

TRAYNOR

AUDIOPRO

PS-600

SERVICE MANUAL

DEC. 84

PS-600 SPECIFICATIONS

THE FOLLOWING INFORMATION IS TO ASSIST THE TECHNICIAN FOR TROUBLESHOOTING. ALL MEASUREMENTS ARE CALCULATED WITH 120V AC LINE VOLTAGE.

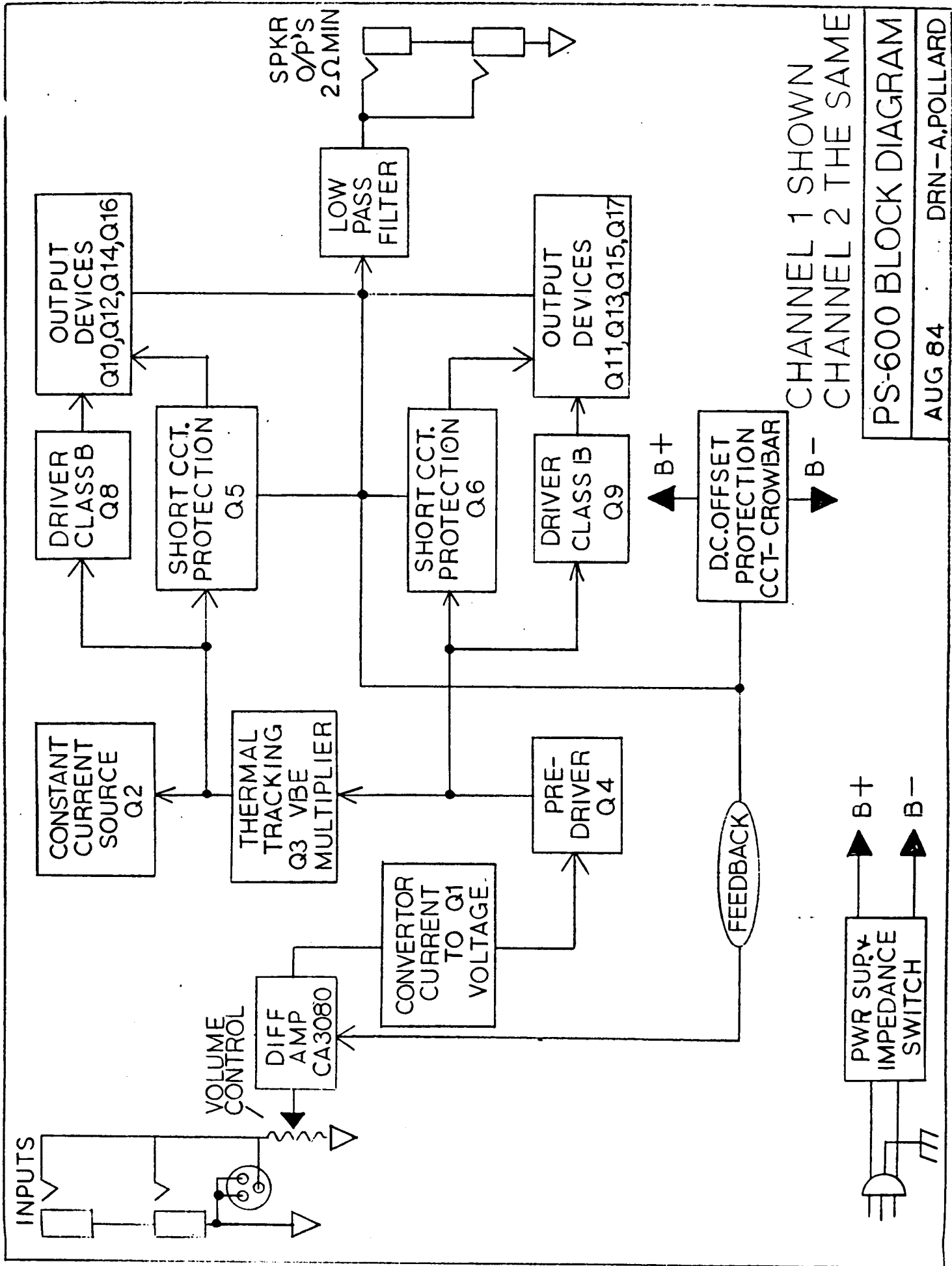
HI INPUT SENSITIVITY FOR MAXIMUM OUTPUT ON 8 ohm RESISTIVE LOAD:

- GAIN CONTROL SET AT MAXIMUM.

SPECS: HI INPUT 1.2V

POWER AMP (1 CHANNEL)

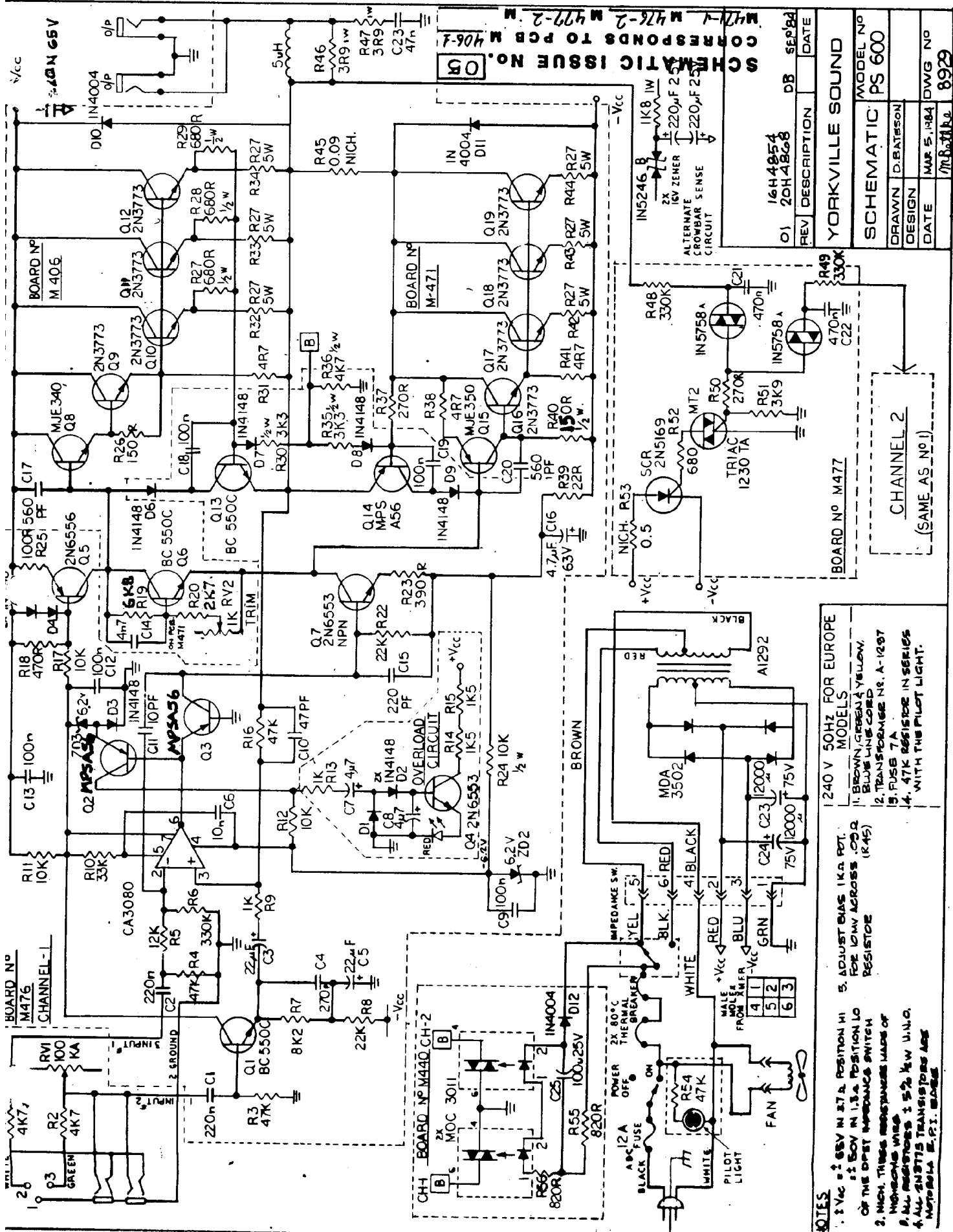
	HIGH	LOW
8 ohm LOAD	40V rms 200W	30V rms 112W
4 ohm LOAD	36V rms 324W	28V rms 196W
2 ohm LOAD		/ 25.4V rms 322W



