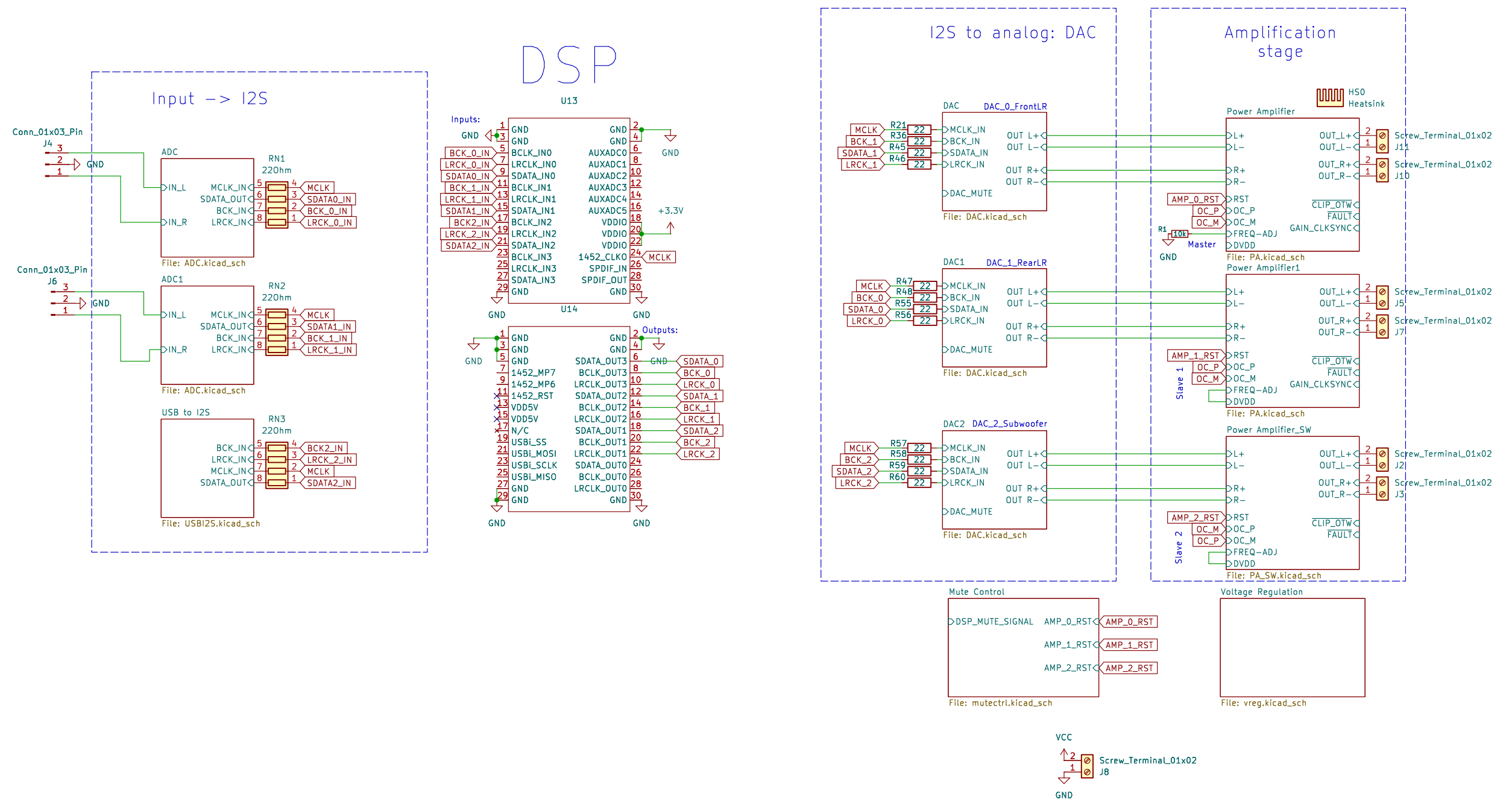


DSP Amplifier

4.1 – Analog + USB + SPDIF + OPTICAL Input



