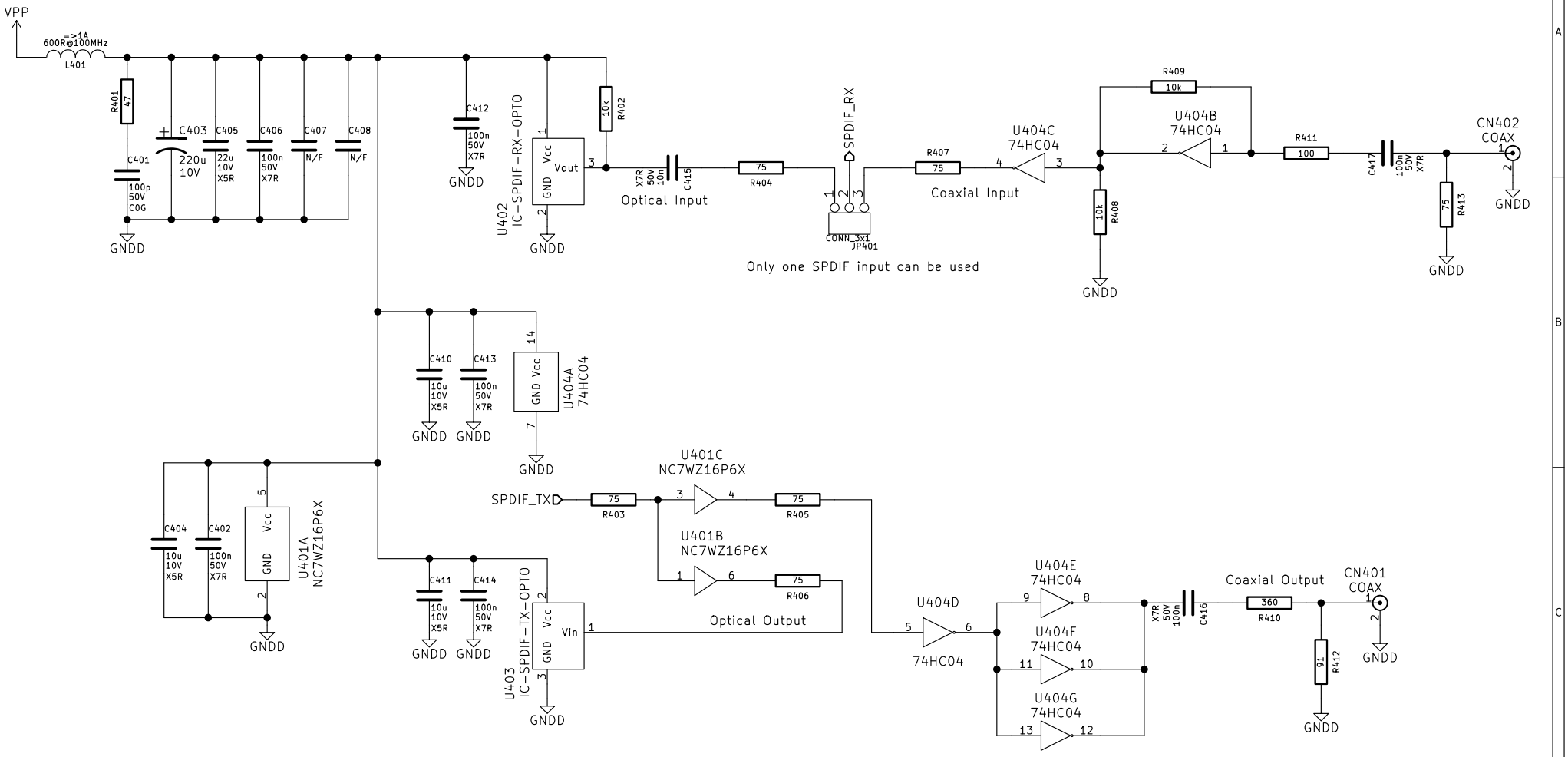
SPDIF Inputs and Outputs – Optical and Coaxial



