OATLEY ELECTRONICS

K142C CONSTANT CURRENT SOURCE KIT
K142B MOSFET CNC STEPPER MOTOR DRIVER Mk2 KIT

Now stepper motors can give high torque at high revs with our new two part driver system. As a stepper motor's speed increases the current drawn and the power output slowly drop until it reaches a certain speed (varies greatly with motor type) then suddenly drops to almost nothing. Some drives like "Chopper drives" try to overcome this with a linear response to a non-linear problem. Our new (K142C) Constant Current Source Kit senses the drop in current and increases the voltage to the motor and thus the current and speed increases. This gave similar torque at around 290 RPM as at 1 or 2 RPM (this is as FAST as we tested with a 200 step motor). Because of the wide voltage output range of the constant current source we had to re-design our (K142) CNC Stepper Motor Driver Kit to cope.

(K142C) Features easy construction. Kit includes PCB, heatsink with fan and all onboard components.

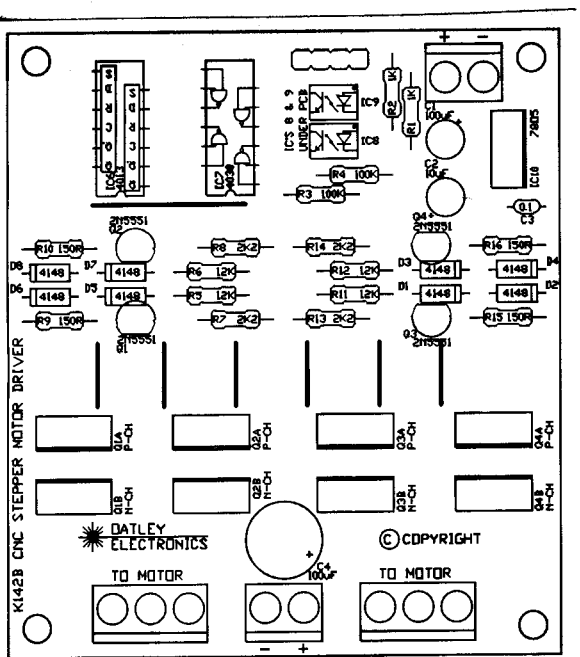
(K142B) This kit will drive one stepper motor (1 axis). Features include 4 or 6 wire motor drive, Opto isolation to protect your computer, MOSFET placement for ease of heatsink installation (if required - heatsink not supplied). Kit includes PCB and all onboard components including high power MOSFET's.

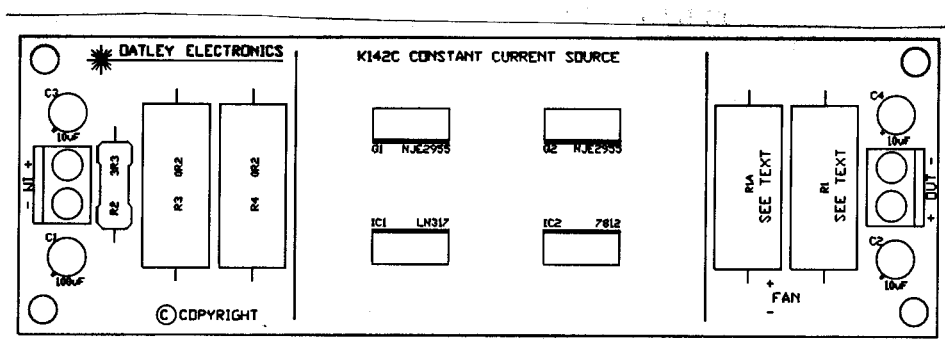
CONSTRUCTION NOTES

The PC814 opto-couplers are surface mount devices and need to be mounted on the copper side of the PCB. The dot on the chip indicates pin1.