CHANNEL 1 SHOWN
CHANNEL 2 THE SAME

PS-600 BLOCK DIAGRAM

AUG 84 DRN-A,POLLARD



NOTES:

1. 1 Vac ± 5% IN 27 A POSITION HI
2. 12 Vac IN 1, 3 A POSITION LO OF THE FIRST IMPEDANCE SWITCH
3. NICH. THERMISTOR RESISTANCE MADE OF NICHROME WIRE
4. ALL RESISTORS ± 5% 1/2 W U.L.O.
5. ALL TRANSISTORS ARE MOTOROLA E.P.I. MODEL

240 V 50HZ FOR EUROPE MODELS

1. BROWN, GREEN & YELLOW
2. BLUE LINE CORD
3. TRANSFORMER NO. A-1292
4. FUSE 7 A
5. 47K RESISTOR IN SERIES WITH THE PILOT LIGHT.

REV	DESCRIPTION	DATE
01	16H4954 20H4828	DB SEP 84

SCHEMATIC ISSUE NO. 406-1
CORRESPONDS TO PCB # 406-1

BOARD NO	M 476
CHANNEL	1

BOARD NO	M 477
CHANNEL	2

(SAME AS NO. 1)

IMPEDANCE SW. (YEL. 5)

WHITE ← +Vcc

RED ← 21

BLU ← -Vcc

GRN ← 3

75V 12000 T 75V

75V 12000 T 75V

BLACK ← 41 BLACK

WHITE ← 61 RED

WHITE ← 21

RED ← 21

BLU ← 3

GRN ← 3

75V 12000 T 75V

75V 12000 T 75V

WHITE ← 41 BLACK

WHITE ← 61 RED

WHITE ← 21

RED ← 21

BLU ← 3

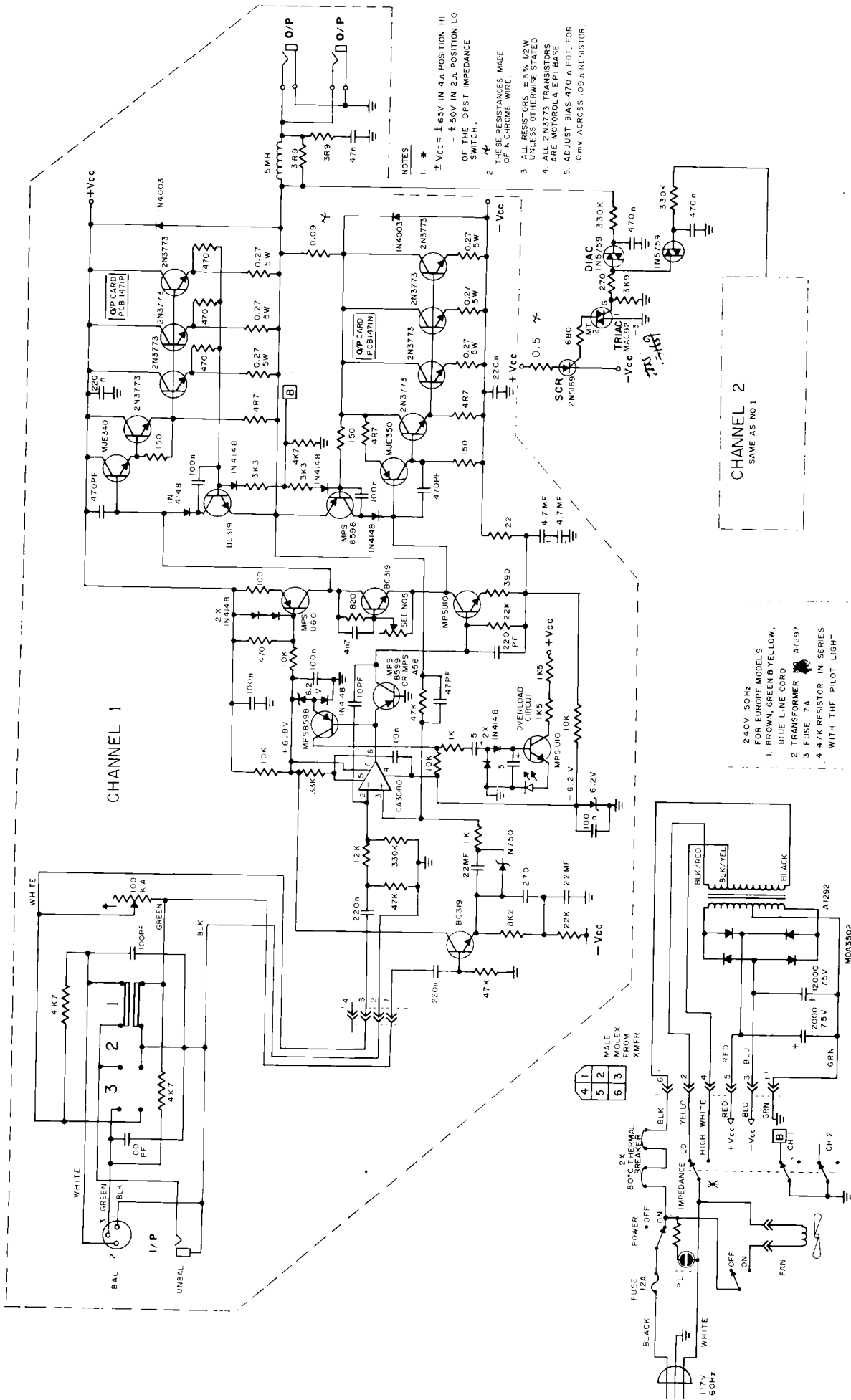
GRN ← 3

75V 12000 T 75V

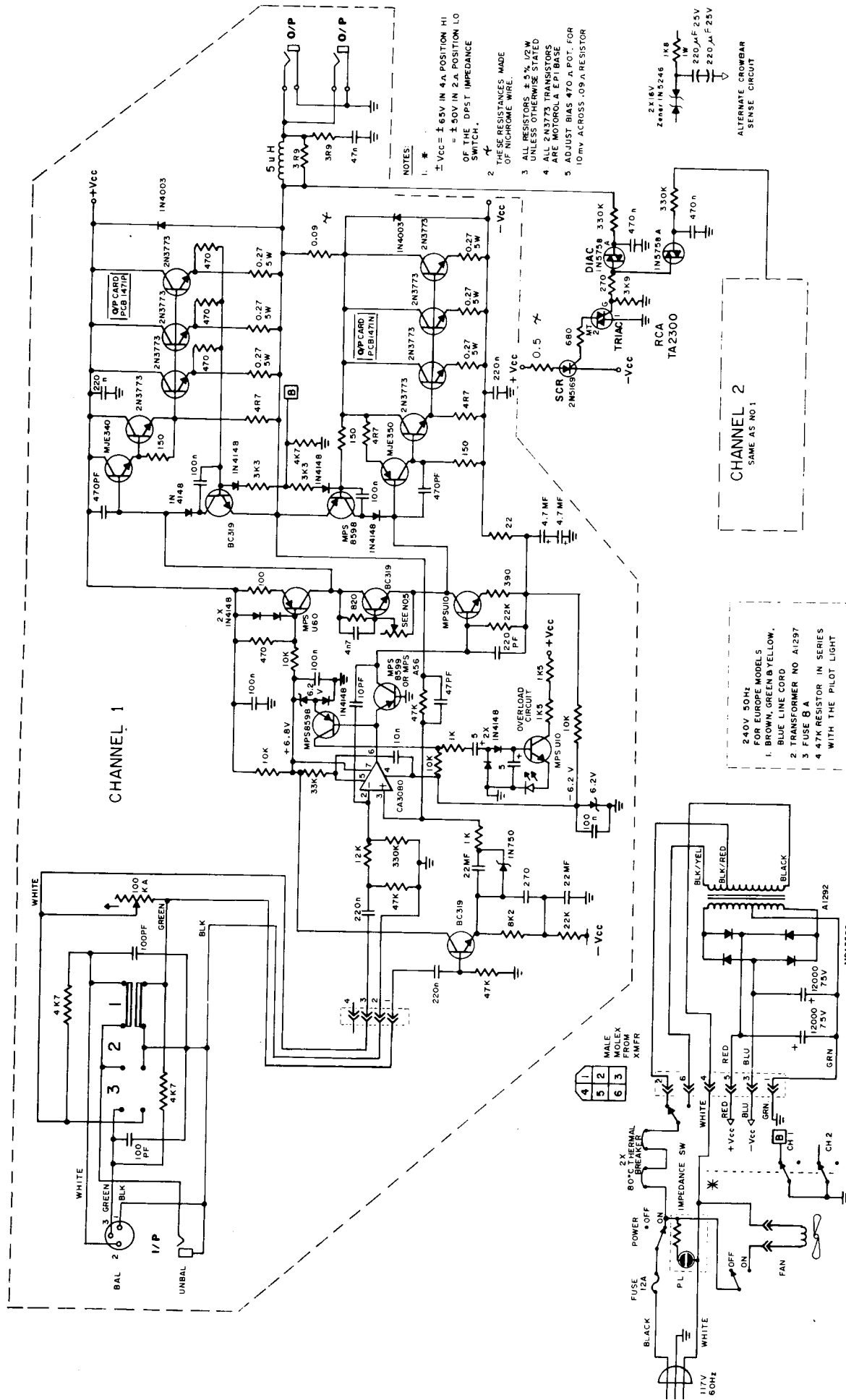
75V 12000 T 75V

BOARD NO M476 CHANNEL-1

BOARD NO M477 CHANNEL-2



