

Elecraft KX3 Schematics

March, 2013

This document contains the schematics for the Elecraft KX3 transceiver and its internal options. The schematics are preceded by a block diagram for context.

The schematics are ordered as the basic KX3, then various options.

KX3 Block Diagram

KX3 RF Board

KX3 Control Panel

KXPD3 Paddle

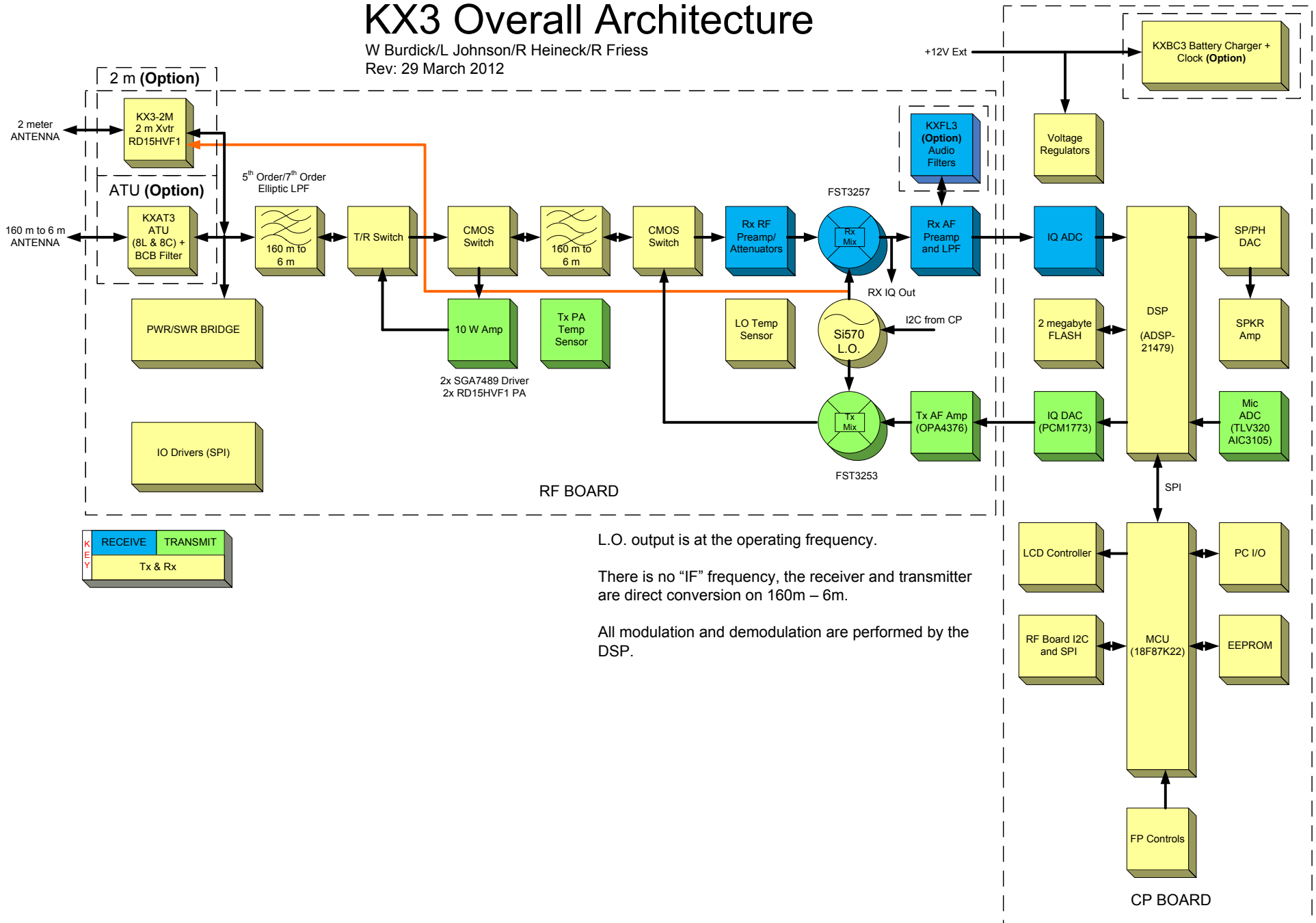
KXAT3 ATU

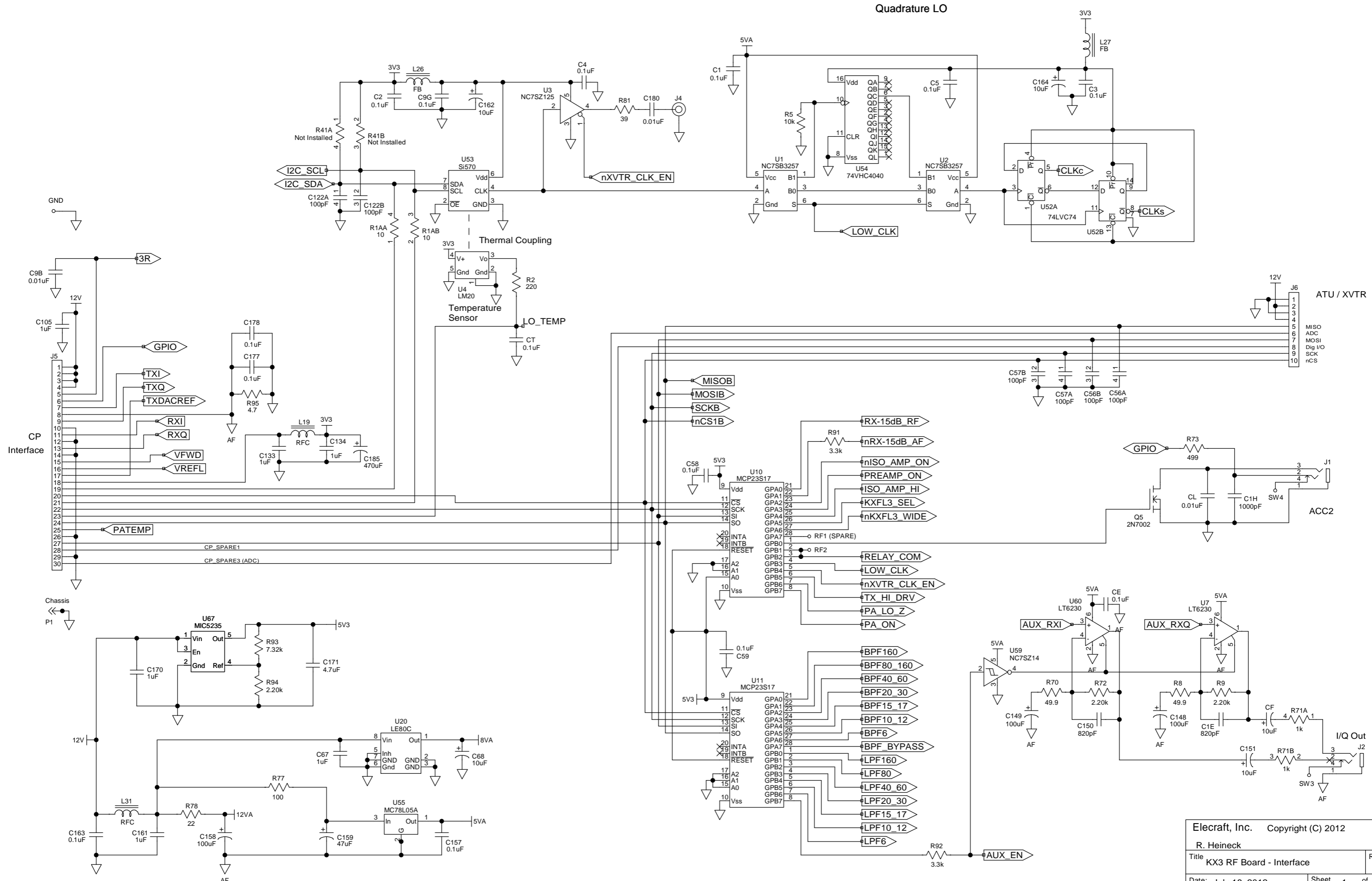
KXFL3 Roofing Filter

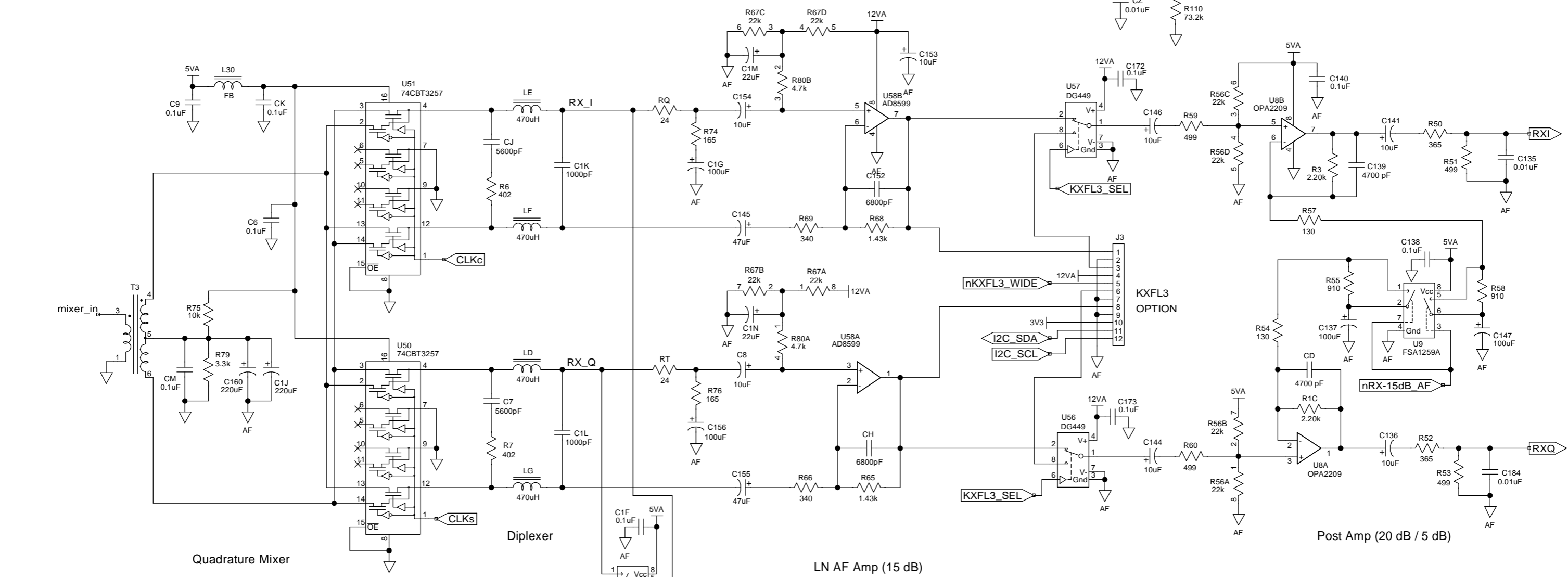
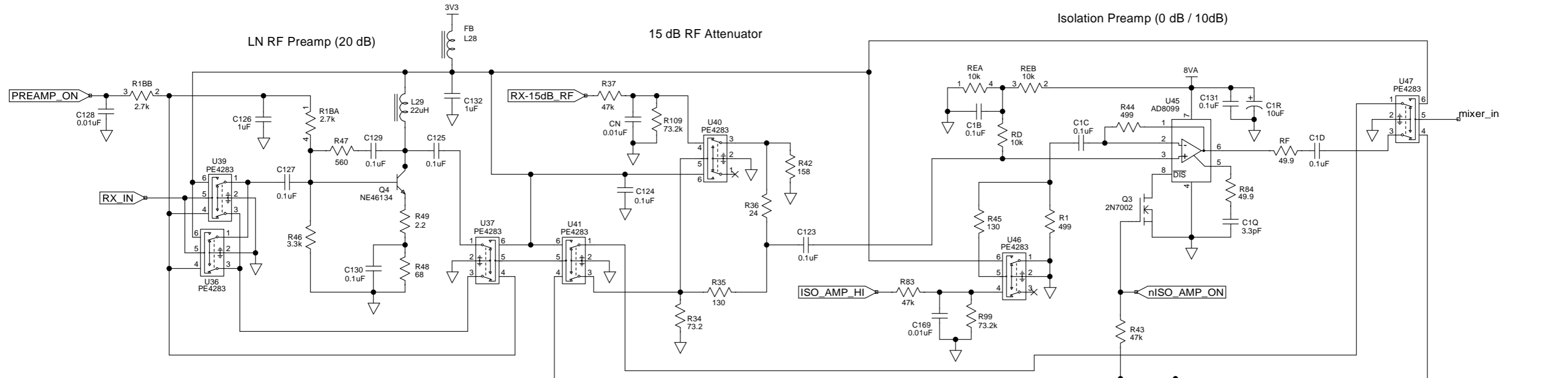
KXBC3 Battery Charger and Real Time Clock

