

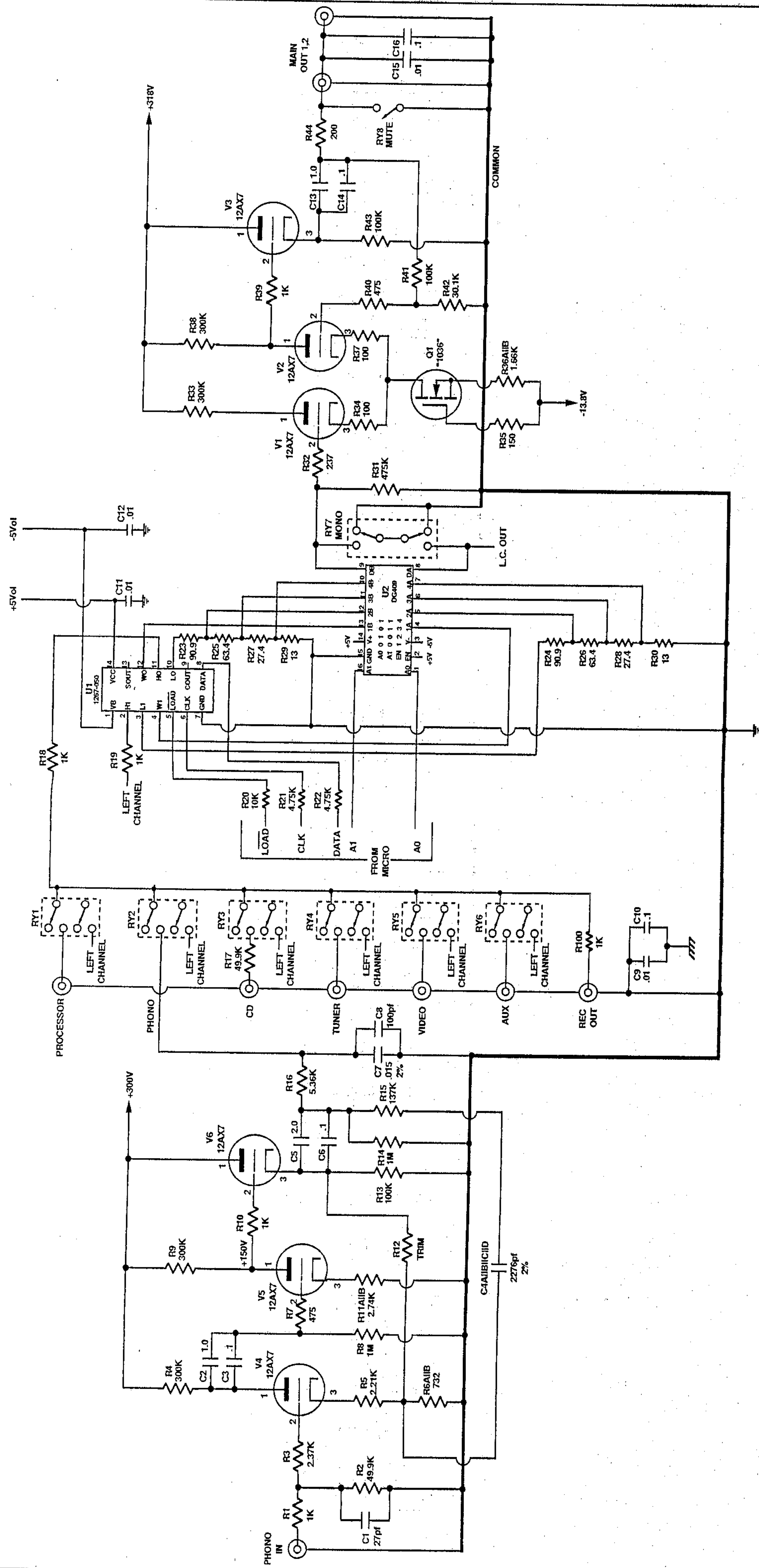


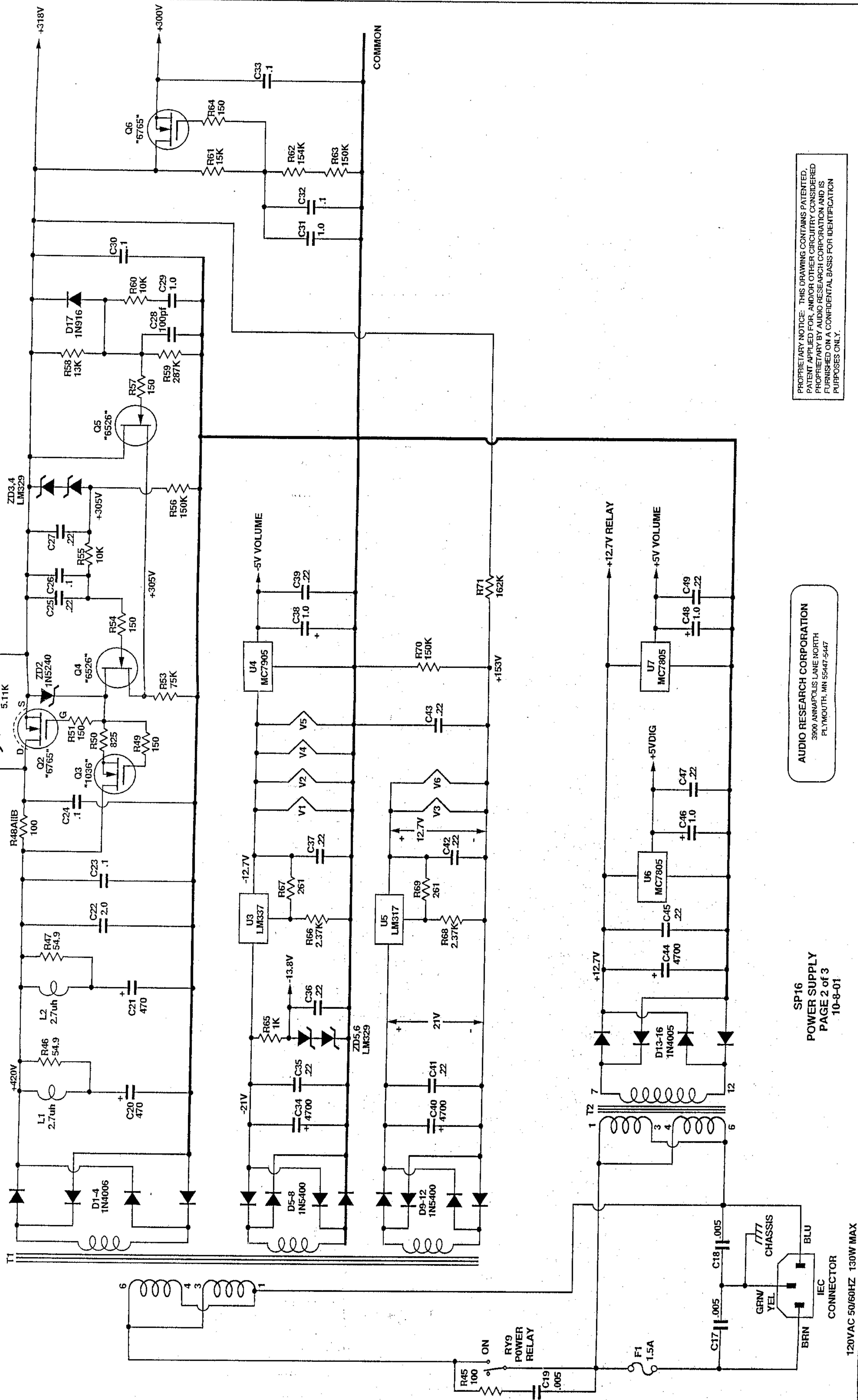
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SP16 and SP16L PREAMPLIFIER