DWG	DATE	YORKVILLE SOUND LTD.
J.E.T.	NOV 3/77	
DESIGN	CHECKED	
	J.P.C.	
SCHEMATIC		
PS-600 POWER AMPLIFIER		

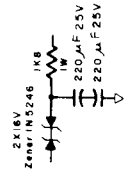


CHANNEL 1

CHANNEL 2
SAME AS NO 1

240V, 50Hz,
FOR EUROPE MODELS
1. BROWN, GREEN & YELLOW,
2. TRANSFORMER NO. A1297
3. FUSE 8 A
4. 47K RESISTOR IN SERIES
WITH THE PILOT LIGHT

- NOTES:
1. * $\pm V_{CC} = \pm 6.5V$ IN 4A POSITION HI = $\pm 5.0V$ IN 2A POSITION LO OF THE DPST IMPEDANCE SWITCH.
 2. THESE RESISTANCES MADE OF NICHROME WIRE.
 3. ALL RESISTORS, $\pm 5\%$ 1/2W UNLESS OTHERWISE STATED.
 4. ALL 2N3773 TRANSISTORS ARE MOTOROLA EPI BASE.
 5. ADJUST BIAS 470 A POT. FOR 10mV ACROSS .05A RESISTOR



ALTERNATE CROWBAR SENSE CIRCUIT

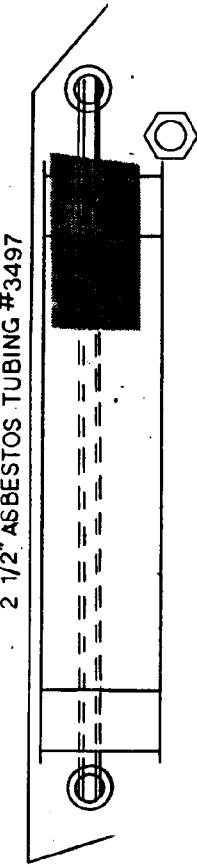
NO.	CHANGE	DATE	BY	REASON
1		NOV/77	J.E.T.	DESIGN
2				CHECKED
				DESIGN

DATE NOV/77
DESIGN J.E.T.
CHECKED J.P.C.

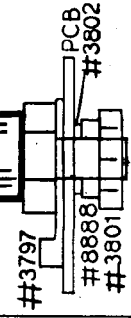
YORKVILLE SOUND LTD
SCHEMATIC
PS-600 POWER AMPLIFIER

COPPER SIDE

2 1/2" ASBESTOS TUBING #3497



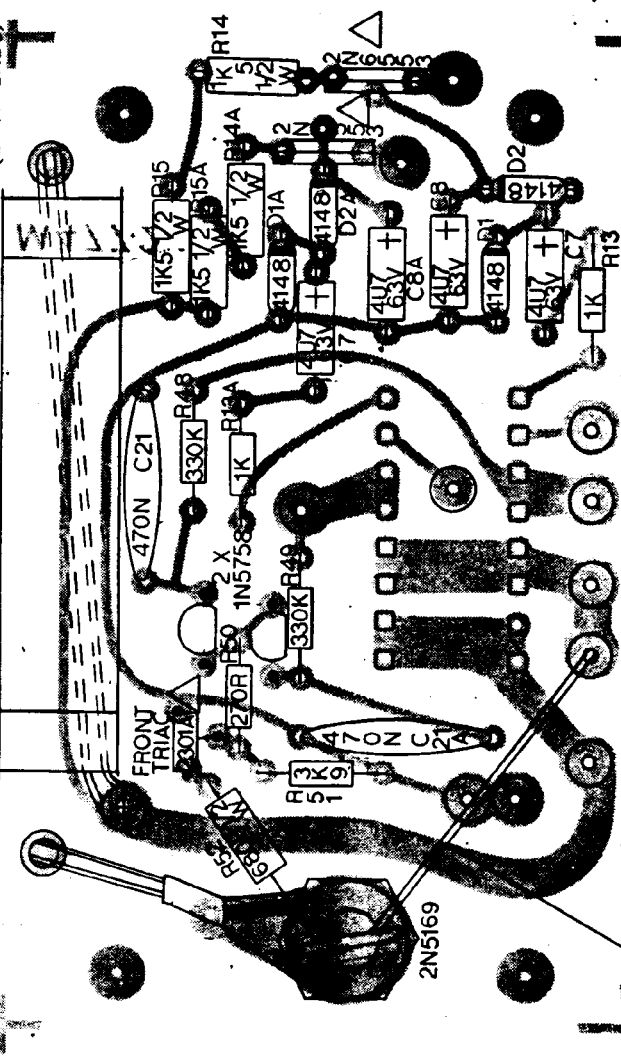
SCR# 6424



PCB #3802

1/4" MASKING TAPE (BOTH ENDS)

