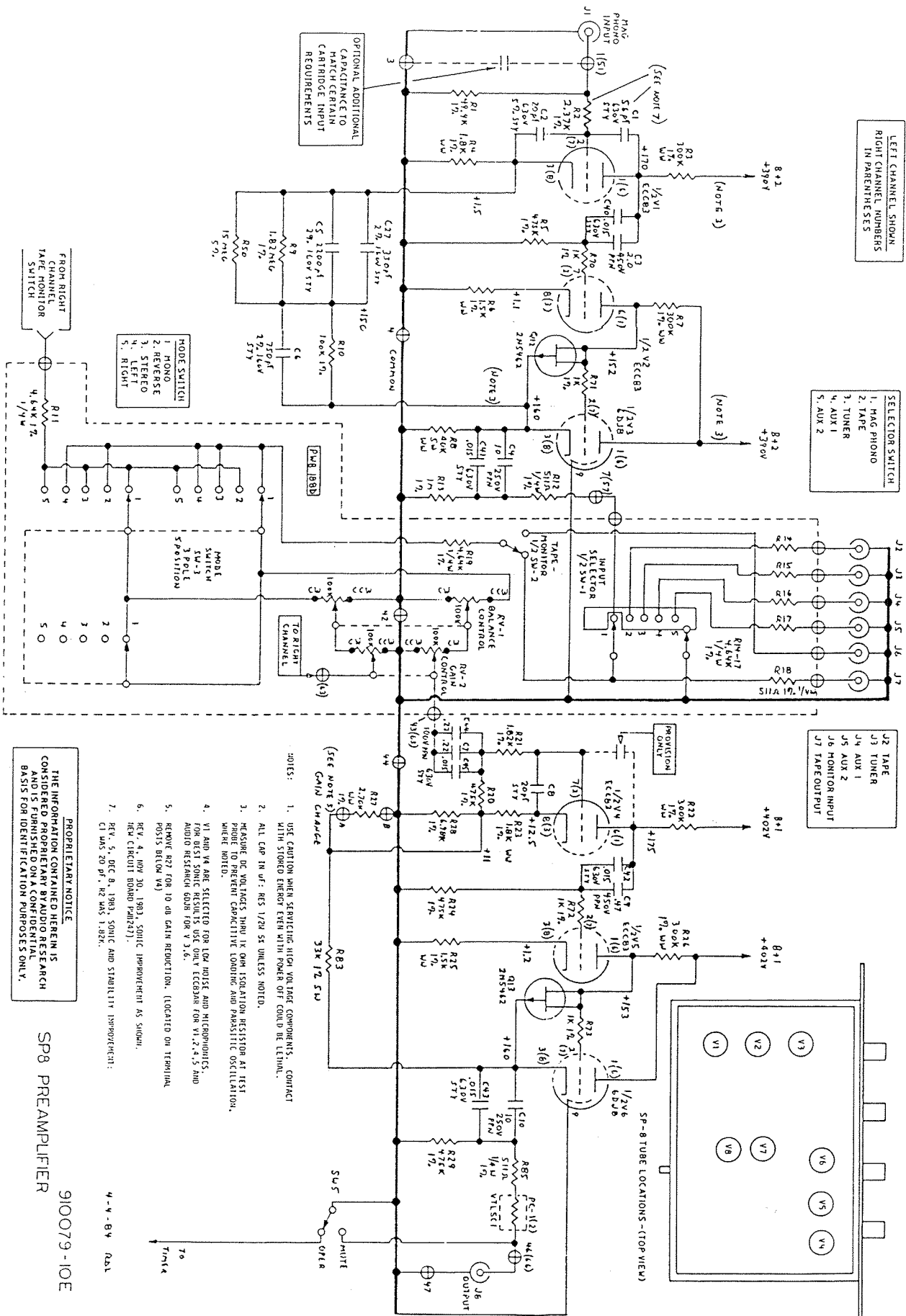


SP-8 PREAMPLIFIER
SCHEMATIC & PARTS LIST

Rev. E
4-4-84

audio research corporation

6801 SHINGLE CREEK PARKWAY
MINNEAPOLIS, MINNESOTA 55430



LEFT CHANNEL SHOWN
RIGHT CHANNEL NUMBERS
IN PARENTHESES

SELECTION 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

SP-8 TUBE LOCATIONS - (TOP VIEW)

