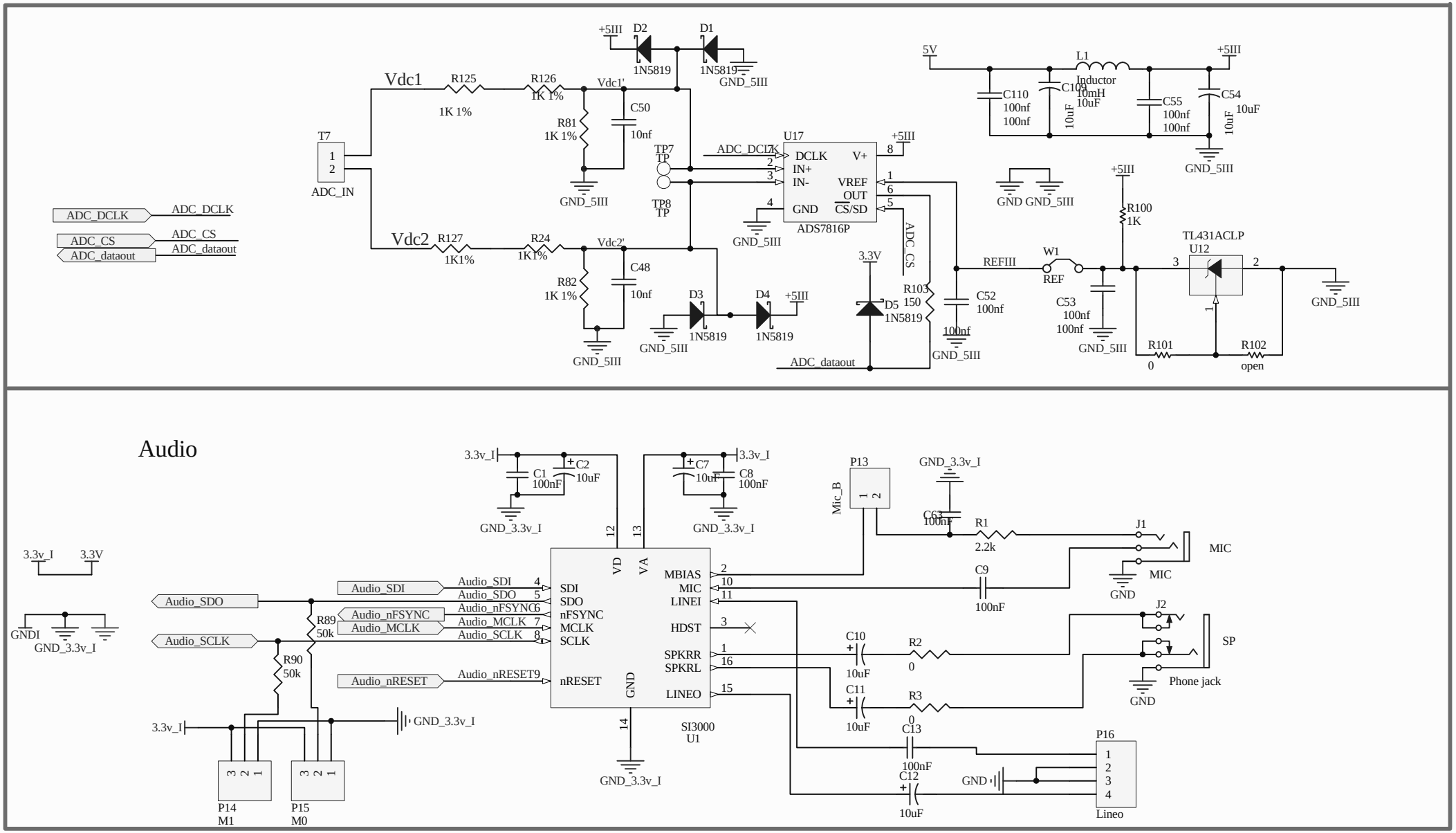
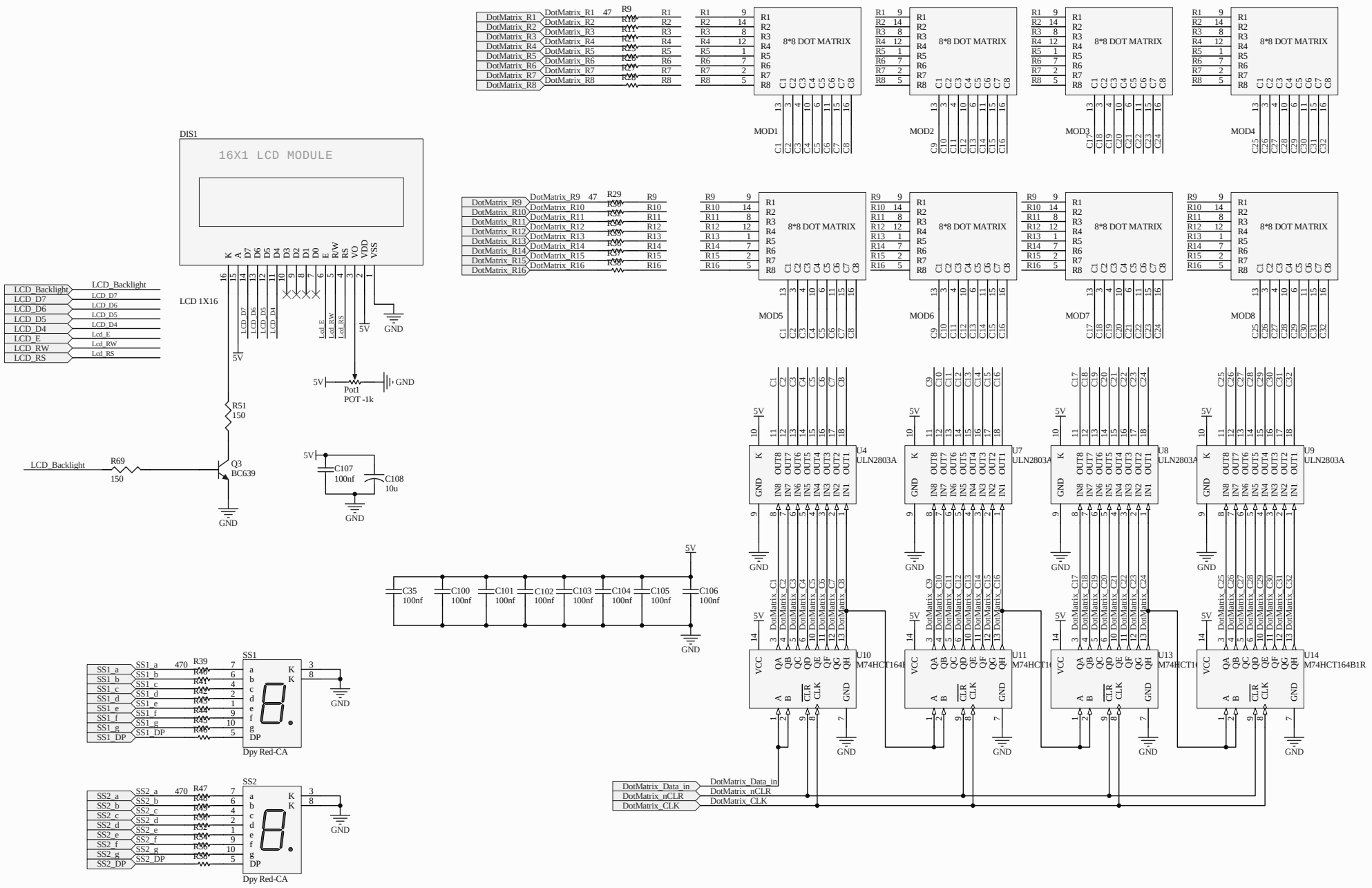


Title	ADC (FPGA Development Boards)		
Size: A4	Number:		Revision: 1.0
Date: 2012/12/13	90/04/08	Sheet of 6 6	
File: E:\JDEVS\..\TSK002-01(ADC).SchDoc		Drawn By:	

Designe: M.SH



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Size: A3	Number		Revision
Date: 2012/12/13		Sheet of	
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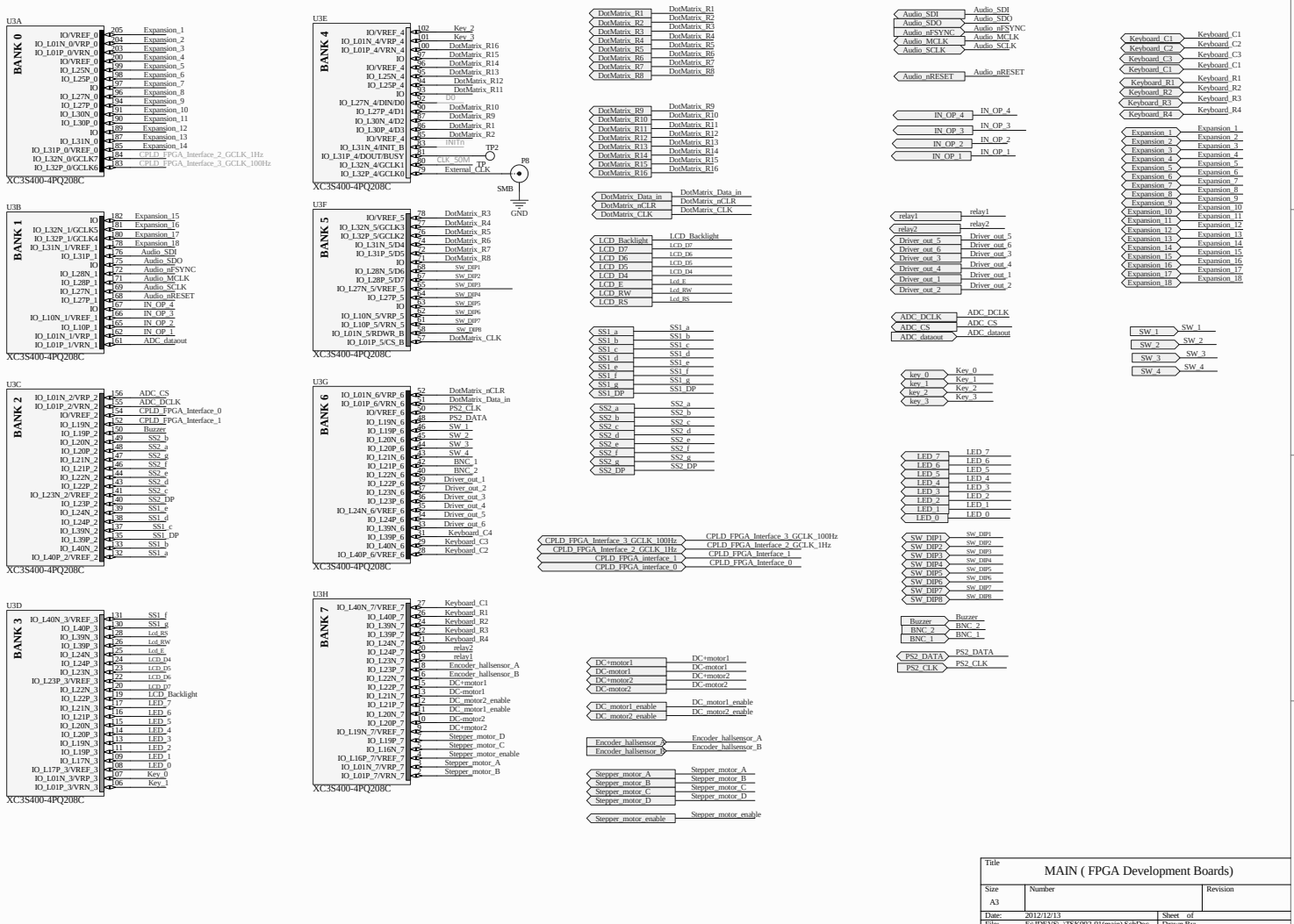
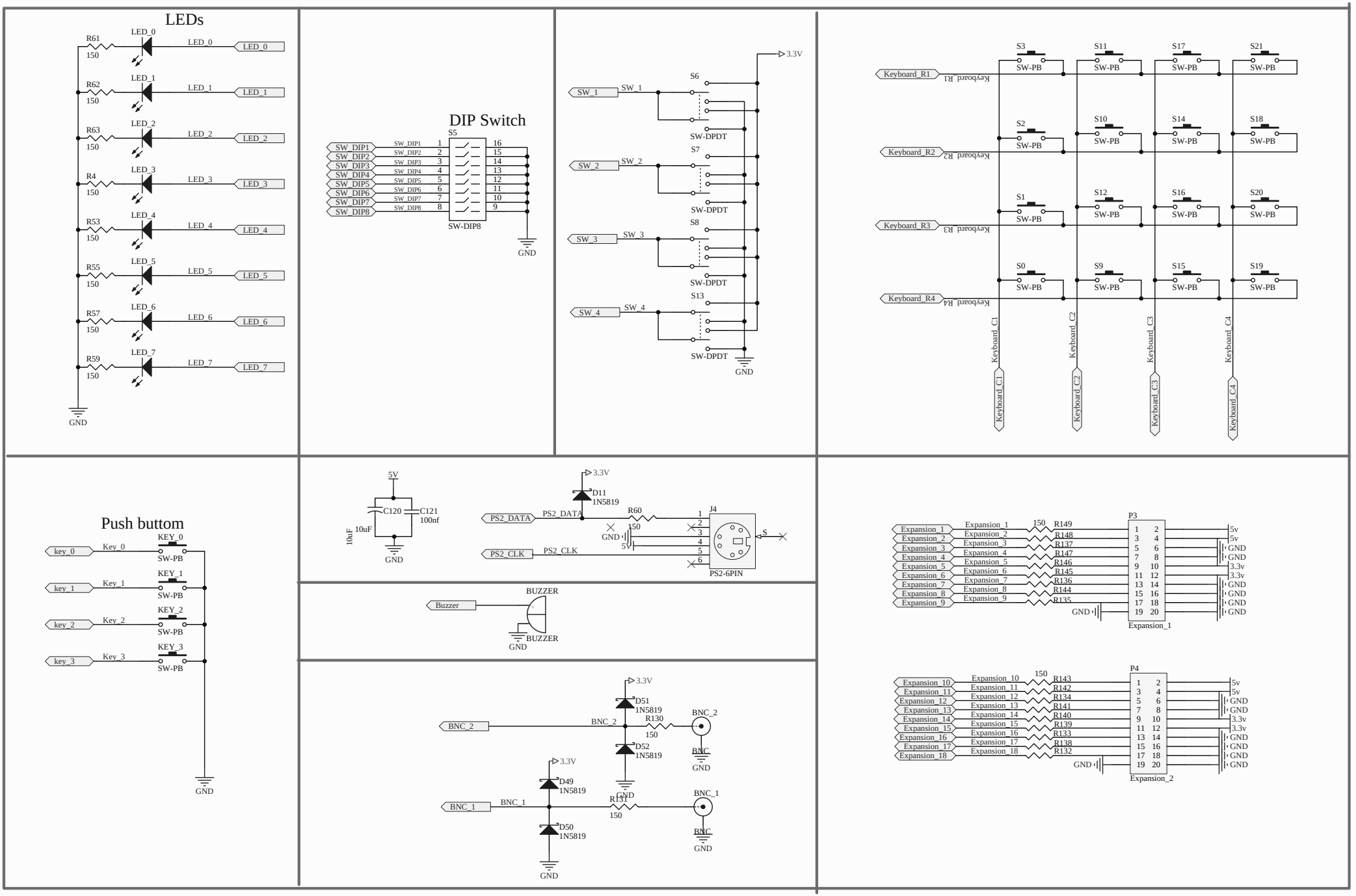
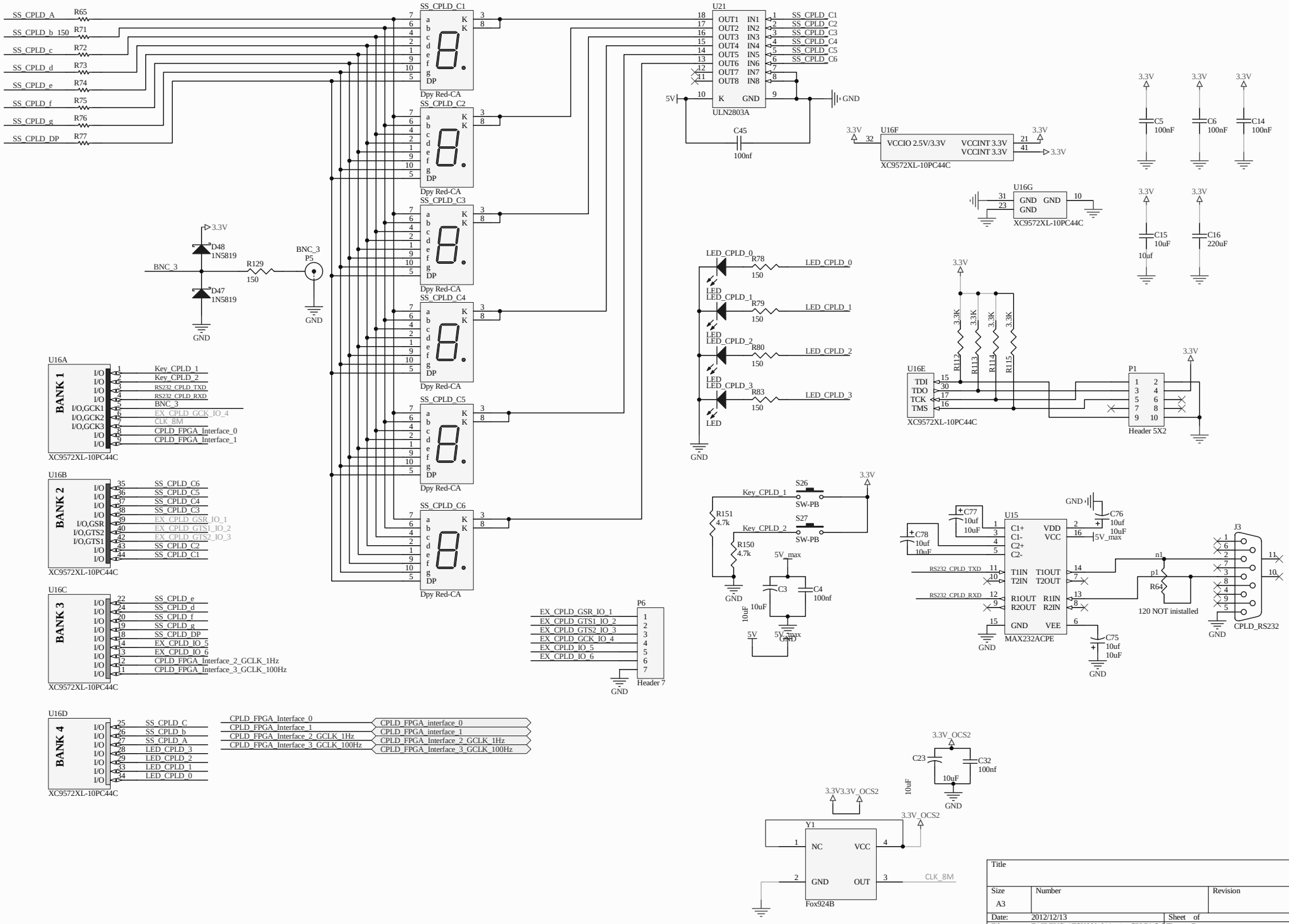
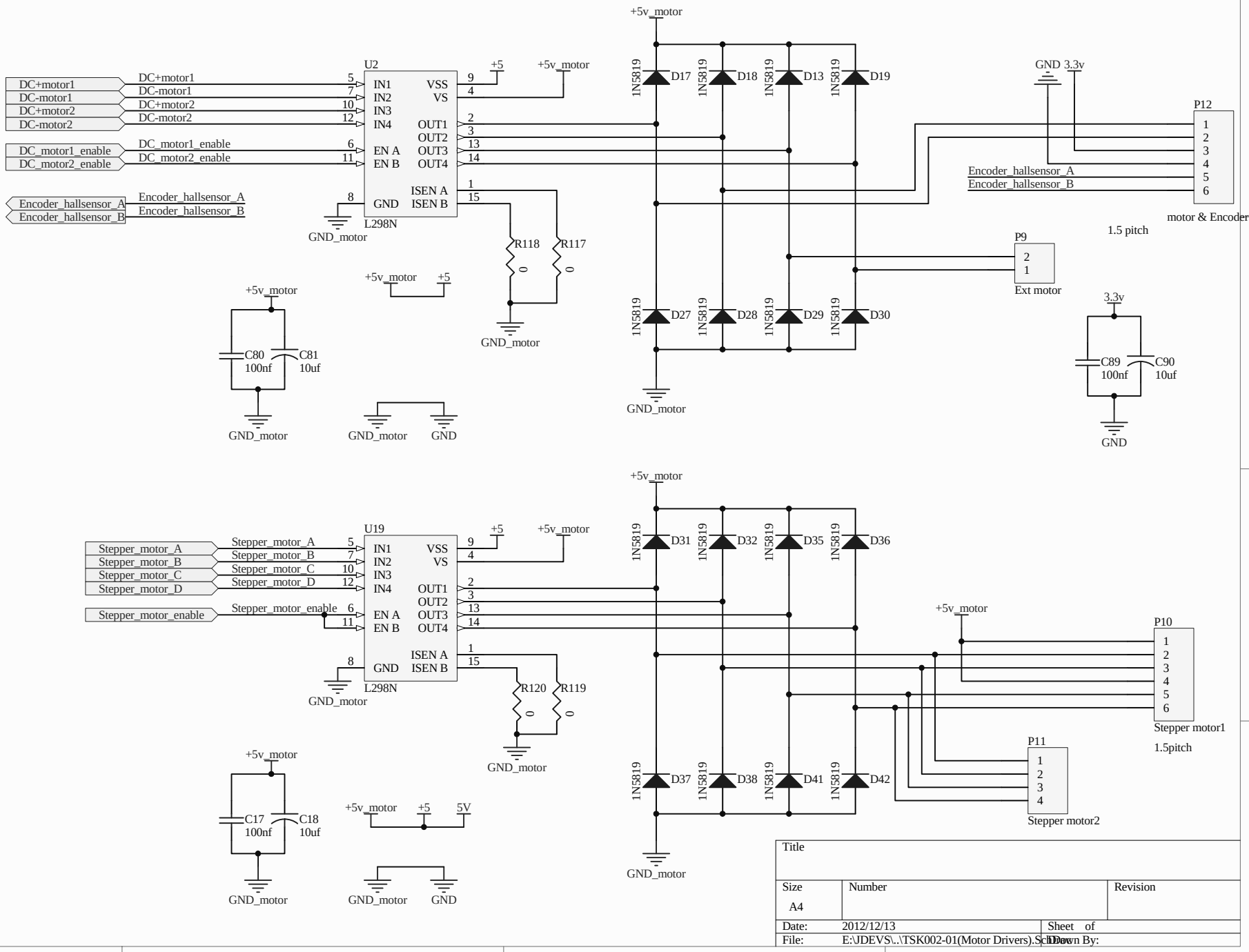


