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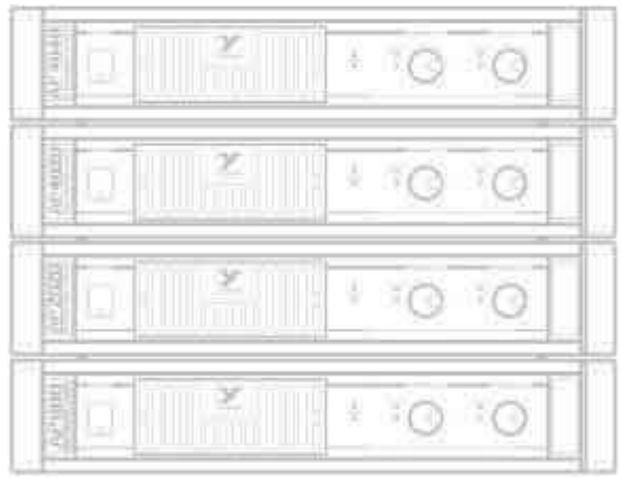
AP2020

PROFESSIONAL SERIES



M 1129 (input board)
- Schematic
- PCB Layout

M 1130 (power amp module)
- Schematic
- PCB Layout

M 1132 (pot board)
- Schematic
- PCB Layout

M 1131 (power supply board)
- Schematic
- PCB Layout

MODEL TYPE: YS2020

SERVICE MANUAL

IMPORTANT SAFETY INSTRUCTIONS

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

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.

Read Instructions
The Owner's Manualshould 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.

Ensure that proper ventilation is provided around the appliance.

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.

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

AVIS:
AFIN DE REDUIRE LES 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'ENTRETIENT

Veuillez Lire le Manuel
Il contient des informations qui devraient êtres 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 être retourner pour réparation.

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 être 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 êtres prises afin d'eviter que le système de mise à la terre de l'appareil ne soit désengagé.

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.

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

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

Assurez que lappareil est fourni de la propre ventilation.

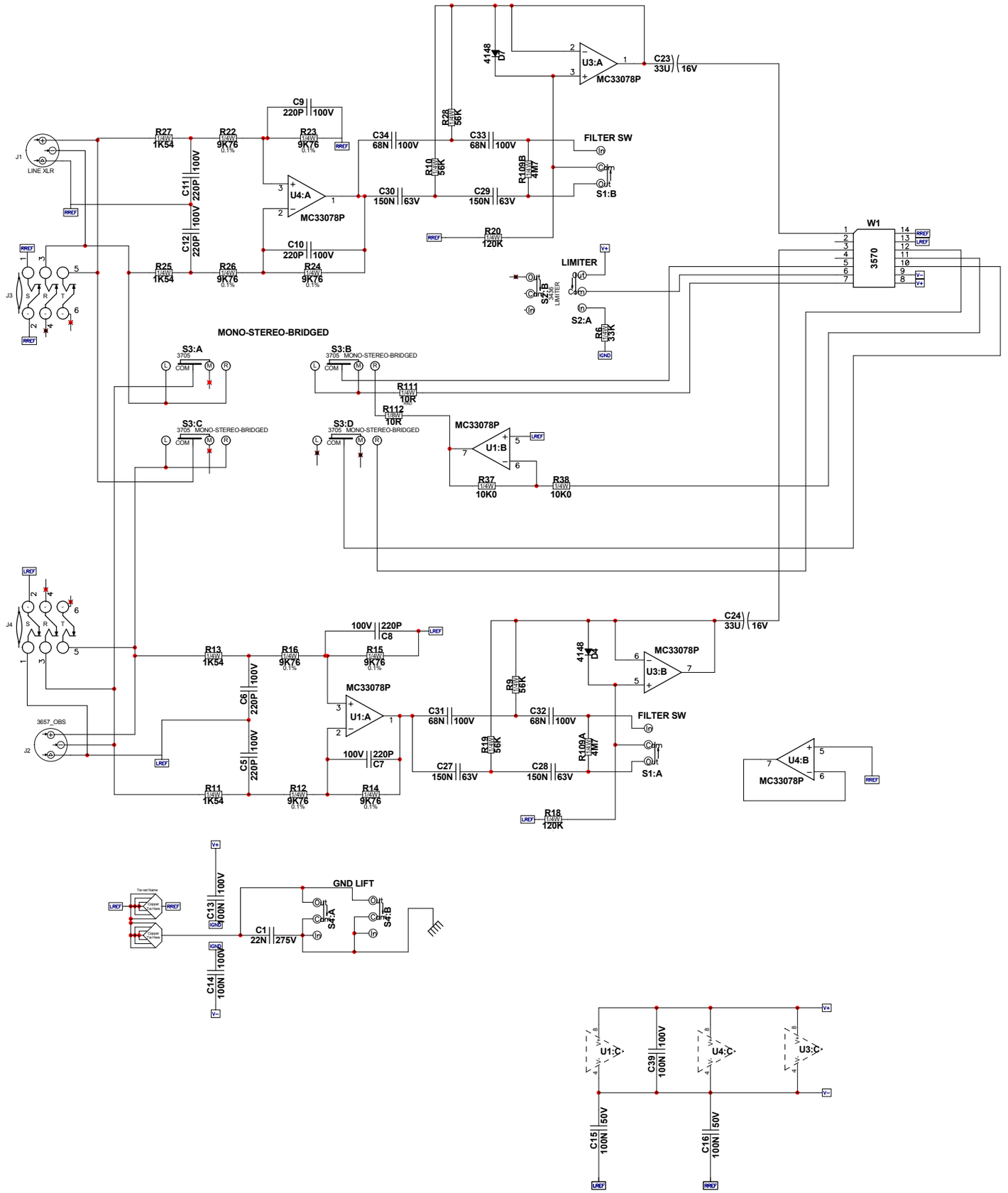
Les dispositifs marqués d'une symbole "d'éclair" sont des parties dangereuses au toucher et que les câblages extérieurs connectés à ces dispositifs de connection extérieure doivent être effectivés par un opérateur formé ou en utilisant des cordons déjà préparés.

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.