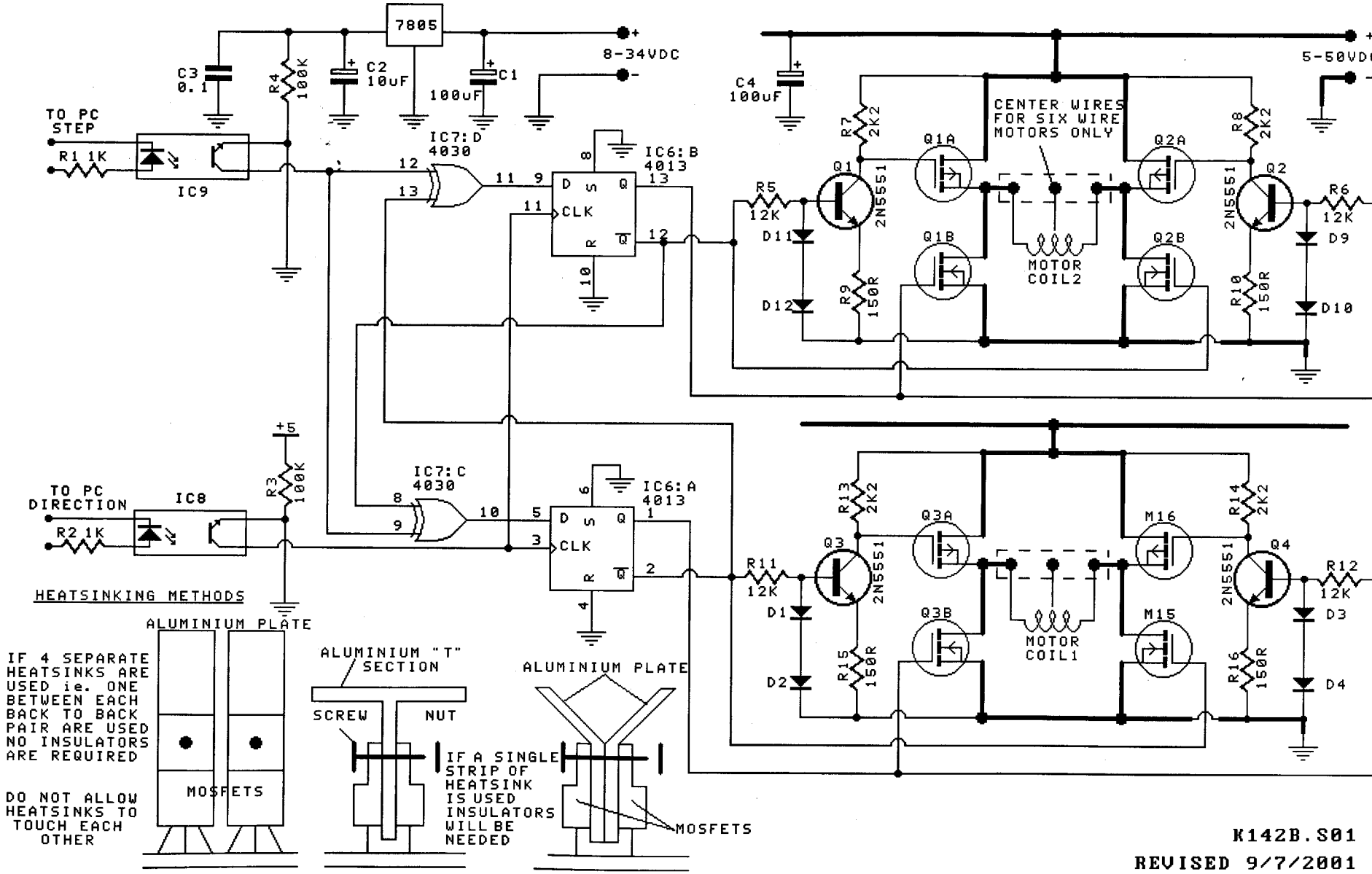
SOFTWARE

Suitable software for this kit can be downloaded free from the internet. See www.metalworking.com One such program is called DANCAD. Links are provided on our web site www.oatleyelectronics.com





