

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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NOTICE! - This document represents a project that is in the PRELIMINARY, or BETA TEST phase.

This project is intended for **experienced builders only** at this phase. It may contain errors on the documents, or in the design itself. Once this project has been successfully prototyped and tested this notice will be removed and it will be released for construction. Should you find an error on the documents, please notify the Project Coordinator so that the documents may be corrected.

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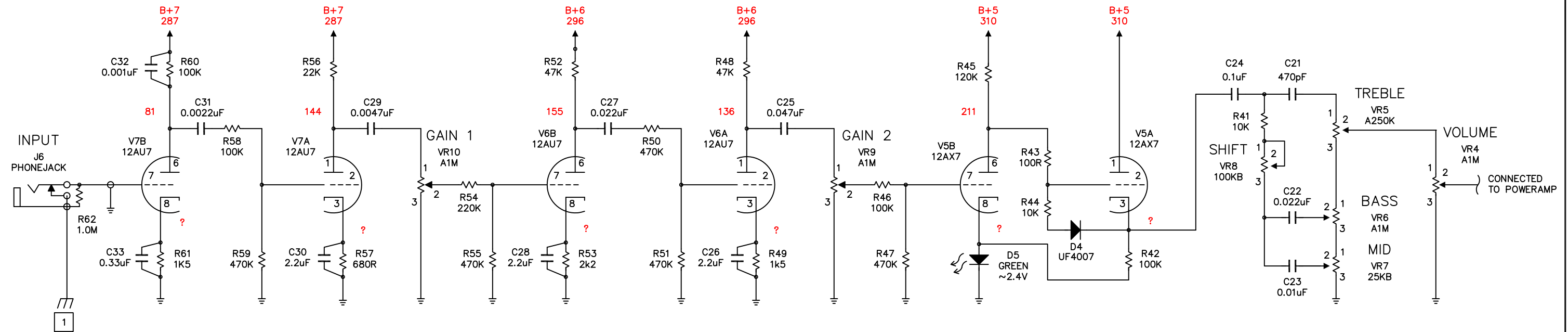
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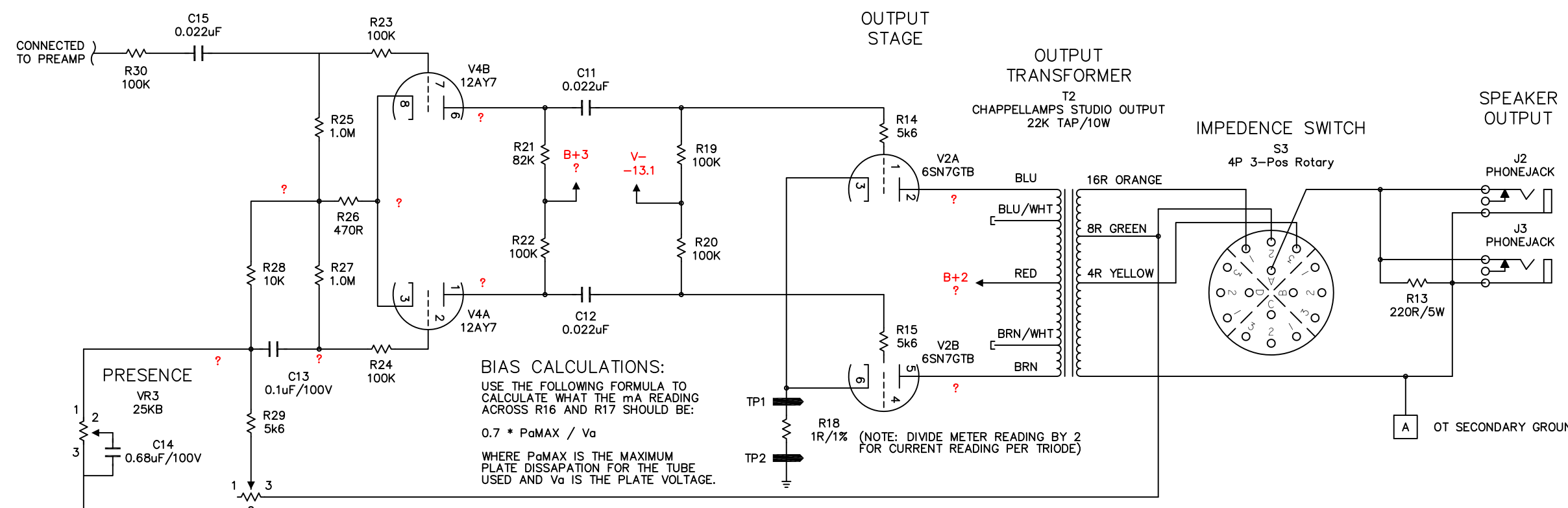
Revision	Description
10.02.06	Ready For Prototyping

NOTE: VOLTAGES SHOWN ARE TARGET VOLTAGES, NOT AS-BUILT VOLTAGES.



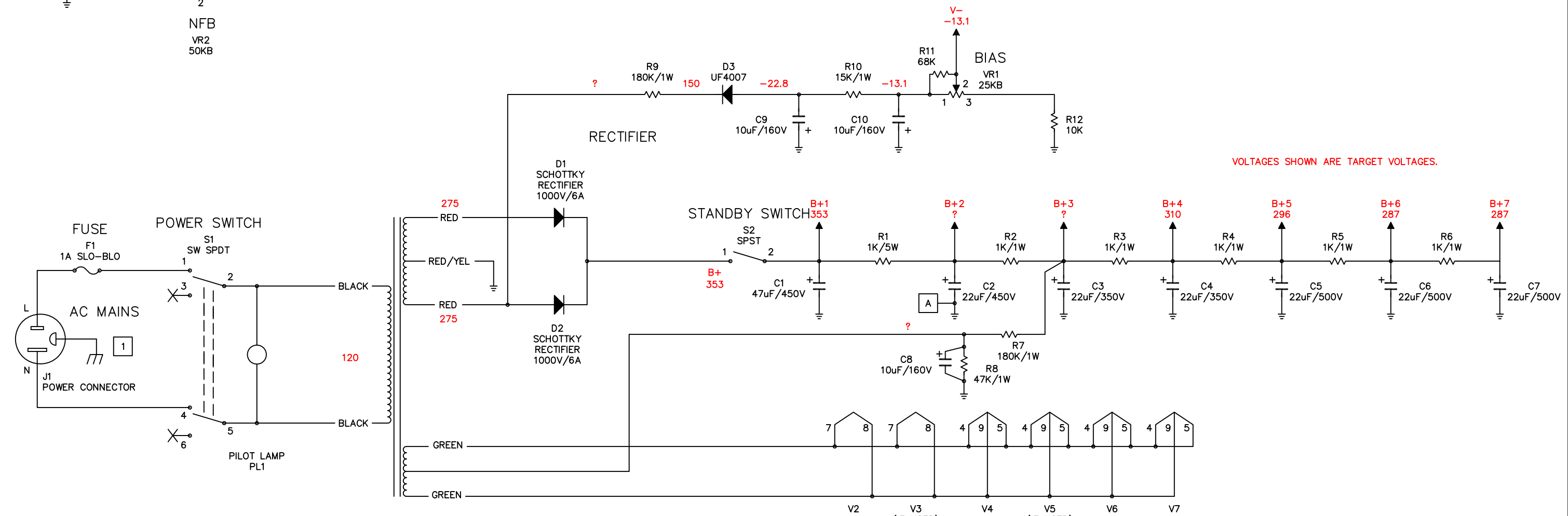
VOLTAGES SHOWN ARE TARGET VOLTAGES.