Sheet: /
File: ultimate class d amp.kicad_sch

Title: Main Schematic

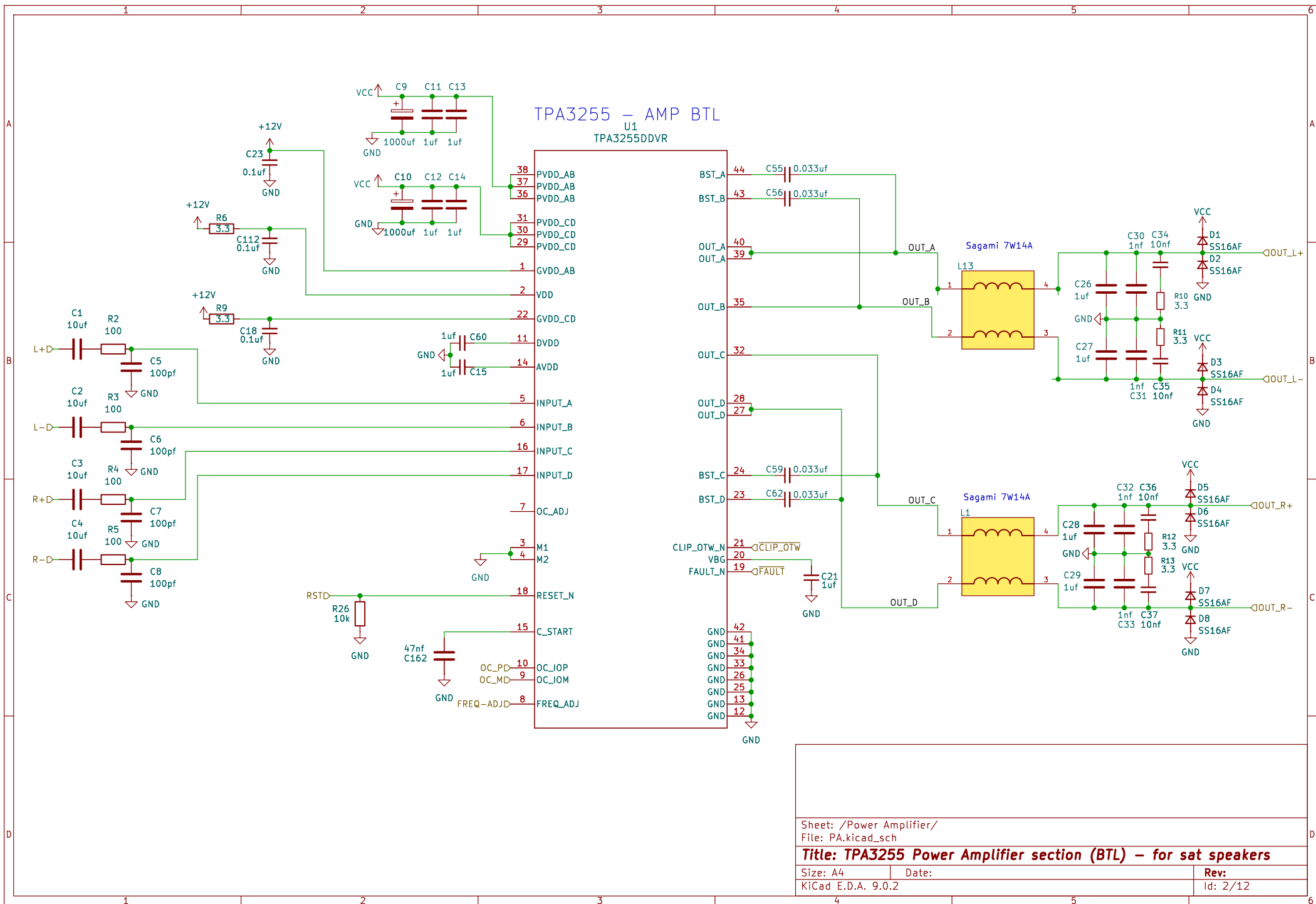
Size: A3

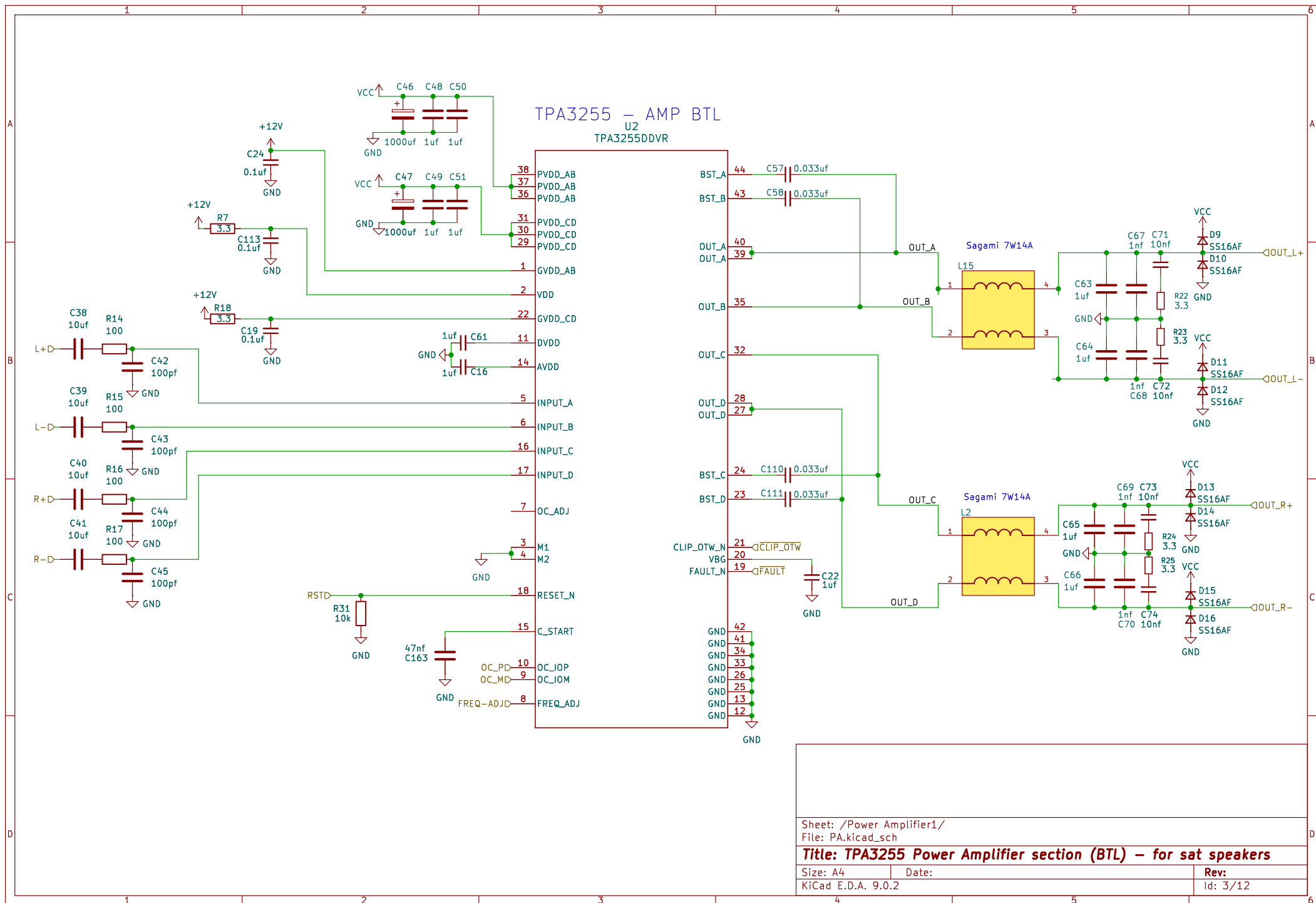
Date:

Rev:

KiCad E.D.A. 9.0.2

Id: 1/12





U3A
PCM5242RHBR

SDATA_IND 28 DIN
MODE1 23
MODE2 24
GND

MCLK_IND 26 SCK
GND 18 SCL ATT1
DAC_MUTED 1 XSMT

BCK_IND 27 BCK
EPAD 33
LRCK_IND 31 LRCK
GND 17
SDA ATT2 16
VCOM DEMP

CAPM 8
CAPM 6
LD00 2
OUTLN 11
OUTLP 10
OUTRN 12
OUTRP 13
VNEG 9

FMT ADR1 32
GPO ADR2 22
GND

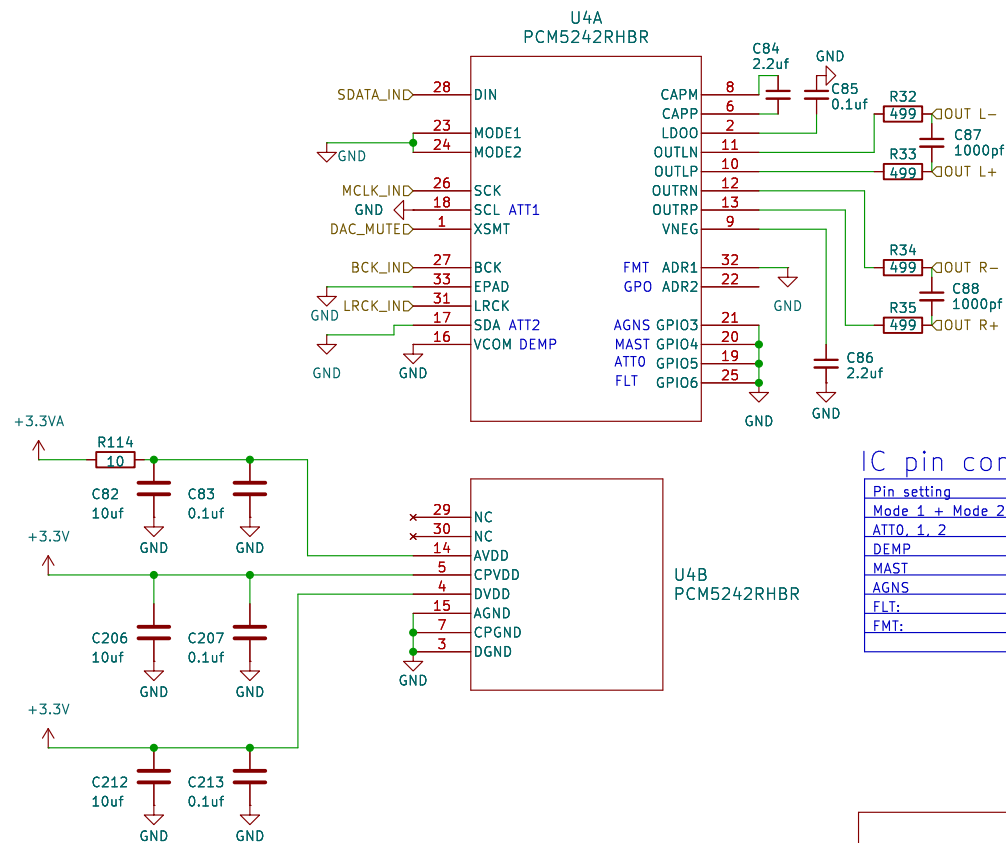
AGNS GPIO3 21
MAST GPIO4 20
ATTO GPIO5 19
FLT GPIO6 25
GND

C77 2.2uf
GND
C78 0.1uf
R27 499
C80 1000pf
R28 499
OUT L-
OUT L+
R29 499
C81 1000pf
R30 499
OUT R-
OUT R+
C79 2.2uf
GND

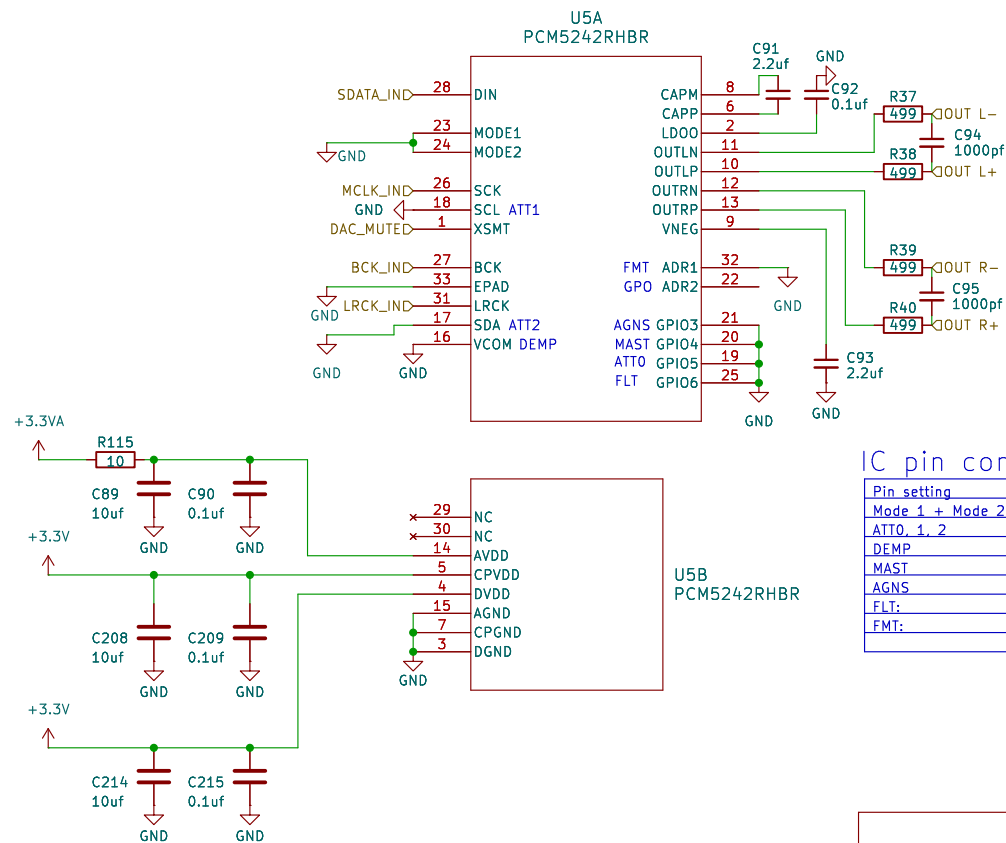


Pin setting	Set to:	Pin Number	High/Low
Mode 1 + Mode 2	HW mode	23, 24	Low, Low
ATT0, 1, 2	0db	19, 18, 17	Low x3
DEMP	Disabled	16	Low
MAST	Slave	20	Low
AGNS	0db (2v RMS) OUT	21	Low
FLT:	Normal latency	25	Low
FMT:	I2S	32	Low