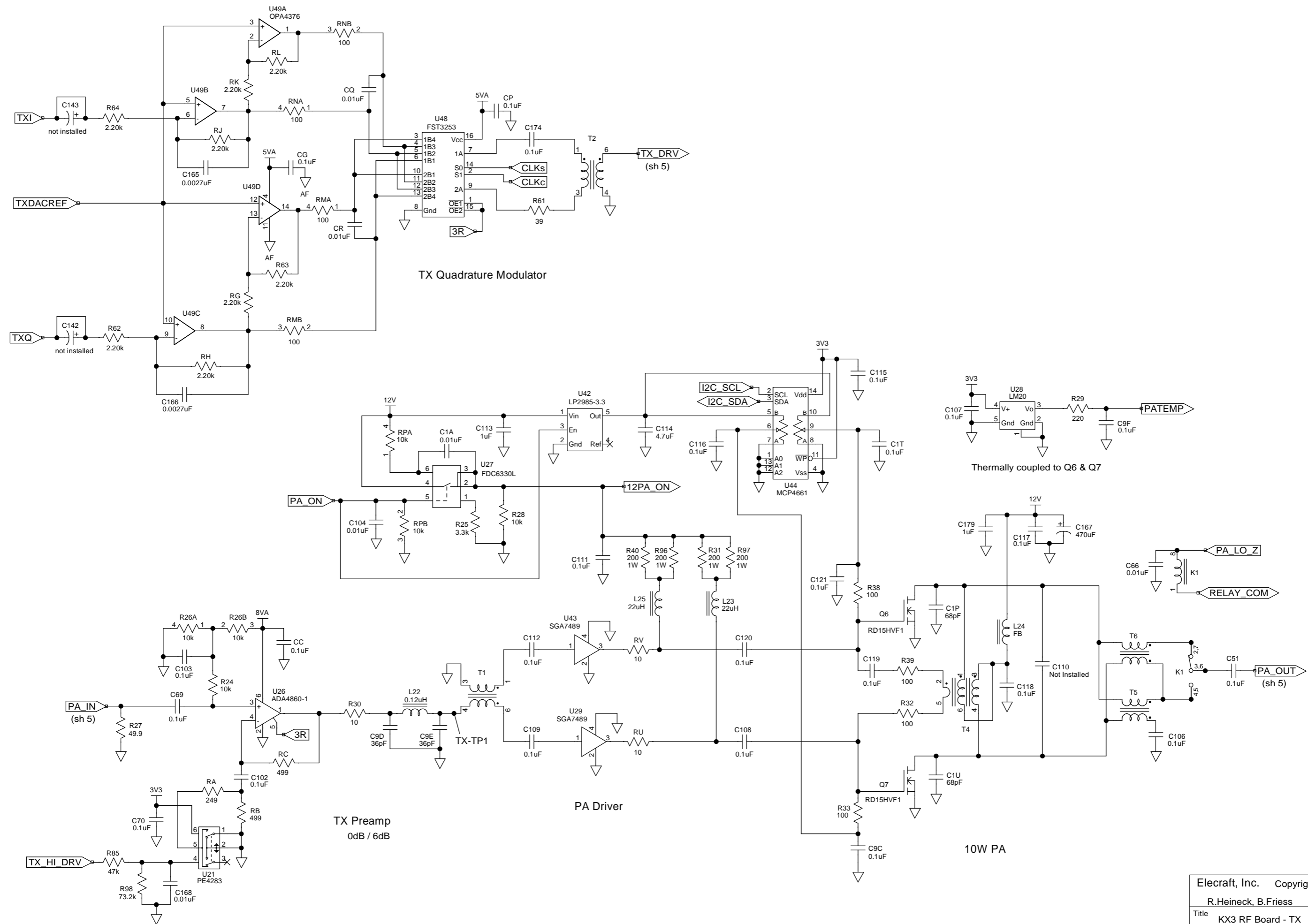
KX3 Overall Architecture

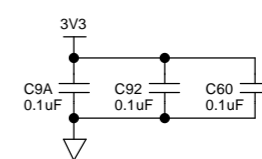
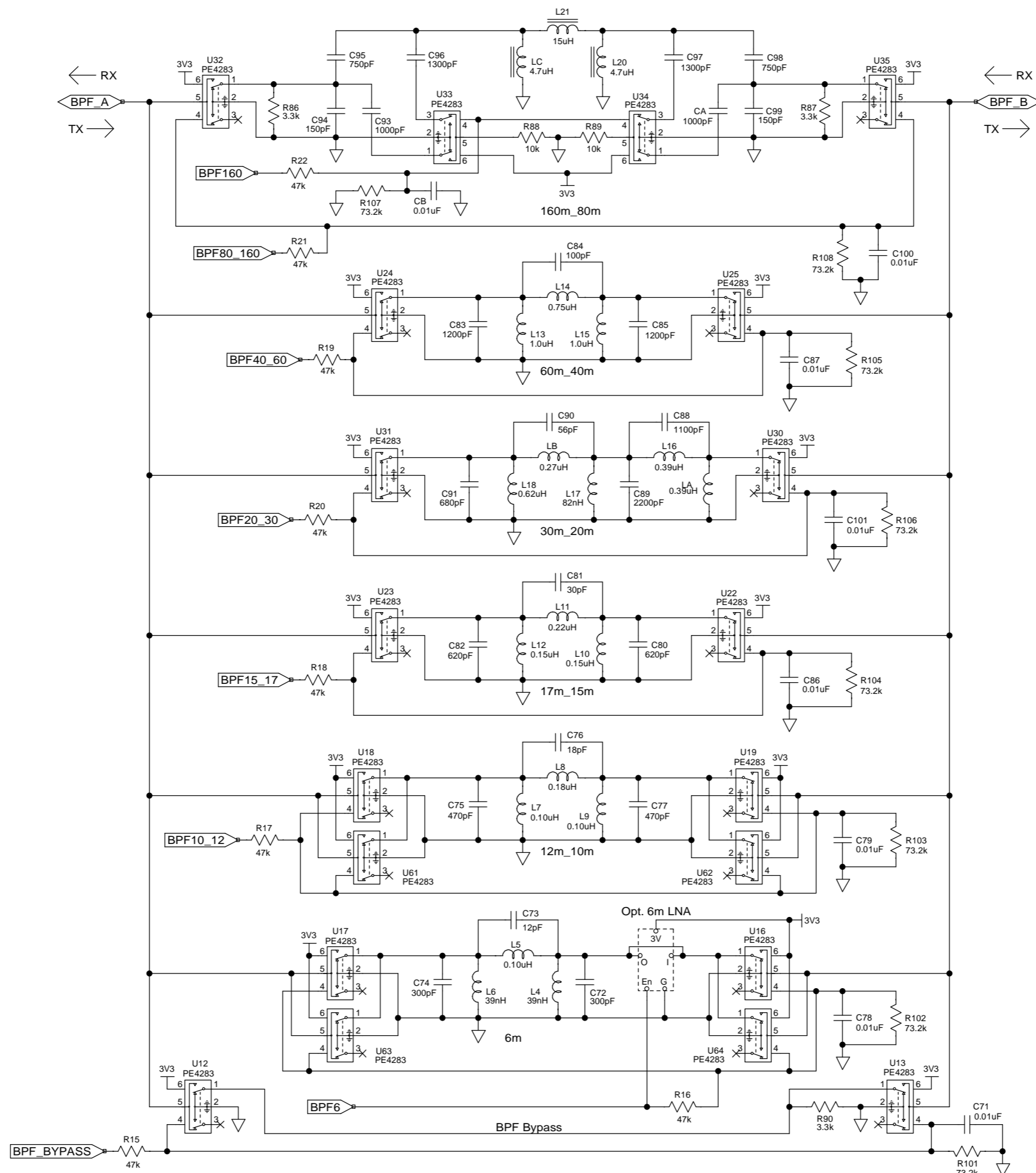
W Burdick/L Johnson/R Heineck/R Friess
Rev: 29 March 2012

