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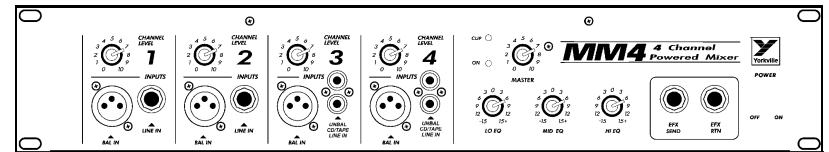
**Quality and Innovation Since 1963**  
Printed in Canada

# SERVICE MANUAL



## **MM4** 4 Channel Powered Mixer

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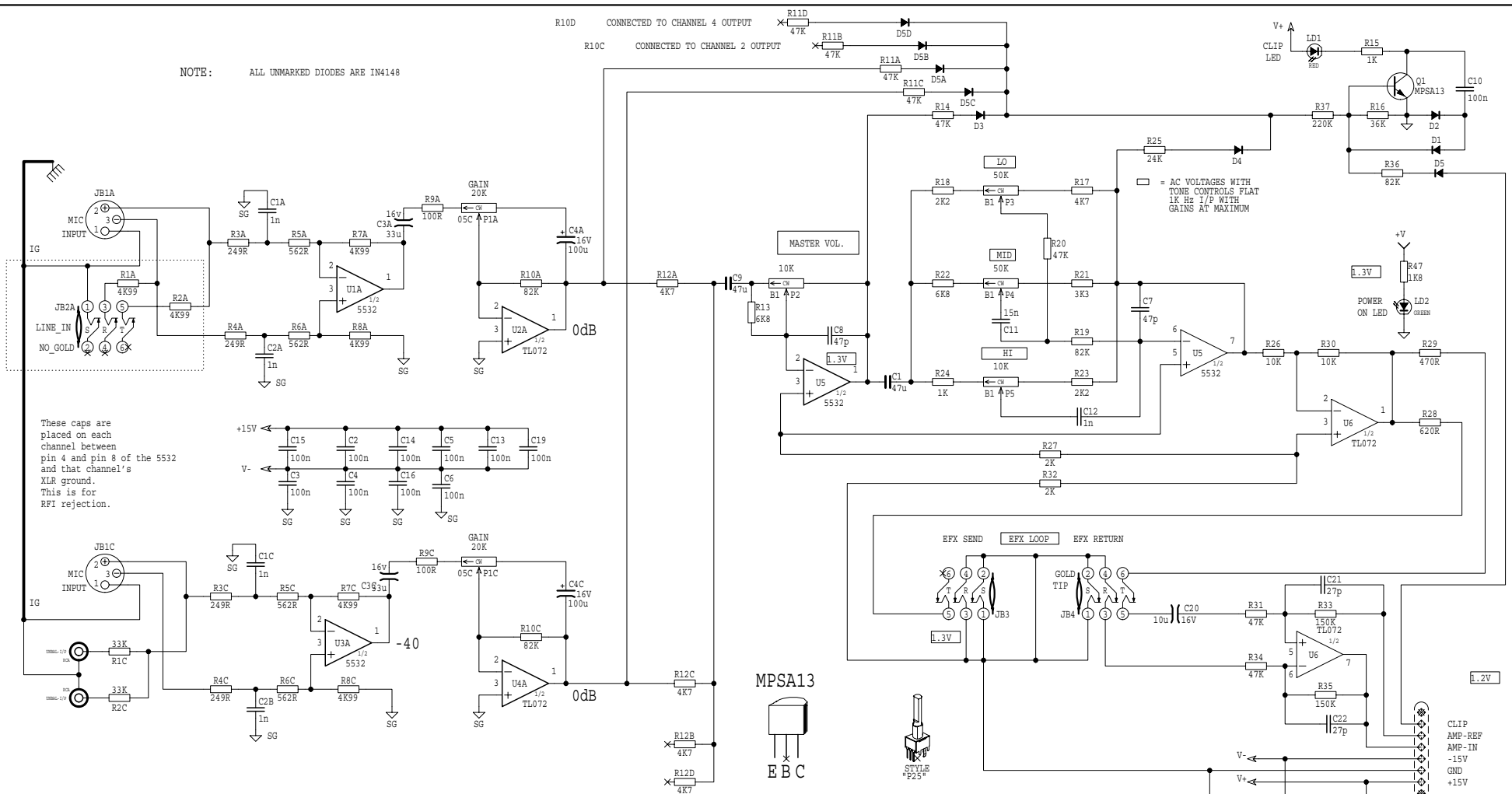


