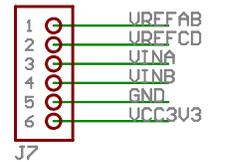
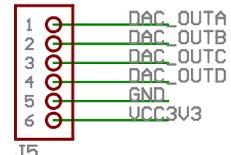
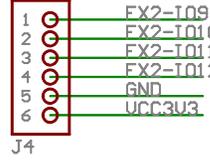
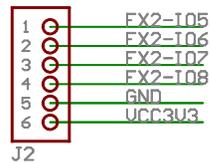
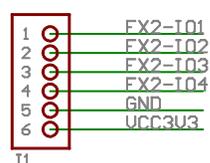


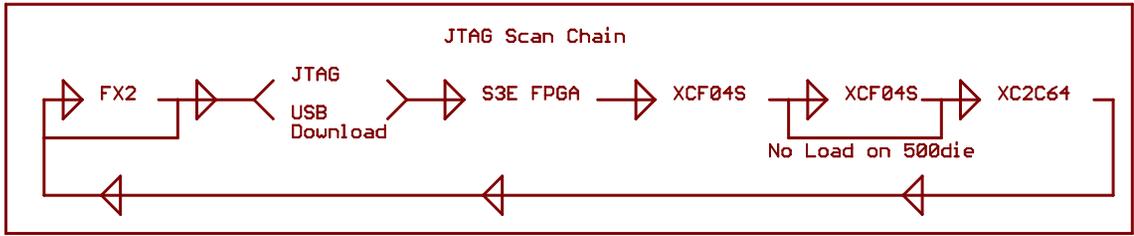
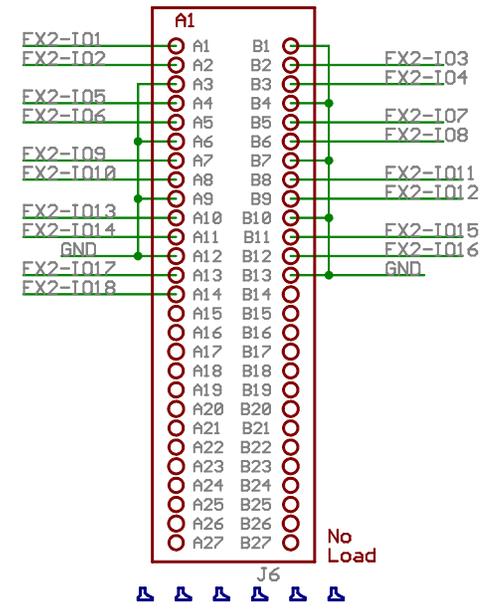
D/A and A/D header



6 Pin Header Accessory

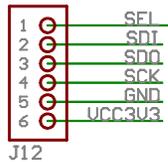


Full Size Soft Touch

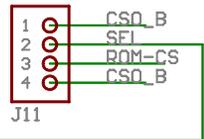


Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: Hirose and Expansion Connectors		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 1/14

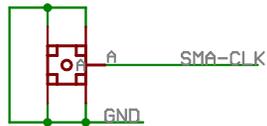
SPI Port



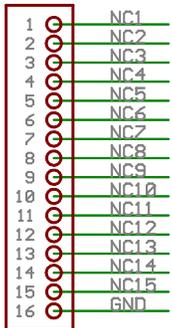
CS Jumper Select



SMA Clock



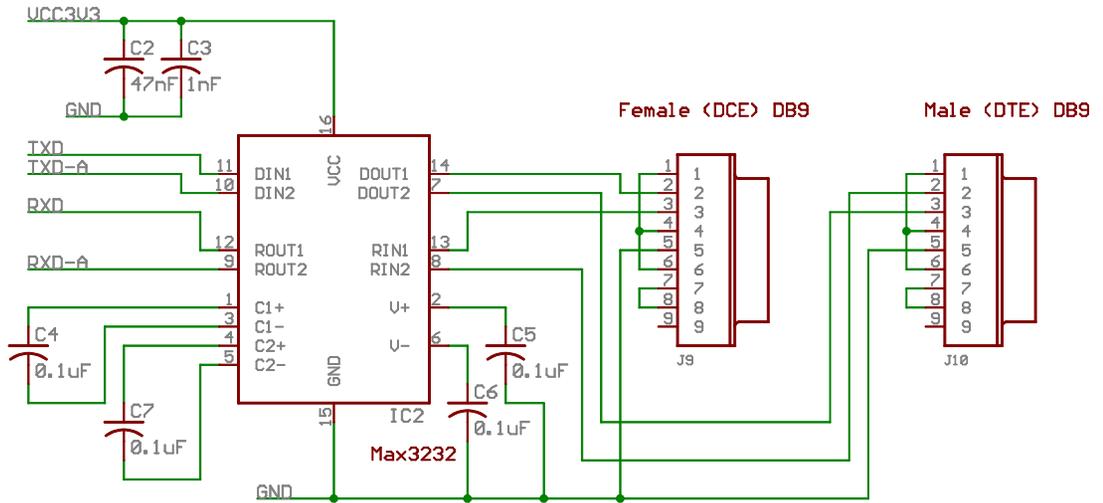
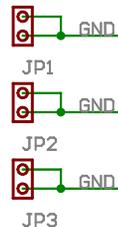
1200E/1600E Expansion Header



