

# **audio research**

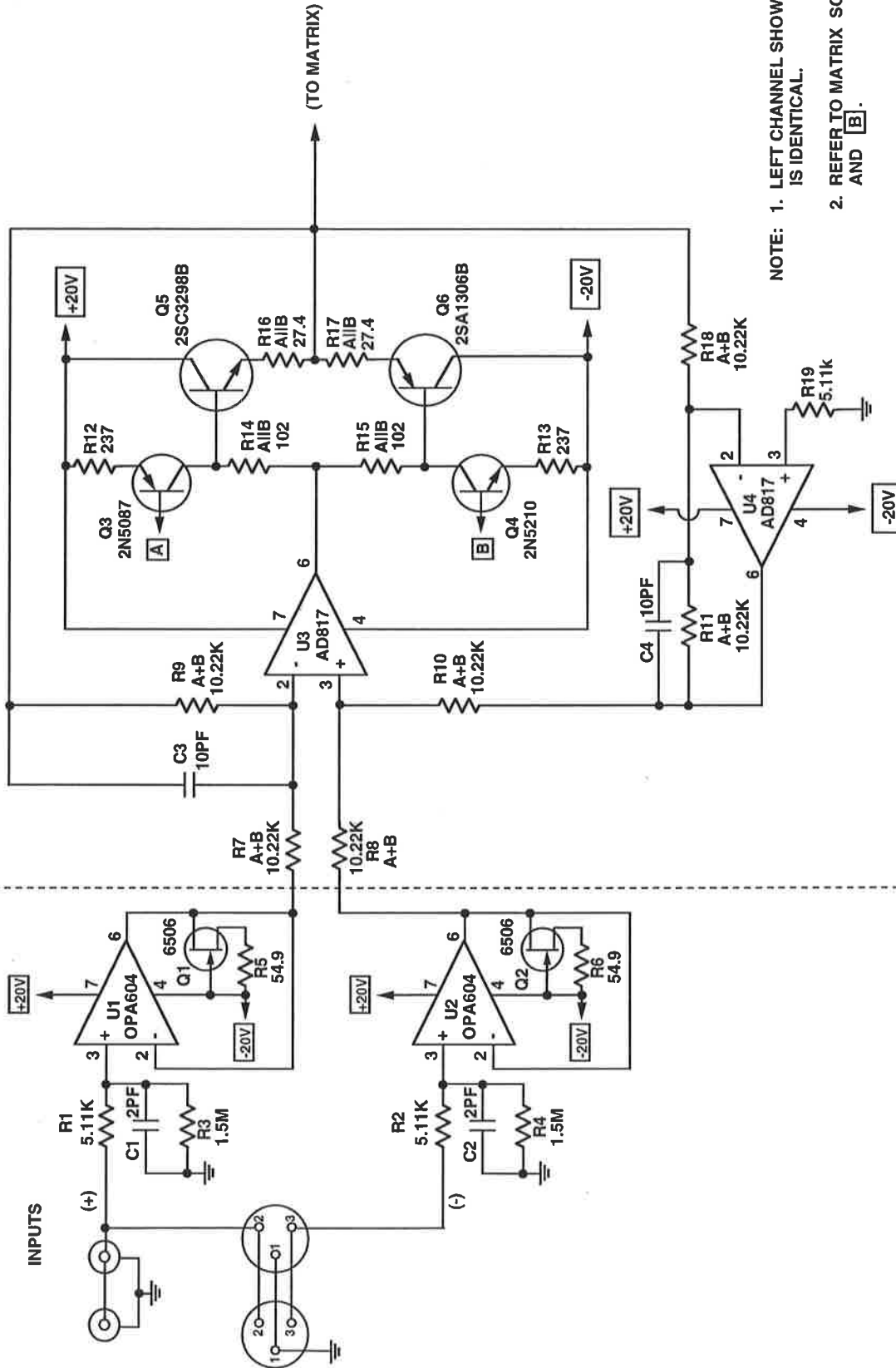
H I G H D E F I N I T I O N<sup>®</sup>

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

SDP1 SCHEMATIC

1-17-95

