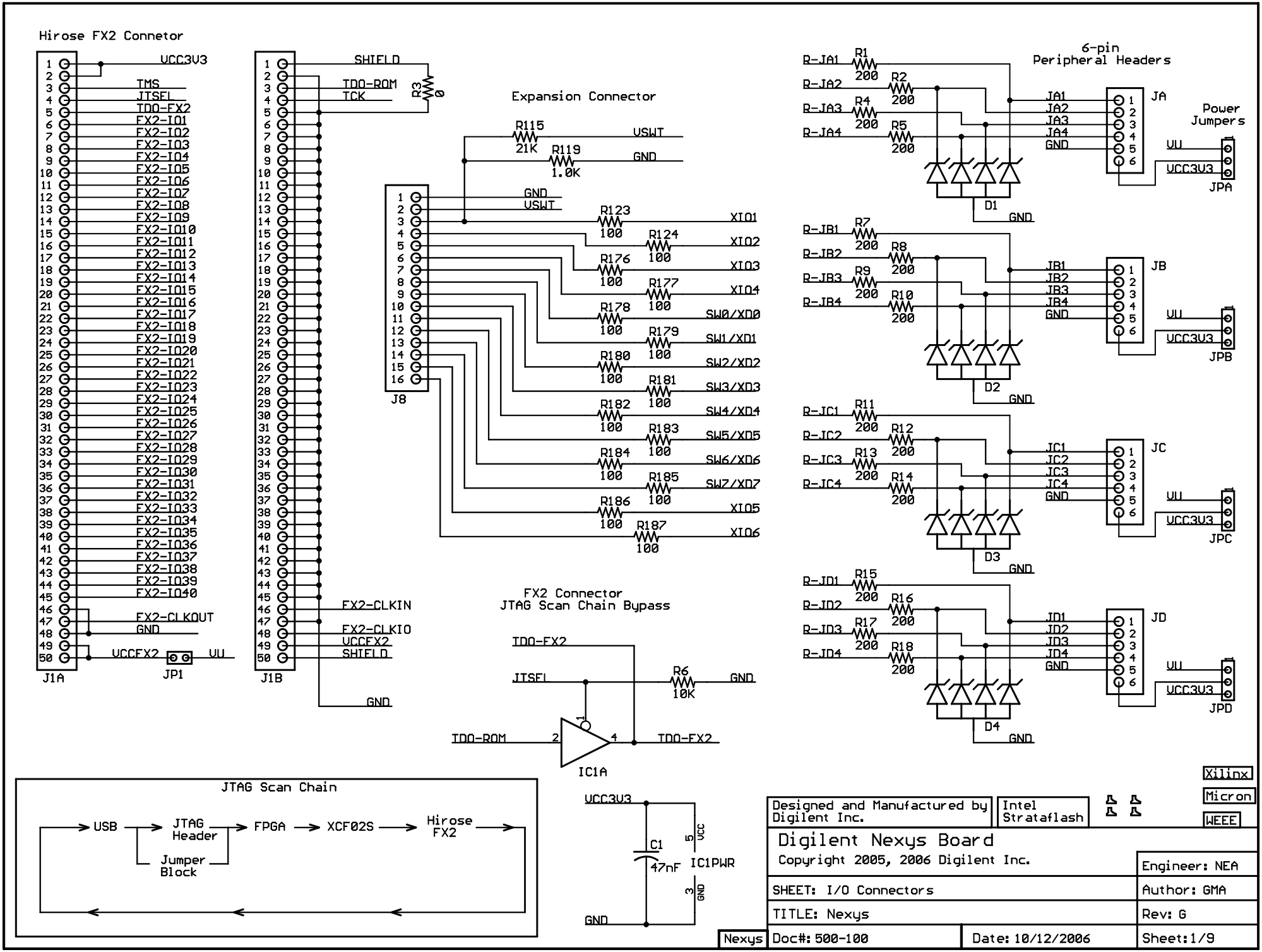
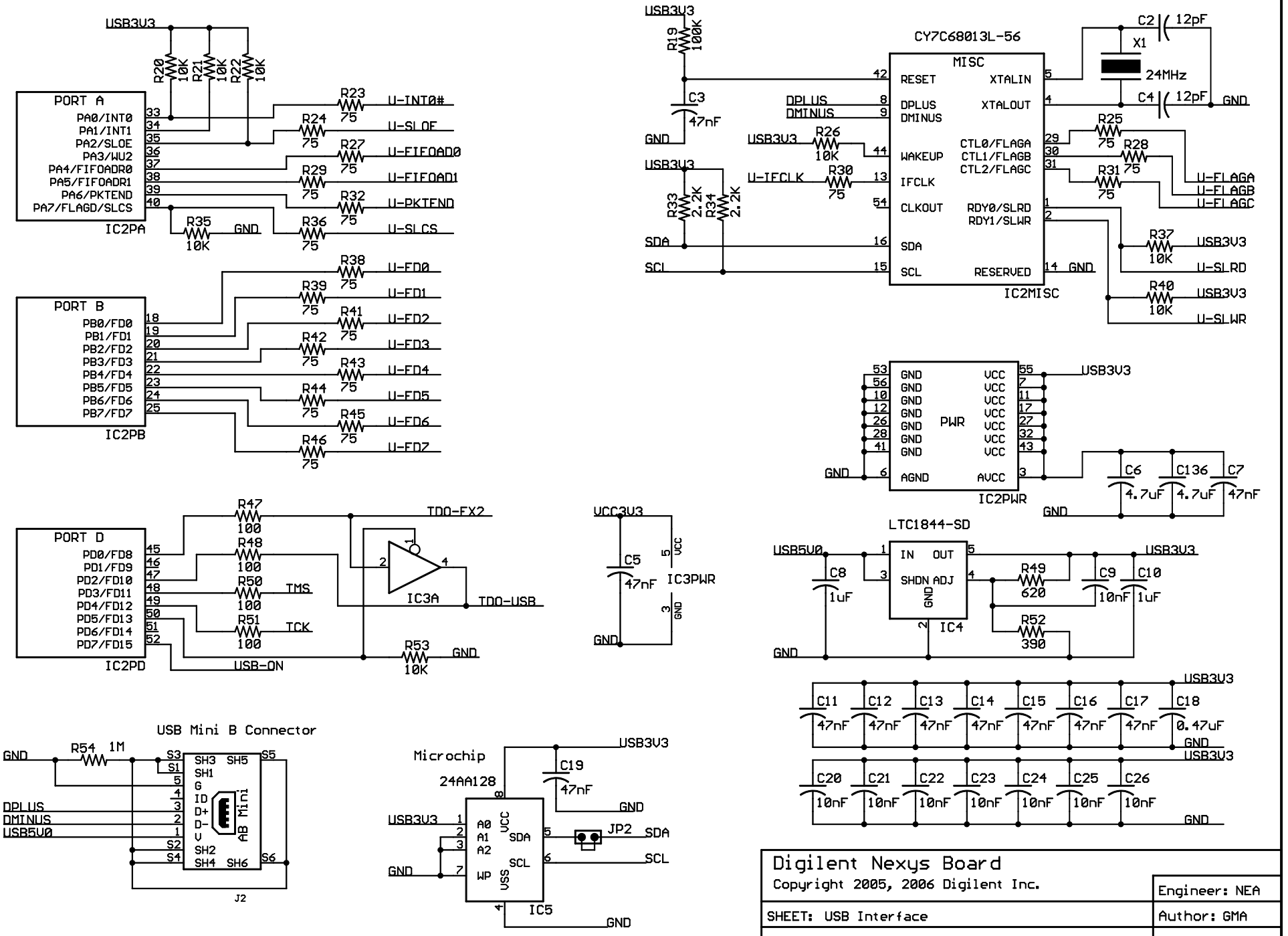