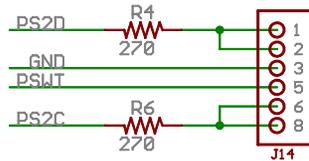
Load on 1600E
No Load on 500E

- FID1
- FID2
- FID3
- FID4

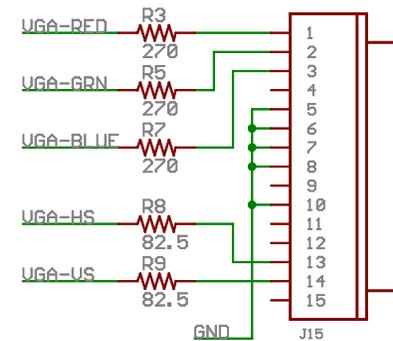
Ground Test/Storage Blocks



Keyboard PS2 connector

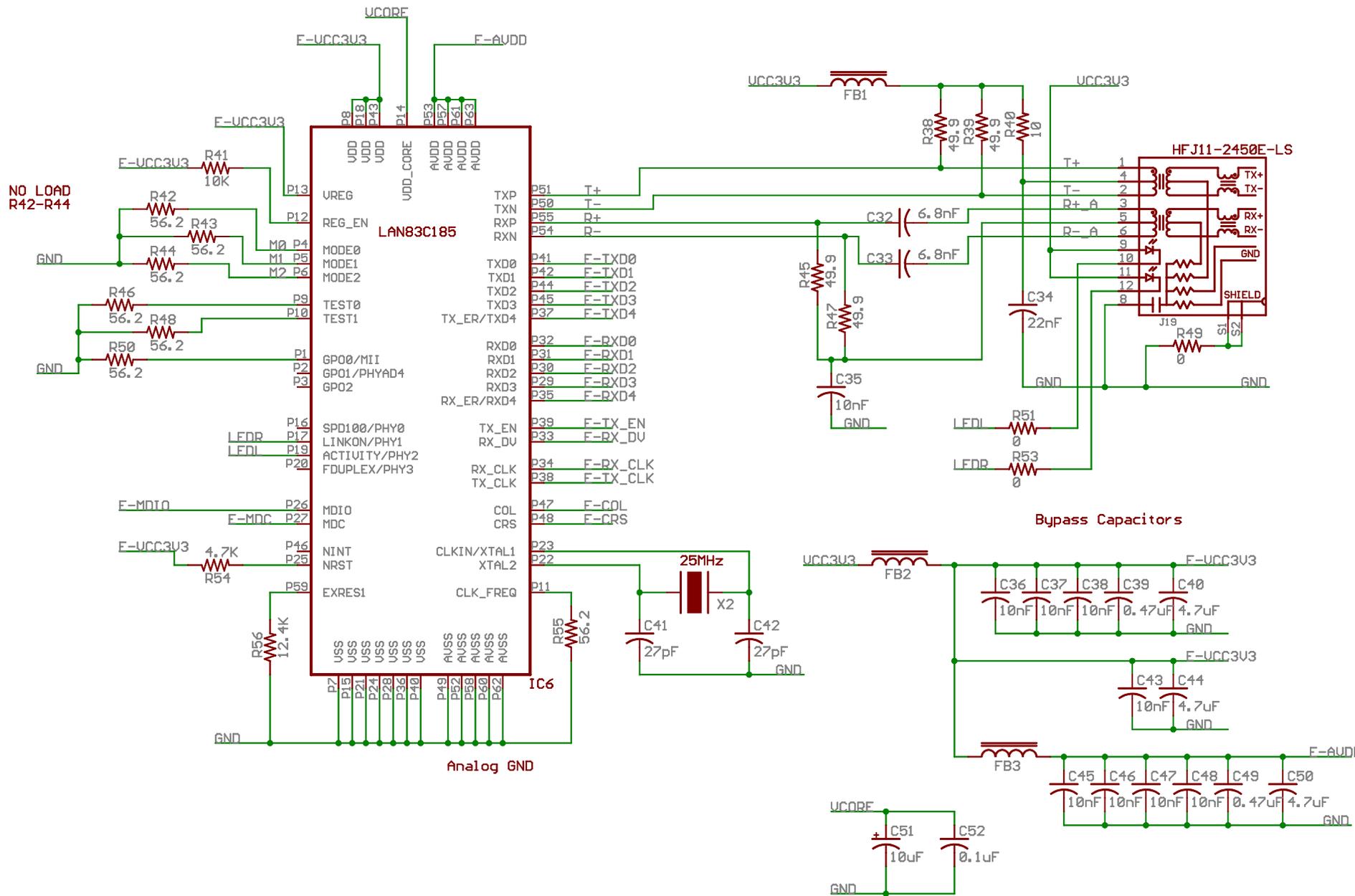


UGA Port

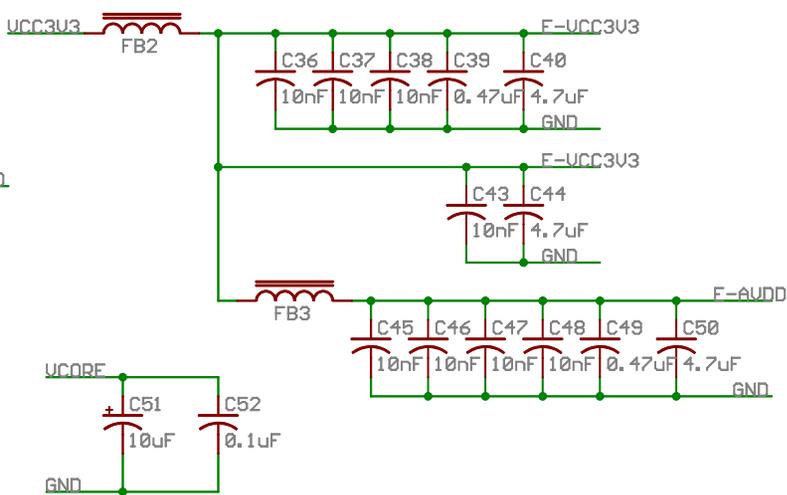


Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: RS232, UGA, PS2 and Parallel I/O		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 2/14

