

BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
 WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
 TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
 TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

NOT VALID UNLESS STAMP IS RED

gallien technology

2240 PARAGON DRIVE
 SAN JOSE CA. 95131
 VOICE: 408-441-8081
 FAX: 408-441-8085

APPROVALS		TITLE: 2001RB POWER AMP	
INIT	DATE	SIZE	DRAWING NO: 406-0130-A
DESIGNED: R.A.G.	1-29-01	B	PART NO: 206-0130-A
DRAWN: R.A.G.	4/16/01		
ELEC:		COMPANY:	GALLIEN-KRUEGER
MECH:		FILENAME:	6130A.sch
Q/A:			
RELEASED:			

To J1 On Switch Board

To J4 On Preamp

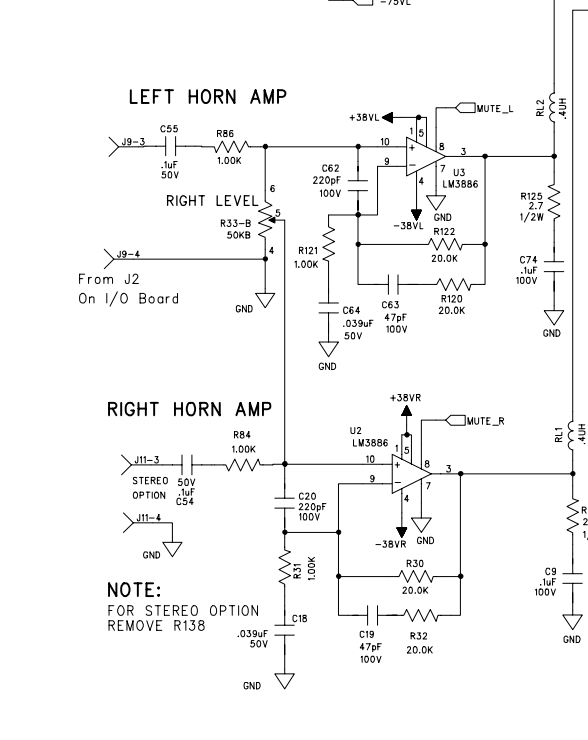
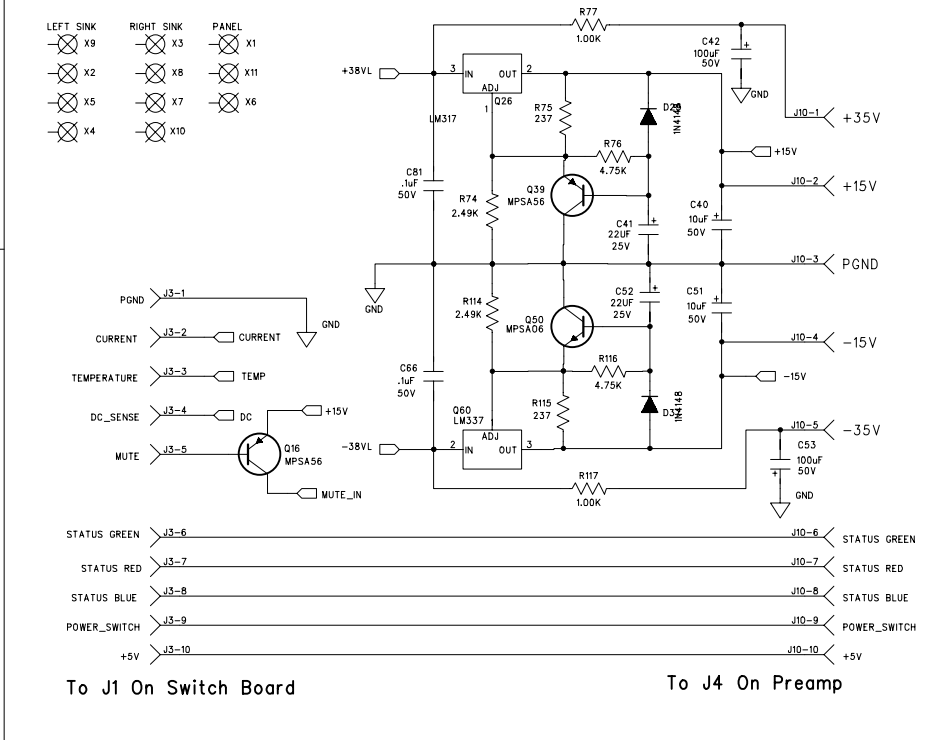
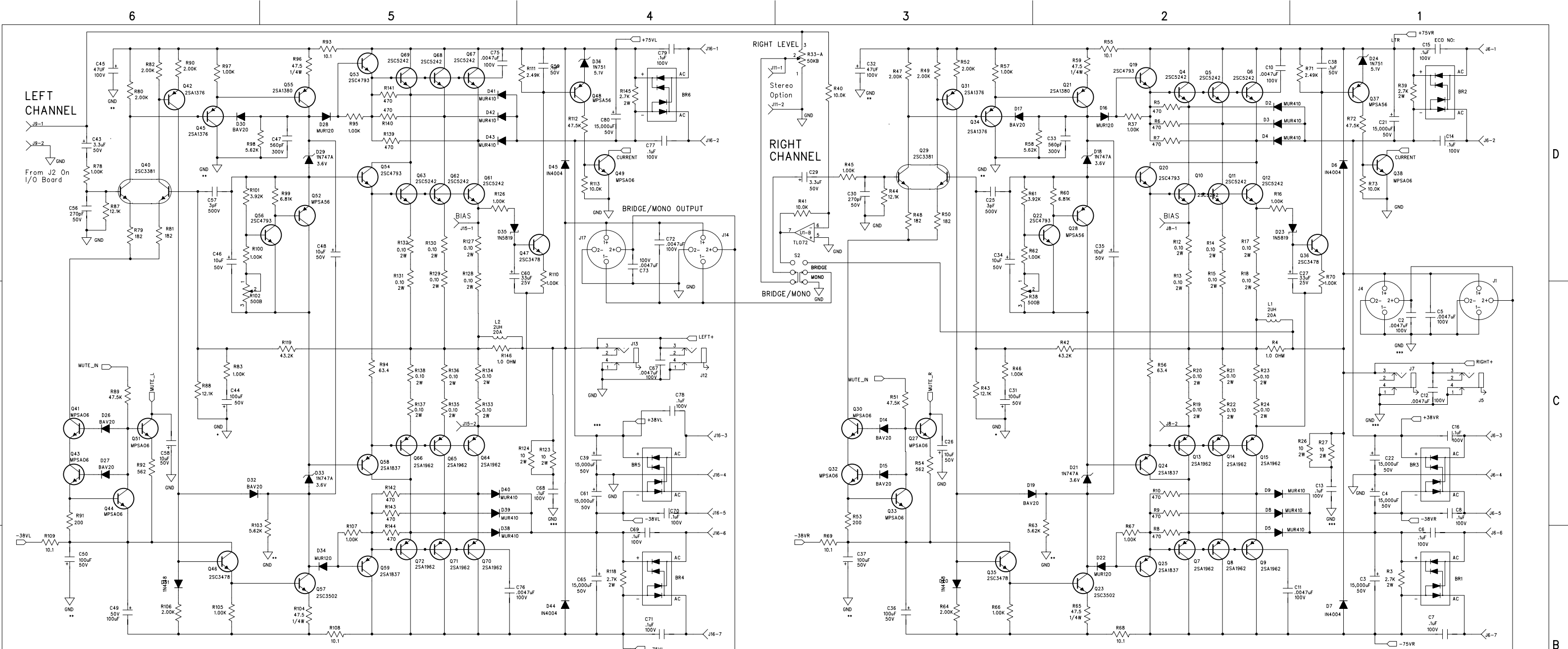
NOTE:
 FOR STEREO OPTION
 REMOVE R138

Bill of Materials 2001RB Power Amp 206-0130-A

Item	Qty	Reference	Description	Part Number
4	1	U2	LF353N DUAL JFET OP AMP	001-1030-0
5	2	U1 U3	LM3886 ,68W AUDIO POWER AMP	001-3886-0
6	2	Q29 Q40	2SC3381BL,NPNX2,80V,100MA,2-10M1B	010-0000-0
7	4	Q35-36 Q46-47	2SC3478, NPN,180V,100MA,TO-92	010-0001-0
8	2	Q24 Q54	2SC3502-F,NPN,200V,100MA,TO-126	010-0003-0
9	15	Q1 Q25-27 Q30 Q32-33 Q38 Q41 Q43-44 Q49-51 Q75	MPSAO6, NPN,80V,500MA,TO-92	010-0012-0
10	2	Q2 Q73	LM35DT, TEMPERATURE SENSOR, TO-220	010-0035-0
11	4	Q31 Q34 Q42 Q45	2SA1376, PNP,180V,100MA,TO-92	010-1002-0
12	2	Q23 Q53	2SA1380-F,PNP,200V,100MA,TO-126	010-1003-0
13	6	Q22 Q28 Q37 Q39 Q48 Q52	MPSA56 PNP 80V 500MA TO-92	010-1013-0
14	6	Q16-18 Q55-57	2SC4793,NPN,200V,1.5A,2-10R1A	012-0002-0
15	12	Q4-6 Q10-12 Q61-63 Q67-69	2SC5242,NPN,230V,15A,2-16C1A	012-0003-0
16	6	Q3 Q19-20 Q58-59 Q74	2SA1837,PNP,200V,1.5A,2-10R1A	012-1002-0
17	12	Q7-9 Q13-15 Q64-66 Q70-72	2SA1962,PNP,230V,15A,2-16C1A	012-1003-0
18	1	Q21	LM317	014-0070-0
19	1	Q60	LM337	014-1072-0
20	4	D17 D20 D28 D31	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	020-0036-0
21	2	D23 D32	1N751, ZENER,5.1V,10%,400MW,DO-35	020-0050-0
22	8	D9-12 D19 D24 D29 D33	1N4148, RECT-FAST, 200MA, 100V, 4NS, DO-35	020-1000-0
23	8	D13-14 D16 D18 D25-27 D30	BAV20, RECT, 200V, DO-35	020-1022-0
24	2	D22 D34	SHOTTKY, 1A, 40V, 10NS, DO-41	020-1104-0
25	4	D15 D21 D35-36	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04	020-1120-0
26	12	D1-5 D8 D37-42	MUR410, RECT-FAST, 4A, 100V	020-1122-0
27	4	D6-7 D43-44	1N4004,RECT,1A,150V,DO-41	020-2106-0
28	6	BR1-6	BRIDGE, 8A, 200V, VERT, PC, MO25S-02	023-0112-0
29	8	C16 C28 C30-31 C54-55 C57-58	CAP CER AXIAL,104,10%,50V,X7R	030-2104-0
30	2	C19 C61	CAP CER AXIAL,221,10%,50V,NPO	030-2221-0
31	2	C29 C53	CAP CER AXIAL, 271, 10%, 50V, NPO	030-2271-0
32	2	C17 C63	CAP CER AXIAL, 393, 10%, 50V, X7R	030-2393-0
33	2	C18 C62	CAP CER AXIAL,47PF,10%,50V,NPO	030-2470-0
34	10	C4-5 C9-10 C14 C67 C71-72 C76-77	CAP CER AXIAL,472,10%,50V,X7R	030-2472-0
35	12	C6-8 C11-13 C66 C69-70 C73-75	CAP CER AXIAL,104,10%,100V, ,X7R	030-4104-0
36	2	C40 C50	CAP,ELEC,RAD,226, 20%,25V	031-1226-0

37	4	C22 C25-26 C60	CAP,ELEC,RAD,336,-10%+50%,25V	031-1336-0
38	2	C32 C42	CAP,ELEC,RAD, 105, -10%+50%, 50V	031-2105-0
39	10	C1 C24 C35-36 C39 C45-46 C49 C56 C80	CAP,ELEC,RAD, 106, -10%+50%, 50V	031-2106-0
40	8	C33 C37-38 C41 C43 C47-48 C51	CAP,ELEC,RAD,107, - 10%, +50%, 50V	031-2107-0
41	8	C2-3 C20-21 C64-65 C78-79	CAP, ELEC, RAD, 159, -10% +50%, 50V	031-2159-0
42	2	C34 C44	CAP,ELEC,RAD,476,-10%+50%,100V	031-4476-0
43	2	C15 C68	CAP CER AXIAL,104,10%, 100V, ,X7R	032-4104-0
44	2	C23 C59	CAP MICA AXIAL , 3R0, 10%, 500V, X7R	035-8030-0
45	2	C27 C52	CAP MICA RADIAL, 561, 5%, 300V	035-8561-0
46	14	R5-10 R34 R117 R137-142	RES, CARBON FILM, 470 OHM, 1/8W, 5%	050-4701-0
47	4	R56 R62 R112 R114	RES,METAL FILM,47.5 OHM, 1/4W,1%	052-4750-0
48	24	R11-14 R16-23 R125-136	RES, CERAMIC, 0.1, WW, 1W, 5%	054-.100-0
49	2	R2 R145	RES, CERAMIC, 0.33, WW, 1W, 5%	054-.330-0
50	4	R24-25 R122-123	RES, METAL OXIDE, 10 OHM, 2W, 5%	055-0101-0
51	4	R3 R38 R111 R143	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	055-2702-0
52	2	R4 R144	RES, WIRE WOUND, 1.0 OHM, 5W, 10%	056-0100-0
53	2	R1 R146	RES,CARBON FILM,100 OHM,1/8W,5%	060-1001-0
54	22	R15 R29 R42-43 R54 R59 R63-64 R67 R74 R77 R82 R92 R95 R98 R100 R103 R110 R115-116 R120 R124	RES,METAL FILM, 1.00K, 1/8W, 1%	060-1002-0
55	5	R27 R70 R75-76 R106	RES, METAL FILM, 10.0K, 1/8W, 1%	060-1003-0
56	4	R26 R31 R35 R83	RES, METAL FILM, 100K, 1/8W, 1%	060-1004-0
57	6	R52 R65-66 R90 R101-102	RES,METAL FILM, 10.1, 1/8W, 1%	060-1010-0
58	4	R40-41 R84-85	RES,METAL FILM, 12.1K OHM, 1/8W, 1%	060-1213-0
59	4	R45 R47 R78 R80	RES,METAL FILM, 182, 1/8W, 1%	060-1821-0
60	2	R50 R88	RES, METAL FILM, 200, 1/8W, 1%	060-2001-0
61	8	R44 R46 R49 R61 R79 R81 R87 R99	RES,METAL FILM, 2.00K, 1/8W, 1%	060-2002-0
62	4	R28 R30 R119 R121	RES,METAL FILM, 20.0K, 1/8W, 1%	060-2003-0
63	2	R72 R108	RES,METAL FILM, 237 ohm, 1/8W, 1%	060-2371-0
64	2	R68 R104	RES, METAL FILM, 2.49K, 1/8W, 1%	060-2492-0
65	2	R71 R107	RES,METAL FILM, 2.49K, 1/8W, 1%	060-2492-0
66	2	R58 R96	RES,METAL FILM, 3.92K, 1/8W, 1%	060-3922-0

67	2	R39 R118	RES,METAL FILM, 43.2K, 1/8W, 1%	060-4323-0
68	2	R73 R109	RES,METAL FILM, 4.75K, 1/8W, 1%	060-4752-0
69	4	R48 R69 R86 R105	RES,METAL FILM, 47.5K, 1/8W, 1%	060-4753-0
70	2	R51 R89	RES,METAL FILM, 562, 1/8W, 1%	060-5621-0
71	4	R55 R60 R93 R97	RES, METAL FILM, 5.62K, 1/8W, 1%	060-5622-0
72	2	R53 R91	RES, METAL FILM, 63.4, 1/8W, 1%	060-6340-0
73	1	R36	RES, METAL FILM, 681, 1/8W, 1%	060-6811-0
74	2	R57 R94	RES, METAL FILM, 6.81K, 1/8W, 1%	060-6812-0
75	1	R37	RES,METAL FILM, 9.09K, 1/8W, 1%	060-9092-0
76	2	R33 R113	POT,500B TRIM,.375 ROUND, SLOT,.5W	070-0520-0
77	1	R32	POT, 2X50KB, 7MM, KNURL, .1W	070-1523-0
78	2	RL1-2	INDUCTOR .4UH WITH 1 OHM 2W RESISTOR	081-0032-0
79	2	L1-2	INDUCTOR,2UH,20A,AIR CORE	081-0055-0
80	1	S2	SWITCH, DPDT,10A,SLIDE,PC	090-0009-0
81	2	S1 S3	THRM BRKR, 85C +/-5,0-DIFF, PC	091-1001-0
82	4	J2 J4 J15 J17	JACK,SPEAKON,PC MOUNT, NEUTRIK NL4MD-H	092-0070-0
83	4	J5 J7 J12-13	JACK,1/4",MONO,PC, GROUNDING	092-0082-0
84	4	J1 J8 J16 J18	HDR,.1X2,VERT,MALE,LOCK,GOLD	093-0025-0
85	2	J10-11	HSG, 2MMX4, 26GA, IDC	093-0045-0
86	2	J3 J9	HDR, 2MMX10, VERT, SHROUDED	093-0091-0
87	2	J6 J14	HDR,.156X7,VERT,MALE,LOCK,SQUARE	093-1010-0



NOT VALID UNLESS STAMP IS RED

gallien technology

2240 PARAGON DRIVE
SAN JOSE CA. 95131
VOICE: 408-441-8081
FAX: 408-441-8085

APPROVALS		TITLE: 2001RB POWER AMP	
DESIGNED: R.A.G.	DATE: 1-29-01	SIZE: B	DRAWING NO: 406-0130-A1
DRAWN: R.A.G.	DATE: 6/12/01	PART NO: 206-0130-A1	REV: A1
ELEC:		COMPANY: GALLIEN-KRUEGER	
MECH:		FILENAME: 6130A1.sch	
Q/A:			
RELEASED:			

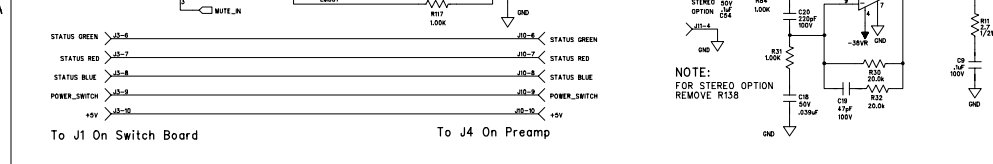
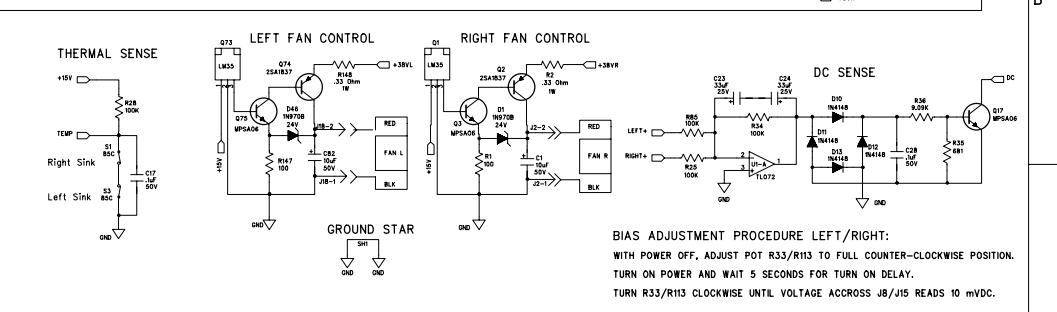
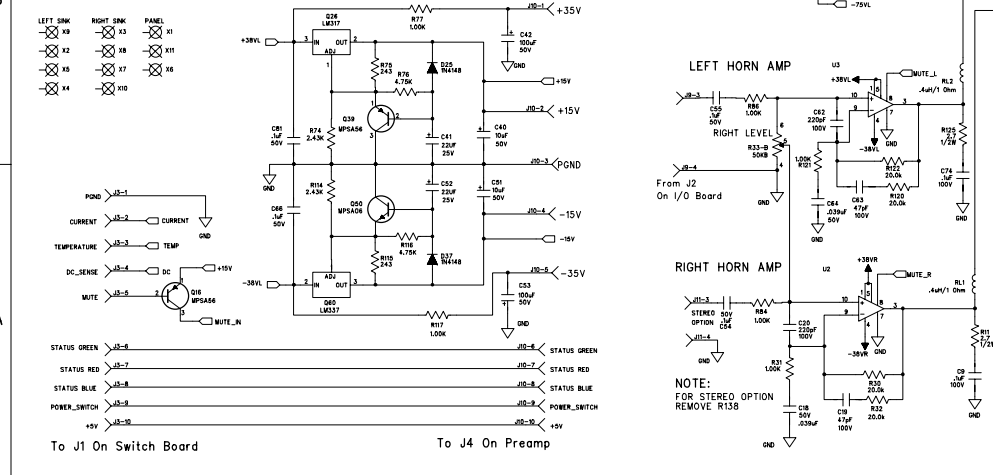
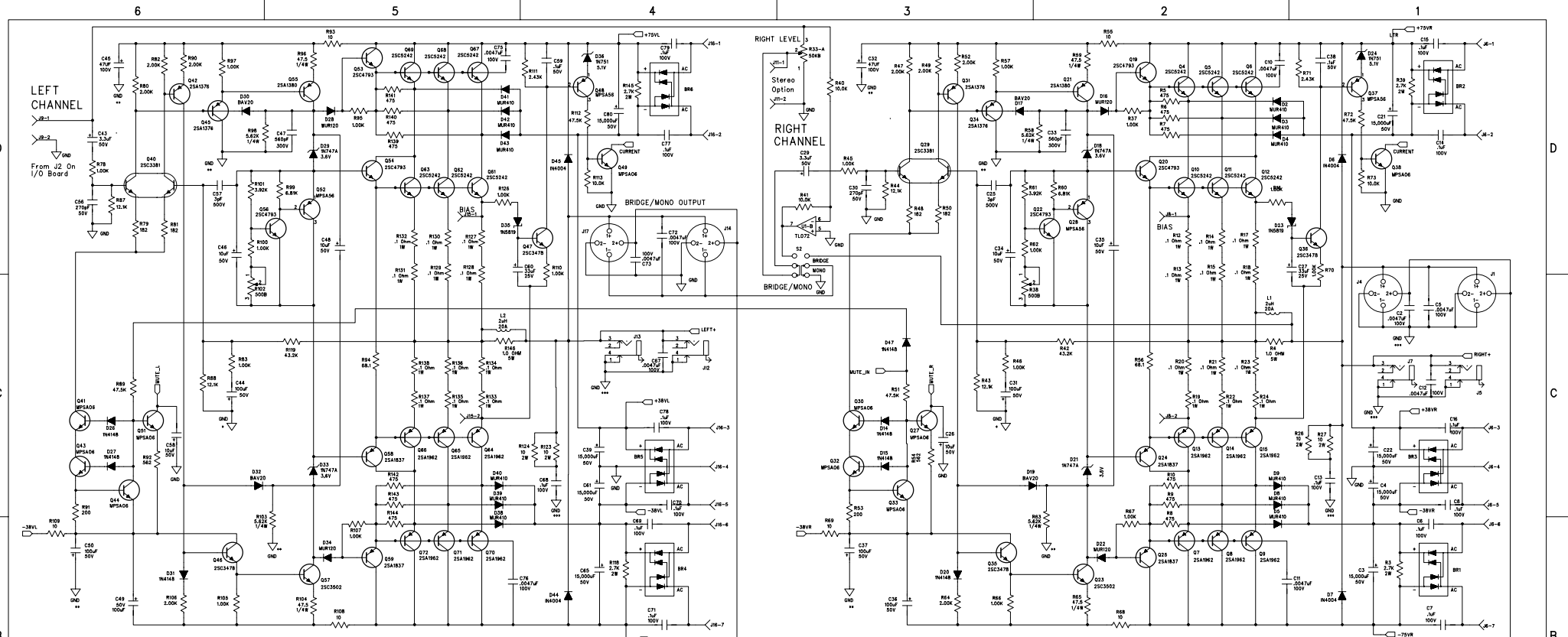
BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
 WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
 TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
 TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

