

Service Manual Supplement for HP 54112D

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.



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Component-level Information Packet for HP 54111D, 54112D, 54120A/B Power Supply Assemblies

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Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

C1	0160-4962	1	1	CAPACITOR-FXD	1UF +-20% 250VAC(RMS)	28480	28480	0160-4962
C2	0160-4355	6	2	CAPACITOR-FXD	0.01UF +-20% 250VAC(RMS)	28480	28480	0160-4355
C3	0160-4355	6	6	CAPACITOR-FXD	0.01UF +-20% 250VAC(RMS)	28480	28480	0160-4355
C4	0180-3652	6	4	CAPACITOR-FXD	0.01UF +-20% 250VAC(RMS)	28480	28480	0160-4355
C5	0180-3652	6	6	CAPACITOR-FXD	680UF+30-10% 250VDC AL	28480	28480	0180-3652
C6	0180-3652	6	6	CAPACITOR-FXD	680UF+30-10% 250VDC AL	28480	28480	0180-3652
C7	0180-3652	6	6	CAPACITOR-FXD	680UF+30-10% 250VDC AL	28480	28480	0180-3652
C8	0160-6029	5	3	CAPACITOR-FXD	2.2UF +-10% 400VDC	28480	28480	0160-6029
C9	0160-6029	5	5	CAPACITOR-FXD	2.2UF +-10% 400VDC	28480	28480	0160-6029
C10-11	NOT ASSIGNED							
C12	0180-2866	2	1	CAPACITOR-FXD	22UF+100-10% 50VDC AL	28480	28480	0180-2866
C13	0160-6029	5	5	CAPACITOR-FXD	2.2UF +-10% 400VDC	28480	28480	0160-6029
C14	0160-4822	2	1	CAPACITOR-FXD	1000PF +-5% 100VDC CER	28480	28480	0160-4822
C15	NOT ASSIGNED							
C16	0180-3845	9	1	CAPACITOR-FXD	4.7UF+-10% 35VDC TA	28480	0180-3845	
C17	0160-5467	3	2	CAPACITOR-FXD	0.01UF +-10% 63VDC	28480	28480	0160-5467
C18	0160-4808	4	2	CAPACITOR-FXD	470PF +-5% 100VDC CER	28480	28480	0160-4808
C19	0160-5469	5	1	CAPACITOR-FXD	1UF +-10% 50VDC MET-POLYE	28480	28480	0160-5469
C20	0160-5471	9	4	CAPACITOR-FXD	0.1UF +-5% 50VDC MET-POLYE	28480	28480	0160-5471
C21	0160-5471	9	9	CAPACITOR-FXD	0.1UF +-5% 50VDC MET-POLYE	28480	28480	0160-5471
C22	0160-6192	3	1	CAPACITOR-FXD	0.047UF +-10% 63VDC	28480	28480	0160-6192
C23	0160-4812	0	1	CAPACITOR-FXD	220PF +-5% 100VDC CER	28480	28480	0160-4812
C24	0160-5468	4	1	CAPACITOR-FXD	0.47UF +-10% 50VDC	28480	28480	0160-5468
C25	0160-6333	4	1	CAPACITOR-FXD	2200PF +-5% 1KVDC POLYP	28480	28480	0160-6333
C26	0160-5471	9	9	CAPACITOR-FXD	0.1UF +-5% 50VDC MET-POLYE	28480	28480	0160-5471
C27	0180-3653	7	2	CAPACITOR-FXD	56UF+100-10% 200VDC AL	28480	28480	0180-3653
C28	0160-5467	3	3	CAPACITOR-FXD	0.01UF +-10% 63VDC	28480	28480	0160-5467
C29	0160-4808	4	4	CAPACITOR-FXD	470PF +-5% 100VDC CER	28480	28480	0160-4808
C30	0160-5211	5	2	CAPACITOR-FXD	0.1UF +-5% 250VDC MET-POLYE	28480	28480	0160-5211
C31	0180-3653	7	7	CAPACITOR-FXD	56UF+100-10% 200VDC AL	28480	28480	0180-3653
C32	0160-5211	5	5	CAPACITOR-FXD	0.1UF +-5% 250VDC MET-POLYE	28480	28480	0160-5211
C33	0160-5471	9	9	CAPACITOR-FXD	0.1UF +-5% 50VDC MET-POLYE	28480	28480	0160-5471
C34	0160-3878	6	1	CAPACITOR-FXD	1000PF +-20% 100VDC CER	28480	28480	0160-3878
C35	0160-4281	7	1	CAPACITOR-FXD	2200PF +-20% 250VAC(RMS)	28480	3105-0230	PME271Y422
CB1	3105-0230	5	1	CIRCUIT BREAKER	2-POLE 7.5A 250VAC	28480	3105-0230	
CR1	1908-0224	3	1	DIODE-FW BRDG	600V 25A	04713	MDA2506	
CR2	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR3	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR4	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR5	1901-0995	5	3	DIODE-HV RECT	1KV 1A 100NS DO-41	1B546	1B546	1G-10
CR6	1901-0995	5	5	DIODE-HV RECT	1KV 1A 100NS DO-41	1B546	1B546	1G-10
CR7	1901-0995	5	5	DIODE-HV RECT	1KV 1A 100NS DO-41	1B546	1B546	1G-10
CR8	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR9	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR10	1901-1065	2	2	DIODE-PWR RECT	1N4936 400V 1A 200NS	04713	1N4936	
CR11	NOT ASSIGNED							
CR12	1901-1087	8	1	DIODE-PWR RECT	600V 3A 200NS	04713	MR856	
DS1	1990-0451	5	2	LED-LAMP	LUM-IN1=300UCD IF=20MA-MAX	28480	5082-4468	
DS2	1990-0451	5	5	LED-LAMP	LUM-IN1=300UCD IF=20MA-MAX	28480	5082-4468	

HP 5411D, 54112D, 54120A/B Service Manual Supplement

Power Supply Assemblies 1

54110-66513 Primary Supply Assembly Replaceable Parts

Power Supply Assemblies 4

HP 5411D, 54112D, 54120A/B
Service Manual Supplement

54110-66513 Primary Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
VR1	1902-0939	9	1	DIODE-VOLTAGE SUPPRESSOR VR=5.0V	04713	1N5908
VR2	1902-0244	9	1	DIODE-ZNR 30V 5% PD=1W IR=50A	28480	1902-0244
VR3	1902-0244	9	1	DIODE-ZNR 30V 5% PD=1W IR=50A	28480	1902-0244
V1	1970-0050	8	2	TUBE-ELECTRON SURGE V PROTECTOR	28480	1970-0050
V2	1970-0050	8	2	TUBE-ELECTRON SURGE V PROTECTOR	28480	1970-0050

NOT ASSIGNED

Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

C1	0160-6028	4	1	CAPACITOR-FXD 1.5UF +-10% 400VDC	28480	0160-6028
C2	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C3	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C4	0160-5471	9	13	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C5	0180-0228	6	1	CAPACITOR-FXD 22UF+-10% 15VDC TA	56289	150D226X9015B2
C6	0160-4832	4	1	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C7	0160-4808	4	1	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C8	0160-5469	5	9	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C9				NOT ASSIGNED		
C10	0160-4812	0	1	CAPACITOR-FXD 220PF +-5% 100VDC CER	28480	0160-4812
C11	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C12	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C13	0160-5466	2	6	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C14	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C15	0160-6192	3	1	CAPACITOR-FXD 0.047UF +-10% 63VDC	28480	0160-6192
C16	0160-4355	6	1	CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C17	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C18	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C19	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C20	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C21	0160-5468	4	1	CAPACITOR-FXD 0.47UF +-10% 50VDC	28480	0160-5468
C22	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C23	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C24	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C25	0180-2755	8	2	CAPACITOR-FXD 900UF+75-10% 25VDC AL	00853	300GJ901U025B
C26	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C27	0180-2755	8	8	CAPACITOR-FXD 900UF+75-10% 25VDC AL	00853	300GJ901U025B
C28	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C29	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C30	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C31	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C32	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C33	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C34-36				NOT ASSIGNED		
C37	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C38	0180-2866	2	1	CAPACITOR-FXD 22UF+100-10% 50VDC AL	28480	0180-2866
C39	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C40	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C41	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C42	0180-3250	0	2	CAPACITOR-FXD 2000UF+75-10% 12VDC AL	28480	0180-3250
C43	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C44	0180-3250	0	0	CAPACITOR-FXD 2000UF+75-10% 12VDC AL	28480	0180-3250
C45	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C46	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C47	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C48	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
CR1	1901-1148	2	3	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR2	1901-1148	2	2	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR3				NOT ASSIGNED		
CR4	1901-1065	2	4	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR5	1901-1148	2	2	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818

HP 5411D, 5412D, 54120A/B
Service Manual Supplement

Power Supply Assemblies

5411U-000U/ Analog Supply Assembly Hepacable Parts

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Power Supply Assemblies

Reference	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
CR6	1906-0261	8	2	DIODE-CT-RECT 150V 16A	28480	1906-0261
CR7	1901-0050	3	8	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1906-0261	8	8	DIODE-CT-RECT 150V 16A	28480	1906-0261
CR9				NOT ASSIGNED		
CR10	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13				NOT ASSIGNED		
CR14	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1906-0262	9	2	DIODE-CT-RECT 100V 3A	9N171	UES 2402
CR17	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1906-0262	9	9	DIODE-CT-RECT 100V 3A	9N171	UES 2402
CR19	1901-1065	2	2	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR20	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21				NOT ASSIGNED		
CR22	1901-1065	2	2	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR23	1901-1065	2	2	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
DS1	1990-0451	5	1	LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468
E1	0340-1074	2	5	INSULATOR-XSTR THRM-CNDCT TO-220	28480	0340-1074
E2	0340-1080	0	1	INSULATOR-XSTR THRM-CNDCT TO-3 (Q2)	28480	0340-1080
H1	0515-0372	2	9	SCREW-MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H2	0515-0664	5	12	SCREW-MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H3	3050-1140	1	5	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION
H4	0380-1238	4	1	STANDOFF M3 X 0.5	00000	ORDER BY DESCRIPTION
H5	0380-1239	5	2	STANDOFF	00000	ORDER BY DESCRIPTION
H6	0380-1701	6	1	SPACER 0.25-IN	00000	ORDER BY DESCRIPTION
H7	3050-1071	7	6	RECTANGLE-METAL 10.3MM X 5.6MM	00000	ORDER BY DESCRIPTION
H8	0515-1038	9	1	SCREW-MACH M3 35MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H9	2190-0763	7	1	WASHER-FLAT	28480	2190-0763
HS1	54110-01101	6	1	HEAT SINK-PRIMARY	28480	54110-01101
HS2	54100-01103	6	1	HEAT SINK-SECONDARY	28480	54100-01103
HS3	54100-21101	6	2	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
HS4	54100-21101	6	6	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
J1	1251-8457	1	1	CONN-POST TYPE 0.197-PIN-SPCG 3-CONT	28480	1251-8457
L1	9140-0891	4	1	INDUCTOR-FIXED 27uH +/- 15%	28480	9140-0891
L2	9140-1077	0	1	INDUCTOR-FIXED	28480	9140-1077
L3	9140-0865	2	1	INDUCTOR-FIXED	28480	9140-0865
MP1	1400-0679	0	1	CLAMP CABLE	28480	1400-0679
MP2	54110-01208	4	1	BRACKET-SUPPORT	28480	54110-01208
P1	1251-8856	4	1	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8856
Q1	1855-0512	3	1	TRANSISTOR MOSFET N-CHAN E-MODE TO-220	72799	RCA9212A
Q2	1854-1071	9	1	TRANSISTOR NPN SI TO-3 PD=175W	04713	MJ16018
Q3	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	27014	2N3906
Q4				NOT ASSIGNED		
Q5	1854-0575	6	1	TRANSISTOR NPN SI PD=625MW FT=50MHZ	04713	MPS-A42

