

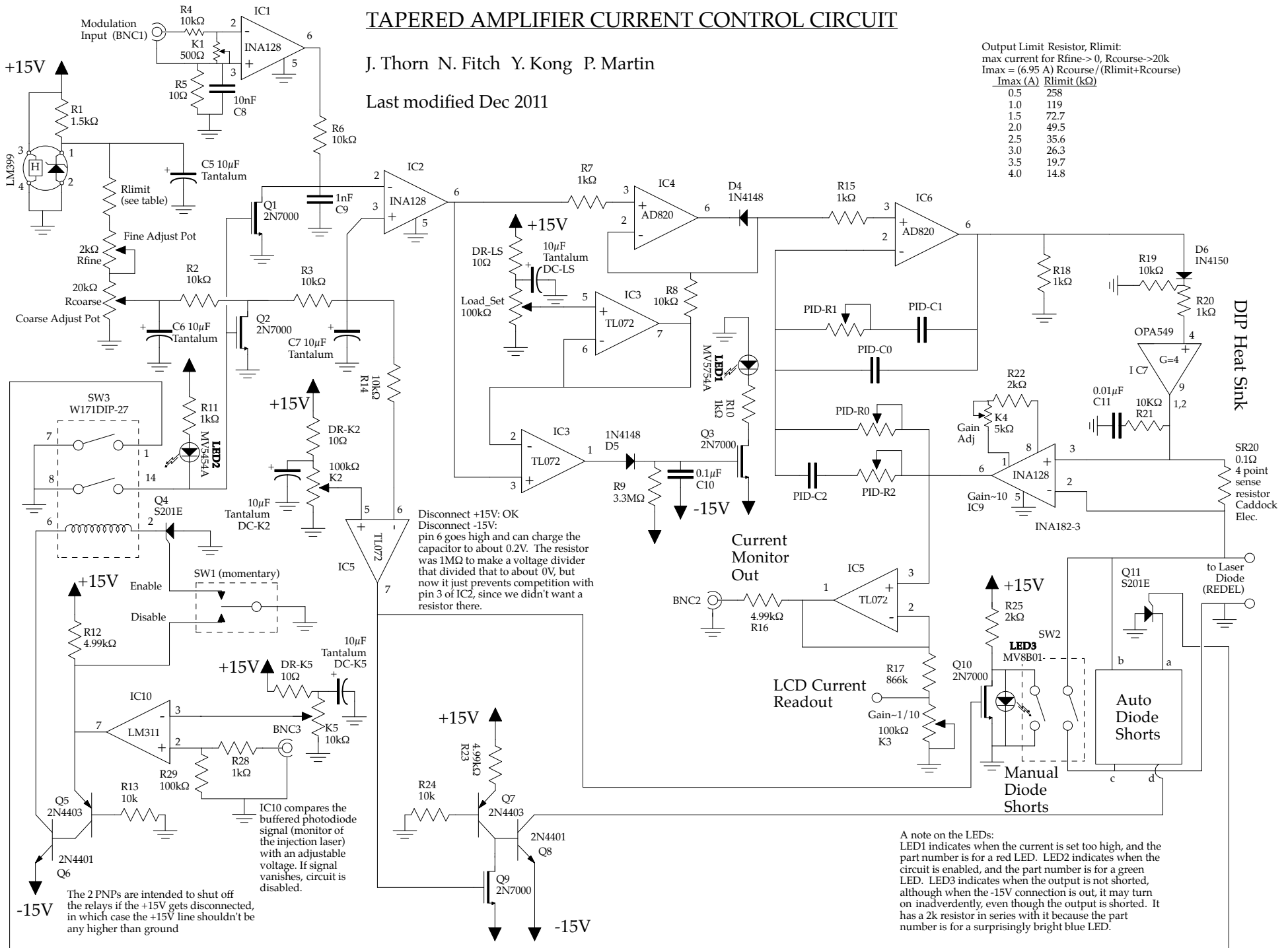
TAPERED AMPLIFIER CURRENT CONTROL CIRCUIT

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Output Limit Resistor, Rlimit:
 max current for Rfine-> 0, Rcourse->20k
 $I_{max} = (6.95 A) R_{course} / (R_{limit} + R_{course})$

<u>I_{max} (A)</u>	<u>R_{limit} (kΩ)</u>
0.5	258
1.0	119
1.5	72.7
2.0	49.5
2.5	35.6
3.0	26.3
3.5	19.7
4.0	14.8



Disconnect +15V: OK
 Disconnect -15V:
 pin 6 goes high and can charge the capacitor to about 0.2V. The resistor was 1MΩ to make a voltage divider that divided that to about 0V, but now it just prevents competition with pin 3 of IC2, since we didn't want a resistor there.

