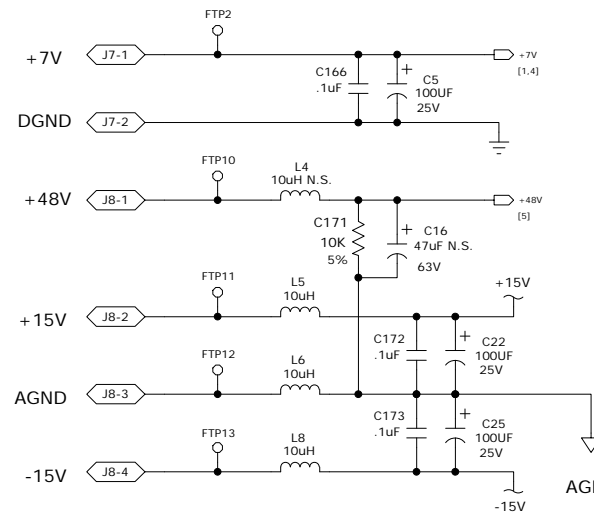
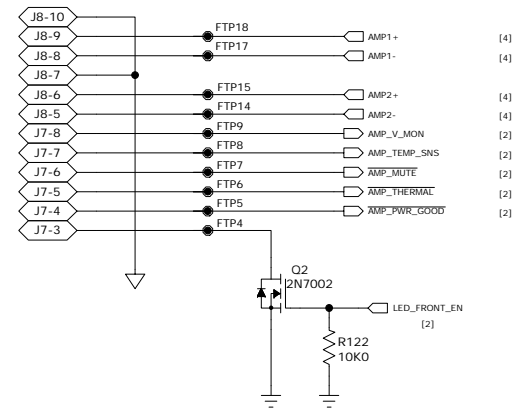


POWER SUPPLY/AMP CONNECTOR

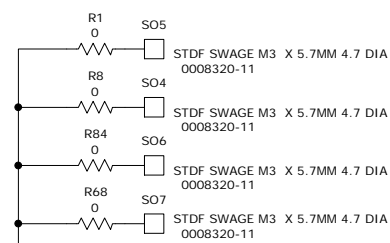
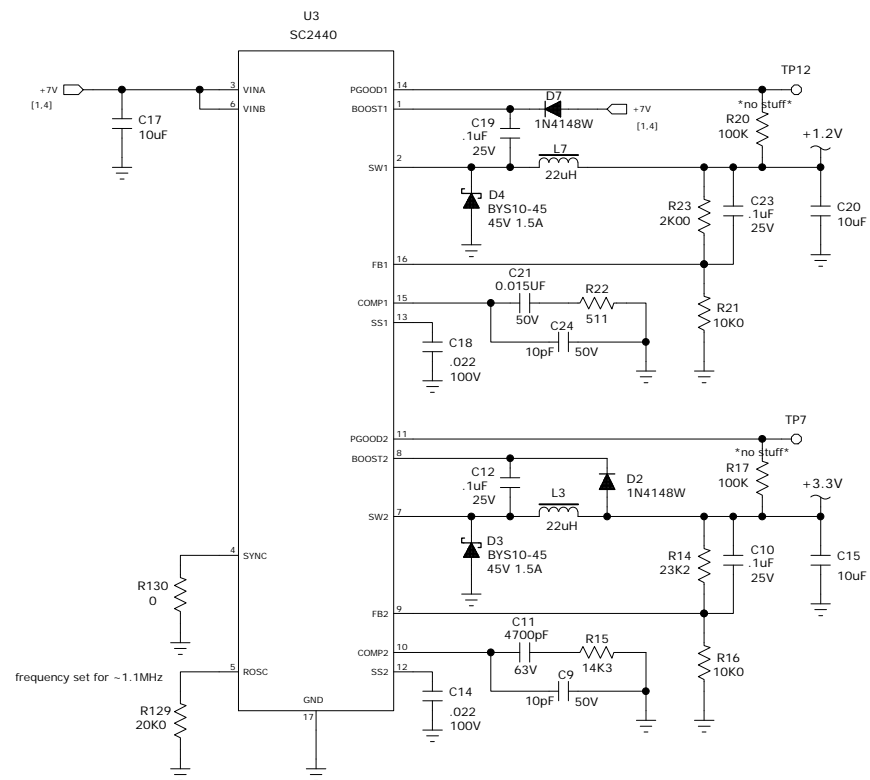