Hirose FX2 Connetor
J1A
J1B
JP1
VCC3V3
TMS
JTSEL
TDO-FX2
FX2-IO1
FX2-IO2
FX2-IO3
FX2-IO4
FX2-IO5
FX2-IO6
FX2-IO7
FX2-IO8
FX2-IO9
FX2-IO10
FX2-IO11
FX2-IO12
FX2-IO13
FX2-IO14
FX2-IO15
FX2-IO16
FX2-IO17
FX2-IO18
FX2-IO19
FX2-IO20
FX2-IO21
FX2-IO22
FX2-IO23
FX2-IO24
FX2-IO25
FX2-IO26
FX2-IO27
FX2-IO28
FX2-IO29
FX2-IO30
FX2-IO31
FX2-IO32
FX2-IO33
FX2-IO34
FX2-IO35
FX2-IO36
FX2-IO37
FX2-IO38
FX2-IO39
FX2-IO40
FX2-CLKOUT
GND
VCCFX2
VU
SHIELD
TDO-ROM
TCK
R3
0
FX2-CLKIN
FX2-CLKIO
VCCFX2
SHIELD
GND
Expansion Connector
J8
R115
21K
R119
1.0K
VSWT
GND
R123
R124
R176
R177
R178
R179
R180
R181
R182
R183
R184
R185
R186
R187
100
XIO1
XIO2
XIO3
XIO4
SW0/XD0
SW1/XD1
SW2/XD2
SW3/XD3
SW4/XD4
SW5/XD5
SW6/XD6
SW7/XD7
XIO5
XIO6
FX2 Connector
JTAG Scan Chain Bypass
TDO-FX2
JTSEL
R6
10K
GND
TDO-ROM
IC1A
6-pin
Peripheral Headers
R-JA1
R-JA2
R-JA3
R-JA4
R1
R2
R4
R5
200
JA
JA1
JA2
JA3
JA4
GND
D1
Power
Jumpers
VU
VCC3V3
JPA
R-JB1
R-JB2
R-JB3
R-JB4
R7
R8
R9
R10
JB
JB1
JB2
JB3
JB4
D2
JPB
R-JC1
R-JC2
R-JC3
R-JC4
R11
R12
R13
R14
JC
JC1
JC2
JC3
JC4
D3
JPC
R-JD1
R-JD2
R-JD3
R-JD4
R15
R16
R17
R18
JD
JD1
JD2
JD3
JD4
D4
JPD
JTAG Scan Chain
USB
JTAG
Header
Jumper
Block
FPGA
XCF02S
Hirose
FX2
VCC3V3
C1
47nF
IC1PWR
VCC
GND
Xilinx
Micron
WEEE
Designed and Manufactured by
Digilent Inc.
Intel
Strataflash
Digilent Nexys Board
Copyright 2005, 2006 Digilent Inc.
Engineer: NEA
SHEET: I/O Connectors
Author: GMA
TITLE: Nexys
Rev: G
Nexys
Doc#: 500-100
Date: 10/12/2006
Sheet:1/9



