

# **audio research**

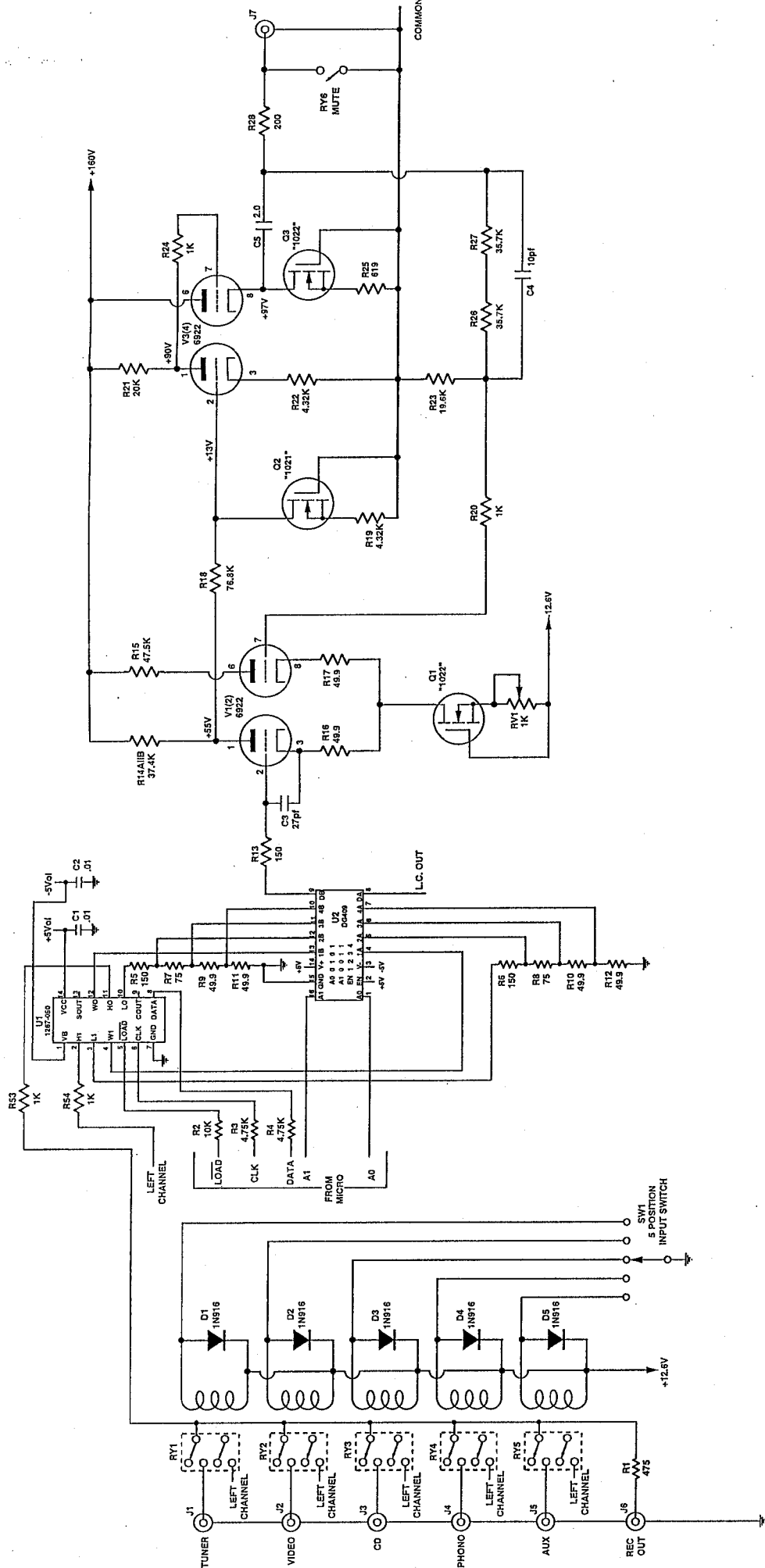
H I G H D E F I N I T I O N<sup>®</sup>

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

LS8

SCHEMATIC AND PARTS LIST

