

audio research

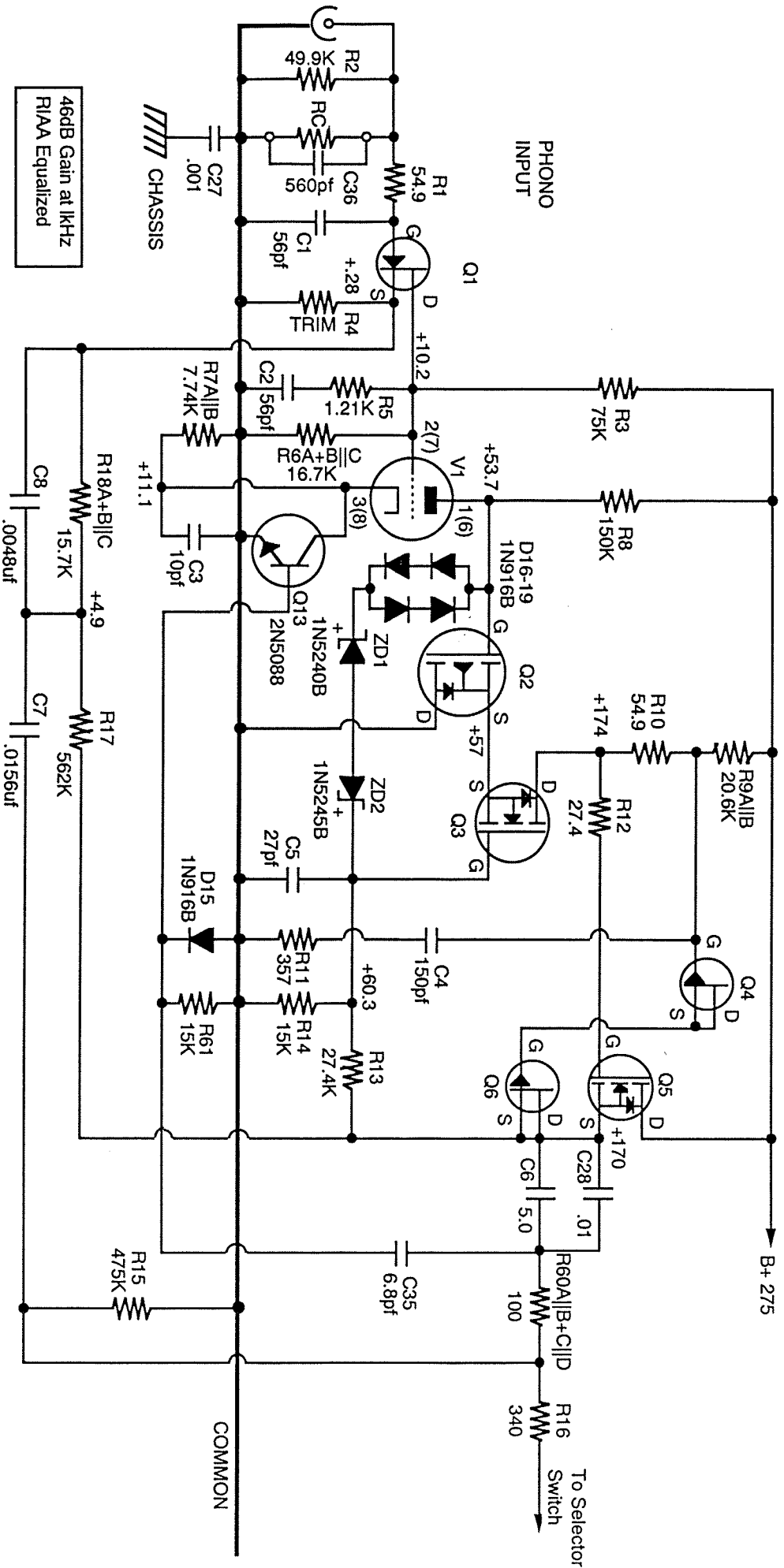
H I G H D E F I N I T I O N[®]

