



SERVICE MANUAL

CR12

TYPE:YS1001

WEB ACCESS: <http://www.yorkville.com>

WORLD HEADQUARTERS CANADA

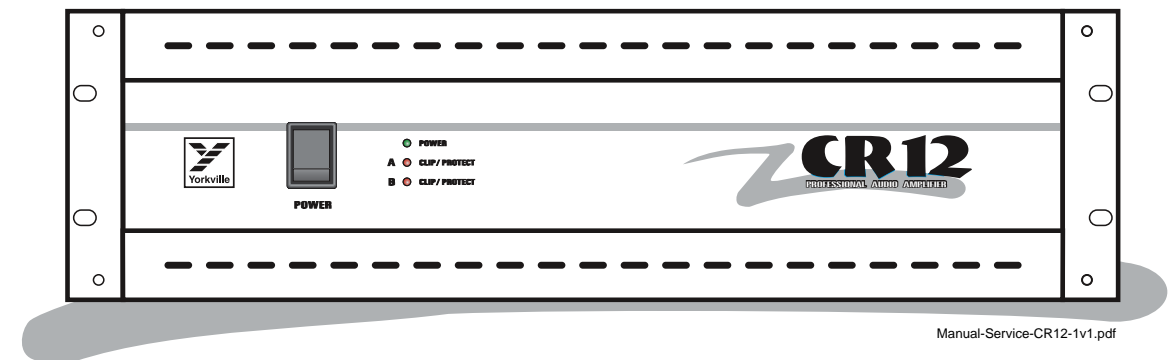
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Manual-Service-CR12-1v1.pdf



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Printed in Canada

IMPORTANT SAFETY INSTRUCTIONS



INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

INSTRUCTIONS RELATIVES AU RISQUE DE FEU, CHOC ÉLECTRIQUE, OU BLESSURES AUX PERSONNES.

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

AVIS:

N'ENLEVEZ PAS LE COUVERT (OU LE PANNEAU ARRIERE). NE CONTIENT AUCUNE PIECE REPARABLE PAR L'UTILISATEUR.

CONSULTEZ UN TECHNICIEN QUALIFIE POUR L'ENTRETIEN.

Read Instructions:

The **Owner's Manual** should be read and understood before operation of your unit. Please, save these instructions for future reference.

Packaging:

Keep the box and packaging materials, in case the unit needs to be returned for service.

Warning:

When using electric products, basic precautions should always be followed, including the following:

Power Sources:

Your unit should be connected to a power source only of the voltage specified in the owners manual or as marked on the unit. This unit has a polarized plug. Do not use with an extension cord or receptacle unless the plug can be fully inserted. Precautions should be taken so that the grounding scheme on the unit is not defeated.

Hazards:

Do not place this product on an unstable cart, stand, tripod, bracket or table. The product may fall, causing serious personal injury and serious damage to the product. Use only with cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the product. Follow the manufacturer's instructions when installing the product and use mounting accessories recommended by the manufacturer.

The apparatus should not be exposed to dripping or splashing water; no objects filled with liquids should be placed on the apparatus.

Terminals marked with the "lightning bolt" are hazardous live; the external wiring connected to these terminals require installation by an instructed person or the use of ready made leads or cords.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

Power Cord:

The AC supply cord should be routed so that it is unlikely that it will be damaged. If the AC supply cord is damaged **DO NOT OPERATE THE UNIT.**

Service:

The unit should be serviced only by qualified service personnel.

Veillez lire le manuel:

Il contient des informations qui devraient étre comprises avant l'opération de votre appareil. Conservez S.V.P. ces instructions pour consultations ultérieures

Emballage:

Conservez la boite au cas ou l'appareil devait étre retourner pour réparation.

Warning:

Attention: Lors de l'utilisation de produits électrique, assurez-vous d'adhérer à des précautions de bases incluant celle qui suivent:

Alimentation:

L'appareil ne doit étre branché qu'à une source d'alimentation correspondant au voltage spécifié dans le manuel ou tel qu'indiqué sur l'appareil. Cet appareil est équipé d'une prise d'alimentation polarisée. Ne pas utiliser cet appareil avec un cordon de raccordement à moins qu'il soit possible d'insérer complètement les trois lames. Des précautions doivent étre prises afin d'éviter que le système de mise à la terre de l'appareil ne soit désengagé.

Hazard:

Ne pas placer cet appareil sur un chariot, un support, un trépied ou une table instables. L'appareil pourrait tomber et blesser quelqu'un ou subir des dommages importants. Utiliser seulement un chariot, un support, un trépied ou une table recommandés par le fabricant ou vendus avec le produit. Suivre les instructions du fabricant pour installer l'appareil et utiliser les accessoires recommandés par le fabricant.

Il convient de ne pas placer sur l'appareil de sources de flammes nues, telles que des bougies allumées.

L'appel ne doit pas étre exposé à des égouttements d'eau ou des éclaboussures et qu'aucun objet rempli de liquide tel que des vases ne doit étre placé sur l'appareil.

Les dispositifs marqués d'une symbole "d'éclair" sont des parties dangereuses au toucher et que les câblages extérieurs connectés à ces dispositifs de connection extérieure doivent étre effectués par un opérateur formé ou en utilisant des cordons déjà préparés.

Cordon d'alimentation:

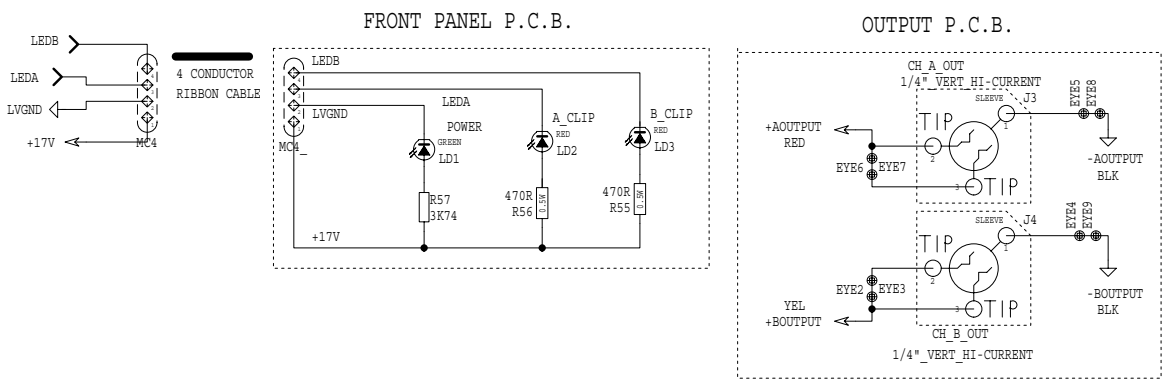
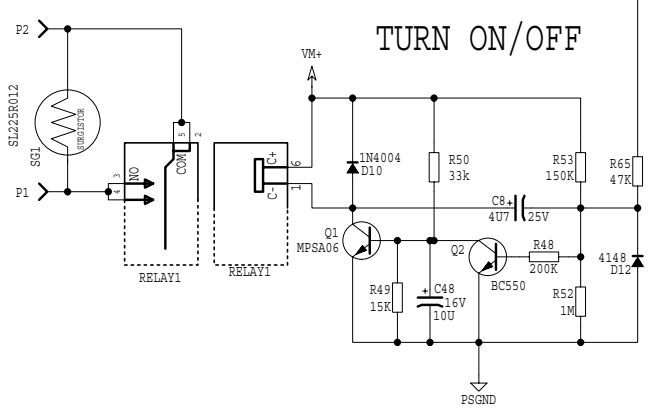
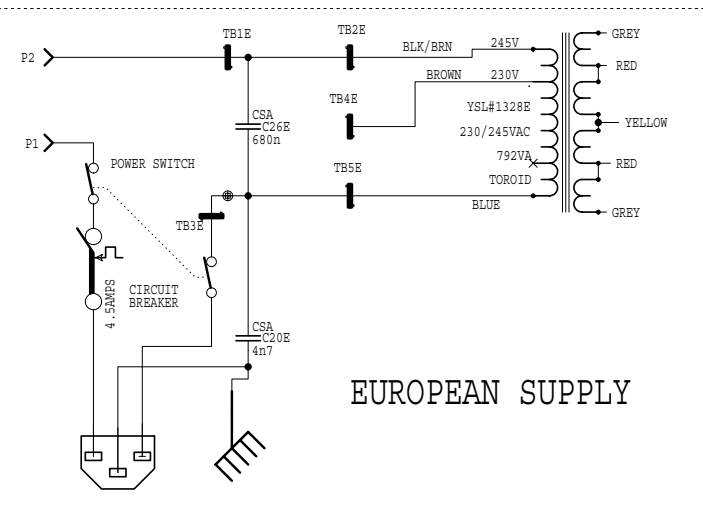
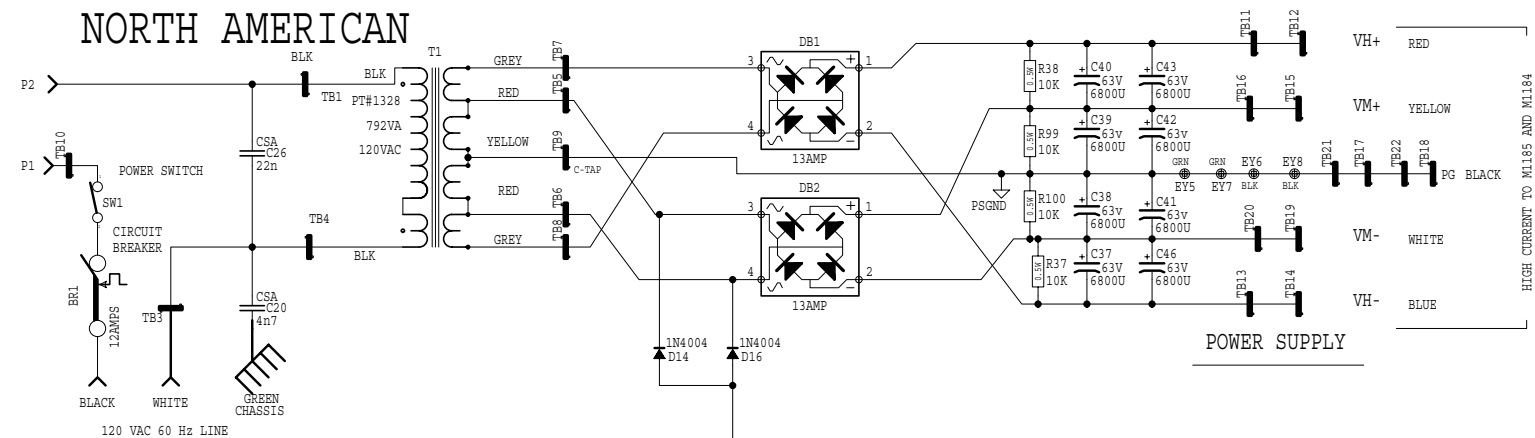
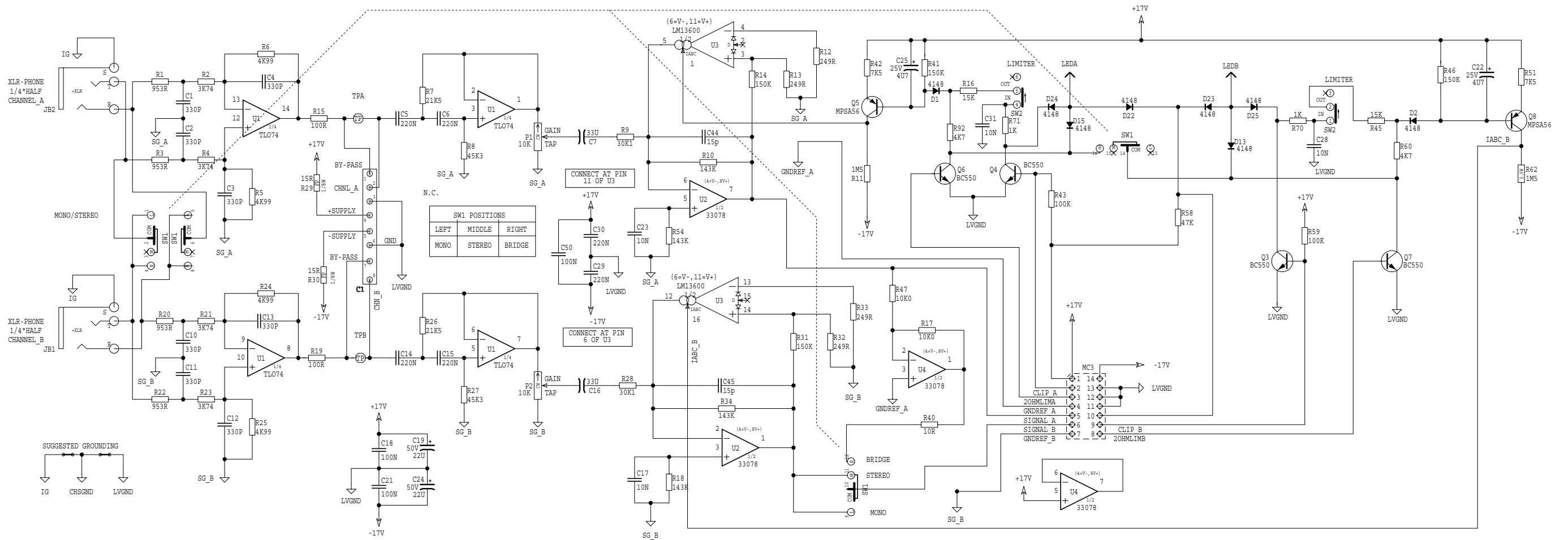
Évitez d'endommager le cordon d'alimentation. **N'UTILISEZ PAS L'APPAREIL** si le cordon d'alimentation est endommagé.

Service:

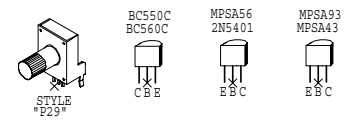
Consultez un technicien qualifié pour l'entretien de votre appareil.

