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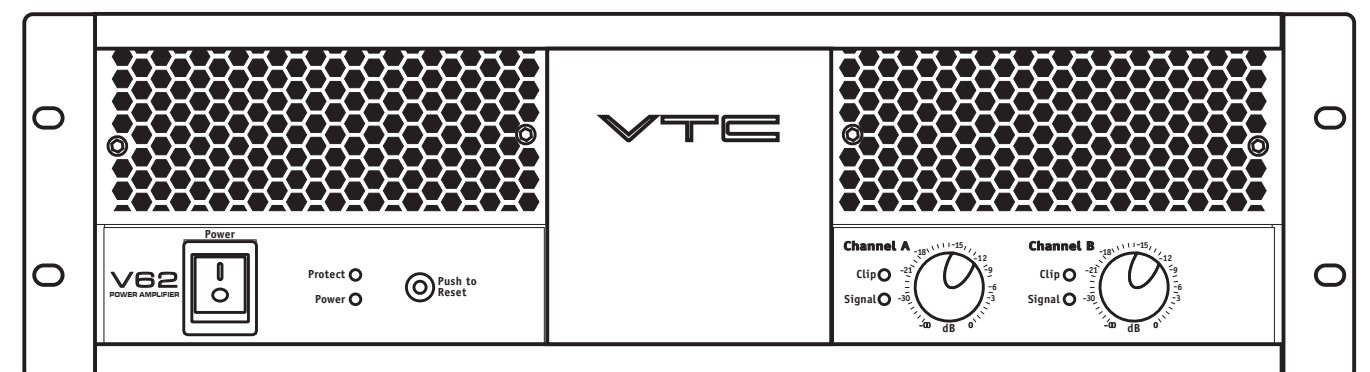
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VTC
PRO AUDIO

V62



Service Manual

www.vtcproaudio.com

VTC
PRO AUDIO

Printed in Canada

MODEL TYPE: YS6020

IMPORTANT SAFETY INSTRUCTIONS



This lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

Ce symbole d'éclair avec tête de flèche dans un triangle équilatéral est prévu pour alerter l'utilisateur de la présence d'un « voltage dangereux » non-isolé à proximité de l'enceinte du produit qui pourrait être d'ampleur suffisante pour présenter un risque de choc électrique.



CAUTION AVIS

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

**RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR**



S2125A



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est prévu pour alerter l'utilisateur de la présence d'instructions importantes dans la littérature accompagnant l'appareil en ce qui concerne l'opération et la maintenance de cet appareil.

FOLLOW ALL INSTRUCTIONS

**Instructions pertaining to a risk of fire,
electric shock, or injury to a person**

**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.**

SUIVEZ TOUTES LES INSTRUCTIONS

**Instructions relatives au risque de feu,
choc électrique, ou blessures aux personnes**

**AVIS: AFIN DE REDUIRE LE RISQUE DE CHOC
ELECTRIQUE, 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 and heed all warnings.

Clean only with dry cloth.

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

Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. *Do not use this apparatus near water!*

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. An apparatus with CLASS I construction shall be connected to a Mains socket outlet with a protective earthing ground. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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. Only use attachments/accessories specified by the manufacturer

Note: Prolonged use of headphones at a high volume may cause health damage on your ears.

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.

Ensure that proper ventilation is provided around the appliance. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

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

Power Cord

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. The AC supply cord should be routed so that it is unlikely that it will be damaged. Protect the power cord from being walked on or pinched particularly at plugs. If the AC supply cord is damaged DO NOT OPERATE THE UNIT. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle. The mains plug of the power supply cord shall remain readily operable.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Service

The unit should be serviced only by qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Veillez Lire le Manuel: Il contient des informations qui devraient étre comprises avant l'opération de votre appareil. Conservez. Gardez S.V.P. ces instructions pour consultations ultérieures et observez tous les avertissements.

Nettoyez seulement avec le tissu sec.

Emballage: Conservez la boîte au cas où l'appareil devait étre retourner pour réparation.

Avertissement: Pour réduire le risque de feu ou la décharge électrique, n'exposez pas cet appareil à la pluie ou à l'humidité. *N'utilisez pas cet appareil près de l'eau!*

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. Un appareil construit selon les normes de CLASS I devrait étre raccordé à une prise murale d'alimentation avec connexion intacte de mise à la masse. Lorsqu'une prise de branchement ou un coupleur d'appareils est utilisée comme dispositif de débranchement, ce dispositif de débranchement devra demeurer pleinement fonctionnel avec raccordement à la masse.

Risque

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. Utilisez seulement les attachments/accessoires indiqués par le fabricant

Note: L'utilisation prolongée des écouteurs à un volume élevé peut avoir des conséquences néfastes sur la santé sur vos oreilles. .

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

L'appareil 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.

Assurez que l'appareil est fourni de la propre ventilation. Ne procédez pas à l'installation près de source de chaleur tels que radiateurs, registre de chaleur, fours ou autres appareils (incluant les amplificateurs) qui produisent de la chaleur.

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

Cordon d'Alimentation

Ne pas enlever le dispositif de sécurité sur la prise polarisée ou la prise avec tige de mise à la masse du cordon d'alimentation. Une prise polarisée dispose de deux lames dont une plus large que l'autre. Une prise avec tige de mise à la masse dispose de deux lames en plus d'une troisième tige qui connecte à la masse. La lame plus large ou la tige de mise à la masse est prévu pour votre sécurité. La prise murale est désuète si elle n'est pas conçue pour accepter ce type de prise avec dispositif de sécurité. Dans ce cas, contactez un électricien pour faire remplacer la prise murale. Évitez d'endommager le cordon d'alimentation. Protégez le cordon d'alimentation. Assurez-vous qu'on ne marche pas dessus et qu'on ne le pince pas en particulier aux prises. N'UTILISEZ PAS L'APPAREIL si le cordon d'alimentation est endommagé. Pour débrancher complètement cet appareil de l'alimentation CA principale, déconnectez le cordon d'alimentation de la prise d'alimentation murale. Le cordon d'alimentation du bloc d'alimentation de l'appareil doit demeurer pleinement fonctionnel.

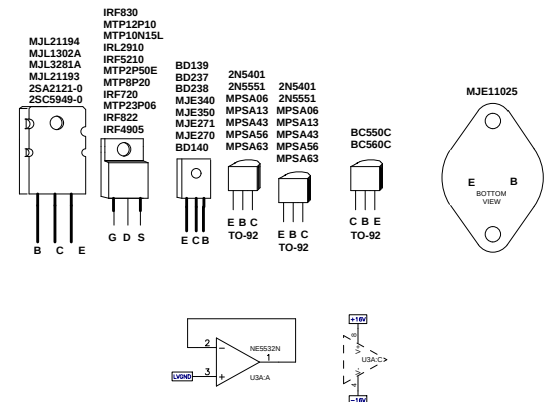
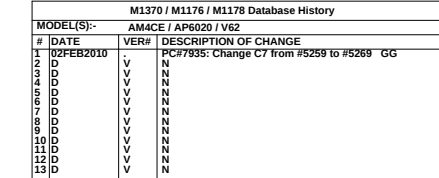
Débranchez cet appareil durant les orages ou si inutilisé pendant de longues périodes.