SCHEMATIC AND PARTS LIST

Schematic 10-8-01
Parts List 5-8-02



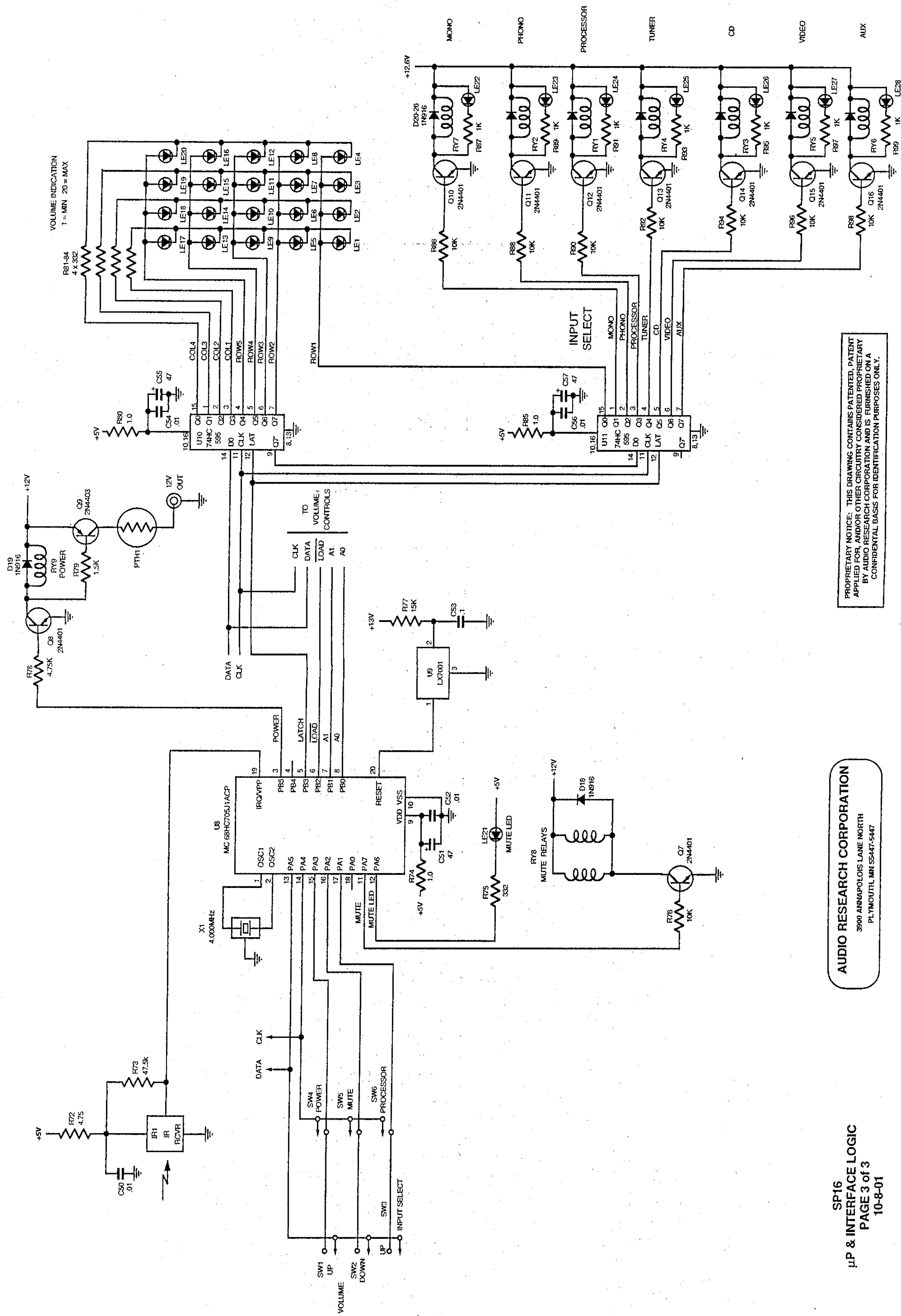


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AUDIO RESEARCH CORPORATION
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SP16
POWER SUPPLY
PAGE 2 of 3
10-8-01

120VAC 50/60HZ 130W MAX



PARTS LIST

As of MAY 8 02

PRODUCT: SP16L

NOTES:

Schematic Symbol	Quantity	ARC Part #	Description
C CAPACITORS			
C9,11,12,15,50,52,54,56	8	52100400	CAP., .01μf 200V ±10%
C10,16,53	3	52100500	CAP., 0.1μf 100V ±20%
C13,29	3	53100800	CAP., 1μF ±10% 450V
C14,23,24,30	5	53100507	CAP., 0.1μF ±10% 630V
C17,18,19	3	52500300	CAP., .005μF 300VAC/2000V ±20%
C20,21	2	50470807	CAP., 470μF 450V "LYTIC"
C22	1	53200602	CAP., 2μF ±10% 450V
C25,27,35,37,39,41-43,45,47,49,36	12	53220507	CAP., .22μf ±10% 160V
C26	1	53100510	CAP., 1uf 100V MKP2
C28	1	53100202	CAP., 100pf ± 2.5% 630V PPN
C34,40,44	3	50470901	CAP., 4700μF 35V
C38,46,48	3	50100601	CAP., 1μF 50V "LYTIC"
C51,55,57	3	50470701	CAP., 47μF 35V ±20%
D DIODES			
D1-4	4	30502200	IN4006
D5-12	8	30501500	IN5400
D13-16	4	30500400	IN4005
D17-20,D22-26	9	30500910	1N916B
J CONNECTORS			
J1-8	16	23202101	JACK, PHONO W/RED & WHT
L INDUCTORS			
L1,2	2	61000160	CHOKE, 2.7μH ±10%
LE PANEL INDICATOR			
LE1-28	28	34300300	L.E.D., GREEN SPOT LTL-1234A
PTH POSISTERS			
PTH1	1	47000700	SWITCH, POLY SWITCH LS25
Q TRANSISTORS			
Q1,3	3	30011016	(SS)FET, GREEN/WHITE/BLUE
Q2	1	30006765	FET, ORANGE-YELLOW-GREEN
Q4,5	2	30006526	FET, WHITE RED BLUE
Q7,8,10-16	9	30002800	TRANSISTOR, 2N4401
Q9	1	30002900	TRANSISTOR, 2N4403
R RESISTORS			
R1,R3-7	6	64101600	RELAY, 12VDC
R18,19	2	42100314	RES., 1KΩ MK-5 1% 50PPM
R20,76,86,88,90,92,94,96,98	9	42100402	RES., 10KΩ MK-2 1% 50 PPM
R21,22,78	3	42475302	RES., 4.75KΩ MK-2 1% 50 PPM
R23,24	2	42909102	RES., 90.9Ω MK-2 1% 50 PPM
R25,26	2	42634102	RES., 63.4Ω MK-2 1% 50 PPM

PARTS LIST

As of MAY 8 02

PRODUCT: SP16L

NOTES:

Schematic Symbol	Quantity	ARC Part #	Description
R27,28	2	42274103	RES., 27.4Ω MK-3 1% 50PPM
R29,30	2	42130102	RES., 13.0Ω MK-2 1% 50 PPM
R31	2	42475503	RES., 475KΩ MK-3 1% 50PPM
R32	2	42237203	RES., 237Ω MK-3 1% 50PPM
R33,38	4	42300514	RES., 300KΩ MK-5 1% 50PPM
R34,37,45	5	42100203	RES., 100Ω MK-3 1% 50PPM
R35,49,51,54,57	6	42150202	RES., 150Ω MK-2 1% 50PPM
R36A,36B	4	42332302	RES., 3.32KΩ MK-2 1% 50 PPM
R39,65,100	5	42100303	RES., 1KΩ MK-3 1% 50PPM
R40	2	42475203	RES., 475Ω MK-3 1% 50PPM
R41	2	42100503	RES., 100KΩ MK-3 1% 50PPM
R42	2	42301403	RES., 30.1KΩ MK3 1% 50PPM
R43	2	42100505	RES., 100KΩ MK-8 1% 50PPM
R44,48A,48B	4	42200205	RES., 200Ω MK8 1% 50PPM
R46,47	2	42549103	RES., 54.9Ω MK-3 1% 50PPM
R50	1	42825203	RES., 825Ω MK-3 1% 50PPM
R52	1	42511303	RES., 5.11KΩ MK-3 1% 50PPM
R53	1	42750405	RES., 75KΩ MK-8 1% 50PPM
R55,60	2	42100403	RES., 10KΩ MK-3 1% 50PPM
R56	1	42150514	RES., 150KΩ MK-5 1% 50PPM
R58	1	42130403	RES., 13KΩ MK-3 1% 50PPM
R59	1	42287503	RES., 287KΩ MK-3 1% 50PPM
R66,68	2	42237303	RES., 2.37KΩ MK-3 1% 50PPM
R67,69	2	42261203	RES., 261Ω MK3 1% 50 PPM
R70	1	42150503	RES., 150KΩ MK-3 1% 50PPM
R71	1	42162503	RES., 162KΩ MK-3 1% 50PPM
R72	1	42475002	RES., 4.75Ω MK-2 1% 50 PPM
R73	1	42475402	RES., 47.5KΩ MK-2 1% 50 PPM
R74,80,85	4	42100002	RES., 1Ω MK-2 1% 50 PPM
R75,81-84	5	42332202	RES., 332Ω MK-2 1% 50PPM
R77	1	42221402	RES., 22.1KΩ MK-2 1% 50 PPM
R79	1	42150302	RES., 1.5KΩ MK-2 1% 50PPM
R87,91,93,95,97,99	6	42100302	RES., 1KΩ MK-2 1% 50 PPM
RY RELAYS			
RY8	2	64101000	RELAY, 12V REED S1P 1200Ω
RY9	1	64101320	RELAY, STANDBY REFPHONO
T TRANSFORMERS			
T1	1	60018314	XFR, POWER SP16
T2	1	60013614	XFR., LS15/16/25 10V 115/130V
U INTEGRATED CIRCUITS			
U1	1	31008221	IC, 50K VOLUME 1267-050 TESTED
U2	1	31003820	DUAL ANALOG SWITCH DG409DJ
U3	1	31004700	REGULATOR, VOLTAGE ADJ. NEG.
U4	1	31002730	REGULATOR, MC7905CT
U5	1	31004000	REGULATOR, VOLTAGE ADJ POS.
U6,7	2	31002910	REGULATOR, IC 5V
U8	1	31008300	(Q)MC68HC705J1A, MOTOROLA
U9	1	31008400	LX7001CLP, LINFINITY
U10,11	2	31006800	REGISTER, LATCH