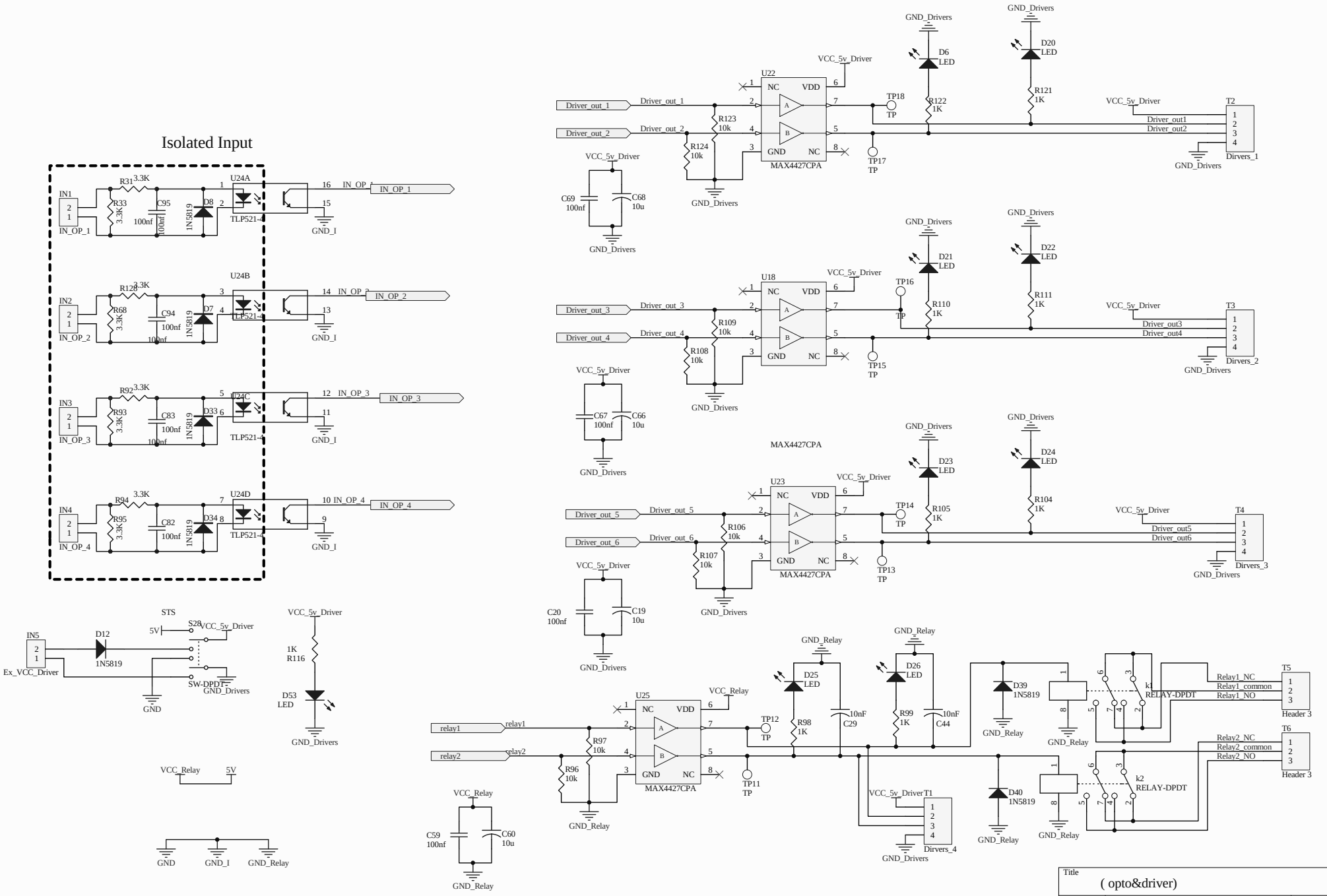
Title	MAIN (FPGA Development Boards)		
Size	Number		Revision
A3			
Date:	2012/12/13	Sheet of	
File:	E:\JDEVS\..\TSK002-01(main).SchDoc	Drawn By:	



Title	interface (FPGA Development Boards)	
Size: A3	Number	Revision
Date: 90/04/08	Sheet 5 of 6	
File: E:\JDEVS\..\TSK002-01(interface).SchDoc	Drawn By:	Designe: M.SH


SS_CPLD_A
SS_CPLD_b_150
SS_CPLD_c
SS_CPLD_d
SS_CPLD_e
SS_CPLD_f
SS_CPLD_g
SS_CPLD_DP
R65
R71
R72
R73
R74
R75
R76
R77
SS_CPLD_C1
SS_CPLD_C2
SS_CPLD_C3
SS_CPLD_C4
SS_CPLD_C5
SS_CPLD_C6
Dpy Red-CA
U21
OUT1 IN1
OUT2 IN2
OUT3 IN3
OUT4 IN4
OUT5 IN5
OUT6 IN6
OUT7 IN7
