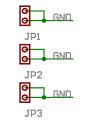
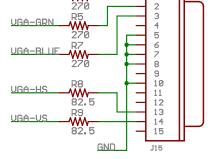


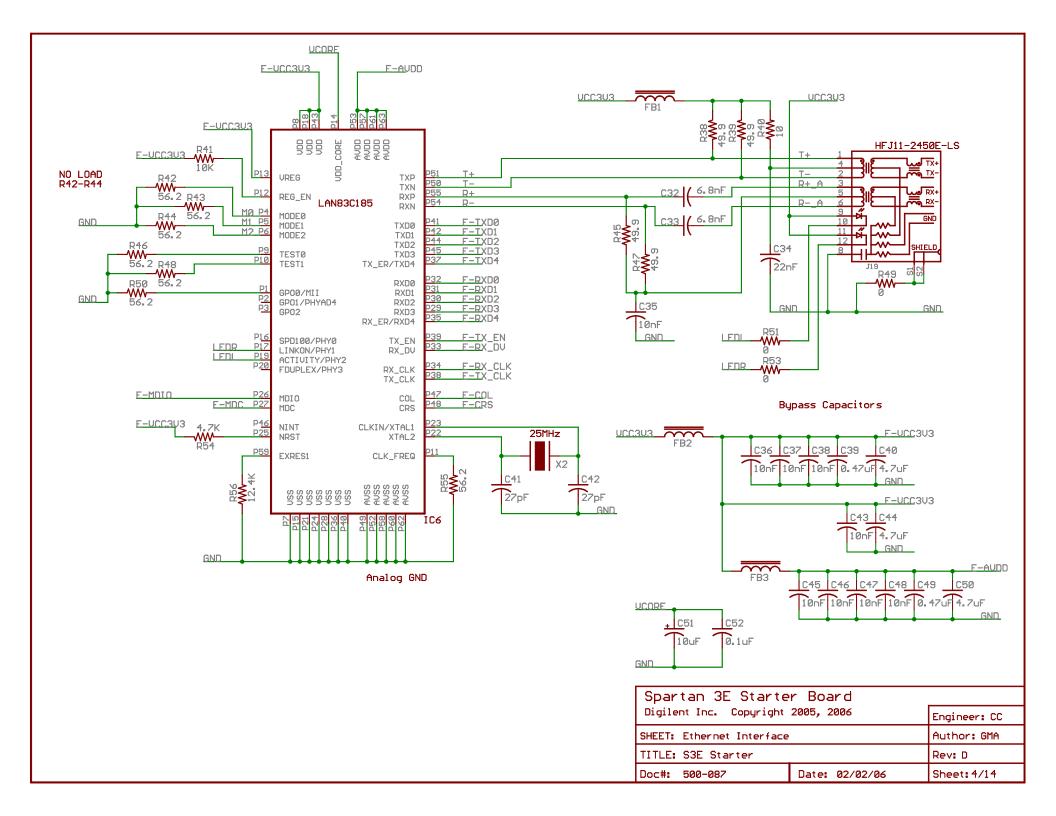
Ground Test/Storage Blocks

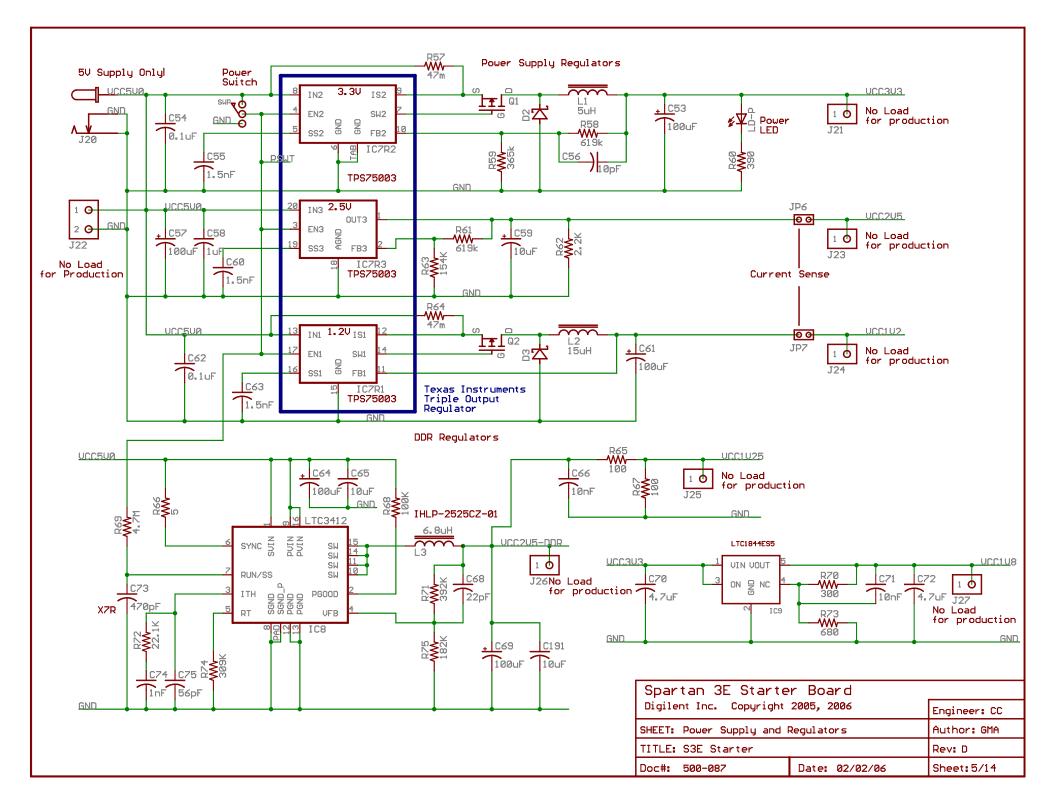


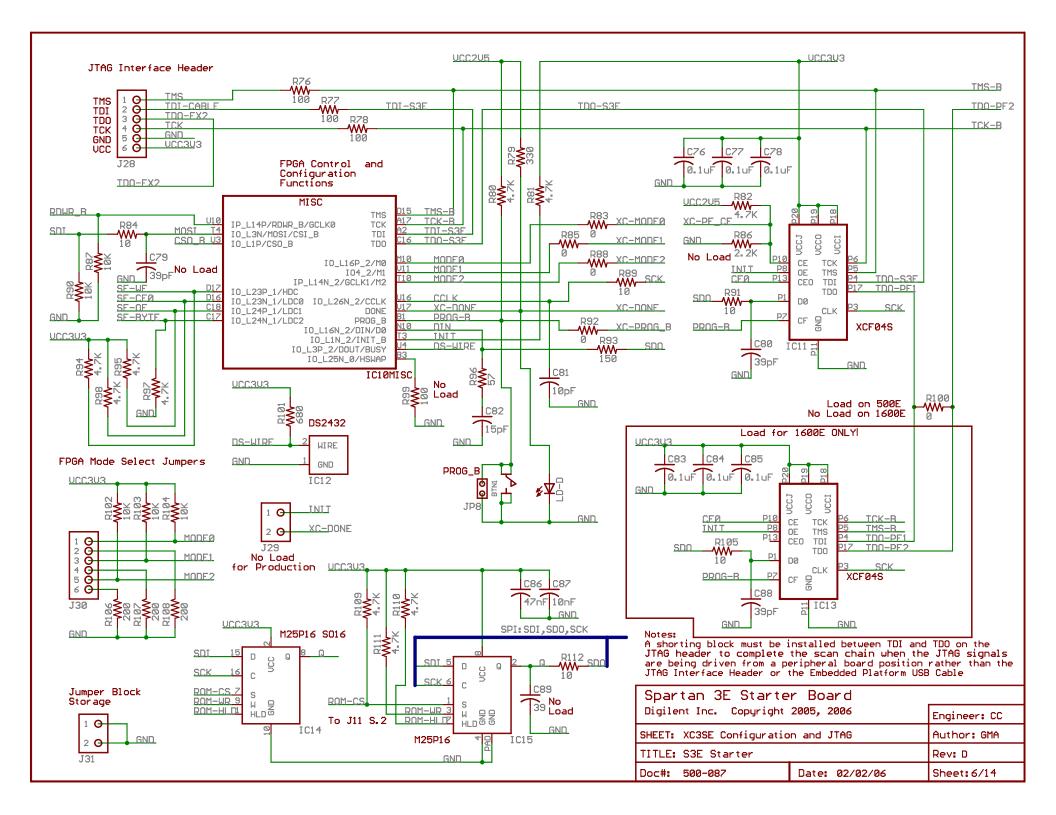


Spartan 3E Starter Board							
Digilent Inc. Copyright	Engineer: CC						
SHEET: RS232, VGA, PS2 ar	Author: GMA						
TITLE: S3E Starter	Rev: D						
Doc#: 500-087	Date: 02/02/06	Sheet: 2/14					

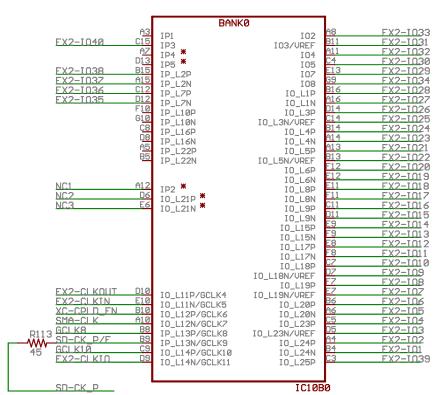
Page 3 contains proprietary information and has been intentionally left blank.