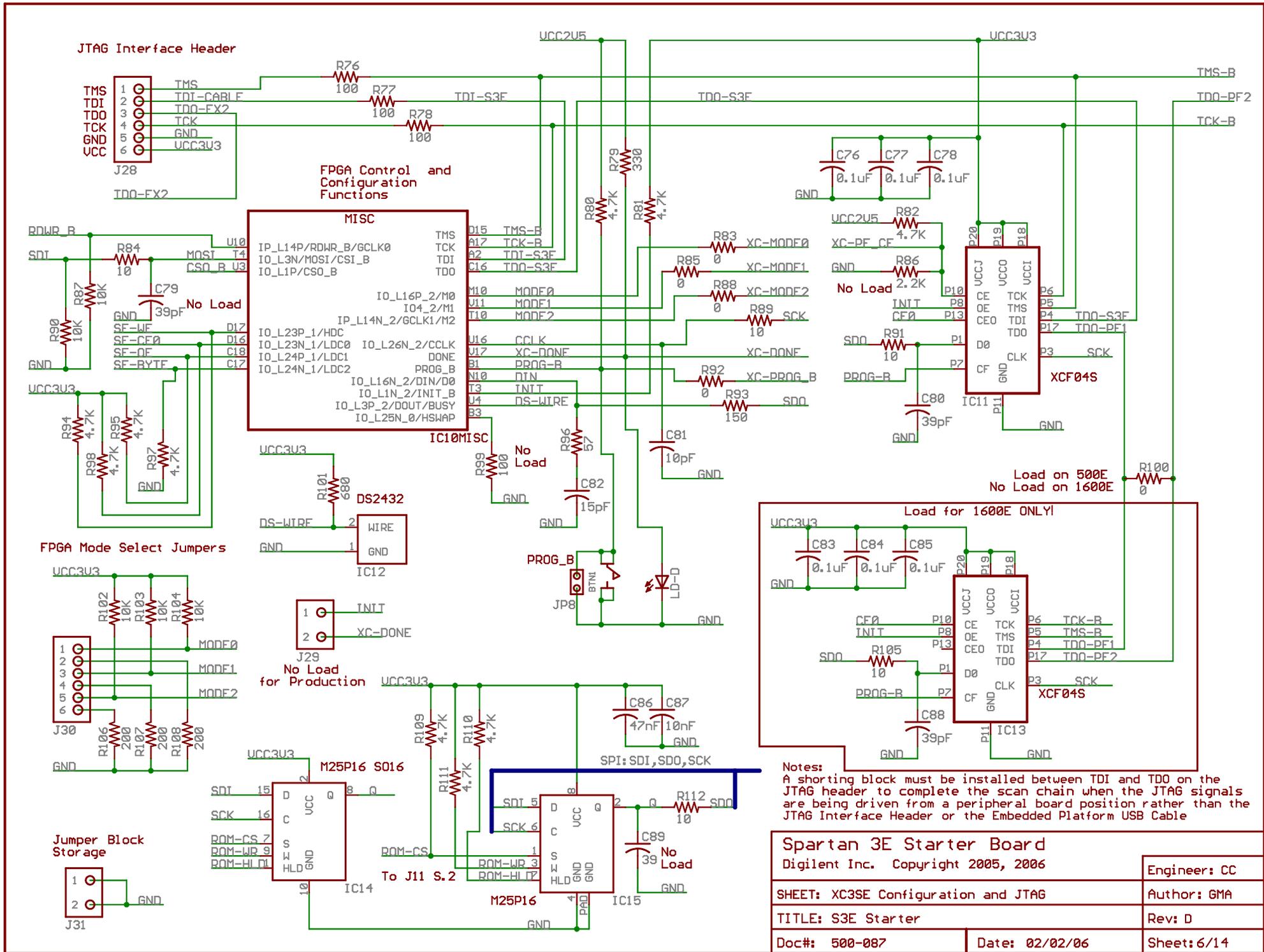
Page 3 contains proprietary information and has been intentionally left blank.



Bypass Capacitors



Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: Ethernet Interface		Rev: D
TITLE: S3E Starter		Date: 02/02/06
Doc#: 500-087	Date: 02/02/06	Sheet: 4/14

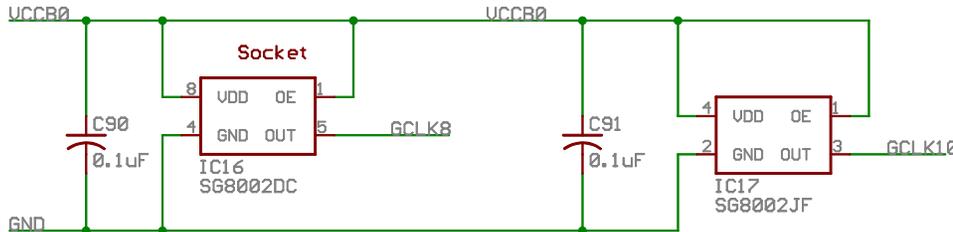
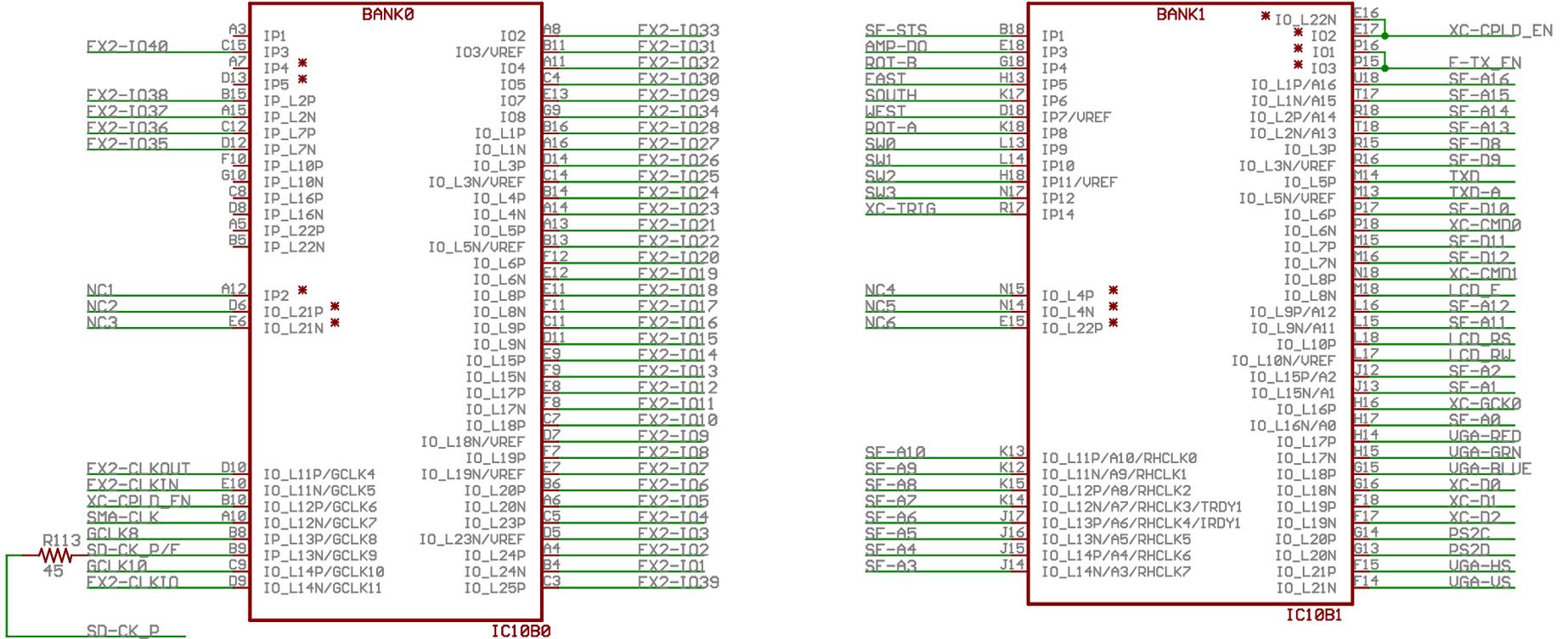


