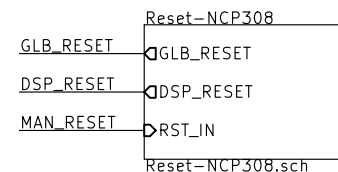
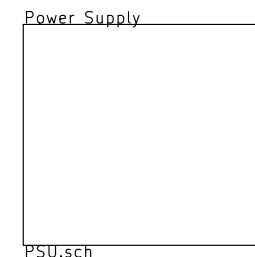
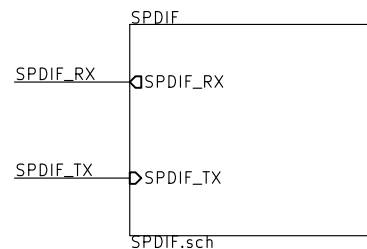
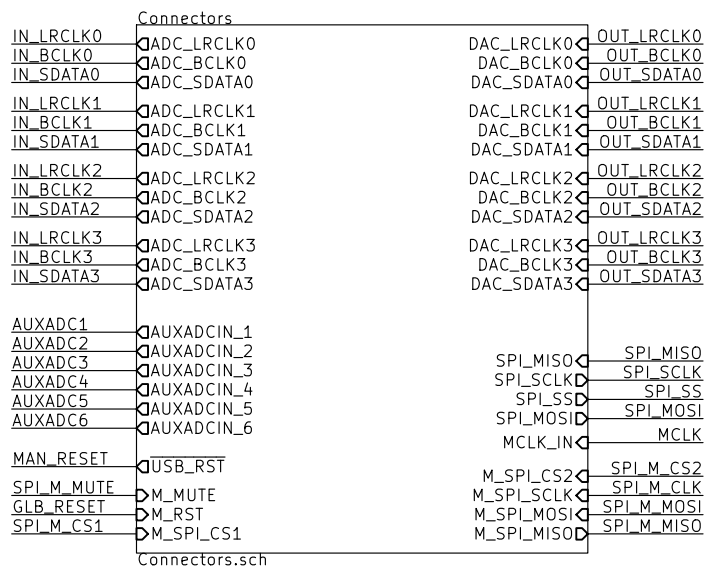
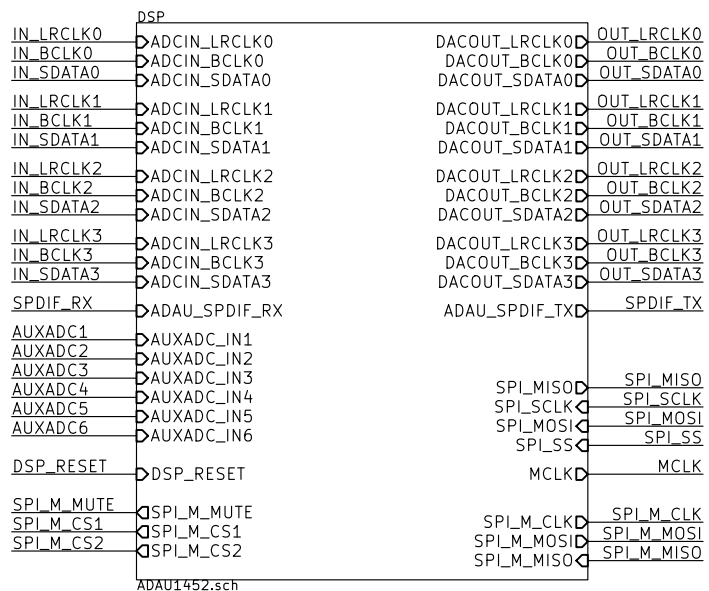


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uDSP 1.1

A 5cm x 5cm DSP board using Analog Device SigmaDSP devices
Supports ADAU1466, ADAU1462, ADAU1452, ADAU1451, ADAU1450
Selfboot and external control supported
All I/O routed out



Changelog:

Revision 1.1:
Add both chip select lines to master SPI headers – removed 3V3 power
Add 3V3 monitor option to reset circuit

Notes:

All digital I/O is 3V3. Use outside this voltage can cause damage.
See bill of materials for detailed parts information.