Revision	Description
10.02.06	Ready For Prototyping



BIAS CALCULATIONS:
 USE THE FOLLOWING FORMULA TO CALCULATE WHAT THE mA READING ACROSS R16 AND R17 SHOULD BE:
 $0.7 * P_{aMAX} / V_a$
 WHERE P_{aMAX} IS THE MAXIMUM PLATE DISSIPATION FOR THE TUBE USED AND V_a IS THE PLATE VOLTAGE.

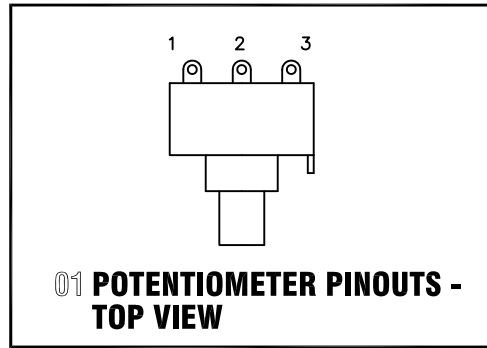
(NOTE: DIVIDE METER READING BY 2 FOR CURRENT READING PER TRIODE)



VOLTAGES SHOWN ARE TARGET VOLTAGES.

POWER TRANSFORMER
 T1
 CHAPPELLAMPS STUDIO POWER
 275-0-275 @ 65mA
 3.15-0-3.15 @ 3.5A

Revision	Description
10.02.06	Ready For Prototyping



GENERAL NOTES:

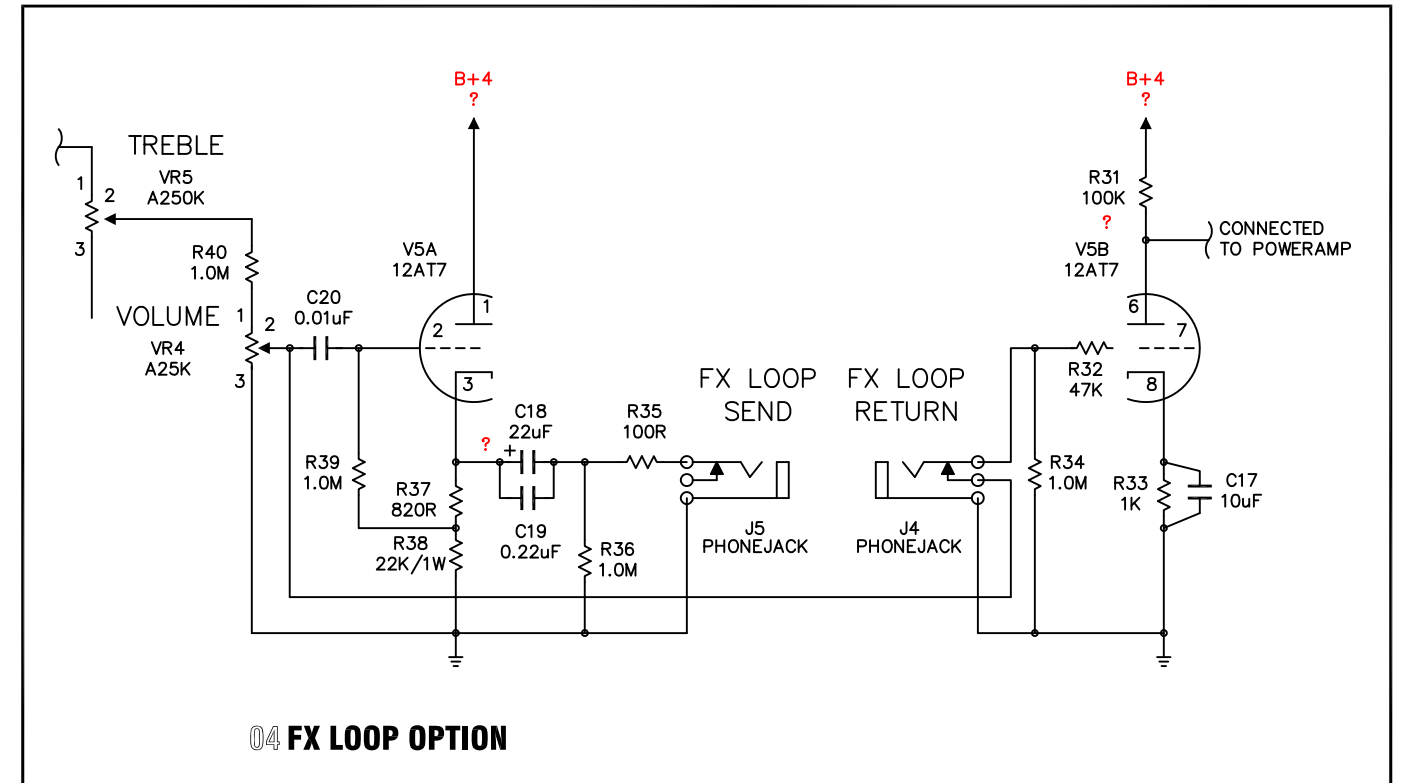
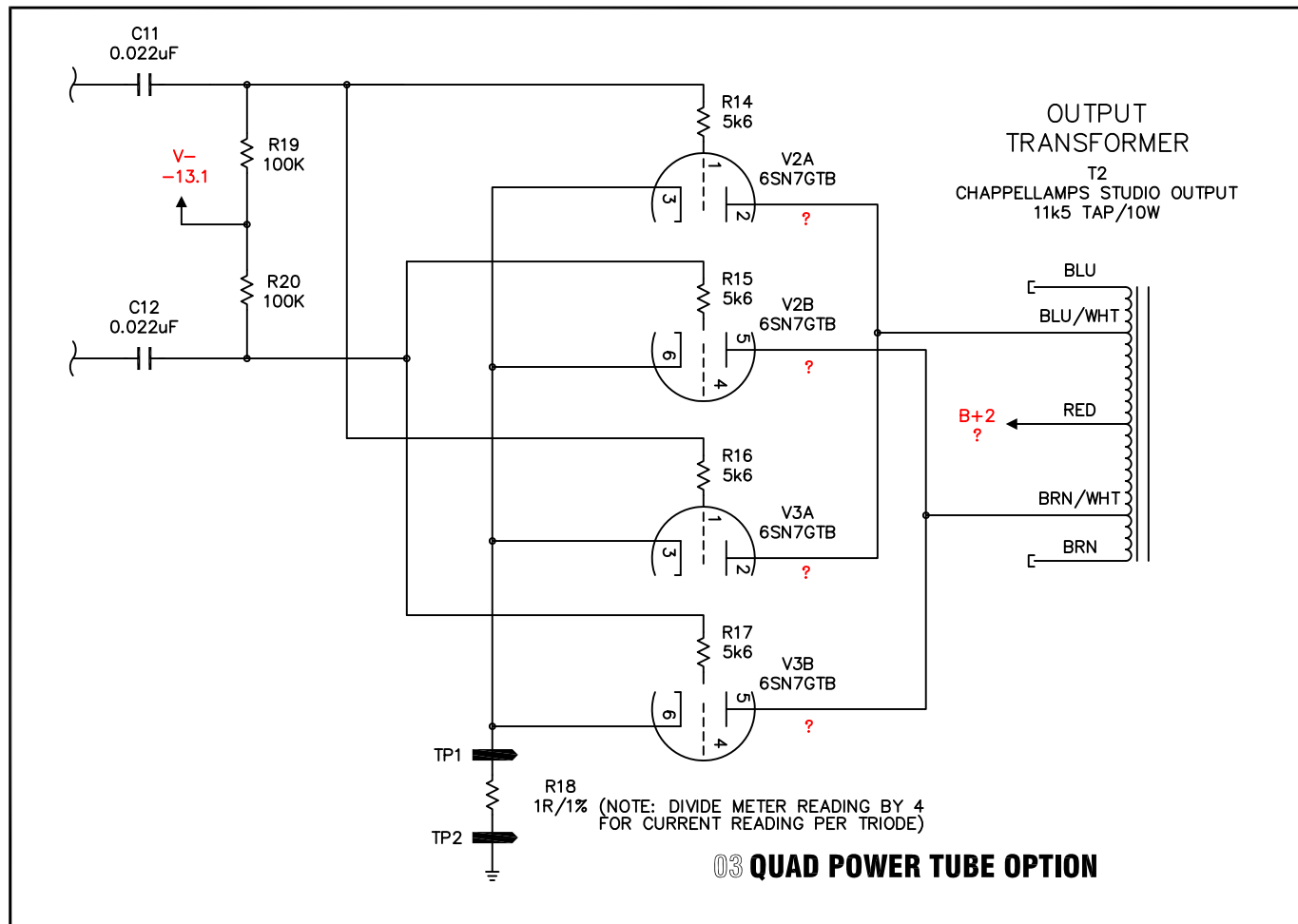
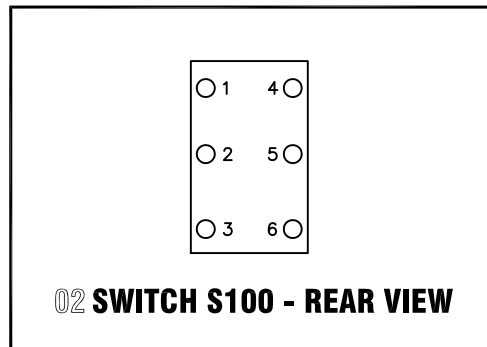
1. ALL RESISTORS 1/2W MINIMUM UNLESS OTHERWISE NOTED.
2. ALL COUPLING CAPACITORS 400V OR GREATER.

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.

VOLTAGE READING NOTES:

1. THE VOLTAGE READINGS ON THIS SCHEMATIC ARE SIMULATED BASED ON THE USE OF THE XFMR SET SHOWN.
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.

