

Test Point tip Jacks (in red):

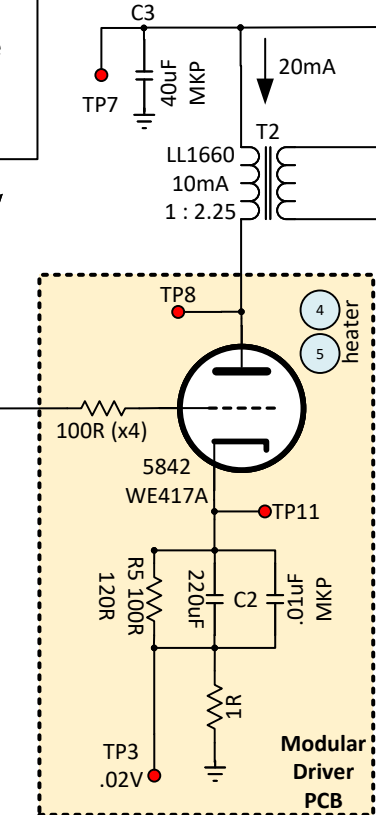
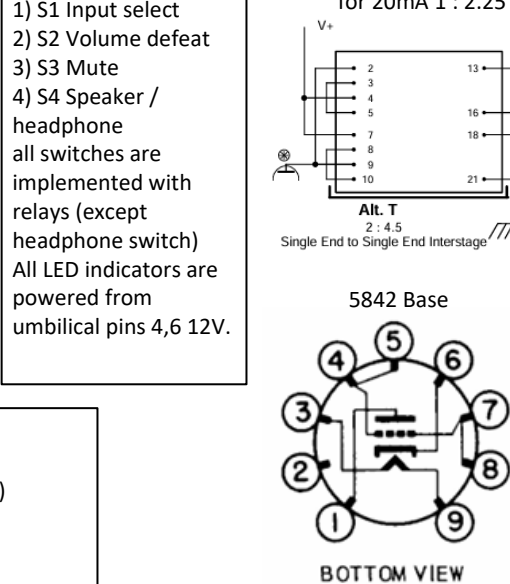
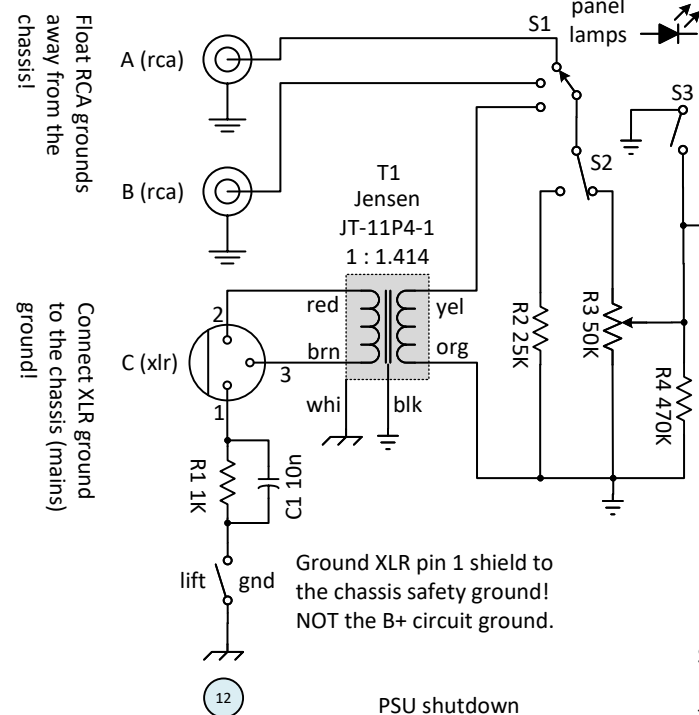
- TP1A – red/blk – 300B filament voltage 1
- TP1B – red/blk – 300B filament voltage 2
- TP2A – blu/yel – 300B pass current 1
- TP2B – blu/yel – 300B pass current 2
- TP3 – blu/yel – driver tube pass current
- TP4 – blu/yel – bias voltage
- TP5 – red/yel – 300B anode voltage
- TP6 – red/yel – B+ voltage
- TP7 – red/yel – driver B+ voltage
- TP8 – red/yel – driver anode voltage
- TP9 – grn chassis (mains) ground
- TP10 – yel circuit ground
- TP11 – driver cathode voltage

Switches:

- 1) S1 Input select
 - 2) S2 Volume defeat
 - 3) S3 Mute
 - 4) S4 Speaker / headphone
- all switches are implemented with relays (except headphone switch)
All LED indicators are powered from umbilical pins 4,6 12V.