OUT8 IN8
K GND
ULN2803A
5V
GND
C45
100nf
U16F
VCCIO 2.5V/3.3V
VCCINT 3.3V
VCCINT 3.3V
XC9572XL-10PC44C
3.3V
C5 100nF
C6 100nF
C14 100nF
U16G
GND GND
GND
XC9572XL-10PC44C
C15 10uF
C16 220uF
10uf
D48 1N5819
D47 1N5819
BNC_3
R129 150
P5
LED_CPLD_0
LED_CPLD_1
LED_CPLD_2
LED_CPLD_3
R78 150
R79 150
R80 150
R83 150
LED
3.3K
R112
R113
R114
R115
U16E
TDI
TDO
TCK
TMS
P1
Header 5X2
U16A
BANK 1
I/O
I/O,GCK1
I/O,GCK2
I/O,GCK3
Key_CPLD_1
Key_CPLD_2
RS232_CPLD_TXD
RS232_CPLD_RXD
BNC_3
EX_CPLD_GCK_IO_4
CLK_8M
CPLD_FPGA_Interface_0
CPLD_FPGA_Interface_1
XC9572XL-10PC44C
U16B
BANK 2
I/O,GSR
I/O,GTS2
I/O,GTS1
SS_CPLD_C6
SS_CPLD_C5
SS_CPLD_C4
SS_CPLD_C3
EX_CPLD_GSR_IO_1
EX_CPLD_GTS1_IO_2
EX_CPLD_GTS2_IO_3
SS_CPLD_C2
SS_CPLD_C1
XC9572XL-10PC44C
U16C
BANK 3
SS_CPLD_e
SS_CPLD_d
SS_CPLD_f
SS_CPLD_g
SS_CPLD_DP
EX_CPLD_IO_5
EX_CPLD_IO_6
CPLD_FPGA_Interface_2_GCLK_1Hz
CPLD_FPGA_Interface_3_GCLK_100Hz
XC9572XL-10PC44C
EX_CPLD_GSR_IO_1
EX_CPLD_GTS1_IO_2
EX_CPLD_GTS2_IO_3
EX_CPLD_GCK_IO_4
EX_CPLD_IO_5
EX_CPLD_IO_6
P6
Header 7
S26
S27
SW-PB
Key_CPLD_1
Key_CPLD_2
R151 4.7k
R150 4.7k
5V_max
C3
C4 100nf
10uF
5V
C77 10uf
C78 10uf
C76 10uf
C75 10uf
U15
C1+ VDD
C1- VCC
C2+
C2-
T1IN T1OUT
T2IN T2OUT
R1OUT R1IN
R2OUT R2IN
GND VEE
MAX232ACPE
