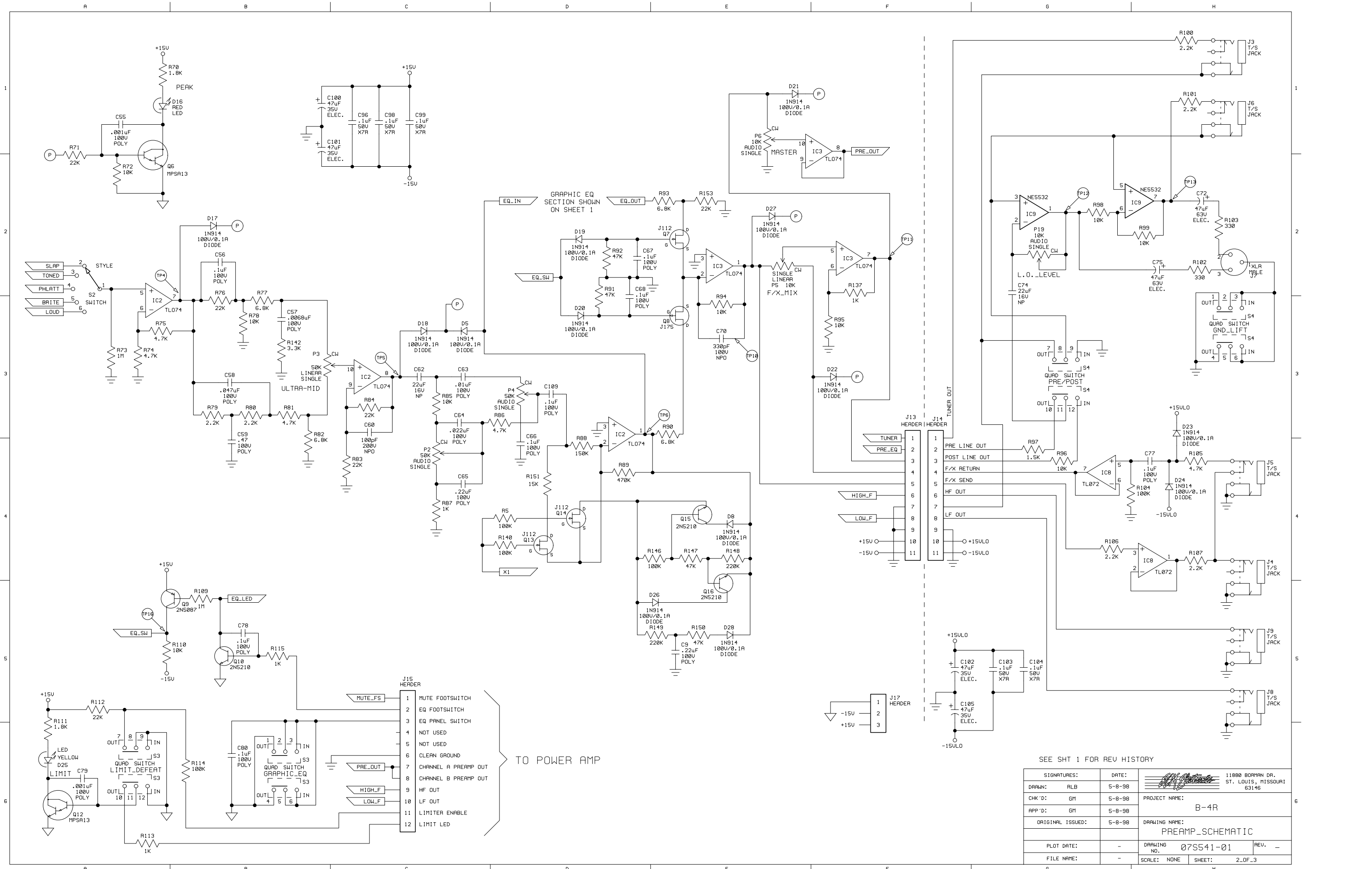


CAUTION:
THIS SCHEMATIC IS PROVIDED FOR USE BY QUALIFIED PERSONNEL.
TO AVOID RISK OF ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL. DO NOT PERFORM ANY SERVICING BEYOND
THAT EXPLAINED IN THE OPERATING INSTRUCTIONS.

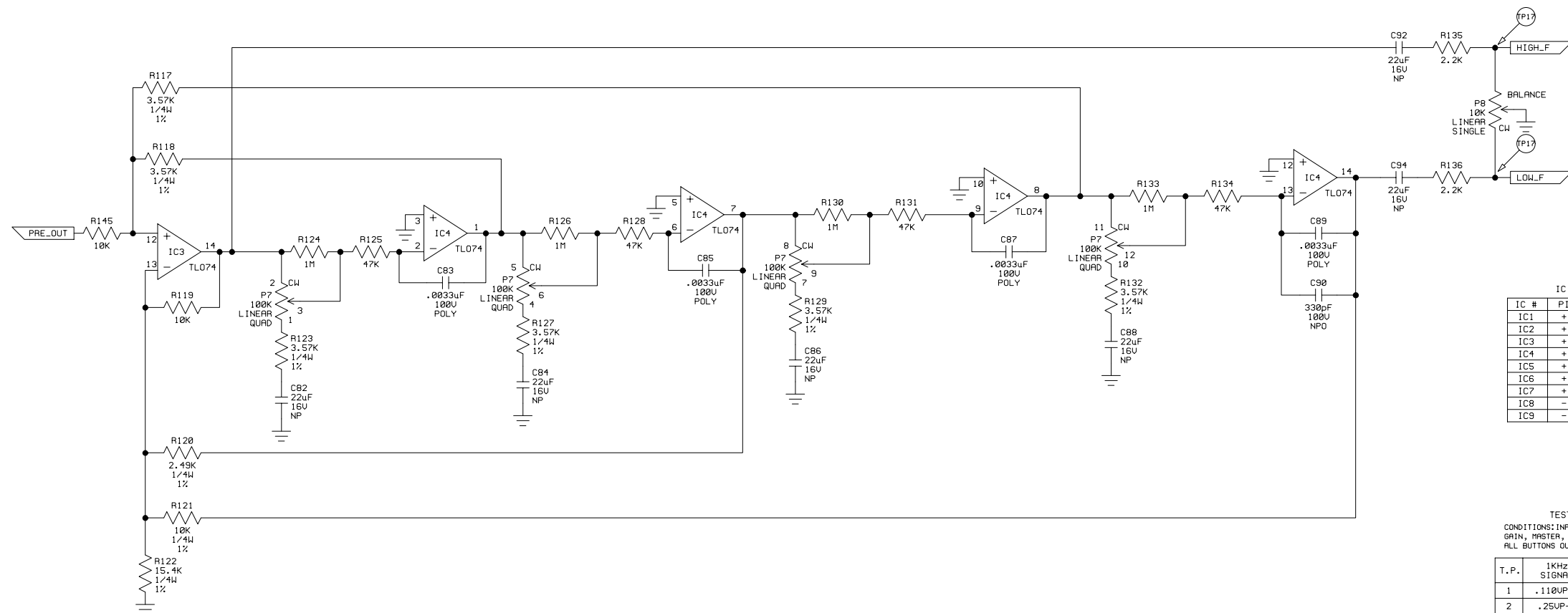
- NOTES:
- 1) CAUTION: SHOCK HAZARD!!
THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER
AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE
TOUCHING INTERNAL PARTS.
 - 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL.
CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 - 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE
AND 10 MEGOHM DIGITAL VOLTMETER.

