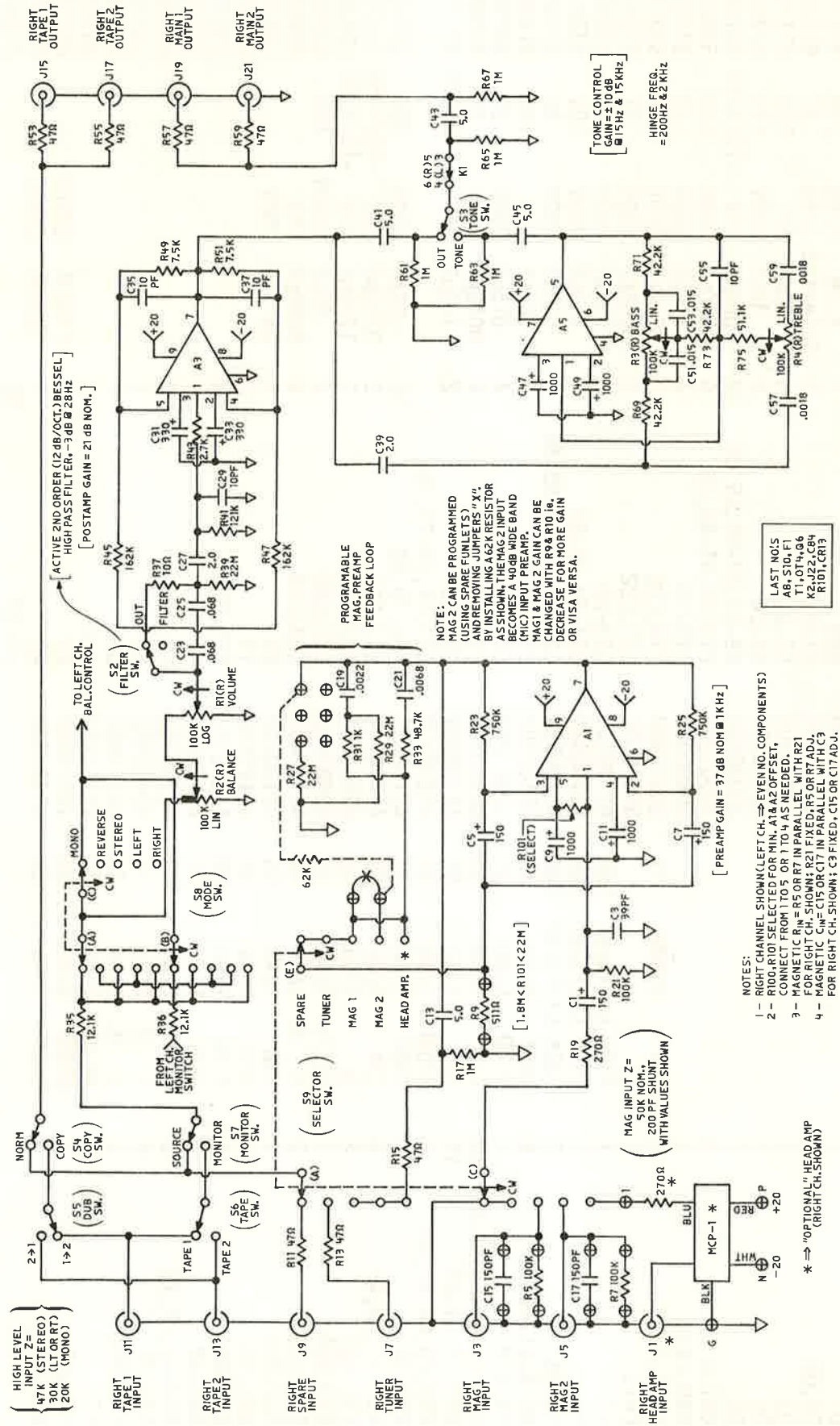


- NOTES:
1. - ALL CAPACITORS IN MF UNLESS NOTED.
  2. - (P) & (N) ARE OPTIONAL HEAD AMP POWER TAKE-OFF POINTS.
  3. - A7, A8 ARE LM741C.
  4. - CR1-CR8 ARE 1N4003.
  5. - CR9, CR10 ARE 1N914.
  6. - CR3 & C84 5000 CAPACITORS ARE NOT INCLUDED ON MODEL SP-4.

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TOLERANCES (UNLESS AS NOTED)	AUDIO RESEARCH CORPORATION MINNEAPOLIS, MINNESOTA
RESISTORS	SCALE APPROVED BY S. C.
CAPACITORS	APPROVED BY S. C.
FUNCTIONAL	TITLE SCHEMATIC SP-4 AND SP-4A POWER SUPPLY
ANALOG	DATE 8-1-77
	REVISION NUMBER 910040-10 A



NOTE: MAG 2 CAN BE PROGRAMMED USING THE FOLLOWING VALUES: "X" BY INSTALLING A 62K RESISTOR AS SHOWN, THE MAG 2 INPUT BECOMES A 40DB WIDE BAND (HIC) INPUT PREAMP. MAG 1 & MAG 2 GAIN CAN BE CHANGED WITH R9 & R10. INCREASE FOR MORE GAIN OR VISA VERSA.

