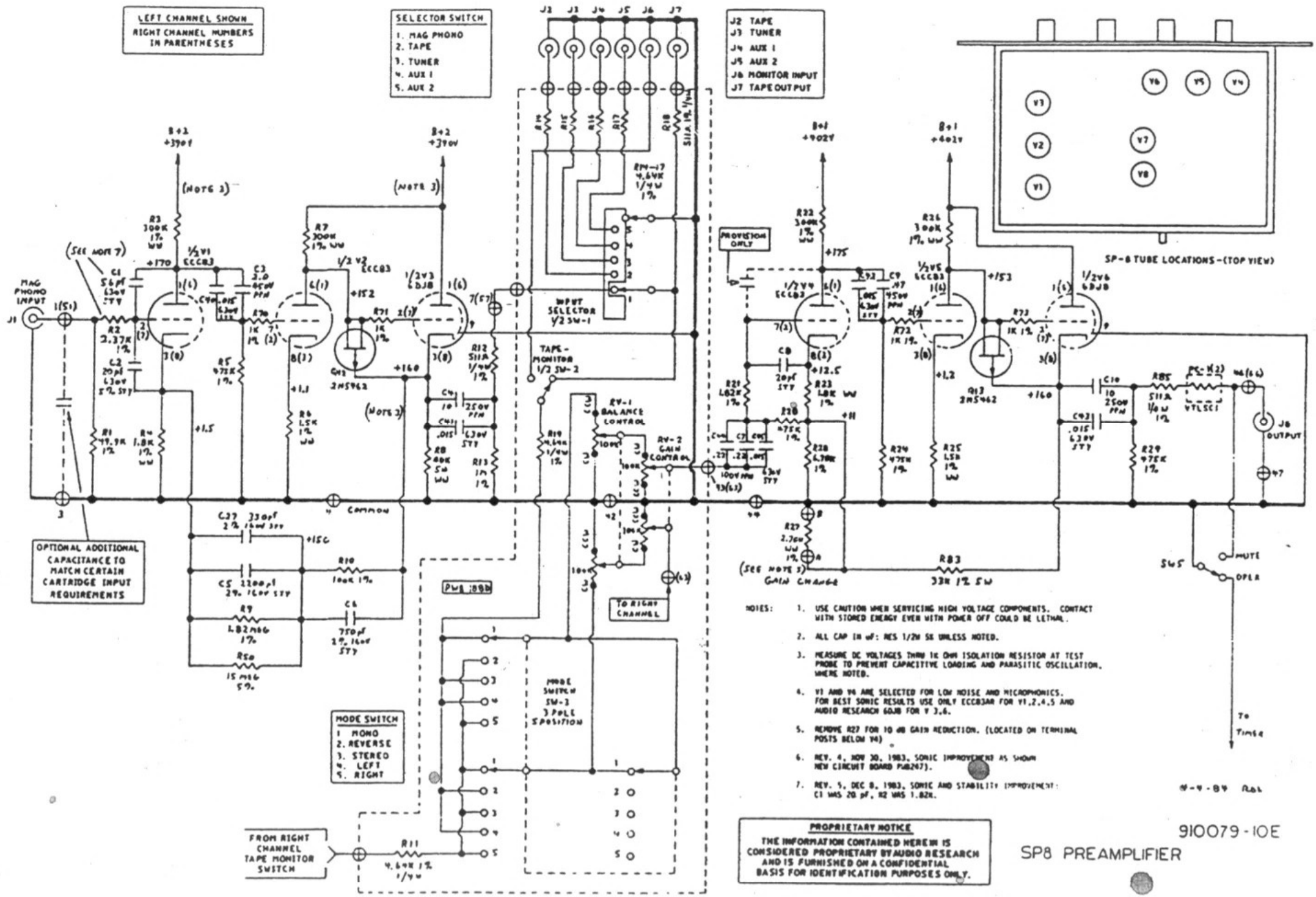


LEFT CHANNEL SHOWN
RIGHT CHANNEL NUMBERS
IN PARENTHESES

SELECTOR SWITCH
1. MAG PHONO
2. TAPE
3. TUNER
4. AUX 1
5. AUX 2

J2 TAPE
J3 TUNER
J4 AUX 1
J5 AUX 2
J6 MONITOR INPUT
J7 TAPE OUTPUT



OPTIONAL ADDITIONAL CAPACITANCE TO MATCH CERTAIN CARTRIDGE INPUT REQUIREMENTS

MODE SWITCH
1. MONO
2. REVERSE
3. STEREO
4. LEFT
5. RIGHT

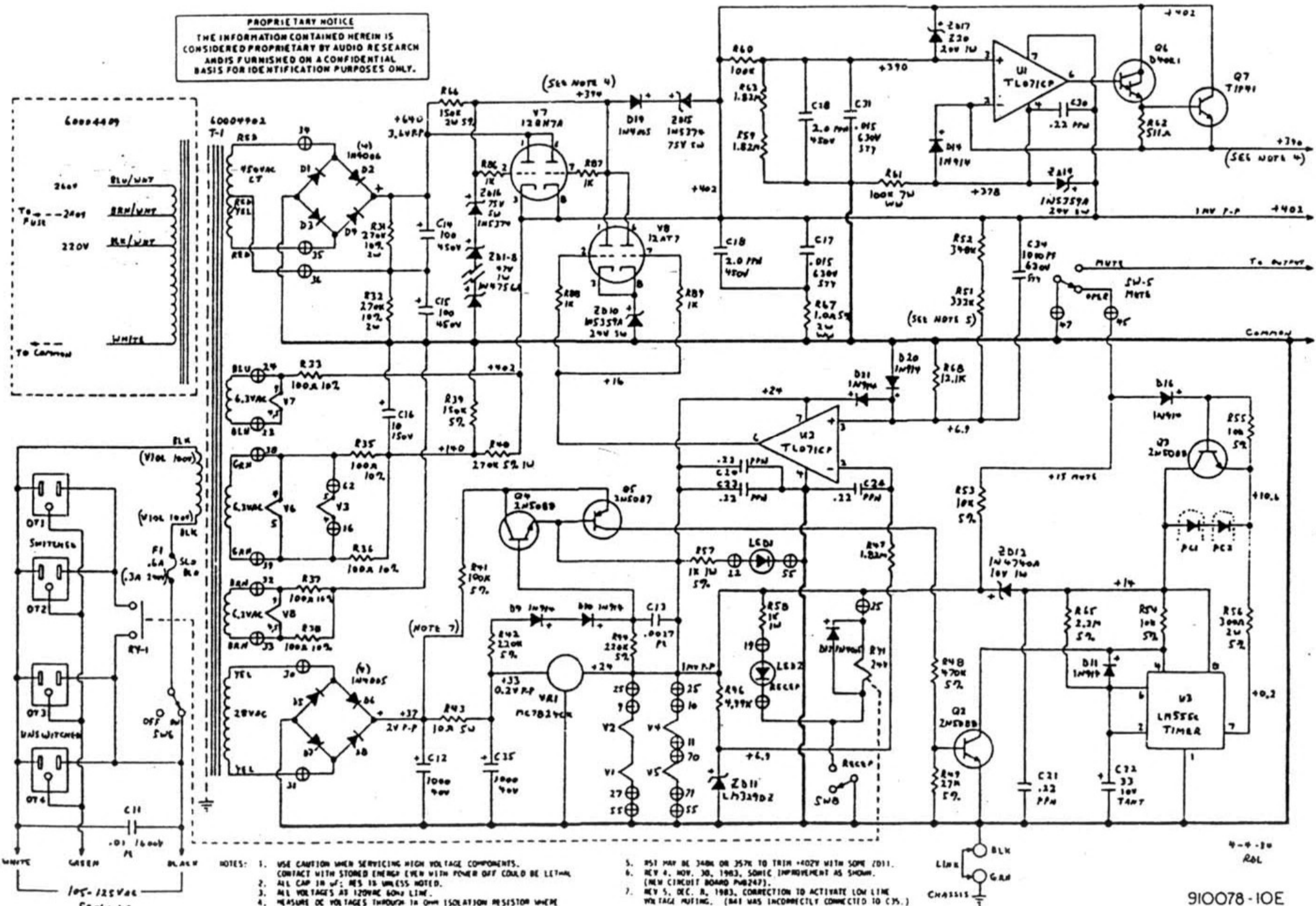
- NOTES:
1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
 2. ALL CAP IN μ F: RES 1/2W SR UNLESS NOTED.
 3. MEASURE DC VOLTAGES THRU 1K OHM ISOLATION RESISTOR AT TEST PROBE TO PREVENT CAPACITIVE LOADING AND PARASITIC OSCILLATION, WHERE NOTED.
 4. V1 AND V4 ARE SELECTED FOR LOW NOISE AND MICROPHONICS. FOR BEST SONIC RESULTS USE ONLY ECC83AR FOR V1, 2, 4, 5 AND AUDIO RESEARCH 604B FOR V3, 6.
 5. REMOVE R27 FOR 10 dB GAIN REDUCTION. (LOCATED ON TERMINAL POSTS BELOW V4)
 6. REV. 4, NOV 30, 1983, SONIC IMPROVEMENT AS SHOWN (NEW CIRCUIT BOARD P1B247).
 7. REV. 5, DEC 8, 1983, SONIC AND STABILITY IMPROVEMENT: C1 WAS 20 pF, R2 WAS 1.82K.