* To Do: DCR of power supply filter inductors

AGND and DGND connected with copper part on ground layer

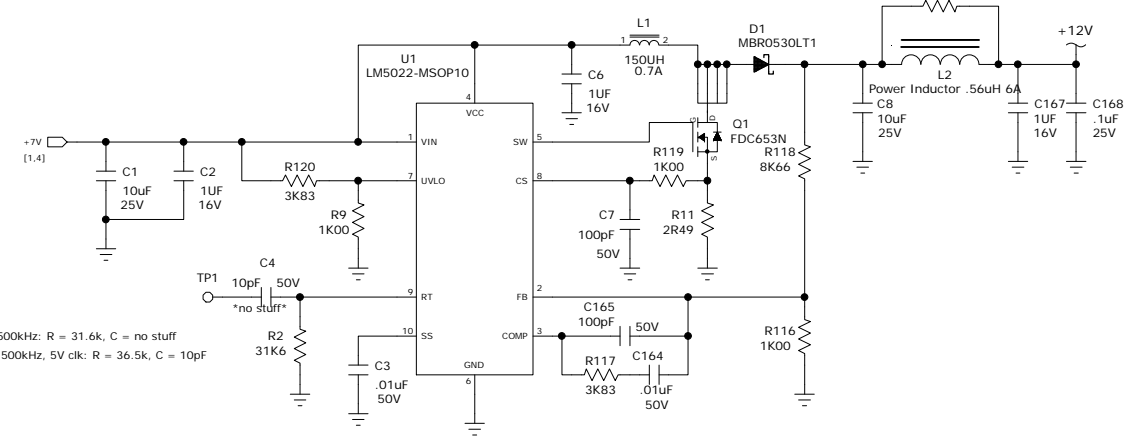


Vin = 7V, Vout = 1.2V @ 1.5A, 3.3V @ 500mA

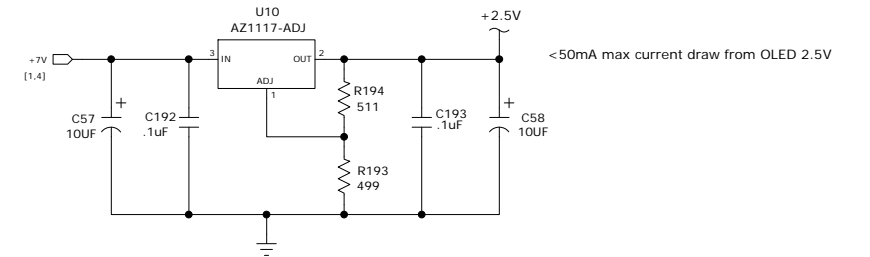


- SCH1 2040796-XX SCHEMATIC PCB ASSY NANO DSP
- PCB1 2040797-01 PCB FAB NANO DSP

Vin = 7V, Vout = 12V @ 60mA

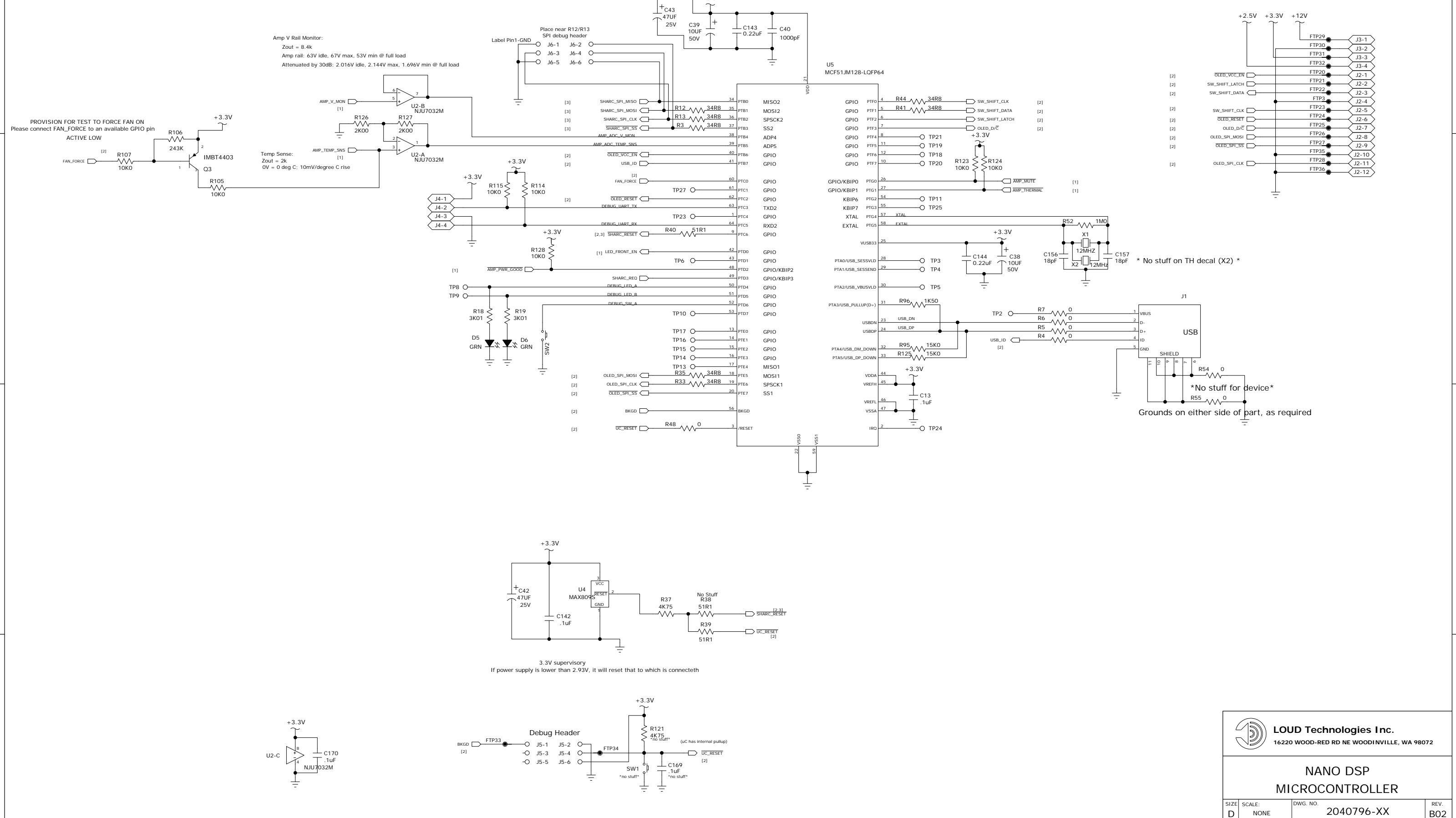


Free-running at 500kHz: R = 31.6k, C = no stuff
 Sync to external 500kHz, 5V clk: R = 36.5k, C = 10pF



APPROVALS	DATE	LOUD Technologies Inc.			
DRAWN: Darval, NO'N and RMR	04/08/2013	16220 WOOD-RED RD NE WOODINVILLE, WA 98072			
CHECKED:					
NP ENG:		NANO DSP			
MATERIAL:					
MFG:		SIZE: D	SCALE: NONE	DWG. NO.: 2040796-XX	REV. B02
MFG ENG:		DWG FILE: 2040796-XX-B02.sch		SHEET 1 OF 6	
ISSUED:					

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D

C

B

A

Amp V Rail Monitor:
 Zout = 8.4k
 Amp rail: 63V idle, 67V max, 53V min @ full load
 Attenuated by 30dB: 2.016V idle, 2.144V max, 1.696V min @ full load

Temp Sense:
 Zout = 2k
 OV = 0 deg C; 10mV/degree C rise

PROVISION FOR TEST TO FORCE FAN ON
 Please connect FAN_FORCE to an available GPIO pin
 ACTIVE LOW

