



SERVICE MANUAL

MODEL TYPE: YS1011

PM16 / PM22

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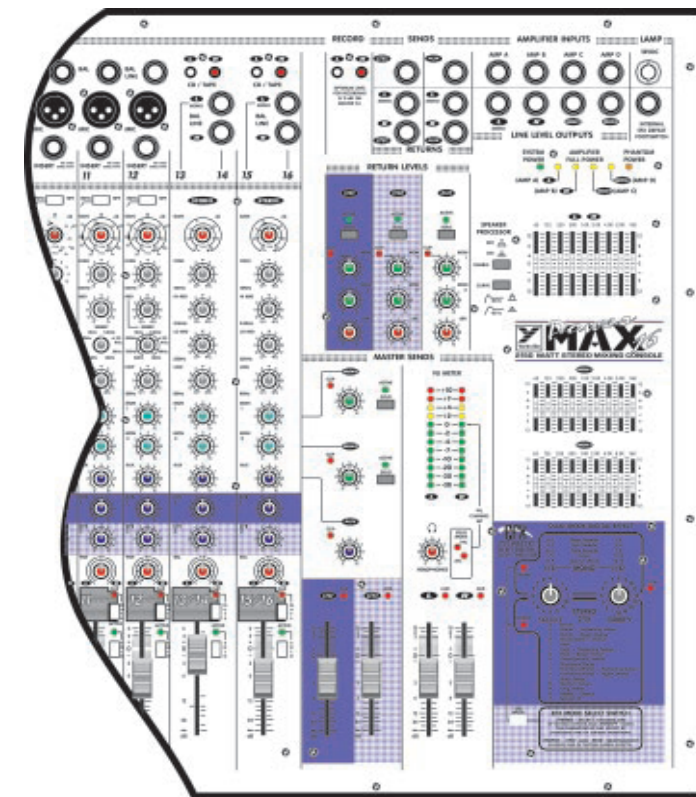
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Quality and Innovation Since 1963
Printed in Canada



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**



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 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'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 être 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 être 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 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 être 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 être 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 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 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 être effectués 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

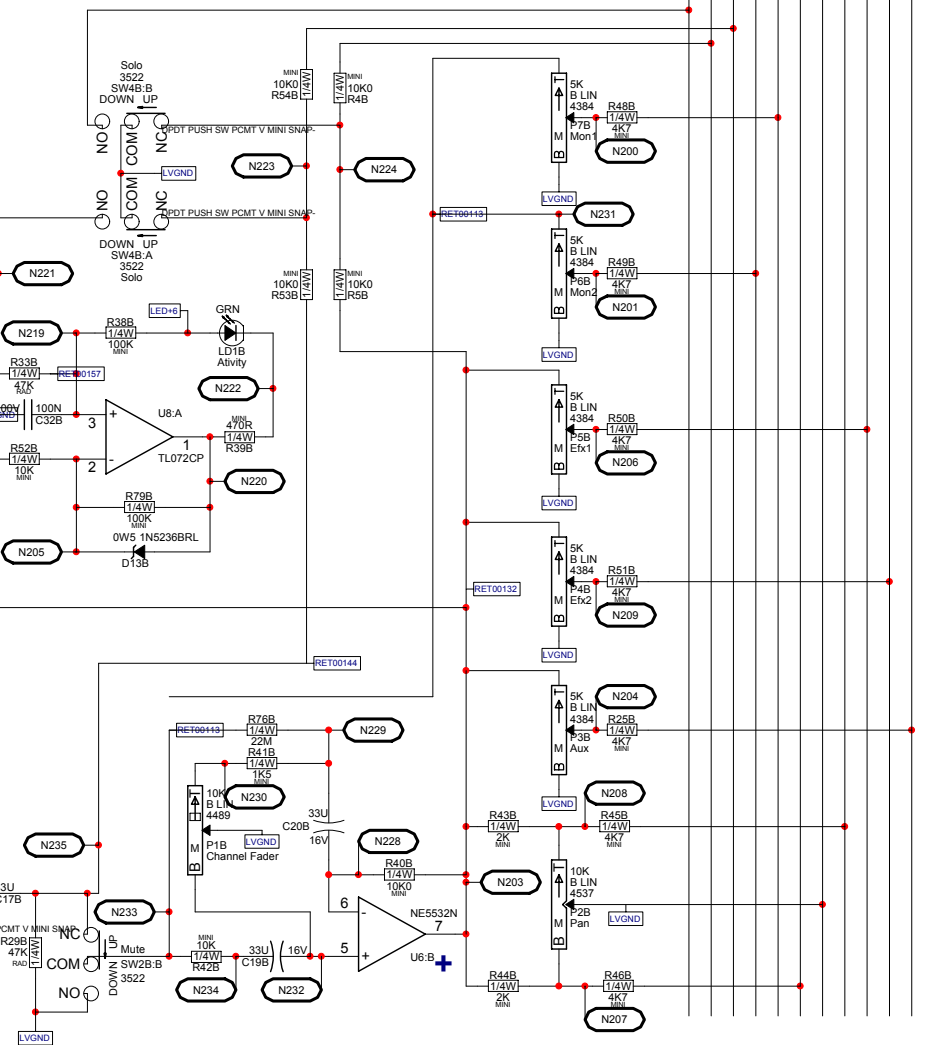
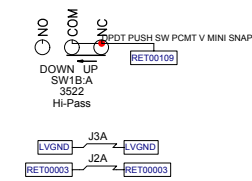
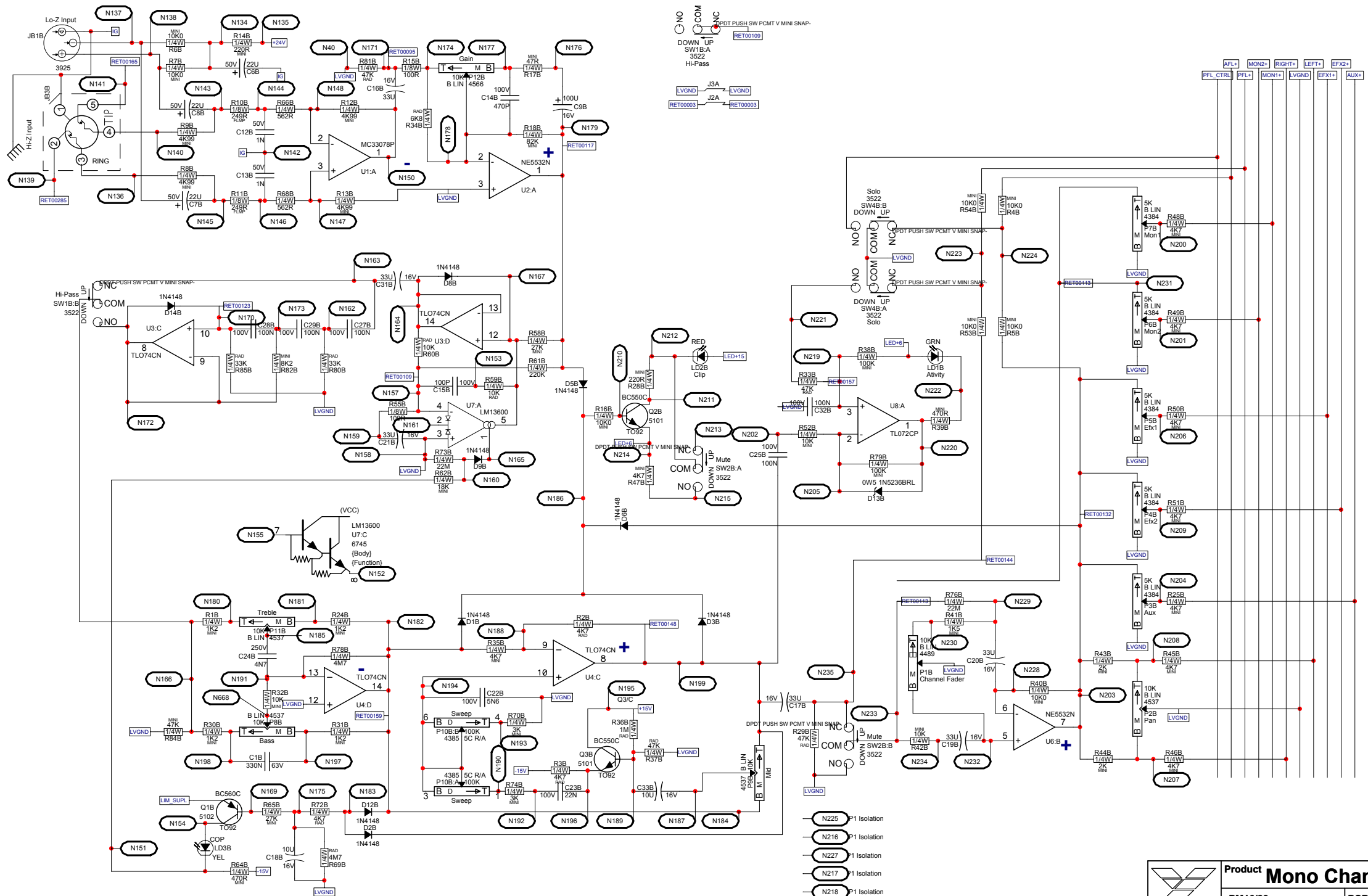
Consultez un technicien qualifié pour l'entretien de votre appareil. L'entretien est nécessaire quand l'appareil a été endommagé de quelque façon que se soit. Par exemple si le cordon d'alimentation ou la prise du cordon sont endommagés, si il y a eu du liquide qui a été renversé à l'intérieur ou des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

PM16 Parts List 4/13/2010

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
5906	RED 3MM LED 1V9 20MA.4SPCR T&R	26	5422	1N 50V 10%CAP T&R BEAD NPO	26	3466	RCA DUAL PCB MT VERT GOLD 24MM	3	4933	1/4W 470R 5% 2U T&R RES	8	4942	1/4W 100K 5% 2U T&R RES	11
5907	YEL 3MM LED 1V9 20MA.4SPCR T&R	27	5424	1N5 50V 10%CAP T&R BEAD YSP	4	3628	SPKON 4C PCB MT VERT 250TAB GRAY #4	2	4980	1/4W 470R 5%MINI T&R RES	43	6120	1/4W 100K 5%MINI T&R RES	47
5908	GRN 3MM LED 1V9 20MA.4SPCR T&R	28	5425	1N8 50V 10%CAP T&R BEAD YSR	4	4017	ALR FEMIL PCB MT VERT 24MM AA-SERIES	12	4799	1/4W 562R 1% T&R RES	32	4851	1/4W 120K 5% T&R RES	32
5933	RED 3MM LED 1V9 20MA.12SPCR T&R	9	5426	2N2 50V 10%CAP T&R BEAD YSR	8	3451	EYELET SMALL 0.089 OD PLATED	84	5019	1/4W 620R 5%MINI T&R RES	36	4949	1/4W 180K 5% 2U T&R RES	3
5994	YEL 3MM LED 1V9 20MA.12SPCR T&R	12	5816	890P 100V 5%CAP T&R RAD CER.2FM	12	3414	INTERNATIONAL PC MOUNT FUSEHOLDER	4	2048	1/4W 680R FUSIBLE T&R RES	2	6137	1/4W 200K 5%MINI T&R RES	1
5995	GRN 3MM LED 1V9 20MA.12SPCR T&R	13	5204	10N 100V 10%CAP T&R RAD .2FLM	22	2428	6.0 AMP SLO-BLO .25X1.25 FUSE	2	4873	1/4W 680R 5% T&R RES	8	4841	1/4W 220K 5% T&R RES	6
6419	BRIDGE 35A 400V WIRE LEAD G13504	2	5207	18N 100V 5%CAP T&R RAD .2FLM	4	3863	FAN 80MM X 80MM 33CFM 12VDC 173MA	2	4680	7.0W 750R 5% STANDOFF BLK RES	6	6128	1/4W 220K 5%MINI T&R RES	2
6425	BAV21 200V 0A25 DIODE T&R	16	5209	4N7 250V 5%CAP T&R RAD .2FLM	16	3869	HEATSINK THERMALDY 6079-PB	4	4869	1/4W 750R 5% T&R RES	4	4869	1/4W 470K 5%MINI T&R RES	1
6436	82 200V 6A DIODE	4	5210	22N 100V 10%CAP T&R RAD .2FLM	28	3501	BS2200F06 COMP WASH #4 SMALL	30	4824	1/4W 750R 5% 2U T&R RES	72	4861	1/4W 820K 5% T&R RES	2
6438	1N4002 100V 1A DIODE T&R	4	5222	32N 100V 10%CAP T&R RAD .2FLM	28	3783	3 CIR WAFER WLCK 0.1"	2	4949	1/4W 1M 5% 2U T&R RES	12	4949	1/4W 1M 5% 2U T&R RES	12
6733	BAT85 30V 0A2 DIODE SCHT T&R	4	5224	47N 100V 10%CAP T&R RAD .2FLM	6	3810	4 NYLON CABLE TIE	20	4758	1/4W 953R 1% T&R RES	8	4888	1/4W 4M7 5% T&R RES	9
6825	1N4148 75V 0A45 DIODE T&R	239	5271	5N6 100V 5%CAP T&R RAD .2F	12	3852	STICK ON CABLE WRAP ANCHOR	2	4726	5.0W 1K 5% BLK RES	6	4951	1/4W 4M7 5% 2U T&R RES	13
6827	1N5402 200V 3A DIODE	4	5300	10N 50V 10%CAP T&R RAD .2FLM	2	3597	12 CIR HDR BOT ENTRY 0.1" GOLD	2	4934	1/4W 1K 5% 2U T&R RES	14	4751	1/4W 22M 5% T&R RES	22
6934	MR854 400V 3A DIODE FASREC	16	5308	47N 50V 10%CAP T&R BEAD X7R	2	3638	12 CIR CABLE HOLDER	9	4981	1/4W 1K 5%MINI T&R RES	22	3639	1.7"X1.2"26AWG RIBBON 0.25" SAR 1"	1
6936	1N753ARL 6VZ 0W5 ZENER 5% T&R	4	5433	5N6 50V 10%CAP T&R BEAD X7R	4	3580	12 CIR WAFER WLCK VT 0.1"	3	4585	1/4W 1K2 5%MINI T&R RES	72	4068	1.75"X1.2"26AWG RIB SLOCT 0.25" SAR 1"	2
6939	1N5249 3V0 0W5 ZENER 5% T&R	4	6435	32N 276V 20%CAP BLK X2 15MM AXL	4	3683	3 CIR WAFER WLCK 0.1"	1	4854	1/4W 1K2 5% T&R RES	2	3740	1.5"X1.2"26AWG RIB 1 WLCK HDR 098"	1
6440	1N750ARL 4V7 0W5 ZENER 5% T&R	4	6451	4N7 250V 20%CAP BLK Y7 10MM AXL	1	3596	36PIN BREAKAWAY 15GOLD 100	0.66	4889	1/4W 1K3 5% T&R RES	2	3696	RELAY 1C 02AMP DC24 006MA PC-S	2
6445	1N4732A 4V7 1W0 ZENER 5% T&R	5	5212	100N 63V 5%CAP T&R RAD .2FLM	144	3662	6 CIR WAFER WLCK VT 0.1" GOLD	1	4718	5.0W 1K5 5% BLK RES	4	3721	RELAY 1A 16AMP DC24 022MA PC-C	2
6460	1N5260B 43V0 0W5 ZENER 5% T&R	1	5226	68N 100V 5%CAP T&R RAD .2FLM	2	8392	KNOB STYLE 1 GREY	2	4824	1/4W 1K5 5% T&R RES	2	3736	RELAY 1C 10AMP DC24 017MA PC-S	2
6463	1N5251BRL 22V0 0W5 ZENER 5% T&R	2	5228	100N 100V 5%CAP T&R RAD .2FLM	20	8393	KNOB STYLE 1 RED	56	4988	1/4W 1K5 5%MINI T&R RES	20	8870	#4 X 1/4 PAN PH TYPE A ZINC	4
6465	1N5250B 20V0 0W5 ZENER 5% T&R	4	5230	180N 63V 5%CAP T&R RAD .2FLM	4	8394	KNOB STYLE 1 GREEN	36	4946	1/4W 2K 2% 2U T&R RES	12	8842	#4 X 5/16 PAN QUAD TYPE A J5500 BLK	27
6466	1N5248B 14V0 0W5 ZENER 5% T&R	4	5233	330N 63V 5%CAP T&R RAD .2FLM	16	8395	KNOB STYLE 1 BLUE	48	6113	1/4W 2K 5%MINI T&R RES	75	8729	#4 X 3/8 FLAT QUAD TYPE A J5500 BLK	4
6468	1N5296BRL 7V5 0W5 ZENER 5% T&R	27	5234	470N 63V 10%CAP T&R RAD .2FLM	6	8397	KNOB STYLE 2 GREY	2	4919	1/4W 2K05 1% T&R RES	6	8861	4-40 X 3/8 PAN PH MS J5500	1
6738	MC7805CT TO220 P 5V0 REG 36V	1	5314	100N 50V 10%CAP T&R BEAD X7R	17	8638	KNOB APMIXER PUSHSW BUTTON GREY	50	4705	2.0W 2K2 5% BLK RES	4	8741	4-40 X 1/2 PAN PH MS J5500	10
6756	LM7812 TO220 P 12V0 REG V1	1	5511	82N 400V 10%CAP BLK RAD POLY FLM	2	8661	KNOB BUTTON FLAT GREY	1	4847	1/4W 2K2 5% T&R RES	4	8741	4-40 X 5/8 PAN PH MS J5500	16
6807	1N4745A 16V0 1W0 ZENER 5% T&R	8	5882	220N 250VDC 10%CAP BLK RAD PLY FLM	4	8680	KNOB AP-812 GREY FADER	18	4864	1/4W 2K7 5% T&R RES	2	8832	6-32 X 1/4 PAN PH TAPITTE J5500	14
6822	1N4745A 16V0 1W0 ZENER 5% T&R	4	5240	880N 63V 10%CAP T&R RAD .2FLM	4	3471	8 3/16 SUT AC LINE CORD 250 CLIPS	1	5006	1.0W 2K7 5% T&R RES	4	8807	6-32 X 5/16 PAN PH MS J5500	41
6824	1N5248B 16V0 0W5 ZENER 5% T&R	4	5254	1U 63V 20%CAP T&R 8X7MM .2EL	6	3821	STRAIN RELIEF HEYCO #120	1	4764	1/4W 2K74 0.1% *** T&R RES	3	8801	6-32 X 3/8 PAN PH TAPITTE J5500	3
6871	MC7915CT TO220 N 15V0 REG V2	2	5255	1U 63V 20%CAP T&R RAD .2EL	1	8261	GE VELVET/MATTE LEXAN 007"X12"X24"	0.25	6124	1/4W 3K 5%MINI T&R RES	30	8829	6-32 X 3/8 FLAT PH TAPITTE BOHC HEA	77
6872	MC7815CT TO220 P 15V0 REG V1	2	5256	1U 63V 5%CAP T&R RAD .2FLM	4	8701	4-40 KEPS NUT ZINC	34	6136	1/4W 3K3 5%MINI T&R RES	36	8747	6-32 X 1/2 HEX ND MS ZINC	3
5101	BC550C TO92 NPN TRAN T&R TB	81	5257	2U2 63V 20%CAP T&R RAD .2EL	10	8760	6-32 KEPS NUT TIN PLATED	64	4774	1/4W 4K12 1% T&R RES	10	8761	6-32 X 1/2 PAN PHIL MS ZINC CLEAR	64
5102	BC560C TO92 PNP TRAN T&R TB	46	7769	1U 50V 20%CAP 4.3X3.9 SMT ELC	10	8800	6-32 KEPS NUT ZINC	9	4910	1/4W 4K3 5% T&R RES	1	8713	6-32 X 5/8 FL QD MS ZINC	1
5103	MPSA06 TO92 NPN TRAN T&R TA	7	5260	22U 50V 20%CAP T&R RAD .2EL	21	8787	8-32 KEPS NUT ZINC	16	4627	1/2W 4K7 5% T&R RES	2	8828	6-32 X 3/4 PAN PH TAPITTE J5500	16
5104	MPSA56 TO92 PNP TRAN T&R TA	18	5282	10U 16V 20%CAP T&R 5X7MM .2NP	31	8797	5/16-18 KEPS NUT J5500	1	4681	1.0W 4K7 5% T&R RES	2	8778	6-32 X 1.25 PH TAPITTE ZINC	2
5105	MPSA13 TO92 NPN DARL T&R TA	10	5629	10U 160V 20%CAP BLK 10X13MM .2EL	4	3787	TO-247 THERMO CONDUCTIVE PAD	1	4919	1/4W 4K7 5% 2U T&R RES	54	8959	6-32 X 5/8 PAN PH TAPITTE J5500	2
5107	2N5551 TO92 NPN TRAN T&R TA	2	5631	22U 50V 20%CAP T&R 6X7MM .2EL	38	3823	TO-220 THERMO PAD SMALL HOLE	12	4982	1/4W 4K7 5%MINI T&R RES	133	8815	6-32 X 3/4 PAN PH TAPITTE J5500	7
5108	2N5401 TO92 PNP TRAN T&R TA	2	5945	10U 63V 20%CAP T&R RAD .2EL	8	3846	TO220 THERMO PAD LARGE HOLE 56359B	8	6128	1/4W 4K99 1%MINI MF T&R RES	107	8874	6-32 X 1" PAN PHIL TAPITTE J5500	9
5113	MPSA42 TO92 NPN TRAN T&R TA	4	5961	33U 16V 20%CAP T&R RAD 2	123	3916	TO3 SIL-PAD REPLACES MICA	32	4893	1/4W 5K1 5% T&R RES	13	8809	10-32 X 1/4 PAN PH TAPITTE J5500	2
5114	MPSA92 TO92 PNP TRAN T&R TA	4	5267	100U 25V 20%CAP T&R RAD .2EL	2	8531	BUMPER, EXTRUDED PLASTIC BLACK	4.212	6138	1/4W 5K1 5%MINI T&R RES	2	8708	10-32 X 3/8 FILLISTER QD MS ZINC	8
5119	2N5638 TO92 NCH JFET T&R TC	6	5610	220U 160V 20%CAP BLK 16X36MM EL	4	8568	CABLE, 4-HOLE PM MIXER STYLE 3	2	6141	1/4W 5K6 5%MINI T&R RES	8	8858	#10 X 1/2 HEX HD TYPE A J5500 BLACK	1
6752	MT10N15L TO220 NCH JFET TN	1	5619	330U 100V 20%CAP BLK 12X35MM EL	4	4597	22AWG STRAN TC WIR T&R JMP	123	5001	1/4W 6K04 1% T&R RES	12	8868	10-32 X 1/2 FLAT PH B2 CT 1 J5500	3
6808	MJE15032 TO220 PNP TRAN TE	2	5630	330U 25V 20%CAP BLK 10X13MM .2EL	10	4599	22AWG SOLID SC WIR T&R JMP	587	4978	1/4W 6K8 5%MINI T&R RES	12	8803	10-32 X 1/2 FLAT PHILIPS TT J5500 BLK	8
6809	MJE15033 TO220 PNP TRAN TE	2	5879	100U 16V 20%CAP T&R 8X7MM .2EL	13	5293	22AWG SOLID SC WIR RAD JMP	31	5020	1/4W 6K8 5% 2U T&R RES	6	8740	5/16-18 X 3 GRD 5 HEX BOLT J5500	1
6873	MJE340 TO126 NPN TRAN TG	6	5897	330U 16V 20%CAP BLK 08X11MM .2EL	4	4745	5.0W 0R1 5% BLK RES	12	4887	1/4W 7K5 5% T&R RES	2	7766	15P 50V 5%CAP 0603 SMT NPO	2
6874	MJE350 TO126 PNP TRAN TG	6	5616	3300U 50V 20%CAP BLK 18X35MM EL	4	4715	5.0W 0R2 5% BLK RES	8	4926	1/4W 7K5 5% 2U T&R RES	8	7693	1N 50V 5%CAP 0805 SMT NPO	4
6902	TP142 TO247 NPN TRAN DARL TE	1	5892	8800U 80V 10%CAP BLK 35X40MM ELS	8	2007	1/4W 1R 5%FLAME PROOF T&R RES	24	4955	1/4W 8K2 5% 2U T&R RES	8	7966	.2N7 100V 10%CAP 0805 SMT X7R	4
6903	TP147 TO247 PNP TRAN DARL TE	1	5895	8800U 80V 10%CAP BLK 35X40MM ELS	6	4662	1/2W 1R 5%FLAME PROOF T&R RES	6	4990	1/4W 8K2 5%MINI T&R RES	8	7613	100N 25V 10%CAP 0805 SMT X7R	10
6912	BDX53C TO220 NPN TRAN DARL TE	2	6578	ROT BIN 18MM ABT ENCODER P23	2	4911	1/4W 2R2 5% T&R RES	4	4792	1/4W 8K25 1% T&R RES	6	7810	47U 16V 20%CAP 6X5.4 SMT ELE	4
6933	MT23P06 TO220 PCH MFET TN	2	4844	5K B LIN 9MM P25	70	4669	5.0W 3R3 5% BLK RES	3	4940	1/4W 10K 5% 2U T&R RES	64	7786	CD0452B IC DUAL 4CHANNEL MUX SMT	2
6909	MJ21196 TO3 PNP TRAN TH	10	4434	10K B LIN 9MM DETENT P32	2	4918	1/4W 3R3 5% T&R RES	8	4983	1/4W 10K 5%MINI T&R RES	73	7912	FV-1 SPIN SEMI REVERB CHIP IC	2
6910	MJ21195 TO3 PNP TRAN TH	16	4537	10K B LIN 9MM DETENT P25	50	4748	2.0W 3R9 5% T&R	4	6116	1/4W 10K0 1%MINI MF T&R RES	148	7934-PROG	24LC32A SER EEPROM MIXX-U3 Y5 DFX	2
7004	2SA2121-0 TO3P PNP TRAN TK	2	4566	10K B LIN 9MM P25	18	4733	5.0W 5R6 5% BLK RES	3	4773	1/4W 12K1 1% T&R RES	10	7935-PROG	24LC32A SER EEPROM MIXX-U4 Y5 DFX	2
7005	2SC5949-0 TO3 NPN TRANSISTOR TK	2	3998	20K B LIN 20MM DETENT S04	16	2088	1.0W 10R 5%FLAME PROOF T&R RES	2	4775	1/4W 14K0 1% T&R RES	3	7882	W063 0R9 1% 1206 SMT RES	2
6845	LM13800N IC XCONDUCTANCE AMP	5	4568	50K B LIN 9MM P25	3	2010	1/8W 10R 2%FLAME PROOF T&R RES	12	8979	1/4W 15K 5%MINI T&R RES	23	7781	W063 48R9 1% 0603 SMT RES	2
6804	MC33079P IC QUAD OP AMP	1	4487	10K 10A AUD 60MM STEREO S01	2	2037	1/4W 10R FUSIBLE T&R RES	12	4876	1/4W 16K 5% T&R RES	2	7624	0.1W 100R 1% 0805 SMT RES	2
6840	MC33078P IC DUAL OP AMP	11	4489	10K B LIN 60MM STEREO S01	12	4702	10W 12R 5% BLK RES	4	4831	1/4W 18K 5% T&R RES	2	7853	W250 100R 5% 1206 SMT RES	2
6882	LT072CP IC FET DUAL OP AMP	11	4562	10K LIN 12MM STEREO DETENTP21	6	2039	1/4W 22R0 FUSIBLE T&R RES	2	4954	1/4W 18K 5% 2U T&R RES	3	7621	0.1W 1K0 1% 0805 SMT RES	8
6884	NE5532N IC DUAL OP AMP	28	4569	10K LIN 12MM STEREO P21										