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Title: uDSP

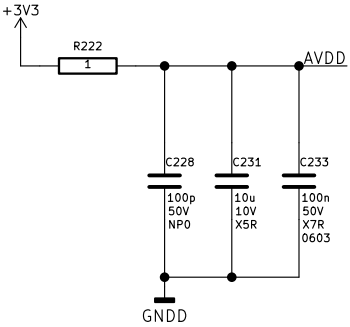
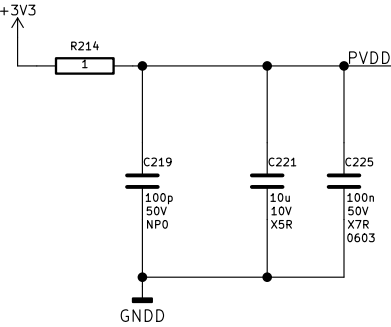
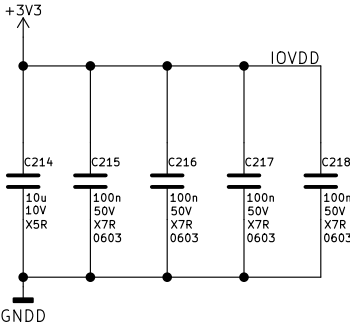
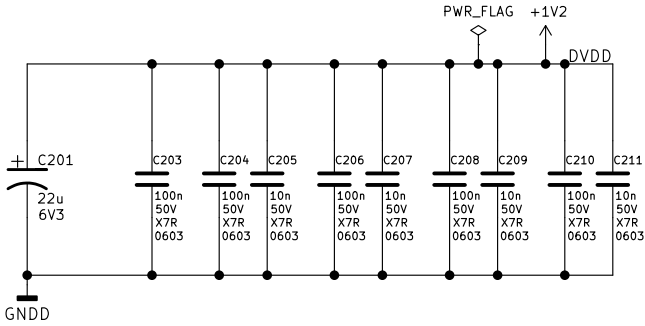
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KiCad E.D.A. kicad (5.1.0)-1

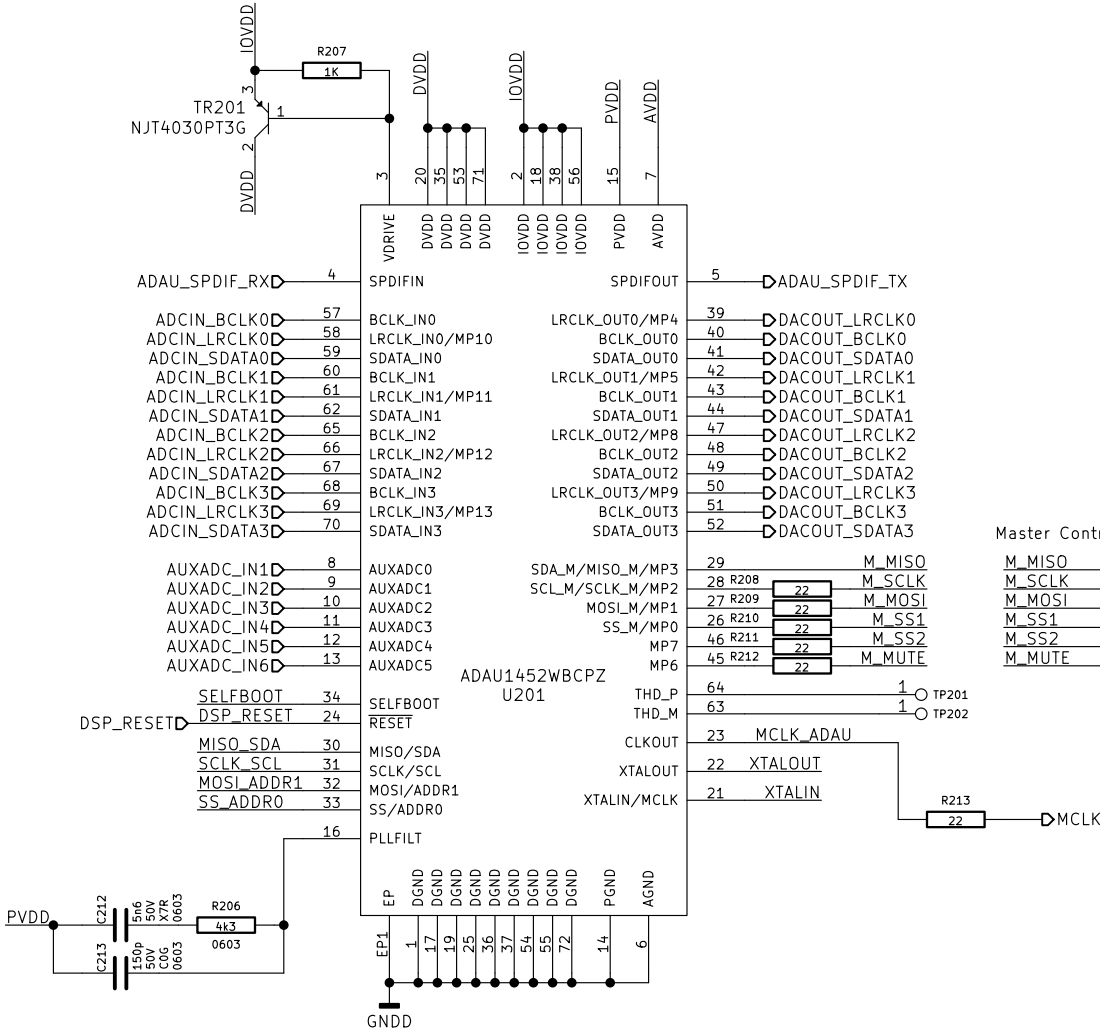
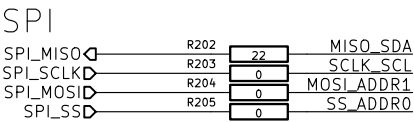
Rev: 1.1