Digilent Nexys Board

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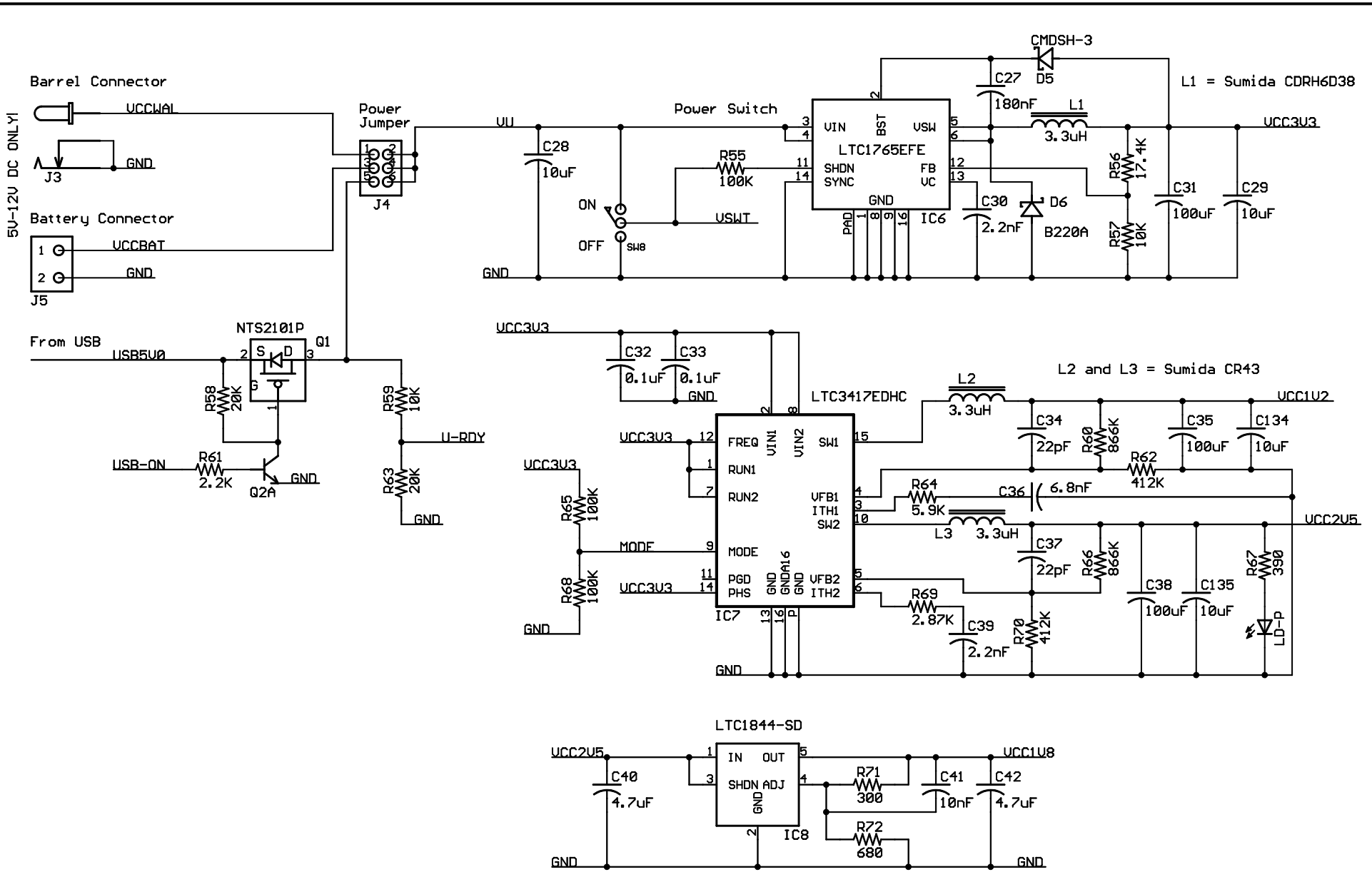
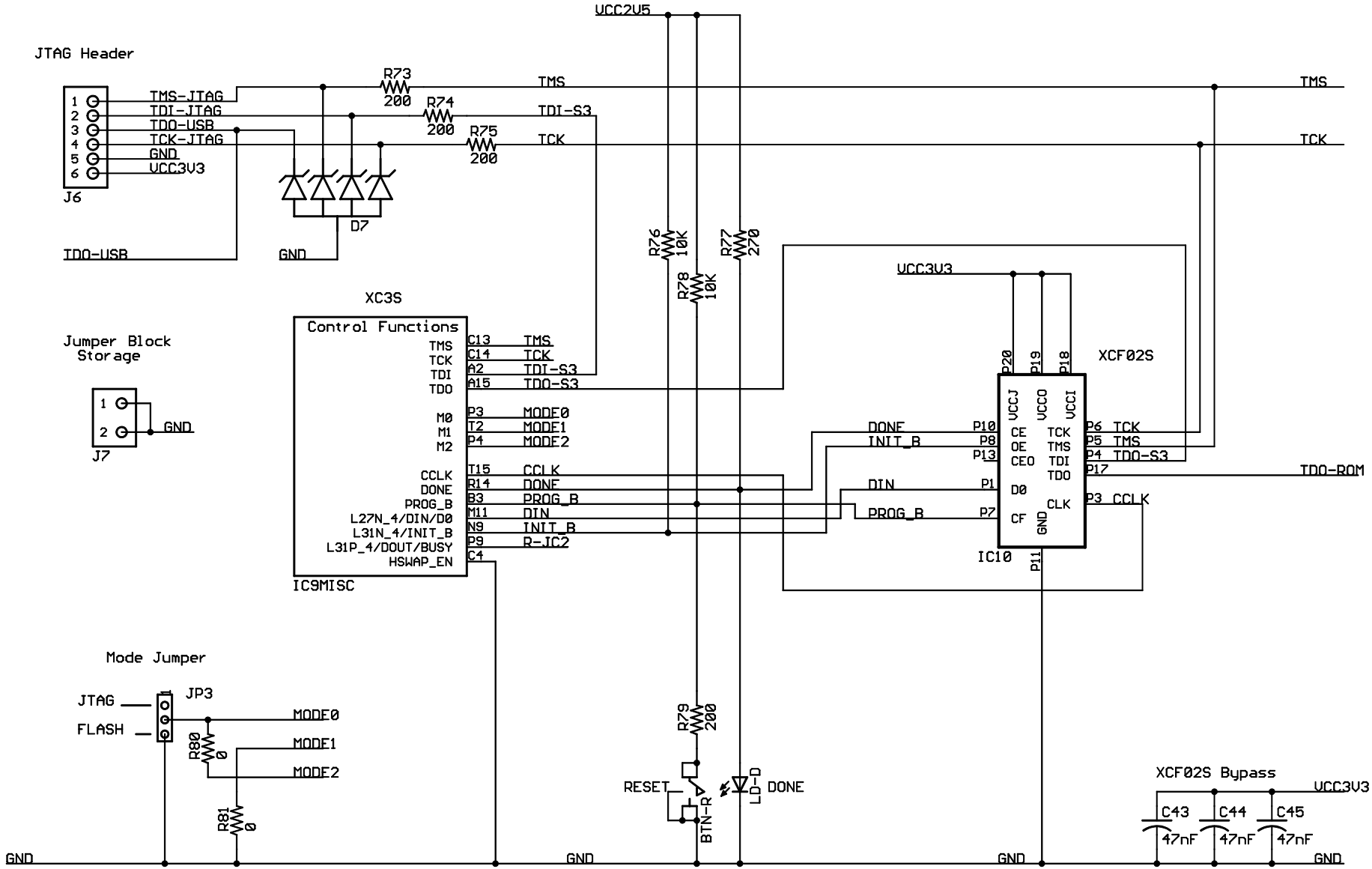