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910079-10E
SP8 PREAMPLIFIER

4-9-84 Rdb

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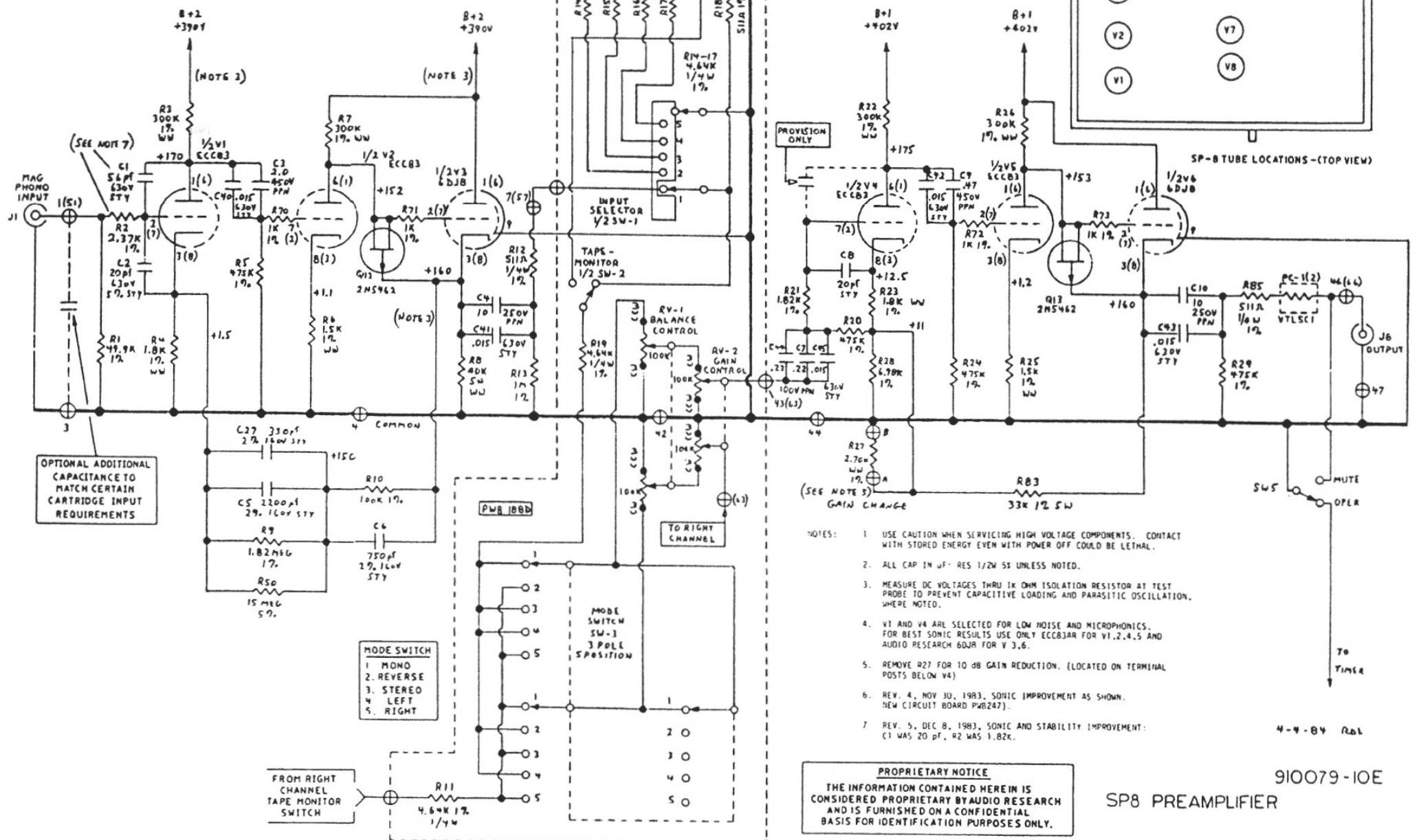


- NOTES:
1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
 2. ALL CAP IN W: RES IS UNLESS NOTED.
 3. ALL VOLTAGES AT 120VAC 60HZ LINE.
 4. MEASURE DC VOLTAGES THROUGH IN OHM ISOLATION RESISTOR WHERE NOTED, TO MINIMIZE CAPACITIVE LOADING EFFECTS.
 5. R51 MAY BE 340K OR 357K TO TRIM +0.02V WITH SOME (D11).
 6. REV 4, NOV. 30, 1983, SOME IMPROVEMENT AS SHOWN. (NEW CIRCUIT BOARD PWB247).
 7. REV 5, DEC. 8, 1983, CORRECTION TO ACTIVATE LOW LINE VLN TAG MUFFING. (R41 WAS INCORRECTLY CONNECTED TO C15.)