s-mm4-1v1.pdf 09/05/00

**MM-4 Parts List 3/20/00**

YS #	Description	Qty.	YS #	Description	Qty.	YS #	Description	Qty.
5906	RED 3MM LED 1V9 20MA .4SPCER T&R	1	3827	SQUARE BUMPER BUTTON BLACK	3	8843	10-32 X 1 1/8 FLAT PH MS JS500	2
6405	RED 3MM LED 1V7 5MA BRT	1	3484	8' 3/18 SJT AC LINE CORD 250WH187BL	1	8770	1/4-20 X 1 5/16 TRUSS PH MS JS500	4
5908	GRN 3MM LED 1V9 20MA .4SPCER T&R	1	3834	HEYCO #1214 STRAIN RELIEF	1	8765	1/4-20 X 2 1/2 HEX HD MS JS500 BLK	1
6408	GRN 3MM LED 1V9 5MA FROSTED	1	3521	SIDE ENTRY PCB CONN .156 8POS	1	8607	3/16 NYLON SPACER OD 1/8 X ID .063	8
6825	1N4148 75V 0A45 DIODE T&R	24	3538	24 PIN BREAKAWAY LOCK .156	0.333	3739	CUSTOM .4 LED SPACER	2
6438	1N4004 400V 1A0 DIODE T&R	2	3676	8 CIR CABLE HOLDER .098	2	8664	4-40 X 0.5 SWAGE SPACER (ROUND)	1
6827	1N5402 200V 3A0 DIODE	2	8793	4-40 HEX NUT ZINC	2	8667	SHOULDER WASHER SWS-229 LENGTH 1/8	2
6434	6A2 200V 6A0 DIODE	4	8800	6-32 KEPS NUT ZINC	2	8818	3/4 OD X 5/16 ID X .08 THICK WASHER	2
6733	BAT85 30V 0A2 DIODE SCHTKYT&R	2	8788	1/4-20 KEPS NUT ZINC	1	3698	SPST ROKR SW QUIK 180" AC PWR BL/BL	1
6824	1N5246B 16V0 0W5 ZENER 5% T&R	4	8890	1/4-20 CAGE NUT C7988142027	4	1398	125VAC 62VSEC T'RD	1
6463	1N5251BRL 22V0 0W5 ZENER 5% T&R	1	3797	TO-247 THERMO CONDUCTIVE PAD	2			
5101	BC550C TO92 NPN TRAN T&R TB	3	3830	TO218 PREGREASED MICA 56-78-2AP	2			
5102	BC560C TO92 PNP TRAN T&R TB	2	3846	TO220 THERMO PAD LARGE HOLE 56359B	2			
5103	MPSA06 TO92 NPN TRAN T&R TA	1	4597	22AWG STRAN TC WIR JMP	33			
5104	MPSA56 TO92 PNP TRAN T&R TA	1	4599	22AWG SOLID SC WIR T&R JMP	44			
6780	MPSA56 TO92 PNP TRAN TA	1	5299	24AWG SOLID SC WIR RAD JMP	5			
5105	MPSA13 TO92 NPN DARL T&R TA	1	4749	5.0W 0R15 5% BLK RES	2			
5119	2N5638 TO92 NCH JFET T&R TC	1	4748	2.0W 3R9 5% T&R	1			
6810	MJF15030 T221D NPN TRAN TJ	1	4686	1.0W 10R 5%FLAME PROOF T&R RES	1			
6811	MJF15031 T221D PNP TRAN TJ	1	4875	1/4W 10R 5% T&R RES	2			
6814	MJF6668 T221D PNP TRAN DARL TJ	1	4816	1/4W 33R 5% T&R RES	3			
6815	MJF6388 T221D NPN TRAN DARL TJ	1	4995	1/4W 33R2 1%FLAME PROOF T&R RES	2			
6988	MJL21194 TO3P NPN TRAN TK	1	4604	1/4W 33R2 1% T&R RES	2			
6991	MJL21193 TO3P PNP TRAN TK	1	4811	1/4W 68R 5% T&R RES	1			
6840	MC33078P IC DUAL OP AMP	1	4735	1.0W 100R 5% T&R RES	2			
6882	TL072CP IC FET DUAL OP AMP	3	4852	1/4W 100R 5% T&R RES	4			
6884	NE5532N IC DUAL OP AMP	3	4987	1/4W 120R 5%MINI T&R RES	1			
6880	4N35 OPTO-COUPLER	1	4859	1/4W 150R 5% T&R RES	2			
6467	10K 10% THERMISTOR NTC TO-92	1	4770	1/4W 249R 1% T&R RES	8			
5404	.27P 100V 10%CAP T&R BEAD NPO	2	4945	1/4W 270R 5% .2"U T&R RES	1			
5203	.47P 100V 2%CAP T&R RAD CER.2"NPO	1	4780	1/8W 274R 1%FLAME PROOF T&R RES	2			
5408	.47P 100V 10%CAP T&R BEAD NPO	2	4950	1/4W 390R 5% .2"U T&R RES	3			
5410	100P 100V 10%CAP T&R BEAD NPO	1	4821	1/4W 470R 5% T&R RES	3			
5422	__1N 50V 10%CAP T&R BEAD NPO	10	4799	1/4W 562R 1% T&R RES	8			
5423	__1N2 50V 10%CAP T&R BEAD X7R	1	4891	1/4W 620R 5% T&R RES	1			
6451	__4N7 250V 20%CAP BLK "Y" 10MM AC	1	4781	1/8W 681R 1%FLAME PROOF T&R RES	1			
5204	__10N 100V 10%CAP T&R RAD .2"FLM	2	4869	1/4W 750R 5% T&R RES	1			