NOTE:
 FOR STEREO OPTION
 REMOVE R13B

Bill of Materials 2001RB Power Amp 206-0130-A1

Qty	Reference	Description	Part Number	MFR	MFR PART NO.
2	C18 C64	CAP CER AXIAL, 393, 10%, 50V, X7R	030-2393-0	KEMET	C410C393K5R5CA
12	C6-8 C14-16 C69-71 C77-79	CAP CER AXIAL,104,10%,100V, ,X7R	030-4104-0	KEMET	C430C104K1R5CA
4	C9 C13 C68 C74	CAP,PE,104,10%,100V,	032-4104-0	PACCOM	85104J100A5S5
8	C17 C28 C38 C54-55 C59 C66 C81	CAP CER AXIAL,104,10%,50V,X7R	030-2104-0	KEMET	C412C104K5R5CA
8	C31 C36-37 C42 C44 C49-50 C53	CAP,ELEC,RAD,107, 20%, 50V	031-2107-0	UNITED CHEMI-CON	SMG50VB101M8X11LL
10	C1 C26 C34-35 C40 C46 C48 C51 C58 C82	CAP,ELEC,RAD, 106, 20%, 50V	031-2106-0	UNITED CHEMI-CON	SMG50VB10RM5X11LL
8	C3-4 C21-22 C39 C61 C65 C80	CAP, ELEC, RAD, 159, 20%, 50V	031-2159-0	UNITED CHEMI-CON	SMH50VN153M35X45T2
2	C20 C62	CAP CER AXIAL,221,5%,100V,NPO	030-4221-0	KEMET	C410C221J1G5CA
2	C41 C52	CAP,ELEC,RAD,226, 20%,25V	031-1226-0	UNITED CHEMI-CON	SRG25VB22RM5X7LL
2	C30 C56	CAP CER AXIAL, 271, 5%, 100V, NPO	030-4271-0	KEMET	C410C271J1G5CA
2	C29 C43	CAP,ELEC,RAD,335,20%,50V	031-2335-0	UNITED CHEMI-CON	SMG50VB3R3M5X11LL
4	C23-24 C27 C60	CAP,ELEC,RAD,336,20%,25V	031-1336-0	UNITED CHEMI-CON	SRG25VB33RM5X7LL
2	C25 C57	CAP MICA AXIAL , 3pF, 10%, 500V	035-8030-0	CORNELL	CD10CD030D03
10	C2 C5 C10-12 C67 C72-73 C75-76	CAP CER AXIAL, 472, 10%, 100V,,X7R	030-4472-0	KEMET	C410C472K1R5CA
2	C19 C63	CAP CER AXIAL,47PF,5%,100V,NPO	030-4470-0	KEMET	C410C470J1G5CA
2	C32 C45	CAP,ELEC,RAD,476,-10%+50%,100V	031-4476-0	UNITED CHEMI-CON	SMG100VB47RM10X12LL
2	C33 C47	CAP MICA RADIAL, 561, 5%, 300V	035-8561-0	CORNELL	CD15FC561J03
4	J5 J7 J12-13	JACK,1/4",MONO,PC, GROUNDING	092-0082-0	NEUTRIK	S102-84G
4	J1 J4 J14 J17	JACK,SPEAKON,PC MOUNT, NEUTRIK NL4	092-0070-0	SWITCHCRAFT	HPCP41RA
4	D6-7 D44-45	1N4004,RECT,1A,150V,DO-41	020-2106-0	TAITRON	1N4004
8	D10-13 D20 D25 D31 D37	1N4148, RECT-FAST, 200MA, 100V	020-1000-0	MOTOROLA	1N4148
2	D23 D35	SHOTTKY, 1A, 40V, 10NS, DO-41	020-1104-0	MOTOROLA	1N5819
4	D18 D21 D29 D33	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	020-0036-0	TAITRON	1N747A
2	D24 D36	1N751, ZENER,5.1V,10%,400MW,DO-35	020-0050-0	NATIONAL	1N751A
2	D1 D46	1N970B, ZENER, 24V, 5%, 500MW, DO-35	020-0240-0	TAITRON	1N970B
8	D14-15 D17 D19 D26-27 D30 D32	BAV20, RECT, 200V, DO-35	020-1022-0	NATIONAL	BAV20
6	BR1-6	BRIDGE, 25A, 200V, VERT, PC, MO25S-02	023-0112-0	CHENG-YI	MP25-02S
4	D16 D22 D28 D34	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04	020-1120-0	MOTOROLA	MUR120
12	D2-5 D8-9 D38-43	MUR410, RECT-FAST, 4A, 100V	020-1122-0	MOTOROLA	MUR410
2	S1 S3	THRM BRKR, 85C +/-5,0-DIFF, PC	091-1001-0	KLIXON	7AM-024-A5
4	J2 J8 J15 J18	HDR,,1X2,VERT,MALE,LOCK,GOLD	093-0025-0		
2	J6 J16	HDR,,156X7,VERT,MALE,LOCK,SQUARE	093-1010-0		
2	J3 J10	HDR, 2MMX10, VERT, SHROUDED	093-0091-0		
2	J9 J11	HDR, 2MMX4, VERT, LOCK	093-0045-0		
1	U1	LF353N DUAL JFET OP AMP	001-1030-0		
2	U2-3	LM3886 ,68W AUDIO POWER AMP	001-3886-0		
1	Q26	LM317	014-0070-0		
1	Q60	LM337	014-1072-0		
2	Q1 Q73	LM35DT, TEMPERATURE SENSOR, TO-220	010-0035-0		
2	RL1-2	INDUCTOR .4UH WITH 1 OHM 2W RESISTC	081-0032-0		
2	L1-2	INDUCTOR,2UH,20A,AIR CORE	081-0055-0		
3	X1 X6 X11	.125 HOLE, NON-PLATED	000-0000-0		
8	X2-5 X7-10	.200 HOLE, NON-PLATED, OVAL 530	000-0000-0		
2	R38 R102	POT,500B TRIM, 200mW	070-0520-0	SONG HUEI	SH-655MCL-500B
1	R33	POT, 2X50KB, 7MM, KNURL, .1W	070-1253-0	SONG HUEI	16T1-B50K, L-15KC/7MM
24	R12-15 R17-24 R127-138	RES, CERAMIC, 0.1, WW, 1W, 5%	054-100-0		
2	R2 R148	RES, CERAMIC, 0.33, WW, 1W, 5%	054-.330-0		

22	R16 R31 R45-46 R57 R62 R66-67 R70 R77-78 R83-84 R86 R97 R100 R105 R107 R110 R117 R121 R126	RES,METAL FILM, 1.00K, 1/8W, 1%	060-1002-0		
2	R4 R146	RES, WIRE WOUND, 1.0 OHM, 5W, 10%	056-0100-0		
5	R29 R40-41 R73 R113	RES, METAL FILM, 10.0K, 1/8W, 1%	060-1003-0		
6	R55 R68-69 R93 R108-109	RES,METAL FILM, 10.1, 1/8W, 1%	060-1010-0		
4	R25 R28 R34 R85	RES, METAL FILM, 100K, 1/8W, 1%	060-1004-0		
2	R1 R147	RES,CARBON FILM,100 OHM,1/8W,5%	060-1001-0		
4	R26-27 R123-124	RES, METAL OXIDE, 10 OHM, 2W, 5%	055-0101-0		
4	R43-44 R87-88	RES,METAL FILM, 12.1K OHM, 1/8W, 1%	060-1213-0		
4	R48 R50 R79 R81	RES,METAL FILM, 182, 1/8W, 1%	060-1821-0		
8	R47 R49 R52 R64 R80 R82 R90 R106	RES,METAL FILM, 2.00K, 1/8W, 1%	060-2002-0		
2	R71 R111	RES, METAL FILM, 2.49K, 1/8W, 1%	060-2492-0		
2	R74 R114	RES,METAL FILM, 2.49K, 1/8W, 1%	060-2492-0		
4	R3 R39 R118 R145	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	055-2702-0		
2	R11 R125	RES ,CARBON FILM,2.7 ,1/2W,5%	053-0270-0		
4	R30 R32 R120 R122	RES,METAL FILM, 20.0K, 1/8W, 1%	060-2003-0		
2	R53 R91	RES, METAL FILM, 200, 1/8W, 1%	060-2001-0		
2	R75 R115	RES,METAL FILM, 237 ohm, 1/8W, 1%	060-2371-0		
2	R61 R101	RES,METAL FILM, 3.92K, 1/8W, 1%	060-3922-0		
2	R76 R116	RES,METAL FILM, 4.75K, 1/8W, 1%	060-4752-0		
2	R42 R119	RES,METAL FILM, 43.2K, 1/8W, 1%	060-4323-0		
4	R51 R72 R89 R112	RES,METAL FILM, 47.5K, 1/8W, 1%	060-4753-0		
4	R59 R65 R96 R104	RES,METAL FILM,47.5 OHM, 1/4W,1%	052-4750-0		
14	R5-10 R37 R95 R139-144	RES, CARBON FILM, 470 OHM, 1/8W, 5%	050-4701-0		
4	R58 R63 R98 R103	RES, METAL FILM, 5.62K, 1/8W, 1%	060-5622-0		
2	R54 R92	RES,METAL FILM, 562, 1/8W, 1%	060-5621-0		
2	R60 R99	RES, METAL FILM, 6.81K, 1/8W, 1%	060-6812-0		
2	R56 R94	RES, METAL FILM, 63.4, 1/8W, 1%	060-6340-0		
1	R35	RES, METAL FILM, 681, 1/8W, 1%	060-6811-0		
1	R36	RES,METAL FILM, 9.09K, 1/8W, 1%	060-9092-0		
1	S2	SWITCH, DPDT,10A,SLIDE,PC	090-0009-0	C&K	V802-13-SL-08-Q
4	Q31 Q34 Q42 Q45	2SA1376, PNP,180V,100MA,TO-92	010-1002-0	NEC	2SA1376-K
2	Q21 Q55	2SA1380-F,PNP,200V,100MA,TO-126	010-1003-0	SANYO/TOSHIBA	2SA1380-F/E
6	Q2 Q24-25 Q58-59 Q74	2SA1837,PNP,200V,1.5A,2-10R1A	012-1002-0	TOSHIBA	2SA1837
12	Q7-9 Q13-15 Q64-66 Q70-72	2SA1962,PNP,230V,15A,2-16C1A	012-1003-0	TOSHIBA	2SA1962
2	Q29 Q40	2SC3381BL,NPNX2,80V,100MA,2-10M1B	010-0000-0	TOSHIBA	2SC3381BL
4	Q35-36 Q46-47	2SC3478, NPN,180V,100MA,TO-92	010-0001-0	NEC	2SC3478-K
2	Q23 Q57	2SC3502-F,NPN,200V,100MA,TO-126	010-0003-0	TOSHIBA	2SC3502
6	Q19-20 Q22 Q53-54 Q56	2SC4793,NPN,200V,1.5A,2-10R1A	012-0002-0	TOSHIBA	2SC4793
12	Q4-6 Q10-12 Q61-63 Q67-69	2SC5242,NPN,230V,15A,2-16C1A	012-0003-0	TOSHIBA	2SC5242-O
15	Q3 Q17-18 Q27 Q30 Q32-33 Q38 Q41 Q43-44 Q49-51 Q75	MPSA06, NPN,80V,500MA,TO-92	010-0012-0	MOTOROLA	MPSA06
6	Q16 Q28 Q37 Q39 Q48 Q52	MPSA56 PNP 80V 500MA TO-92	010-1013-0	MOTOROLA	MPSA56



NOT VALID UNLESS STAMP IS RED

gallien technology

2240 PARAGON DRIVE
SAN JOSE CA. 95131
VOICE: 408-441-8081
FAX: 408-444-8055

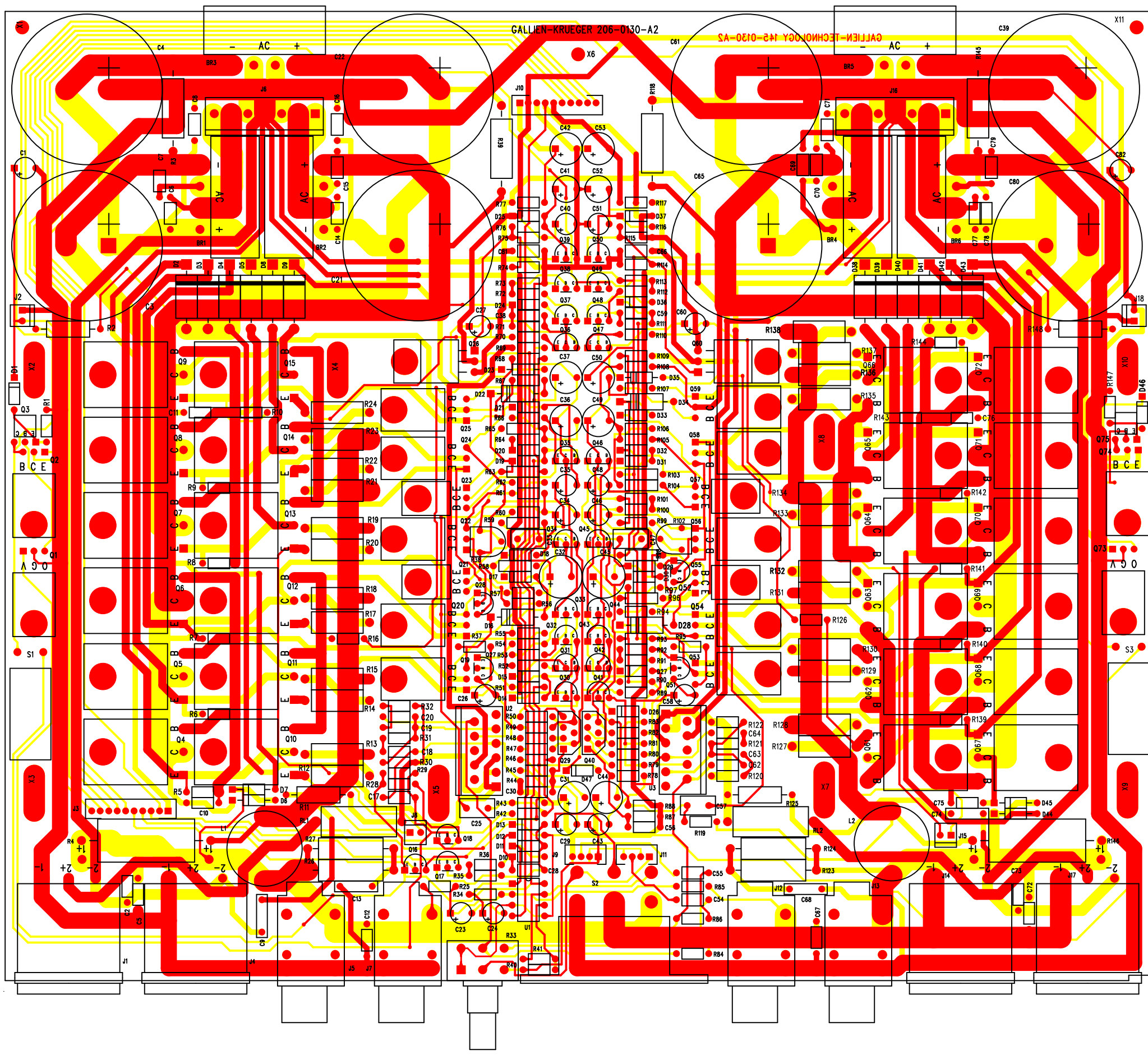
APPROVALS		DATE		TITLE	
INT		1-29-01		2001RB POWER AMP	
DESIGNER	R.A.G.	1-29-01	REV	DRAWING NO.	406-0130-A2
DRW	R.A.G.	2/14/02	B	PART NO.	206-0130-A2
ELEC.					A2
MECH.				COMPANY:	GALLIEN-KRUEGER
S/A				FILENAME:	6130A2.sch
RELEASED:					

Added D47 from R51 to R89.
Changed R58 & R63 TO 1/4 W.
Moved J4,14,17 & S2 back .025.
Deleted Q18 from schem only.
Deleted R29 from schem only.
Q18 & R29 not loaded.
Connect Q18 B to C on board.

Bill of Materials 2001RB Power Amp 206-0130-A2

Qty	Reference	Description	Part No.	Mfr	Mfr Part No.
2	C18 C64	CAP CER AXIAL, 393, 10%, 50V, X7R	030-2393-0	KEMET	C410C393K5R5CA
12	C6-8 C14-16 C69-71 C77-79	CAP CER AXIAL,104,10%,100V, ,X7R	030-4104-0	KEMET	C430C104K1R5CA
4	C9 C13 C68 C74	CAP,PE,104,10%,100V,	032-4104-0	PACCOM	85104J100A5S5
8	C17 C28 C38 C54-55 C59 C66 C81	CAP CER AXIAL,104,10%,50V,X7R	030-2104-0	KEMET	C412C104K5R5CA
8	C31 C36-37 C42 C44 C49-50 C53	CAP,ELEC,RAD,107, 20%, 50V	031-2107-0	UNITED CHEMI-CON	SMG50VB101M8X11LL
10	C1 C26 C34-35 C40 C46 C48 C51 C58 C82	CAP,ELEC,RAD, 106, 20%, 50V	031-2106-0	UNITED CHEMI-CON	SMG50VB10RM5X11LL
8	C3-4 C21-22 C39 C61 C65 C80	CAP, ELEC, RAD, 159, 20%, 50V	031-2159-0	UNITED CHEMI-CON	SMH50VN153M35X45T2
2	C20 C62	CAP CER AXIAL,221,5%,100V,NPO	030-4221-0	KEMET	C410C221J1G5CA
2	C41 C52	CAP,ELEC,RAD,226, 20%,25V	031-1226-0	UNITED CHEMI-CON	SRG25VB22RM5X7LL
2	C30 C56	CAP CER AXIAL, 271, 5%, 100V, NPO	030-4271-0	KEMET	C410C271J1G5CA
2	C29 C43	CAP,ELEC,RAD,335,20%,50V	031-2335-0	UNITED CHEMI-CON	SMG50VB3R3M5X11LL
4	C23-24 C27 C60	CAP,ELEC,RAD,336,20%,25V	031-1336-0	UNITED CHEMI-CON	SRG25VB33RM5X7LL
2	C25 C57	CAP MICA AXIAL , 3pF, 10%, 500V	035-8030-0	CORNELL	CD10CD030D03
10	C2 C5 C10-12 C67 C72-73 C75-76	CAP CER AXIAL, 472, 10%, 100V,,X7R	030-4472-0	KEMET	C410C472K1R5CA
2	C19 C63	CAP CER AXIAL,47PF,5%,100V,NPO	030-4470-0	KEMET	C410C470J1G5CA
2	C32 C45	CAP,ELEC,RAD,476,-10%+50%,100V	031-4476-0	UNITED CHEMI-CON	SMG100VB47RM10X12LL
2	C33 C47	CAP MICA RADIAL, 561, 5%, 300V	035-8561-0	CORNELL	CD15FC561J03
4	J5 J7 J12-13	JACK,1/4",MONO,PC, GROUNDING	092-0082-0	NEUTRIK	S102-84G
4	J1 J4 J14 J17	JACK,SPEAKON,PC MOUNT, NEUTRIK NL4MD-H	092-0070-0	SWITCHCRAFT	HPCP41RA
4	D6-7 D44-45	1N4004,RECT,1A,400V,DO-41	020-2106-0	TAITRON	1N4004
13	D10-15 D20 D25-27 D31 D37 D47	1N4148, RECT-FAST, 200MA, 100V	020-1000-0	MOTOROLA	1N4148
2	D23 D35	SHOTTKY, 1A, 40V, 10NS, DO-41	020-1104-0	MOTOROLA	1N5819
4	D18 D21 D29 D33	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	020-0036-0	TAITRON	1N747A
2	D24 D36	1N751, ZENER,5.1V,10%,400MW,DO-35	020-0050-0	NATIONAL	1N751A
2	D1 D46	1N970B, ZENER, 24V, 5%, 500MW, DO-35	020-0240-0	TAITRON	1N970B
4	D17 D19 D30 D32	BAV20, RECT, 200V, DO-35	020-1022-0	NATIONAL	BAV20
6	BR1-6	BRIDGE, 25A, 200V, VERT, PC, MO25S-02	023-0112-0	CHENG-YI	MP25-02S
4	D16 D22 D28 D34	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04		MOTOROLA	MUR120
12	D2-5 D8-9 D38-43	MUR410, RECT-FAST, 4A, 100V	020-1122-0	MOTOROLA	MUR410
2	S1 S3	THRM BRKR, 85C +/-5,0-DIFF, PC	091-1001-0	KLIXON	7AM-024-A5
2	J6 J16	HDR,.156X7,VERT,MALE,LOCK,SQUARE	093-1010-0	MOLEX	26-60-4070
4	J2 J8 J15 J18	HDR,.1X2,VERT,MALE,LOCK,GOLD	093-0025-0	AMP	641126-2
2	J3 J10	HDR, 2MMX10, VERT, SHROUDED	093-2010-0	JST	B10B-PH-K-S
2	J9 J11	HDR, 2MMX4, VERT, LOCK	093-0045-0	JST	B4B-PH-K-S
1	Q26	LM317	014-0070-0	NATIONAL	LM317
1	Q60	LM337	014-1072-0	NATIONAL	LM337
2	Q1 Q73	LM35DT, TEMPERATURE SENSOR, TO-220	010-0035-0	NATIONAL	LM35DT
2	U2-3	LM3886 ,68W AUDIO POWER AMP	001-3886-0	NATIONAL	LM3886T
1	U1	TLO72CP, LOW NOISE JFET OPAMP	001-1030-1	MOTOROLA	TL072CP
2	RL1-2	INDUCTOR .4UH WITH 1 OHM 2W RESISTOR	081-0032-0	SCHONBERG	081-0032-0
2	L1-2	INDUCTOR,2UH,20A,AIR CORE	081-0055-0	SCHONBERG	081-0055-0
2	R38 R102	POT,500B TRIM, 200mW	070-0520-0	SONG HUEI	SH-655MCL-500B
1	R33	POT, 2X50KB, 7MM, KNURL, .1W	070-1253-0	SONG HUEI	16T1-B50K, L-15KC/7MM
24	R12-15 R17-24 R127-138	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	054-.100-0	ECI	MO10J3AJ000.10
2	R2 R148	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	054-.330-0	ECI	MO10J3AJ000.33
24	R16 R31 R37 R45-46 R57 R62 R66-67 R70 R77-78 R83-84 R86 R95 R97 R100 R105 R107 R110 R117 R121 R126	RES,METAL FILM, 1.00K, 1/8W, 1%	060-1002-0	ECI	M1F1AK001.00
2	R4 R146	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	056-0100-0	ECI	WWC50J3AJ001.00
4	R40-41 R73 R113	RES,METAL FILM, 10.0K, 1/8W,1%	060-1003-0	ECI	M1F1AK010.00