2 1/2" ASBESTOS TUBING #3497



2N6553

18AWG BROWN 2 1/2" #3938

△ INDICATES RTV REQUIRED

DATE REVISION

PS 600/X3000 POWER AMP

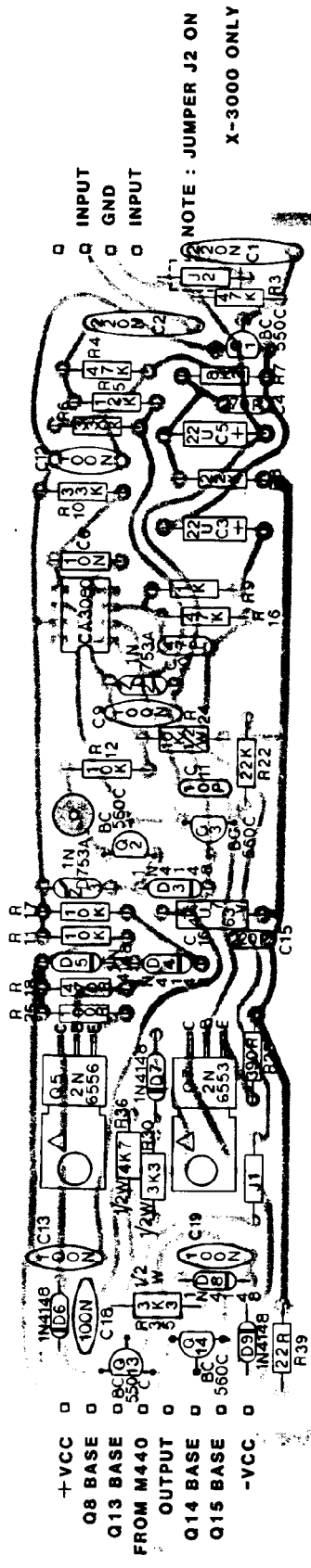
M477 CROWBAR PCB

COMPONENT LAYOUT

CHK'D *[Signature]*

DATE - DEC 1984

DRAWN - D. PRICE

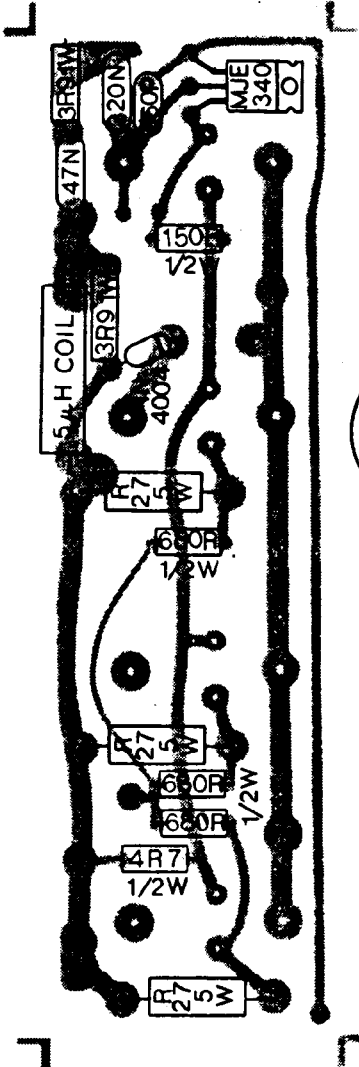


- +VCC
- Q8 BASE
- Q13 BASE
- FROM M440
- OUTPUT
- Q14 BASE
- Q15 BASE
- VCC

NOTE: JUMPER J2 ON
X-3000 ONLY

△ NOTE: RTV TO BE ADDED UNDER TABS

DATE	REVISION	M476 PS-600/X-3000 POWER BOARD COMPONENT LAYOUT
DRN: D. PRICE		DATE: SEPT. 11/64



NOTE: RESISTORS AND CAPS. TO BE MOUNTED ABOVE PCB. (SEE DIAGRAM)
 ALL COMPONENTS MOUNTED ON SOLDER SIDE
 RTV REQUIRED UNDER COIL AND TRANSISTOR

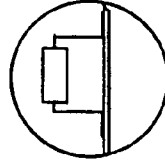
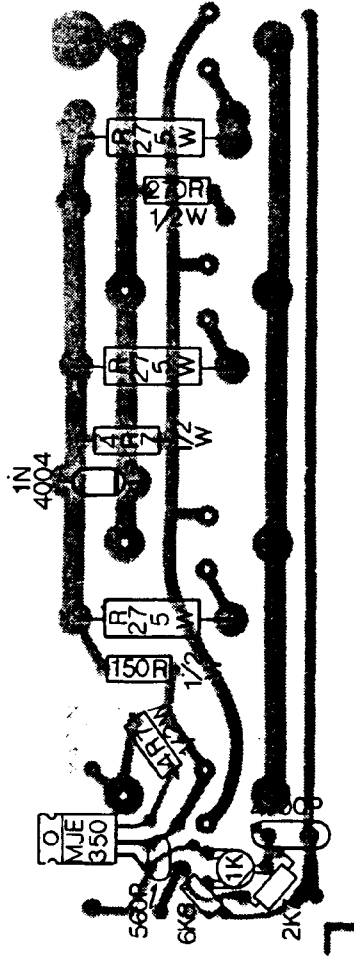
DATE	REVISION
NOV 84	BOT 41C TO MJE 340

M406-1

1" P" OUTPUT PCB

MODEL: PM300 1 PER
 PS600 2 "
 X-3000 2 "

