

WARNING! - Please Read this Information Carefully:

The project described in these pages utilizes **POTENTIALLY FATAL HIGH VOLTAGES**. If you are in any way unfamiliar with high voltage circuits or are uncomfortable working around high voltages, **PLEASE DO NOT RISK YOUR LIFE BY BUILDING THEM**. Seek help from a competent technician before building any unfamiliar electronics circuit. While efforts are made to ensure accuracy of these circuits, no guarantee is provided, of any kind!

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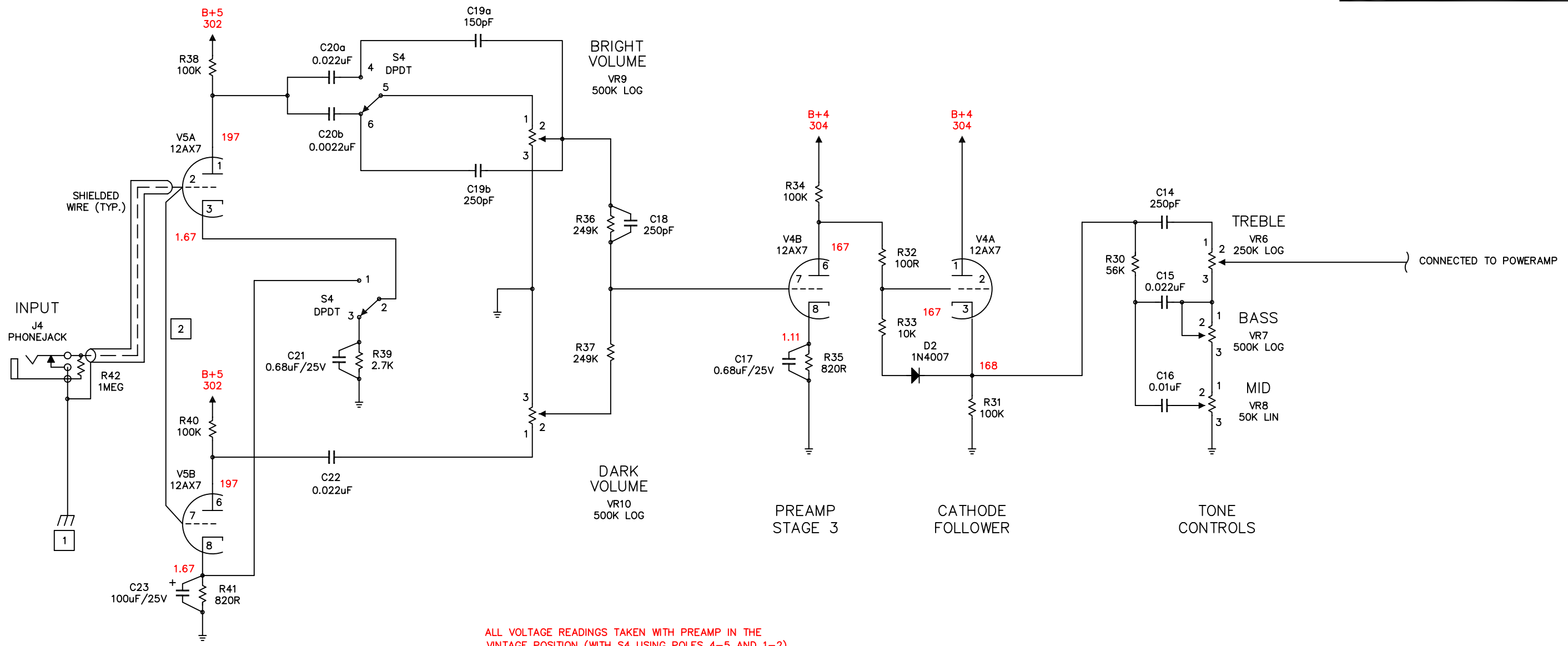