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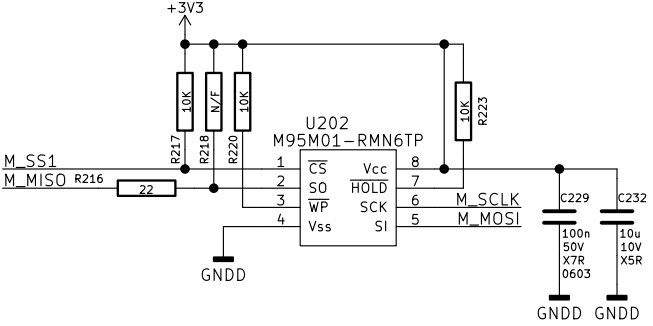
DSP (ADAU1466,ADAU1462,ADAU1452,ADAU1451,ADAU1450)



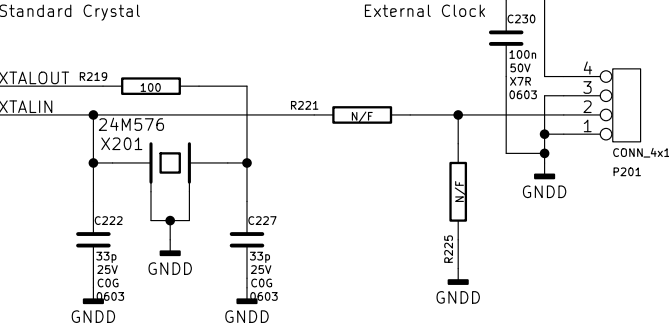
Slave control port
Used for external control and programming.