RS232_CPLD_TXD
RS232_CPLD_RXD
R64
120 NOT inistalled
J3
CPLD_RS232
U16D
BANK 4
SS_CPLD_C
SS_CPLD_b
SS_CPLD_A
LED_CPLD_3
LED_CPLD_2
LED_CPLD_1
LED_CPLD_0
XC9572XL-10PC44C
CPLD_FPGA_Interface_0
CPLD_FPGA_Interface_1
CPLD_FPGA_Interface_2_GCLK_1Hz
CPLD_FPGA_Interface_3_GCLK_100Hz
3.3V_OCS2
C23
C32 100nf
10uF
Y1
NC VCC
GND OUT
Fox924B
CLK_8M
Title
Size
A3
Number
Revision
Date: 2012/12/13
Sheet of
File: E:\JDEVS\..\TSK002-01(main_CPLD).SchDoc
Drawn By:


DC+motor1
DC-motor1
DC+motor2
DC-motor2
DC_motor1_enable
DC_motor2_enable
Encoder_hallsensor_A
Encoder_hallsensor_B
U2
L298N
IN1
IN2
IN3
IN4
EN A
EN B
GND
VSS
VS
OUT1
OUT2
OUT3
OUT4
ISEN A
ISEN B
+5
+5v_motor
GND_motor
R118
R117
C80
100nf
C81
10uf
C89
C90
3.3v
GND
GND 3.3v
1N5819
D17
D18
D13
D19
D27
D28
D29
D30
P12
motor & Encoder
1.5 pitch
P9
Ext motor
Stepper_motor_A
Stepper_motor_B
Stepper_motor_C
Stepper_motor_D
Stepper_motor_enable
U19
R120
R119
C17
C18
5V
D31
D32
D35
D36
D37
D38
D41
D42
P10
Stepper motor1
1.5pitch
P11
Stepper motor2
Title
Size
A4
Number
Revision
Date:
2012/12/13
Sheet of
File:
E:\JDEVS\..\TSK002-01(Motor Drivers).Sch
Drawn By:


Isolated Input
IN1
IN_OP_1
R31 3.3K
R33 3.3K
C95 100nf
D8 1N5819
U24A
TLP521-4
IN_OP_1
GND_I