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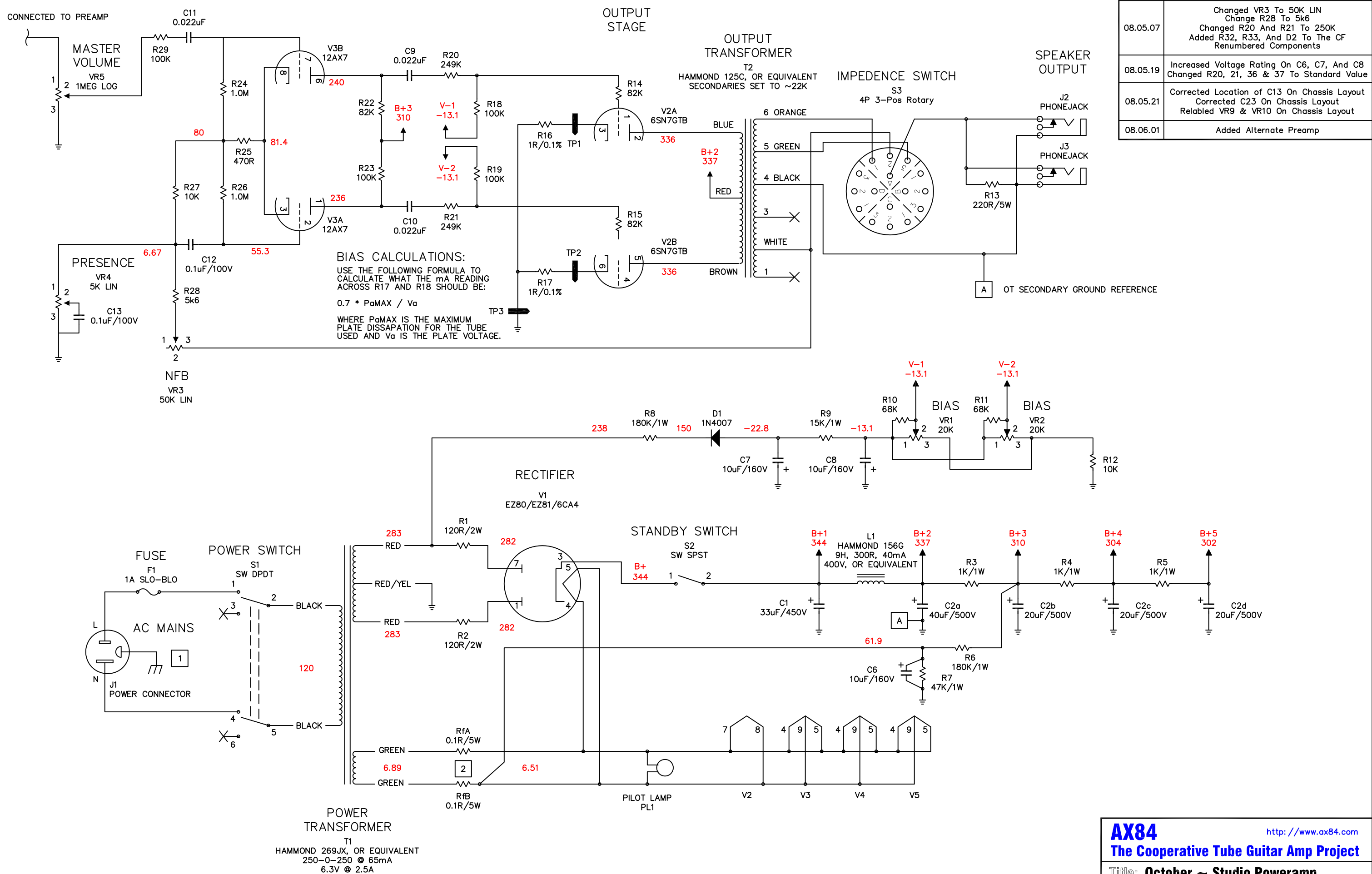
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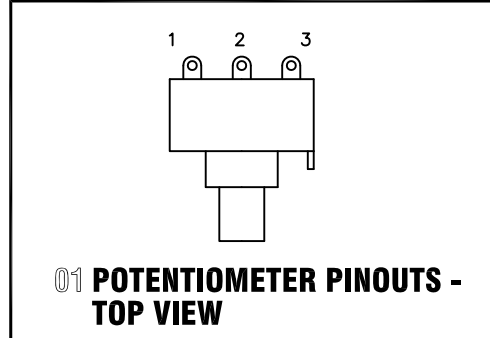
| Revision | Description |
|----------|---|
| 08.05.07 | Changed VR3 To 50K LIN Change R28 To 5k6 Changed R20 And R21 To 250K Added R32, R33, And D2 To The CF Renumbered Components |
| 08.05.19 | Increased Voltage Rating On C6, C7, And C8 Changed R20, 21, 36 & 37 To Standard Value |
| 08.05.21 | Corrected Location of C13 On Chassis Layout Corrected C23 On Chassis Layout Relabelled VR9 & VR10 On Chassis Layout |
| 08.06.01 | Added Alternate Preamp |