Service

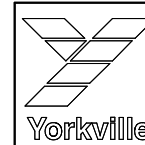
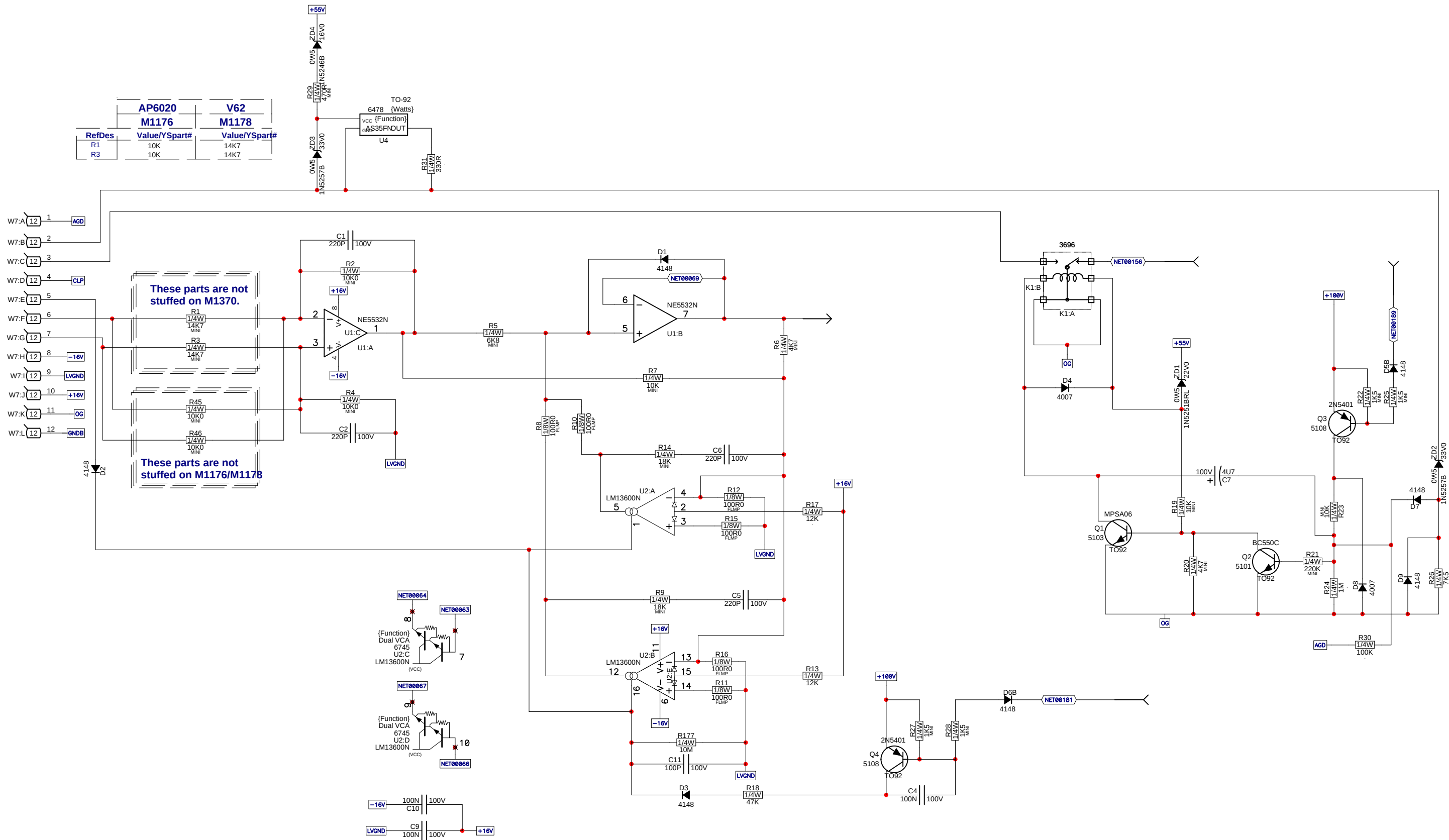
Consultez un technicien qualifié pour l'entretien de votre appareil. L'entretien est nécessaire quand l'appareil a été endommagé de quelque façon que se soit. Par exemple si le cordon d'alimentation ou la prise du cordon sont endommagés, si il y a eu du liquide qui a été renversé à l'intérieur ou des objets sont tombés dans l'appareil, si l'appareil a été exposé à la pluie ou à l'humidité, si il ne fonctionne pas normalement, ou a été échappé.