4/6 WIRE STEPPER MOTOR DRIVER KIT



HEATSINKING METHODS

K142B.S01

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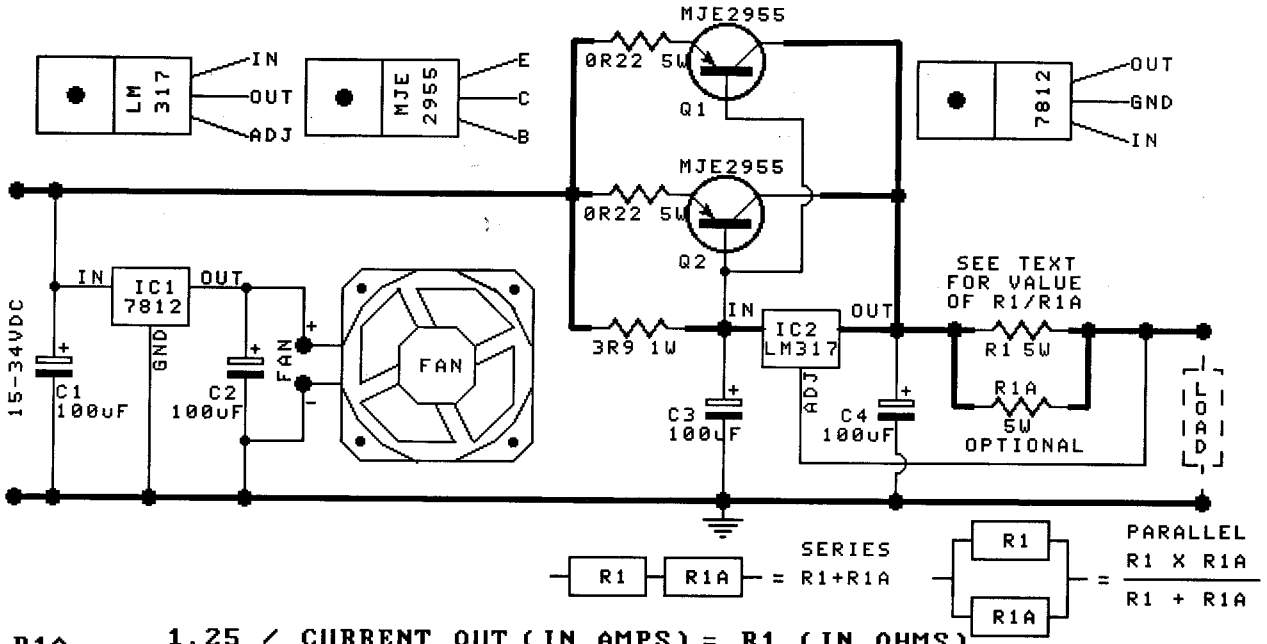
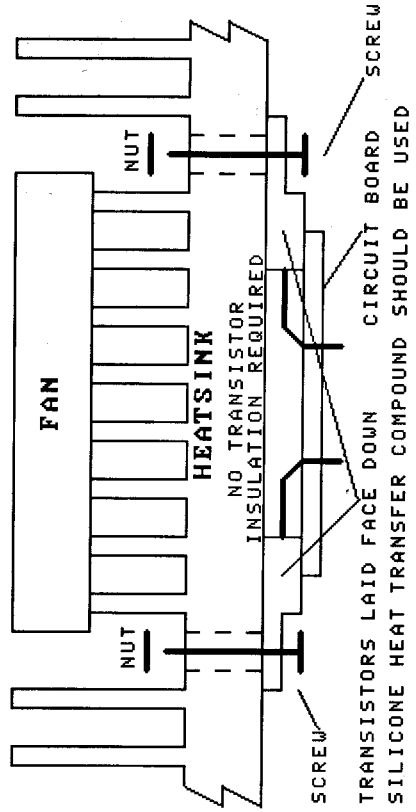
CONSTANT CURRENT SOURCE





1.25 / CURRENT OUT (IN AMPS) = R1 (IN OHMS)

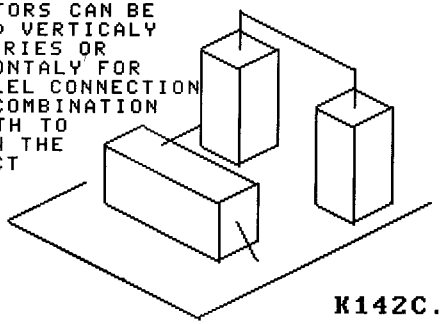
5W RESISTORS HAVE A WIDE TOLLARENCE AND IT MAY BE HARD TO ATTAIN HIGH ACCURACY. SOME VALUES MAY NEED TRIMMING.

PARALLEL RESISTOR VALUES

R1A PARALLEL	0R2	0R32	0R57	1R1	1R3	1R6	2R3	3R4	4R8	5R7	SERIES RESISTOR VALUES
R1	0R1	0R44	0R67	1R22	1R42	1R72	2R42	3R52	4R92	5R82	0R1
0R1	0R05	0R22	0R94	1R47	1R67	1R97	2R67	4R77	5R17	6R07	0R22
0R22	0R068	0R110	0R47	2R0	2R2	2R5	3R2	4R3	5R7	6R6	0R47
0R47	0R082	0R149	0R235	1R0	2R4	2R7	3R4	4R5	5R9	6R8	1R0
1R0	0.090	0.180	0R319	0R500	1R2	3R0	3R7	4R8	6R2	7R1	1R2
1R2	0R092	0R185	0R337	0R545	0R600	1R5	4R4	5R5	6R9	7R8	1R5
1R5	0R093	0R191	0R357	0R600	0.666	0R750	2R2	6R6	8R0	8R9	2R2
2R2	0R095	0R200	0R387	0R687	0R776	0R891	1R1	3R3	9R4	11R3	3R3
3R3	0R096	0R206	0R411	0R767	0R880	1R03	1R32	1R65	4R7	11R2	4R7
4R7	0R097	0R210	0R427	0R824	0R955	1R13	1R49	1R93	2R35	5R6	5R6
5R6	0R098	0R211	0R43	0R848	0R988	1R18	1R57	2R07	2R55	2R8	