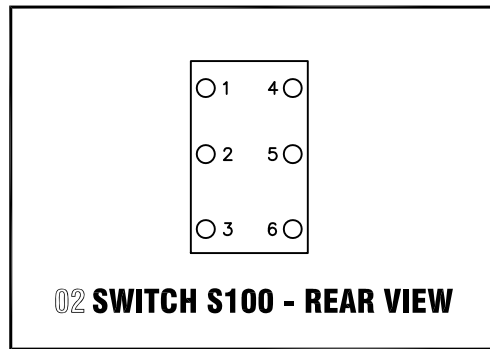
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01 POTENTIOMETER PINOUTS - TOP VIEW



02 SWITCH S100 - REAR VIEW

GENERAL NOTES:

1. ALL RESISTORS 1/2W MINIMUM UNLESS OTHERWISE NOTED.
2. ALL COUPLING CAPACITORS 400V OR GREATER.
3. VOLTAGE READINGS ARE THOSE TAKEN WITH MY TUBE SET. THE USE OF DIFFERENT TUBE SETS WILL ALTER THE READINGS.

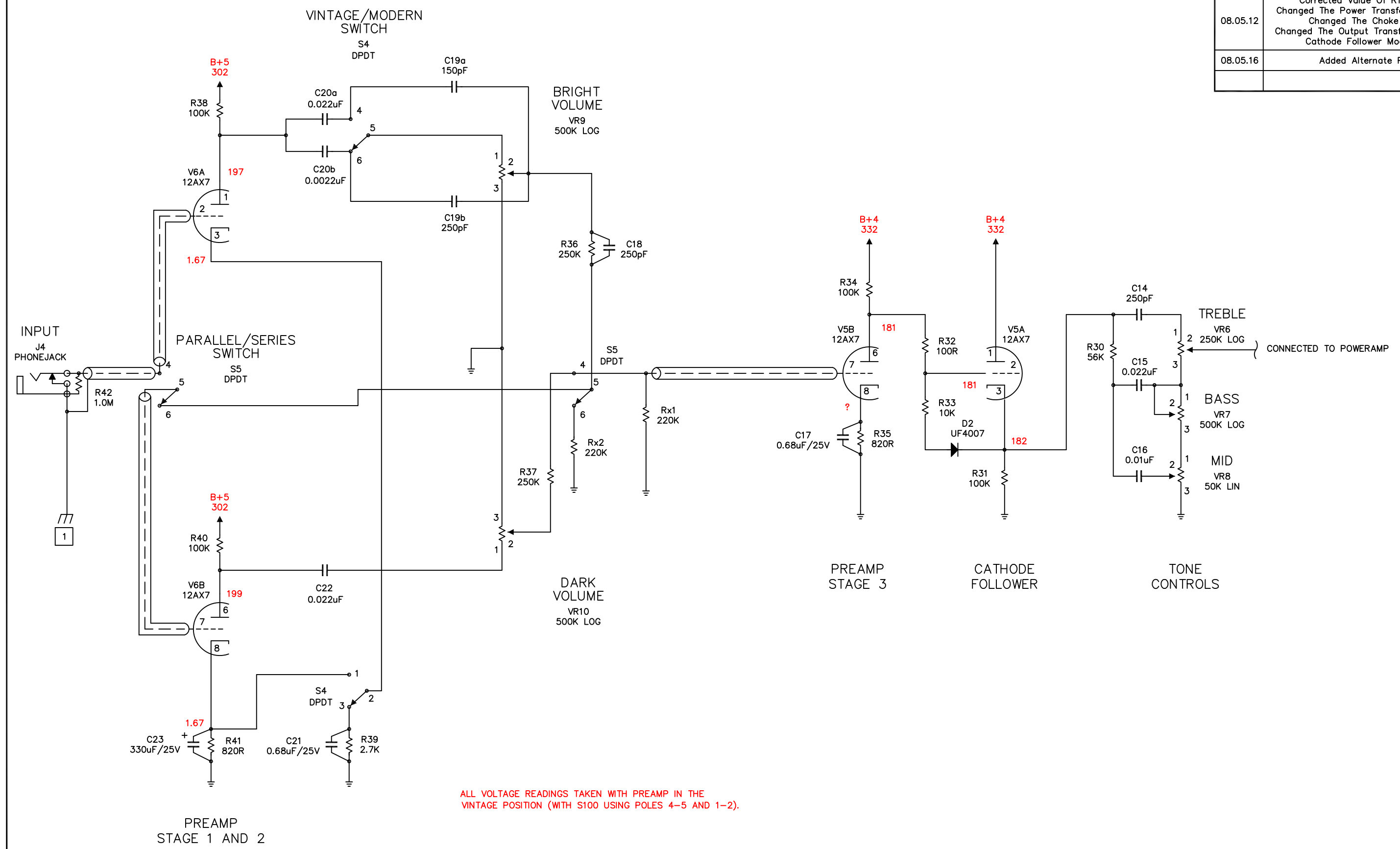
CONSTRUCTION NOTES:

