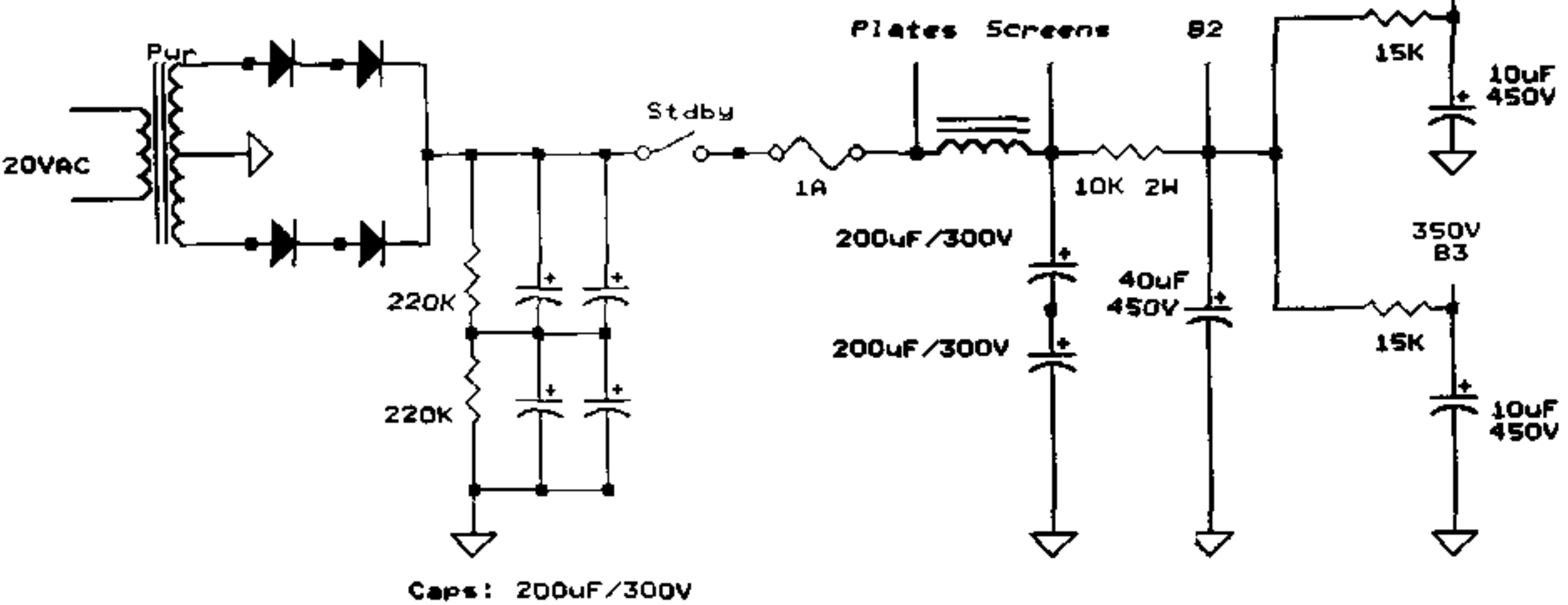


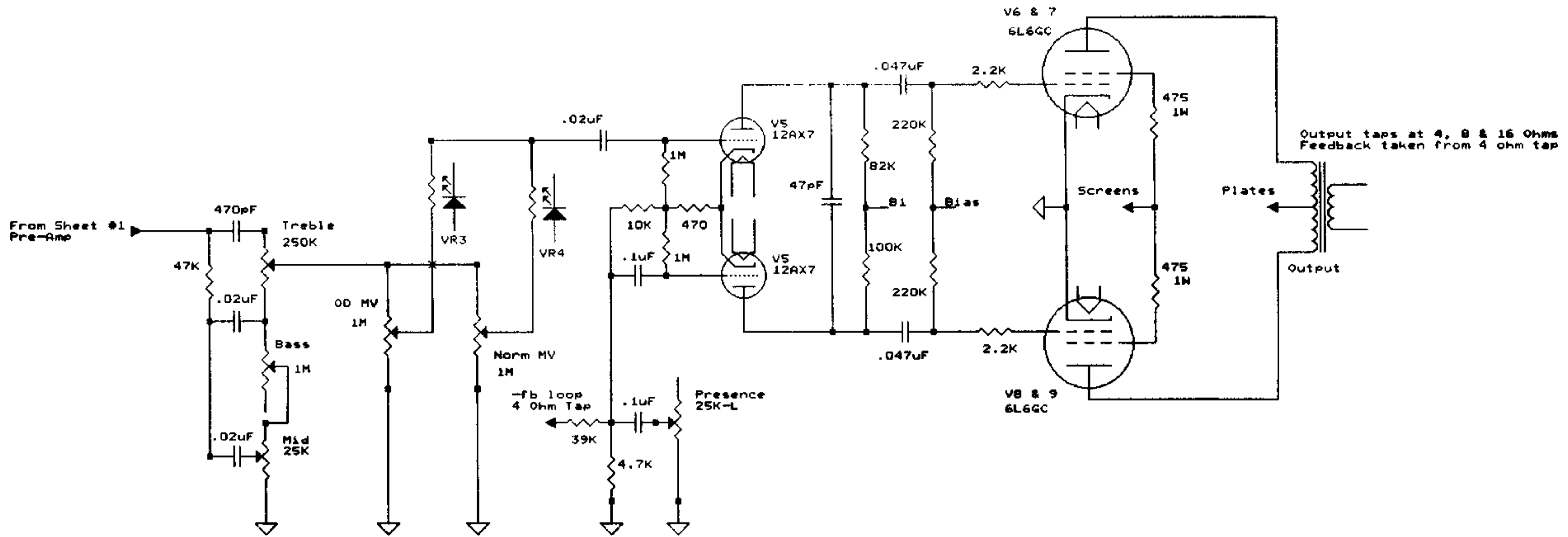
Note: Place 1K parallel to RL to reduce FX send lvl to 0dBm
Add 25uF to Rk of Return amp marked "a".

To Sheet #2
Power Amp

Simplified Pur Supply