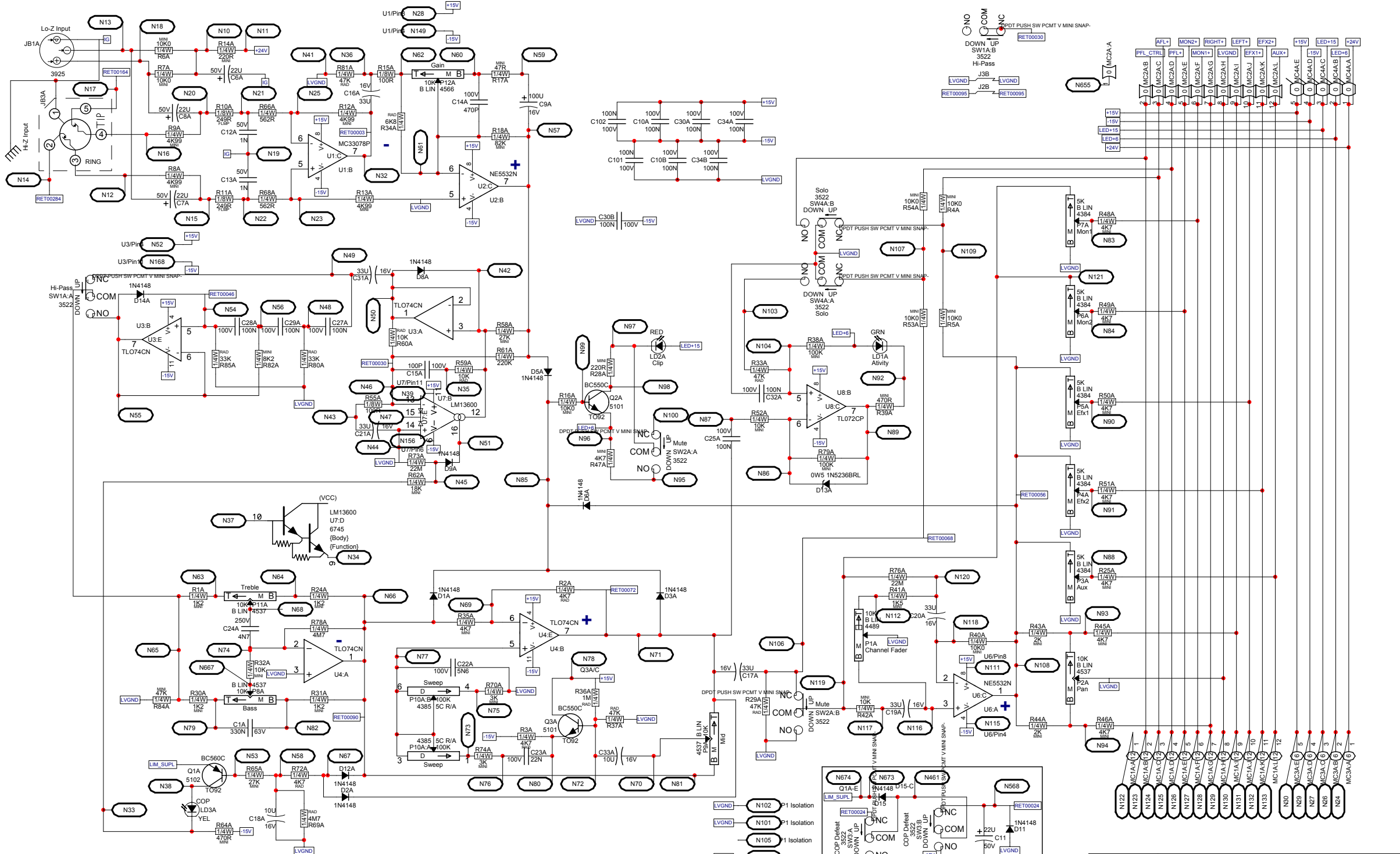
PM22 Parts List 4/13/2010

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
6419	BRIDGE 35A 400V WIRE LEAD GI3504	2	5282	10U 16V 20%CAP T&R 5X7MM 2NP	10	4912	1/4W 75R 5% T&R RES	1	8829	6-32 X 3/8 FLAT PH TAPTITE BO#C HEA	51
6425	BAV21 200V 0A25 DIODE T&R	16	5629	10U 160V 20%CAP BLK 10X13MM EL	4	2044	1/4W 100R0 FUSIBLE T&R RES	6	8747	6-32 X 1/2 HEX ND MS ZINC	3
6434	6A2 200V 6A0 DIODE	4	5945	10U 63V 20%CAP T&R RAD .2EL	8	4602	1/8W 100R 5% T&R RES	8	8761	6-32 X 1/2 PAN PHL MS ZINC CLEAR	64
6438	1N4007 1000V 1A0 DIODE T&R	4	5961	33U 16V 20%CAP T&R RAD 2	10	2020	1/8W 150R 2%FLAME PROOF T&R RES	10	8828	6-32 X 3/4 PAN PH TAPTITE JS500	2
6733	BAT85 30V 0A2 DIODE SCHT T&R	4	5267	100U 25V 20%CAP T&R RAD .2EL	2	2023	1/8W 220R0 1%FLAME PROOF T&R RES	8	8778	6-32 X 1.25 PN PH TAPTITE ZN	2
6825	1N4148 75V 0A45 DIODE T&R	110	5610	220U 160V 20%CAP BLK 16X36MM EL	4	4884	1/4W 240R 5% T&R RES	1	8999	8-32 X 5/8 PAN PH TAPTITE JS500	23
6827	1N5402 200V 3A0 DIODE	4	5619	330U 100V 20%CAP BLK 12X25MM EL	4	2024	1/8W 249R 2%FLAME PROOF T&R RES	18	8815	8-32 X 3/4 PAN PH TAPTITE JS500	7
6934	MR854 400V 3A0 DIODE FASREC	16	5630	330U 25V 20%CAP BLK 10X13MM EL	10	4855	1/4W 330R 5% T&R RES	1	8874	8-32 X 1" PAN PHIL TAPTITE JS500	9
6436	1N753ARL 6V2 0W5 ZENER 5% T&R	3	5616	3300U 50V 20%CAP BLK 18X35MM EL	4	4872	1/4W 390R 5% T&R RES	2	8708	10-32 X 3/8 FILLISTER QD MS ZN	4
6440	1N750ARL 4V7 0W5 ZENER 5% T&R	6	5892	6800U 80V 10%CAP BLK 35X40MM ELS	8	4933	1/4W 470R 5% 2U T&R RES	2	8868	10-32 X 1/2 FLAT PH 82 CS T JS500	8
6459	1N4732A 4V7 1W0 ZENER 5% T&R	4	5895	6800U 63V 20%CAP BLK 25X50MM	6	4980	1/4W 470R 5%MINI T&R RES	12	8740	5/16-18 X 3 GRD 5 HEX BOLT JS500	1
6460	1N5260B 43V0 0W5 ZENER 5% T&R	1	4522	.4K7 TRIM POT	4	2049	1/4W 680R FUSIBLE T&R RES	2	8663	11/64 NYLON SPACER (MICRO PLASTIC)	64
6463	1N5251BRL 22V0 0W5 ZENER 5% T&R	2	2448	15.00 AMP CIRCUIT BREAKER	1	4680	7.0W 750R 5% STANDOFF BLK RES	4	8629	10-32 X 1/4 SPACER PHENOLIC	28
6465	1N5250B 20V0 0W5 ZENER 5% T&R	4	714	1.5 MIL X 36" CLEAR POLY SHEETING	8	4924	1/4W 750R 5% 2U T&R RES	4	3749	.375 SPACER ID.170 OD.31 NYLON	18
6486	1N5244B 14V0 0W5 ZENER 5% T&R	4	3820	.4UH COIL 14AWG ZOBEL HORIZONTAL	2	4758	1/4W 953R 1% T&R RES	8	8921	#3MM ID3.2MM OD7.0MM THICK 5MM	8
6488	1N5236BRL 7V5 0W5 ZENER 5% T&R	4	3819	.5UH COIL 18AWG R000 AIR CORE	2	4726	5.0W 1K 5% BLK RES	6	8667	SHOULDER WASHER SWS-229 LENGTH 1/8	18
6738	MC7805CT TO220 P 5V0 REG 36V	1	8547	PLASTIC FOOT BLACK, POLYETHYLENE	4	4934	1/4W 1K 5% 2U T&R RES	2	8482	3/8 1D FLAT WASHER	9
6756	L78M12 TO220 P 12V0 REG V1	1	3470	CLIP 250X032 14-16AWG DISCO-LOK	17	4981	1/4W 1K 5%MINI T&R RES	10	3517	NYLON WASHER #8 0.062	2
6807	1N4742A 12V0 1W0 ZENER 5% T&R	8	3485	CLIP 250X032 18-22AWG RIGHT ANGL	8	4854	1/4W 1K2 5% T&R RES	2	8818	3/4 OD X 3/8 ID X .080 THICK WASHER	2
6822	1N4745A 16V0 1W0 ZENER 5% T&R	4	3486	CLIP 250X032 22-18AWG DISCO-LOK	1	4889	1/4W 1K3 5% T&R RES	2	8491	#10 SPLIT LOCK WASHER BO	16
6824	1N5246B 16V0 0W5 ZENER 5% T&R	4	3489	CLIP 250X032 18-22AWG DISCO/INSL	16	4718	5.0W 1K5 5% BLK RES	4	3524	NYLON SH/WASHER ID385 OD750 T060	8
6871	MC7815CT TO220 N 15V0 REG V2	2	3490	CLIP 250X032 14-16AWG DISCO/INSL	4	4824	1/4W 1K5 5% T&R RES	2	3577	FIBER WASHER .625OD .390ID .03	8
6872	MC7815CT TO220 P 15V0 REG V1	2	3529	CLIP 250X032 TN 18-22AWG MALE	12	4988	1/4W 1K5 5%MINI T&R RES	4	3436	DPDT PUSH SW PCMT H BREAK B4 MAKE	1
5101	BC550C TO92 NPN TRAN T&R TB	29	3601	RING TERMINAL 16AWG WIRE & #8 SCREW	1	6113	1/4W 2K 5%MINI T&R RES	12	3587	DPDT ROKR SW QUIK 250'AC/PWR ON-OFF	1
5102	BC560C TO92 PNP TRAN T&R TB	21	3498	1/4" JCK PCB MT HORZ	1	4919	1/4W 2K05 1% T&R RES	4	3682	250 MALE PCB TAB REEL	44
5103	MPSA06 TO92 NPN TRAN T&R TA	7	3924	1/4" JCK PCB MT VERT 2XTIP HICURNT	8	4705	2.0W 2K2 5% BLK RES	8	CH1199	PM16/22 120VAC 60HZ TRD	1
5104	MPSA56 TO92 PNP TRAN T&R TA	10	3628	SPKON 4C PCB MT VERT 250TAB GRY #4	2	4847	1/4W 2K2 5% T&R RES	4			
5105	MPSA13 TO92 NPN DARL T&R TA	4	3451	EYELET SMALL 0.089 OD PLATED	83	5006	1.0W 2K7 5% T&R RES	4			
5107	2N5551 TO92 NPN TRAN T&R TA	2	3414	INTERNATIONAL PC MOUNT FUSEHOLDER	4	4764	1/4W 2K74 0.1% *** T&R RES	6			
5108	2N5401 TO92 PNP TRAN T&R TA	2	2428	.60 AMP SLO-BLO .25X1.25 FUSE	2	6136	1/4W 3K3 5%MINI T&R RES	6			
5113	MPSA42 TO92 NPN TRAN T&R TA	4	3863	FAN 80MM X 80MM 33CFM 12VDC 173MA	2	4774	1/4W 4K12 1% T&R RES	16			
5114	MPSA92 TO92 PNP TRAN T&R TA	4	3692	HEATSINK THERMALLOY 6079-PB	4	4910	1/4W 4K3 5% T&R RES	1			
5119	2N5638 TO92 NCH JFET T&R TC	6	3501	B52200F066 COP WASH #4 SMALL	30	4627	1/2W 4K7 5% T&R RES	2			
6752	MTP10N15L TO220 NCH MFET TN	2	3798	8" NYLON CABLE TIE	2	4681	1.0W 4K7 5% T&R RES	2			
6808	MJE15032 TO220 NPN TRAN TE	2	3810	4" NYLON CABLE TIE	16	4982	1/4W 4K7 5%MINI T&R RES	8			
6809	MJE15033 TO220 PNP TRAN TE	2	3638	12 CIR CABLE HOLDER .098	2	6128	1/4W 4K99 1%MINI MF T&R RES	15			
6873	MJE340 TO126 NPN TRAN TG	6	3580	12 CIR WAFER WLCK VT 0.1"	3	4893	1/4W 5K1 5% T&R RES	13			
6874	MJE350 TO126 PNP TRAN TG	6	3583	8 CIR WAFER WLCK 0.1"	1	6141	1/4W 5K6 5%MINI T&R RES	8			
6902	TIP142 TO247 NPN TRAN DARL TE	1	3662	8 CIR WAFER WLCK VT 0.1" GOLD	1	5001	1/4W 6K04 1% T&R RES	4			
6903	TIP147 TO247 PNP TRAN DARL TE	1	8661	KNOB BUTTON FLAT GREY	1	4887	1/4W 7K5 5% T&R RES	2			
6912	BDX53C TO220 NPN TRAN DARL TE	2	3471	8 3/16 SJT AC LINE CORD 250 CLIPS	1	4792	1/4W 8K25 1% T&R RES	6			
6933	MTP23P06 TO220 PCH MFET TN	2	3821	STRAIN RELIEF HEYCO #1200	1	4983	1/4W 10K 5%MINI T&R RES	6			
6909	MJ21196 TO3 NPN TRAN TH	16	8261	GE VELVET/MATTE LEXAN .007"X12"X24"	0.25	6116	1/4W 10K0 1%MINI MF T&R RES	18			
6910	MJ21195 TO3 PNP TRANSISTOR TH	16	8701	4-40 KEPS NUT ZINC	34	4773	1/4W 12K1 1% T&R RES	18			
7004	2SA2121-0 TO3P PNP TRAN TK	2	8760	6-32 KEPS NUT TIN PLATED	64	4775	1/4W 14K0 1% T&R RES	3			
7005	2SC5949-0 TO3 NPN TRANSISTOR TK	2	8800	6-32 KEPS NUT ZINC	9	4979	1/4W 15K 5%MINI T&R RES	8			
6745	LM13600N IC XCONDUCTANCE AMP	2	8787	8-32 KEPS NUT ZINC	16	4876	1/4W 16K 5% T&R RES	2			
6840	MC33078P IC DUAL OP AMP	4	8797	5/16-18 KEPS NUT JS500	1	4831	1/4W 18K 5% T&R RES	1			
6882	TL072CP IC FET DUAL OP AMP	1	3797	TO-247 THERMO CONDUCTIVE PAD	6	5021	1/4W 18K7 1% T&R RES	1			
6884	NE5532N IC DUAL OP AMP	6	3823	TO-220 THERMO PAD SMALL HOLE	12	6123	1/4W 20K0 1%MINI MF T&R RES	12			
6889	TL074CN IC QUAD O/A T.J ONLY	1	3846	TO220 THERMO PAD LARGE HOLE 56359B	8	5024	1/4W 22K6 1% T&R RES	2			
5190	MBS4992 TO92 8V5 DIAC T&R	4	3916	TO3 SIL-PAD REPLACES MICA	32	4902	1/4W 24K 5% T&R RES	10			
6489	.5R 20% THERMISTOR-SURGR NTC	2	8531	BUMPER, EXTRUDED PLASTIC BLACK	5.262	6122	1/4W 33K 5%MINI T&R RES	4			
6517	STM-BTB-600BRG TO220 ??A TRIAC 600V	4	8568	GABLE, 4-HOLE PM MIXER STYLE 3	2	4868	1/4W 36K 5% T&R RES	8			
6880	4N35 OPTO-COUPLER	4	4597	22AWG STRAN TC WIR JMP	19	4853	1/4W 39K 5% T&R RES	2			
5200	10P 200V 5%CAP T&R RAD CER.2NPO	10	4599	22AWG SOLID SC WIR T&R JMP	149	4878	1/4W 43K 5% T&R RES	10			
5405	27F 200V 5%CAP T&R RAD CER.2NPO	2	5299	24AWG SOLID SC WIR RAD JMP	22	4834	1/4W 47K 5% T&R RES	1			
5277	220P 200V 5%CAP T&R RAD CER.2NPO	4	4745	5.0W 0R1 5% BLK RES	12	4927	1/4W 47K 5% 2U T&R RES	4			
5417	330P 50V 10%CAP T&R BEAD NPO	2	4715	5.0W 0R20 5% BLK RES	8	6119	1/4W 47K 5%MINI T&R RES	4			
5201	470P 100V 5%CAP T&R RAD CER.2NPO	2	2007	1/4W 1R 5%FLAME PROOF T&R RES	24	4803	1/4W 49K9 1% T&R RES	3			
5206	.1N 400V 5%CAP T&R RAD .2FLM	16	4682	1/2W 1R 5%PHILIPS SMAL T&R RES	6	4836	1/4W 68K 5% T&R RES	2			
5208	.2N2 400V 5%CAP T&R RAD .2FLM	2	4911	1/4W 2R2 5% T&R RES	4	4760	1/4W 75K 5% T&R RES	4			
5273	.1N5 200V 5%CAP T&R RAD CER.2NPO	6	4669	5.0W 3R3 5% BLK RES	3	4586	1/4W 82K 5%MINI T&R RES	10			
5274	.2N2 200V 5%CAP T&R RAD CER.2NPO	4	4918	1/4W 3R3 5% T&R RES	8	4772	1/4W 82K5 1% T&R RES	4			
5422	.1N 50V 10%CAP T&R BEAD NPO	2	4748	2.0W 3R9 5% T&R	4	4838	1/4W 100K 5% T&R RES	1			
5425	.1N8 50V 10%CAP T&R BEAD X7R	2	4733	5.0W 5R6 5% BLK RES	3	6120	1/4W 100K 5%MINI T&R RES	8			
5816	680P 100V 5%CAP T&R RAD CER.2NPO	12	2008	1.0W 10R 5%FLAME PROOF T&R RES	2	4851	1/4W 120K 5% T&R RES	2			
5204	10N 100V 10%CAP T&R RAD .2FLM	10	2010	1/8W 10R0 2%FLAME PROOF T&R RES	2	6137	1/4W 200K 5%MINI T&R RES	1			
5209	.4N7 250V 5%CAP T&R RAD .2FLM	2	2037	1/4W 10R FUSIBLE T&R RES	12	6126	1/4W 220K 5%MINI T&R RES	2			
5210	22N 100V 10%CAP T&R RAD .2FLM	10	4702	10.W 12R 5% BLK RES	4	4861	1/4W 820K 5% T&R RES	2			
6435	22N 275V 20%CAP BLK 'X2' 15MM AC	1	2039	1/4W 22R0 FUSIBLE T&R RES	2	3740	15.0"12C-26AWG RIB 1 WLCK HDR 098"	2			
6451	.4N7 250V 20%CAP BLK 'Y' 10MM AC	1	4709	5.0W 22R 5% BLK RES	2	3696	RELAY 1C 02AMP DC24 006MA PC-S	2			
5226	.68N 100V 5%CAP T&R RAD .2FLM	4	4816	1/4W 33R 5% T&R RES	4	3721	RELAY 1A 16AMP DC24 022MA PC-C	1			
5228	100N 100V 5%CAP T&R RAD .2FLM	20	2016	1/8W 39R 2%FLAME PROOF T&R RES	12	3736	RELAY 1C 10AMP DC24 017MA PC-S	2			
5234	470N 63V 10%CAP T&R RAD .2FLM	8	4899	1/4W 39R 5% T&R RES	8	8870	#4 X 1/4 PAN PH TYPE A ZINC	4			
5511	.82N 400V 10%CAP BLK RAD POLY FLM	2	4613	1.0W 47R 5% T&R RES	5	8729	#4 X 3/8 FLAT QUAD TYPE A JS500 BLK	4			
5882	220N 250VDC 10%CAP BLK RAD PLY FLM	4	4817	1/4W 47R 5% T&R RES	1	8861	4-40 X 3/8 PAN PH MS JS500	8			
5255	.1U 63V 20%CAP T&R RAD .2EL	1	6134	1/4W 47R 5%MINI T&R RES	2	8741	4-40 X 1/2 PAN PH MS JS500	10			
5257	.2U2 63V 20%CAP T&R RAD .2EL	10	4811	1/4W 68R 5% T&R RES	6	8871	4-40 X 5/8 PAN PH MS JS500	16			
5260	.22U 50V 20%CAP T&R RAD .2EL	21	2018	1/8W 75R 2%FLAME PROOF T&R RES	12	8832	6-32 X 1/4 PAN PH TAPTITE JS500	14			