VTC V62 Parts List 5/13/2010

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
5906	RED 3MM LED 1V9 20MA.4SPCER T&R	3	2444	25 00 AMP CIRCUIT BREAKER	1	6124	1/4W 3K 5%MINI T&R RES	6	3587	DPDT ROKR SW QUIK 250°AC/PWR ON	1
5908	GRN 3MM LED 1V9 20MA.4SPCER T&R	3	3820	4U/H COIL 14AWG ZOBEL HORIZONTAL	2	6136	1/4W 3K3 5%MINI T&R RES	4	3682	250 MALE PCB TAB REEL	46
6419	BRIDGE 35A 400V WIRE LEAD G13504	3	8521	RUBBER BUMPER WITH WASHER VERTYSMALL	2	4774	1/4W 4K12 1% T&R RES	2	4045	POWER SUPPLY CORD #61411 (AP602)	1
6425	BAV21 200V 0A25 DIODE T&R	20	3441	CLIP 250X032 16-14AWG RIGHT ANGLE	34	4827	1/4W 4K7 5% T&R RES	1	CH1192-1	AP6020 125VAC 60HZ SHIELDED T&R	1
6438	1N4007 1000V 1A0 DIODE T&R	13	3470	CLIP 250X032 14-18AWG DISCO-LOK	8	4982	1/4W 4K7 5%MINI T&R RES	20	2354	2 CIR XH-HEADER RA 0.098IN	1
6825	1N4148 75V 0A45 DIODE T&R	52	3485	CLIP 250X032 18-22AWG RIGHT ANGL	1	6128	1/4W 4K99 1%MINI MF T&R RES	4	4056	2 CIR XH-HEADER 0.098IN	1
6934	MR854 400V 3A0 DIODE FASREC	28	3601	RING TERMINAL 16AWG WIRE & #8 SCREW	2	4978	1/4W 6K8 5%MINI T&R RES	2	2329	12 CIR XH-HEADER 0.098IN	3
6432	1N5248B 18V0 0W5 ZENER 5% T&R	2	3498	1/4" JCK PCB MT HORZ	2	6121	1/4W 6K98 1%MINI MF T&R RES	4	2330	14 CIR XH-HEADER 0.098IN	2
6436	1N753ARL 6V2 0W5 ZENER 5% T&R	4	6956	SPKON 4C PCB MT HORZ GRY #4	2	4887	1/4W 7K5 5% T&R RES	2	3038	PATCH 12 22AWG 10.0 XH	1
6439	1N5225B 3V0 0W5 ZENER 5% T&R	2	3922	XLR FEML PCB MT HORZ THIN SNAP-IN	2	4663	1/2W 8K2 5% T&R RES	2	3041	PATCH 12 22AWG 26.0 XH FLAT	1
6440	1N750ARL 4V7 0W5 ZENER 5% T&R	4	3451	EYELET SMALL 0.089 OD PLATED	71	4990	1/4W 8K2 5%MINI T&R RES	4	3039	PATCH 14 22AWG 13.0 XH FLAT	1
6463	1N5251BRL 22V0 0W5 ZENER 5% T&R	3	3864	FAN 92MM X 92MM 60CFM 24VDC	2	4762	1/4W 9K760 0.1% *** T&R RES	8			
6465	1N5250B 20V0 0W5 ZENER 5% T&R	2	3501	B52200F006 COMP WASH #4 SMALL	20	4829	1/4W 10K 5% T&R RES	2			
6466	1N5256B 30V0 0W5 ZENER 5% T&R	5	3495	1/8" HEATSHRINK POLYOLEFIN	0.25	4983	1/4W 10K 5%MINI T&R RES	10			
6486	1N5244B 14V0 0W5 ZENER 5% T&R	2	3518	CLEAR PVC TUBING .500" DIA. 105°C	0.333	6116	1/4W 10K0 1%MINI MF T&R RES	19			
6822	1N4745A 16V0 1W0 ZENER 5% T&R	8	3799	ROUND BUMPER BUTTON BLACK	1	4856	1/4W 12K 5% T&R RES	4			
6824	1N5246B 16V0 0W5 ZENER 5% T&R	8	3801	5/8" BUMPER BUTTON BLACK	4	4901	1/4W 13K 5% T&R RES	2			
5101	BC550C TO92 NPN TRAN T&R TB	16	3803	NYLON SECUR-A-TACH MINI PLASTIC TIE	1	4775	1/4W 14K0 1% T&R RES	4			
5102	BC560C TO92 PNP TRAN T&R TB	14	3810	4" NYLON CABLE TIE	17.4	5008	1/4W 14K7 1% T&R RES	4			
5103	MPSA06 TO92 NPN TRAN T&R TA	4	3827	SQUARE BUMPER BUTTON BLACK	5	4630	1/2W 15K 5% T&R RES	4			
5105	MPSA13 TO92 NPN DARL T&R TA	1	5989	4 CIR CABLE HOLDER 098	2	4830	1/4W 15K 5% T&R RES	10			
5106	MPSA63 TO92 PNP DARL T&R TA	1	3580	12 CIR WAFER W/LCK VT 0.1"	1	4771	1/4W 17K8 1% T&R RES	2			
5107	2N5551 TO92 NPN TRAN T&R TA	2	8433	KNOB AP SERIES PLASTIC	2	6125	1/4W 18K 5%MINI T&R RES	7			
5108	2N5401 TO92 PNP TRAN T&R TA	6	8661	KNOB BUTTON FLAT GREY	3	6118	1/4W 22K 5%MINI T&R RES	5			
6854	2N6517 TO92 NPN TRAN TA	4	8261	GE VELVET/MATTE LEXAN .007"X12"X24"	0.2	4633	1/2W 27K 5% T&R RES	3			
6752	MTP10N15L TO220 NCH MFET TN	4	8263	METALIZED POLYESTER .005 X 12"X 24"	0.02	6129	1/4W 27K 5%MINI T&R RES	4			
6814	MJF6668 T221D PNP TRAN DARL TJ	1	8701	4-40 KEPS NUT ZINC	19	4840	1/4W 33K 5% T&R RES	6			
6815	MJF6388 T221D NPN TRAN DARL TJ	2	8666	6-32 X 1/4" PEM THRD SPACER 0.213	12	4634	1/2W 47K 5% T&R RES	1			
6873	MJE340 TO126 NPN TRAN TG	6	8760	6-32 KEPS NUT TIN PLATED	96	4834	1/4W 47K 5% T&R RES	11			
6874	MJE350 TO126 PNP TRAN TG	6	8800	6-32 KEPS NUT ZINC	10	4835	1/4W 56K 5% T&R RES	4			
6925	MTP8P20 TO220 PCH MFET TN	4	8844	6-32 PEMNUT	18	4760	1/4W 75K 5% T&R RES	8			
6909	MJ21196 TO3 NPN TRAN TH	24	8841	10-32 KEPS NUT TIN PLATED	3	4586	1/4W 82K 5%MINI T&R RES	2			
6910	MJ21195 TO3 PNP TRANSISTOR TH	24	3797	TO-247 THERMO CONDUCTIVE PAD	4	4838	1/4W 100K 5% T&R RES	5			
7004	2SA2121-0 TO3P PNP TRAN TK	2	3823	TO-220 THERMO PAD SMALL HOLE	4	4851	1/4W 120K 5% T&R RES	2			
7005	2SC5949-0 TO3 NPN TRANSISTOR TK	2	3846	TO220 THERMO PAD LARGE HOLE 56359B	8	4894	1/4W 130K 5% T&R RES	2			
6745	LM13600N IC XCONDUCTANCE AMP	2	3916	TO3 SIL-PAD REPLACES MICA	48	4668	2.0W 220K 5%10MM BODY T&R RES	2			
6840	MC33078P IC DUAL OP AMP	4	4060	SILPAD 1500ST 0.900 X 0.725BERQUIST	4	4841	1/4W 220K 5% T&R RES	1			
6884	NE5532N IC DUAL OP AMP	4	8498	6-32 X 3/8 STEEL PEM STUD	7	6126	1/4W 220K 5%MINI T&R RES	10			
5190	MBS4992 TO92 8V5 DIAC T&R	2	8499	6-32X1 STEEL PEM STUD	6	6127	1/4W 470K 5%MINI T&R RES	6			
5191	MCR100-6 TO92 0.8A SCR 600V	1	4597	22AWG STRAN TC WIR JMP	50	4844	1/4W 1M 5% T&R RES	2			
6489	5R 20% THERMISTOR-SURGR NTC	2	4599	22AWG SOLID SC WIR T&R JMP	226	4888	1/4W 4M7 5% T&R RES	2			
6517	STM-BTB-600BRG TO220 ??A TRIAC 600V	2	5299	24AWG SOLID SC WIR RAD JMP	23	6132	1/4W 8M2 5%MINI T&R RES	2			
6880	4N35 OPTO-COUPLER	4	4745	5.0W 0R1 5% BLK RES	22	4751	1/4W 22M 5% T&R RES	2			
5401	10P 500V 5%CAP T&R RAD CER.2NPO	4	4749	5.0W 0R15 5% BLK RES	4	3612	23" 9C-24AWG RIBBON HITMP 0.1"	0.5			
5197	220P 100V 2%CAP T&R RAD CER.2NPO	17	2005	1.0W 0R47 5%FLAME PROOF T&R RES	2	3673	1/4" 16C-28AWG DIP HDR CABLE .05"	1			
5211	330P 100V 5%CAP T&R RAD CER.2NPO	2	2006	1.0W 1R 5%FLAME PROOF T&R RES	1	3696	RELAY IC 02AMP DC24 006MA PC-S	2			
5410	100P 100V 10%CAP T&R BEAD NPO	2	2007	1/4W 1R 5%FLAME PROOF T&R RES	24	3722	RELAY 1A 30AMP DC24 036MA PC-C	1			
5412	220P 100V 10%CAP T&R BEAD NPO	4	4677	1/2W 1R 5% T&R RES	8	8870	#4 X 1/4 PAN PH TYPE A ZINC	1			
5201	470P 100V 5%CAP T&R RAD CER.2NPO	6	4911	1/4W 2R2 5% T&R RES	8	8729	#4 X 3/8 FLAT QUAD TYPE A JS500 BLK	8			
5206	1N 400V 5%CAP T&R RAD .2FLM	4	4748	2.0W 3R9 5% T&R	2	8861	4-40 X 3/8 PAN PH MS JS500	3			
5208	2N2 400V 5%CAP T&R RAD .2FLM	4	4733	5.0W 5R6 5% BLK RES	2	8741	4-40 X 1/2 PAN PH MS JS500	16			
5273	1N5 200V 5%CAP T&R RAD CER.2NPO	4	2009	1/4W 10R 2%FLAME PROOF T&R RES	2	8871	4-40 X 5/8 PAN PH MS JS500	4			
5274	2N2 200V 5%CAP T&R RAD CER.2NPO	2	2010	1/6W 10R0 2%FLAME PROOF T&R RES	6	8902	4-40 X 3/4 PAN PHIL MS B/O & WAX	4			
5210	22N 100V 10%CAP T&R RAD .2FLM	9	4605	1/6W 10R 5% T&R RES	2	8799	#6 X 1/4 PAN PH TYPE B JS500	2			
5840	22N 400V 10%CAP BLK RAD POLY FLM	2	4875	1/4W 10R 5% T&R RES	2	8832	6-32 X 1/4 PAN PH TAPTITE JS500	7			
6435	22N 275V 20%CAP BLK X2 15MM AC	2	2039	1/4W 22R0 FUSIBLE T&R RES	2	8807	6-32 X 5/16 PAN PH MS JS500	2			
6451	4N7 250V 20%CAP BLK Y 10MM AC	1	2040	1/4W 33R FUSIBLE T&R RES	4	8801	6-32 X 3/8 PAN PH TAPTITE JS500	4			
5212	100N 63V 5%CAP T&R RAD .2FLM	6	2016	1/6W 39R 2%FLAME PROOF T&R RES	26	8829	6-32 X 3/8 FLAT PH TAPTITE BO/HC HEA	40			
5226	68N 100V 5%CAP T&R RAD .2FLM	4	2041	1/4W 39R0 FUSIBLE T&R RES	4	8761	6-32 X 1/2 PAN PHIL MS ZINC CLEAR	96			
5228	100N 100V 5%CAP T&R RAD .2FLM	8	4811	1/4W 68R 5% T&R RES	2	8999	8-32 X 5/8 PAN PH TAPTITE JS500	20			
5229	150N 63V 10%CAP T&R RAD .2FLM	4	2019	1/8W 100R0 1%FLAME PROOF T&R RES	18	8809	10-32 X 1/4 PAN PH TAPTITE JS500	8			
5231	220N 63V 10%CAP T&R RAD .2FLM	2	4987	1/4W 120R 5%MINI T&R RES	2	8753	#10 X 1/2 PAN QUAD TY A JS500 BLACK	3			
5234	470N 63V 10%CAP T&R RAD .2FLM	1	2020	1/6W 150R 2%FLAME PROOF T&R RES	4	8773	10-32 X 1 1/4 PN PH TT FULL THD JS5	3			
5314	100N 50V 10%CAP T&R BEAD X7R	4	4984	1/4W 150R 5%MINI T&R RES	10	8772	1/4-20 X 1 TRUSS PH MS JS500 BLACK	2			
5322	470N 50V 20%CAP T&R BEAD Z5U	2	2023	1/6W 220R0 1%FLAME PROOF T&R RES	4	3351	16 PIN SCKT CLOSED FRAME DIP ONLY	1			
5882	220N 250VDC 10%CAP BLK RAD PLY FLM	8	4977	1/4W 220R 5%MINI T&R RES	12	8663	11/64 NYLON SPACER (MICRO PLASTIC)	96			
5255	1U 63V 20%CAP T&R RAD .2EL	2	2046	1/4W 240R FUSIBLE T&R RES	4	3752	SNAP IN 1/4 SPACER RICHCO	3			
5259	4U7 63V 20%CAP T&R RAD .2	6	4867	1/4W 270R 5% T&R RES	2	8851	.250 SPACER ID.190 OD.31 ALUMINUM	6			
5260	22U 50V 20%CAP T&R RAD .2EL	6	4855	1/4W 330R 5% T&R RES	2	3417	6-32 SCREW TERMINAL PC MNT SNAP-IN	2			
5629	10U 160V 20%CAP BLK 10X13MM EL	4	4736	5.0W 390R 5% BLK RES	2	3743	SNAP ON 0.5" SPACER RICHCO	18			
5945	10U 63V 20%CAP T&R RAD .2EL	5	2048	1/4W 470R FUSIBLE T&R RES	4	3851	1/2 PCB PLASTIC SPACER	7			
5961	33U 16V 20%CAP T&R RAD .2	14	4980	1/4W 470R 5%MINI T&R RES	8	3865	1/2 PLASTIC HEX SPACER #6	1			
5267	100U 25V 20%CAP T&R RAD .2EL	3	2033	1/6W 1K 2%FLAME PROOF T&R RES	8	8667	SHOULDER WASHER SWS-229 LENGTH 1/8	8			
5618	470U 25V 20%CAP BLK 10X15MM EL	1	4823	1/4W 1K 5% T&R RES	4	3511	#6 FLAT WASHER NYLON	1			
5630	330U 25V 20%CAP BLK 10X13MM EL	6	4718	5.0W 1K5 5% BLK RES	4	8485	#6 SPLIT WASHER ZINC	4			
5914	100U 63V 20%CAP BLK 10X13MM EL	1	4988	1/4W 1K5 5%MINI T&R RES	8	8852	#6 INTERNAL TOOTH LOCKWASHER	1			
5895	6800U 63V 20%CAP BLK 25X50MM	12	4791	1/4W 1K54 1% T&T RES	4	8818	3/4 OD X 3/8 ID X .080 THICK WASHER	1			
5899	3300U 100V 20%CAP BLK 25X50MM ELS	12	6113	1/4W 2K 5%MINI T&R RES	6	3517	NYLON WASHER #8 0.062	5			
4390	10K AUD 16MM DETENT P22	2	6104	1/4W 2K2 5%MINI T&R RES	4	3705	4P3T SLID SW PCMT H	1			
4520	10K TRIM POT	2	4864	1/4W 2K7 5% T&R RES	2	3436	DPDT PUSH SW PCMT H BREAK B4 MAKE	3			