- 1 THIS IS A GROUND CONNECTION TO THE CHASSIS. THE MAINS SAFETY CONNECTION SHOULD BE MADE AS CLOSE AS POSSIBLE TO THE POINT WHERE AC ENTERS THE CHASSIS. THE CIRCUIT CONNECTION SHOULD BE MADE AS CLOSE AS POSSIBLE TO THE INPUT JACK. IDEALLY, THE JACK ITSELF SHOULD BE USED AS THE CONNECTION POINT BY NOT ISOLATING IT FROM THE CHASSIS.
- 2 THESE TWO 0.1R/5W RESISTORS ARE OPTIONAL, AND ARE NEEDED ONLY WHEN YOUR MAINS VOLTAGES ARE GREATER THAN THAT WHICH THE POWER TRANSFORMER WAS WOUND FOR. THE VALUES SHOWN SHOULD BE CORRECT FOR A 115V PT USED WITH 120V MAINS. THE PURPOSE OF THESE TWO RESISTORS IS TO INSURE THAT THE FILAMENT VOLTAGE STAYS WITHIN +/- 10% OF 6.3VAC.

VOLTAGE READING NOTES:

1. THE VOLTAGE READINGS ON THIS SCHEMATIC ARE SIMULATED BASED ON THE USE OF A HAMMOND 269JX WITH 120V MAINS.
2. DIFFERENT TUBES DRAW DIFFERENT AMOUNTS OF CURRENT, NO TWO ARE ALIKE UNLESS THEY ARE MATCHED. THE AMOUNT OF CURRENT DRAWN BY ALL THE TUBES IN THE AMP WILL AFFECT VOLTAGE READINGS THROUGHOUT THE AMP.

| Revision | Description |
|----------|--|
| 08.03.24 | Initial Re-Design |
| 08.05.12 | Corrected Value Of R16 And R17 Changed The Power Transformer To 270EX Changed The Choke To 156G Changed The Output Transformer To 1750E Cathode Follower Modifications |
| 08.05.16 | Added Alternate Preamp |



ALL VOLTAGE READINGS TAKEN WITH PREAMP IN THE VINTAGE POSITION (WITH S100 USING POLES 4-5 AND 1-2).

AX84 October Studio Amplifier BOM

Revision: 08.06.01

NOTE: Parts for options are not included on this bill of materials.