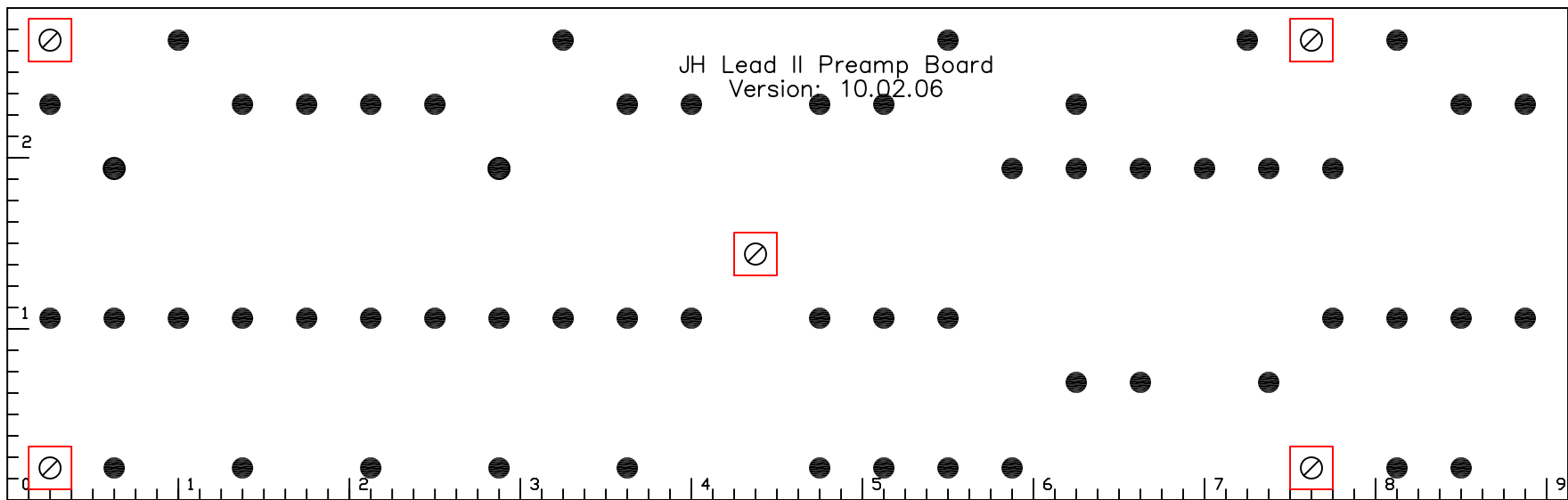
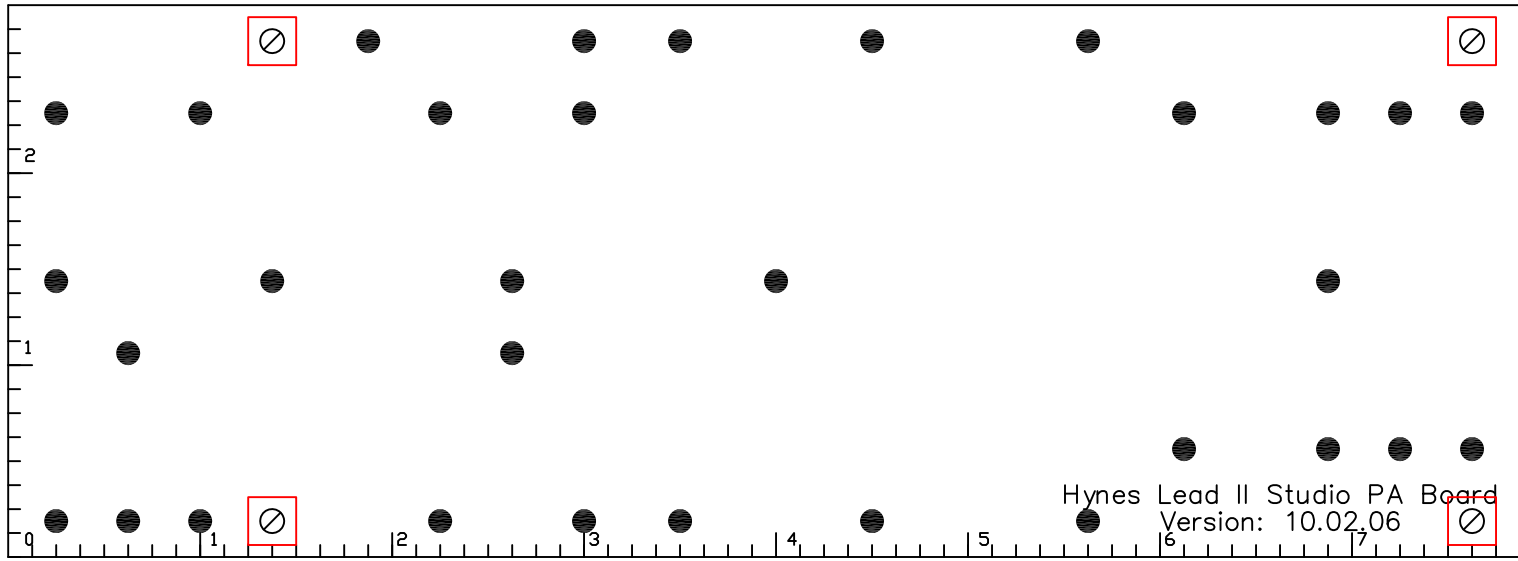