BALANCED TO SINGLE ENDED CONVERTER

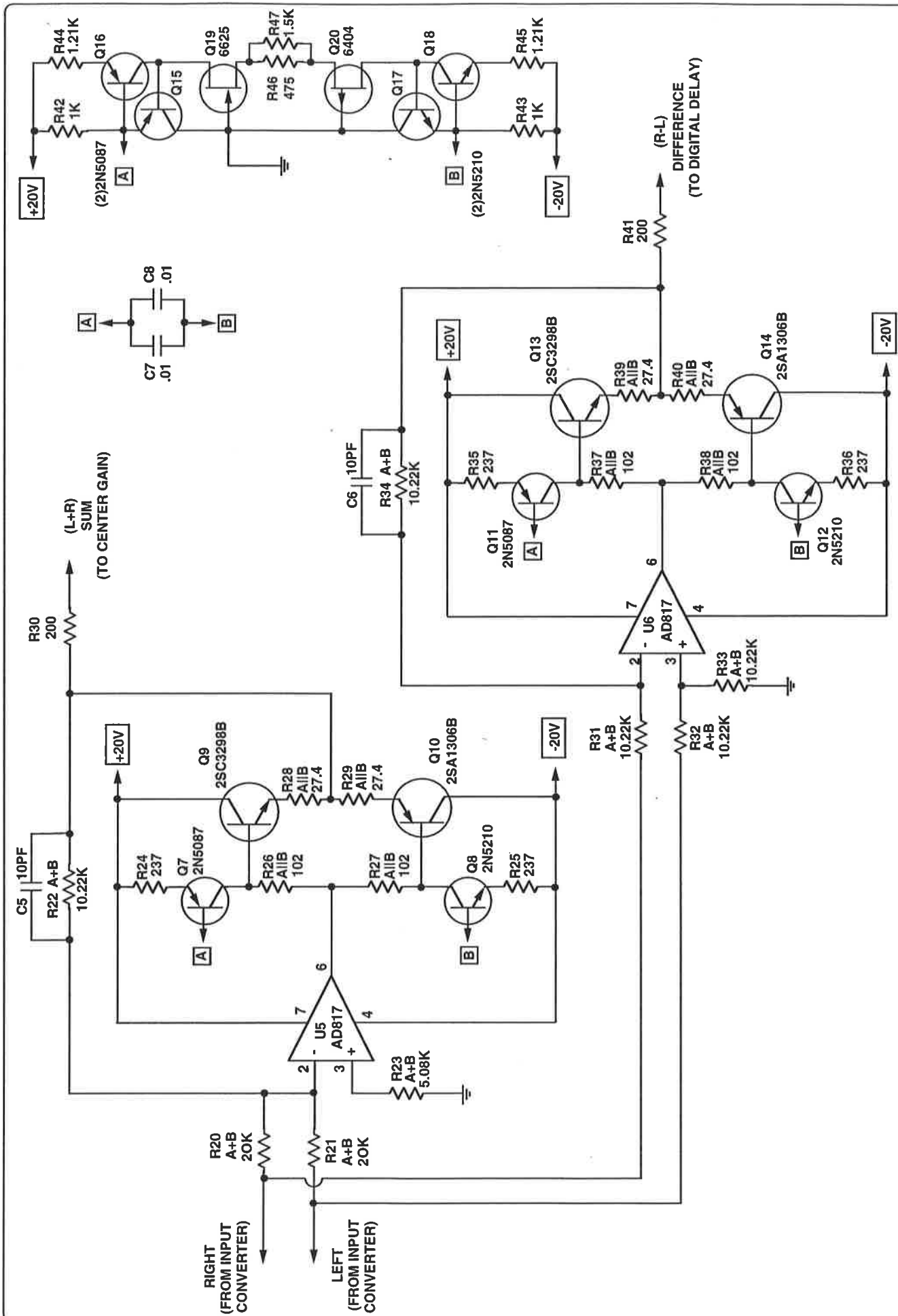


NOTE: 1. LEFT CHANNEL SHOWN, RIGHT CHANNEL IS IDENTICAL.  
 2. REFER TO MATRIX SCHEMATIC FOR [A] AND [B].