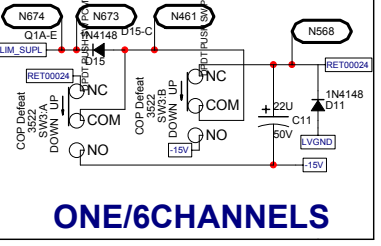


- N225 P1 Isolation
- N216 P1 Isolation
- N227 P1 Isolation
- N217 P1 Isolation
- N218 P1 Isolation
- N226 P1 Isolation

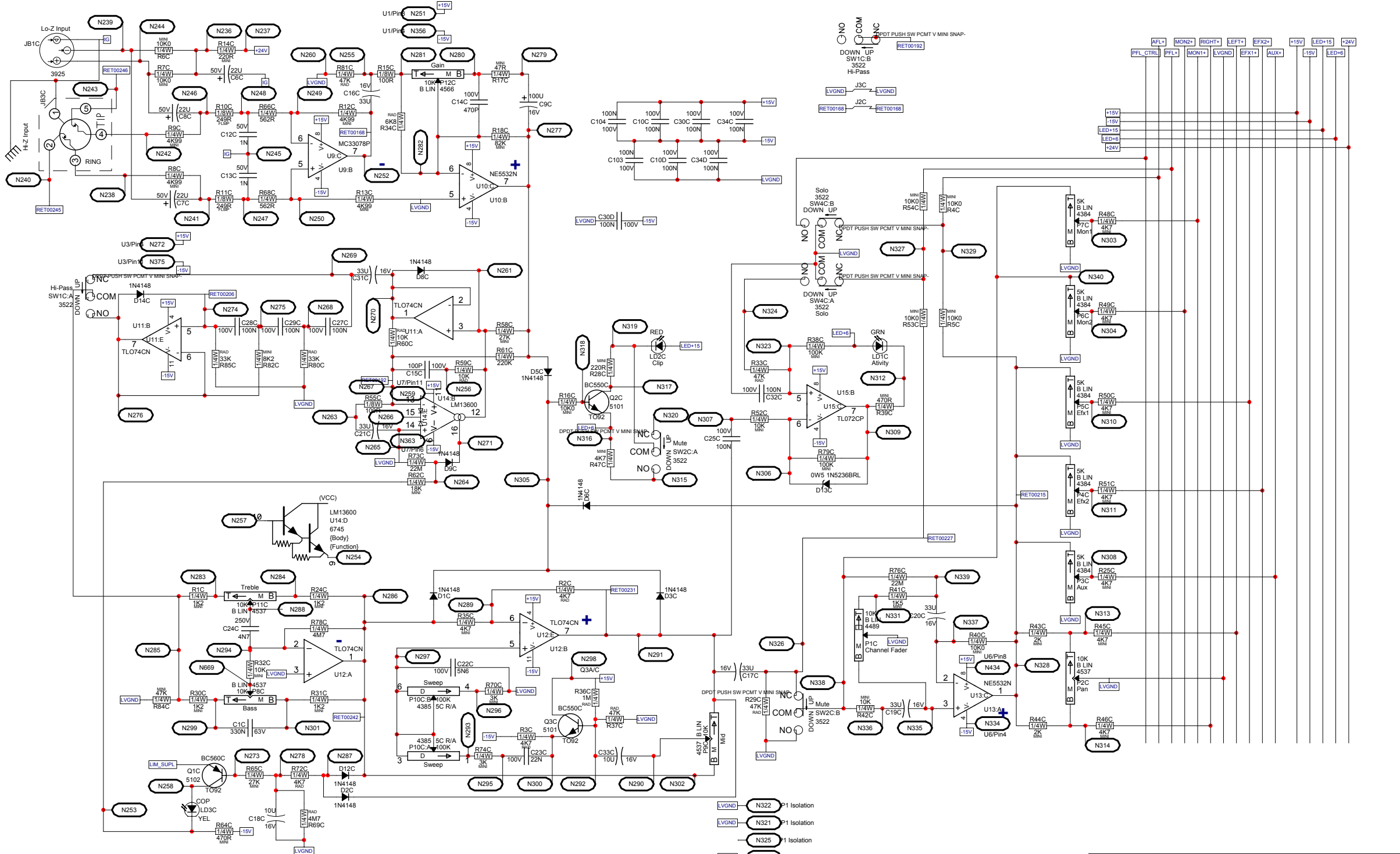




- LVGND N102 P1 Isolation
- LVGND N101 P1 Isolation
- LVGND N105 P1 Isolation
- LVGND N110 P1 Isolation
- LVGND N114 P1 Isolation
- LVGND N113 P1 Isolation

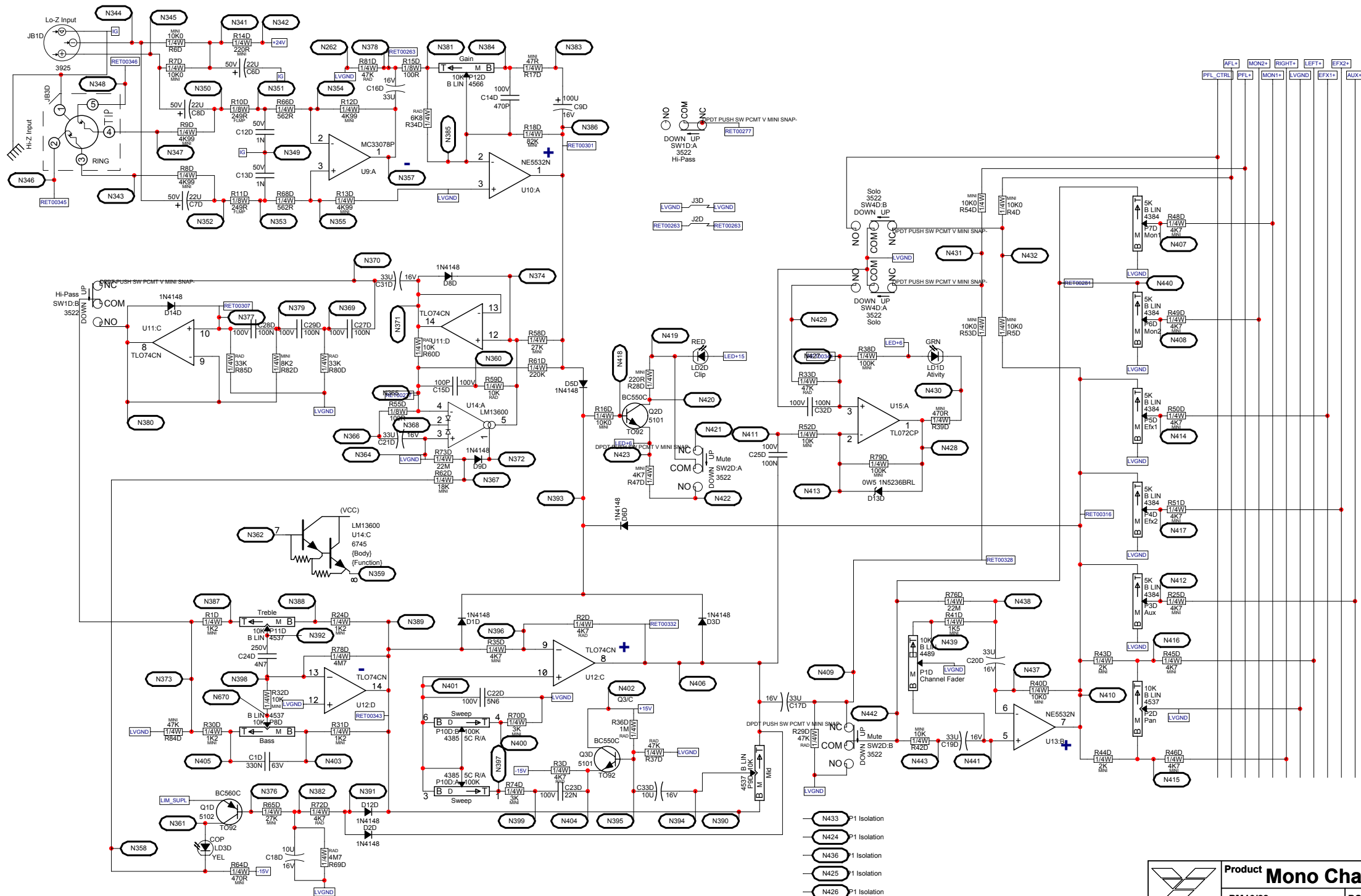


ONE/6CHANNELS



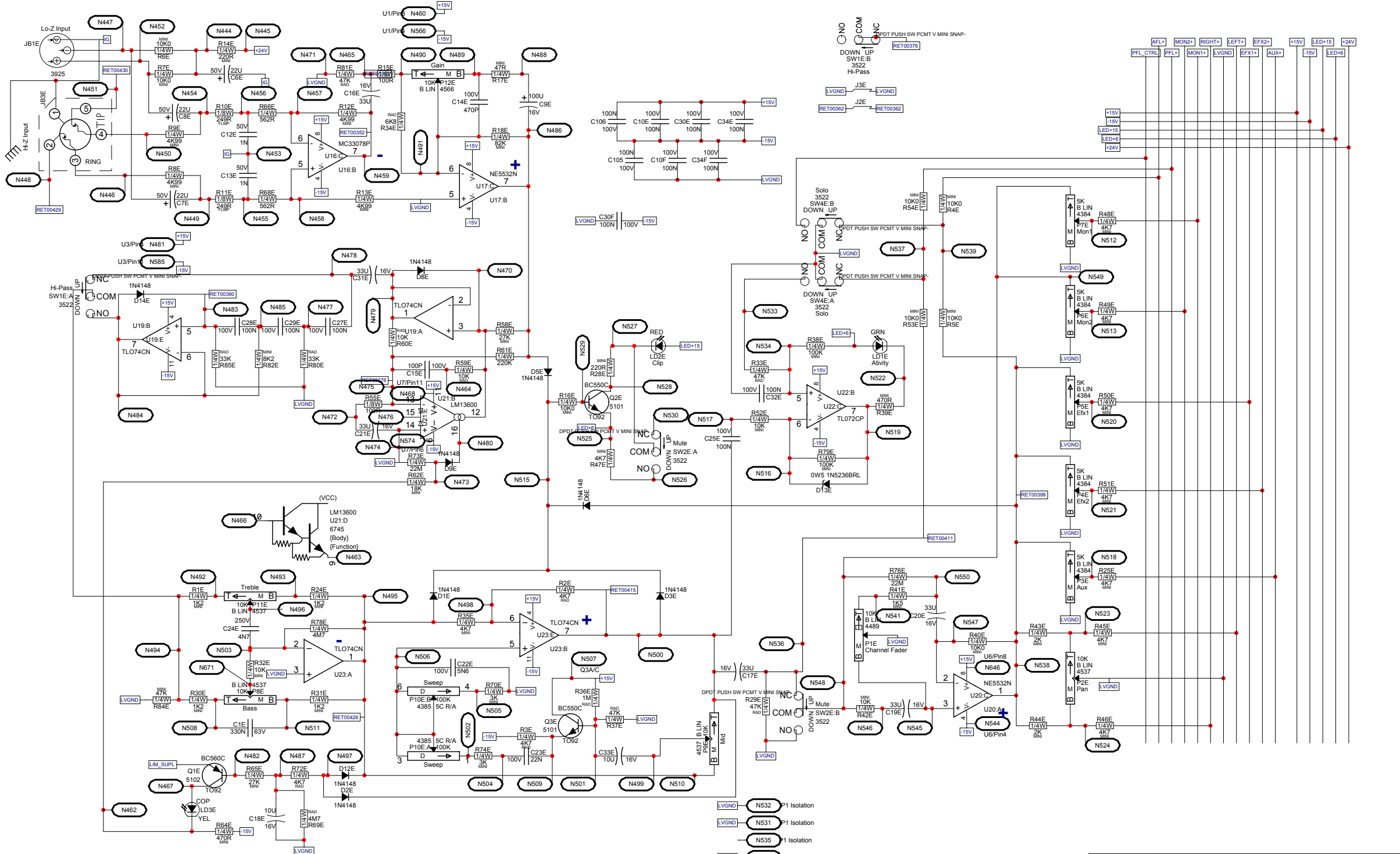
- LVGND N322 P1 Isolation
- LVGND N321 P1 Isolation
- LVGND N325 P1 Isolation
- LVGND N330 P1 Isolation
- LVGND N333 P1 Isolation
- LVGND N332 P1 Isolation





- N433 P1 Isolation
- N424 P1 Isolation
- N436 P1 Isolation
- N425 P1 Isolation
- N426 P1 Isolation
- N435 P1 Isolation

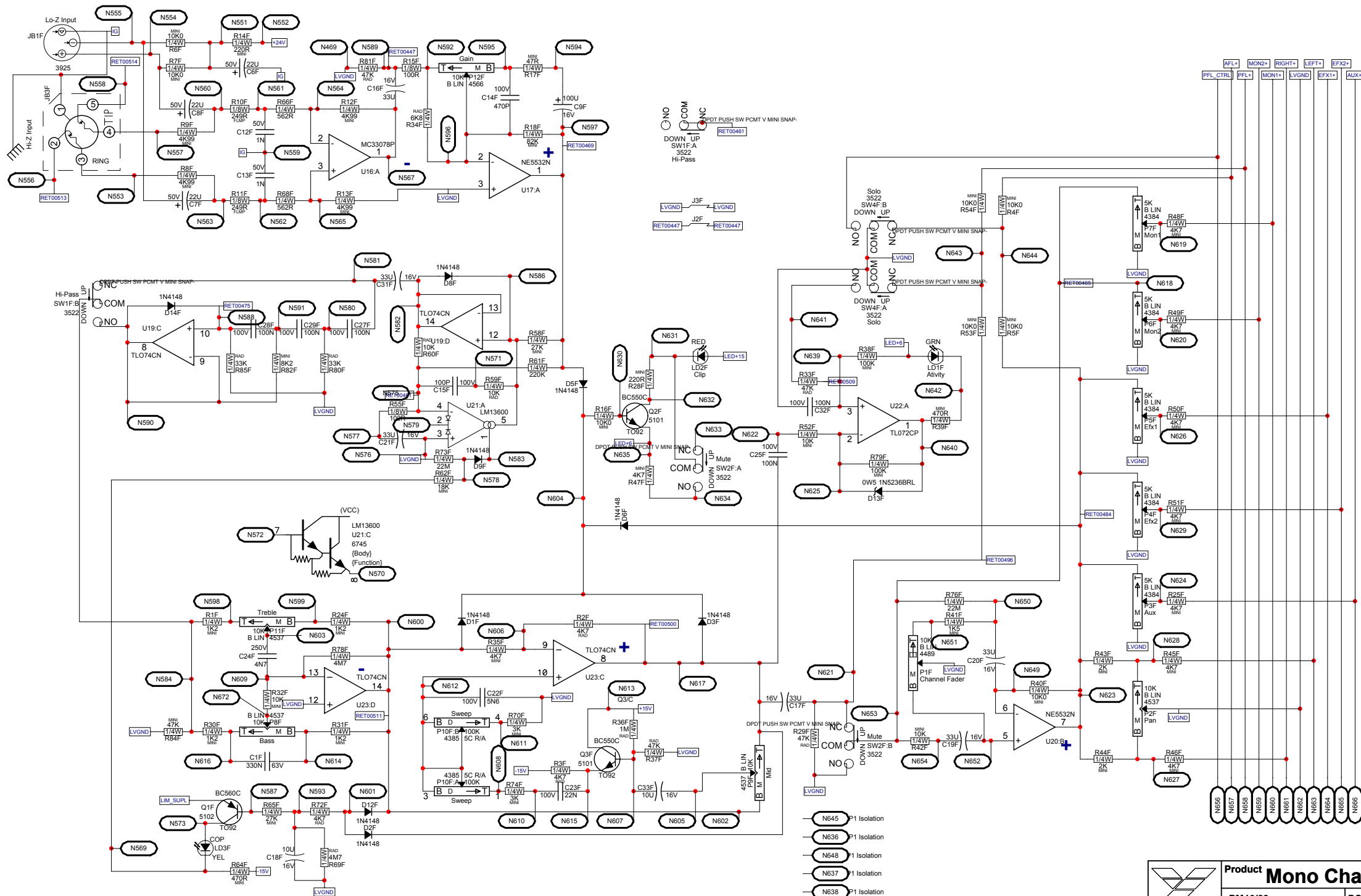




- LVGND N532 P1 Isolation
- LVGND N531 P1 Isolation
- LVGND N535 P1 Isolation
- LVGND N540 P1 Isolation
- LVGND N543 P1 Isolation
- LVGND N542 P1 Isolation

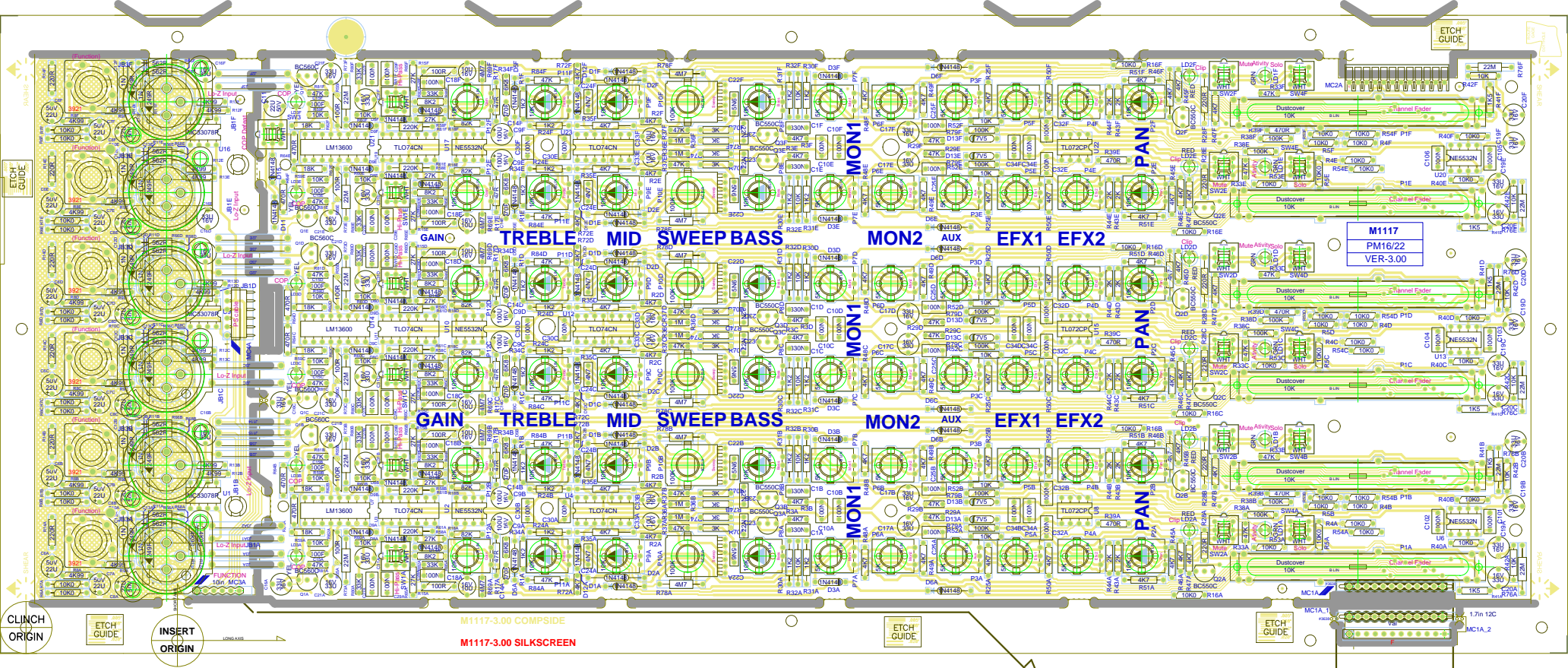


Product Mono Channels		
PM16/22	PCB# M1117	Sheet 5 of 7
Date: Thu May 02, 2002	Rev: 1.20	
Filename: m1117-1V2.sch2001		



- (N645) P1 Isolation
- (N636) P1 Isolation
- (N648) P1 Isolation
- (N637) P1 Isolation
- (N638) P1 Isolation
- (N647) P1 Isolation





M1117-3.00 COMPSIDE
 M1117-3.00 SILKSCREEN

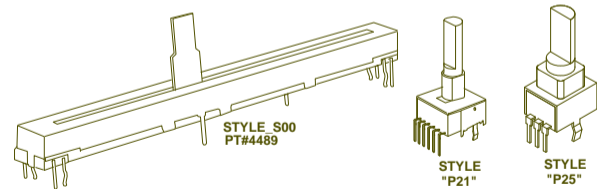
SEE LAYOUT DOCUMENTATION THESE MOLEX PARTS STUFFED FOR M1117B ONLY



