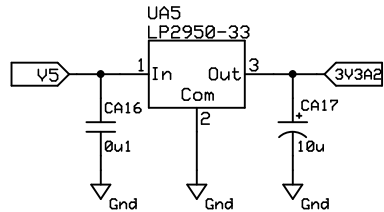
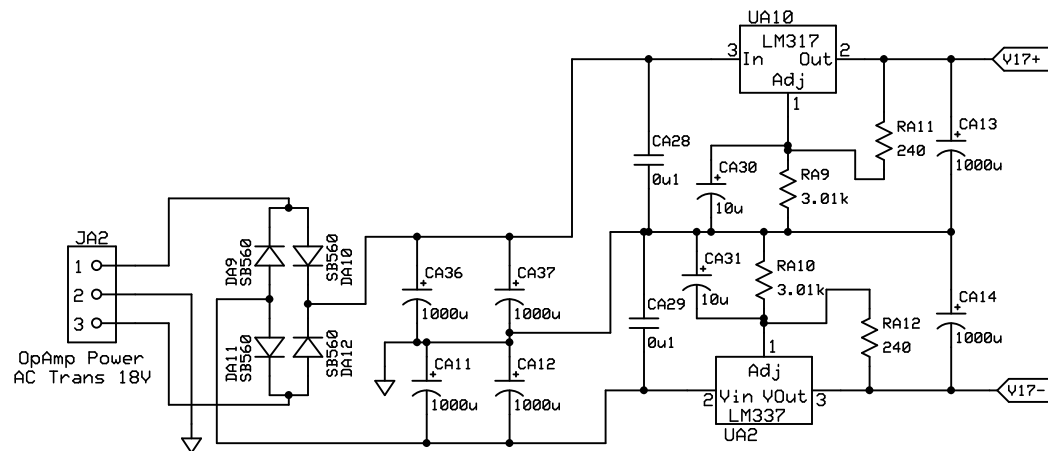
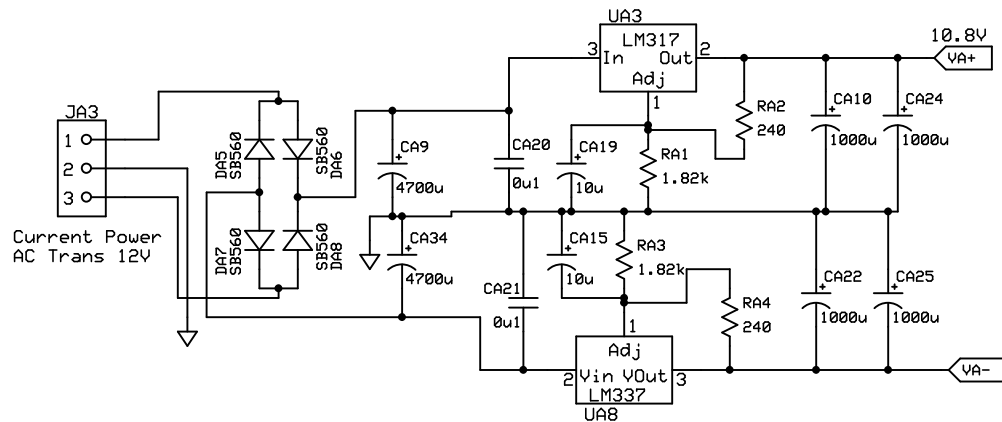
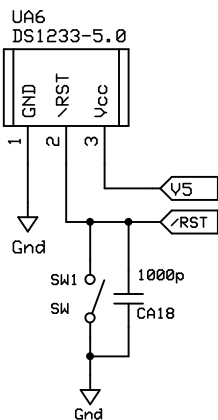
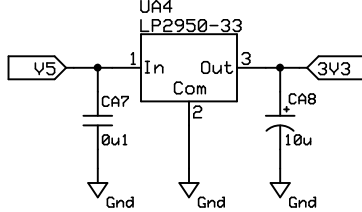


CS8416 Analog Section



CS8416 Digital Section



KOON Digital Audio

Power DAC

KOON3876

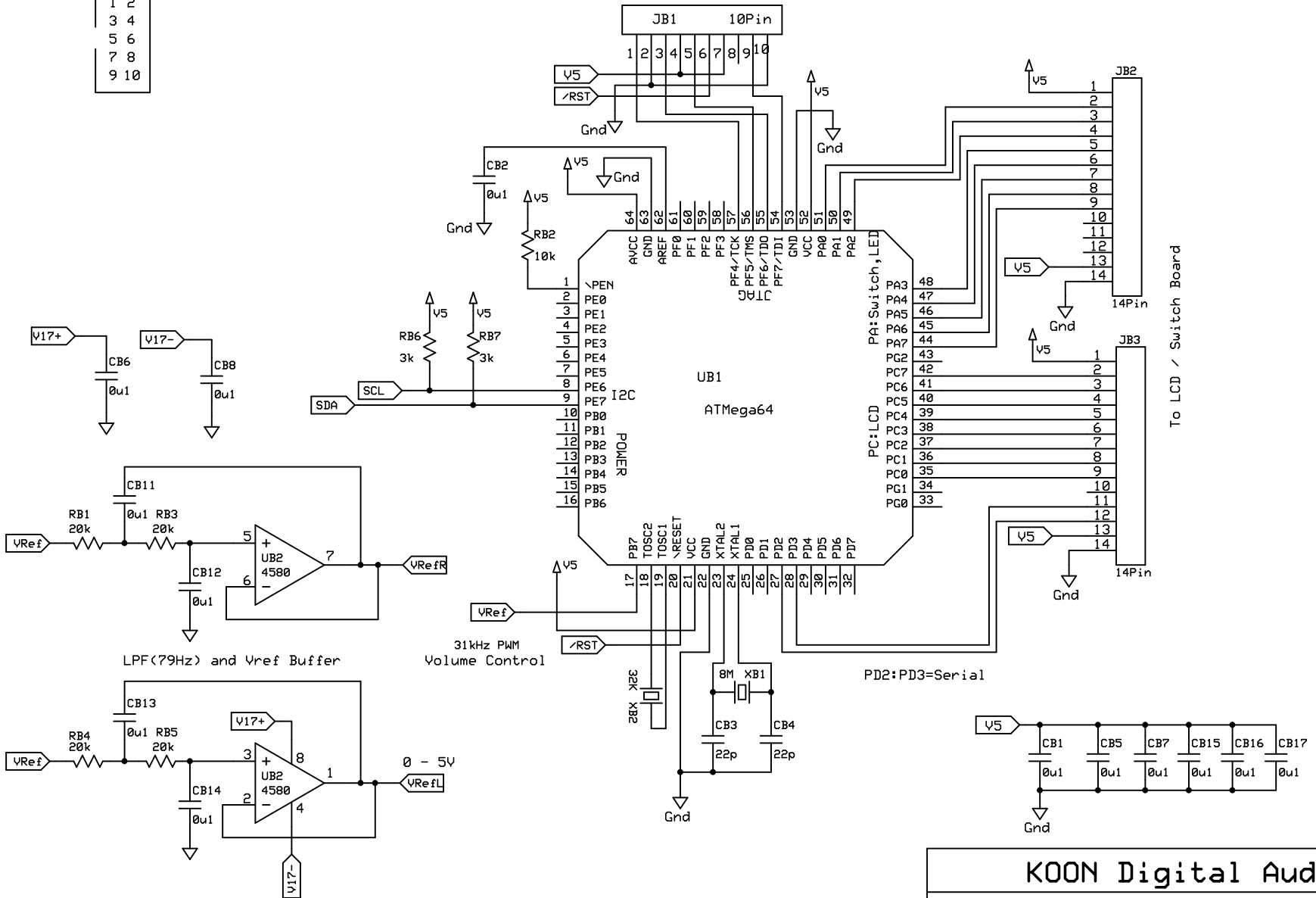
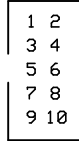
Rev 1.0

8/26/2007

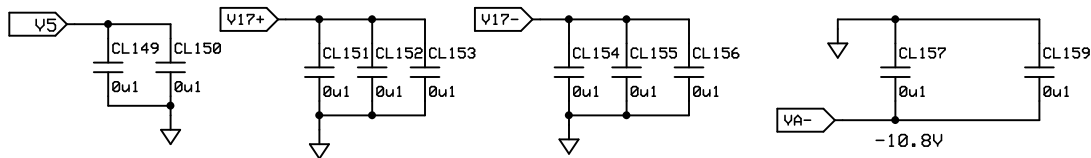
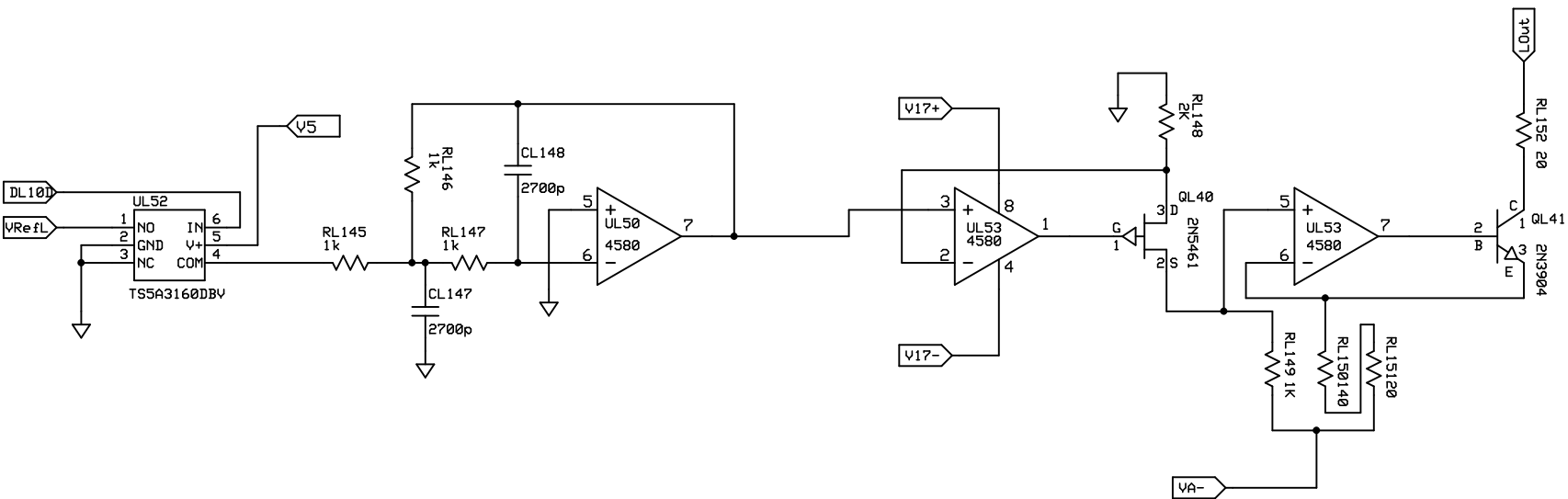
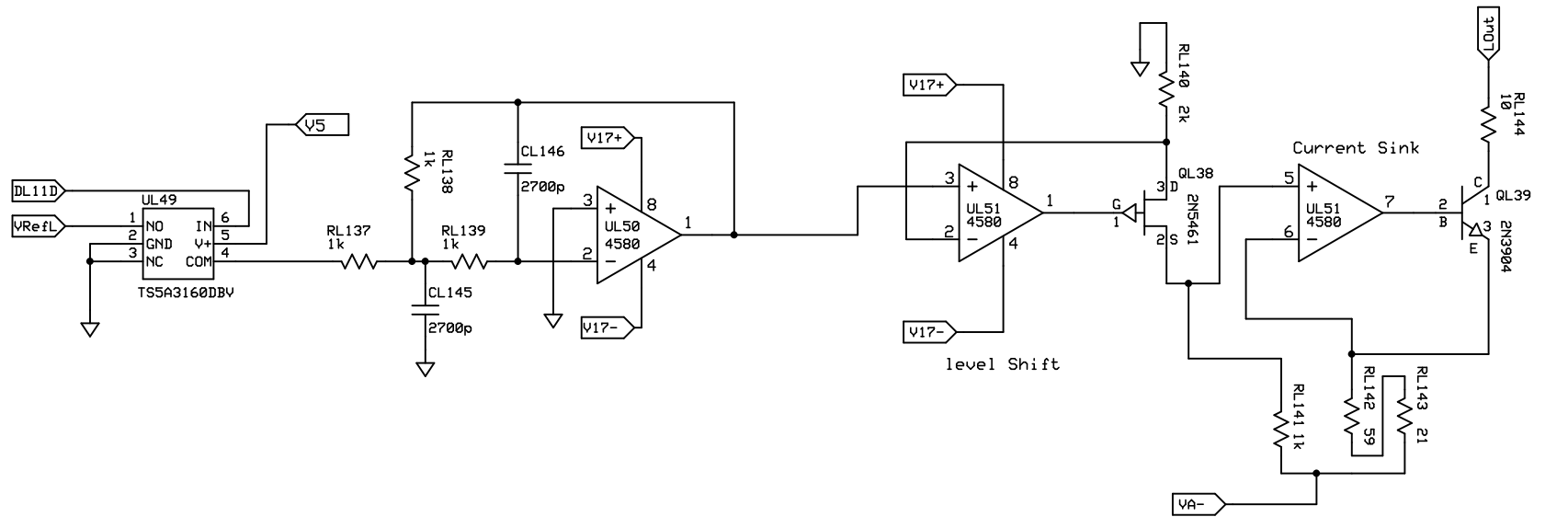
Power