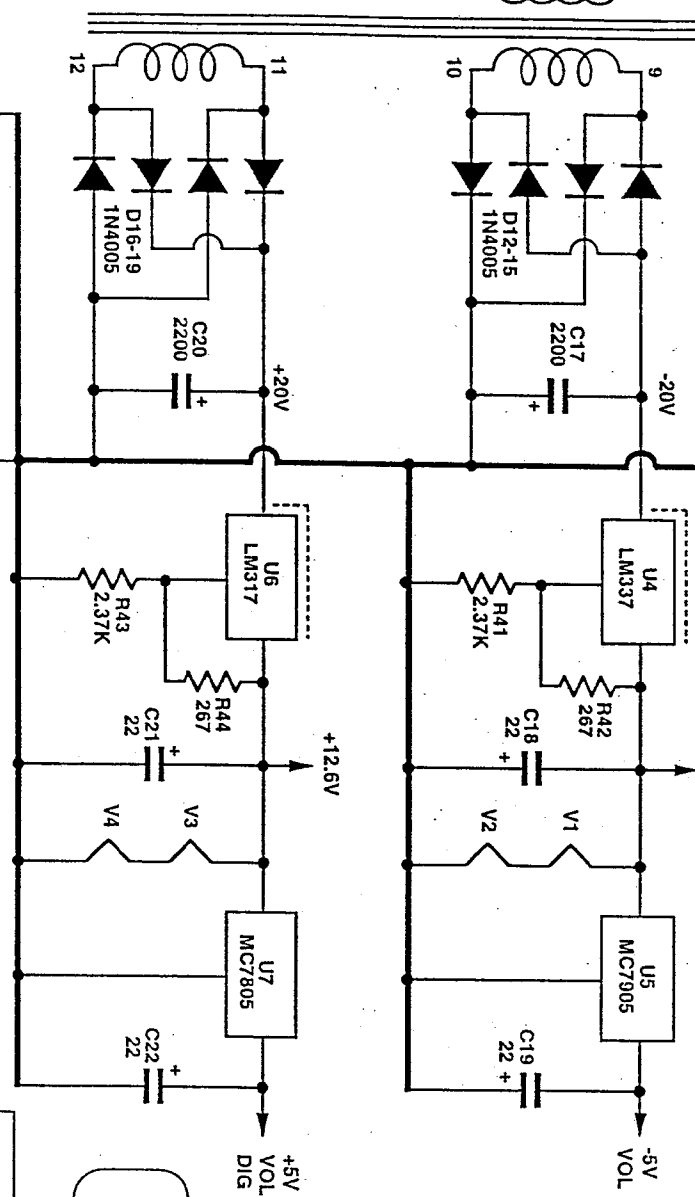
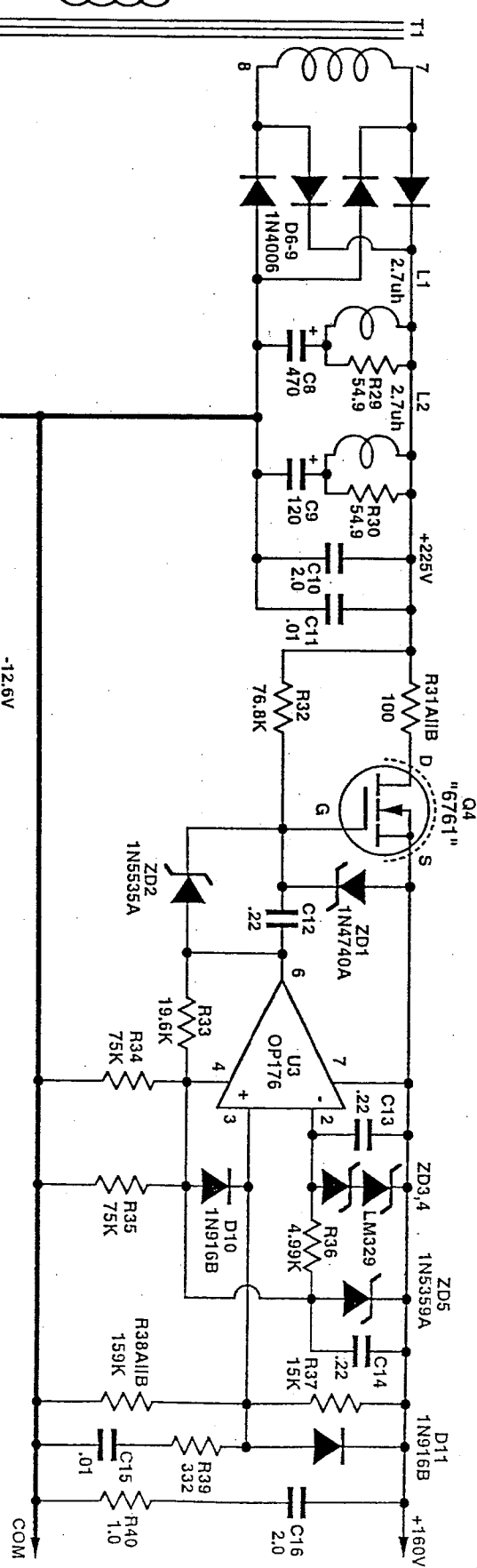
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AUDIO  
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AUDIO RESEARCH CORPORATION  
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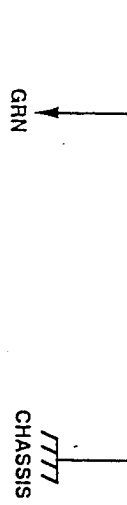
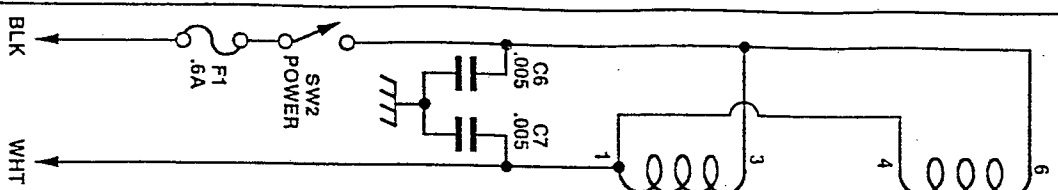