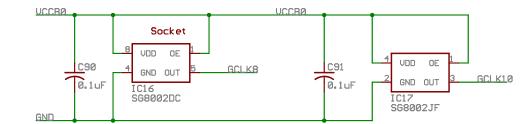
VCC for Bank 0 is set By JP9 on Sheet 9



VCC for Bank 1 = 3.3V

	BANK1		E16	
SF-STS B1	8 IP1	¥ I02	E17	XC-CPLD EN
AMP-DO E1	B IP3	¥ 101	P16	
ROT-B G1		101	P15	E-TX EN
EAST H1	2 124	103	U18	SF-A16
SOUTH K1	7 120 10	D_L1P/A16	T17	SE-A15
WEST D1	- IP6 II	J_LIN/HIS	R18	SF-A14
ROT-A K1	a IP//VREF II	J_LZP/ HIT	T18	SF-A13
			R15	
				<u>SF-D8</u>
<u>SW1 L1</u>			R16	SF-D9
SW2 H1		10 150	M <u>1</u> 4	TXD
<u>SU3 N1</u>	1012 10		M <u>1</u> 3	TXD-A
XC-TRIG R1	Z IP14	TO I ∠D	P17	<u>SF-D10</u>
	1.1.1	TO LAN	P18	XC-CMDØ
			M15	SE-D11
		IO_L7P	M16	SE-D12
			N18	XC-CMD1
NC4 N1	5 10 140 *	IU_LOP	M18	LCD F
NC5 N1		IU_LON	L16	SE-612
NC6 E1	- III I 4N II)_L9P/A12	L15	SF-A11
NGO	5 IO_L22P * II	D_L9N/A11	L18	LCD RS
		IO_L10P	L17	
		10N/VREF	J12	SE-A2
	IC		J12 J13	SF-A1
	I		H16	
				XC-GCKØ
	IC		H17	SE-A0
	_		H14	UGA-RED
<u>SF-A10 K1</u>			H15	<u>UGA-GRN</u>
SF-A9 K1		TO 1180	<u>61</u> 5	UGA-BLUE
SF-A8 K1		TO 1 1 0N	<u>616</u>	XC-DØ
SF-AZ K1		TO 119D	F18	XC-D1
SF-AG J1			F17	<u>XC-D2</u>
SE-A5 J1	IO LI3N/A5/RHCLK5		G14	PS2C
SF-A4 J1		IO_L20P IO_L20N	G13	PS2D
SF-A3 J1			F15	UGA-HS
	IO_L14N/A3/RHCLK7	I0_L21P	F14	UGA-US
		I0_L21N		
	5	TC10B1		