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File: SPDIF.sch

Title: ADAU145x DSP – ADAU1452, ADAU1451, ADAU1450 supported

Size: A4	Date: 2016-05-25	**Rev: 2.0**
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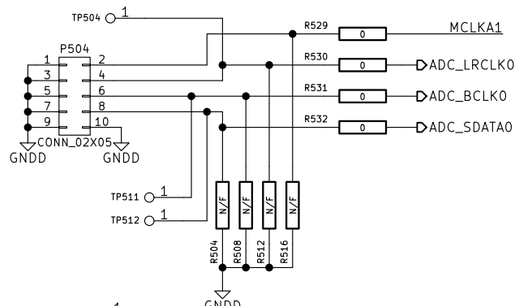
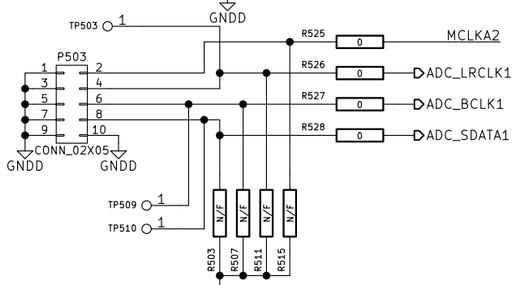
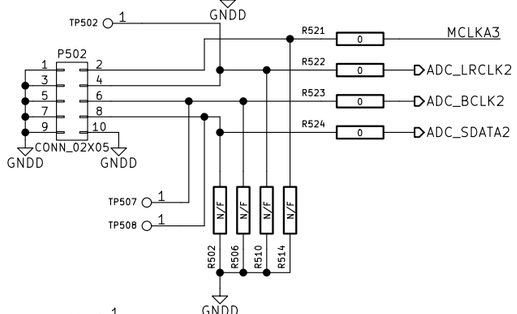
Connectors

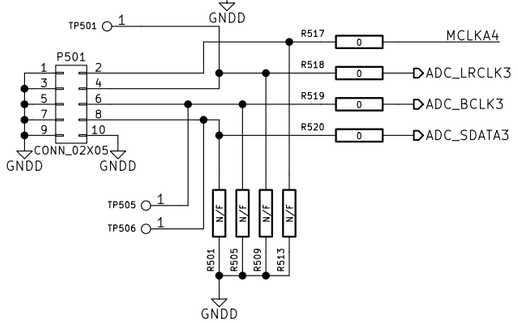
I2S Inputs

See ADAU1452 datasheet for details
Inputs are highly flexible



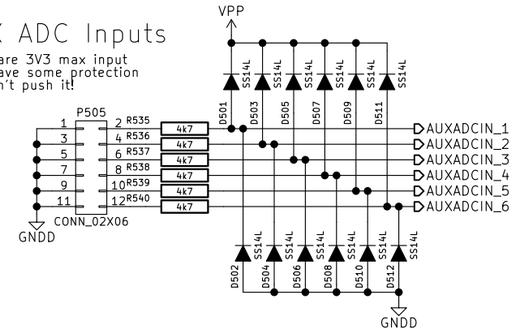






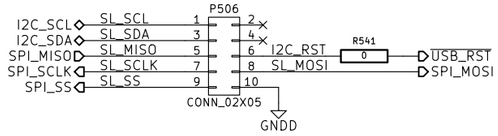
AUX ADC Inputs

These are 3V3 max input
They have some protection
but don't push it!

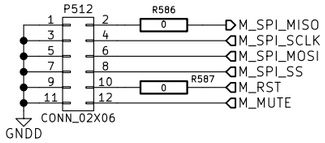


ADI EVAL-ADUSB2Z USB/I2C Programming/Control

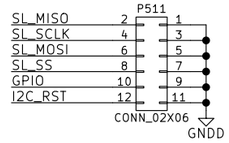
These go to the slave port
These are 3V3 lines only!