AP2020 Parts List 5/29/00

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
3570	14 PIN SCKT CLOSED FRAME DIP ONLY	1	3415	RED ON RIGHT DUAL BINDING POST TPP5	1	4762	1/4W 9K760 0.1% *** T&R RES	8
5906	RED 3MM LED 1V9 20MA .4SPCER T&R	3	3918	1/4" JCK PCB MT HORZ SLIM W/SCREW	2	4629	1/2W 10K 5% T&R RES	4
6405	RED 3MM LED 1V7 5MA BRT	4	6956	SPKON 4C PCB MT HORZ GRY #4	2	4800	1/4W 10K0 1% T&R RES	3
5908	GRN 3MM LED 1V9 20MA .4SPCER T&R	3	3657	XLR FEML PCB MT HORZ NO SHELL	2	4829	1/4W 10K 5% T&R RES	7
6408	GRN 3MM LED 1V9 5MA FROSTED	3	3451	EYELET SMALL 0.089 OD PLATED	63	4983	1/4W 10K 5%MINI T&R RES	3
6419	BRIDGE 35A 400V WIRE LEAD GI3504	2	3860	FAN 80MM X 80MM 40CFM 12VDC	1	6116	1/4W 10K0 1%MINI MF T&R RES	8
6425	BAV21 200V 0A25 DIODE T&R	8	8434	AP SERIES PLASTIC HANDLE PAIR	1	5008	1/4W 14K7 1% T&R RES	4
6825	1N4148 75V 0A45 DIODE T&R	63	3896	HEATSINK WAKEFIELD 274-3AB	4	4830	1/4W 15K 5% T&R RES	4
6438	1N4004 400V 1A0 DIODE T&R	6	8433	AP SERIES PLASTIC KNOB	2	4979	1/4W 15K 5%MINI T&R RES	10
6934	MR854 400V 3A0 DIODE FASREC	12	8661	BUTTON KNOB FLAT GREY	3	4876	1/4W 16K 5% T&R RES	1
6439	1N5225B 3V0 0W5 ZENER 5% T&R	2	8437	FAN FILTER LABEL	1	4771	1/4W 17K8 1% T&R RES	6
6440	1N750ARL 4V7 0W5 ZENER 5% T&R	1	3468	8' 3/16 SJT AC LINE CORD STRIP 17"	1	4885	1/4W 20K 5% T&R RES	3
6459	1N4732A 4V7 1W0 ZENER 5% T&R	2	3821	HEYCO #1200 STRAIN RELIEF	1	6123	1/4W 20K0 1%MINI MF T&R RES	2
6436	1N753ARL 6V2 0W5 ZENER 5% T&R	2	8261	GE VELVET LEXAN .007" X 12" X 24"	0.304	5003	1/4W 30K1 1% T&R RES	4
6461	1N5240BRL 10V0 0W5 ZENER 5% T&R	2	8262	GE VELVET LEXAN .015" X 12" X 24"	0.002	4840	1/4W 33K 5% T&R RES	5
6486	1N5244B 14V0 0W5 ZENER 5% T&R	4	3661	_6 CIR WAFER W/LCK RA 0.1" GOLD	2	6122	1/4W 33K 5%MINI T&R RES	1
6822	1N4745A 16V0 1W0 ZENER 5% T&R	8	3662	_6 CIR WAFER W/LCK VT 0.1" GOLD	1	5002	1/4W 42K2 1% T&R RES	2
6432	1N5248B 18V0 0W5 ZENER 5% T&R	4	3672	6 CIR CABLE HOLDER .098	3	4834	1/4W 47K 5% T&R RES	2
6460	1N5260B 43V0 0W5 ZENER 5% T&R	3	8701	4-40 KEPS NUT ZINC	16	6119	1/4W 47K 5%MINI T&R RES	2
5101	BC550C TO92 NPN TRAN T&R TB	21	8793	4-40 HEX NUT ZINC	3	4835	1/4W 56K 5% T&R RES	4
5102	BC560C TO92 PNP TRAN T&R TB	18	8760	6-32 KEPS NUT TIN PLATED	32	4761	1/4W 60K4 1% T&R RES	4
5103	MPSA06 TO92 NPN TRAN T&R TA	3	8800	6-32 KEPS NUT ZINC	5	4848	1/4W 62K 5% T&R RES	1
5107	2N5551 TO92 NPN TRAN T&R TA	2	8720	#8 SPRING NUT	2	4838	1/4W 100K 5% T&R RES	3
5108	2N5401 TO92 PNP TRAN T&R TA	4	8712	5/16-24 JAM NUT JS500	1	4851	1/4W 120K 5% T&R RES	2
5113	MPSA42 TO92 NPN TRAN T&R TA	4	3797	TO-247 THERMO CONDUCTIVE PAD	4	6137	1/4W 200K 5%MINI T&R RES	2
5105	MPSA13 TO92 NPN DARL T&R TA	2	3815	TO3 PREGREASED MICA 56-03-2AP	16	4841	1/4W 220K 5% T&R RES	2
6814	MJF6668 T221D PNP TRAN DARL TJ	1	3823	TO-220 THERMO PAD SMALL HOLE	4	6126	1/4W 220K 5%MINI T&R RES	6
6815	MJF6388 T221D NPN TRAN DARL TJ	2	3846	TO220 THERMO PAD LARGE HOLE 56359B	4	4843	1/4W 470K 5% T&R RES	2
6873	MJE340 TO126 NPN TRAN TG	6	4597	22AWG STRAN TC WIR JMP	29	6127	1/4W 470K 5%MINI T&R RES	2
6874	MJE350 TO126 PNP TRAN TG	6	4599	22AWG SOLID SC WIR T&R JMP	79	4951	1/4W 4M7 5% .2"U T&R RES	2
6752	MTP10N15L TO220 NCH MFET TN	2	5299	24AWG SOLID SC WIR RAD JMP	52	6132	1/4W 8M2 5%MINI T&R RES	2
6933	MTP23P06 TO220 PCH MFET TN	2	4745	5.0W 0R1 5% BLK RES	8	3709	_7" 6C-26AWG RIB 1 W/LCK HDR 098	1
6900	YS6900 (22) TO3 NPN TRAN TH	8	4682	1/2W 1R 5%PHILIPS SMAL T&R RES	6	3710	17" 6C-26AWG RIB 1 W/LCK HDR 098	2
6989	MJL1302A TO3P PNP TRAN TK	2	4877	1/4W 1R 5%FLAME PROOF T&R RES	10	3622	14" 14C-28AWG DIP HDR CABLE .05"	1
6990	MJL3281A TO3P NPN TRAN TK	2	4911	1/4W 2R2 5% T&R RES	8	3696	RELAY 1C 02AMP DC24 006MA PC-S	2
6927	YS6927 (23) TO3 PNP TRAN TH	8	4748	2.0W 3R9 5% T&R	4	8870	#4 X 1/4 PAN PH TYPE A ZINC	2
6840	MC33078P IC DUAL OP AMP	6	4733	5.0W 5R6 5% BLK RES	2	8865	4-40 X 5/16 PAN PH MS JS500	4
6889	TLO74CN IC QUAD O/A T.I ONLY	1	4605	1/8W 10R 5% T&R RES	1	8729	#4 X 3/8 FLAT QUAD TYPE A JS500 BLK	6
5190	MBS4992 TO92 8V5 DIAC	2	4610	1/4W 10R 2%FLAME PROOF T&R RES	6	8742	4-40 X 3/8 PAN PH TAPTITE JS500	4
6444	MAC224-4 TO220 40A TRIAC 200V	2	4875	1/4W 10R 5% T&R RES	4	8861	4-40 X 3/8 PAN PH MS JS500	3
6859	NSL-28AA OPTO-COUPLER	2	4930	1/4W 10R 5% .2"U T&R RES	1	8741	4-40 X 1/2 PAN PH MS JS500	8
6478	AS35FN-TO92 TEMPERATURE SENSOR	2	4591	1/8W 22R1 1%FLAME PROOF T&R RES	2	8871	4-40 X 5/8 PAN PH MS JS500	8
5200	_10P 200V 5%CAP T&R RAD CER.2"NPO	4	4607	1/8W 39R 2%FLAME PROOF T&R RES	14	8799	#6 X 1/4 PAN PH TYPE B JS500	2
5817	_15P 100V 2%CAP T&R RAD CER.2"NPO	2	4899	1/4W 39R 5% T&R RES	2	8832	6-32 X 1/4 PAN PH TAPTITE JS500	4
5405	_27P 200V 5%CAP T&R RAD CER.2"NPO	2	4817	1/4W 47R 5% T&R RES	2	8801	6-32 X 3/8 PAN PH TAPTITE JS500	3
5411	150P 100V 10%CAP T&R BEAD NPO	2	4811	1/4W 68R 5% T&R RES	6	8829	6-32 X 3/8 FLAT PH TAPTITE BO#4 HEA	18
5412	220P 100V 10%CAP T&R BEAD NPO	12	4608	1/8W 75R 2%FLAME PROOF T&R RES	8	8761	6-32 X 1/2 PAN PHIL MS ZINC CLEAR	32
5417	330P 50V 10%CAP T&R BEAD NPO	2	4852	1/4W 100R 5% T&R RES	1	8823	6-32 X 1 PAN PH TAPTITE JS500	1
5206	__1N 400V 5%CAP T&R RAD .2"FLM	2	4859	1/4W 150R 5% T&R RES	4	8763	8-32 X 1/2 PAN PH MS JS500 BLACK	4
5422	__1N 50V 10%CAP T&R BEAD NPO	4	4645	1/8W 220R0 1%FLAME PROOF T&R RES	2	8869	8-18 X 1/2 THRD CUTTING FOR PLASTIC	4
5273	__1N5 200V 5%CAP T&R RAD CER.2"NPO	4	4857	1/4W 220R 5% T&R RES	2	8999	8-32 X 5/8 PAN PH TAPTITE JS500	11
5274	__2N2 200V 5%CAP T&R RAD CER.2"NPO	4	4977	1/4W 220R 5%MINI T&R RES	2	8719	8-32 X 3/4 FILLISTER PHIL MS JS500	2
5209	__4N7 250V 5%CAP T&R RAD .2"FLM	4	4606	1/8W 249R 2%FLAME PROOF T&R RES	10	8809	10-32 X 1/4 PAN PH TAPTITE JS500	6
6451	__4N7 250V 20%CAP BLK 'Y' 10MM AC	1	4770	1/4W 249R 1% T&R RES	10	8731	10-16 X 5/8 TYPE B HEX W/SLOT JS500	12
5204	_10N 100V 10%CAP T&R RAD .2"FLM	2	4821	1/4W 470R 5% T&R RES	14	8711	5/16-24 X 3 GRD 5 HEX BOLT JS500	1
5834	_10N 250V 20%CAP BLK RAD POLY FLM	2	4980	1/4W 470R 5%MINI T&R RES	2	8663	11/64 NYLON SPACER (MICRO PLASTIC)	32
5210	_22N 100V 10%CAP T&R RAD .2"FLM	4	4609	1/8W 1K 2%FLAME PROOF T&R RES	4	8629	10-32 X 1/4 SPACER PHENOLIC	8
6435	_22N 275V 20%CAP BLK 'X2' 15MM AC	2	4623	1/2W 1K 5% T&R RES	2	3744	SNAP IN .375 SPACER RICHCO	5
5308	_47N 50V 10%CAP T&R BEAD X7R	2	4823	1/4W 1K 5% T&R RES	4	3739	CUSTOM .4 LED SPACER	6
5226	_68N 100V 5%CAP T&R RAD .2"FLM	4	4981	1/4W 1K 5%MINI T&R RES	10	3858	3/4 PLASTIC HEX SPACER #4	4
5228	100N 100V 5%CAP T&R RAD .2"FLM	14	4998	5.0W 1K2 5% BLK RES	4	8657	6-32 X 3/8" HEX SPACER ALUMINUM	1
5314	100N 50V 10%CAP T&R BEAD X7R	3	4624	1/2W 1K5 5% T&R RES	2	3429	SPDT ROKR SW QUIK 180' AC PWR BL/BL	1
5229	150N 63V 10%CAP T&R RAD .2"FLM	4	4988	1/4W 1K5 5%MINI T&R RES	4	3436	DPDT PUSH SW PCMT H BREAK B4 MAKE	3
5231	220N 63V 10%CAP T&R RAD .2"FLM	2	4791	1/4W 1K54 1% T&T RES	4	3587	DPDT ROKR SW QUIK 250"AC/PWR ON-OFF	1
5882	220N 250V 10%CAP BLK RAD POLY FLM	4	5005	2.0W 1K8 5% BLK RES	4	3705	4P3T SLID SW PCMT H	1
5257	__2U2 63V 20%CAP T&R RAD .2"EL	2	4808	1/4W 2K 5% T&R RES	1	3417	PC SCREW TERMINAL PC MOUNT	1
5259	__4U7 63V 20%CAP T&R RAD .2"EL	3	6113	1/4W 2K 5%MINI T&R RES	5	7584	SQUARE-CUT O RING FOR AP AIR FILTER	1
5281	_10U 16V 20%CAP T&R RAD .2"NP	2	5006	1.0W 2K7 5% T&R RES	4	8432	AP SERIES AIR GRILL	1
5629	_10U 160V 20%CAP BLK 10X13MM EL	4	6206	1/4W 3K01 1% T&R RES	2	8432P	LOGO HOT STAMPED ON AP800 GRILL	1
5260	_22U 50V 20%CAP T&R RAD .2"EL	14	4826	1/4W 3K3 5% T&R RES	2	1198	AP2020 120VAC 60HZ T'RD	1
5961	_33U 16V 20%CAP T&R RAD .2"NP	8	6136	1/4W 3K3 5%MINI T&R RES	4	Z122P	BLACK ANODIZE APH/SINK	6
5267	100U 25V 20%CAP T&R RAD .2"EL	6	6205	1/4W 3K40 1% T&R RES	2	*M15.3X	M1131 X 3 AP2020 PCB	0.333
5897	330U 16V 20%CAP BLK 08X11MM EL	6	4850	1/4W 3K9 5% T&R RES	1	*M18X9	M1130 X 2 AP2020 PWR. BD 2OZ C	1
5618	470U 25V 20%CAP BLK 10X15MM EL	1	4827	1/4W 4K7 5% T&R RES	2	M13.85X	M1128 X 6 AP4200 POT BOARD	0.167
5617	3300U 63V 20%CAP BLK 25X31MM ELS	4	4982	1/4W 4K7 5%MINI T&R RES	18	M14.75X	M1129 X 4 AP4200 INPUT BOARD	0.25
5895	6800U 63V 20%CAP BLK 25X50MM ELS	8	6141	1/4W 5K6 5%MINI T&R RES	4			
4390	_10K AUD 16MM DETENT P22	2	4862	1/4W 5K6 5% T&R RES	4			
4524	__4K7 TRIM POT V	2	5001	1/4W 6K04 1% T&R RES	2			
3606	12.0 AMP CIRCUIT BREAKER	1	4926	1/4W 7K5 5% .2"U T&R RES	2			
3759	___4UH COIL 14AWG ZOBEL VERTICAL	2	4663	1/2W 8K2 5% T&R RES	2			
3410	RED ON LEFT DUAL BINDING POST TPP5	1	4990	1/4W 8K2 5%MINI T&R RES	1			