Calibration Procedure (verify this after build):

- TP6 – set PSU to 0V
- TP4 – set coarse bias fully counter clockwise (max negative bias)
- TP1A – set Coleman to 5V
- TP1B – set Coleman to 5V
- TP6 – set PSU to 380V
- TP2A and TP2B – set coarse bias so these are nearly matched at .07V
- TP2A and TP2B – set fine bias so these are nearly matched at .07V
- Repeat above two steps as needed to get .07V as matched as possible
- TP3 – verify driver current it should be about .02V
- TP4 – verify bias voltage it should be about -85V (verify after)?
- Verify all other test points for reasonableness



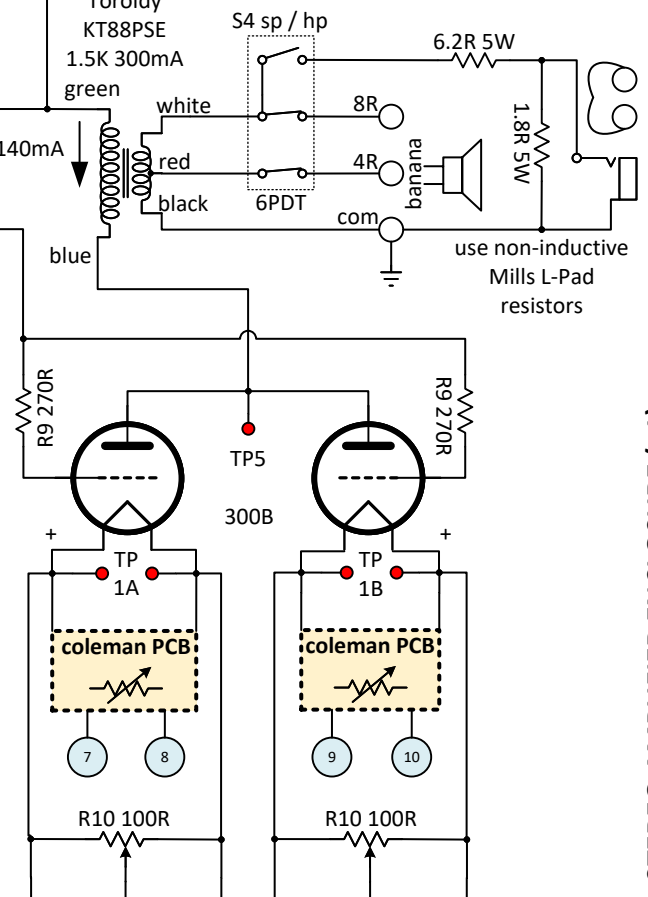
Standardize driver PCB size and mounting so a variety of other tubes/driver circuits can be tried/ swapped with another PCB.

select an upper limit resistor that prevents the pot from outputting higher than -50V to 0V (too hot) of a bias voltage.

coarse bias adjust (both tubes)
10K 2W 10 turn
Bourns 3590P-2-103L

fine bias adjust (each tube)
100R 2W 1 turn
Bourns 93R1A-R22-A05L

wire filaments so a yearly tube swap will reverse previous socket polarity.
Hand match all resistors here especially current sense resistors.