RefDes	AP6020 M1176	V62 M1178
R1	10K	14K7
R3	10K	14K7



Product AP6020 POWER AMP		
AmplInput	PCB# X8002	Sheet 2 of 3
Date: Wed Mar 24, 2010	Rev:9V00	YsType:{Company Name}
Filename: NEWX8002V900.sch2002.sch		



SEE LAYOUT DIAGRAM

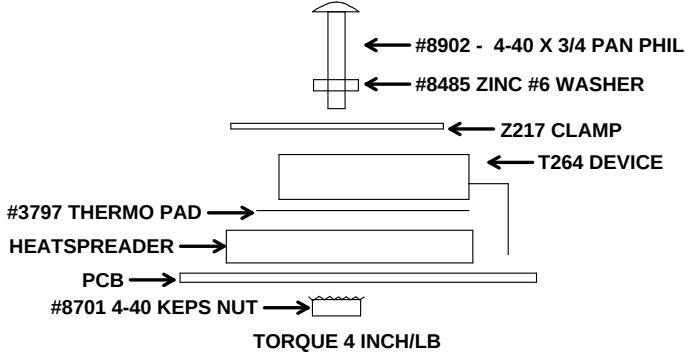


PRODUCTION NOTES

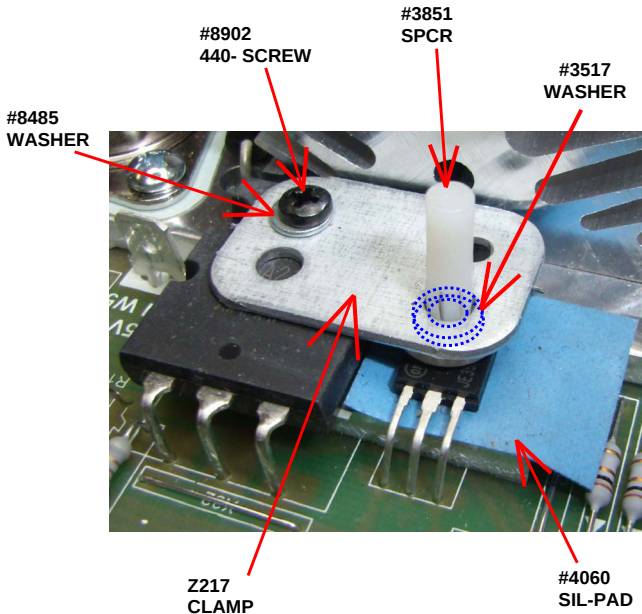
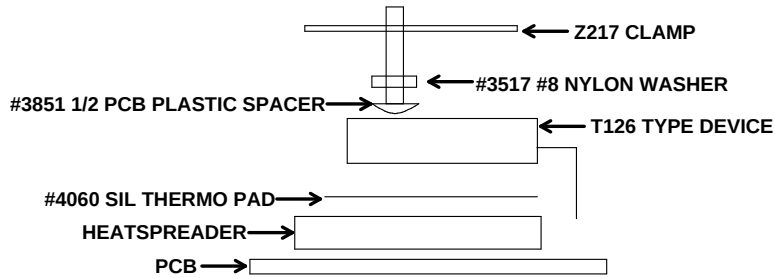
M1370/M1370A/M1176/M1176A/ M1178/M1178A

1. MOUNTING DETAILS FOR 5W ADD #8629 SPACERS ONLY ON 5 WATT RESISTORS R130A, R130B AND R131B.

2. MOUNTING HARDWARE FOR Q25B AND Q26B.

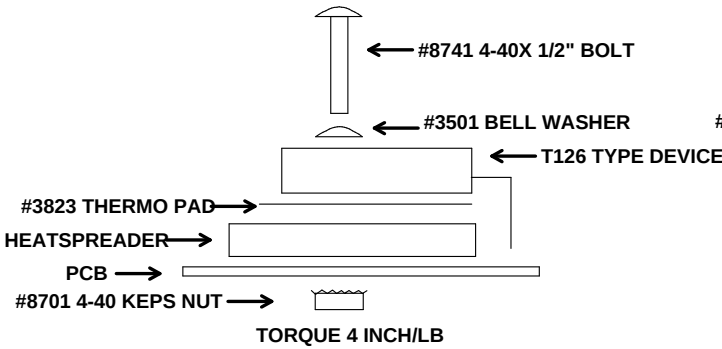


3. MOUNTING HARDWARE FOR Q23B AND Q24B.

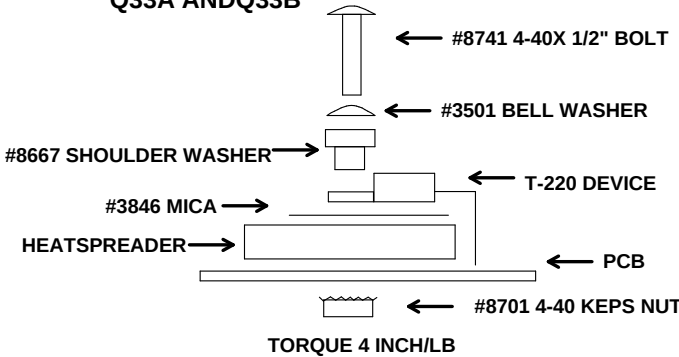


CLAMP DETAIL - SEE NOTES 2 AND 3.

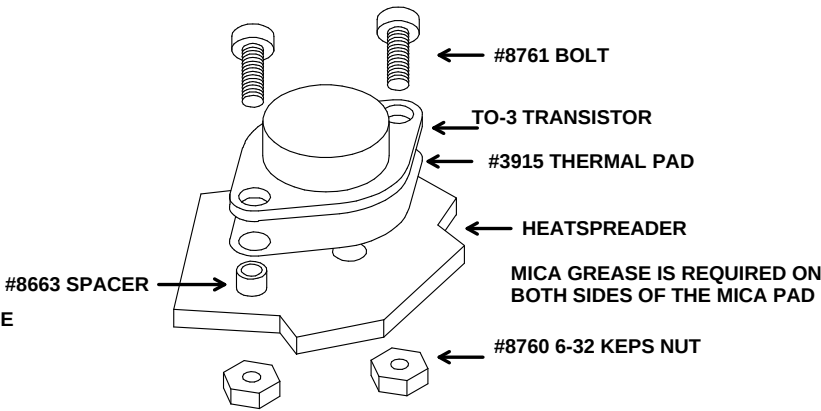
4. MOUNTING HARDWARE FOR Q17B AND Q18B.