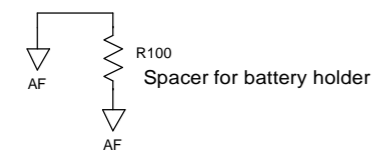
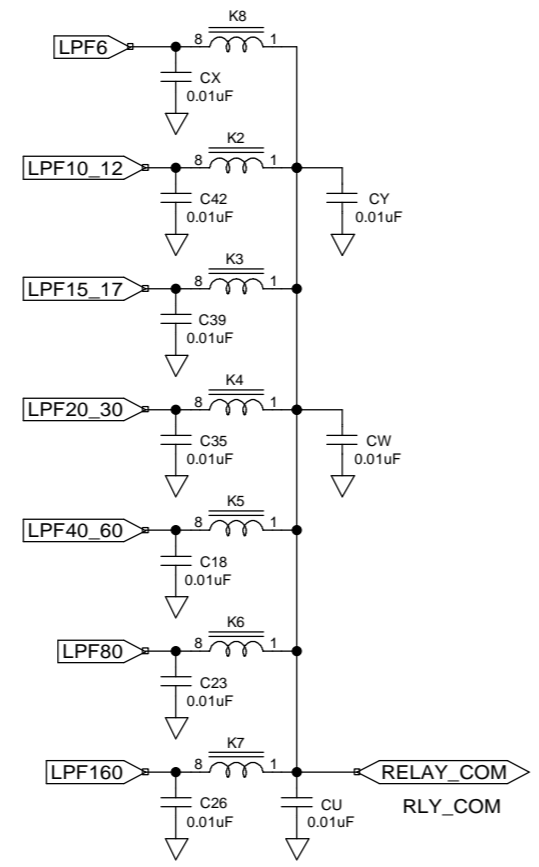
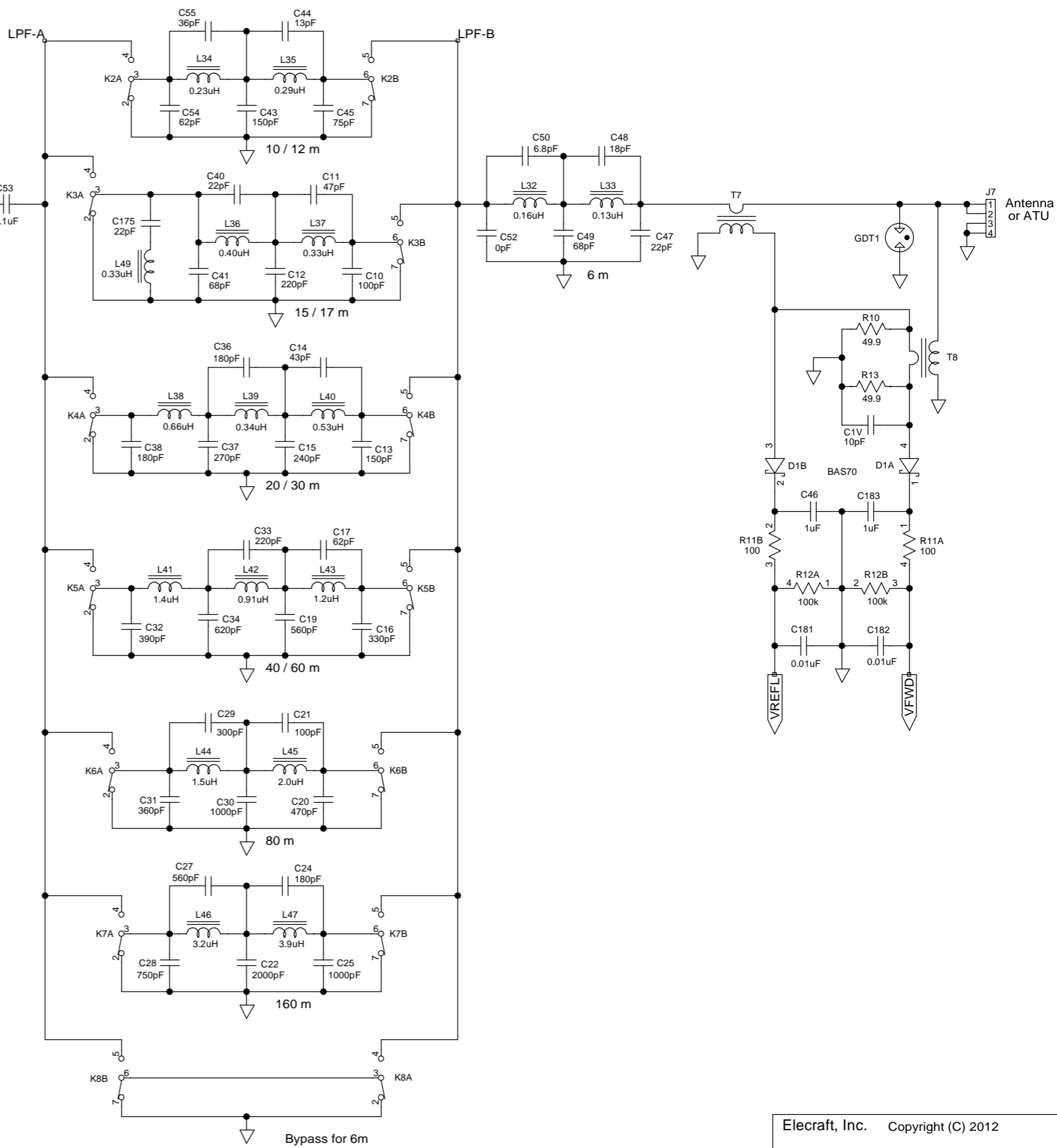
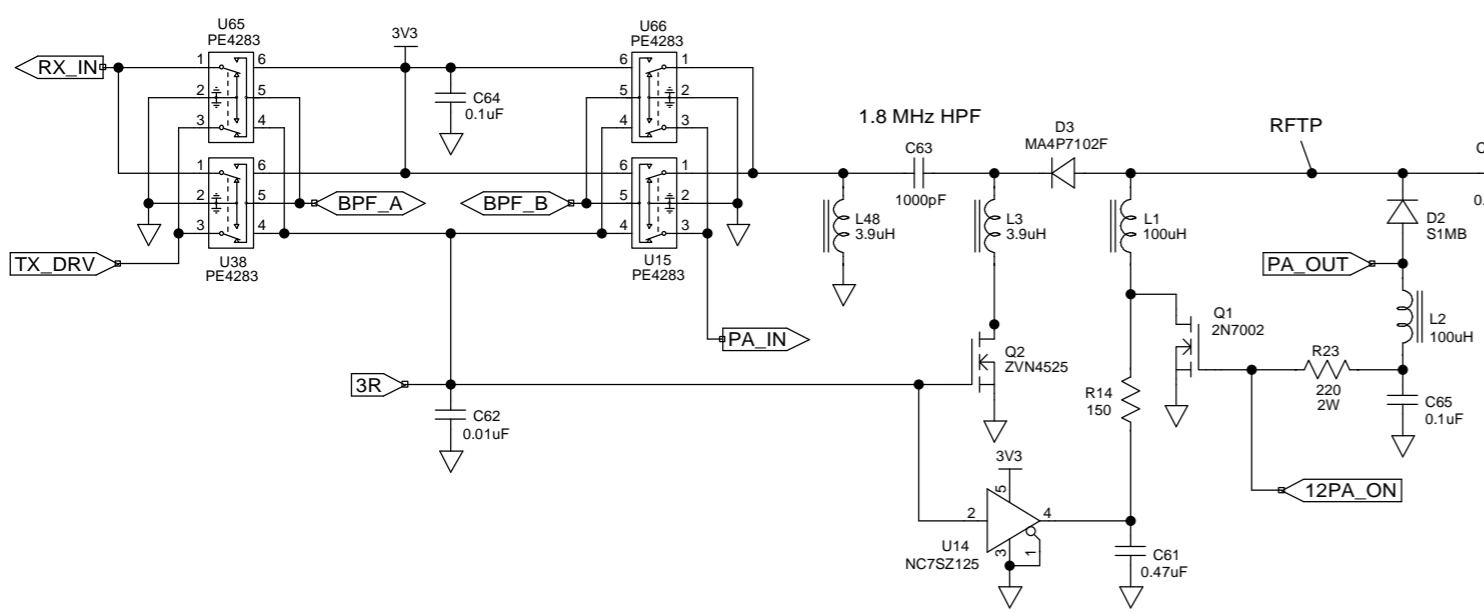


