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!

USE AT YOUR OWN RISK: **THE WEBMASTER, PROJECT COORDINATOR, PROJECT CONTRIBUTORS AND WEB SPACE PROVIDER EXPRESSLY DISCLAIM ALL LIABILITY FOR INJURY OR PROPERTY DAMAGE RESULTING FROM THIS INFORMATION! ALL INFORMATION IS PROVIDED 'AS-IS' AND WITHOUT WARRANTY OF ANY KIND.**

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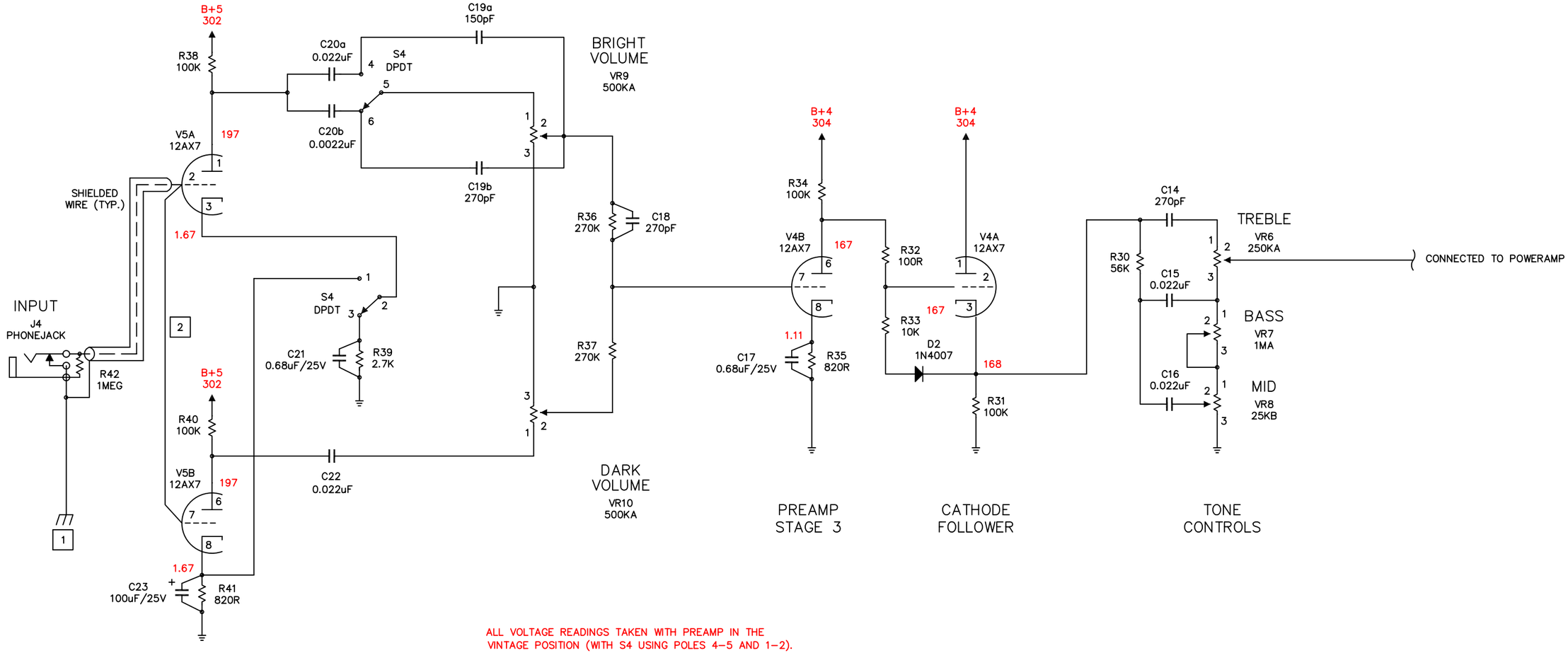
Revision	Description
08.11.15	Removed Alternate Preamp Added Optional Output Transformer Detail
09.01.08	Added RfC And RfD Standardized VR Labels Made Standby Non–optional
09.05.15	Changed C14, C18, C19b to 270pF Changed R36, R37 to 270K
09.05.26	Corrected R20 And R21 Labels



ALL VOLTAGE READINGS TAKEN WITH PREAMP IN THE VINTAGE POSITION (WITH S4 USING POLES 4–5 AND 1–2).