- NOTES:
- 1 - RIGHT CHANNEL SHOWN (LEFT CH. ⇒ EVEN NO. COMPONENTS)
  - 2 - R100, R101 SELECTED FOR MIN. A1 & A2 OFFSET.
  - 3 - MAGNETIC R<sub>M</sub> = R5 OR R7 IN PARALLEL WITH R21
  - 4 - FOR RIGHT CH. SHOWN: R21 FIXED, R5 OR R7 ADJ. MAGNETIC C<sub>M</sub> = C15 OR C17 IN PARALLEL WITH C3 FOR RIGHT CH. SHOWN: C3 FIXED, C15 OR C17 ADJ.

\* ⇒ "OPTIONAL" HEAD AMP (RIGHT CH. SHOWN)

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TOLERANCES (UNLESS AS NOTED)	AUDIO RESEARCH CORPORATION MINNEAPOLIS, MINNESOTA
RESISTORS	SCALE APPROVED BY S. C.
CAPACITORS	APPROVED BY S. C.
FUNCTIONAL	TITLE SCHEMATIC SP-4 AND SP-4A CIRCUITRY
ANALOG	DATE 8-1-77
	REVISION NUMBER 910041-10 A

SP4A PARTS LIST

COMPONENT	QUAN.	VALUE	RATING	TOL.	ARC PART NO.	COMPONENT	QUAN.	VALUE	RATING	TOL.	ARC PART NO.
A1, A2	2				AM-6	R84, R85	2	100K	1/4W	5%	41100502
A3, A4	2				AM-5	R92, R93	2	1.2 $\Omega$	1/2W	5%	41120003
A5, A6	2				AM-4	R94	1	910 $\Omega$	1W	5%	41910204
A7, A8	2				31000400	R95, R97	2	27K	1/4W	5%	41270402
Q1	1				30000700	R96	1	4.7M	1/4W	5%	41470602
Q2, Q6	2				30000800	R100, R101	2	Selected	1/4W	5%	41XXXX02
Q3	1				30002200	C1, 2, 5-8	6	150 $\mu$ F	6V	10%	51150801
Q4	1				30002300	C3, C4	2	39pF	500V	5%	57390100
Q5	1				30000600	C9-12, 47-50, 65, 66	10	1000 $\mu$ F	25V	-10/+75%	50100903
CR1-8	8				30501700	C13, 14, 41-46, 78	9	5.0 $\mu$ F	200V	10%	53500601
CR9, CR10	2				30500900	C15-18	4	150pF	500V	5%	57150201
CR11, CR12	2	15V	500MW	1%	30501800	C19, C20	2	.0022 $\mu$ F	200V	2%	53220301
CR13	1				34300100	C21, C22	2	.0068 $\mu$ F	200V	2%	53680301
R1	1	100K	LogTaper	10%	45100520	C23-26	4	.068 $\mu$ F	200V	2%	53680401
R2	1	100K	LinTaper	10%	45100525	C27, 28, 39, 40	4	2.0 $\mu$ F	200V	10%	53200601
R3, R4	2	100K	LinTaper	10%	45100524	C29, 30, 35-38, 55, 56	8	10pF	500V	5%	57100100
R5-8, 21, 22	6	100K	1/4W	1%	42100502	C31-34	4	300 $\mu$ F	6V	10%	51330800
R9, R10	2	511 $\Omega$	1/4W	1%	42511202	C51-54	4	.015 $\mu$ F	200V	2%	53150402
R11-16, 53-60, 88-91	18	47 $\Omega$	1/4W	5%	41470102	C57-60	4	.0018 $\mu$ F	200V	2%	53180301
R17, 18, 61-68	10	1M	1/4W	5%	41100602	C61, C62	2	140 $\mu$ F	40V	-10/+75%	50140801
R19, 20, 86, 87, 99	5	270 $\Omega$	1/4W	5%	41270202	C63, 64, 67-72, 75,	12	.01 $\mu$ F	500V	20%	52100402
R23-26	4	750K	1/4W	1%	42750502	76, 79, 80	2	3700 $\mu$ F	40V	-10/+75%	50370901
R27-30, 39, 40	6	22M	1/4W	5%	41220702	C73, C74	2	1200 $\mu$ F	40V	-10/+75%	50120901
R31, R32	2	1K	1/4W	1%	42100302	C77	1	.01 $\mu$ F	1600V	10%	53100403
R33, R34	2	48.7K	1/4W	1%	42487402	C81, C82	2	5000 $\mu$ F	25V		50500900
R35, R36	2	12.1K	1/4W	1%	42121402	C83, C84	2	$\frac{1}{2}$ A S.B.	250V		34500100
R37, R38	2	10 $\Omega$	1/4W	5%	41100102	F1	1				60003201
R41, R42	2	121K	1/4W	1%	42121502	T1	1				23200500
R43, R44	2	2.7K	1/2W	5%	41270303	OT1-OT4	4				24100700
R45-48	4	162K	1/4W	1%	42162502	S1	1				24100400
R49-52, 77, 79	6	7.5K	1/4W	1%	42750302	S2-7	6				24000700
R69-74	6	42.2K	1/4W	1%	42422402	S8	1				24000800
R75, R76	2	51.1K	1/4W	1%	42511402	S9	1				24100600
R78	1	46.4K	1/4W	1%	42464402	S10	1				64100200
R80, R81	2	619 $\Omega$	1/4W	1%	42619202	K1	1	1750 $\Omega$	24VDC		64100300
R82, 83, 98	3	6.2K	1/4W	5%	41620302	K2	1	290 $\Omega$	24VDC		23201000
						J1-22	22				

MODEL SP-4 AND SP-4A PREAMPLIFIER  
SCHEMATIC & PARTS LIST

**audio research corporation**  
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