M1129 Database History			
MODEL(S):-		AP2020 AP4020 AP4040 AM1CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	OCT/97	1.00	FIRST PRODUCTION
2	NOV/97	2.00	SWITCH NETS RREF WITH LREF AND RSPRE WITH LSPRE AT 14 PIN CONNECTOR. INPUT TO NONINVERTING
3	.	.	CHANGE C27, C29, C28, C30 TO 150N
4	DEC/02/97	.	PC#5694 PINS 10-12 OF MC2 CONNECTED TO BRG SWT
5	APR/16/98	3.00	ISOLATE PIN OF S3
6	JUL/01/98	4.00	PC#6436 REPLACE R119 (10K0) WITH JUMPER X119
7	SEP/06/01	4.10	PC#6873 REDO SOLDERMASK
8	APR/15/05	5.00	CONVERT TO PCAD2002, PC#6944:ROUTE GAUGE,
9	JUL/2005	6.00	PC#6914:ADD TARGETS
10	AUG-15-2005	.	
11	D	V	N
12	D	V	N
13	D	V	N

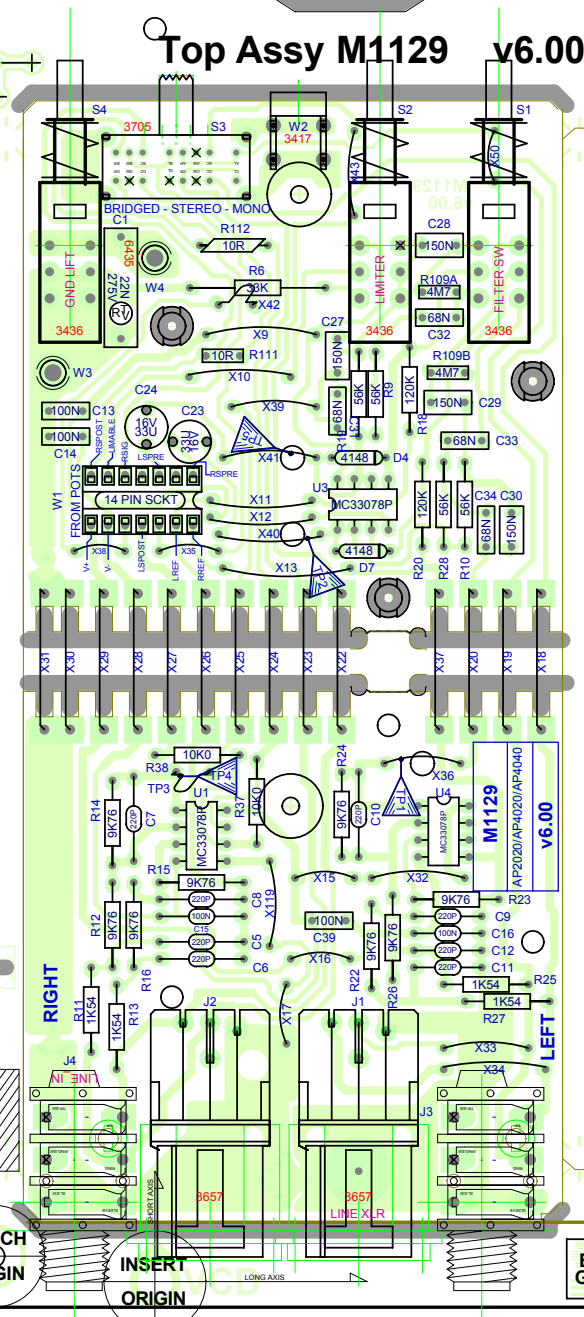
M1129.sch_schematic-DATABASE_HISTORY			
MODEL(S):-		AP4020 / AP4040 / AP2020 / AM1CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	OCT/1997	1.00	FIRST PRODUCTION
2	NOV/12/97	2.00	REVERSED INPUT POLARITY. MODIFIED FOR AP2020
3	DEC/02/97	.	C27, C28, C29, C30 TO 150n
4	APR/22/98	2.10	PC#5694 ADD NETS BRPRTCT, LVGND-28 TO BRG SW
5	SEP/06/01	2.20	DELETE R119
6	JUL/2005	3.00	CONVERT TO PCAD2002
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

Yorkville

Product {Drawing Number}

{Title}	PCB# M1129	Sheet 1 of 2
Date: Tue May 02, 2006	Rev: v6.00	
Filename: M1129-6v00.sch2002		

Top Assy M1129 v6.00



ETCH GUIDE

Pcb Mech M1129 v6.00

M1129 Database History			
MODEL(S):-	AP2020 AP4020 AP4040 AM1CE		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	OCT/97	1.00	FIRST PRODUCTION
2	NOV/97	2.00	SWITCH NETS RREF WITH LREF AND RSPRE WITH
3	.	.	LSPRE AT 14 PIN CONNECTOR. INPUT TO NONINVERTING
4	DEC/02/97	.	CHANGE C27, C29, C28, C30 TO 150N
5	APR/16/98	3.00	PC#5694 PINS 10-12 OF MC2 CONNECTED TO BRG SWT
6	JUL/01/98	4.00	ISOLATE PIN OF S3
7	SEP/06/01	4.10	PC#6436 REPLACE R119 (10K0) WITH JUMPER X119
8	APR/15/05	5.00	PC#6873 REDO SOLDERMASK
9	JUL/2005	6.00	CONVERT TO PCAD2002, PC#6944:ROUTE GAUGE,
10	AUG-15-2005	.	PC#6914:ADD TARGETS
11	D	V	N
12	D	V	N
13	D	V	N

M1129 DRILL HISTORY			
MODEL(S):-	AP2020/AP4020/AP4040/AM1CE		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	APR-03-2003	V06	N
2	AUG-15-2005	V07	CONVERT TO PCAD2002
3	D	V	N
4	D	V	N
5	D	V	N
6	D	V	N

M1129 PENDING CHANGES		
MODEL(S):-	AP2020/AP4020/AP4040/AM1CE	
#	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