SEE LAYOUT DIAGRAM



PRODUCTION NOTES



M1120.PCB_POT_LIST				
MODEL(S):-		MODEL		
REF	FUNCTION	PART#	KNOB	AS_OF
P12A-F	GAIN	#4385	#8302	JAN2000
P11A-F	HIGH	#4337	#8303	-
P9A-F	MID	#4337	#8303	-
P10A-F	SWEEP	#4385	#8303	-
P8A-F	LOW	#4337	#8303	-
P7A-F	MON1	#4384	#8304	-
P6A-F	MON2	#4384	#8304	-
P3A-F	AUX	#4384	#8305	-
P5A-F	EFX1	#4384	#8305	-
P4A-F	EFX2	#4384	#8305	-
P2A-F	PAN	#4337	#8302	-
P1A-F	VOLUME	#4489	#8300	-

M1117.PCB DATABASE HISTORY				#	DATE	VER#	DESCRIPTION OF CHANGE
MODEL(S):-				24	D	V	N
MODEL				25	D	V	N
#	DATE	VER#	DESCRIPTION OF CHANGE	26	D	V	N
1	Sept 28,2000	1.00P1	First production run	27	D	V	N
2	Dec 1, 2000	2.00	Moved copper pours away from board edge	28	D	V	N
3			Moved traces away from fader mtg legs.	29	D	V	N
4			Moved ps traces away from board edge	30	D	V	N
5			Removed component side pad from pot legs	31	D	V	N
6			Swapped top pins of sweep control on ch's 1,3,5	32	D	V	N
7			Add copy to draw solder from dual pot legs	33	D	V	N
8	Jan 18, 2001		Moved legend for R64E and F to correct locations.	34	D	V	N
9	NOV 26 2001	2.10	PC#6473 C22A-F 6N8 TO 5N6 C23A-F 47N TO 22N	35	D	V	N
10			R70A-F 1K2 TO 3K	36	D	V	N
11	MAY 02,2002	2.20	PC#6536 R74A-F 1K2 TO 3K	37	D	V	N
12	Nov 13, 2002	3.00	#3921 jacks to slotted holes	38	D	V	N
13	D	V	N	39	D	V	N
14	D	V	N	40	D	V	N
15	D	V	N	41	D	V	N
16	D	V	N	42	D	V	N
17	D	V	N	43	D	V	N
18	D	V	N	44	D	V	N
19	D	V	N	45	D	V	N
20	D	V	N	46	D	V	N
21	D	V	N	47	D	V	N
22	D	V	N	48	D	V	N
23	D	V	N	49	D	V	N
				50	D	V	N

ETCH GUIDE

ETCH GUIDE

BEC
LOC

CLINCH ORIGIN

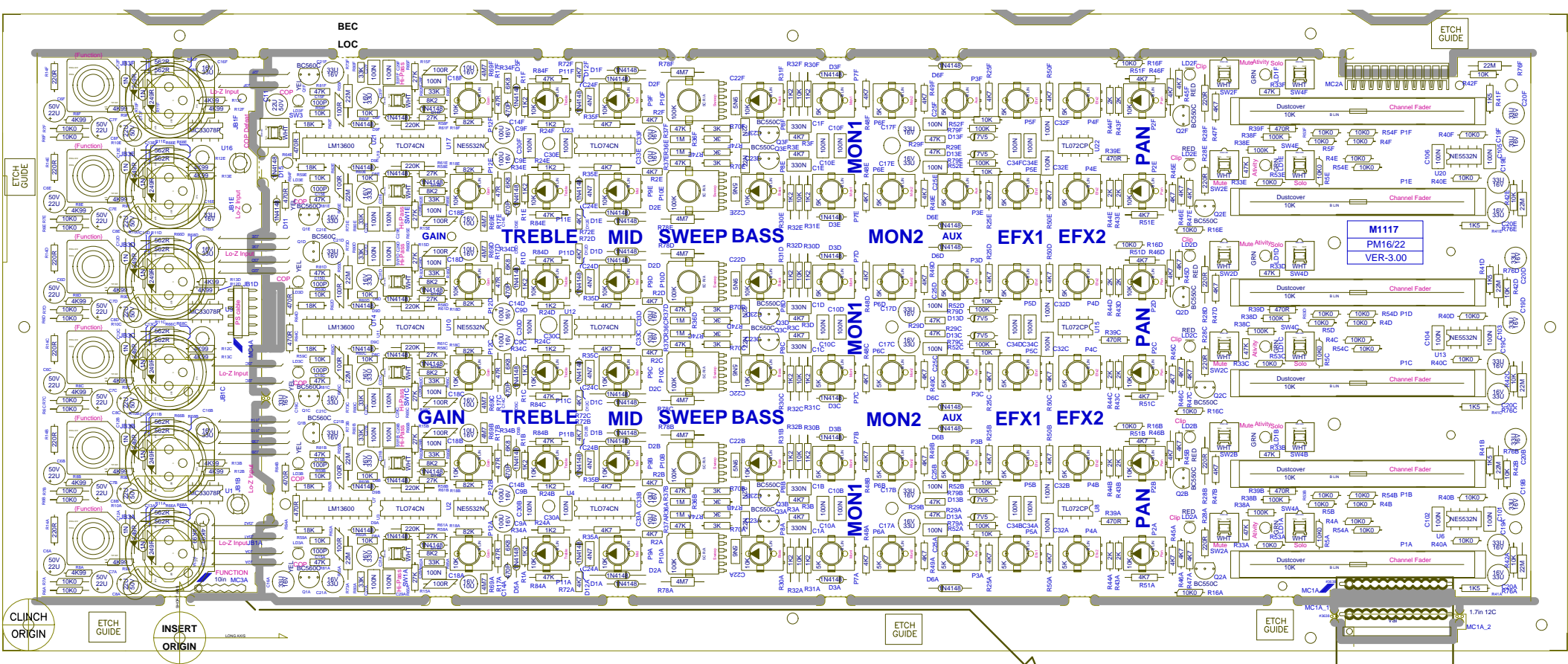
ETCH GUIDE

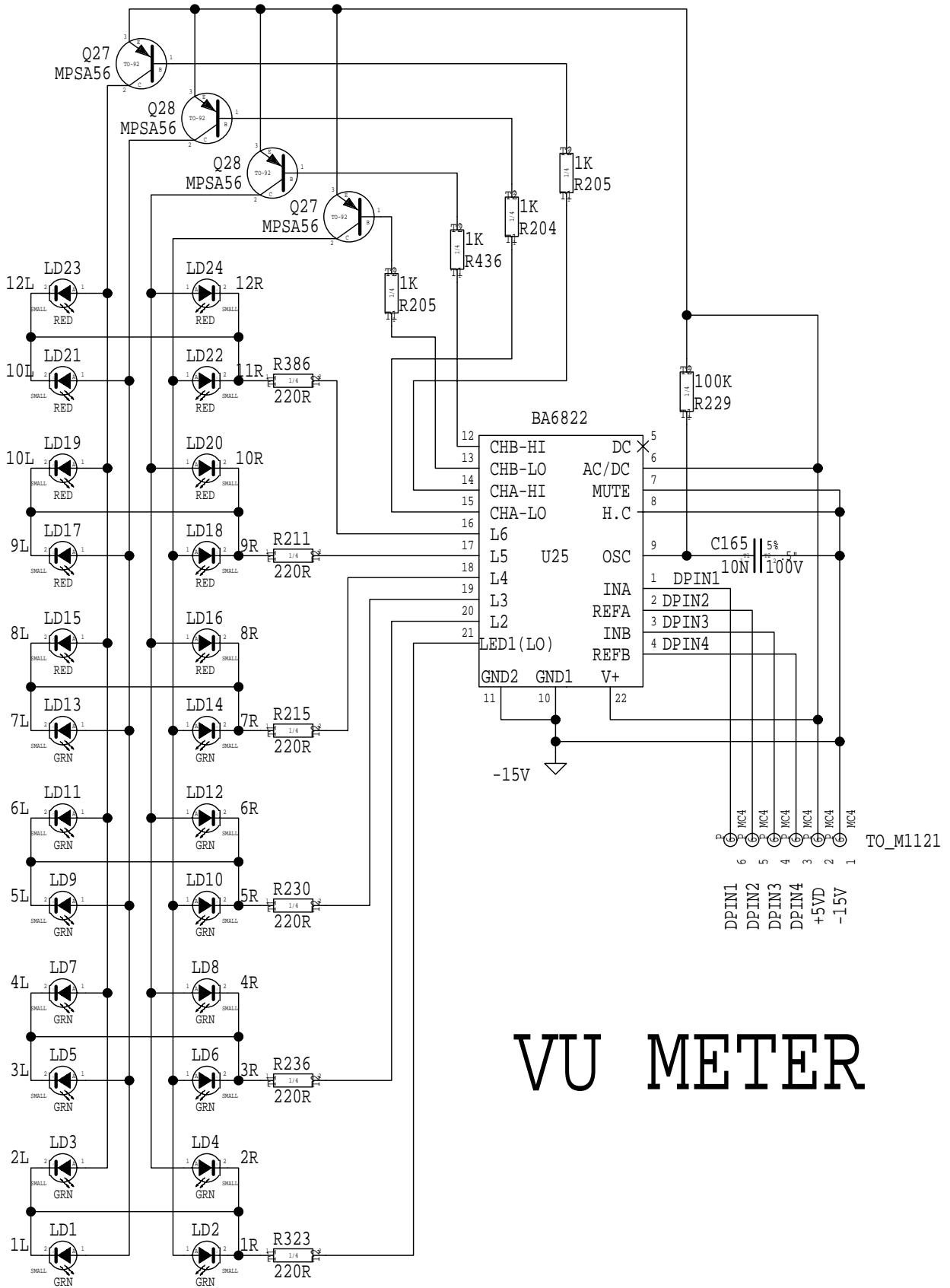
INSERT ORIGIN

ETCH GUIDE

ETCH GUIDE

M1117
PM16/22
VER-3.00





VU METER



DATE: MAY/19/1998

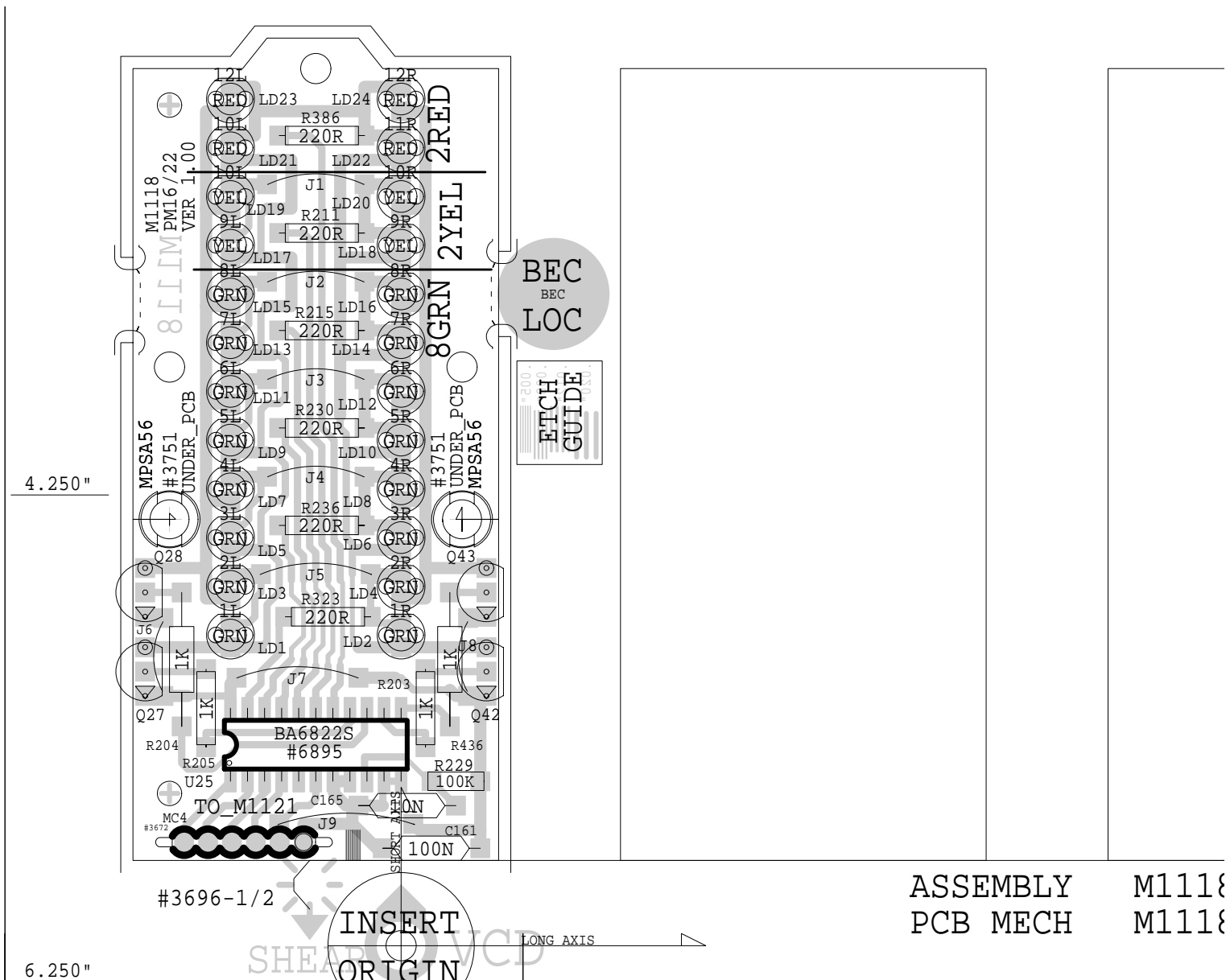
MODELS: PM6, PM22

SHEET 1 OF 1

SCH VERSION: 1.00

NAME: M1118.SCH PCB#&REV: M1118-1.00

TITLE: VU_METER



PRODUCTION NOTES

- 1) USE JIG TO HOLD LED'S BEFORE TRIMMING
- 2) AFTER TEST, INSERT TWO #3751 SPACERS UNDER PCB.
- 3) BEND TRANSISTORS OVER PCB EDGE AFTER FINISHING
- 4)

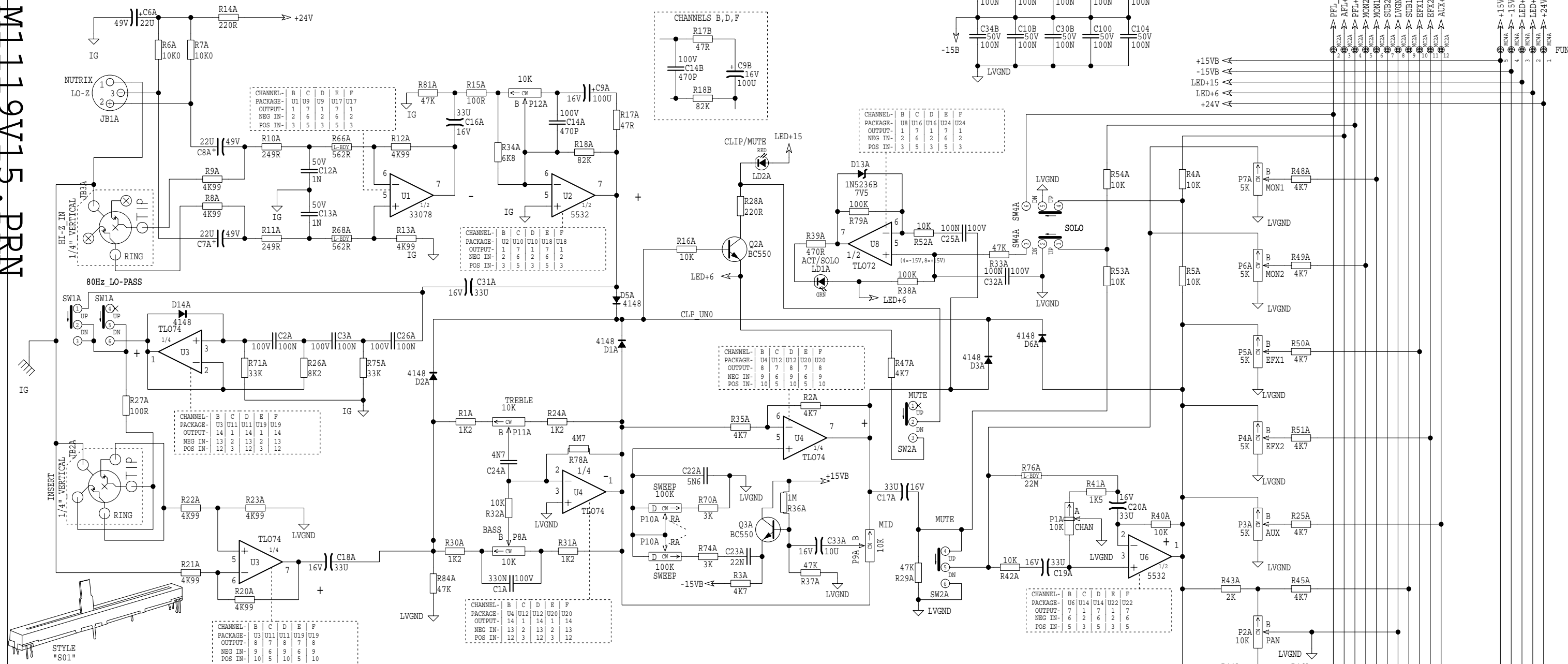
M1118.PCB_DATABASE_HISTORY

MODEL(S) :- PM16/22

#	DATE	VER#	DESCRIPTION OF CHANGE
1	MAY/21/98	1.0P1	SECOND_PROTOTYPE
2	D	V	N
3	D	V	N
4	D	V	N

U: M1119V15.PRN

MONO INPUT WITH INSERT

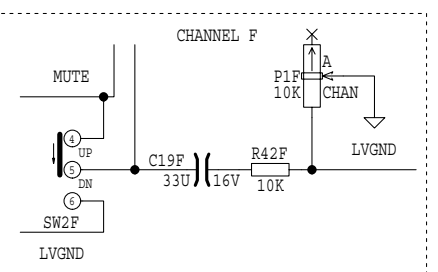


M1119.PCB POT LIST

MODEL(S) :- PM16/22					
#	REF	FUNCTION	PART#	KNOB	AS OF
1	P12A	GAIN	#4566	#8392	JAN/2000
2	P11A	TREBLE	#4537	#8393	.
3	P9A	MID	#4537	#8393	.
4	P10A	SWEEP	#4585	#8393	.
5	P8A	BASS	#4537	#8393	.
6	P7A	MON1	#4384	#8394	.
7	P6A	MON2	#4384	#8394	.
8	P3A	AUX	#4384	#8395	.
9	P5A	EFX1	#4384	#8395	.
10	P4A	EFX2	#4384	#8395	.
11	P2A	PAN	#4537	#8392	.
12	P1A	VOLUME	#4489	#8680	.

M1119.SCH DATABASE HISTORY

MODEL(S) :- PM16/PM22			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	APR/15/99	1.20	PC#5899 C2A,C3A,C26A 180N->100N
2	.	.	R71A,R75A 18K->33K R81A,R84A 4K7->
3	.	.	47K R26A 4K7->8K2 R37A 10K->47K
4	NOV/26/01	1.30	PC#6473 C22A 6N8->5N6 R70A_1K2->3K
5	MAY/02/02	1.40	PC#6536 R74A_1K2->3K
6	MAY/23/02	1.50	PC#6473_C23A_47N->22N
7	D	V	N
8	D	V	N
9	D	V	N
10	D	V	N

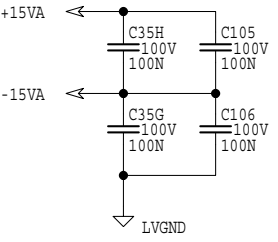
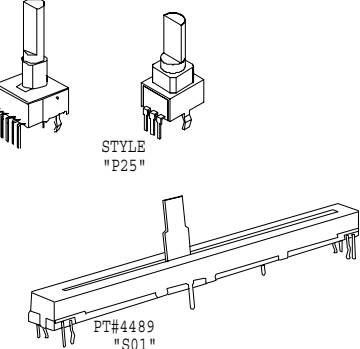
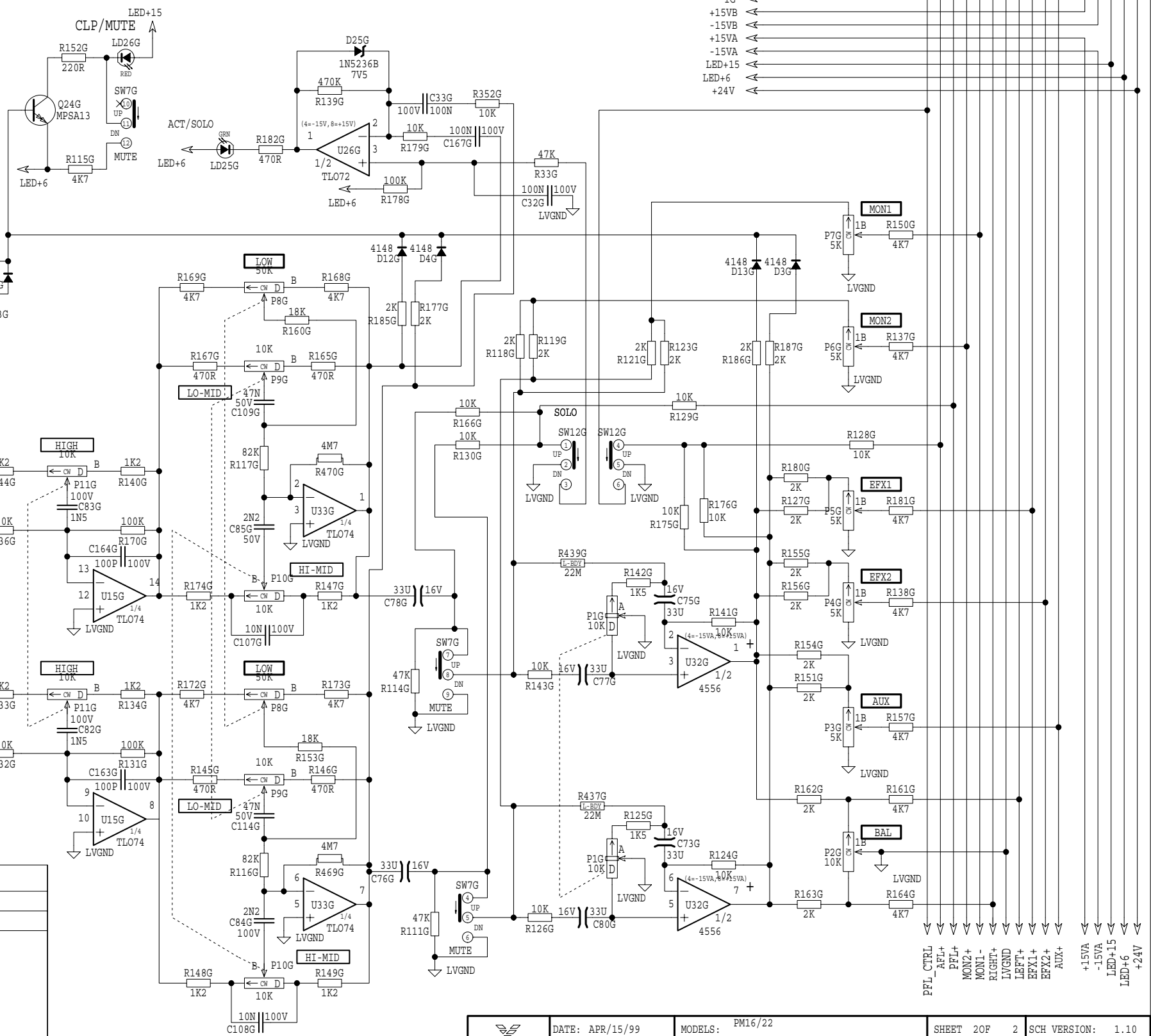
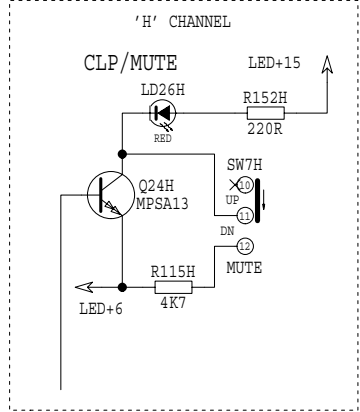