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

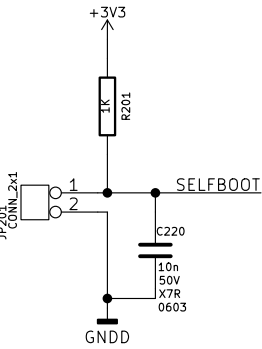


Master Clock – Two Options

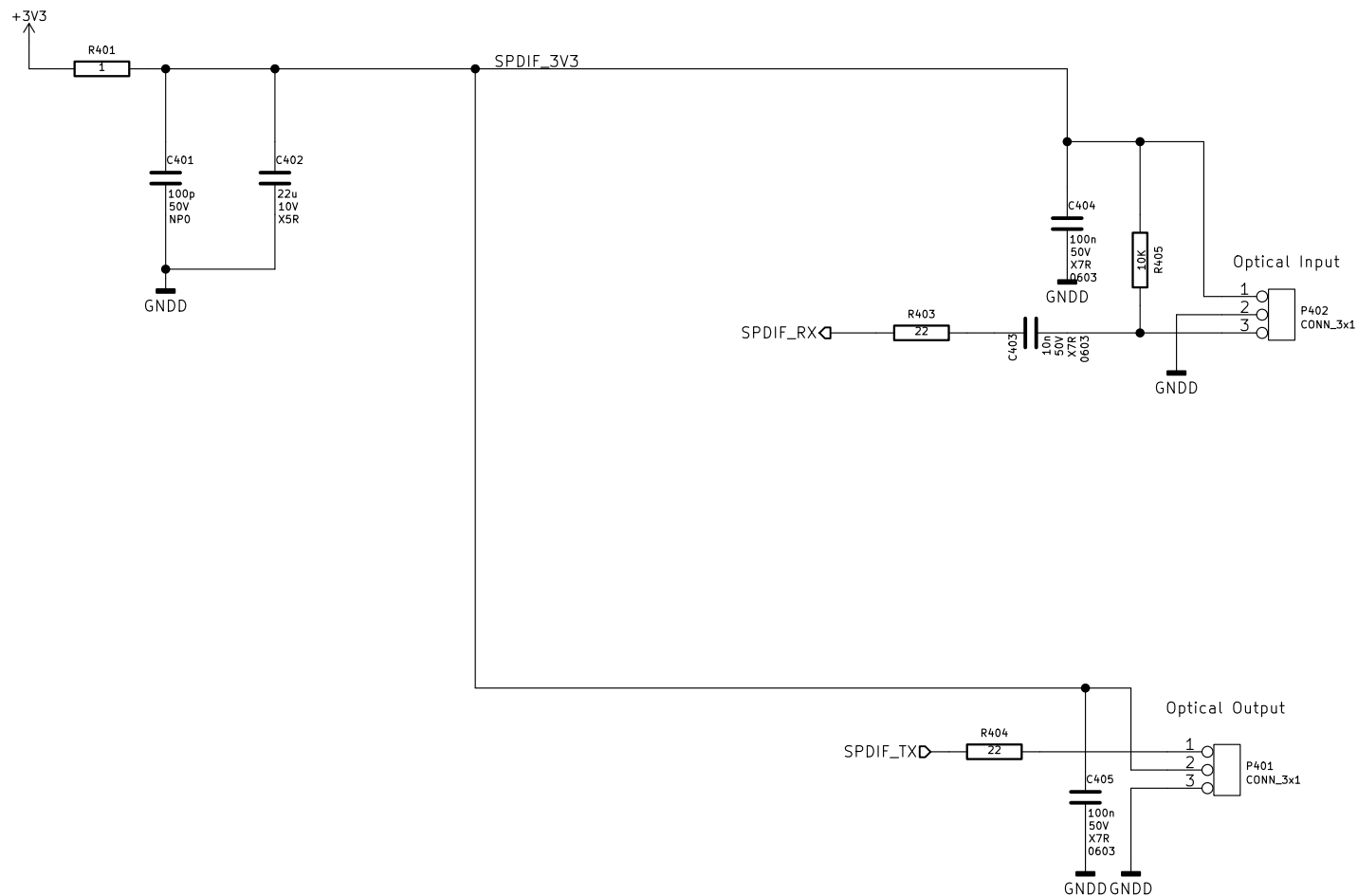


Selfboot Jumper

Leave JP201 open for selfboot.
Short JP201 to disable self boot and program the EEPROM.
Short JP201 to use SPI external control instead of selfboot.



SPDIF Optical Input and Output – Mounted off-board



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Sheet: /SPDIF/

File: SPDIF.sch

Title: uDSP

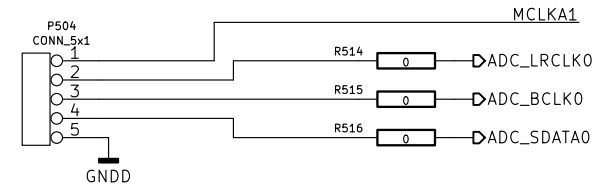
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12S Inputs