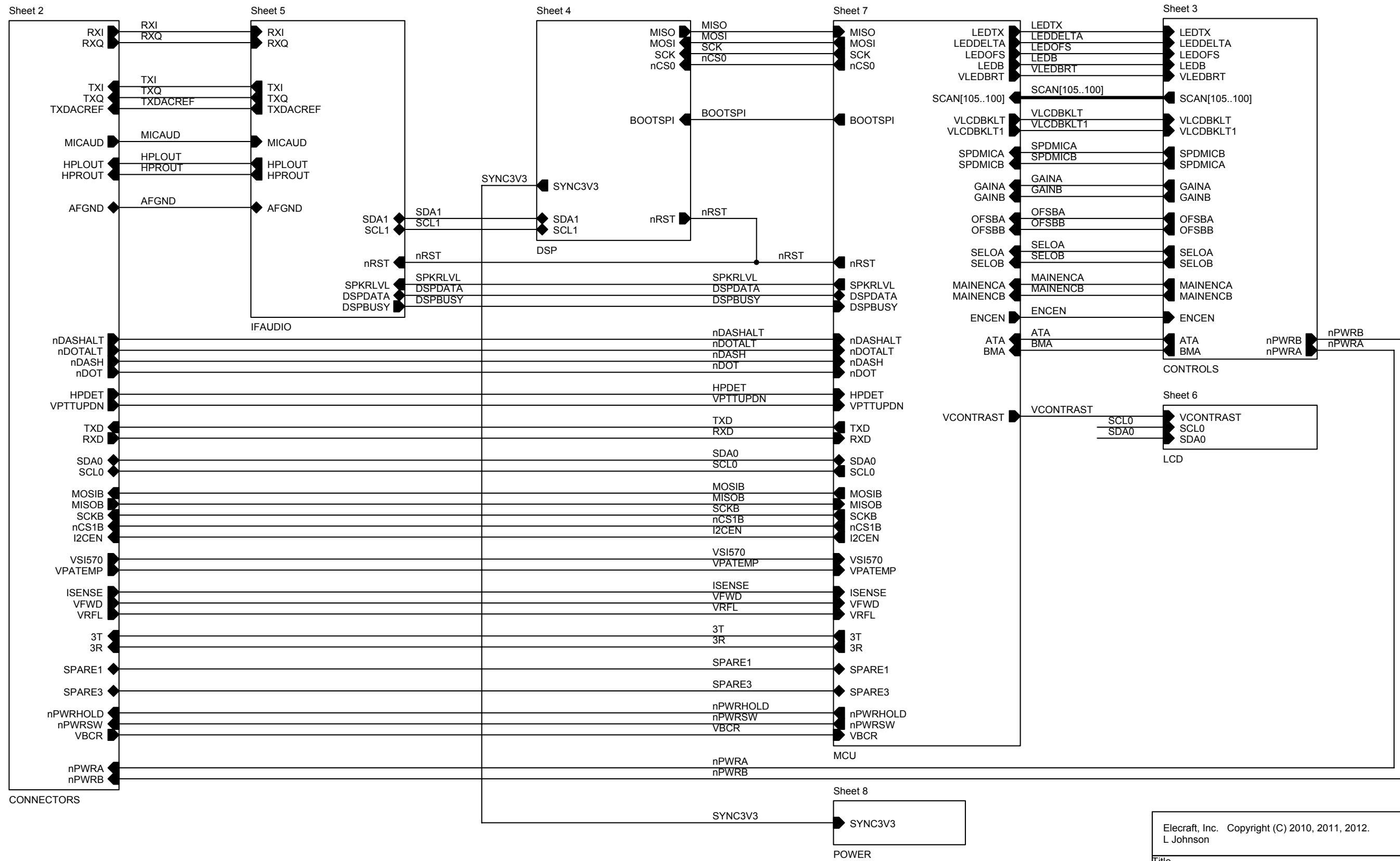


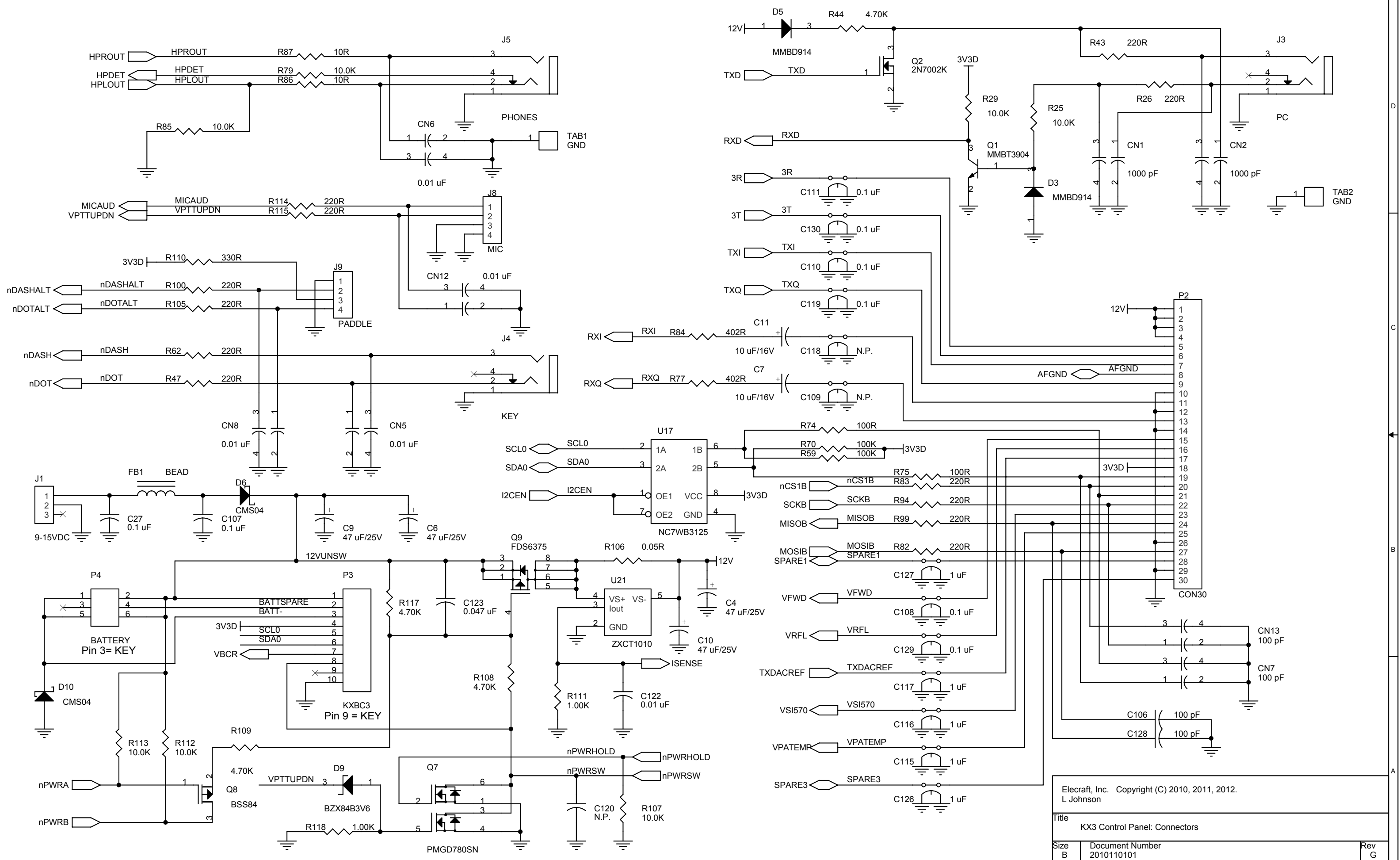




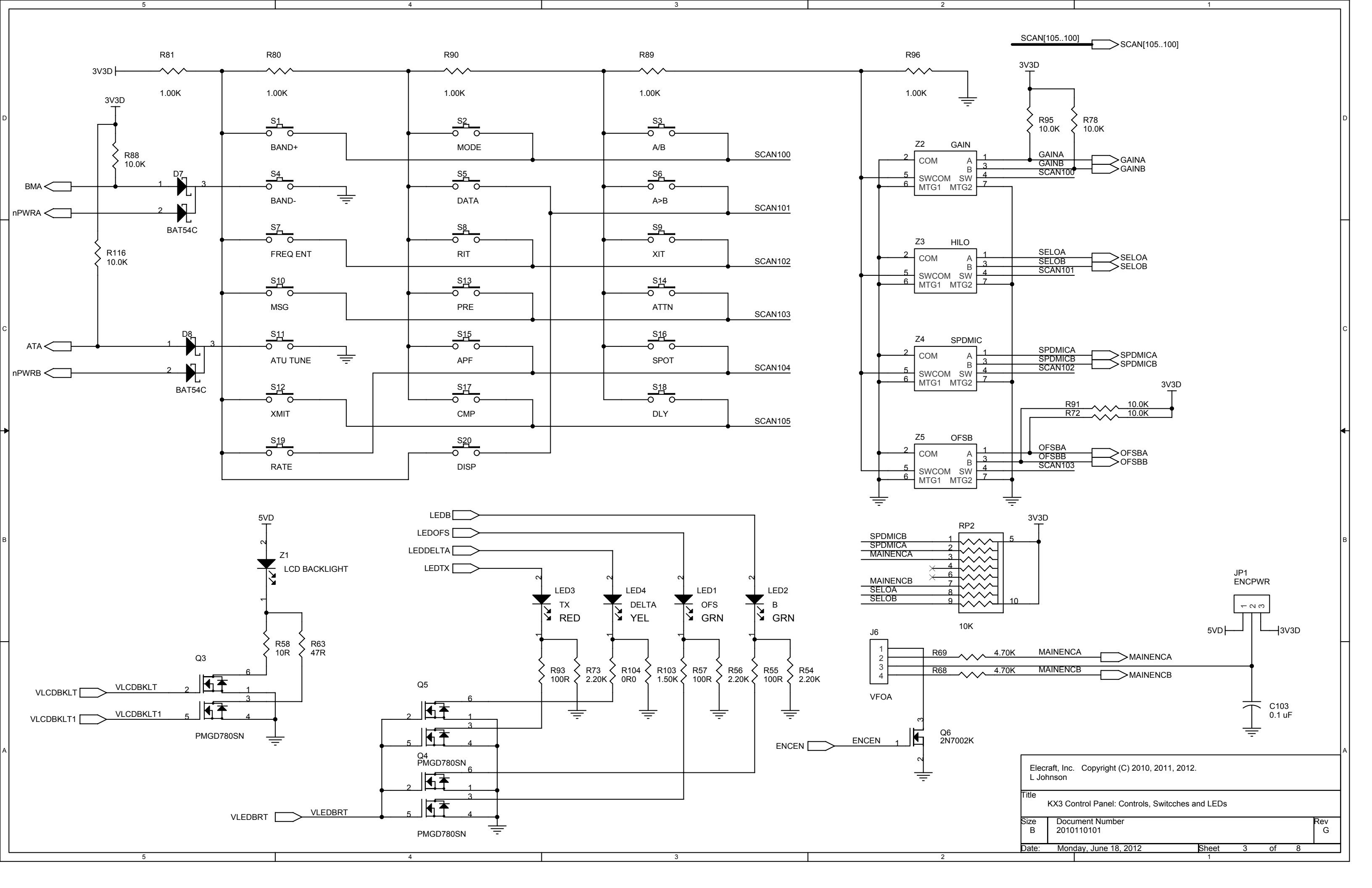




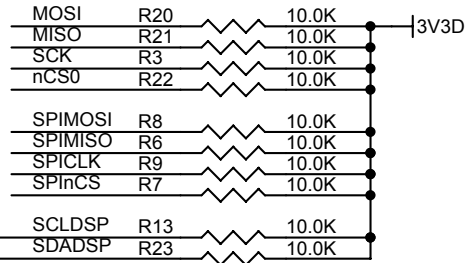
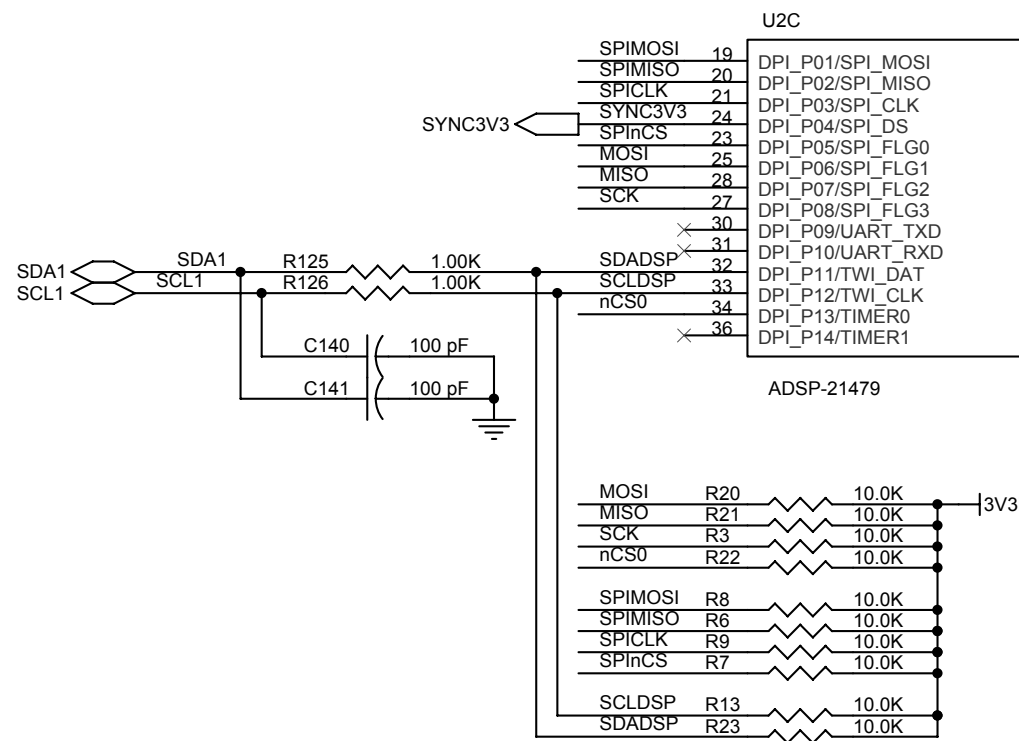




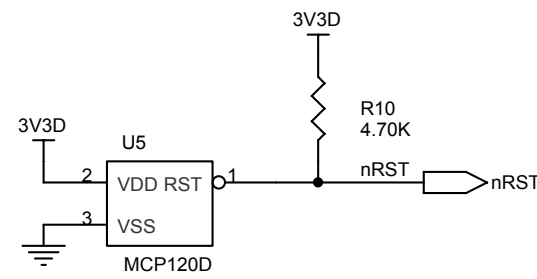
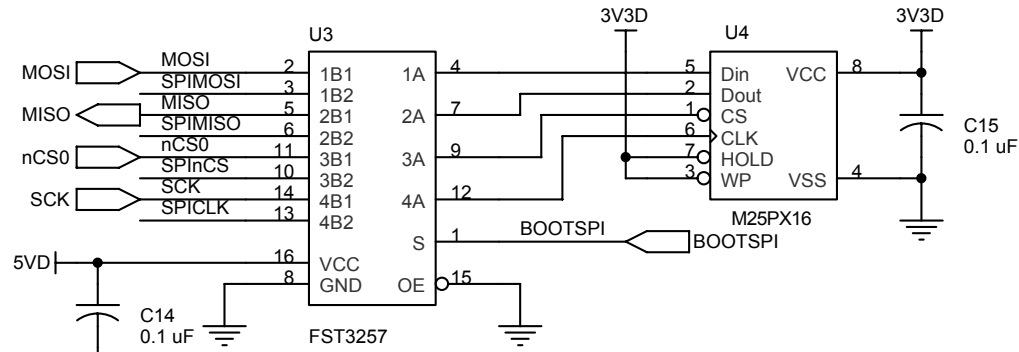
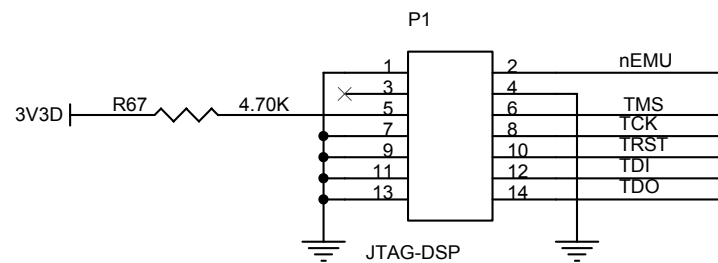
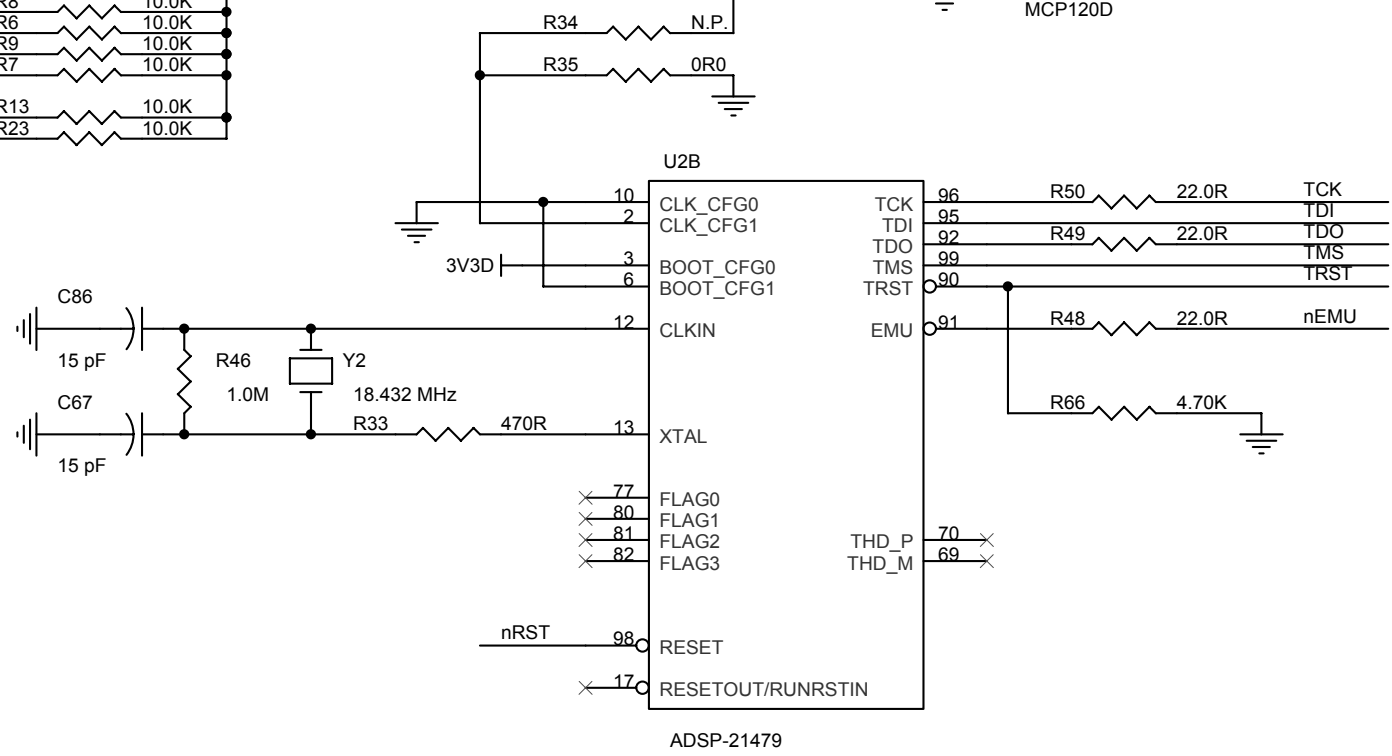
Elecrcraft, Inc. Copyright (C) 2010, 2011, 2012. L Johnson		
Title KX3 Control Panel: Connectors		
Size B	Document Number 2010110101	Rev G
Date: Monday, June 18, 2012	Sheet 2 of 8	