DAC – TI PCM5242

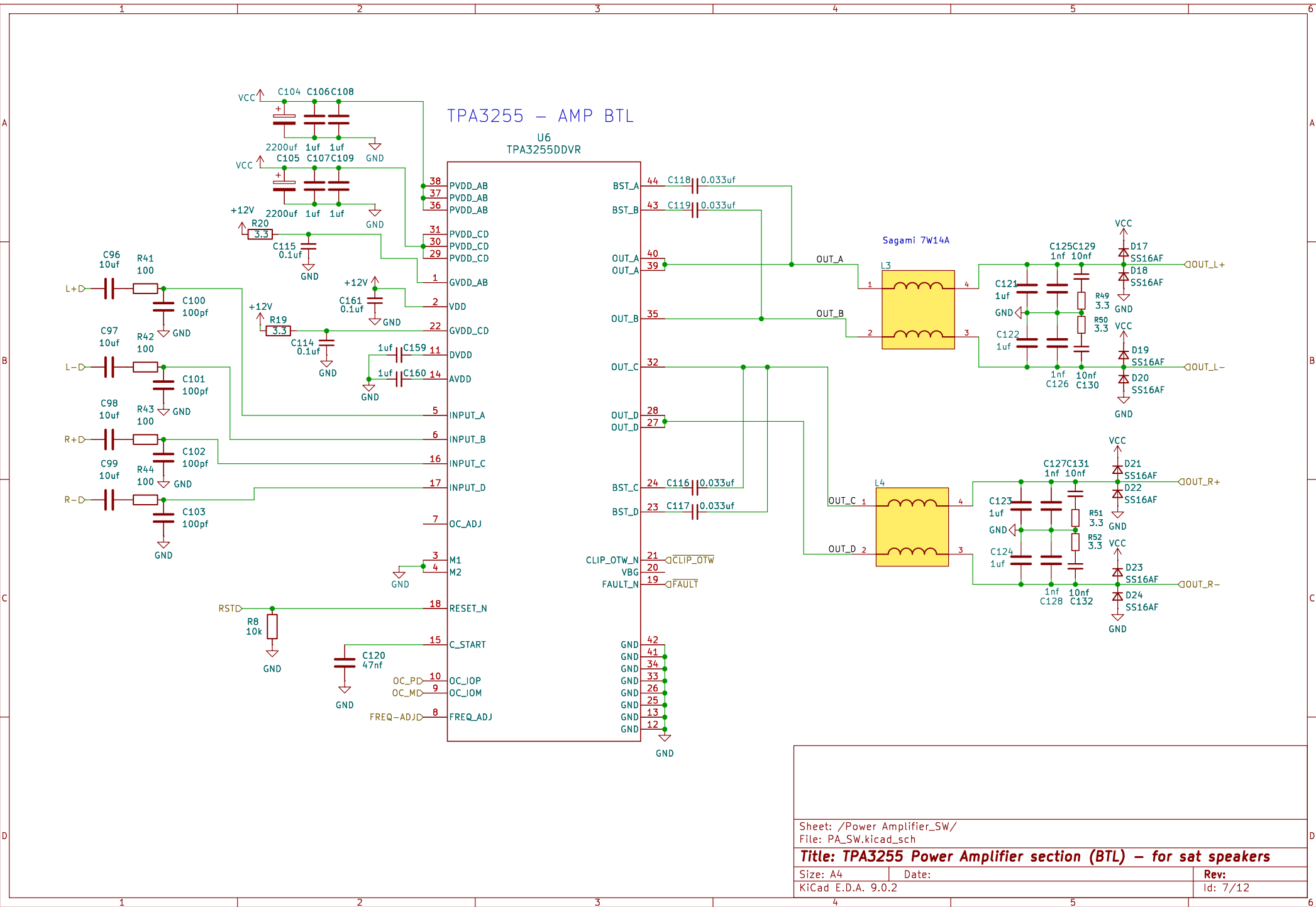


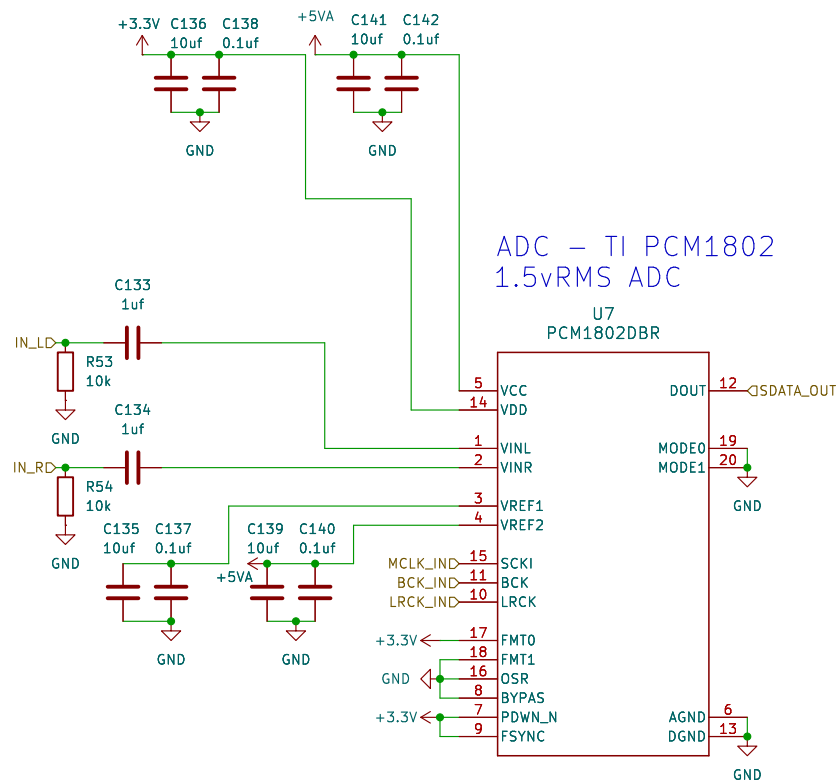
DAC – TI PCM5242



IC pin configuration

Pin_setting	Set to:	Pin Number	High/Low
Mode 1 + Mode 2	HW mode	23, 24	Low, Low
ATTO, 1, 2	0db	19, 18, 17	Low x3
DEMP	Disabled	16	Low
MAST	Slave	20	Low
AGNS	0db (2v RMS) OUT	21	Low
FLT:	Normal latency	25	Low
FMT:	I2S	32	Low





nPWDN:
1 - normal operation mode (0)