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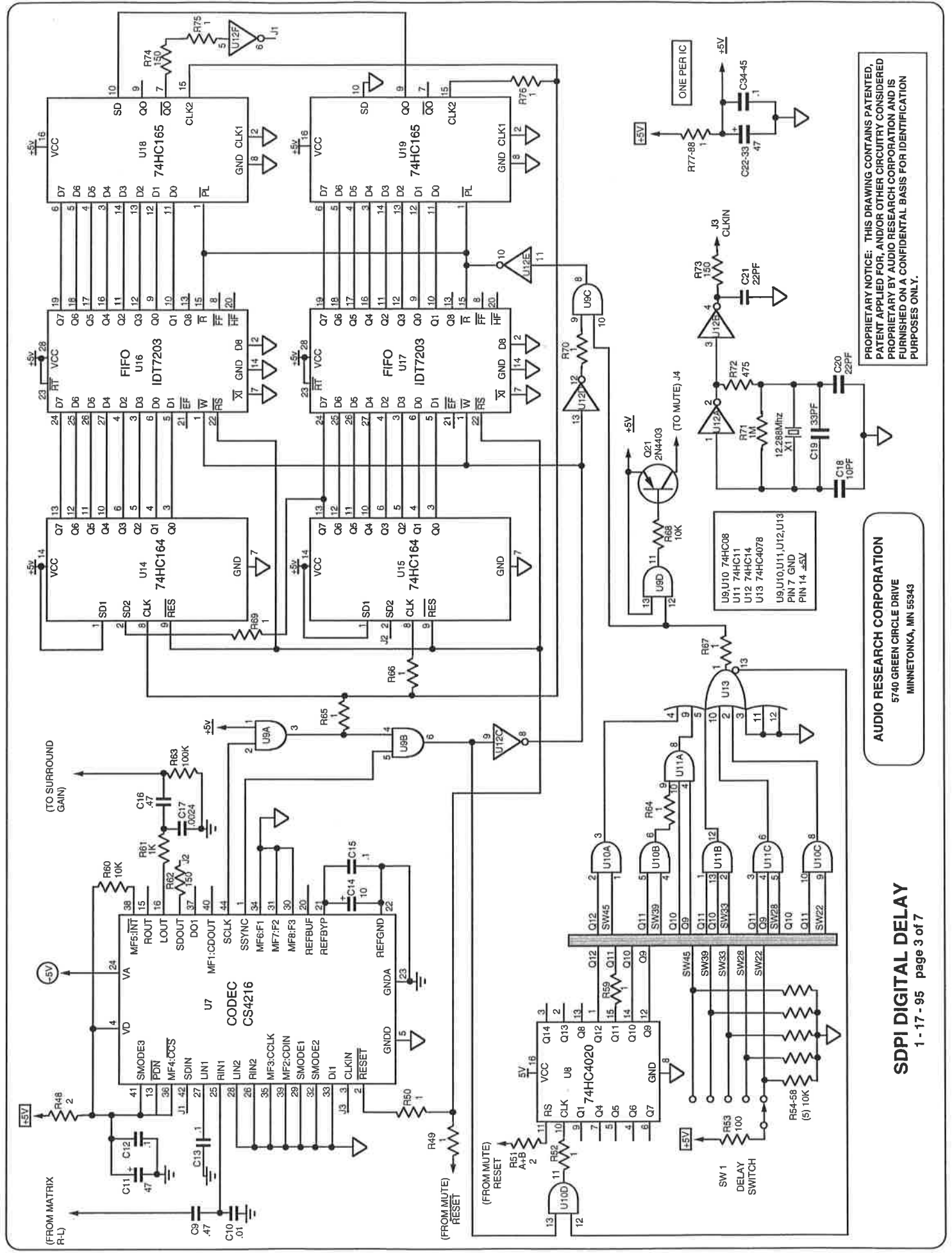
SDP1 INPUT  
 BUFFER / CONVERTER  
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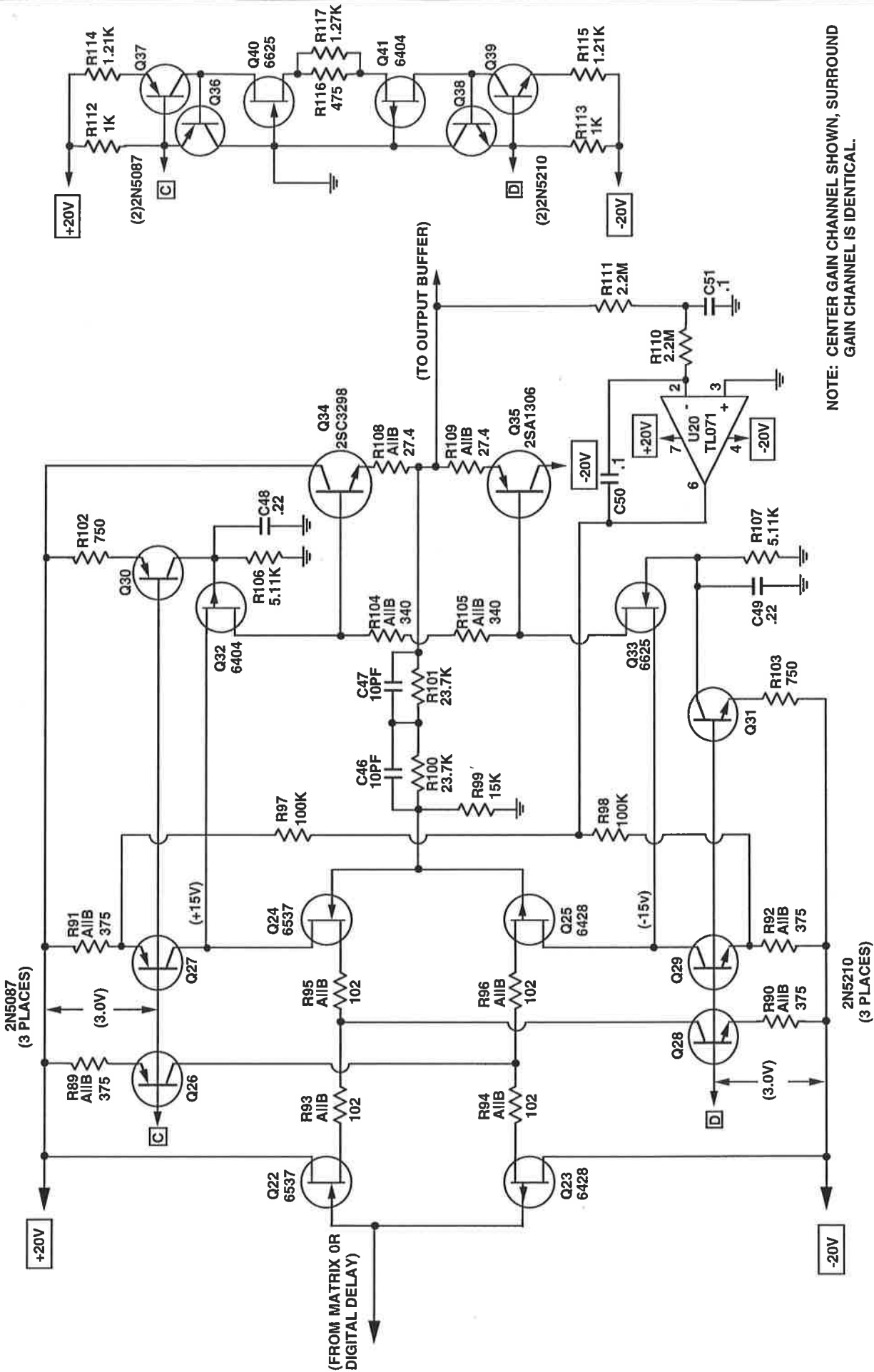