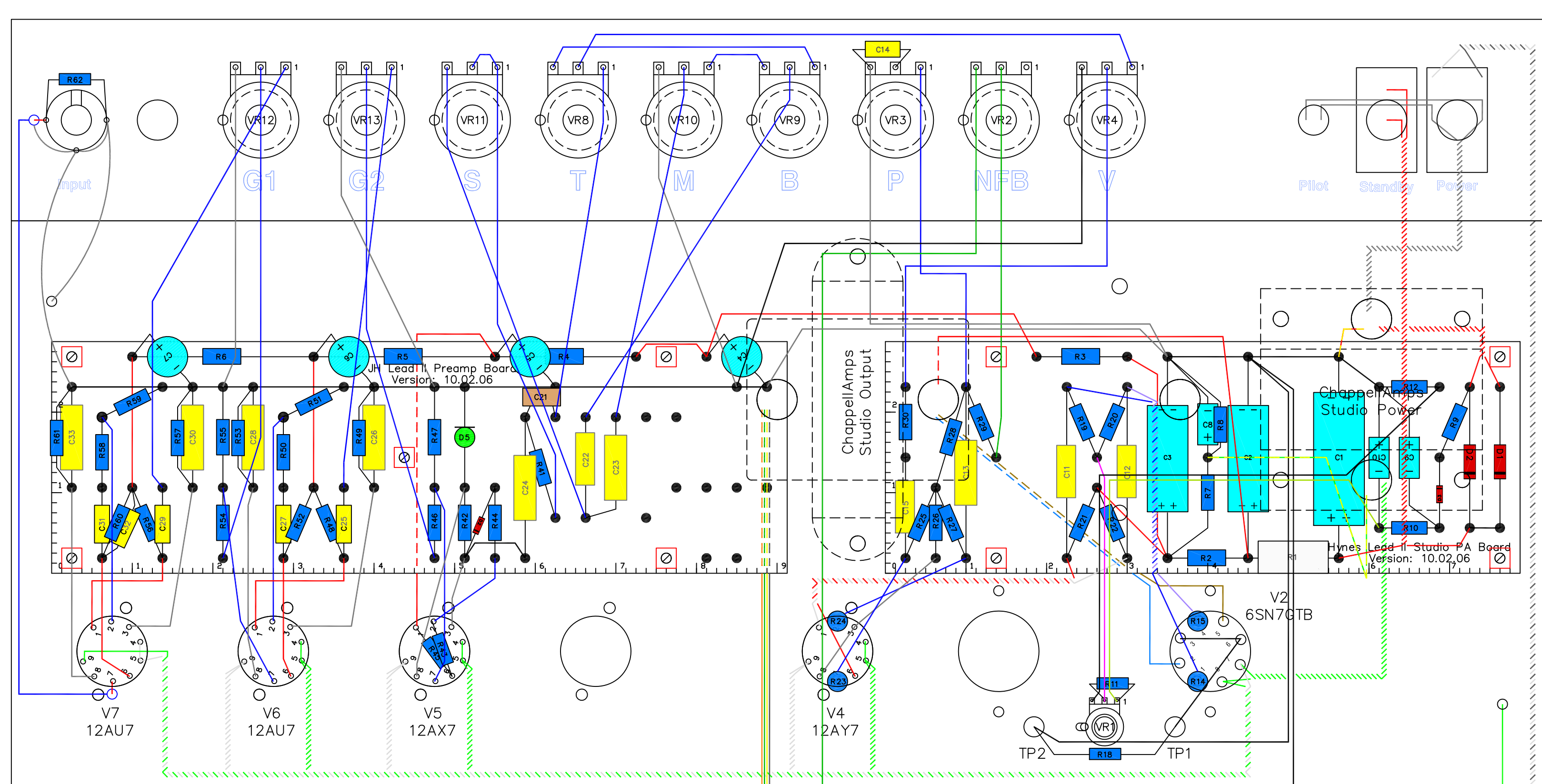
AX84 Hynes Lead II Studio Amplifier BOM

Revision: 10.02.06

Item	Quantity	Reference	Value
1	1	C1	33uF/450V (axial)
2	1	C2	22uF/450V (axial)
3	4	C3, C4, C, C6	22uF/350V (1 axial & 3 radial)
4	3	C7, C8, C9	10uF/160V
5	7	C10, C11, C14, C22, C28a, C29	0.022uF/400V
6	1	C12	0.1uF/100V
7	3	C13, C25, C30	0.68uF/100V
8	3	C21, C26, C27b	270pF/500V
9	1	C23	0.01uF/400V
10	1	C24	0.047uF/400V
11	1	C27a	150pF/500V
12	1	C28b	0.0022uF/400V
13	1	C31	100uF/25V
14	2	R1, R2	120R/2W
15	4	R3, R4, R5, R6	1K/1W
16	2	R7, R9	180K/1W
17	1	R8	47K/1W
18	1	R10	15K/1W
19	1	R11	68K
20	6	R12, R28, R41, R44, R46, R53	10K
21	1	R13	220R/5W
22	3	R14, R15, R29	5k6
23	1	R18	1R/1%
24	10	R19, R20, R22, R23, R24, R30, R42, R45, R50, R52	100K
25	1	R21	82K
26	3	R25, R27, R55	1.0M
27	1	R26	470R
28	1	R43	100R
29	2	R47, R54	820R
30	2	R48, R49	270K
31	1	R51	2k7
32	1	F1	1A SLO-BLO
33	1	FH1	Fuse Holder
34	1	J1	Power Connector
35	3	J2, J3, J6	Phonejack
36	4	JW1, JW2, JW3, JW4	Phonejack Isolation Washer (if needed)
37	1	S1	SW SPDT
38	1	S2	SW SPST
39	1	S3	4P 3-Pos Rotary (Shorting)
40	1	S4	SW DPDT
41	2	D1, D2	UF4007
42	1	PL1	120V Pilot Lamp
43	1	T1	ChappellAmps Studio Power XFMR
44	1	T2	ChappellAmps Studio Output XFMR

45	1	L1	ChappellAmps Choke
46	4	SK1, SK4, SK6, SK7	9 Pin Tube Sockets
47	1	SK2	8 Pin Octal Socket
48	1	V1	EZ80/EZ81/6CA4
49	1	V2	6SN7GTB
50	1	V4	12AY7
51	2	V6, V7	12AX7
52	1	VR1	25KB (bias)
53	1	VR2	50KB
54	2	VR3, VR7	25KB
55	4	VR4, VR6, VR9, VR10	A1M
56	1	VR5	A250K
57	1	VR8	100KB
58	10	K1, K2, K3, K4, K5, K6, K7, K8, K9, K10	Knobs
59	1	CH1	Chassis
60	1	PWC1	Power Cord
61	1	TP1	Red Tip Jack
62	1	TP2	Black Tip Jack
63	1		3-lug Terminal Strip





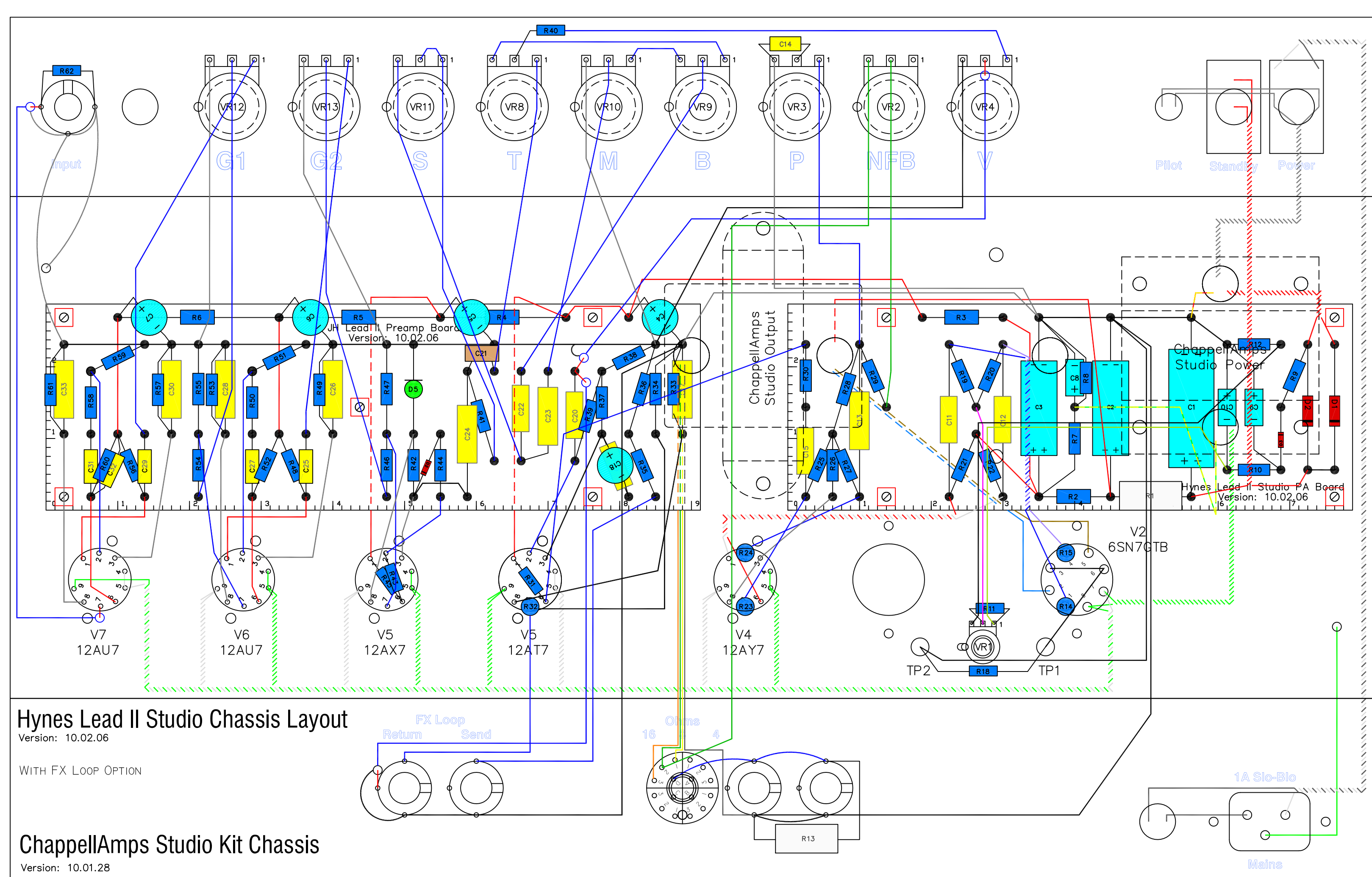
Hynes Lead II Studio Chassis Layout
Version: 10.02.06