IN2
IN_OP_2
R128 3.3K
R68 3.3K
C94 100nf
D7 1N5819
U24B
TLP521-4
IN_OP_2
GND_I
IN3
IN_OP_3
R92 3.3K
R93 3.3K
C83 100nf
D33 1N5819
U24C
TLP521-4
IN_OP_3
GND_I
IN4
IN_OP_4
R94 3.3K
R95 3.3K
C82 100nf
D34 1N5819
U24D
TLP521-4
IN_OP_4
GND_I
STS
S28
5V
VCC_5v_Driver
IN5
Ex_VCC_Driver
D12 1N5819
SW-DPDT
GND_Drivers
GND
VCC_5v_Driver
1K
R116
D53
LED
GND_Drivers
VCC_Relay
5V
GND
GND_I
GND_Relay
U22
MAX4427CPA
Driver_out_1
Driver_out_2
R123 10k
R124 10k
TP18
TP17
D6 LED
D20 LED
R122 1K
R121 1K
T2
Driver_out1
Driver_out2
Dirvers_1
C69 100nf
C68 10u
U18
Driver_out_3
Driver_out_4
R109 10k
R108 10k
TP16
TP15
D21 LED
D22 LED
R110 1K
R111 1K
T3
Dirvers_2
C67 100nf
C66 10u
U23
Driver_out_5
Driver_out_6
R106 10k
R107 10k
TP14
TP13
D23 LED
D24 LED
R105 1K
R104 1K
T4
Dirvers_3
C20 100nf
C19 10u
U25
relay1
relay2
R97 10k
R96 10k
TP12
TP11
D25 LED
D26 LED
R98 1K
R99 1K
10nF C29
10nF C44
D39 1N5819
D40 1N5819
k1 RELAY-DPDT
k2 RELAY-DPDT
Relay1_NC
Relay1_common
Relay1_NO
Relay2_NC
Relay2_common
Relay2_NO
T5
T6
Header 3
T1
Dirvers_4
C59 100nf
C60 10u
Title
(opto&driver)
Size
A3
Number
01
Revision
Date: 2012/12/13
File: E:\JDEVS\..\TSK002-01(OPTO).SchDoc
Designe: M.SH
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