AX84 http://www.ax84.com

The Cooperative Tube Guitar Amp Project

Title: **October ~ Studio Preamp**

Sheet 1 Of 3 | Revision: 09.05.26

Revision	Description
08.11.15	Removed Alternate Preamp Added Optional Output Transformer Detail
09.01.08	Added RfC And RfD Standardized VR Labels Made Standby Non–optional
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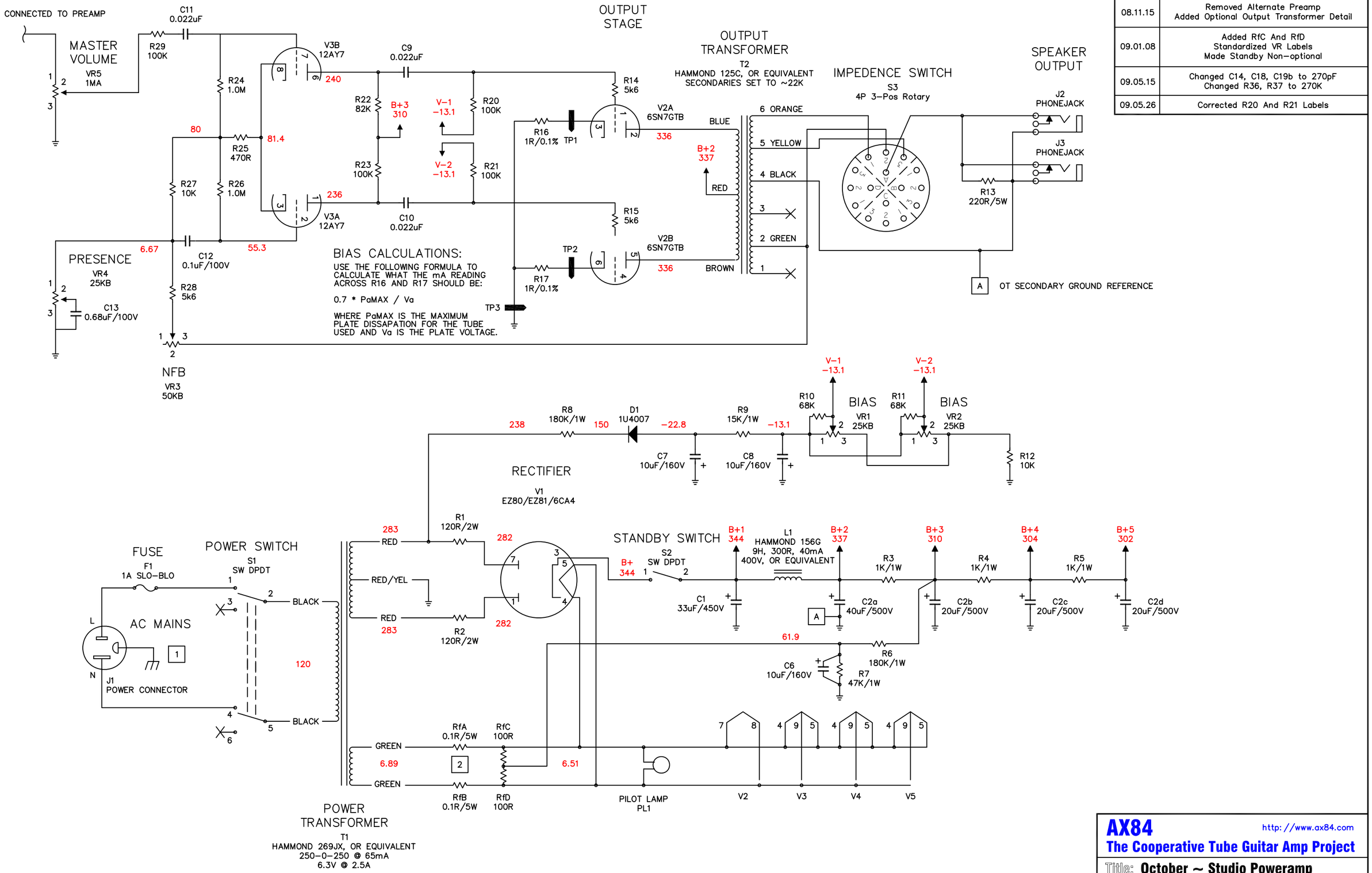