5302	__15N 50V 10%CAP T&R BEAD X7R	1	4758	1/4W 953R 1% T&R RES	1			
6435	__22N 275V 20%CAP BLK "X2" 15MM AC	1	4823	1/4W 1K 5% T&R RES	2			
5228	100N 100V 5%CAP T&R RAD .2"FLM	5	4824	1/4W 1K5 5% T&R RES	1			
5314	100N 50V 10%CAP T&R BEAD X7R	12	4808	1/4W 2K 5% T&R RES	2			
5231	220N 63V 10%CAP T&R RAD .2"FLM	1	4705	2.0W 2K2 5% BLK RES	2			
5255	__1U 63V 20%CAP T&R RAD .2"EL	1	4847	1/4W 2K2 5% T&R RES	3			
5257	__2U2 63V 20%CAP T&R RAD .2"EL	2	4826	1/4W 3K3 5% T&R RES	1			
5282	__10U 16V 20%CAP T&R 5X7MM .2"NP	1	4774	1/4W 4K12 1% T&R RES	3			
5885	__10U 100V 20%CAP T&R AXIAL EL	2	4827	1/4W 4K7 5% T&R RES	5			
5961	__33U 16V 20%CAP T&R RAD .2"NP	5	4639	1/4W 4K99 1% T&R RES	12			
5627	__47U 10V 20%CAP BLK RAD NP	2	4778	1/4W 5K36 1% T&R RES	1			
5267	100U 25V 20%CAP T&R RAD .2"EL	5	4828	1/4W 6K8 5% T&R RES	2			
5630	330U 25V 20%CAP BLK 10X13MM EL	1	4787	1/4W 7K960 0.1% *** T&R RES	1			
5869	4700U 63V 20%CAP BLK 25X40MM ELS	2	4829	1/4W 10K 5% T&R RES	3			
4566	__10K B LIN 9MM P25	2	4983	1/4W 10K 5%MINI T&R RES	1			
4567	__20K 5C R/A 9MM P25	4	4953	1/4W 12K 5% .2"U T&R RES	1			
4568	__50K B LIN 9MM P25	2	4830	1/4W 15K 5% T&R RES	2			
4522	__4K7 TRIM POT	1	6123	1/4W 20K0 1%MINI MF T&R RES	1			
3819	__5UH COIL 18AWG R000 AIR CORE	1	4902	1/4W 24K 5% T&R RES	1			
8674	R385 PLASTIC CORNER W TREAD	8	6122	1/4W 33K 5%MINI T&R RES	1			
3478	CLIP 205/187X032 18-22AWG DISCO/INS	2	4868	1/4W 36K 5% T&R RES	1			
3489	CLIP 250X032 18-22AWG DISCO/INSL	1	4794	1/4W 37K90 0.1% *** T&R RES	1			
3491	CLIP 205/187X020 18-22AWG DISCO/INS	1	4834	1/4W 47K 5% T&R RES	12			
3682	250 MALE PCB TAB BULK CARTRIGE	7	4837	1/4W 82K 5% T&R RES	6			
3498	1/4" JCK PCB MT HORZ	5	4942	1/4W 100K 5% .2"U T&R RES	1			
3523	1/4" JCK PCB MT HORZ GOLD T__	1	6120	1/4W 100K 5%MINI T&R RES	1			
3460	RCA DUAL PCB MT VERT GOLD .475"	2	4839	1/4W 150K 5% T&R RES	2			
3650	XLR ADPT PCB MT	4	4841	1/4W 220K 5% T&R RES	1			
3659	XLR FEML PLASTIC	4	6135	1/4W 270K 5%MINI T&R RES	1			
3451	EYELET SMALL 0.089 OD PLATED	18	4845	1/4W 2M2 5% T&R RES	1			
3412	LOWPROFILE FUSEHOLDER 1/4" H345601	1	3610	10" 9C-26AWG RIB 3/4" NOTCH 0.1"	1			
3414	INTERNATIONAL PC MOUNT FUSEHOLDER	4	9010	16GA COLD ROLLED STEEL 4X8' SHEET	2.56			
2407	2.5 AMP SLO-BLO .25X1.25 FUSE	1	9065	14GA SATINCOAT STEEL 4X8 SHEET	0.25			
2409	6.0 AMP FAST-BLO .25X1.25 FUSE	2	9565	MM-6/SR-300 RAW HEATSINK	0.25			
8458	10.5" STRAP HANDLE, PLASTIC COVERS	1	9811	3/4"X4'X8" SPRUCE STAN. SHEATING	3.59			
8604	10-32 T NUT	2	8865	4-40 X 5/16 PAN PH MS JS500	1			
3501	B52200F006 COMP WASH #4 SMALL	2	8741	4-40 X 1/2 PAN PH MS JS500	2			
3745	DUAL XSISTOR PBL SPRING PLATE ZN	1	8842	#4 X 5/16 PAN QUAD TYPE A JS500 BLK	4			
3806	RECTANGULAR WASHER FOR TRANS SUPPRT	2	8801	6-32 X 3/8 PAN PH TAPTITE JS500	10			
3885	XSISTOR SPRING CLIP TO-220	2	8824	8-32 X 5/16 PAN QUAD TAPTITE JS500	7			
3495	1/8" HEATSHRINK POLYOLEFIN	0.015	8802	8-32 X 3/8 PAN QUAD TPTITE JS500	8			
3795	#8 GROUND LUG ZIERICK 505-169	1	8785	#8 X 3/4 OVAL PH TYPE A BLACK OXIDE	32			
3810	4" NYLON CABLE TIE	3	8781	#10 X 7/8 FLAT PHIL TYPE A JS500BLK	2			