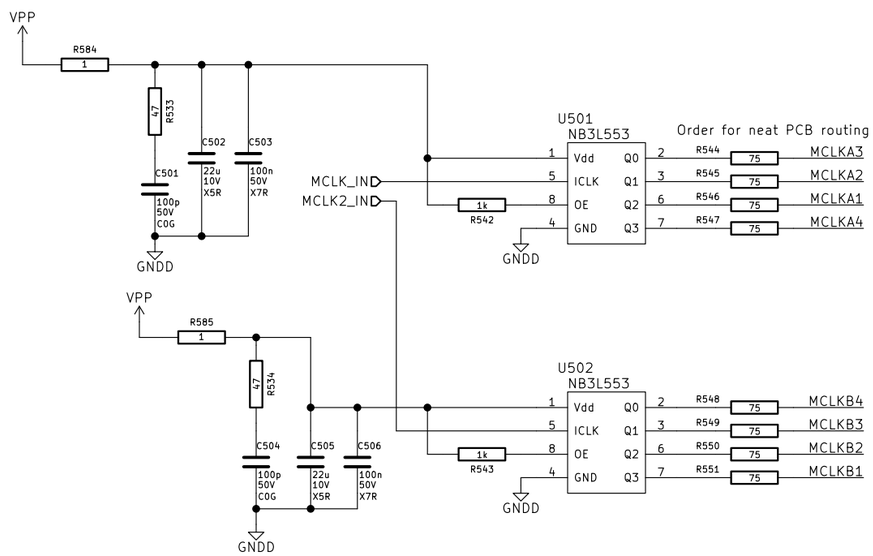
Master SPI Port



Slave SPI Port

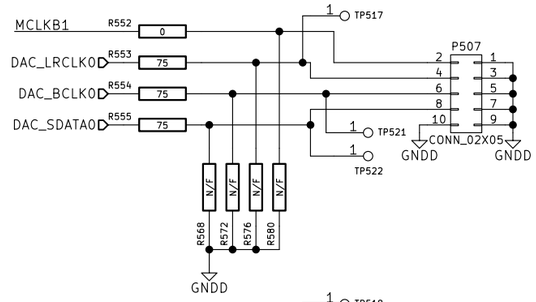


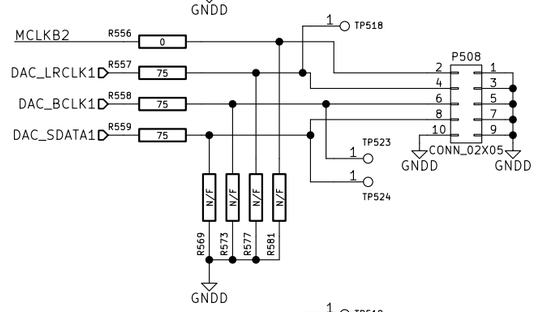
Master Clock Fan Out

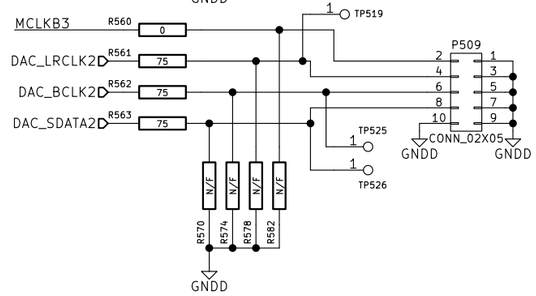


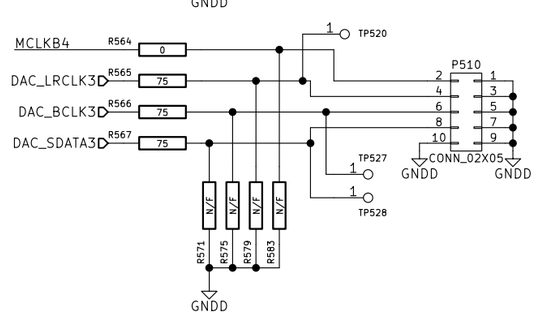
I2S Outputs

See ADAU1452 datasheet for details
Outputs are highly flexible

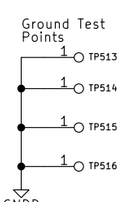








Ground Test Points



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Sheet: /Connectors/
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