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 L Johnson
 Title
 KX3 Control Panel: Controls, Switches and LEDs
 Size B Document Number 2010110101 Rev G
 Date: Monday, June 18, 2012 Sheet 3 of 8

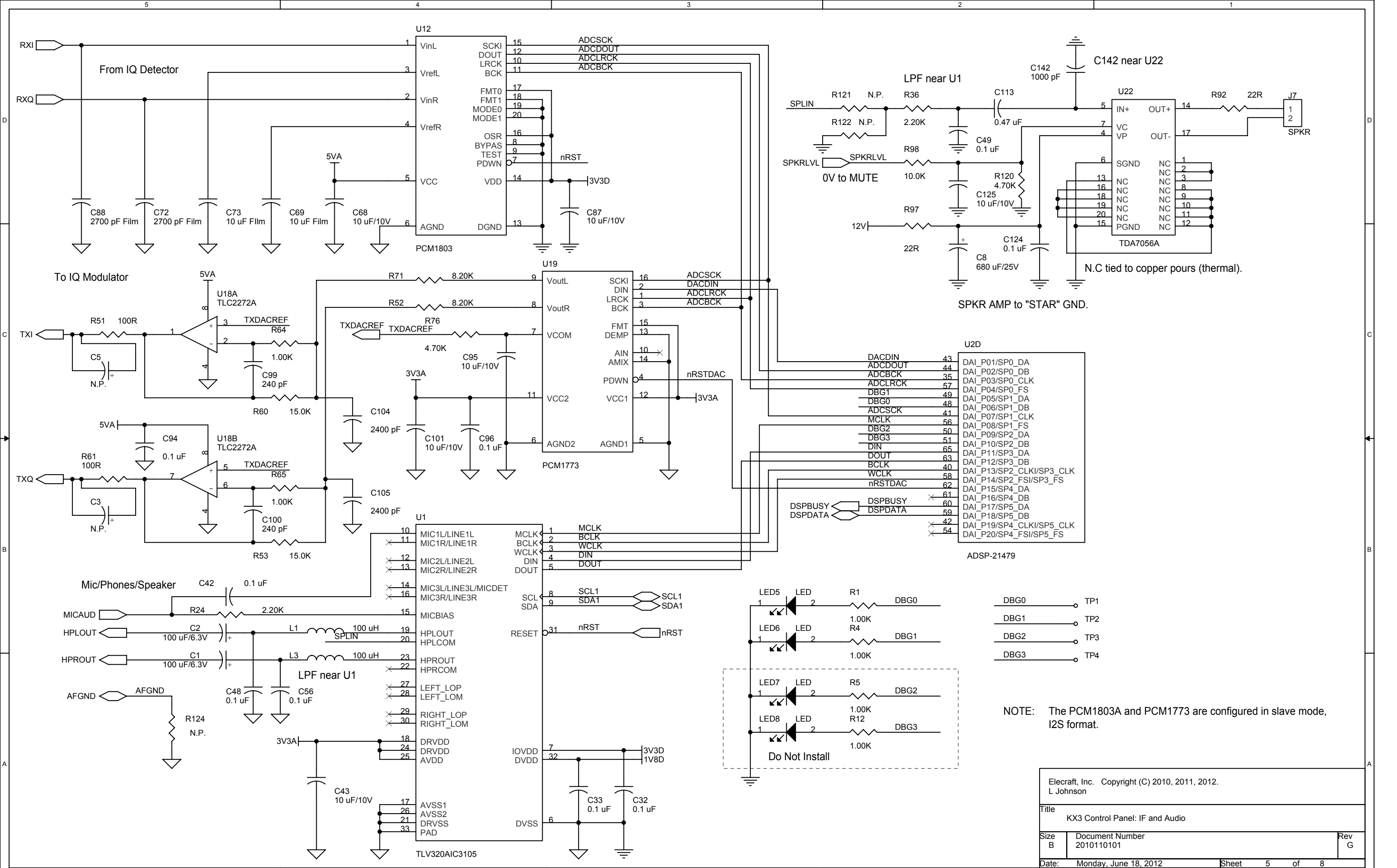


Place one but NOT both resistors.
 HI = 294 MHz default Clk.
 LO = 147 MHz default Clk.



NOTE: nRST=0 then 1, BOOTSPI=1: SPI MASTER BOOT from Flash
 nRST=0, BOOTSPI=0: Load SPI Flash from MCU

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Title KX3 Control Panel: DSP		
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U2D

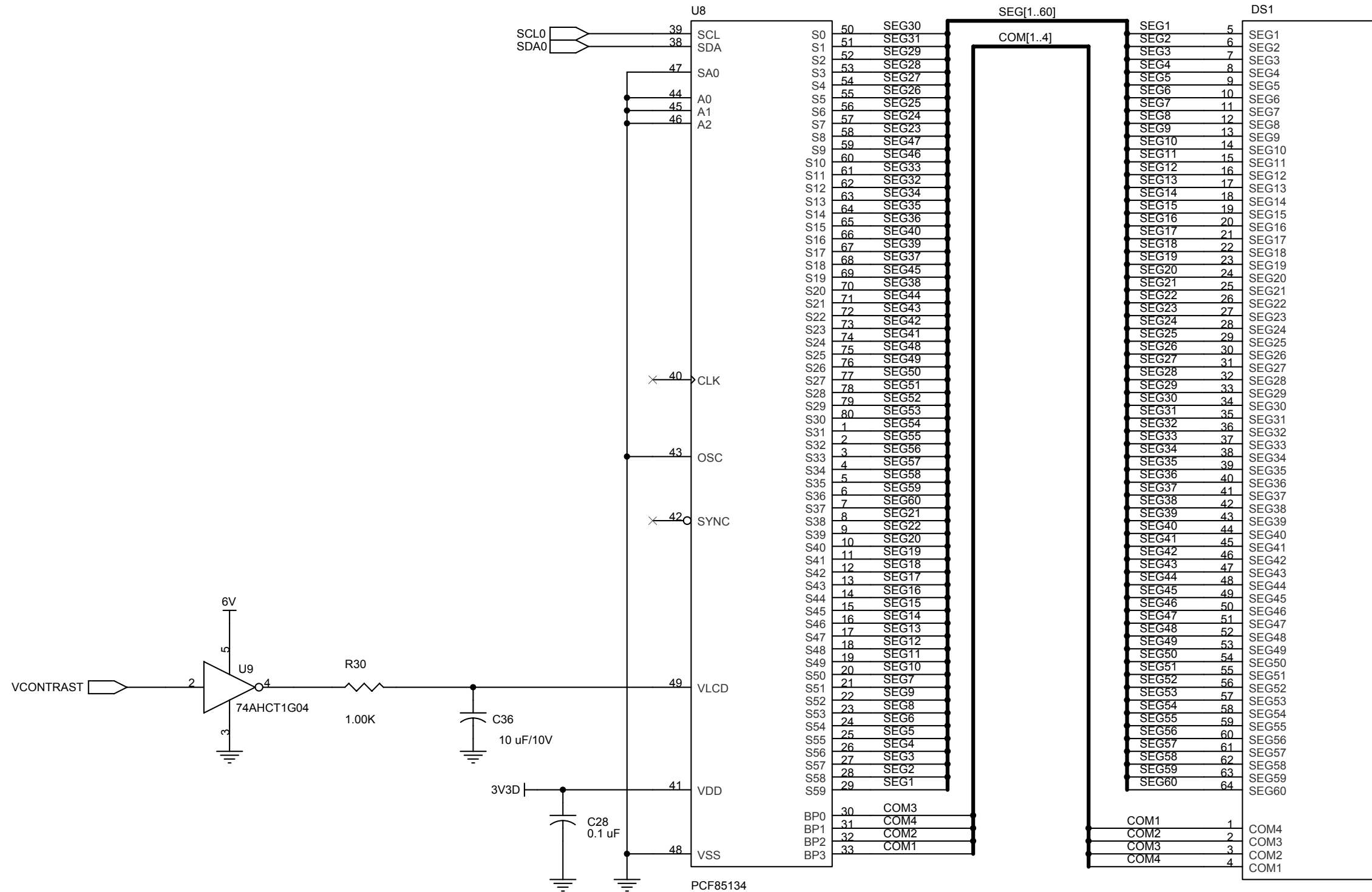
DACDIN	43
ADCDOUT	44
ADCBCK	35
ADCLRCK	57
DBG1	49
DBG0	48
ADCSDCK	41
MCLK	56
DBG2	50
DBG3	51
DIN	65
DOUT	63
BCLK	40
WCLK	40
nRSTDAC	62
DSPBUSY	61
DSPDATA	60
DSPDATA	59
DAI_P18/SP5_DB	42
DAI_P19/SP4_CLKI/SP5_CLK	54
DAI_P20/SP4_FSI/SP5_FS	54