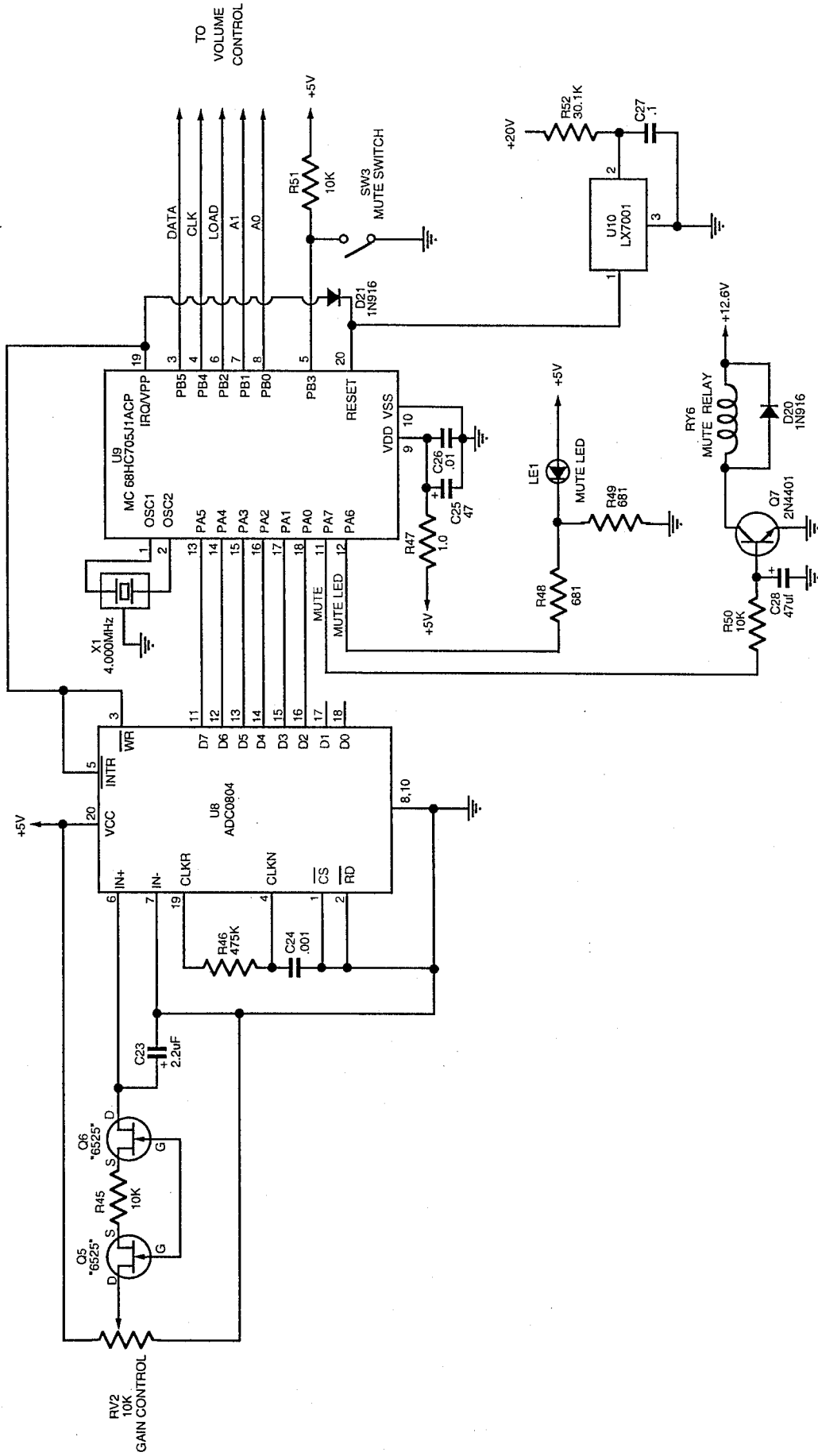
**LS8**

POWER SUPPLY  
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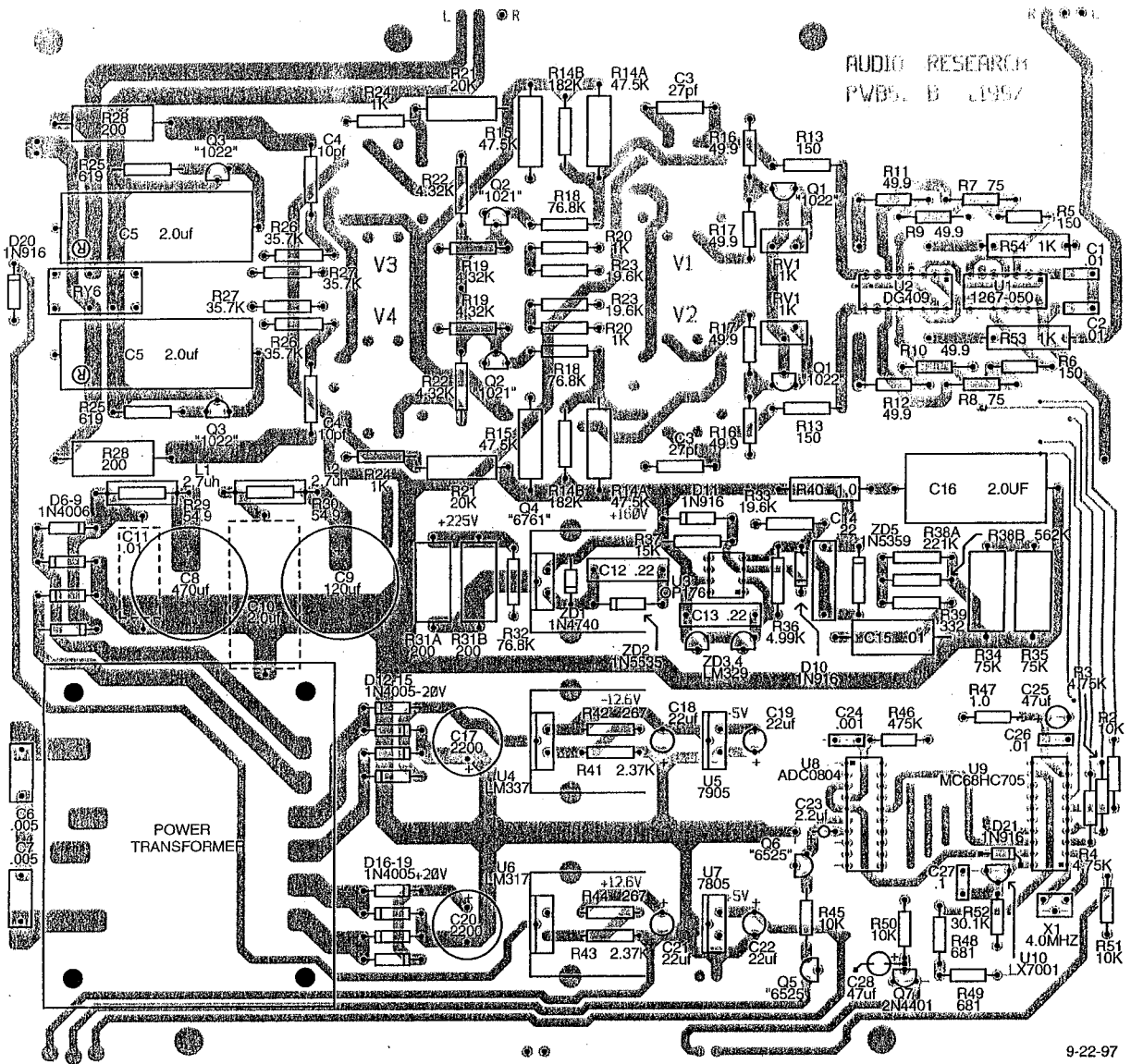
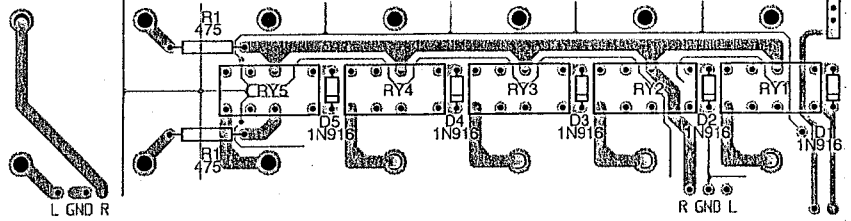




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**AUDIO RESEARCH CORPORATION**  
 5740 GREEN CIRCLE DRIVE  
 MINNETONKA, MN 55343-4424