3	3/11/98	VALUES_&_JACK_P/N_PER_EC0990063_AND	EC0990065
-	-	RELOCATED_S2_ON_ASSY	EC0990595
2	9/14/98	C4-&R116_DO_NOT_INSTALL	EC0990542
1	6-23-98	UPDATE_TO_AGREE_WITH_PICTORIAL	E980408
REV	DATE	DESCRIPTION	ECM
SIGNATURES:		DATE:	11880 BORHAN DR. ST. LOUIS, MISSOURI 63146
DRAWN:	RLB	5-8-98	PROJECT NAME: B-4R
CHK'D:	GM	5-8-98	
APP'D:	GM	5-8-98	DRAWING NAME: PREAMP_SCHEMATIC
ORIGINAL ISSUED:	5-8-98		
PLOT DATE:	-	DRAWING NO. 07S541-01	REV. -
FILE NAME:	S4101C3_	SCALE: NONE	SHEET: 1_OF_3



SEE SHT 1 FOR REV HISTORY

SIGNATURES:	DATE:		11880 BORMAN DR.
DRAWN: RLB	5-8-98		ST. LOUIS, MISSOURI
CHK'D: GM	5-8-98	PROJECT NAME:	63146
APP'D: GM	5-8-98		B-4R
ORIGINAL ISSUED:	5-8-98	DRAWING NAME:	
		PREAMP_SCHEMATIC	
PLOT DATE:	-	DRAWING NO. 07S541-01	REV. -
FILE NAME:	-	SCALE: NONE	SHEET: 2_OF_3



IC POWER CHART

IC #	PIN 4	PIN 11	PIN 8
IC1	+14U	-14U	-
IC2	+15U	-15U	-
IC3	+15U	-15U	-
IC4	+15U	-15U	-
IC5	+15U	-15U	-
IC6	+15U	-15U	-
IC7	+15U	-15U	-
IC8	-15U	-	+15U
IC9	-15U	-	+15U

TEST POINT CHART

CONDITIONS: INPUT 75mV-P (26mVRMS) @ 1KHZ
 0PIN, MASTER, LINE OUT LEVEL @ 10; TONES @ 5;
 ALL BUTTONS OUT

T.P.	1KHZ SIGNAL	D.C. (V)	-
1	.110V-P-P	0	
2	.25V-P	0	
3	12V-P	0	
4	7V-P	0	
5	5.5V-P	0	
6	1.8V-P	0	
7	1.8V-P	0	
8	1.8V-P	0	
9	2.5V-P	0	
10	2.7V-P	0	
11	3V-P	0	
12	.75V-P	0	
13	.75V-P	0	
14	MUTE_OFF	-15	
14	MUTE_ON	0.6	
15	TEXTURE_OUT	-15	
15	TEXTURE_IN	-0.2	
16	EQ_OUT	-12	
16	EQ_IN	15	
17	+3dB FROM PREAMP OUT IN PASS BAND	0	

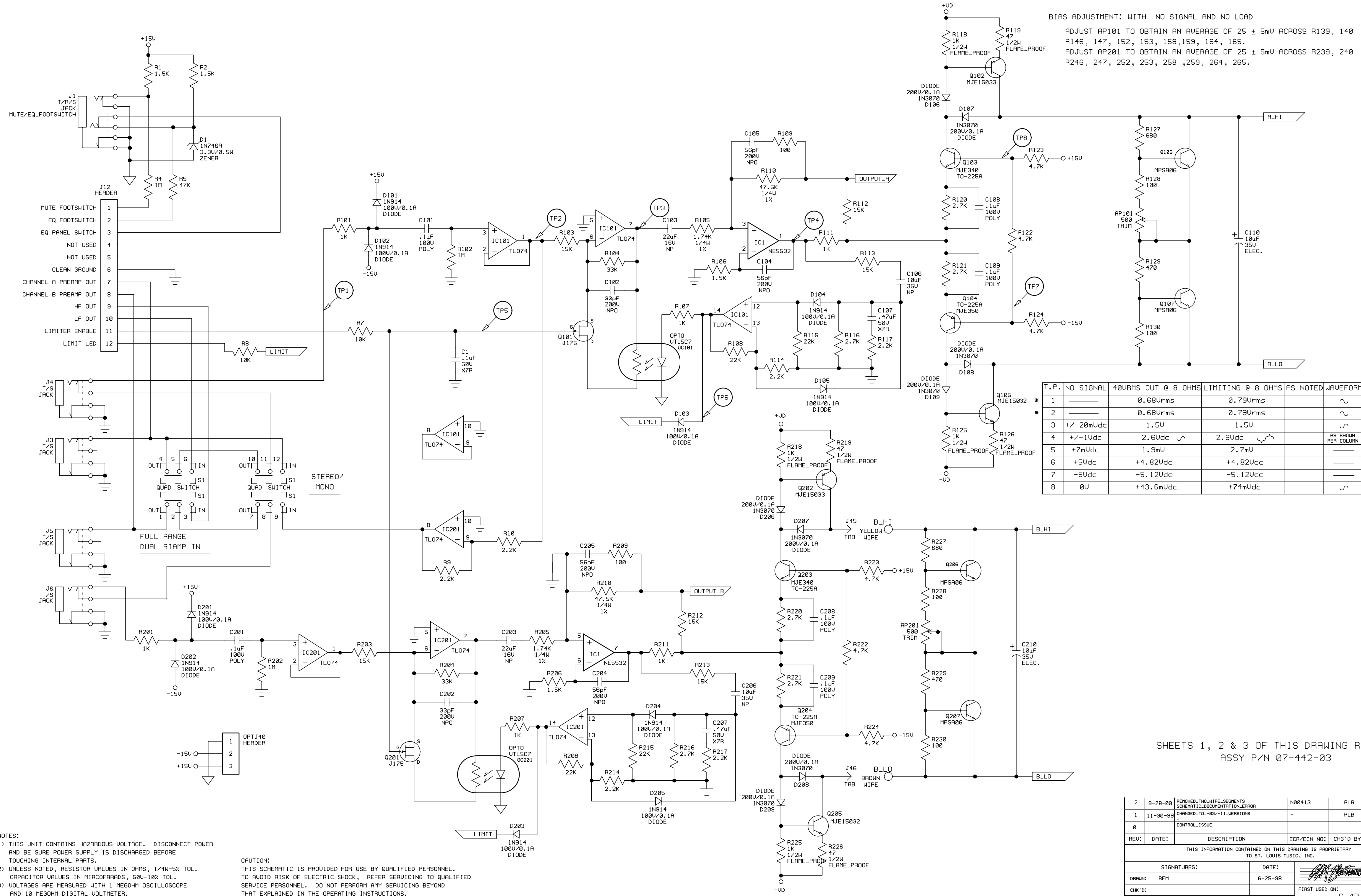
LAST USED DESIGNATOR
 R155
 C110
 D28

- NOTES:
- 1) CAUTION: SHOCK HAZARD!! THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 - 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 - 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.

CAUTION:
 THIS SCHEMATIC IS PROVIDED FOR USE BY QUALIFIED PERSONNEL. TO AVOID RISK OF ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DO NOT PERFORM ANY SERVICING BEYOND THAT EXPLAINED IN THE OPERATING INSTRUCTIONS.

SEE SHT 1 FOR REV HISTORY

SIGNATURES:	DATE:	11880 BORNMAN DR. ST. LOUIS, MISSOURI 63146	
DRAWN: RLB	5-8-98	PROJECT NAME:	B-4R
CHK'D: GM	5-8-98	DRAWING NAME:	PREAMP_SCHEMATIC
APP'D: GM	5-8-98	DRAWING NO.	07S541-01
ORIGINAL ISSUED:	5-8-98	REV.	-
PLOT DATE:	-	SCALE:	NONE
FILE NAME:	-	SHEET:	3_OF_3



BIAS ADJUSTMENT: WITH NO SIGNAL AND NO LOAD
 ADJUST AP101 TO OBTAIN AN AVERAGE OF $25 \pm 5\text{mV}$ ACROSS R139, 140, 146, 147, 152, 153, 158, 159, 164, 165.
 ADJUST AP201 TO OBTAIN AN AVERAGE OF $25 \pm 5\text{mV}$ ACROSS R239, 240, 246, 247, 252, 253, 258, 259, 264, 265.