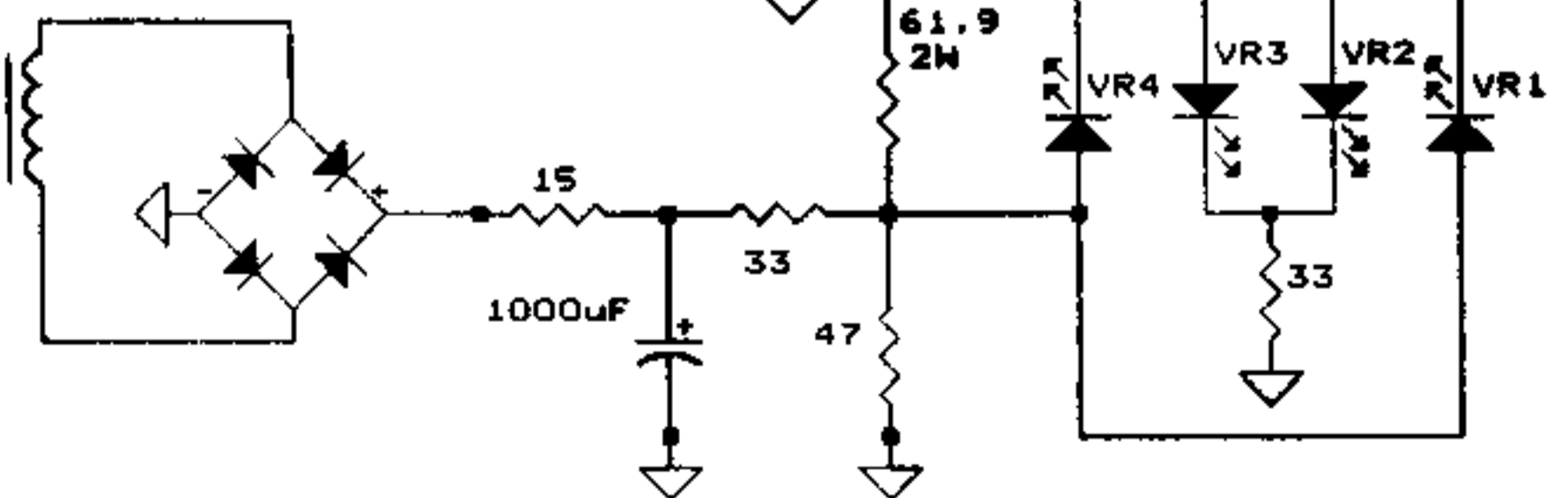
Optoisolators V1-4 are VATEC VTLS1		Soldano Super Lead Overdrive 100W	
OD Mode: VR 2 & 3 ON			
Clean: VR 1 & 4 ON			
SIZE	FSCM NO	DWG NO	REV
B		1	A
March 15, 1996		SCALE	SHEET 1 of 2