PARTS LIST

As of MAY 8 02

PRODUCT: SP16L

NOTES:

Schematic Symbol		Quantity	ARC Part #	Description
	V	VACUUM TUBES		
V1-3		3	32001340	(B)VAC.TUBE 12AX7EH SOVTEK
	X	CRYSTALS		
X1		1	27000200	RESONATOR, 4Mhz #EFO-GC4004A4
	ZD	ZENER DIODES		
ZD1		1	30503800	DIODE, ZENER IN5274B
ZD2		1	30504400	IN5240B
ZD3,4,5,6		4	31000705	FET, GREEN

PARTS LIST

As of MAY 8 02

PRODUCT: SP16PHOPT

NOTES:

Schematic Symbol	Quantity	ARC Part #	Description
C CAPACITORS			
C1	2	53270101	CAP., 27pf \pm 1pf 630V PNP
C2,31	3	53100800	CAP., 1 μ F \pm 10% 450V
C3,6,32,33	6	53100507	CAP., 0.1 μ F \pm 10% 630V
C4A,B	4	53100304	CAP., 1000pf \pm 2.5% 630V PPN
C4C	2	53220201	CAP., 220pf \pm 2.5% 630V PPN
C4D	2	53560103	CAP., 56pf \pm 2.5% 630V PPN
C5	2	53200603	CAP., 2 μ F \pm 10% 250V
C7	2	53150405	CAP, 15,000_pF \pm 1% 630V
C28	2	53100202	CAP., 100pf \pm 2.5% 630V PPN
D DIODES			
D21	1	30500910	1N916B
Q TRANSISTORS			
Q6	1	30006765	FET, ORANGE-YELLOW-GREEN
R RESISTORS			
R1,10	4	42100303	RES., 1K Ω MK-3 1% 50PPM
R2	2	42499403	RES., 49.9K Ω MK-3 1% 50PPM
R3	2	42237303	RES., 2.37K Ω MK-3 1% 50PPM
R5	2	42221303	RES., 2.21K Ω MK-3 1% 50PPM
R6A	2	42750203	RES., 750 Ω MK-3 1% 50PPM
R8	2	42100603	RES., 1 MEG MK-3 1% 50PPM
R11A	2	42287303	RES., 2.87K Ω MK-3 1% 50PPM
R11B	2	42619403	RES., 61.9K Ω MK-3 1% 50 PPM
R14	2	42475402	RES., 47.5K Ω MK-2 1% 50 PPM
R15	2	42137503	RES., 137K Ω MK-3 1% 50PPM
R16	2	42536303	RES., 5.36K Ω MK-3 1% 50PPM
R33,38	4	42300514	RES., 300K Ω MK-5 1% 50PPM
R40	2	42475203	RES., 475 Ω MK-3 1% 50PPM
R42	2	42301403	RES., 30.1K Ω MK3 1% 50PPM
R43	2	42100505	RES., 100K Ω MK-8 1% 50PPM
R61	1	42150403	RES., 15K Ω MK-3 1% 50PPM
R62	1	42154503	RES., 154K Ω MK-3 1% 50PPM
R64	1	42150202	RES., 150 Ω MK-2 1% 50PPM
R70	1	42150503	RES., 150K Ω MK-3 1% 50PPM
R89	1	42100302	RES., 1K Ω MK-2 1% 50 PPM
RY RELAYS			
RY2	1	64101600	RELAY, 12VDC
V VACUUM TUBES			
V4,5,6	3	32001340	(B)VAC.TUBE 12AX7EH SOVTEK
V9	2	23202101	JACK, PHONO W/RED & WHT