T.P.	NO SIGNAL	40VRMS OUT @ 8 OHMS	LIMITING @ 8 OHMS	AS NOTED	WAVEFORM
1	—	0.68Vrms	0.79Vrms	—	~
2	—	0.68Vrms	0.79Vrms	—	~
3	+/-20mVdc	1.5U	1.5U	—	~
4	+/-1Vdc	2.6Vdc	2.6Vdc	AS SHOWN PER COLUMN	~
5	+7mVdc	1.9mV	2.7mV	—	~
6	+5Vdc	+4.82Vdc	+4.82Vdc	—	~
7	-5Vdc	-5.12Vdc	-5.12Vdc	—	~
8	0V	+43.6mVdc	+74mVdc	—	~

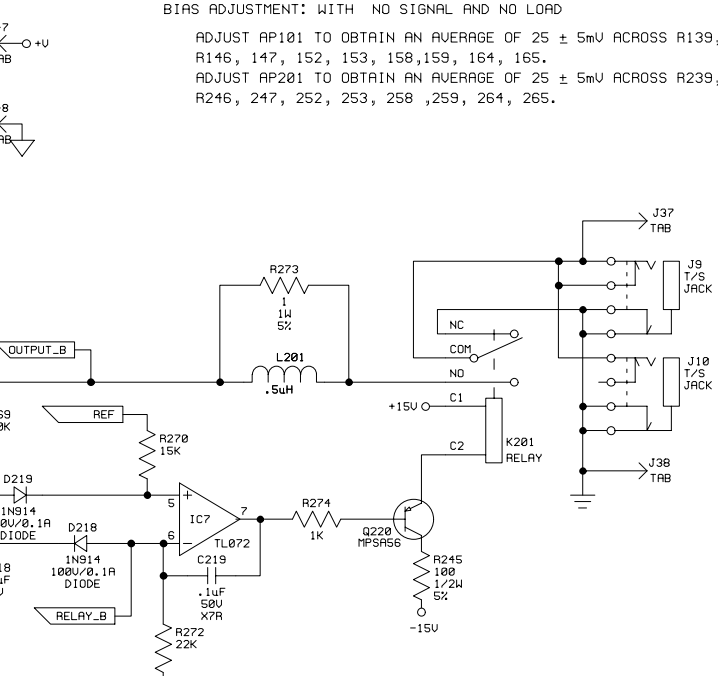
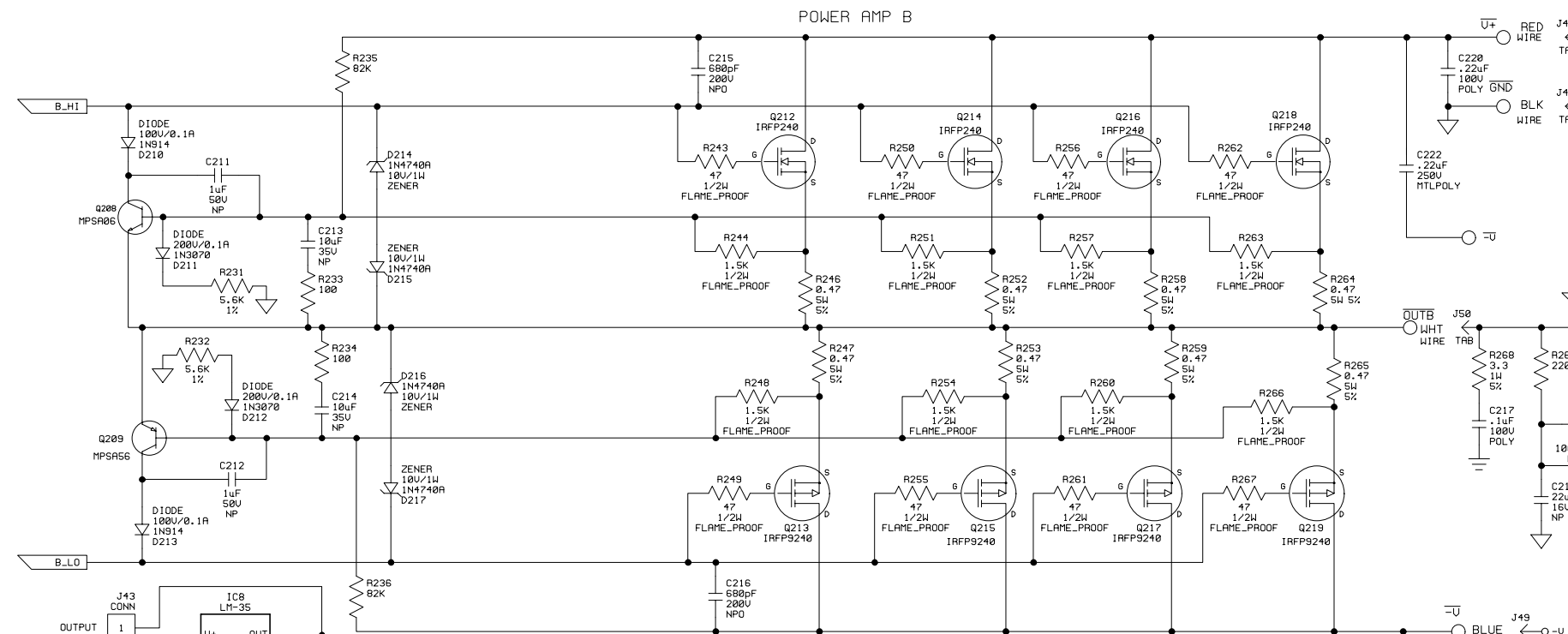
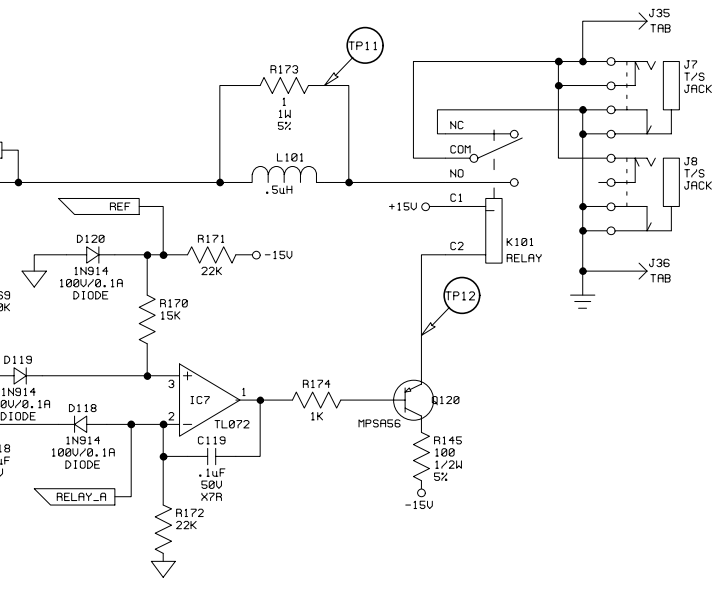
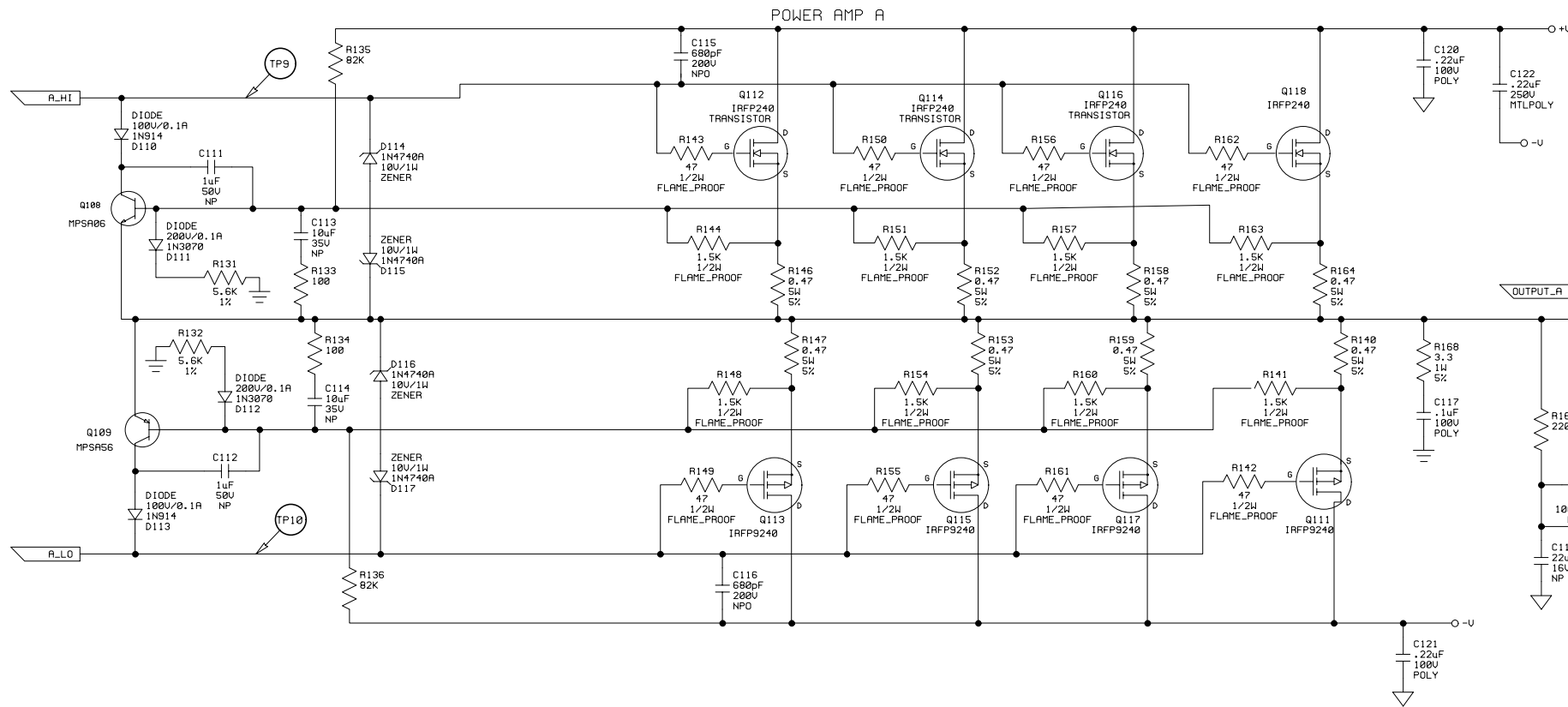
SHEETS 1, 2 & 3 OF THIS DRAWING REPRESENT ASSY P/N 07-442-03