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
3570	14 PIN SCKT CLOSED FRAME DIP ONLY	1	3451	EYELET SMALL 0.089 OD PLATED	51	5003	1/4W 30K1 1% T&R RES	2
6405	RED 3MM LED 1V7 5MA BRT	2	3868	FAN 92MM X 92MM 60CFM 24VDC ???MA	1	4840	1/4W 33K 5% T&R RES	2
6408	GRN 3MM LED 1V9 5MA FROSTED	1	3501	B52200F006 COMP WASH #4 SMALL	19	6122	1/4W 33K 5%MINI T&R RES	2
6419	BRIDGE 35A 400V WIRE LEAD GI3504	2	8500	6-32X3/4 STEEL PEM STUD	4	4908	1/4W 45K3 1% T&R RES	2
6425	BAV21 200V 0A25 DIODE T&R	12	3810	4" NYLON CABLE TIE	6	4834	1/4W 47K 5% T&R RES	4
6825	1N4148 75V 0A45 DIODE T&R	55	3827	SQUARE BUMPER BUTTON BLACK	5	6119	1/4W 47K 5%MINI T&R RES	6
6438	1N4004 400V 1A0 DIODE T&R	6	3915	ROUND BUMPER BUTTON BLACK	1	4761	1/4W 60K4 1% T&R RES	4
6934	MR854 400V 3A0 DIODE FASREC	12	8661	BUTTON KNOB FLAT GREY	1	6142	1/4W 64K9 1%MINI T&R RES	2
6459	1N4732A 4V7 1W0 ZENER 5% T&R	2	3426	8' 3/16 SJT AC LINE CORD REMOVBUCSA	1	4838	1/4W 100K 5% T&R RES	2
6454	1N5231BRL 5V1 0W5 ZENER 5% T&R	4	4000	10 CIR CABLE HOLDER .098	1	4942	1/4W 100K 5% 2"U T&R RES	2
6486	1N5244B 14V0 0W5 ZENER 5% T&R	4	5989	4 CIR CABLE HOLDER .098	2	6120	1/4W 100K 5%MINI T&R RES	15
6822	1N4745A 16V0 1W0 ZENER 5% T&R	4	8793	4-40 HEX NUT ZINC	10	5026	1/4W 143K 1% T&R RES	4
6432	1N5248B 18V0 0W5 ZENER 5% T&R	4	8760	6-32 KEPS NUT TIN PLATED	32	4839	1/4W 150K 5% T&R RES	5
6426	1N5254B 27V0 0W5 ZENER 5% T&R	2	8800	6-32 KEPS NUT ZINC	14	4886	1/4W 200K 5% T&R RES	1
5101	BC550C TO92 NPN TRAN T&R TB	19	8797	5/16-18 KEPS NUT JS500	1	6137	1/4W 200K 5%MINI T&R RES	1
5102	BC560C TO92 PNP TRAN T&R TB	12	3797	TO-247 THERMO CONDUCTIVE PAD	4	4841	1/4W 220K 5% T&R RES	2
5103	MPSA06 TO92 NPN TRAN T&R TA	4	3815	TO3 PREGREASED MICA 56-03-2AP	16	6126	1/4W 220K 5%MINI T&R RES	2
5104	MPSA56 TO92 PNP TRAN T&R TA	2	3823	TO-220 THERMO PAD SMALL HOLE	4	6145	1/4W 249K 1%MINI T&R RES	1
5107	2N5551 TO92 NPN TRAN T&R TA	4	3846	TO220 THERMO PAD LARGE HOLE 56359B	8	6146	1/4W 392K 1%MINI T&R RES	1
5108	2N5401 TO92 PNP TRAN T&R TA	7	4002	10 CIR WAFER WLCK VT 0.1"	1	6143	1/4W 499K 1%MINI T&R RES	2
5113	MPSA42 TO92 NPN TRAN T&R TA	6	4745	5.0W 0R1 5% BLK RES	8	4844	1/4W 1M 5% T&R RES	2
6814	MJF6688 T221D PNP TRAN DARL TJ	1	2007	1/4W 1R 5%FLAME PROOF T&R RES	10	4820	1/4W 1M5 5% T&R RES	2
6815	MJF6388 T221D NPN TRAN DARL TJ	2	4682	1/2W 1R 5%PHILIPS SMAL T&R RES	5	3623	17" 4C-26AWG RIBBON CABLE 0.1"	1
6873	MJE340 TO126 NPN TRAN TG	6	4911	1/4W 2R2 5% T&R RES	8	4001	8.5"10C-26AWG RIB 1 WLCK HDR 098	1
6874	MJE350 TO126 PNP TRAN TG	6	4748	2.0W 3R9 5% T&R	2	3622	14" 14C-28AWG DIP HDR CABLE .05"	1
6752	MTP10N15L TO220 NCH MFET TN	2	4733	5.0W 5R6 5% BLK RES	2	3699	RELAY 1C 02AMP DC48 006MA PC-S	1
6933	MTP23P06 TO220 PCH MFET TN	2	2010	1/8W 10R0 2%FLAME PROOF T&R RES	5	3735	RELAY 1A 16AMP DC48 011MA PC-C	1
6909	MJ21196 TO3 NPN TRAN TH	8	4875	1/4W 10R 5% T&R RES	3	8742	4-40 X 3/8 PAN PH TAPTITE JS500	7
6989	MJL1302A TO3P PNP TRAN TK	2	4930	1/4W 10R 5% 2"U T&R RES	1	8861	4-40 X 3/8 PAN PH MS JS500	2
6990	MJL3281A TO3P NPN TRAN TK	2	2011	1/4W 11R3 1%FLAME PROOF T&R RES	2	8741	4-40 X 1/2 PAN PH MS JS500	10
6910	MJ21195 TO3 PNP TRAN TH	8	2013	1/8W 22R1 1%FLAME PROOF T&R RES	2	8827	4-40 X 1/2 FLAT PH TAPTITE JS500	4
6840	MC33078P IC DUAL OP AMP	4	2016	1/8W 39R 2%FLAME PROOF T&R RES	18	8799	#6 X 1/4 PAN PH TYPE B JS500	2
6882	TL072CP IC FET DUAL OP AMP	1	4817	1/4W 47R 5% T&R RES	2	8832	6-32 X 1/4 PAN PH TAPTITE JS500	4
6889	TL074CN IC QUAD O/A T.I ONLY	1	4637	1/8W 68R 5% T&R RES	3	8807	6-32 X 5/16 PAN PH MS JS500	3
6745	LM13600N IC XCONDUCTANCE AMP	1	4811	1/4W 68R 5% T&R RES	6	8801	6-32 X 3/8 PAN PH TAPTITE JS500	12
6444	MAC224-4 TO220 40A TRIAC 200V	2	2018	1/8W 75R 2%FLAME PROOF T&R RES	6	8829	6-32 X 3/8 FLAT PH TAPTITE BO#4 HEA	23
6467	10K 10% THERMISTOR NTC TO-92	2	4912	1/4W 75R 5% T&R RES	2	8761	6-32 X 1/2 PAN PHIL MS ZINC CLEAR	16
6489	5R0 20% NTC THERMISTOR-SURGTR	1	2019	1/8W 100R0 1%FLAME PROOF T&R RES	2	8806	6-32 X 1/2 PAN PH TAPTITE JS500	2
5200	10P 200V 5%CAP T&R RAD CER.2"NPO	4	4602	1/8W 100R 5% T&R RES	2	8828	6-32 X 3/4 PAN PH TAPTITE JS500	7
5817	15P 100V 2%CAP T&R RAD CER.2"NPO	2	4859	1/4W 150R 5% T&R RES	4	8809	10-32 X 1/4 PAN PH TAPTITE JS500	4
5277	220P 200V 5%CAP T&R RAD CER.2"NPO	4	2023	1/8W 220R0 1%FLAME PROOF T&R RES	3	8762	10-32 X1/2 TRUSS QUAD TAPTITE JS500	15
5211	330P 100V 5%CAP T&R RAD CER.2"NPO	8	4977	1/4W 220R 5%MINI T&R RES	1	8780	5/16-18X3 3/4 CARRIAGE BOLT ZINC	1
5206	1N 400V 5%CAP T&R RAD .2"FLM	6	2024	1/8W 249R 2%FLAME PROOF T&R RES	9	3663	SNAP IEC PWR SOC W.250TAB FOR .060	1
5273	1N5 200V 5%CAP T&R RAD CER.2"NPO	4	4770	1/4W 249R 1% T&R RES	15	3752	SNAP IN 1/4 SPACER RICHCO	4
5276	3N3 200V 5%CAP T&R RAD CER.2"NPO	4	4621	1/2W 470R 5% T&R RES	2	8656	1.71 X 1/4 NYLON SPACER #SP42	2
5209	4N7 250V 5%CAP T&R RAD .2"FLM	4	4980	1/4W 470R 5%MINI T&R RES	12	3744	SNAP IN .375 SPACER RICHCO	4
6451	4N7 250V 20%CAP BLK "Y" 10MM AC	1	4758	1/4W 953R 1% T&R RES	4	3741	.5 SPACER ID-.171 OD-.25 #912-500	2
5204	10N 100V 10%CAP T&R RAD .2"FLM	4	4823	1/4W 1K 5% T&R RES	1	8657	6-32 X 3/8" HEX SPACER ALUMINUM	1
5210	22N 100V 10%CAP T&R RAD .2"FLM	4	4934	1/4W 1K 5% 2"U T&R RES	1	8667	SHOULDER WASHER SWS-229 LENGTH 1/8	4
5840	22N 400V 10%CAP BLK RAD POLY FLM	3	4981	1/4W 1K 5%MINI T&R RES	14	3524	NYLON SH/WASHER ID385 OD750 T060	2
6435	22N 275V 20%CAP BLK 'X2' 15MM AC	1	5037	5.0W 1K2 5% STANDOFF BLK RES	4	3577	FIBER WASHER .625OD .380ID .03	2
5228	100N 100V 5%CAP T&R RAD .2"FLM	6	4935	1/4W 1K5 5% 2"U T&R RES	1	3436	DPDT PUSH SW PCMT H BREAK B4 MAKE	1
5314	100N 50V 10%CAP T&R BEAD X7R	1	4988	1/4W 1K5 5%MINI T&R RES	5	3587	DPDT ROKR SW QUIK 250"AC/PWR ON-OFF	1
5231	220N 63V 10%CAP T&R RAD .2"FLM	6	4791	1/4W 1K54 1% T&T RES	2	3705	4P3T SLID SW PCMT H	1
5882	220N 250V 10%CAP BLK RAD POLY FLM	4	6144	1/4W 1K91 1%MINI T&R RES	2	1328	CR12 120VAC 60HZ T'RD	1
5257	2U2 63V 20%CAP T&R RAD .2"EL	4	6113	1/4W 2K 5%MINI T&R RES	4			
5259	4U7 63V 20%CAP T&R RAD .2"EL	6	5006	1.0W 2K7 5% T&R RES	4			
5281	10U 16V 20%CAP T&R RAD .2"NP	3	6206	1/4W 3K01 1% T&R RES	2			
5629	10U 160V 20%CAP BLK 10X13MM EL	4	6136	1/4W 3K3 5%MINI T&R RES	6			
5260	22U 50V 20%CAP T&R RAD .2"EL	14	5028	1/4W 3K74 1% T&R RES	5			
5961	33U 16V 20%CAP T&R RAD .2"NP	6	4827	1/4W 4K7 5% T&R RES	3			
5880	100U 35V 20%CAP T&R .2"EL	1	4943	1/4W 4K7 5% 2"U T&R RES	1			
5897	330U 16V 20%CAP BLK 08X11MM EL	6	4982	1/4W 4K7 5%MINI T&R RES	15			
5895	6800U 63V 20%CAP BLK 25X50MM ELS	8	4639	1/4W 4K99 1% T&R RES	4			
4497	10K B LIN 9MM HORIZONTAL P29	2	6141	1/4W 5K6 5%MINI T&R RES	4			
4522	4K7 TRIM POT	2	4887	1/4W 7K5 5% T&R RES	6			
2432	8.0 AMP CIRCUIT BREAKER	1	5027	1/4W 9K09 1% T&R RES	2			
711	30 X 50 X 1.5MIL PLASTIC BAG	1	4629	1/2W 10K 5% T&R RES	4			
3820	4UH COIL 14AWG ZOBEL HORIZONTAL	2	4800	1/4W 10K0 1% T&R RES	2			
3489	CLIP 250X032 18-22AWG DISCO/INSL	17	4940	1/4W 10K 5% 2"U T&R RES	1			
3490	CLIP 250X032 14-16AWG DISCO/INSL	5	4983	1/4W 10K 5%MINI T&R RES	5			
3602	RING TERMINAL 18AWG WIRE & #8 SCREW	1	6116	1/4W 10K0 1%MINI MF T&R RES	13			
3618	STAR RING TERMINAL14-16AWG #10SCREW	4	5008	1/4W 14K7 1% T&R RES	4			
3682	250 MALE PCB TAB REEL	24	4830	1/4W 15K 5% T&R RES	4			
3410	RED ON LEFT DUAL BINDING POST TPP5	1	4979	1/4W 15K 5%MINI T&R RES	3			
3415	RED ON RIGHT DUAL BINDING POST TPP5	1	4771	1/4W 17K8 1% T&R RES	6			
3924	1/4" JCK PCB MT VERT 2XTIP HICURNT	2	6123	1/4W 20K0 1%MINI MF T&R RES	2			
3417	6-32 SCREW TERMINAL PC MOUNT 5 POS	3	4777	1/4W 21K5 1% T&R RES	2			
3405	TERMINAL STRIP 5P #6 SCREW	1	5024	1/4W 22K6 1% T&R RES	1			
3416	1/4"&XLR PCB MT VERT COMBO	2	6129	1/4W 27K 5%MINI T&R RES	2			