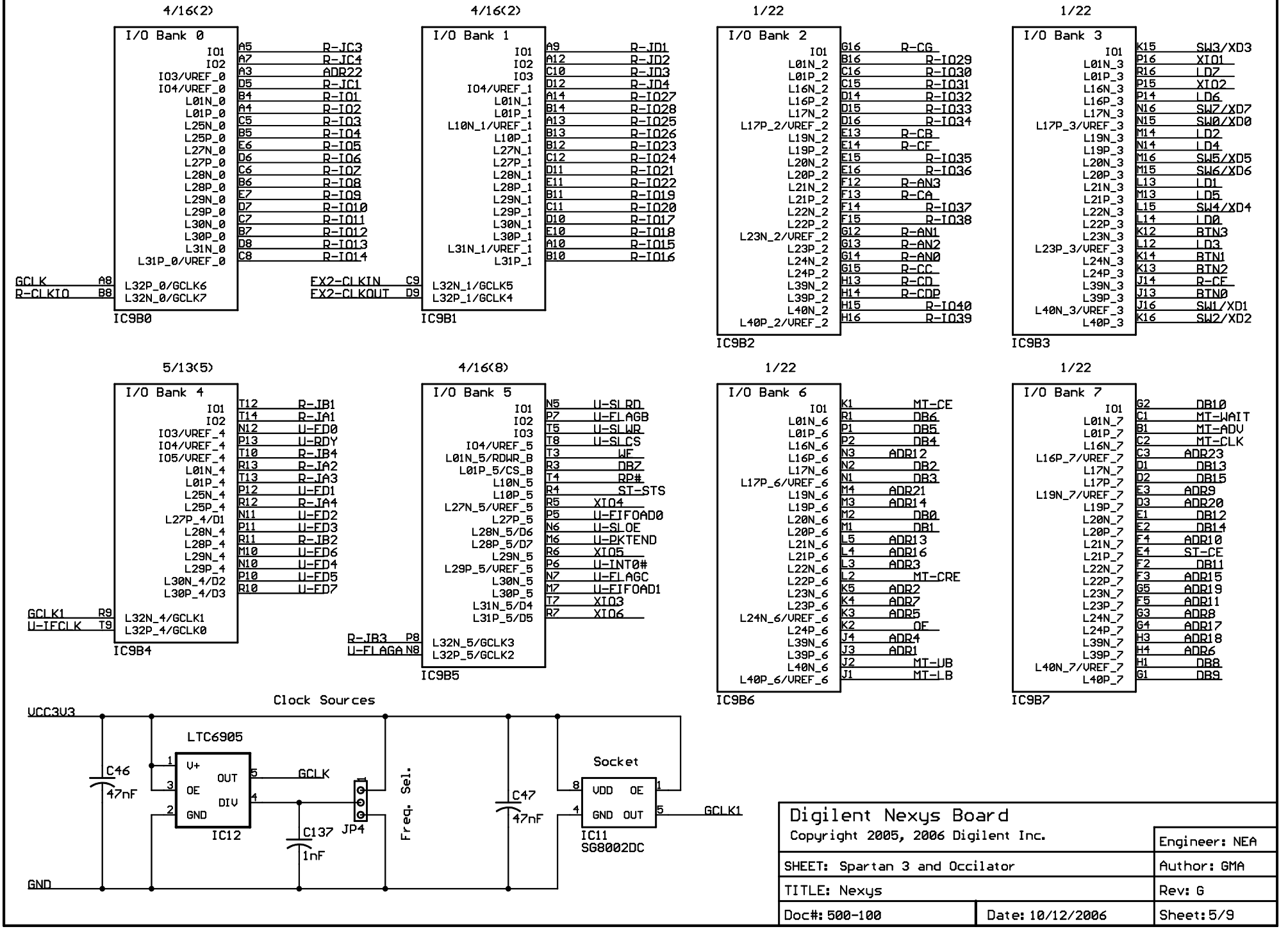
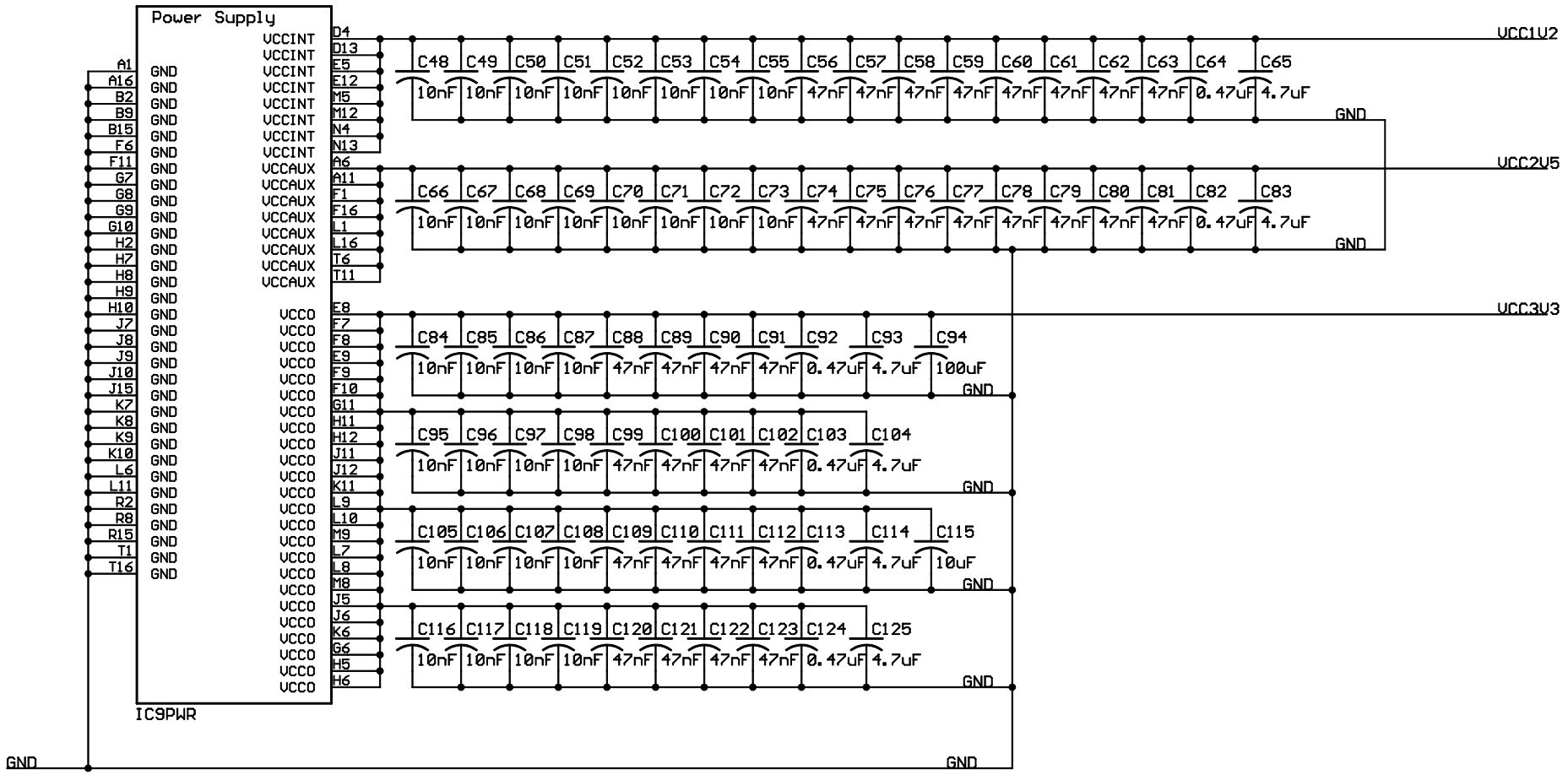
SHEET: USB Interface		Engineer: NEA
TITLE: Nexys		Author: GMA
Doc#: 500-100	Date: 10/12/2006	Rev: G
		Sheet: 2/9