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04710-0007 Mining Supply Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
R1	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2213-F
R2	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2213-F
R3	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R4	0698-4539	7	7	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R5	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-10-1332-F
R6	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1002-F
R7	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-10-1332-F
R8	0757-0440	7	3	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-7501-F
R9	0757-0452	1	1	RESISTOR 27.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2742-F
R10	0757-0449	6	4	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2002-F
R11	0698-3451	0	1	RESISTOR 133K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1333-F
R12	0698-3167	5	1	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2502-F
R13	0757-0283	6	5	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R14	0757-0384	8	1	RESISTOR 20 1% 0.125W TF TC=0+-100	19701	5033R-1/8-10-2080-F
R15	0698-4002	9	11	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R16	0757-0449	6	3	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2002-F
R17	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R18	0757-0283	6	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R19	0699-1075	2	1	RESISTOR 0.1 3% 3W MFS TC=0+-337	28480	0699-1075
R20	0816-0003	4	1	RESISTOR 500 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-501-J
R21	0683-0475	1	2	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R22	0757-0440	7	7	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-7501-F
R23	0698-3690	9	2	RESISTOR 22 5% 1W MO TC=0+-200	28480	0698-3690
R24	0699-1153	7	4	RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R25	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R26	0757-0461	2	2	RESISTOR 68.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-6812-F
R27	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R28	0698-3690	9	9	RESISTOR 22 5% 1W MO TC=0+-200	28480	0698-3690
R29	0698-4421	6	1	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-249R-F
R30	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1002-F
R31	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-511R-F
R32	0757-0284	7	1	RESISTOR 150 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-151-F
R33				NOT ASSIGNED		
R34	0698-3446	3	1	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-383R-F
R35	0698-6250	3	1	RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2501-F
R36	0698-3498	5	1	RESISTOR 8.66K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-866R-F
R37	0757-0443	0	1	RESISTOR 11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1102-F
R38	0698-3159	5	1	RESISTOR 26.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2612-F
R39	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1002-F
R40	0757-0449	6	6	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2002-F
R41	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R42	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1002-F
R43	0757-0427	0	1	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1501-F
R44	0699-1313	1	1	RESISTOR 14K 0.1% 0.125W TF TC=0+-25	28480	0699-1313
R45	0698-6362	8	1	RESISTOR 1K 0.1% 0.125W TF TC=0+-25	28480	0698-6362
R46	0811-0041	0	1	RESISTOR 169 1% 4W PW TC=0+-20	28480	0811-0041
R47	0757-0283	6	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2001-F
R48	0699-1153	7	7	RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0.02-3
R49	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R50	0757-0465	6	1	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1003-F
R51	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-5001-F
R52	0698-3631	8	1	RESISTOR 330 5% 2W MO TC=0+-200	28480	0698-3631
R53	0757-0283	6	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-2001-F

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Reference Designator	HP Part Number	CD Qty	Description	Mfr Code	Mfr Part Number
R54	0699-1153	7	NOT ASSIGNED	01686	L0-3-0-02-3
R55	0699-1153	7	RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0-02-3
R56	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R57	0757-0461	2	RESISTOR 68.1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-6812-F
R58	0698-3684	1	RESISTOR 12 5% 1W MO TC=0+-200	28480	0698-3684
R59	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R60	0698-3684	1	RESISTOR 12 5% 1W MO TC=0+-200	28480	0698-3684
R61	2100-3154	7	RESISTOR TRMR 10K 10% C SIDE ADJ 17-TURN	32997	3006P-1-102
R62	0698-4455	6	RESISTOR 536 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-536R-F
R63	0699-1203	8	RESISTOR 120 0.1% 0.125W TF TC=0+-25	28480	0699-1203
R64	0698-3178	8	RESISTOR 487 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-487R-F
R65	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R66	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R67-68	NOT ASSIGNED				
R69	0683-0475	1	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R70	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-101-F
R71	0757-0283	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-2001-F
R72	0699-1153	7	RESISTOR 0.02 3% 3W TF TC=0+-337	01686	L0-3-0-02-3
R73	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-101-F
R74	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R75	0757-0459	8	RESISTOR 56.2K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5622-F
R76	0757-0443	0	RESISTOR 11K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1102-F
R77	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R78	0811-3662	7	RESISTOR 82 5% 2W PW TC=0+-400	28480	0811-3662
R79	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R80	0811-3662	7	RESISTOR 82 5% 2W PW TC=0+-400	28480	0811-3662
R81	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R82-91	NOT ASSIGNED				
R92	0757-0449	6	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-2002-F
R93	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R94	0757-0440	7	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-7501-F
R95	0757-0442	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1002-F
RT1	0837-0260	9	1 THERMISTOR-SWITCHING RESISTANCE: 100	28480	0837-0260
RT2	0837-0341	7	1 THERMISTOR DISC 50-OHM	28480	0837-0341
T1	9100-4383	3	1 TRANSFORMER	28480	9100-4383
T2	9100-4477	6	1 TRANSFORMER-POWER PRIMARY	28480	9100-4477
TP1	0360-1971	0	12 TERMINAL-TEST POINT	28480	0360-1971
TP2	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP3	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP4	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP5	0360-0042	4	1 TERMINAL-SLDR LUG	28480	0360-0042
TP6	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP7	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP8	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP9	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP10	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP11	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP12	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971
TP13	0360-1971	0	TERMINAL-TEST POINT	28480	0360-1971

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U1	1826-1120	0	1	IC MISC 20-DIP-C PKG	28480	1826-1120
U2	1990-1044	4	2	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U3	1990-1044	4	4	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U4	1826-0524	6	1	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U5	1826-1126	6	1	IC OP AMP SPCL 8-DIP-P PKG	27014	LM392N
U6	1826-0643	0	1	IC V RGLTR-V-REF-ADJ 3/30V TO-92 PKG	01295	TL431CLP
U7	1826-0890	9	1	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U8	1826-0774	8	1	IC V RGLTR-V-REF-FXD 1.22/1.24V TO-92	27014	LM3858Z-1.2
U9-12	1826-1216	5	1	IC V RGLTR-ADJ-POS 1.2/33V TO-220 PKG NOT ASSIGNED		LT1350AT
VR1	1902-0939	9	1	DIODE-VOLTAGE SUPPRESSOR VR=5.0V, VC=8V	04713	1N5908
VR2	1902-0185	7	1	DIODE-ZNR 27.4V 5% DO-35 PD=.4W	28480	1902-0185
VR3	1902-3066	9	1	DIODE-ZNR 4.02V 2% DO-35 PD=.4W	28480	1902-3066
W1	54100-61612	8	1	CABLE-INPUT POWER	28480	54100-61612
XQ1	1200-0911	9	1	SOCKET-TRANSISTOR	28480	1200-0911
XQ2	1200-1101	1	1	SOCKET TO-3	28480	1200-1101

Reference HP Part Number CD Qty Description Mfr Code Mfr Part Number

C1	0160-6028	4	1	CAPACITOR-FXD 1.5UF +-10% 400VDC	28480	28480
C2	0160-5471	9	12	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C3	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C4	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C5	0180-0309	4	1	CAPACITOR-FXD 4.7UF+-20% 10VDC 1A	56289	150D475X0010A2
C6	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C7	0160-4812	0	1	CAPACITOR-FXD 220PF +-5% 100VDC CER	28480	0160-4812
C8	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C9	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C10	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C11	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
C12	0160-4832	4	2	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C13	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C14	0160-5466	2	2	CAPACITOR-FXD 1000PF +-5% 1KVDC POLYP	28480	0160-5466
C15	0160-6192	3	1	CAPACITOR-FXD 0.047UF +-10% 63VDC	28480	0160-6192
C16	0160-5377	4	2	CAPACITOR-FXD 2.2UF +-10% 63VDC	28480	0160-5377
C17	0160-6030	8	2	CAPACITOR-FXD 0.01UF +-5% 400VDC POLYP	28480	0160-6030
C18	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C19	0160-5847	3	2	CAPACITOR-FXD 0.22UF +-10% 100VDC	28480	0160-5847
C20	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C21	0160-5377	4	4	CAPACITOR-FXD 2.2UF +-10% 63VDC	28480	0160-5377
C22	0160-6030	8	8	CAPACITOR-FXD 0.01UF +-5% 400VDC POLYP	28480	0160-6030
C23	0160-5847	3	3	CAPACITOR-FXD 0.22UF +-10% 100VDC	28480	0160-5847
C24	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C25	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C26	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C27	0180-2866	2	1	CAPACITOR-FXD 22UF+100-10% 50VDC AL	28480	0180-2866
C28	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C29	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C30	0180-2890	2	2	CAPACITOR-FXD 7500UF+75-10% 6.3VDC AL	28480	0180-2890
C31	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C32	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C33	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C34	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C35	0160-4832	4	4	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-4832
C36	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C37	0180-2890	2	2	CAPACITOR-FXD 7500UF+75-10% 6.3VDC AL	28480	0180-2890
C38	0160-5469	5	5	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C39	0160-5471	9	9	CAPACITOR-FXD 0.1UF +-5% 50VDC MET-POLYE	28480	0160-5471
C40	0160-4355	6	1	CAPACITOR-FXD 0.01UF +-20% 250VAC(RMS)	28480	0160-4355
C41	0160-4808	4	4	CAPACITOR-FXD 470PF +-5% 100VDC CER	28480	0160-4808
CR1	1901-1148	2	3	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR2	1901-1148	2	2	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR3	1901-1148	2	2	DIODE-PWR RECT 1KV 1A 750NS	04713	MR818
CR4	1901-1065	2	4	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR5	1901-1065	2	2	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR6	1901-1065	2	2	DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR7	1906-0239	0	2	DIODE-CT-S-BARR 45V 30A	1B546	VSK3040T
CR8	1906-0051	4	2	DIODE-FW BRDG 100V 1A	28480	1906-0051
CR9	1901-0050	3	10	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR10	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150