5740 GREEN CIRCLE DRIVE / MINNETONKA, MINNESOTA 55343-4424 / PHONE 612/939-0600 FAX 612/939-0604

SP9MKIII PREAMPLIFIER

SCHEMATIC

8-5-93



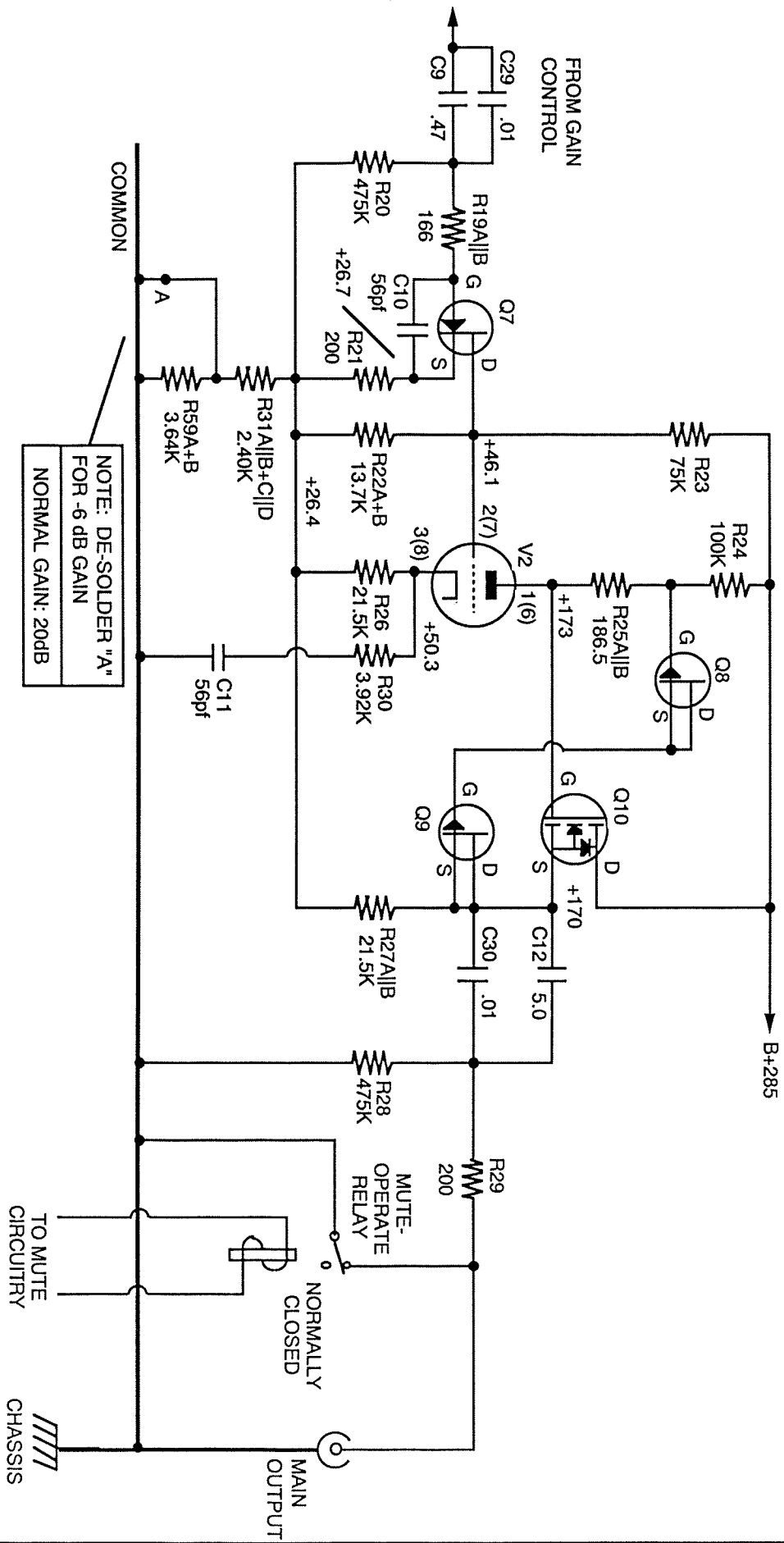
46dB Gain at 1kHz
RIAA Equalized

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MINNETONKA, MINNESOTA 55343-4424

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PROPRIETARY NOTICE: THIS DRAWING CONTAINS PATENTED, PATENT PENDING, PATENT APPLIED FOR, AND/OR OTHER CIRCUITRY CONSIDERED PROPRIETARY BY AUDIO RESEARCH CORPORATION AND IS FURNISHED ON A CONFIDENTIAL BASIS FOR IDENTIFICATION PURPOSES ONLY.