\PEN: SPI Program Enabled when low

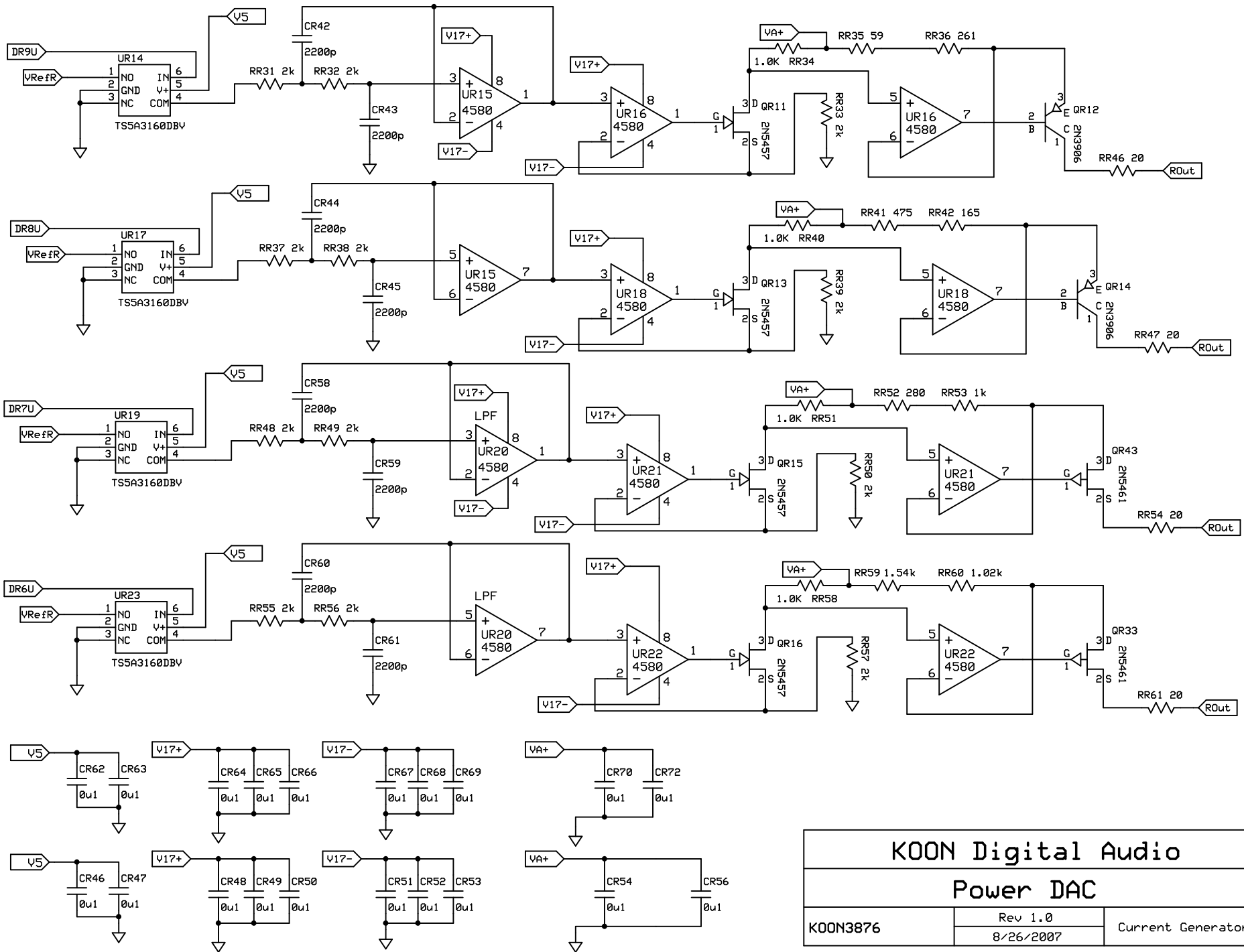
JTAG Connector
Top View



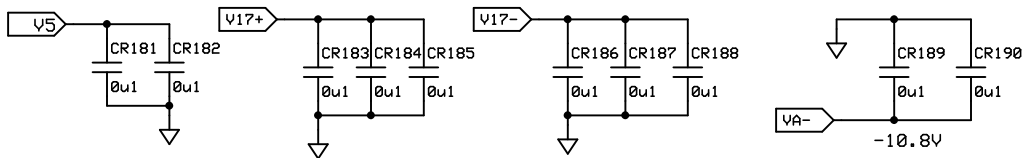
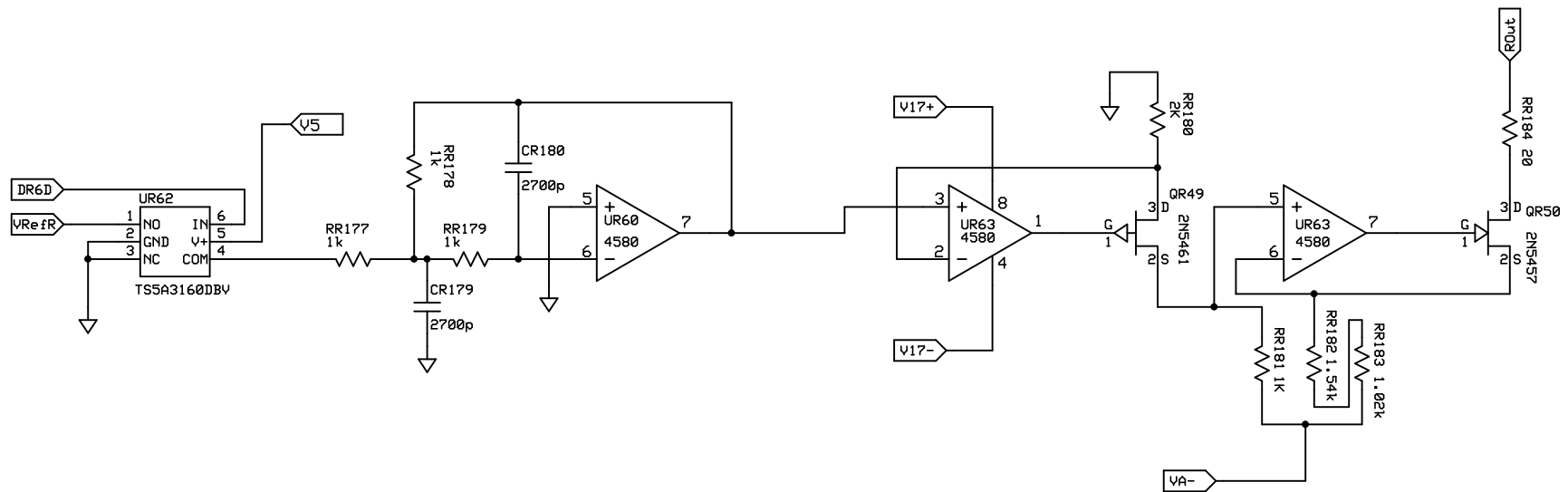
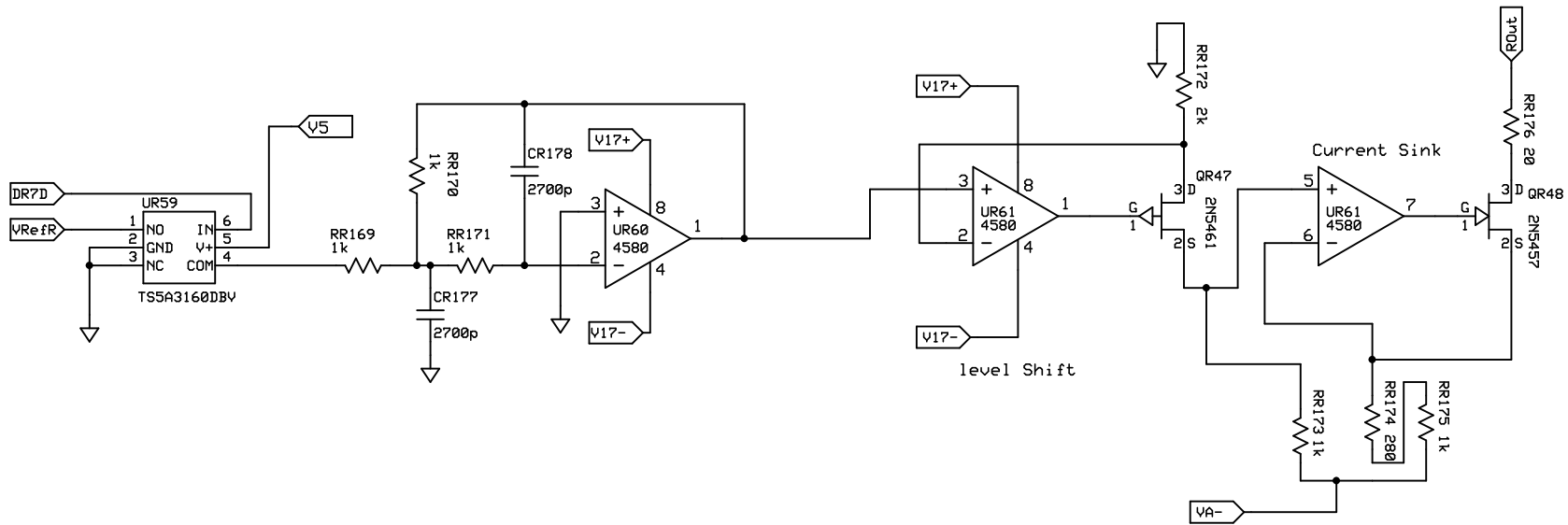
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	AVR
	8/26/2007	



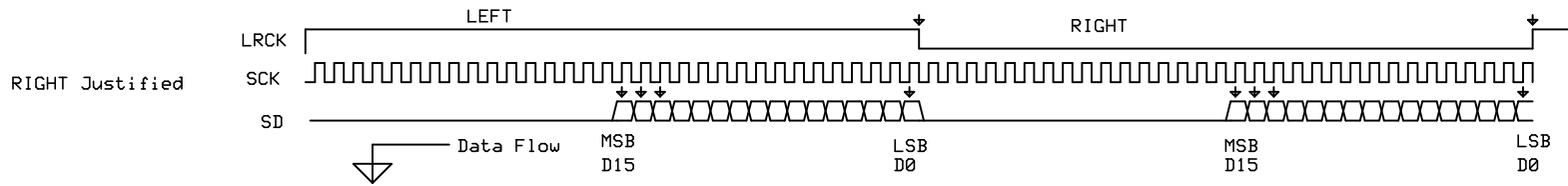
KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Sink
	8/26/2007	



KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Generator
	8/26/2007	

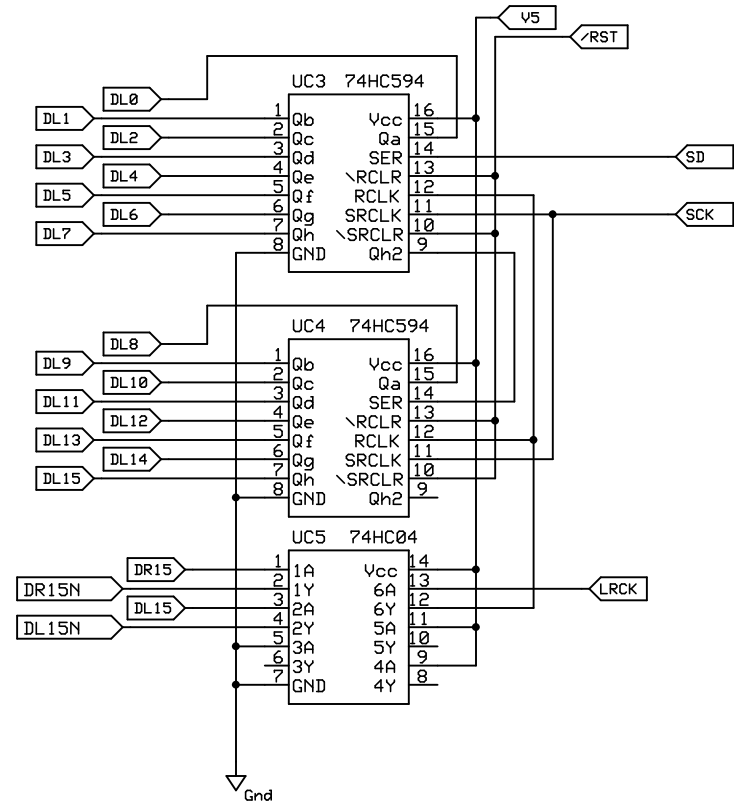
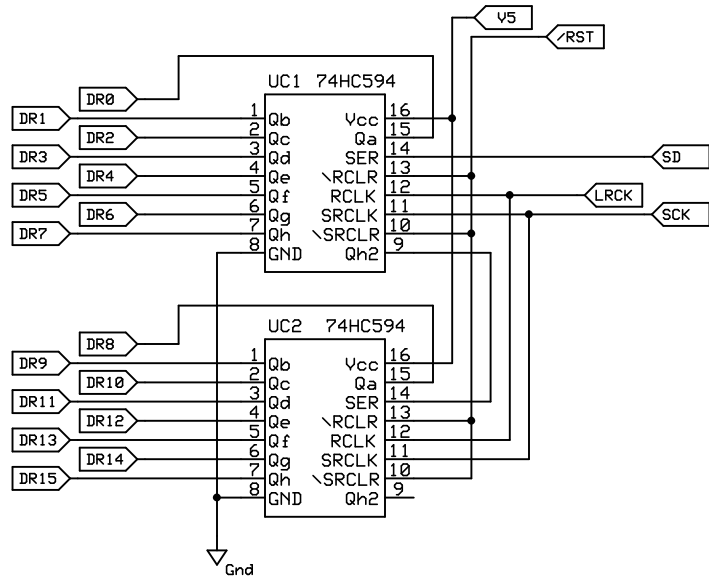


KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	

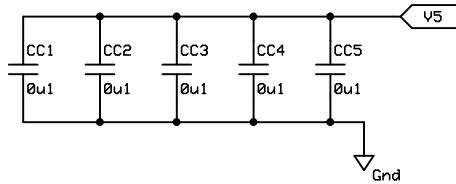


R Channel Latched Normal LRCK
Right LSB arrive, then LRCK Up

L Channel Latched Reverse LRCK
Left LSB arrive, then LRCK down.



PCM 32767 7FFF D15=0
 PCM 0 0000 D15=0
 PCM -1 FFFF D15=1
 PCM -32768 8000 D15=1



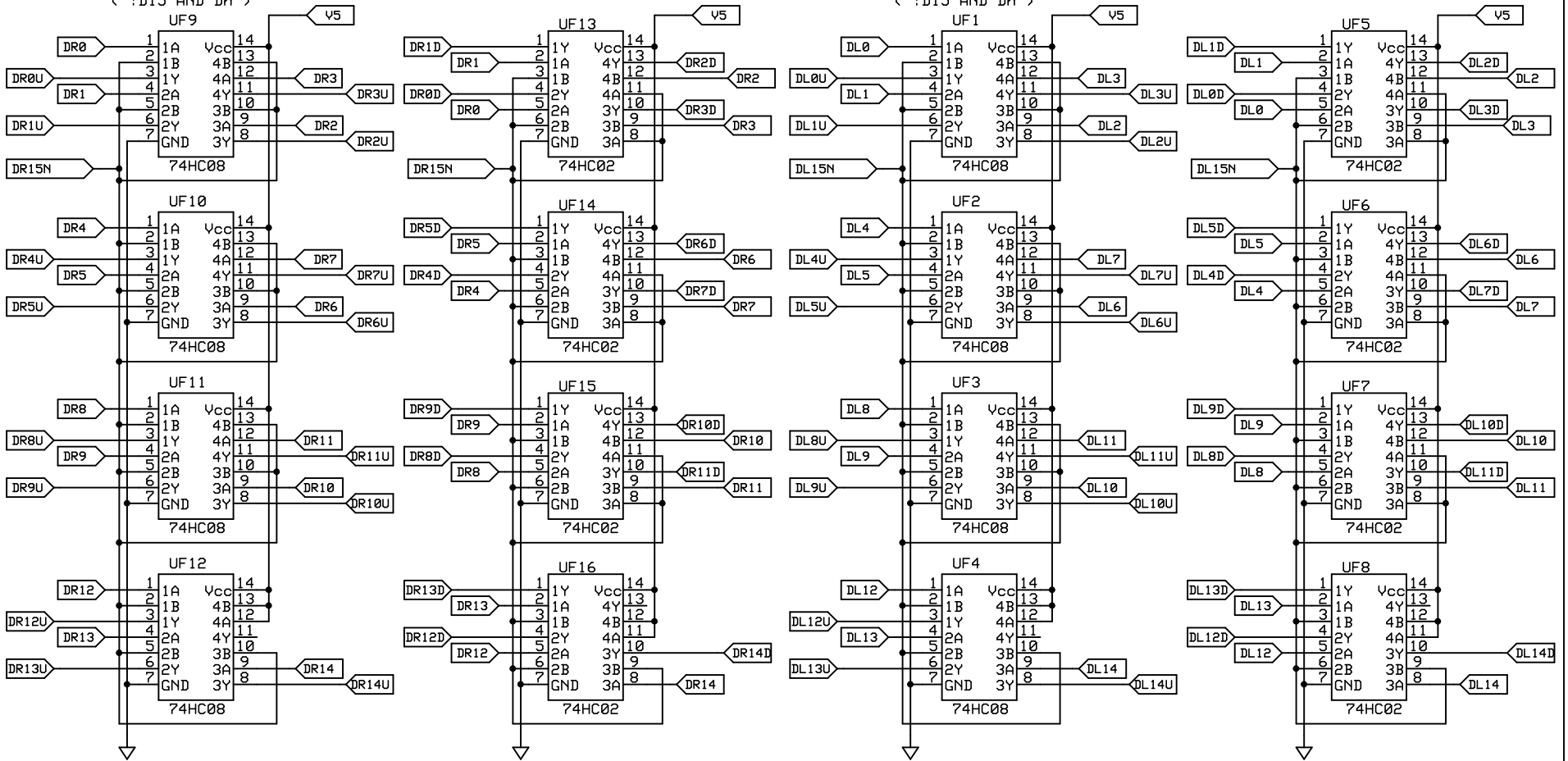
K00N Digital Audio		
Power DAC		
K00N3876	Rev 1.0	LATCH
	8/26/2007	

Source Side : Enabled when D15 = 0
(!D15 AND Dn)

Sink Side : Enabled when D15 = 1
Bit Inverted (!D15 NOR Dn)

Source Side : Enabled when D15 = 0
(!D15 AND Dn)

Sink Side : Enabled when D15 = 1
Bit Inverted (!D15 NOR Dn)



Sign Magnitude, +/- Linear Current Control

PCM 32767 7FFF Source
 PCM 0 0000 Source
 PCM -1 FFFF → 0000+1, Sink
 PCM -32768 8000 → 7FFF+1, Sink

Invert+Offset 1 LSB = PCM value * -1

Current can be simply added, don't have to calculate

KOON Digital Audio

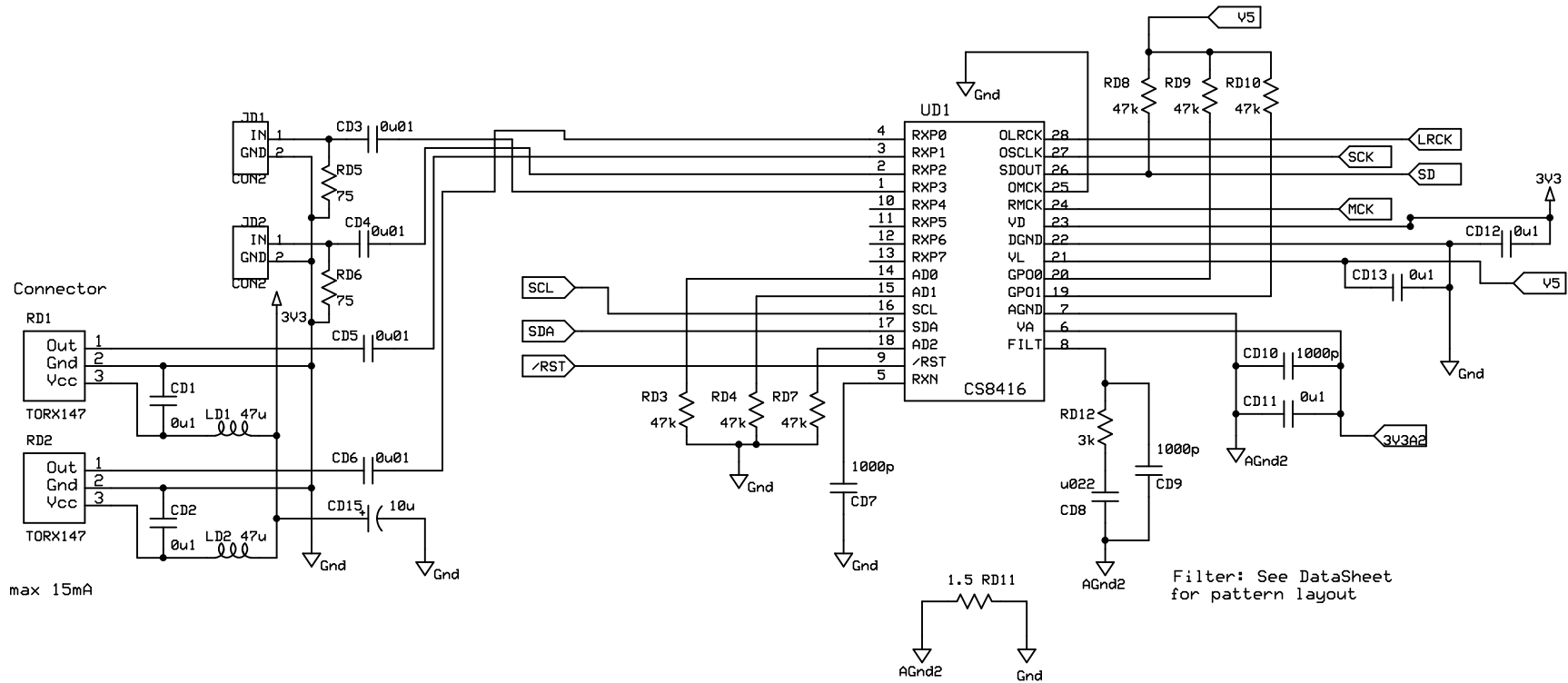
Power DAC

KOON3876

Rev 1.0

8/26/2007

LATCH

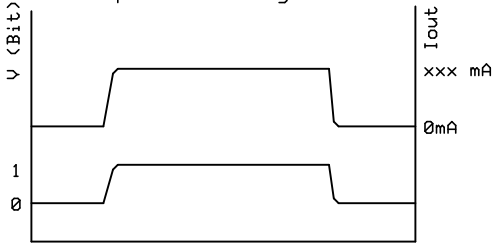


Connector
 max 15mA

Right Justified 16 bit
 SORES[1:0] = 10, 16bit
 SOSF = 0, 64fs
 SOJUST = 0, Right Justify