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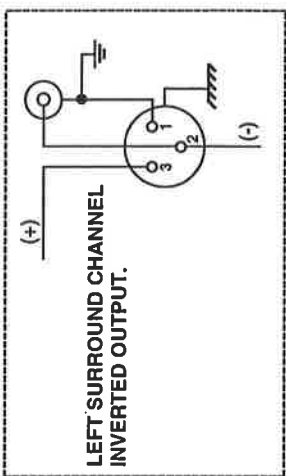
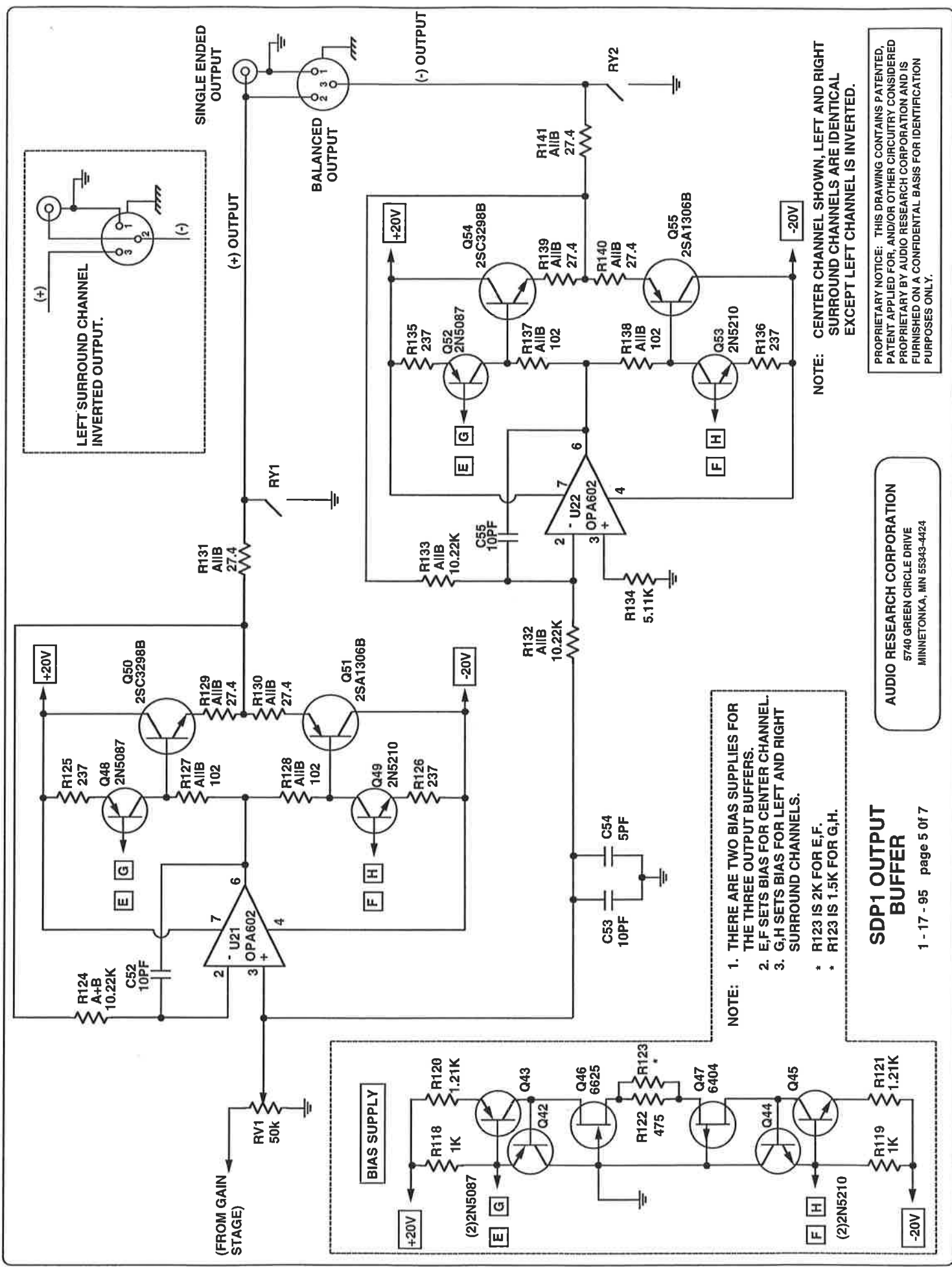
**SDPI DIGITAL DELAY**  
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NOTE: CENTER GAIN CHANNEL SHOWN, SURROUND GAIN CHANNEL IS IDENTICAL.