AUDIO RESEARCH PVB524B c1997



PRODUCT: LS8

NOTES: CHANGED REV.1

Schematic Symbol	Quantity	ARC Part #	Description
<b>C CAPACITORS</b>			
C1,2,26	3	52100400	CAP., .01µf 200V ±10%
C3	2	53270101	CAP., 27pf ±1pf 630V PNP
C4	2	53100101	CAP., 10pf ±1pf 630V PPN
C5	2	53200607	CAP., 2µF 310V INFINICAP
C6,7	2	52500300	CAP., .005µF 300VAC/2000V ±20%
C8	1	50470809	CAP., 470µF 250V
C9	1	50120801	CAP., 120µF 450V "LYTIC"
C10,16	2	53200603	CAP., 2µF ±10% 250V
C11	1	53100412	CAP., .01µF ±10% 600V RTX
C12,13,14	3	53220507	CAP., .22µf ±10% 160V
C15	1	53100406	CAP., .01µf ±10% 630V
C17,20	2	50220903	CAP., 2200µF 35V ELECTROLYTIC
C18,19,21,22	4	50220702	CAP., 22µF 50V "LYTIC"
C23	1	51220601	CAP., 2.2µF 25V ±20% DIP TANT.
C24	1	52100301	CAP., 1000pf 200V ±10% CER RAD
C25,28	2	50470701	CAP., 47µF 35V ±20%
C27	1	52100500	CAP., 0.1µf 100V ±20%
<b>D DIODES</b>			
D1-5,10,11,20,21	9	30500910	1N916B
D6-9	4	30502200	IN4006
D12-19	8	30500400	IN4005
<b>J CONNECTORS</b>			
J1-7	7	23201510	JACK, CHASSIS WHITE
J1-7	7	23201509	JACK, CHASSIS RED
<b>L INDUCTORS</b>			
L1,2	2	61000160	CHOKE, 2.7µH ±10%
<b>LE PANEL INDICATOR</b>			
LE1	1	34300102	L.E.D., COLLAR & RET. RING
<b>Q TRANSISTORS</b>			
Q1,3	4	30011022	FET, GREEN GREEN RED
Q2	2	30011021	FET, GREEN GREEN BROWN
Q4	1	30006761	FET, ORANGE YELLOW BROWN
Q5,6	2	30006525	FET, WHITE RED GREEN
Q7	1	30002800	TRANSISTOR, 2N4401
<b>R RESISTORS</b>			
R1	2	42475203	RES., 475Ω MK-3 1% 50PPM
R2,45,50,51	4	42100402	RES., 10KΩ MK-2 1% 50 PPM
R3,4	2	42475302	RES., 4.75KΩ MK-2 1% 50 PPM
R5,6	2	42150202	RES., 150Ω MK-2 1% 50PPM
R7,8	2	42750102	RES., 75Ω MK2 1% 50 PPM
R9-12,16,17	8	42499102	RES., 49.9Ω MK-2 1% 50PPM
R13	2	42150203	RES., 150Ω MK-3 1% 50PPM
R14A,15	4	42475414	RES., 47.5KΩ MK-5 1% 50PPM
R14B	2	42182503	RES., 182KΩ MK-3 1% 50PPM
R18,32	3	42768403	RES., 76.8KΩ MK-3 1% 50PPM