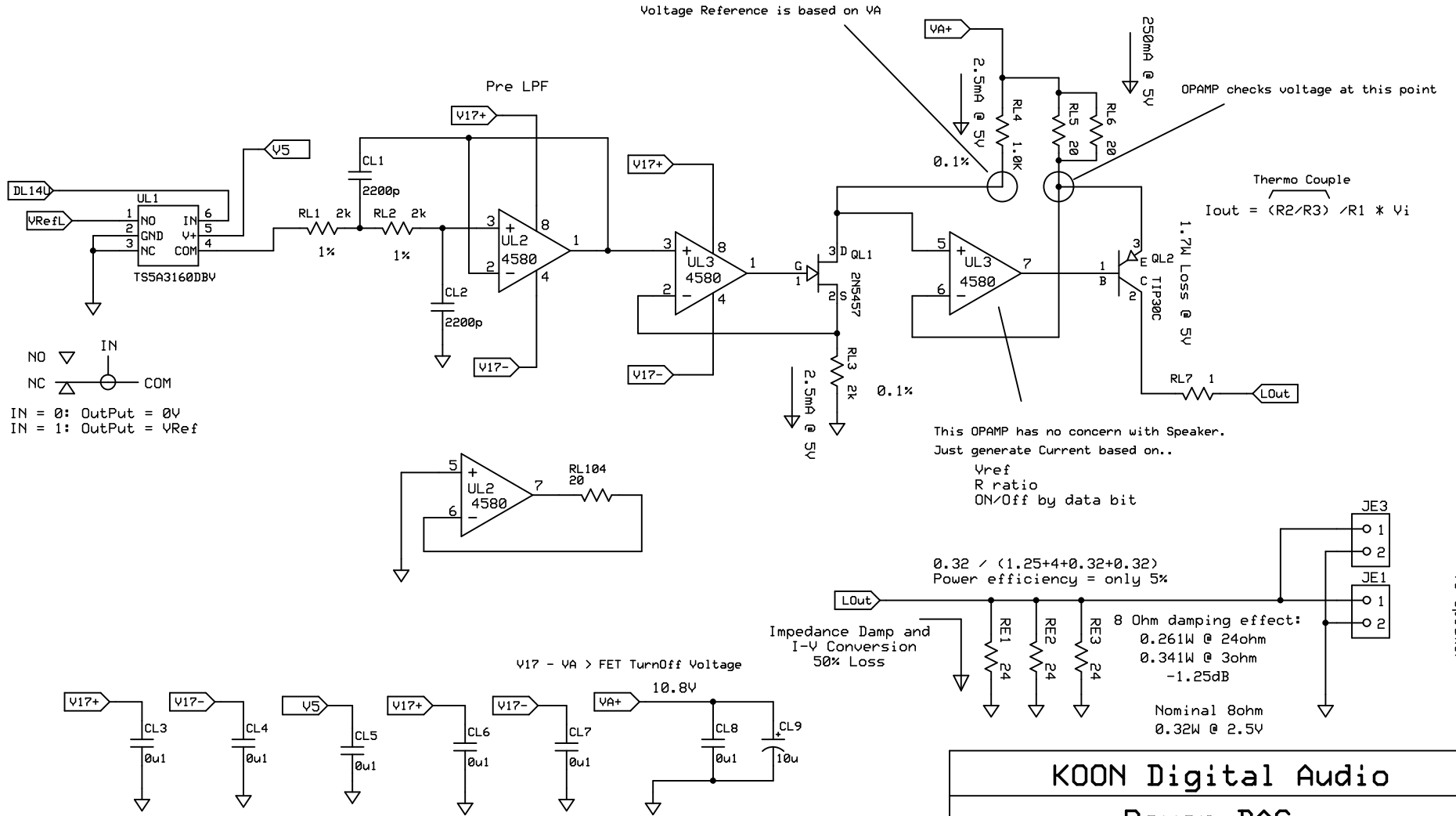
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	DAI
	8/26/2007	

These OPAMP do not process "Analog" sound



BIT Input to Current Output Source Side

All R should be < 0.25%



DL14

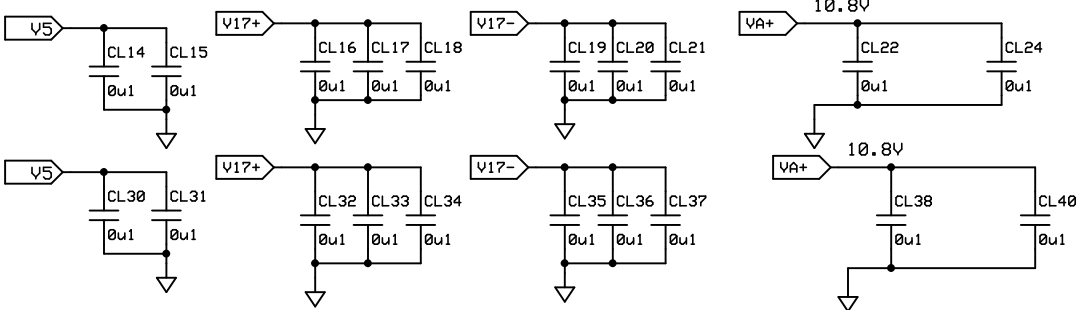
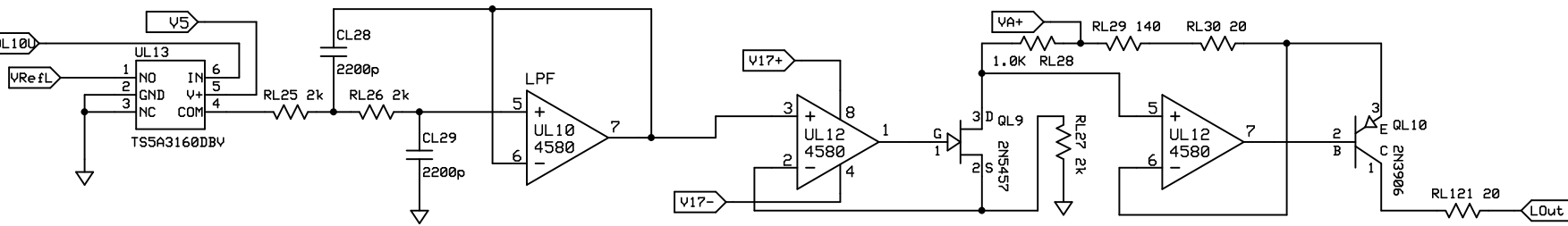
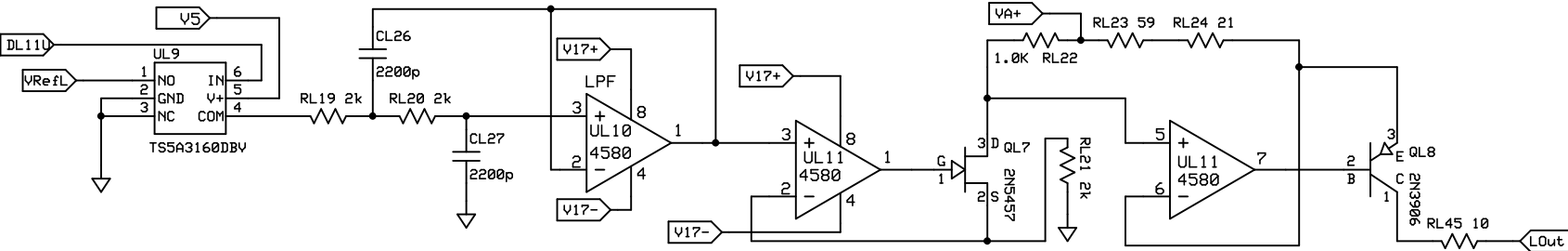
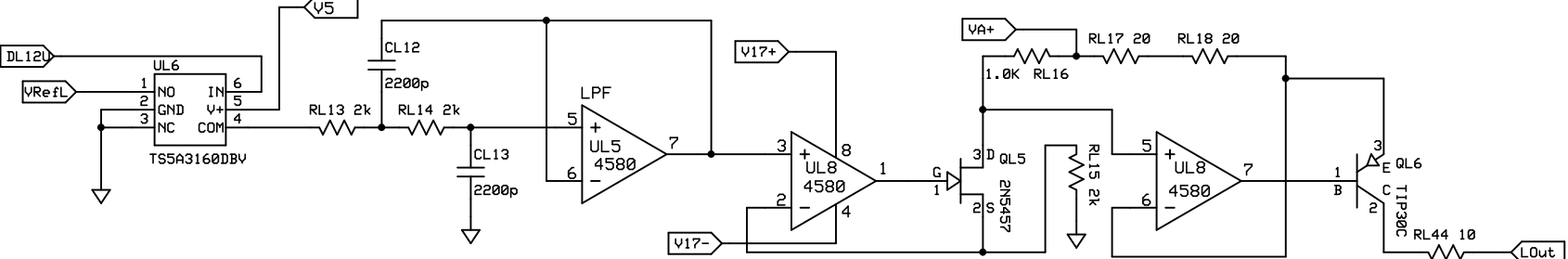
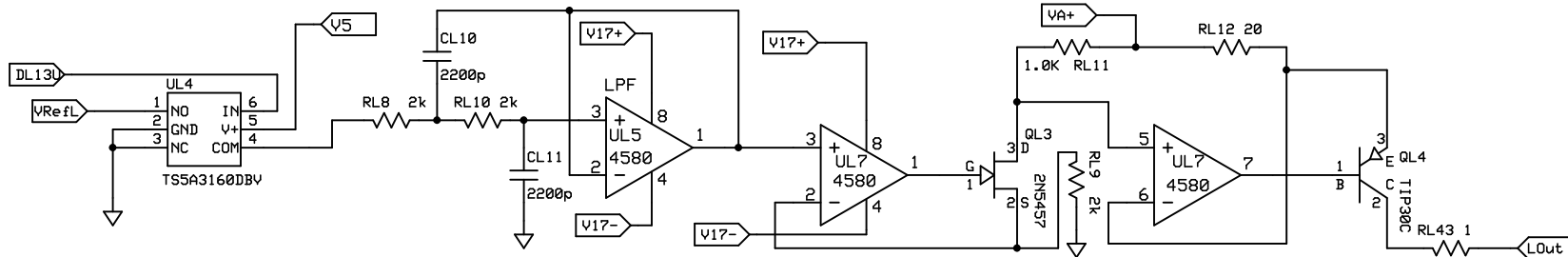
VRefL

NO IN
NC COM

IN = 0: OutPut = 0V
IN = 1: OutPut = VRef

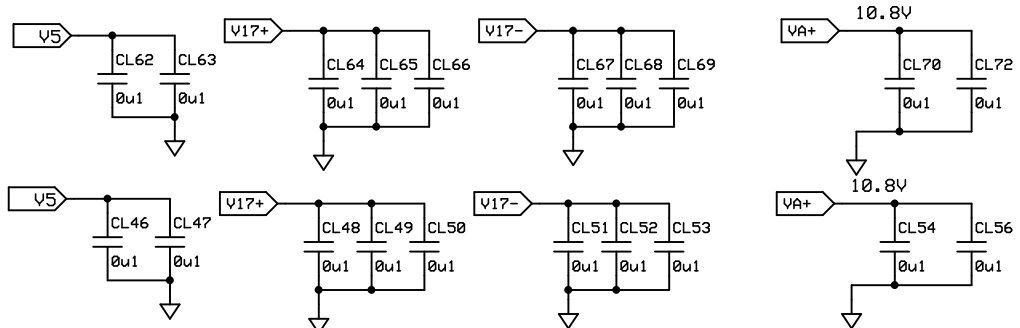
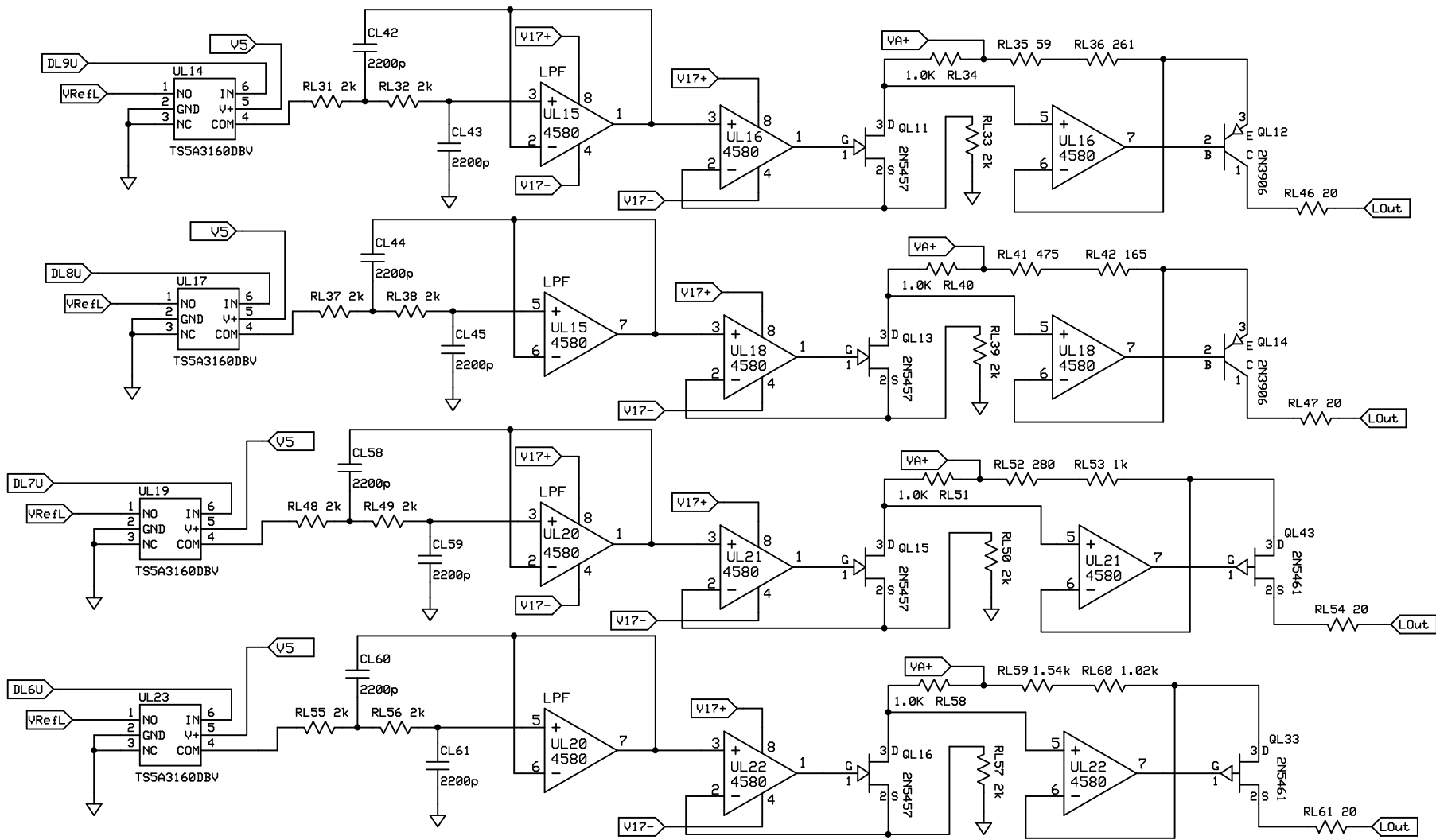
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Generator
	8/26/2007	

