

LNA Control Board Parts List

Schematic: v1.2 5/4/2010

Board: v1.2 5/4/2010

Changes from v1.1

Diodes and Transistors

D10 deleted; old D11 and D12 renumbered to D10 and D11
changed diodes are type 1N4148W

Switches

SW4 changed from SPDT to DPDT pushbutton.

New type:

C&K 8221SDCGE

Digikey CKN1636-ND

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Resistors

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Quan	Value	*Tol	Note	Package	Part numbers	Comment
1	150Ω	10%	may be thick film	0805	R18	
7	300Ω	10%	may be thick film	0805	R1 R2 R3 R4 R5 R8 R16	
1	470Ω	10%	may be thick film	0805	R17	
4	10k	10%	may be thick film	0805	R11 R15 R19 R21	
3	30.0k	0.5%	thin-film (metal-film)	0805	R9 R22 R25	
5	100k	10%	may be thick film	0805	R6 R7 R13 R20 R26	
3	270k	0.5%	thin-film (metal-film)	0805	R10 R23 R24	
1	1.0M	10%	may be thick film	0805	R14	
1	4.7M	10%	may be thick film	0805	R12	

* If Tol = 10%, then any standard 5% or 1% value within 10% of the value shown may be substituted

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Capacitors

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Quan	Value	Type	Tol	V (min)	Package	Part numbers	Comment
7	0.1u	X7R	20%	10V	0805	All except the two listed below	
2	22u	*X5R	20%	10V	1210/1206	C10 C12	

* Low-ESR tantalum may be substituted. See Package column for acceptable sizes.

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Diodes and Transistor

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Quan	Type	Description	Package	Catalog Number	Vendor	Part numbers	Comment
7	LED	CML 5310F1 (Red, 10mA)	T1 Vert Thru	L20261-ND	DigiKey	D1 – D7	
4	1N4148W	Small signal	SOD-323	1N4148WXTMSCT-ND	DigiKey	D8 – D11	
1	PZT2222A	NPN Gen Purpose Switch	SOT-223	PZT2222ACT-ND	DigiKey	Q1	Alternate: FZT696BCT-ND

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Integrated Circuits

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Quan	Type	Mark†	Description	Package	Catalog Number	Vendor		Comment
1	74AC00		Quad 2-input Nand	SOIC-14	74AC00SC-ND	DigiKey	U2	
1	74AC11		Triple 3-input And	SOIC-14	74AC11SC-ND	DigiKey	U7	
2	74AC112		Dual JK Flip-flop	SOIC-16	296-4224-5-ND	DigiKey	U1 U8	
1	74AC139		Dual 1-of-4 Decoder/Demultiplexer	SOIC-16	74AC139SCXCT-ND	DigiKey	U5	
2	74AC157		Quad 2:1 Multiplexer	SOIC-16	74AC157SC-ND	DigiKey	U3 U4	
1	LS7184		Quadrature Clock Converter	SOIC-8	LS7184-SOIC	US Digital	U10	
1	MAX4649	AAIE	SPDT Analog Switch	SOT23-8	MAX4649EKA+TCT-ND	DigiKey	U12	
2	MAX6817	AAAU	Dual CMOS Switch Debouncer	SOT23-6	MAX6817EUT+TCT-ND	DigiKey	U6 U11	
1	TLC555		CMOS Timer	SOIC-8	296-10341-1-ND	DigiKey	U9	

† Identifying marking on the IC package.

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Connectors

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Part	Manufacturer Description	Manufacturer	Catalog Number	Vendor	Comment
J1	2x8 Male Hdr, Vert Thru, 0.1", 0.230"-0.240" contact len				
J2	Included as part of connector used for J1				
J3	Fem Thru-hole, 2 pos, Low profile, P/N 44812-0020	Molex/Waldom	WM18601-ND	DigiKey	
J4	Fem Thru-hole, 10 pos, Low profile, P/N 44812-0028	Molex/Waldom	WM18609-ND	DigiKey	
J5	Fem Thru-hole, 4 pos, Low profile, P/N 44812-0022	Molex/Waldom	WM18603-ND	DigiKey	
J6	Fem Thru-hole, 2 pos, Low profile, P/N 44812-0020	Molex/Waldom	WM18601-ND	DigiKey	
J7	Fem Thru-hole, 10 pos, Low profile, P/N 44812-0028	Molex/Waldom	WM18609-ND	DigiKey	
J8	Fem Thru-hole, 4 pos, Low profile, P/N 44812-0022	Molex/Waldom	WM18603-ND	DigiKey	
J9	1x3 Male Hdr, R/A Thru, 0.1", 0.230"-0.244" contact len				
J10	1x10 Male Hdr, Vert Thru, 0.1", 0.230"-0.240" contact len				
J11	1x2 Male Hdr, Vert Thru, 0.1", 0.230"-0.240" contact len				