LEFT CHANNEL SHOWN
RIGHT CHANNEL NUMBERS
IN PARENTHESES

SELECTOR SWITCH
1. MAG PHONO
2. TAPE
3. TUNER
4. AUX 1
5. AUX 2

J2 TAPE
J3 TUNER
J4 AUX 1
J5 AUX 2
J6 MONITOR INPUT
J7 TAPE OUTPUT



OPTIONAL ADDITIONAL CAPACITANCE TO MATCH CERTAIN CARTRIDGE INPUT REQUIREMENTS

MODE SWITCH
1. MONO
2. REVERSE
3. STEREO
4. LEFT
5. RIGHT

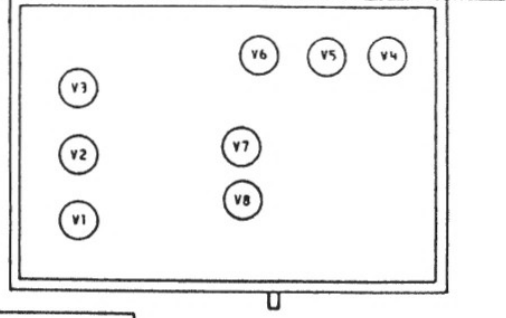
- NOTES:
1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
 2. ALL CAP IN μF . RES 1/2W 5% UNLESS NOTED.
 3. MEASURE DC VOLTAGES THRU 1K OHM ISOLATION RESISTOR AT TEST PROBE TO PREVENT CAPACITIVE LOADING AND PARASITIC OSCILLATION WHERE NOTED.
 4. V1 AND V4 ARE SELECTED FOR LOW NOISE AND MICROPHONICS. FOR BEST SONIC RESULTS USE ONLY ECC83AR FOR V1, 2, 4, 5 AND AUDIO RESEARCH 6DJ8 FOR V 3, 6.
 5. REMOVE R27 FOR 10 DB GAIN REDUCTION. (LOCATED ON TERMINAL POSTS BELOW V4)
 6. REV. 4, NOV 30, 1983, SONIC IMPROVEMENT AS SHOWN. NEW CIRCUIT BOARD PWB247.
 7. REV. 5, DEC 8, 1983, SONIC AND STABILITY IMPROVEMENT: C1 WAS 20 pF, R2 WAS 1.82K.

PROPRIETARY NOTICE
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4-4-84 RBL