To Speaker

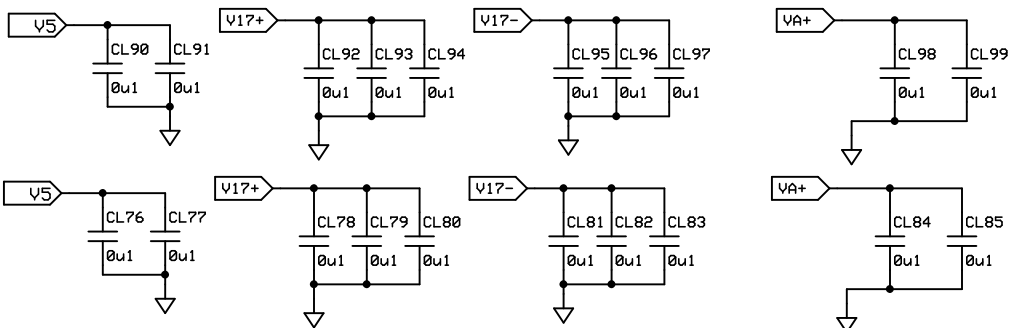
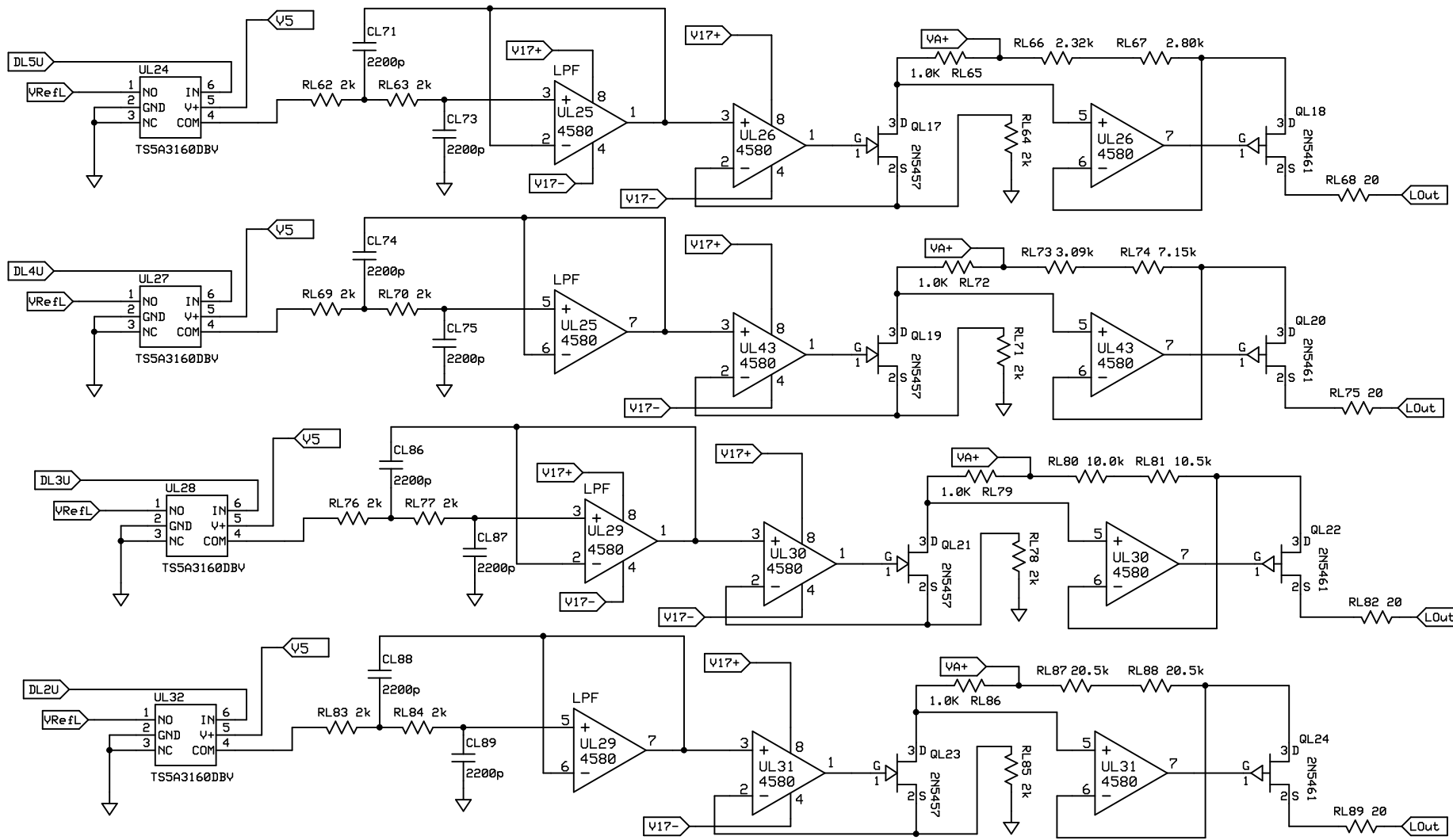


BIT Input to Current Output Source Side

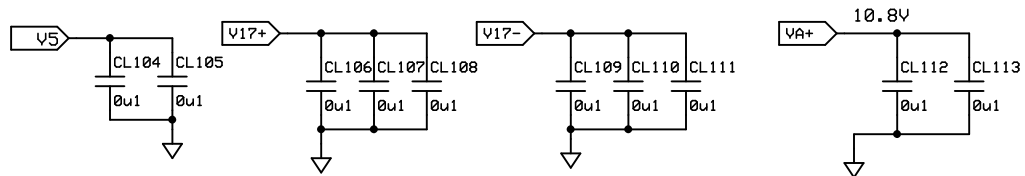
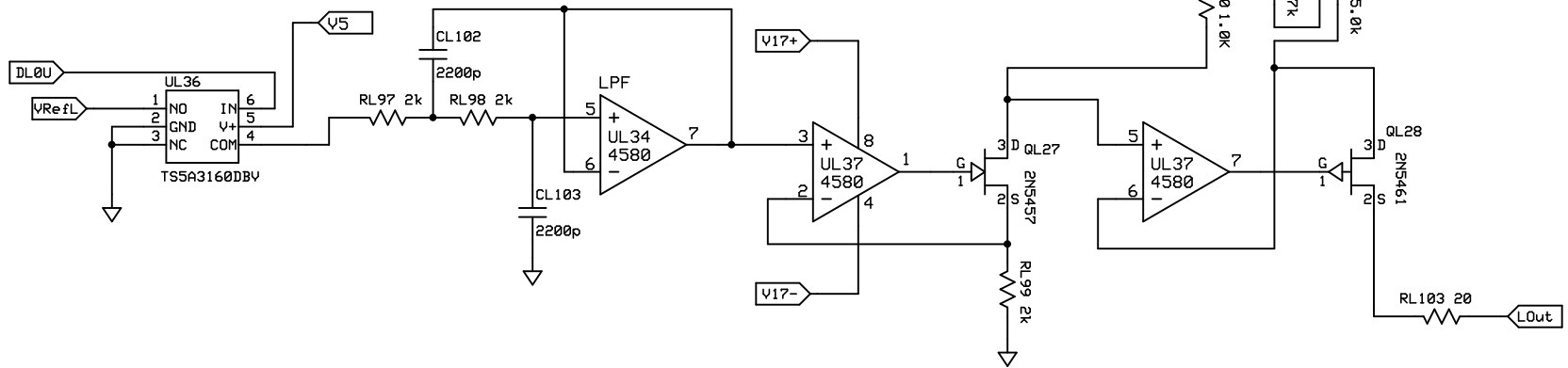
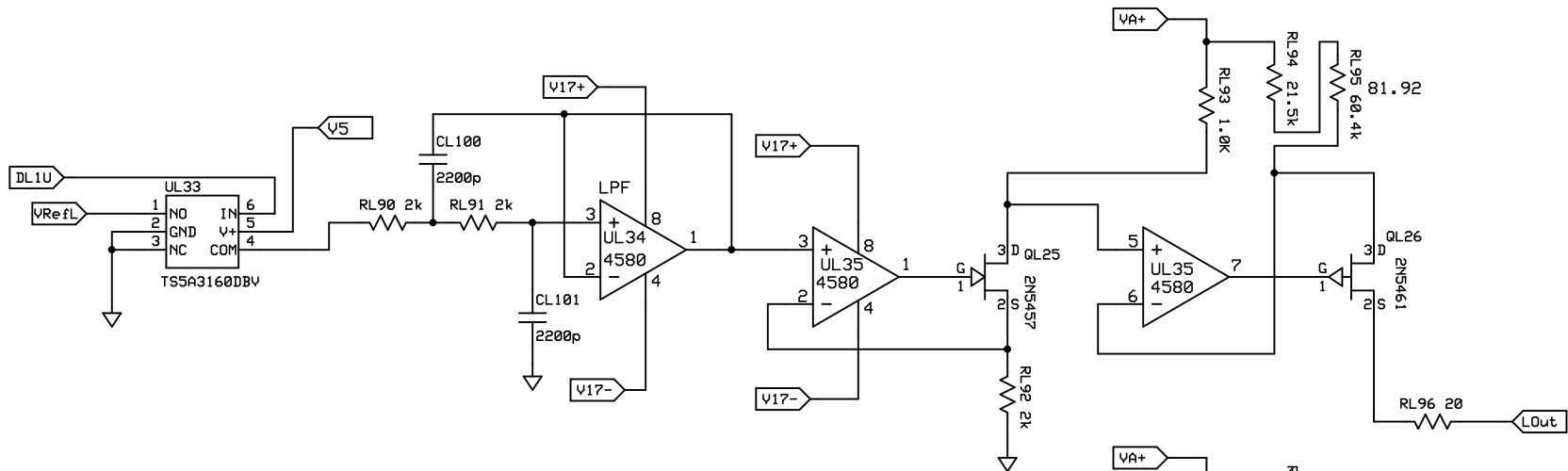
KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Generator
	8/26/2007	



KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Generator
	8/26/2007	



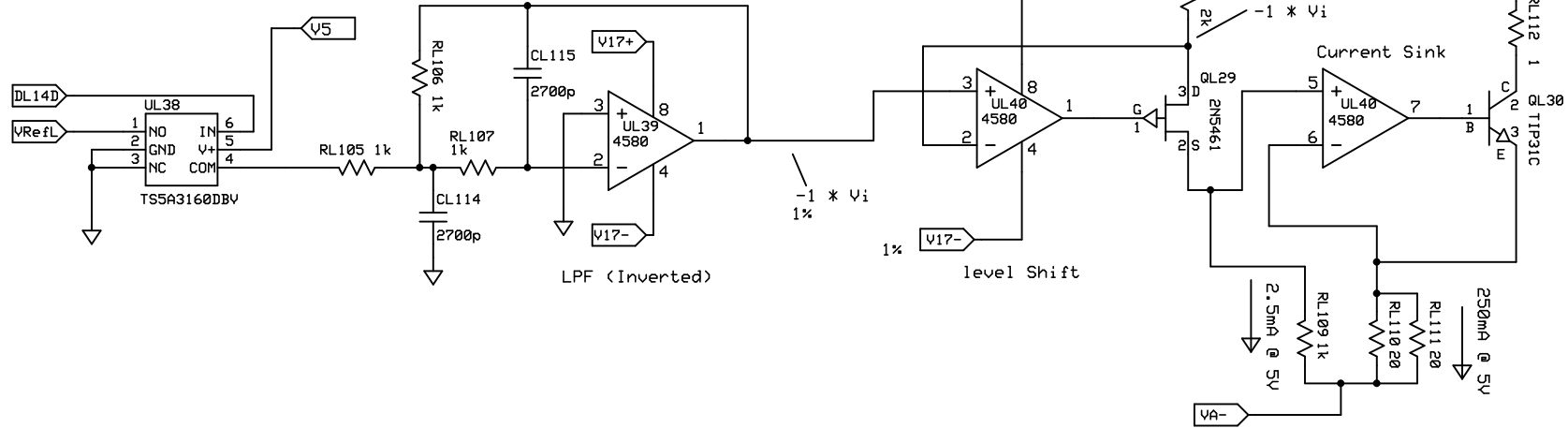
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0 8/26/2007	Current Generator



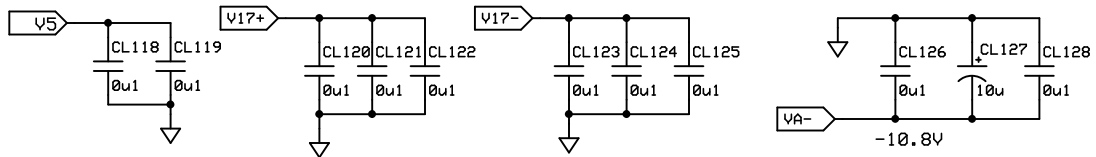
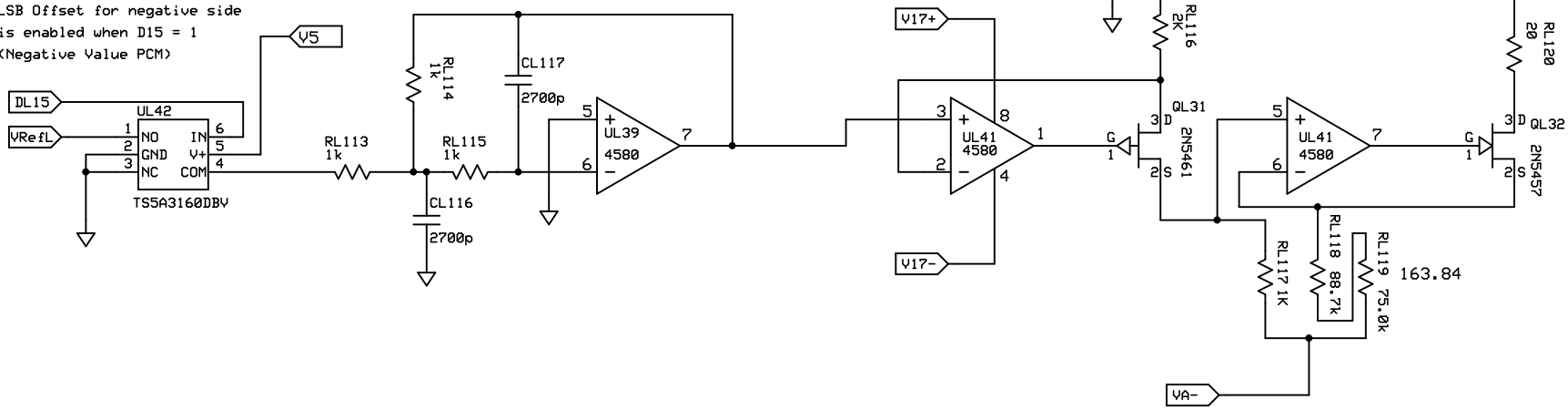
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Generator
	8/26/2007	