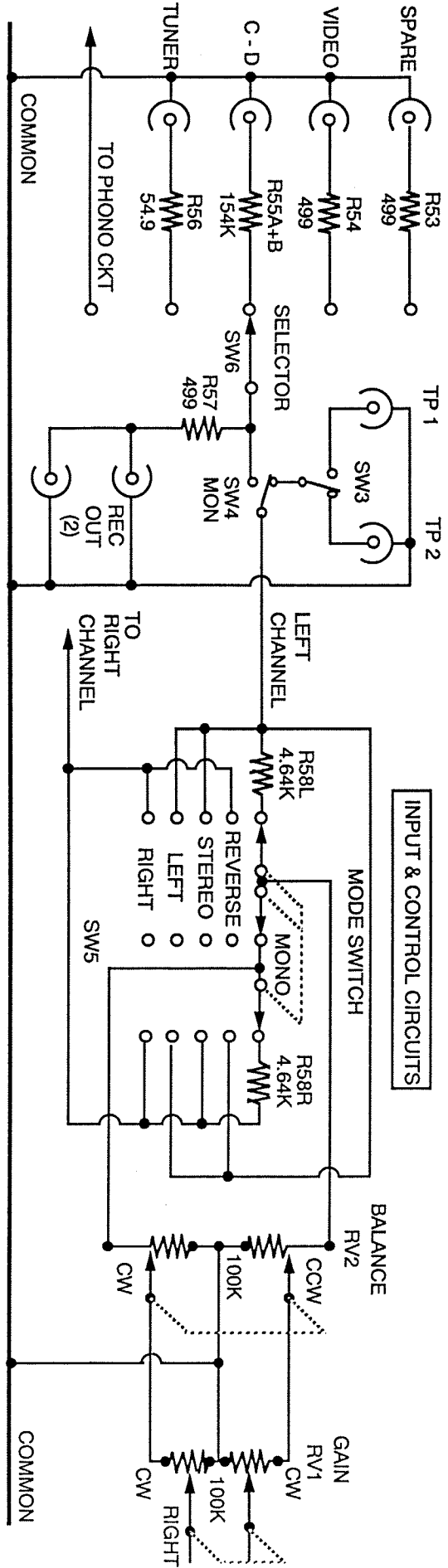
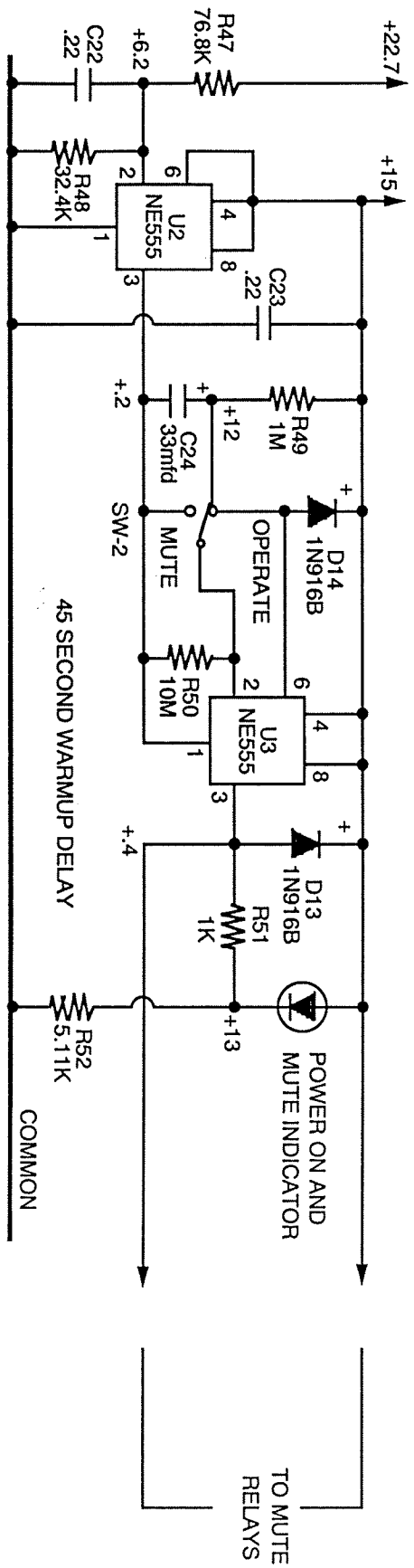