Output taps at 4, 8 & 16 Ohms
Feedback taken from 4 ohm tap

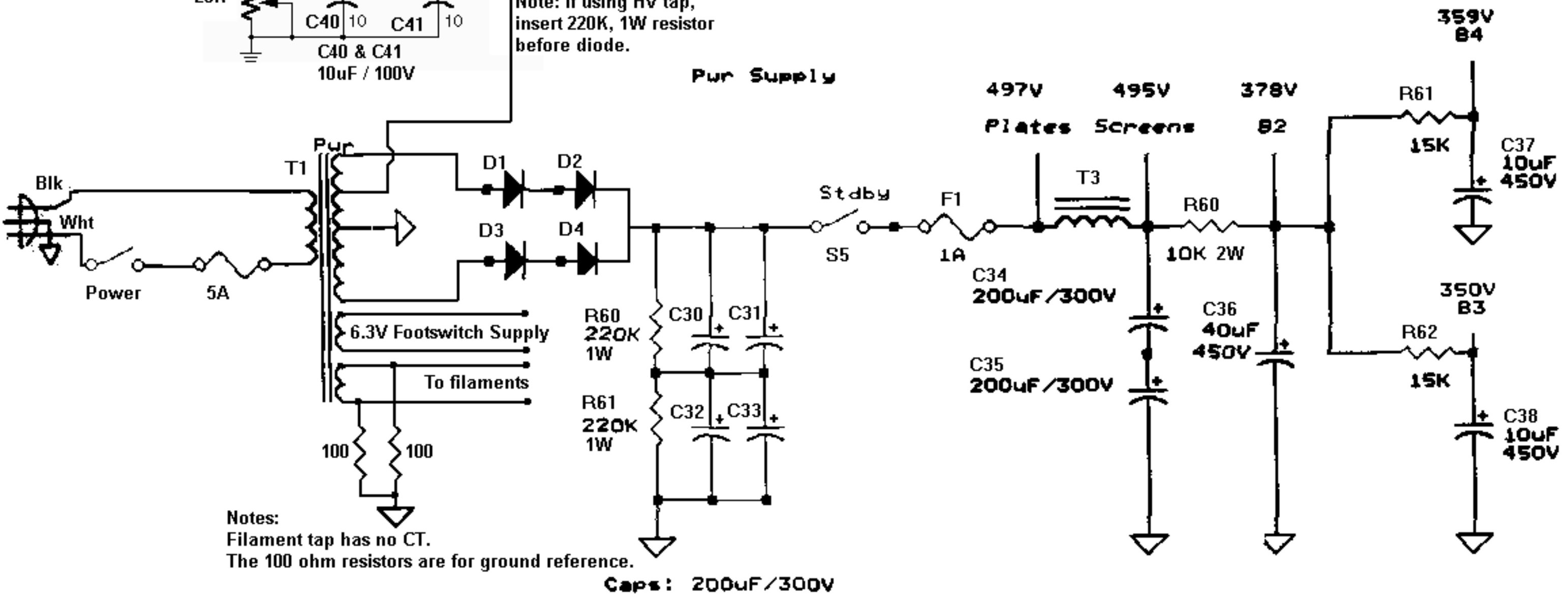
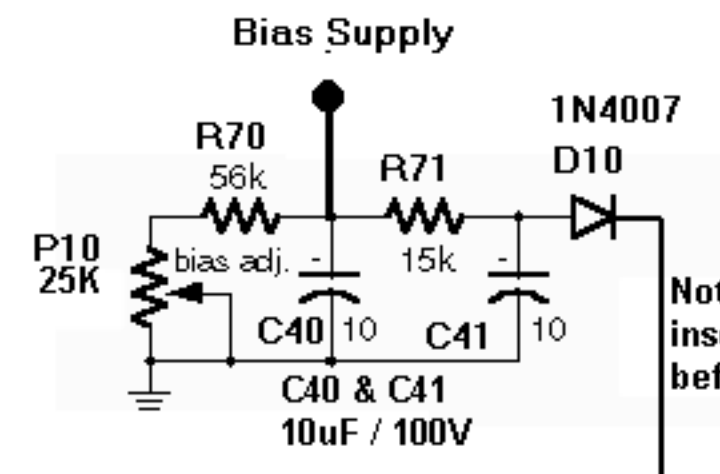
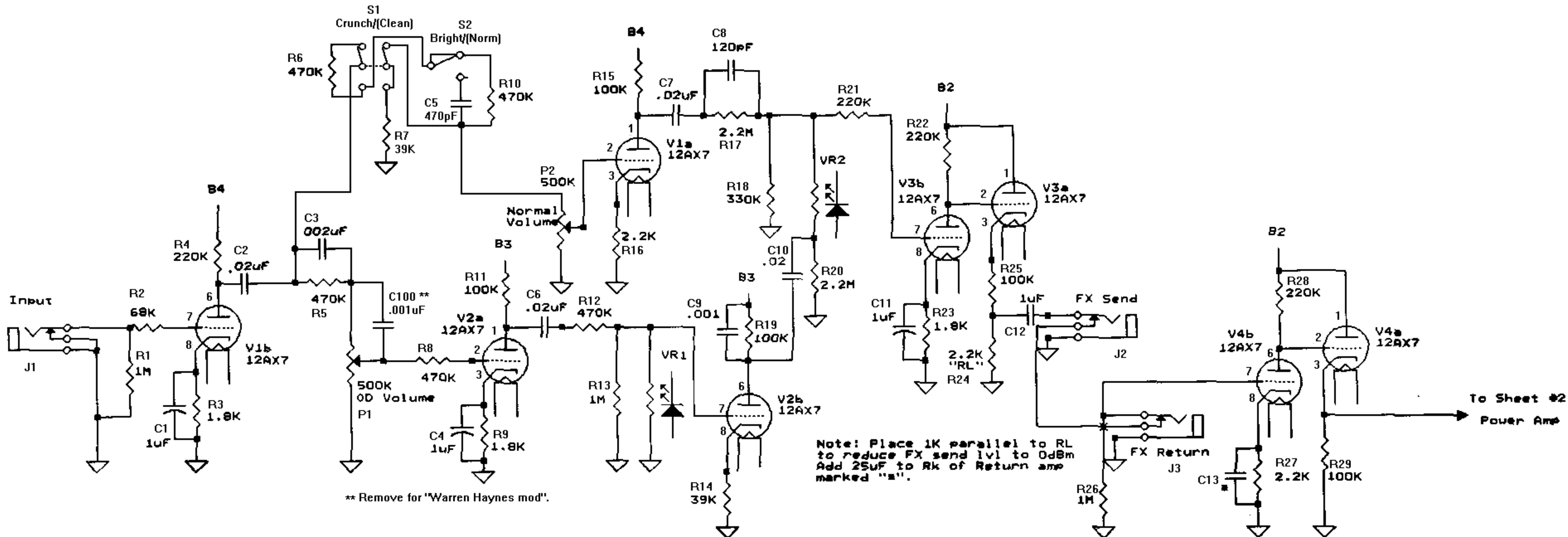
Footswitch Circuit

Separate 6.3V Winding on PT



OD Mode: SW open, VR 2 & 3 ON
Clean Mode: SW closed, VR 1 & 4 ON

VR 1-4, VATEC VTLSC1		Soldano Super Lead Overdrive 100W		
Caps 400V				
Resistors 1/2W				
March 15, 1996		SIZE B	FSCM NO	DWG NO 1
SCALE		SHEET 2 of 2		REV A