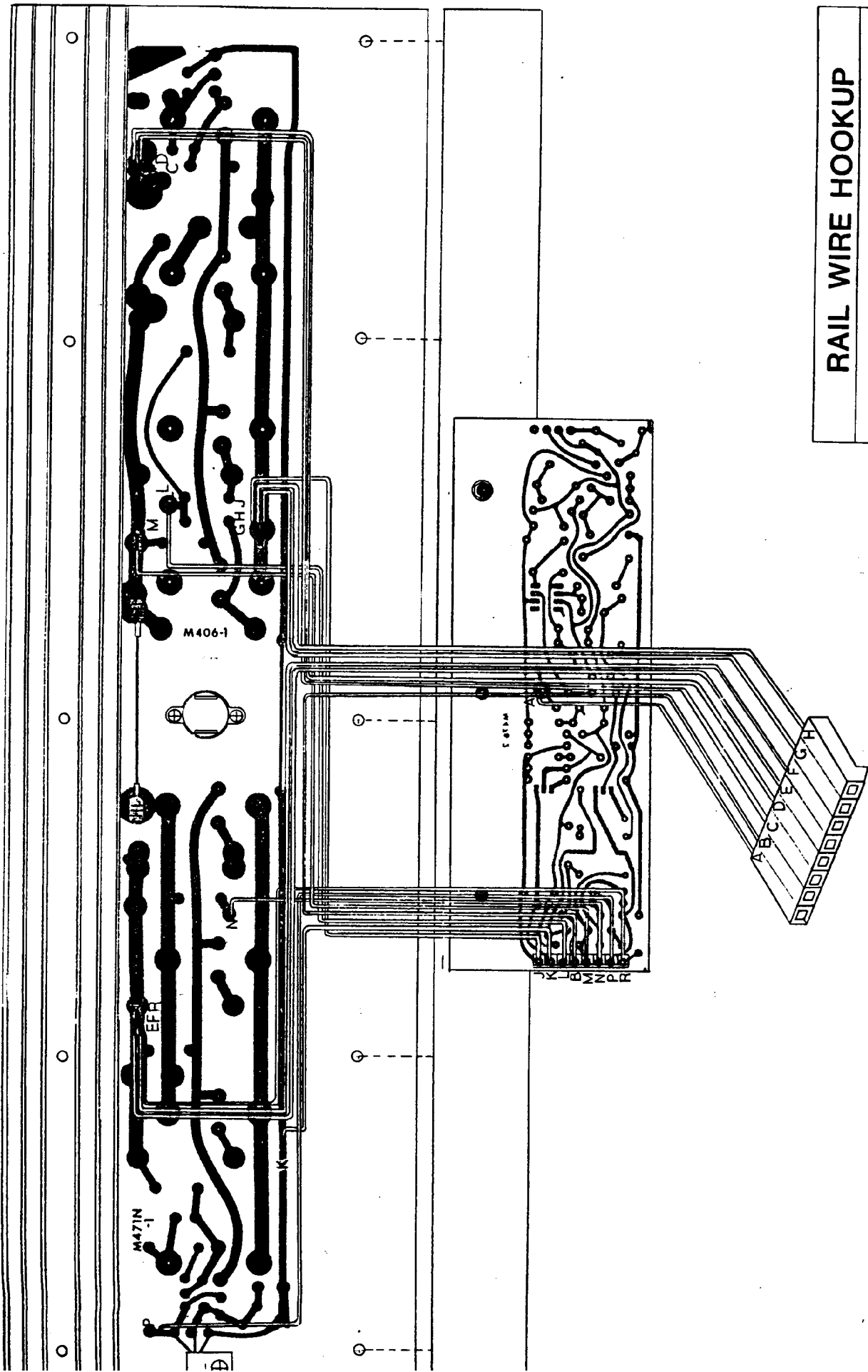
DRN BY: A POLLARD DATE: JULY 84



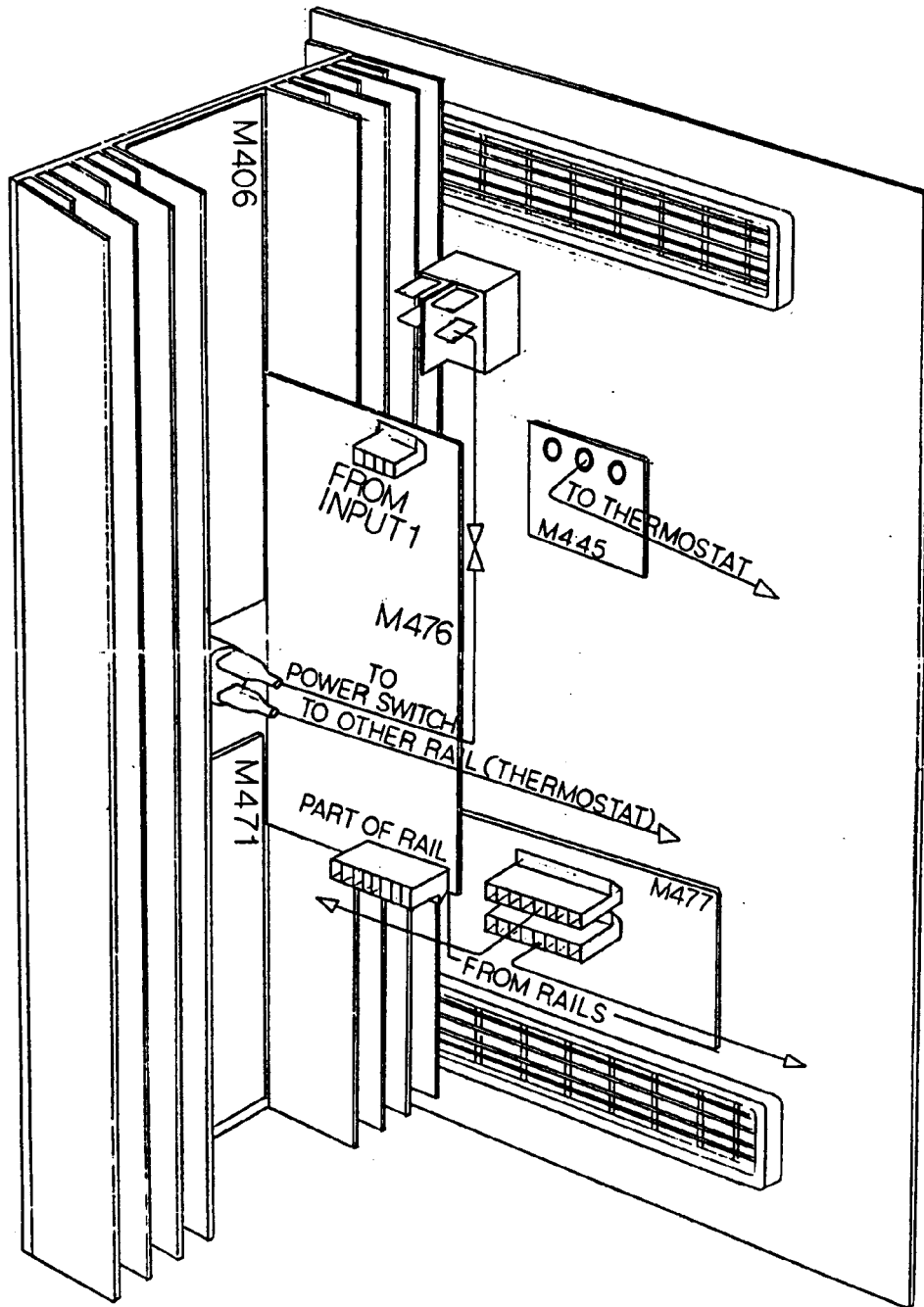
NOTES: RESISTORS AND CAPS TO
 BE MOUNTED ABOVE PCB (SEE DIAGRAM)
 ALL COMPONENTS MOUNTED
 ON SOLDER SIDE
 RTV REQUIRED UNDER
 TRANSISTOR