AX84 http://www.ax84.com

The Cooperative Tube Guitar Amp Project

Title: **October ~ Studio Poweramp**

Sheet 2 Of 3 | Revision: 09.05.26

Revision	Description
08.11.15	Removed Alternate Preamp Added Optional Output Transformer Detail
09.01.08	Added RfC And RfD Standardized VR Labels Made Standby Non–optional
09.05.15	Changed C14, C18, C19b to 270pF Changed R36, R37 to 270K
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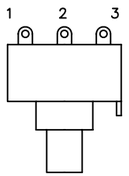
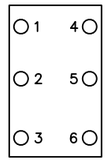
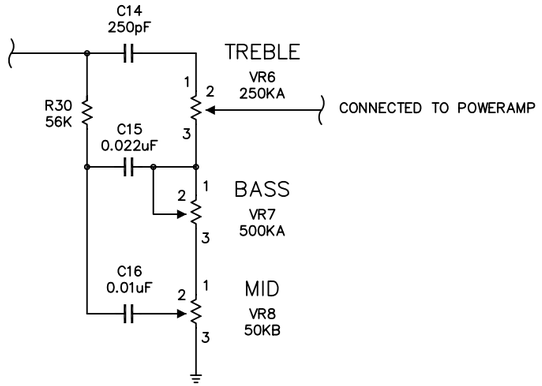


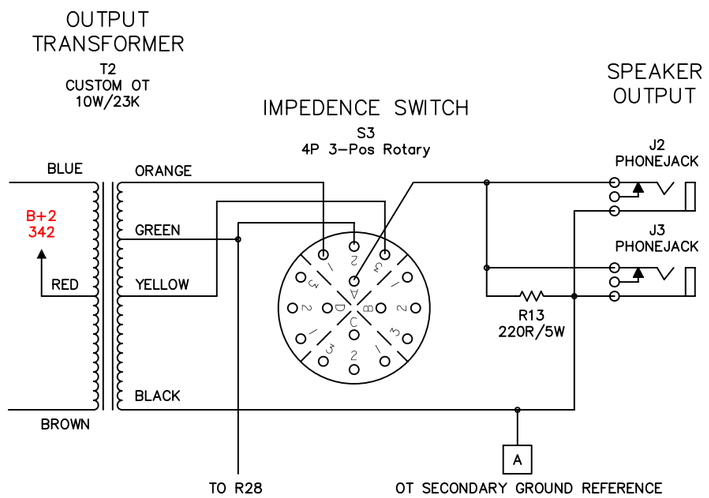
01 **POTENTIOMETER PINOUTS - TOP VIEW**



02 **SWITCH S100 - REAR VIEW**



03 **ALTERNATE TONE STACK**



04 **CHAPPELLAMPS CUSTOM OUTPUT TRANSFORMER HOOKUP**

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.
4. A 12AV7 TUBE MAY BE USED IN THE V3 POSITION TO LOWER THE GAIN OF THE PI AND REDUCE DISTORTION.

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.