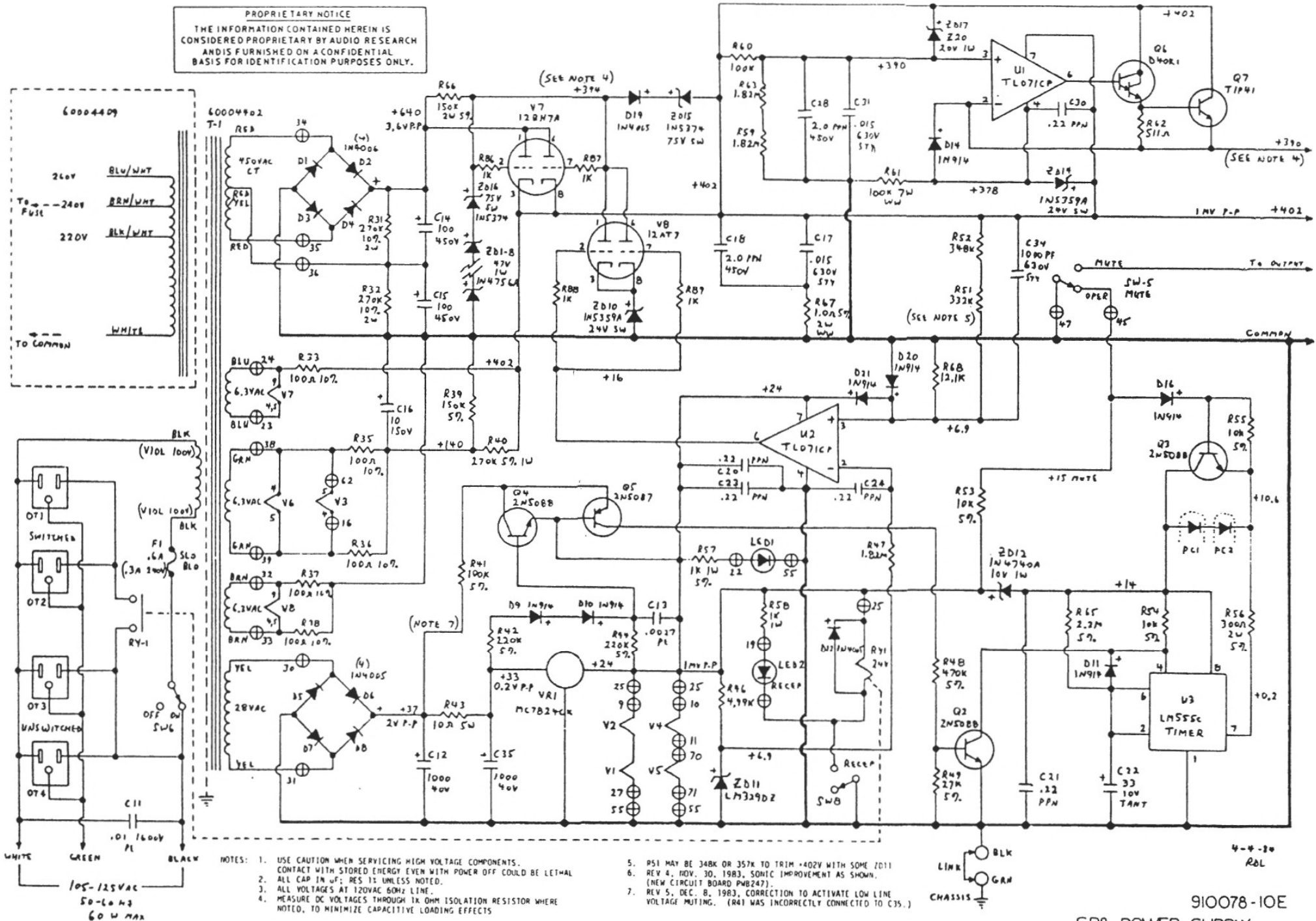
910079-10E

SP8 PREAMPLIFIER



TO TIME

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- NOTES:
1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
 2. ALL CAP IN μ F; RES 1% UNLESS NOTED.
 3. ALL VOLTAGES AT 120VAC 60Hz LINE.
 4. MEASURE DC VOLTAGES THROUGH 1K OHM ISOLATION RESISTOR WHERE NOTED, TO MINIMIZE CAPACITIVE LOADING EFFECTS.

5. R51 MAY BE 348K OR 357K TO TRIM +402V WITH SOME 2011
6. REV 4, NOV. 30, 1983, SONIC IMPROVEMENT AS SHOWN. (NEW CIRCUIT BOARD PWB247.)
7. REV 5, DEC. 8, 1983, CORRECTION TO ACTIVATE LOW LINE VOLTAGE MUTING. (R41 WAS INCORRECTLY CONNECTED TO C35.)

910078-10E
 SP8 POWER SUPPLY

SP-8 PARTS LIST

<u>COMPONENT</u>	<u>QUAN.</u>	<u>DESCRIPTION</u>	<u>VALUE</u>	<u>RATING</u>	<u>TOL.</u>	<u>ARC PART NO.</u>
V1,2,4,5	4	ECC83AR				32001300
V3,6	2	6DJ8				32001100
V7	1	12BH7A				32001200
V8	1	12AT7				32000900
D1-4	4	1N4006	1A	800V		30502200
D5-8,12,19	6	1N4005	1A	600V		30500400
D9,10,11,14,16,20,21	7	1N914		100V		30500900
ZD1-8	8	1N4756A Zener	47V	1W		30503200
ZD10,14	2	1N5359A Zener	24V	5W		30503500
ZD11	1	LM329DZ Zener Ref.	6.9V			31000700
ZD12	1	1N4740A Zener	10V	1W		30500300
ZD15,16	2	1N5374A Zener	75V	5W		30502900
ZD17	1	Z20 Zener	20V	1W		30503700
LED1,2	2	LED Green				34300100
Q2,3,4	3	2N5088 Trans	NPN			30003100
Q5	1	2N5087 Trans	PNP			30003000
Q6	1	D40K1 Trans	Darl NPN			30005200
Q7	1	T1P41 Trans				30005000
Q12, 13	4	2N5462 FET	P-Chan			30005900
RV1	1	Balance Control	100K	LinTaper	10%	45100525
RV2	1	Gain Control	100K	LogTaper	10%	45100528
VR1	1	MC7824CK	24V	1A		31001200
U1,2	2	TL071CP Op Amp				31001900
U3	1	LM555CN Timer				31000800
PC1,2	2	VTLS01 Photocoupler				34400100
R1	2	Metal Film	49.9K	1/2W	1%	42499403
R2	2	Metal Film	2.37K	1/4W	1%	42237302
		Metal Film	1.82K	1/2W	1%	42182303
R3,7,22,26	8	Wirewound	300K	0.2W	1%	43300501
R4,23	4	Wirewound	1.8K	1W	1%	43182300
R5,20,24,29	8	Metal Film	475K	1/2	1%	42475503
R6,25	4	Wirewound	1.5K	2W	1%	43150302
R8	2	Wirewound	40K	5W	3%	43400400
R9,47,59,63	5	Metal Film	1.82Meg	1/2W	1%	42182603
R10,60	3	Metal Film	100K	1/2W	1%	42100503
R11,14-17,19	10	Metal Film	4.64K	1/4W	1%	42464302
R12,18,62,85	7	Metal Film	511	1/4W	1%	42511202
R13	2	Metal Film	1Meg	1/2W	1%	42100603
R21	2	Metal Film	1.82K	1/2W	1%	42182303
R27	2	Wirewound	2.70K	2W	1%	43270301
R28	2	Metal Film	6.98K	1/2W	1%	42698303
R31,32	2	Carbon	270K	2W	10%	40270505
R33,35-38	5	Carbon	100	1/2W	10%	40100203
R39	1	Carbon	150K	1/2W	5%	41150503
R40	1	Carbon	270K	1W	5%	41270504
R41	1	Carbon	100K	1/4W	5%	41100502
R42,44	2	Carbon	220K	1/4W	5%	41220502
R43	1	Wirewound	10	5W	5%	43100104
R46	1	Metal Film	4.99K	1/2W	1%	42499303
R48	1	Carbon	470K	1/4W	5%	41470502
R49	1	Carbon	27K	1/4W	5%	41270402
R50	2	Carbon	15Meg	1/2W	5%	41150703
R51	1	Metal Film	332K	1/2W	1%	42332503
R52	1	Metal Film	348K	1/2W	1%	42348503
R53-55	3	Carbon	10K	1/4W	5%	41100402