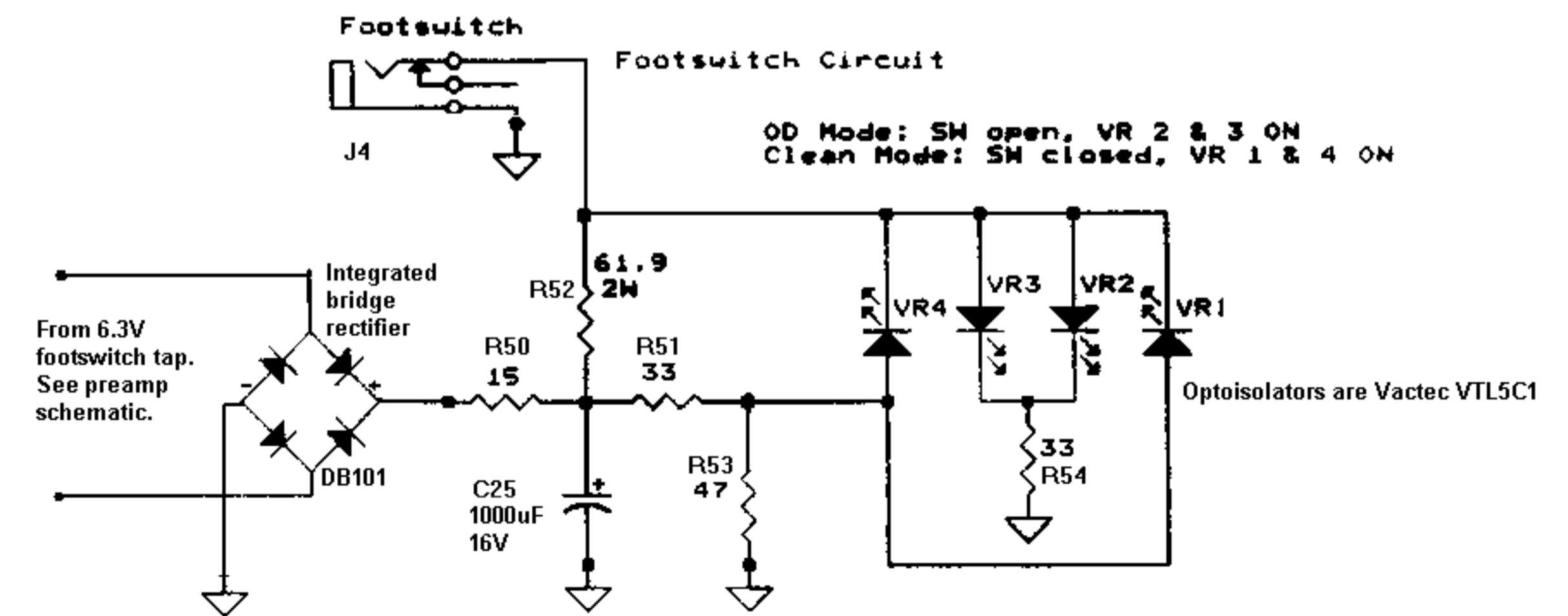
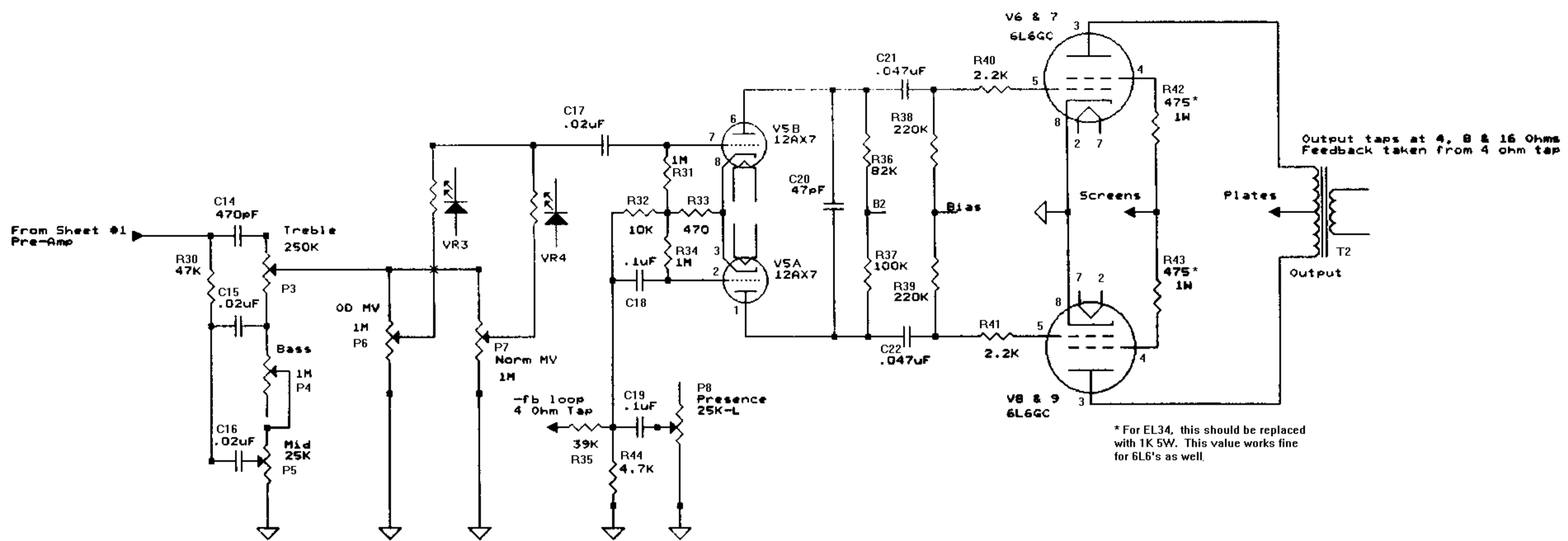
Optoisolators are Vactec VTL5C1