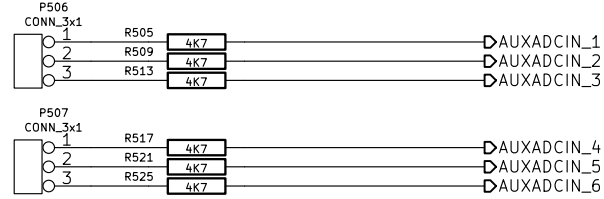


P506
CONN_3x1

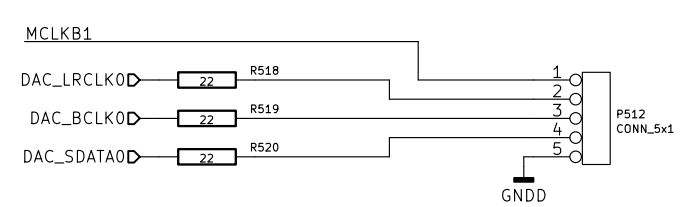
Pin	Resistor	Value	Destination
1	R505	4K7	AUXADCIN_1
2	R509	4K7	AUXADCIN_2
3	R513	4K7	AUXADCIN_3

P507
CONN_3x1

Pin	Resistor	Value	Destination
1	R517	4K7	AUXADCIN_4
2	R521	4K7	AUXADCIN_5
3	R525	4K7	AUXADCIN_6



Pin 1 to 5 connection diagram for P512 CONN_5x1. The diagram shows four signals connected to pins 1 through 4: MCLKB1 to pin 1, DAC_LRCLK0 to pin 2, DAC_BCLK0 to pin 3, and DAC_SDATA0 to pin 4. Pin 5 is connected to GND. Each signal line has a resistor symbol with the value 22 and a label R518, R519, and R520 respectively.



Pin connection diagram for the P505 module. The diagram shows a 10-pin header with the following connections:

- Pin 1: \times (unconnected)
- Pin 2: \times (unconnected)
- Pin 3: \times (unconnected)
- Pin 4: \times (unconnected)
- Pin 5: SL_MISO
- Pin 6: I2C_RST
- Pin 7: SL_SCLK
- Pin 8: SL_MOSI
- Pin 9: SL_SS
- Pin 10: GND

Additional labels in the diagram include: SPI_MISO, SPI_SCLK, SPI_SS, CONN_02X05, USB_RST, and SPI_MOSI.

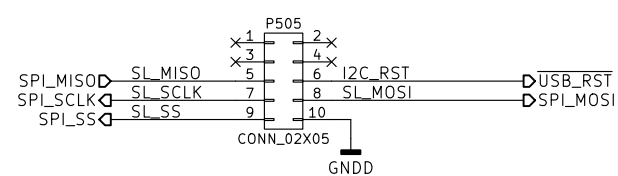
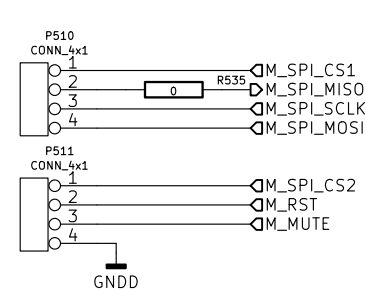


Diagram illustrating the pin connections for the SPI module:

- P510 CONN_4x1:**
 - Pin 1: M_SPI_CS1
 - Pin 2: M_SPI_MISO (via R536)
 - Pin 3: M_SPI_SCLK
 - Pin 4: M_SPI_MOSI
- P511 CONN_4x1:**
 - Pin 1: M_SPI_CS2
 - Pin 2: M_SPI_RST
 - Pin 3: M_SPI_MUTE
 - Pin 4: GND



The diagram shows two connectors, P508 and P509, each with three pins. P508 is labeled 'CONN_3x1' and has pins 1, 2, and 3. P509 is also labeled 'CONN_3x1' and has pins 1, 2, and 3. A ground symbol labeled 'GND' is connected to pin 3 of P509. The connections are as follows:

- P508 Pin 1: SL_MISO
- P508 Pin 2: SL_SCLK
- P508 Pin 3: SL_MOSI
- P509 Pin 1: SL_SS
- P509 Pin 2: I2C_RST
- P509 Pin 3: GND