M1119S11.PRN

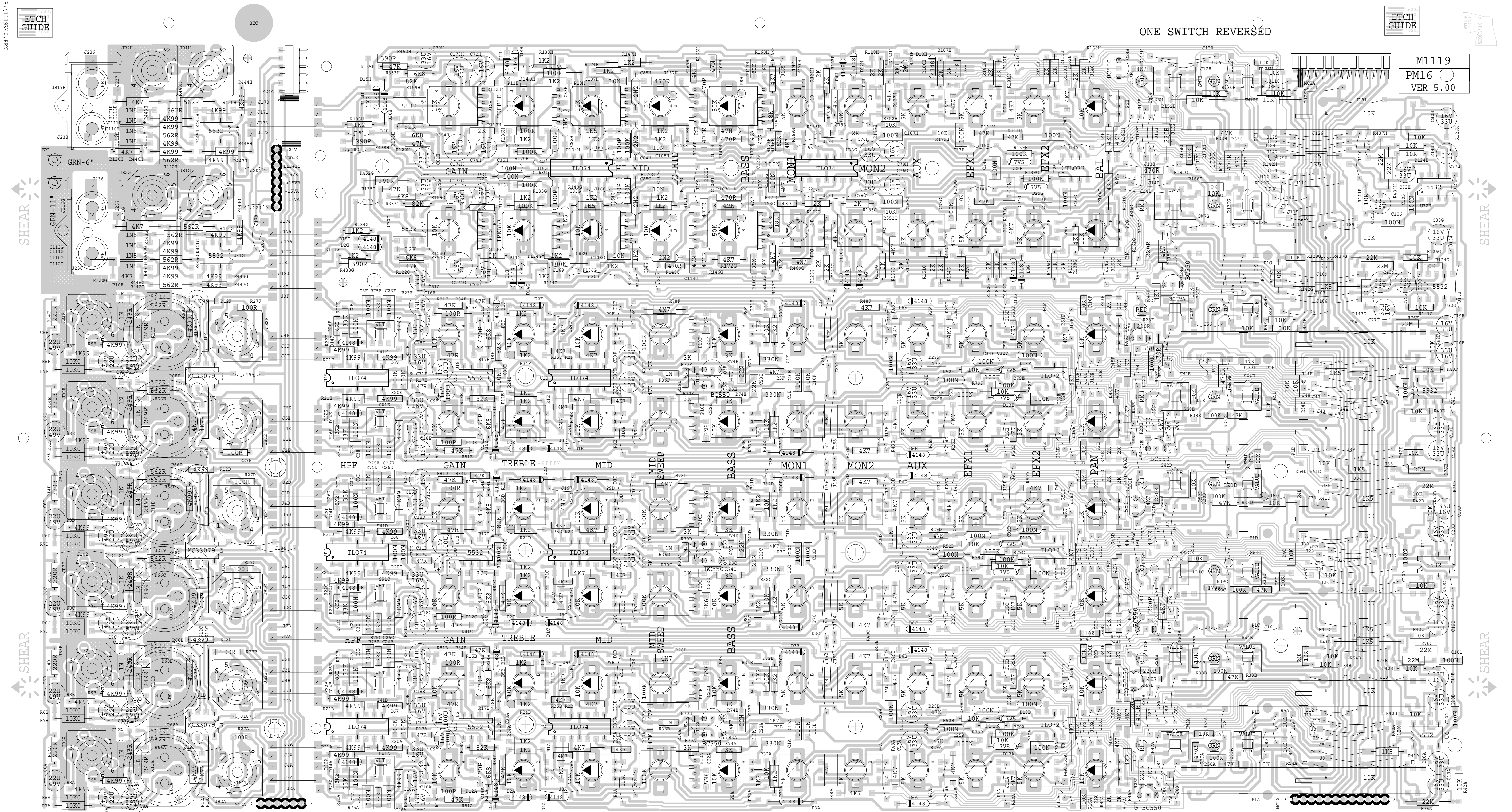
M1119.PCB POT LIST

#	REF	FUNCTION	PART#	KNOB	AS OF
	MODEL(S) :- PM16/22				
P12G		GAIN P21	#4569	#8392	JAN/2000
P11G		HIGH P21	#4562	#8393	.
P9G		HI-MID P21	#4562	#8393	.
P10G		LO-MID P21	#4562	#8393	.
P8G		LOW P21	#4545	#8393	.
P7G		MON1 P25	#4384	#8394	.
P6G		MON2 P25	#4384	#8394	.
P3G		AUX P25	#4384	#8395	.
P5G		EFX1 P25	#4384	#8395	.
P4G		EFX2 P25	#4384	#8395	.
P2G		BALANCE P25	#4537	#8392	
P1G		VOLUME S01	#4489	#8680	

STEREO INPUTS



M1119.SCH DATABASE HISTORY				
#	DATE	VER#	DESCRIPTION OF CHANGE	
MODEL(S) :- PM16/PM22				
1	APR/15/99	1.10	PC#5899_R122G,R135G_4K7->47K	
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	



BLANK SIZE=18.125"X10.375" ASSEMBLY M1119-5.00
 PCB MECH M1119-5.00

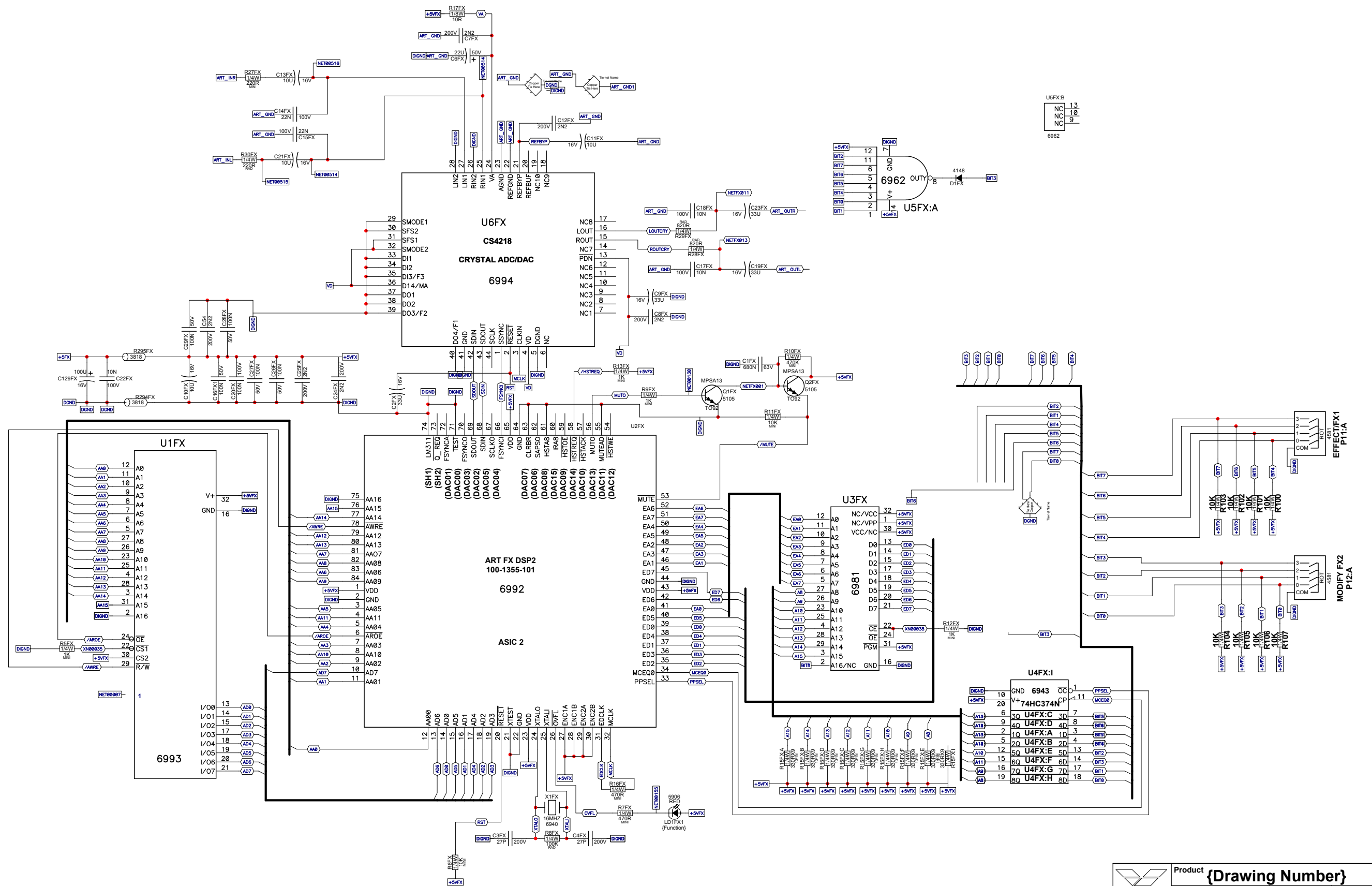
SOLDSIDE M1119-5.00

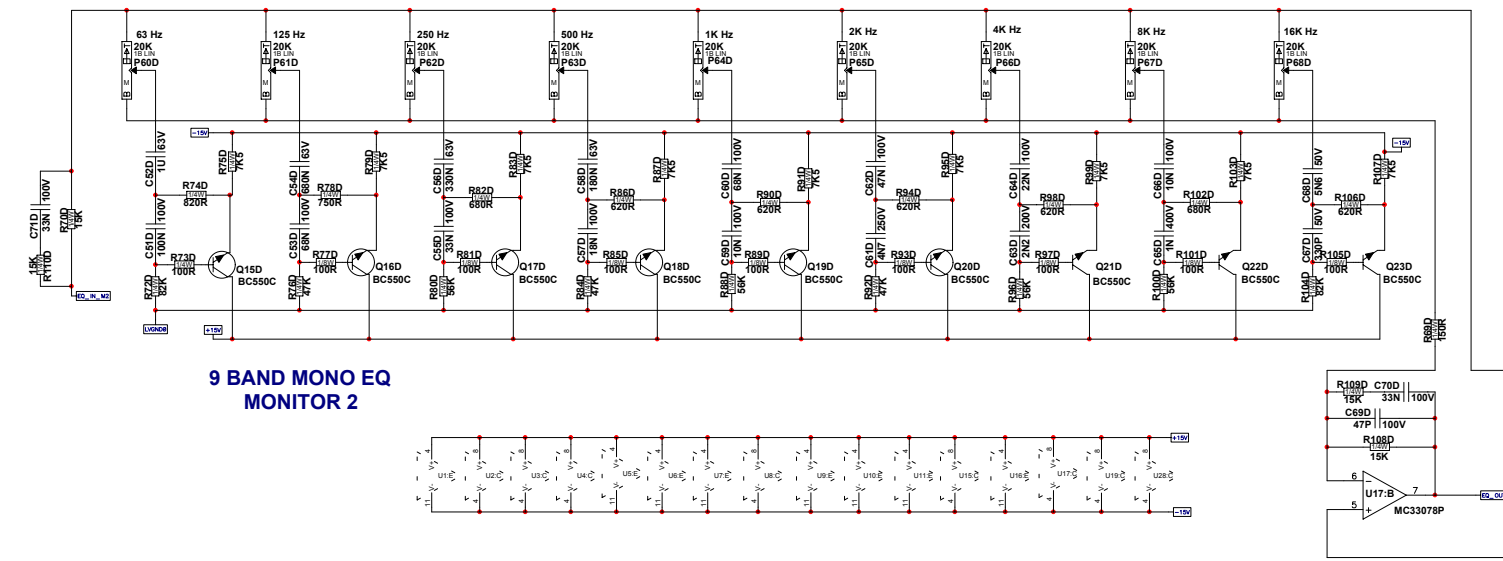
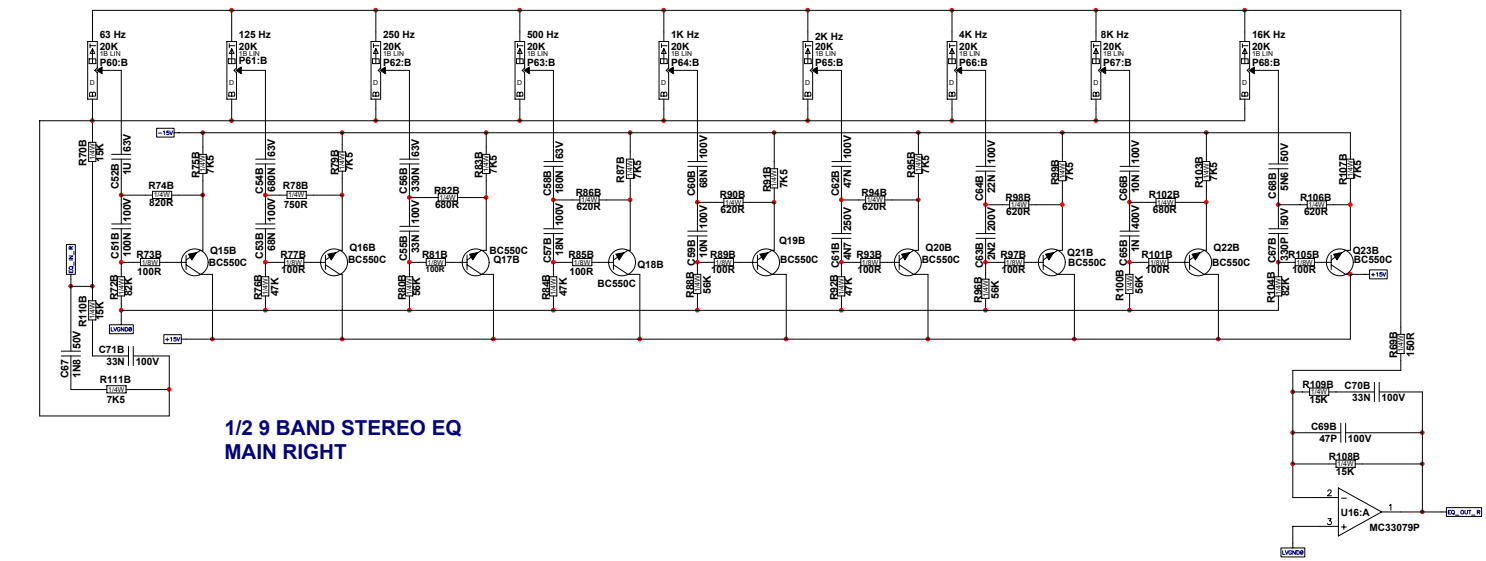
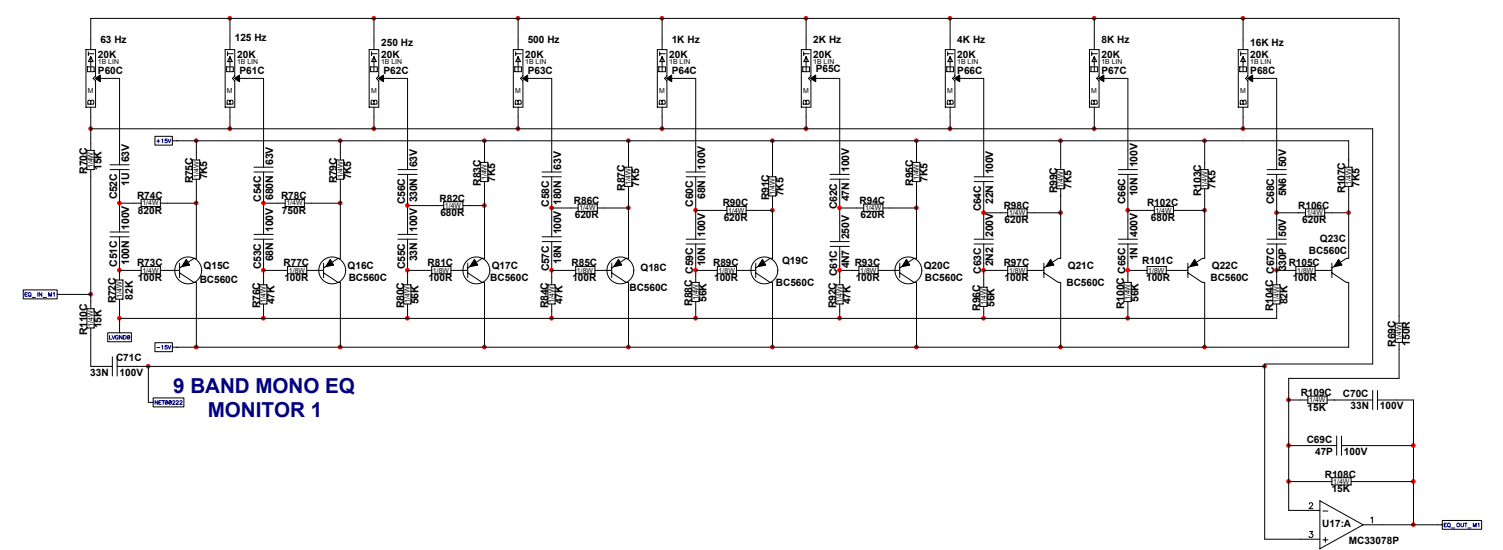
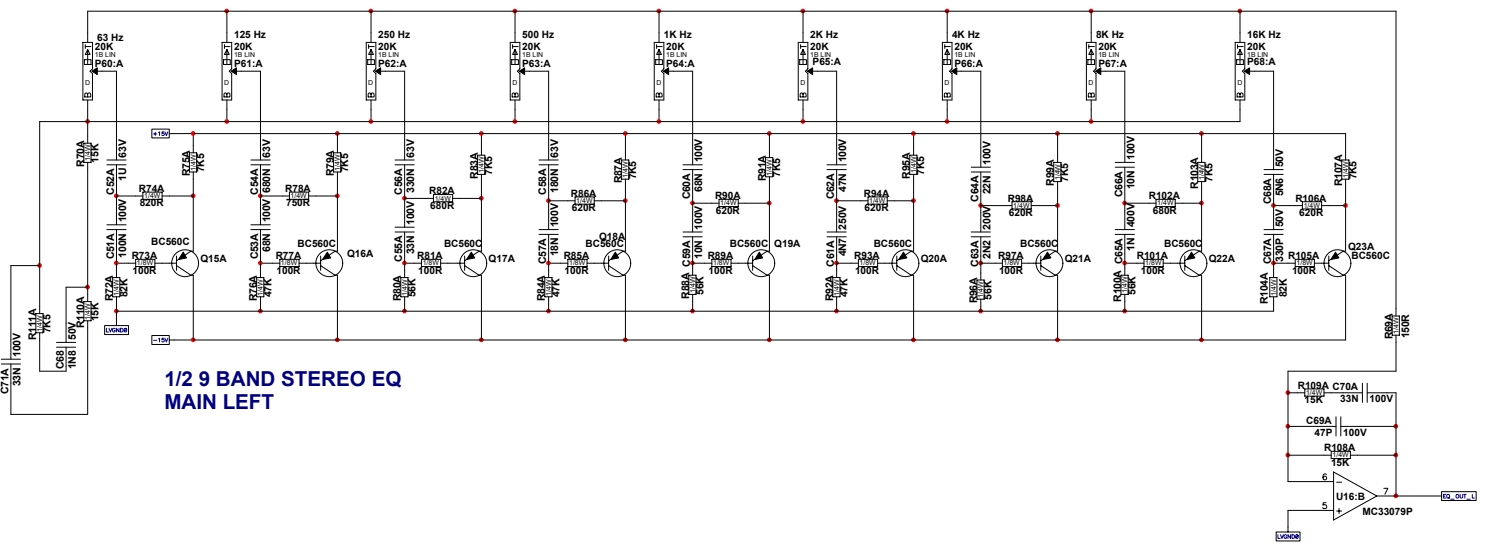
M1119 PCB DATABASE HISTORY

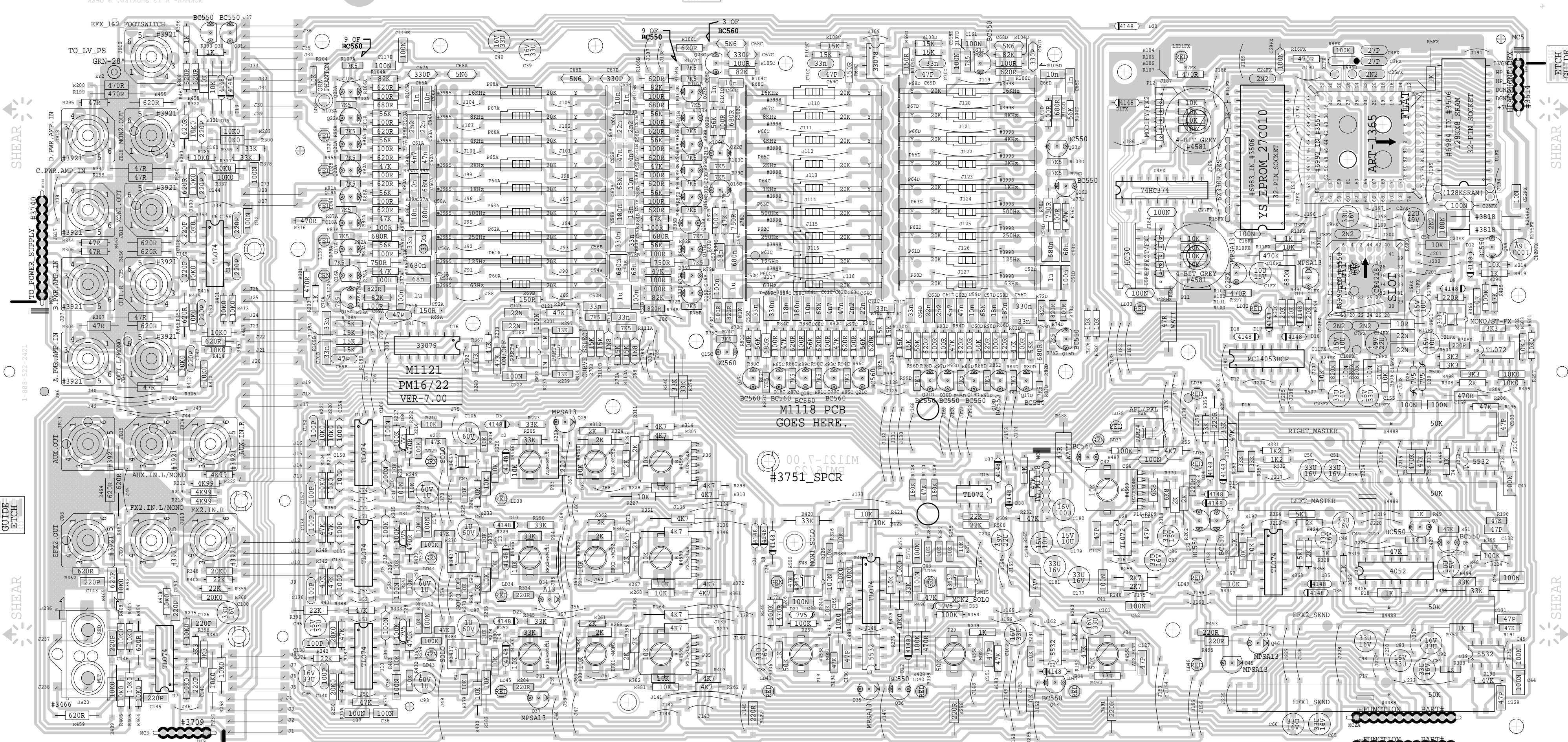
#	DATE	VER#	DESCRIPTION OF CHANGE
1	06/APR/98	1.00	FIRST PROTOTYPE
2	27/MAY/98	1.0P1	MOVED XLR'S .025" AWAY FROM 1/4"
3	1/JUN/98		SECOND PROTOTYPE
4	18/NOV/98	1.10	CHG C33A-F FROM 220N TO 33U/16V
5	04/DEC/98	1.20	ENLARGED SOME PADS, FILL IN BETWEEN PADS THAT ARE CLOSE
6			
7	17/DEC/98		MOVED R78F AWAY FROM POT (J200 MOVED ALSO)
8			
9	10/FEB/99	2.00	ROTATE LEDS FOR AUTO INSERT
10			MOVED PARTS TO ELIMINATE SHORTS
11	11/FEB/99		ADDED C67, 87, 9 FOR RF SUPPRESSION
12	2/MAR/99	2.01	FIXED SHORT@LD26H
13	14/APR/99	2.10	PC#5899 R122G, H, R135G, H 4K7->47K
14			ALL A, B, C, D, E, F
15			R71, R75 18K->33K R81, R84 4K7->47K
16			R26 4K7->8K2 R37 10K->47K
17			C2, C3, C26 180N->100N
18	MAY/18/00		PC#6244 RCA-JK HOLE SIZE 070"->059"
19	NOV/26/01	2.20	PC#6473 C22A-F 6N8->5N6 R70A-F 1K2->3K
20			
21	APR/24/02	3.00	UPDATE #3921 JACKS
22	MAY/02/02	3.10	PC#6536 R74A-F 1K2->3K
23	MAY/23/02	3.20	PC#6473 C23A-F 47N->22N