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Reference	HP Part	CD	Qty	Description	Mfr Code	Mfr Part Number
CR11	1906-0239	0		DIODE-CT-S-BARR 45V 30A	1B546	VSK3040T
CR12	1906-0051	4		DIODE-FW BRDG 100V 1A	28480	1906-0051
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1901-1065	2		DIODE-PWR RECT 1N4936 400V 1A 200NS	04713	1N4936
CR17	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR19	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR20	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21	1901-0050	3		DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
DS1	1990-0451	5	1	LED-LAMP LUM-INT=300UCD IF=20MA-MAX	28480	5082-4468
E1	0340-0884	0	2	INSULATOR-XSTR THRM-CNDCT TO-3 (CR7,11)	28480	0340-0884
E2	0340-1074	2	3	INSULATOR-XSTR THRM-CNDCT TO-220	28480	0340-1074
E3	0340-1080	0	1	INSULATOR-XSTR THRM-CNDCT TO-3 (Q2)	28480	0340-1080
E4	0340-1103	8	4	INSULATOR	28480	0340-1103
H1	0515-0372	2	10	SCREW-MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H2	0515-0664	5	13	SCREW-MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
H3	3050-1140	1	5	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION
H4	0380-1238	4	1	STANDOFF M3 X 0.5	00000	ORDER BY DESCRIPTION
H5	0380-1239	5	4	STANDOFF	00000	ORDER BY DESCRIPTION
H6	0380-1701	6	1	SPACER 0.25-IN	00000	ORDER BY DESCRIPTION
H7	3050-1071	7	3	RECTANGLE-METAL 10.3MM X 5.6MM	00000	ORDER BY DESCRIPTION
HS1	54110-01101	6	1	HEAT SINK-PRIMARY	28480	54110-01101
HS2	54100-01102	5	1	HEAT SINK-SECONDARY	28480	54110-01102
HS3	54100-21101	6	2	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
HS4	54100-21101	6	1	HEAT SINK (EXTENSION TO HS2)	28480	54100-21101
J1	1251-8457	1	1	CONN-POST TYPE 0.197-PIN-SPC6 3-CONT	28480	1251-8457
L1	9140-0891	4	1	INDUCTOR-FIXED 27UH +/- 15%	28480	9140-0891
L2	9140-0870	9	1	INDUCTOR FIXED	28480	9140-0870
L3	9140-0867	4	1	INDUCTOR FIXED	28480	9140-0867
MP1	1400-0249	0	2	CLAMP CABLE	28480	1400-0249
MP2	54110-01209	5	1	BRACKET-SUPPORT	28480	54110-01209
P1	1251-8856	4	1	CONN-POST TYPE 0.156-PIN-SPC6 19-CONT	28480	1251-8856
Q1	1855-0512	3	1	TRANSISTOR MOSFET N-CHAN E-MODE TO-220	72799	RCA9212A
Q2	1854-1071	9	1	TRANSISTOR NPN SI TO-3 PD=175W	04713	MJ16018
Q3	1854-0970	5	2	TRANSISTOR NPN SI DARL TO-220AB PD=2W	01295	T1P102
Q4	1854-0970	5	5	TRANSISTOR NPN SI DARL TO-220AB PD=2W	01295	T1P102
R1	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R2	0757-0473	6	2	RESISTOR 221K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2213-F
R3	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R4	0698-4539	7	2	RESISTOR 402K 1% 0.125W TF TC=0+-100	28480	0698-4539
R5	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R6	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R7	0757-0289	2	2	RESISTOR 13.3K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-1332-F
R8	0757-0440	7	3	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F

54110-66506 Digital Supply Assembly Replaceable Parts

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
R9	0757-0452	1	6	RESISTOR 27.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2742-F
R10	0757-0449	1	4	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R11	0698-3451	0	1	RESISTOR 133K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1333-F
R12	0757-0283	6	3	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R13	0757-0384	8	1	RESISTOR 20 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-20R0-F
R14	0757-0283	6	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R15	0757-0401	0	4	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R16	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R17	0757-0449	6	6	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R18	0698-3167	5	2	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R19	0816-0003	4	1	RESISTOR 500 5% 10W PW TC=0+-260	91637	HL12-02Z-10W-501-J
R20	0757-0449	6	6	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R21	0683-0475	1	2	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R22	0699-1075	2	1	RESISTOR 0.1 3% 3W MFS TC=0+-337	28480	0699-1075
R23	0757-0440	7	7	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R24	0698-0093	0	2	RESISTOR 10 5% 1W MO TC=0+-200	28480	0698-0093
R25	0699-1118	4	2	RESISTOR 0.005 3% 5W MFS TC=0+-337	28480	0699-1118
R26	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R27	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R28	0698-3460	1	3	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R29	0698-3460	1	1	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R30	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R31	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R32	0761-0057	1	2	RESISTOR 560 5% 1W MO TC=0+-200	28480	0761-0057
R33	0757-0123	3	4	RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R34	0698-3456	6	1	RESISTOR 40.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4022-F
R35	0698-3456	5	1	RESISTOR 287K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2873-F
R36	0698-0093	0	0	RESISTOR 10 5% 1W MO TC=0+-200	28480	0698-0093
R37	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R38	0761-0057	1	1	RESISTOR 560 5% 1W MO TC=0+-200	28480	0761-0057
R39	0757-0123	3	3	RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R40	0698-4421	6	1	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R41	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R42	0698-3159	5	1	RESISTOR 26.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2612-F
R43	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R44	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R45	0757-0427	0	1	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F
R46	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R47	0698-3446	3	1	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R48	0698-6250	3	2	RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2501-F
R49	0757-0434	9	2	RESISTOR 3.65K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3651-F
R50	0757-0434	9	9	RESISTOR 3.65K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3651-F
R51	0698-6250	3	3	RESISTOR 2.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2501-F
R52	0683-0475	1	1	RESISTOR 4.7 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-4E7
R53	0757-0449	6	6	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R54	0698-4002	9	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R55	0699-0124	0	1	RESISTOR 10.2K 0.1% 0.125W TF TC=0+-25	28480	0699-0124
R56	2100-3123	0	1	RESISTOR-TMRM 500 10% TKF SIDE-ADJ	32997	3006P-1-501
R57	0698-6360	6	3	RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R58	0757-0123	3	3	RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R59	0757-0123	3	3	RESISTOR 34.8K 1% 0.125W TF TC=0+-100	28480	0757-0123
R60	0757-0439	4	2	RESISTOR 6.81K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6811-F

Power Supply Assemblies
13

Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

R61	0757-0442	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R62	0698-3167	5	RESISTOR 25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2502-F
R63	0757-0439	4	RESISTOR 6.81K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6811-F
R64	0757-0442	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R65	0699-0241	2	RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R66	0698-6360	6	RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R67	0698-6360	6	RESISTOR 10K 0.1% 0.125W TF TC=0+-25	28480	0698-6360
R68	0699-0241	2	RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R69	0812-0070	7	RESISTOR 10 5% 5W PW TC=0+-20	28480	0812-0070
R70	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R71	0699-1118	4	RESISTOR 0.005 3% 5W MFS TC=0+-337	28480	0699-1118
R72	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R73	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R74	0698-3460	1	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R75	0757-0441	8	RESISTOR 8.25K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-8251-F
R76	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R77	0698-3158	4	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2372-F
R78	0698-4002	9	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5001-F
R79	0698-6624	5	RESISTOR 2K 0.1% 0.125W TF TC=0+-25	28480	0698-6624
R80	0698-6624	5	RESISTOR 2K 0.1% 0.125W TF TC=0+-25	28480	0698-6624
R81	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R82	0812-0070	7	RESISTOR 10 5% 5W PW TC=0+-20	28480	0812-0070
R83	0757-0283	6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R84	0757-0440	7	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-7501-F
R T1	9100-4383	3	TRANSFORMER	28480	9100-4383
T1	9100-4545	9	TRANSFORMER-POWER PRIMARY	28480	9100-4545
T2	9140-0866	3	TRANSFORMER	28480	9140-0866
T3	9140-0866	3	TRANSFORMER	28480	9140-0866
T4	9140-0866	3	TRANSFORMER	28480	9140-0866
TP1-4	NOT ASSIGNED				
TP5	0360-0042	4	TERMINAL-SLDR LUG	28480	0360-0042
TP6	0360-0042	4	TERMINAL-SLDR LUG	28480	0360-0042
TP7	0360-0042	4	TERMINAL-SLDR LUG	28480	0360-0042
U1	1826-1120	0	IC MISC 20-DIP-C PKG	28480	1826-1120
U2	1990-1044	4	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U3	1990-1044	4	OPTO-ISOLATOR LED-PXSTR IF=60MA-MAX	04713	MOC8111(SELECTED)
U4	1826-0524	6	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U5	1826-0524	6	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U6	1826-0774	8	IC V RGLTR-V-REF-FXD 1.22/1.24V T0-92	27014	LM3858Z-1.2
U7	1826-1126	6	IC OP AMP SPCL 8-DIP-P PKG	27014	LM392N
U8	1826-0890	9	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U9	1826-0643	0	IC V RGLTR-V-REF-ADJ 3/30V T0-92 PKG	01295	TL431CLP
U10	1826-0643	0	IC V RGLTR-V-REF-ADJ 3/30V T0-92 PKG	01295	TL431CLP
VR1	1902-0939	9	DIODE-VOLTAGE SUPPRESSOR VR=5.0V, VC=8V	04713	1N5908
VR2	1902-3393	5	DIODE-ZNR 75V 5% DO-7 PD=.4W TC=+.077%	28480	1902-3393
VR3	1902-3393	5	DIODE-ZNR 75V 5% DO-7 PD=.4W TC=+.077%	28480	1902-3393
W1	54100-61612	8	CABLE-INPUT POWER	28480	54100-61612
XQ1	1200-0911	9	SOCKET-TRANSISTOR	28480	1200-0911
XQ2	1200-1101	1	SOCKET T0-3	28480	1200-1101