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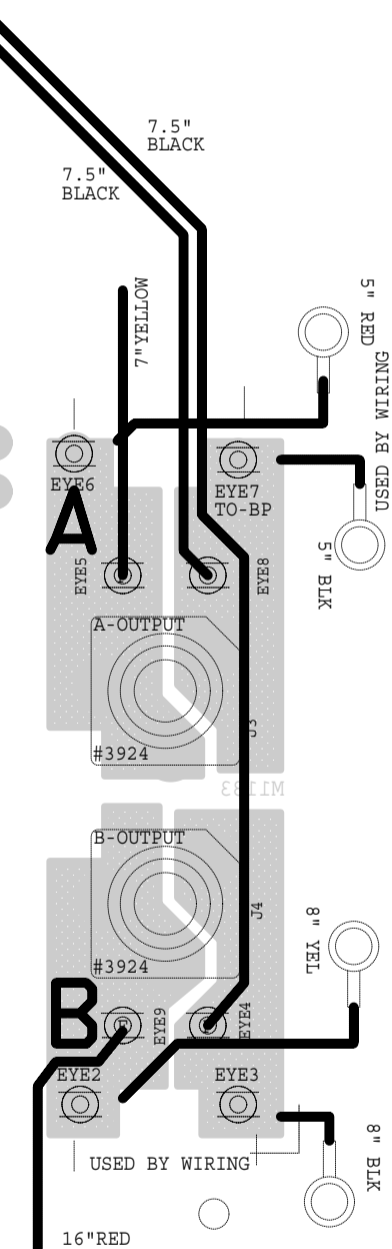
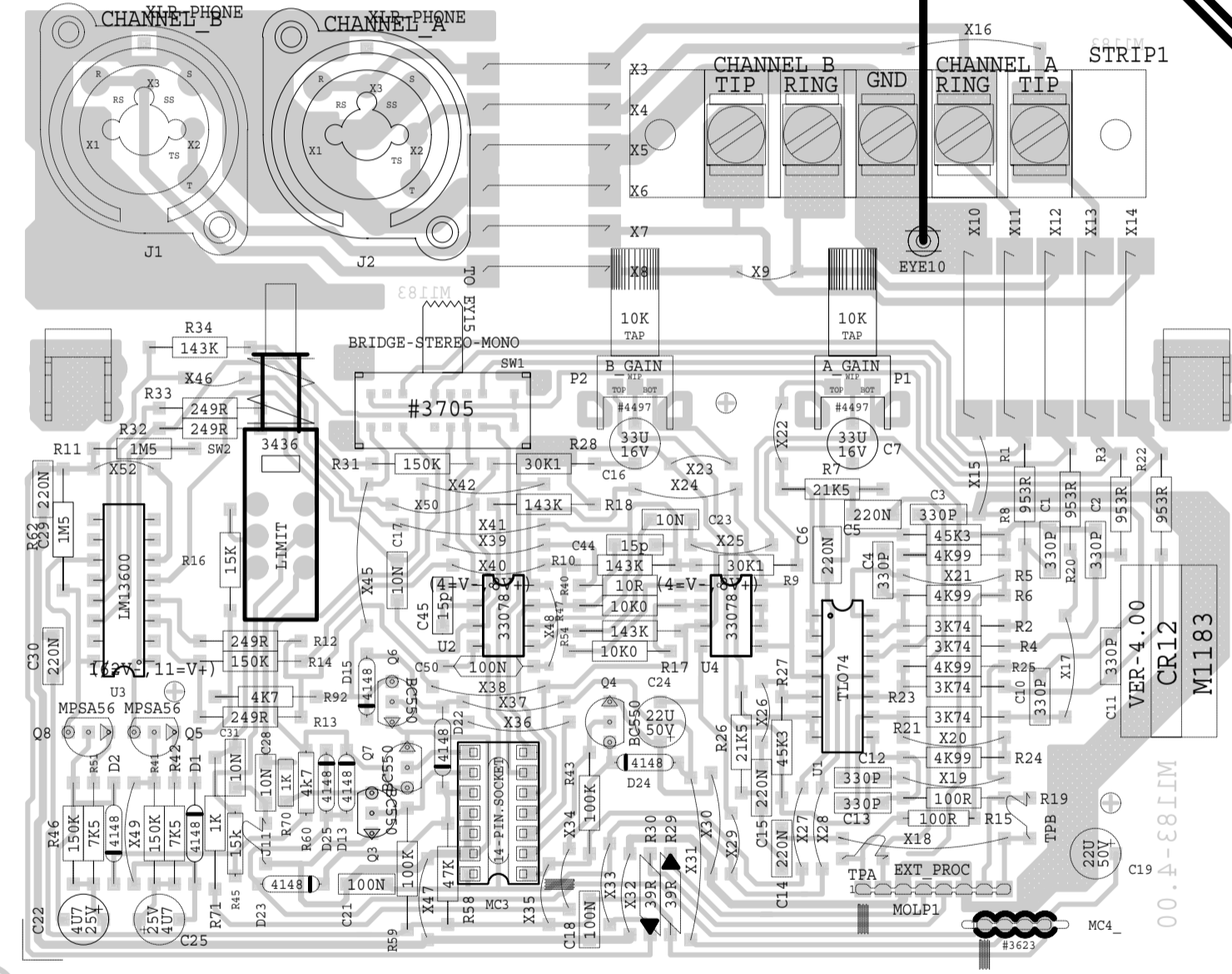
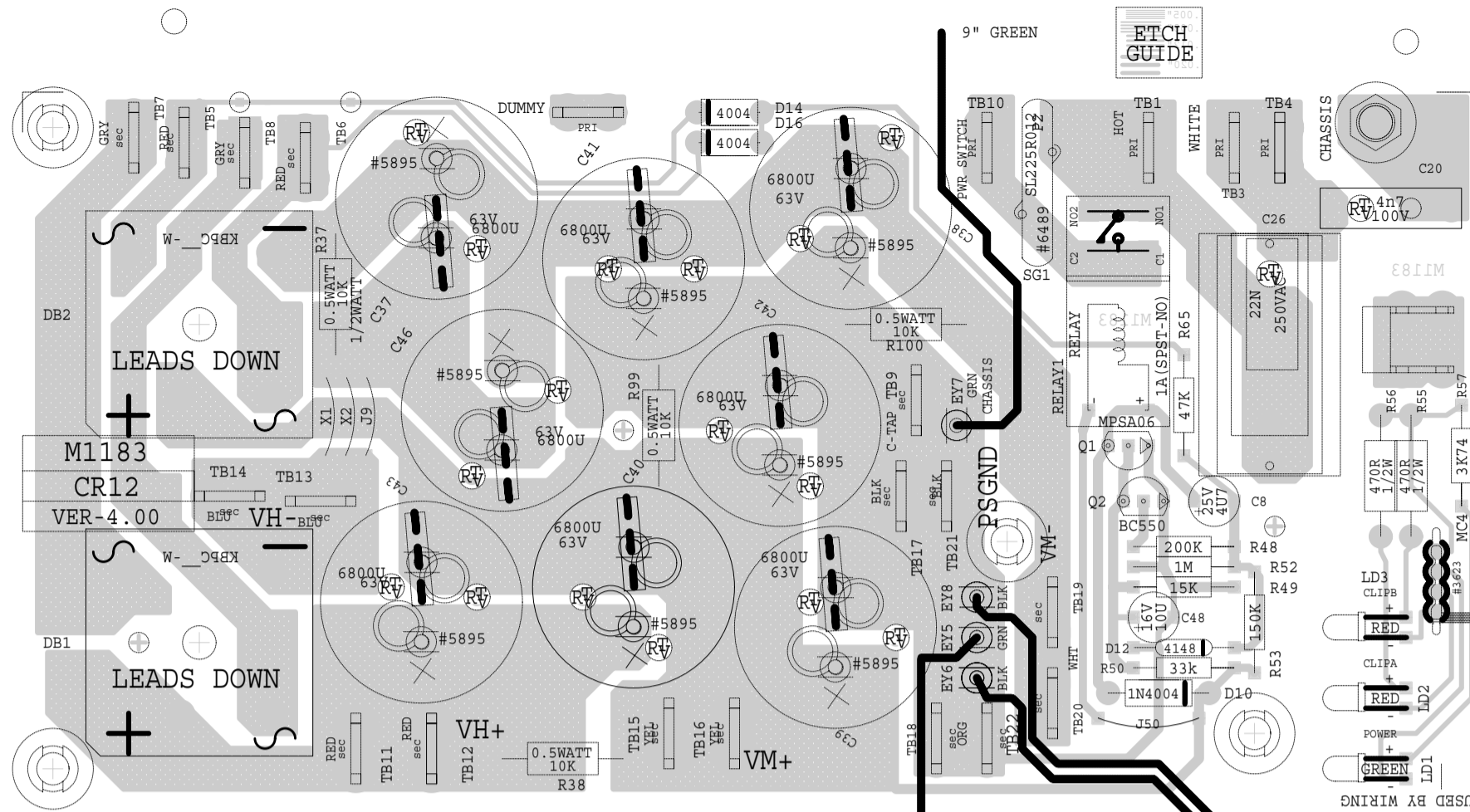