- NOTES:
- THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 - UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4%-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50U-10% TOL.
 - VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.

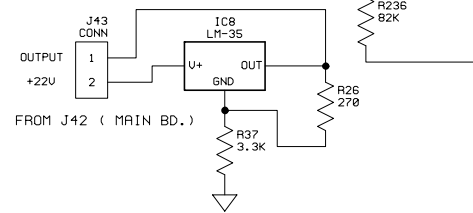
CAUTION:
 THIS SCHEMATIC IS PROVIDED FOR USE BY QUALIFIED PERSONNEL. TO AVOID RISK OF ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DO NOT PERFORM ANY SERVICING BEYOND THAT EXPLAINED IN THE OPERATING INSTRUCTIONS.

2	9-28-00	REMOVED TWO WIRE SEGMENTS SCHEMATIC DOCUMENTATION ERROR	N80+13	RLB		
1	11-30-99	CHANGED TO -03-11 VERSIONS	-	RLB		
0		CONTROL ISSUE				
REV:	DATE:	DESCRIPTION	ECR/ECN NO:	CHG'D BY:	APP'D BY:	DATE:
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.						
SIGNATURES:			DATE:		11800 Borman Dr. St. Louis, Missouri 63146	
DRAWN: REM			6-25-98		FIRST USED ON: B-4R_BASS_AMP	
CHK'D:					DRAWING TITLE: POWER_AMP	
TOLERANCES:			DRAWING SIZE: D		DRAWING NO.: 07S442-XX	
			CLASS TYPE: SCHEMATIC			
			SCALE: NONE		SHEET: SHT 1 OF 6	

T.P.	NO SIGNAL	40URMS OUT @ 8 OHMS	LIMITING @ 8 OHMS	AS NOTED	WAVEFORM
9	+3.6Vdc	40Urms	41Urms		~
10	-3.5Vdc	40Urms	41Urms		~
11	7.2mVdc	40Urms	41Urms		~
12	-11.52Vdc	-11.8Udc	-11.8Udc		~



BIAS ADJUSTMENT: WITH NO SIGNAL AND NO LOAD
 ADJUST AP101 TO OBTAIN AN AVERAGE OF 25 ± 5mV ACROSS R139, 140, R146, 147, 152, 153, 158, 159, 164, 165.
 ADJUST AP201 TO OBTAIN AN AVERAGE OF 25 ± 5mV ACROSS R239, 240, R246, 247, 252, 253, 258, 259, 264, 265.