Power Supply Assemblies 14

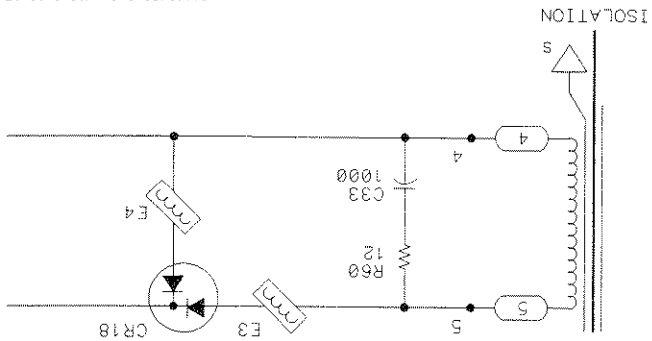
HP 54111D, 54112D, 54120A/B Service Manual Supplement

CHANGE 1 for 54110-66510, Analog Supply

Schematic 3

To reduce system noise two changes were made. The center lead of CR18 was cut off and beads were added to the two other leads. R76 was changed from 11K to 6.19K. The assembly number was changed from 54110-66507 to 54110-66510. The partial schematic shows the location of the added beads.

HP PART NUMBER	CD	DESCRIPTION	MFR	MFR PART NUMBER
R76 to 0757-0290	5	RESISTOR 6.19K 1% 0.125W	24546	CT4-1/8-10
E3	6	FERRITE BEAD	28480	9170-0759
E4	6	FERRITE BEAD	28480	9170-0759



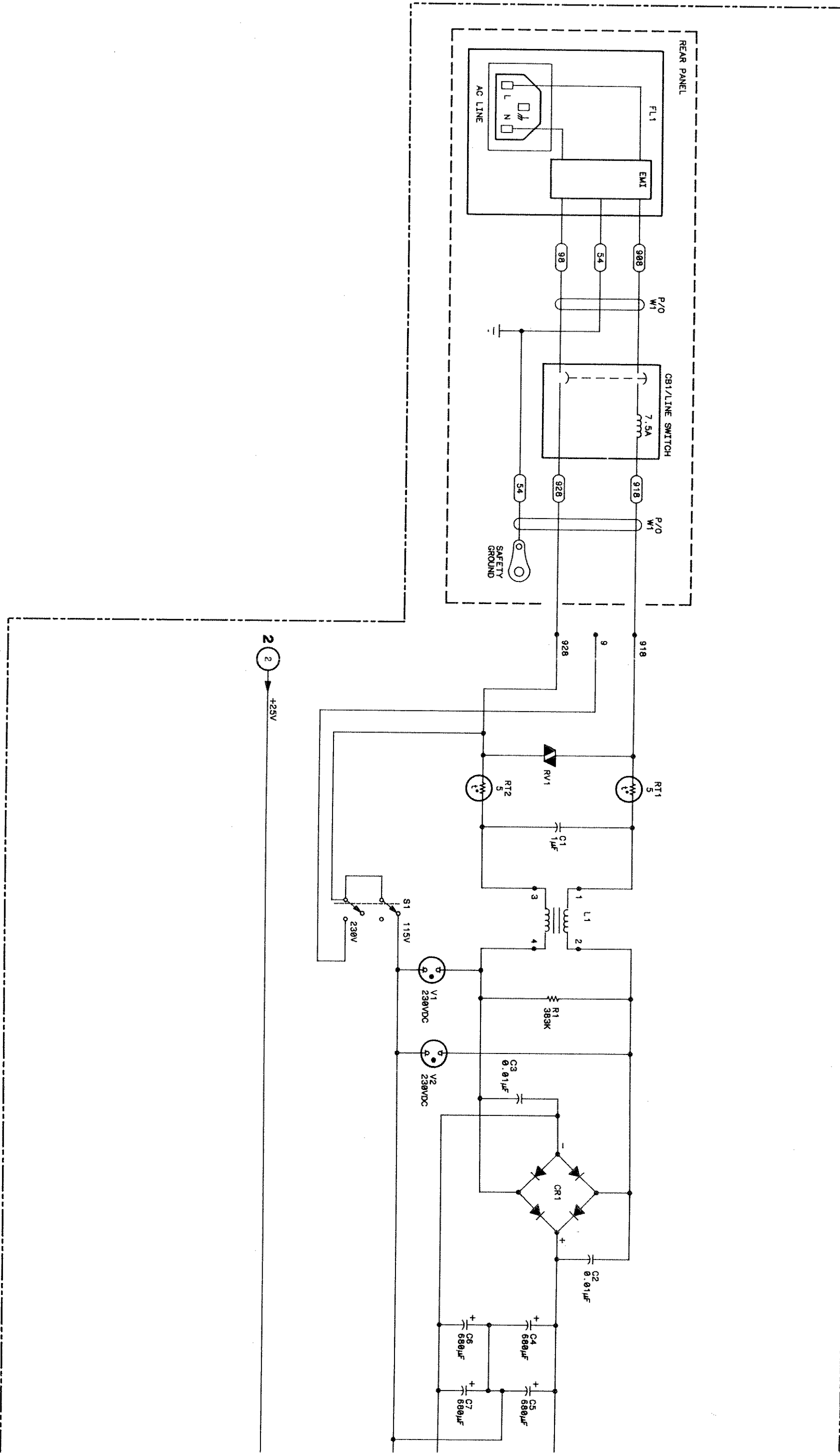
54110/SC18-81A/02/2-88-87

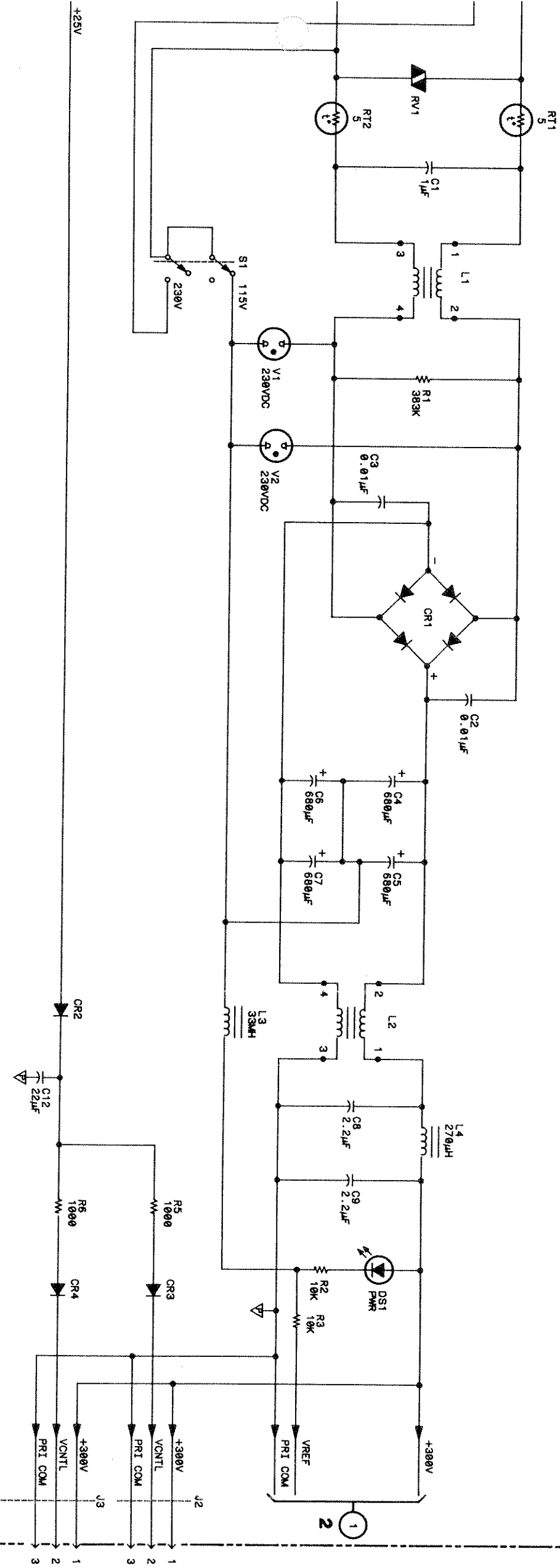
CHANGE 2 for 54110-66510, Analog Supply

Schematic 4

The adjustment for fan voltage was no longer needed so the potentiometer was replaced by a fixed resistor. There was no change to the assembly part number.