U:M500V71.PRN



M500.SCH DATABASE HISTORY			
MODEL(S) :-	MM-4		
1	JUN/27/94	5.40	PC#4637 R25 FROM 62K TO 24K
2	OCT/17/94	5.50	PC#4653 REMOVED AC SECONDARY FUSES, AC CAPS AND THERMAL BREAKER
3	NOV/18/94	5.60	PC#4704 REPLACE CHAN 3 PHONE JACK WITH RCA JACKS
4	OCT/23/95	6.00	ALL POWER SUPPLY COMPONENTS
5			REMOVED AND EXTRA OP AMP ADDED TO MATE WITH M1098
6			I/P CIRCUIT CHANGED SAME AS M522
7			CLIP_CIRCUIT_CHANGED
8	MAR/23/99	6.10	
9			
10	JUN/03/99	7.00	

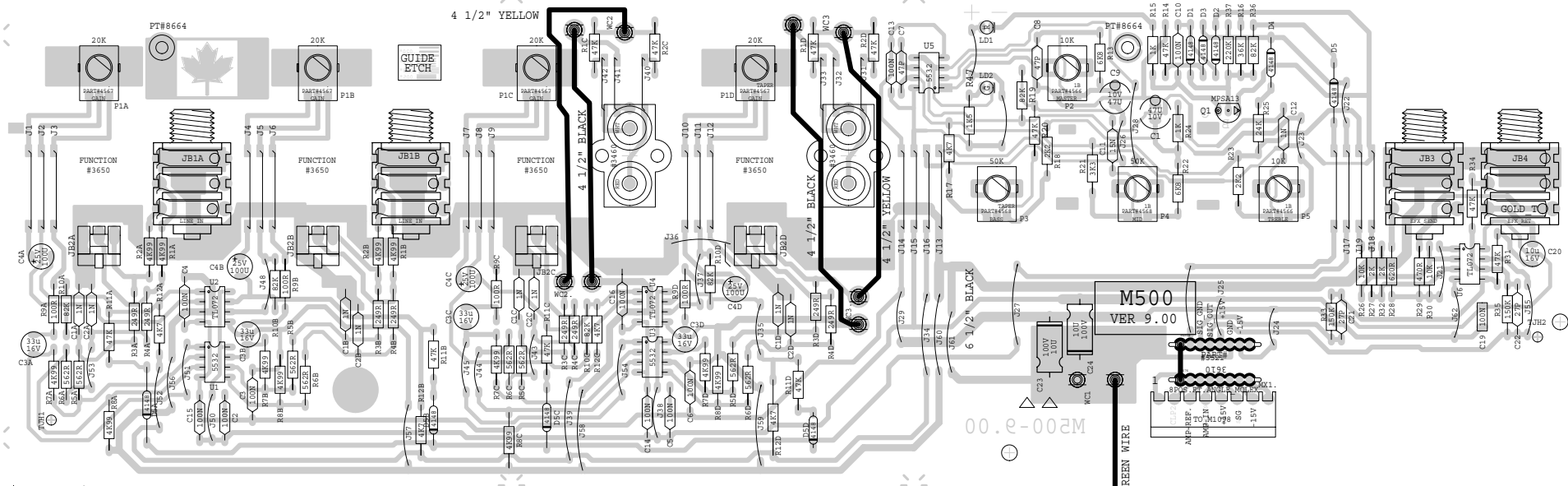
11	JUN/17/99	7.10	MASTER VOLUME 50K->10K R12A,B,C,D
12			10K->4K7 U5 TL072->5532
13			
14			
15			
16			
17			
18			
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21			
22			
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24			
25			