OSR:
?

BYPAS:
0 - block DC on DOUT

Format: I2S - 24-bit
FMT0 - 1
FMT1 - 0

Interface mode: Peripheral mode
MODE1 - 0
MODE0 - 0

IC pin configuration

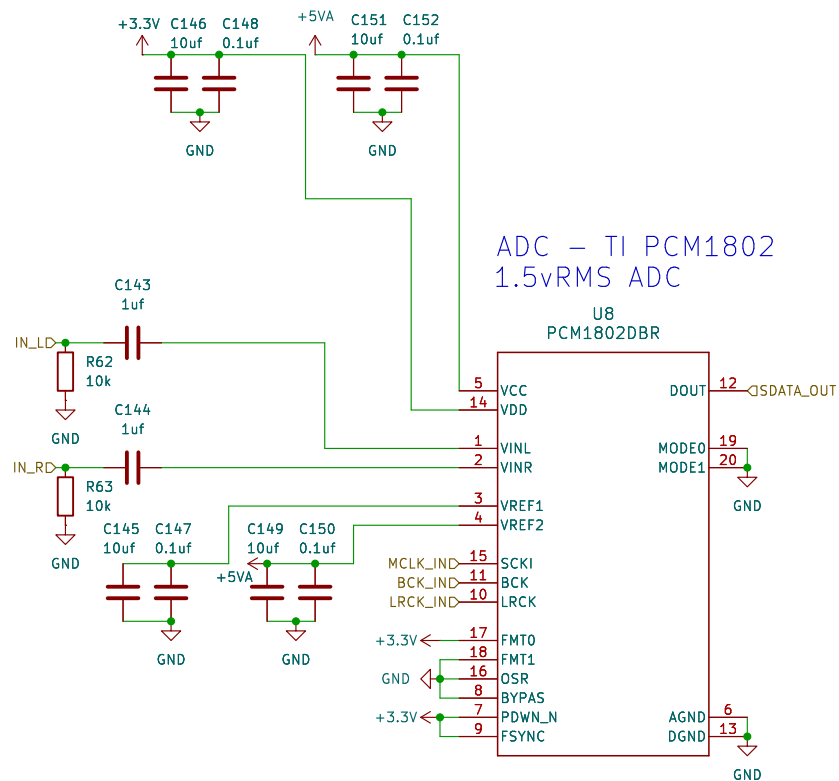
Pin setting	Set to:	Pin Number	High/Low
BYPAS	Normal (DC CUT)	8	Low
FMT0	Data Format (I2S)	17	High
FMT1	Data Format (I2S)	18	Low
Mode 0	Slave mode	19	Low
Mode 1	Slave mode	20	Low
OSR	OSR ratio sel-x64	16	Low