HP PART NUMBER	CD	DESCRIPTION	MFR	MFR PART NUMBER
R61 to 0698-3441	8	RESISTOR 215 1% 0.125W	24546	CT4-1/8-10-215R-F

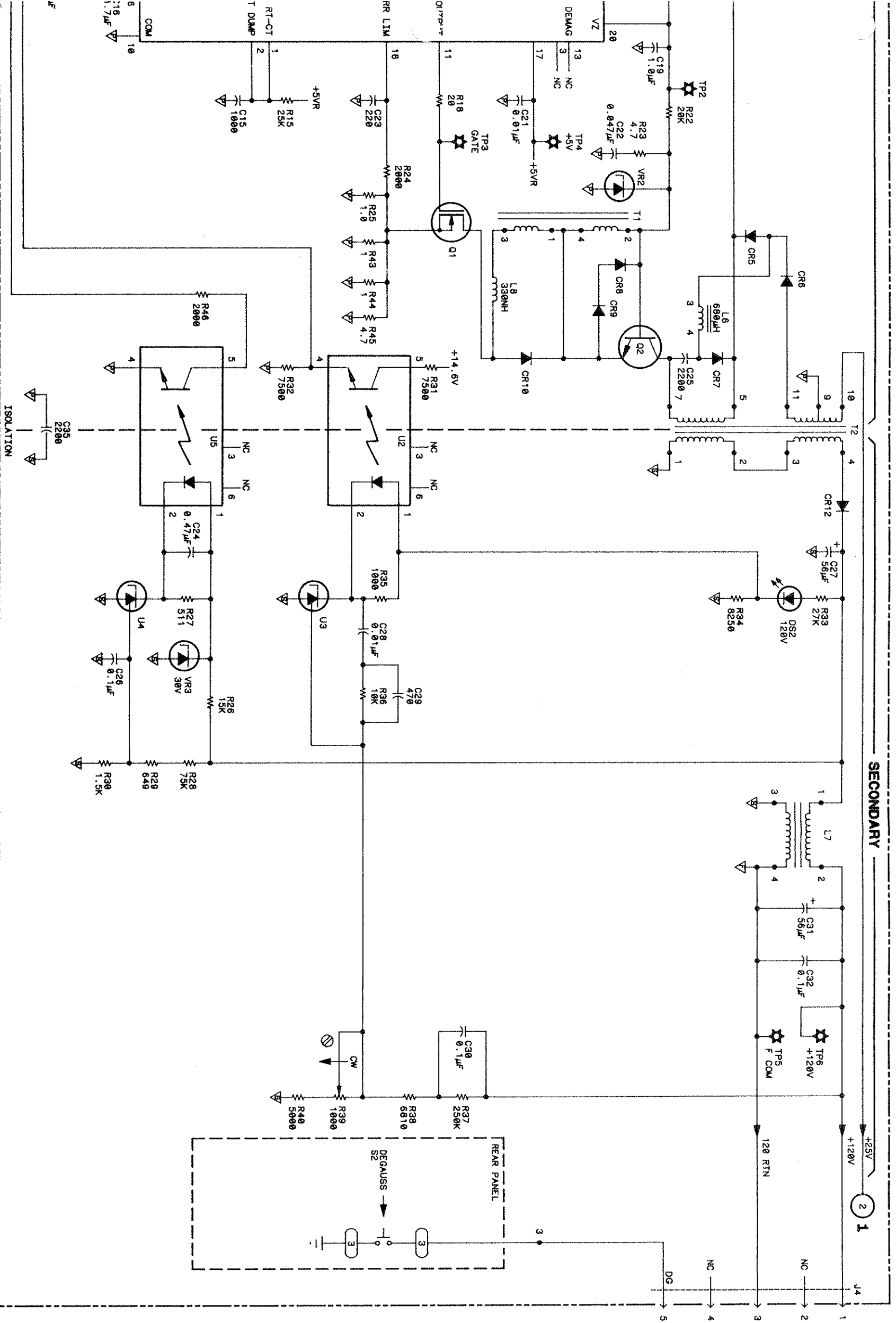




- NOTES:**
1. IS PRIMARY COMMON
 2. IS CHASSIS GROUND

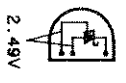
PARTS ON THIS SCHEMATIC	
AC POWER SUPPLY	
C1-9,12	S1
CB1	V1,2
CR1-4	
DS1	
FL1	
J2,3	
L1-4	
R1-3,5,6	
RT1,2	
RV1	

54110/SC13.01/02/7-67



NOTES:

1. IS PRIMARY COMMON
2. IS SECONDARY COMMON
3. IS CHASSIS GROUND
4. U3 AND U4 TOP VIEW
5. POWER SWITCH (ON/STBY) IS BETWEEN J1-1 AND J1-2.