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Controls

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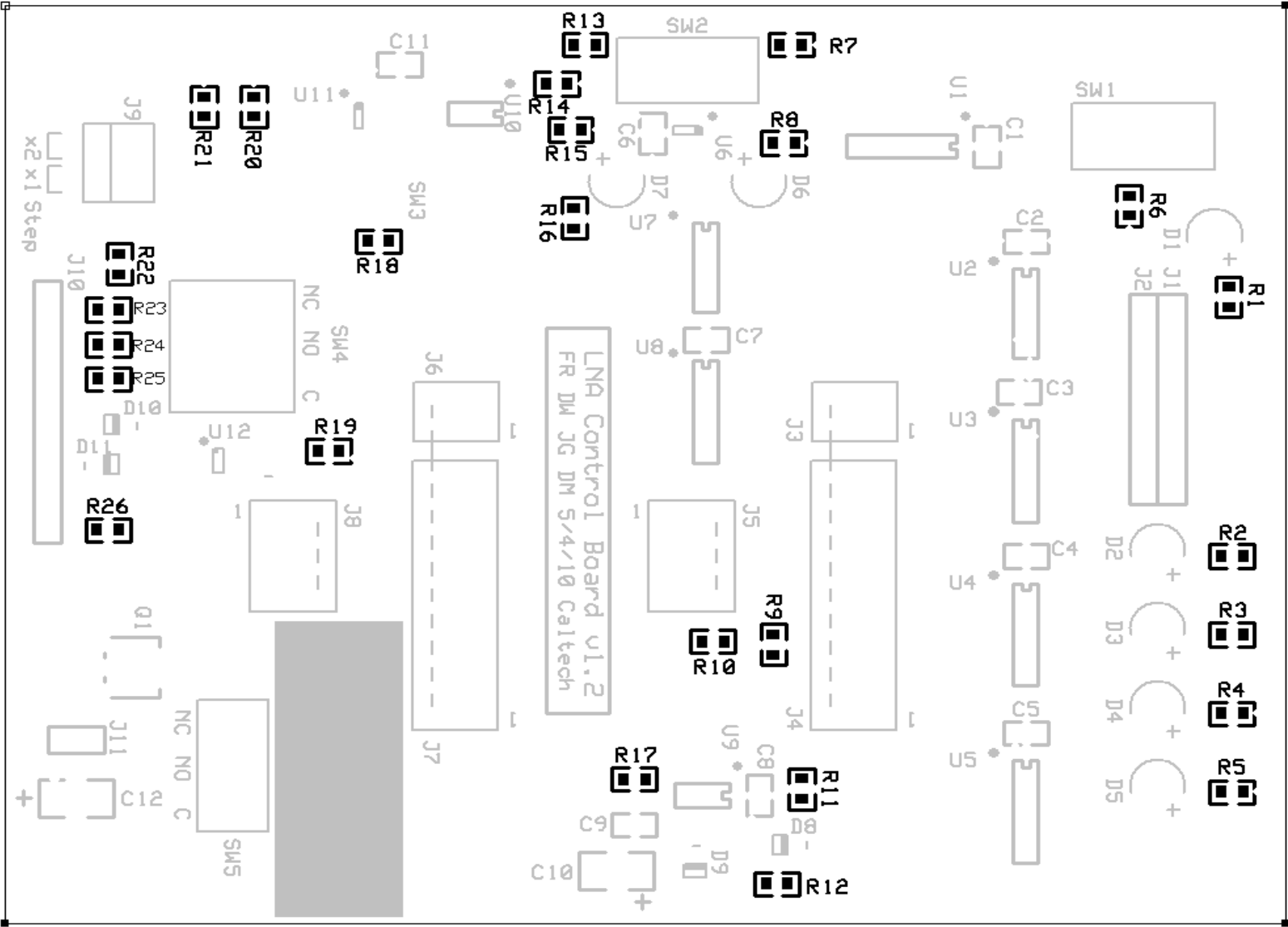
Part	Type	Description	Package	Catalog Number	Vendor	Comment
SW1	C&K 7101K2CQE	Locking SPDT, On-On, PC Pin	Mini Panel	CKN1216-ND	DigiKey	
SW2	C&K 7105SYCQE	SPDT, Mom-Off-Mom, PC Pin	Mini Panel	CKN1007-ND	DigiKey	
SW3	Grayhill 62P22-L6	Opt Encoder w/button		GH7296-ND	DigiKey	
SW4	C&K 8221SDCGE	PB DPDT, PC Pin	Mini Panel	CKN1636-ND	DigiKey	
SW5	C&K 8125SDCBE	PB SPDT, PC Pin	Mini Panel	CKN1632-ND	DigiKey	