* No stuff on TH decal (X2) *

No stuff for device

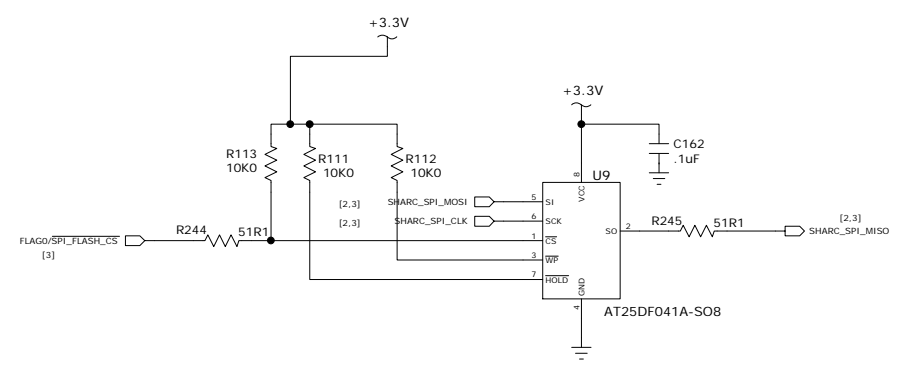
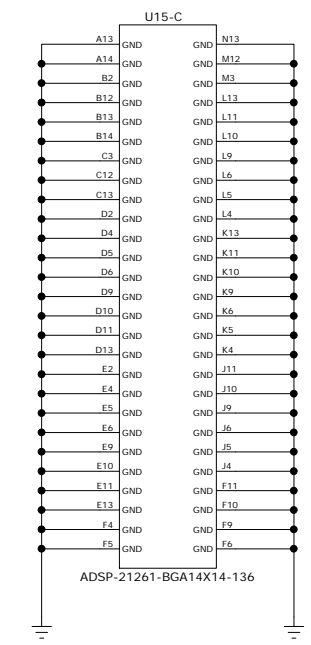