SP-8 PARTS LIST

<u>COMPONENT</u>	<u>QUAN.</u>	<u>DESCRIPTION</u>	<u>VALUE</u>	<u>RATING</u>	<u>TOL.</u>	<u>ARC PART NO.</u>
R56	1	Wirewound (N. Film)	300	2W	5%	43300200
R57,58	2	Carbon	1K	1W	5%	41100300
R61	1	Wirewound	100K	7W	5%	43100500
R65	1	Carbon	2.2Meg	1/4W	5%	41220600
R66	1	Metal Film	150K	2W	2%	46150500
R67	1	Wirewound	1.0	2W	5%	43100000
R68	1	Metal Film	12.1K	1/2W	1%	42121400
R70,71,86,87	6	Metal Film	1K	1/4W	1%	42100300
R72,73,88,89	6	Metal Film	1K	1/2W	1%	42100300
R83	2	Wirewound	33K	5W	1%	43330400
C1	2	Polystyrene	56pF	630V	2.5%	53560100
C2,8	4	Polystyrene	20pF	630V	5%	53200100
C3,18,28	4	Polystyrene	20pF	630V	5%	53200100
C4,10	4	Polypropylene	2uF	450V	10%	53200600
C5	4	Polypropylene	10uF	250V	10%	53100700
C6	2	Polystyrene	2200pF	160V	2.5%	53220300
C7,20,21,23 24,30,44	2	Polystyrene	750pF	160V	2.5%	53750200
C9	9	Polypropylene	.22uF	100V	10%	53220500
C11	2	Polypropylene	.47uF	450V	10%	53470500
C12,35	1	Polyester	.01uF	1600V	10%	53100400
C13	2	Electrolytic	1000uF	40V		50100900
C14,15	1	Polyester	.0027uF	200V	10%	53270300
C16	2	Electrolytic	100uF	450V		50100800
C17,31,40-43,45	1	Electrolytic	10uF	150V		50100700
C22	12	Polystyrene	.015uF	630V	5%	53150400
C27	1	Tantalum	33uF	10V	10%	51330700
C34	2	Polystyrene	330pF	160V	2.5%	53330200
F1	1	Polystyrene	1000pF	630V	5%	53100300
	1	Fuse, Slo-Blo	0.6A	250V		34500220
	1		0.3A	250V		34500120
T1	1	Transformer		120V		60004400
	1	Transformer		100V		60004400
	1	Transformer		240V		60004400
OT1-4	4	AC Receptacle		240V		23201300
SW1	1	Input Selector Sw.	2Pole	5Position		24001000
SW2	1	Tape Monitor Sw.	DPDT	Gold		24100400
SW3	1	Mode Switch	3Pole	5Position		24000700
SW5	1	Mute-Operate Sw.	DPDT	Gold		24100400
SW6	1	On-Off Switch	DPDT	Silver		24100700
SW8	1	Receptacle Sw.	DPDT	Silver		24100700
RY1	1	Relay 24V	SPST	N.O.		64100600
J1-J16	16	Phono Jack				23201000