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**NOTE:**

1. THERE ARE TWO BIAS SUPPLIES FOR THE THREE OUTPUT BUFFERS.
2. E,F SETS BIAS FOR CENTER CHANNEL.
3. G,H SETS BIAS FOR LEFT AND RIGHT SURROUND CHANNELS.

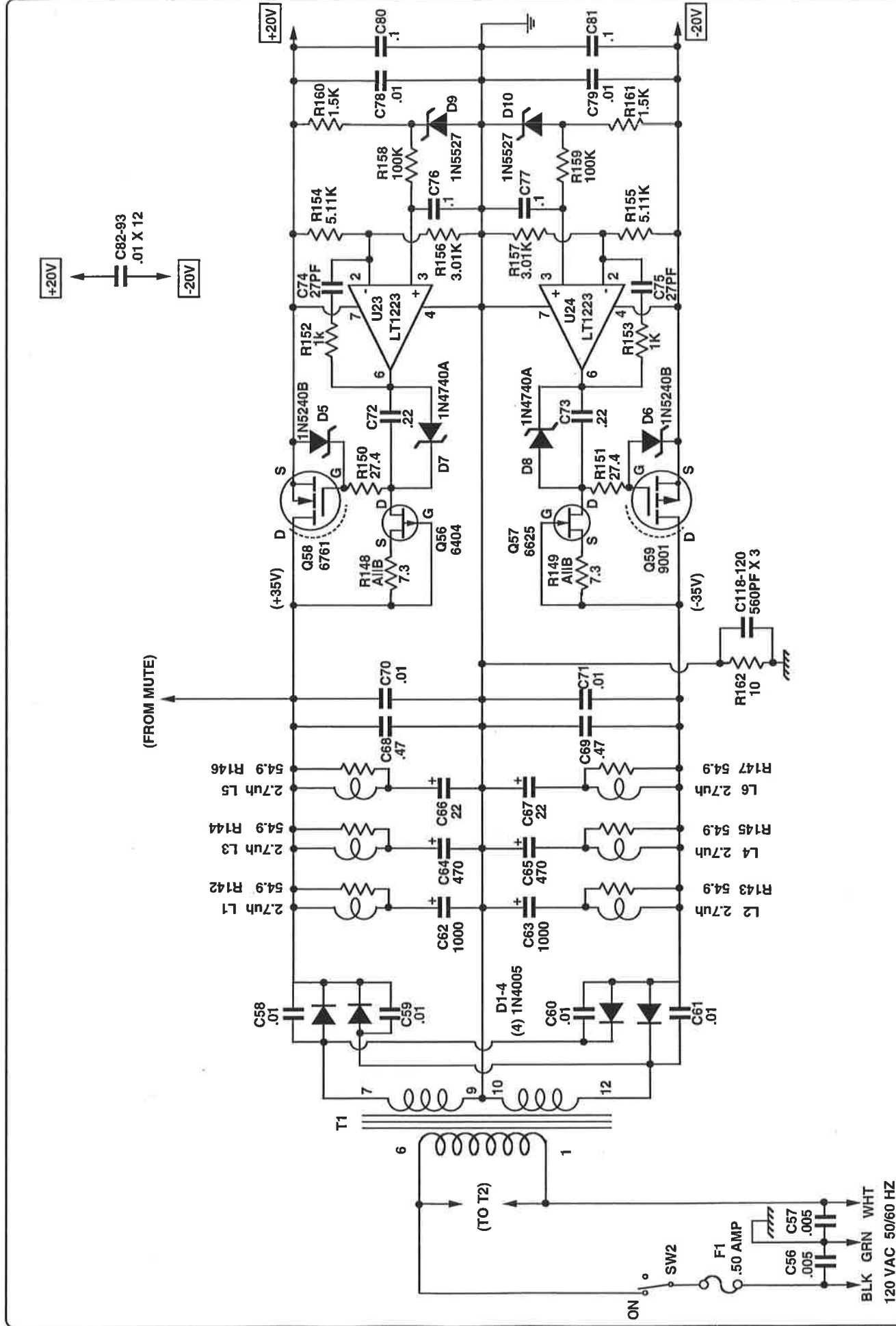
- \* R123 IS 2K FOR E,F.
- \* R123 IS 1.5K FOR G,H.