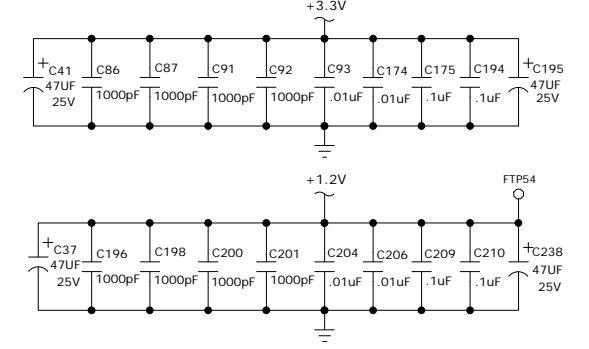
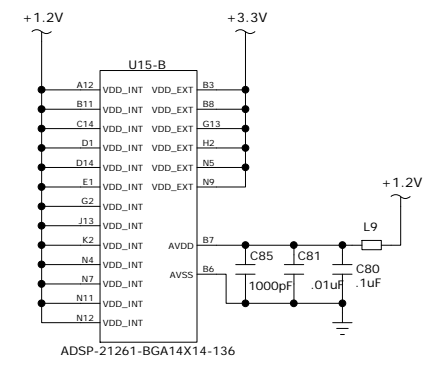
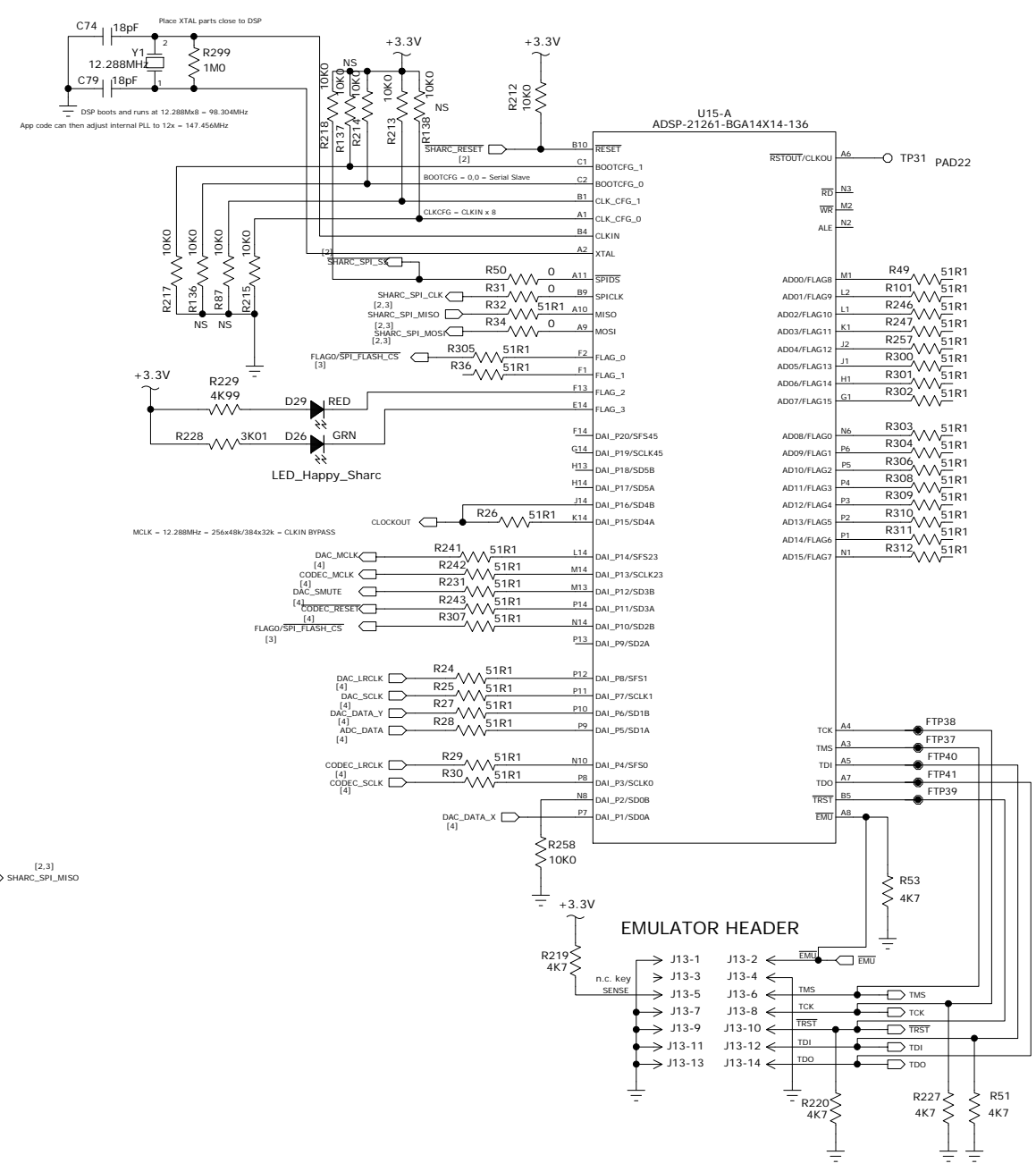
Grounds on either side of part, as required