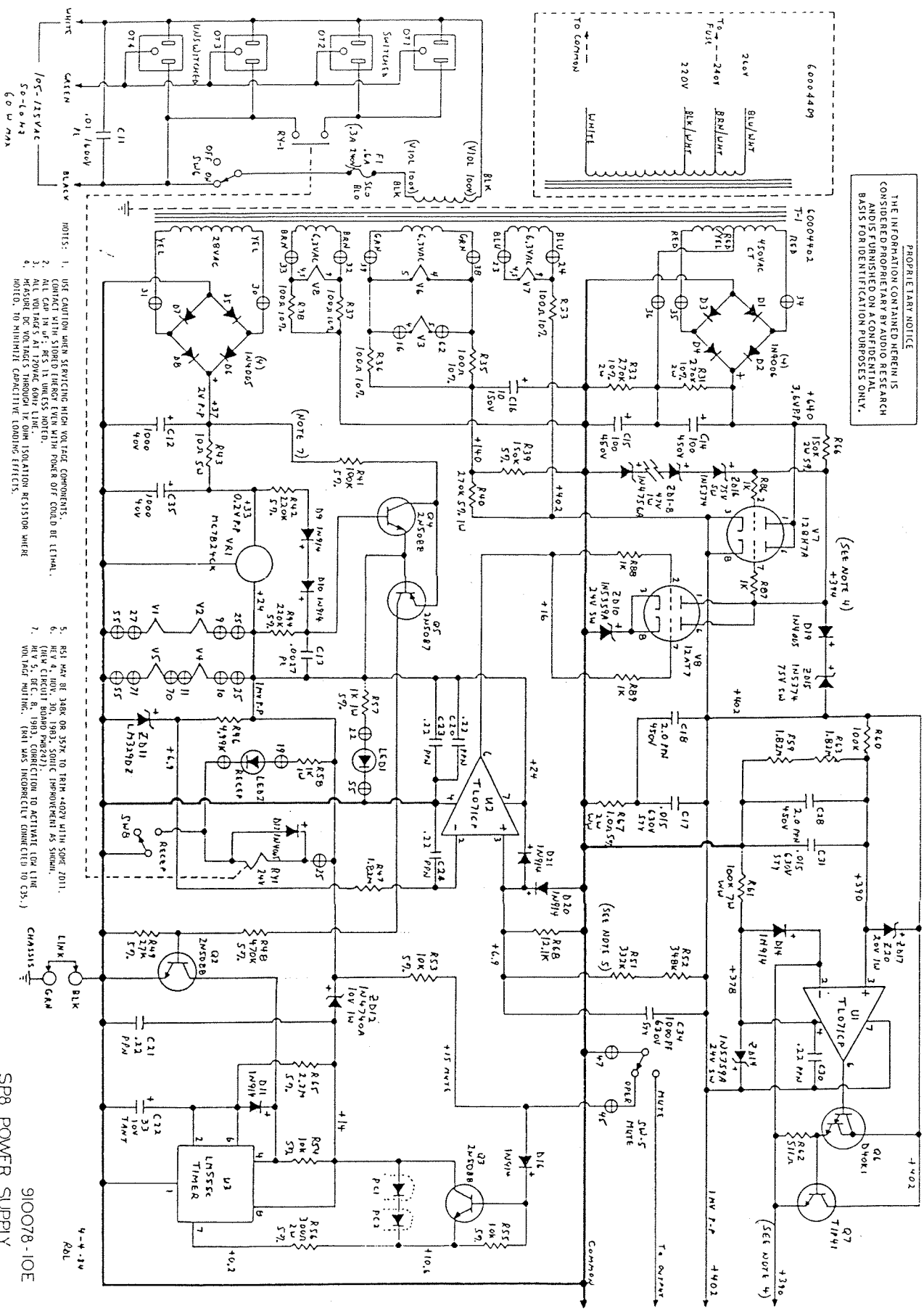
NOTES:
1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS. CONTACT WITH STORED ENERGY EVEN WITH POWER OFF COULD BE LETHAL.
2. ALL CAP IN μ F. RES 1/2W 5% UNLESS NOTED.
3. MEASURE DC VOLTAGES WITH 1X OHM ISOLATION RESISTOR AT TEST PROBE TO PREVENT CAPACITIVE LOADING AND PARASITIC OSCILLATION. WHEATSTONE.
4. V1 AND V4 ARE SELECTED FOR LOW NOISE AND MICROPHONICS. FOR BEST SOUND RESULTS USE ONLY ECC83AR FOR V1, 2, 4, 5 AND AUDIO RESISTOR 600 Ω FOR V3, 6.
5. REMOVE R27 FOR 10 DB GAIN REDUCTION. (LOCATED ON TERMINAL POSTS BELOW V4)
6. REV. 4, NOV 30, 1983, SILENT IMPROVEMENT AS SHOWN.
7. REV. 5, DEC 8, 1983, SILENT AND STABILITY IMPROVEMENT: NEW CIRCUIT BOARD PARTS.