ChappellAmps Studio Kit Chassis
Version: 10.01.28

16 Ohms 4

1A SiC-Blo

Mains



Hynes Lead II Studio Chassis Layout
Version: 10.02.06

WITH FX LOOP OPTION

ChappellAmps Studio Kit Chassis
Version: 10.01.28

FX Loop
Return Send

16 Ohms
4

1A Slo-Blo

Mains

ChappellAmps
Studio Output

ChappellAmps
Studio Power

Hynes Lead II Studio PA Board
Version: 10.02.06

Hynes Lead II Preamp Board
Version: 10.02.06

V2
6SN7GTB

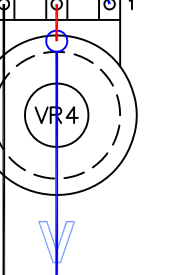
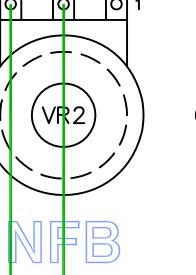
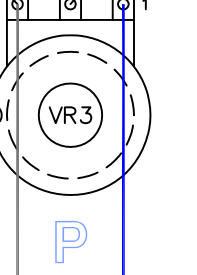
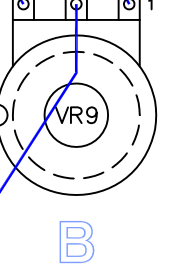
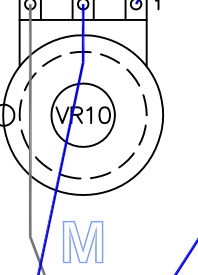
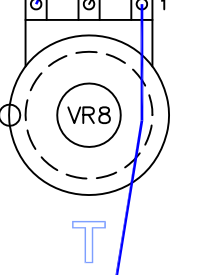
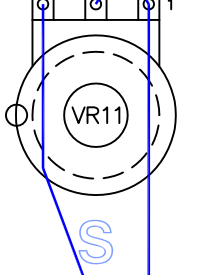