ADSP-21479

- DBG0 TP1
- DBG1 TP2
- DBG2 TP3
- DBG3 TP4

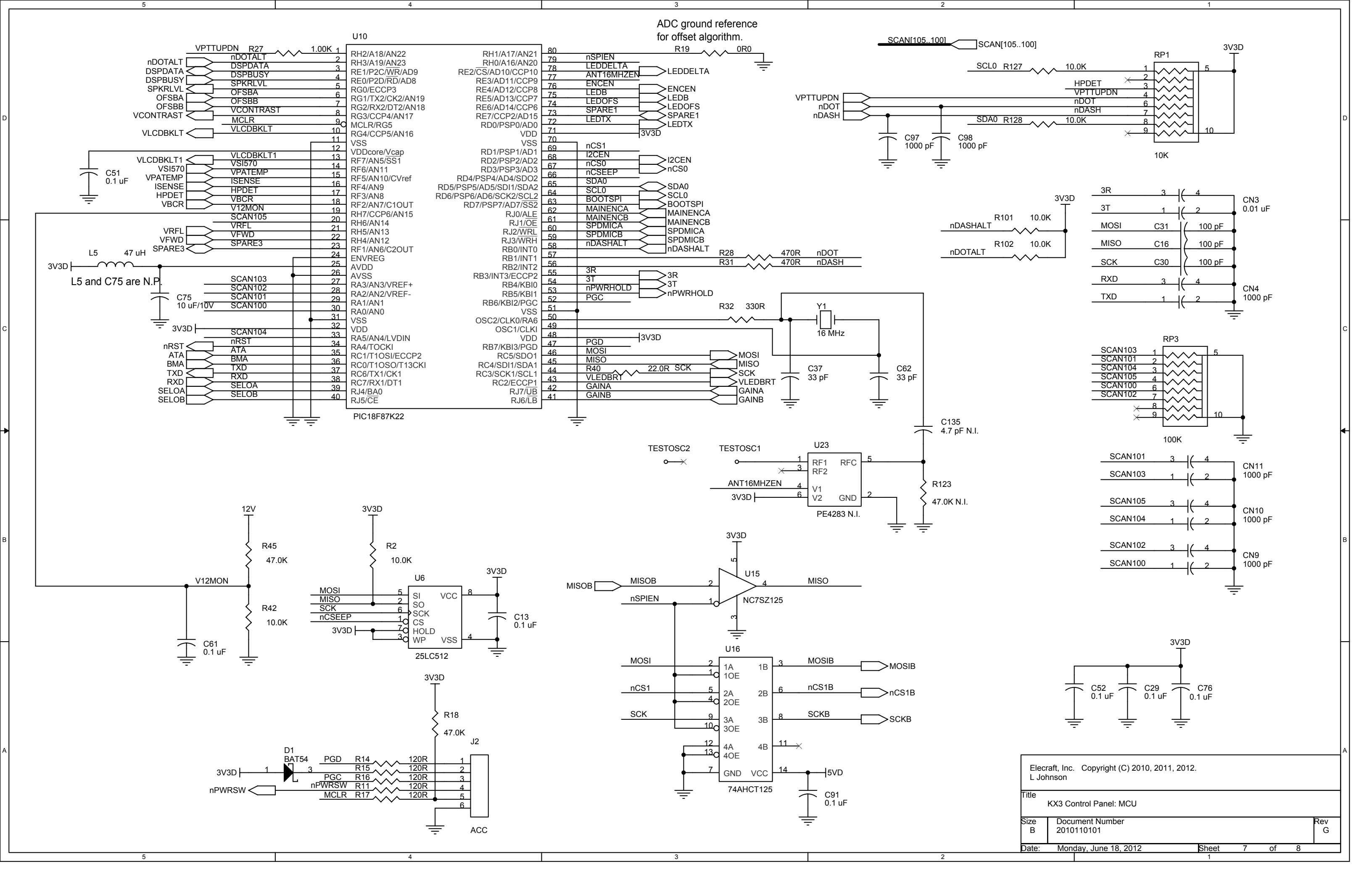
NOTE: The PCM1803A and PCM1773 are configured in slave mode, I2S format.

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KX3 Custom LCD

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ADC ground reference
for offset algorithm.

SCAN[105..100] SCAN[105..100]

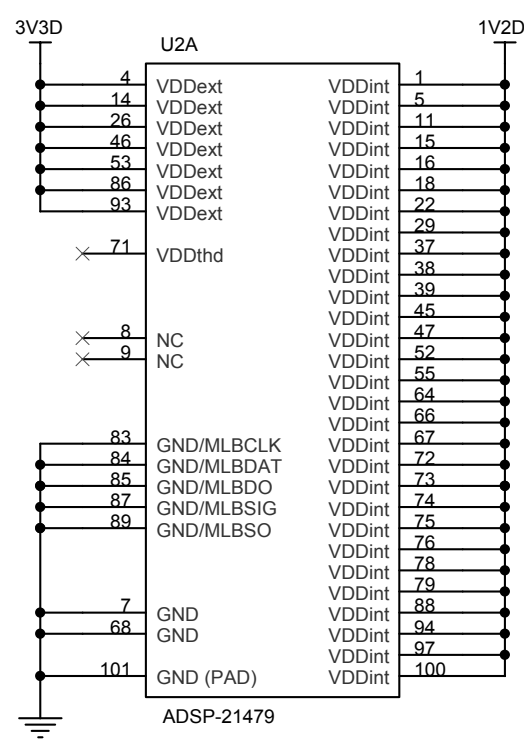
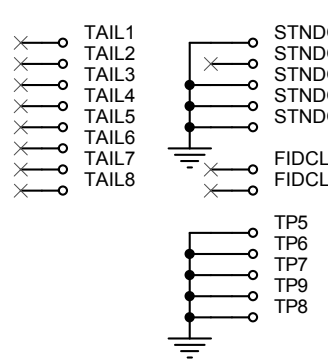
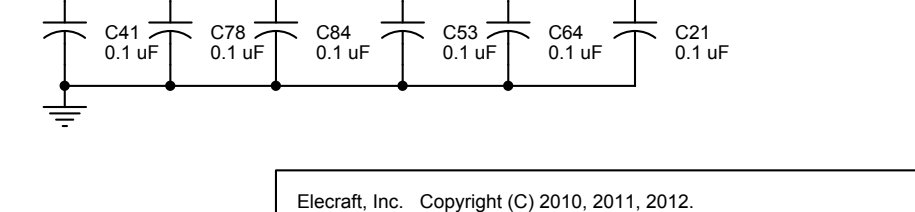
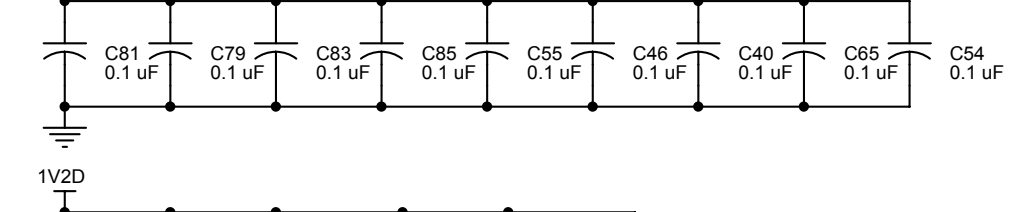
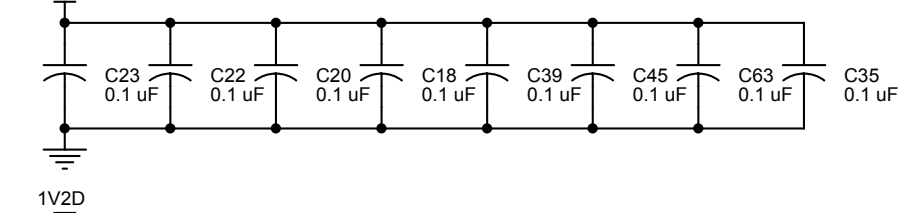
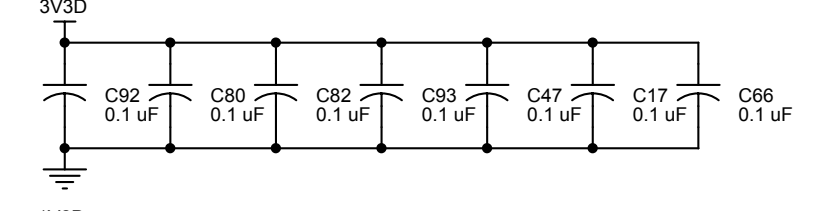
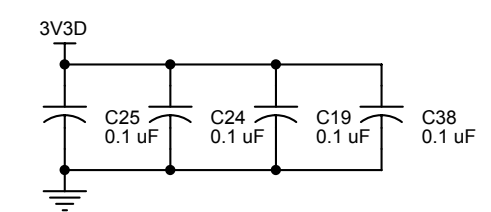
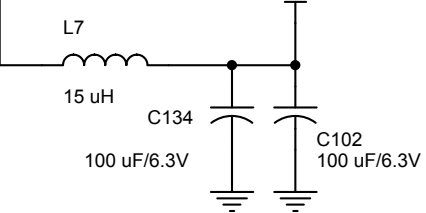
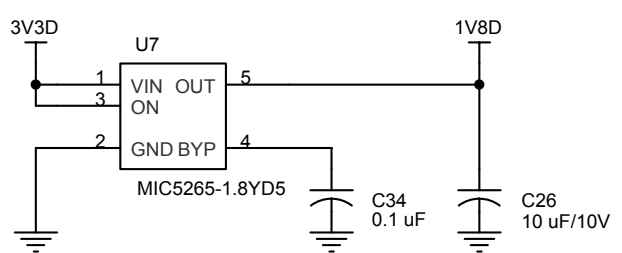
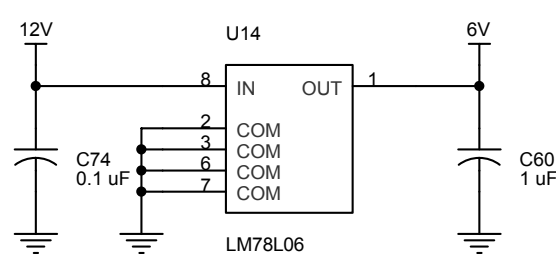
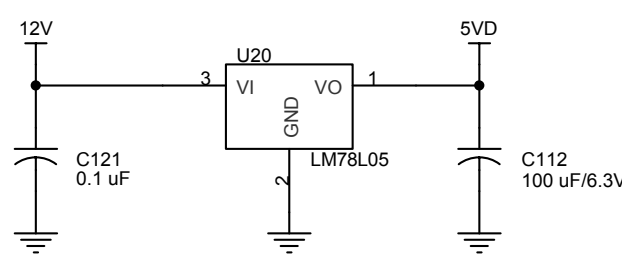
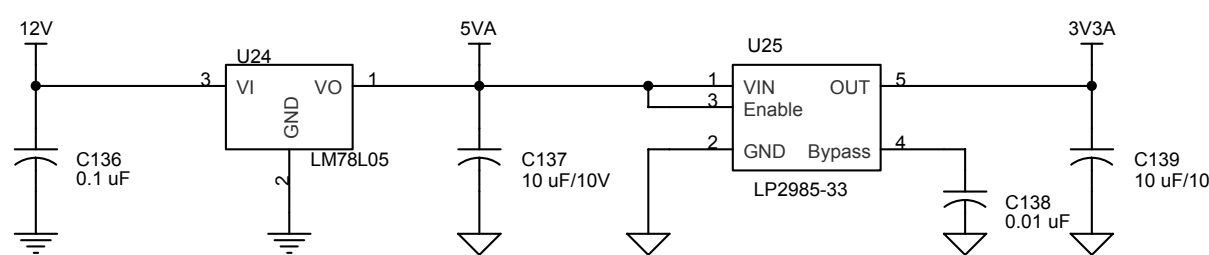
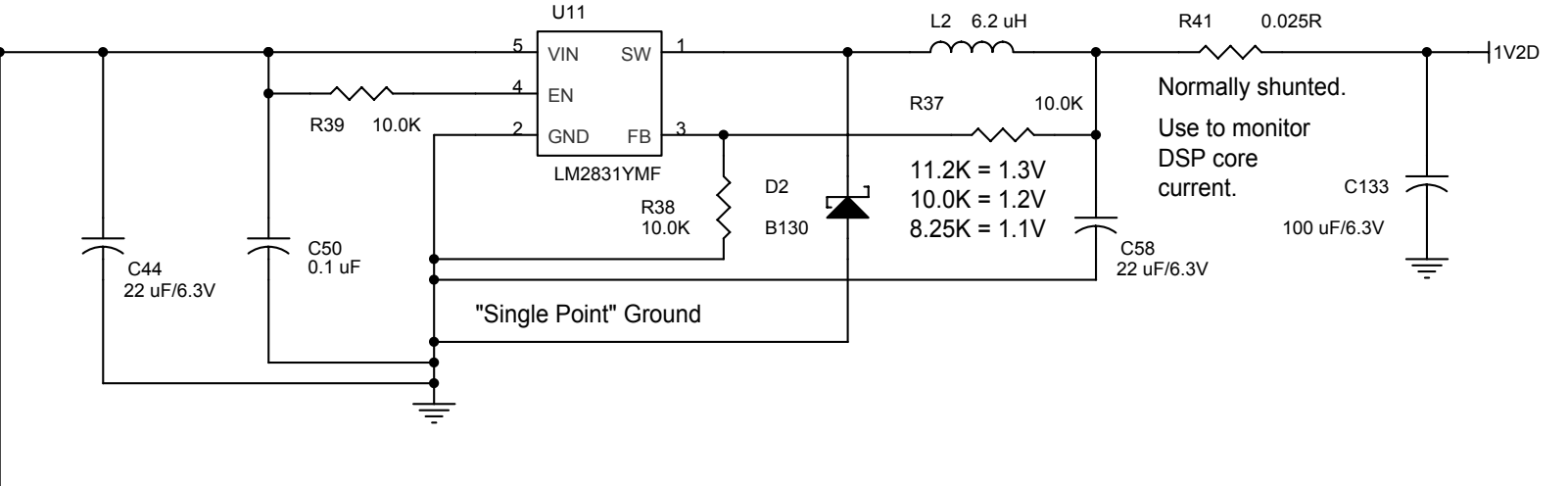
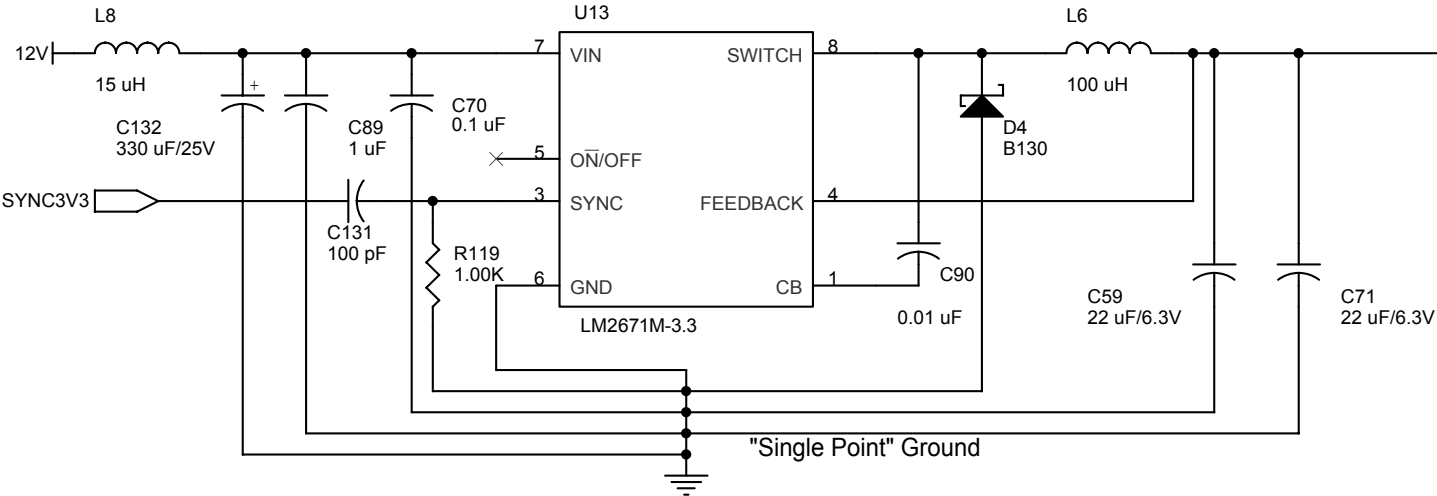
TESTOSC2