SERIES

RESISTORS CAN BE PLACED VERTICALY FOR SERIES OR HORIZONTALY FOR PARALLEL CONNECTION OR A COMBINATION OF BOTH TO ATTAIN THE CORRECT VALUE.



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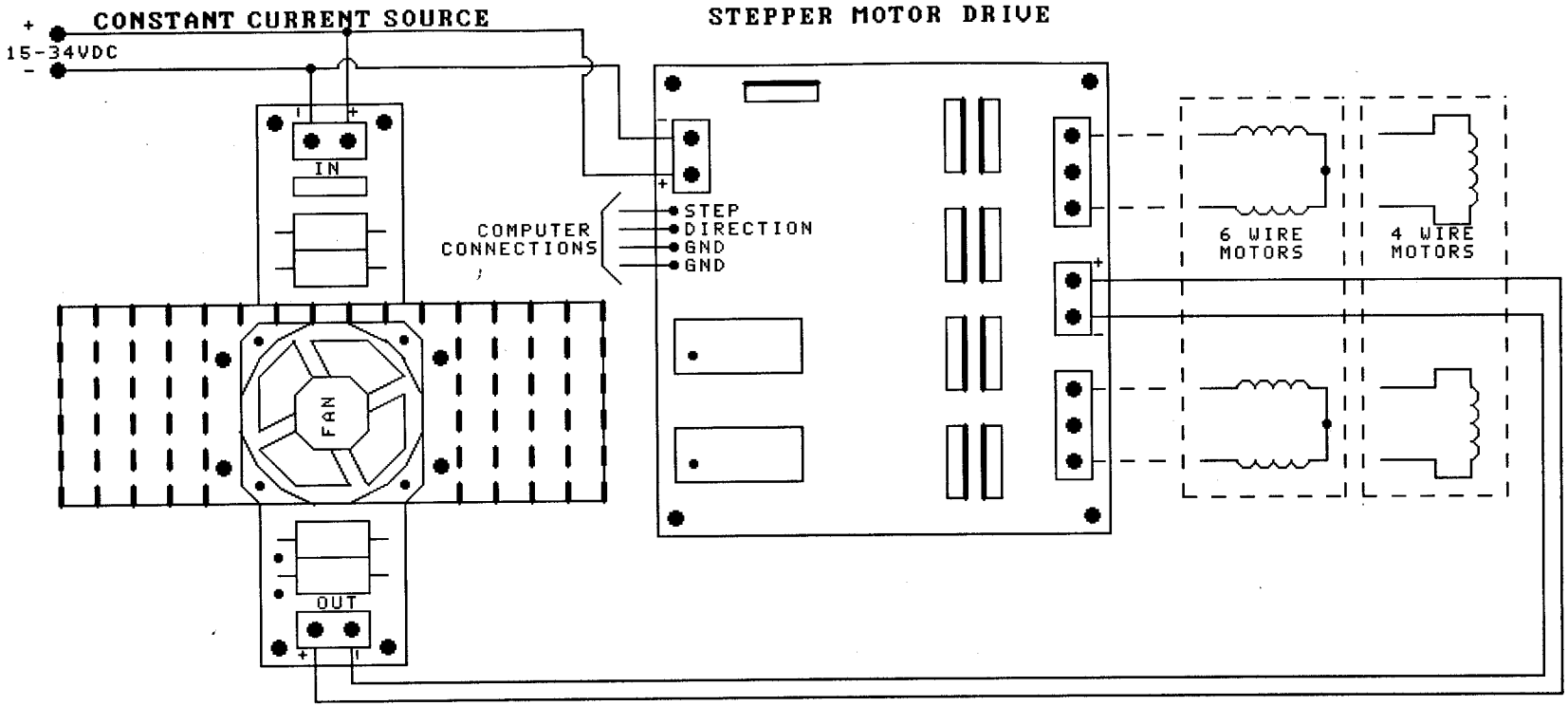

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