Barrel Connector
VCCWAL
J3
GND
5V-12V DC ONLY!
Battery Connector
VCCBAT
GND
J5
Power Jumper
J4
From USB
USB5V0
NTS2101P
Q1
R58 20K
R59 10K
U-RDY
USB-ON
R61 2.2K
Q2A
GND
R63 20K
GND
VU
C28 10uF
GND
Power Switch
ON
OFF
SW8
R55 100K
VSWT
LTC1765EFE
VIN
BST
VSW
SHDN
SYNC
FB
VC
GND
PAD
IC6
CMDSH-3
D5
C27 180nF
L1
3.3uH
L1 = Sumida CDRH6D38
VCC3V3
R56 17.4K
R57 10K
C30 2.2nF
D6
B220A
C31 100uF
C29 10uF
VCC3V3
C32 0.1uF
C33 0.1uF
GND
LTC3417EDHC
L2 and L3 = Sumida CR43
L2
3.3uH
VCC1V2
C34 22pF
R60 866K
R62 412K
C35 100uF
C134 10uF
VCC3V3
R64 5.9K
C36 6.8nF
L3 3.3uH
VCC2V5
C37 22pF
R66 866K
C38 100uF
C135 10uF
R67 390
LD-P
R65 100K
MODE
R68 100K
GND
VCC3V3
R69 2.87K
C39 2.2nF
R70 412K
GND
FREQ
RUN1
RUN2
MODE
PGD
PHS
VIN1
VIN2
SW1
VFB1
ITH1
SW2
VFB2
ITH2
GND
GNDA16
GND
IC7
LTC1844-SD
VCC2V5
C40 4.7uF
IN
OUT
SHDN
ADJ
GND
IC8
R71 300
R72 680
C41 10nF
C42 4.7uF
VCC1V8
GND
Digilent Nexys Board
Copyright 2005, 2006 Digilent Inc.
Engineer: NEA
SHEET: Main Power Supplies
Author: GMA
TITLE: Nexys
Rev: G
Doc#: 500-100
Date: 10/12/2006
Sheet: 3/9
Powered by Linear Technology