TESTOSC1

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Title KX3 Control Panel: MCU		
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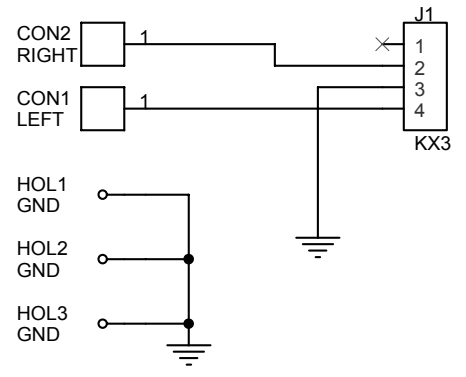
8-16V in, 3.3V out, 82%, 1A

3-4V in, 1.2V out, 70%, 1.0A

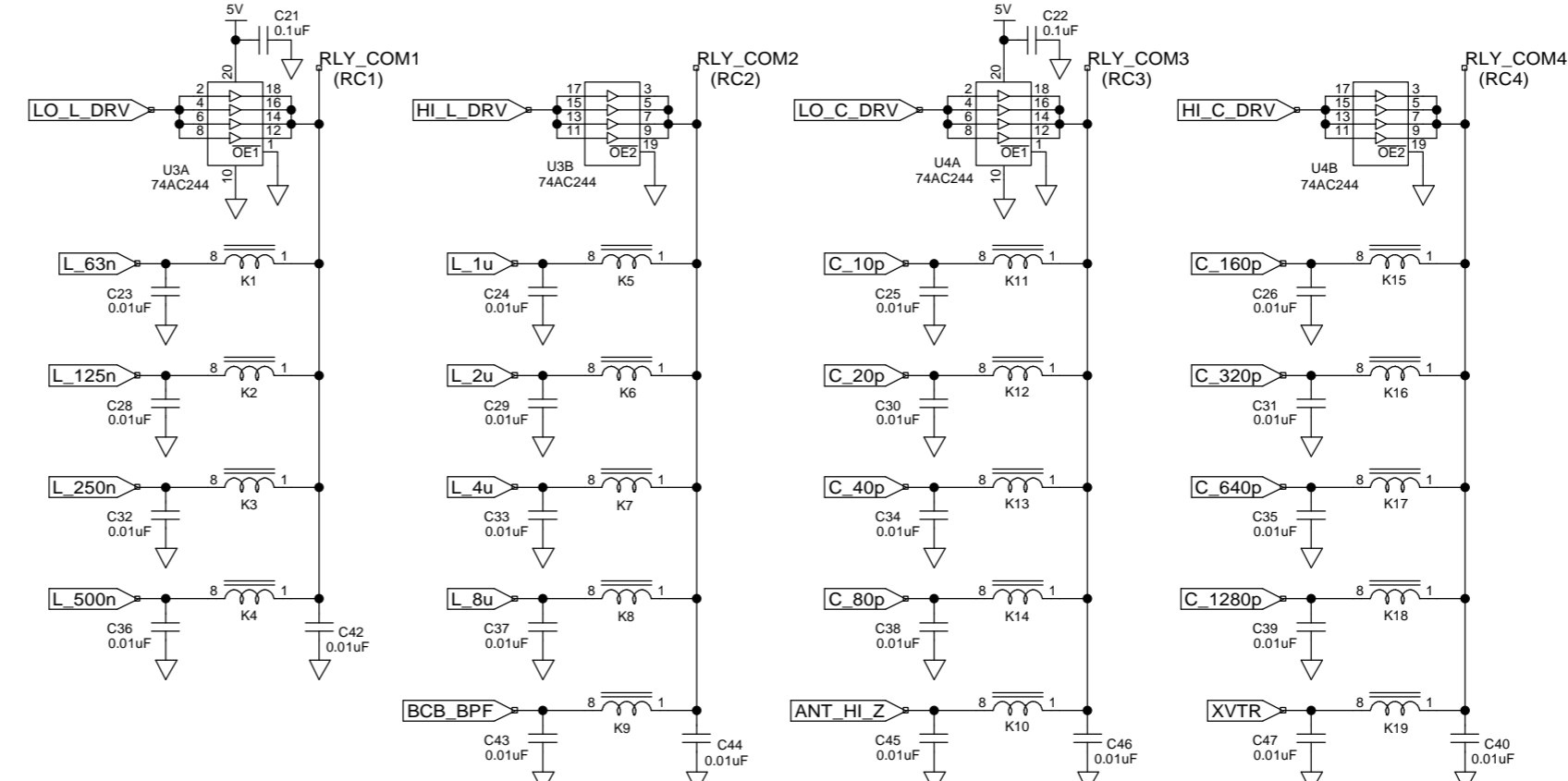
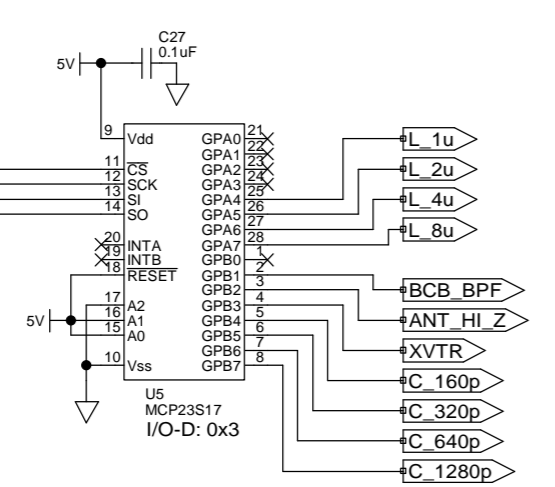
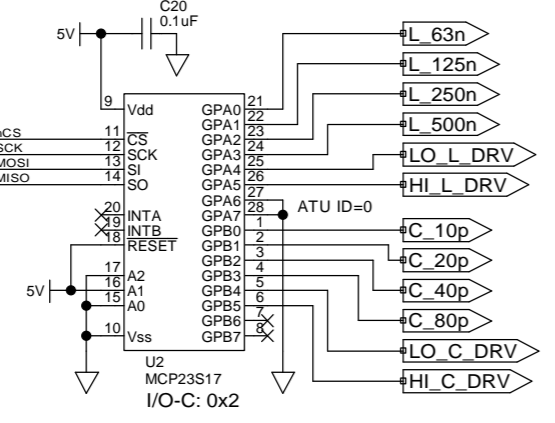
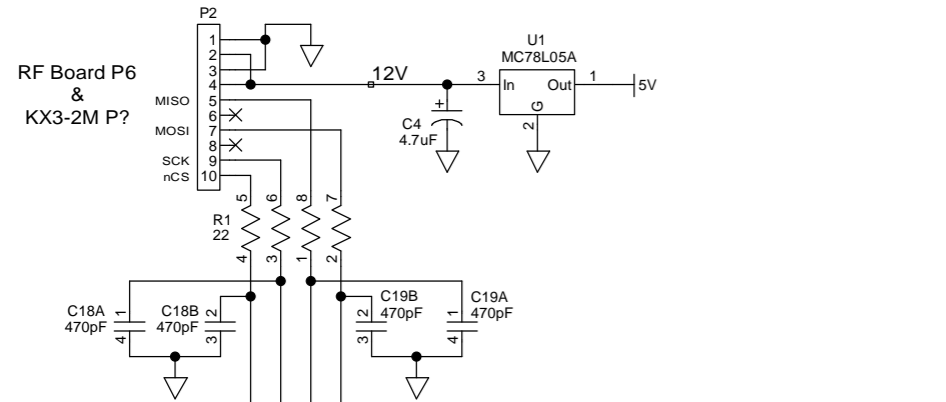
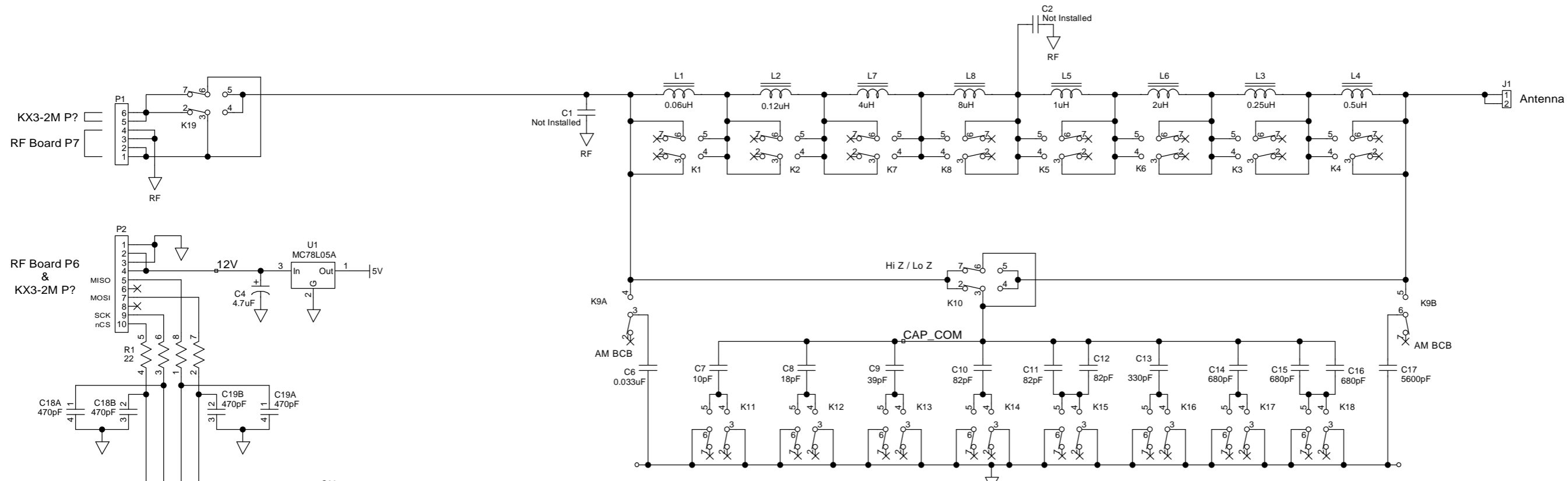