**NOTE:** CENTER CHANNEL SHOWN, LEFT AND RIGHT SURROUND CHANNELS ARE IDENTICAL EXCEPT LEFT CHANNEL IS INVERTED.

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**SDP1 OUTPUT BUFFER**



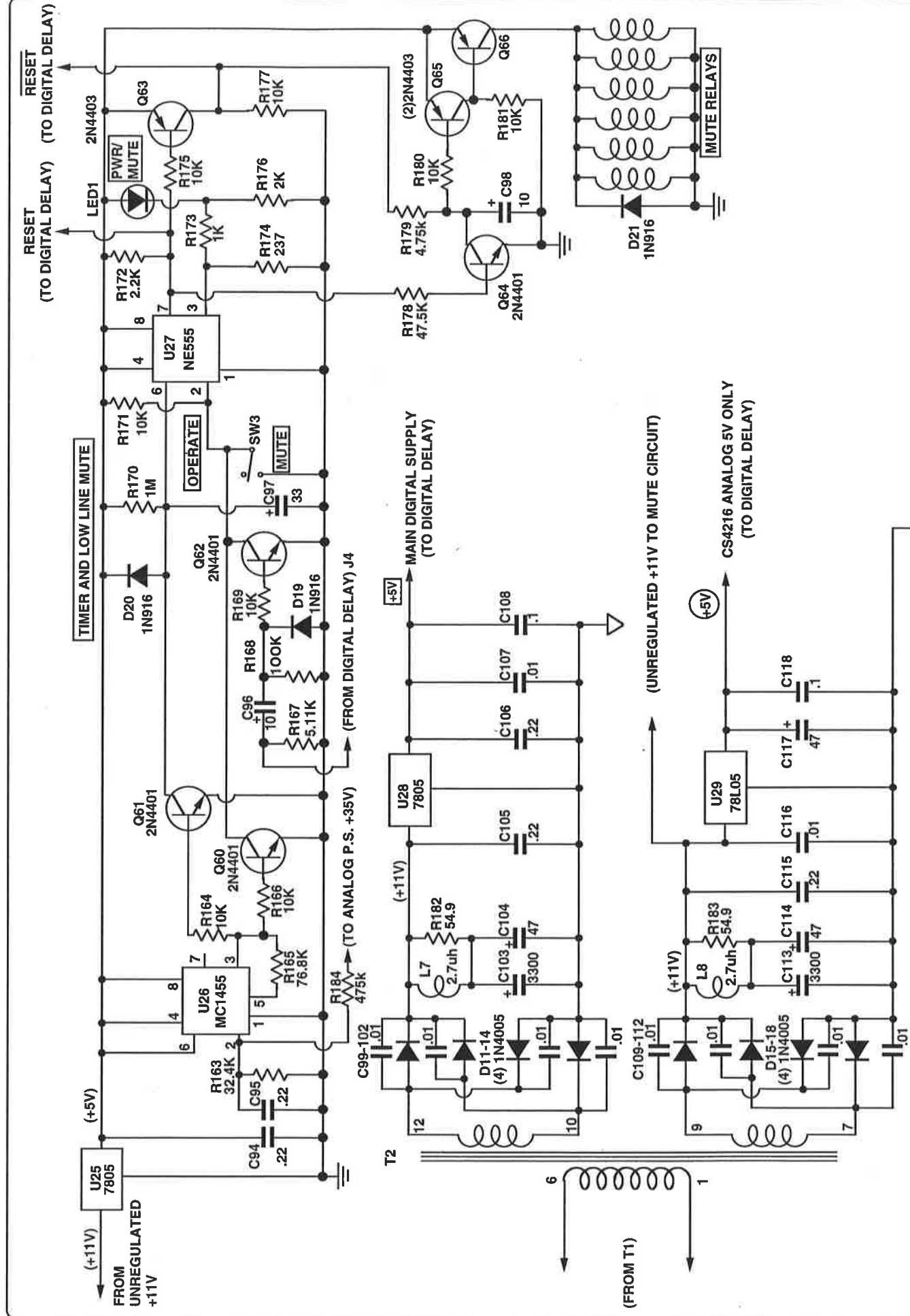
**SDP1  
ANALOG P.S.**

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120 VAC 50/60 HZ  
BLK GRN WHT  
C56 .005  
C57 .005  
F1 .50 AMP  
SW2



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**SDP1 DIGITAL P.S. AND MUTE**