NOTE: DE-SOLDER "A"
FOR -6 DB GAIN
NORMAL GAIN: 20dB

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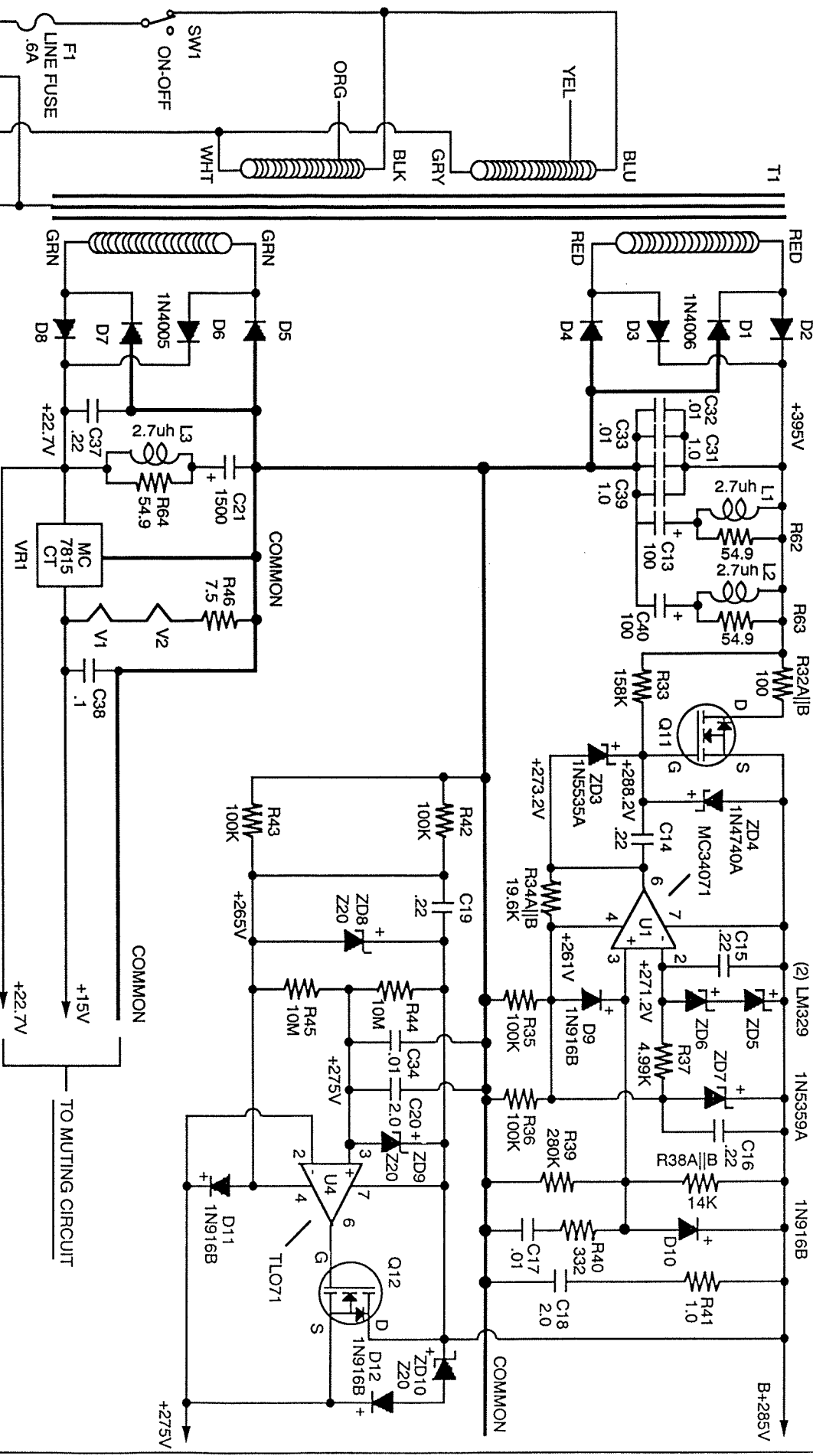