- NOTES:
1. **TP** TEST POINT
 2. Reference with a "A" suffix for amplifier "A" and "B" suffix for amplifier "B". AMPLIFIER A SAME AS AMPLIFIER B.
 3. ALL UNMARKED DIODES 1N4148



CR12-M1183 INPUT/POWER SUPPLY

M1183.SCH DATABASE HISTORY			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN/2002	1.00	PILOT RUN
2	D	V	N
3	D	V	N
4	D	V	N
5	D	V	N
6	D	V	N
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N



PRODUCTION NOTES
1 FOR CE C26 USE 680N

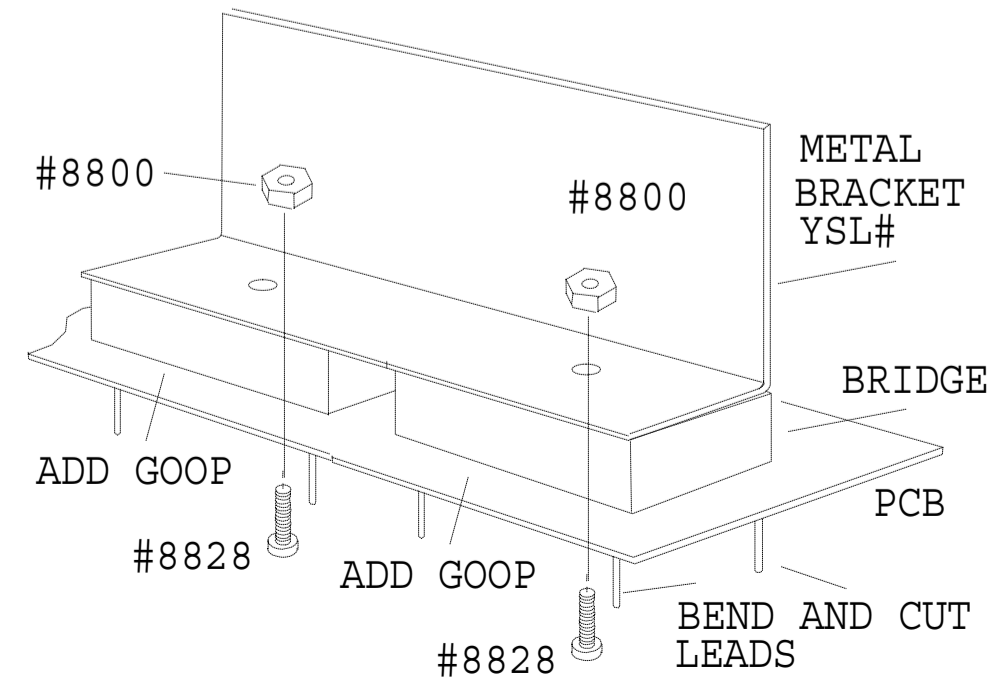
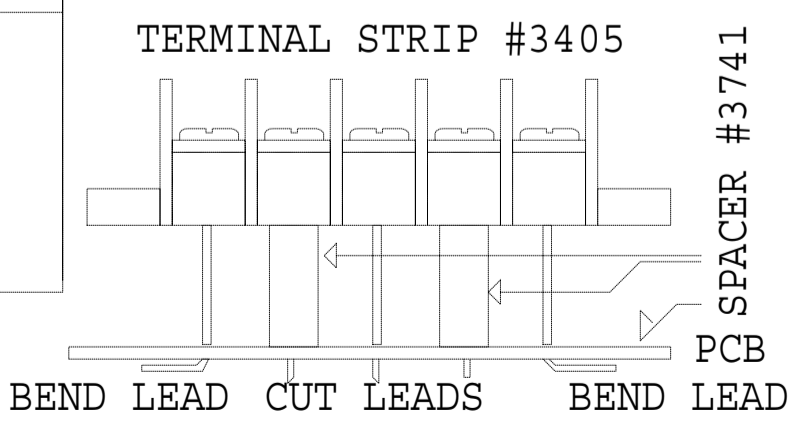
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M1183.PCB DATABASE HISTORY

MODEL(S) :- CR12

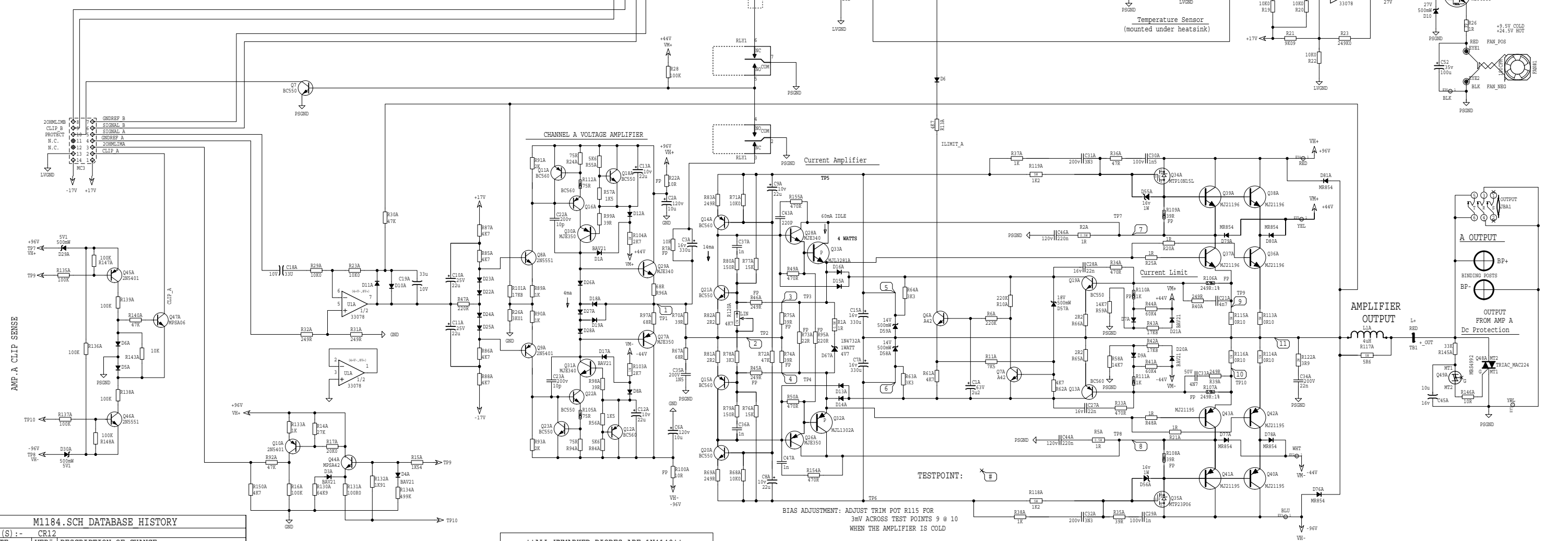
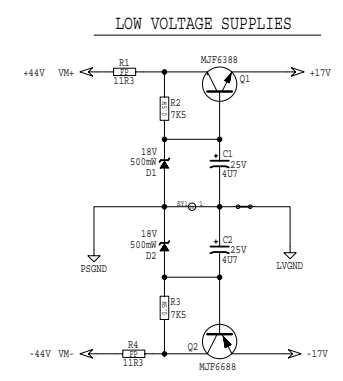
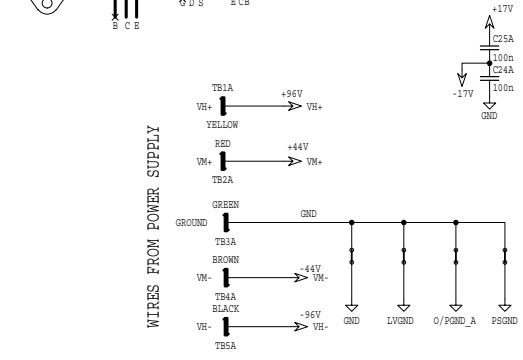
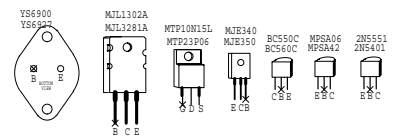
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN-2002	1.00	PILOT RUN
2	APR/24/02	2.00	PC#6532 MOVE C15,U1,C4,C5,C6
3	MAY/21/02	3.00	R37,R39,R99,R100 TO #4629
4	JUN/18/02	4.00	PC#6549 MOVE BOARDS APART_MOVE_SOME TRACES
5			PC#6548_MOVE_JUMPERS_X1,X2,J9
6	JUL/04/02		
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N