*Use OSR = x64 as 48k sample rate is lower than 50khz (required for x128)

Sheet: /ADC/
File: ADC.kicad_sch

Title: PCM1802 ADC input stage

Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.2		Id: 8/12



nPWDN:
1 - normal operation mode (0)

OSR:
?

BYPAS:
0 - block DC on DOUT

Format: I2S - 24-bit
FMT0 - 1
FMT1 - 0

Interface mode: Peripheral mode
MODE1 - 0
MODE0 - 0

IC pin configuration

Pin setting	Set to:	Pin Number	High/Low
BYPAS	Normal (DC CUT)	8	Low
FMT0	Data Format (I2S)	17	High
FMT1	Data Format (I2S)	18	Low
Mode 0	Slave mode	19	Low
Mode 1	Slave mode	20	Low
OSR	OSR ratio sel-x64	16	Low

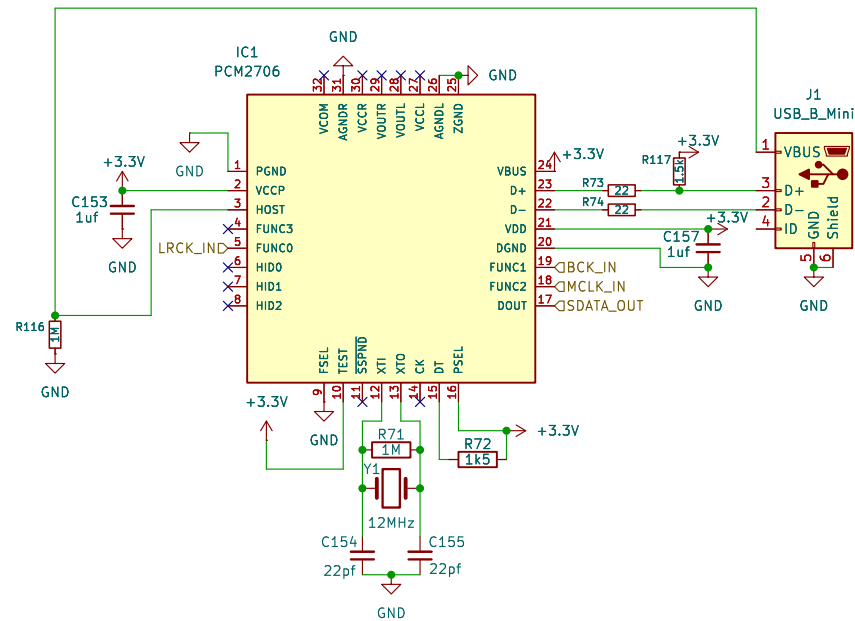
*Use OSR = x64 as 48k sample rate is lower than 50khz (required for x128)