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The Cooperative Tube Guitar Amp Project

Title: **October ~ Studio Details**

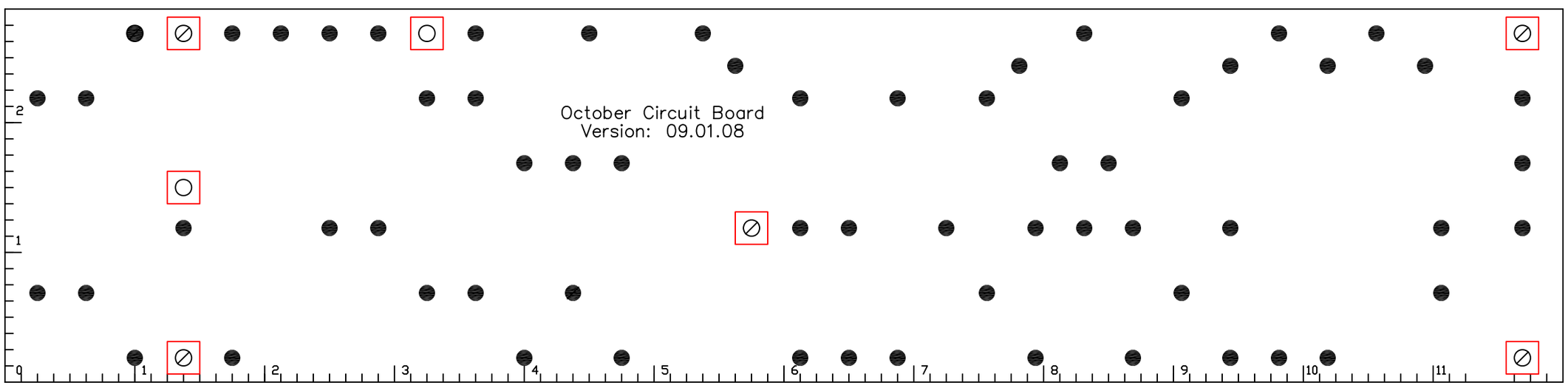
Sheet 3 Of 3 | Revision: 09.05.26

AX84 October Studio Amplifier BOM

Revision: 09.05.26

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	7	C9, C10, C11, C15, C16, C20a, C22	0.022uF/400V
5	1	C12	0.1uF/100V
6	1	C13	0.68uF/100V
7	3	C14, C18, C19b	270pF/500V
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, R28	5k6
22	2	R16, R17	1R/0.1%
23	8	R20, R21, R23, R29, R31, R34, R38, R40	100K
24	1	R22	82K
25	2	R36, R37	270K
26	3	R24, R26, R42	1.0M
27	1	R25	470R
28	1	R30	33K
29	3	R32, RfC, RfD	100R
30	1	R35, R41	820R
31	1	R39	2k7
32	1	F1	1A SLO-BLO
33	1	FH1	Fuse Holder
34	1	J1	Power Connector
35	3	J2, J3, J4	Phonejack
36	4	JW1, JW2, JW3, JW4	Phonejack Isolation Washer (if needed)
37	2	S1, S4	SW DPDT
38	1	S2	SW SPST
39	1	S3	4P 3-Pos Rotary (Shorting)
40	2	D1, D2	UF4007
41	1	PL1	Pilot Lamp Assembly And Bulb
42	1	T1	Hammond 269JX
43	1	T2	Hammond 125C
44	1	L1	Hammond 156G

45	4	SK1, SK3, SK4, SK5	9 Pin Tube Sockets
46	1	SK2	8 Pin Octal Socket
47	1	V1	EZ80/EZ81/6CA4
48	1	V2	6SN7GTB
49	1	V3	12AY7
50	2	V4, V5	12AX7
51	2	VR1, VR2	25KB (bias)
52	1	VR3	50KB
53	2	VR4, VR8	25KB
54	2	VR5, VR7	1MA
55	1	VR6	250KA
56	2	VR9, VR10	500KA
57	1	CClmp	Clamp For Multi-section Cap C2
58	8	K1, K2, K3, K4, K5, K6, K7, K8	Knobs
59	1	CH1	Chassis
60	1	PWC1	Power Cord
61	2	TP1, TP2	Red Tip Jack
62	1	TP3	Black Tip Jack
63	2		3-lug Terminal Strip


October Circuit Board
Version: 09.01.08
0
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2

AX84 October ~ Studio Chassis Layout

Version: 09.05.26

AX84 Kit Chassis 1

Version: 08.05.07