MOLP1
#3596 MOLEX PINS



U:\M1184V11.PRN

CR12-M1184 POWER AMPLIFIER BOARD BOTTOM CHANNEL A

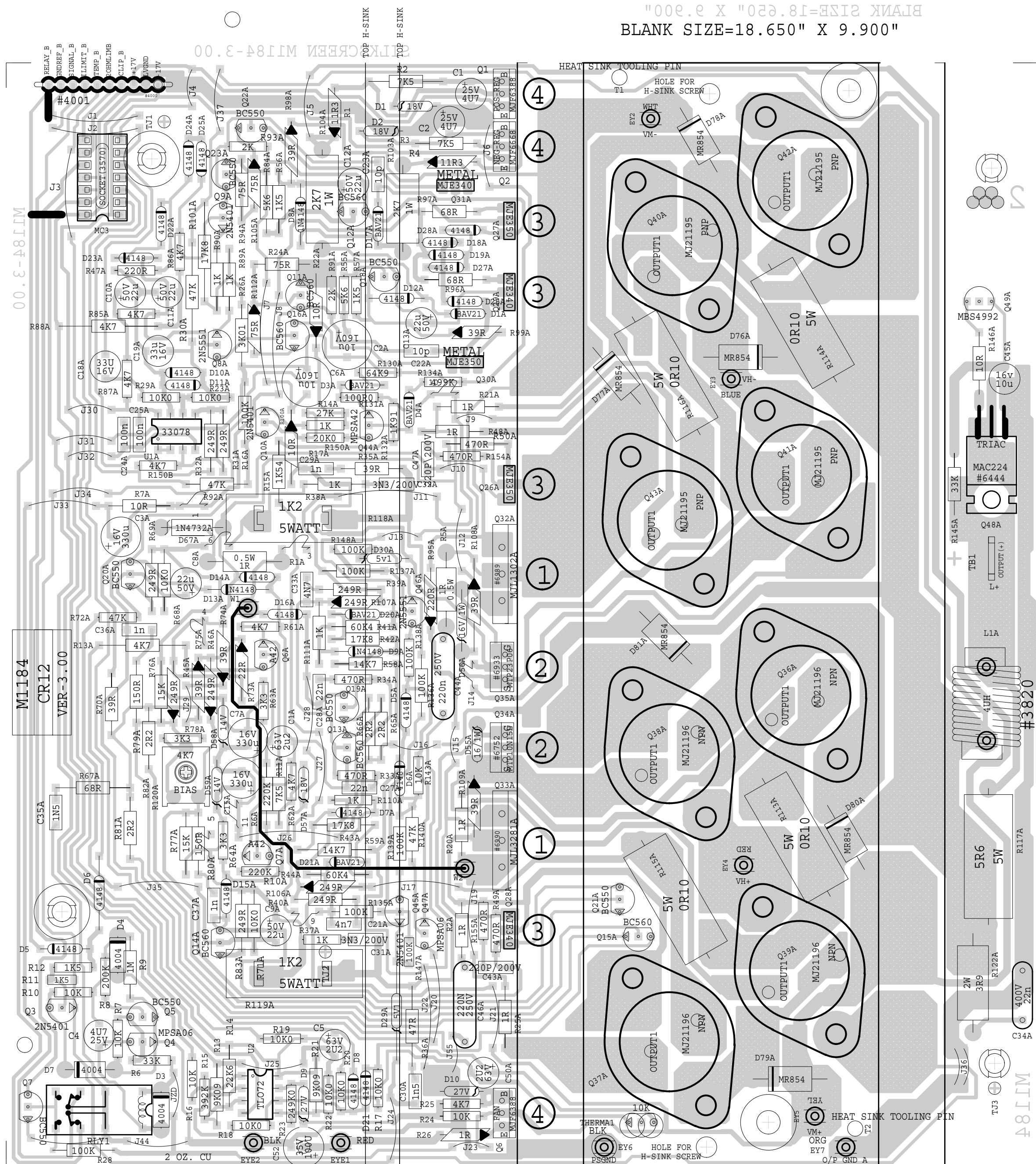


****ALL UNMARKED DIODES ARE 1N4148****

M1184.SCH DATABASE HISTORY

MODEL(S) :-	CR12		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN/2002	1.00	PILOT RUN
2	APR/22/02	1.10	CORRECTIONS
3			
4			
5			
6			
7			
8			
9			
10			

BLANK SIZE=18.650" X 9.900"