| Item | Quantity | Reference | Value |
|------|----------|---|--|
| 1 | 1 | C1 | 33uF/450V |
| 2 | 1 | C2 | 40/20/20/20 Multi-section Capacitor |
| 3 | 3 | C6, C7, C8 | 10uF/160V |
| 4 | 6 | C9, C10, C11, C15, C20a, C22 | 0.022uF/400V |
| 5 | 2 | C12, C13 | 0.1uF/100V |
| 6 | 3 | C14, C18, C19b | 250pF/500V |
| 7 | 1 | C16 | 0.01uF/400V |
| 8 | 2 | C17, C21 | 0.68uF/25V |
| 9 | 1 | C19a | 150pF/500V |
| 10 | 1 | C20b | 0.0022uF/400V |
| 11 | 1 | C23 | 100uF/25V |
| 12 | 2 | R1, R2 | 120R/2W |
| 13 | 2 | Rfa, Rfb | 0.1R/5W |
| 14 | 3 | R3, R4, R5 | 1K/1W |
| 15 | 2 | R6, R8 | 180K/1W |
| 16 | 1 | R7 | 47K/1W |
| 17 | 1 | R9 | 15K/1W |
| 18 | 2 | R10, R11 | 68K |
| 19 | 3 | R12, R27, R33 | 10K |
| 20 | 1 | R13 | 220R/5W |
| 21 | 3 | R14, R15, R22 | 82K |
| 22 | 2 | R16, R17 | 1R/0.1% |
| 23 | 8 | R18, R19, R23, R29, R31, R34, R38, R40 | 100K |
| 24 | 4 | R20, R21, R36, R37 | 249K |
| 25 | 3 | R24, R26, R42 | 1.0M |
| 26 | 1 | R25 | 470R |
| 27 | 1 | R28 | 5k6 |
| 28 | 1 | R30 | 56K |
| 29 | 1 | R32 | 100R |
| 30 | 1 | R35, R41 | 820R |
| 31 | 1 | R39 | 2k7 |
| 34 | 1 | F1 | 1A SLO-BLO |
| 35 | 1 | FH1 | Fuse Holder |
| 36 | 1 | J1 | Power Connector |
| 37 | 3 | J2, J3, J4 | Phonejack |
| 38 | 4 | JW1, JW2, JW3, JW4 | Phonejack Isolation Washer (if needed) |
| 39 | 3 | S1, S4, S5 | SW DPDT |
| 40 | 1 | S2 | SW SPST |
| 41 | 1 | S3 | 4P 3-Pos Rotary (Shorting) |
| 42 | 2 | D1, D2 | UF4007 |
| 43 | 1 | PL1 | Pilot Lamp Assembly And Bulb |
| 44 | 1 | T1 | Hammond 269JX |
| 45 | 1 | T2 | Hammond 125C |

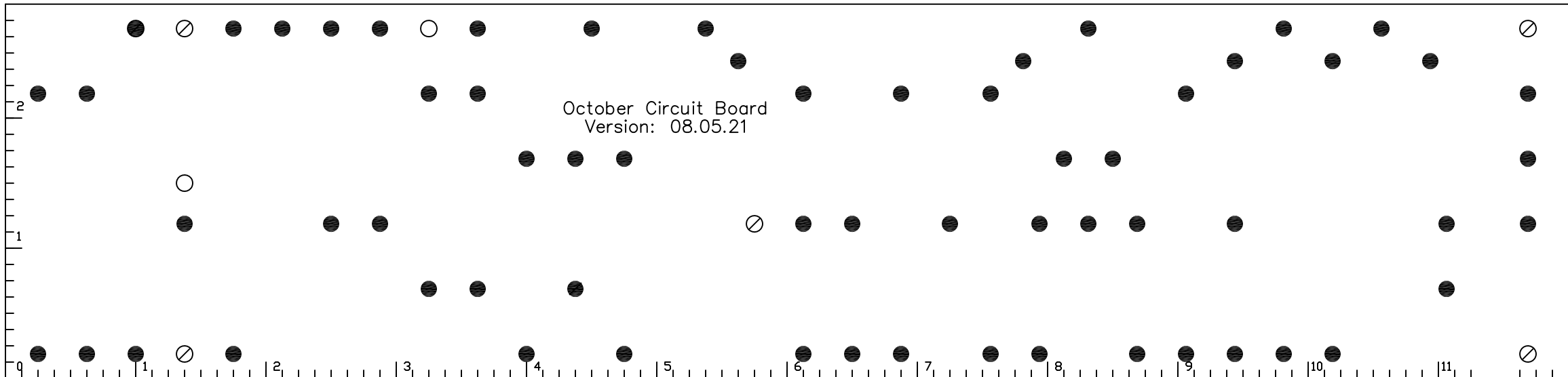
| | | | |
|----|----|--------------------------------|--------------------------------|
| 46 | 1 | L1 | Hammond 156G |
| 47 | 4 | SK1, SK3, SK4, SK5 | 9 Pin Tube Sockets |
| 48 | 1 | SK2 | 8 Pin Octal Socket |
| 49 | 1 | V1 | EZ80/EZ81/6CA4 |
| 50 | 1 | V2 | 6SN7GTB |
| 51 | 3 | V3, V4, V5 | 12AX7 |
| 52 | 2 | VR1, VR2 | 25K LIN |
| 53 | 2 | VR3, VR8 | 50K LIN |
| 54 | 1 | VR4 | 5K LIN |
| 55 | 1 | VR5 | 1MEG LOG |
| 56 | 1 | VR6 | 250K LOG |
| 57 | 3 | VR7, VR9, VR10 | 500K LOG |
| 59 | 1 | CCImp | Clamp For Multi-section Cap C2 |
| 60 | 8 | K1, K2, K3, K4, K5, K6, K7, K8 | Knobs |
| 61 | 1 | CH1 | Chassis |
| 62 | 1 | PWC1 | Power Cord |
| 63 | 2 | TP1, TP2 | Red Tip Jack |
| 64 | 1 | TP3 | Black Tip Jack |
| 65 | 8 | | 6-32 x 1/2" screws |
| 66 | 8 | | #6 washers |
| 67 | 8 | | #6 lock washers |
| 68 | 8 | | 6-32 nuts |
| 69 | 1 | | ground lug |
| 70 | 12 | | 4-40 x 1/2" screws |
| 71 | 17 | | #4 lock washers |
| 72 | 17 | | 4-40 nuts |
| 73 | 5 | | 1/2" standoffs |
| 74 | 5 | | 4-40 x 1/4" screws |
| 75 | 6 | | 7/16" ID rubber grommets |
| 76 | | 8' | blue wire |
| 77 | | 8' | black wire |
| 78 | | 5' | red wire |
| 79 | | 18" 22ga. & 12" 18ga. | green and white twisted wire |
| 80 | | 12" | black and red twisted wire |
| 81 | | 12" | yellow and red twisted wire |
| 82 | | 3' | lt. green |
| 83 | | 12" | lt.green and red twisted wire |
| 84 | | 3' | shielded wire |
| 85 | | 1/16" and 1/8" | heat shrink tubing |