BIT Input to Current Output Sink Side

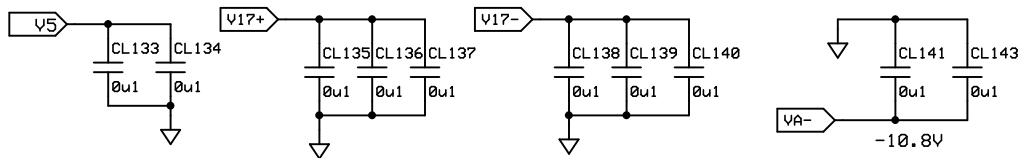
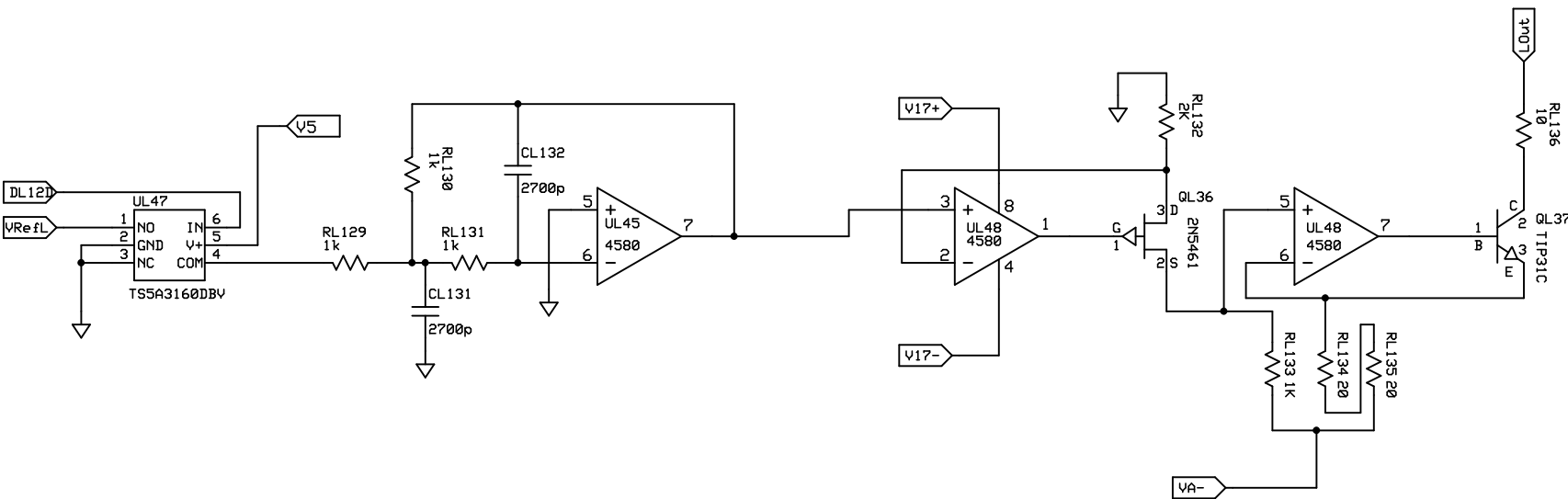
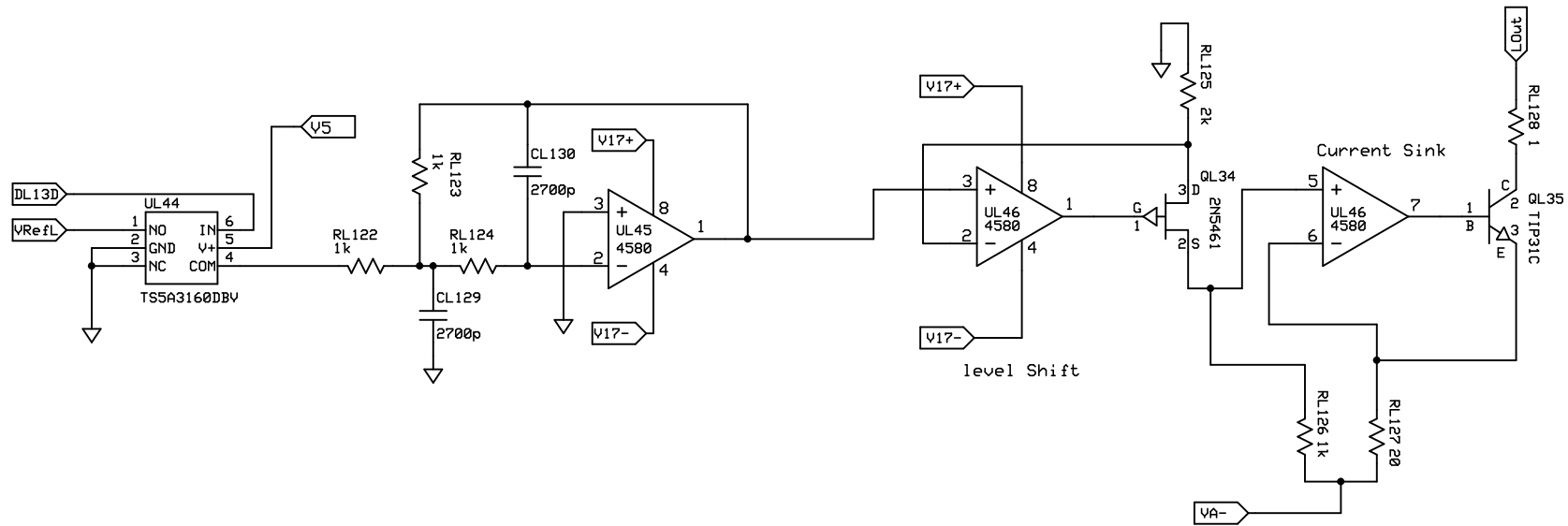
D14 and LSB Offset



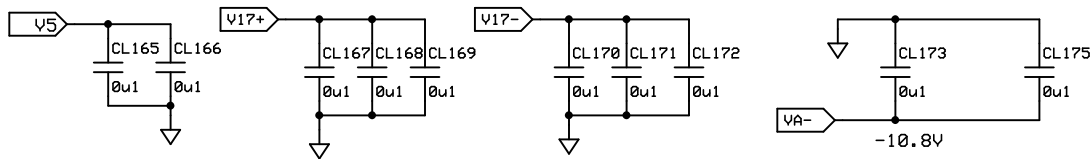
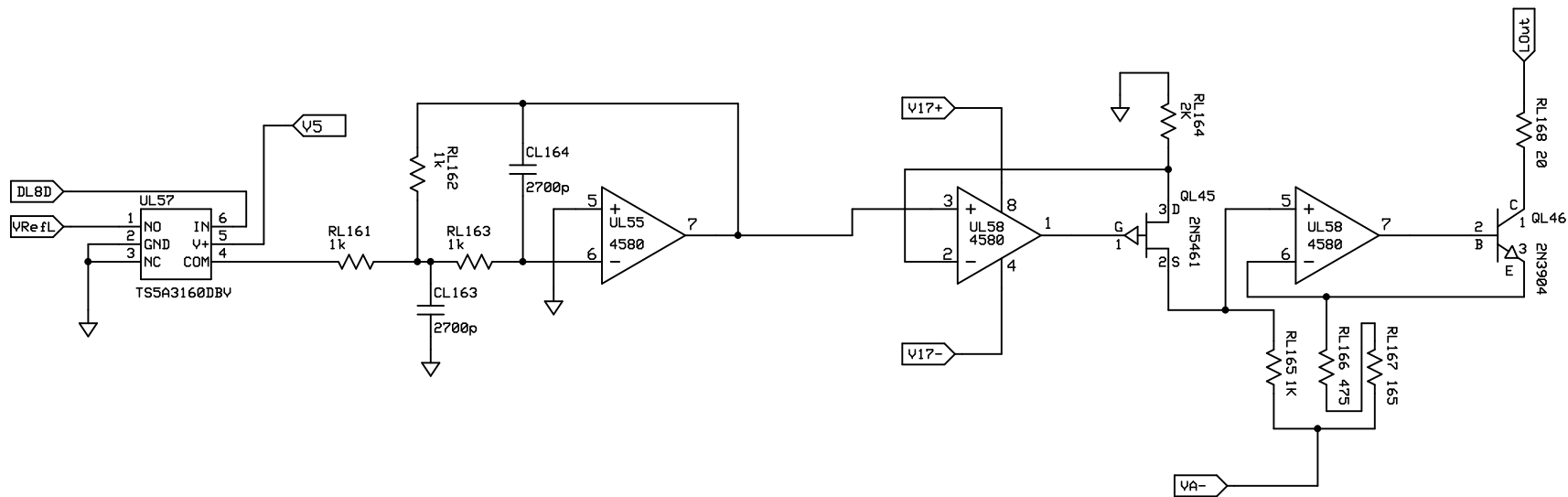
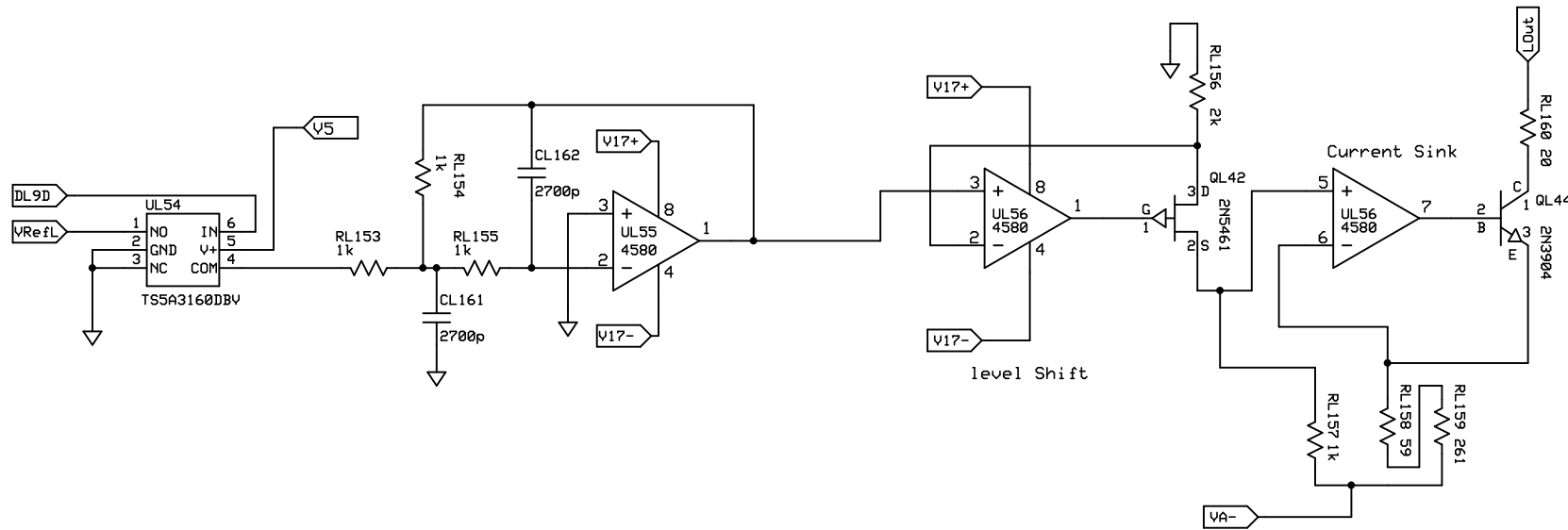
LSB Offset for negative side
is enabled when D15 = 1
(Negative Value PCM)



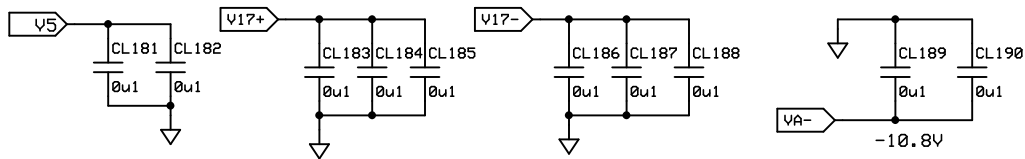
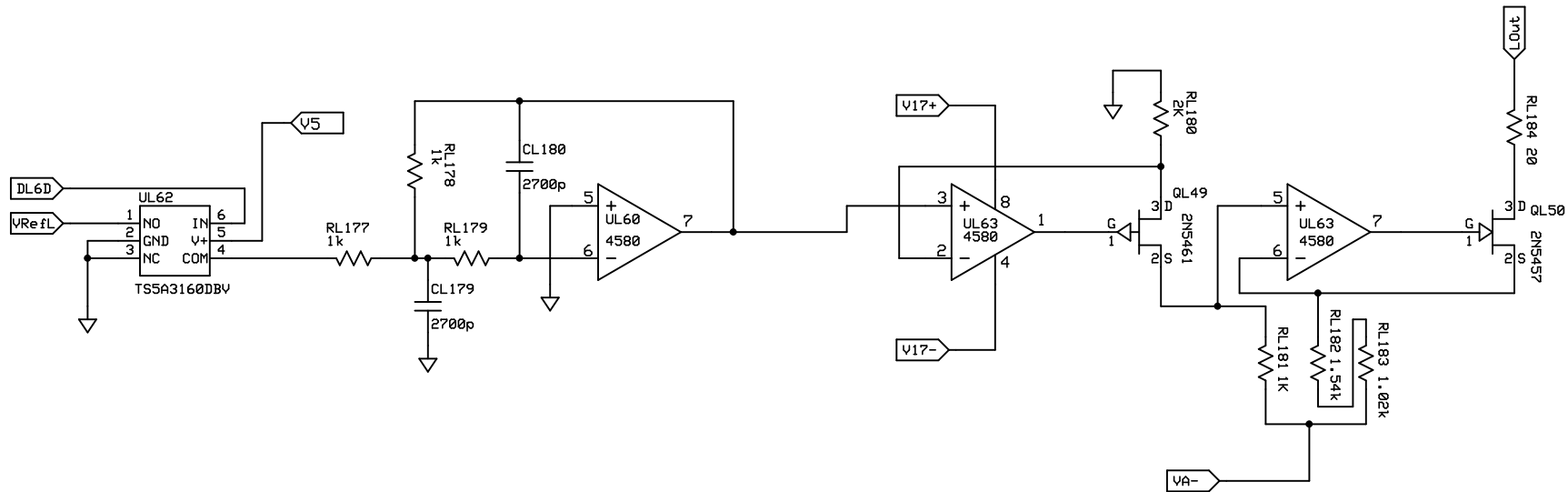
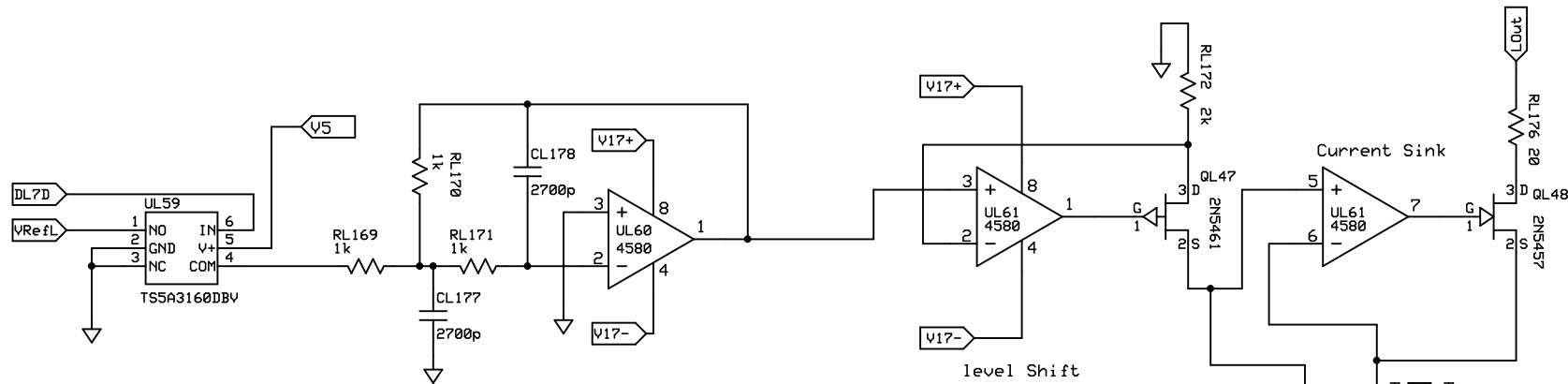
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	



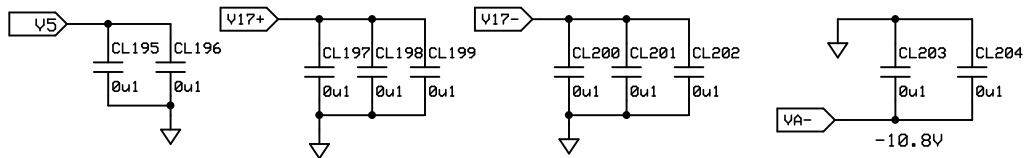
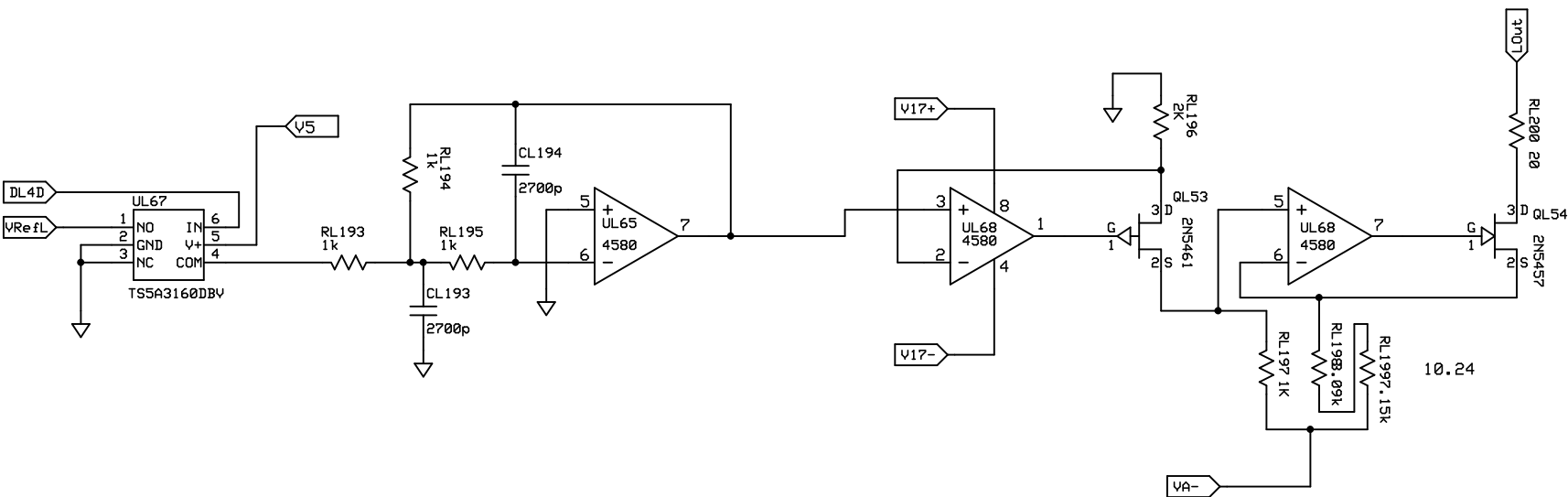
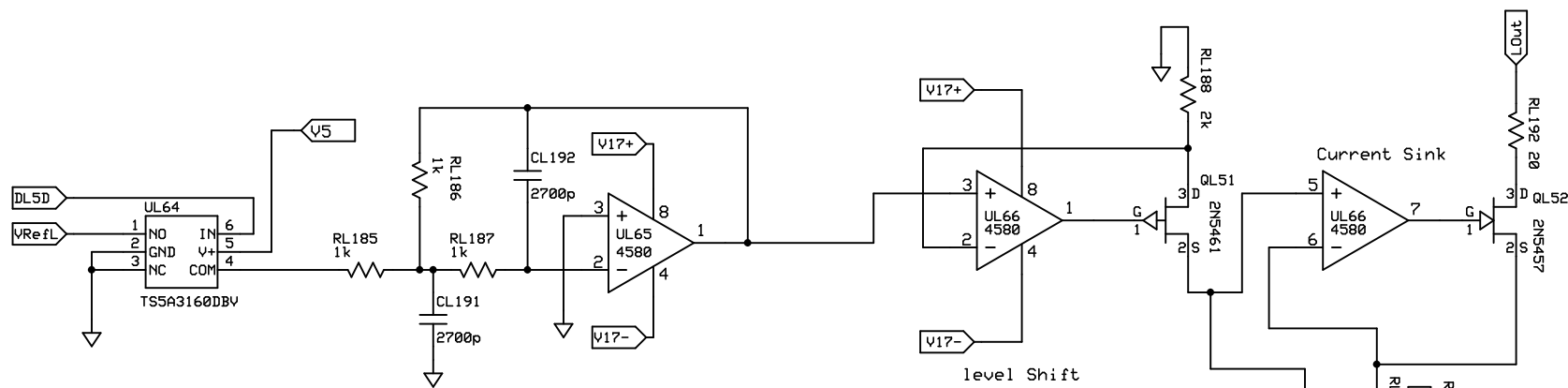
KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Sink
	8/26/2007	



KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Sink
	8/26/2007	

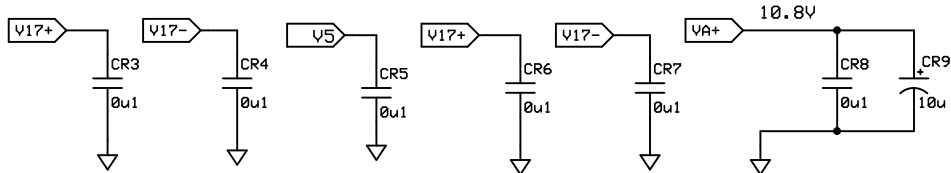
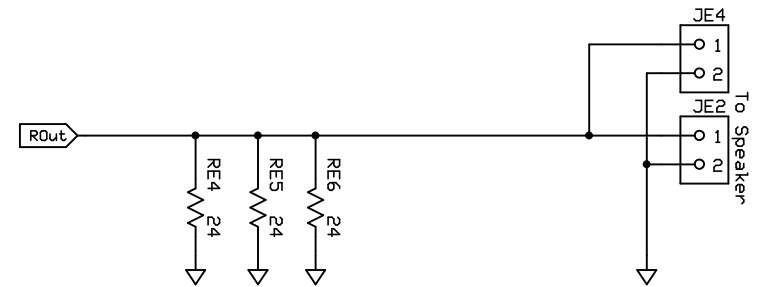
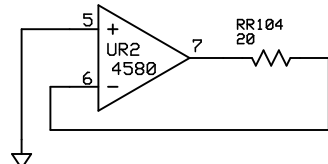
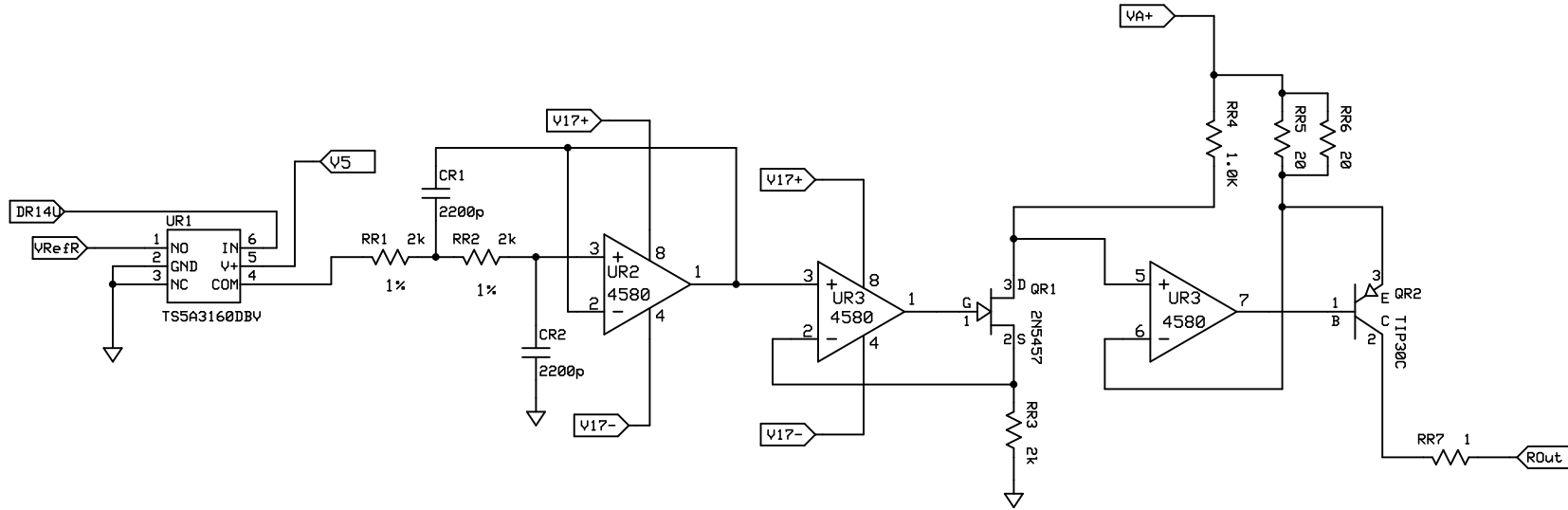


KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	

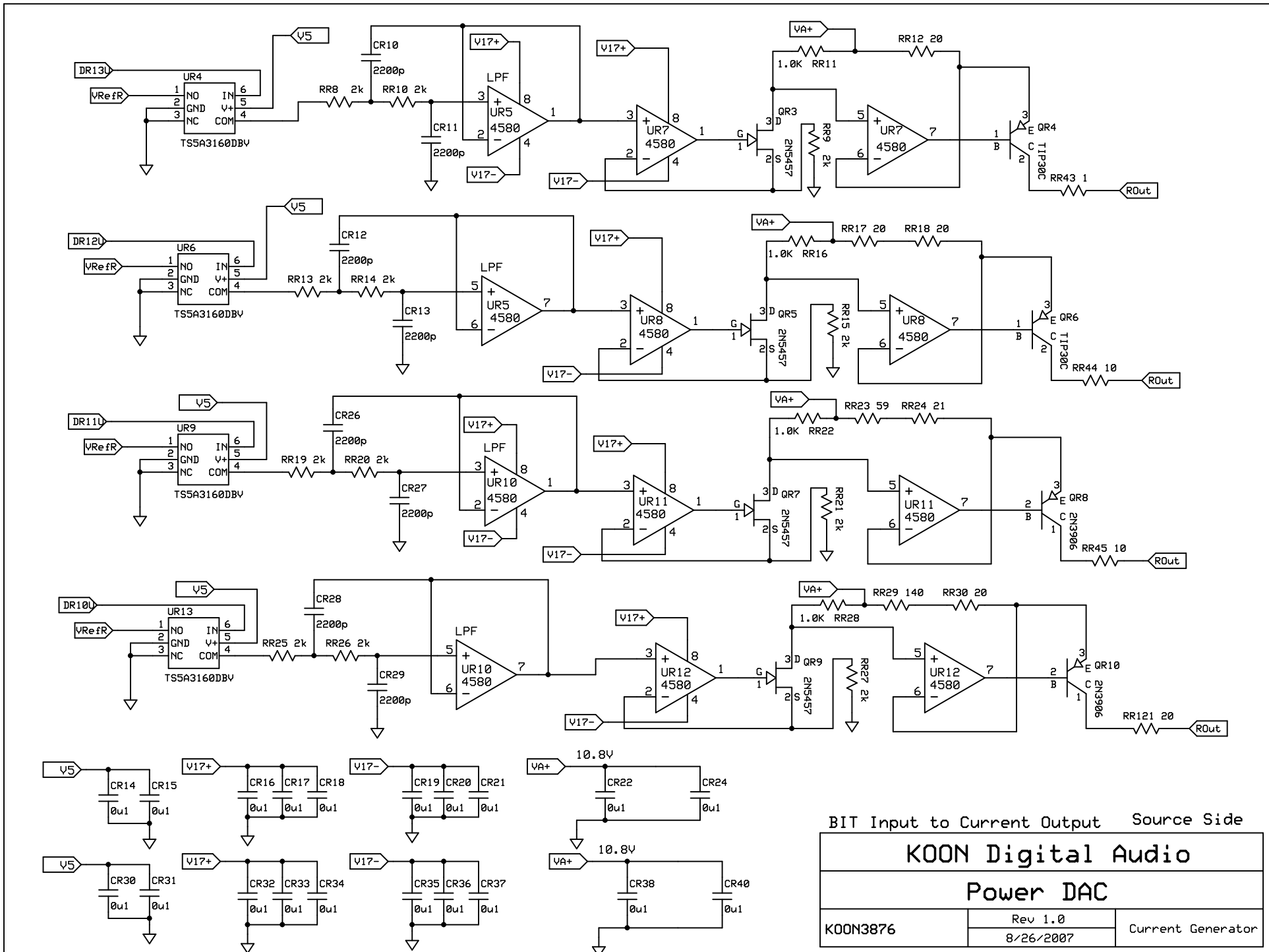


KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	

BIT Input to Current Output
Source Side

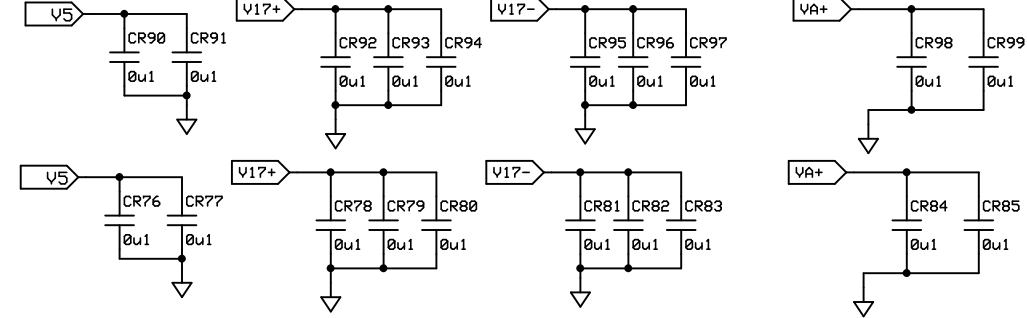
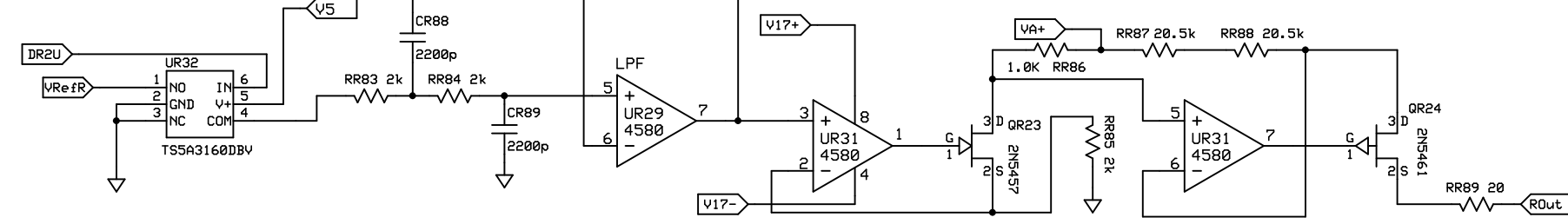
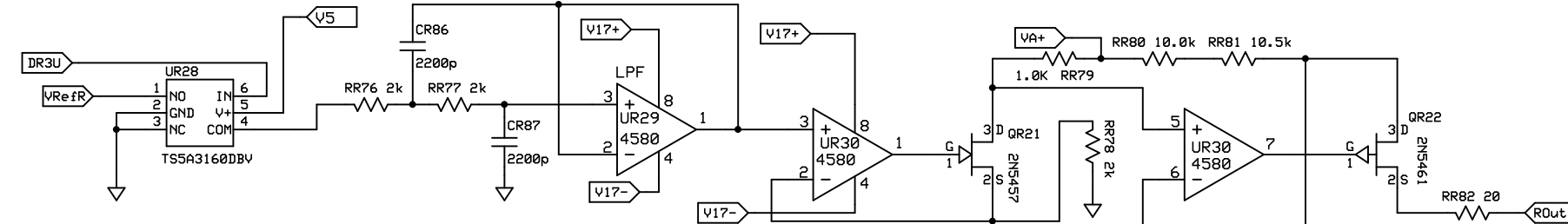
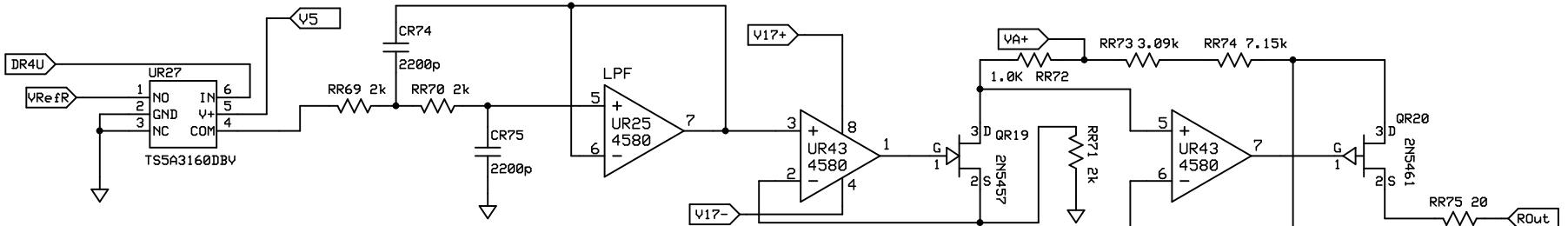
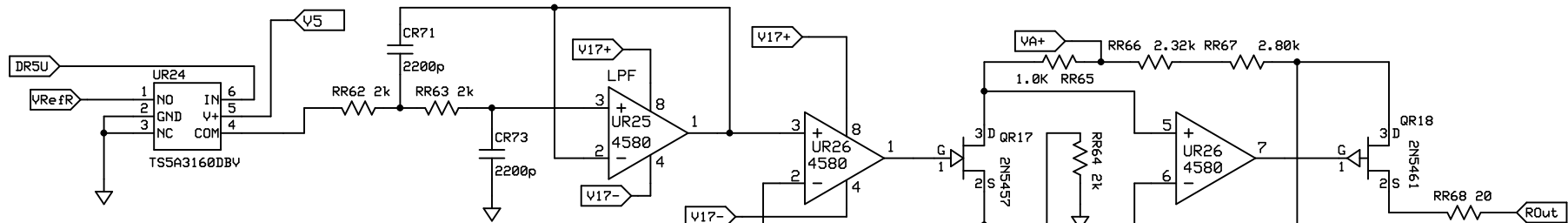


KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Generator
	8/26/2007	

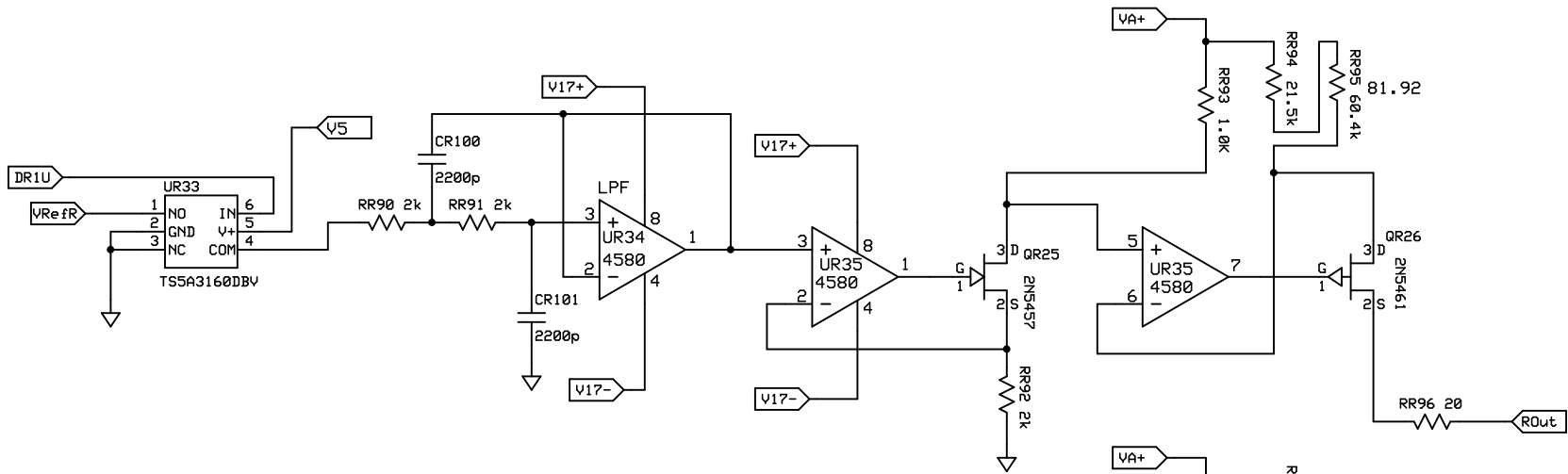


BIT Input to Current Output Source Side

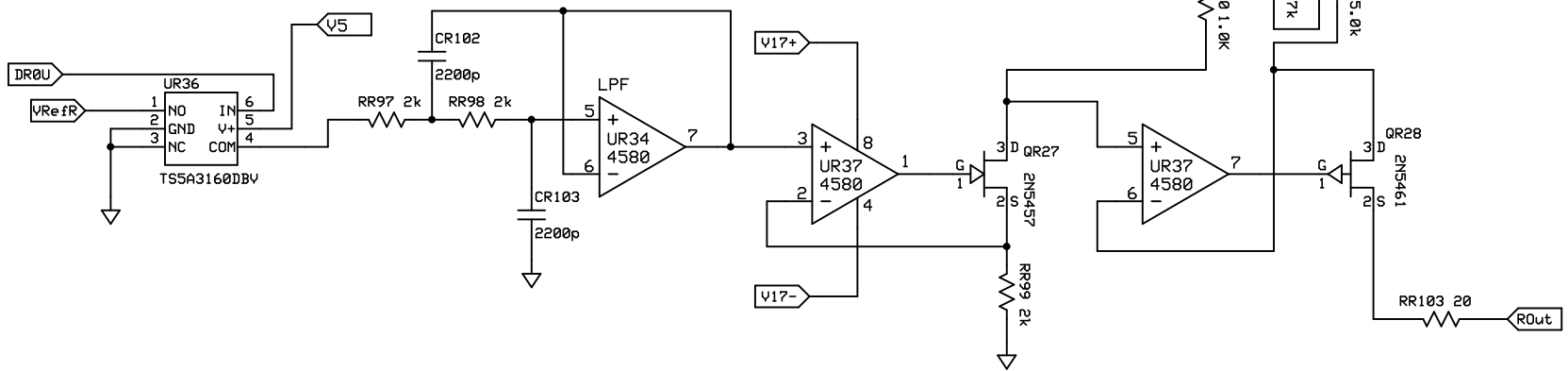
K00N Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Generator
	8/26/2007	