The 2 PNPs are intended to shut off the relays if the +15V gets disconnected, in which case the +15V line shouldn't be any higher than ground

A note on the LEDs:
 LED1 indicates when the current is set too high, and the part number is for a red LED. LED2 indicates when the circuit is enabled, and the part number is for a green LED. LED3 indicates when the output is not shorted, although when the -15V connection is out, it may turn on inadvertently, even though the output is shorted. It has a 2k resistor in series with it because the part number is for a surprisingly bright blue LED.

DIP Heat Sink

4 point sense resistor Caddock Elec.

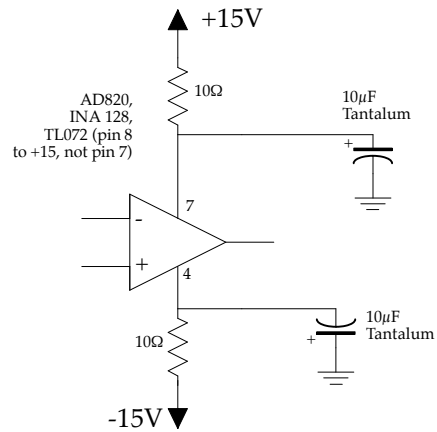
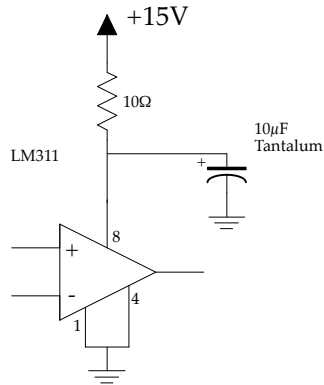
Auto Diode Shorts