5. MOUNTING HARDWARE FOR Q32A, Q32B Q33A AND Q33B



6. MOUNTING HARDWARE FOR TO3 OUTPUTS

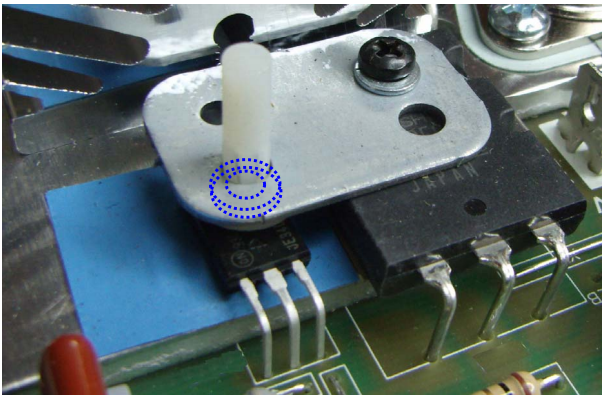


INITIAL TORQUE FOR TO-3'S IS 8 INCH/LB
FINAL TORQUE AFTER HEATSINK HAS COOLED FROM WAVE SOLDER IS 6 INCH/LB

7. Note that R146B and R149B are 0R15.

8. TAB WIRE COLOURS

TB2	RED	14AWG	+145V
TB3	GRY	14AWG	+55V
TB5	BRN	14AWG	-55V
TB6	BLU	14AWG	-145V
TB4	OUTPUT +		
TB7	OUTPUT -		



FLIPPED VERSION

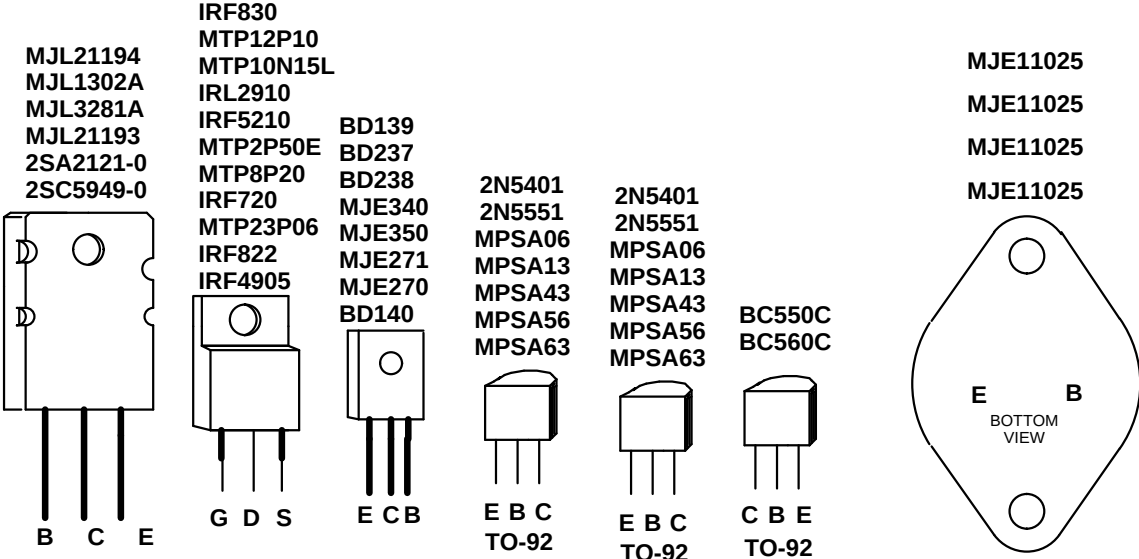


SEE LAYOUT DIAGRAM



M1370 / M1176 / M1178 Database History			
MODEL(S):- AM4CE / AP6020 / V62			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	02FEB2010	.	NPC#7935: Change C7 from #5259 to #5269 GG
2	D	V	
3	D	V	
4	D	V	
5	D	V	
6	D	V	
7	D	V	
8	D	V	
9	D	V	
10	D	V	
11	D	V	
12	D	V	
13	D	V	

PIN CONFIGURATION



M1370 / M1176 / M1178 Database History			
MODEL(S):- AM4CE / AP6020 / V62			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	MAY/12/99	V1P1	PILOT RUN RELEASE
2	AUG/25/99	V1P2	M1176 PROTOTYPE
3	NOV/16/99	1.00	FIRST PRODUCTION
4	FEB/08/00	2.00	FIX MISSING TRACES, FIX DUPLICATE REF DES
5	DEC/12/00	3.00	REDUCE WIDTH .125" PC#6303 ADD C5C C6C CAPS
6	MAR/20/01	.	PC#6377 C34B, C42 470p ->1n5, R102B 39K -> 33K
7	.	.	FIXED PADSTACKS . ADD MACPINS
8	MAR/20/01	3.10	PC#6377 R42A 470R -> 220R
9	SEP/26/01	4.00	PC#6454 C10A 470p -> 1n ADD R40, R41
10	AUG/27/02	5.00	MOVE TRACE TO ELIMINATE SHORT
11	SEP/03/02	5.10	PC#6565 D25B,D26B 4148 -> BAV21
12	AUG/31/04	.	R100B, R99B 249R -> 241 FUSIBLE, R41B, R40B 33R->
13	.	.	->FUSIBLE, R132A/B, R125A/B, R127A/B, R77B, R87B,

M1370 / M1176 / M1178 Database History			
MODEL(S):- AM4CE / AP6020 / V62			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	AUG/31/04	5.10	R104B, R133A/B, R104B, R78B, R105B 39R FUSIBLE
2	.	.	R108B, R109B -470R -> 471R - FUSIBLE
3	.	.	R100B, R99B 249R -> 241R FUSIBLE
4	JUN/15/05	6.00	PC#6869 CONVERT-TO PCAD2002
5	JUL/07/06	6.10	HA, PC#7076, REPLACE Q25B #6990 WITH #7005 AND
6	.	.	Q26B #6989 WITH #7004
7	AUG/22/06	7.00	FIX AC CLEARANCE
8	.	.	PC#7228, ADD AN EXTRA HOLE FOR ALUMINIUM SPACER
9	JAN/31/2008	8.00	Changed to X8002. Complete force update. Solder fixes.
10	.	.	Changed Q33B and Q24B to shorter pattern.
11	JUN/11/2009	9.00	PC#7467, Added R45, R46 to fix AM4CE phase.
12	.	.	PC#7658, CHANGE R177 FROM 22M TO 10M #4809
13	.	.	TACK A 100P 100V CAP #5199 ACROSS R177

HEAT SINK TOOLING PINS

FOR TEST JIG

S008X

Top Assy X8002 V9.00

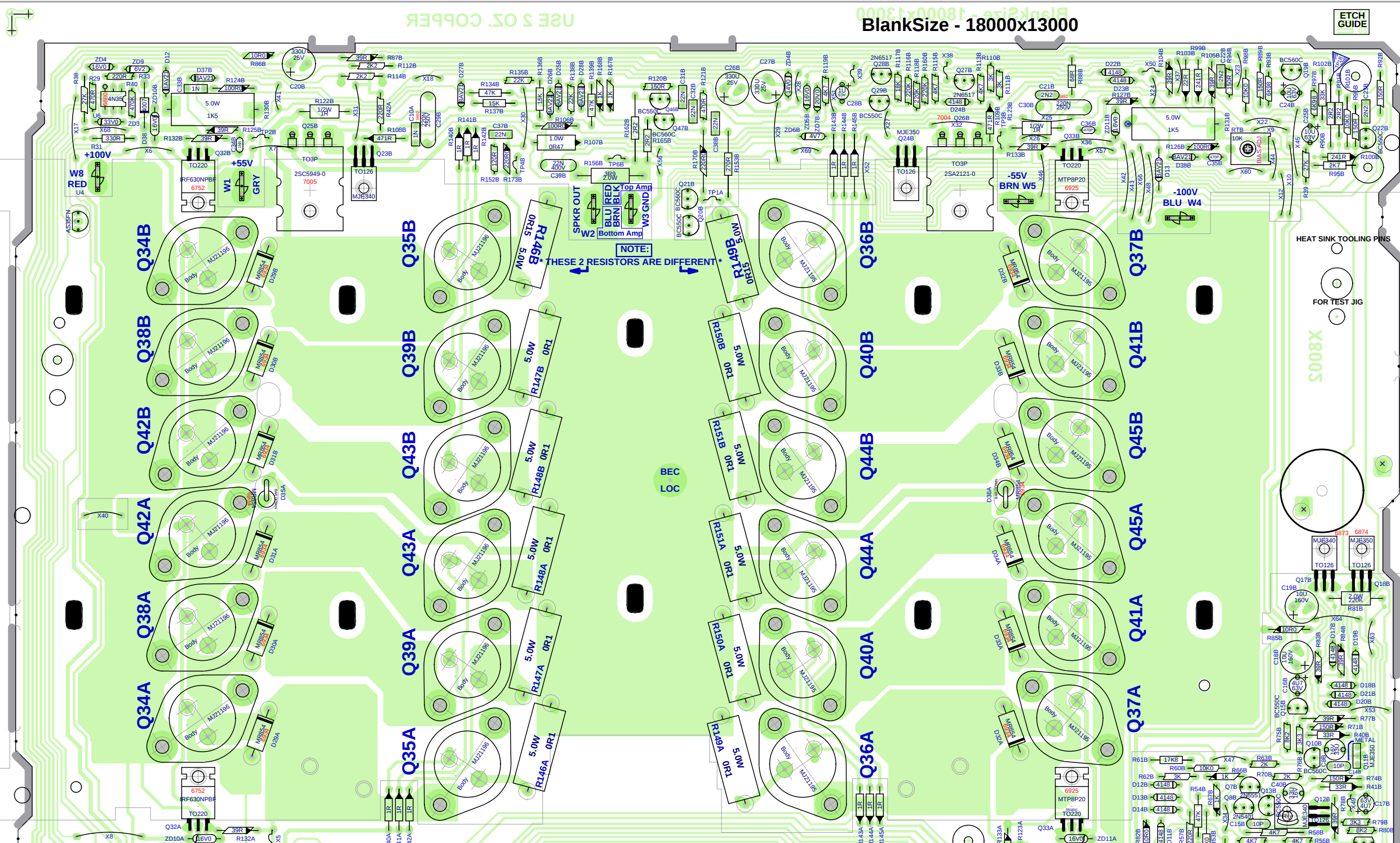
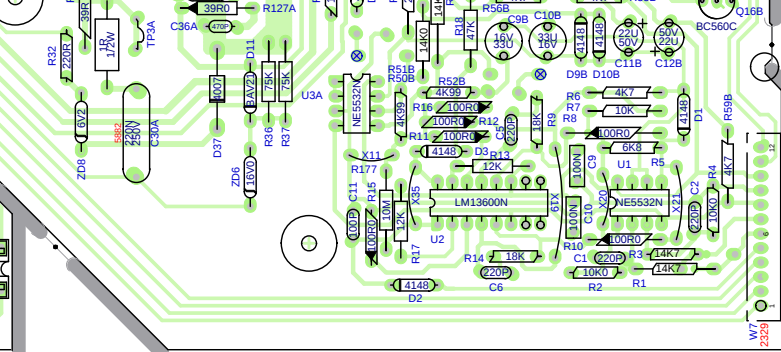
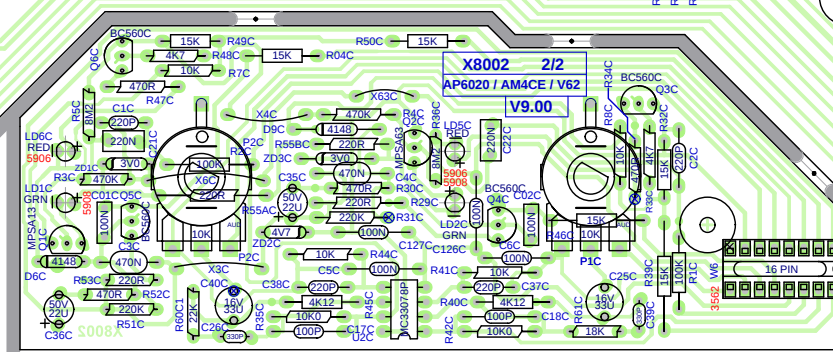
- SOCKET
- SOCKET UPSIDE DOWN
- NORMAL
- NORMAL LARGE
- SOCKET WITH DIRECTION
- TAB