YORKVILLE	DATE: JUN/17/99	MODELS: MICROMIX_MM-4	SCH ISSUE: 7.10
	NAME: M500.SCH	PCB#&VER: M500	TITLE: 4_CHANNEL_MIXER

RSZ 06/03/99 0:00

RSZ 06/03/99 0:00

# M500

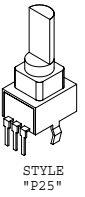


**M500.PCB DATABASE HISTORY**  
MODEL(S) :- MM4

#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUN/23/94	6.00	POWER SUPPLY COMPONENTS ADDED FOR NEW POWER PCB M520
2	JUN/27/94	6.10	PC#4537 R25 FROM 62K->24K
3	OCT/17/94	6.20	PC#4663-REMOVED_AC_SECONDARY_FUSES AND AC CAPS
4	NOV/17/94	6.30	PC#4704 CHAN 3_PHONE_JACK REPLACED BY RCA JACK
5	JUN/15/95	7.00	PC#4822 ALL POWER SUPPLY COMPONENTS REMOVED TO MATE WITH M1098 PWR AMP
6	OCT/11/95	7.10	MOLEX MOVED AT REQUEST OF B.A.
7	OCT/31/95	7.20	U4_TL071->TL072 OF AMP ADDED FOR EXTRA_GAIN_NEEDED_FOR_M1098
8	MAR/31/99	8.00	PC# POT STYLE CHANGED INPUT CIRCUIT ALTERED SAME AS MM6
9	JUN/08/99	9.00	PC# CLIP CIRCUIT REDONE
10	JUN/17/99		R12A,B,C,D 10K->477 MASTER VOLUME 50K->10K_U5_TL072->5532
11	D	V	N
12	D	V	N
13	D	V	N
14	D	V	N
15	D	V	N
16	D	V	N
17	D	V	N
18	D	V	N
19	D	V	N
20	D	V	N

**M500.PCB POT LIST**  
MODEL(S) :- MM-4

REF	FUNCTION	PART#	KNOB	AS OF
P1A	CHAN1_GAIN	#4567	#8704	JAN/2000
P1B	CHAN2_GAIN	#4567	#8704	.
P1C	CHAN3_GAIN	#4567	#8704	.
P1D	CHAN4_GAIN	#4567	#8704	.
P2	MASTER	#4566	#8703	.
P3	BASS	#4568	#8705	.
P4	MID	#4568	#8705	.
P5	TREBLE	#4566	#8705	.
R	F	F	K	M
R	F	F	K	M
R	F	F	K	M
R	F	F	K	M
R	F	F	K	M
R	F	F	K	M