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PARTS LIST

As of AUG 16 93

PRODUCT: SP9MKIII

NOTES:

Schematic Symbol	Quantity	ARC Part #	Description
C CAPACITORS			
C1,2,10,11	8	53560103	CAP. 56 PF +/-2% 630V DPN
C3	2	53100101	CAP. 10 PF +/-1 PF 630V PPN
C4	2	53150202	CAP. 150 PF 2 1/2% 630V PPN
C5	2	53270101	CAP. 27 PF +/-1PF 630V PNP
C6,12	4	53500607	CAP. 5 UF 200V
C7	2	53156400	CAP. .0156 UF +/-2% 630V
C8	2	53480300	CAP. .0048 UF +/-2% 630V
C9	2	53470514	CAP. 0.47UF 400V MIT
C12,28,29	6	53100412	CAP. .01UF 600V
C13,40	2	50100802	CAP. 100 UF 450V
C14,15,16,19,37	5	53220507	CAP. .22 UF 10% 160V
C17,33,32,34	4	53100406	CAP. .01 UF +/-10% 630V
C18,20	2	53200602	CAP. 2 UF +/-10% 450V
C21	1	50150904	CAP. 1500 UF 35V
C22,23	2	53220506	CAP. .22 MFD 100V
C24	2	51330702	CAP. 33 UF +/-10% 16V
C25,26	2	52500300	CAP. .005 UF 20% CERAMIC DISC
C27	2	52100300	CAP. 1000 PF 20% 1000V
C31,39	2	53100608	CAP. 1.0 UF 1-20% 425V TYPE V
C35	2	52680000	CAP. 6.8 PF +/- 1/2PF 1000V
C36	2	53560201	CAP. 560 PF +/-2.5% 630V
C38	1	53100505	CAP. .1 UF 10% 63V
D DIODES			
D1,2,3,4	4	30502200	IN4006
D5,6,7,8	4	30500400	IN4005 GENERAL INSTRUMENT
D9-19	16	30500910	1N916B
F FUSES			
F1(120)	1	34500250	FUSE, MDQ 6/10 A
F1(240)	1	34500121	FUSE, MDQ 3/10 SL. BL.220
J CONNECTORS			
J1-10	20	23202101	GOLD PHONO JACK,SD.CONN.
L INDUCTORS			
L1,2,3	3	61000160	CHOKE, 2.7 UH +/- 10%
LE PANEL INDICATOR			
LE1	1	34300102	L.E.D. COLLAR & RETAINING RING