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Resistor Placement

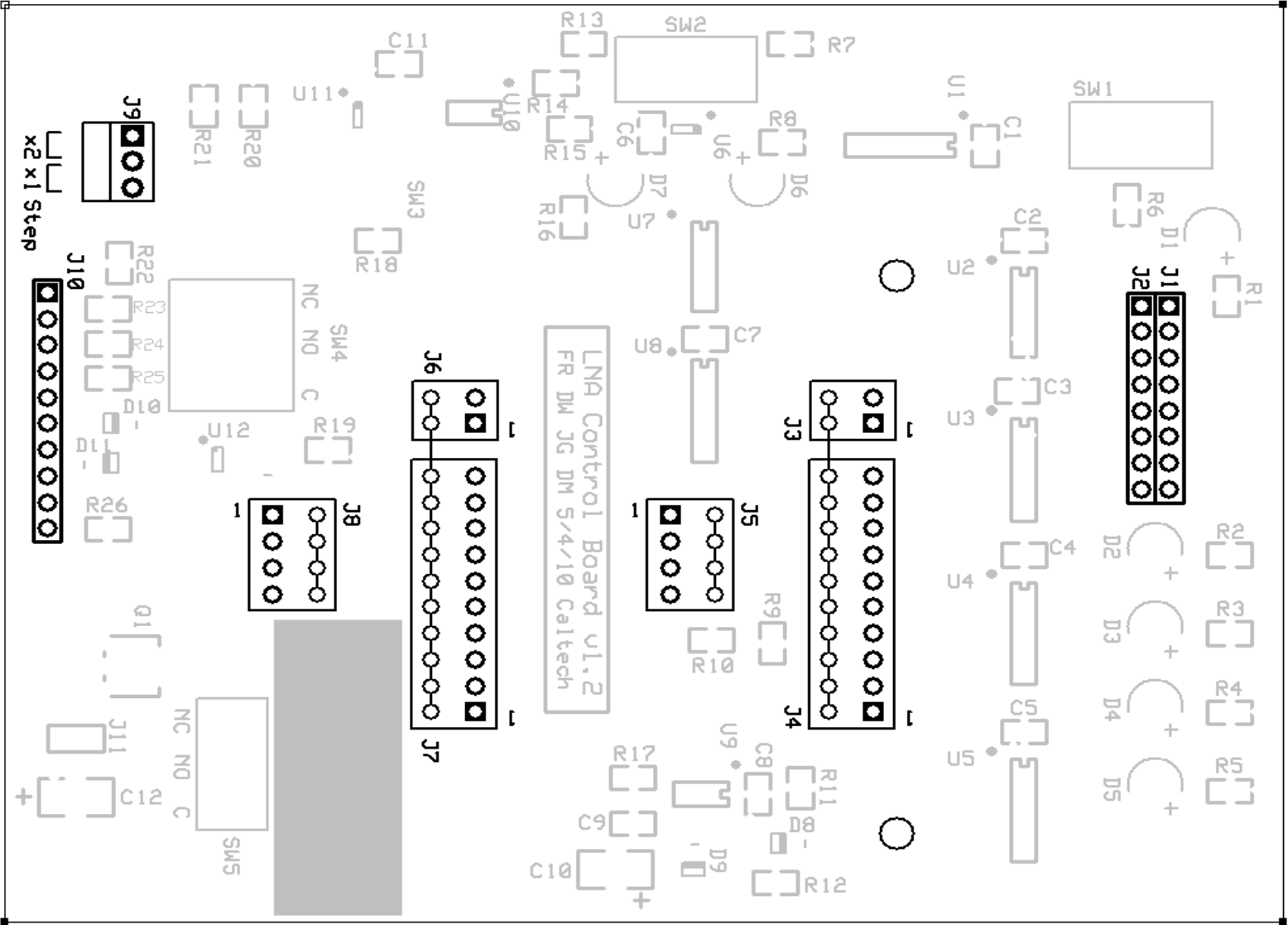


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Connector Placement