## PARTS LIST

As of OCT 14 97

PRODUCT: LS8

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Schematic Symbol	Quantity	ARC Part #	Description
R19,22	4	42432303	RES., 4.32K $\Omega$ MK-3 1% 50PPM
R20,24	4	42100303	RES., 1K $\Omega$ MK-3 1% 50PPM
R21	2	42200414	RES., 20K $\Omega$ MK-5 1% 50PPM
R23,33	3	42196403	RES., 19.6K $\Omega$ MK-3 1% 50PPM
R25	2	42619203	RES., 619 $\Omega$ MK-3 1% 50PPM
R26,27	4	42357403	RES., 35.7K $\Omega$ MK-3 1% 50PPM
R28,31A,31B	4	42200205	RES., 200 $\Omega$ MK8 1% 50PPM
R29,30	2	42549103	RES., 54.9 $\Omega$ MK-3 1% 50PPM
R34,35	2	42750405	RES., 75K $\Omega$ MK-8 1% 50PPM
R36	1	42499303	RES., 4.99K $\Omega$ MK-3 1% 50PPM
R37	1	42150403	RES., 15K $\Omega$ MK-3 1% 50PPM
R38A	1	42221503	RES., 221K $\Omega$ MK-3 1% 50PPM
R38B	1	42562503	RES., 562K $\Omega$ MK-3 1% 50PPM
R39	1	42332203	RES., 332 $\Omega$ MK-3 1% 50PPM
R40	1	43100002	RES., 1 $\Omega$ 2W 5% W.W.
R41,43	2	42237303	RES., 2.37K $\Omega$ MK-3 1% 50PPM
R42,44	2	42267203	RES., 267 $\Omega$ MK-3 1% 50PPM
R46	1	42475502	RES., 475K $\Omega$ MK-2 1% 50PPM
R47	1	42100002	RES., 1 $\Omega$ MK-2 1% 50 PPM
R48,49	2	42681202	RES., 681 $\Omega$ MK-2 1% 50PPM
R52	1	42301402	RES., 30.1K $\Omega$ MK-2 1% 50PPM
R53,54	2	42100314	RES., 1K $\Omega$ MK-5 1% 50PPM
RV			CONTROLS
RV1	2	45100301	POT., TRIM 1K $\Omega$
RV2	1	45100428	POT., 10K LINEAR
RY			RELAYS
RY1,6	6	64101600	RELAY, 12VDC
SW			SWITCHES
SW1	1	24003700	SWITCH, SOURCE LS8
SW2,3	2	24100740	SWITCH, TOGGLE U21P1YCGES
T			TRANSFORMERS
T1	1	60015214	(B)XFR., LS8 DUAL VOLTAGE
U			INTEGRATED CIRCUITS
U1	1	31008220	IC, 50K VOLUME 1267-050
U2	1	31003820	DUAL ANALOG SWITCH DG409DJ
U3	1	31002210	OP-AMP, OP176GP
U4	1	31004700	REGULATOR, VOLTAGE ADJ. NEG.
U5	1	31002730	REGULATOR, MC7905CT
U6	1	31004000	REGULATOR, VOLTAGE ADJ POS.
U7	1	31002910	REGULATOR, IC 5V
U8	1	31009300	ADC0804LCN, LS8
U9	1	31008330	MICRO PROCESSOR, LS8
U10	1	31008400	LX7001CLP, LINFINITY

## PARTS LIST

As of OCT 14 97

PRODUCT: LS8

NOTES: CHANGED REV.1

Schematic Symbol	Quantity	ARC Part #	Description
		V	VACUUM TUBES
V1,2,3,4	4	32001162	(B)TUBE, 6922 SILVER TESTED
		X	CRYSTALS
X1	1	27000200	RESONATOR, 4Mhz #EFO-GC4004A4
		ZD	ZENER DIODES
ZD1	1	30500300	IN4740A
ZD2	1	30504210	DIODE, ZENER IN5535A (KNOX)
ZD3	1	31000702	FET, RED
ZD4	1	31000703	FET, ORANGE
ZD5	1	30503500	IN5359A OR B



# LS8 CHECKOUT PROCEDURE

## PRELIM

1. INSTALL FUSES AND TUBES.
2. SLOW POWERUP, MEAS HV AND LV REGS.
3. ADJUST RV1 FOR +55VDC AT R14.
4. SIGNAL, ALL INPUTS, TAPE AND MAIN OUT.
5. MUTE, LED DIM.
6. GAIN CONTROL MUTES AT BOTTOM.

## FINAL

1. TIMER: 30 SECONDS
2. B+ BULK: +218VDC  
B+ REG: +160VDC  
LV BULKS:  $\pm 19.5$ VDC  
LV REGS:  $\pm 12.6$ VDC  
LV REGS:  $\pm 5$ VDC
3. VERIFY +55VDC AT R14, ADJUST IF NESS.
4. OUTPUT OP POINT IS 100VDC  $\pm 15$ VDC.
5. GAIN: 12dB  $\pm 5$ dB.
6. THD: .007% AVG., SHOULD BE < .01%. (FILTERS ON)
7. RESPONSE: 1dB DROP AT 100KHZ. (MAX GAIN)
8. NOISE: <1MV P TO P ON SCOPE. (BW LIMIT ON)
9. LOW LINE TRIP: 98VAC  $\pm 3$ V, RESTART AT 100VAC  $\pm 3$ V.
10. LOG RESULTS OF FIRST 20 UNITS.