PRODUCTION NOTES

1 FOR XLR #3657 USE SCREW PT#8829
UP THROUGH THE BOTTOM

2 FOR M1129B VX1200/2400/J/2402
DO NOT STUFF J40 AND J41
ADD WIRES IN BOARD ASSEMBLY

Bottom M1129 v6.00

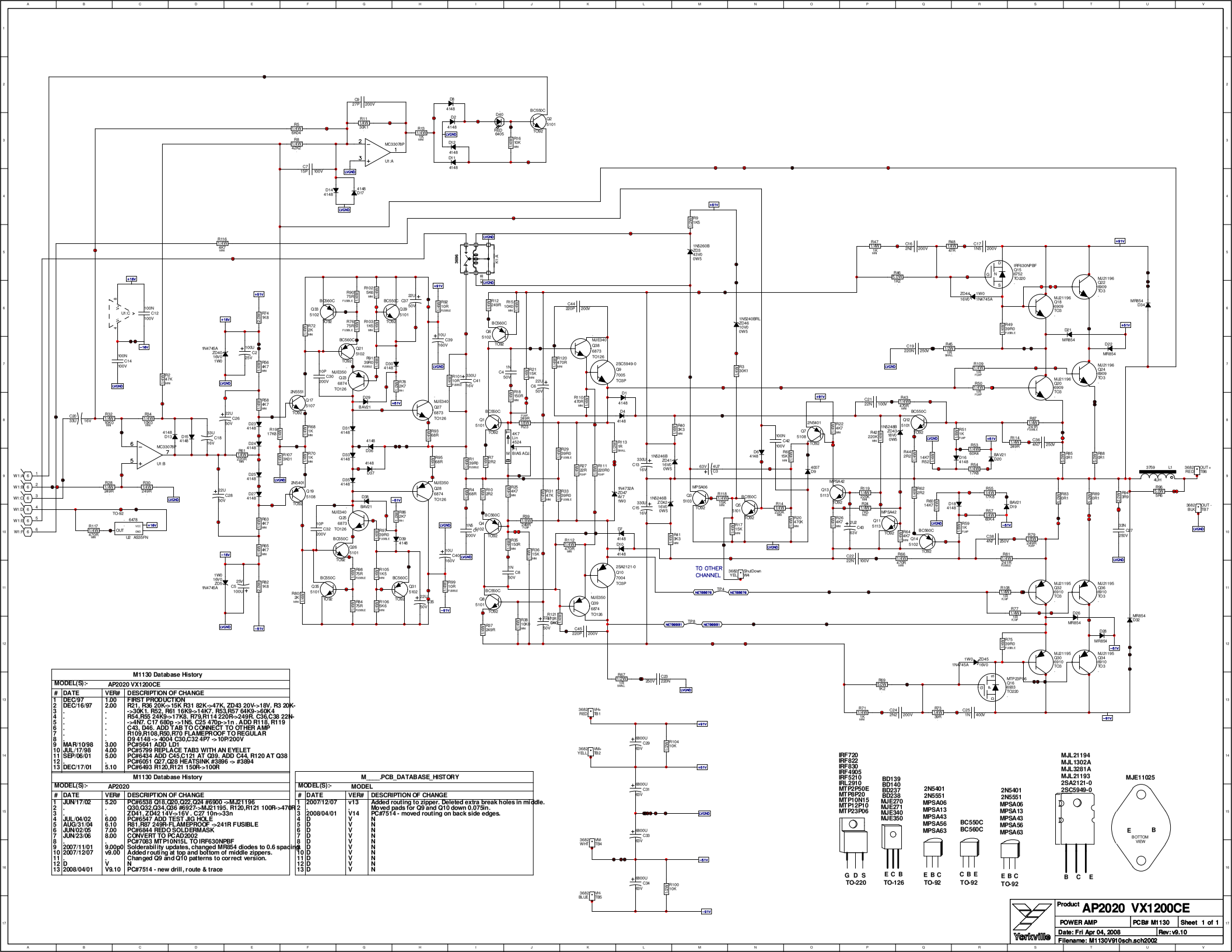
BlankSize - 14750x7750

SOCK
SOCK
NORM
NORM
SOCK
TAB

ETCH GUIDE

StepAndRepeat - X4@3.500Y1@0.000

ETCH GUIDE



M1130 Database History			
MODEL(S):-		AP2020 VX1200CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	DEC/97	1.00	FIRST PRODUCTION
2	DEC/16/97	2.00	R21, R36 20K->15K R31 82K->47K, ZD43 20V->18V. R3 20K->30K1. R52, R61 16K9->14K7. R53,R57 64K9->60K4
3	.	.	R54,R55 24K9->17K8. R79,R114 220R->249R. C36,C38 22N->4N7. C17 680p ->1N5. C25 470p->1n . ADD R118, R119
4	.	.	C43, D46. ADD TAB TO CONNECT TO OTHER AMP
5	.	.	R109,R108,R50,R70 FLAMEPROOF TO REGULAR
6	.	.	D9 4148 -> 4004 C30,C32 4P7 -> 10P/200V
7	.	.	
8	.	.	
9	MAR/10/98	3.00	PC#5641 ADD LD1
10	JUL/17/98	4.00	PC#5799 REPLACE TAB3 WITH AN EYELET
11	SEP/06/01	5.00	PC#6434 ADD C45,C121 AT Q39. ADD C44, R120 AT Q38
12	.	.	PC#6051 Q27,Q28 HEATSINK #3896 -> #3894
13	DEC/17/01	5.10	PC#6493 R120,R121 150R->100R

M1130 Database History			
MODEL(S):-		AP2020	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUN/17/02	5.20	PC#6538 Q18,Q20,Q22,Q24 #6900 ->MJ21196
2	.	.	Q30,Q32,Q34,Q36 #6927->MJ21195. R120,R121 100R->470R
3	.	.	ZD41, ZD42 14V->16V . C27 10n->33n
4	JUL/04/02	6.00	PC#6547 ADD TEST JIG HOLE
5	AUG/31/04	6.10	R81, R67 249R-FLAMEPROOF ->241R FUSIBLE
6	JUN/02/05	7.00	PC#6844 REDO SOLDERMASK
7	JUN/23/06	8.00	CONVERT TO PCAD2002
8	.	.	PC#7083 MTP10N15L TO IRF630NPBF
9	2007/11/01	9.00p0	Solderability updates, changed MR854 diodes to 0.6 spacing
10	2007/12/07	v9.00	Added routing at top and bottom of middle zippers.
11	.	.	Changed Q9 and Q10 patterns to correct version.
12	D	V	N
13	2008/04/01	V9.10	PC#7514 - new drill, route & trace

M____.PCB_DATABASE_HISTORY			
MODEL(S):-		MODEL	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	2007/12/07	v13	Added routing to zipper. Deleted extra break holes in middle.
2	.	.	Moved pads for Q9 and Q10 down 0.075in.
3	2008/04/01	V14	PC#7514 - moved routing on back side edges.
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
11	D	V	N
12	D	V	N
13	D	V	N

IRF720
IRF822
IRF830
IRF4905
IRF5210
RLZ9110
MTP2P50E
MTP8P20
MTP10N15
MTP12P10
MTP23P06

G D S
TO-220

BD139
BD140
BD237
BD238
MJE270
MJE271
MJE340
MJE350

E C B
TO-126

2N5401
2N5551
MPSA06
MPSA13
MPSA43
MPSA56
MPSA63

E B C
TO-92

BC550C
BC560C

C B E
TO-92

2N5401
2N5551
MPSA06
MPSA13
MPSA43
MPSA56
MPSA63

E B C
TO-92

MJL21194
MJL1302A
MJL3281A
MJL21193
2SA2121-0
2SC5949-0

B C E

MJE11025

E B
BOTTOM VIEW

Yorkville

Product	AP2020 VX1200CE
POWER AMP	PCB# M1130 Sheet 1 of 1
Date: Fri Apr 04, 2008	Rev: v9.10
Filename: M1130V910sch.sch2002	

INTO WAVE

ETCH GUIDE

Pcb Mech M1130 v9.10
Top Assy M1130 v9.10

StepAndRepeat - X2@8.725

SEE LAYOUT DOCUMENTATION

SEE LAYOUT DIAGRAM

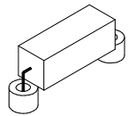
M1130 Database History			
MODEL(S):-		AP2020 VX1200CE	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	DEC/97	1.00	FIRST PRODUCTION
2	DEC/16/97	2.00	R21, R36 20K->15K R31 82K->47K, ZD43 20V->18V. R3 20K->30K1. R52, R61 16K9->14K7. R53,R57 64K9->60K4
3	.	.	R54,R55 24K9->17K8. R79,R114 220R->249R. C36,C38 22N->4N7. C17 680p ->1N5. C25 470p->1n . ADD R118, R119
4	.	.	C43, D46. ADD TAB TO CONNECT TO OTHER AMP
5	.	.	R109,R108,R50,R70 FLAMEPROOF TO REGULAR
6	.	.	D9 4148 -> 4004 C30,C32 4P7 ->10P/200V
7	.	.	PC#5641 ADD LD1
8	.	.	PC#5799 REPLACE TAB3 WITH AN EYELET
9	MAR/10/98	3.00	PC#6434 ADD C45,C121 AT Q39. ADD C44, R120 AT Q38
10	JUL/17/98	4.00	PC#6051 Q27,Q28 HEATSINK #3896 -> #3894
11	SEP/06/01	5.00	PC#6493 R120,R121 150R->100R
12	.	.	
13	DEC/17/01	5.10	

M1130 Database History			
MODEL(S):-		AP2020	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUN/17/02	5.20	PC#6538 Q18,Q20,Q22,Q24 #6900 ->MJ21196
2	.	.	Q30,Q32,Q34,Q36 #6927->MJ21195. R120,R121 100R->470R
3	.	.	ZD41, ZD42 14V->16V . C27 10n->33n
4	JUL/04/02	6.00	PC#6547 ADD TEST JIG HOLE
5	AUG/31/04	6.10	R81,R87 249R-FLAMEPROOF ->241R FUSIBLE
6	JUN/02/05	7.00	PC#6844 REDO SOLDERMASK
7	JUN/23/06	8.00	CONVERT TO PCAD2002
8	.	.	PC#7083 MTP10N15L TO IRF630NPBF
9	2007/11/01	9.00	Solderability updates, changed MR854 diodes to 0.6" spacing.
10	2007/12/07	.	Added routing at top and bottom of middle zippers.
11	.	.	Changed Q9 and Q10 patterns to correct version.
12	2008/MAR/11	.	PC#7076, REPLACE #6989 & #6990 WITH #7004 & #7005
13	2008/04/01	V9.10	PC#7514 - new drill, route & trace

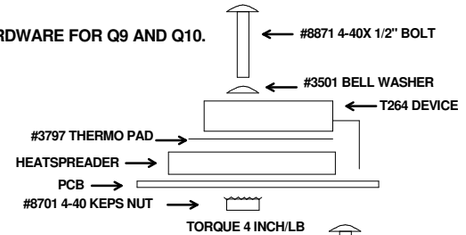
Mnnnn Drilling History			
MODEL(S):-		{MODEL}	
#	DATE	VER#	DESCRIPTION OF CHANGE
1	2007/12/07	v13	Added routing to zipper. Deleted extra break holes in middle.
2	.	.	Moved pads for Q9 and Q10 down 0.075in.
3	2008/04/01	V14	PC#7514 - moved routing on back side edges.
4	D	V	N
5	D	V	N
6	D	V	N
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

PRODUCTION NOTES

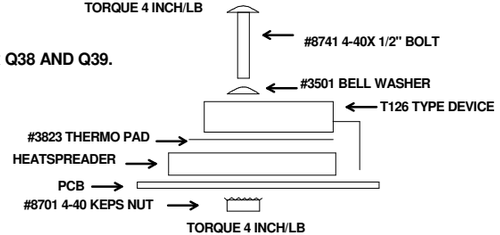
1. MOUNTING DETAILS FOR 5W ADD #8629 SPACERS ONLY ON 5 WATT RESISTORS R46 AND R69.