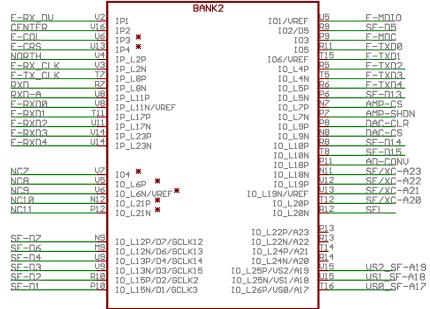
IC10B1



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

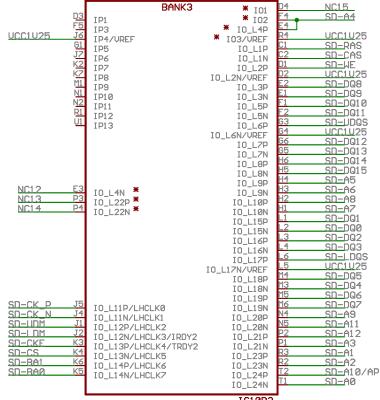
Spartan 3E Starter Board						
Digilent Inc. Copyright	Engineer: CC					
SHEET: XC3SE Banks 0 and	Author: GMA					
TITLE: S3E Starter	Rev: D					
Doc#: 500-087	Date: 02/02/06	Sheet:7/14				

Vcc for Bank 2 = 3.3V



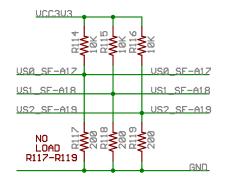
IC10B2

VCC vor Bank 3 = 2.5V DDR



IC10B3

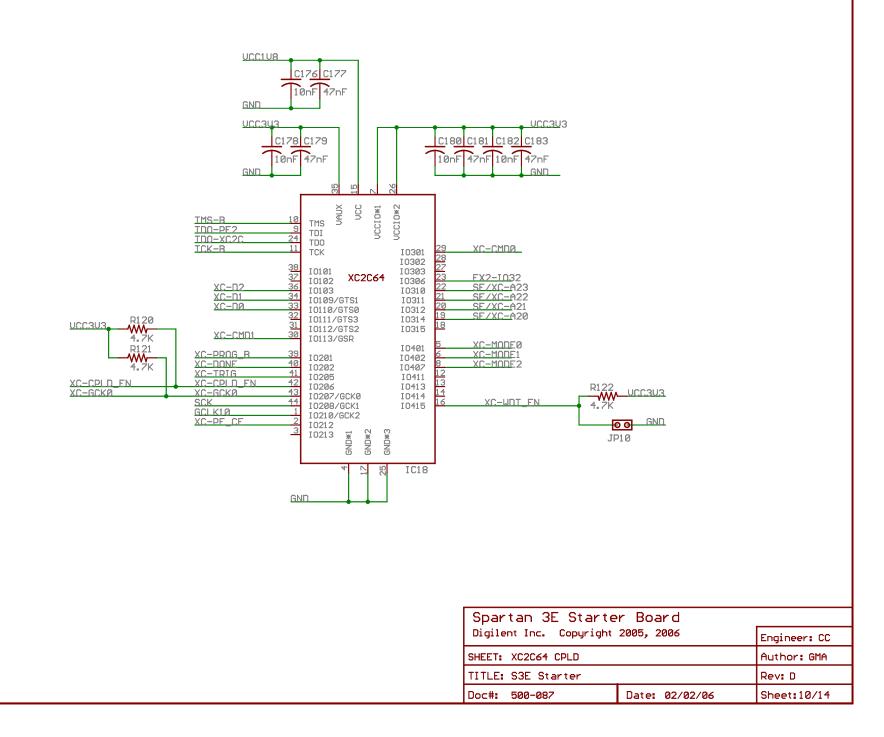
AD - A/D Converter (11) AMP - Gain Amplifier (11) DAC - D/A converter (11) E- Ethernet (4) FX2 - Hirose FX2 Connector (1) ROM - M25P16 (6) SD- SD RAM (12) SF - StrataFlash (12) ST - Soft Touch Connector (1) U = USB(3)XC - XC9572 (10)