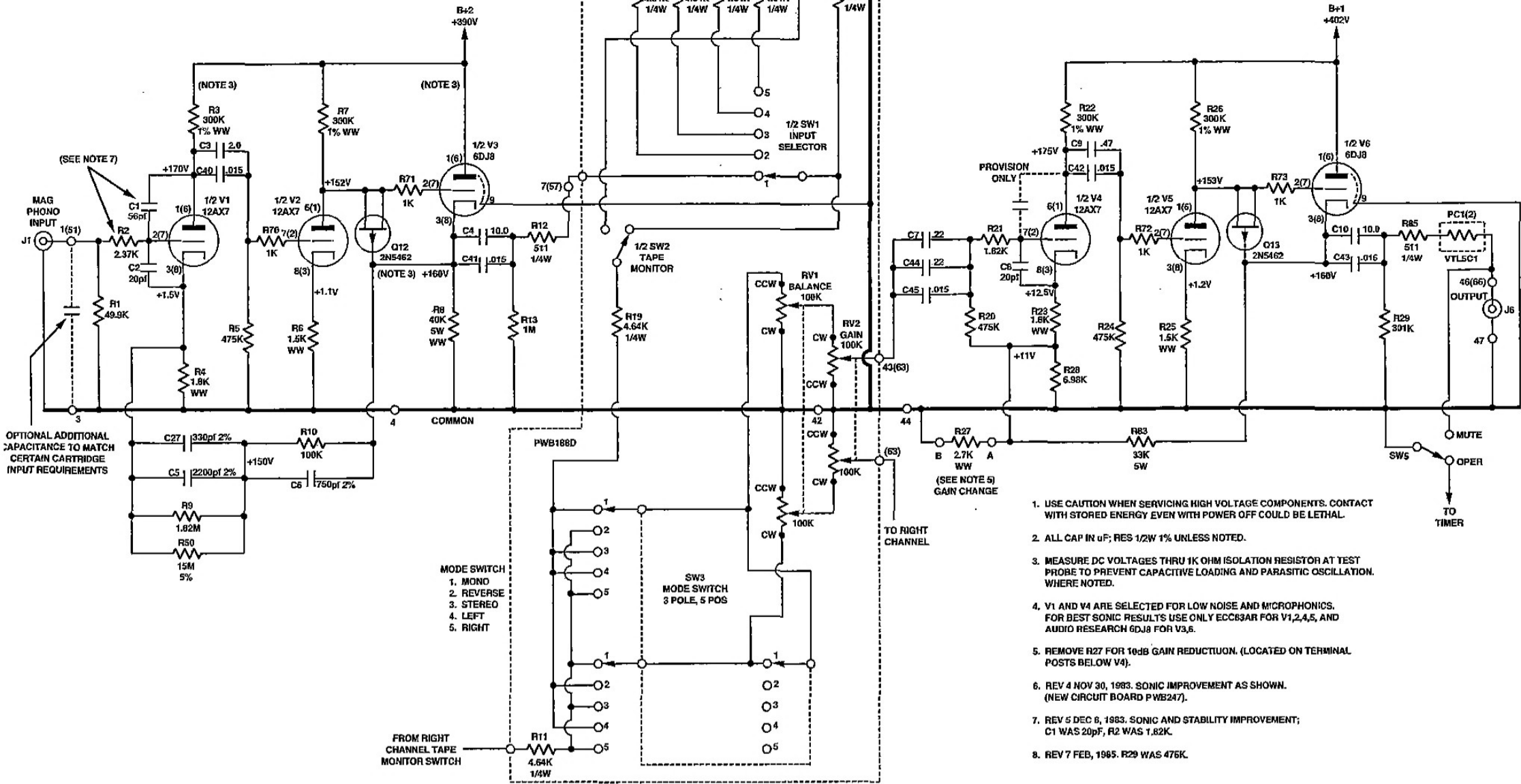
NOTE: Resistor values are in "ohms" except "K" = x 1,000; "Meg" = x 1,000,000