PRODUCTION NOTES

1) NOTE THAT THE LAST MUTE SWITCH IS OPPOSITE TO ALL THE OTHERS. (SW7H)







M1121.PCB_DATABASE_HISTORY

MODEL(S):- PM16/22

#	DATE	VER#	DESCRIPTION OF CHANGE
1	21/MAY/98	1.0P0	FIRST PROTOTYPE
2	21/AUG/98	1.00	FIXED_PFLCTRL_POP,ADDED_SOLO_FLASH
3	.	.	MOVED_XTAL&J194_FIXED_SHORTS
4	.	.	CHANGED_FX-RET_GAIN
5	OCT/09/98	1.01	\$FFFF_PULLDOWN_DIODE_TO_BIT3
6	16/NOV/98	2.00	FLIPPED_PROCESSOR_SWITCHES
7	03/FEB/99	.	ROTATED_LEDS_TO_ALLOW_AUTO_INS
8	.	.	MOVED_SOME_JUMPERS_TO_STOP_SHORTS
9	15/FEB/99	.	R304-7,R341,R344,R295,R299
10	.	.	4K99->47R
11	23/FEB/99	.	R424,R368 1K2->2K
12	1/MAR/99	2.01	FIXED_SHORT@LD30
13	OCT/22/99	2.10	PC#6144 R204 1K->10K
14	OCT/16/00	2.20	PC#6292 R16FX 620R->470R_DEL_C5FX
15	DEC/05/01	3.00	PC#6487 RELOCATE_C148
16	APR/24/02	4.00	MOVE_TRACES_TO_ELIMINATE_SHORTS
17	OCT/04/02	5.00	MOVE_C66B_TO_ELIMINATE_SHORT
18	NOV/30/04	6.00	PC#6775 MOVE_TRACES_AWAY_FROM_PADS
19	.	.	IN_EQ_SECTION_CAUSING_SHORTS
20	OCT/13/05	7.00	ADD_TARGETS

M----.PCB_POT_LIST

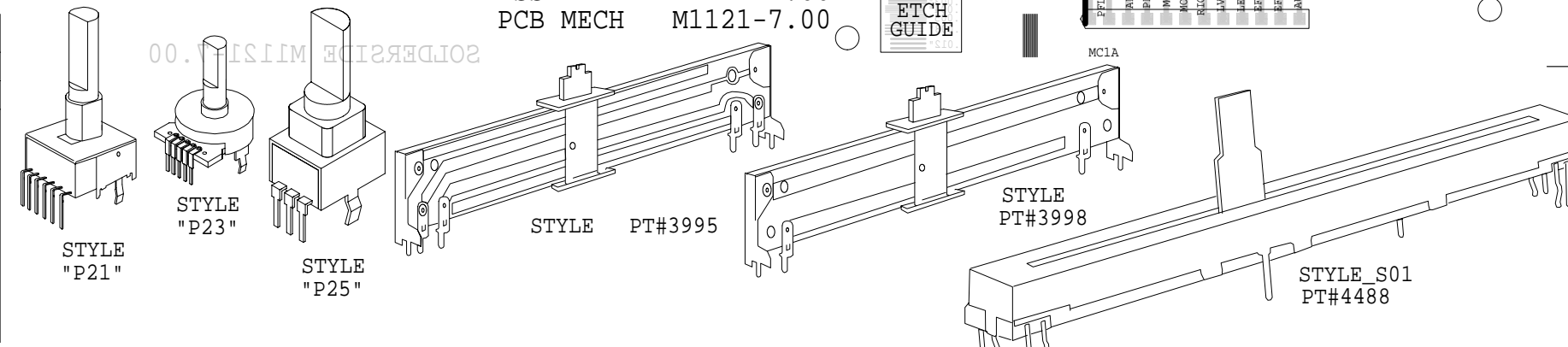
MODEL(S):- PM16/22

REF	FUNCTION	PART#	NOB	AS OF
P60	68C/D	#3998	NO_KNOB	JAN/2000
P60	68A	#3995	NO_KNOB	.
P31	EFX1-MON1	#4566	#8394	.
P30	EFX1-MON2	#4566	#8394	.
P35	EFX1-L-R	#4569	#8392	.
P24	EFX2-MON1	#4566	#8394	.
P23	EFX2-MON2	#4566	#8394	.
P26	EFX2-L-R	#4569	#8392	.
P33	AUX-MON1	#4566	#8394	.
P32	AUX-MON2	#4566	#8394	.
P36	AUX-L-R	#4569	#8392	.
P19	MON1	#4568	#8394	.

M1121.PCB_POT_LIST

MODEL(S):- PM-16/22

REF	FUNCTION	PART#	NOB	AS OF
P29	MON2	#4568	#8394	JAN/2000
P34	AUX-SEND	#4568	#8395	.
P17	EFX1-SEND	#4488	#8680	.
P18	EFX2-SEND	#4488	#8680	.
P16	LEFT-MASTER	#4488	#8680	.
P15	RIGHT-MASTER	#4488	#8680	.
P11	SELECT	#4581	#8397	.
P12	MODIFY	#4581	#8397	.
P14	HEADPHONE	#4569	#8392	.
R	F	K	K	.
R	F	K	K	.
R	F	K	K	.
R	F	K	K	.



ASSEMBLY M1121-7.00
PCB MECH M1121-7.00

ETCH GUIDE

FUNCTION PARTH

ETCH GUIDE

SHEAR

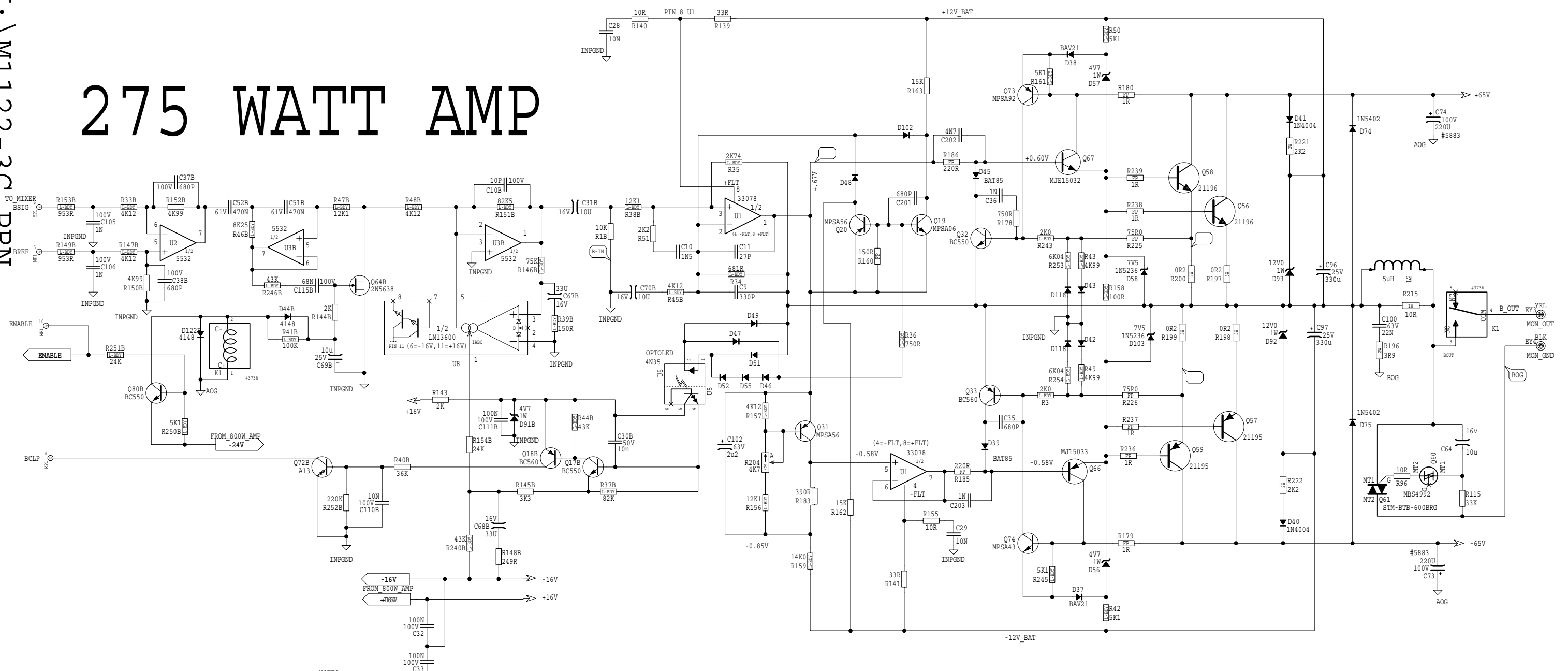
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SHEAR

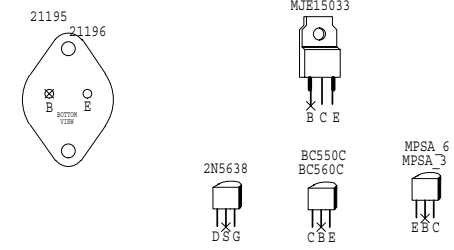
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275 WATT AMP

U:\M1122-3C.DRN

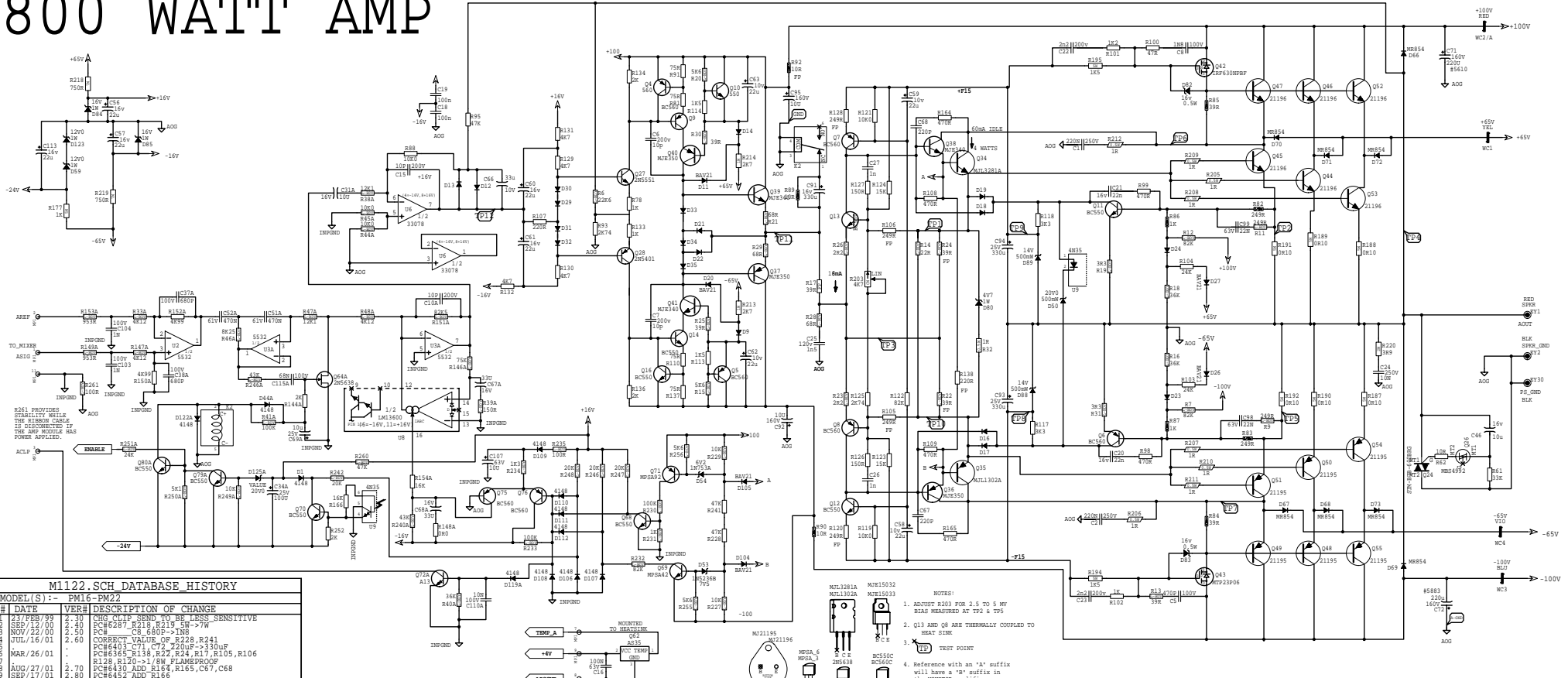


- NOTES:
1. ADJUST R204 FOR 3.5MV +/-0.5 BIAS ACROSS R199 AND R200 COLLECTOR INPGND
 2. Q31 IS THERMALLY COUPLED TO HEAT SINK
 3.  TEST POINT
 4. Reference with a "B" suffix will have an "A" suffix for the main amplifier.
 5. ALL UNMARKED DIODES IN4148



M1122-3C.SCH DATABASE HISTORY			
MODEL(S) :- PM16/22			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	23/FEB/99	2.10	CHG CLIP SEND TO BE LESS SENSITIVE
2	NOV/27/00	2.20	PC#6308_DEL_C200(100N_PIN6_U5->PIN_4
3			
4	DEC/06/01	2.30	PC#6483 ADD R51, C10 AT U1
5	SEP/08/2003	2.40	PC#6621_Q73 MPSA93->MPSA92
6	APR/24/06	2.50	PC#7007 MAC-224-4 TO SIM-BTB-600BRG
7	N	V	N
8	D	V	N
9	D	V	N
10	D	V	N

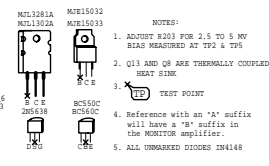
800 WATT AMP



M1122.SCH DATABASE HISTORY

MODEL(S) :- FM16-PM22

#	DATE	VER#	DESCRIPTION OF CHANGE
1	23/FEB/99	2.30	CHG C11P SEND TO BE LESS SENSITIVE
2	SEP/12/00	2.40	PC#6287_R218 R219 5R->7R
3	NOV/22/00	2.50	PC# C8 680P->1NG
4	JUL/16/01	2.60	CORRECT VALUE OF R228 R241
5	MAR/26/01	2.70	PC#6403 C71 C72 220UF->330UF
6	AUG/27/01	3.00	PC#6430 ADD R154 R165 C67, C68
7	SEP/17/01	2.80	PC#6452 ADD R166
8	JAN/27/04	2.90	PC#6648 C71, C72 330u->220u/160V
9	APR/24/06	3.00	PC#700V_MC7247->SPR-FTH-S00BRG
10	MAY/03/06		PC#7083_MF10N15->SFM-30NRFSP



- NOTES:
- ADJUST R203 FOR 2.5 TO 5 MV BIAS MEASURED AT TP2 & TP5
 - Q13 AND Q9 ARE THERMALLY COUPLED TO HEAT SINK
 - TEST POINT
 - Reference with an "A" suffix will have a "B" suffix in the MOTOR amplifier.
 - ALL UNMARKED DIODES 2N4148

WAVE SOLDER



SHEAR

SHEAR

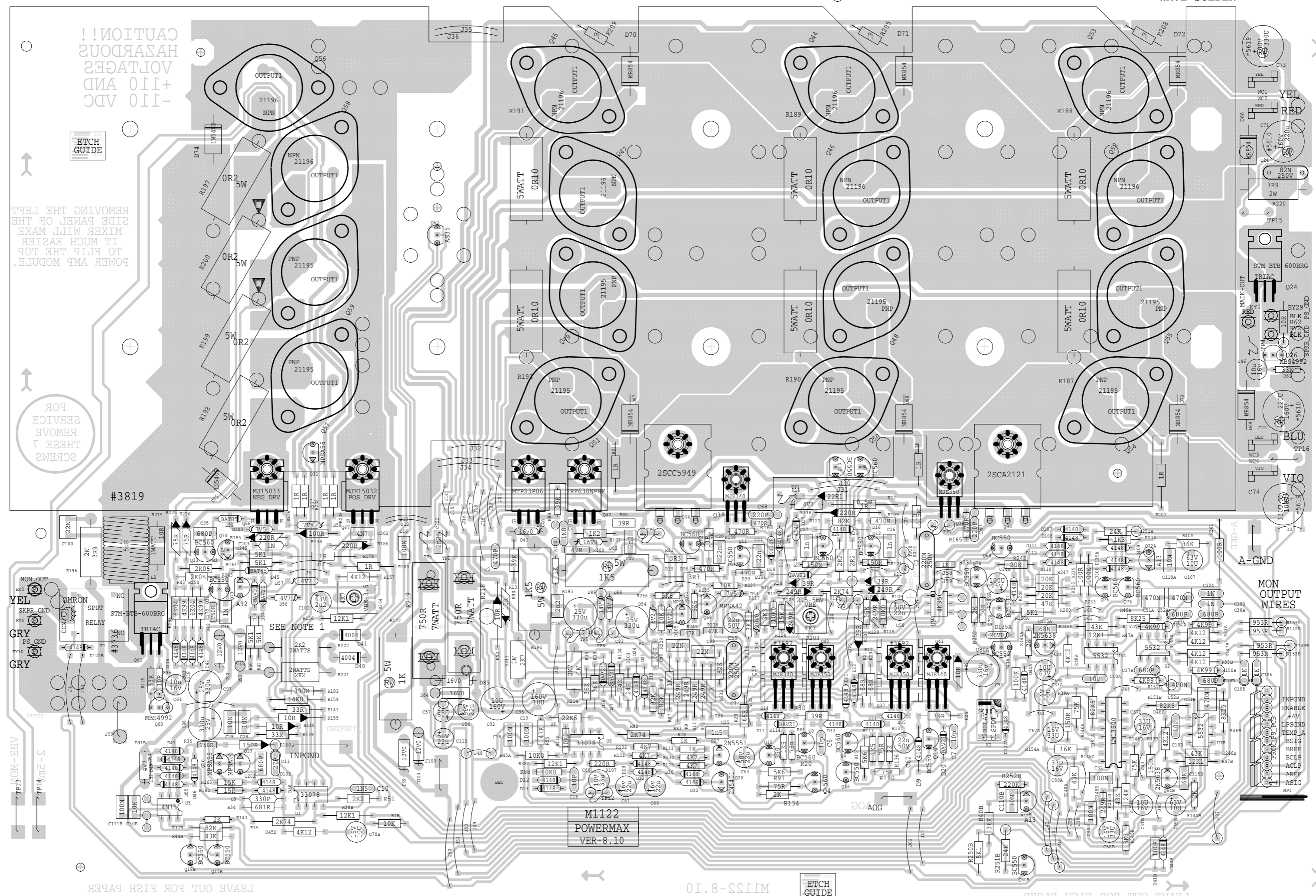
SHEAR

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CAUTION!!
HAZARDOUS
VOLTAGES
+110 AND
-110 VDC

ETCH
GUIDE

REMOVING THE LEFT
SIDE PANEL OF THE
MIXER WILL MAKE
IT MUCH EASIER
TO FLIP THE TOP
POWER AMP MODULE.