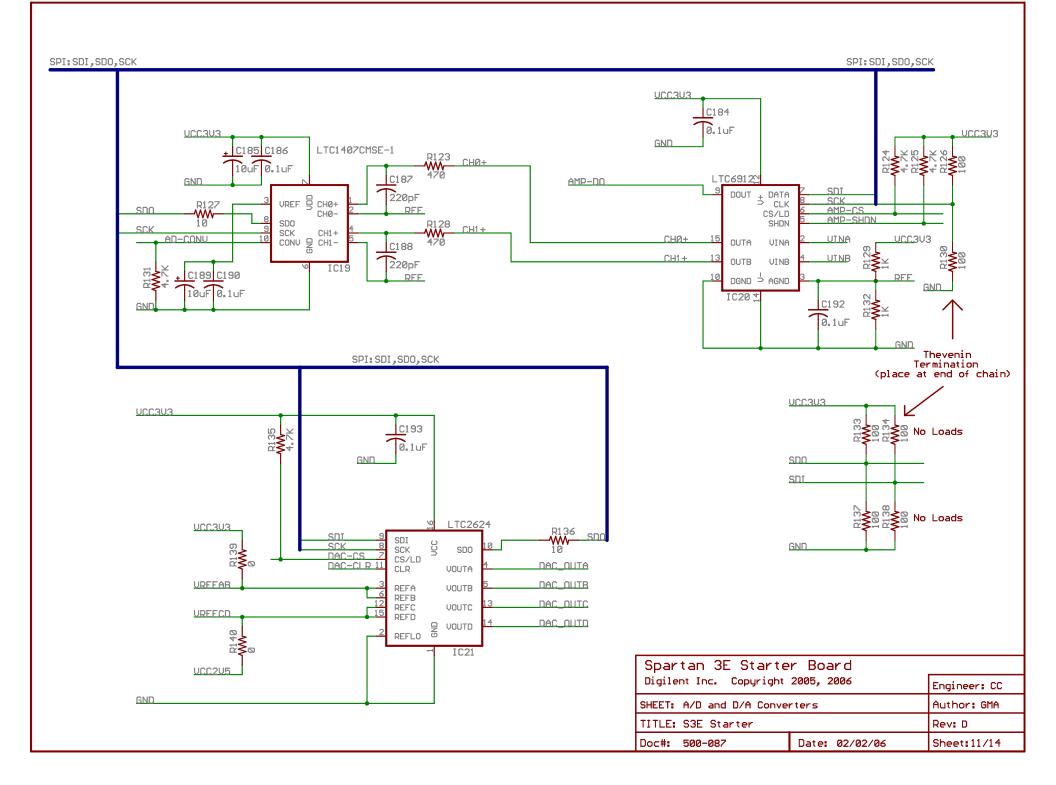


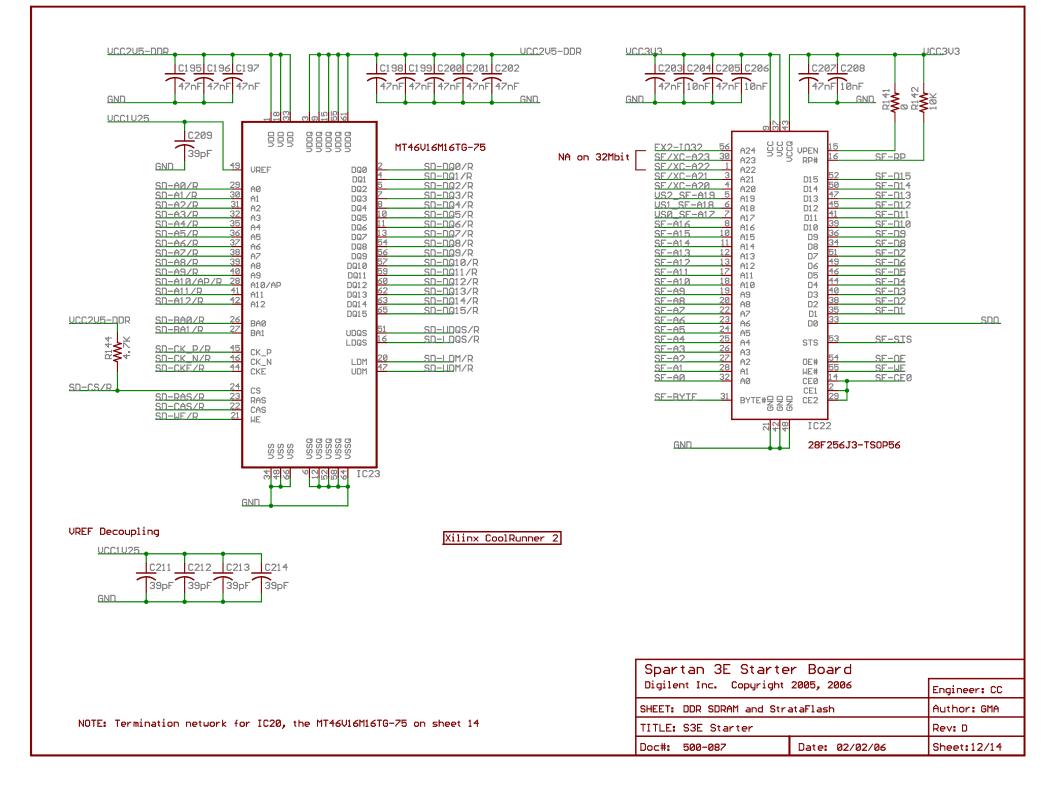
* Notes are for pins that very between 500/1200/1600 dies

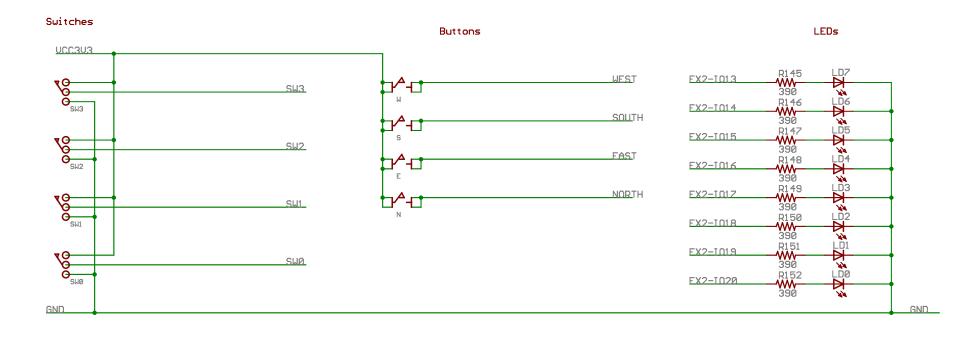
Spartan 3E Starter Board						
Digilent Inc. Copyright	Engineer: CC					
SHEET: XC3SE Banks 2 and	Author: GMA					
TITLE: S3E Starter	Rev: D					
Doc#: 500-087	Date: 02/02/06	Sheet: 8/14				