ASSEMBLY M1184-3.00
PCB MECH M1184-3.00

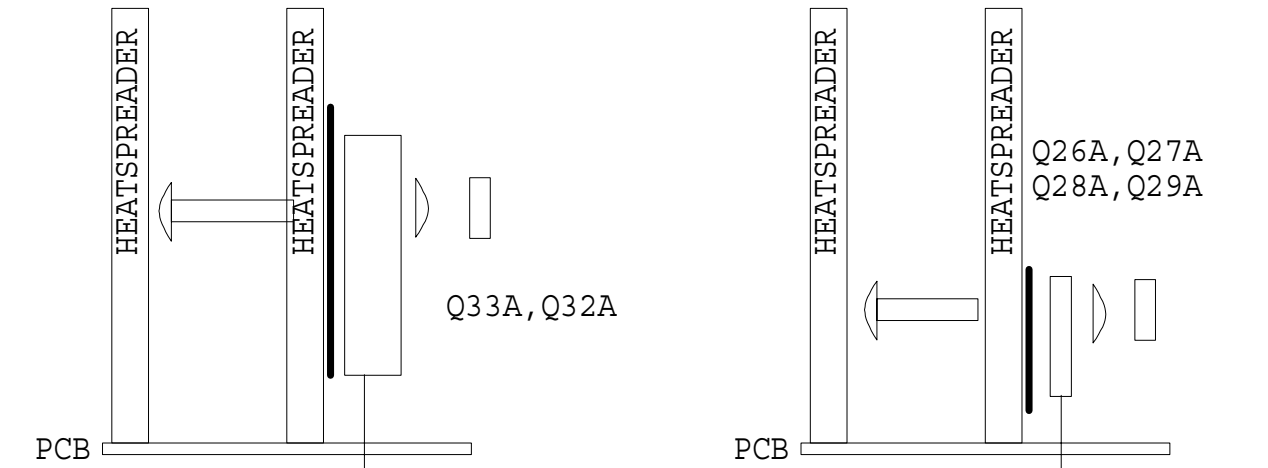
2 OZ. COPPER

PRODUCTION NOTES

CRITICAL ASSEMBLY NOTE

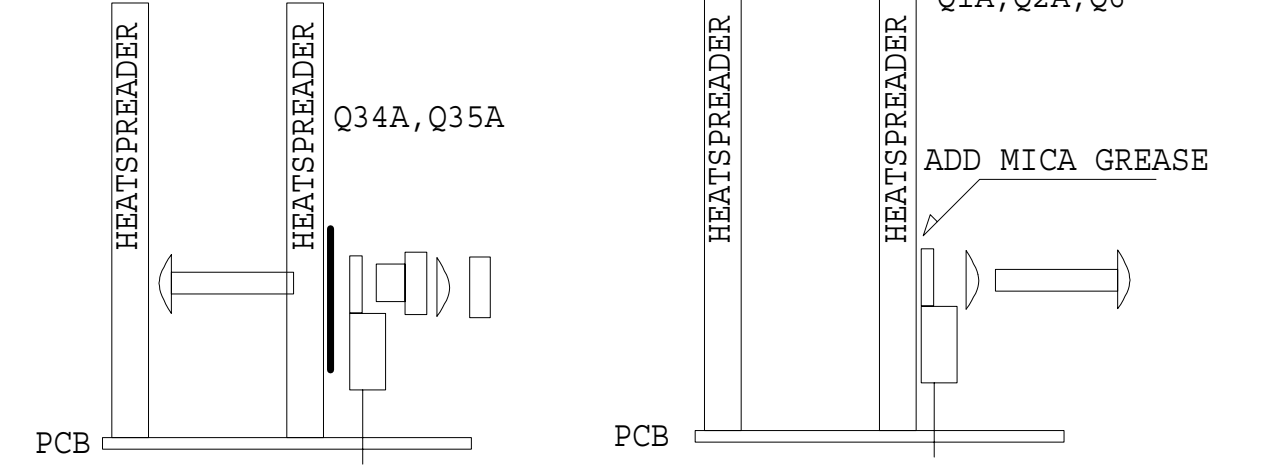
1 HEAT SINKS MUST BE INSPECTED BY PRODUCTION ENGINEERING BEFORE ASSEMBLY

- ① #8741 4-40 X 1/2" BOLT
#3797 THERMO PAD
TO3PBL DEVICE
#3501 BELL WASHER
#8793 4-40 HEX NUT
- ② #8861 4-40X 3/8" BOLT
#3846 THERMO PAD
T220 TYPE DEVICE
#8667 SHOULDER WASHER
#3501 BELL WASHER
#8793 4-40 HEX NUT
- ③ #3846 THERMO PAD
T126 TYPE DEVICE
#3501 BELL WASHER
#8861 4-40X 3/8" BOLT
#8793 4-40 HEX NUT
- ④ #8742 4-40X 3/8" BOLT
T220 TYPE DEVICE
#3501 BELL WASHER

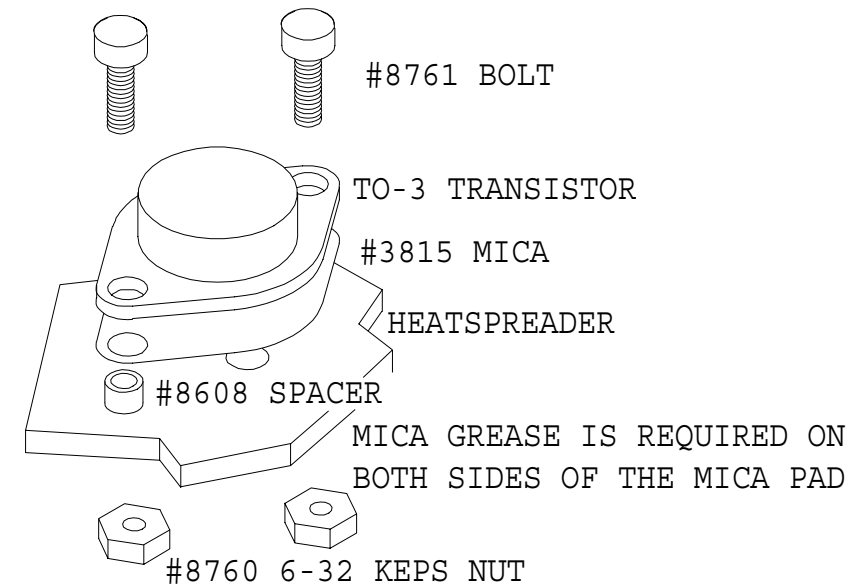


DO NOT CUT THE LEADS OF Q48A BEND THEM FLAT ALONG TRACE

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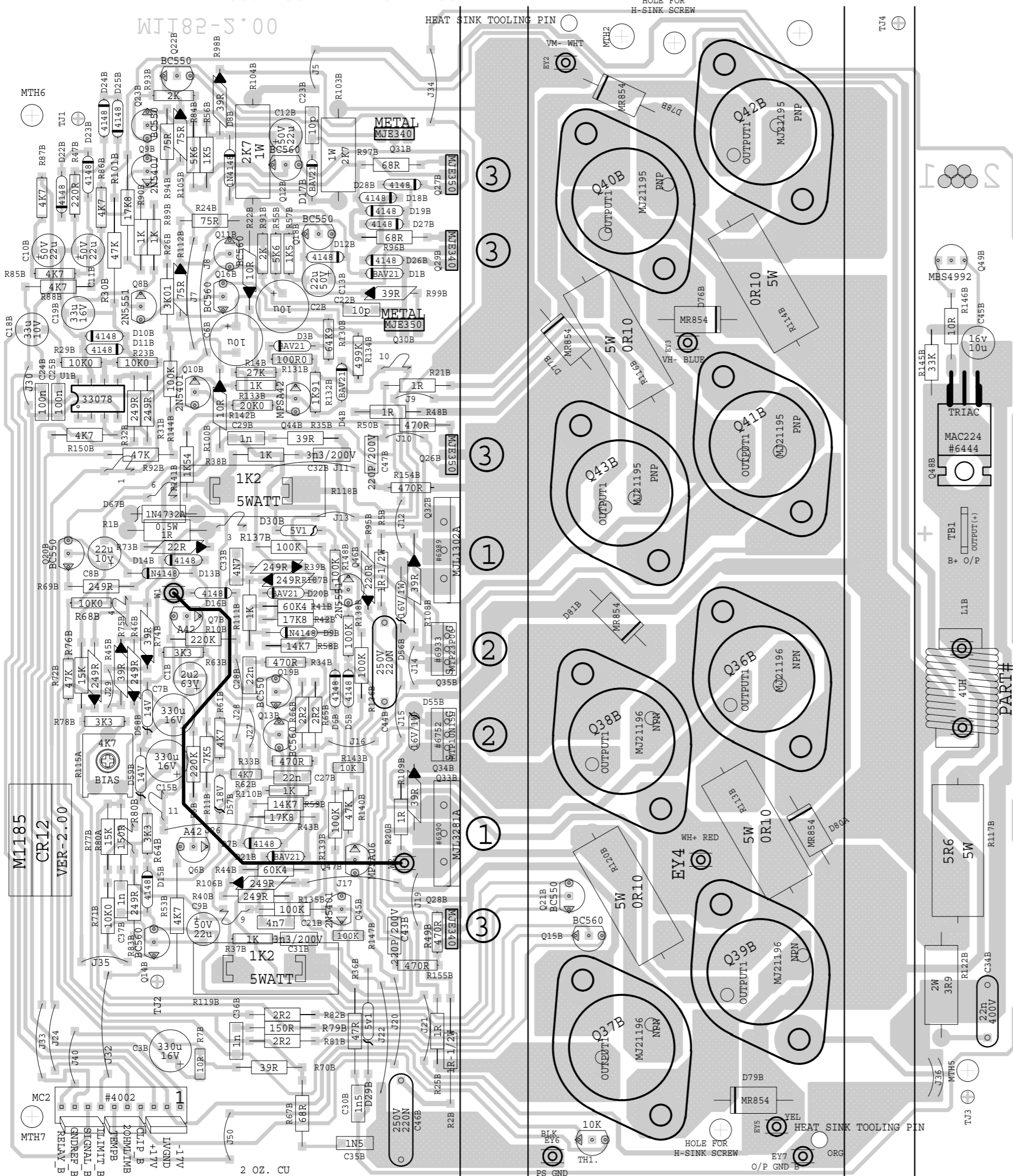


MOUNTING HARDWARE FOR TO3 OUTPUTS



INITIAL TORQUE FOR TO-3'S IS 8 INCH/LB
FINAL TORQUE AFTER HEATSINK HAS COOLED FROM WAVE SOLDER IS 6 INCH/LB

NOTE ALL 22u/50V MUST BE PT#5260



SOLDERMASK M1185-2.00
 DRILL DETL M1185-2.00

2 OZ. COPPER
 2 OZ. COPPER

CR12 M1185 TOP PCB
 TAB WIRE COLOURS

TAB 1	RED	16AWG	OUTPUT +
EY 6	BLK	18AWG	OUTPUT -
EY 7	ORG	18AWG	OP/GND
EY 2	WHT	18AWG	VM-
EY 3	BLU	16AWG	VH-
EY 4	RED	16AWG	VH+
EY 5	YEL	18AWG	VM+