BILL OF MATERIALS

PRODUCT SDP1

Part Num	Description	Quantity
01000100	FERRITE CORE CERAMA GTD-1362	1
01000300	FERRITE BEAD	1
06XXSDP1	MISC. WIRE SDP1	1
10035210	ARC NAMEPLATE,SMALL	1
10040230	.032"+/- .005"X.200"X5.0" CU	2
10053510	HANDLE, SMALL BL2	2
10053710	BOTTOM COVER, BL2	1
10053810	TOP COVER, BL2	1
10061010	FRT. PANEL, SDP1 NAT. CAB.	1
10061110	CHASSIS, SDP1	1
10061210	SUB FRONT, SDP1	1
13001410	KNOB,6MM NATURAL	3
13001510	KNOB,1/4" NATURAL	1
13100300	FOOT,1/2" RUBBER	4
14004938	INSULATOR, .80" X .25"	4
14005900	XTAL PAD, CDT1	1
16043410	SDP1 MAIN BOARD	1
16043810	SDP1 REAR BOARD	1
16043910	SDP1 FRONT BOARD	1
16044410	SHIELD, SDP1	1
20002400	STRAIN RELIEF	1
20006010	HEAT SINK	2
21104013	4-40 x 1 3/4" NYLON SCREW	2
21104019	4-40 x 1/4"PH.FL.HD.BLK.ZC.M.S	18
21106020	6-32 X 3/8"PH.PAN BLK.ZC.M.S.	1
21106030	6-32X1/4 PHIL.COVER SCREW	20
21106031	6-32X5/16 BRASS PHIL PAN M.S.	2
21108028	8-32x1.75" PHIL PN HD M.S.	4
21110026	SCREW, 10-24 X 7/8"SCKT.HD.BLK	4
21204003	4-40X1/4 NYLON HEX NUT	2
21206003	6-32X1/4"X3/32" HEX NUT BRASS	10
21208005	8-32x.335"x.130"thick HEX NUT	4
21306000	#6 LOCKWASHER	9
21310000	#10 INTERNAL TOOTH LOCKWASHER	4
21338006	SP11/15/14/M300 TIF. WSHR SW-2	14
21406026	#6 X .594" ALUM SPACER	9
21501800	CABLE TIE,BLK.POLYPROPYLENE	18
23002400	FUSE CLIP	2
23002700	44 PIN PLCC SOCKET	1
23103100	#6 TWO HOLE BENT LUG	1
23201509	CHASSIS JACK,RED	3
23201510	CHASSIS JACK,WHITE	4
23201960	CONNECTOR, XLR FEMALE	2
23201965	CONNECTOR, XLR MALE	5
23202710	SHORTING LINK -, SDA1	2
24002500	LS3 CTS WAFER	1
24003100	SWITCH 5 POS., SDP1	1
24102000	TOGGLE, POWER	2
25001500	POWER CORD,18X3-8',SVT,SP9/LS1	1
27000030	CRYSTAL, 12.288 MHZ	1
30002800	TRANSISTOR,2N4401	4
30002900	TRANSISTOR,2N4403	4
30003000	TRANSISTOR,2N5087 PNP	26
30003100	TRANSIST.,2N5088,2N5209,2N5210	26
30006407	FET, BLUE VIOLET	8

BILL OF MATERIALS

PRODUCT SDP1

Part Num	Description	Quantity
30006428	FET, GRAY GRAY	4
30006506	FET, WHITE BLUE	4
30006537	FET, WHITE ORANGE VIOLET	4
30006625	FET, VIOLET RED GREEN	8
30006761	FET, ORANGE YELLOW BROWN	1
30009001	FET, RED VIOLET	1
30010004	2SA1306B, TESTED (YELLOW)	12
30010104	2SC3298B, TESTED (YELLOW)	12
30500300	IN4740A	2
30500400	IN4005 G.I. OR MOTOROLA	12
30500910	1N916B	3
30504400	IN5240B, MOTOROLA	2
30505401	1N5527B APD (TESTED LN)	2
31000800	NE555N TIMER	1
31000801	TIMER	1
31001900	J FET INPUT OP-AMP	2
31002910	IC, 5V REGULATOR	2
31003300	IC, HEX INVERTER	1
31003410	QUAD AND GATE, 74HC08A	2
31004300	LT1223CN8	2
31005100	8 BIT SHIFT REGISTER	2
31005110	8 BIT SHIFT REG. 74HC165	2
31005200	8 INPUT OR GATE	1
31006600	TI UA78L05CLP	1
31007000	OP-AMP, OPA604	4
31007010	OP-AMP, AD817	6
31007020	IC OP AMP, OPA602AP	6
31007200	16 BIT CODEC, CS4216-KL	1
31007300	IDT7203	2
31007400	TRIPLE 3-INPUT & GATE, 74HC11N	1
31007500	14 STAGE RIPPLE COUNTER	1
34300102	L.E.D. COLLAR & RETAINING RING	1
34500203	FUSE, MDQ 1/2	1
42100002	RES. 1 OHM MK-2 1% 50 PPM	26
42100103	RES. 10 OHM 1% MK-3 50PPM	3
42100202	RES. 100 OHM MK-2 1% 50 PPM	1
42100302	RES. 1K MK-2 1% 50 PPM	1
42100303	RES. 1K 1% MK-3 50PPM	13
42100314	RES. 1K 1% MK-5 50PPM	1
42100402	RES. 10K 1% MK-2 50 PPM	11
42100403	RES. 10K+/-1% MK-3 50PPM	8
42100503	RES. 100K+/-1% MK-3 50PPM	8
42100602	RES. 1 MEG 1% MK2 50PPM	1
42100603	RES. 1 MEG 1% MK-3 50PPM	1
42121303	RES. 1.21K 1% MK-3 50PPM	10
42150202	RES. 150 OHM 1% MK-2 50PPM	3
42150303	RES. 1.50K 1% MK-3 50PPM	2
42150403	RES. 15K 1% MK-3 50PPM	2
42150613	RES. 1.5 MEG 1% MK-4 50PPM	4
42182503	RES. 182K 1% MK-3 50PPM	1
42200002	RES. 2 OHM MK-2 1% 50 PPM	1
42200205	RES. 200 OHM+/-1% MK8 50PPM	2
42200303	RES. 2K 1% MK-3 50PPM	3
42205203	RES. 205 OHM 1% MK-3 50PPM	56
42221302	RES. 2.21K MK-2 1% 50 PPM	1