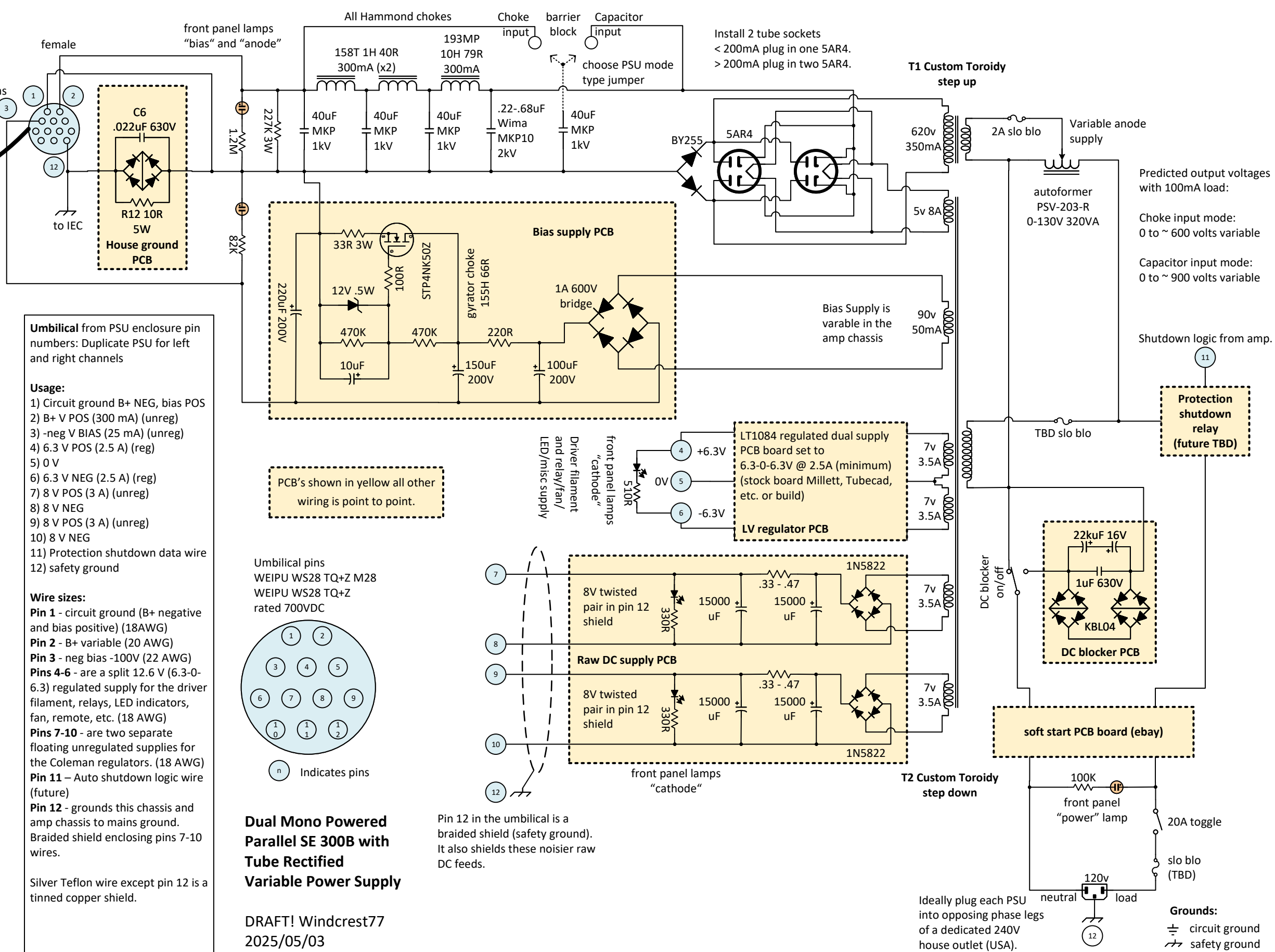


STEREO AMPLIFIER ENCLOSURE (x1)
POWER SUPPLY ENCLOSURE (x2)

- Usage:**
- 1) Circuit ground B+ NEG, bias POS
 - 2) B+ V POS (300 mA) (unreg)
 - 3) -neg V BIAS (25 mA) (unreg)
 - 4) 6.3 V POS (2.5 A) (reg)
 - 5) 0 V
 - 6) 6.3 V NEG (2.5 A) (reg)
 - 7) 8 V POS (3 A) (unreg)
 - 8) 8 V NEG
 - 9) 8 V POS (3 A) (unreg)
 - 10) 8 V NEG
 - 11) Protection shutdown data wire
 - 12) safety ground
- Wire sizes:**
- Pin 1 - circuit ground (B+ negative and bias positive) (18AWG)
 - Pin 2 - B+ variable (20 AWG)
 - Pin 3 - neg bias -100V (22 AWG)
 - Pins 4-6 - are a split 12.6 V (6.3-0-6.3) regulated supply for the driver filament, relays, LED indicators, fan, remote, etc. (18 AWG)
 - Pins 7-10 - are two separate floating unregulated supplies for the Coleman regulators. (18 AWG)
 - Pin 11 – Auto shutdown logic wire (future)
 - Pin 12 - grounds this chassis and amp chassis to mains ground. Braided shield enclosing pins 7-10 wires.
- Silver Teflon wire except pin 12 is a tinned copper shield.

Dual Mono Powered Parallel SE 300B with Tube Rectified Variable Power Supply

DRAFT! Windcrest77
2025/05/03



Predicted output voltages with 100mA load:

- Choke input mode: 0 to ~ 600 volts variable
- Capacitor input mode: 0 to ~ 900 volts variable
- Shutdown logic from amp.

Grounds:

- circuit ground
- safety ground