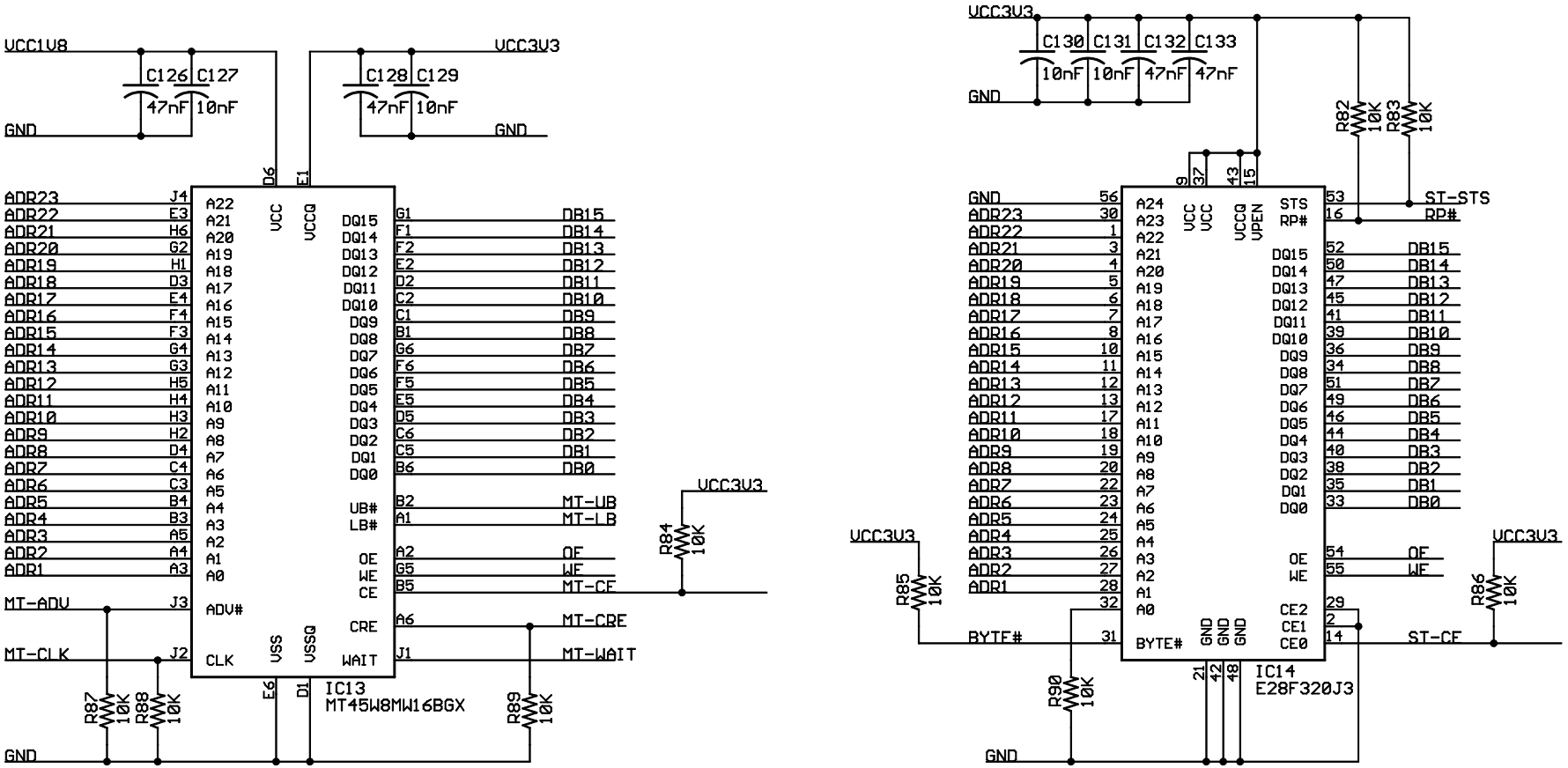


Digilent Nexys Board Copyright 2005, 2006 Digilent Inc.		Engineer: NEA
SHEET: FPGA Programing and JTAG		Author: GMA
TITLE: Nexys		Rev: G
Doc#: 500-100	Date: 10/12/2006	Sheet: 4/9