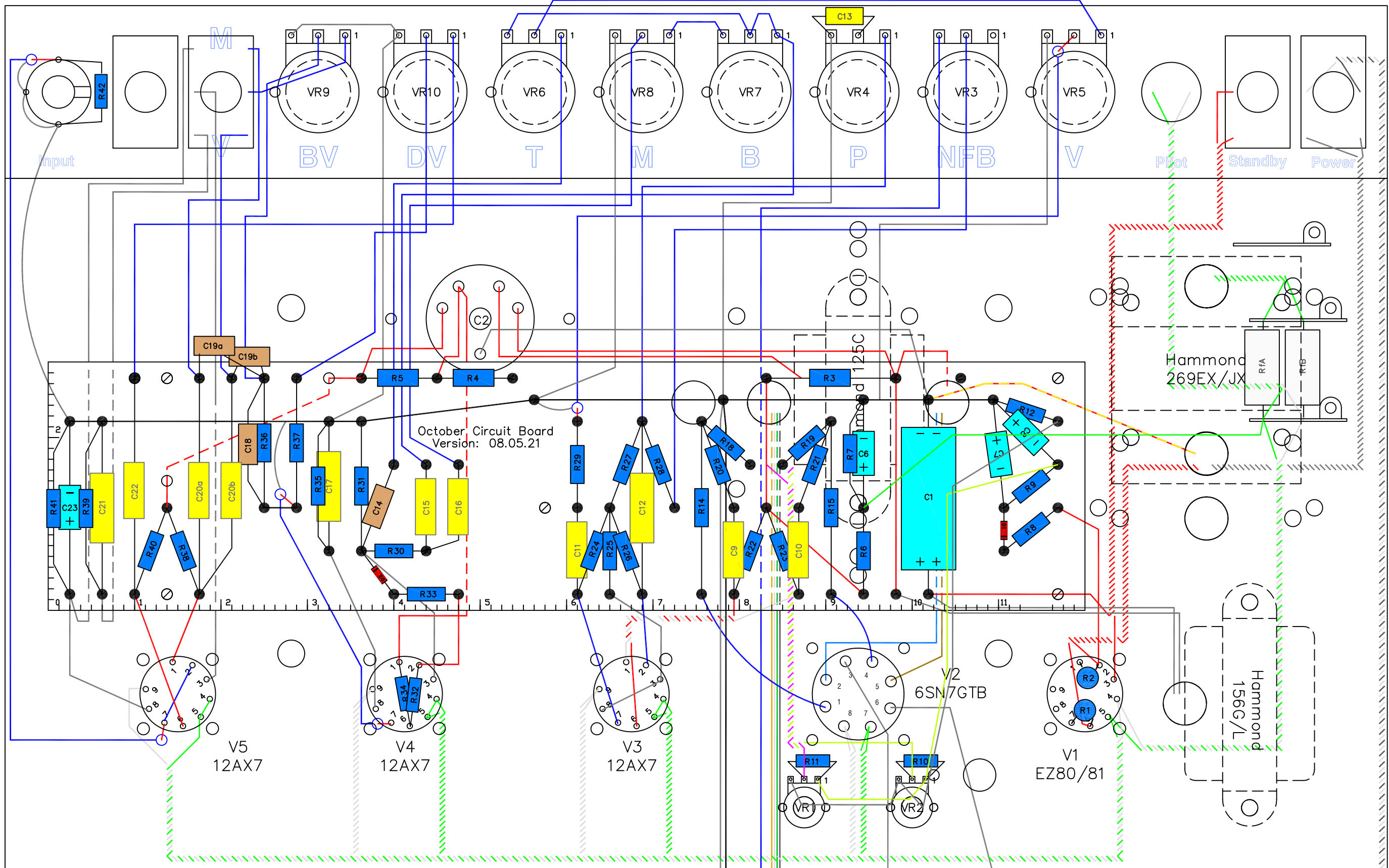
Note:

Wire colors may be substituted as noted.

Resistor values and wattage ratings may be substituted as noted.

Capacitor values and voltage ratings may be substituted as noted.



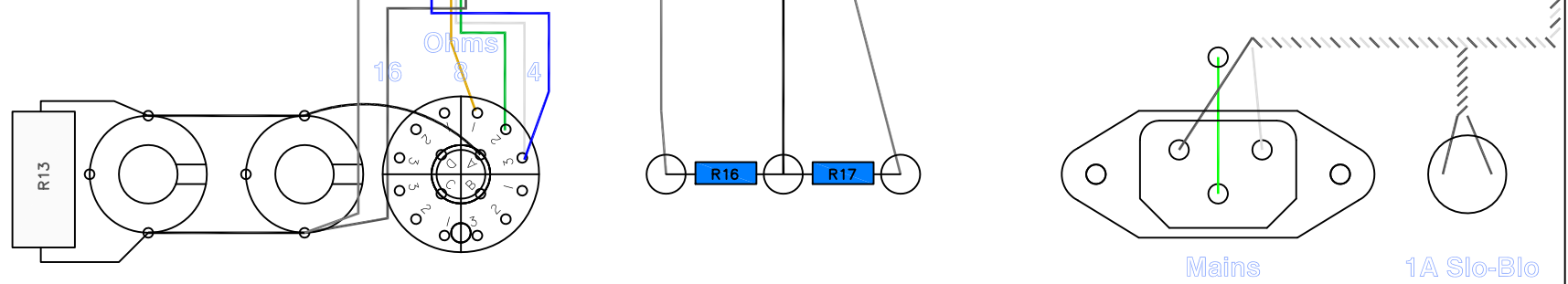


AX84 October ~ Studio Chassis Layout

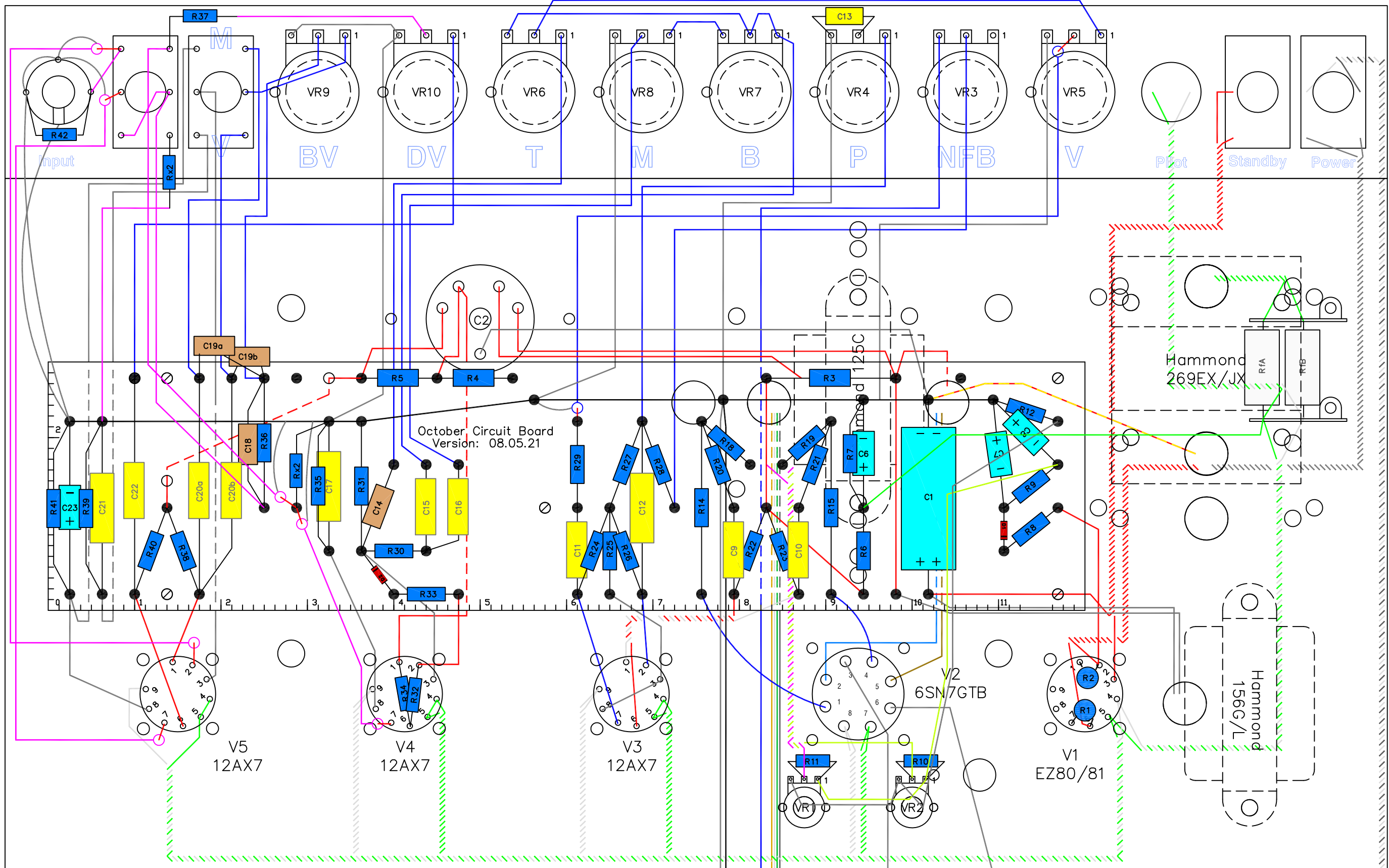