SEE LAYOUT DOCUMENTATION

Pcb Mech X8002 V9.00

Bottom S008X V9.00

AP6020	M1176	X1
V62	M1178	X15
AM4CE	M1370	X3
X8002	V9.00	1/2





SEE LAYOUT DIAGRAM

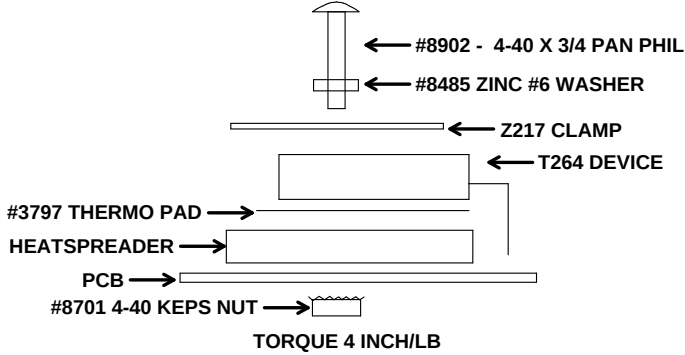


PRODUCTION NOTES

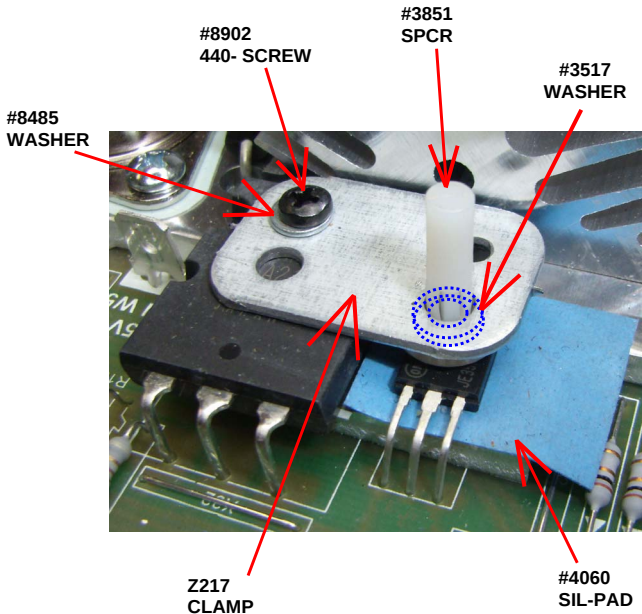
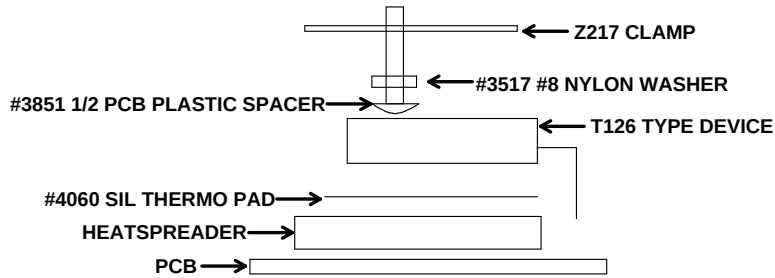
M1370/M1370A/M1176/M1176A/ M1178/M1178A

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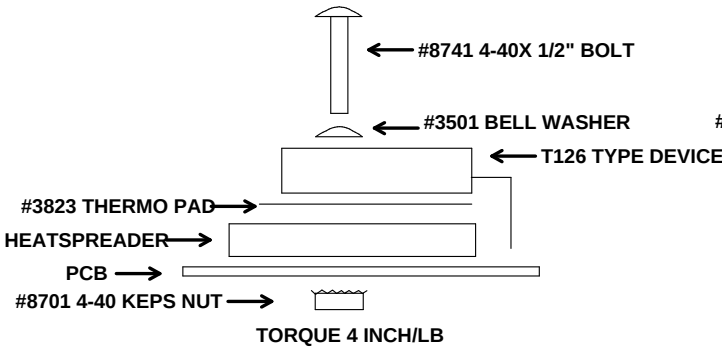


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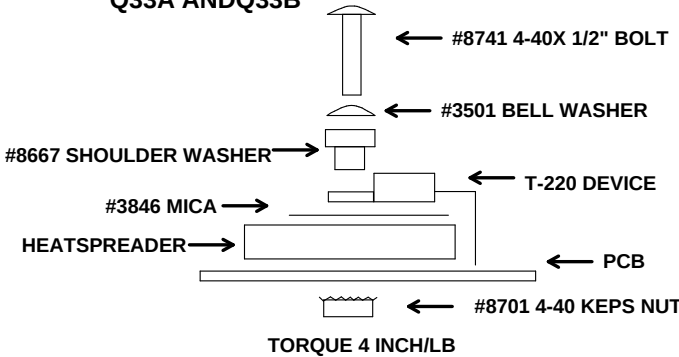


CLAMP DETAIL - SEE NOTES 2 AND 3.

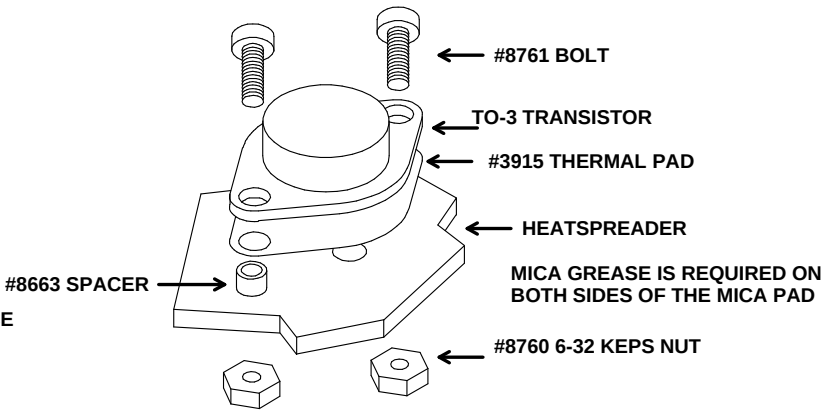
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6. MOUNTING HARDWARE FOR TO3 OUTPUTS

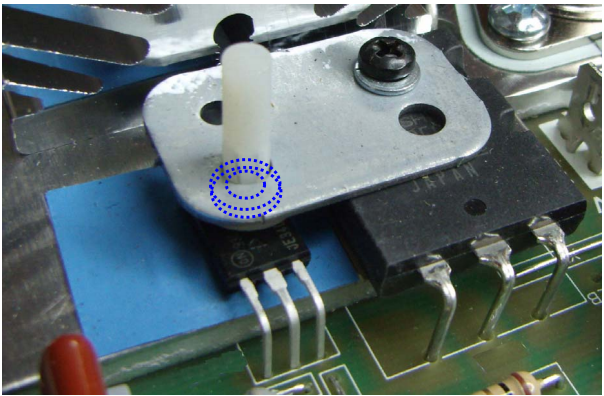


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TB6	BLU	14AWG	-145V
TB4	OUTPUT +		
TB7	OUTPUT -		