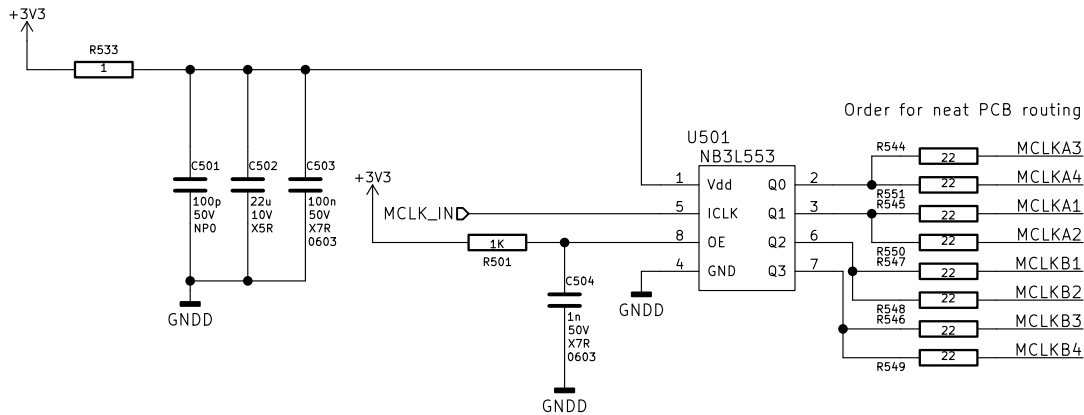
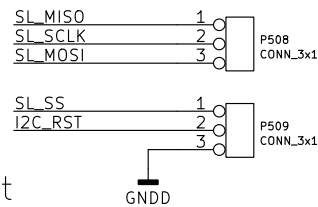


Figure 10 shows the DAC pin connections. The DAC_LRCLK1 pin is connected to a 22 ohm resistor (R522), which is then connected to pin 1 of the P513 CONN_5x1 connector. The DAC_BCLK1 pin is connected to a 22 ohm resistor (R523), which is then connected to pin 2 of the P513 CONN_5x1 connector. The DAC_SDATA1 pin is connected to a 22 ohm resistor (R524), which is then connected to pin 3 of the P513 CONN_5x1 connector. Pin 4 of the connector is connected to GND, and pin 5 is connected to GND.

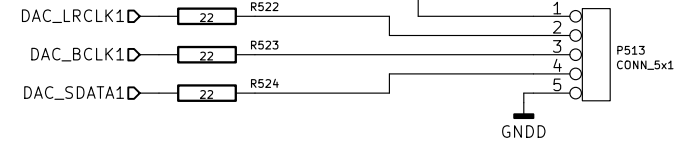
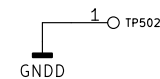
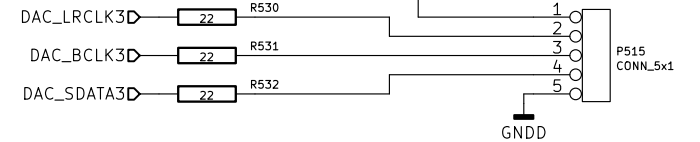
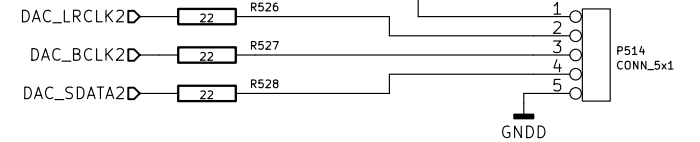


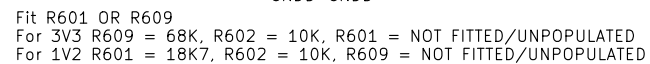
Figure 10 shows the DAC pin connections. The DAC pins are connected to the P514 CONN_5x1 connector. The connections are as follows:

- DAC_LRCLK2 is connected to pin 1.
- DAC_BCLK2 is connected to pin 2.
- DAC_SDAT2 is connected to pin 4.
- Pin 5 is connected to GND.



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Sheet: /Connectors/ File: Connectors.sch		
Title: uDSP		
Size: A3	Date: 2019-04-02	Rev: 1.1
KiCad E.D.A. kicad (5.1.0)–1		Id: 5/6

Generate a global reset based on 1V2 voltage rail.
Use NCP308SNADJT1G adjustable version.
Supports external reset signal.



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File: Reset-NCP308.sch

Rev: 1.1

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