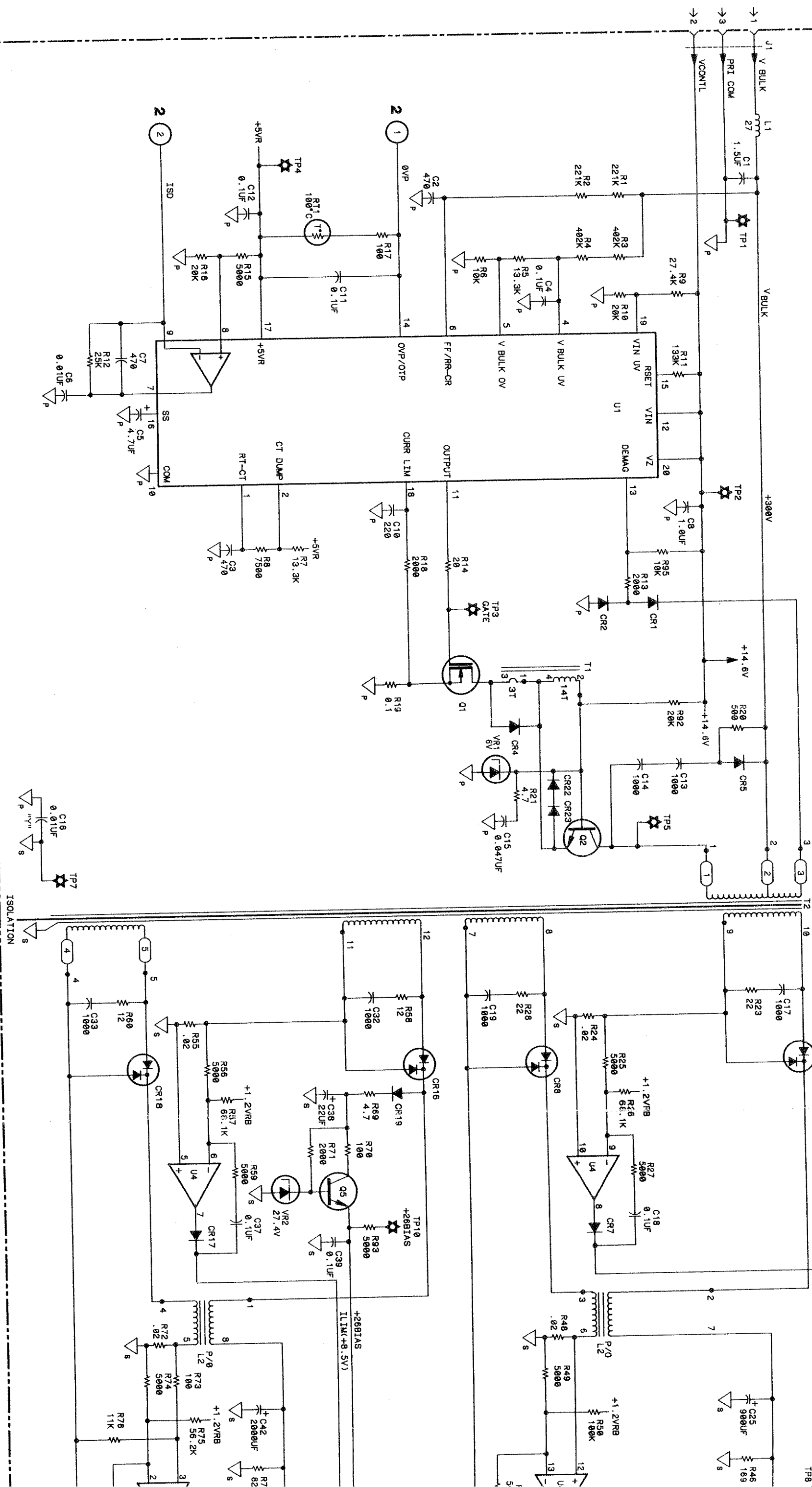


PARTS ON THIS SCHEMATIC

P/O AC POWER SUPPLY	U1-5
C13-21,22-35	VR2.3
CR5-10,12	
DS2	
J1,4	
L5-8	
Q1,2	
R7-46	
RT3	
S2	
T1,2	
TP1-6	

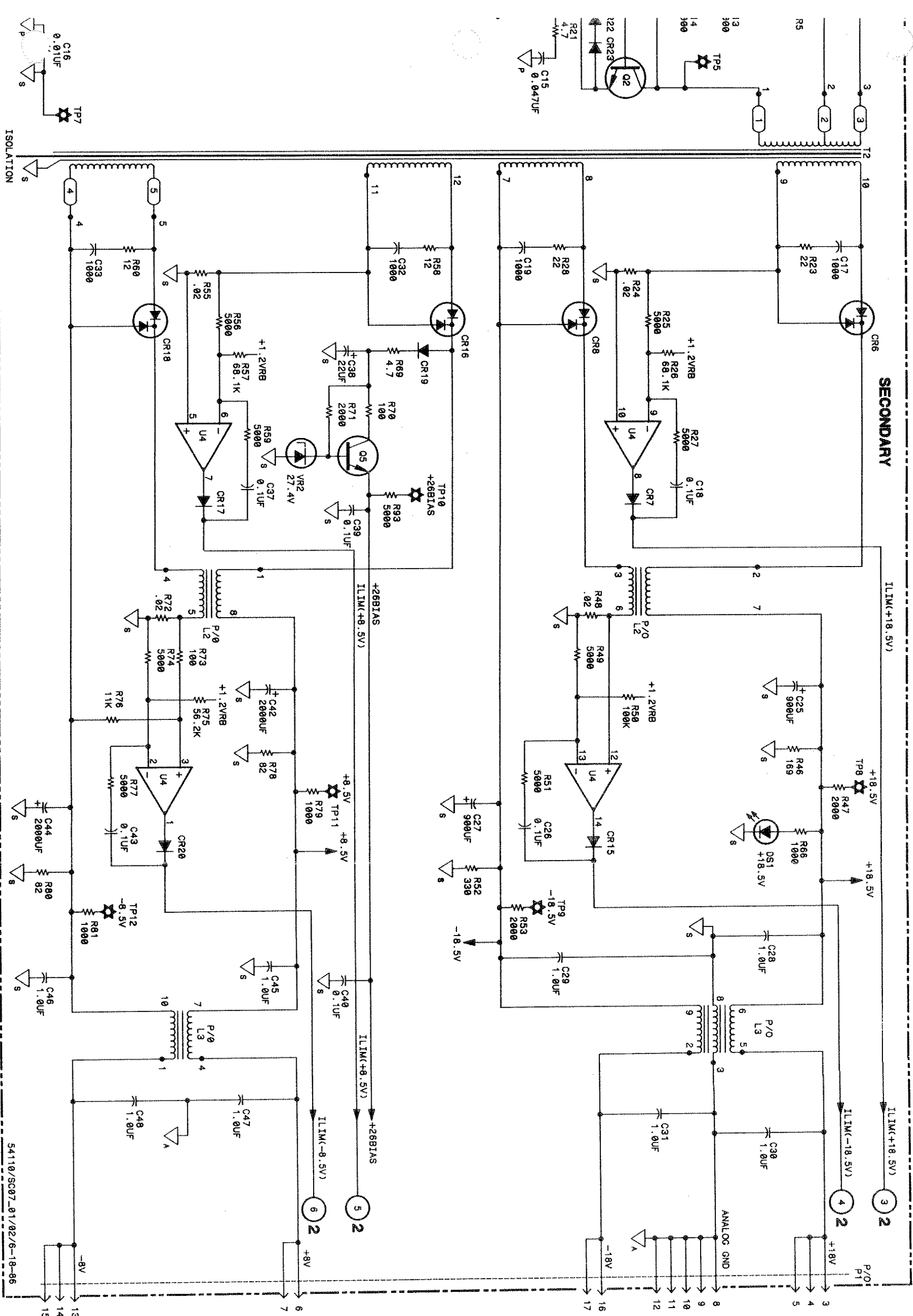
54110/SC13.02/02/01-88

P/O ANALOG POWER SUPPLY



**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+26V	4	U4
SEC GND	11	

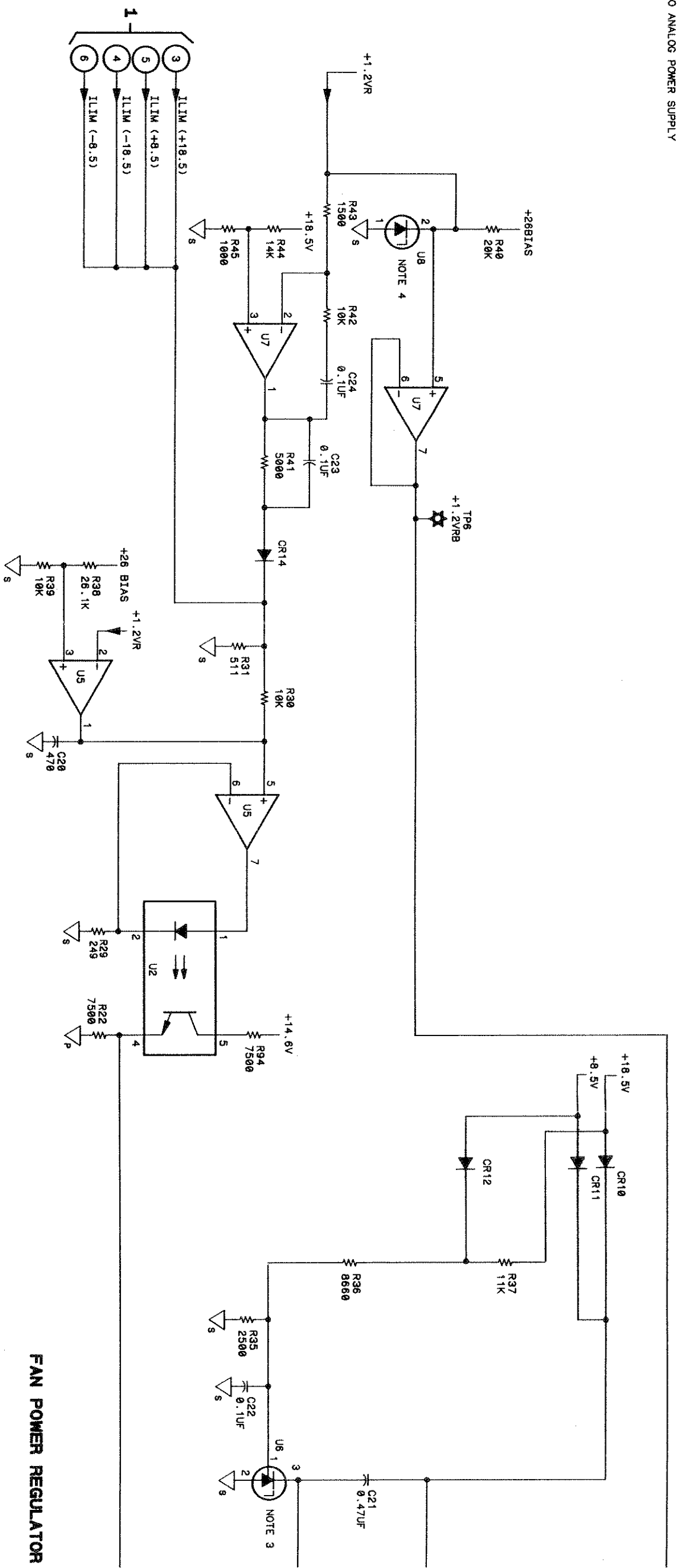


NOTES:

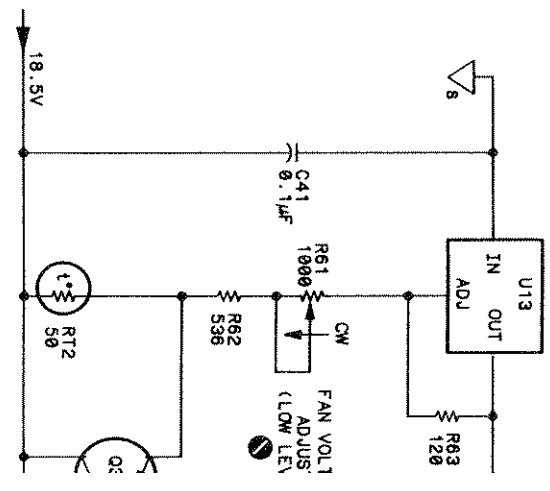
1. ∇_P IS PRIMARY COMMON
2. ∇_S IS SECONDARY COMMON
3. ∇_A IS ANALOG COMMON

PARTS ON THIS SCHEMATIC

C1-8, 10-19, 25-33, C37-40, 42-48	R1-21, 23-28, 46-53, R55-60, 66, 69-81, R92, 93, 95
CR1, 2, 4-8, 15-20, 22, 23	DS1
DS1	TI, 2
L1-3	TP1-5, 7-12
P/O P1	U1, 4
VR1, 2	VR1, 2



FAN POWER REGULATOR

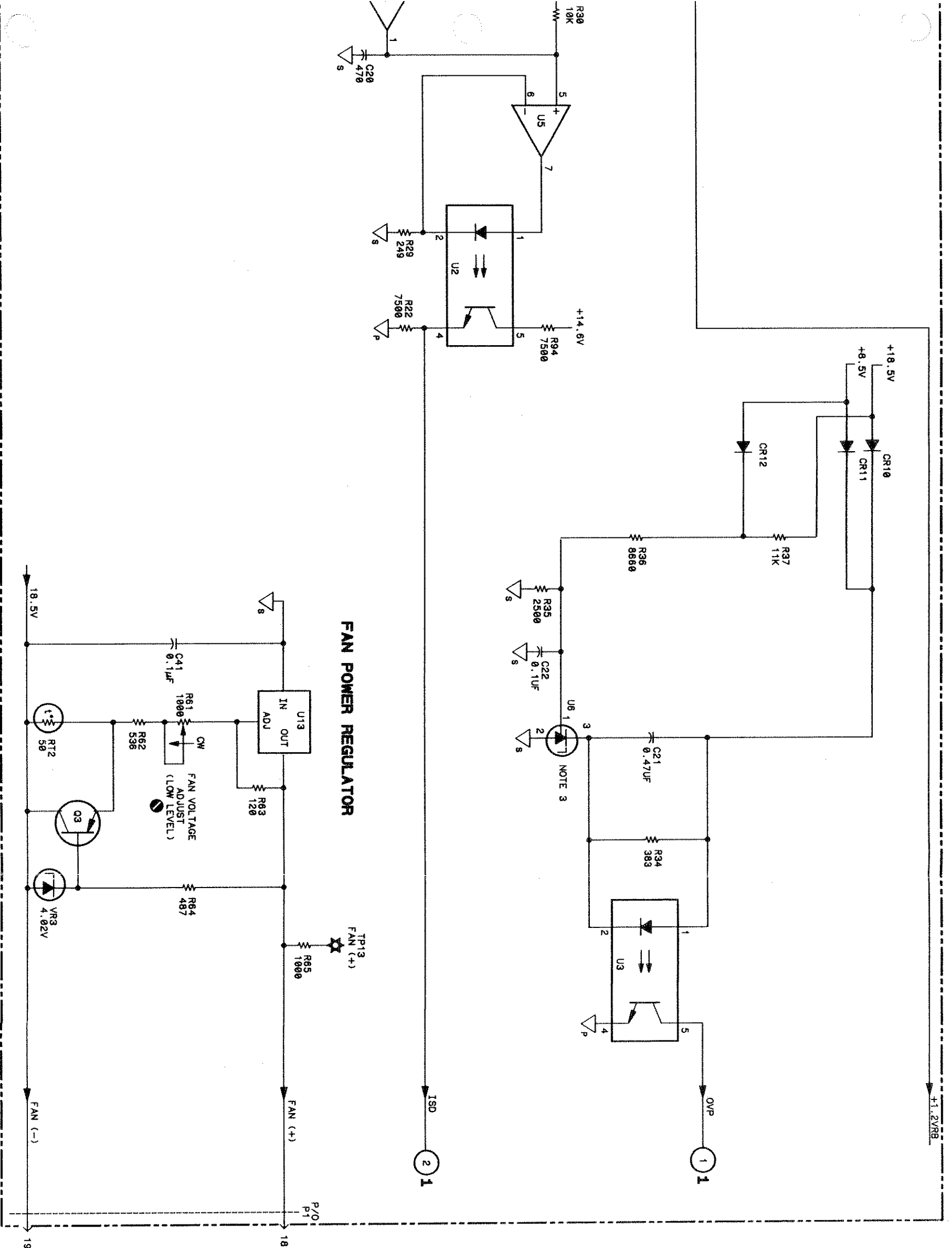


IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+26BIAS GND	8 4	U5, 7, 9
-18.5V GND	4 8	U12

NOTES:

1. ∇ IS PRIMARY COMMON
2. ∇ IS SECONDARY COMMON
3. TOP VIEW OF U6
4. TOP VIEW OF U8



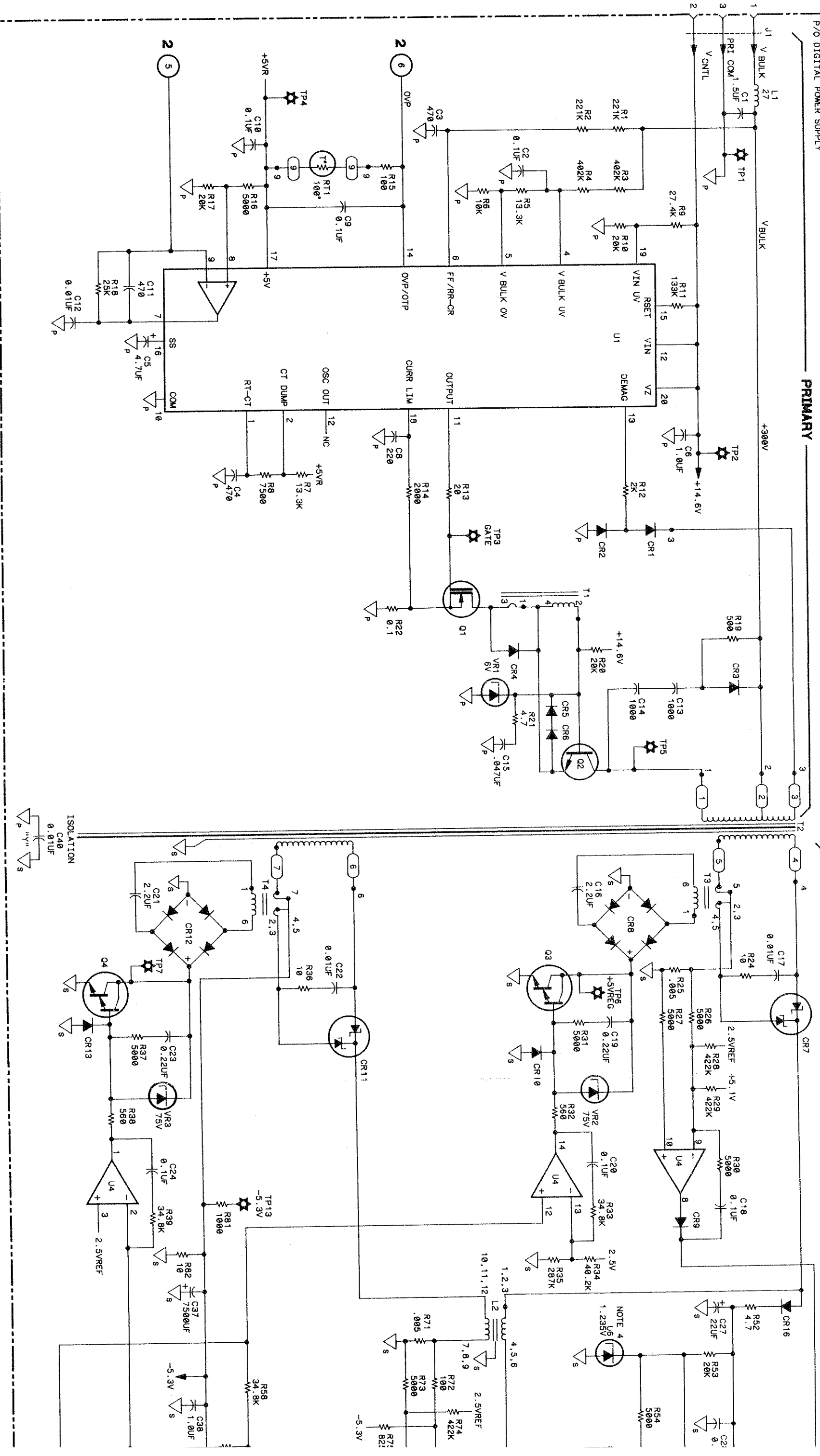
PARTS ON THIS SCHEMATIC

C20-24, 34-35, 41
CR9-14
P/O P1
Q3
R22, 29-32, 38-44, 61-66, 94
RT2
TP6, 13
U2, 3, 5-8
VR3

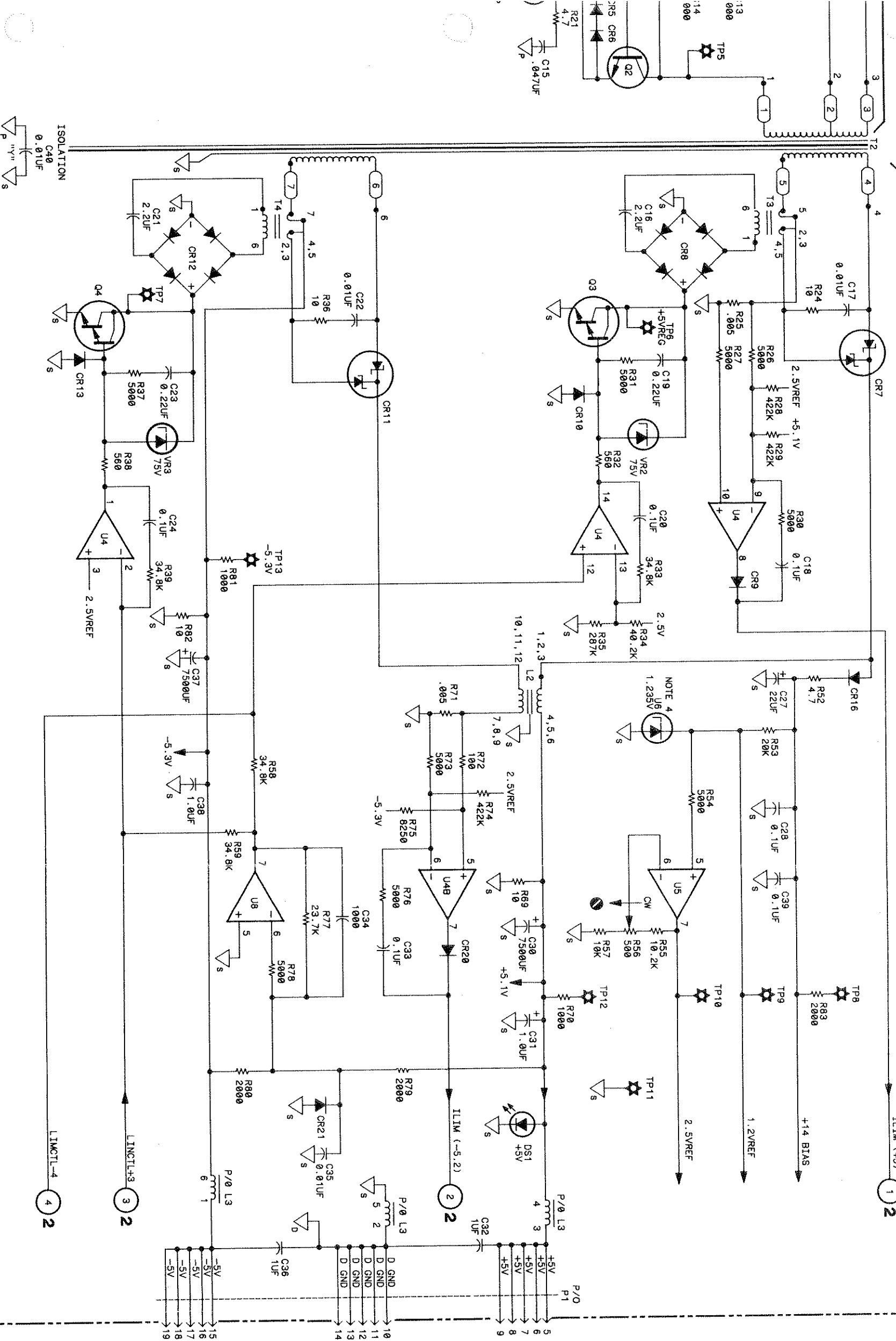
54116/SC07_02/02/6-21-86

PRIMARY

SECONDARY



SECONDARY



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
PRIMARY COMMON	10	U1
+14.6	20	U1
+14BIAS	4	U4,5
SEC GND	11	
+14BIAS	8	U8
SEC GND	4	

NOTES:

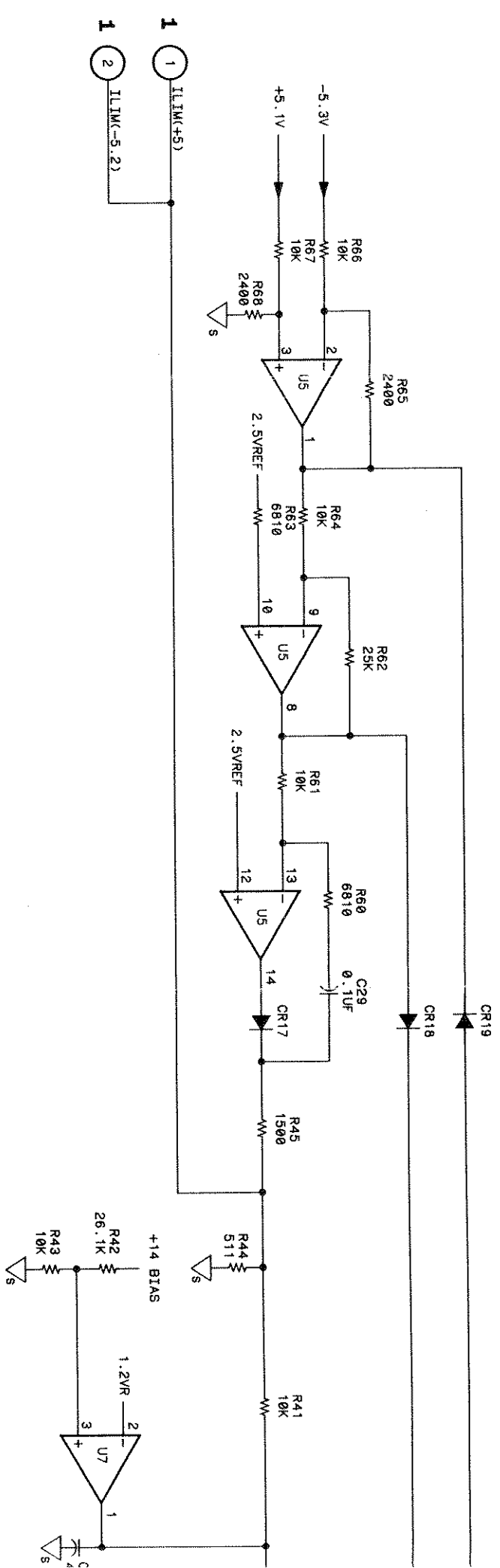
1. IS PRIMARY GROUND
2. IS SECONDARY GROUND
3. IS DIGITAL GROUND
4. TOP VIEW OF U6