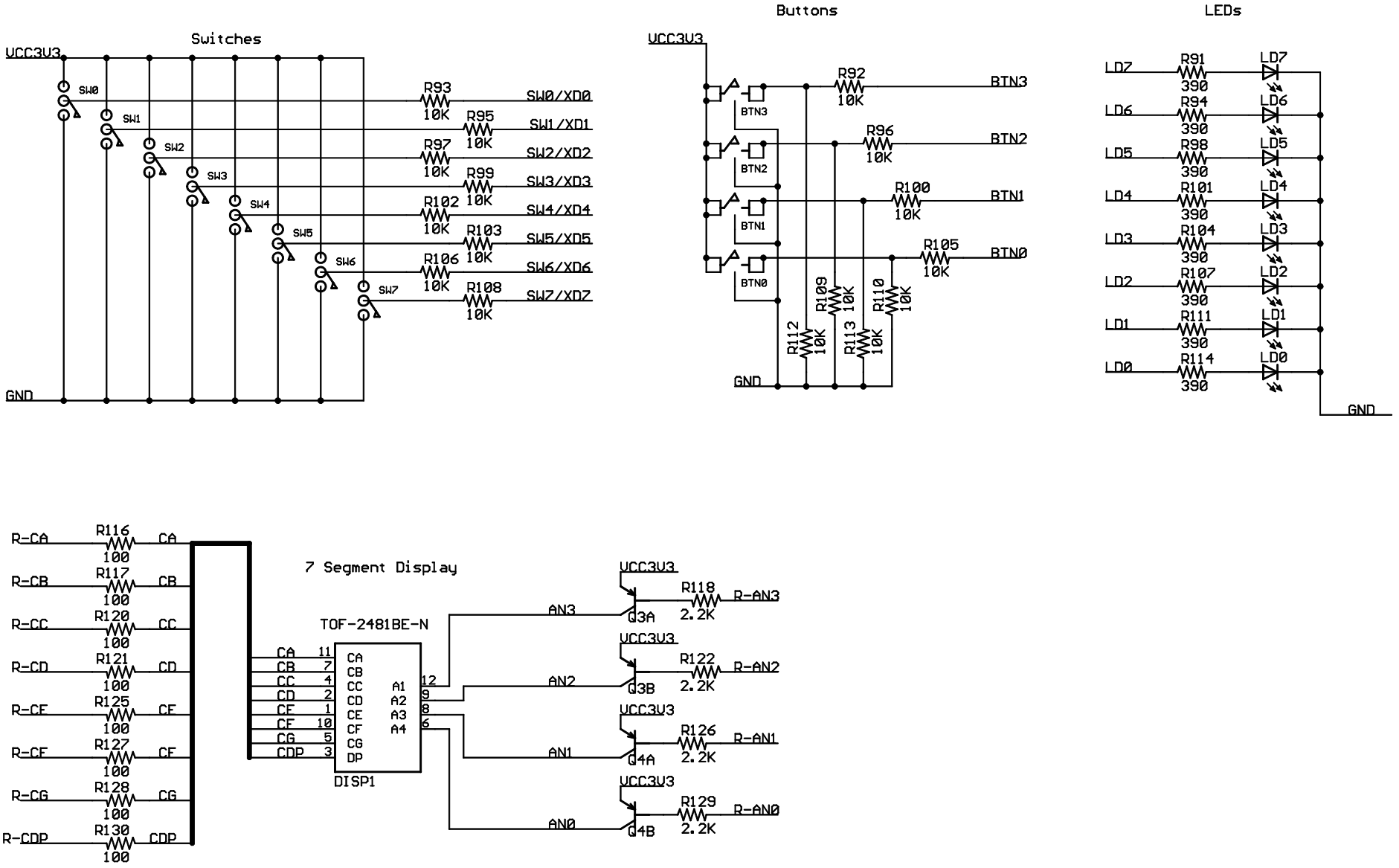

4/16(2)
I/O Bank 0
IO1
IO2
IO3/VREF_0
IO4/VREF_0
L01N_0
L01P_0
L25N_0
L25P_0
L27N_0
L27P_0
L28N_0
L28P_0
L29N_0
L29P_0
L30N_0
L30P_0
L31N_0
L31P_0/VREF_0
L32P_0/GCLK6
L32N_0/GCLK7
A5 R-JC3
A7 R-JC4
A3 ADR22
D5 R-JC1
B4 R-IO1
A4 R-IO2
C5 R-IO3
B5 R-IO4
E6 R-IO5
D6 R-IO6
C6 R-IO7
B6 R-IO8
E7 R-IO9
D7 R-IO10
C7 R-IO11
B7 R-IO12
D8 R-IO13
C8 R-IO14
GCLK A8
R-CLKIO B8
IC9B0
4/16(2)
I/O Bank 1
IO1
IO2
IO3
IO4/VREF_1
L01N_1
L01P_1
L10N_1/VREF_1
L10P_1
L27N_1
L27P_1
L28N_1
L28P_1
L29N_1
L29P_1
L30N_1
L30P_1
L31N_1/VREF_1
L31P_1
L32N_1/GCLK5
L32P_1/GCLK4
A9 R-JD1
A12 R-JD2
C10 R-JD3
D12 R-JD4
A14 R-IO27
B14 R-IO28
A13 R-IO25
B13 R-IO26
B12 R-IO23
C12 R-IO24
D11 R-IO21
E11 R-IO22
B11 R-IO19
C11 R-IO20
D10 R-IO17
E10 R-IO18
A10 R-IO15
B10 R-IO16
FX2-CLKIN C9
FX2-CLKOUT D9
IC9B1
1/22
I/O Bank 2
IO1
L01N_2
L01P_2
L16N_2
L16P_2
L17N_2
L17P_2/VREF_2
L19N_2
L19P_2
L20N_2
L20P_2
L21N_2
L21P_2
L22N_2
L22P_2
L23N_2/VREF_2
L23P_2
L24N_2
L24P_2
L39N_2
L39P_2
L40N_2
L40P_2/VREF_2
G16 R-CG
B16 R-IO29
C16 R-IO30
C15 R-IO31
D14 R-IO32
D15 R-IO33
D16 R-IO34
E13 R-CB
E14 R-CF
E15 R-IO35
E16 R-IO36
F12 R-AN3
F13 R-CA
F14 R-IO37
F15 R-IO38
G12 R-AN1
G13 R-AN2
G14 R-AN0
G15 R-CC
H13 R-CD
H14 R-CDP
H15 R-IO40
H16 R-IO39
IC9B2
1/22
I/O Bank 3
IO1
L01N_3
L01P_3
L16N_3
L16P_3
L17N_3
L17P_3/VREF_3
L19N_3
L19P_3
L20N_3
L20P_3
L21N_3
L21P_3
L22N_3
L22P_3
L23N_3
L23P_3/VREF_3
L24N_3
L24P_3
L39N_3
L39P_3
L40N_3/VREF_3
L40P_3
K15 SW3/XD3
P16 XIO1
R16 LD7
P15 XIO2
P14 LD6
N16 SW7/XD7
N15 SW0/XD0
M14 LD2
N14 LD4
M16 SW5/XD5
M15 SW6/XD6
L13 LD1
M13 LD5
L15 SW4/XD4
L14 LD0
K12 BTN3
L12 LD3
K14 BTN1
K13 BTN2
J14 R-CF
J13 BTN0
J16 SW1/XD1
K16 SW2/XD2
IC9B3
5/13(5)
I/O Bank 4
IO1
IO2
IO3/VREF_4
IO4/VREF_4
IO5/VREF_4
L01N_4
L01P_4
L25N_4
L25P_4
L27P_4/D1
L28N_4
L28P_4
L29N_4
L29P_4
L30N_4/D2
L30P_4/D3
L32N_4/GCLK1
L32P_4/GCLK0
T12 R-JB1
T14 R-JA1
N12 U-FD0
P13 U-RDY
T10 R-JB4
R13 R-JA2
T13 R-JA3
P12 U-FD1
R12 R-JA4
N11 U-FD2
P11 U-FD3
R11 R-JB2
M10 U-FD6
N10 U-FD4
P10 U-FD5
R10 U-FD7
GCLK1 R9
U-IFCLK T9
IC9B4
4/16(8)
I/O Bank 5
IO1
IO2
IO3
IO4/VREF_5
L01N_5/RDWR_B
L01P_5/CS_B
L10N_5
L10P_5
L27N_5/VREF_5
L27P_5
L28N_5/D6
L28P_5/D7
L29N_5
L29P_5/VREF_5
L30N_5
L30P_5
L31N_5/D4
L31P_5/D5
L32N_5/GCLK3
L32P_5/GCLK2
N5 U-SLRD
P7 U-FLAGB
T5 U-SLWR
T8 U-SLCS
T3 WE
R3 DBZ
T4 RP#
R4 ST-STS
R5 XIO4
P5 U-FIFOAD0
N6 U-SLOE
M6 U-PKTEND
R6 XIO5
P6 U-INT0#
N7 U-FLAGC
M7 U-FIFOAD1
T7 XIO3
R7 XIO6
R-JB3 P8
U-FLAGA N8
IC9B5
1/22
I/O Bank 6
IO1
L01N_6
L01P_6
L16N_6
L16P_6
L17N_6
L17P_6/VREF_6
L19N_6
L19P_6
L20N_6
L20P_6
L21N_6
L21P_6
L22N_6
L22P_6
L23N_6
L23P_6
L24N_6/VREF_6
L24P_6
L39N_6
L39P_6
L40N_6
L40P_6/VREF_6
K1 MT-CE
R1 DB6
P1 DB5
P2 DB4
N3 ADR12
N2 DB2
N1 DB3
M4 ADR21
M3 ADR14
M2 DB0
M1 DB1
L5 ADR13
L4 ADR16
L3 ADR3
L2 MT-CRE
K5 ADR2
K4 ADR7
K3 ADR5
K2 OE
J4 ADR4
J3 ADR1
J2 MT-UB
J1 MT-LB
IC9B6
1/22
I/O Bank 7
IO1
L01N_7
L01P_7
L16N_7
L16P_7/VREF_7
L17N_7
L17P_7
L19N_7/VREF_7
L19P_7
L20N_7
L20P_7
L21N_7
L21P_7
L22N_7
L22P_7
L23N_7
L23P_7
L24N_7
L24P_7
L39N_7
L39P_7
L40N_7/VREF_7
L40P_7
G2 DB10
C1 MT-WAIT
B1 MT-ADV
C2 MT-CLK
C3 ADR23
D1 DB13
D2 DB15
E3 ADR9
D3 ADR20
E1 DB12
E2 DB14
F4 ADR10
E4 ST-CE
F2 DB11
F3 ADR15
G5 ADR19
F5 ADR11
G3 ADR8
G4 ADR17
H3 ADR18
H4 ADR6
H1 DB8
G1 DB9
IC9B7
Clock Sources
VCC3V3
LTC6905
V+
OE
GND
OUT
DIV
GCLK
C46
47nF
C137
1nF
JP4
Freq. Sel.
C47
47nF
Socket
VDD
OE
GND
OUT
GCLK1
IC12
IC11
SG8002DC
GND
Digilent Nexys Board
Copyright 2005, 2006 Digilent Inc.
Engineer: NEA
SHEET: Spartan 3 and Occilator
Author: GMA
TITLE: Nexys
Rev: G
Doc#: 500-100
Date: 10/12/2006
Sheet: 5/9