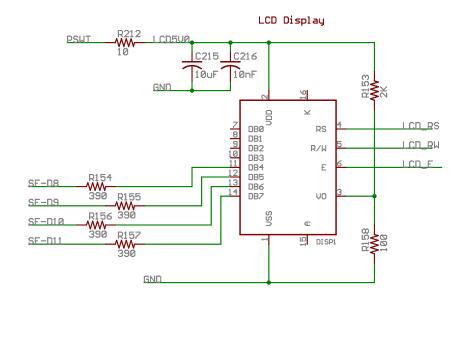
																I	/O Powe Select	r			
		PWR/GND	1.														<u>م</u>		JU	<u>C2U</u> 5-DDR	
		000V 🛛	A9 C6 C13	C92			5 <u>C</u> 96	C97	raa	C 99	C1 00	C1 01	01.03		<u>UCC</u> 0103		-0 0		UC	<u>C3U</u> 3	
		aco aco B B B B B B B B B B B B B B B B B B B	G8 G11										0. 47				JP9				
	A1 GND		J18																	<u>C3U3</u>	
	A18 GND B2 GND B17 GND		F16	C104	C105 0	C106 C1	07 C108	C105	0 C110	C111	C112	C113	C114		C115				<u>UL</u>	<u>L30</u> 3	
	C10 GND	0000 Bank 1 0000 Bank 1 0000 Bank 1	F16 N16 H12 L12							1nF				2uF 1							
	H8 GND		V10																UC	<u>C3U</u> 3	
	H9 GND H10 CND		T6 T13	<u>C116</u>	<u>C117</u>	211 <u>8 C</u> 1:	1 <u>9 C</u> 120	C121	C122	<u>C123</u>	C124	<u>C</u> 125	C126	5 <u>+ (</u>	<u>C</u> 127						
	H11 GND J3 GND	0000 Bank 2 0000 Bank 2 0000 Bank 2	M8 M11	47nF	47nF 4	17nF 47	nF 47nF	1nF	1nF	1nF	1nF	1nF	0. 47	'uF 1	l0uF						
	J8 GND J11 GND		K1 F3 1	-	↓		-	-	•	•			+								
	K8 GND K11 GND K16 GND	0000 33 0000 33 0000 33	N3 H7	C128	C129 (130 01:	3 <u>1 C</u> 132	0133	8 0134	C135	C136	C13Z	C138	3.1	C139				<u> </u>	<u>C2U</u> 5-DDR	
	L8 GND		L7										10. 47						DDR	SDRAM	
	L10 GND L10 GND L11 GND	VCCAUX	B7 B12																		
	MZ GND M12 GND		<u>G2</u>		t t												1	•	T	<u>JCC2U</u> 5	
	U2 GND		1147				4 <u>3 C144</u> nF 47nF										5 <u>4 C</u> 155 F 1nF	<u> </u> C156 0.47uF			
	U1/ GND	VCCAUX VCCAUX VCCAUX	U7 U12	47 DF	4/nr -	17 DF *17		47 DF	17 DF 1		IUL	Inr	TUP 1				r Inr	0. 47 Ur	10uF		
	V18 GND	VCCINT	E5																		
		VCCINT VCCINT VCCINT	E14 F6 F13		• •		-										-	•	- -	<u>JCC1U</u> 2	
		VCCINT	N6 N13														7 <u>2 C</u> 173	-	<u>+ C</u> 175		
		VCCINT VCCINT VCCINT	P5 P14	47nF	47nF 4	17nF 47	nF 47nF	47nF ·	47nF 4	7nF	1nF	1nF	1nF 1	lnF 1	lnF 1	nF 1r	FInF	0. 47uF	10uF		
		IC10	PWR															•			
GND	•		GND																		
											[Spa	artar	ר 3E	E St.	artei	Boa	rd			
												Digi	lent l	Inc.	Соруг	ight :	2005, 20	006		Engineer: CC	
												SHEET	r: xca	BSE P	ower l	Jecoup	ling			Author: GMA	
											[TITLE	E: S3E	E Sta	arter					Rev: D	
												Doc#:	: 500	9-087			Date:	02/02/06	;	Sheet: 9/14	