6 R55 R68-69 R93 R108-109	RES,METAL FILM, 10.0, 1/8W, 1%	060-1000-0	ECI	M1F1AJ010.00
4 R25 R28 R34 R85	RES,METAL FILM, 100K, 1/8W, 1%	060-1004-0	ECI	M1F1AK100.00
2 R1 R147	RES, METAL FILM, 100 OHM, 1/8W, 1%	060-1001-0	ECI	M1F1AJ100.00
4 R26-27 R123-124	RES, METAL OXIDE, 10 OHM, 2W, 5%	055-0101-0	ECI	MOM20J3AJ010.00
4 R43-44 R87-88	RES,METAL FILM, 12.1K OHM, 1/8W, 1%	060-1213-0	ECI	M1F1AK012.10
4 R48 R50 R79 R81	RES,METAL FILM, 182, 1/8W, 1%	060-1821-0	ECI	M1F1AJ182.00
8 R47 R49 R52 R64 R80 R82 R90 R106	RES,METAL FILM, 2.00K, 1/8W, 1%	060-2002-0	ECI	M1F1AK002.00
4 R71 R74 R111 R114	RES,METAL FILM, 2.43K, 1/8W, 1%	060-2432-0	ECI	M1F1AK002.43
4 R3 R39 R118 R145	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	055-2702-0	ECI	MOM20J3AK002.70
2 R11 R125	RES ,CARBON FILM,2.7 ,1/2W,5%	053-0270-0	ECI	R5J3AJ002.70
4 R30 R32 R120 R122	RES,METAL FILM, 20.0K, 1/8W, 1%	060-2003-0	ECI	M1F1AK020.00
2 R53 R91	RES,METAL FILM, 200, 1/8W, 1%	060-2001-0	ECI	M1F1AJ200.00
2 R75 R115	RES,METAL FILM, 243 Ohm, 1/8W, 1%	060-2431-0	ECI	M1F1AJ243.00
2 R61 R101	RES,METAL FILM, 3.92K, 1/8W, 1%	060-3922-0	ECI	M1F1AK003.92
2 R76 R116	RES,METAL FILM, 4.75K, 1/8W, 1%	060-4752-0	ECI	M1F1AK004.75
2 R42 R119	RES,METAL FILM, 43.2K, 1/8W, 1%	060-4323-0	ECI	M1F1AK043.20
4 R51 R72 R89 R112	RES,METAL FILM, 47.5K, 1/8W, 1%	060-4753-0	ECI	M1F1AK047.50
4 R59 R65 R96 R104	RES,METAL FILM,47.5 OHM, 1/4W,1%	052-4750-0	ECI	M2F1AJ047.50
12 R5-10 R139-144	RES,METAL FILM, 475 ohm, 1/8W, 1%	060-4751-0	ECI	M1F1AJ475.00
4 R58 R63 R98 R103	RES,METAL FILM,5.62K,1/4W,1%	052-5622-0	ECI	M5F1AK005.62
2 R54 R92	RES,METAL FILM, 562, 1/8W, 1%	060-5621-0	ECI	M1F1AJ562.00
2 R60 R99	RES,METAL FILM, 6.81K, 1/8W, 1%	060-6812-0	ECI	M1F1AK006.81
2 R56 R94	RES,METAL FILM, 68.1 ohm, 1/8W, 1%	060-6810-0	ECI	M1F1AJ068.10
1 R35	RES,METAL FILM, 681 ohm, 1/8W, 1%	060-6811-0	ECI	M1F1AJ681.00
1 R36	RES,METAL FILM, 9.09K, 1/8W, 1%	060-9092-0	ECI	M1F1AK009.09
1 S2	SWITCH, DPDT,10A,SLIDE,PC	090-0009-0	C&K	V802-13-SL-08-Q
4 Q31 Q34 Q42 Q45	2SA1376, PNP,180V,100MA,TO-92	010-1002-0	NEC	2SA1376-K
2 Q21 Q55	2SA1380-F,PNP,200V,100MA,TO-126	010-1003-0	SANYO/TOSHIBA	2SA1380-F/E
6 Q2 Q24-25 Q58-59 Q74	2SA1837,PNP,200V,1.5A,2-10R1A	012-1002-0	TOSHIBA	2SA1837
12 Q7-9 Q13-15 Q64-66 Q70-72	2SA1962,PNP,230V,15A,2-16C1A	012-1003-0	TOSHIBA	2SA1962
2 Q29 Q40	2SC3381BL,NPNX2,80V,100MA,2-10M1B	010-0000-0	TOSHIBA	2SC3381BL
4 Q35-36 Q46-47	2SC3478, NPN,180V,100MA,TO-92	010-0001-0	NEC	2SC3478-K
2 Q23 Q57	2SC3502-F,NPN,200V,100MA,TO-126	010-0003-0	TOSHIBA	2SC3502
6 Q19-20 Q22 Q53-54 Q56	2SC4793,NPN,200V,1.5A,2-10R1A	012-0002-0	TOSHIBA	2SC4793
12 Q4-6 Q10-12 Q61-63 Q67-69	2SC5242,NPN,230V,15A,2-16C1A	012-0003-0	TOSHIBA	2SC5242-O
14 Q3 Q17 Q27 Q30 Q32-33 Q38 Q41 Q43-44 Q49-51 Q75	MPSAO6, NPN,80V,500MA,TO-92	010-0012-0	MOTOROLA	MPSAO6
6 Q16 Q28 Q37 Q39 Q48 Q52	MPSA56 PNP 80V 500MA TO-92	010-1013-0	MOTOROLA	MPSA56



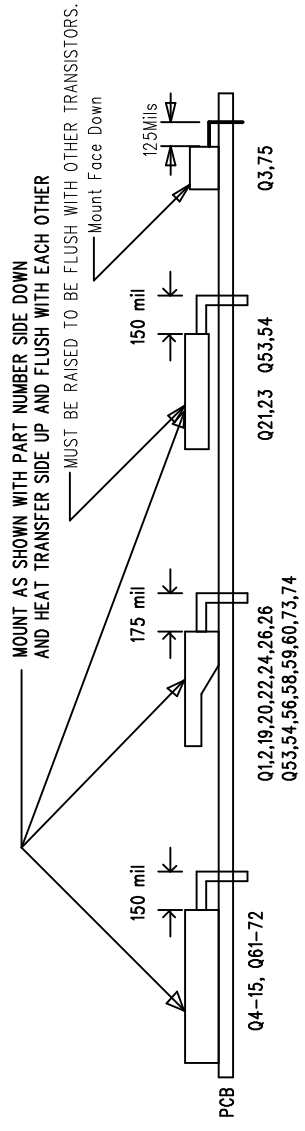
PCB WORK INSTRUCTIONS
 DWG 420-0130-A2

NOTES:

- UNLESS OTHERWISE SPECIFIED:
1. SQUARE PADS ON PARTS DENOTE PIN 1.
 2. ALL BOARDS REQUIRE A COMPLETE VISUAL INSPECTION.
 3. ALL BOARDS MUST BE BARE BOARD TESTED.
 4. ASSEMBLE AND SOLDER PER ANSI/IPC-A-610B.

LOADING

5. SEE FORMING AND LOADING INSTRUCTIONS BELOW FOR INSTALLING SPECIFIED COMPONENTS.
6. CHECK THAT R12-15, 17-24, 127-138 ARE FLUSH TO BOARD.
7. CHECK THAT J1-18, AND S2 ARE FLUSH WITH PCB.
8. MAKE CERTAIN ALL POWER TRANSISTOR MOUNTING HOLES ARE PROPERLY ALIGNED FOR HEAT SINK.

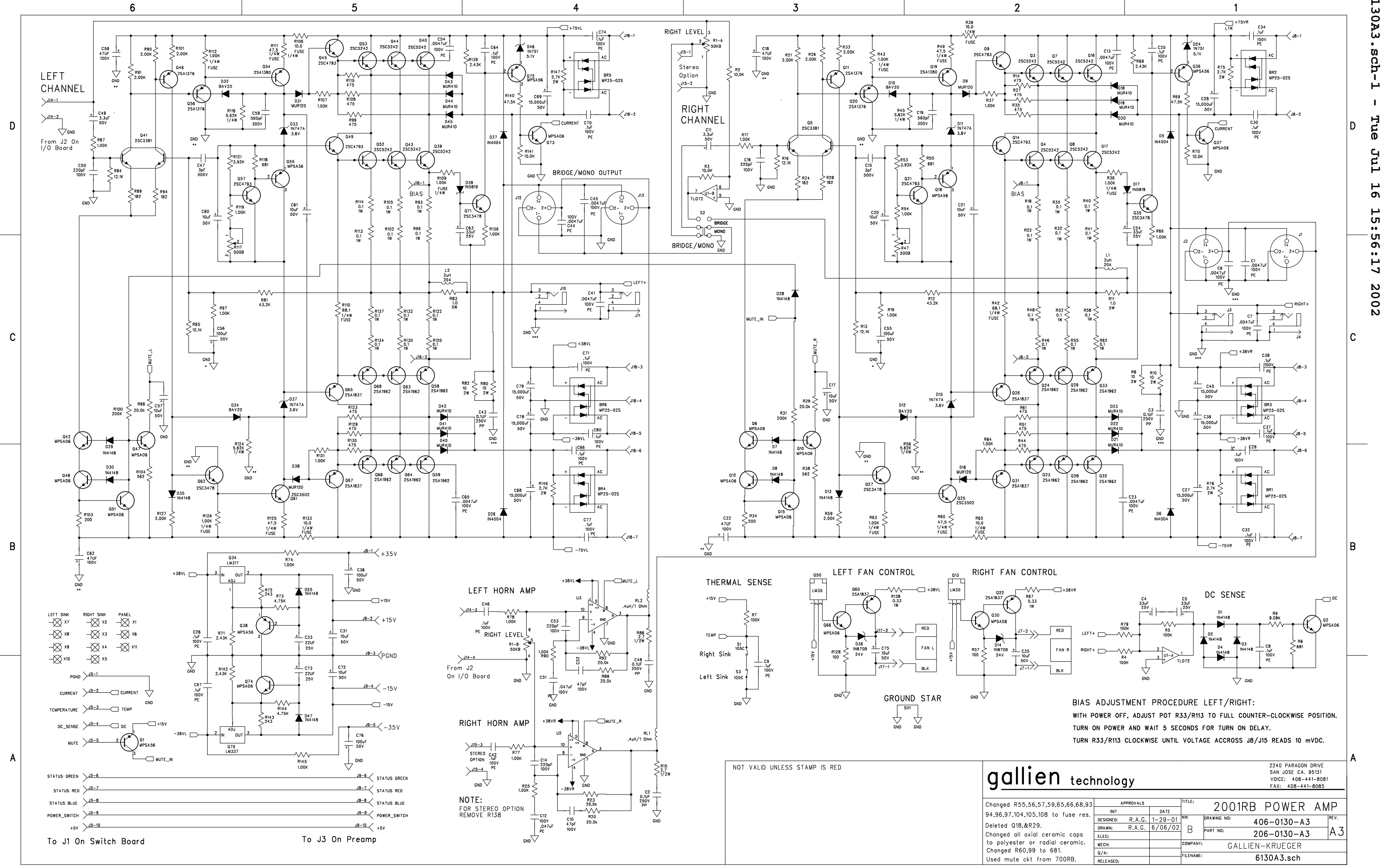


NOT VALID UNLESS STAMP IS RED

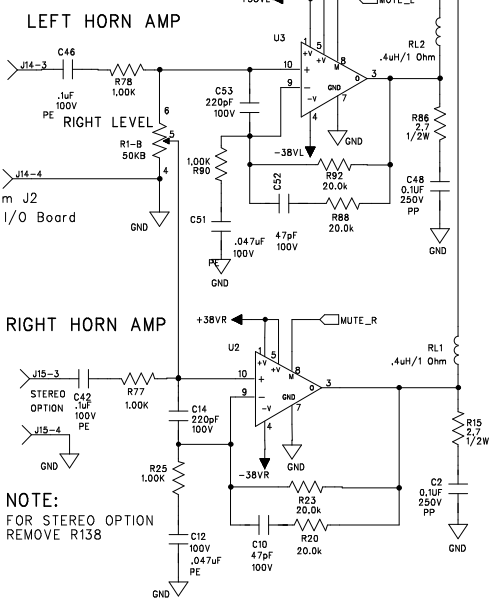
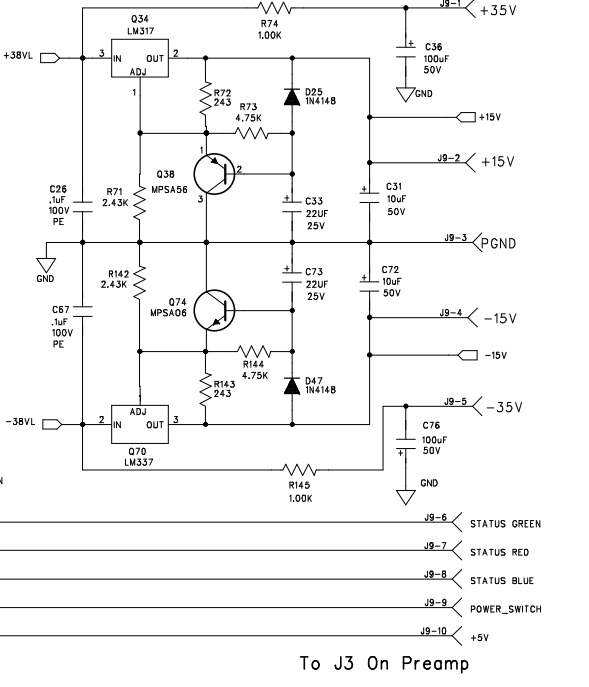
gallien technology

APPROVALS		TITLE:	
INIT	DATE	SIZE	REV.
DESIGNED:		405-0130-A2	A2
DRAWN:	R.A.G.	PART NO:	145-0130-A2
ELEC:	10/31/01	COMPANY:	GALLIEN-KRUEGER
MECH:		SCALE:	FILENAME: 5130A2
GERBER FILE NAME: <i>set026.pcb</i>			

LAYER DESCRIPTION:
TOP SIDE SOLDSREEN



- LEFT SINK X7
- RIGHT SINK X8
- PANEL X1
- X2
- X3
- X4
- X5
- X6
- X9
- X10
- X11
- PNOD J5-1
- CURRENT J5-2
- TEMPERATURE J5-3
- DC_SENSE J5-4
- MUTE J5-5
- STATUS GREEN J5-6
- STATUS RED J5-7
- STATUS BLUE J5-8
- POWER_SWITCH J5-9
- +5V J5-10



BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
 WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
 TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
 TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACCROSS J8/J15 READS 10 mVDC.

gallen technology

2240 PARAGON DRIVE
 SAN JOSE CA. 95131
 VOICE: 408-441-8081
 FAX: 408-441-8085

2001RB POWER AMP

Changed R55,56,57,59,65,66,68,93
 94,96,97,104,105,108 to fuse res.
 Deleted Q18,&R29.
 Changed all axial ceramic caps
 to polyester or radial ceramic.
 Changed R60,99 to 681.
 Used mute ckt from 700RB.

APPROVALS		DATE		TITLE	
INIT		DATE		2001RB POWER AMP	
DESIGNED:	R.A.G.	1-29-01		DRAWING NO:	406-0130-A3
DRAWN:	R.A.G.	6/06/02		PART NO:	206-0130-A3
ELEC:				COMPANY:	GALLIEN-KRUEGER
MECH:				FILENAME:	6130A3.sch
Q/A:					
RELEASED:					

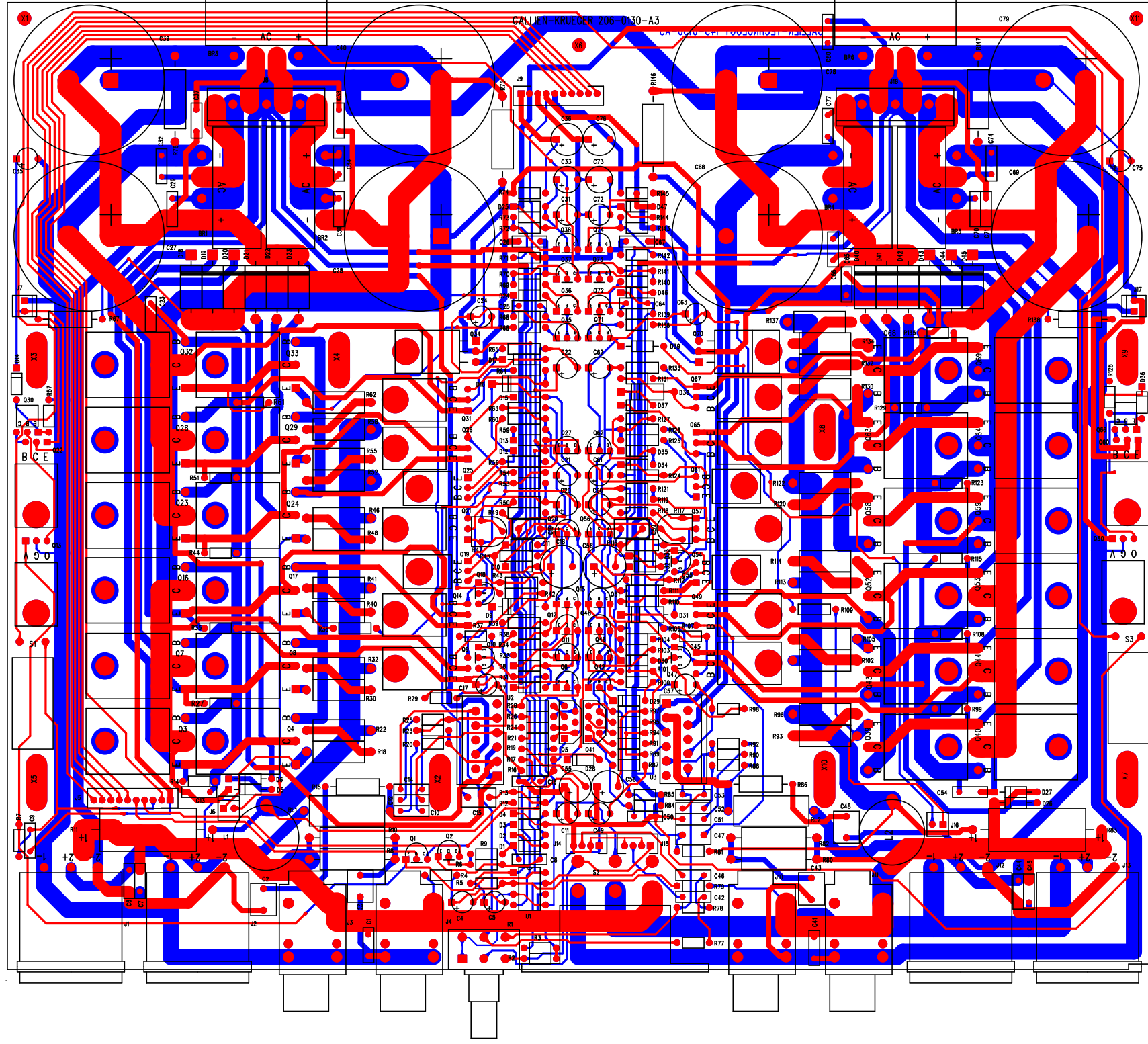
NOT VALID UNLESS STAMP IS RED

NOTE:
 FOR STEREO OPTION
 REMOVE R138

GK GALLIEN-KRUEGER

2001RB Power Amp		Costed Bill Of Material		206-0130-A3	
Part No.	Reference	Description	Manufacturer	Mfr. Part No.	Quan
001-1030-1	U1	TLO72CP, LOW NOISE JFET OPAMP	MOTOROLA	TLO72CP	1.00
001-3886-0	U2-3	LM3886 ,68W AUDIO POWER AMP	NATIONAL	LM3886T	2.00
010-0000-0	Q5 Q41	2SC3381BL,NPNX2,80V,100MA,2-10M1B	TOSHIBA	2SC3281BL	2.00
010-0001-0	Q27 Q35 Q62 Q71	2SC3478, NPN,180V,100MA,TO-92	NEC	2SC3478-K	4.00
010-0003-0	Q25 Q61	2SC3502-F,NPN,200V,100MA,TO-126	TOSHIBA	2SC3502	2.00
010-0012-0	Q2,6,10,12,15,30,37,42 Q47,48,51,66,73,74	MPSA06, NPN,80V,500MA,TO-92	MOTOROLA	MPS-A06	14.00
010-0035-0	Q13 Q50	LM35DT, TEMPERATURE SENSOR, TO-220	NATIONAL	LM35DT	2.00
010-1002-0	Q11 Q20 Q46 Q56	2SA1376, PNP,180V,100MA,TO-92	NEC	2SA1376-K	4.00
010-1003-0	Q19 Q54	2SA1380-F,PNP,200V,100MA,TO-126	SANYO/TOSHIBA	2SA1380-F/E	2.00
010-1013-0	Q1,18,36,38,55,72	MPSA56 PNP 80V 500MA TO-92	MOTOROLA	MPS-A56	6.00
012-0002-0	Q9,14,21,45,49,57	2SC4793,NPN,200V,1.5A,2-10R1A	TOSHIBA	2SC4793	6.00
012-0003-0	Q3,4,7,8,16,17,39,40,43 Q44,52,53	2SC5242,NPN,230V,15A,2-16C1A	TOSHIBA	2SC5242-O	12.00
012-1002-0	Q22,26,31,60,65,67	2SA1837,PNP,200V,1.5A,2-10R1A	TOSHIBA	2SA1837	6.00
012-1003-0	Q23,24,28,29,32,33,58 Q59,63,64,68,69	2SA1962,PNP,230V,15A,2-16C1A	TOSHIBA	2SA1962	12.00
014-0070-0	Q34	LM317	NATIONAL	LM317	1.00
014-1072-0	Q70	LM337	NATIONAL	LM337	1.00
020-0036-0	D11 D15 D33 D37	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	TAITRON	1N747A	4.00
020-0050-0	D24 D46	1N751, ZENER,5.1V,10%,400MW,DO-35	NATIONAL	1N751	2.00
020-0240-0	D14 D36	1N970B, ZENER, 24V, 5%, 500MW, DO-35	TAITRON	1N970B	2.00
020-1000-0	D1,4,7,8,13,25,28,29,30 D35,47	1N4148, RECT-FAST, 200MA, 100V	MOTOROLA	1N4148	13.00
020-1022-0	D10 D12 D32 D34	BAV20, RECT, 200V, DO-35	NATIONAL	BAV20	4.00
020-1104-0	D17 D39	SHOTTKY, 1A, 40V, 10NS, DO-41	MOTOROLA	1N5819	2.00
020-1120-0	D9 D16 D31 D38	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04	MOTOROLA	MUR120	4.00
020-1122-0	D18-23 D40-45	MUR410, RECT-FAST, 4A, 100V	MOTOROLA	MUR410	12.00
020-2106-0	D5-6 D26-27	1N4004,RECT,1A,400V,DO-41	TAITRON	1N4004	4.00
023-0112-0	BR1-6	BRIDGE, 25A, 200V, VERT, PC, MO25S-02	CHENG-YI	MP25-02S	6.00
031-1226-0	C33 C73	CAP,ELEC,RAD,226, 20%,25V	UNITED CHEMI-CON	SRG25VB22RM5X7LL	2.00
031-1336-0	C4-5 C24 C63	CAP,ELEC,RAD,336,20%,25V	UNITED CHEMI-CON	SRG25VB33RM5X7LL	4.00
031-2106-0	C17,20,21,31,35,57,60 C61,72,75	CAP,ELEC,RAD, 106, 20%, 50V	UNITED CHEMI-CON	SMG50VB10RM5X11LL	10.00
031-2107-0	C36 C55-56 C76	CAP,ELEC,RAD,107, 20%, 50V	UNITED CHEMI-CON	SMG50VB101M8X11LL	4.00
031-2159-0	C27,28,39,40,68,69,78 C79	CAP, ELEC, RAD, 159, 20%, 50V	UNITED CHEMI-CON	SMH50VN153M35X45T2	8.00
031-2335-0	C11 C49	CAP,ELEC,RAD,335,20%,50V	UNITED CHEMI-CON	SMG50VB3R3M5X11LL	2.00
031-4476-0	C18 C22 C58 C62	CAP,ELEC,RAD,476,-10%+50%,100V	UNITED CHEMI-CON	SMG100VB47RM10X12LL	4.00
032-4104-0	C8,9,25,26,29,30,32,34 C37,38,42,46,64,66,67 C70,71,74,77,80	CAP,PE,104,5%,100V,	PANASONIC	ECQV1104JM	20.00
032-4472-0	C1,6,7,13,23,41,44,45 C54,65	CAP,PE,472,5%,100V,	PANASONIC	ECQB1472JF	10.00
032-4473-0	C12 C51	CAP,PE,473,5%,100V,	PANASONIC	ECQV1473JM	2.00
033-7104-0	C2-3 C43 C48	CAP,PP,104,10%, 250V	NISSAI	R79104K250A	4.00
034-4221-0	C14 C16 C50 C53	CAP,MCR,220pF,5%,100V,	TAITRON	TMRS221J100NPOB	4.00
034-4470-0	C10 C52	CAP,MCR,47PF,5%,100V,NPO	TAITRON	TMRS470J100NPOB	2.00
035-8030-0	C15 C47	CAP MICA AXIAL , 3pF, 10%, 500V	CORNELL	CD10CD030D03	2.00
035-8561-0	C19 C59	CAP MICA RADIAL, 561, 5%, 300V	CORNELL	CD15FC561J103	2.00
052-5622-0	R45 R56 R116 R124	RES,METAL FILM,5.62K,1/4W,1%	ECI	M5F1AK005.62	4.00
053-0270-0	R15 R86	RES ,CARBON FILM,2.7 ,1/2W,5%	ECI	R5J3AJ002.70	2.00
054-.100-0	R18,22,30,32,40,41,46	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	ECI	MO10J3AJ000.10	24.00
054-.100-0	R48,52,55,58,62,93,96				
054-.100-0	R102,105,113,114,120				
054-.100-0	R122,130,132,134,137				
054-.330-0	R67 R138	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	ECI	MO10J3AJ000.33	2.00
055-0101-0	R8 R10 R80 R82	RES, METAL OXIDE, 10 OHM, 2W, 5%	ECI	MOM20J3AJ010.00	4.00
055-2702-0	R75-76 R146-147	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	ECI	MOM20J3AK002.70	4.00
056-0100-0	R11 R83	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	ECI	WWC50J3AJ001.00	2.00
059-1000-0	R39 R65 R106 R133	RES,MF,FUSE,10.0 OHM, 1/4W,1%	JUKN.OHM	FR25-10.0	4.00
059-1002-0	R36,43,63,109,112,126	RES,MF,FUSE,1.00K,1/4W,1%	JUKN.OHM	FR25-1.00K	6.00
059-4750-0	R49 R60 R111 R125	RES,MF,FUSE,47.5 OHM, 1/4W,1%	JUKN.OHM	FR25-47.5	4.00
059-6810-0	R42 R110	RES,MF,FUSE,68.1 OHM, 1/4W,1%	JUKN.OHM	FR25-68.1	2.00
060-1001-0	R57 R128	RES, METAL FILM, 100 OHM, 1/8W, 1%	ECI	M1F1AJ100.00	2.00