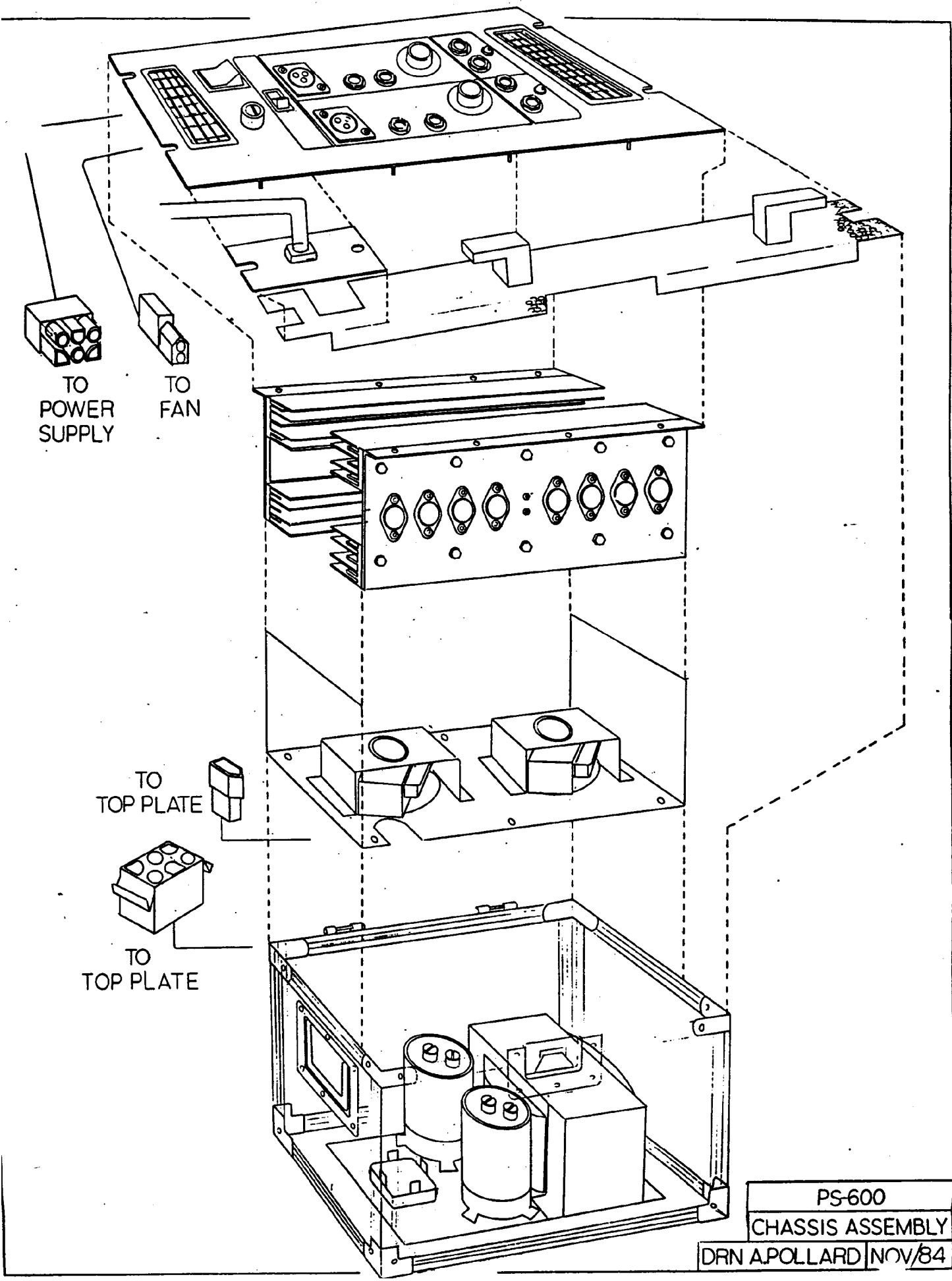
DATE	REVISION
NOV84	BD142C TO MJE350

M 471N-1
"N" OUTPUT PCB
MODELS: PM-300 1 PER PS-600 2 PER X-3000 2 PER
DRN BY: A POLLARD DATE: JULY 84



RAIL WIRE HOOKUP
DRN. A.POLLARD DEC.17/1984





TO
POWER
SUPPLY

TO
FAN

TO
TOP PLATE

TO
TOP PLATE

PS-600
CHASSIS ASSEMBLY
DRN APOLLARD NOV/84

PS-600 MECHANICAL REPLACEMENT PARTS

ART NO.	DESCRIPTION	QTY				
	TOP/BOTTOM 19 3/4X11 1/2	2	EA	3945	BLUE 22AWG STRANDED	1.8 FT
018	LID-WRAP AROUND 63" X 6"	1	EA	3946	YELLOW 22AWG STRANDED	3.5 FT
019	BOX-WRAP AROUND 63X12 3/4	1	EA	3947	RED 22AWG STRANDED	2 FT
619	PS-600 CARTON	1	EA	3948	GREY 22AWG STRANDED	2.4 FT
045	M406 PCB	2	EA	3952	BLACK 22AWG STRANDED	7.9 FT
046	M471 PCB	2	EA	3953	WHITE 22AWG STRANDED	5.4 FT
054	M476 PS-600/X-3000	2	EA	3955	BROWN 22AWG STRANDED	2.2 FT
055	M477 PS-600/X-3000	1	EA	4453	100K AUD VM455D BLUE POT	2 EA
149	M445 N - AMERICAN OPTO	1	EA	4827	4.7K OHM 1/4 WATT RESISTR	4 EA
292	PS600/X3000-114151/8530	1	EA	5894	12000UF/75V FILTER CAP	2 EA
466	12A(1/4X1 1/4)F/BFUSE250V	1	EA	6420	BRIGHT RED L. E. D. SAR5731	2 EA
405	FUSEHOLDER SLT KNOB345602	1	EA	6423	MDA-3502 35AMP BRIDGE	1 EA
411	36TX-21 2208 C180-25THERM	2	EA	6785	MPSA18 LO NOISE SIG XISTR	2 EA
430	L112BJAK DOUB/OPEN STERED	4	EA	6865	2N3773 NPN PWR XISTOR	16 EA
457	11A JACK-SHORT-NO CEN. TAB	4	EA	7568	42452-1 SPKR SFADE LUGS	4 EA
465	NUETRIX CONNECTOR NC3FZ	2	EA	8468	R35 REAN VENT GRILL	2 EA
471	1605.0122 MARQUART SWITCH	1	EA	8469	ROMAC CORD WRAP	2 EA
482	3/16GA SJT LINE CORD	1	EA	8488	POT LOCK WASHER-ZINC/PLAT	8 EA
484	4304MC LED HOLDER IDI	2	EA	8497	1/4-20X1/2 PEM FH-0420-8	4 EA
492	324067-18-10 AMP CONECTOR	5	EA	8498	#6-32X3/8 PEM FH 632-6	9 EA
493	FN14-10R CONNECTOR	11	EA	8499	#6-32X1 PEM FH 632-16	1 EA
495	CLEAR HTSHRINK FIT221 1/8	5	FT	8500	#6-32X3/4"PEM FH 632-12	6 EA
500	SWS 605 SHOULDER WASHER	32	EA	8507	ROGAN KNOB LARGE AR2SK29	2 EA
516	CONNECTOR COVER B36C ZURC	7	EA	8533	838 1/2 5/32 HINGE	2 EA
524	MOLEX2PIN-F/03091023*1545	1	EA	8552	RUBBER GROMMET #31	1 EA
	MOLEX2PIN-R/03092022*1545	1	EA	8586	GREY FOAMSTIP 172FRX-1715	1.5 FT
531	TERM-M(3528)02092103*1190	8	EA	8600	3/8-32 HEX NUT DO NOT BUY	2 EA
536	TERM-F(3529)02091103*1189	8	EA	8620	M-121 2 HOLE CLAMP	8 EA
546	MOLEX6PIN-F/19092068*3191	1	EA	8621	1149 SESSIONS CORNER P	4 EA
547	MOLEX6PIN-R/19091069*3191	1	EA	8622	S-1829 SESSIONS CORNER P	4 EA
548	AMP SPEAKER CLIP 41772-0	7	EA	8623	1779 SESSIONS LATCH	1 EA
549	MOLX-T(REEL)08500187*6838	38	EA	8701	4-40 KEPS NUT ZINC PLATED	12 EA
558	MOLEX4PIN-F/09503041*2139	2	EA	8753	10X1/2 PN PH TYPE E ZN	106 EA
559	MOLEX 8PIN F-260340816442	4	EA	8755	6X 5/8 PN PH TYPE A BO ST	2 EA
561	139-169 AIERICK CABCLAMP	2	EA	8767	SD46-BS1/8X3/8 VSM RIVET	15 EA
565	EC-6X3/8 CABLE CLAMP	1	EA	8770	1/4-20 X 1 5/16 PN PH BO	12 EA
695	WHT/BLK CARLG RA911RWBON	1	EA	8784	8-32X5/8 PHPNEXTTOOTHWSR Z	2 EA
794	4-40 LUG #409 LOCKWASHER	2	EA	8787	8-32 KEPS NUTS ZP	8 EA
810	PANDUIT CABLE TIES	53	EA	8788	1/4-20 KEPS NUTS ZP	10 EA
815	PREGREASED MICA TO-3 TYPE	16	EA	8800	6-32 KEPS NUT ZP	57 EA
816	G430-4 FAN BLADE	2	EA	8818	3/4 X 5/16 WASHER ZN	12 EA
825	FAN MOTOR -- 120 VOLT	2	EA	8820	#8 FLAT WASHER BO	19 EA
833	NYLON STANDOFF 3/8-1126	4	EA	8824	10-3/8 PMSL INTOOTHWSR CS	4 EA
834	SR-6L-1 STRAIN RELIEF	1	EA	8850	#10 INTERNAL LOCKWASHER	8 EA
909	BARE BUSS WIRE (22AWG)	.92	FT	8851	8-32 X 1/2 IW TYPE 23 ZN	26 EA
910	22AWG NICHROME WIRE	2.03	FT	8856	6-32 X 1/2 IW SL MS ZN	40 EA
931	BLACK 14AWG STRANDED	5.7	FT	8860	4-40 X 3/8 PN PH MS NI	12 EA
932	WHITE 14AWG STRANDED	4.2	FT	8889	2183 RUBBER GROMMET	4 EA
933	YELLOW 14AWG STRANDED	2.2	FT	8900	YSL WARRANTY CARD	1 EA
934	BLUE 14AWG STRANDED	6.3	FT	8908	5121 SESSIONS HANDLE	2 EA
	RED 14AWG STRANDED	6.35	FT	8911	VR-8 CAPACITOR CLAMP	2 EA
	GREEN 14AWG STRANDED	11.3	FT	8916	ENVELOPE 6.5"X9.5" KRAFT	1 EA
937	YELLOW 18AWG STRANDED	7.4	FT	8929	PS-600/E SCHEMATIC	1 EA
938	BROWN 18AWG STRANDED	.71	FT	8989	PS-600 LID DIAGRAM-LAMINA	1 EA
939	BLUE 18AWG STRANDED	7.4	FT	9520	GROOVE EXTRUSION ANODIZED	5.02 SQ
940	RED 18AWG STRANDED	5.8	FT	9540	TONGUE EXTRUSION ANODIZED	5.02 FT
943	GREEN 22AWG STRANDED	7.3	FT	9590	NEW THIN"L"EXTRUSION	12.5 FT
			FT	9801	3/4"POPLAR OR FIR(4X4)SHT	1.42 SQ
				9820	3/8 INCH FIR PLYWOOD	7.84 SQ
				9898	BLACK LEATHERETTE 8609	11.4 SQ