Notes:
 A shorting block must be installed between TDI and TDO on the JTAG header to complete the scan chain when the JTAG signals are being driven from a peripheral board position rather than the JTAG Interface Header or the Embedded Platform USB Cable

Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: XC3SE Configuration and JTAG		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 6/14

UCC for Bank 0 is set By JP9 on Sheet 9

UCC for Bank 1 = 3.3V



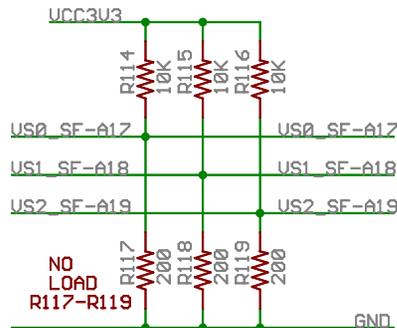
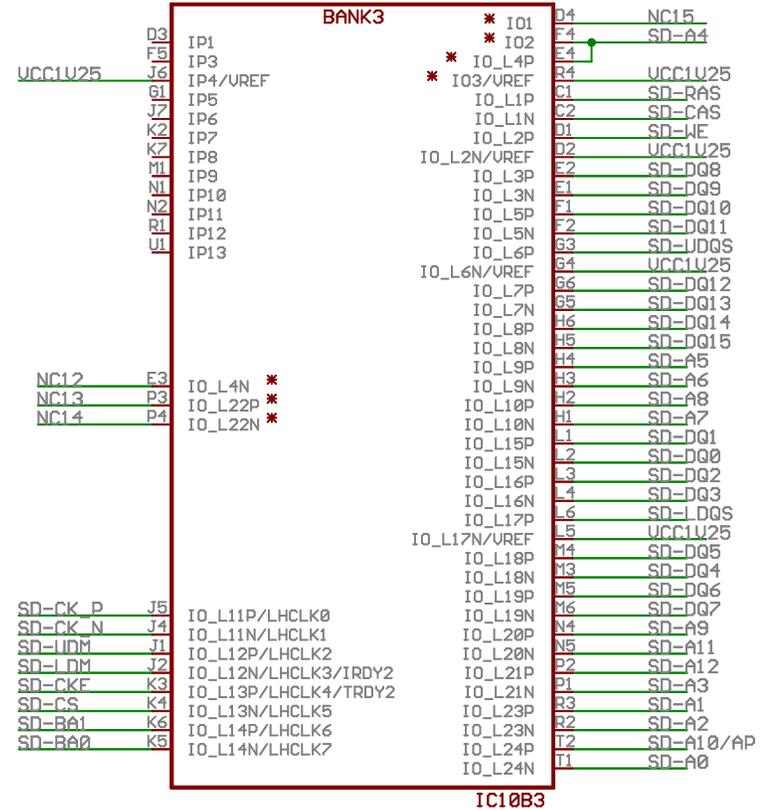
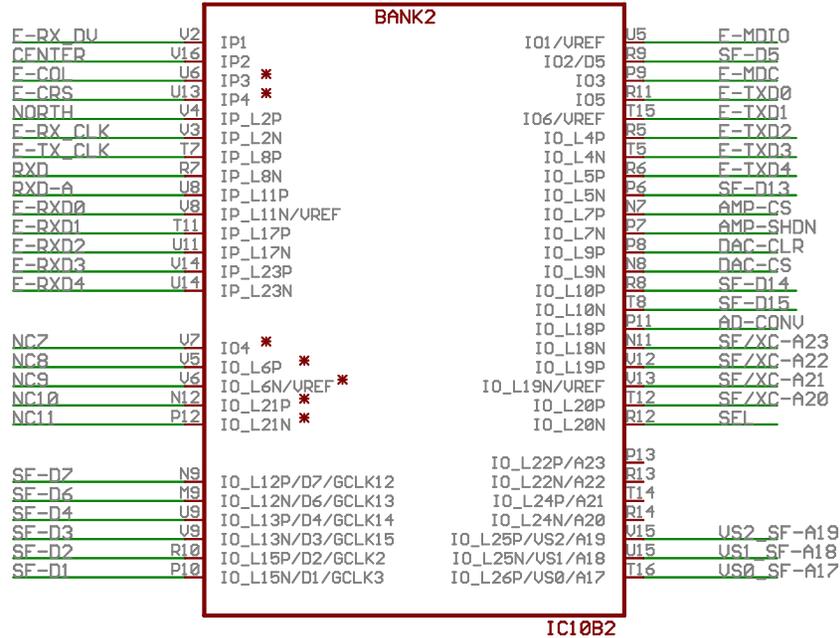
* Notes are for pins that vary between 500/1200/1600 dies