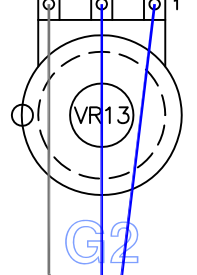
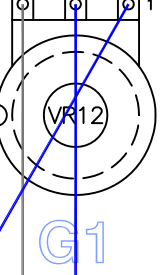
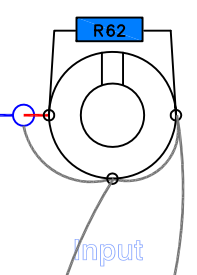
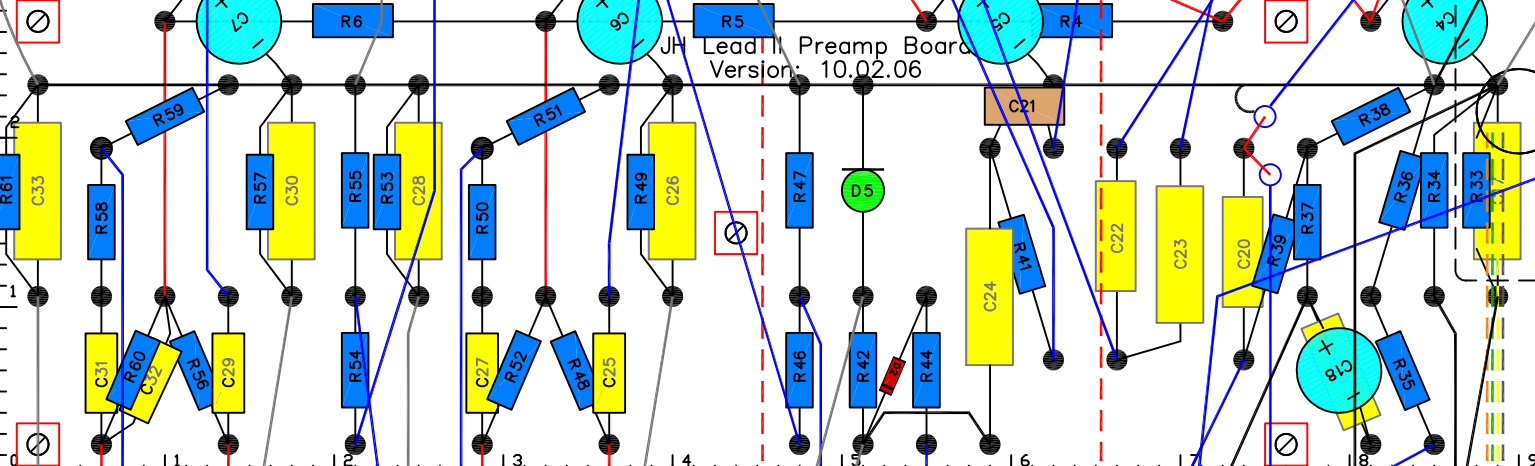
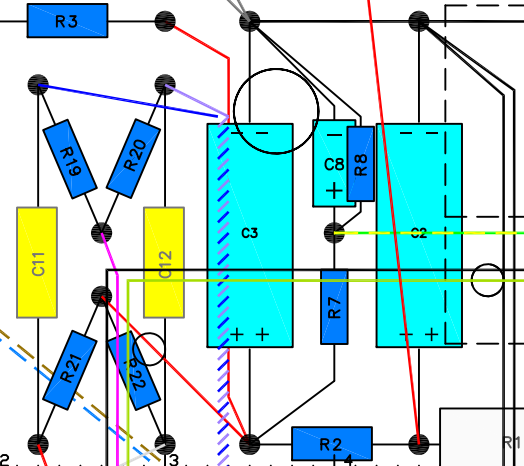
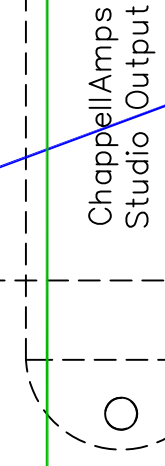
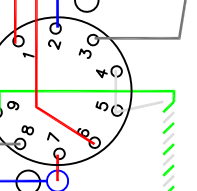
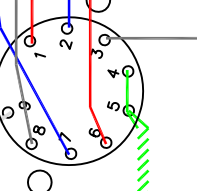
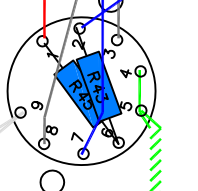
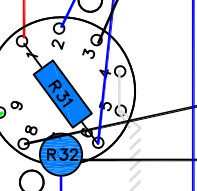
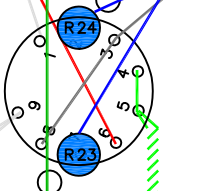
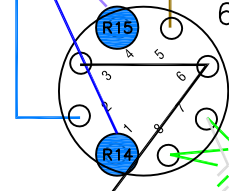
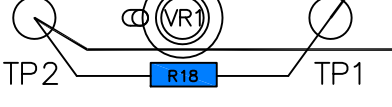
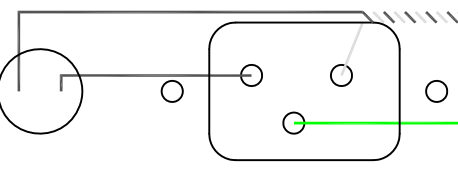
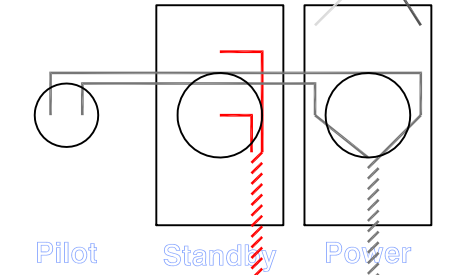
V4
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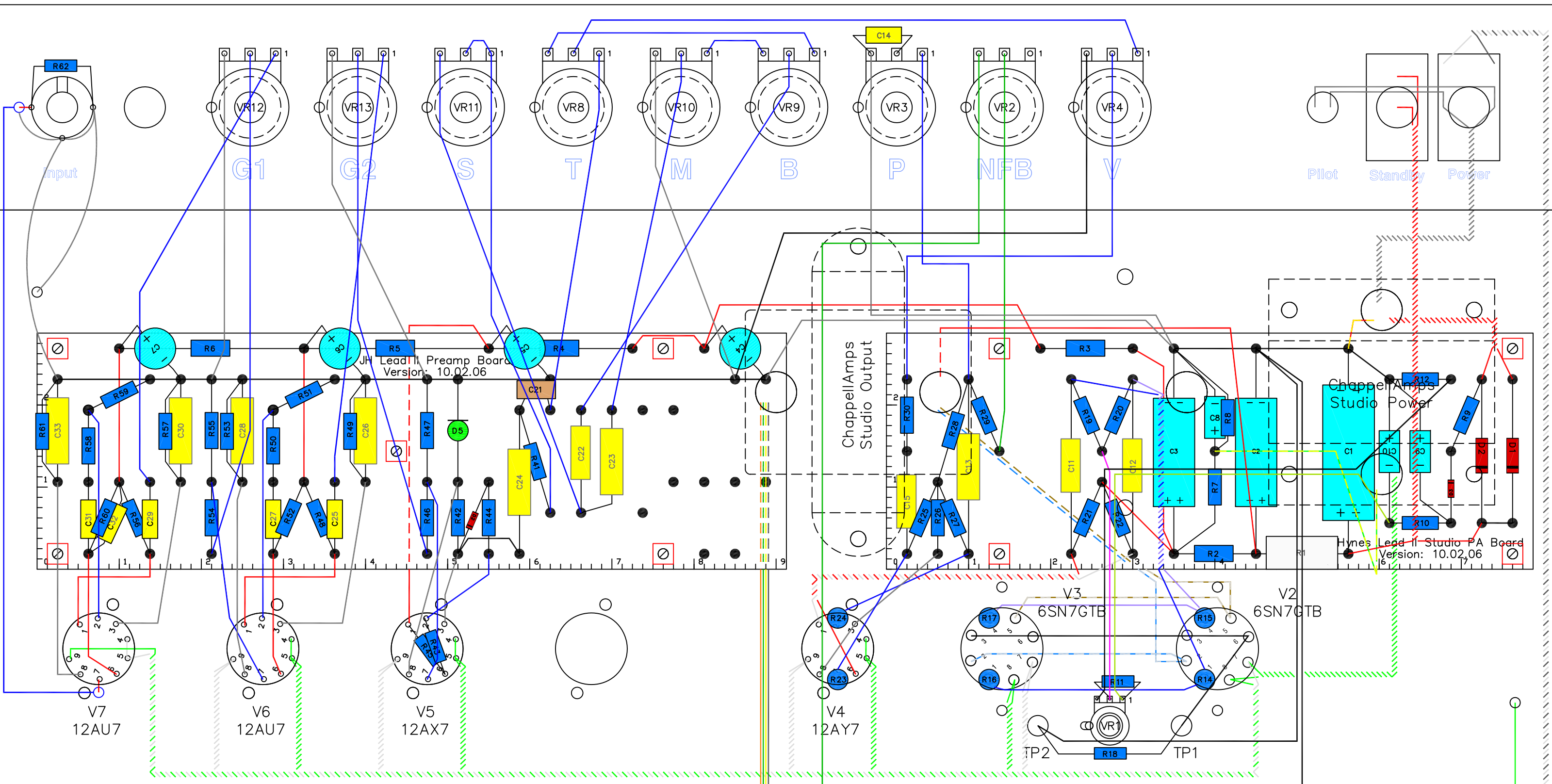
V5
12AT7