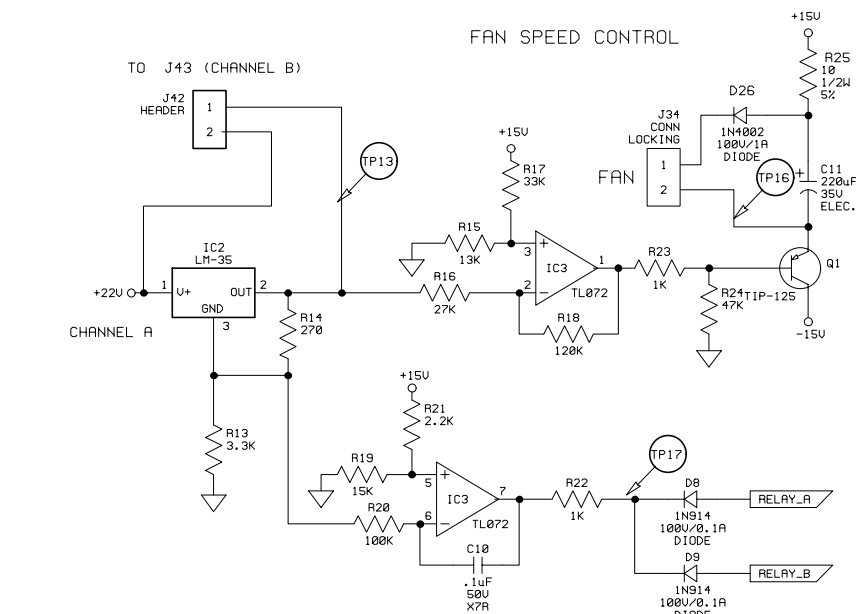
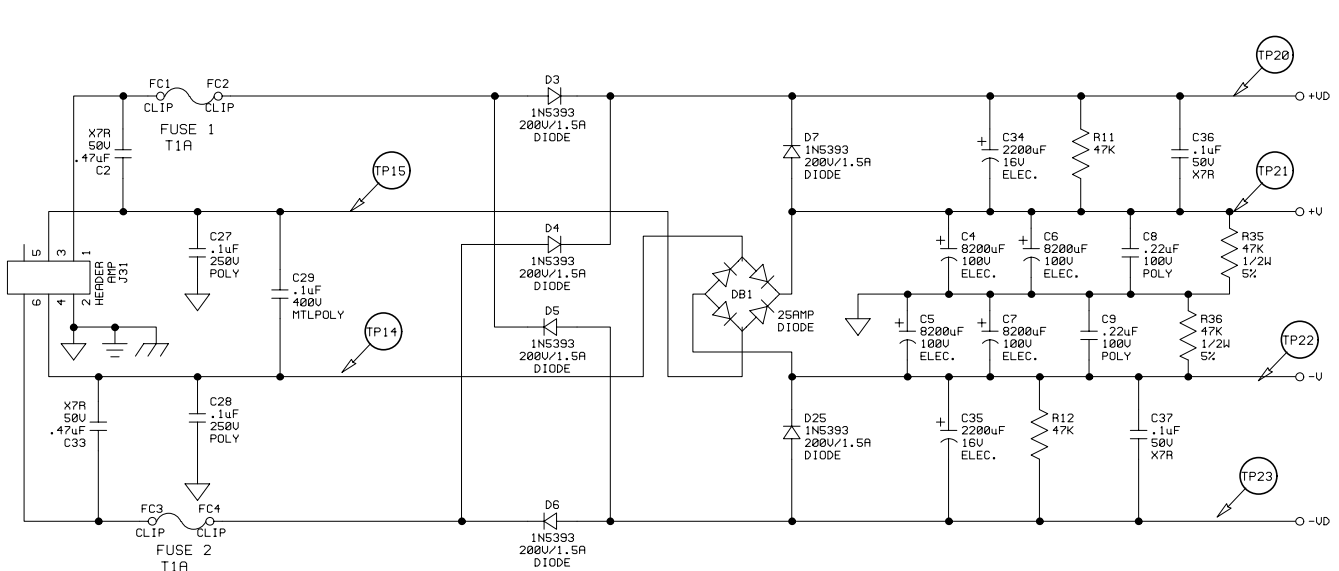
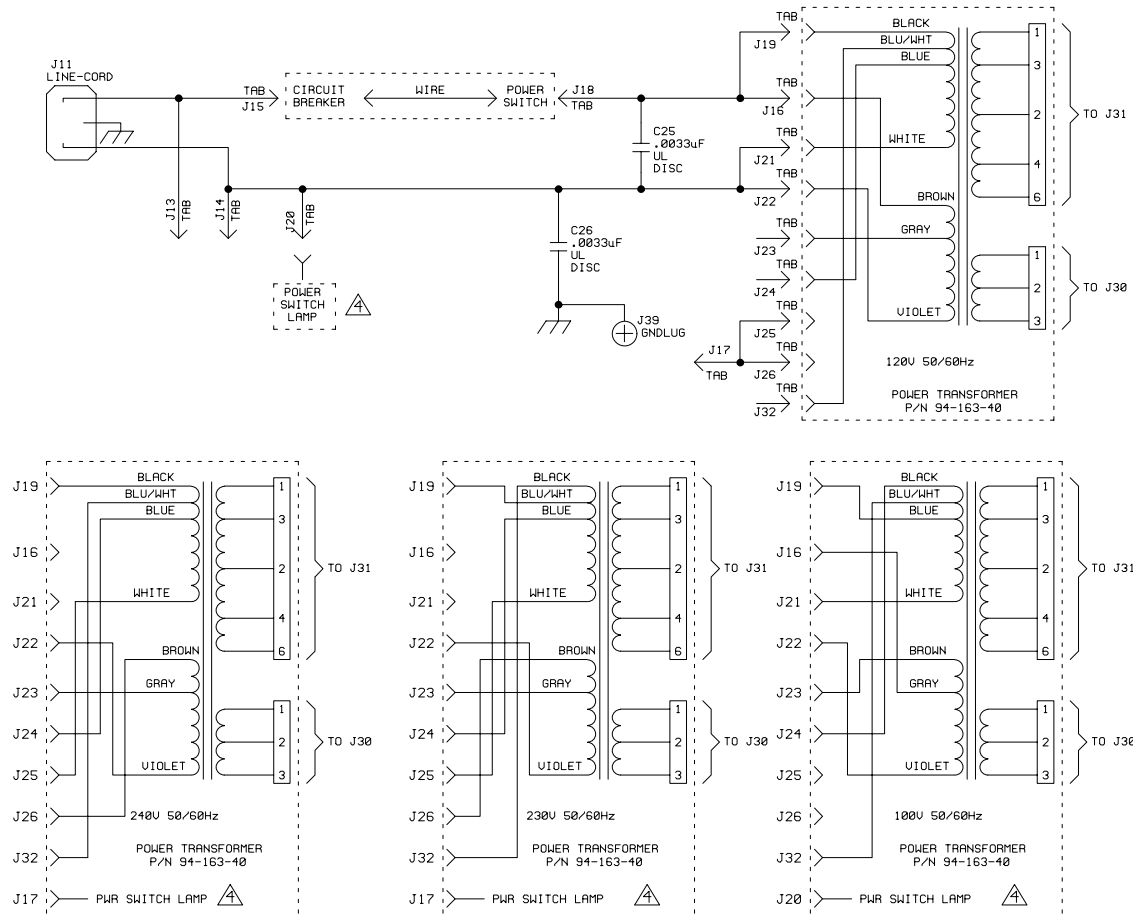


NOTES:
 1) THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.

CAUTION:
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SHEETS 1, 2 & 3 OF THIS DRAWING REPRESENT ASSY P/N 07-442-03

REV:	DATE:	DESCRIPTION:	ECR/ECN NO:	CHG'D BY:	APP'D BY:	DATE:
1		SEE_SHT_1_FOR_REV_HISTORY				
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.						
SIGNATURES:		DATE:		11880 Borman Dr. St. Louis, Missouri 63146		
DRAWN: REM	6-25-98	FIRST USED ON:		B-4R_BASS_AMP		
CHK'D:		DRAWING TITLE:		POWER_AMP		
CLS'D:		DRAWING NO.:		07S442-XX		
TOLERANCES:	DRAWING SIZE: D	SCALE: NONE		SHEET: SHT 2 OF 6		



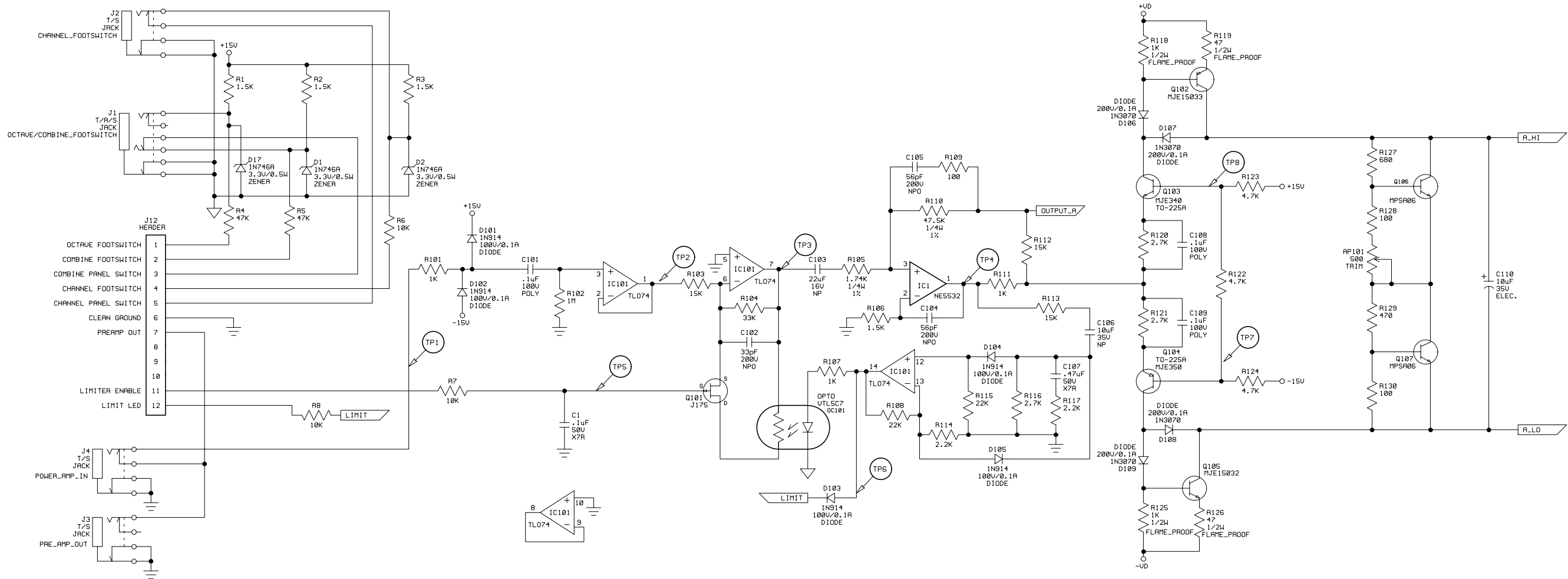
- NOTES:
- 1) THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 - 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 - 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.
 - 4) IF REQUIRED FOR CHASSIS ASSY.