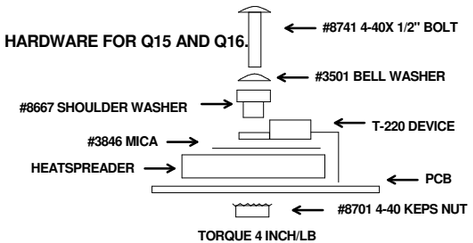
2. MOUNTING HARDWARE FOR Q9 AND Q10.



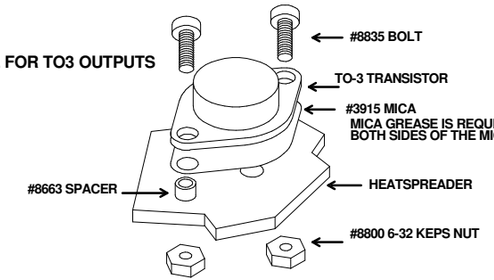
3. MOUNTING HARDWARE FOR Q38 AND Q39.



4. MOUNTING HARDWARE FOR Q15 AND Q16.

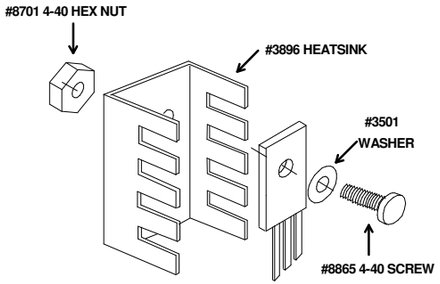


5. MOUNTING HARDWARE FOR TO3 OUTPUTS

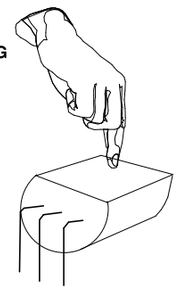


INITIAL TORQUE FOR TO-3'S IS 8 INCH/LB
FINAL TORQUE AFTER HEATSINK HAS COOLED FROM WAVE SOLDER IS 6 INCH/LB

6. MOUNTING HARDWARE FOR Q28 AND Q37.



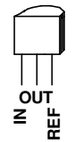
7. TAB WIRE COLOURS: TAB 1 RED 16AWG TAB 2 YEL 16AWG
TAB 4 WHT 16AWG TAB 5 BLU 16AWG
TAB 6 OUTPUT + TAB 7 OUTPUT -



8. Q37 IS HAND INSERTED AND BENT OVER WITH FLAT SIDE UP AS SHOWN.

9. Q1 AND Q4 ARE HAND INSERTED.

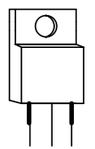
AS35



BC550C
BC560C

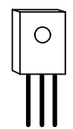
TO-92

IRF720
IRF822
IRF830
IRF4905
IRF5210
IRL2910
MTP2P50E
MTP8P20
MTP10N15L
MTP12P10
MTP23P06



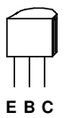
TO-220

BD139
BD140
BD237
BD238
MJE270
MJE271
MJE340
MJE350



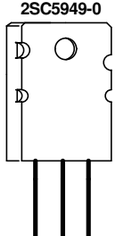
TO-126

2N5401
2N5551
2N6517
MPSA13
MPSA43
MPSA56
MPSA63

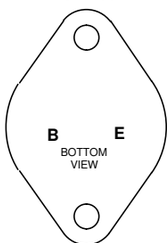


TO-92

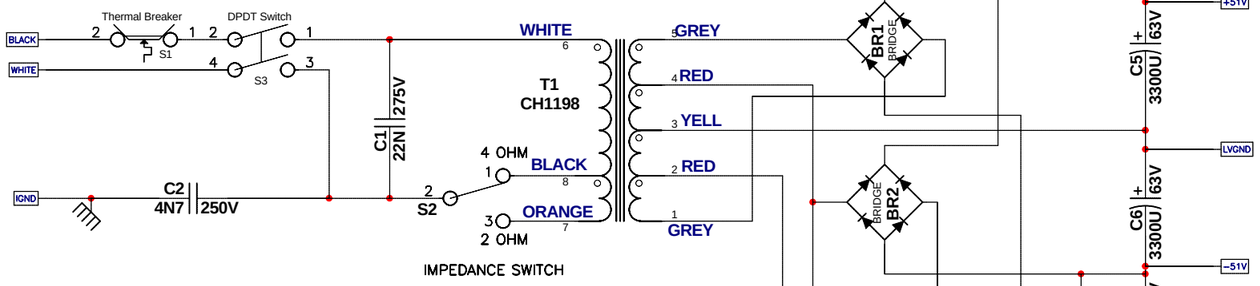
2SA2121-0
2SC5949-0



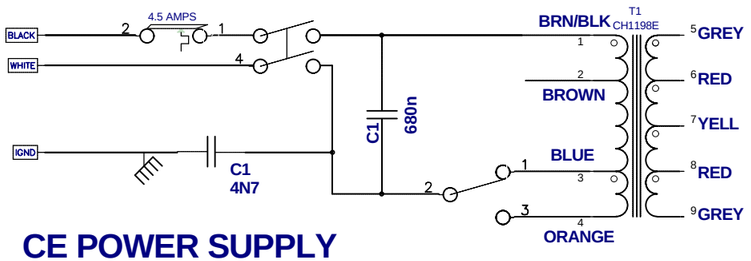
MJ21195
MJ21196

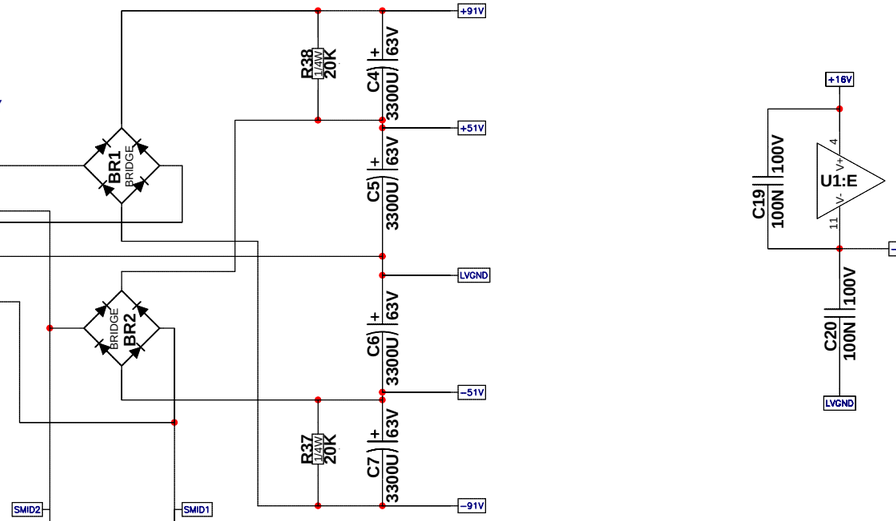


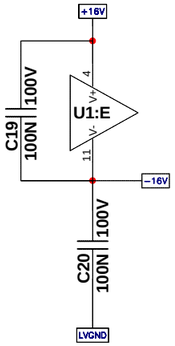
NORTH AMERICAN POWER SUPPLY

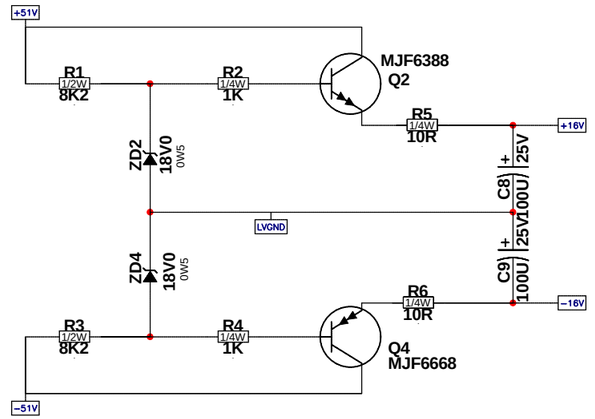


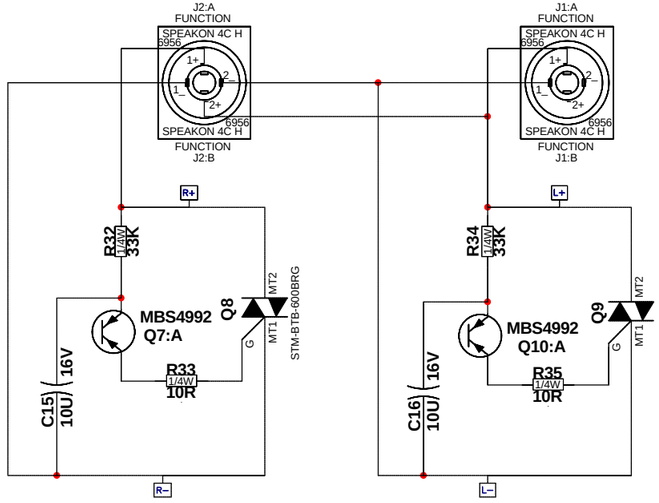
CE POWER SUPPLY

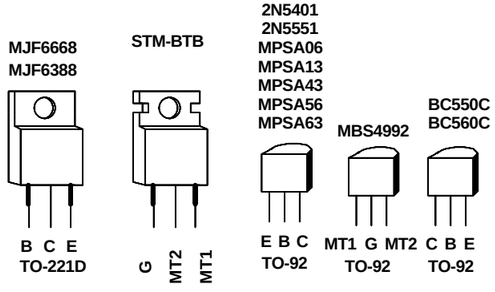












M1131 Database History

MODEL(S):- AP2020

#	DATE	VER#	DESCRIPTION OF CHANGE
1	MAY/12/98	2.00	PC#5654 ZD1 4V7 -> 6V2. SHEAR HOLES MOVED TO CLEAR HEATSPREADER. 1 EYLET TO TAB
2	.	.	
3	AUG/24/99	3.00	PC#5943, PC#6064, PARTS MOVED FOR CLEARANCE IN AUTO-INS. C2 #6458->#6451. PC#6009 SPKON REMOVED
4	.	.	
5	SEP/17/99	.	PC#6064 MOVE ZD4 AND W19
6	DEC/16/04	4.00	PC#6788 REDO AC FOR CE COMPLIANCE
7	MAY/27/05	5.00	PC#6919 REDO SOLDERMASK
8	APR/24/06	5.10	PC#7004 TRIAC MAC-224-4 TO STM-BTB-600BRG
9	MAY/15/06	6.00	CONVERT TO PCAD2002
10	FEB/01/08	6.10	REVISED SOLDER MASK.
11	D	V	N
12	D	V	N
13	D	V	N