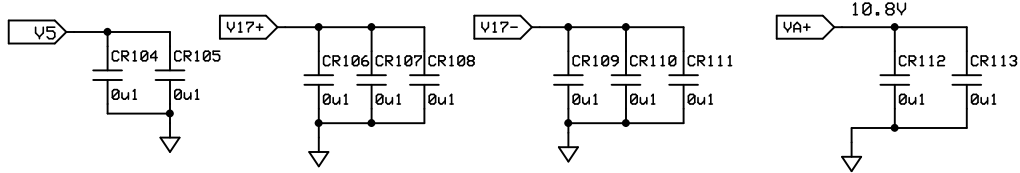
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Generator
	8/26/2007	



81.92

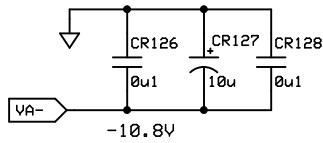
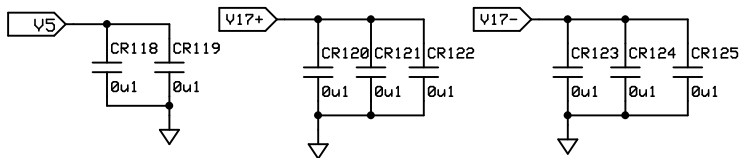
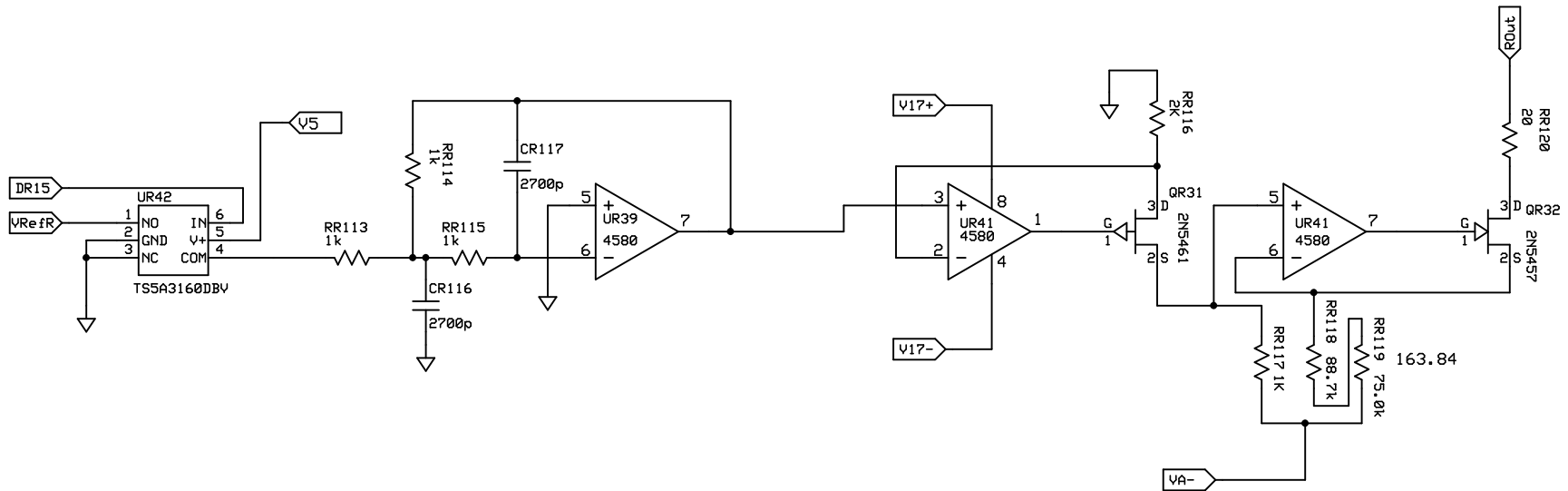
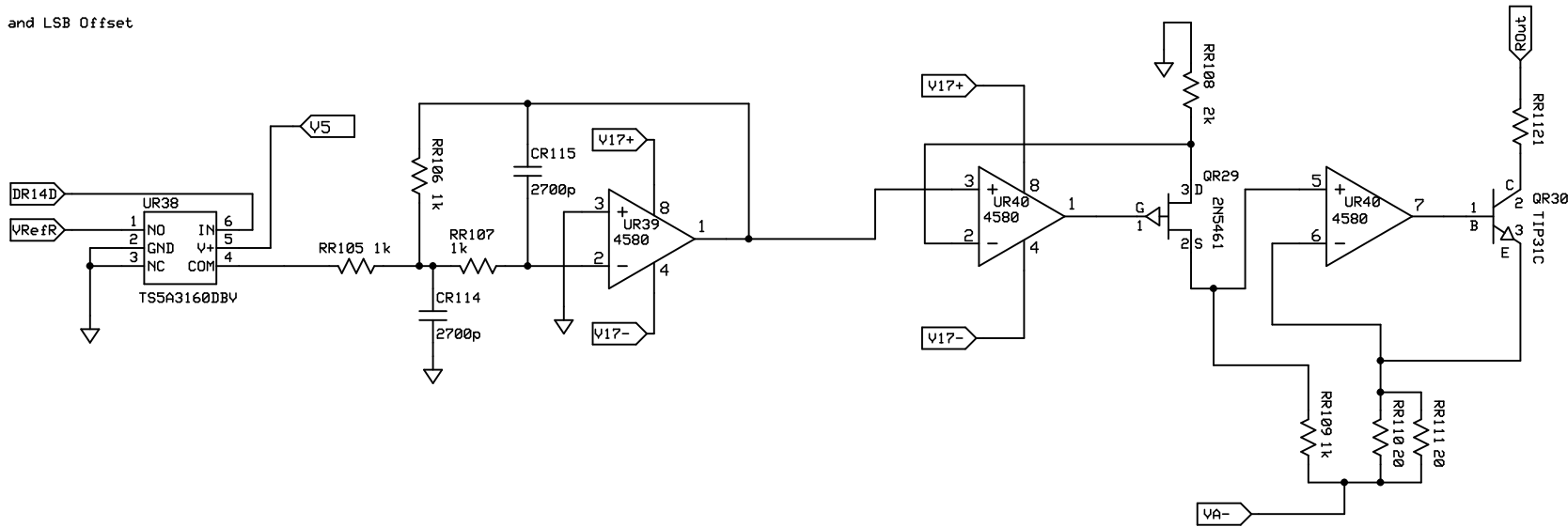


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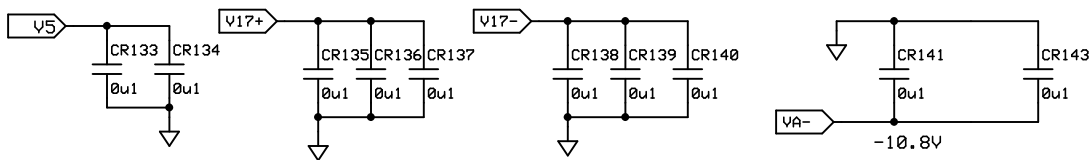
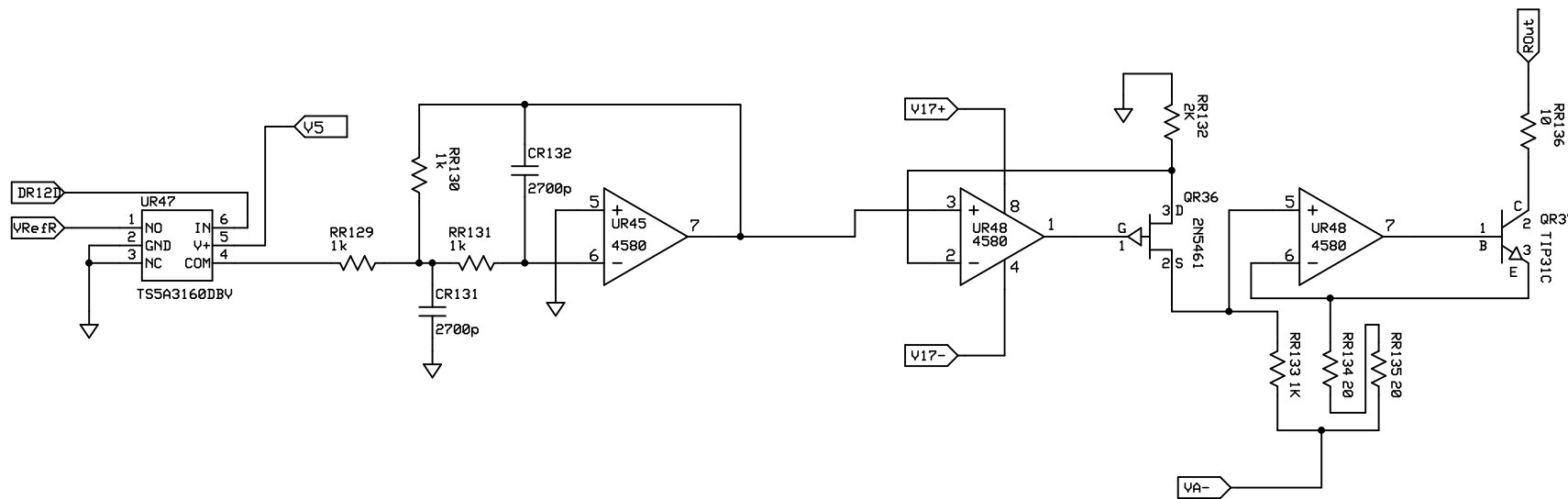
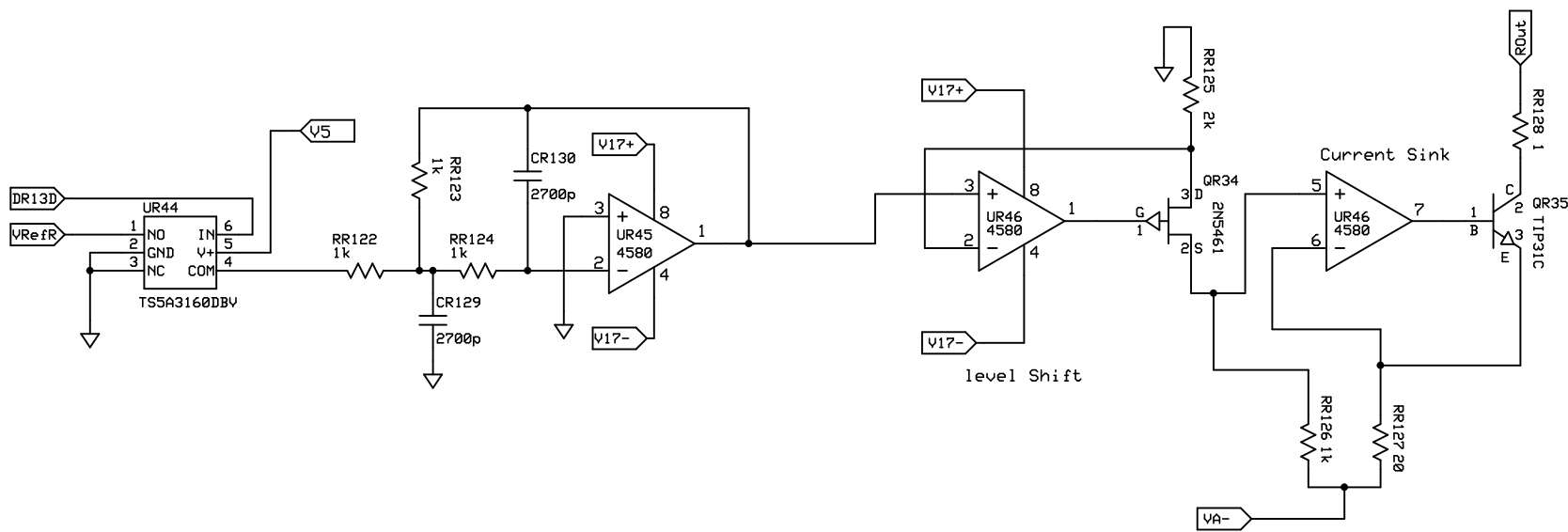


KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Generator
	8/26/2007	

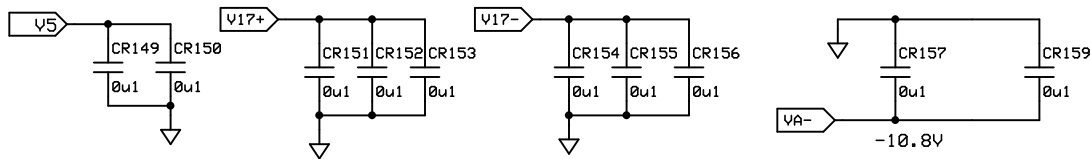
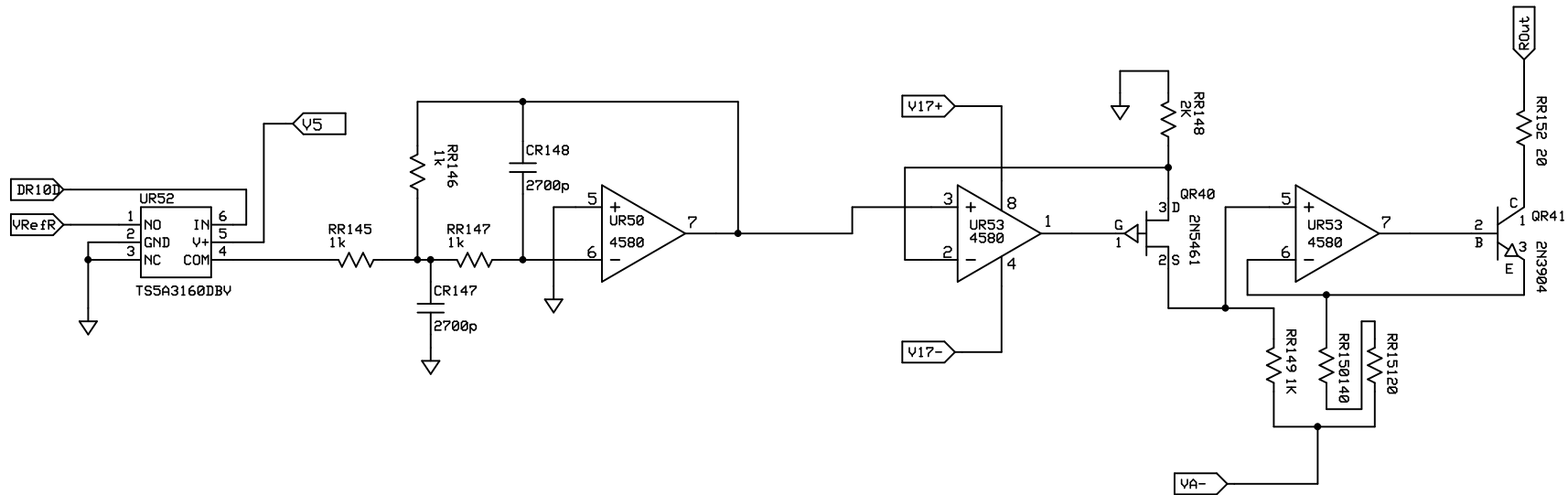
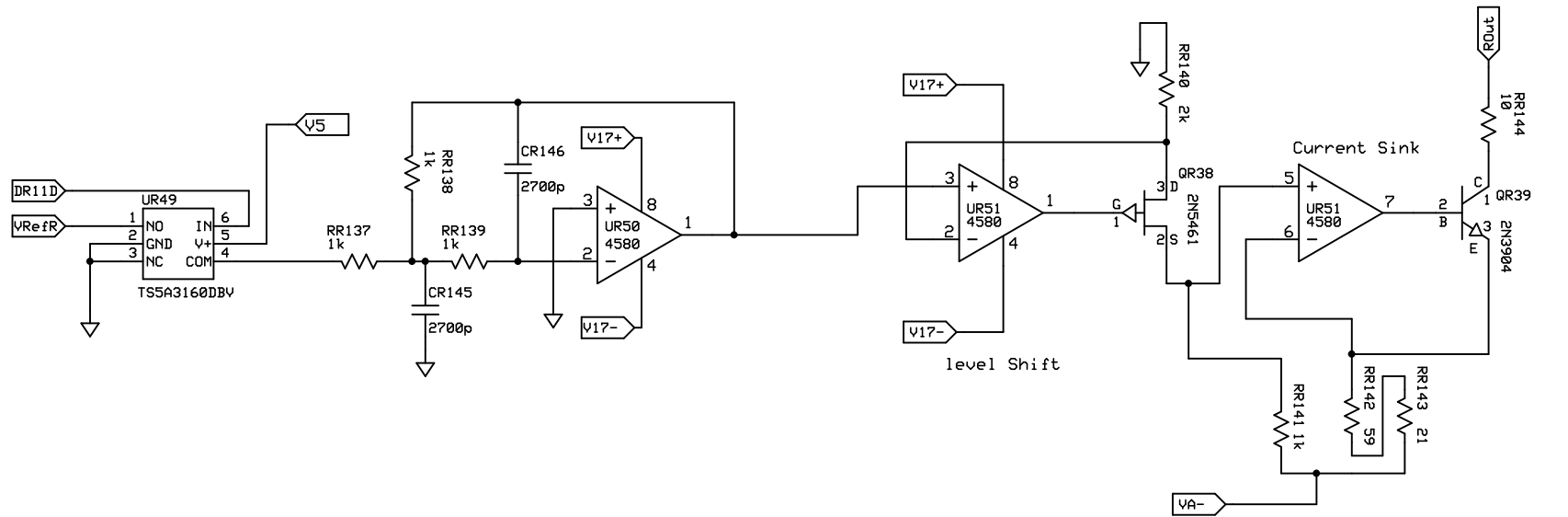
D14 and LSB Offset