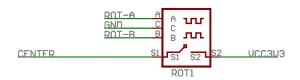






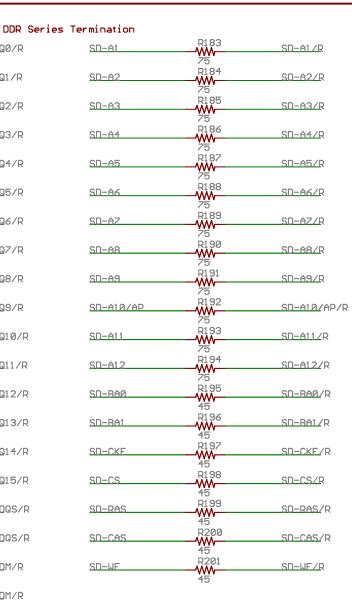


Pushbutton/Rotary Encoder



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SHEET: LCD and General IC	Author: GMA						
TITLE: S3E Starter	Rev: D						
Doc#: 500-087	Sheet:13/14						

		DDR Ser
<u>SD-DQ0</u>	R159 	<u>SD-DQ</u> 0/R
<u>SD-DQ1</u>	R160	<u>SD-DQ</u> 1/R
SD-DQ2	75 R161	SD-DQ2/R
SD-DQ3	75 R162 	SD-DQ3/R
SD-DQ4		SD-DQ4/R
SD-DQ5	75 R164	<u>SD-DQ</u> 5/R
SD-DQ6	75 R165	<u>SD-D0</u> 6/R
SD-DQ7	75 R166	<u>SD-D0</u> 7/R
SD-DQ8	75 R167	<u>SD-D0</u> 8/R
<u>SD-DQ9</u>	75 R168	<u>SD-D0</u> 9/R
<u>SD-DQ10</u>	75 R169	<u>SD-DQ</u> 10/R
<u>SD-DQ11</u>	75 R170	<u>SD-DQ</u> 11/R
SD-DQ12	75 R171	<u>SD-DQ</u> 12/R
SD-DQ13	75 R172 	<u>SD-DQ</u> 13/R
<u>SD-DQ14</u>		<u>SD-DQ</u> 14/R
SD-DQ15	75 R174	<u>SD-DQ</u> 15/R
SD-UDQS	75 R175	<u>SD-UD</u> QS/R
SD-LOQS	45 R176 45	<u>SD-LD</u> QS/R
<u>SD-LDM</u>		<u>SD-LD</u> M/R
<u>SD-UDM</u>	45 R178	<u>SD-UD</u> M/R
SD-AQ	45 R179	<u>SD-AØ</u> /R
SD-CK_P	75 R180	<u>SD-CK P/R</u>
<u>-</u>	W	
SD-CK_N	R182	
	4 5	



FX2 Differential Termination Not Loaded							
FX2-I017	R202	FX2-1018					
FX2-I019	R203	FX2-I020					
FX2-I021	R204	FX2-1022					
FX2-1023	R205	FX2-I024					
FX2-1025	R206	FX2-1026					
EX2-1027	100 R207	FX2-1028					
EX2-1035	100 R208 	FX2-1036					
EX2-1037	100 R209 	FX2-1038					
EX2-CLKIN	R210 100	FX2-CLKOUT					

Spartan 3E Starter Board							
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SHEET: DDR Memory Signals	Author: GMA						
TITLE: S3E Starter	Rev: D						
Doc #: 500-08 7	Date: 02/02/06	Sheet:14/14					