Yorkville

Product **AP-2020**

Sheet1 | PCB# M1131 | Sheet 1 of 2

Date: Fri Feb 01, 2008 | Rev: 6V1 | YsType: YS

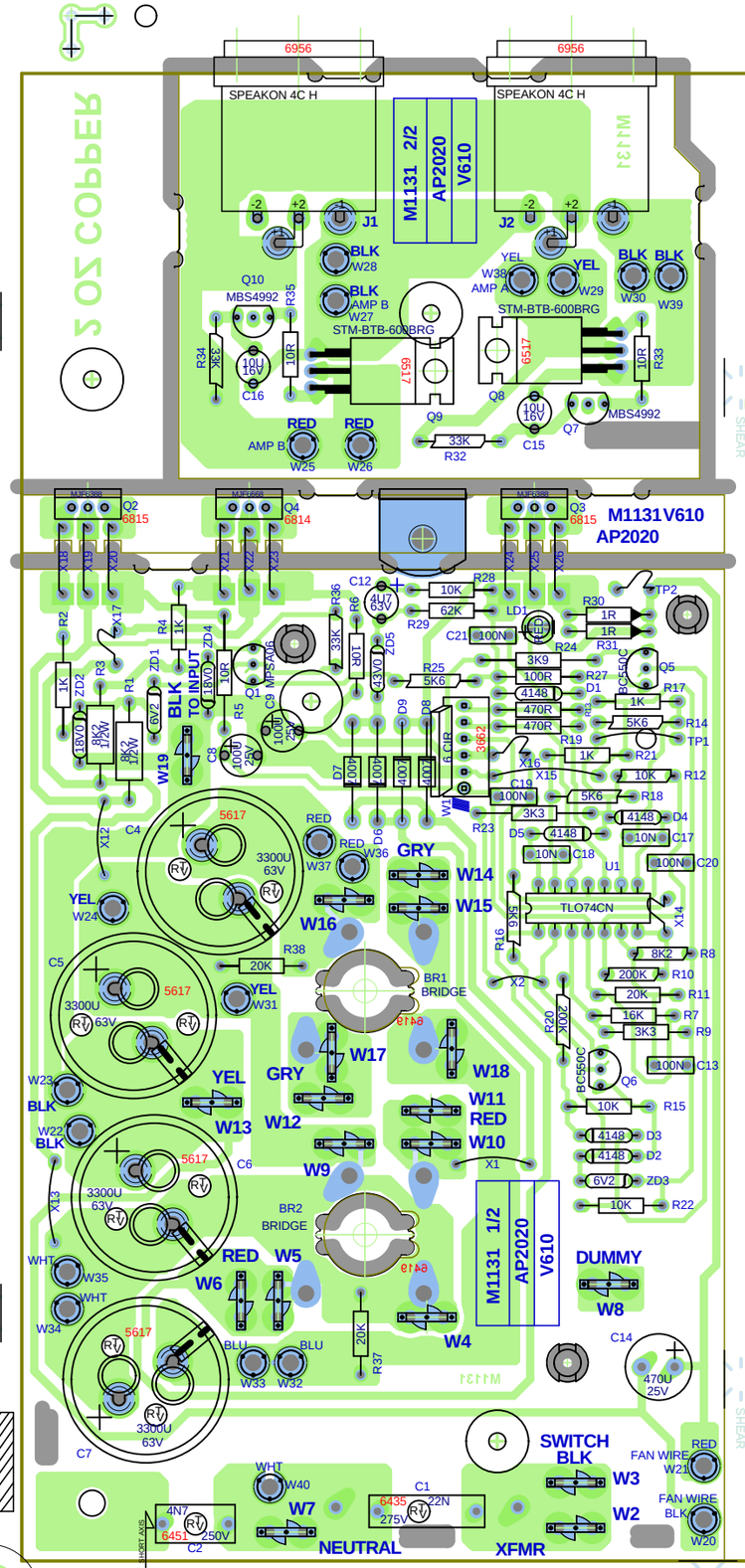
Filename: M1131V601sch.sch2002

ETCH GUIDE

BlankSize - 15300x10000

BlankSize - 15300x10000

StepAndRepeat - X1@0.000Y3@5.025



SHEAR

CLINCH ORIGIN

INSERT ORIGIN

SHORT AXIS

LONG AXIS

OVCD

Bottom M1131 V610

ETCH GUIDE

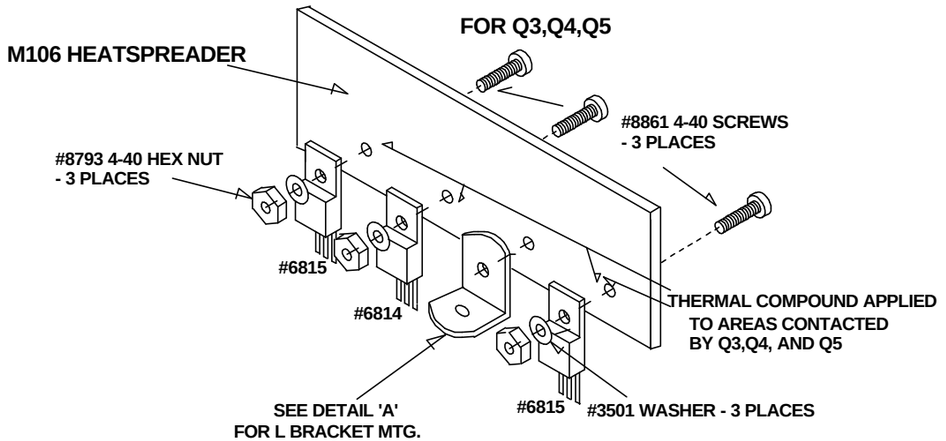
Top Assy M1131 V610

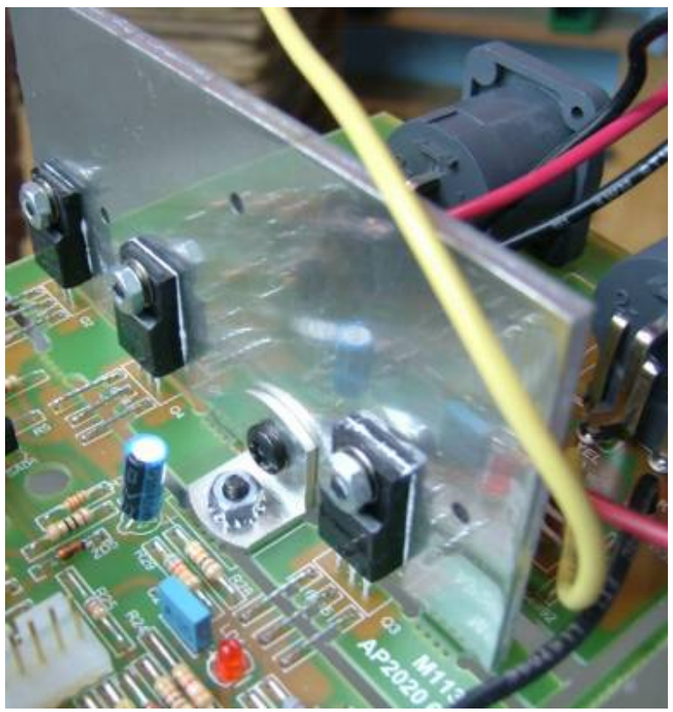
SEE LAYOUT DOCUMENTATION

SEE LAYOUT DIAGRAM

M1131 PRODUCTION NOTES:

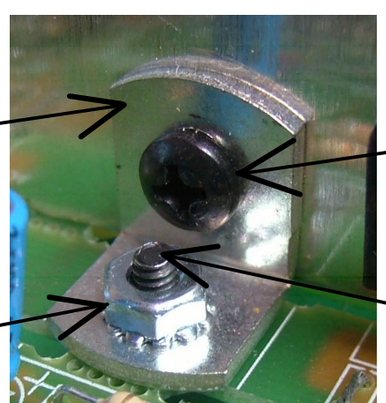
1. DO NOT CUT CENTER LEAD OF THE TRIACS BEND THE LEAD (UNCUT) ALONG THE TRACE AND SOLDER
2. SEE DETAIL 'A' BEFORE MOUNTING L BRACKET
3. FOR C1 USE 22N FOR NORTH AMERICAN AND 680N FOR EURO/CE
4. Q8,Q9 USE #8799 SELF TAPPING SCREW
5. Q2,Q3,Q4 BEND THE LEADS (UNCUT) ALONG THE TRACE





ASSEMBLED HEAT SPREADER SHOWN

DETAIL 'A' - L BRACKET ASSY



'L' BRACKET ASSEMBLY PARTS

4-40 screw shown from other side of pcb

SEE M1131 HISTORY TABLES

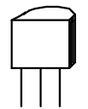
SEE M1131 PRODUCTION NOTES

M1131 .SCH_DATABASE_HISTORY			
MODEL(S):-	AP2020		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	NOV/97	1.00	FIRST PRODUCTION
2	MAY/27/98	1.10	ADD CE POWER SUPPLY
3	JUL/16/98	1.20	XFMR WIRE COLOURS TO CSA/CE STANDARDS
4	OCT/14/99	1.30	DELETE ONE SPEAKON
5	MAY/08/00	1.40	PC#5654 ZD1 4V7 -> 6V2
6	APR/2006	2.00	CONVERT TO PCAD2002
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