FLIPPED VERSION

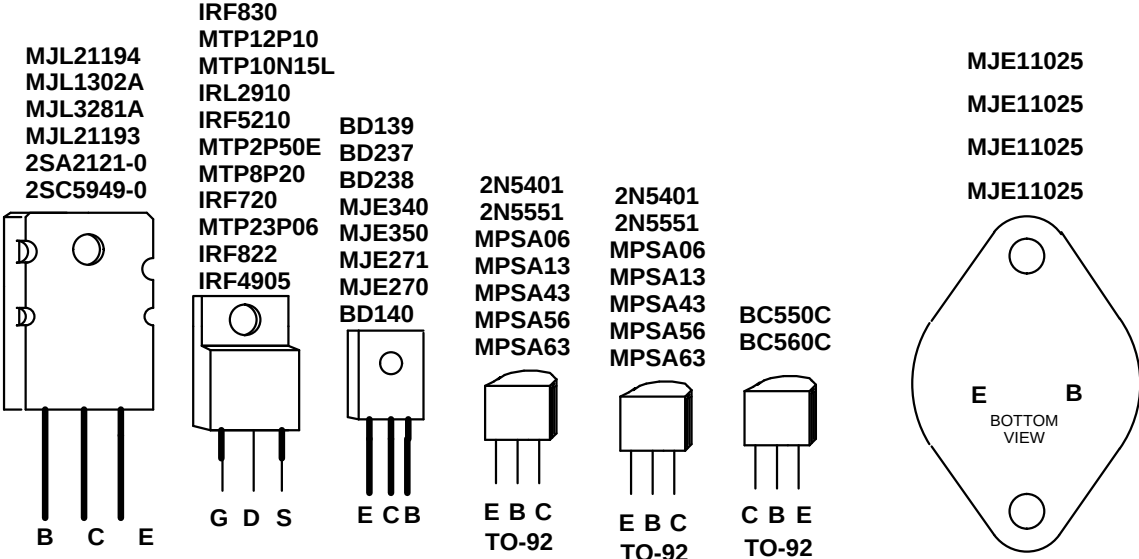


SEE LAYOUT DIAGRAM



M1370 / M1176 / M1178 Database History			
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4	D	V	
5	D	V	
6	D	V	
7	D	V	
8	D	V	
9	D	V	
10	D	V	
11	D	V	
12	D	V	
13	D	V	

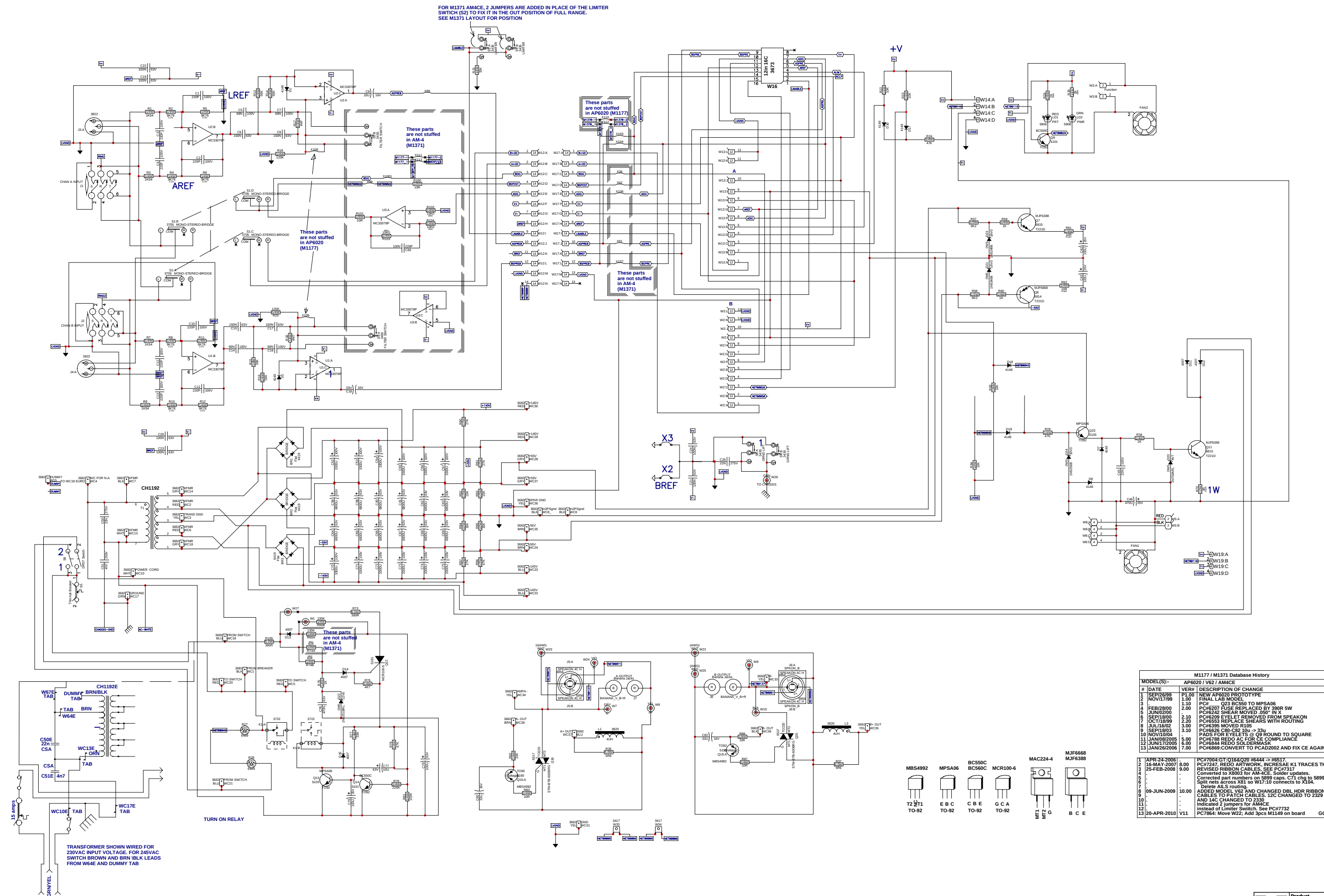
PIN CONFIGURATION

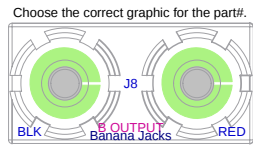
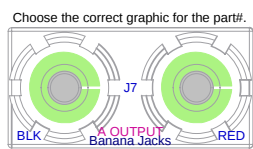


M1370 / M1176 / M1178 Database History			
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7	.	.	FIXED PADSTACKS . ADD MACPINS
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9	SEP/26/01	4.00	PC#6454 C10A 470p -> 1n ADD R40, R41
10	AUG/27/02	5.00	MOVE TRACE TO ELIMINATE SHORT
11	SEP/03/02	5.10	PC#6565 D25B,D26B 4148 -> BAV21
12	AUG/31/04	.	R100B, R99B 249R -> 241 FUSIBLE, R41B, R40B 33R->
13	.	.	->FUSIBLE, R132A/B, R125A/B, R127A/B, R77B, R87B,

M1370 / M1176 / M1178 Database History			
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5	JUL/07/06	6.10	HA, PC#7076, REPLACE Q25B #6990 WITH #7005 AND
6	.	.	Q26B #6989 WITH #7004
7	AUG/22/06	7.00	FIX AC CLEARANCE
8	.	.	PC#7228, ADD AN EXTRA HOLE FOR ALUMINIUM SPACER
9	JAN/31/2008	8.00	Changed to X8002. Complete force update. Solder fixes.
10	.	.	Changed Q33B and Q24B to shorter pattern.
11	JUN/11/2009	9.00	PC#7467, Added R45, R46 to fix AM4CE phase.
12	.	.	PC#7658, CHANGE R177 FROM 22M TO 10M #4809
13	.	.	TACK A 100P 100V CAP #5199 ACROSS R177

FOR M1371 AM4CE, 2 JUMPERS ARE ADDED IN PLACE OF THE LIMITER SWITCH (S2) TO FIX IT IN THE OUT POSITION OF FULL RANGE.
SEE M1371 LAYOUT FOR POSITION