3.3V supervisory
 If power supply is lower than 2.93V, it will reset that to which is connecteth



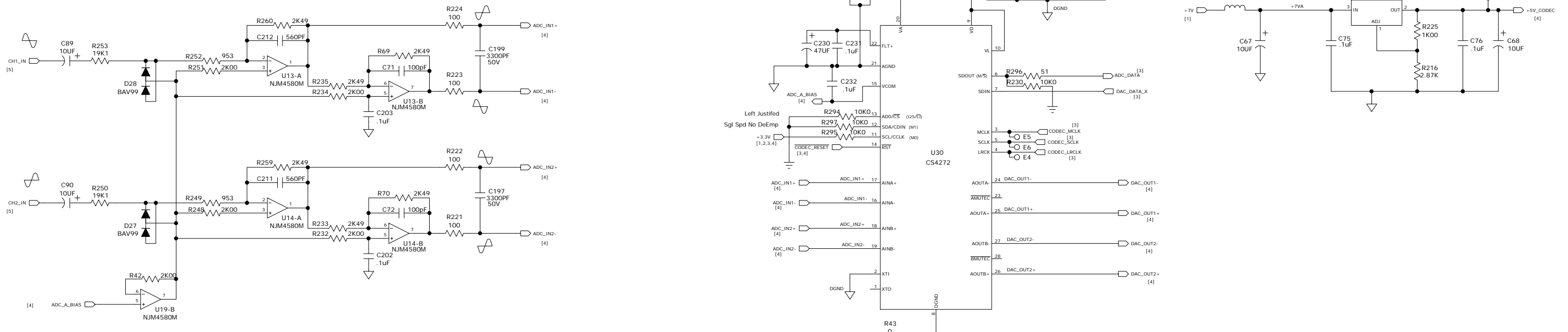
**NANO DSP
 MICROCONTROLLER**

SIZE: D	SCALE: NONE	DWG. NO.: 2040796-XX	REV. B02
DWG FILE: 2040796-XX-B02.sch		SHEET 2 OF 6	



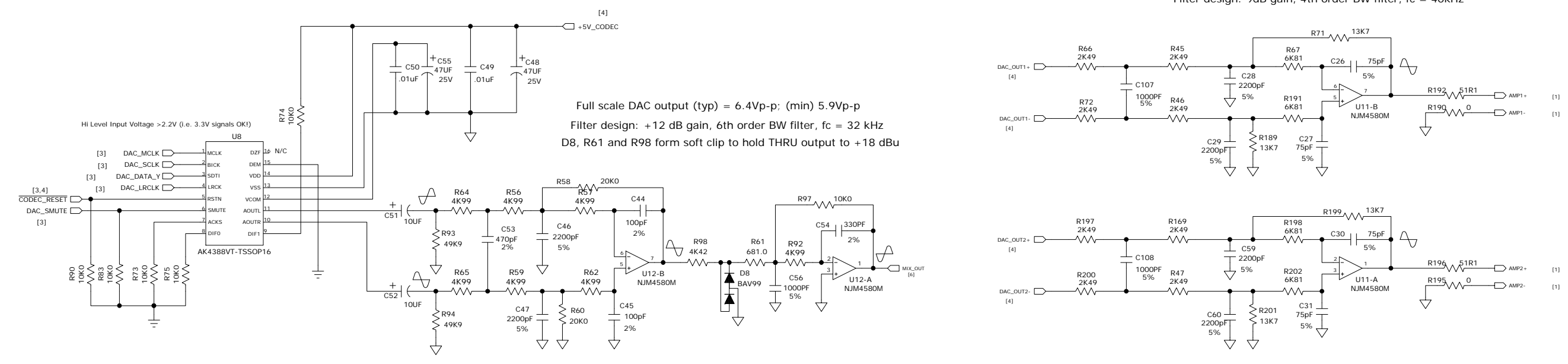
APPROVALS	DATE	LOUD Technologies Inc.	
DRAWN:		16220 WOOD-RED RD NE WOODINVILLE, WA 98072	
CHECKED:		NANO DSP	
NP ENG:			
MATERIAL:		SIZE: D	SCALE: NONE
MFG:		DWG. NO. 2040796-XX	REV. B02
MFG ENG:		DWG FILE: 2040796-XX-B02.sch	
ISSUED:		SHEET 3 OF 6	

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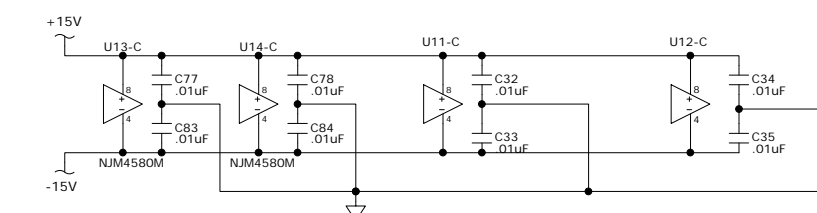
ADC full scale input (typ) = 5.65 Vp-p (summed) = 2.825 Vp-p (each side) = 2.207 dBu
 soft clippers set at 5.3 Vp-p (summed) = -0.5 dBFS
 *preliminary values entered - RMR

Full scale DAC output (typ) = 4.8 Vp-p
 Filter design: 9dB gain, 4th order BW filter, fc = 40kHz



Full scale DAC output (typ) = 6.4Vp-p; (min) 5.9Vp-p
 Filter design: +12 dB gain, 6th order BW filter, fc = 32 kHz
 D8, R61 and R98 form soft clip to hold THRU output to +18 dBu