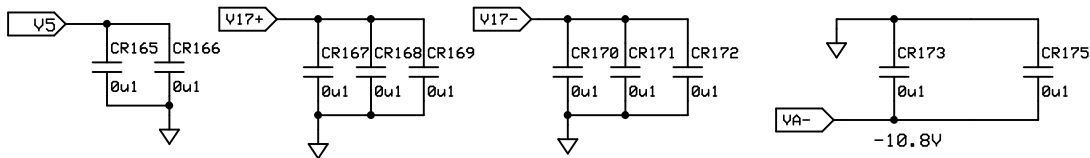
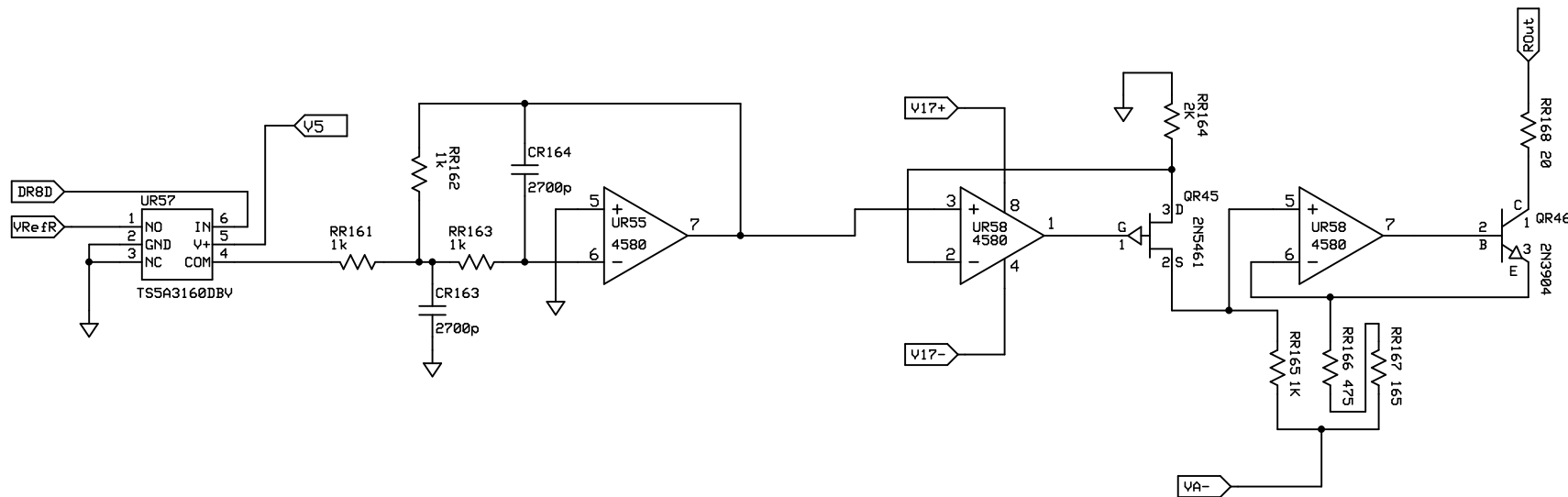
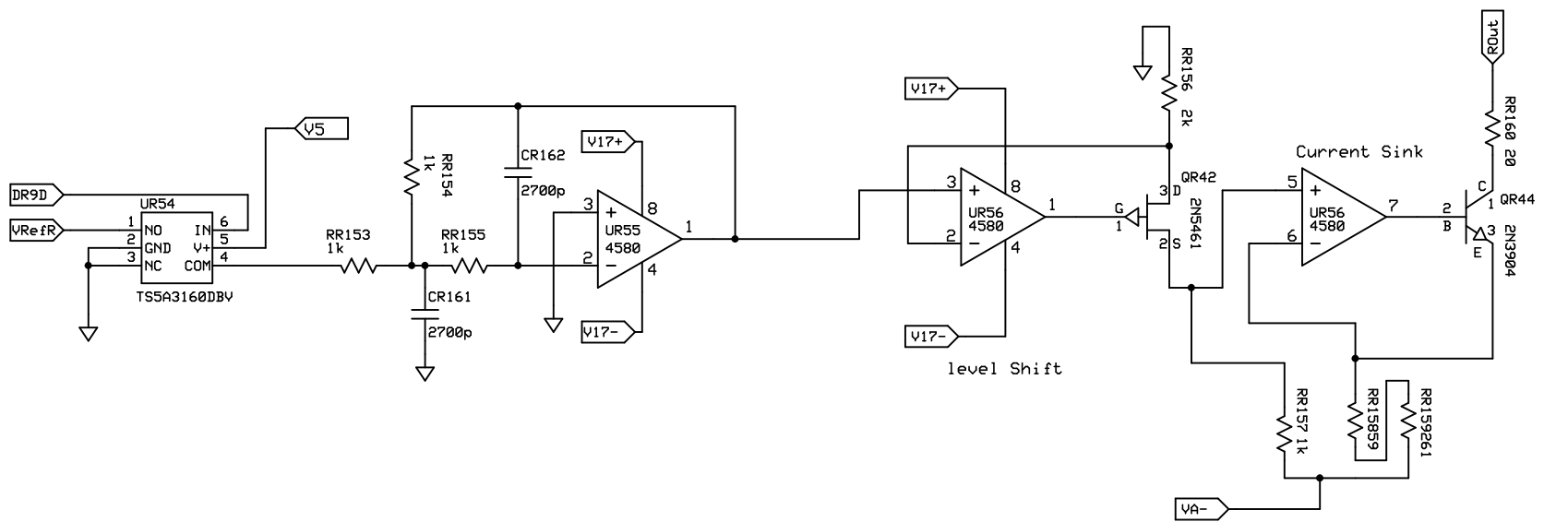
KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Sink
	8/26/2007	



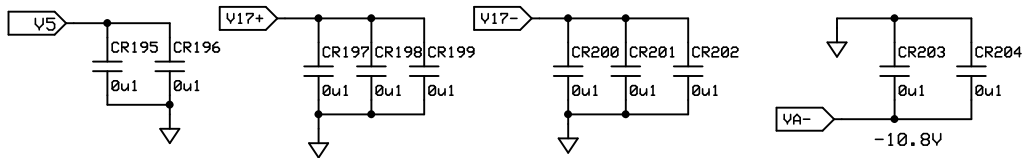
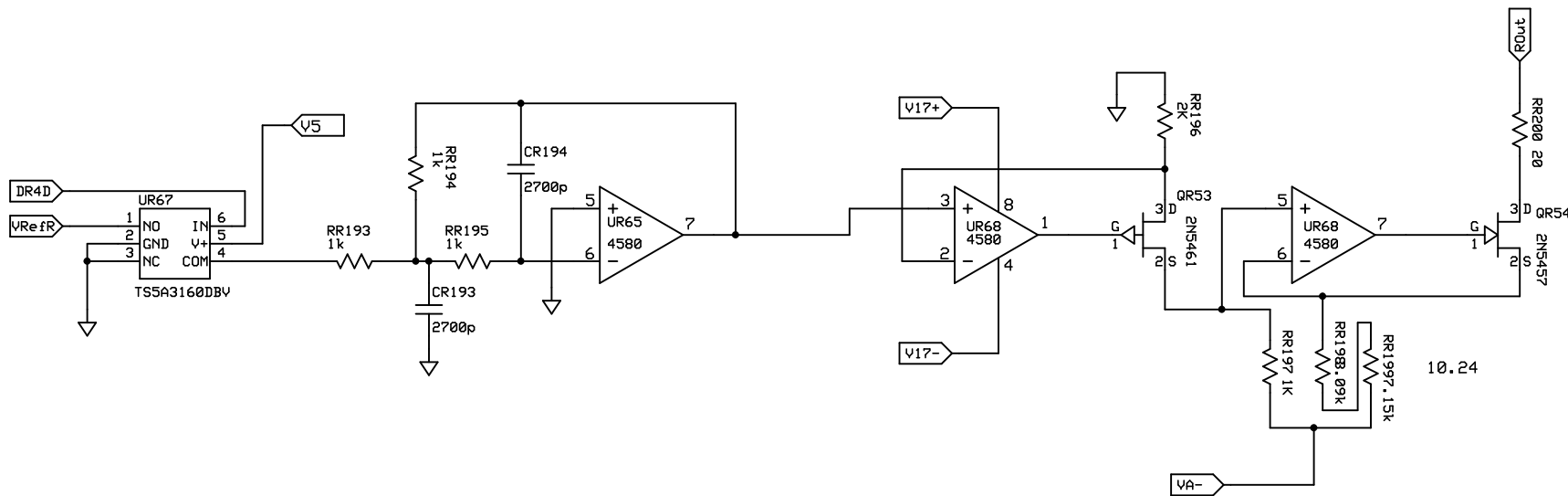
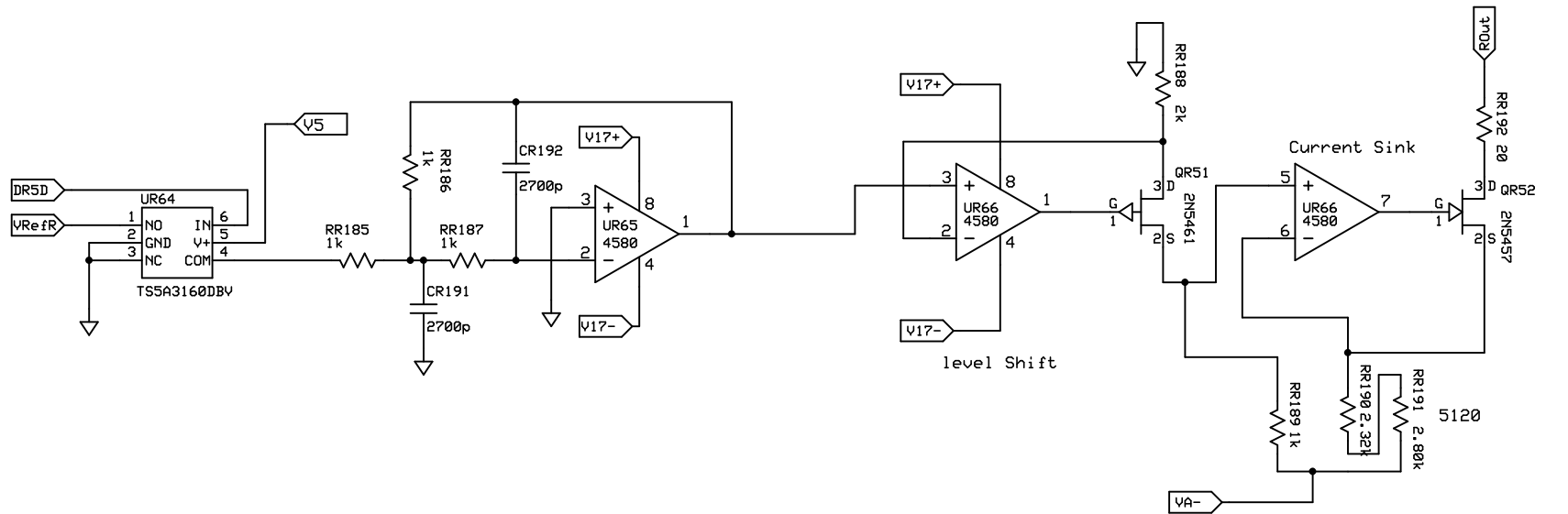
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	



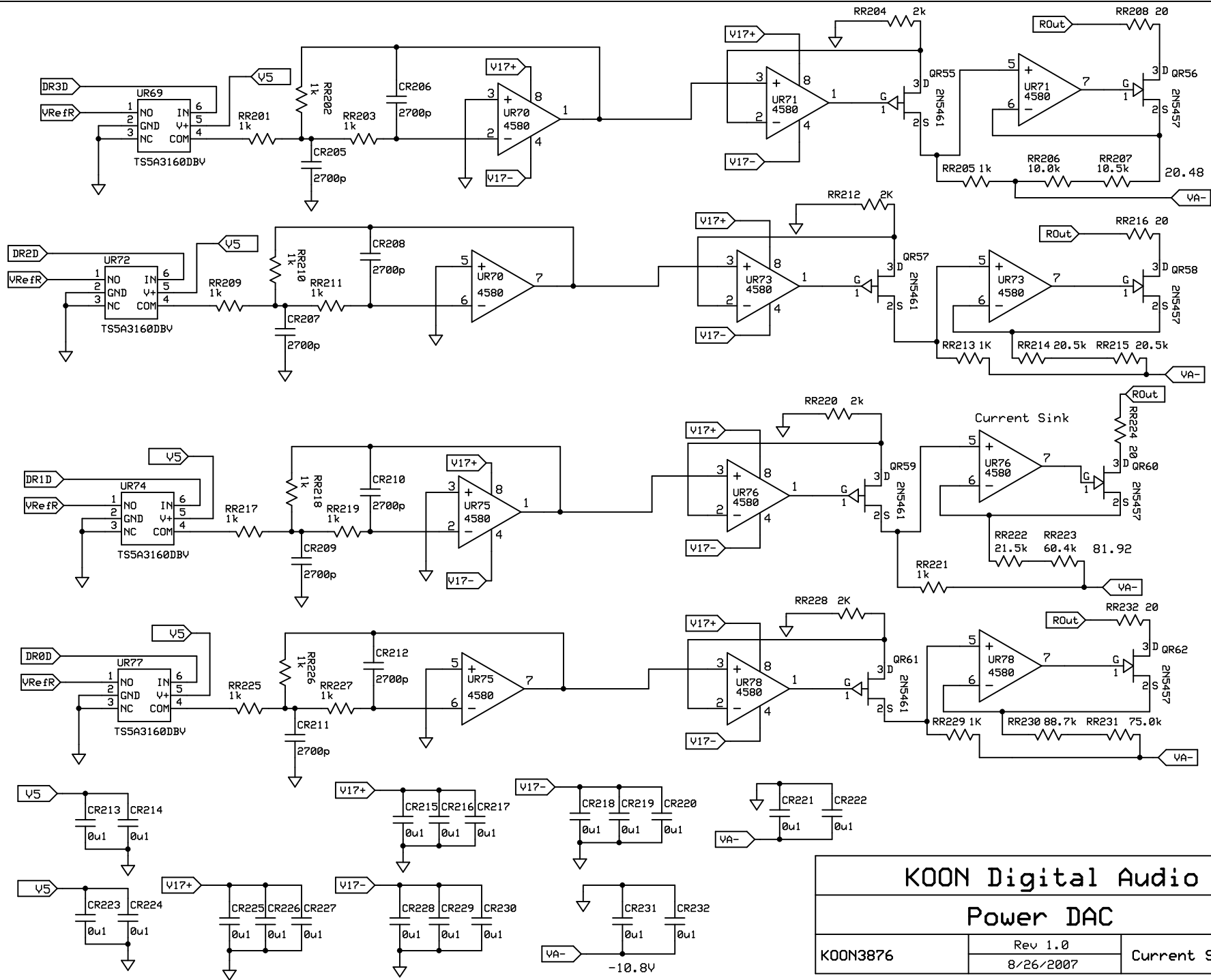
KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	



KOON Digital Audio		
Power DAC		
KOON3876	Rev 1.0	Current Sink
	8/26/2007	



KOON Digital Audio		
Power DAC		
K00N3876	Rev 1.0	Current Sink
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