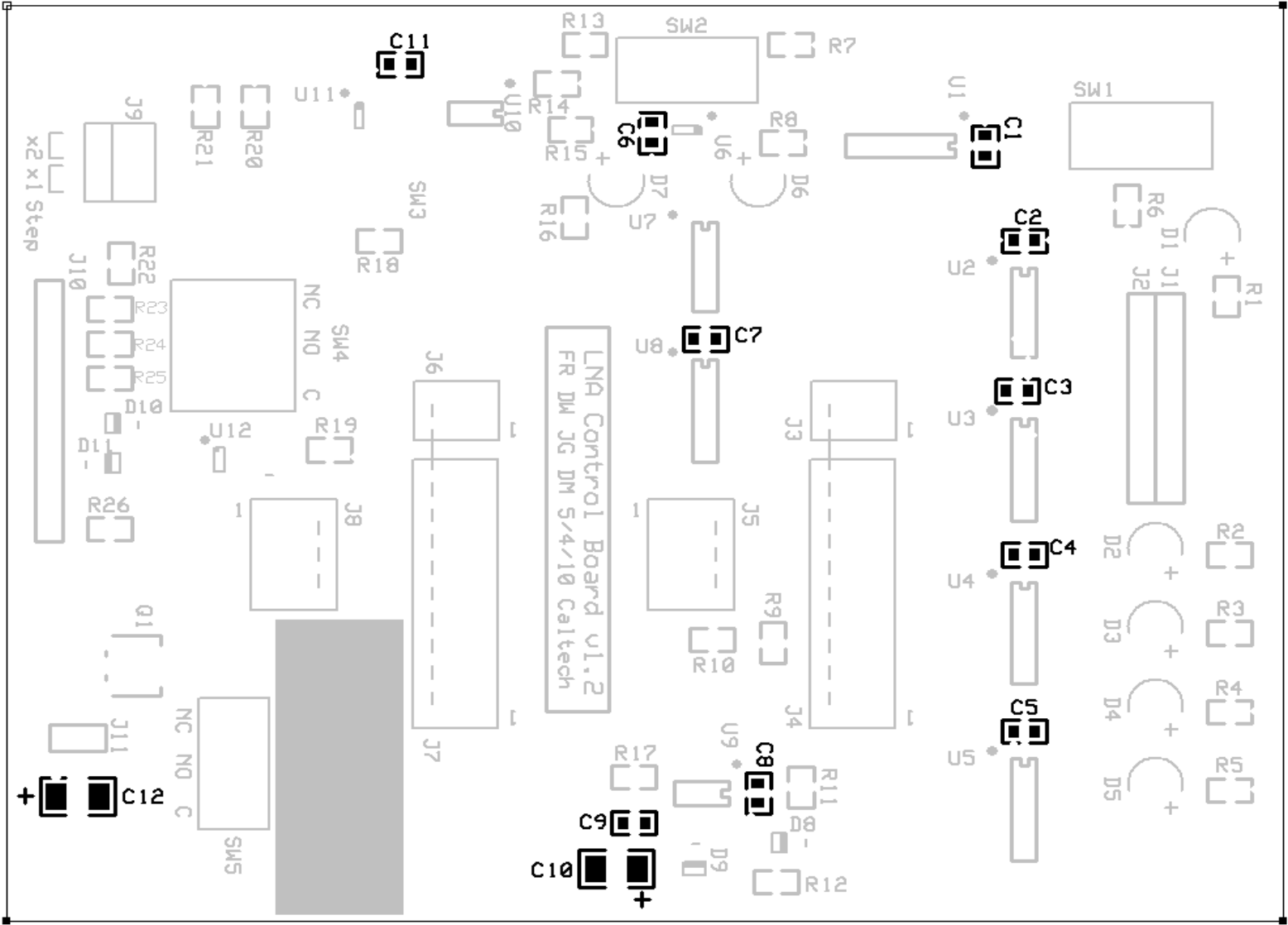


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Capacitor Placement

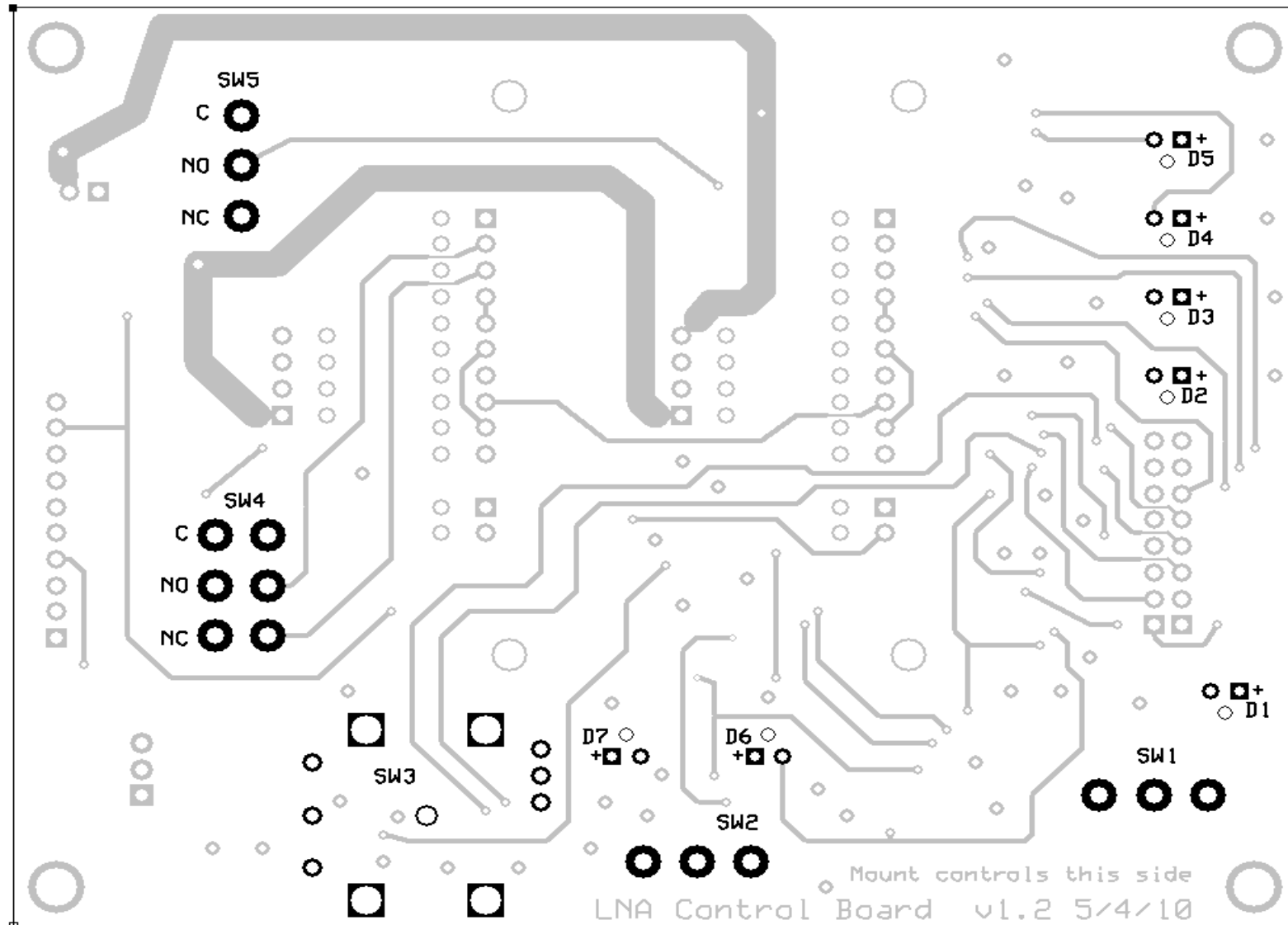


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Controls, LEDs Placement (mount to backside of board, which is shown here)



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IC, Diode, Transistor Placement (Except LEDs)