V5
12AX7

V6
12AU7

V7
12AU7



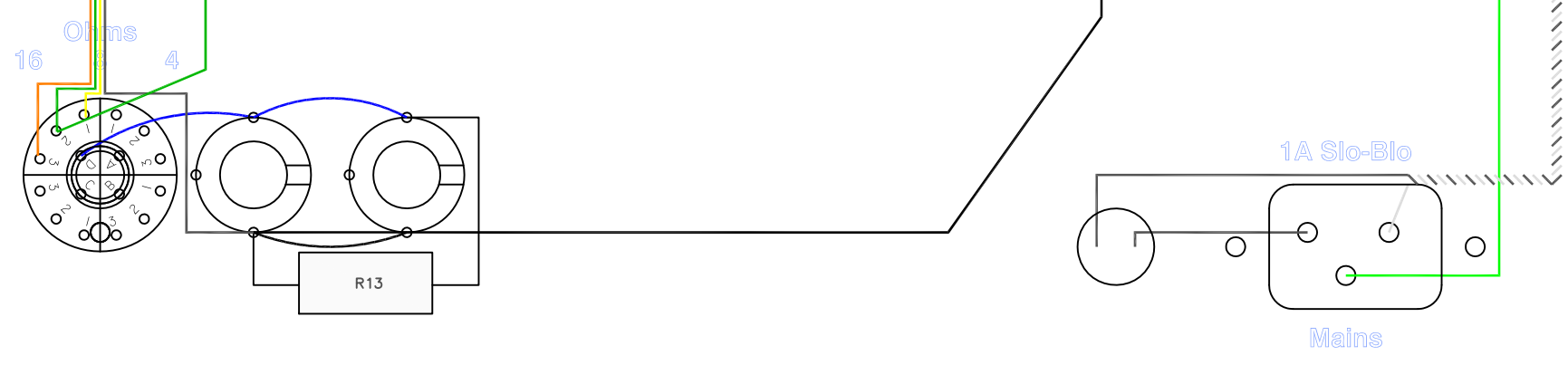


Hynes Lead II Studio Chassis Layout

Version: 10.02.06
 WITH DUAL 6SN7 OPTION

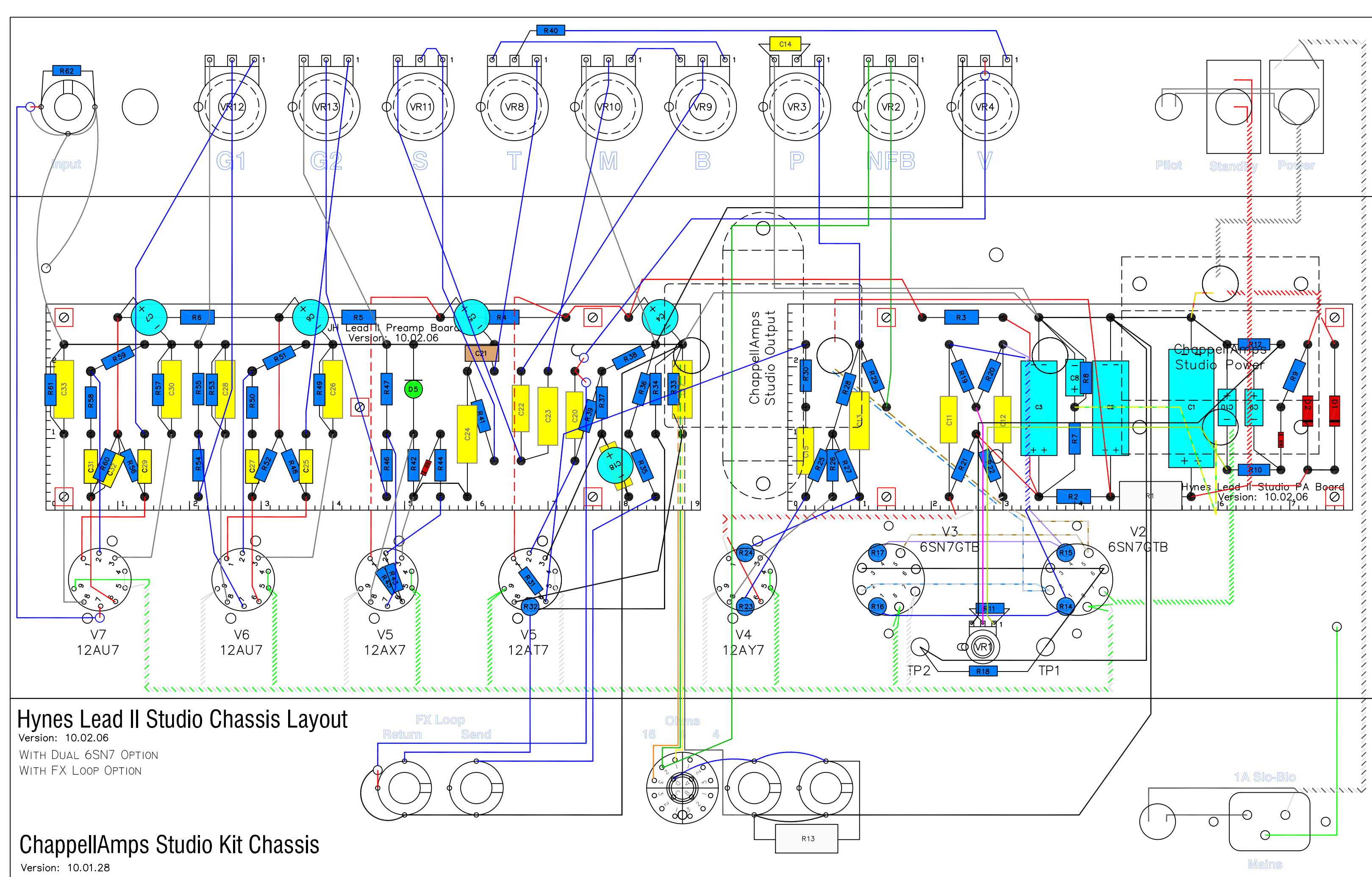
ChappellAmps Studio Kit Chassis

Version: 10.01.28



1A Sto-Blo

Mains



Hynes Lead II Studio Chassis Layout

Version: 10.02.06
 WITH DUAL 6SN7 OPTION
 WITH FX LOOP OPTION

ChappellAmps Studio Kit Chassis

Version: 10.01.28