OD Mode: VR 2 & 3 ON
Clean: VR 1 & 4 ON

All resistors metal film, 1/2W, 1% unless otherwise noted.

All caps .002 and below are dipped ceramic

Soldano Super Lead Overdrive 100W			
SIZE	FSCM NO	DWG NO	REV
B		1	A
March 15, 1996		SCALE	SHEET 1 of 2



Optoisolators are Vactec VTL5C1		Soldano Super Lead Overdrive 100W		
Caps 400V		Resistors 1/2W		
March 15, 1996	SCALE	SIZE B	FSCM NO	DWG NO 1
		SHEET 2 of 2		REV A

slo100not.txt

Unless otherwise noted these articles and reference materials are my own original creations and are provided "as-is" strictly for educational purposes. While I have been pleased with the results of many of these projects, your tastes may be different or your results may be quite unlike my own. There are dangerously high voltages inside a tube amp so do not attempt any of the amp projects discussed on this site unless you are thoroughly familiar with the proper safety procedures.

* * * * *
Soldano SLO 100 Mods:
* * * * *

Here's a number of mods I did on a Soldano SLO100, this is not a "how-to" guide. You can use one mod or several to get the sound you're looking for. The basic idea behind the mods was to make the lead channel brown and less aggressive /sharp. There a few things I'd like to say before going through the mods.

Most people that come to me to have an amp modded ask for more gain expecting to get more tone. Unfortunately it's not that simple, IMHO amp tone is not so much about preamp distortion but more about the combination of the preamp and the poweramp distortion (and PS and speakers and ...etc).

Tone shaping is very important in higher gain amps. Too much bass before the distortion stage and the amp can get muddy, too much high after the distortion stage and the amp will sound sharp. That's basically what these mode are about; getting rid off some bass and highs.

Mod 1. This "mod" is easy but also very effective. To get a smoother sound out of the lead channel replace V2 (see schematic) with a Tesla 12AX7 or a Groove Tubes ECC83. Of course changing other tubes in the preamp will also change sound but changing this tube gives the greatest change.

Mod 2. To lose some bass I changed the coupling cap of V2a from 22n to 2n2. I also changed the coupling cap of V1a to a smaller value, you might not want to do this for it also affects the clean/ crunch channel.

Mod 3. You could also change the decoupling cap of V2a from 1uF to .47 How much bass you need too lose depends on your situation (guitar, playing style, cabs, etc).

Mod 4. To make the clipping of V2 sound a bit less radical change the cathode resistor of V2b to 10K.

Mod 5. To get a brown sound out of the lead channel I lowered the voltages for V2 to about 200V.