2001RB Power Amp		Costed Bill Of Material		206-0130-A3	
Part No.	Reference	Description	Manufacturer	Mfr. Part No.	Quan
060-1002-0	R17,19,25,37,54,64,66,74	RES,METAL FILM, 1.00K, 1/8W, 1%	ECI	M1F1AK001.00	18.00
060-1002-0	R77,78,87,90,97,107,119				
060-1002-0	R131,136,145				
060-1003-0	R2-3 R70 R141	RES,METAL FILM, 10.0K, 1/8W,1%	ECI	M1F1AK010.00	4.00
060-1004-0	R4-5 R7 R79	RES,METAL FILM, 100K, 1/8W, 1%	ECI	M1F1AK100.00	4.00
060-1213-0	R13 R16 R84-85	RES,METAL FILM, 12.1K OHM, 1/8W, 1%	ECI	M1F1AK012.10	4.00
060-1821-0	R24 R28 R89 R94	RES,METAL FILM, 182, 1/8W, 1%	ECI	M1F1AJ182.00	4.00
060-2001-0	R34 R103	RES,METAL FILM, 200, 1/8W, 1%	ECI	M1F1AJ200.00	2.00
060-2002-0	R21,26,33,59,91,95,101 R127	RES,METAL FILM, 2.00K, 1/8W, 1%	ECI	M1F1AK002.00	8.00
060-2003-0	R20,23,29,88,92,98	RES,METAL FILM, 20.0K, 1/8W, 1%	ECI	M1F1AK020.00	6.00
060-2004-0	R31 R100	RES,METAL FILM, 200K, 1/8W, 1%	ECI	M1F1AK200.00	2.00
060-2431-0	R72 R143	RES,METAL FILM, 243 Ohm, 1/8W, 1%	ECI	M1F1AJ243.00	2.00
060-2432-0	R68 R71 R139 R142	RES,METAL FILM, 2.43K, 1/8W, 1%	ECI	M1F1AK002.43	4.00
060-3922-0	R53 R121	RES,METAL FILM, 3.92K, 1/8W, 1%	ECI	M1F1AK003.92	2.00
060-4323-0	R12 R81	RES,METAL FILM, 43.2K, 1/8W, 1%	ECI	M1F1AK043.20	2.00
060-4751-0	R14,27,35,44,51,61,99 R108,115,123,129,135	RES,METAL FILM, 475 ohm, 1/8W, 1%	ECI	M1F1AJ475.00	12.00
060-4752-0	R73 R144	RES,METAL FILM, 4.75K, 1/8W, 1%	ECI	M1F1AK004.75	2.00
060-4753-0	R69 R140	RES,METAL FILM, 47.5K, 1/8W, 1%	ECI	M1F1AK047.50	2.00
060-5621-0	R38 R104	RES,METAL FILM, 562, 1/8W, 1%	ECI	M1F1AJ562.00	2.00
060-6811-0	R6 R50 R118	RES,METAL FILM, 681 ohm, 1/8W, 1%	ECI	M1F1AJ681.00	3.00
060-9092-0	R9	RES,METAL FILM, 9.09K, 1/8W, 1%	ECI	M1F1AK009.09	1.00
070-0520-0	R47 R117	POT,500B TRIM, 200mW	SONG HUEI	SH-655MCL-500B	2.00
070-1253-0	R1	POT, 2X50KB, 7MM, KNURL, .1W	SONG HUEI	16T1-B50K-L15KC	1.00
081-0032-0	RL1-2	INDUCTOR .4UH WITH 1 OHM 2W RES	SCHONBERG	081-0032-0	2.00
081-0055-0	L1-2	INDUCTOR,2UH,20A,AIR CORE	SCHONBERG	081-0055-0	2.00
090-0009-0	S2	SWITCH, DPDT,10A,SLIDE,PC	C&K	V802-13-SL-08-Q	1.00
091-1002-0	S1 S3	THRM BRKR, 105C +/-5,0-DIFF, PC	KLIXON	7AM-028-A5	2.00
092-0070-0	J1-2 J12-13	JACK,SPEAKON	SWITCHCRAFT	HPCP41RA	4.00
092-0082-0	J3-4 J10-11	JACK,1/4",MONO,PC, GROUNDING	NEUTRIK	S102-84G	4.00
093-0025-0	J6-7 J16-17	HDR,.1X2,VERT,MALE,LOCK,GOLD	AMP	641126-2	4.00
093-0045-0	J14-15	HDR, 2MMX4, VERT, LOCK	JST	B4B-PH-K-S	2.00
093-1010-0	J8 J18	HDR,.156X7,VERT,MALE,LOCK,SQUARE	MOLEX	26-60-4070	2.00
093-2010-0	J5 J9	HDR, 2MMX10, VERT, SHROUDED	JST	B10B-PH-K-S	2.00
086-0000-0	FAN	FAN, 24VDC, 160MA, 80X80MM	ADDA	08-24-HB-A70GL	2.00
093-0506-0	FANS	HSG, .1X2, LOCKING, CRIMP 093-0909	MOLEX	22-01-3027	2.00
093-0909-0	FANS	TERM, CRIMP, .1, 22GA	MOLEX	08-50-0113	4.00
095-0006-0	FANS	HEAT SHRINK 3/16"			6.00
104-0003-0	INDUCTOR	SPACER,NYLON,#4X.2X.2D			4.00
105-0014-0	HEATSINKS	INSULATOR TAPE 4"X7MIL	THERMALLOY	SILPAD 400AC	0.70
111-7017-0	REG, LM35,LM3886	WASHER, SHOULDER,#4 NYLON			6.00
116-0097-0	TO-220,LM3886	BOLT,M2.6X9,M3-S,PHP/SW,CHROME			22.00
116-0127-0	POWER TRAN	BOLT,M2.6X12,M3-S,PHP/SW,CHROME			24.00
116-0357-0	FAN	BOLT,M2.6X35,M3-S,PHP/SW,CHROME			8.00
117-7002-1	FAN	WASHER,M3,PLAIN, CHROME			8.00
132-0024-E	HEATSINK	700RB HEATSINK			2.00
153-0105-0		LABLE, BLANK,.9"X.25"			1.00



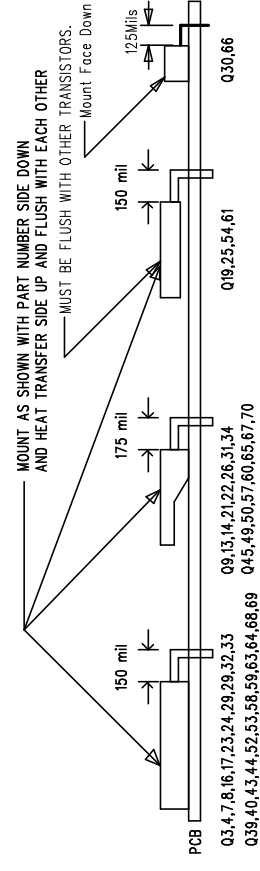
PCB WORK INSTRUCTIONS
DWG 420-0130-A3

NOTES:

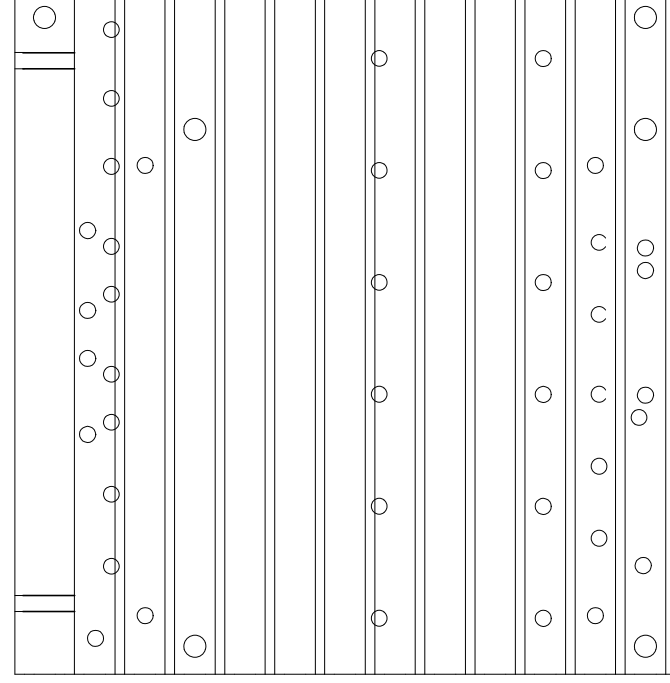
- UNLESS OTHERWISE SPECIFIED:
- 1. SQUARE PADS ON PARTS DEVOTE PIN 1.
- 2. ALL BOARDS REQUIRE A COMPLETE VISUAL INSPECTION.
- 3. ALL BOARDS MUST BE BARE BOARD TESTED.
- 4. ASSEMBLY AND SOLDER PER ANSI/JPC-A-610B.

LOADING

- 5. SEE FORMING AND LOADING INSTRUCTIONS BELOW FOR INSTALLING SPECIFIED COMPONENTS.
- 6. CHECK THAT R18,22,30,32,40,41,46,48,52,55,56,62,63,96,102,105,113,114,120,122,130,132,134,137 ARE FLUSH TO BOARD.
- 7. CHECK THAT J1-18, AND S2 ARE FLUSH WITH PCB.
- 8. MAKE CERTAIN ALL POWER TRANSISTOR MOUNTING HOLES ARE PROPERLY ALIGNED FOR HEAT SINK.



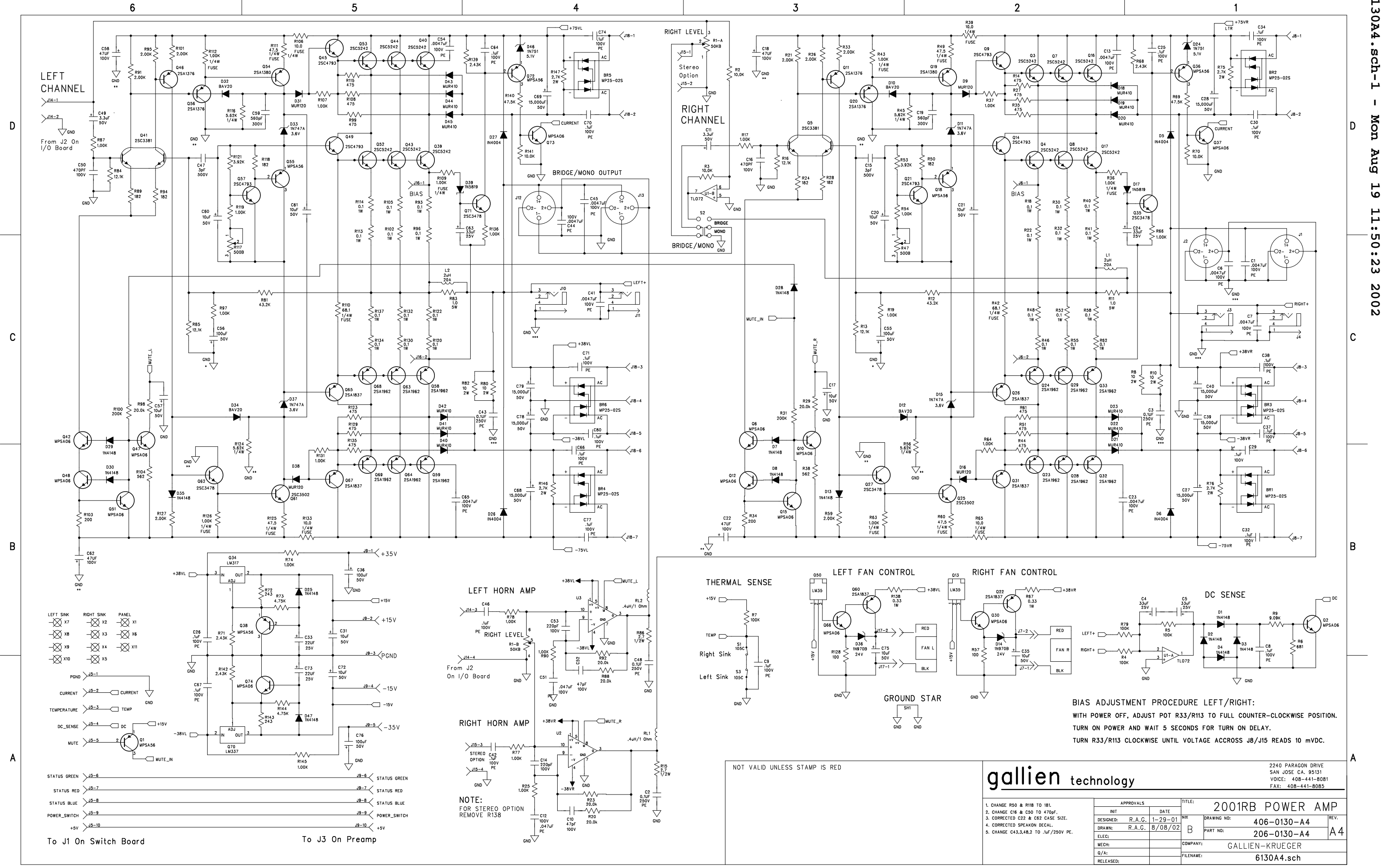
HEAT SINK ASSEMBLY



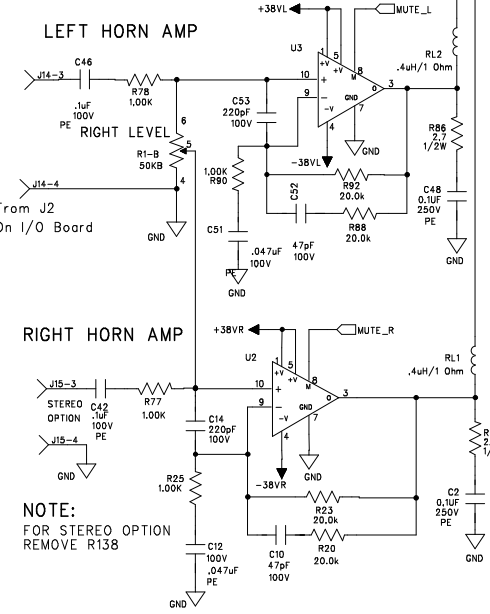
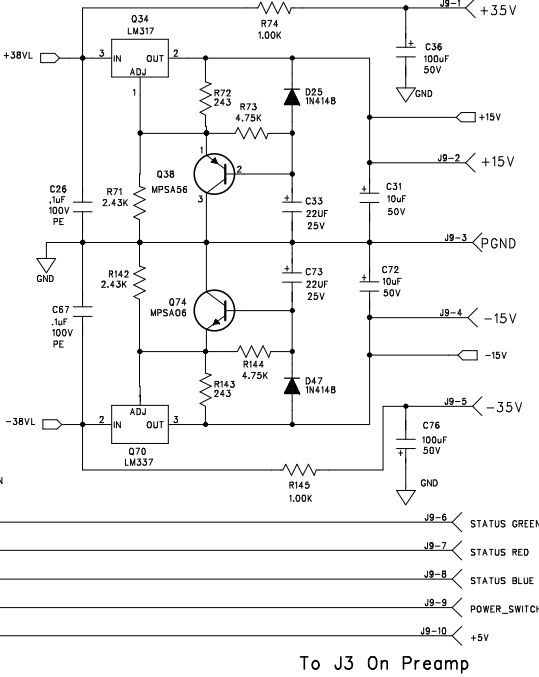
NOT VALID UNLESS STAMP IS RED

		TITLE:		
		APPROVALS	DATE	
DESIGNED:	DATE	SIZE	DRAWING NO:	REV.
DRAWN: R.A.G.	6/12/02	B	405-0130-A3	A3
ELEC:			PART NO:	145-0130-A3
MECH:			COMPANY:	GALLIEN-KRUEGER
GERBER FILE NAME: sort002.pcb			SCALE:	FILENAME: 5130A3
LAYER DESCRIPTION:		TOP SIDE SOLKSBREEN		

2240 PARAGON DRIVE
 SAN JOSE CA. 95131
 VOICE: 408-441-8081
 FAX: 408-441-8085



LEFT SINK	RIGHT SINK	PANEL
X7	X2	X1
X8	X3	X6
X9	X4	X11
X10	X5	
PNOD	J5-1	
CURRENT	J5-2	CURRENT
TEMPERATURE	J5-3	TEMP
DC_SENSE	J5-4	DC
MUTE	J5-5	MUTE_IN
STATUS GREEN	J5-6	STATUS GREEN
STATUS RED	J5-7	STATUS RED
STATUS BLUE	J5-8	STATUS BLUE
POWER_SWITCH	J5-9	POWER_SWITCH
+5V	J5-10	+5V



BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
 WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
 TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
 TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

gallen technology

2240 PARAGON DRIVE
 SAN JOSE CA. 95131
 VOICE: 408-441-8081
 FAX: 408-441-8085

APPROVALS		TITLE: 2001RB POWER AMP	
INIT	DATE	REV	DRAWING NO:
DESIGNED: R.A.G.	1-29-01	B	406-0130-A4
DRAWN: R.A.G.	8/08/02		206-0130-A4
ELEC:			A4
MECH:		COMPANY:	GALLIEN-KRUEGER
Q/A:		FILENAME:	6130A4.sch
RELEASED:			