PS-600 PCB REPLACEMENT PARTS

M406 POS OUTPUT

ART NO.	DESCRIPTION	QTY	FUT.	IM
045	M406 PCB		FUT.	IM
824	5MICRO H 13AMP CHOKE	1	EA	
659	150 OHM 1/2 WATT RESISTOR	1	EA	
666	4.7 OHM 1/2WATT RESISTOR	1	EA	
673	680 OHM 1/2 WATT RESISTOR	3	EA	
693	3.9 OHM 1 WATT RESISTOR	2	EA	
729	.27 OHM 5 WATT RESISTOR	3	EA	
600	.22UF/100V CAP36825224 R	1	EA	
825	560PF/500V 63009561	1	EA	
841	.047UF/250V 36845473 METF	1	EA	
438	IN4004 DIODE 400 PIV	1	EA	
873	MJE340 NPN DRIVER XISTOR	1	EA	

M471 NEG OUTPUT

PART NO.	DESCRIPTION	QTY	FUT.	IM
1046	M471 PCB		FUT.	IM
4525	1K TRIM POT CTS S2106	1	EA	
4659	150 OHM 1/2 WATT RESISTOR	1	EA	
4666	4.7 OHM 1/2WATT RESISTOR	2	EA	
4667	270 OHM 1/2 WATT RESISTOR	1	EA	
4729	.27 OHM 5 WATT RESISTOR	3	EA	
4828	6.8K OHM 1/4 WATT RESISTR	1	EA	
4864	2.7KOHM1/4WATTOR25TOL52K7	1	EA	
5825	560PF/500V 63009561	1	EA	
5827	4700PF/500V DISC CAP	1	EA	
6438	IN4004 DIODE 400 PIV	1	EA	
6874	MJE-350	1	EA	

M445 OPTO-COUPLER

ART NO.	DESCRIPTION	QTY	FUT.	IM
149	M445 N - AMERICAN OPTO		FUT.	IM
539	SE34 EYELET BARE/M996	3	EA	
542	SE-44 EYELET ELEC. TIN. PLT	3	EA	
544	S0-9705-S HOLLINGSWORTH	3	EA	
	820 OHM 1/2 WATT RESISTOR	2	EA	
6	100UF/25VAX USEUPGOTO5874	1	EA	
438	IN4004 DIODE 400 PIV	1	EA	
862	MOC3011 OPTO-COUPLER	2	EA	

M476 PREAMP

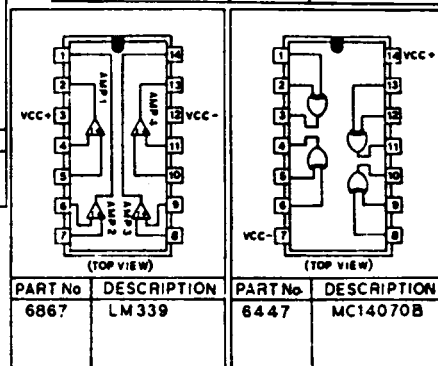
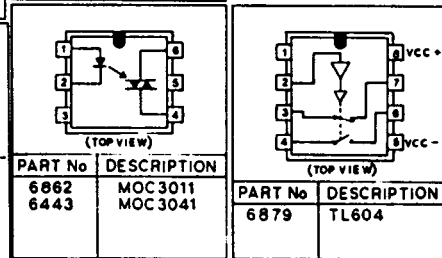
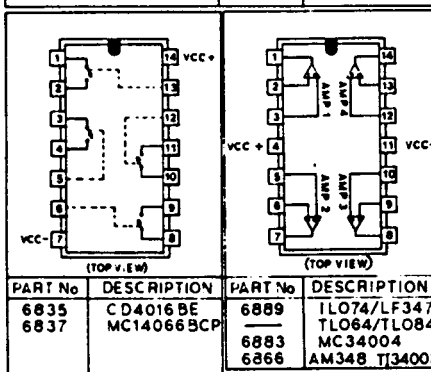
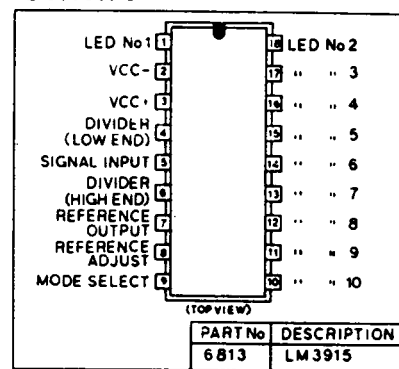
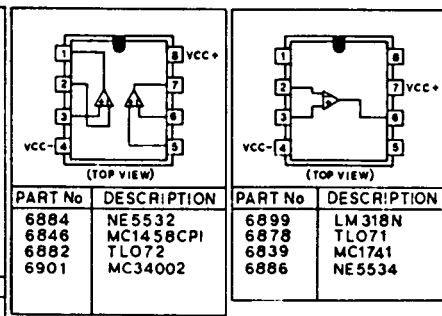
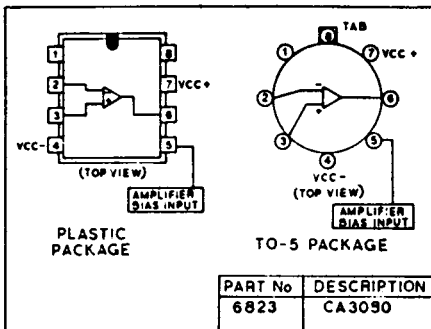
PART NO.	DESCRIPTION	QTY	FUT.	IM
1054	M476 PS-600/X-3000		FUT.	IM
3519	MOLEX PCB PIN 08-50-0415	12	EA	
3539	SE34 EYELET BARE/M996	1	EA	
4599	WIRE JUMPER UN1056-22	1	EA	
4626	3K3 OHM 1/2 WATT RESISTOR	2	EA	
4627	4K7 OHM 1/2 WATT RESISTOR	1	EA	
4629	10K OHM 1/2 WATT RESISTOR	1	EA	
4818	22 OHM 1/4 WATT RESISTOR	1	EA	
4821	470 OHM 1/4 WATT RESISTOR	1	EA	
4823	1K OHM 1/4 WATT RESISTOR	1	EA	
4829	10K OHM 1/4 WATT RESISTOR	3	EA	
4832	22K OHM 1/4 WATT RESISTOR	2	EA	
4834	47K OHM 1/4 WATT RESISTOR	3	EA	
4840	33K OHM 1/4 WATT RESISTOR	1	EA	
4842	330K OHM 1/4 WAT RESISTOR	1	EA	
4852	100 OHM 1/4 WATT RESISTOR	1	EA	
4856	12KOHM1/4WATTOR25TOL512	1	EA	
4863	8.2KOHM1/4WATTOR25TOL58K2	1	EA	
4872	390 OHM1/4WATTOR25TOL5390	1	EA	
5400	10PF-56132109 TUB50V 5835	1	EA	
5412	220PF-56150221TUB50V 5820	1	EA	
5414	270PF-56150271TUB50V 5823	1	EA	
5436	10KPF 56154103 5831/5834	1	EA	
5600	.22UF/100V CAP36825224 R	2	EA	
5819	47PF-100VCAP#222263810479	1	EA	
5846	22UF/25V AXIAL 03036229	2	EA	
5861	4.7UF/63V#426ETH4.7 AXIAL	1	EA	
5865	.1UF/400V CAP 36845104 R	5	EA	
6436	1N753A/BZX79C6V2 DIODE	2	EA	
6771	BC560C TRANSISTOR	3	EA	
6786	BC-550C TRANSISTOR	2	EA	
6823	CA3080E RCA OP AMP	1	EA	
6825	1N4148 DIODE	7	EA	
6863	2N6556 PNP DUALWATT	1	EA	
6864	2N6553 NPN DUALWATT	1	EA	