CAUTION:
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TP	NO SIGNAL	40VRMS OUT @ 8 OHMS	LIMITING @ 8 OHMS AS NOTED	WAVEFORM
13	VARIES W/TEMP	Varies w/temp.	Varies w/temp.	---
14	61Vac	51Vac	51Vac	~
15	61Vac	51Vac	51Vac	~
16	+14Vdc	-4.6Vdc	-4.6Vdc	---
17	+14.4Vdc	+14.4Vdc	+14.4Vdc	---
18	20Vac	19Vac	19Vac	~
19	20Vac	19Vac	19Vac	~
20	+71Vdc	+64.5Vdc	+64.5Vdc	^^
21	+63Vdc	+59Vdc	+59Vdc	^^
22	-63Vdc	-59Vdc	-59Vdc	^^
23	-71Vdc	-64.5Vdc	-64.5Vdc	^^
24	+6Vdc	+5.73Vdc	+5.73Vdc	---
25	NOT USED			---
26	+15Vdc	+15Vdc	+15Vdc	---
27	-15Vdc	-15Vdc	-15Vdc	---
28	+14.3Vdc	+14.3Vdc	+14.3Vdc	---

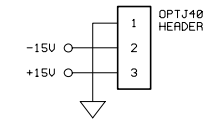
SHEETS 1, 2 & 3 OF THIS DRAWING REPRESENT ASSY P/N 07-442-03

1	SEE_SHT.1_FOR_REV.HISTORY				
REV:	DATE:	DESCRIPTION	ECR/ECN NO:	CHG'D BY:	APP'D BY:
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.					
SIGNATURES:			DATE:	11088 Borman Dr. St. Louis, Missouri 63146	
DRAWN: REM			6-25-98		
CHK'D:			FIRST USED ON: B-4R_BASS_AMP		
RLS'D:					
TOLERANCES:	DRAWING SIZE: D	DRAWING TITLE: POWER_AMP			
	DRAWING TYPE: - SCHEMATIC		DRAWING NO.: 07S442-XX		
	CLASS CODE:				
	SCALE: NONE	SHEET: SHT 3 OF 6			



BIAS ADJUSTMENT: WITH NO SIGNAL AND NO LOAD
 ADJUST AP101 TO OBTAIN AN AVERAGE OF 25 ± 5mV ACROSS R139, 140
 R146, 147, 152, 153, 158, 159, 164, 165.

T.P.	NO SIGNAL	40Vrms OUT @ 8 OHMS	LIMITING @ 8 OHMS AS NOTED	WAVEFORM
* 1	0.68Vrms	0.68Vrms	0.79Vrms	~
* 2	0.68Vrms	0.68Vrms	0.79Vrms	~
3	+/-20mVdc	1.5V	1.5V	~
4	+/-1Vdc	2.6Vdc	2.6Vdc	AS SHOWN PER COLUMN
5	+7mVdc	1.9mV	2.7mV	~
6	+5Vdc	+4.82Vdc	+4.82Vdc	~
7	-5Vdc	-5.12Vdc	-5.12Vdc	~
8	0V	+43.6mVdc	+74mVdc	~

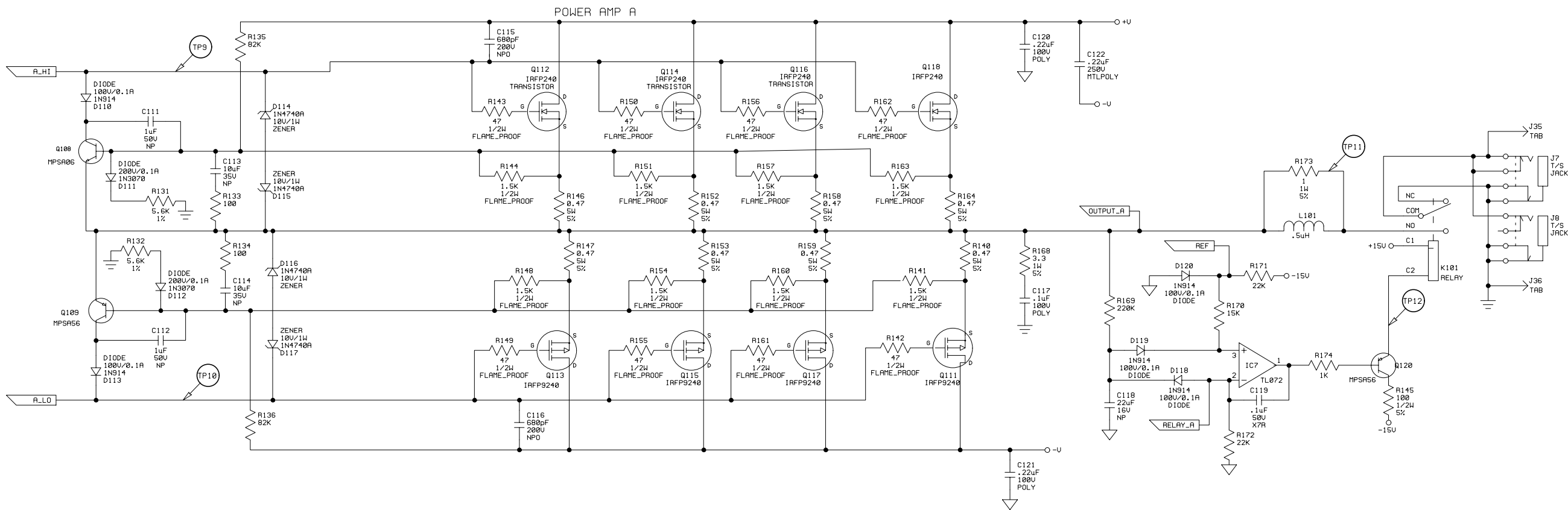


- NOTES:
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 - UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 - VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.

CAUTION:
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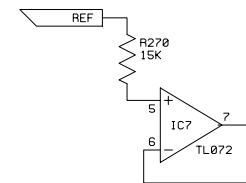
SHEETS 4, 5 & 6 OF THIS DRAWING REPRESENTS
 ASSY P/N 07-442-11

1	SEE_SHT_1_FOR_REV_HISTORY				
REV:	DATE:	DESCRIPTION	ECR/ECN NO:	CHG'D BY:	APP'D BY:
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.					
SIGNATURES:		DATE:	11888 Boreman Dr. St. Louis, Missouri 63146		
DRAWN: REM		6-25-98	FIRST USED ON: B-4R_BASS_AMP		
CHK'D:			DRAWING TITLE: POWER_AMP		
ALS'D:			DRAWING NO.:		
DRAWING SIZE: D SCHEMATIC		SCALE: NONE			
DRAWING TYPE: -		SHEET: SHT 4 OF 6			
CLASS CODE:		DRAWING NO.:			
SCALE: NONE		07S442-XX			



BIAS ADJUSTMENT: WITH NO SIGNAL AND NO LOAD
 ADJUST AP101 TO OBTAIN AN AVERAGE OF $25 \pm 5\text{mV}$ ACROSS R139, 140
 R146, 147, 152, 153, 158, 159, 164, 165.