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AX84 Kit Chassis 1

Version: 08.05.07



Mains 1A Slo-Blo

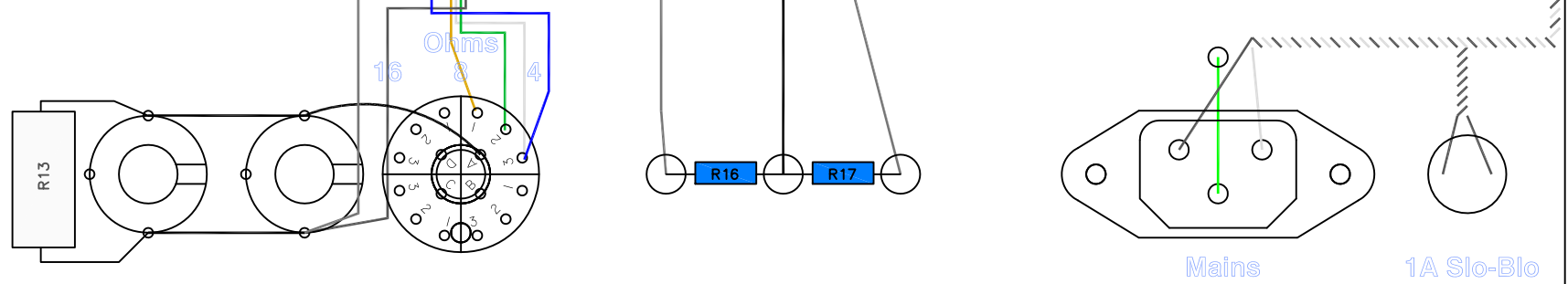


AX84 October ~ Studio Alt Chassis Layout

Version: 08.06.01

AX84 Kit Chassis 1

Version: 08.05.07



Mains 1A Slo-Blo