

Tubelab Universal Driver Board Parts List:

RESISTORS:

| LOC | WATT | VALUE | Digikey # | |
|-----|---------|------------|--------------|--|
| R1 | .25W | 221K | | |
| R2 | .25W | 1K | | |
| R3 | .25W | 100 ohm | | |
| R4 | Trimmer | 1K | 3309P-102-ND | |
| R5 | .25W | 1K | | |
| R6 | 2W | 150K | | Plate load for V1, value depends on B++ supply voltage and tube choice |
| R7 | 2W | 150K | | Plate load for V1, value depends on B++ supply voltage and tube choice |
| R8 | .25W | 1K | | |
| R9 | Note 1 | Note 1 | | Value depends on NEGATIVE MOS supply voltage, need 1 to 2 mA, so 500 ohms to 1 K per volt |
| R10 | Trimmer | 100K | 3309P-104-ND | |
| R11 | Note 2 | Note 2 | | Value depends on POSITIVE MOS supply voltage, need 1 to 2 mA, so 500 ohms to 1 K per volt |
| R12 | .25W | 100 ohm | | |
| R13 | Trimmer | 1k | 3309P-102-ND | |
| R14 | .25W | 1K | | |
| R15 | .25W | 1K | | |
| R16 | .25W | 1K | | |
| R17 | 2W | 24K | | Plate load for V2, value depends on B++ supply voltage and tube choice |
| R18 | 2W | 24K | | Plate load for V2, value depends on B++ supply voltage and tube choice |
| R19 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R20 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R21 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R22 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R23 | 2W | 10K | | |
| R24 | Note 4 | Note 4 | | R24 and R33 set the maximum NEGATIVE bias voltage Not used (open) for screen drive (positive grid) |
| R25 | Note 4 | Note 4 | | R25 and R34 set the minimum POSITIVE grid voltage for screen drive. Not used for G1 drive |
| R26 | Note 4 | Note 4 | | R26 and R36 set the negative voltage reached when the bias is set for maximum tube current. Typically not used in screen drive |
| R27 | Note 4 | Note 4 | | R27 and R35 set the positive voltage reached when the bias is set for maximum tube current. Typically not used in G1 drive |
| R28 | .25W | 470K | | |
| R29 | .25W | 1K | | |
| R30 | 2W | 10K to 33K | | Sets the idle current through the mosfet. You want 10 to 20 mA at idle, less if there is a secondary current path like a screen grid |
| R31 | .25W | 1k | | |
| R32 | .25W | 470K | | |
| R33 | Note 4 | Note 4 | | R24 and R33 set the maximum NEGATIVE bias voltage Not used (open) for screen drive (positive grid) |
| R34 | Note 4 | Note 4 | | R25 and R34 set the minimum POSITIVE grid voltage for screen drive. Not used for G1 drive |
| R35 | Note 4 | Note 4 | | R27 and R35 set the positive voltage reached when the bias is set for maximum tube current. Typically not used in G1 drive |
| R36 | Note 4 | Note 4 | | R26 and R36 set the negative voltage reached when the bias is set for maximum tube current. Typically not used in screen drive |
| R37 | Trimmer | 100K | 3309P-104-ND | |
| R38 | 2W | 10K to 33K | | Sets the idle current through the mosfet. You want 10 to 20 mA at idle, less if there is a secondary current path like a screen grid |

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|------|----------------------------------|-------------|--------------|--|
| R39 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R40 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R41 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R42 | Note 3 | Note 3 | | Experimental feedback resistors from output tube plates. Each resistor must be rated for the full output stage B+ voltage. |
| R43 | Trimmer | 100K | 3309P-104-ND | |
| C1 | | .47uf 630V | Mylar | |
| C2 | | .47uf 630V | | |
| C3 | | 47 uF 450 V | Electrolytic | |
| C4 | | .47uf 630V | | |
| C5 | | .47uf 630V | | |
| C6 | | .1 uF 630 V | coupling cap | |
| C7 | | .1 uF 630 V | coupling cap | |
| C8 | | .47uf 630V | | |
| C9 | | .47uf 630V | | |
| C10 | | .47uf 630V | | |
| IC1 | 10M45 | | | |
| IC2 | 10M45 | | | |
| IC3 | LM4041AIZ-1.2 | | | |
| IC4 | LM4041AIZ-1.2 | | | |
| Q1 | FQP2N60 , NDF02N60, NDF04N60.... | | | You want an N channel 600 volt or higher mosfet with a Crss below 10pF that stays constant over the voltage range used. |
| Q2 | FQP2N60 , NDF02N60, NDF04N60.... | | | These things go extinct in a year or two because better ones appear. Today's choice will not be here for long. |
| LMP1 | NE-2 | | | |
| V1 | 6CG7 | | | |
| V2 | 6CG7 | | | |