POWER SUPPLY

W1 TO W2 4" LONG BLK WIRE 18AWG

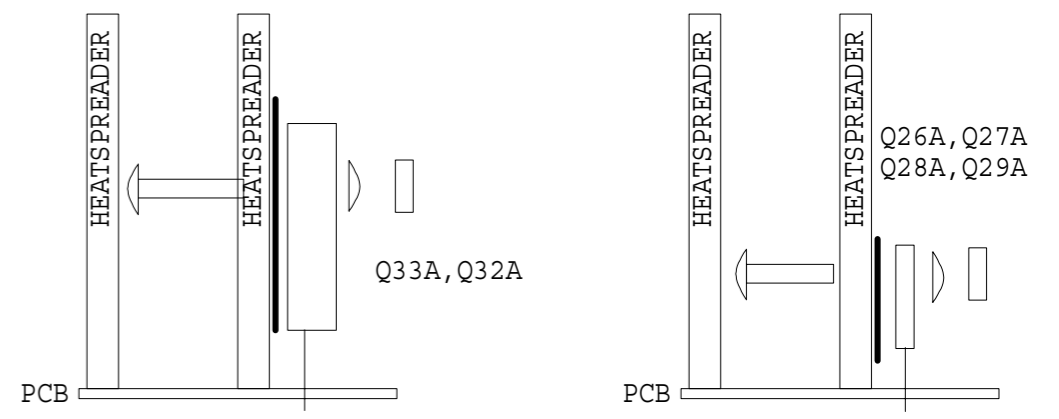
M1185.PCB DATABASE HISTORY

#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN/2002	1.00	PILOTRUN
2	APR/23/02	2.00	PC#6533 MOVE Q32B, Q33B, Q34B, Q35B
3	.	.	CORRECT_SPACING_C44B, C46B, C3B, C7B, C15B
4	.	.	
5	.	.	
6	.	.	
7	.	.	
8	.	.	
9	.	.	
10	.	.	
11	.	.	

PRODUCTION NOTES

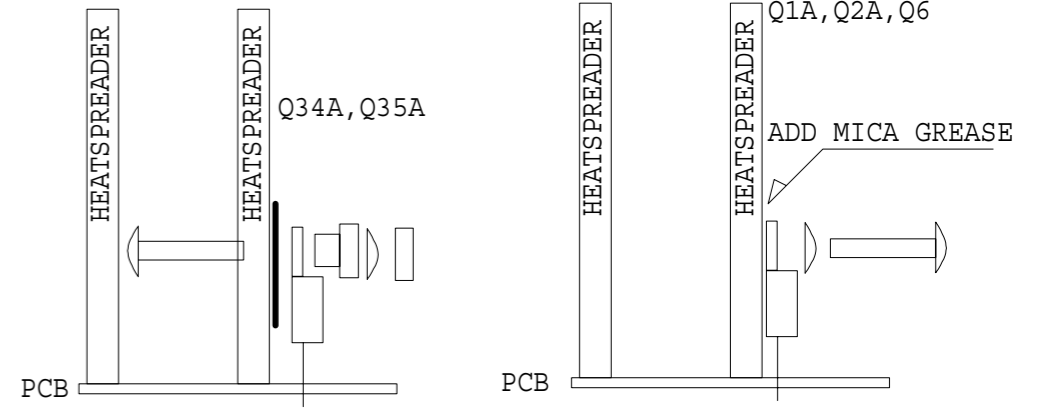
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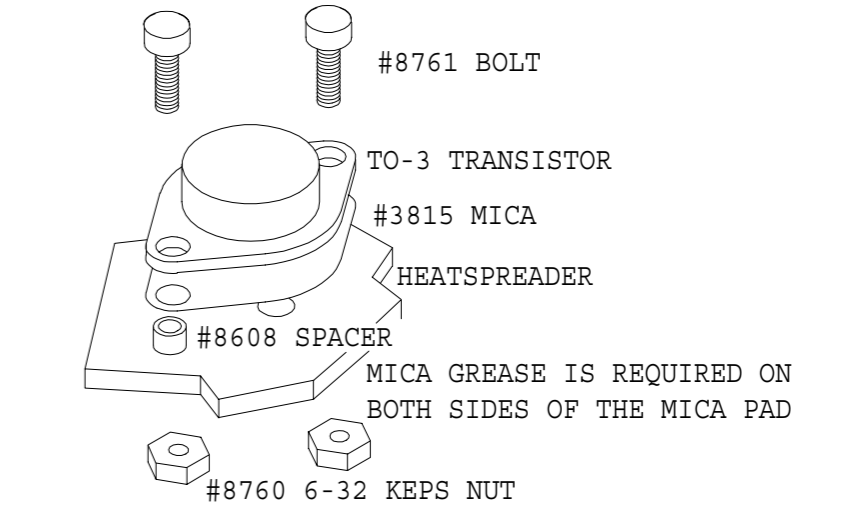


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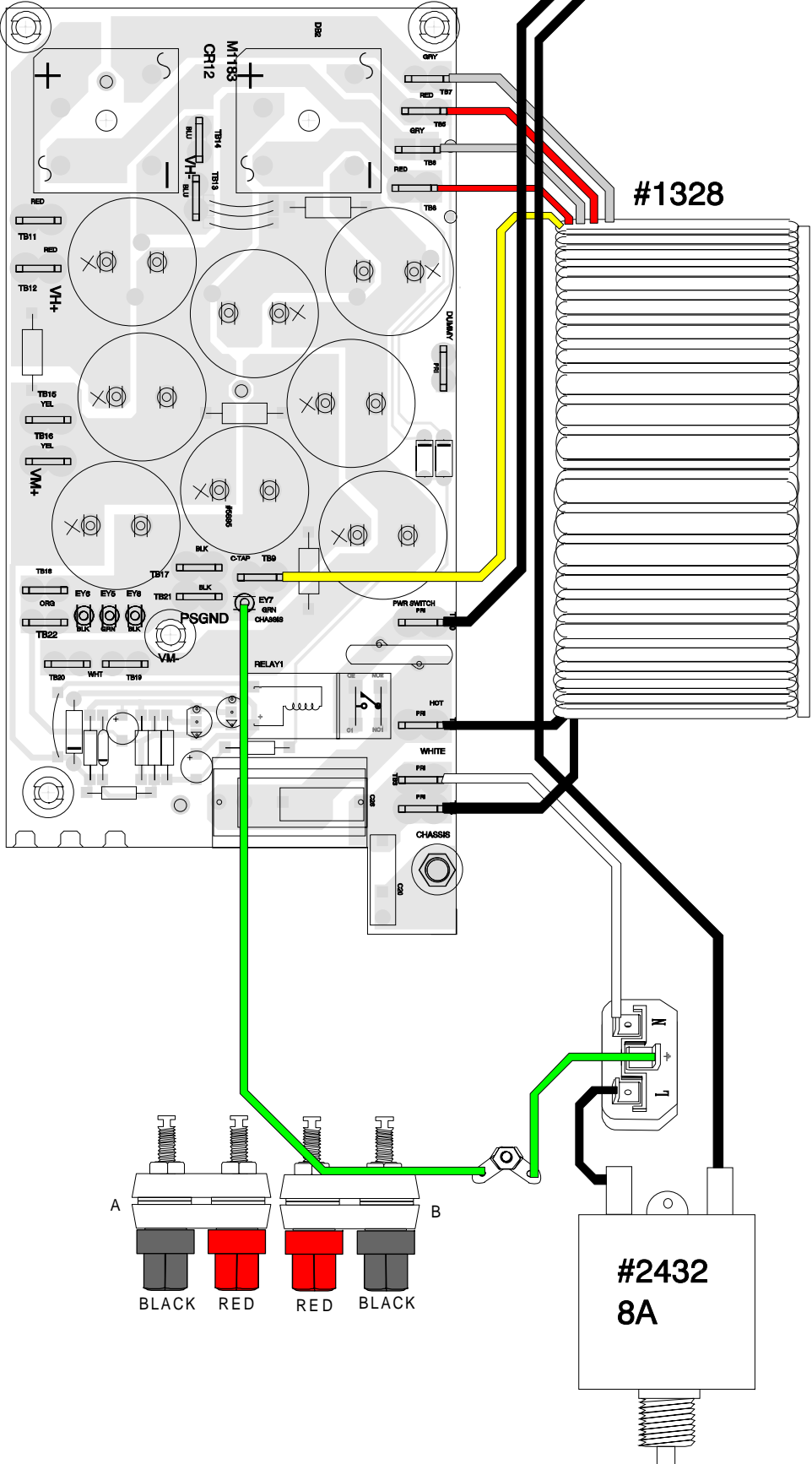
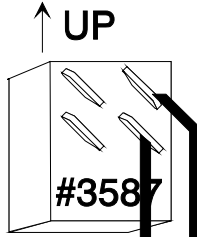
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NOTE ALL 22u 50V MUST BE PT#5260
 NOTE ADD MICA GREASE BETWEEN HEATSINKS

CR12-NA-AC
JUNE 13, 2002



#1328

#2432
8A