This is a mid-ish DR DAC driving speakers downstream
 It will sum its output and accept inverted inputs in order to create 5-6dB of additional DR
 The DSP will create an inverted signal on its fourth output channel (i.e. 2nd of two sets)
 The summing stage creates an impedance balanced version of this output

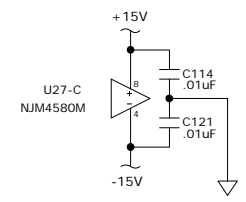
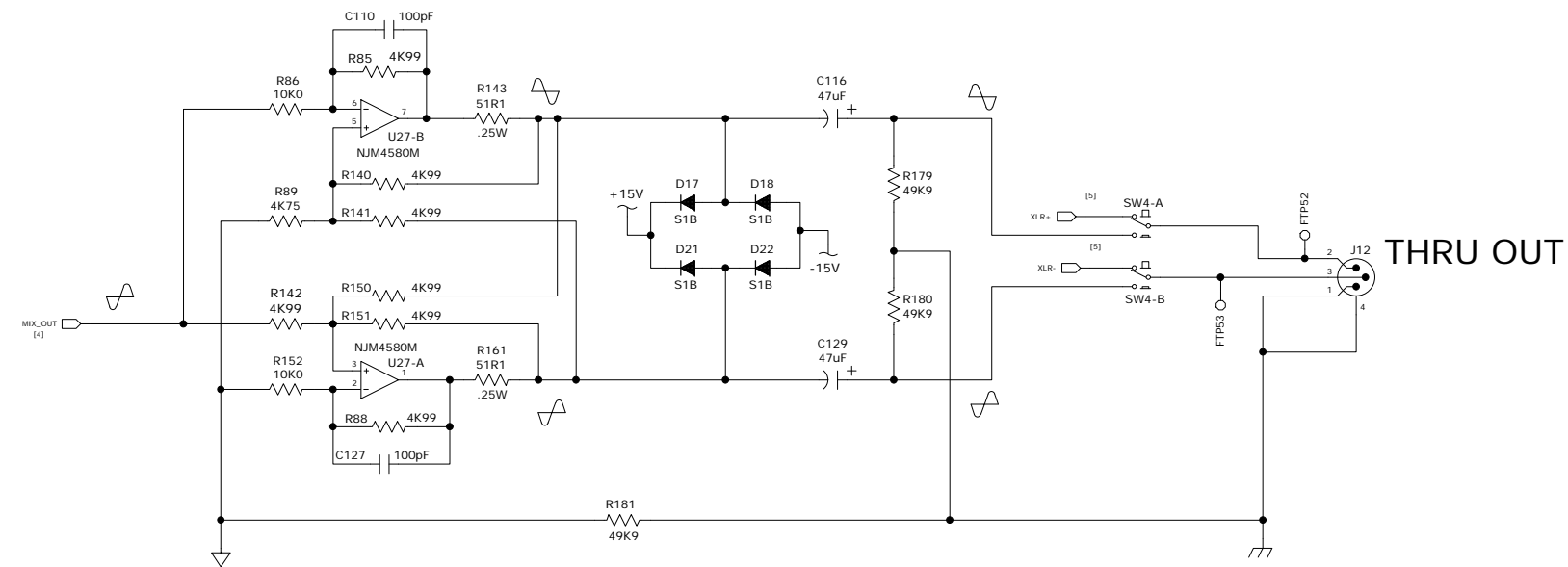


LOUD Technologies Inc.
 16220 WOOD-RED RD NE WOODINVILLE, WA 98072

**NANO DSP
 CODEC**

SIZE: D	SCALE: NONE	DWG. NO.: 2040796-XX	REV. B02
DWG FILE: 2040796-XX-B02.sch		SHEET 4 OF 6	

Cross-Coupled Balanced Output Buffer: 0 dB Gain



NANO DSP
ANALOG_OUTPUTS

SIZE D	SCALE NONE	DWG. NO. 2040796-XX	REV. B02
DWG FILE: 2040796-XX-B02.sch			SHEET 6 OF 6