T.P.	NO SIGNAL	40URMS OUT @ 8 OHMS	LIMITING @ 8 OHMS AS NOTED	WAVEFORM
9	+3.6Vdc	40Urms	41Urms	~
10	-3.5Vdc	40Urms	41Urms	~
11	7.2mVdc	40Urms	41Urms	~
12	-11.52Vdc	-11.8Vdc	-11.8Vdc	—

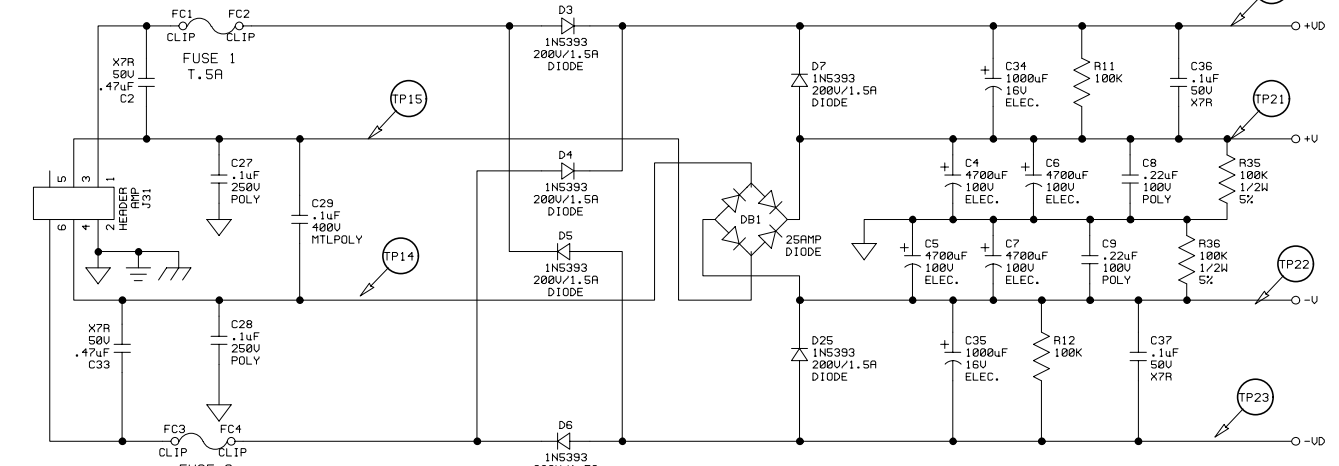
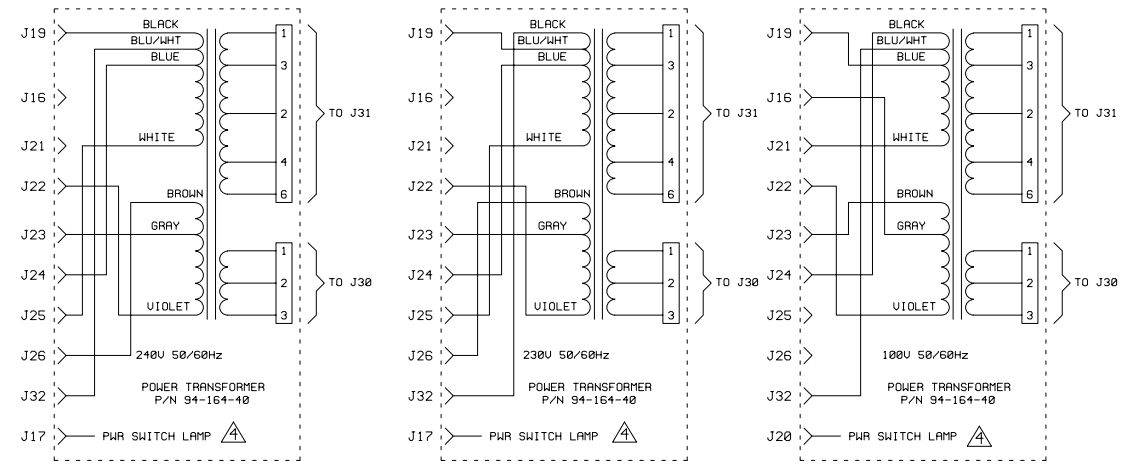
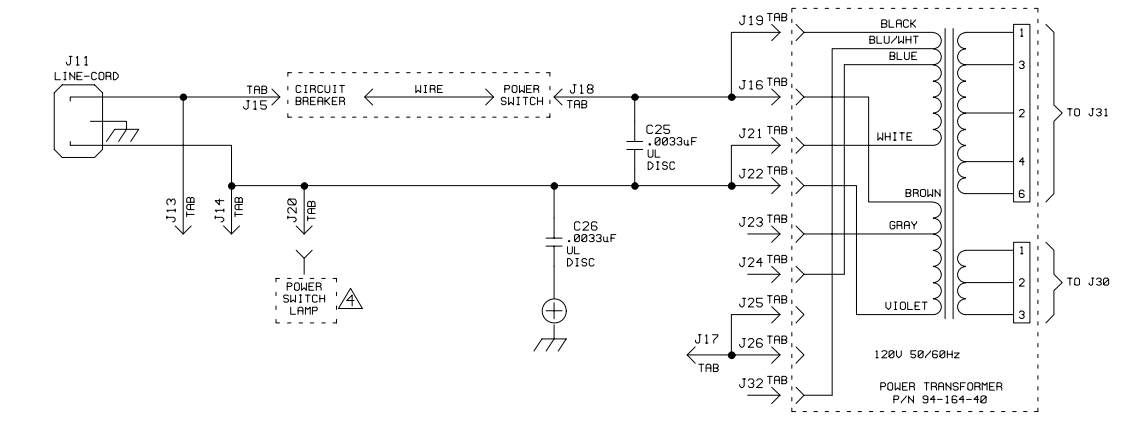


- NOTES:
- 1) THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 - 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50V-10% TOL.
 - 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.