NOT VALID UNLESS STAMP IS RED

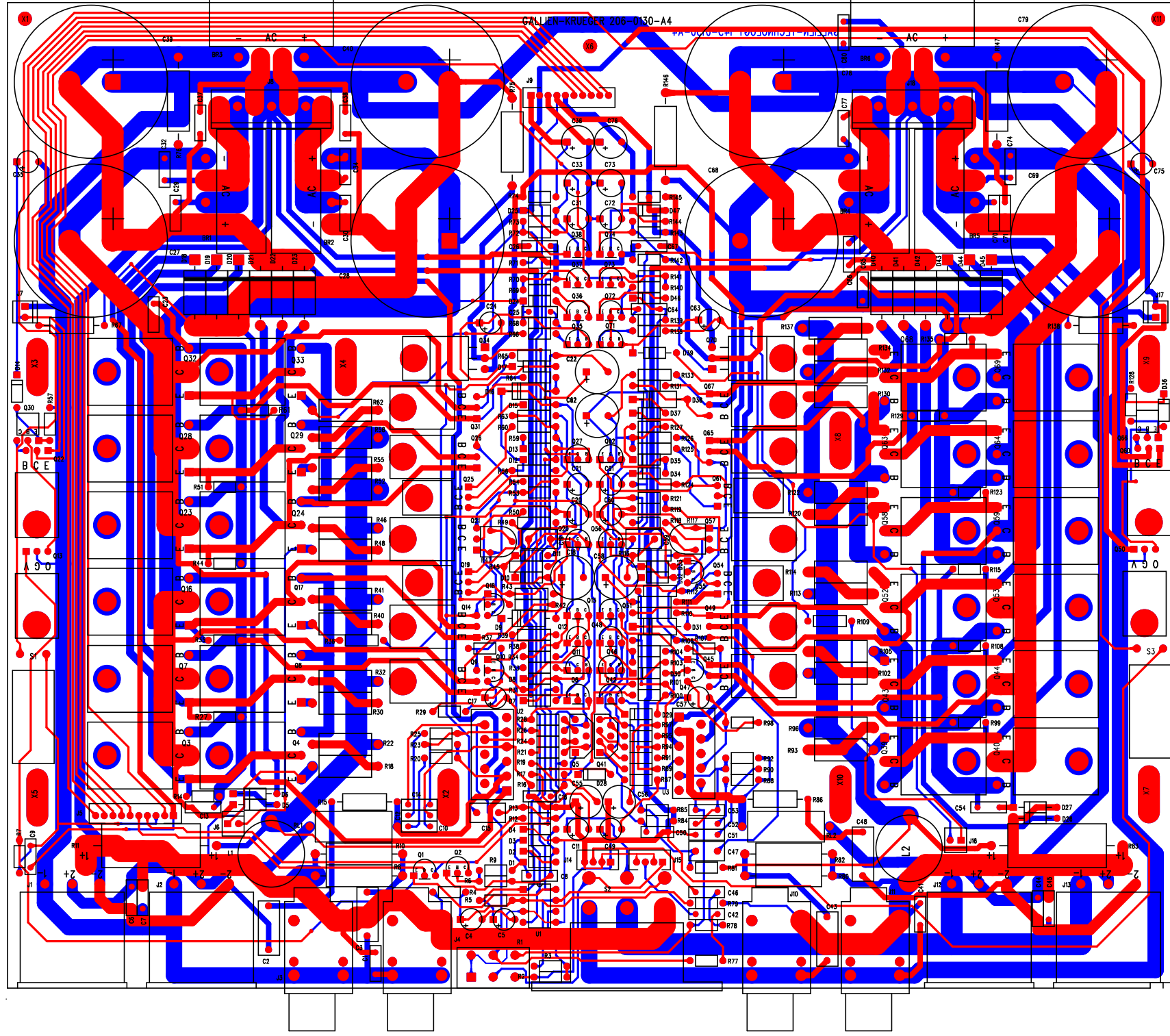
NOTE: FOR STEREO OPTION REMOVE R138

2001RB Power Amp

Part No.	Reference	Description	Manufacturer	Mfr. Part No.
001-1030-1	U1	TLO72CP, LOW NOISE JFET OPAMP	MOTOROLA	TL072CP
001-3886-0	U2-3	LM3886 ,68W AUDIO POWER AMP	NATIONAL	LM3886T
010-0000-0	Q5 Q41	2SC3381BL,NPNX2,80V,100MA,2-10M1B	TOSHIBA	2SC3281BL
010-0001-0	Q27 Q35 Q62 Q71	2SC3478, NPN,180V,100MA,TO-92	NEC	2SC3478-K
010-0003-0	Q25 Q61	2SC3502-F,NPN,200V,100MA,TO-126	TOSHIBA	2SC3502
010-0012-0	Q2,6,10,12,15,30,37,42	MPSA06, NPN,80V,500MA,TO-92	MOTOROLA	MPS-A06
010-0012-0	Q47,48,51,66,73,74			
010-0035-0	Q13 Q50	LM35DT, TEMPERATURE SENSOR, TO-220	NATIONAL	LM35DT
010-1002-0	Q11 Q20 Q46 Q56	2SA1376, PNP,180V,100MA,TO-92	NEC	2SA1376-K
010-1003-0	Q19 Q54	2SA1380-F,PNP,200V,100MA,TO-126	SANYO/TOSHIBA	2SA1380-F/E
010-1013-0	Q1,18,36,38,55,72	MPSA56 PNP 80V 500MA TO-92	MOTOROLA	MPS-A56
012-0002-0	Q9,14,21,45,49,57	2SC4793,NPN,200V,1.5A,2-10R1A	TOSHIBA	2SC4793
012-0003-0	Q3,4,7,8,16,17,39,40	2SC5242,NPN,230V,15A,2-16C1A	TOSHIBA	2SC5242-O
012-0003-0	Q43-44 Q52-53			
012-1002-0	Q22,26,31,60,65,67	2SA1837,PNP,200V,1.5A,2-10R1A	TOSHIBA	2SA1837
012-1003-0	Q23,24,28,29,32,33,58	2SA1962,PNP,230V,15A,2-16C1A	TOSHIBA	2SA1962
012-1003-0	Q59,63,64,68,69			
014-0070-0	Q34	LM317	NATIONAL	LM317
014-1072-0	Q70	LM337	NATIONAL	LM337
020-0036-0	D11 D15 D33 D37	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	TAITRON	1N747A
020-0050-0	D24 D46	1N751, ZENER,5.1V,10%,400MW,DO-35	NATIONAL	1N751
020-0240-0	D14 D36	1N970B, ZENER, 24V, 5%, 500MW, DO-35	TAITRON	1N970B
020-1000-0	D1-4,7,8,13,25,28-30,35 D47	1N4148, RECT-FAST, 200MA, 100V	MOTOROLA	1N4148
020-1022-0	D10 D12 D32 D34	BAV20, RECT, 200V, DO-35	NATIONAL	BAV20
020-1104-0	D17 D39	SHOTTKY, 1A, 40V, 10NS, DO-41	MOTOROLA	1N5819
020-1120-0	D9 D16 D31 D38	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04	MOTOROLA	MUR120
020-1122-0	D18-23 D40-45	MUR410, RECT-FAST, 4A, 100V	MOTOROLA	MUR410
020-2106-0	D5-6 D26-27	1N4004,RECT,1A,400V,DO-41	TAITRON	1N4004
023-0112-0	BR1-6	BRIDGE, 25A, 200V, VERT, PC, MO25S-02	CHENG-YI	MP25-02S
031-1226-0	C33 C73	CAP,ELEC,RAD,226, 20%,25V	UNITED CHEMI-CON	SRG25VB22RM5X7LL
031-1336-0	C4-5 C24 C63	CAP,ELEC,RAD,336,20%,25V	UNITED CHEMI-CON	SRG25VB33RM5X7LL
031-2106-0	C17,20,21,31,35,57,60,61	CAP,ELEC,RAD, 106, 20%, 50V	UNITED CHEMI-CON	SMG50VB10RM5X11LL
031-2106-0	C72 C75			
031-2107-0	C36 C55-56 C76	CAP,ELEC,RAD,107, 20%, 50V	UNITED CHEMI-CON	SMG50VB101M8X11LL
031-2159-0	C27,28,39,40,68,69,78 C79	CAP, ELEC, RAD, 159, 20%, 50V	UNITED CHEMI-CON	SMH50VN153M35X45T2
031-2335-0	C11 C49	CAP,ELEC,RAD,335,20%,50V	UNITED CHEMI-CON	SMG50VB3R3M5X11LL
031-4476-0	C18 C22 C58 C62	CAP,ELEC,RAD,476,-10%+50%,100V	UNITED CHEMI-CON	SMG100VB47RM10X12LL
032-4104-0	C8,9,25,26,29,30,32,34	CAP,PE,104,5%,100V,	PANASONIC	ECQV1104JM
032-4104-0	C37,38,42,46,64,66,67			
032-4104-0	C70-71 C74 C77 C80			
032-4472-0	C1,6,7,13,23,41,44,45	CAP,PE,472,5%,100V,	PANASONIC	ECQB1472JF
032-4472-0	C54 C65			
032-4473-0	C12 C51	CAP,PE,473,5%,100V,	PANASONIC	ECQV1473JM
032-7104-0	C2-3 C43 C48	CAP,PE,104,10%, 250V	ILLINOIS CAPACITOR	104MSR250K
034-4221-0	C14 C53	CAP,MCR,220pF,5%,100V,	TAITRON	TMRS221J100NPOB
034-4470-0	C10 C52	CAP,MCR,47PF,5%,100V,NPO	TAITRON	TMRS470J100NPOB
034-4471-0	C16 C50	CAP,MCR,470pF,5%,100V,	TAITRON	TMRS471J100NPOB
035-8030-0	C15 C47	CAP MICA AXIAL , 3pF, 10%, 500V	CORNELL	CD10CD030D03
035-8561-0	C19 C59	CAP MICA RADIAL, 561, 5%, 300V	CORNELL	CD15FC561J103
052-5622-0	R45 R56 R116 R124	RES,METAL FILM,5.62K,1/4W,1%	ECI	M5F1AK005.62
053-0270-0	R15 R86	RES ,CARBON FILM,2.7 ,1/2W,5%	ECI	R5J3AJ002.70
054-.100-0	R18,22,30,32,40,41,46	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	ECI	MO10J3AJ000.10
054-.100-0	R48,52,55,58,62,93,96			
054-.100-0	R102,105,113,114,120			
054-.100-0	R122,130,132,134,137			
054-.330-0	R67 R138	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	ECI	MO10J3AJ000.33
055-0101-0	R8 R10 R80 R82	RES, METAL OXIDE, 10 OHM, 2W, 5%	ECI	MOM20J3AJ010.00
055-2702-0	R75-76 R146-147	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	ECI	MOM20J3AK002.70
056-0100-0	R11 R83	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	ECI	WWC50J3AJ001.00
059-1000-0	R39 R65 R106 R133	RES,MF,FUSE,10.0 OHM, 1/4W,1%	JUKN.OHM	FR25-10.0
059-1002-0	R36,43,63,109,112,126	RES,MF,FUSE,1.00K,1/4W,1%	JUKN.OHM	FR25-1.00K
059-4750-0	R49 R60 R111 R125	RES,MF,FUSE,47.5 OHM, 1/4W,1%	JUKN.OHM	FR25-47.5
059-6810-0	R42 R110	RES,MF,FUSE,68.1 OHM, 1/4W,1%	JUKN.OHM	FR25-68.1
060-1001-0	R57 R128	RES, METAL FILM, 100 OHM, 1/8W, 1%	ECI	M1F1AJ100.00
060-1002-0	R17,19,25,37,54,64,66	RES,METAL FILM, 1.00K, 1/8W, 1%	ECI	M1F1AK001.00

2001RB Power Amp

Table with 5 columns: Part No., Reference, Description, Manufacturer, Mfr. Part No. The table lists various electronic components such as resistors, capacitors, inductors, and switches with their respective part numbers and manufacturer details.



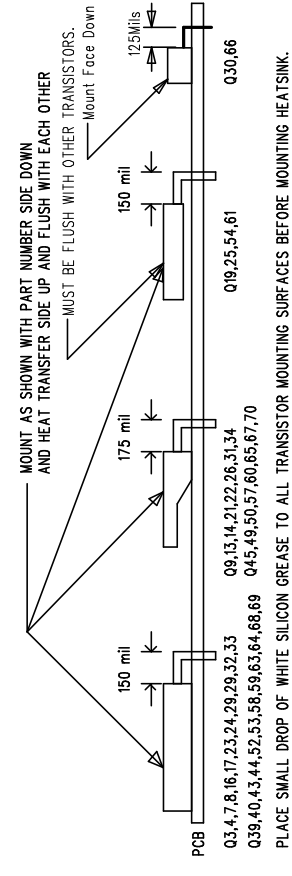
PCB WORK INSTRUCTIONS
DWG 420-0130-A4

NOTES:

- UNLESS OTHERWISE SPECIFIED:
- 1. SQUARE PADS ON PARTS DENOTE PIN 1.
- 2. ALL BOARDS REQUIRE A COMPLETE VISUAL INSPECTION.
- 3. ALL BOARDS MUST BE BARE BOARD TESTED.
- 4. ASSEMBLE AND SOLDER PER ANSI/IPC-A-610B.

LOADING

- 5. SEE FORMING AND LOADING INSTRUCTIONS BELOW FOR INSTALLING SPECIFIED COMPONENTS.
- 6. CHECK THAT R18,22,30,32,40,41,46,48,52,55,56,62,63,96,102,105,113,114,120,122,130,132,134,137 ARE FLUSH TO BOARD.
- 7. CHECK THAT J1-18, AND S2 ARE FLUSH WITH PCB.
- 8. MAKE CERTAIN ALL POWER TRANSISTOR MOUNTING HOLES ARE PROPERLY ALIGNED FOR HEAT SINK.

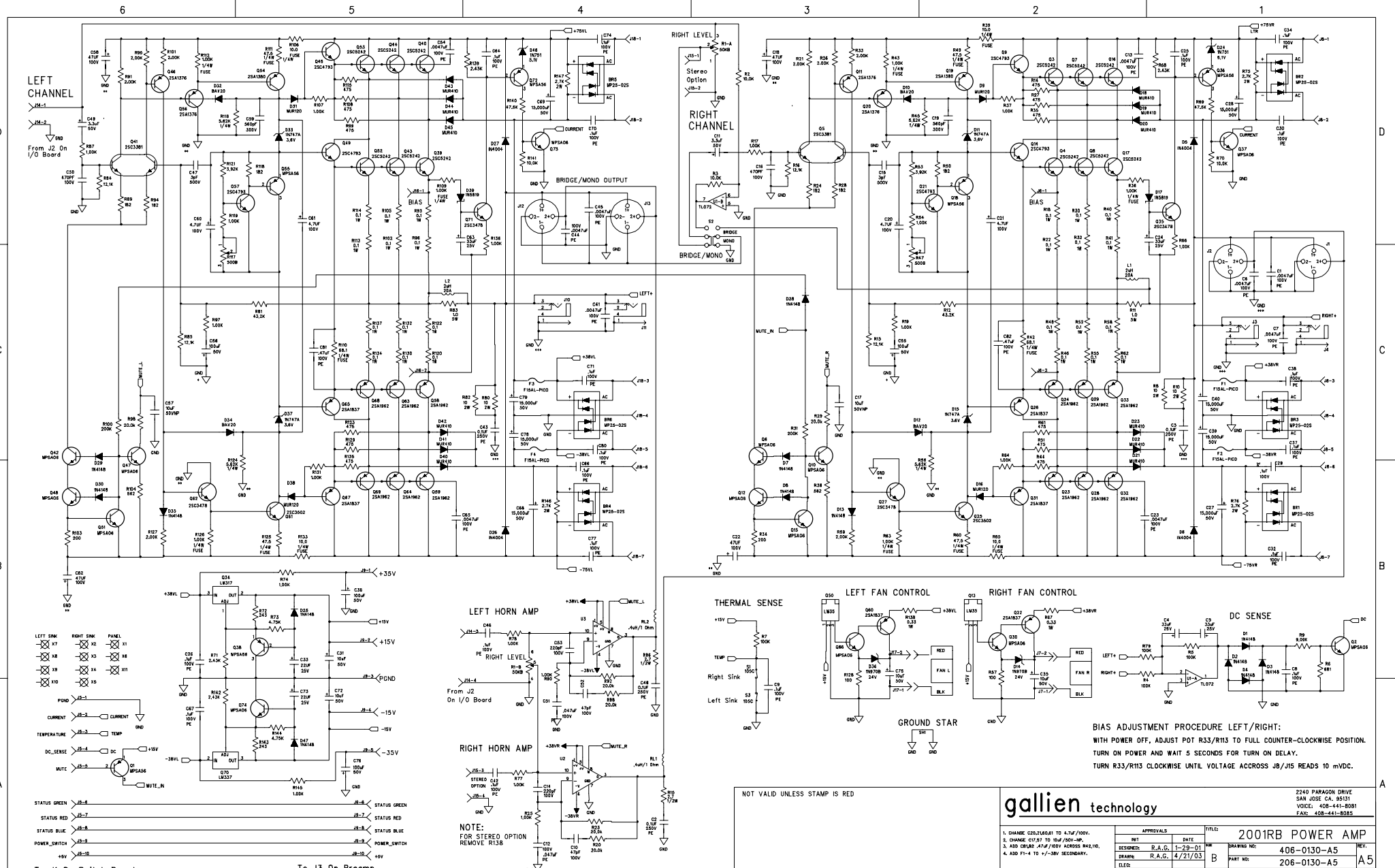


PLACE SMALL DROP OF WHITE SILICON GREASE TO ALL TRANSISTOR MOUNTING SURFACES BEFORE MOUNTING HEATSINK.

HEAT SINK ASSEMBLY

APPLY THERMAL INSULATOR TAPE (105-0014-0), AND ALIGN WITH THIS EDGE.

gallien technology 2240 PARAGON DRIVE SAN JOSE CA. 95131 VOICE: 408-441-8081 FAX: 408-441-8085		TITLE:	
		APPROVALS	DATE
DESIGNED:	DATE	SIZE	REV.
DRAWN: R.A.G.	8/8/02	B	405-0130-A4
ELEC:			145-0130-A4
MECH:			COMPANY: GALLIEN-KRUEGER
GERBER FILE NAME: sort002.pcb			SCALE: FILENAME: 5130A4
LAYER DESCRIPTION: TOP SIDE SOULSOREEN			



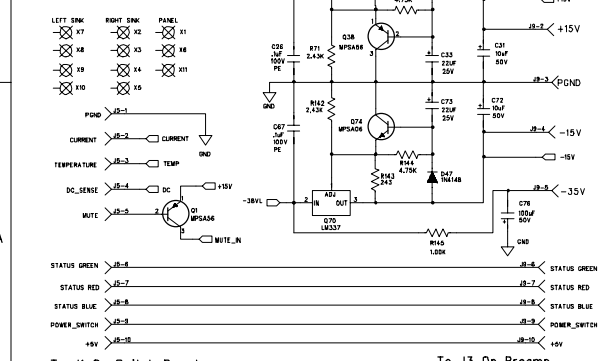
NOTE:
FOR STEREO OPTION
REMOVE R138

NOT VALID UNLESS STAMP IS RED

BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
WITH POWER OFF, ADJUST POT R33/R133 TO FULL COUNTER-CLOCKWISE POSITION.
TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
TURN R33/R133 CLOCKWISE UNTIL VOLTAGE ACROSS JB/J5 READS 10 mVDC.

gallien technology		2240 PARAGON DRIVE SAN JOSE CA, 95131 VOICE: 408-441-8088 FAX: 408-441-8085	
		FILE#	2001RB POWER AMP
REV	APPROVALS	DATE	REV
DESIGNER	R.A.G.	1-29-01	B
DRWING NO.	206-0130-A5		A5
DATE	4/21/03		
COMPANY	GALLIEN-KRUEGER		
FILENAME	6130A5.sch		

1. CHANGE C26,140,81 TO 4.7uF/100V.
2. CHANGE C17,57 TO 10uF/50V-HP.
3. ADD C84R, 47uF/100V ACROSS R42,10.
4. ADD F1-4 TO +/-38V SECONDARY.



To J1 On Switch Board To J3 On Preamp

Customer Name:	Gallien Krueger	Current Rev #:	A2	New ECO Rev #:	A2
Model:	2001RB			Page:	1 Of: 1
Assembly Description:	Power Amp board	Originator:	R. Gallien		
Assembly Numbers:	206-0130-A2	Approved by:			
		Effective Date:	2/14/2002		

Effective		Document Update		Date	Initials
<input checked="" type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy		
<input checked="" type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run		
<input checked="" type="checkbox"/>	All in Stock	<input type="checkbox"/>			

Beginning Serial Number: Board Artwork

Reason For Change		<input checked="" type="checkbox"/>	Date	Initials
To prevent unintentional protection activation, caused from noise on the Temp line to the Micro-processor.		<input checked="" type="checkbox"/>	BOM	RAG
		<input type="checkbox"/>	Control Form	
		<input type="checkbox"/>	Costing	
		<input type="checkbox"/>	Fab Drawing	
		<input checked="" type="checkbox"/>	Inspection Proc.	Arnel
		<input type="checkbox"/>	Part Master File	
		<input type="checkbox"/>	Punch Program	
		<input checked="" type="checkbox"/>	Schematic	RAG
		<input type="checkbox"/>	Service Manual	
		<input checked="" type="checkbox"/>	Test Procedure	Arnel
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
<input type="checkbox"/> Continued on ECO Supplement Page		<input type="checkbox"/>		

Description Of Change		Distribution		Date	Initials
Remove Q18 & R29, jumper Q18 base to collector.		<input type="checkbox"/>	Accounting		
		<input type="checkbox"/>	Assembly		
		<input type="checkbox"/>	Customer		
		<input checked="" type="checkbox"/>	Engineering		
		<input type="checkbox"/>	Fabrication		
		<input checked="" type="checkbox"/>	Incoming Q.C.		
		<input type="checkbox"/>	Planning		
		<input checked="" type="checkbox"/>	Production Eng.		
		<input checked="" type="checkbox"/>	Purchasing		
		<input type="checkbox"/>	Q.A.		
		<input type="checkbox"/>	Receiving		
		<input type="checkbox"/>	Service		
		<input type="checkbox"/>	Vendor		
		<input type="checkbox"/>			
		<input type="checkbox"/>			
<input type="checkbox"/> Continued on ECO Supplement Page		<input type="checkbox"/>			

Drawing(s) attached

Part Number	Description	Parts Added		Parts Deleted	
		Qty	Ref. Designator	Qty	Ref. Designator
010-0012-0	MPS A06			1	Q18
060-1003-0	10.0K 1%			1	R29

Customer Name:		Gallien Krueger		Current Rev #:	A02	New ECO Rev #:	A04		
Model:		2001RB		Distribute To:		Page:	1	Of:	1
Assembly Description:		Power Amp board		Originator:		RAG			
Assembly Numbers:		206-0130-A		Approved by:					
				Effective Date:		8/19/2002			
Effective				Document Update		Date	Initials		
<input type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy	<input type="checkbox"/>	Artwork				
<input type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run	<input type="checkbox"/>	Assembly Dwg.				
<input type="checkbox"/>	All in Stock	<input type="checkbox"/>		<input checked="" type="checkbox"/>	Board Artwork		RAG		
Beginning Serial Number:				<input checked="" type="checkbox"/>	BOM		RAG		
Reason For Change				<input type="checkbox"/>	Control Form				
A3-Change critical resistors to fuse resistors.				<input type="checkbox"/>	Costing				
Update board to match A2 protection changes.				<input type="checkbox"/>	Fab Drawing				
Replace Axial ceramic caps with polyester.				<input type="checkbox"/>	Inspection Proc.				
Adjust bias circuit for temperature stability.				<input checked="" type="checkbox"/>	Part Master File		RAG		
Udate mute circuit.				<input checked="" type="checkbox"/>	Schematic		RAG		
A4-Adjust bias circuit for bias stability.				<input type="checkbox"/>	Service Manual				
Lower input high end roll-off frequency.				<input type="checkbox"/>	Test Procedure				
Correct C22 & 62 case size.				<input type="checkbox"/>					
Correct speakon decal.				<input type="checkbox"/>					
Change output caps to high current variety.				Other Affected Assemblies					
				302-2090-A,302-0090-A,					
				302-1090-A					
<input type="checkbox"/>	Continued on ECO Supplement Page								
Description Of Change				Distribution		Date	Initials		
A3-Change R55-57,59,65,66,68,93,94,96,97,104,105 and 108 to fuse resistors.				<input type="checkbox"/>	Accounting				
Delete Q18 & R29 (from A2 schematic).				<input type="checkbox"/>	Assembly				
Change R50 & 118 to 681.				<input checked="" type="checkbox"/>	Engineering				
Use mute circuit from 700RB.				<input checked="" type="checkbox"/>	Incoming Q.C.				
				<input type="checkbox"/>	Planning				
A4-Change R50 & 118 to 182.				<input checked="" type="checkbox"/>	Production Eng.				
Change C16 & 50 to 470pF.				<input checked="" type="checkbox"/>	Purchasing				
Make room for larger C22 & 62 case size.				<input type="checkbox"/>	Q.A.				
Make room for corrected speakon decal.				<input type="checkbox"/>	Receiving				
Change C2,3,43 & 48 to high current polyester.				<input type="checkbox"/>	Service				
				<input checked="" type="checkbox"/>	Test				
Update board rev to A4. A3 was not released to production.				<input type="checkbox"/>	Vendor				
Use Rev-A4 BOM.				<input type="checkbox"/>					
<input type="checkbox"/>	Continued on ECO Supplement Page			<input type="checkbox"/>	Drawing(s) attached				
Part Number	Description	Parts Added		Parts Deleted					
		Qty	Ref. Designator	Qty	Ref. Designator				

Customer Name:	Gallien Krueger	Current Rev #:	A04	New ECO Rev #:	A05
Model:	2001RB	Distribute To:		Page:	1 Of: 1
Assembly Description:	Power Amp board	Originator:	RAG		
Assembly Numbers:	206-0130-A	Approved by:			
		Effective Date:	4/1/2003		

Effective		Document Update		Date	Initials
<input checked="" type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy		
<input checked="" type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run		
<input checked="" type="checkbox"/>	All in Stock	<input type="checkbox"/>			

Beginning Serial Number: BOM RAG

Reason For Change		Document Update		Date	Initials
Update board for CSA issues.		<input type="checkbox"/>	Control Form		
		<input type="checkbox"/>	Costing		
		<input type="checkbox"/>	Fab Drawing		
		<input type="checkbox"/>	Inspection Proc.		
		<input checked="" type="checkbox"/>	Part Master File		RAG
		<input checked="" type="checkbox"/>	Schematic		RAG
		<input type="checkbox"/>	Service Manual		
		<input type="checkbox"/>	Test Procedure		
		<input type="checkbox"/>			
		<input type="checkbox"/>			

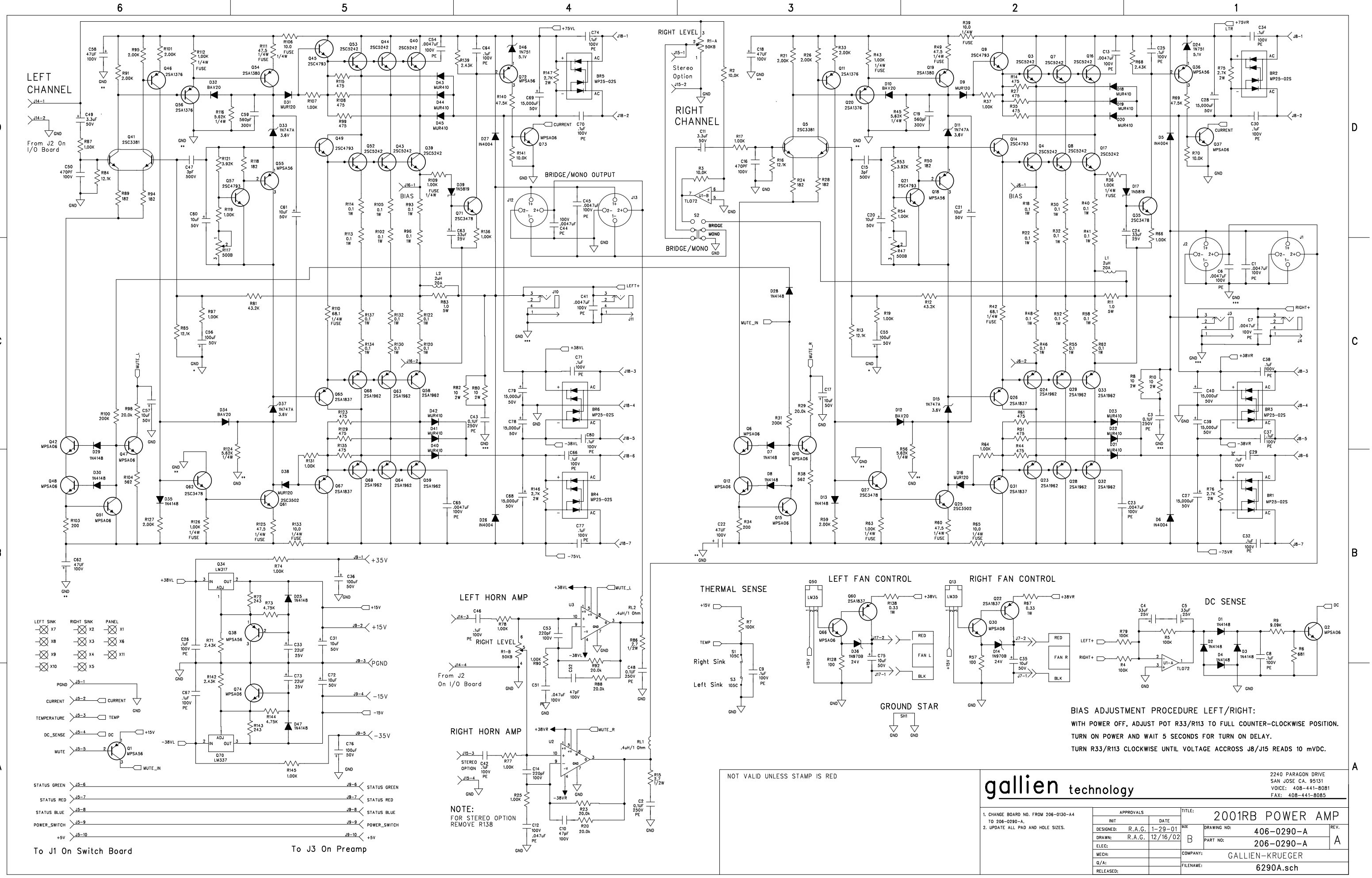
Other Affected Assemblies
[302-2090-A](#), [302-0090-A](#),
[302-1090-A](#)

Continued on ECO Supplement Page

Description Of Change		Distribution		Date	Initials
Pico fuses F1-4 added to +/-38V secondaries.		<input type="checkbox"/>	Accounting		
C20,21,60,61 changed to 4.7uF/100V.		<input type="checkbox"/>	Assembly		
C17,57 changed to 10uF/50V non-polar.		<input type="checkbox"/>	Customer		
.47uF PE caps added across R42 and R110.		<input checked="" type="checkbox"/>	Engineering		
		<input checked="" type="checkbox"/>	Incoming Q.C.		
		<input type="checkbox"/>	Planning		
		<input checked="" type="checkbox"/>	Production Eng.		
		<input checked="" type="checkbox"/>	Purchasing		
		<input type="checkbox"/>	Q.A.		
		<input type="checkbox"/>	Receiving		
		<input type="checkbox"/>	Service		
		<input checked="" type="checkbox"/>	Test		
		<input type="checkbox"/>	Vendor		
		<input type="checkbox"/>			
		<input type="checkbox"/>			

Continued on ECO Supplement Page

Part Number	Description	Parts Added		Parts Deleted	
		Qty	Ref. Designator	Qty	Ref. Designator
091-0033-0	Pico Fuse F15AL	4	F1-4		
031-4475-0	4.7uF/100V	4	C20,21,60,61		
031-2106-A	10uF/50V-NP	2	C17,57		
032-4474-0	.47uF/100V PE	2	C81,82		
031-2106-0	10uF/50V			6	C17,20,21,57,60,61