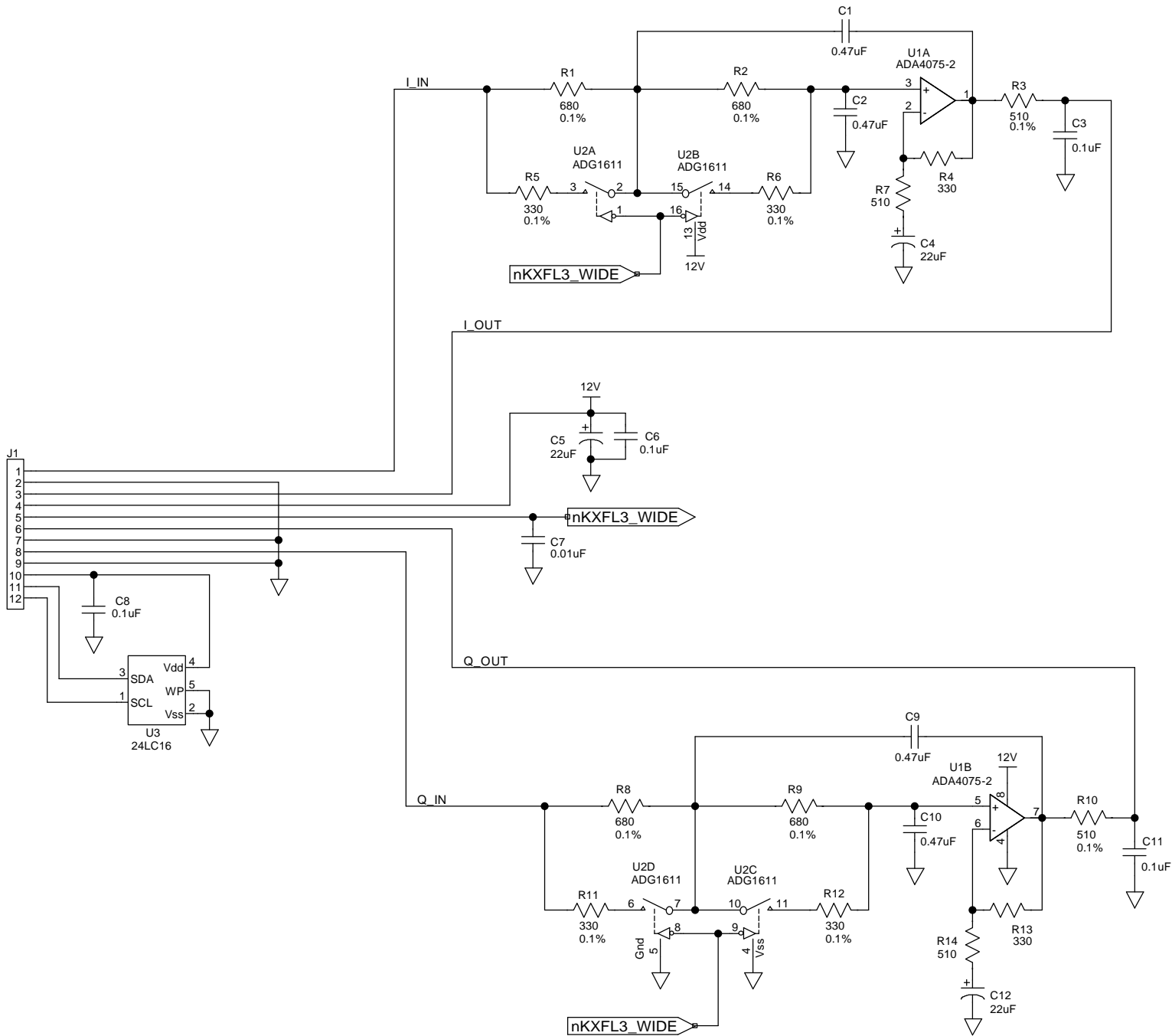
DSP requires +1.2 and +3.3 only.

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Title KX3 Control Panel: Power		
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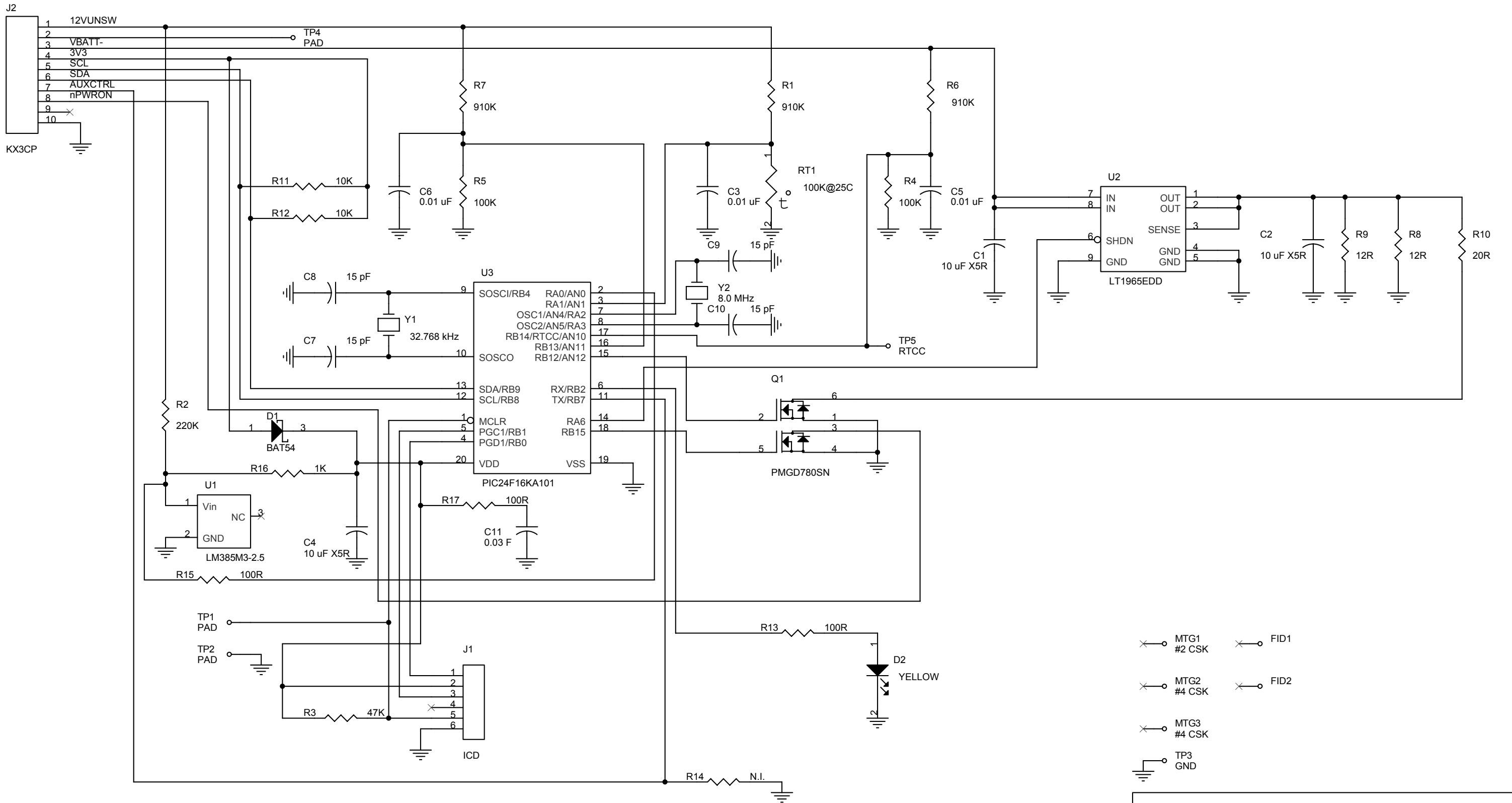


Title		
KXPD3		
Size	Document Number	Rev
A	2011090701	A
Date:	Friday, March 02, 2012	Sheet 1 of 1





Pin 9 = KEY



- ⊗ MTG1 #2 CSK
- ⊗ MTG2 #4 CSK
- ⊗ MTG3 #4 CSK
- ⊗ TP3 GND
- ⊗ FID1
- ⊗ FID2

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Title KXBC3: KX3 BCR/RTC/RETAINER		
Size B	Document Number 2011082391	Rev XG
Date:	Wednesday, March 06, 2013	Sheet 1 of 1