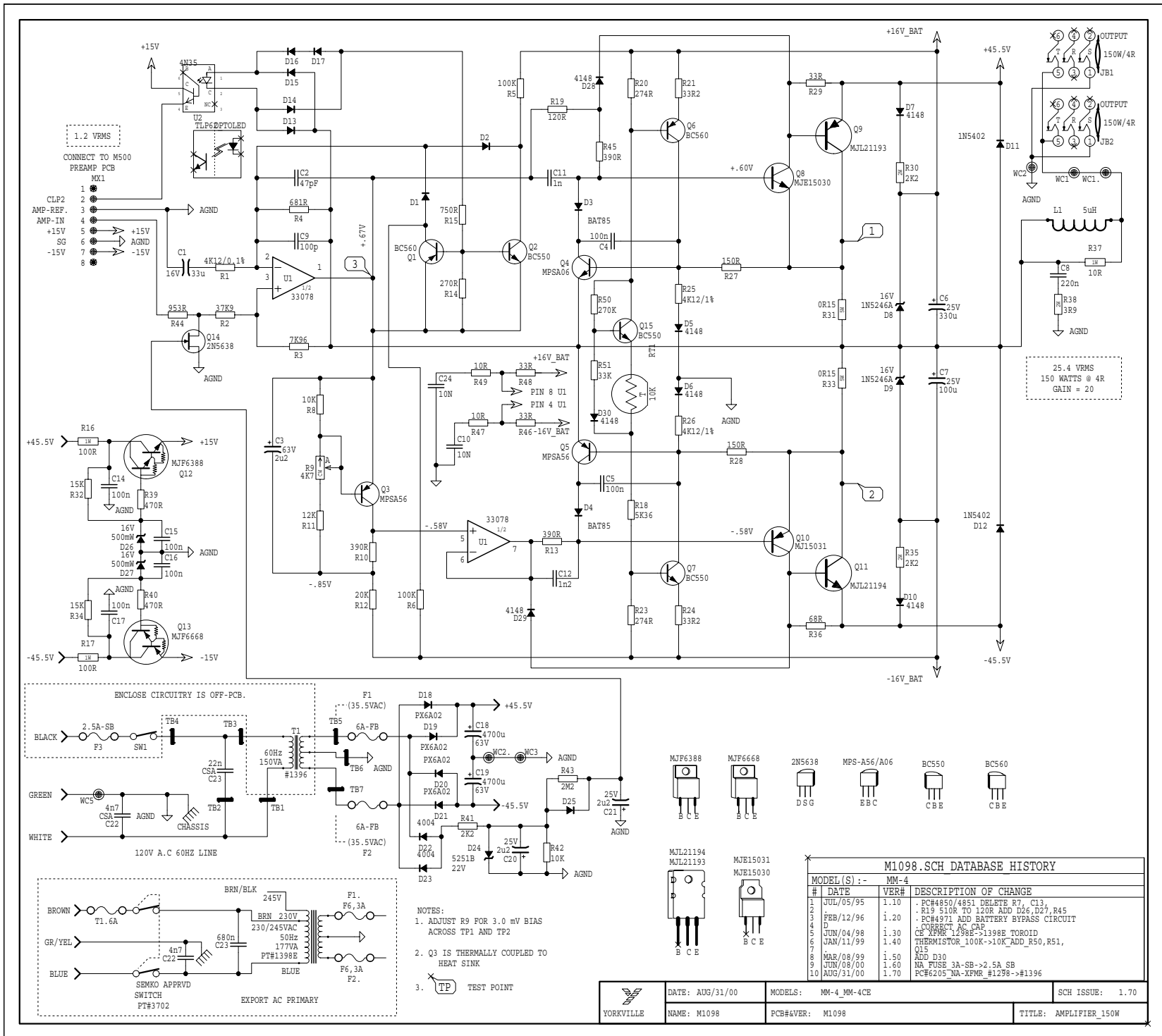


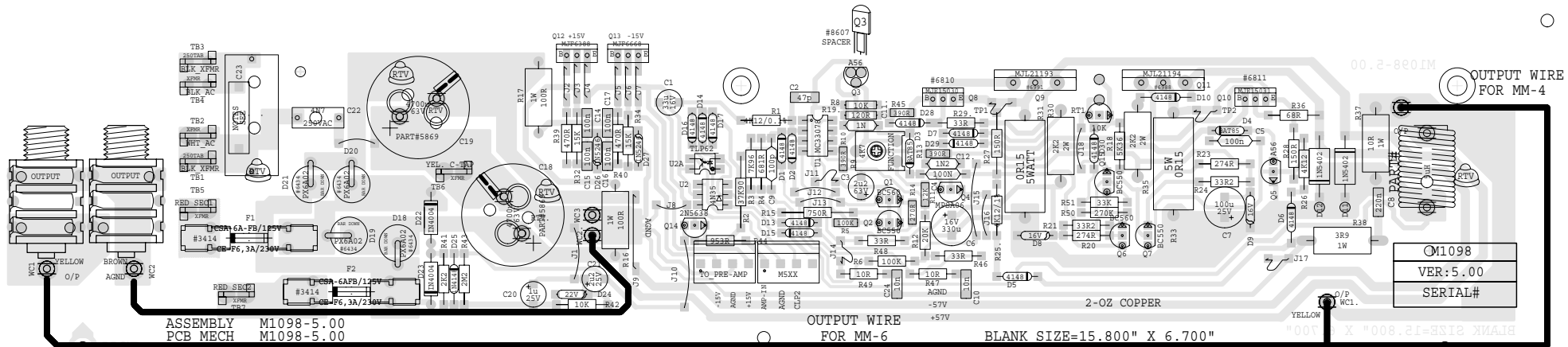
## PRODUCTION NOTES

ETCH GUIDE

SHEAR

SHEAR





ASSEMBLY M1098-5.00  
PCB MECH M1098-5.00

OUTPUT WIRE FOR MM-6

BLANK SIZE=15.800" X 6.700"