- AD - A/D Converter (11)
- AMP - Gain Amplifier (11)
- DAC - D/A converter (11)
- E- Ethernet (4)
- FX2 - Hirose FX2 Connector (1)
- ROM - M25P16 (6)
- SD- SD RAM (12)
- SF - StrataFlash (12)
- ST - Soft Touch Connector (1)
- U - USB (3)
- XC - XC9572 (10)

Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: XC3SE Banks 0 and 1, Clock ICs		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 7/14

Ucc for Bank 2 = 3.3V

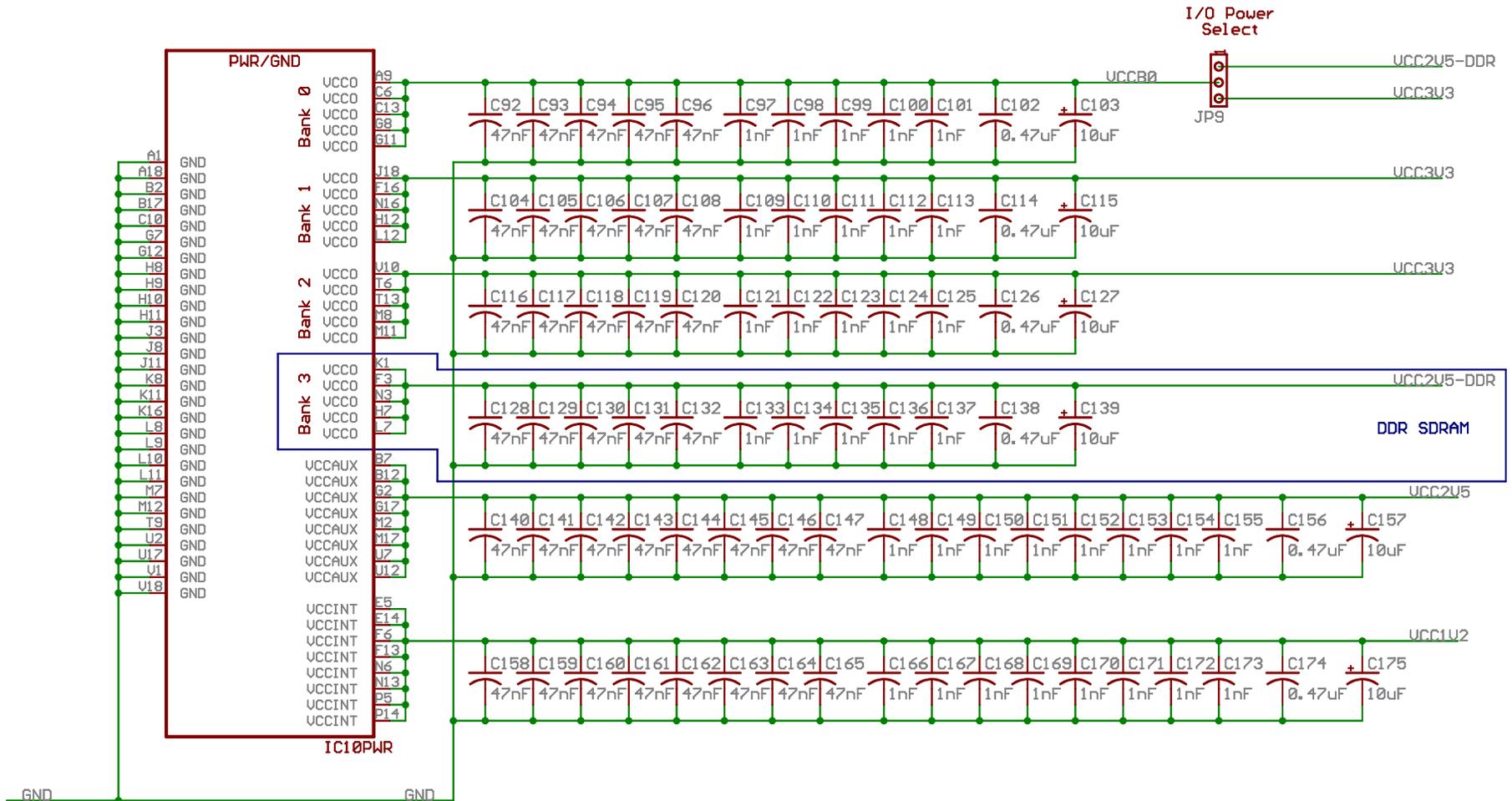
UCC vor Bank 3 = 2.5V DDR



- AD - A/D Converter (11)
- AMP - Gain Amplifier (11)
- DAC - D/A converter (11)
- E- Ethernet (4)
- FX2 - Hirose FX2 Connector (1)
- ROM - M25P16 (6)
- SD- SD RAM (12)
- SF - StrataFlash (12)
- ST - Soft Touch Connector (1)
- U - USB (3)
- XC - XC9572 (10)

* Notes are for pins that vary between 500/1200/1600 dies

Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: XC3SE Banks 2 and 3		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 8/14