M1131 Database History			
MODEL(S):-	AP2020		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	MAY/12/98	2.00	PC#5654 ZD1 4V7 -> 6V2. SHEAR HOLES MOVED TO
2	.	.	CLEAR HEATSPREADER. 1 EYLET TO TAB
3	AUG/24/99	3.00	PC#5943, PC#6064, PARTS MOVED FOR CLEARANCE IN
4	.	.	AUTO-INS. C2 #6458->#6451. PC#6009 SPKON REMOVED
5	SEP/17/99	.	PC#6064 MOVE ZD4 AND W19
6	DEC/16/04	4.00	PC#6788 REDO AC FOR CE COMPLIANCE
7	MAY/27/05	5.00	PC#6919 REDO SOLDERMASK
8	APR/24/06	5.10	PC#7004 TRIAC MAC-224-4 TO STM-BTB-600BRG
9	MAY/15/06	6.00	CONVERT TO PCAD2002
10	FEB/01/08	6.10	REVISED SOLDER MASK.
11	D	V	N
12	D	V	N
13	D	V	N

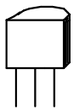
M1131 Drilling History			
MODEL(S):-	AP2020		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	FEB/01/08	13	REVISED AS A RESULT OF FORCE UPDATE.
2	D	V	N
3	D	V	N
4	D	V	N
5	D	V	N
6	D	V	N
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

MBS4992



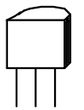
MT1 G MT2
TO-92

BC550C
BC560C



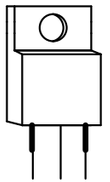
C B E
TO-92

2N5401
2N5551
MPSA06
MPSA13
MPSA43
MPSA56
MPSA63



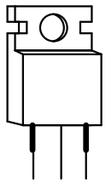
E B C
TO-92

MJF6388
MJF6668

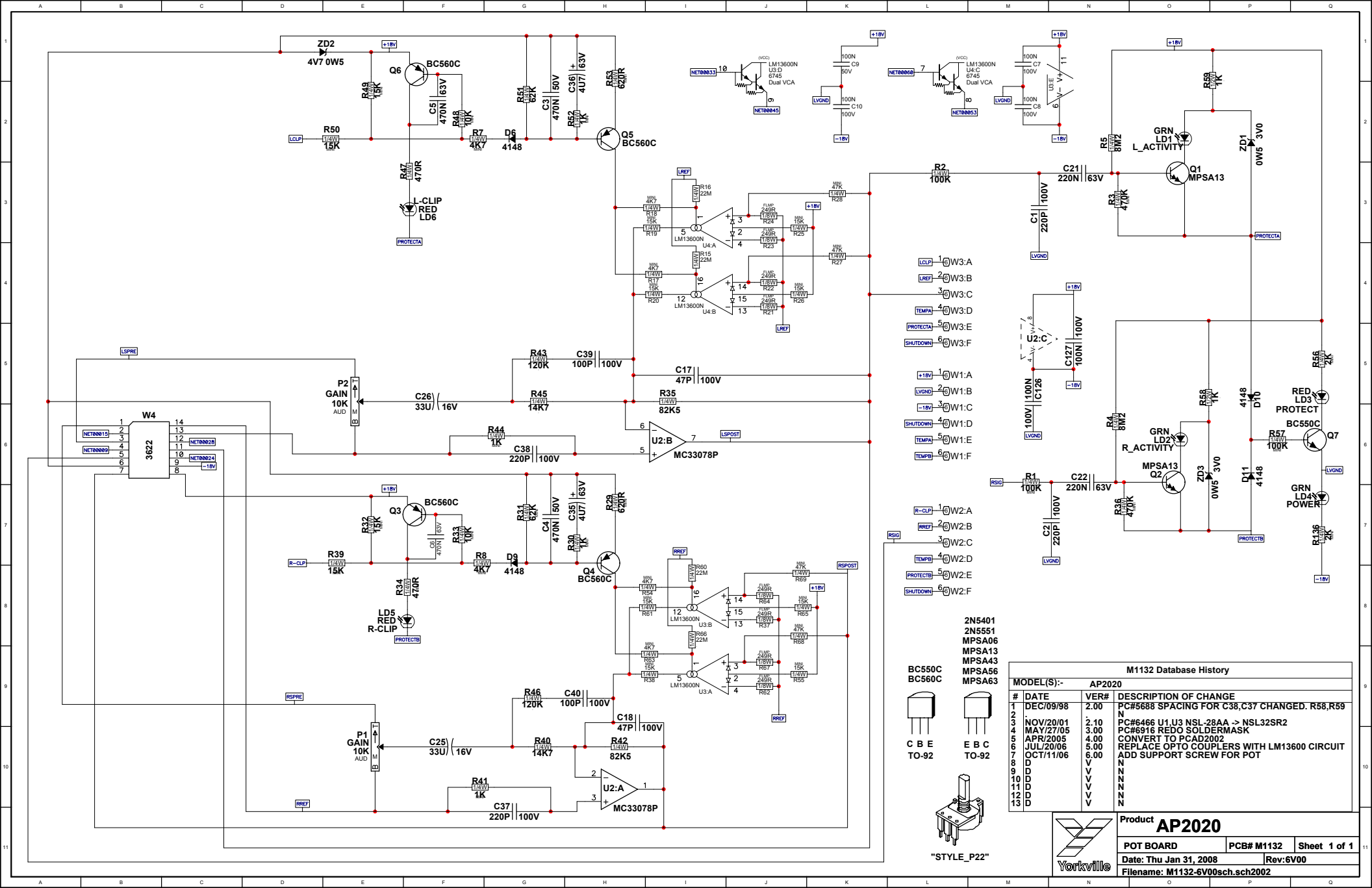


B C E
TO-221D

STM-BTB



G MT2 MT1



M1132 Database History			
MODEL(S):-	AP2020		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	DEC/09/98	2.00	PC#5688 SPACING FOR C38,C37 CHANGED. R58,R59
2	.	N	
3	NOV/20/01	2.10	PC#6466 U1,U3 NSL-28AA -> NSL32SR2
4	MAY/27/05	3.00	PC#6916 REDO SOLDERMASK
5	APR/2005	4.00	CONVERT TO PCAD2002
6	JUL/20/06	5.00	REPLACE OPTO COUPLERS WITH LM13600 CIRCUIT
7	OCT/11/06	6.00	ADD SUPPORT SCREW FOR POT
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