Digilent Nexys Board Copyright 2005, 2006 Digilent Inc.		Engineer: NEA
SHEET: Spartan 3 Decoupling Capacitors		Author: GMA
TITLE: Nexys		Rev: G
Doc#: 500-100	Date: 10/12/2006	Sheet: 6/9



Digilent Nexys Board Copyright 2005, 2006 Digilent Inc.		Engineer: NEA
SHEET: Cellular RAM and StrataFlash		Author: GMA
TITLE: Nexys		Rev: G
Doc#: 500-100	Date: 10/12/2006	Sheet: 7/9



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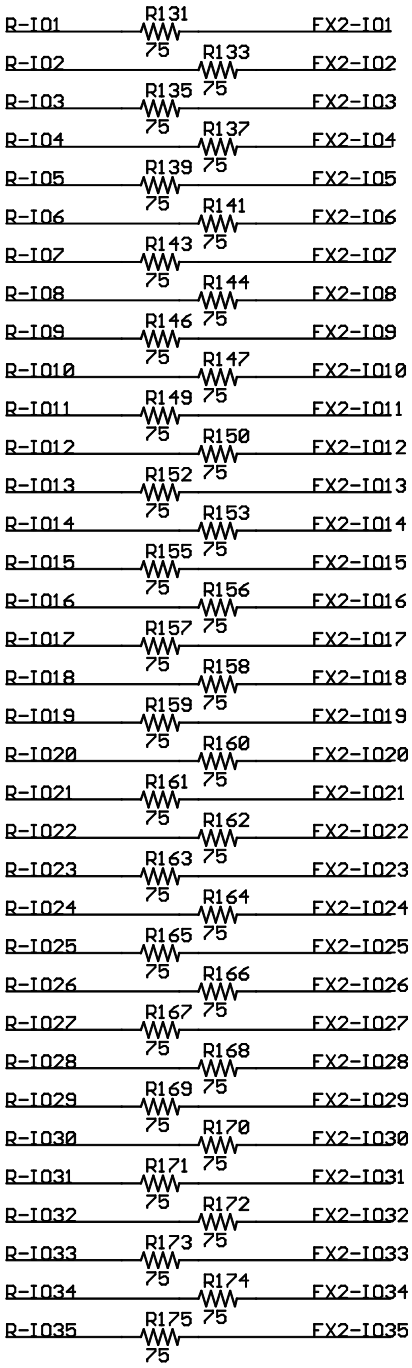
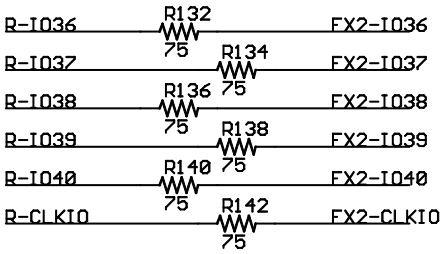
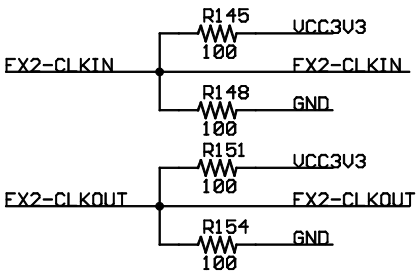
SHEET: I/O and Displays		Author: GMA
TITLE: Nexys		Rev: G
Doc#: 500-100	Date: 10/12/2006	Sheet: 8/9

Hirose FX2 Series Resistors





Clock Termination



Note: clock termination resistors are not loaded by default

Digilent Nexys Board Copyright 2005, 2006 Digilent Inc.		Engineer: NEA
SHEET: Hirose Series Resitors		Author: GMA
TITLE: Nexys		Rev: G
Doc#: 500-100	Date: 10/12/2006	Sheet: 9/9