M477 CROWBAR

ART NO.	DESCRIPTION	QTY	FUT.	IM
055	M477 PS-600/X-3000		FUT.	IM
497	THERNO-FAB 1000 TUBING	.42	FT	
3519	MOLEX PCB PIN 08-50-0415	16	EA	
3539	SE34 EYELET BARE/M996	1	EA	
3542	SE-44 EYELET ELEC. TIN. PLT	13	EA	
3797	SOLDER TERM-B52595F019SCR	1	EA	
3801	HEXNUT B51568F029	1	EA	
3802	LOCK WSHR B51566F011	1	EA	
4624	1K5 OHM 1/2 WATT RESISTOR	4	EA	
4673	680 OHM 1/2 WATT RESISTOR	1	EA	
4823	1K OHM 1/4 WATT RESISTOR	2	EA	
4842	330K OHM 1/4 WAT RESISTOR	2	EA	
4850	3.9K OHM 1/4 WATT RESISTR	1	EA	
4867	270OHM1/4WATT CR25TOL5270	1	EA	
5510	.47UF/400V CAP 36845474 R	2	EA	
5511	4.7UF/63V#426ETH4.7 AXIAL	4	EA	
	2N5169 SCR 20AMP 200V	1	EA	
57	1N5758 DIAC	2	EA	
5821	RCA TRIAC 2301-A	1	EA	
5825	1N4148 DIODE	4	EA	
5864	2N6553 NPN DUALWATT	2	EA	
3701	4-40 KEPS NUT ZINC PLATED	1	EA	
3860	4-40 X 3/8 PN PH MS NI	1	EA	

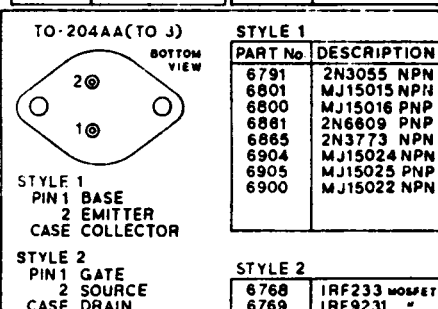
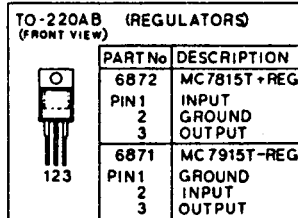
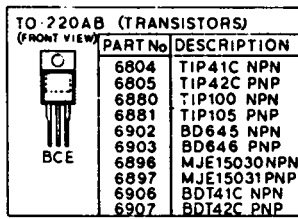
SEMICONDUCTOR PINOUTS

NOTE: THIS IS NOT A SUBSTITUTION CHART



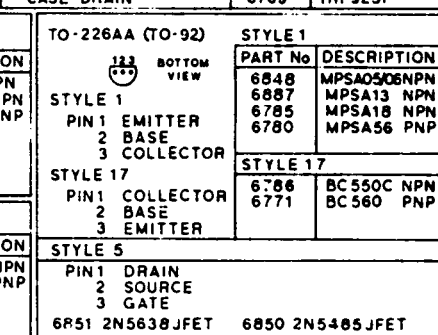
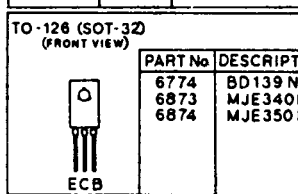
ZENER DIODES

PART No	DESCRIPTION	VOLTAGE	PWR./RATING
6440	1N750A/BZX79C4V7	4V7	500mW
6446	1N750B	4V7	500mW
6438	1N753A/BZX79C6V2	6V2	500mW
6441	1N5349A	12V	5W
6450	1N5242A/BZX79C12	12V	500mW
6776	BZX79C13	13V	500mW
6451	1N5243	14V	500mW
6822	1N4745A	16V	1W
6824	1N5246B/BZX79C16	16V	500mW
6847	1N5862A	16V	500mW
6875	1N5359	24V	5W
6775	BZV85C27	27V	1W
6859	1N972B	30V	500mW
6433	1N5257A/BZX79C33	33V	500mW
6445	1N981	68V	500mW



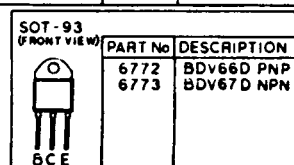
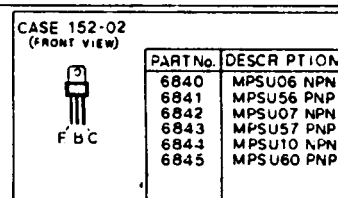
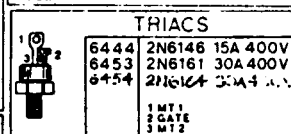
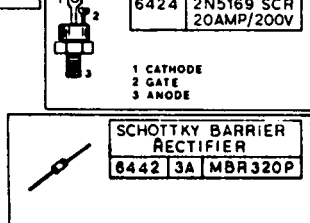
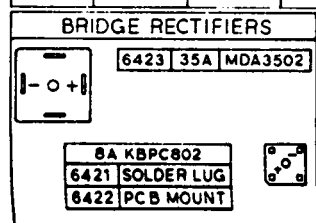
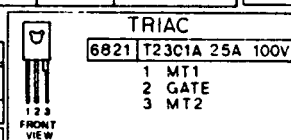
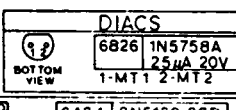
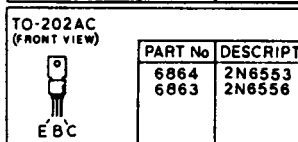
LEDS

PART No	COLOUR	DESC.	FORWARD VOLTAGE	FORWARD CURRENT
6417	GREEN	MG51D	2.1V	20mA
6418	YELLOW	SPY5731	2.1V	20mA
6420	RED	SAR5731	1.7V	20mA
6414	DUAL RED	SPRY5111	2.1V	10mA
	RED		2.1V	20mA
	YELLOW		2.1V	20mA



DIODES

PART No	DESC.	AVERAGE FORWARD CURRENT	CONTINUOUS REVERSE VOLTAGE
6825	1N4148	450mA	75V
6438	1N4004	1A	400V
6820	1N5395	1.5A	400V
6427	1N5062	2.0A	200V
6898	MR504	3.0A	400V



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