- LEFT CHANNEL**
- From J2 On I/O Board
 - J15-1
 - J15-2
 - J15-3
 - J15-4
 - J15-5
 - J15-6
 - J15-7
 - J15-8
 - J15-9
 - J15-10
- RIGHT CHANNEL**
- J15-1
 - J15-2
 - J15-3
 - J15-4
 - J15-5
 - J15-6
 - J15-7
 - J15-8
 - J15-9
 - J15-10
- BIAS**
- J18-1
 - J18-2
 - J18-3
 - J18-4
 - J18-5
 - J18-6
 - J18-7
- BRIDGE/MONO OUTPUT**
- J12
 - J13
- LEFT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- RIGHT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- THERMAL SENSE**
- Right Sink
 - Left Sink
- LEFT FAN CONTROL**
- FAN L
 - FAN R
- RIGHT FAN CONTROL**
- FAN L
 - FAN R
- DC SENSE**
- DC
- GROUND STAR**
- SH1
- LEFT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- RIGHT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- BIAS**
- J18-1
 - J18-2
 - J18-3
 - J18-4
 - J18-5
 - J18-6
 - J18-7
- BRIDGE/MONO OUTPUT**
- J12
 - J13
- LEFT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- RIGHT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- THERMAL SENSE**
- Right Sink
 - Left Sink
- LEFT FAN CONTROL**
- FAN L
 - FAN R
- RIGHT FAN CONTROL**
- FAN L
 - FAN R
- DC SENSE**
- DC
- GROUND STAR**
- SH1
- LEFT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- RIGHT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- BIAS**
- J18-1
 - J18-2
 - J18-3
 - J18-4
 - J18-5
 - J18-6
 - J18-7
- BRIDGE/MONO OUTPUT**
- J12
 - J13
- LEFT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- RIGHT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- THERMAL SENSE**
- Right Sink
 - Left Sink
- LEFT FAN CONTROL**
- FAN L
 - FAN R
- RIGHT FAN CONTROL**
- FAN L
 - FAN R
- DC SENSE**
- DC
- GROUND STAR**
- SH1
- LEFT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- RIGHT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- BIAS**
- J18-1
 - J18-2
 - J18-3
 - J18-4
 - J18-5
 - J18-6
 - J18-7
- BRIDGE/MONO OUTPUT**
- J12
 - J13
- LEFT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- RIGHT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- THERMAL SENSE**
- Right Sink
 - Left Sink
- LEFT FAN CONTROL**
- FAN L
 - FAN R
- RIGHT FAN CONTROL**
- FAN L
 - FAN R
- DC SENSE**
- DC
- GROUND STAR**
- SH1
- LEFT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- RIGHT CHANNEL**
- Panel X7
 - Panel X8
 - Panel X9
 - Panel X10
 - Panel X11
 - Panel X12
 - Panel X13
 - Panel X14
 - Panel X15
 - Panel X16
 - Panel X17
 - Panel X18
 - Panel X19
 - Panel X20
- BIAS**
- J18-1
 - J18-2
 - J18-3
 - J18-4
 - J18-5
 - J18-6
 - J18-7
- BRIDGE/MONO OUTPUT**
- J12
 - J13
- LEFT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- RIGHT HORN AMP**
- J14-1
 - J14-2
 - J14-3
 - J14-4
- THERMAL SENSE**
- Right Sink
 - Left Sink
- LEFT FAN CONTROL**
- FAN L
 - FAN R
- RIGHT FAN CONTROL**
- FAN L
 - FAN R
- DC SENSE**
- DC
- GROUND STAR**
- SH1

BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
 WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
 TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
 TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

NOT VALID UNLESS STAMP IS RED

gallen technology

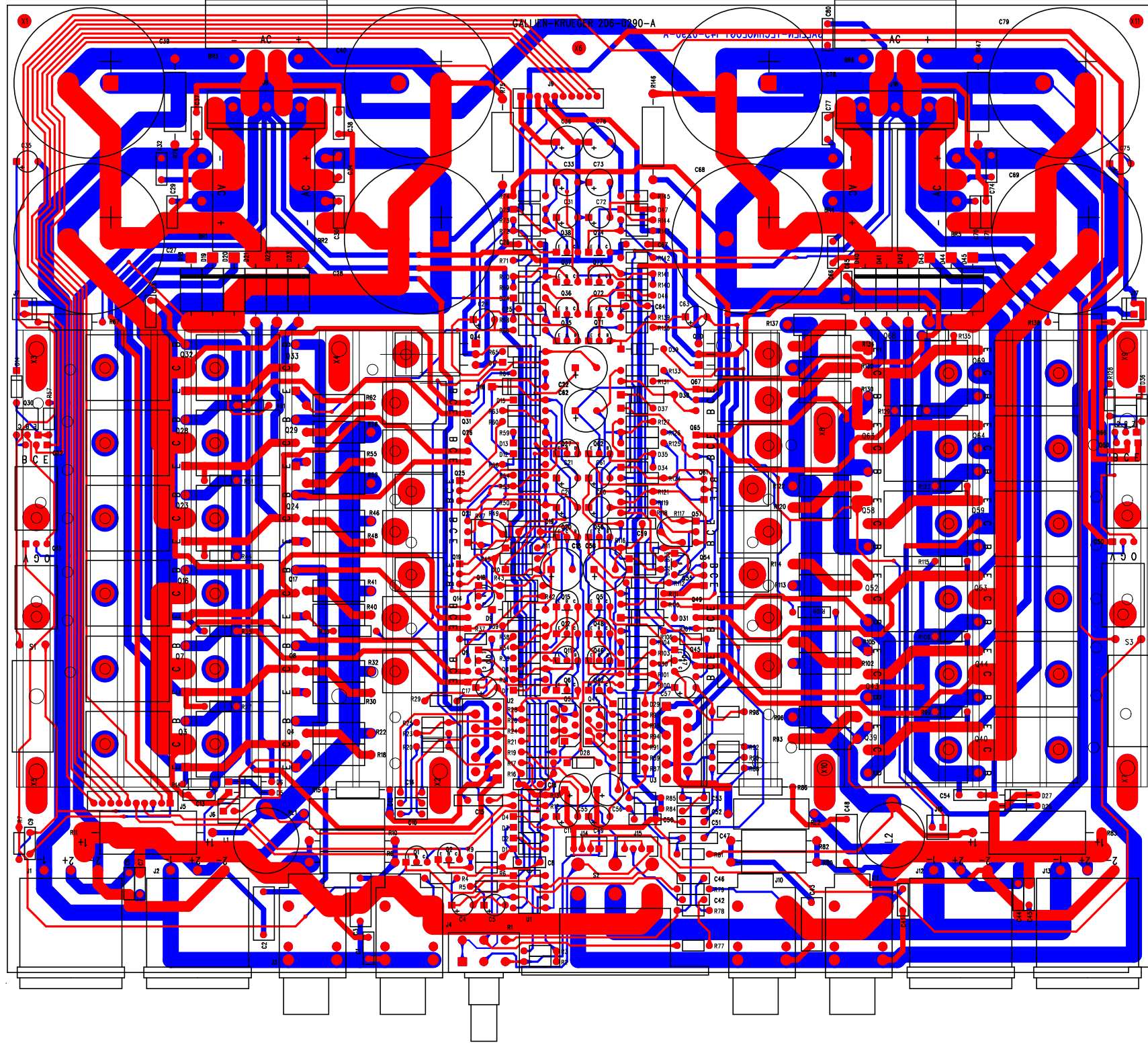
2240 PARAGON DRIVE
 SAN JOSE CA. 95131
 VOICE: 408-441-8081
 FAX: 408-441-8085

1. CHANGE BOARD NO. FROM 206-0130-A4 TO 206-0290-A.		APPROVALS		TITLE: 2001RB POWER AMP
DESIGNED: R.A.G.	DATE: 1-29-01	INIT	DATE	REV. A
ELEC: R.A.G.	DATE: 12/16/02	DESIGNED: R.A.G.	DATE: 12/16/02	DRAWING NO: 406-0290-A
MECH:		DRAWN: B		PART NO: 206-0290-A
Q/A:		COMPANY: GALLIEN-KRUEGER		FILENAME: 6290A.sch
RELEASED:				

GK GALLIEN-KRUEGER

2001RB Power Amp		Bill Of Material	206-0290-A		
Part No.	Reference	Description	Manufacturer	Mfr. Part No.	Quan
001-1030-1	U1	TLO72CP, LOW NOISE JFET OPAMP	MOTOROLA	TLO72CP	1.00
001-3886-0	U2-3	LM3886 ,68W AUDIO POWER AMP	NATIONAL	LM3886T	2.00
010-0000-0	Q5 Q41	2SC3381BL,NPNX2,80V,100MA,2-10M1B	TOSHIBA	2SC3281BL	2.00
010-0001-0	Q27 Q35 Q62 Q71	2SC3478, NPN,180V,100MA,TO-92	NEC	2SC3478-K	4.00
010-0003-0	Q25 Q61	2SC3502-F,NPN,200V,100MA,TO-126	TOSHIBA	2SC3502	2.00
010-0012-0	Q2,6,10,12,15,30,37,42	MPSA06, NPN,80V,500MA,TO-92	MOTOROLA	MPS-A06	14.00
010-0012-0	Q47,48,51,66,73,74				
010-0035-0	Q13 Q50	LM35DT, TEMPERATURE SENSOR, TO-220	NATIONAL	LM35DT	2.00
010-1002-0	Q11 Q20 Q46 Q56	2SA1376, PNP,180V,100MA,TO-92	NEC	2SA1376-K	4.00
010-1003-0	Q19 Q54	2SA1380-F,PNP,200V,100MA,TO-126	SANYO/TOSHIBA	2SA1380-F/E	2.00
010-1013-0	Q1,18,36,38,55,72	MPSA56 PNP 80V 500MA TO-92	MOTOROLA	MPS-A56	6.00
012-0002-0	Q9,14,21,45,49,57	2SC4793,NPN,200V,1.5A,2-10R1A	TOSHIBA	2SC4793	6.00
012-0003-0	Q3,4,7,8,16,17,39,40	2SC5242,NPN,230V,15A,2-16C1A	TOSHIBA	2SC5242-O	12.00
012-0003-0	Q43-44 Q52-53				
012-1002-0	Q22,26,31,60,65,67	2SA1837,PNP,200V,1.5A,2-10R1A	TOSHIBA	2SA1837	6.00
012-1003-0	Q23,24,28,29,32,33,58	2SA1962,PNP,230V,15A,2-16C1A	TOSHIBA	2SA1962	12.00
012-1003-0	Q59,63,64,68,69				
014-0070-0	Q34	LM317	NATIONAL	LM317	1.00
014-1072-0	Q70	LM337	NATIONAL	LM337	1.00
020-0036-0	D11 D15 D33 D37	1N747A, ZENER, 3.6V, 5%, 400MW, DO-35	TAITRON	1N747A	4.00
020-0050-0	D24 D46	1N751, ZENER,5.1V,10%,400MW,DO-35	NATIONAL	1N751	2.00
020-0240-0	D14 D36	1N970B, ZENER, 24V, 5%, 500MW, DO-35	TAITRON	1N970B	2.00
020-1000-0	D1-4,7,8,13,25,28-30,35 D47	1N4148, RECT-FAST, 200MA, 100V	MOTOROLA	1N4148	13.00
020-1022-0	D10 D12 D32 D34	BAV20, RECT, 200V, DO-35	NATIONAL	BAV20	4.00
020-1104-0	D17 D39	SHOTTKY, 1A, 40V, 10NS, DO-41	MOTOROLA	1N5819	2.00
020-1120-0	D9 D16 D31 D38	MUR120,RECT-FAST, 1A, 200V, 25NS, 59-04	MOTOROLA	MUR120	4.00
020-1122-0	D18-23 D40-45	MUR410, RECT-FAST, 4A, 100V	MOTOROLA	MUR410	12.00
020-2106-0	D5-6 D26-27	1N4004,RECT,1A,400V,DO-41	TAITRON	1N4004	4.00
023-0112-0	BR1-6	BRIDGE, 25A, 200V, VERT, PC, MO25S-02	CHENG-YI	MP25-02S	6.00
031-1226-0	C33 C73	CAP,ELEC,RAD,226, 20%,25V	UNITED CHEMI-CON	SRG25VB22RM5X7LL	2.00
031-1336-0	C4-5 C24 C63	CAP,ELEC,RAD,336,20%,25V	UNITED CHEMI-CON	SRG25VB33RM5X7LL	4.00
031-2106-0	C17,20,21,31,35,57,60,61	CAP,ELEC,RAD, 106, 20%, 50V	UNITED CHEMI-CON	SMG50VB10RM5X11LL	10.00
031-2106-0	C72 C75				
031-2107-0	C36 C55-56 C76	CAP,ELEC,RAD,107, 20%, 50V	UNITED CHEMI-CON	SMG50VB101M8X11LL	4.00
031-2159-0	C27,28,39,40,68,69,78 C79	CAP, ELEC, RAD, 159, 20%, 50V	UNITED CHEMI-CON	SMH50VN153M35X45T2	8.00
031-2335-0	C11 C49	CAP,ELEC,RAD,335,20%,50V	UNITED CHEMI-CON	SMG50VB3R3M5X11LL	2.00
031-4476-0	C18 C22 C58 C62	CAP,ELEC,RAD,476,-10%+50%,100V	UNITED CHEMI-CON	SMG100VB47RM10X12LL	4.00
032-4104-0	C8,9,25,26,29,30,32,34	CAP,PE,104,5%,100V,	PANASONIC	ECQV1104JM	20.00
032-4104-0	C37,38,42,46,64,66,67				
032-4104-0	C70-71 C74 C77 C80				
032-4472-0	C1,6,7,13,23,41,44,45	CAP,PE,472,5%,100V,	PANASONIC	ECQB1472JF	10.00
032-4472-0	C54 C65				
032-4473-0	C12 C51	CAP,PE,473,5%,100V,	PANASONIC	ECQV1473JM	2.00
032-7104-0	C2-3 C43 C48	CAP,PE,104,10%, 250V	ILLINOIS CAPACITOR	104MSR250K	4.00
034-4221-0	C14 C53	CAP,MCR,220pF,5%,100V,	TAITRON	TMRS221J100NPOB	2.00
034-4470-0	C10 C52	CAP,MCR,47PF,5%,100V,NPO	TAITRON	TMRS470J100NPOB	2.00
034-4471-0	C16 C50	CAP,MCR,470pF,5%,100V,	TAITRON	TMRS471J100NPOB	2.00
035-8030-0	C15 C47	CAP MICA AXIAL , 3pF, 10%, 500V	CORNELL	CD10CD030D03	2.00
035-8561-0	C19 C59	CAP MICA RADIAL, 561, 5%, 300V	CORNELL	CD15FC561J103	2.00
052-5622-0	R45 R56 R116 R124	RES,METAL FILM,5.62K,1/4W,1%	ECI	M5F1AK005.62	4.00
053-0270-0	R15 R86	RES ,CARBON FILM,2.7 ,1/2W,5%	ECI	R5J3AJ002.70	2.00
054-.100-0	R18,22,30,32,40,41,46	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	ECI	MO10J3AJ000.10	24.00
054-.100-0	R48,52,55,58,62,93,96				
054-.100-0	R102,105,113,114,120				
054-.100-0	R122,130,132,134,137				
054-.330-0	R67 R138	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	ECI	MO10J3AJ000.33	2.00
055-0101-0	R8 R10 R80 R82	RES, METAL OXIDE, 10 OHM, 2W, 5%	ECI	MOM20J3AJ010.00	4.00
055-2702-0	R75-76 R146-147	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	ECI	MOM20J3AK002.70	4.00
056-0100-0	R11 R83	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	ECI	WWC50J3AJ001.00	2.00
059-1000-0	R39 R65 R106 R133	RES,MF,FUSE,10.0 OHM, 1/4W,1%	JUKN.OHM	FR25-10.0	4.00
059-1002-0	R36,43,63,109,112,126	RES,MF,FUSE,1.00K,1/4W,1%	JUKN.OHM	FR25-1.00K	6.00
059-4750-0	R49 R60 R111 R125	RES,MF,FUSE,47.5 OHM, 1/4W,1%	JUKN.OHM	FR25-47.5	4.00
059-6810-0	R42 R110	RES,MF,FUSE,68.1 OHM, 1/4W,1%	JUKN.OHM	FR25-68.1	2.00
060-1001-0	R57 R128	RES, METAL FILM, 100 OHM, 1/8W, 1%	ECI	M1F1AJ100.00	2.00
060-1002-0	R17,19,25,37,54,64,66	RES,METAL FILM, 1.00K, 1/8W, 1%	ECI	M1F1AK001.00	18.00

2001RB Power Amp		Bill Of Material	206-0290-A		
Part No.	Reference	Description	Manufacturer	Mfr. Part No.	Quan
060-1002-0	R17,19,25,37,54,64,66,74 R77,78,87,90,97,107 R119 R131 R136 R145	RES,METAL FILM, 1.00K, 1/8W, 1%	ECI	M1F1AK001.00	18.00
060-1003-0	R2-3 R70 R141	RES,METAL FILM, 10.0K, 1/8W,1%	ECI	M1F1AK010.00	4.00
060-1004-0	R4-5 R7 R79	RES,METAL FILM, 100K, 1/8W, 1%	ECI	M1F1AK100.00	4.00
060-1213-0	R13 R16 R84-85	RES,METAL FILM, 12.1K OHM, 1/8W, 1%	ECI	M1F1AK012.10	4.00
060-1821-0	R24,28,50,89,94,118	RES,METAL FILM, 182, 1/8W, 1%	ECI	M1F1AJ182.00	6.00
060-2001-0	R34 R103	RES,METAL FILM, 200, 1/8W, 1%	ECI	M1F1AJ200.00	2.00
060-2002-0	R21,26,33,59,91,95,101 R127	RES,METAL FILM, 2.00K, 1/8W, 1%	ECI	M1F1AK002.00	8.00
060-2003-0	R20,23,29,88,92,98	RES,METAL FILM, 20.0K, 1/8W, 1%	ECI	M1F1AK020.00	6.00
060-2004-0	R31 R100	RES,METAL FILM, 200K, 1/8W, 1%	ECI	M1F1AK200.00	2.00
060-2431-0	R72 R143	RES,METAL FILM, 243 Ohm, 1/8W, 1%	ECI	M1F1AJ243.00	2.00
060-2432-0	R68 R71 R139 R142	RES,METAL FILM, 2.43K, 1/8W, 1%	ECI	M1F1AK002.43	4.00
060-3922-0	R53 R121	RES,METAL FILM, 3.92K, 1/8W, 1%	ECI	M1F1AK003.92	2.00
060-4323-0	R12 R81	RES,METAL FILM, 43.2K, 1/8W, 1%	ECI	M1F1AK043.20	2.00
060-4751-0	R14,27,35,44,51,61,99 R108,115,123,129,135	RES,METAL FILM, 475 ohm, 1/8W, 1%	ECI	M1F1AJ475.00	12.00
060-4752-0	R73 R144	RES,METAL FILM, 4.75K, 1/8W, 1%	ECI	M1F1AK004.75	2.00
060-4753-0	R69 R140	RES,METAL FILM, 47.5K, 1/8W, 1%	ECI	M1F1AK047.50	2.00
060-5621-0	R38 R104	RES,METAL FILM, 562, 1/8W, 1%	ECI	M1F1AJ562.00	2.00
060-6811-0	R6	RES,METAL FILM, 681 ohm, 1/8W, 1%	ECI	M1F1AJ681.00	1.00
060-9092-0	R9	RES,METAL FILM, 9.09K, 1/8W, 1%	ECI	M1F1AK009.09	1.00
070-0520-0	R47 R117	POT,500B TRIM, 200mW	SONG HUEI	SH-655MCL-500B	2.00
070-1253-0	R1	POT, 2X50KB, 7MM, KNURL, .1W	SONG HUEI	16T1-B50K-L15KC	1.00
081-0032-0	RL1-2	INDUCTOR .4UH/1 OHM 2W RESISTOR	SCHONBERG	081-0032-0	2.00
081-0055-0	L1-2	INDUCTOR,2UH,20A,AIR CORE	SCHONBERG	081-0055-0	2.00
090-0009-0	S2	SWITCH, DPDT,10A,SLIDE,PC	C&K	V802-13-SL-08-Q	1.00
091-1002-0	S1 S3	THRM BRKR, 105C +/-5,0-DIFF, PC	KLIXON	7AM-028-A5	2.00
092-0070-0	J1-2 J12-13	JACK,SPEAKON,PC MOUNT	SWITCHCRAFT	HPCP41RA	4.00
092-0082-0	J3-4 J10-11	JACK,1/4",MONO,PC, GROUNDING	NEUTRIK	S102-84G	4.00
093-0025-0	J6-7 J16-17	HDR,.1X2,VERT,MALE,LOCK,GOLD	AMP	641126-2	4.00
093-0045-0	J14-15	HDR, 2MMX4, VERT, LOCK	JST	B4B-PH-K-S	2.00
093-1010-0	J8 J18	HDR,.156X7,VERT,MALE,LOCK,SQUARE	MOLEX	26-60-4070	2.00
093-2010-0	J5 J9	HDR, 2MMX10, VERT, SHROUDED	JST	B10B-PH-K-S	2.00
145-0290-A		2001RB RAW BOARD			1.00
086-0000-0		FAN, 24VDC, 160MA, 80X80MM	ADDA	08-24-HB-A70GL	2.00
093-0506-0		HSG, .1X2, LOCKING, CRIMP 093-0909	MOLEX	22-01-3027	2.00
093-0909-0		TERM, CRIMP, .1, 22GA	MOLEX	08-50-0113	4.00
095-0006-0		HEAT SHRINK 3/16"			6.00
105-0014-0		INSULATOR TAPE 4"X7MIL	THERMALLOY	SILPAD 400AC	0.70
111-7017-0	REG, LM35	WASHER, SHOULDER,#4 NYLON			6.00
117-0097-0	TO-220,LM3886	BOLT,M3X9,M1,PHP/SW/PW,CHROME			22.00
117-0127-0	POWER TRAN	BOLT,M3X12,M1,PHP/SW/PW,CHROME			24.00
117-0357-0	FAN	BOLT,M3X35,M1,PHP/SW/PW,CHROME			8.00
117-7002-1	FAN	WASHER,M3,PLAIN, CHROME			8.00
132-0024-F1	HEATSINK	700RB HEATSINK			2.00
153-0105-0		LABEL, BLANK,.9"X.25"			1.00



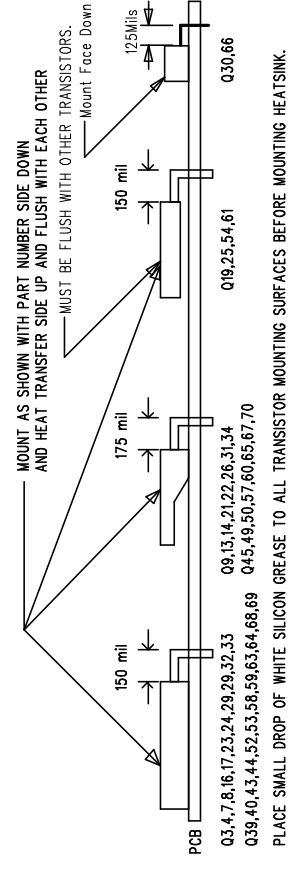
PCB WORK INSTRUCTIONS
DWG 420-0290-A

NOTES:

- UNLESS OTHERWISE SPECIFIED:
1. SQUARE PADS ON PARTS DENOTE PIN 1.
 2. ALL BOARDS REQUIRE A COMPLETE VISUAL INSPECTION.
 3. ALL BOARDS MUST BE BARE BOARD TESTED.
 4. ASSEMBLY AND SOLDER PER ANSI/JPC-A-610B.

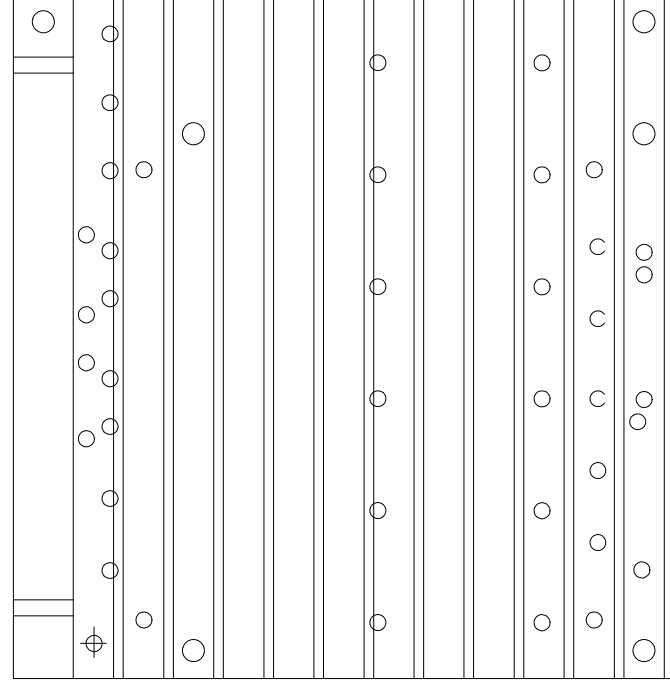
LOADING

5. SEE FORMING AND LOADING INSTRUCTIONS BELOW FOR INSTALLING SPECIFIED COMPONENTS.
6. CHECK THAT R18,22,30,32,40,41,46,48,52,55,56,62,63,96,102,105,113,114,120,122,130,132,134,137 ARE FLUSH TO BOARD.
7. CHECK THAT J1-1B, AND S2 ARE FLUSH WITH PCB.
8. MAKE CERTAIN ALL POWER TRANSISTOR MOUNTING HOLES ARE PROPERLY ALIGNED FOR HEAT SINK.