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Q TRANSISTORS			
Q1A,1B	4	30006535	FET, WHITE ORANGE GREEN
Q2	2	30007006	FET, GRAY BLUE
Q3	2	30006704	FET, ORANGE YELLOW
Q4,6,8,9	8	30005901	FET, RED BROWN
Q5,10	4	30006706	FET, ORANGE BLUE
Q7	2	30006503	FET, WHITE ORANGE
Q11	1	30006761	FET, ORANGE YELLOW BROWN
Q12	1	30007102	FET, YELLOW RED
Q13	2	30003101	2N5210 NAT. ONLY
R RESISTORS			
R4C(TRIM),25B	2	42267203	RES. 267 OHM 1% MK-3 50PPM
R4B(TRIM)	2	42182203	RES. 182 OHM 1% MK-3 50PPM
R4A(TRIM)	2	42150203	RES. 150 OHM 1% MK-3 50PPM
R1,10,56,62,63,64	9	42549103	RES. 54.9 OHM 1% MK-3 50PPM
R2	2	42499403	RES. 49.9K 1% MK-3 50PPM
R3,23	4	42750405	RES. 75K 1% MK-8 50PPM
R5	2	42121303	RES. 1.21K 1% MK-3 50PPM
R6A,6B	4	42100403	RES. 10K+/-1% MK-3 50PPM
R6C	2	42100503	RES. 100K+/-1% MK-3 50PPM
R7A	2	42121403	RES. 12.1K 1% MK-350PPM
R7B,26	4	42215403	RES. 21.5K 1% MK-3 50PPM
R8	2	42150514	RES. 150K 1% MK-5 1W 50PPM
R9A,13,27A	6	42274405	RES. 27.4K 1% MK-8 50PPM
R9B	2	42825405	RES. 82.5K 1% MK-8 50PPM
R11	2	42357203	RES. 357 OHM 1% MK-3 50PPM
R12	2	42274103	RES. 27.4 OHM 1% MK-3 50PPM
R14	2	42150414	RES. 15K 1% MK-5 50PPM
R15,20,28	6	42475503	RES. 475K 1% MK-3 50PPM
R16	2	43375200	RES. 375 OHM 3W 1% W.W.
R17	2	42562513	RES. 562K 1% MK-4 50PPM
R18A,25A	4	42619203	RES. 619 OHM 1% MK-3 50PPM
R18B	2	42274403	RES. 27.4K 1% MK-3 50PPM
R18C	2	42357403	RES. 35.7K 1% MK-3 50PPM
R19A,19B,40	5	42332203	RES. 332 OHM 1% MK-3 50PPM
R21,29,32A,32B	6	42200205	RES. 200 OHM+/-1% MK8 50PPM
R22A,22B	4	42681303	RES. 6.81K 1% MK-3 50PPM
R24,27B,35,36,42,43	8	42100505	RES. 100K 1% MK-8 50PPM
R30	2	42392303	RES. 3.92K 1% MK-3 50PPM
R31A,31B	4	42221303	RES. 2.21K 1% MK-3 50PPM
R31C	2	42237303	RES. 2.37K 1% MK-3 50PPM
R31D	2	42287303	RES. 2.87K 1% MK-3 50PPM
R33	1	42158513	RES. 158K 1% MK-4 50PPM
R34A,34B	2	42392403	RES. 39.2K 1% MK-3 50PPM
R37	1	42499303	RES. 4.99K 1% MK-3 50PPM
R38A,61	3	42150403	RES. 15K 1% MK-3 50PPM
R38B	1	42432503	RES. 432K 1% MK-3 50PPM
R39	1	42280513	RES. 280K 1% MK-4 50PPM
R41	1	43100002	RES. 1 OHM 2W 5% W.W.
R44,45	2	42100703	RES. 10 MEG 1% MK-3 50PPM
R46	1	43750001	RES. 7.5 OHM 2W W.W.
R47,55A,55B	5	42768403	RES. 76.8K 1%MK-3 50PPM

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R48	1	42324403	RES. 32.K 1% MK-3 50PPM
R49	1	42100603	RES. 1 MEG 1% MK-3 50PPM
R50	1	41100702	RES. 10 MEG 1/4W 5%
R51	1	42100303	RES. 1K 1% MK-3 50PPM
R52	1	42511303	RES. 5.11K 1% MK-3 50PPM
R53,54,57	6	42499203	RES. 499 OHM 1% MK-3 50PPM
R58	2	42464303	RES. 4.64K 1% MK-3 50PPM
R59A,59B	4	42182303	RES. 1.82K 1% MK-3 50PPM
R60A,60B,60C,60D	8	42100203	RES. 100 OHM 1% MK-3 50PPM
RV			CONTROLS
RV1	1	45100528	100K DUAL GAIN POT
RV2	1	45100529	100K DUAL BALANCE POT
RY			RELAYS
RY1	2	64101000	RELAY, 12V REED S1P 1200 OHM
SW			SWITCHES
SW1	1	24100730	TOGGLE SWITCH SILVER, SATIN
SW2,3,4	3	24100430	TOGGLE SWITCH GOLD, SATIN
SW5	1	24000700	5 POS MODE SWITCH,SP11
SW6	1	24002200	SWITCH, 5 POS. SOURCE
T			TRANSFORMERS
T1	1	60007700	XFR. SP9/14 (120V) TOROID
U			INTEGRATED CIRCUITS
U1	1	31002200	MC34071P
U2,3	2	31000800	NE555N TIMER
U4	1	31001900	J FET INPUT OP-AMP
V			VACUUM TUBES
V1,2	2	32001150	VAC.TUBE 6922 RUSSIAN
VR			VOLTAGE REGULATOR
VR1	1	31002000	MC7815CT
ZD			ZENER DIODES
ZD1	2	30504400	IN5240B
ZD2	2	30501800	IN5245B
ZD3	1	30504210	IN5535A (KNOX ONLY)
ZD4	1	30500300	IN4740A
ZD5,6	2	31000703	LM329DZ ORANGE
ZD7	1	30503500	IN5359 B
ZD8,9,10	3	30503700	DIODE, Z20 10%