PROPRIETARY NOTICE
THE INFORMATION CONTAINED HEREIN IS
CONSIDERED PROPRIETARY BY AUDIO RESEARCH
AND IS FURNISHED ON A CONFIDENTIAL
BASIS FOR IDENTIFICATION PURPOSES ONLY.

SP8 PREAMPLIFIER
910079-10E

4-4-B4 2AL

PROPRIETARY NOTICE
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- NOTES: 1. USE CAUTION WHEN SERVICING HIGH VOLTAGE COMPONENTS.
2. CONTACT WITH STORED ENERGY EVEN WHEN POWER OFF COULD BE LETHAL.
3. ALL CAP 10 µF: RES 1% UNLESS NOTED.
4. RESISTOR DC VOLTAGES THROUGH 1% OHM ISOLATION RESISTOR WHERE
NOTED. TO MINIMIZE CAPACITIVE LOADING EFFECTS.

SP8 POWER SUPPLY
910078-10E

SP-8 PARTS LIST

COMPONENT	QUAN.	DESCRIPTION	VALUE	RATING	TOL.	ARC PART NO.
V1,2,4,5	4	ECC83AR				32001300
V3,6	2	6D3B				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	7	1N914		100V		30500900
20,21						
ZD1-8	8	1N4756A Zener	47V	1W		30503200
ZD10,14	2	1N5359A Zener	24V	5W		30503500
ZD11	1	LM3290Z Zener	6.9V			31000700
ZD12	1	LM740A 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	Dar1 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			31001200
U1,2	2	TL071CP Op Amp				31001900
U3	2	LM555CN Timer				31000800
PC1,2	2	VTL5C1 Photocoupler				34400100
R1	2	Metal Film	49.9K	1/2W	1%	42499403
R2	2	Metal Film	2.37K	1/4W	1%	42237302
R3,7,22,26	8	Metal Film	1.82K	1/2W	1%	42182303
R4,23	4	Wirewound	300K	0.2W	1%	43300501
R5,20,24,29	8	Wirewound	1.8K	1W	1%	43182300
R6,25	4	Metal Film	475K	1/2	1%	42475503
R3	2	Wirewound	1.5K	2W	1%	43150302
R9,47,59,63	5	Wirewound	40K	5W	3%	43400400
R10,60	3	Metal Film	1.82Meg	1/2W	1%	42182603
R11,14-17,19	10	Metal Film	100K	1/4W	1%	42100503
R12,18,62,85	7	Metal Film	4.64K	1/4W	1%	42464302
R13	2	Metal Film	511	1/4W	1%	42511202
R21	2	Metal Film	1Meg	1/2W	1%	42100603
R27	2	Metal Film	1.82K	1/2W	1%	42182303
R28	2	Wirewound	2.70K	2W	1%	43270301
R31,32	2	Metal Film	6.98K	1/2W	1%	42698303
R33,35-38	5	Carbon	270K	2W	10%	40270505
R39	1	Carbon	100	1/2W	10%	40100203
R40	1	Carbon	150K	1/2W	5%	41150503
R41	1	Carbon	270K	1W	5%	41270504
R42,44	2	Carbon	100K	1/4W	5%	41100502
R43	1	Carbon	220K	1/4W	5%	41220502
R46	1	Wirewound	10	5W	5%	43100104
R48	1	Metal Film	4.99K	1/2W	1%	42499303
R49	1	Carbon	470K	1/4W	5%	41270402
R50	2	Carbon	27K	1/4W	5%	41270402
R51	1	Carbon	15Meg	1/2W	5%	41150703
R52	1	Metal Film	332K	1/2W	1%	42332503
R53-55	3	Metal Film	348K	1/2W	1%	42348503
		Carbon	10K	1/4W	5%	41100402