PLACE SMALL DROP OF WHITE SILICON GREASE TO ALL TRANSISTOR MOUNTING SURFACES BEFORE MOUNTING HEATSINK.

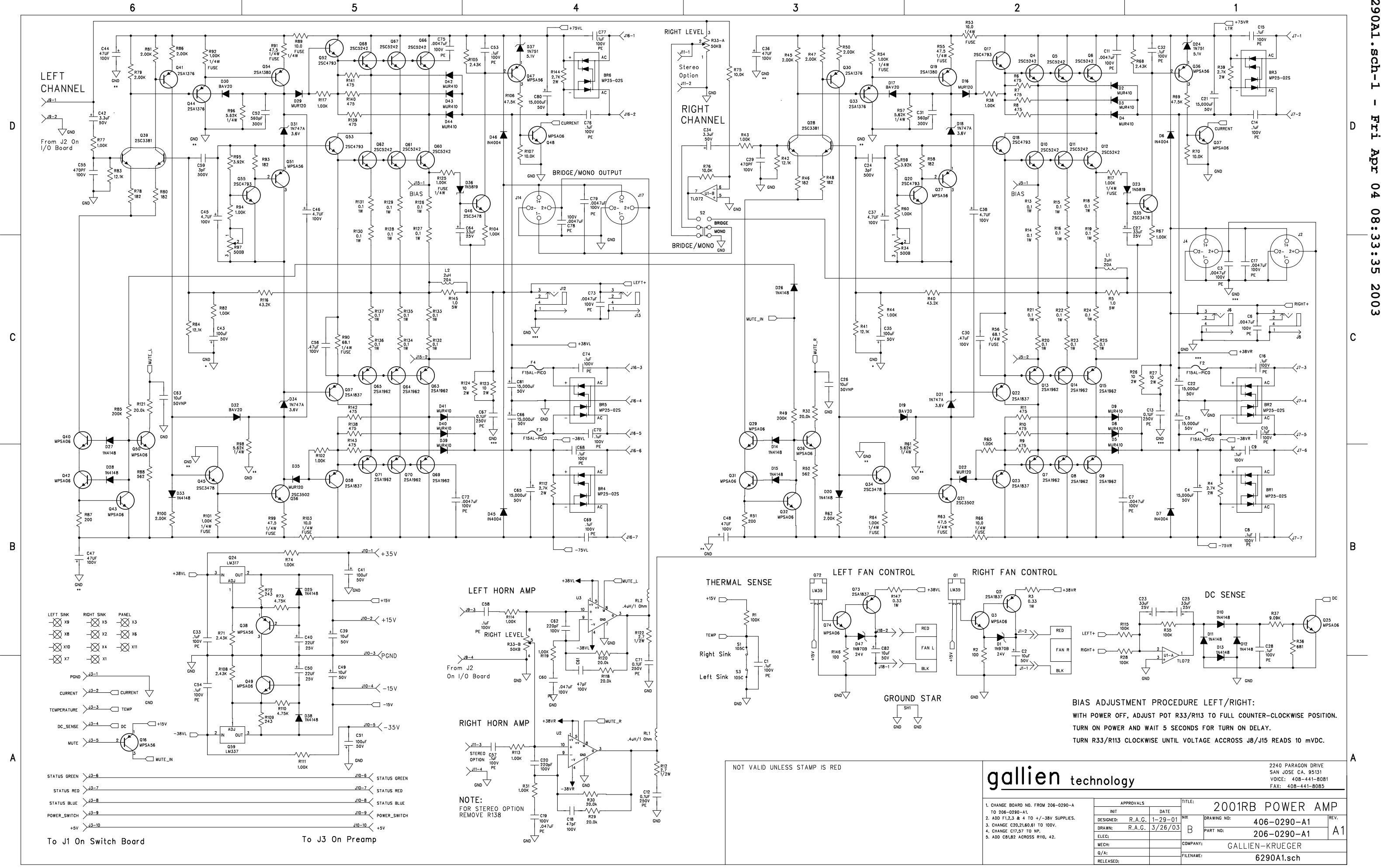
HEAT SINK ASSEMBLY



NOT VALID UNLESS STAMP IS RED

gallien technology 2240 PARAGON DRIVE SAN JOSE CA. 95131 VOICE: 408-441-8081 FAX: 408-441-8085		TITLE:	
		DESIGNED:	DATE:
DRAWN: R.A.G.		SIZE: 405-0290-A	REV. A
ELEC:		PART NO: 145-0290-A	COMPANY: GALLIEN-KRUEGER
MECH:		GERBER FILE NAME: 60t0290.pcb	SCALE: FILENAME: 5290A
LAYER DESCRIPTION: TOPSIDE (SOLDERMASK)			

Customer Name:		Gallien Krueger		Current Rev #:		New ECO Rev #:		A	
Model:		2001RB		Distribute To:		Page:		1 Of: 1	
Assembly Description:		Power Amp board		Originator:		RAG			
Assembly Numbers:		206-0290-A		Approved by:					
		145-0290-A		Effective Date:		4/23/2003			
Effective				Document Update		Date		Initials	
<input type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy	<input type="checkbox"/>	Artwork				
<input type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run	<input type="checkbox"/>	Assembly Dwg.				
<input type="checkbox"/>	All in Stock	<input type="checkbox"/>		<input type="checkbox"/>	Board Artwork				
Beginning Serial Number:				<input type="checkbox"/>	BOM				
Reason For Change				<input type="checkbox"/>	Control Form				
Update board for better auto insertion by increasing the thru hole size.				<input type="checkbox"/>	Costing				
Use new part number system changing the board from 206-0130-A to 206-0290-A. This system uses the final assembly part number to develop it's part number.				<input checked="" type="checkbox"/>	Part Master File	4/1/03		RAG	
				<input checked="" type="checkbox"/>	Schematic	12/16/02		RAG	
				<input type="checkbox"/>	Service Manual				
				<input type="checkbox"/>	Test Procedure				
				<input type="checkbox"/>					
				<input type="checkbox"/>					
				Other Affected Assemblies					
				302-0290-A,302-1290-A, 302-2290-A					
<input type="checkbox"/>	Continued on ECO Supplement Page								
Description Of Change				Distribution		Date		Initials	
Create new numbers for 145 and 206 levels.				<input type="checkbox"/>	Accounting				
				<input type="checkbox"/>	Assembly				
				<input type="checkbox"/>	Customer				
				<input checked="" type="checkbox"/>	Engineering				
				<input type="checkbox"/>	Incoming Q.C.				
				<input type="checkbox"/>	Planning				
				<input checked="" type="checkbox"/>	Production Eng.				
				<input checked="" type="checkbox"/>	Purchasing				
				<input type="checkbox"/>	Q.A.				
				<input type="checkbox"/>	Receiving				
				<input type="checkbox"/>	Service				
				<input checked="" type="checkbox"/>	Test				
				<input type="checkbox"/>	Vendor				
				<input type="checkbox"/>					
				<input type="checkbox"/>					
<input type="checkbox"/>	Continued on ECO Supplement Page			<input type="checkbox"/>	Drawing(s) attached				
Part Number	Description	Parts Added		Parts Deleted					
		Qty	Ref. Designator	Qty	Ref. Designator				



D
C
B
A

D
C
B
A

LEFT CHANNEL

From J2 On I/O Board

RIGHT CHANNEL

RIGHT LEVEL

STEREO Option

BRIDGE/MONO

BRIDGE/MONO OUTPUT

BIAS

BRIDGE/MONO

MUTE_IN

MUTE_L

MUTE_R

LEFT HORN AMP

RIGHT HORN AMP

THERMAL SENSE

LEFT FAN CONTROL

RIGHT FAN CONTROL

DC SENSE

GROUND STAR

NOTE:
FOR STEREO OPTION
REMOVE R138

BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT:
WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION.
TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY.
TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

NOT VALID UNLESS STAMP IS RED

gallien technology

2240 PARAGON DRIVE
SAN JOSE CA. 95131
VOICE: 408-441-8081
FAX: 408-441-8085

APPROVALS		TITLE: 2001RB POWER AMP	
INIT	DATE	REV	DRAWING NO: 406-0290-A1
DESIGNED: R.A.G.	1-29-01	B	PART NO: 206-0290-A1
DRAWN: R.A.G.	3/26/03		REV: A1
ELEC:			
COMPANY:	GALLIEN-KRUEGER		
FILENAME:	6290A1.sch		

1. CHANGE BOARD NO. FROM 206-0290-A TO 206-0290-A1.
2. ADD F12.3 & 4 TO +/-38V SUPPLIES.
3. CHANGE C20,21,60,61 TO 100V.
4. CHANGE C17.57 TO NP.
5. ADD C81,82 ACROSS R110, 42.

To J1 On Switch Board

To J3 On Preamp

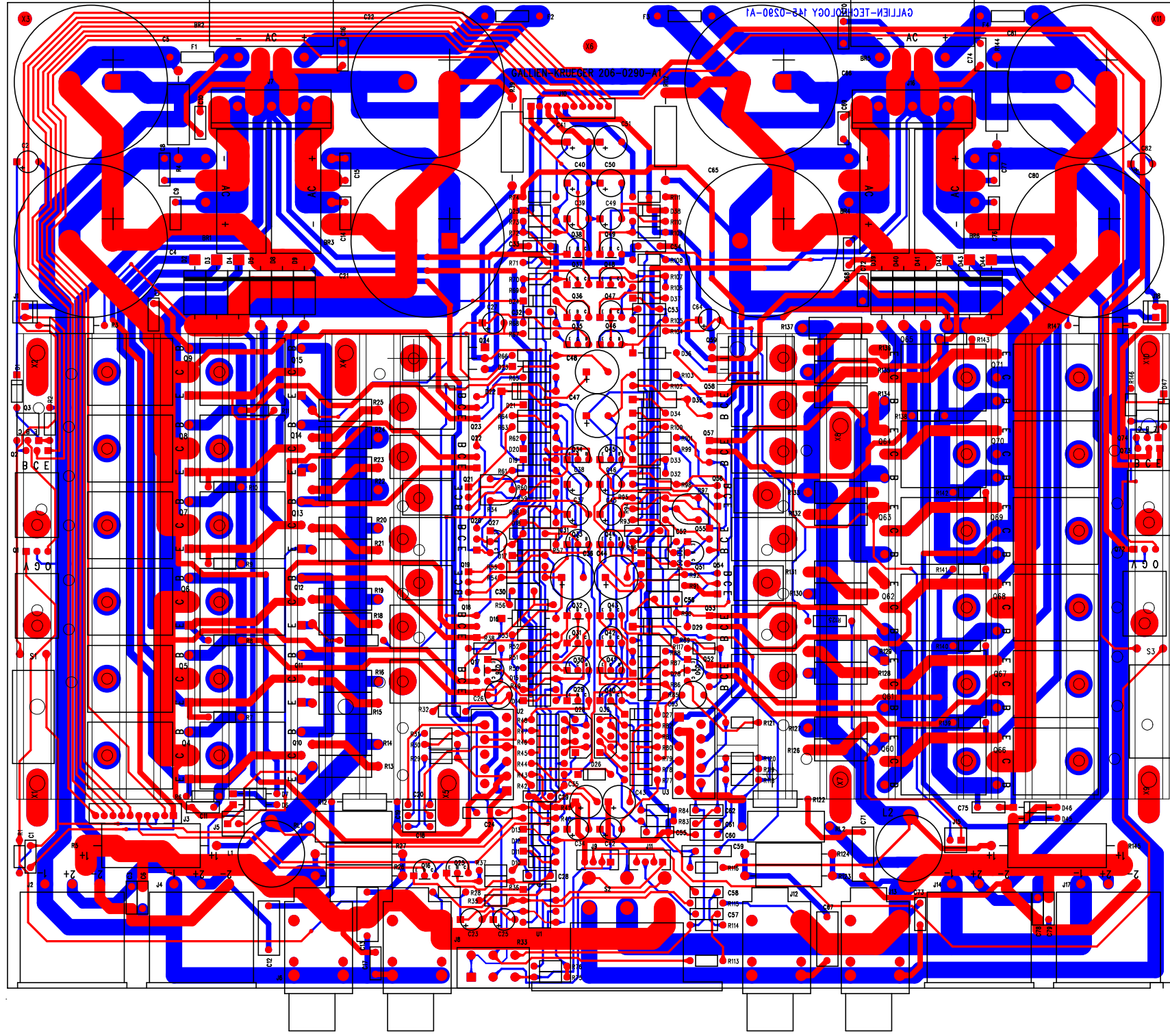
2001RB Power Amp		206-0290-A1		
Part No.	Reference	Description	Manufacturer	Mfr. Part No.
001-1030-1	U1	TLO72CP, LOW NOISE JFET OPAMP	MOTOROLA	TL072CP
001-3886-0	U2-3	LM3886 ,68W AUDIO POWER AMP	NATIONAL	LM3886T
010-0000-0	Q28 Q39	2SC3381BL,NPNX2,80V,100MA,2-10M1B	TOSHIBA	2SC3281BL
010-0001-0	Q34-35 Q45-46	2SC3478, NPN,180V,100MA,TO-92	NEC	2SC3478-K
010-0003-0	Q21 Q56	2SC3502-F,NPN,200V,100MA,TO-126	TOSHIBA	2SC3502
010-0012-0	Q3 Q25-26 Q29 Q31-32 Q37 Q40 Q42-43 Q48-50 Q74	MPSAO6, NPN,80V,500MA,TO-92	MOTOROLA	MPS-A06
010-0035-0	Q1 Q72	LM35DT, TEMPERATURE SENSOR, TO-220	NATIONAL	LM35DT
010-1002-0	Q30 Q33 Q41 Q44	2SA1376, PNP,180V,100MA,TO-92	NEC	2SA1376-K
010-1003-0	Q19 Q54	2SA1380-F,PNP,200V,100MA,TO-126	SANYO/TOSHIBA	2SA1380-F/E
010-1013-0	Q16,27,36,38,47,51	MPSA56 PNP 80V 500MA TO-92	MOTOROLA	MPS-A56
012-0002-0	Q17-18 Q20 Q52-53 Q55	2SC4793,NPN,200V,1.5A,2-10R1A	TOSHIBA	2SC4793
012-0003-0	Q4-6 Q10-12 Q60-62 Q66-68	2SC5242,NPN,230V,15A,2-16C1A	TOSHIBA	2SC5242-O
012-1002-0	Q2 Q22-23 Q57-58 Q73	2SA1837,PNP,200V,1.5A,2-10R1A	TOSHIBA	2SA1837
012-1003-0	Q7-9 Q13-15 Q63-65 Q69-71	2SA1962,PNP,230V,15A,2-16C1A	TOSHIBA	2SA1962
014-0070-0	Q24	LM317	NATIONAL	LM317
014-1072-0	Q59	LM337	NATIONAL	LM337
020-0036-0	D18 D21 D31 D34	1N747A, ZENER, 3.6V, 5%, 400MW,	TAITRON	1N747A
020-0050-0	D24 D37	1N751, ZENER,5.1V,10%,400MW,DO-35	NATIONAL	1N751
020-0240-0	D1 D47	1N970B, ZENER, 24V, 5%, 500MW,	TAITRON	1N970B
020-1000-0	D10-15 D20 D25-28 D33 D38	1N4148, RECT-FAST, 200MA, 100V	MOTOROLA	1N4148
020-1022-0	D17 D19 D30 D32	BAV20, RECT, 200V, DO-35	NATIONAL	BAV20
020-1104-0	D23 D36	SHOTTKY, 1A, 40V, 10NS, DO-41	MOTOROLA	1N5819
020-1120-0	D16 D22 D29 D35	MUR120,RECT-FAST, 1A, 200V, 25NS,	MOTOROLA	MUR120
020-1122-0	D2-5 D8-9 D39-44	MUR410, RECT-FAST, 4A, 100V	MOTOROLA	MUR410
020-2106-0	D6-7 D45-46	1N4004,RECT,1A,400V,DO-41	TAITRON	1N4004
023-0112-0	BR1-6	BRIDGE, 25A, 200V, VERT, PC,MO25S-02	CHENG-YI	MP25-02S
031-1226-0	C40 C50	CAP,ELEC,RAD,226, 20%,25V	UNITED CHEMI-CON	SRG25VB22RM5X7LL
031-1336-0	C23 C25 C27 C64	CAP,ELEC,RAD,336,20%,25V	UNITED CHEMI-CON	SRG25VB33RM5X7LL
031-2106-0	C2 C39 C49 C82	CAP,ELEC,RAD, 106, 20%, 50V	UNITED CHEMI-CON	SMG50VB10RM5X11LL
031-2106-A	C26 C63	CAP,ELEC,RAD, 106, 20%, 50VNP	UNITED CHEMI-CON	SMEBP50VB10RM6X11LL
031-2107-0	C35 C41 C43 C51	CAP,ELEC,RAD,107, 20%, 50V	UNITED CHEMI-CON	SMG50VB101M8X11LL
031-2159-0	C4-5 C21-22 C65-66 C80-81	CAP, ELEC, RAD, 159, 20%, 50V	UNITED CHEMI-CON	SMH50VN153M35X45T2
031-2335-0	C34 C42	CAP,ELEC,RAD,335,20%,50V	UNITED CHEMI-CON	SMG50VB3R3M5X11LL
031-4475-0	C37-38 C45-46	CAP,EL-R,4.7UF/100V, M	UNITED CHEMI-CON	SMG100VB4R7M5X11LL
031-4476-0	C36 C44 C47-48	CAP,ELEC,RAD,476,-10%+50%,100V	UNITED CHEMI-CON	SMG100VB47RM10X12LL
032-4104-0	C1 C8-10 C14-16 C28 C32-33 C53-54 C57-58 C68-70 C74 C76-77	CAP,PE,104,5%,100V,	PANASONIC	ECQV1104JM
032-4472-0	C3 C6-7 C11 C17 C72-73 C75 C78-79	CAP,PE,472,5%,100V,	PANASONIC	ECQB1472JF
032-4473-0	C19 C60	CAP,PE,473,5%,100V,	PANASONIC	ECQV1473JM
032-4474-0	C30 C56	CAP,PE,474,5%,100V,	PANASONIC	ECQV1474JM
032-7104-0	C12-13 C67 C71	CAP,PE,104,10%, 250V	ILLINOIS CAPACITOR	104MSR250K
034-4221-0	C20 C62	CAP,MCR,220pF,5%,100V,	TAITRON	TMRS221J100NPOB
034-4470-0	C18 C61	CAP,MCR,47PF,5%,100V,NPO	TAITRON	TMRS470J100NPOB
034-4471-0	C29 C55	CAP,MCR,470pF,5%,100V,	TAITRON	TMRS471J100NPOB
035-8030-0	C24 C59	CAP MICA AXIAL , 3pF, 10%, 500V	CORNELL	CD10CD030D03
035-8561-0	C31 C52	CAP MICA RADIAL, 561, 5%, 300V	CORNELL	CD15FC561J103
052-5622-0	R57 R61 R96 R98	RES,METAL FILM,5.62K,1/4W,1%	ECI	M5F1AK005.62
053-0270-0	R12 R122	RES ,CARBON FILM,2.7 , 1/2W,5%	ECI	R5J3AJ002.70
054-100-0	R13-16 R18-25 R126-137	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	ECI	MO10J3AJ000.10
054-330-0	R3 R147	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	ECI	MO10J3AJ000.33
055-0101-0	R26-27 R123-124	RES, METAL OXIDE, 10 OHM, 2W, 5%	ECI	MOM20J3AJ010.00
055-2702-0	R4 R39 R112 R144	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	ECI	MOM20J3AK002.70
056-0100-0	R5 R145	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	ECI	WWC50J3AJ001.00
059-1000-0	R53 R66 R89 R103	RES,MF,FUSE,10.0 OHM, 1/4W,1%	JUKN.OHM	FR25-10.0
059-1002-0	R17 R54 R64 R92 R101 R125	RES,MF,FUSE,1.00K,1/4W,1%	JUKN.OHM	FR25-1.00K
059-4750-0	R55 R63 R91 R99	RES,MF,FUSE,47.5 OHM, 1/4W,1%	JUKN.OHM	FR25-47.5
059-6810-0	R56 R90	RES,MF,FUSE,68.1 OHM, 1/4W,1%	JUKN.OHM	FR25-68.1

2001RB Power Amp

206-0290-A1

Part No.	Reference	Description	Manufacturer	Mfr. Part No.
060-1001-0	R2 R146	RES,METAL FILM, 100 OHM, 1/8W, 1%	ECI	M1F1AJ100.00
060-1002-0	R31 R38 R43-44 R60 R65 R67 R74 R77 R82 R94 R102 R104 R111 R113-114 R117 R119	RES,METAL FILM, 1.00K, 1/8W, 1%	ECI	M1F1AK001.00
060-1003-0	R70 R75-76 R107	RES,METAL FILM, 10.0K, 1/8W,1%	ECI	M1F1AK010.00
060-1004-0	R1 R28 R35 R115	RES,METAL FILM, 100K, 1/8W, 1%	ECI	M1F1AK100.00
060-1213-0	R41-42 R83-84	RES,METAL FILM, 12.1K OHM, 1/8W,1%	ECI	M1F1AK012.10
060-1821-0	R46 R48 R58 R78 R80 R93	RES,METAL FILM, 182, 1/8W, 1%	ECI	M1F1AJ182.00
060-2001-0	R51 R87	RES,METAL FILM, 200, 1/8W, 1%	ECI	M1F1AJ200.00
060-2002-0	R45 R47 R50 R62 R79 R81 R86 R100	RES,METAL FILM, 2.00K, 1/8W, 1%	ECI	M1F1AK002.00
060-2003-0	R29-30 R32 R118 R120-121	RES,METAL FILM, 20.0K, 1/8W, 1%	ECI	M1F1AK020.00
060-2004-0	R49 R85	RES,METAL FILM, 200K, 1/8W, 1%	ECI	M1F1AK200.00
060-2431-0	R72 R109	RES,METAL FILM, 243 Ohm, 1/8W, 1%	ECI	M1F1AJ243.00
060-2432-0	R68 R71 R105 R108	RES,METAL FILM, 2.43K, 1/8W, 1%	ECI	M1F1AK002.43
060-3922-0	R59 R95	RES,METAL FILM, 3.92K, 1/8W, 1%	ECI	M1F1AK003.92
060-4323-0	R40 R116	RES,METAL FILM, 43.2K, 1/8W, 1%	ECI	M1F1AK043.20
060-4751-0	R6-11 R138-143	RES,METAL FILM, 475 ohm, 1/8W, 1%	ECI	M1F1AJ475.00
060-4752-0	R73 R110	RES,METAL FILM, 4.75K, 1/8W, 1%	ECI	M1F1AK004.75
060-4753-0	R69 R106	RES,METAL FILM, 47.5K, 1/8W, 1%	ECI	M1F1AK047.50
060-5621-0	R52 R88	RES,METAL FILM, 562, 1/8W, 1%	ECI	M1F1AJ562.00
060-6811-0	R36	RES,METAL FILM, 681 ohm, 1/8W, 1%	ECI	M1F1AJ681.00
060-9092-0	R37	RES,METAL FILM, 9.09K, 1/8W, 1%	ECI	M1F1AK009.09
070-0520-0	R34 R97	POT,500B TRIM, 200mW	SONG HUEI	SH-655MCL-500B
070-1253-0	R33	POT, 2X50KB, 7MM, KNURL, .1W	SONG HUEI	16T1-B50K-L15KC
081-0032-0	RL1-2	INDUCTOR .4UH WITH 1 OHM 2W	SCHONBERG	081-0032-0
081-0055-0	L1-2	INDUCTOR,2UH,20A,AIR CORE	SCHONBERG	081-0055-0
090-0009-0	S2	SWITCH, DPDT,10A,SLIDE,PC	C&K	V802-13-SL-08-Q
091-0033-0	F1-4	FUSE,PICO,F15AL,32V,UL	LITTLE FUSE	251-015
091-1002-0	S1 S3	THRM BRKR, 105C +/-5,0-DIFF, PC	KLIXON	7AM-028-A5
092-0070-0	J2 J4 J14 J17	JACK,SPEAKON,PC MOUNT, NEUTRIK	SWITCHCRAFT	HPCP41RA
092-0082-0	J6 J8 J12-13	JACK,1/4",MONO,PC, GROUNDING	NEUTRIK	S102-84G
093-0025-0	J1 J5 J15 J18	HDR,.1X2,VERT,MALE,LOCK,GOLD	AMP	641126-2
093-0045-0	J9 J11	HDR, 2MMX4, VERT, LOCK	JST	B4B-PH-K-S
093-1010-0	J7 J16	HDR,.156X7,VERT,MALE,LOCK,SQUARE	MOLEX	26-60-4070
093-2010-0	J3 J10	HDR, 2MMX10, VERT, SHROUDED	JST	B10B-PH-K-S