Manual Diode Shorts

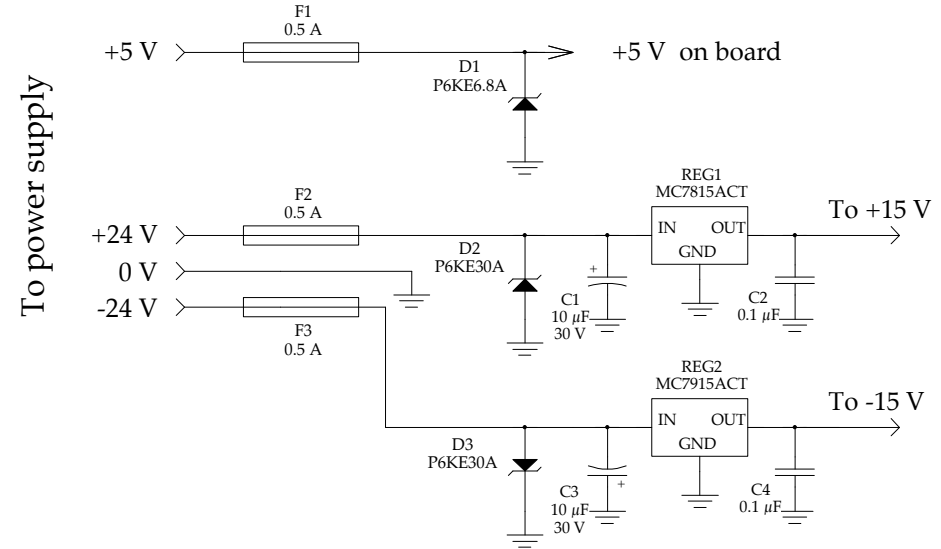
Current Monitor Out

LCD Current Readout

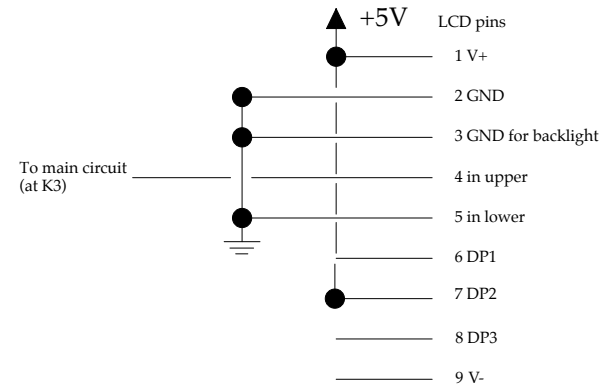
ADDITIONAL CONNECTIONS



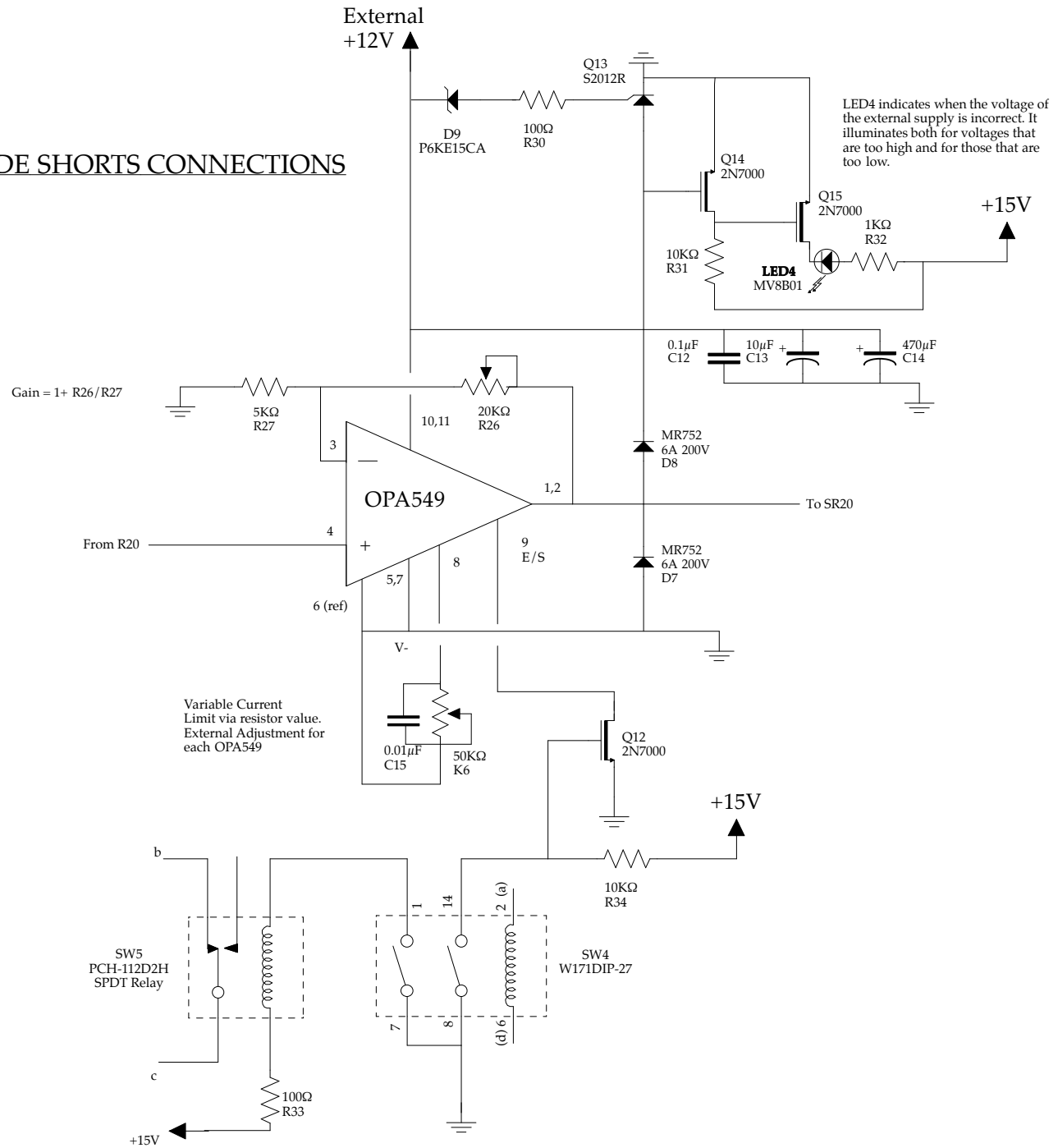
POWER CONNECTIONS



LCD CONNECTIONS



ADDITIONAL OPA549 & DIODE SHORTS CONNECTIONS



OPA549 Current Limit Table
(determined by resistance between pins 6 and 8, see data sheet)

Resistance	Current Limit (Amps)
Open	0
22.6 K	2.5
17.4 K	3
11.3 K	4
7.5 K	5
4.99 K	6
3.24 K	7
1.87 K	8
845	9
connected	10