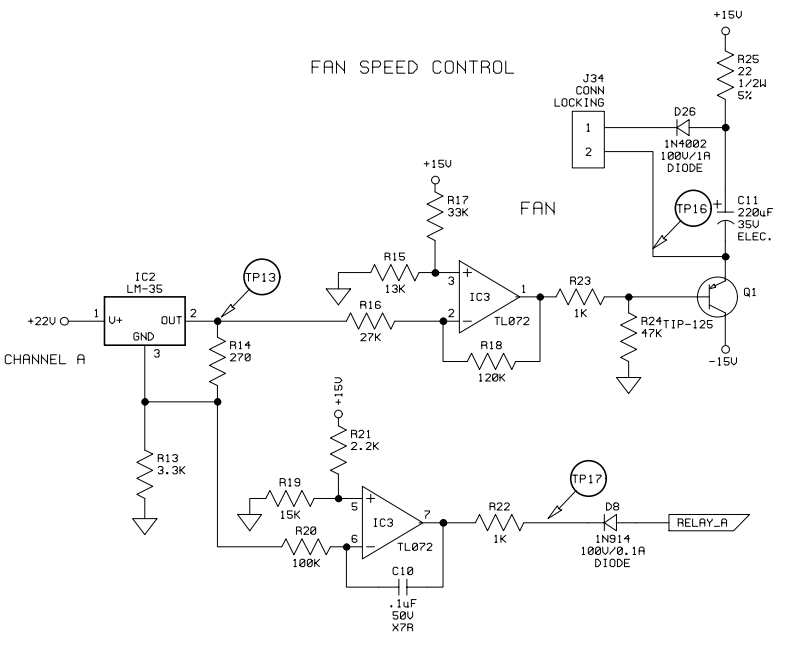
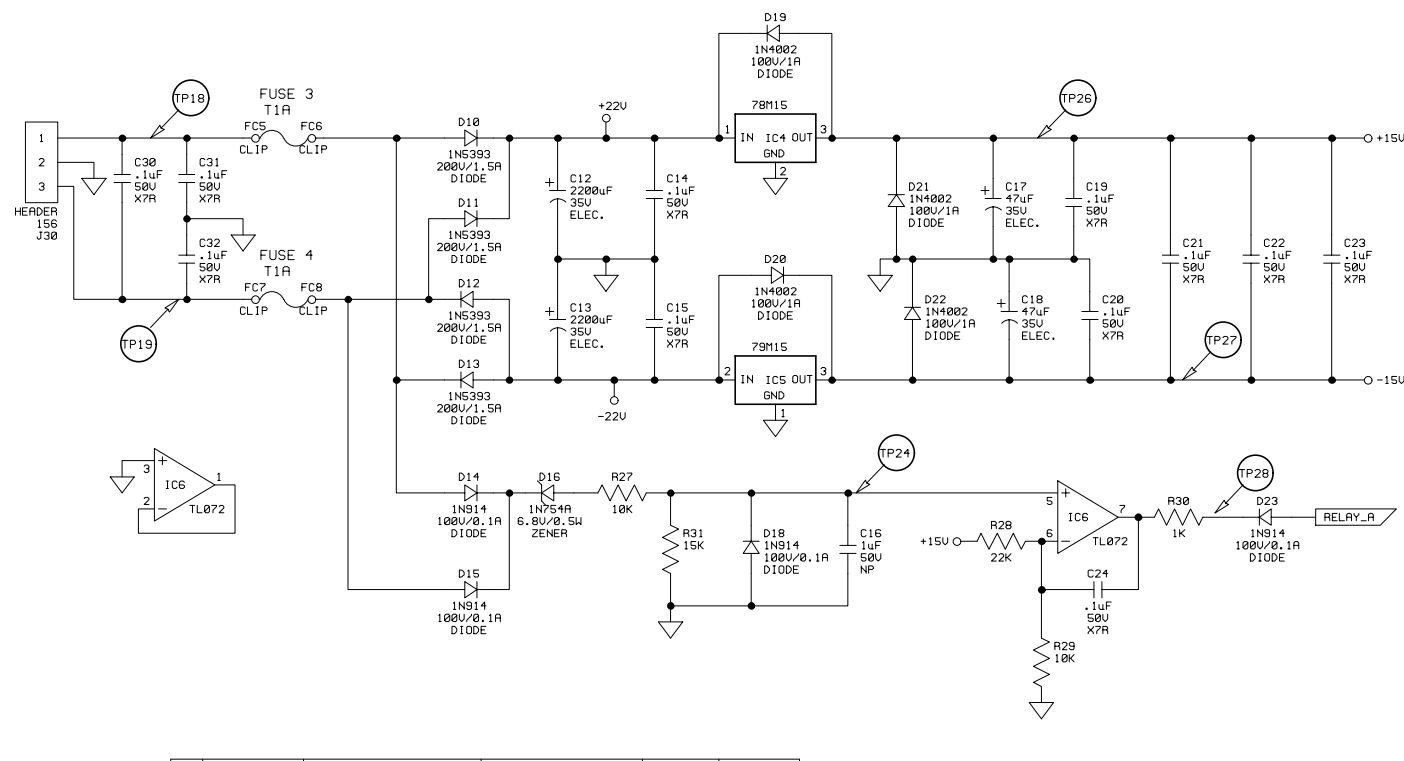
CAUTION:
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 TO AVOID RISK OF ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DO NOT PERFORM ANY SERVICING BEYOND THAT EXPLAINED IN THE OPERATING INSTRUCTIONS.

SHEETS 4, 5 & 6 OF THIS DRAWING REPRESENTS
 ASSY P/N 07-442-11

REV:	DATE:	DESCRIPTION:	ECR/ECN NO.:	CHG'D BY:	APP'D BY:	DATE:
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.						
SIGNATURES:		DATE:		11800 Borman Dr. St. Louis, Missouri 63146		
DRAWN: REM			6-25-98		FIRST USED ON: B-4R_BASS_AMP	
CHK'D:					DRAWING TITLE: POWER_AMP	
RLS'D:					DRAWING NO.:	
TOLERANCES:		DRAWING SIZE: D		DRAWING NO.:		
		DRAWING TYPE: - SCHEMATIC		DRAWING NO.:		
		CLASS CODE:		DRAWING NO.:		
		SCALE: NONE		DRAWING NO.:		
		SHEET: SHT 5 OF 6		DRAWING NO.:		
				DRAWING NO.:		



POWER SUPPLY



FAN SPEED CONTROL

FAN

OVER-TEMP PROTECTION

- NOTES:
- 1) THIS UNIT CONTAINS HAZARDOUS VOLTAGE. DISCONNECT POWER AND BE SURE POWER SUPPLY IS DISCHARGED BEFORE TOUCHING INTERNAL PARTS.
 - 2) UNLESS NOTED, RESISTOR VALUES IN OHMS, 1/4W-5% TOL. CAPACITOR VALUES IN MICROFARADS, 50W-10% TOL.
 - 3) VOLTAGES ARE MEASURED WITH 1 MEGOHM OSCILLOSCOPE AND 10 MEGOHM DIGITAL VOLTMETER.
 - 4) IF REQUIRED FOR CHASSIS ASSY.
- CAUTION:
THIS SCHEMATIC IS PROVIDED FOR USE BY QUALIFIED PERSONNEL. TO AVOID RISK OF ELECTRIC SHOCK, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL. DO NOT PERFORM ANY SERVICING BEYOND THAT EXPLAINED IN THE OPERATING INSTRUCTIONS.

TP	NO SIGNAL	40URMS OUT @ 8 OHMS	LIMITING @ 8 OHMS	AS NOTED	WAVEFORM
13	VARIES w/TEMP	Varies w/TEMP.	Varies w/TEMP.	---	---
14	61Uac	51Uac	51Uac	---	~
15	61Uac	51Uac	51Uac	---	~
16	+14Vdc	-4.6Vdc	-4.6Vdc	---	---
17	+14.4Vdc	+14.4Vdc	+14.4Vdc	---	---
18	20Uac	19Uac	19Uac	---	~
19	20Uac	19Uac	19Uac	---	~
20	+71Vdc	+64.5Vdc	+64.5Vdc	---	~
21	+63Vdc	+59Vdc	+59Vdc	---	~
22	-63Vdc	-59Vdc	-59Vdc	---	~
23	-71Vdc	-64.5Vdc	-64.5Vdc	---	~
24	+6Vdc	+5.73Vdc	+5.73Vdc	---	---
25	NOT USED				
26	+15Vdc	+15Vdc	+15Vdc	---	---
27	-15Vdc	-15Vdc	-15Vdc	---	---
28	+14.3Vdc	+14.3Vdc	+14.3Vdc	---	---

SHEETS 4, 5 & 6 OF THIS DRAWING REPRESENTS ASSY P/N 07-442-11

REV.	DATE:	DESCRIPTION	ECR/ECN NO.:	CHK'D BY:	APP'D BY:	DATE:
THIS INFORMATION CONTAINED ON THIS DRAWING IS PROPRIETARY TO ST. LOUIS MUSIC, INC.						
SIGNATURES:		DATE:	11888 Borman Dr. St. Louis, Missouri 63146			
DRAWN: REM		6-25-98				
CHK'D:		FIRST USED ON:				
ALS'D:		B-4R_BASS_AMP				
TOLERANCES:		DRAWING SIZE: D		DRAWING TITLE:		
		DRAWING TYPE: SCHEMATIC		POWER_AMP		
		CLASS CODE:		DRAWING NO.:		
		SCALE: NONE		07S442-XX		
		SHEET: SHT 6 OF 6				