FOR
SERVICE
REMOVE
THESE 7
SCREWS

#3819

SEE NOTE 1

M1122
POWERMAX
VER-8.10

ETCH
GUIDE

ETCH
GUIDE

LEAVE OUT FOR FISH PAPER

LEAVE OUT FOR FISH PAPER

LEAVE OUT FOR FISH PAPER

ASSEMBLY M1122-8.10
PCB MECH M1122-8.10

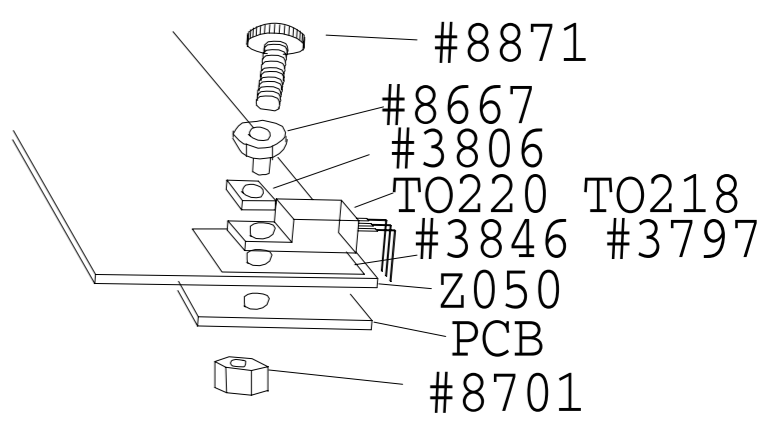
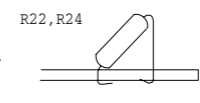
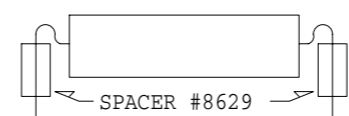
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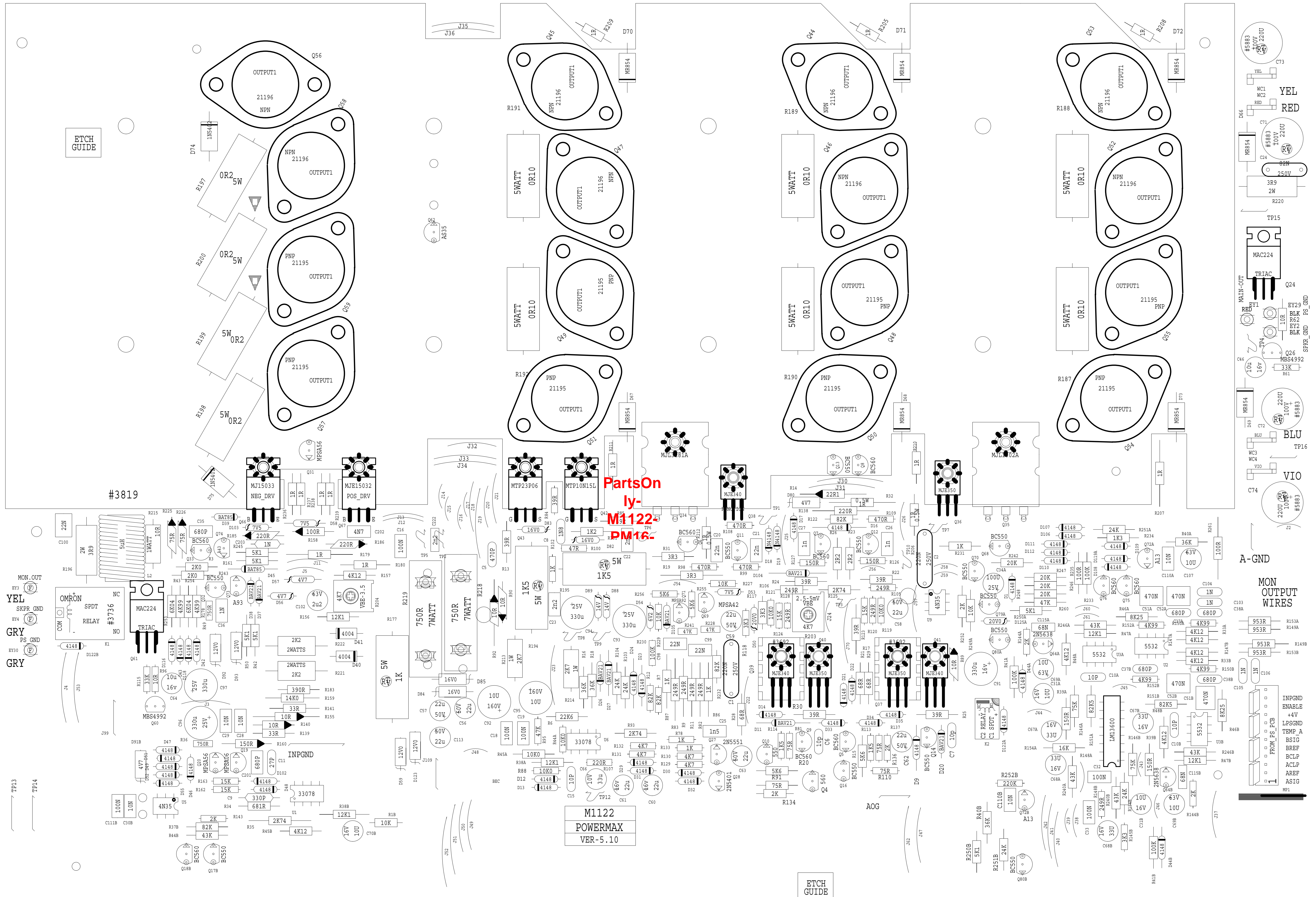
TO220 MOUNTING

M1122.PCB_DATABASE_HISTORY		#	DATE	VER#	DESCRIPTION OF CHANGE
MODEL(S) :-	MODEL	24	MAR/14/02	7.00	TABS TO STARPADS
1	10/NOV/98	2.00	FINAL VERSION FOR 1ST RUN	7.10	PC#6483 ADD R51 C10 AT U1
2	17/NOV/98	2.10	CHG R32 TO 1/2W 1R	7.20	PC#6226 ADD STAND-OFFS TO R221,R222
3	18/NOV/98	2.20	SWAP C46&R61 C64&R115	7.30	PC#6621 Q73 MPSA93->MPSA92
4	26/NOV/98	2.20	ADD HOLE FOR SPREADER TEST POINT	8.00	REDO SOLDERMASK
5	30/NOV/98	2.20	ADD VBE TEST PTS OUTSIDE FAN BOX	8.10	PC#7004 MAC-224-4 TO STM BTB 600BRG
6	04/DEC/98	2.30	ADD HOLES FOR VBE TRIM ACCESS		PC#7083 MTP10N15L TO IRF630NPBF
7	13/JAN/99		PUT C10A,B&C15 BACK IN 10P		
8	25/JAN/99		R129-910R->750R, R177-910R->1K		
9	23/FEB/99		FIX TRACES CUT BY TRIM ACCESS HOLES		
10	MAR/29/99	3.00	CHG PBL XTR HOLES TO 0.055"		
11	12/NOV/99		CHG CLIP SENDS TO BE LESS SENSITIVE		
12	19/MAR/26/01	5.20	PC#5972_EXTRA_TRACE_ADDED R177,R218		
13	15/SEP/12/00	4.00	PC#6287_R218,R219_5W->TYPE_CR-YA-7W		
14	16/OCT/17/00	5.00	ADD EYELETS FOR R218, R219		
15	17/NOV/22/00	5.10	PC#6307_C8_680P->1N8		
16	18/NOV/27/00		PC#6308_DEL_C200 @ U5		
17	19/MAR/26/01	5.20	PC#6365_R138,R22,R24,R17,R105,R106,		
18	20/AUG/27/01	6.00	R128,R120->1/8W_FLAMEPROOF		
19	21/AUG/27/01	6.00	PC#6403_C71,C72,C73,C74_220uF->330u		
20	22/MAR/29/99	3.00	PC#6430_ADD_R164,R165,C67,C68		
21	23/DEC/06/01	6.10	PC#6483_ADD_C10_AND_R51_AT_U1		

PRODUCTION NOTES

- 1) MOUNTING FOR R177,R194,R195
- 2) C8 PT#5425 IS HAND INSERTED
- 3) HAND INSERT R22,R24 AS SHOWN
- 4) C71,C72 MUST BE HAND INSERTED AFTER WAVE SOLDERING





ETCH GUIDE

#3819

Parts On ly-
M1122-5.10
PM16-

M1122
POWERMAX
VER-5.10

ETCH GUIDE

ETCH GUIDE

MON_OUT
YEL
SKPR GND
GRY
PS GND
GRY

A-GND

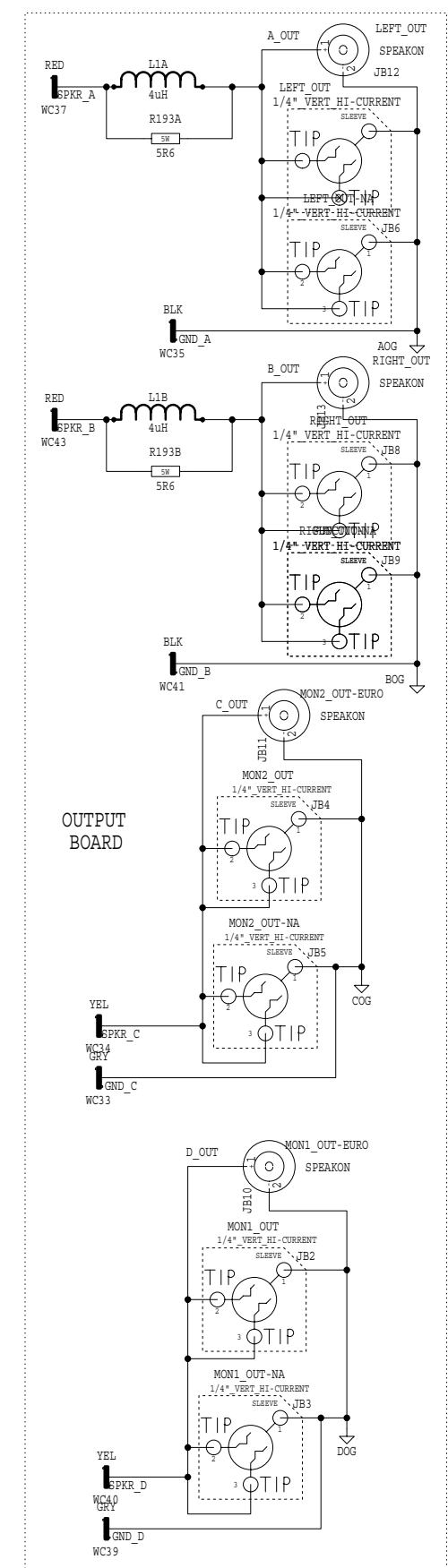
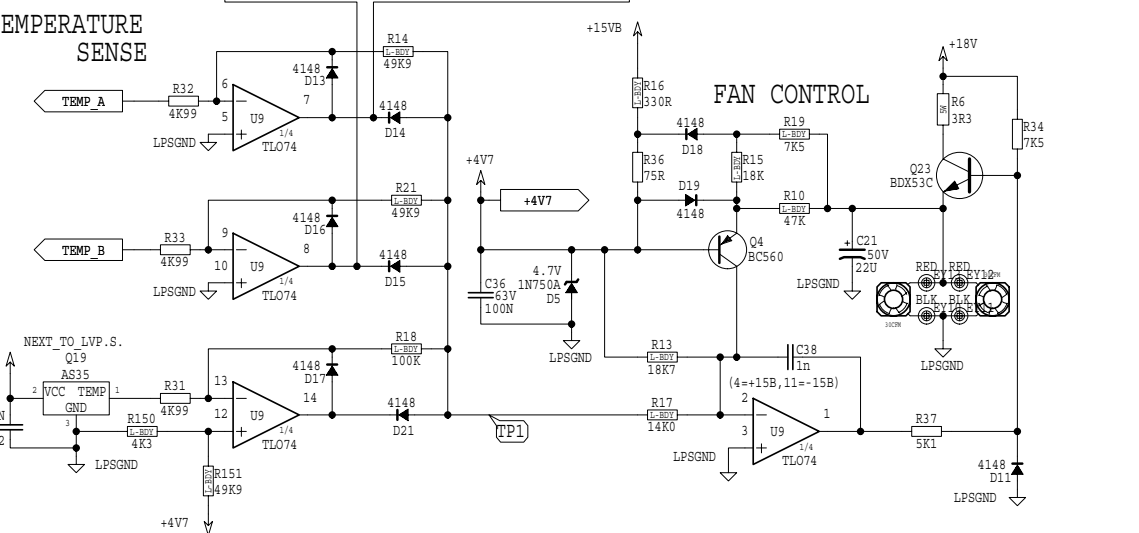
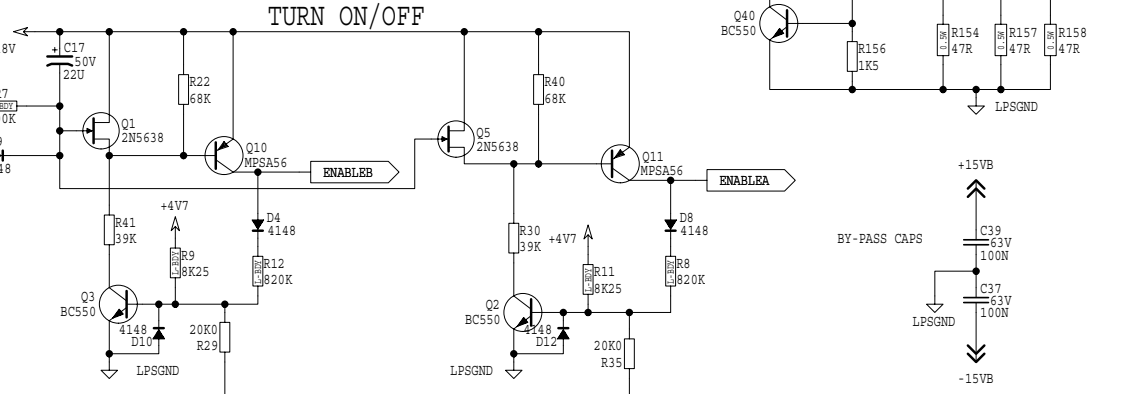
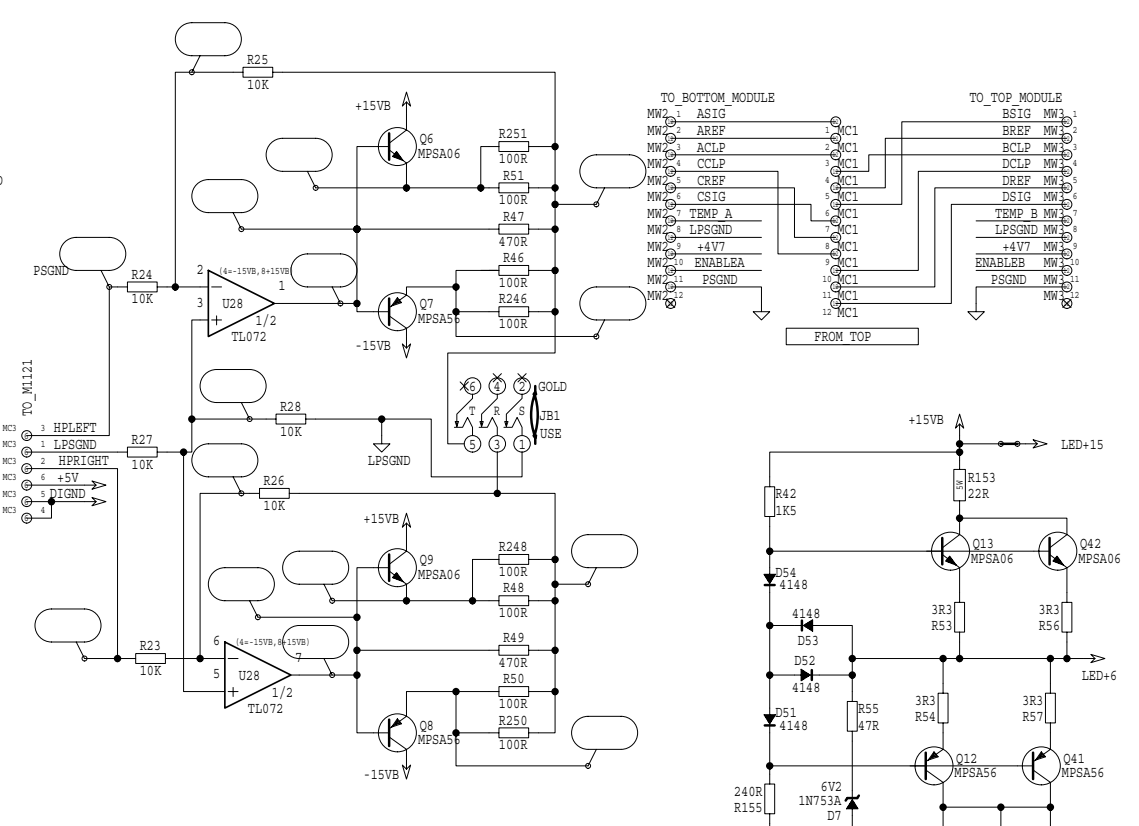
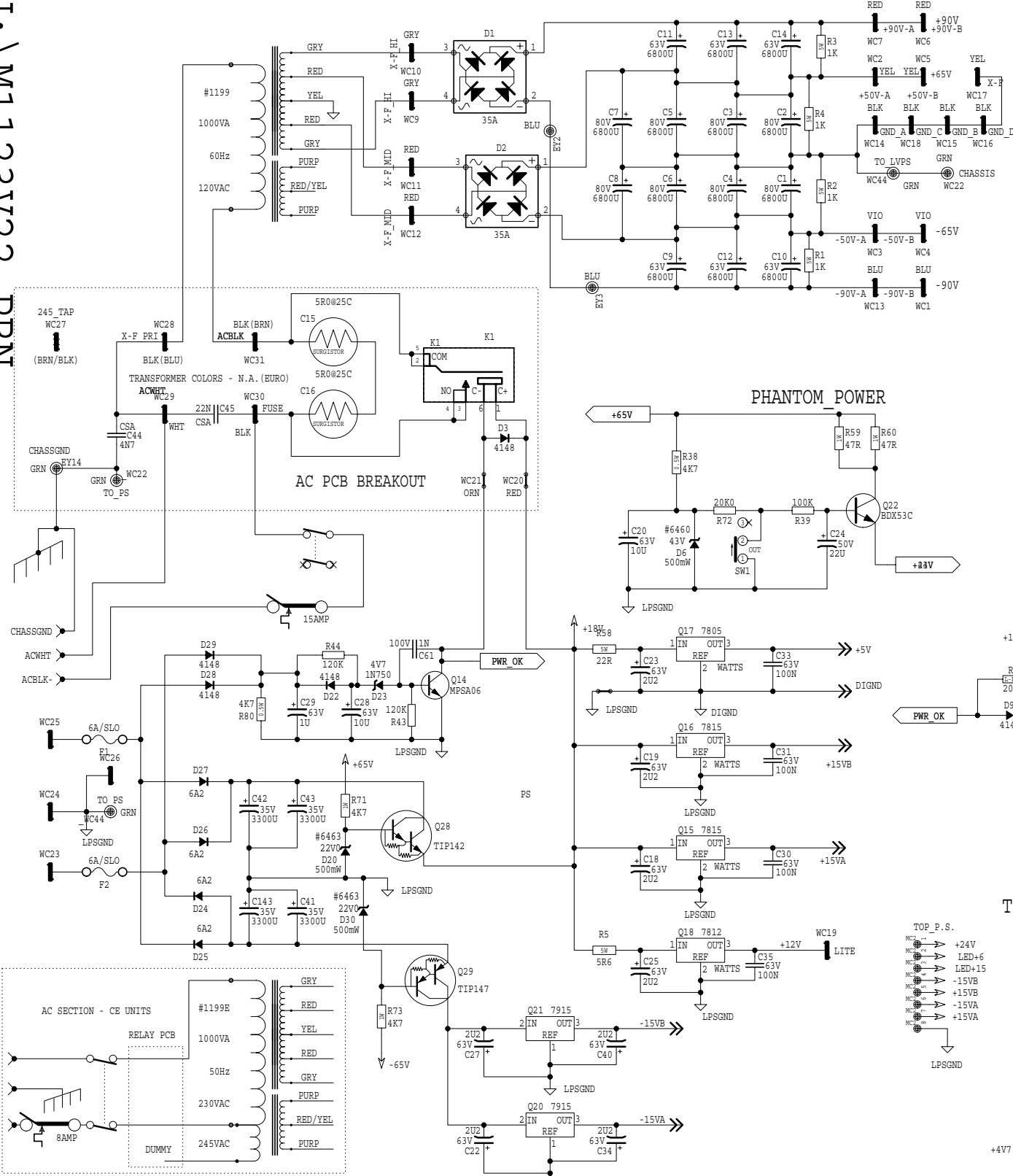
MON OUTPUT WIRES

INPGND
ENABLE
+4V
LPSGND
TEMP A
BSIG
BREF
BCLP
ACLP
AREF
ASIG

ASSEMBLY M1122-5.10
PCB MECH M1122-5.10

BLANK SIZE=17.000"X11.750"

U: M1123V22.PRN



M1123.SCH DATABASE HISTORY

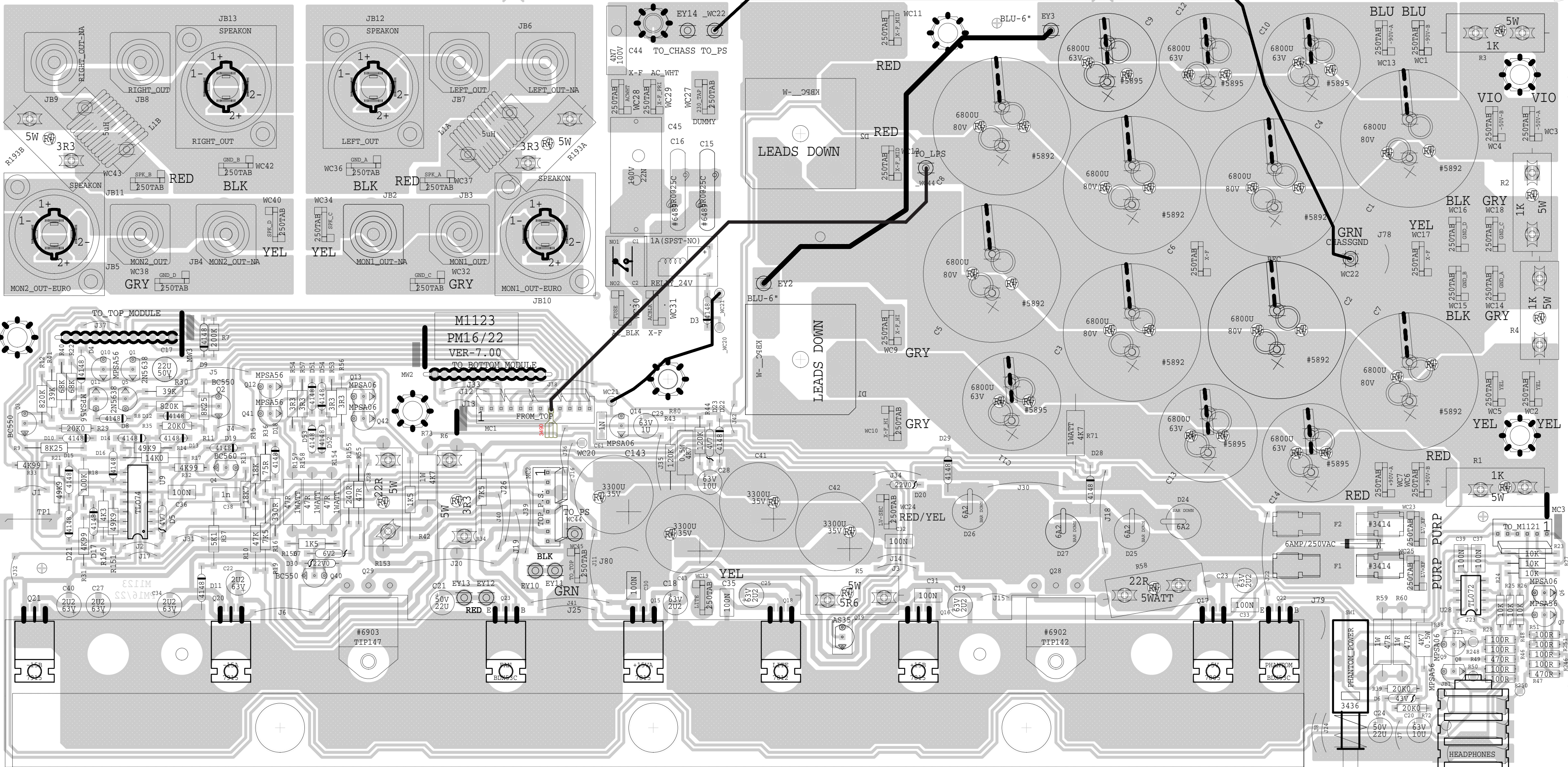
#	DATE	VER#	DESCRIPTION OF CHANGE
1	OCT/21/99	2.10	PC#6144 D6 27V->43V R59,R60 470R-47R
2			
3	APR/18/00	2.20	PC#6106 Q28 BDV65B->TIP142
4			Q29_BDV64B->TIP147
5			
6			
7			
8			
9			
10			