LEFT CHANNEL SHOWN
RIGHT CHANNEL NOTED
IN PARENTHESES

SELECTOR SWITCH

1. MAG PHONO
2. TAPE
3. TUNER
4. AUX 1
5. AUX 2

- J2 TAPE
- J3 TUNER
- J4 AUX 1
- J5 AUX 2
- J6 MONITOR INPUT
- J7 TAPE OUTPUT

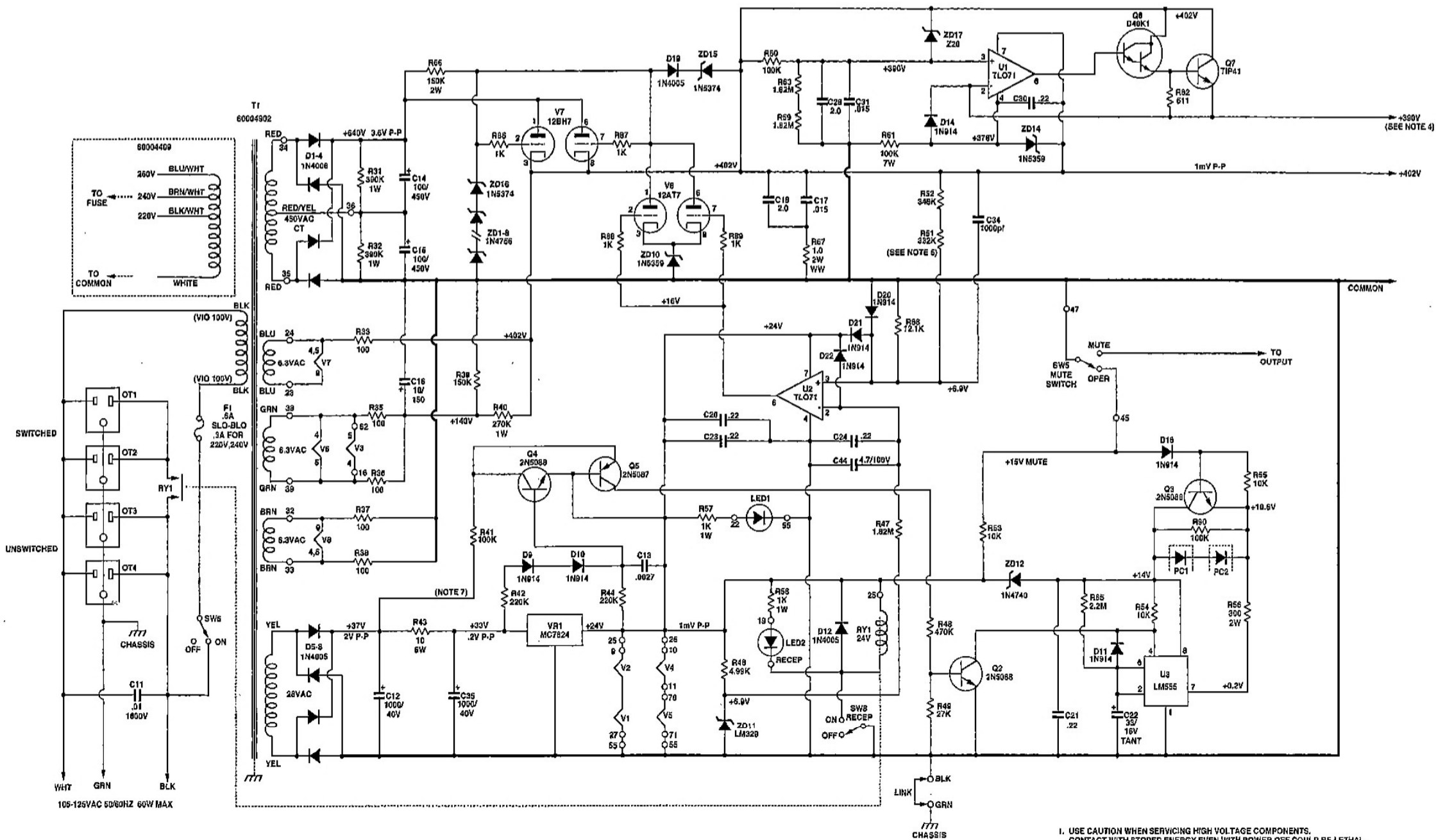


OPTIONAL ADDITIONAL CAPACITANCE TO MATCH CERTAIN CARTRIDGE INPUT REQUIREMENTS

- MODE SWITCH
1. MONO
 2. REVERSE
 3. STEREO
 4. LEFT
 5. RIGHT

- SW3 MODE SWITCH 3 POLE, 5 POS

1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
2. ALL CAP IN uF; RES 1/2W 1% UNLESS NOTED.
3. MEASURE DC VOLTAGES THRU 1K OHM ISOLATION RESISTOR AT TEST PROBE TO PREVENT CAPACITIVE LOADING AND PARASITIC OSCILLATION. WHERE NOTED.
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5. REMOVE R27 FOR 10dB GAIN REDUCTION. (LOCATED ON TERMINAL POSTS BELOW V4).
6. REV 4 NOV 30, 1983. SONIC IMPROVEMENT AS SHOWN. (NEW CIRCUIT BOARD PWB247).
7. REV 5 DEC 8, 1983. SONIC AND STABILITY IMPROVEMENT; C1 WAS 20pF, R2 WAS 1.82K.
8. REV 7 FEB, 1985. R29 WAS 475K.



SWITCHED
UNSWITCHED

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2. ALL CAP IN μ F; RESISTORS 1% UNLESS NOTED.
3. ALL VOLTAGES AT 120VAC 60HZ LINE.
4. MEASURE DC VOLTAGES THRU 1K OHM ISOLATION RESISTOR WHERE NOTED, TO MINIMIZE CAPACITIVE LOADING EFFECTS.
5. R51 MAY BE 348K OR 357K TO TRIM +402V WITH SOME ZD11.
6. REV 4 NOV. 38, 1983 SONIC IMPROVEMENT AS SHOWN. (NEW CIRCUIT BOARD PW/8247).
7. REV 5 DEC. 8, 1983 CORRECTION TO ACTIVATE LOW LINE VOLTAGE MUTING. (R41 WAS INCORRECTLY CONNECTED TO C35.)
8. REV 7 FEB, 1985 HV SLOW START. R31,32 WERE 270K. ADDED D22,R80,C44.