SP-8 PARTS LIST

COMPONENT	QUAN.	DESCRIPTION	VALUE	RATING	TOL.	ARC PART NO.
R56	1	Wirewound (Fl. Film)	300	2W	5%	43300200
R57,58	2	Carbon	1K	1W	5%	41100304
R61	1	Wirewound	100K	7W	5%	43100500
R65	1	Carbon	2.2Meg	1/4W	5%	41220602
R66	1	Metal Film	150K	2W	2%	46150500
R67	1	Wirewound	1.0	2W	5%	43100002
R68	1	Metal Film	12.1K	1/2W	1%	42121403
R70,71,86,87	6	Metal Film	1K	1/4W	1%	42100303
R72,73,88,89	6	Metal Film	1K	1/2W	1%	42100303
R83	2	Wirewound	33K	5W	1%	43330400
C1	2	Polys Styrene	56pF	630V	2.5%	53560102
C2,8	4	Polys Styrene	20pF	630V	5%	53200101
C3,18,28	4	Polys Styrene	20pF	630V	5%	53200101
C4,19	4	Polys Styrene	20pF	630V	5%	53200101
C5	2	Polys Styrene	100pF	250V	10%	53100700
C6	2	Polys Styrene	2200pF	160V	2.5%	53220302
C7,20,21,23	9	Polys Styrene	750pF	160V	2.5%	53750200
C9	2	Polys Styrene	.22uF	100V	10%	53220506
C11	2	Polys Styrene	.47uF	450V	10%	53470509
C12,35	2	Electrolytic	.01uF	160V	10%	53100403
C13	1	Electrolytic	1000uF	40V	10%	50100904
C14,15	2	Electrolytic	.0027uF	200V	10%	53270301
C16	1	Electrolytic	100uF	450V	10%	50100802
C17,31,40-43,45	12	Electrolytic	10uF	150V	5%	50100703
C22	1	Tantalum	.01uF	630V	5%	53150404
C27	2	Polys Styrene	33uF	160V	10%	51330700
C34	1	Polys Styrene	330pF	160V	2.5%	53330200
F1	1	Fuse, Slo-Blo	1000pF	630V	5%	53100301
T1	1	Transformer	0.6A	250V		34500220
OT1-4	4	Transformer	0.3A	250V		34500120
SW1	1	AC Receptacle		120V		60004402
SW2	1	Input Selector Sw.		100V		60004403
SW3	1	Tape Monitor Sw.		240V		60004409
SW4	1	Mode Switch				23201300
SW5	1	Mute-Operate Sw.				24000700
SW6	1	On-Off Switch				24100400
SW8	1	Receptacle Sw.				24100700
RY1	1	Relay 24V	SPST	N.O.		24100700
J1-J16	16	Phono Jack				64100600

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