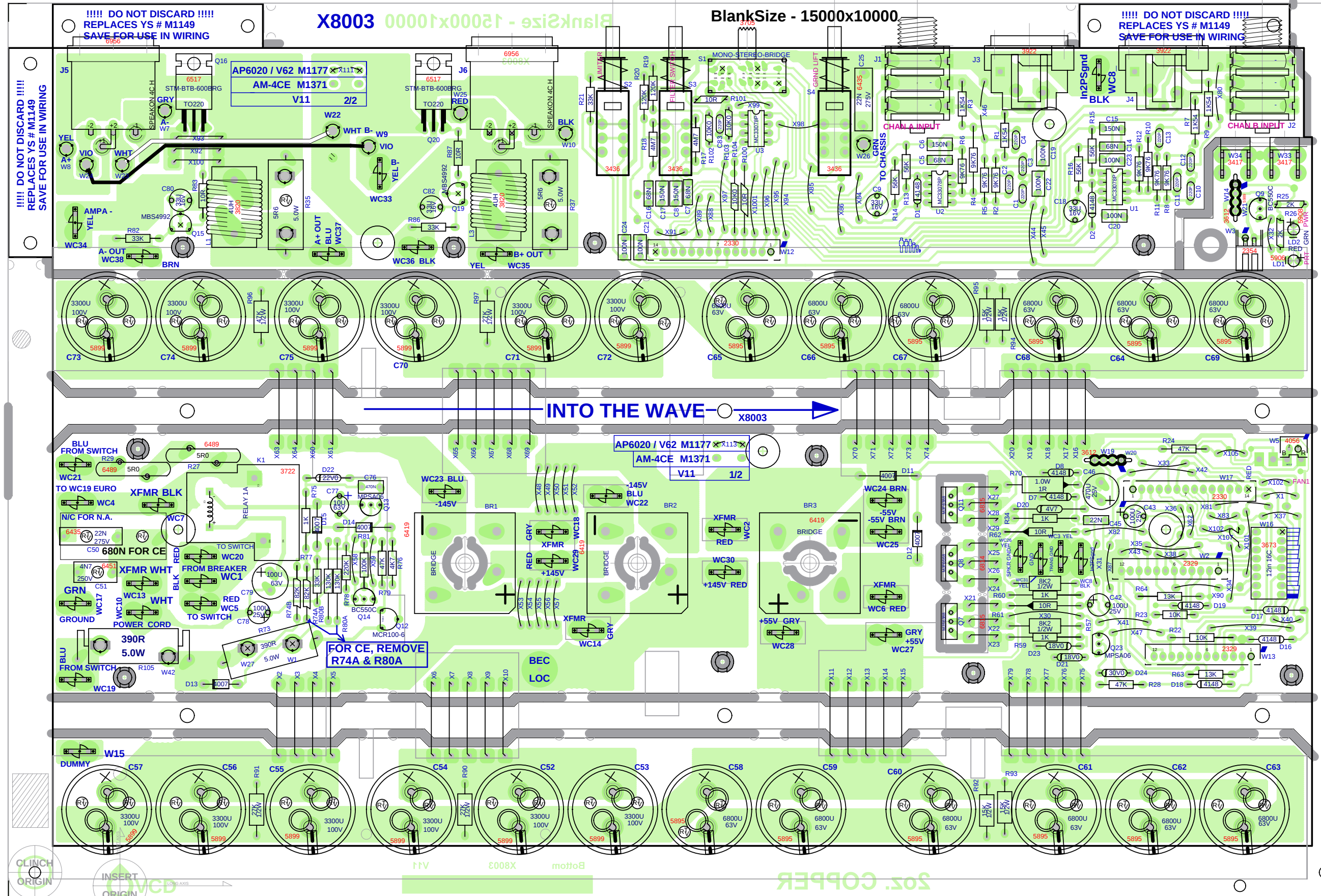




AP6020 / V62 M1177 V11

Pcb Mech
X8003 V11

BlankSize - 15000x10000



SEE LAYOUT DOCUMENTATION

StepAndRepeat - X1@0.000Y1@0.000



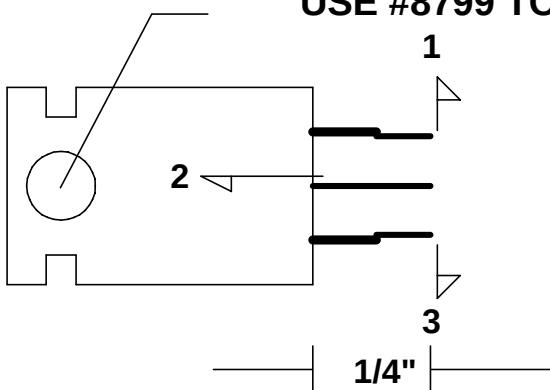
SEE LAYOUT DIAGRAM



PRODUCTION NOTES M1177 AP6020

1. MOUNTING DETAILS FOR Q30 TRIAC

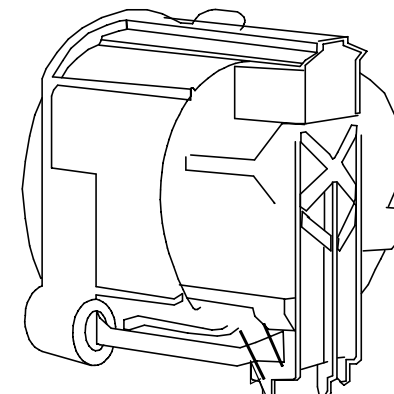
USE #8799 TO MOUNT TRIAC Q30



BEND DOWN 1/4" FROM BODY
OF TRANSISTOR

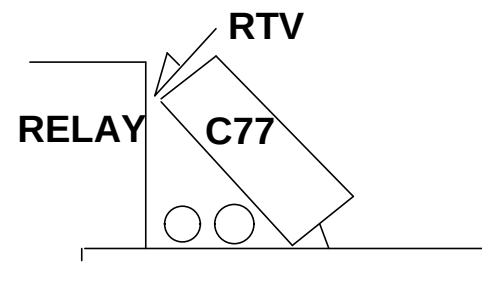
IMPORTANT!

AFTER MOUNTING DEVICE
DO NOT CUT LEGS #2 OR #3
BEND LEGS IN DIRECTION SHOWN
IT IS IMPERATIVE THAT LEGS
MARKED 2 AND 3 ARE BENT FLAT
AGAINST THE COPPER SURFACE



PT# 3922
THIS CONNECTION
MUST BE BROKEN HERE

- CUT LARGE CAP LEADS BEFORE WAVE SOLDER.
- SCREW DOWN BRIDGES WITH #8753 SCREW.
- REMOVE GROUND TAB ON XLR JACKS.
- BEND C77 OVER AND RTV TO RELAY
- BEFORE WAVE SOLDER, CHECK FOR MISSING EYELETS AND TABS
HIGHLIGHTED BY THICKER LEGEND SILKSCREEN.
- BEND X34 TO THE RIGHT WHEN INSERTING W2 SO THAT
THE CONNECTOR SITS FLUSH TO THE BOARD.
- FOR EACH AMPLIFIER ONLY 2PCS OF M1149 SUB-BOARDS ARE NEEDED.
THE THIRD ONE IS A SPARE ONE.





SEE LAYOUT DIAGRAM



M1177 / M1371 Database History			
MODEL(S):-		AP6020 / AM4CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	SEP/26/99	P1.00	NEW AP6020 PROTOTYPE
2	NOV/17/99	1.00	FINAL LAB MODEL
3	.	1.10	PC#_____ Q23 BC550 TO MPSA06
4	FEB/28/00	2.00	PC#6207 FUSE REPLACED BY 390R 5W
5	JUN/02/00	.	PC#6242 SHEAR MOVED .050" IN X
6	SEP/18/00	2.10	PC#6209 EYELET REMOVED FROM SPEAKON
7	OCT/18/99	2.20	PC#6553 REPLACE SHEARS WITH ROUTING
8	JUL/16/02	3.00	PC#6395 MOVED R105
9	SEP/18/03	3.10	PC#6626 C80-C82 10u -> 33u
10	NOV/10/04	.	PADS FOR EYELETS @ Q9 ROUND TO SQUARE
11	JAN/08/2005	5.00	PC#6788 REDO AC FOR CE COMPLIANCE
12	JUN/17/2005	6.00	PC#6844 REDO SOLDERMASK
13	JAN/26/2006	7.00	PC#6869: CONVERT TO PCAD2002 AND FIX CE AGAIN
14	APR-24-2006	.	PC#7004:GT:Q16&Q20 #6444 -> #6517.
15	16-MAY-2007	8.00	PC#7247, REDO ARTWORK, INCRESAE K1 TRACES THICK
16	25-FEB-2008	9.00	REVISED RIBBON CABLES, SEE PC#7317
17	.	.	Converted to X8003 for AM-4CE. Solder updates.
18	.	.	Corrected part numbers on 5899 caps. C71 chg to 5899.
19	.	.	Split nets across X81 so W17:10 connects to X104.
19	.	.	Delete AILS routing.
20	09-JUN-2009	10.00	ADDED MODEL V62 AND CHANGED DBL HDR RIBBON
21	.	.	CABLES TO PATCH CABLES. 12C CHANGED TO 2329
22	.	.	AND 14C CHANGED TO 2330
23	29-JUN-2009	.	Indicated 2 jumpers for AM4CE
24	.	.	instead of Limiter Switch. See PC#7732
25	20-APR-2010	V11	PC7864: Move W22; Add 3pcs M1149 on board

M1177 / M1371 DRILL HISTORY			
MODEL(S):-		AP6020 / AM4CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JAN/26/2006	17	REVISED PER PC#6869
2	OCT/16/2007	P0	REVISED PER PC#7317
3	D	V	N
4	D	V	N
5	D	V	N
6	D	V	N
M___ PENDING CHANGES			
MODEL(S):-		{MODEL}	
#	PC#	PENDING CHANGE	
1	PC	X	
2	PC	X	
3	PC	X	
4	PC	X	
5	PC	X	
6	PC	X	

*PLACE IMPLEMENTED CHANGES INTO BOARD HISTORY

PIN CONFIGURATION