Sheet: /ADC1/
File: ADC.kicad_sch

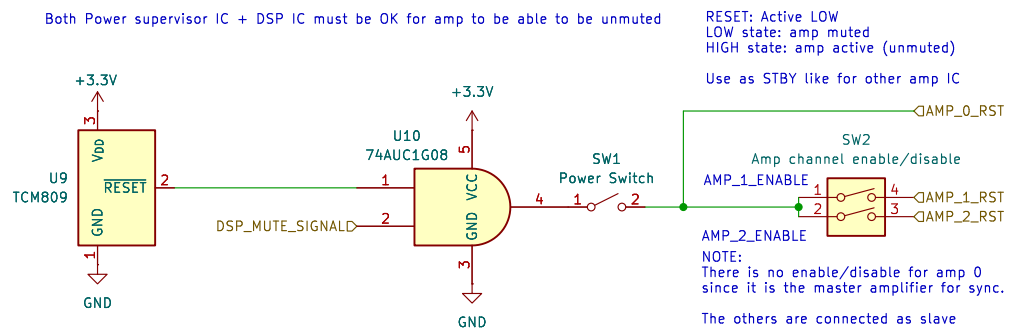
Title: PCM1802 ADC input stage

Size: A4 Date: Rev:
KiCad E.D.A. 9.0.2 Id: 9/12

USB to I2S – TI PCM2706
48k, 16 bit, 2ch audio stream



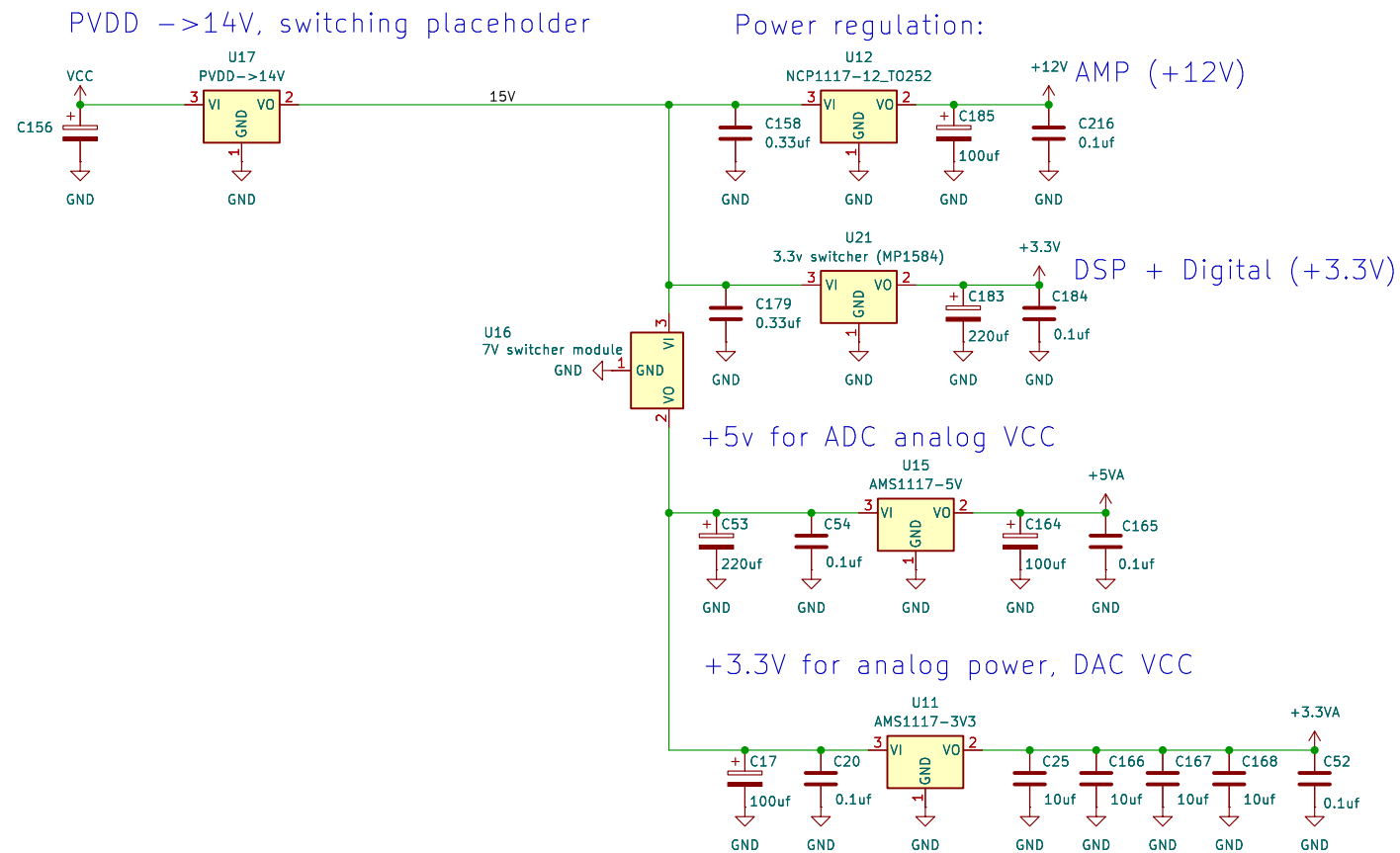
Sheet: /USB to I2S/ File: USBI2S.kicad_sch		
Title: PCM2706 USB to I2S converter		
Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.2	Id: 10/12	



Sheet: /Mute Control/
 File: mutectrl.kicad_sch

Title: Power on/off anti pop control + STBY management

Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.2		Id: 11/12



Sheet: /Voltage Regulation/
File: vreg.kicad_sch

Title: Voltage regulation

Size: A4
KiCad E.D.A. 9.0.2

Date:

Rev:
Id: 12/12