INSTALL REGULAR EYELET WHERE INDICATED

SEE NOTES FOR JACK LAYOUT

SHEAR

SHEAR

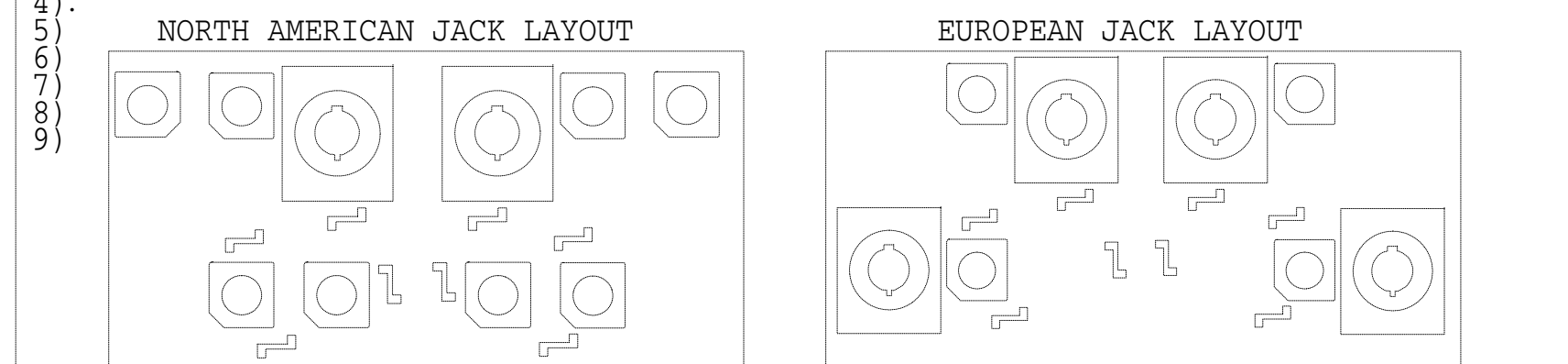


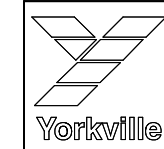
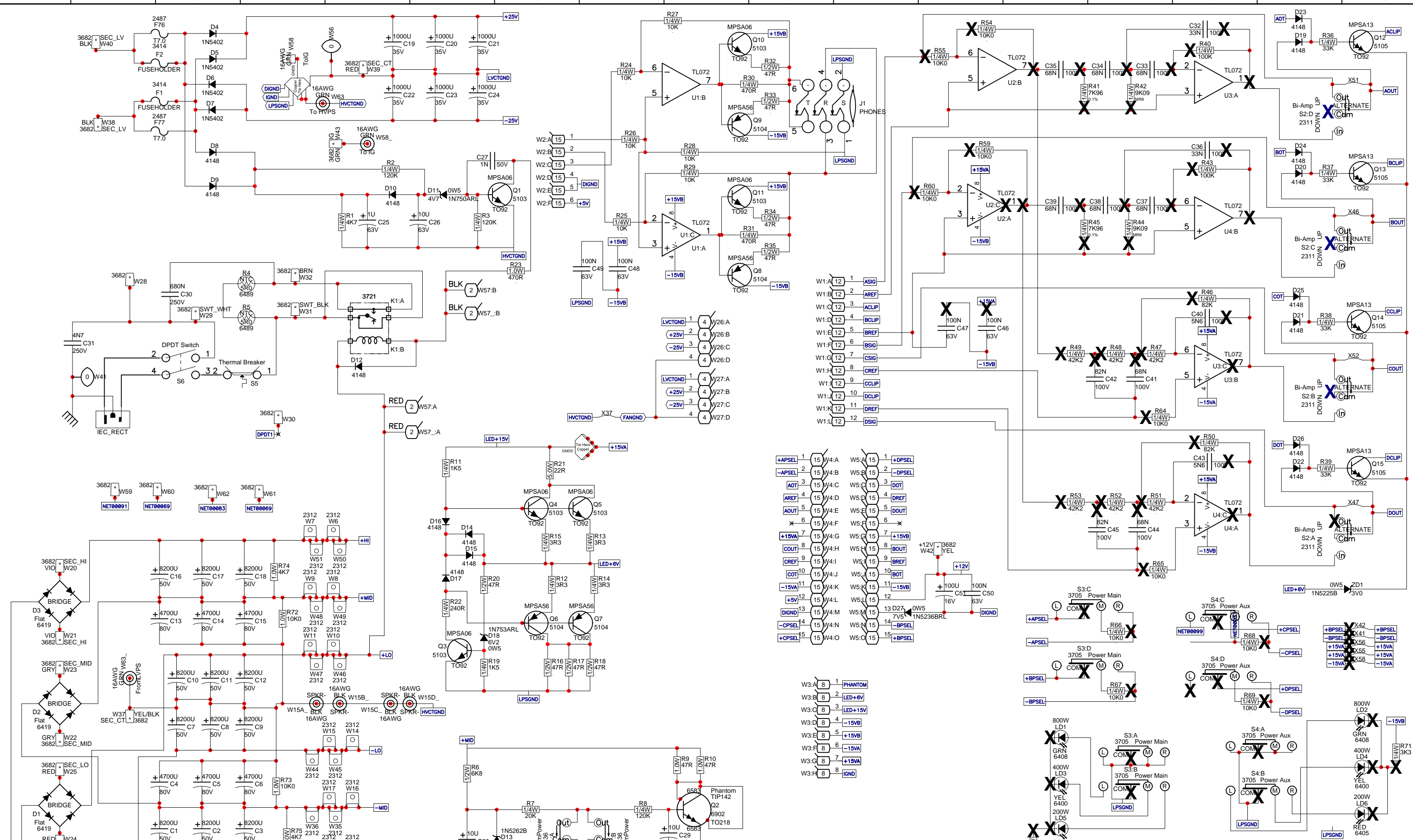
M1123.PCB_DATABASE_HISTORY			
MODEL (S)	DATE	VER#	DESCRIPTION OF CHANGE
PM16/22	24	D	
	25	D	
	26	D	
	27	D	
	28	D	
	29	D	
	30	D	
	31	D	
	32	D	
	33	D	
	34	D	
	35	D	
	36	D	
	37	D	
	38	D	
	39	D	
	40	D	
	41	D	
	42	D	
	43	D	
	44	D	
	45	D	
	46	D	
	47	D	
	48	D	
	49	D	
	50	D	

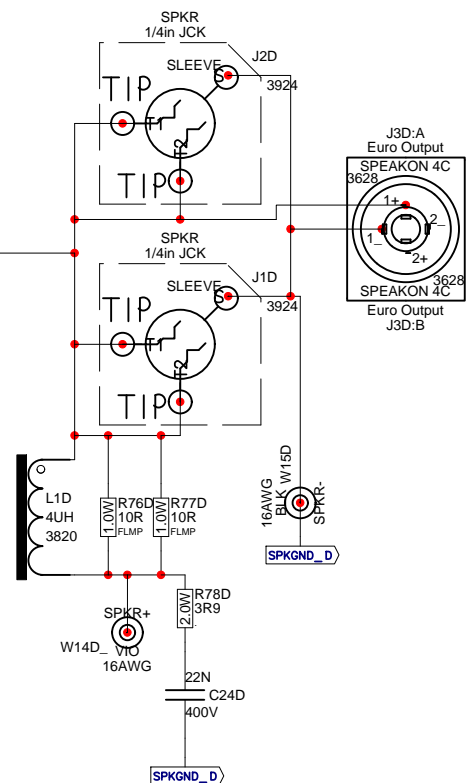
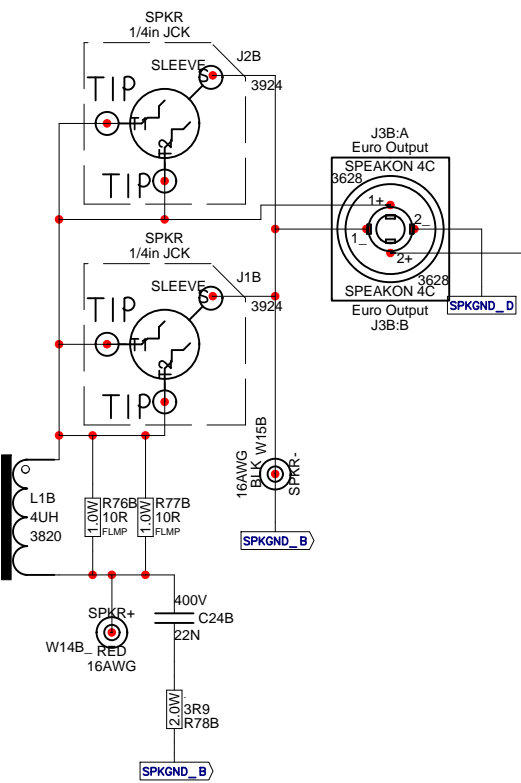
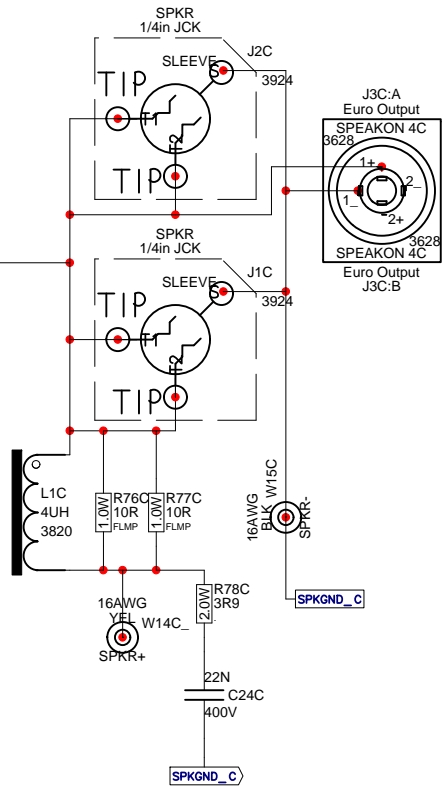
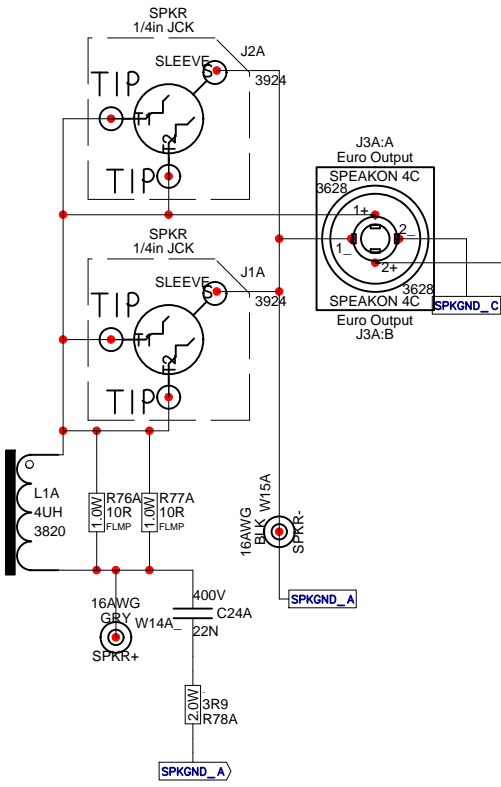
PCB MECH M1123-7.00 "17.000X8.750" BLANK SIZE=17.000"X8.750"
 ASSEMBLY M1123-7.00 BLANK SIZE=17.000"X8.750"

PRODUCTION NOTES

- 1) MOUNT BRIDGES ON THE BOARD WITH GOOP AND 2 #8828 6-32 SCREWS TO Z050 HEATSINK
- 2) BEND THE LEADS OF THE BRIDGES FLAT AGAINST THE BOARD
- 3) MOUNT Z051 REGULATOR HEATSPREADER WITH 2 #8829, 6320 SCREWS
- 4)







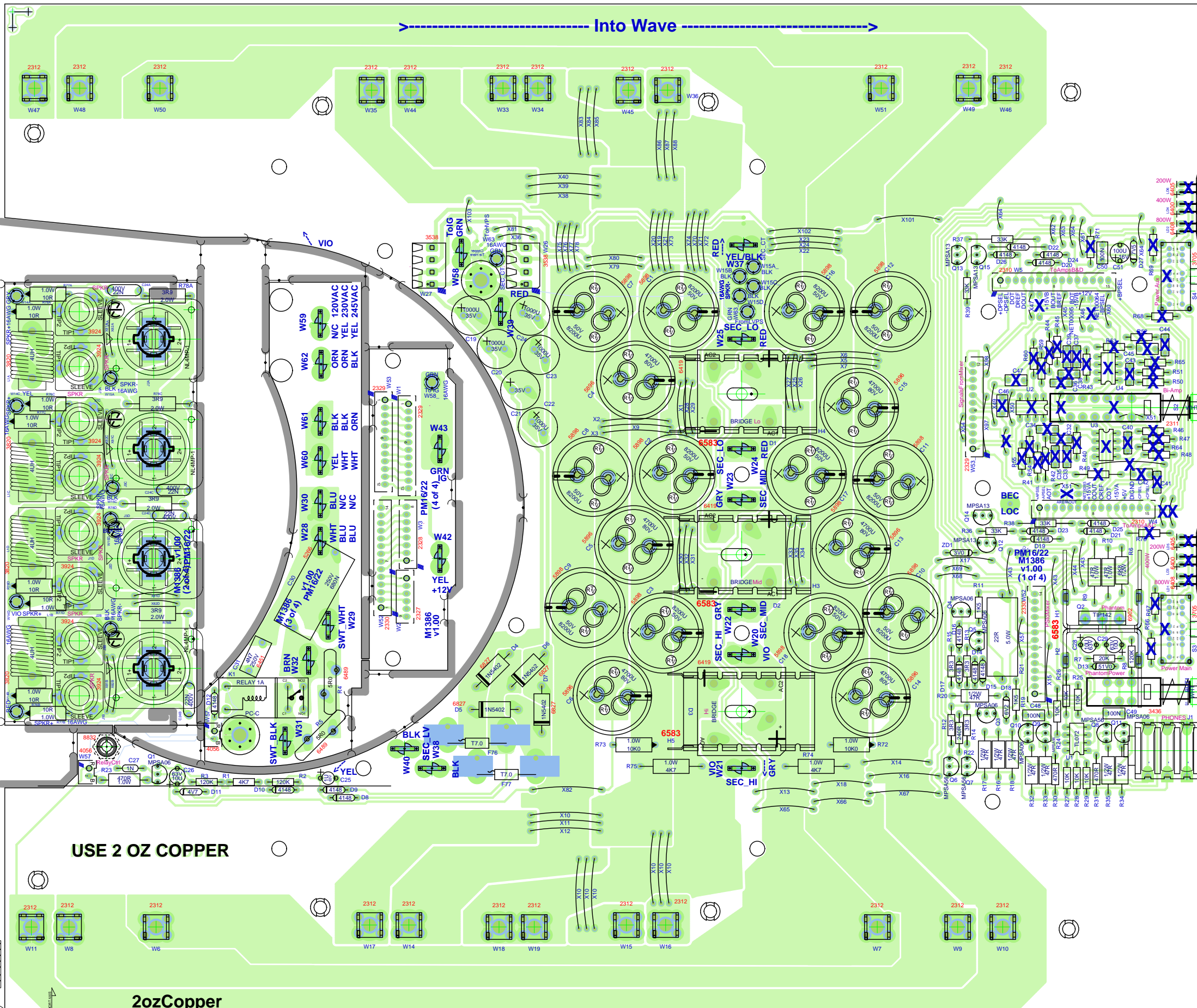
Product PM16/22		
SignalProcessing	PCB# M1358	Sheet 2 of 2
Date: Fri Nov 20, 2009	Rev:1.00	YsType:YsType
Filename: M1386v100sch.sch2002		

Keep on for wave soldering.

Keep on for wave soldering.

Keep on for wave soldering.

Keep on for wave soldering.



USE 2 OZ COPPER

2ozCopper

Remove before wave soldering.

BlankSize - 16225x13850

Remove before wave soldering.

BlankSize - 16225x13850 2ozCopper

SEE LAYOUT DOCUMENTATION





SEE LAYOUT DIAGRAM



M1386.PCB_DATABASE_HISTORY			
MODEL(S):- PM12-2, PM22-2			
#	DATE	VER#	DESCRIPTION OF CHANGE
1	2008/12/10	1.00p1	First proto.
2	2009/05/12	1.00p2	2nd proto.
3	2009/07/28	1.00p3	Chg W58 from eyelet to tab. Disconnected S4, pin9.
4	2009/11/23	V1	First Production Run
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

M1386 PENDING CHANGES		
MODEL(S):- PM12-2, PM22-2		
#	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

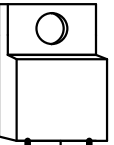
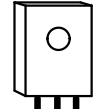


1. Mount the three heatsinks on the bridges after all the large caps are in place.

IRF720
 MTP23P06
 IRF830
 IRF822
 IRF5210
 IRL2910
 MTP2P50E
 MTP8P20
 MTP10N15
 MTP12P10
 IRF720

BD139
 BD238
 BD140
 BD237
 MJE271
 MJE270
 MJE340
 MJE350

2N5401
 2N5551
 MPSA06
 MPSA13
 MPSA43
 MPSA56
 MPSA63

BC550C
 BC560C

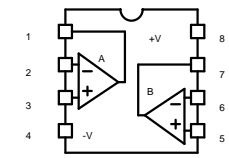
G D S
 TO-220

E C B
 TO-126

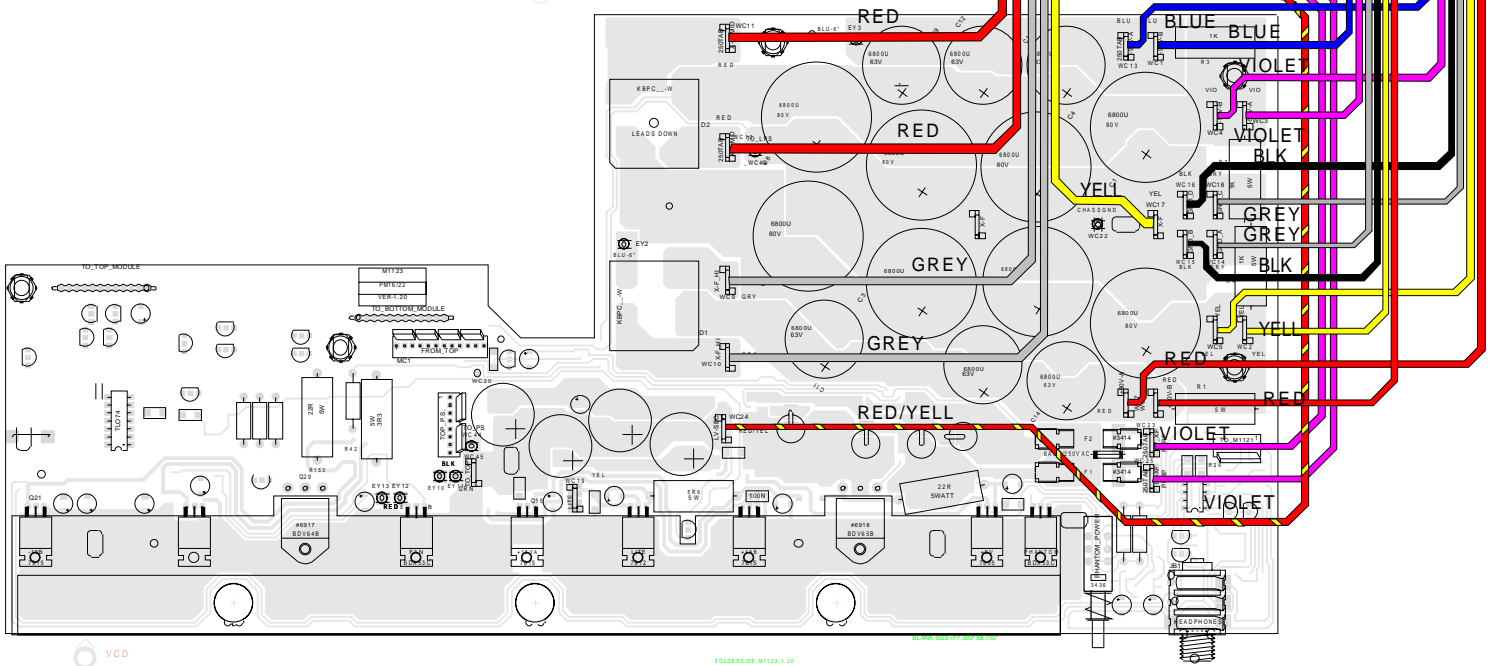
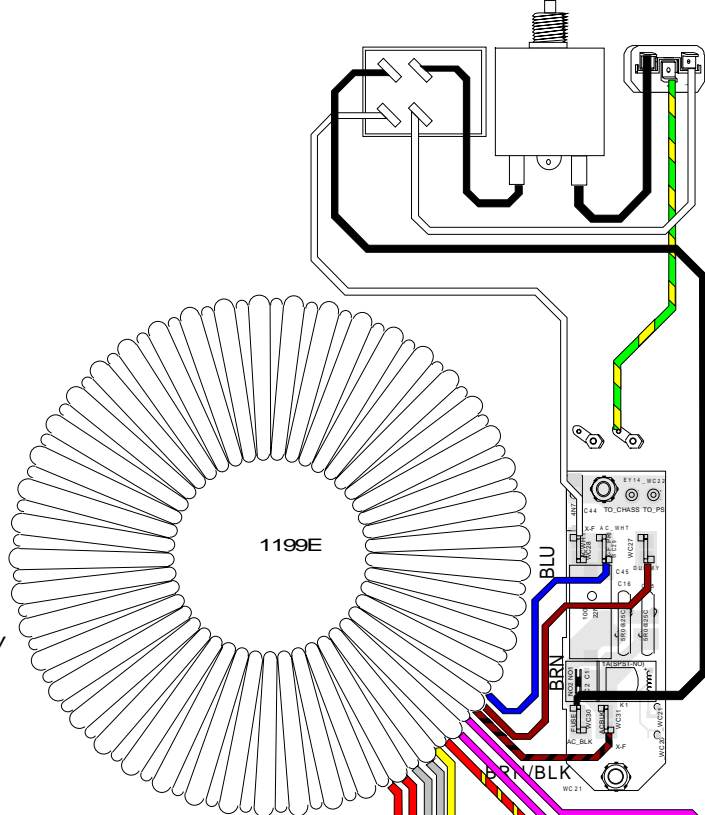
E B C
 TO-92

C B E
 TO-92

LEAD/PIN REFERENCE



PM16 CE AC
MAY. 09, 02
SHOWN WIRED FOR 245V



HARNES WIRES

HARNES WIRES

VCD

SOLDER SIDE M1123-1.02

BLANK SIDE M1123-1.02