Mod 6. Removing the 2n2 cap that's placed across the 470k resistor (after V1's coupling cap) will reduce mid / high frequency response.

Mod 7. Lowering the value of the 470k resistor placed after the coupling cap of V2a will increase gain. I wouldn't do this but is possible.

Mod 8. Soldano already used the large 470k resistor going from the gain pot to the grid of V2a, this resistor rolls of highs (in combination with the miller capacitance. You could use a similar resistor in other stages to get the same effect.

Mod 9. Note that the clean/crunch channel is also in when you use the lead channel. The lead and clean channel are not in-phase with each other. Though the level of the clean channel is much lower than the lead channel's level the effect is still audible. I used an extra optocoupler to switch the clean channel out of the signal path when the lead channel is selected.

Mod 10. This isn't a mod I used but it might be useful it can also be used in other amps (like most of the mods above) by placing a small cap (let's say 470p) across the 470k resistors that are in series with the coupling cap you will get more highs / edge in your distorted sound.

Mod 11. Well you can't really call it a mod but changing the powertubes will also greatly change

the amps character. I changed to GT KT66, this gives a great combination of a EL34-like edge and crunch and a fat 6L6 sound.

I hope the mods I described will get you closer to the tones of your dreams. The best way to get to 'your' tone is by taking it one step at the time, only doing one mod and then listen how it worked out. Then do the next until you find what you like, the values of caps and resistors mentioned above worked good for me, you can change them to your desires. Doing this will require some theoretical knowledge.

Best Regards,

Dennis Claessens D.C. Amplification

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From AMPAGE Tech Talk BBS 01/13/00

Q: "With the OD channel active, is the signal from the Clean channel also present?"

Yes it is Steve and it is out of phase. But it is so swamped by the lead channel that I don't find that it is significant.

Q: "Isn't there a "Warren Haynes" mod for the SLO100? I just saw it on my hard drive last week but have not been able to find it again. 8-("

The "Warren Haynes" mod is simply the removal of the .001uF cap that bypasses the OD Lead Volume pot. This cap is missing on your drawing so it's basically the "Warren Haynes" mod as is.

Q: "BTW Dennis Claessens sent me some notes on modding the SLO100 that I posted as..."

Cool stuff and thanks for posting it! I've done 3 clones and one that I built for a friend I used Tesla and EI preamp tubes in it with great success. My favorite preamp tubes so far are some old RCA/Fender pulls and one particular NOS Tungsol 12AX7/A I had hanging around the shop at work that we were about to throw out. The Teslas were a bit weak on gain but had nice tone. Here is a quick clip I did to demo the amp for my friend right before I shipped it to him - <http://www.communique.net/~jlemoine/rapsamp.mp3>. No EQ was used on the recording and it was done on a homemade 2-12 cab loaded with 12T-75s using an SM58b mike right here in the living room.

BTW, I have gotten good pics of the SLO and was able to proof the schematic. I have already mentioned the missing .001uF cap bypassing the OD Volume pot. In addition, the feed to the Clean channel is connected to the point BEFORE the paralleled .002uF/470K, not after it like the Lead channel. The 100uF filter cap in the Opto supply is actually 1000uF.

A few other quick notes:

All caps .002uF and smaller are ceramic. All electrolytics are Mallory TC series. All coupling caps are 400v Mallory PVC mylar/polyester types which I think are about the same as Sprague 225P/418P. The exceptions are the 1uF cathode bypass caps which are marked Philips 1/100. That confuses me because the only caps that I can find that Philips sells are ceramics and they do make a 1uF/50v ceramic. I just used some poly CDEs as subs and they work just fine.

Good info for anyone interested in building one. Cap types do make a difference in sound. I went thru the amp trying different types of ceramic and poly on a switch and there were big differences between the two. It's all a matter of tastes as to which is better.

..Joe L

slo100.txt

slo100_1.gif [original drawing w/ some corrections (preamp)]
slo100_2.gif [original drawing w/ some corrections (power amp)]
slo100pr.gif [revised drawing w/ many corrections (preamp)]
slo100pw.gif [revised drawing w/ many corrections (power amp)]
slo_notz.txt [many notes and comments about the SLO 100]