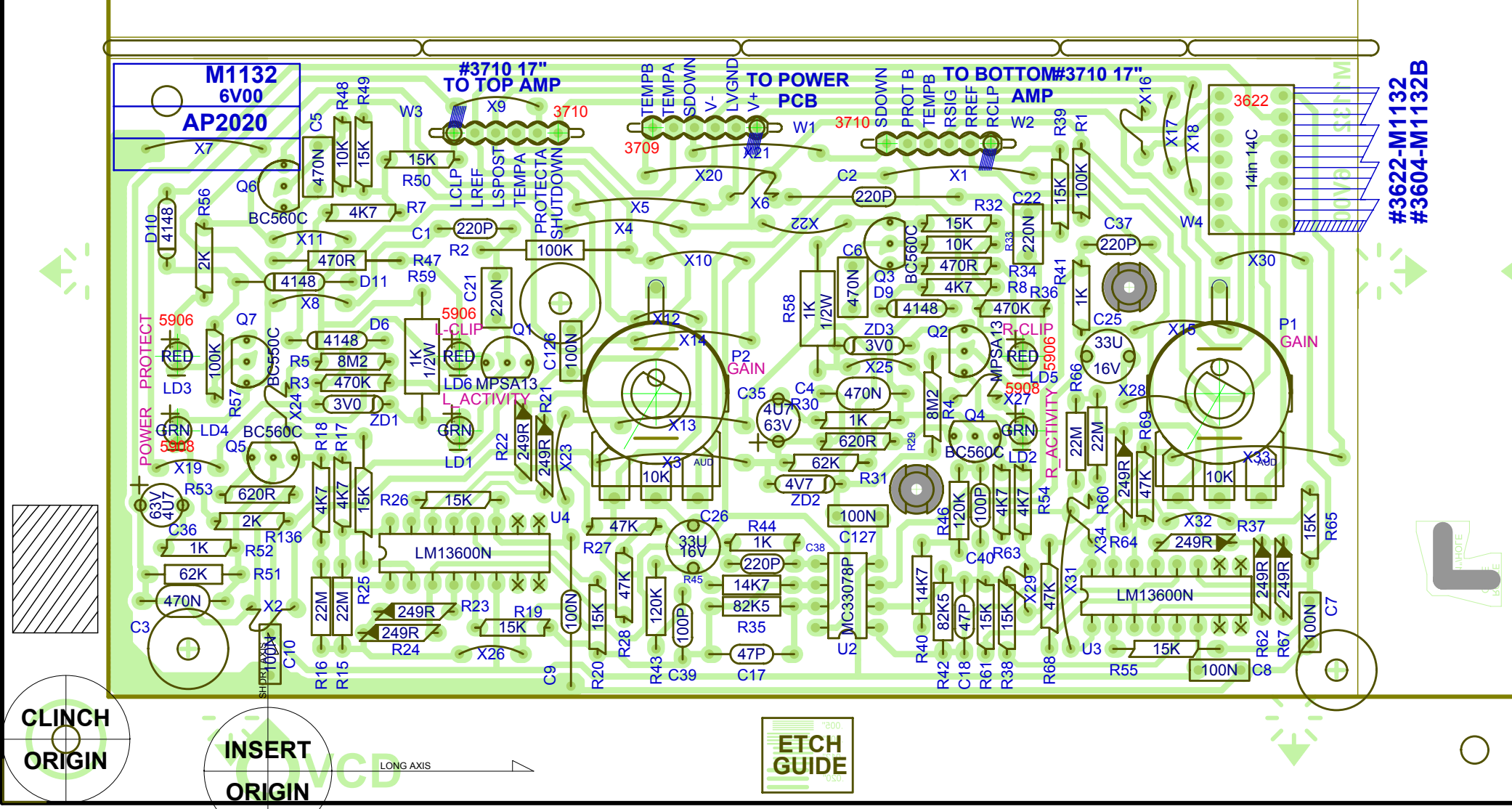
Yorkville

Product **AP2020**

POT BOARD | PCB# M1132 | Sheet 1 of 1

Date: Thu Jan 31, 2008 | Rev:6V00

Filename: M1132-6V00sch.sch2002



SEE LAYOUT DOCUMENTATION

SEE LAYOUT DIAGRAM

M1132 Database History			
MODEL(S):-	AP2020		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	DEC/09/98	2.00	PC#5688 SPACING FOR C38,C37 CHANGED. R58,R59
2	.	.	SPACING TO .6" FOR 1/2W. ADD POT SUPPORT SCREW
3	NOV/20/01	2.10	PC#6466 U1,U3 NSL-28AA -> NSL32SR2
4	MAY/27/05	3.00	PC#6916 REDO SOLDERMASK
5	APR/2005	4.00	CONVERT TO PCAD2002
6	JUL/20/06	5.00	REPLACE OPTO COUPLERS WITH LM13600 CIRCUIT
7	OCT/11/06	6.00	ADD SUPPORT SCREW FOR POT
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

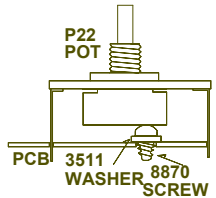
Mnnnn Drilling History			
MODEL(S):-	{MODEL}		
#	DATE	VER#	DESCRIPTION OF CHANGE
1	D	V	N
2	D	V	N
3	D	V	N
4	D	V	N
5	D	V	N
6	D	V	N
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N
11	D	V	N
12	D	V	N
13	D	V	N

M1128 PENDING CHANGES		
MODEL(S):-	AP-4020	
#	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

PRODUCTION NOTES

1.



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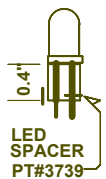
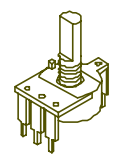


3. ADD A STICKER OVER THE LEGEND "M1132B" TO AID IN IDENTIFYING VX1200 BOARDS.

4. FOR M1132 USE #3622 CABLE
FOR M1132B USE #3604 CABLE

LEAD/PIN REFERENCE



"STYLE_P22"

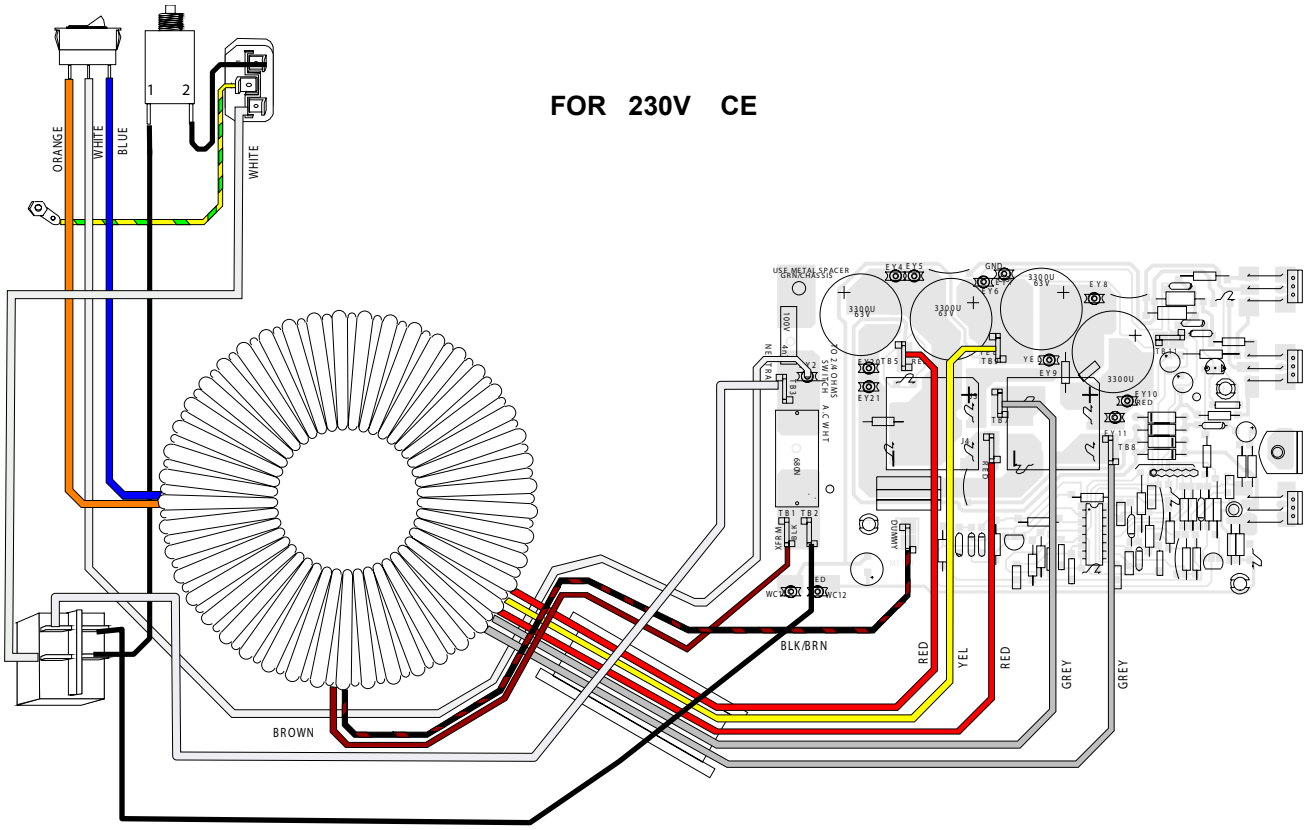
BC550C
BC560C

C B E
TO-92

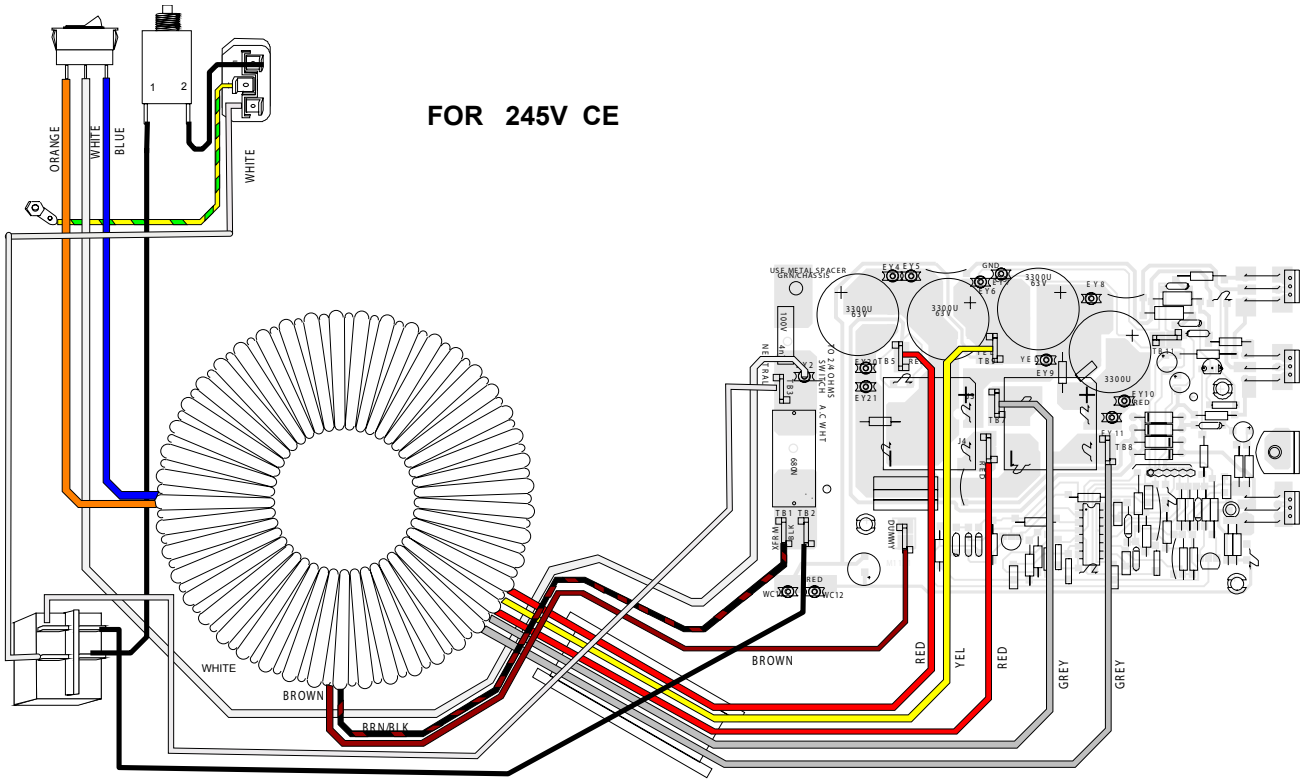
2N5401
2N5551
MPSA06
MPSA13
MPSA43
MPSA56
MPSA63

E B C
TO-92

FOR 230V CE


1
2
ORANGE
WHITE
BLUE
WHITE
BROWN
BLK/BRN
RED
YEL
RED
GREY
GREY

FOR 245V CE


ORANGE
WHITE
BLUE
WHITE
1
2
WHITE
BROWN
BRN/BLK
BROWN
RED
YEL
RED
GREY
GREY