Customer Name: Gallien Krueger		Current Rev #: A		New ECO Rev #: A1	
Model: 2001RB		Distribute To:		Page: 1	Of: 1
Assembly Description: Power Amp board		Originator: RAG			
Assembly Numbers: 206-0290-A1 145-0290-A1		Approved by:			
		Effective Date: 4/23/2003			
Effective		Document Update		Date	Initials
<input type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy		
<input type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run		
<input type="checkbox"/>	All in Stock	<input type="checkbox"/>			
Beginning Serial Number:		<input checked="" type="checkbox"/>	BOM		RAG
Reason For Change		<input type="checkbox"/>	Control Form		
Update board for CSA issues.		<input type="checkbox"/>	Costing		
Rev A was never manufactured.		<input type="checkbox"/>	Fab Drawing		
		<input type="checkbox"/>	Inspection Proc.		
		<input checked="" type="checkbox"/>	Part Master File		RAG
		<input checked="" type="checkbox"/>	Schematic		RAG
		<input type="checkbox"/>	Service Manual		
		<input type="checkbox"/>	Test Procedure		
		<input type="checkbox"/>			
		<input type="checkbox"/>			
Other Affected Assemblies					
		302-0290-A,302-1290-A, 302-2290-A			
<input type="checkbox"/>	Continued on ECO Supplement Page				
Description Of Change		Distribution		Date	Initials
Pico fuses F1-4 added to +/-38V secondaries.		<input type="checkbox"/>	Accounting		
C20,21,60,61 changed to 4.7uF/100V.		<input type="checkbox"/>	Assembly		
C17,57 changed to 10uF/50V non-polar.		<input type="checkbox"/>	Customer		
.47uF PE caps added across R42 and R110.		<input checked="" type="checkbox"/>	Engineering		
		<input checked="" type="checkbox"/>	Incoming Q.C.		
Create BOM in Syspro for 206 level.		<input type="checkbox"/>	Planning		
Rev 145 and 206 parts.		<input checked="" type="checkbox"/>	Production Eng.		
		<input checked="" type="checkbox"/>	Purchasing		
		<input type="checkbox"/>	Q.A.		
		<input type="checkbox"/>	Receiving		
		<input type="checkbox"/>	Service		
		<input checked="" type="checkbox"/>	Test		
		<input type="checkbox"/>	Vendor		
		<input type="checkbox"/>			
		<input type="checkbox"/>			
<input type="checkbox"/>	Continued on ECO Supplement Page				
		<input type="checkbox"/>	Drawing(s) attached		
Part Number	Description	Parts Added		Parts Deleted	
		Qty	Ref. Designator	Qty	Ref. Designator
091-0033-0	Pico Fuse F15AL	4	F1-4		
031-4475-0	4.7uF/100V	4	C37,38,45,46		
031-2106-A	10uF/50V-NP	2	C26,63		
032-4474-0	.47uF/100V PE	2	C30,56		



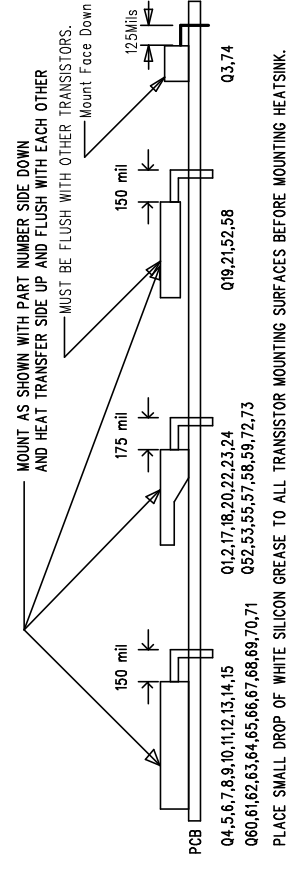
PCB WORK INSTRUCTIONS
DWG 420-0290-A1

NOTES:

- UNLESS OTHERWISE SPECIFIED:
1. SQUARE PADS ON PARTS DENOTE PIN 1.
 2. ALL BOARDS REQUIRE A COMPLETE VISUAL INSPECTION.
 3. ALL BOARDS MUST BE BARE BOARD TESTED.
 4. ASSEMBLY AND SOLDER PER ANSI/JPC-A-610B.

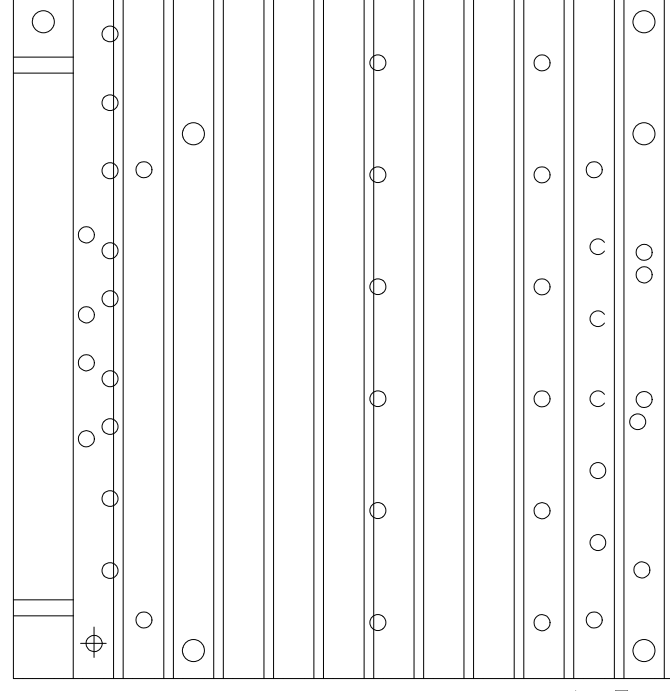
LOADING

5. SEE FORMING AND LOADING INSTRUCTIONS BELOW FOR INSTALLING SPECIFIED COMPONENTS.
6. CHECK THAT R13,14,15;16;18;19;20;21;22;23;24,25;126;127;128;129;130;131;132;133,134,135,136,137 ARE FLUSH TO BOARD.
7. CHECK THAT J1-1B, S1,2 & 3 ARE FLUSH WITH PCB.
8. MAKE CERTAIN ALL POWER TRANSISTOR MOUNTING HOLES ARE PROPERLY ALIGNED FOR HEAT SINK.



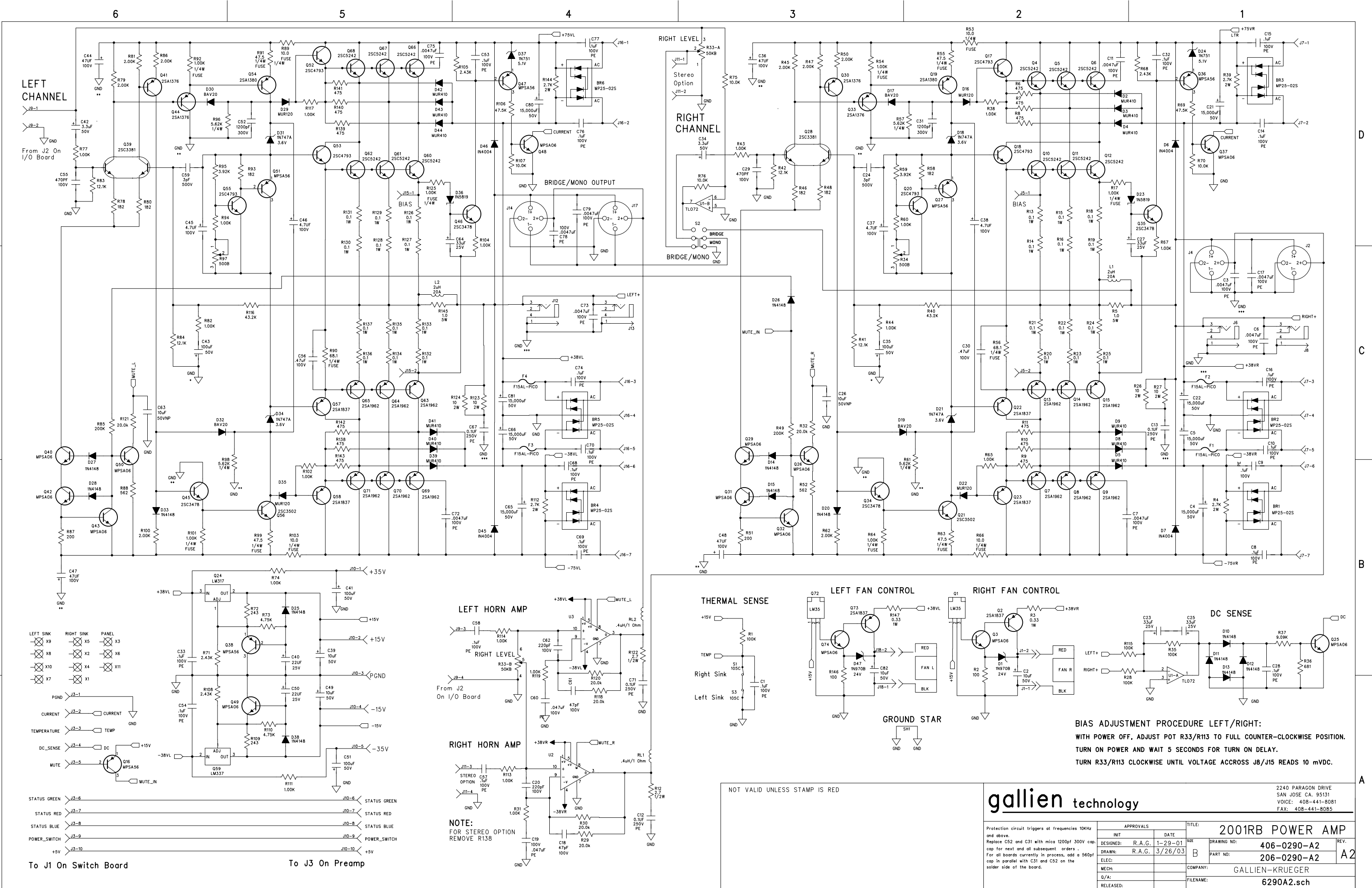
PLACE SMALL DROP OF WHITE SILICON GREASE TO ALL TRANSISTOR MOUNTING SURFACES BEFORE MOUNTING HEATSINK.

HEAT SINK ASSEMBLY



APPLY THERMAL INSULATOR TAPE (105-0014-0), AND ALIGN WITH THIS EDGE.

gallien technology 2240 PARAGON DRIVE SAN JOSE CA. 95131 VOICE: 408-441-8081 FAX: 408-441-8085		TITLE:	
		DESIGNED:	DATE:
NOT VALID UNLESS STAMP IS RED AGBLSIDEYSBCKASINBNCE N		DRAWING NO: 405-0290-A1 SIZE: B REV: A1	PART NO: 145-0290-A1 COMPANY: GALLIEN-KRUEGER SCALE: FILENAME: 5290A1
LAYER DESCRIPTION: AGBLSIDEYSBCKASINBNCE N		DRAWN: R.A.G. DATE: 4/03/03	MECH: G0T02P GERBER FILE NAME: G0T02P.PTH



LEFT CHANNEL

RIGHT CHANNEL

BRIDGE/MONO OUTPUT

THERMAL SENSE

LEFT FAN CONTROL

RIGHT FAN CONTROL

DC SENSE

LEFT HORN AMP

RIGHT HORN AMP

BIAS ADJUSTMENT PROCEDURE LEFT/RIGHT: WITH POWER OFF, ADJUST POT R33/R113 TO FULL COUNTER-CLOCKWISE POSITION. TURN ON POWER AND WAIT 5 SECONDS FOR TURN ON DELAY. TURN R33/R113 CLOCKWISE UNTIL VOLTAGE ACROSS J8/J15 READS 10 mVDC.

NOT VALID UNLESS STAMP IS RED

gallien technology

2240 PARAGON DRIVE
SAN JOSE CA. 95131
VOICE: 408-441-8081
FAX: 408-441-8085

APPROVALS		TITLE: 2001RB POWER AMP	
INIT	DATE	DESIGNED: R.A.G. 1-29-01	SIZE
DRAWN: R.A.G. 3/26/03		PART NO: 406-0290-A2	REV. A2
MECH:	COMPANY: GALLIEN-KRUEGER	FILENAME: 6290A2.sch	
Q/A:	RELEASED:		

NOTE: FOR STEREO OPTION REMOVE R13B

To J1 On Switch Board To J3 On Preamp

GK GALLIEN-KRUEGER

2001RB Power Amp		Bill Of Materi	206-0290-A2		
Part No.	Reference	Description	Manufacturer	Mfr. Part No.	Quan
001-1030-1	U1	TLO72CP, LOW NOISE JFET OPAMP	MOTOROLA	TLO72CP	1.00
001-3886-0	U2-3	LM3886 ,68W AUDIO POWER AMP	NATIONAL	LM3886T	2.00
010-0000-0	Q28 Q39	2SC3381BL,NPNX2,80V,100MA,2-10M1B	TOSHIBA	2SC3281BL	2.00
010-0001-0	Q34-35 Q45-46	2SC3478, NPN,180V,100MA,TO-92	NEC	2SC3478-K	4.00
010-0003-0	Q21 Q56	2SC3502-F,NPN,200V,100MA,TO-126	TOSHIBA	2SC3502	2.00
010-0012-0	Q3 Q25-26 Q29 Q31-32	MPSAO6, NPN,80V,500MA,TO-92	MOTOROLA	MPS-A06	14.00
	Q37 Q40 Q42-43 Q48-50				
	Q74				
010-0035-0	Q1 Q72	LM35DT, TEMPERATURE SENSOR, TO-220	NATIONAL	LM35DT	2.00
010-1002-0	Q30 Q33 Q41 Q44	2SA1376, PNP,180V,100MA,TO-92	NEC	2SA1376-K	4.00
010-1003-0	Q19 Q54	2SA1380-F,PNP,200V,100MA,TO-126	SANYO/TOSHIBA	2SA1380-F/E	2.00
010-1013-0	Q16,27,36,38,47,51	MPSA56 PNP 80V 500MA TO-92	MOTOROLA	MPS-A56	6.00
012-0002-0	Q17-18 Q20 Q52-53 Q55	2SC4793,NPN,200V,1.5A,2-10R1A	TOSHIBA	2SC4793	6.00
012-0003-0	Q4-6 Q10-12 Q60-62	2SC5242,NPN,230V,15A,2-16C1A	TOSHIBA	2SC5242-O	12.00
	Q66-68				
012-1002-0	Q2 Q22-23 Q57-58 Q73	2SA1837,PNP,200V,1.5A,2-10R1A	TOSHIBA	2SA1837	6.00
012-1003-0	Q7-9 Q13-15 Q63-65	2SA1962,PNP,230V,15A,2-16C1A	TOSHIBA	2SA1962	12.00
	Q69-71				
014-0070-0	Q24	LM317	NATIONAL	LM317	1.00
014-1072-0	Q59	LM337	NATIONAL	LM337	1.00
020-0036-0	D18 D21 D31 D34	1N747A, ZENER, 3.6V, 5%, 400MW,	TAITRON	1N747A	4.00
020-0050-0	D24 D37	1N751, ZENER,5.1V,10%,400MW,DO-35	NATIONAL	1N751	2.00
020-0240-0	D1 D47	1N970B, ZENER, 24V, 5%, 500MW,	TAITRON	1N970B	2.00
020-1000-0	D10-15 D20 D25-28 D33	1N4148, RECT-FAST, 200MA, 100V	MOTOROLA	1N4148	13.00
	D38				
020-1022-0	D17 D19 D30 D32	BAV20, RECT, 200V, DO-35	NATIONAL	BAV20	4.00
020-1104-0	D23 D36	SHOTTKY, 1A, 40V, 10NS, DO-41	MOTOROLA	1N5819	2.00
020-1120-0	D16 D22 D29 D35	MUR120,RECT-FAST, 1A, 200V, 25NS,	MOTOROLA	MUR120	4.00
020-1122-0	D2-5 D8-9 D39-44	MUR410, RECT-FAST, 4A, 100V	MOTOROLA	MUR410	12.00
020-2106-0	D6-7 D45-46	1N4004,RECT,1A,400V,DO-41	TAITRON	1N4004	4.00
023-0112-0	BR1-6	BRIDGE, 25A, 200V, VERT, PC,MO25S-02	CHENG-YI	MP25-02S	6.00
031-1226-0	C40 C50	CAP,ELEC,RAD,226, 20%,25V	UNITED CHEMI-CON	SRG25VB22RM5X7LL	2.00
031-1336-0	C23 C25 C27 C64	CAP,ELEC,RAD,336,20%,25V	UNITED CHEMI-CON	SRG25VB33RM5X7LL	4.00
031-2106-0	C2 C39 C49 C82	CAP,ELEC,RAD, 106, 20%, 50V	UNITED CHEMI-CON	SMG50VB10RM5X11LL	4.00
031-2106-A	C26 C63	CAP,ELEC,RAD, 106, 20%, 50VNP	UNITED CHEMI-CON	SMEBP50VB10RM6X11LL	2.00
031-2107-0	C35 C41 C43 C51	CAP,ELEC,RAD,107, 20%, 50V	UNITED CHEMI-CON	SMG50VB101M8X11LL	4.00
031-2159-0	C4-5 C21-22 C65-66	CAP, ELEC, RAD, 159, 20%, 50V	UNITED CHEMI-CON	SMH50VN153M35X45T2	8.00
	C80-81				
031-2335-0	C34 C42	CAP,ELEC,RAD,335,20%,50V	UNITED CHEMI-CON	SMG50VB3R3M5X11LL	2.00
031-4475-0	C37-38 C45-46	CAP,EL-R,4.7UF/100V, M	UNITED CHEMI-CON	SMG100VB4R7M5X11LL	4.00
031-4476-0	C36 C44 C47-48	CAP,ELEC,RAD,476,-10%+50%,100V	UNITED CHEMI-CON	SMG100VB47RM10X12LL	4.00
032-4104-0	C1 C8-10 C14-16 C28	CAP,PE,104,5%,100V,	PANASONIC	ECQV1104JM	20.00
	C32-33 C53-54 C57-58				
	C68-70 C74 C76-77				
032-4472-0	C3 C6-7 C11 C17 C72-73	CAP,PE,472,5%,100V,	PANASONIC	ECQB1472JF	10.00
	C75 C78-79				
032-4473-0	C19 C60	CAP,PE,473,5%,100V,	PANASONIC	ECQV1473JM	2.00
032-4474-0	C30 C56	CAP,PE,474,5%,100V,	PANASONIC	ECQV1474JM	2.00
032-7104-0	C12-13 C67 C71	CAP,PE,104,10%, 250V	ILLINOIS CAPACITOR	104MSR250K	4.00
034-4221-0	C20 C62	CAP,MCR,220pF,5%,100V,	TAITRON	TMRS221J100NPOB	2.00
034-4470-0	C18 C61	CAP,MCR,47PF,5%,100V,NPO	TAITRON	TMRS470J100NPOB	2.00
034-4471-0	C29 C55	CAP,MCR,470pF,5%,100V,	TAITRON	TMRS471J100NPOB	2.00
035-8030-0	C24 C59	CAP MICA AXIAL , 3pF, 10%, 500V	CORNELL	CD10CD030D03	2.00
035-8122-0	C31 C52	CAP MICA RADIAL, 122, 5%, 300V	CORNELL	CD15FC122J103	2.00
052-5622-0	R57 R61 R96 R98	RES,METAL FILM,5.62K,1/4W,1%	ECI	M5F1AK005.62	4.00
053-0270-0	R12 R122	RES ,CARBON FILM,2.7 ,1/2W,5%	ECI	R5J3AJ002.70	2.00
054-.100-0	R13-16 R18-25 R126-137	RES, METAL OXIDE, 0.1 Ohm, 1W, 5%	ECI	MO10J3AJ000.10	24.00
054-.330-0	R3 R147	RES, METAL OXIDE, 0.33 OHM, 1W, 5%	ECI	MO10J3AJ000.33	2.00
055-0101-0	R26-27 R123-124	RES, METAL OXIDE, 10 OHM, 2W, 5%	ECI	MOM20J3AJ010.00	4.00
055-2702-0	R4 R39 R112 R144	RES, METAL OXIDE, 2.7K OHM, 2W, 5%	ECI	MOM20J3AK002.70	4.00
056-0100-0	R5 R145	RES, CERAMIC WW, 1.0 OHM, 5W, 10%	ECI	WWC50J3AJ001.00	2.00
059-1000-0	R53 R66 R89 R103	RES,MF,FUSE,10.0 OHM, 1/4W,1%	JUKN.OHM	FR25-10.0	4.00
059-1002-0	R17 R54 R64 R92 R101	RES,MF,FUSE,1.00K,1/4W,1%	JUKN.OHM	FR25-1.00K	6.00
	R125				
059-4750-0	R55 R63 R91 R99	RES,MF,FUSE,47.5 OHM, 1/4W,1%	JUKN.OHM	FR25-47.5	4.00
059-6810-0	R56 R90	RES,MF,FUSE,68.1 OHM, 1/4W,1%	JUKN.OHM	FR25-68.1	2.00

Customer Name:		Gallien Krueger		Current Rev #:	A1	New ECO Rev #:	A2
Model:		2001RB		Distribute To:		Page:	1 Of: 1
Assembly Description:		Power Amp board		Originator:	RAG		
Assembly Numbers:		206-0290-A1 145-0290-A1		Approved by:			
				Effective Date:	10/29/2003		
Effective		Document Update		Date	Initials		
<input checked="" type="checkbox"/>	All in Process	<input checked="" type="checkbox"/>	Next Buy	<input type="checkbox"/>	Artwork		
<input type="checkbox"/>	All in Service	<input checked="" type="checkbox"/>	Next Production Run	<input type="checkbox"/>	Assembly Dwg.		
<input type="checkbox"/>	All in Stock	<input type="checkbox"/>		<input type="checkbox"/>	Board Artwork		
Beginning Serial Number:				<input checked="" type="checkbox"/>	BOM		
Reason For Change				<input type="checkbox"/>	Control Form		
Protect circuit would trigger at frequencies 10kHz and above due to a spike/oscillation that occurs at the commutation point.				<input type="checkbox"/>	Costing		
				<input type="checkbox"/>	Fab Drawing		
				<input type="checkbox"/>	Inspection Proc.		
				<input checked="" type="checkbox"/>	Part Master File		
				<input checked="" type="checkbox"/>	Schematic		
				<input type="checkbox"/>	Service Manual		
				<input type="checkbox"/>	Test Procedure		
				<input type="checkbox"/>			
				<input type="checkbox"/>			
				Other Affected Assemblies			
				302-0290-A,302-1290-A, 302-2290-A			
<input type="checkbox"/>	Continued on ECO Supplement Page						
Description Of Change				Distribution		Date	Initials
Reduce the power amp bandwidth to 200kHz.				<input type="checkbox"/>	Accounting		
				<input type="checkbox"/>	Assembly		
				<input type="checkbox"/>	Customer		
For all boards currently in process, add a 560pf cap in parallel with C31 and C52 on the solder side of the board.				<input checked="" type="checkbox"/>	Engineering		
				<input checked="" type="checkbox"/>	Incoming Q.C.		
				<input type="checkbox"/>	Planning		
				<input checked="" type="checkbox"/>	Production Eng.		
For next and all subsequent orders, replace C31 and C52 with a mica 1200pf 300V cap.				<input checked="" type="checkbox"/>	Purchasing		
				<input type="checkbox"/>	Q.A.		
				<input type="checkbox"/>	Receiving		
				<input type="checkbox"/>	Service		
				<input checked="" type="checkbox"/>	Test		
				<input type="checkbox"/>	Vendor		
				<input type="checkbox"/>			
				<input type="checkbox"/>			
<input type="checkbox"/>	Continued on ECO Supplement Page			<input type="checkbox"/>	Drawing(s) attached		
Part Number	Description	Parts Added		Parts Deleted			
		Qty	Ref. Designator	Qty	Ref. Designator		
035-8561-0	560pf mica			2	C31 and C52		
035-8122-0	1200pf mica	2	C31 and C52				