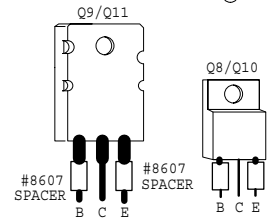
OUTPUT WIRE FOR MM-4

M1098.PCB DATABASE HISTORY

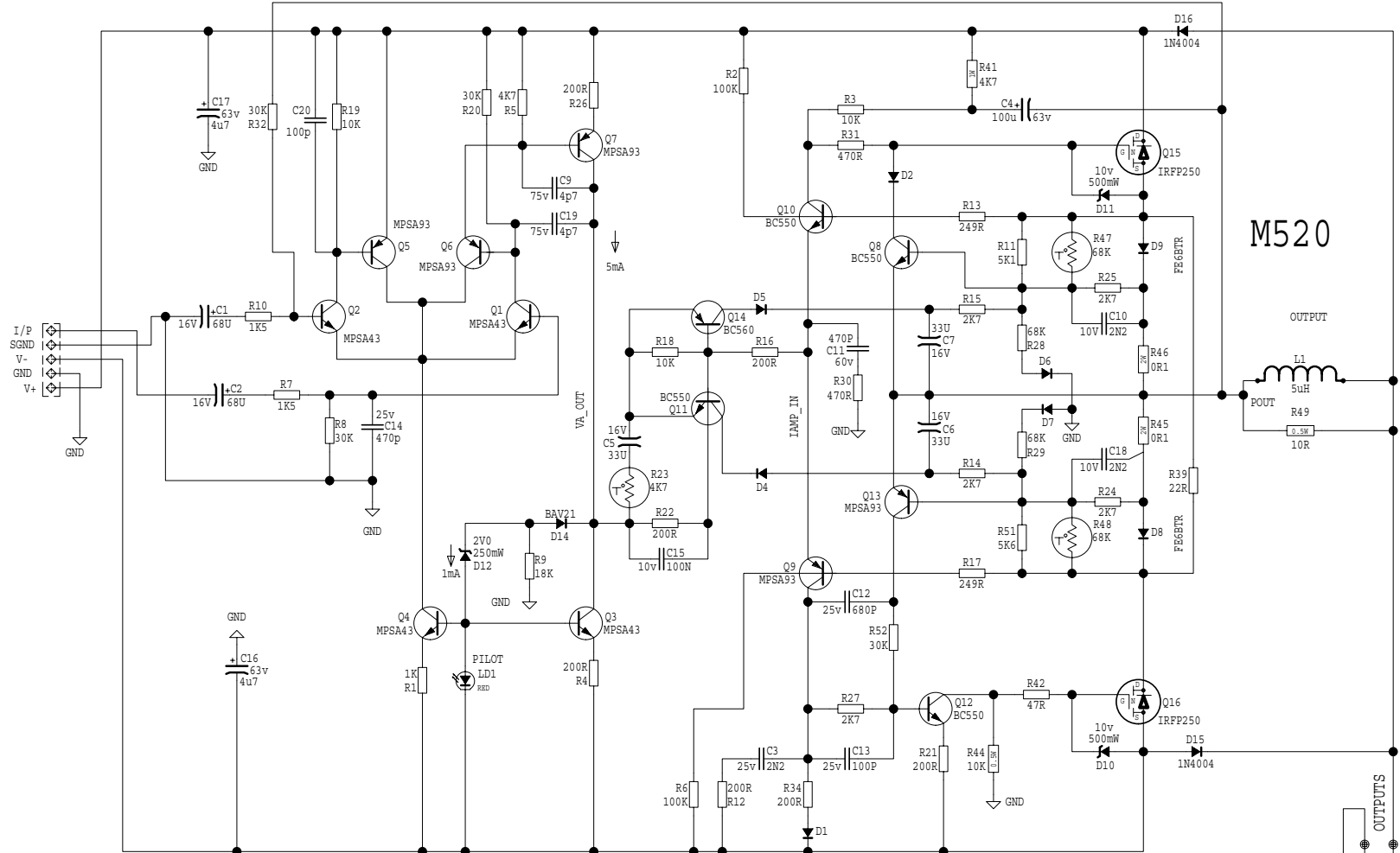
#	DATE	VER#	DESCRIPTION OF CHANGE
1	JUL/06/95	2.00	PC#4850/4851 REMOVE R7, C13 ADD D26
2	NOV/02/95	3.00	D27 R45/R19 510R->120R
3			PC#4926 REMOVE MIRROR IMAGE AND REPLACE WITH STEP AND REPEAT
4			
5			
6			
7	DEC/06/95	3.10	PC#4971 ADD BATTERY VOLTAGE BYPASSING CIRCUIT FOR OP AMP. MOVE DIODES AWAY FROM U2.
8			
9	FEB/09/96	3.20	PC#XXXX THERMISTOR MOVED
10	AUG/25/98	4.00	PC#5757 REDO_FOR_680N_AC_CAP
11			
12	OCT/19/98		PC#5854 MOVE C2 AWAY FROM U1
13	JAN/11/99		REPLACE THERMISTOR ADD R50, R51, Q15
14	JAN/25/99		PC#5905 ADD TLP621
15	MAR/08/99	5.00	MOVE C19 ADD D30_TO THERM_CIRCUIT
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			

PRODUCTION NOTES

- NOTE LOCATION OF YELLOW SPEAKER WIRE FOR MM-6 AND MM-4
- C23 FOR NORTH AMERICA IS 22N PT#6435  
C23 FOR EXPORT (CE,S,E) IS 680N PT#5266
- TRANSISTOR MOUNTING
- STUFF U2 4N35 OR U2A TLP621 NOT BOTH



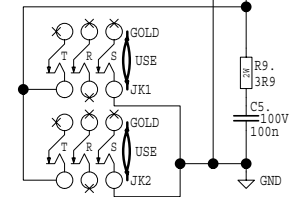
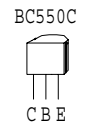
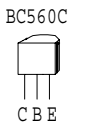
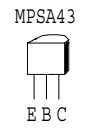
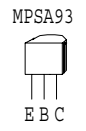
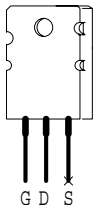
NOTE: SUPPLIES MUST BE  
SYMMETRICAL TO WITHIN +/- 10%