Spartan 3E Starter Board

Digilent Inc. Copyright 2005, 2006

Engineer: CC

SHEET: XC3SE Power Decoupling

Author: GMA

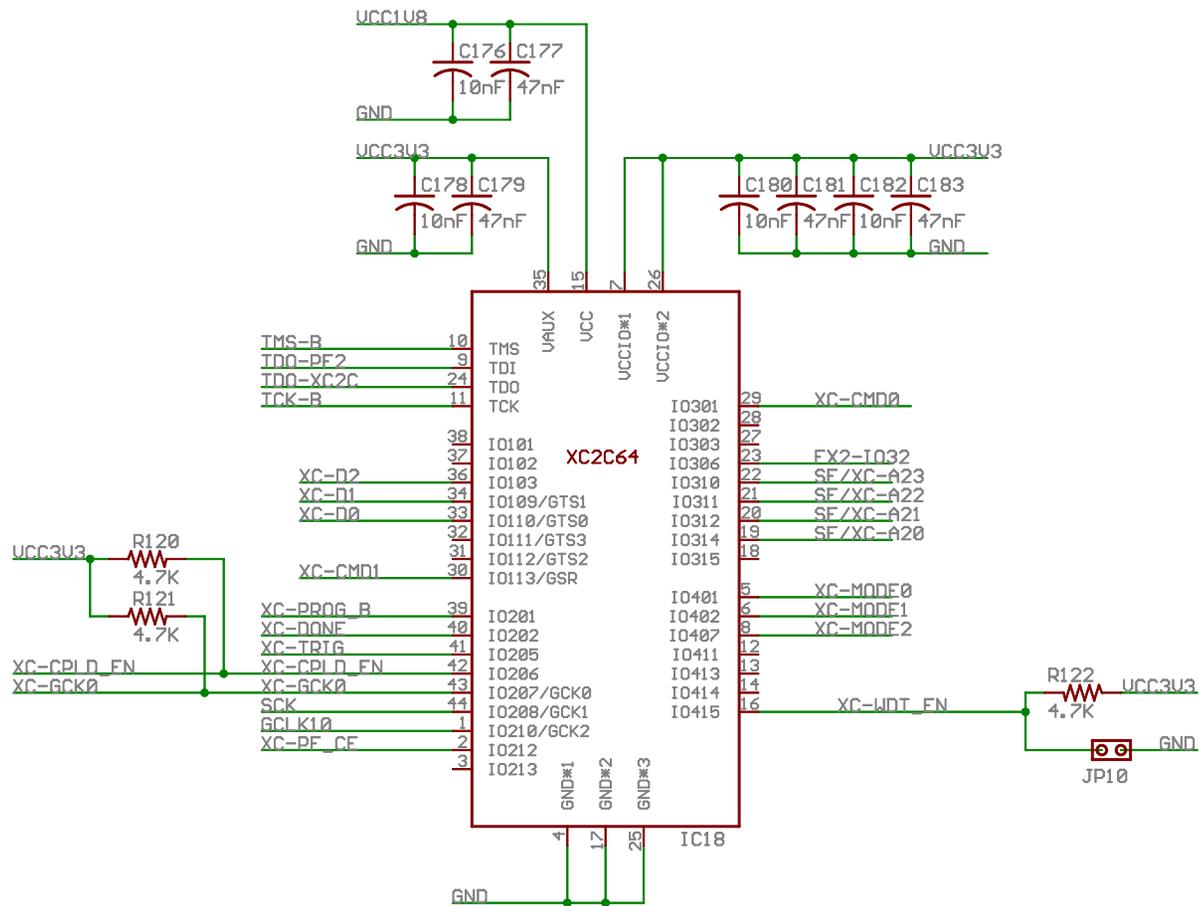
TITLE: S3E Starter

Rev: D

Doc#: 500-087

Date: 02/02/06

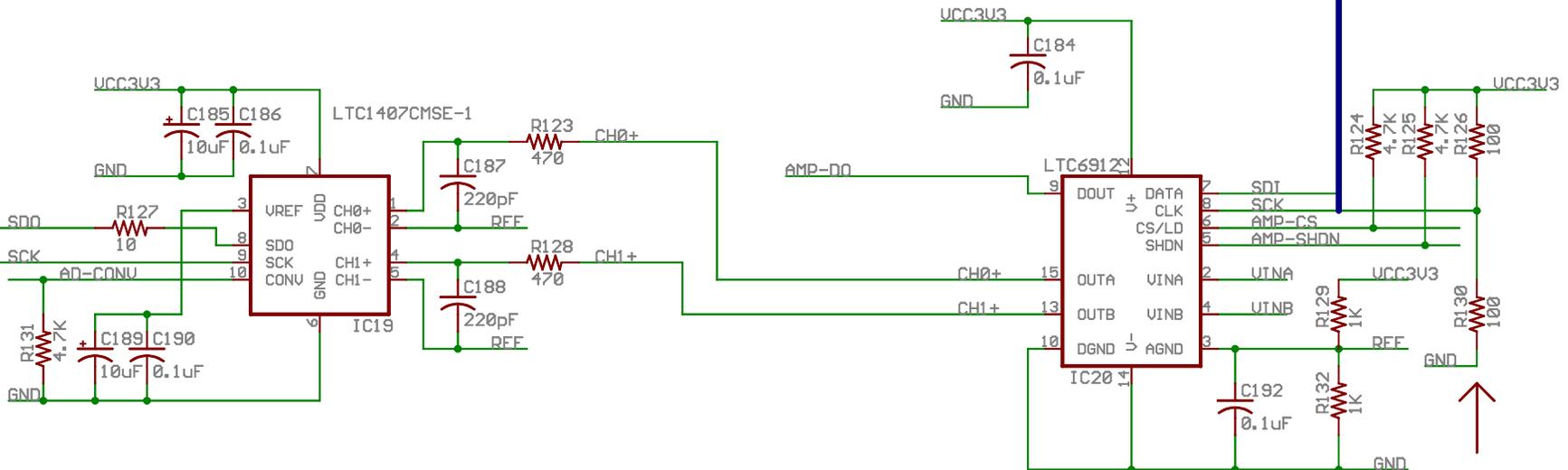
Sheet: 9/14



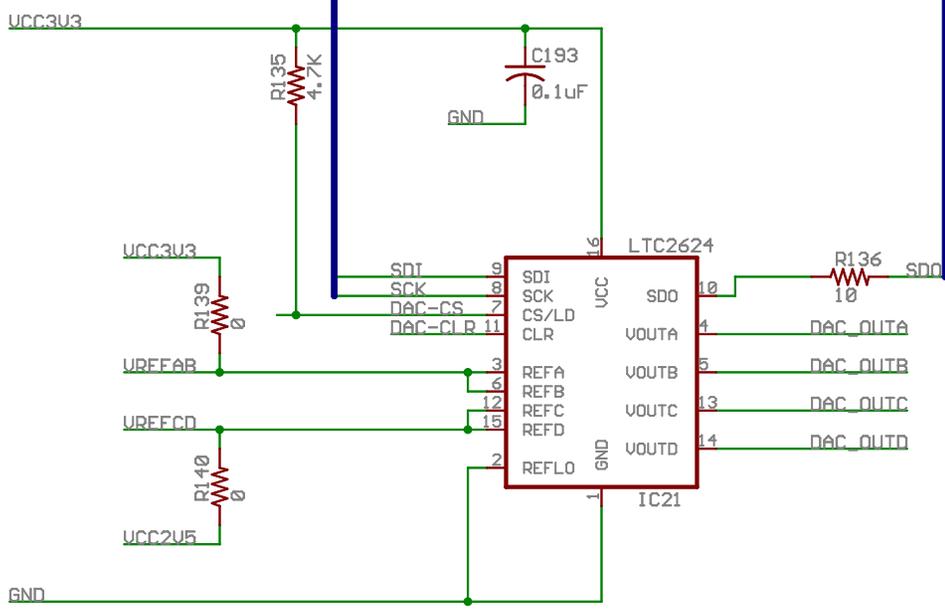
Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: XC2C64 CPLD		Rev: D
TITLE: S3E Starter		Date: 02/02/06
Doc#: 500-087	Date: 02/02/06	Sheet:10/14

SPI: SDI, SDO, SCK

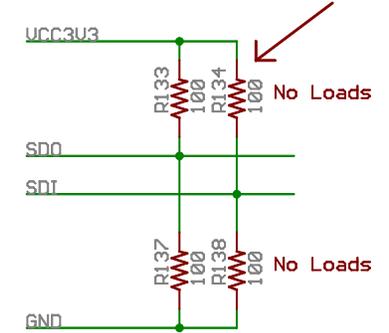
SPI: SDI, SDO, SCK



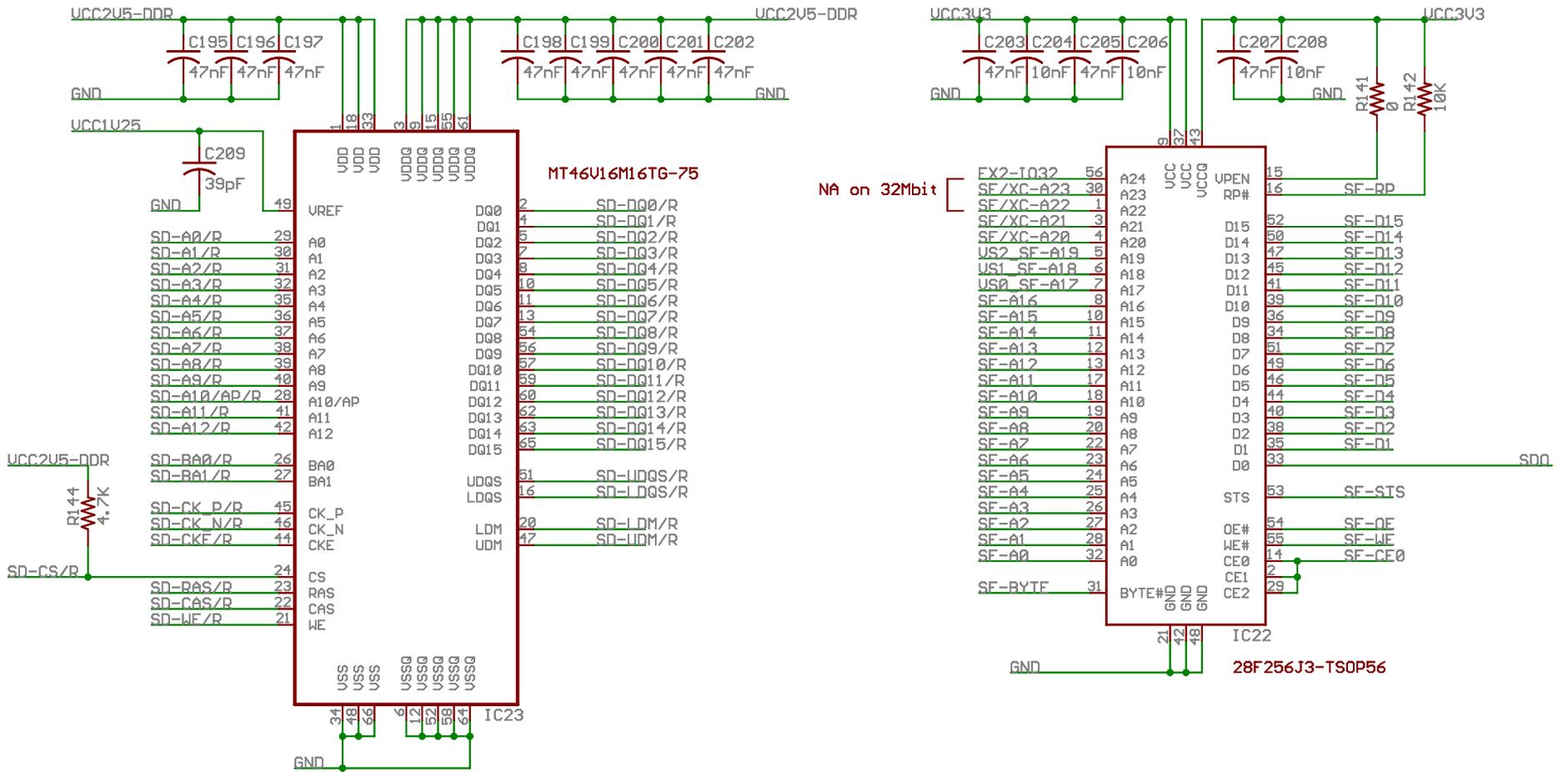
SPI: SDI, SDO, SCK



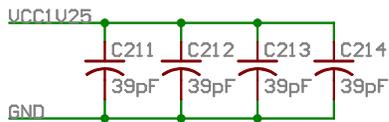
Thevenin Termination (place at end of chain)



Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: A/D and D/A Converters		Rev: D
TITLE: S3E Starter		Doc#: 500-087
Date: 02/02/06		Sheet: 11/14



UREF Decoupling

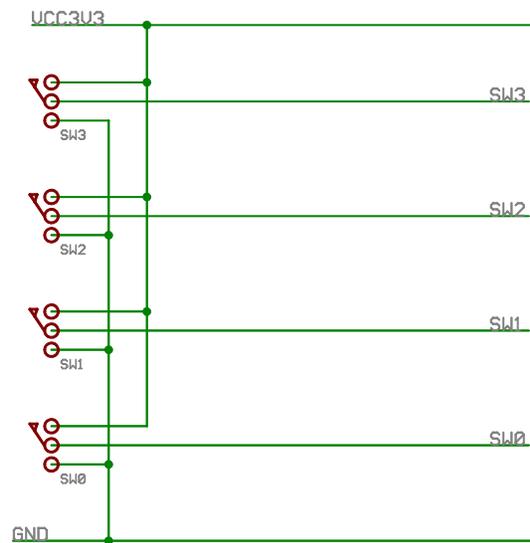


Xilinx CoolRunner 2

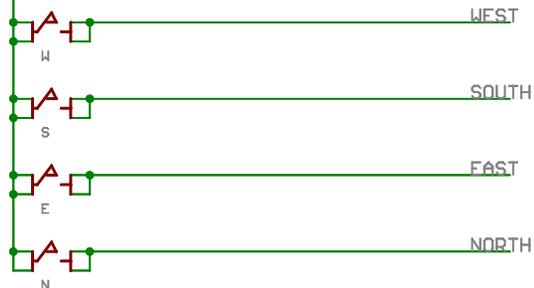
NOTE: Termination network for IC20, the MT46U16M16TG-75 on sheet 14

Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: DDR SDRAM and StrataFlash		Rev: D
TITLE: S3E Starter		Sheet:12/14
Doc#: 500-087	Date: 02/02/06	

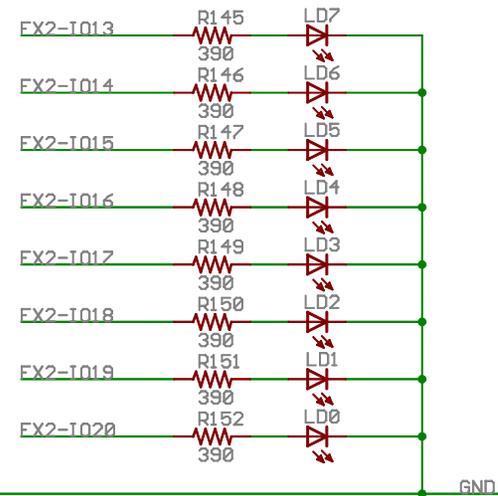
Switches



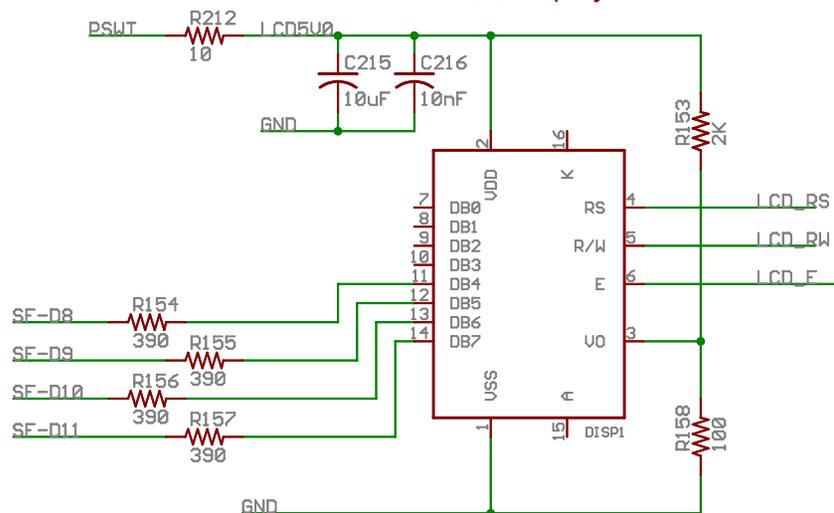
Buttons



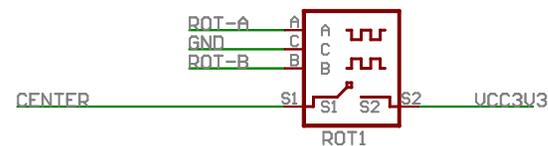
LEDs



LCD Display



Pushbutton/Rotary Encoder

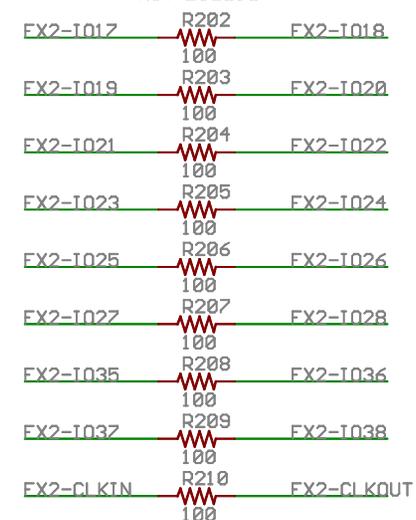


Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: LCD and General IOs		Rev: D
TITLE: S3E Starter		Sheet:13/14
Doc#: 500-087	Date: 02/02/06	

DDR Series Termination



FX2 Differential Termination Not Loaded



Spartan 3E Starter Board		Engineer: CC
Digilent Inc. Copyright 2005, 2006		Author: GMA
SHEET: DDR Memory Signals		Rev: D
TITLE: S3E Starter		Sheet: 14/14
Doc#: 500-087	Date: 02/02/06	