BILL OF MATERIALS

PRODUCT SDP1

Part Num	Description	Quantity
42221303	RES. 2.21K 1% MK-3 50PPM	1
42221603	RES. 2.21 MEG 1% MK-3 50PPM	4
42237203	RES. 237 OHM 1% MK-3 50PPM	21
42237403	RES. 23.7K 1% MK-3 50PPM	4
42255403	RES. 25.5K 1% MK-3 50PPM	1
42274103	RES. 27.4 OHM 1% MK-3 50PPM	4
42287303	RES. 2.87K 1% MK-3 50PPM	1
42301303	RES. 3.01K 1% MK-3 50PPM	2
42316303	RES. 3.16K 1% MK-3 50PPM	1
42348503	RES. 348K 1% MK-3 50PPM	1
42464303	RES. 4.64K 1% MK-3 50PPM	2
42475202	RES. 475 OHM MK-2 1% 50 PPM	1
42475302	RES. 4.75K MK-2 1% 50 PPM	1
42475402	RES. 47.5K MK-2 1% 50 PPM	1
42511203	RES. 511 OHM 1% MK-3 50PPM	5
42511303	RES. 5.11K 1% MK-3 50PPM	62
42511313	RES. 5.11K 1% MK-4 50PPM	4
42536303	RES. 5.36K 1% MK-3 50PPM	2
42549103	RES. 54.9 OHM 1% MK-3 50PPM	72
42681203	RES. 681 OHM 1% MK-3 50PPM	8
42750203	RES. 750 OHM 1% MK-3 50PPM	20
45100528	100K DUAL GAIN POT	3
50100912	CAP. 1000UF 100V	2
50220701	CAP. 22 UF 100V	2
50330902	CAP. "LYTIC" 3300µF 25V	2
50470701	CAP. 47UF 35V	16
50470803	CAP. 470 UF 100V.	2
51100700	CAP. 10 UF 20V	3
51330702	CAP. 33 UF+/-10% 16V	1
52100100	CAP. 10PF CERAMIC	2
52100400	CAP. .01 UF 200V	13
52100500	CAP. 0.1 UF 100V	17
52220100	CAP. 22PF CERAMIC	2
52330100	CAP. 33PF CERAMIC	1
52470100	CAP. 47PF CERAMIC	1
52500300	CAP. .005 UF 20% CERAMIC DISC	2
53100101	CAP. 10 PF +/-1 PF 630V PPN	19
53100406	CAP. .01 UF+/-10% 630V	3
53100410	CAP. .01 UF 400V MKP10	17
53100506	CAP. .1 UF 160V	8
53200003	CAP. 2 PF PPN.	4
53220507	CAP. .22 UF 10% 160V	11
53240305	CAP. .0024 PF 2% 630V	1
53270101	CAP. 27 PF +/-1PF 630V PNP	2
53470511	CAP. .47 UF+/-20% 250V	4
53500001	CAP. 5 PF +/-1PF 630V DPN	3
53560201	CAP. 560 PF+/-2.5% 630V	3
60009200	XFR. ANALOG, SDP1 120V	1
60009400	XFR. 5 VOLT 120V.	1
61000160	CHOKE, 2.7 UH +/- 10%	8
64101010	RELAY, 5V DAC1	6
92003501	D240 OUTER CARTON	1
92003502	D240 INNER CARTON	1
92003506	D240 TOP FILLER PAD	1
92003507	D240 TOP/BOTTOM FOAM	2