M520

OUTPUT

IRFP250



 YORKVILLE	DATE: AUG\29\94	MODELS: MM-4	SCH ISSUE: 1.10
	NAME: M520MM4.SCH	PCB#&VER: M520-1.10	TITLE: MM4_PWR_AMP





M478V32.PRN

ALL VOLTAGES MEASURED WITH RESPECT TO GROUND

DC VOLTS DC VOLTS MEASURED NO SIGNAL

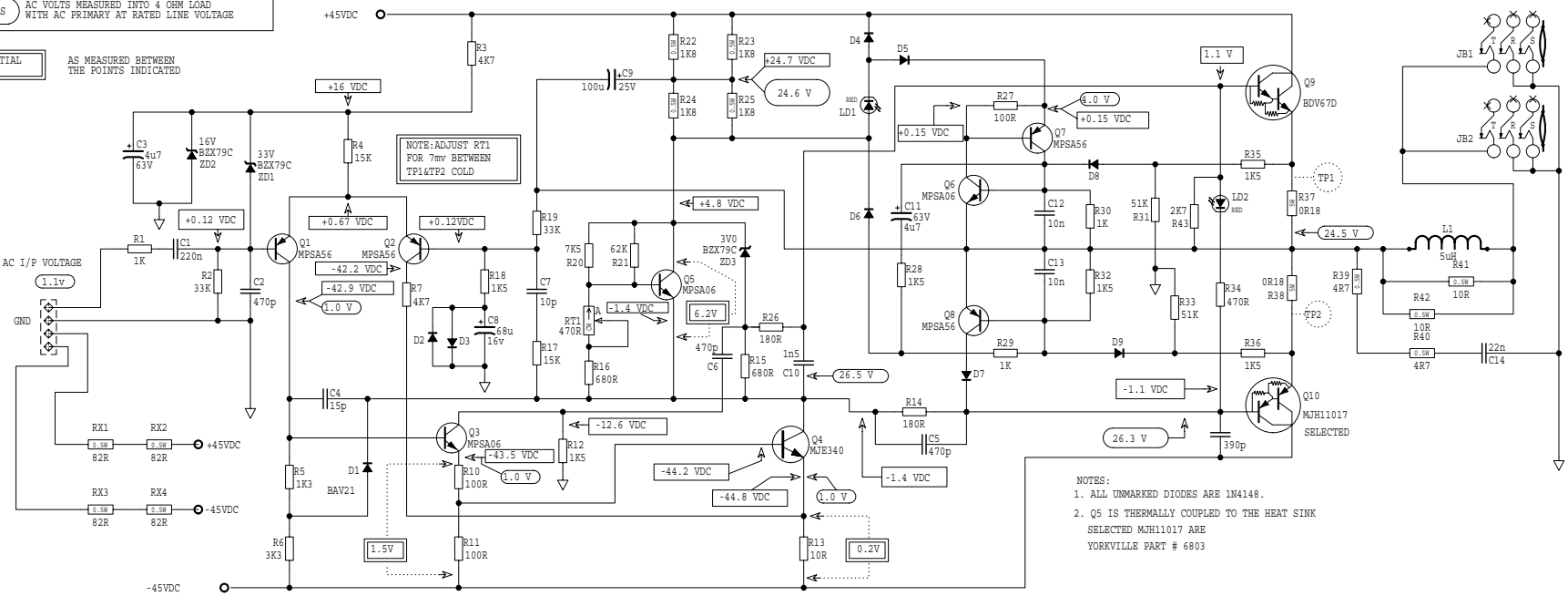
AC VOLTS AC VOLTS MEASURED INTO 4 OHM LOAD WITH AC PRIMARY AT RATED LINE VOLTAGE

DIFFERENTIAL VOLTAGE AS MEASURED BETWEEN THE POINTS INDICATED

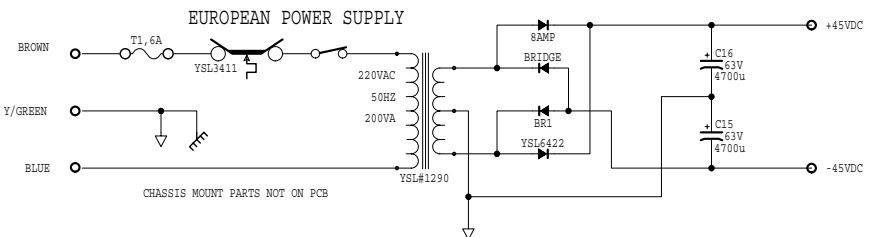
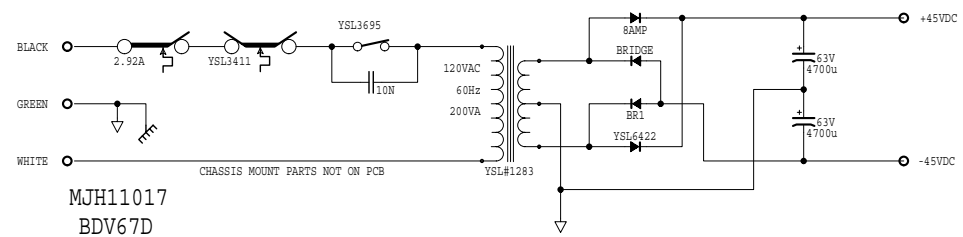
FOR EUROPEAN UNITS ONLY  
NOTE: ADJUST RT1 FOR 2.5-3.0mv BETWEEN TP1&TP2 COLD

NOTE: ADJUST RT1 FOR 7mv BETWEEN TP1&TP2 COLD

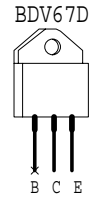
NOTES:  
1. ALL UNMARKED DIODES ARE 1N4148.  
2. Q5 IS THERMALLY COUPLED TO THE HEAT SINK SELECTED MJH11017 ARE YORKVILLE PART # 6803



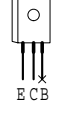
SPEAKER OUTPUT JACKS  
4 OHM MINIMUM LOAD



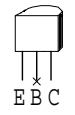
MJH11017



MJE340



MPSA06  
MPSA56



YORKVILLE SOUND LTD		FOR MODEL(S):	MM4&MM4E	PCB #:	M478E
CAD FILE NAME:		DESIGN BY:	P.T	DRAWN BY:	H.G
C:\PCAD\EXB\C\M4.P4.SCH		PCB VER:	M478-9.0	SCH ISSU:	3.20
		DATE:	FEB\10\94	DWG #:	1 OF 2
		TITLE:		MP4_POWER_AMP.	

# M478