PARTS ON THIS SCHEMATIC

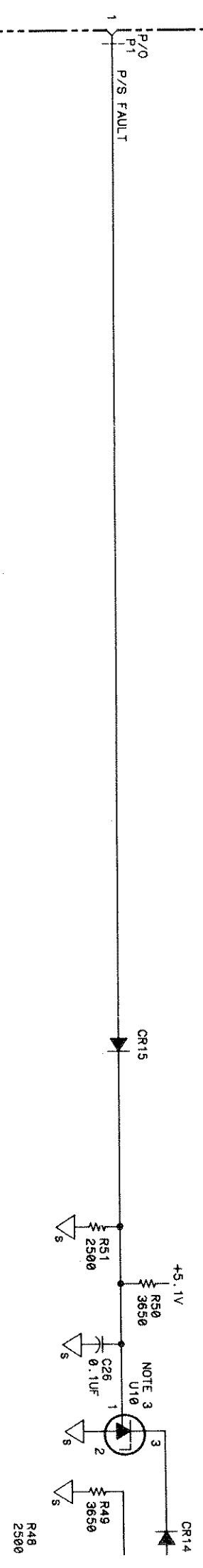
C1-6, 8-24, 27, 28, 30-40
CR1-13, 16, 20, 21
DS1
J1
L1, 2
P/O P1
L3
Q1-4
R1-22, 24-39, 52-59
R69-83
RT1
T1-4
TP1-13
U1, 4-6, 8
VR1-3

S4110/SC06_01/02/6/20/86

P/O DIGITAL POWER SUPPLY



4	P/O	+	SILIM	NC
3	P/O	-	SILIM	NC
2	P/O		ILIMRET	NC
1	P/O		ILIM(+5)	

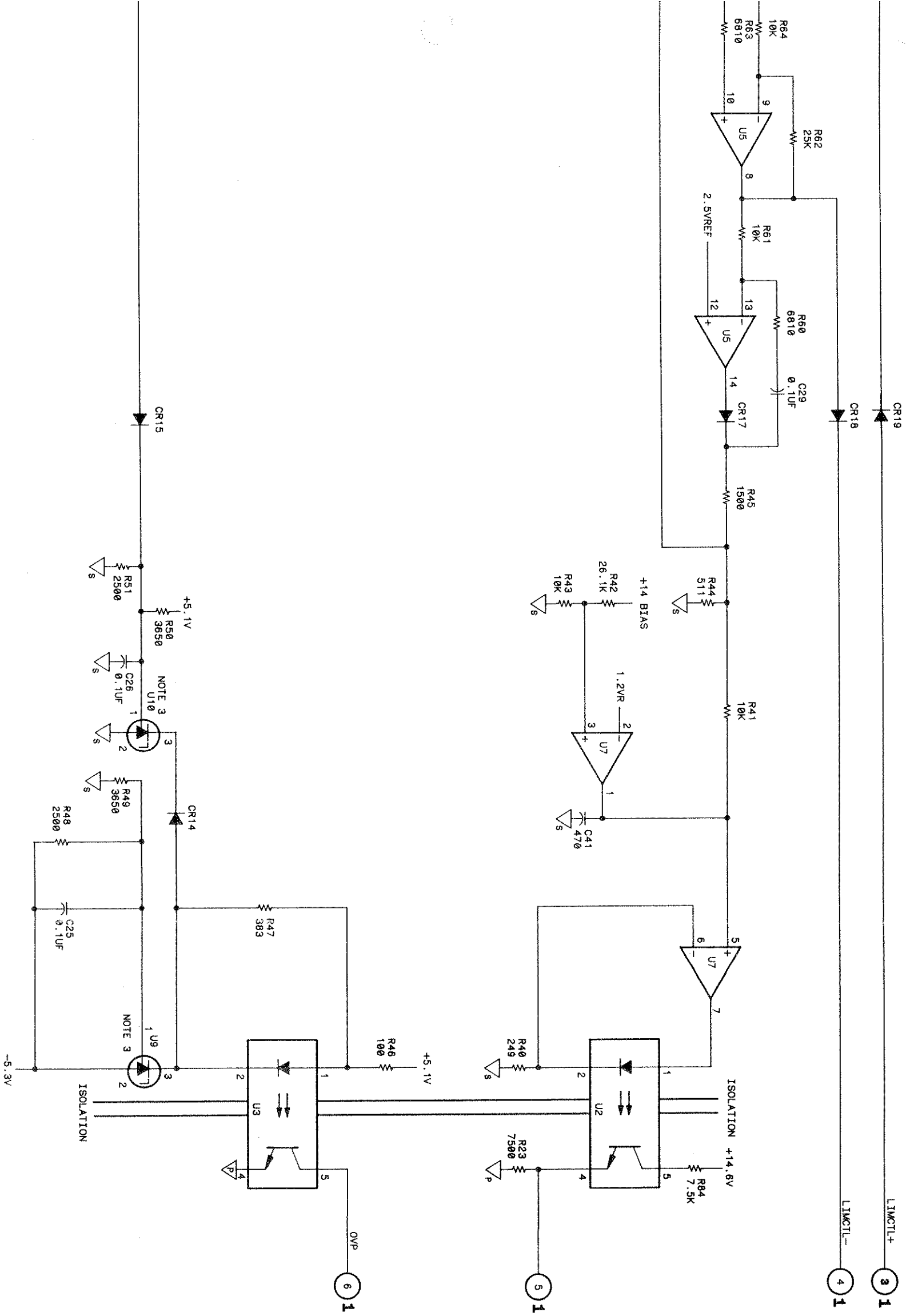


**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+14BIAS	8	U7
SEC GND	4	
+14BIAS	4	U5
SEC GND	11	

NOTES:

1. IS SECONDARY SIDE GROUND.
2. IS PRIMARY SIDE GROUND.
3. U9, 10 TOP VIEW

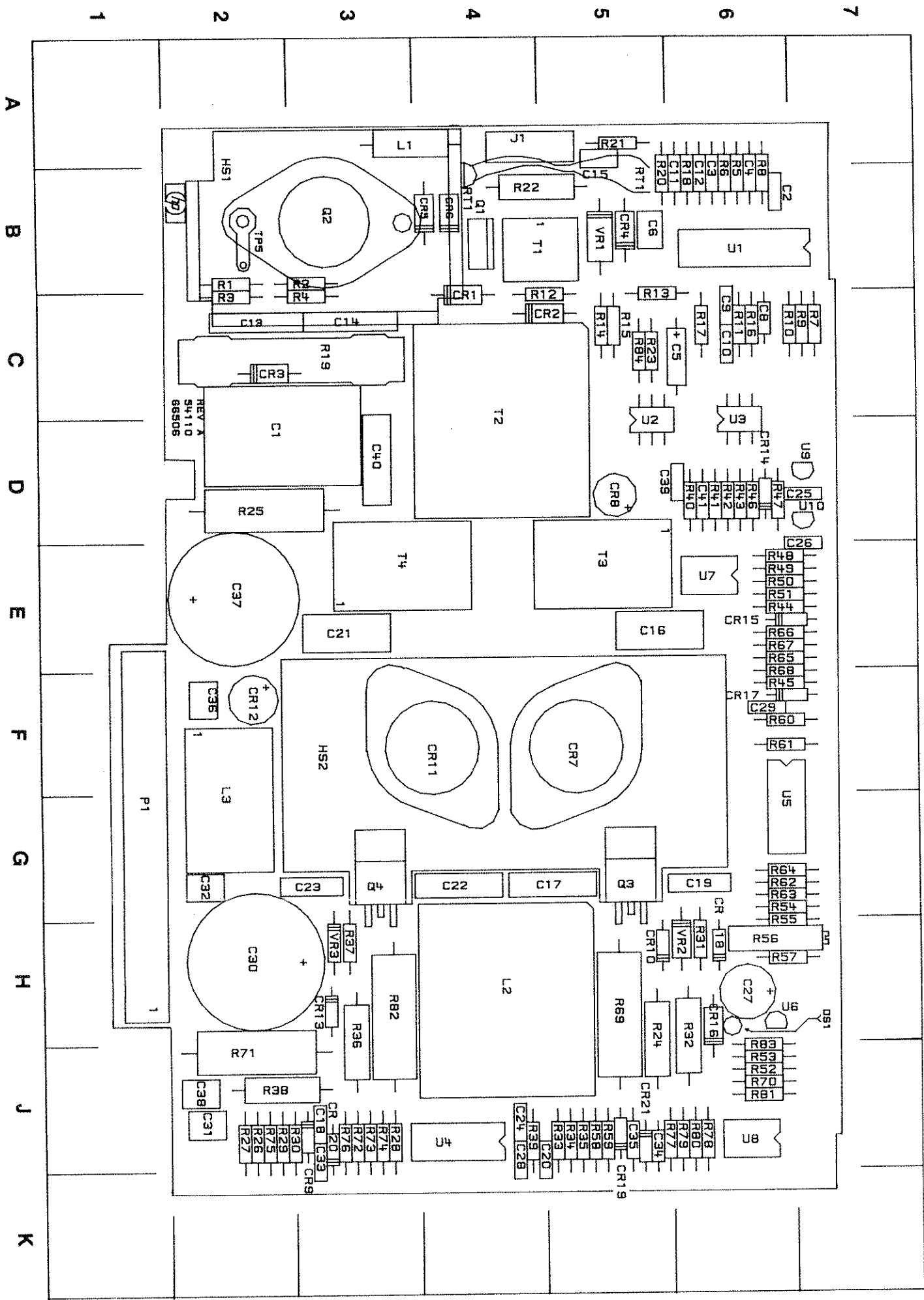


PARTS ON THIS SCHEMATIC

- C25, 26, 29, 41
- CR14, 15, 17-19
- P/O P1
- R23, 40-51, 60-68, 84
- U2, 3, 5, 7, 9, 10

54110/SC06.02/02/6-20-86

C16	G-2	C33	G-3	DS1	C-7	Q2	E-3	R17	F-3	R34	B-4	T2	C-2	VR1	H-4
C17	G-3	C34	G-4	DS2	A-5	R1	J-4	R18	F-2	R35	B-4	TP1	H-2	VR2	D-3
C18	F-2	C35	C-2	J1	H-2	R2	D-4	R19	F-2	R36	B-4	TP2	G-2	VR3	B-3
C19	F-3							R20	G-2	R37	B-5				



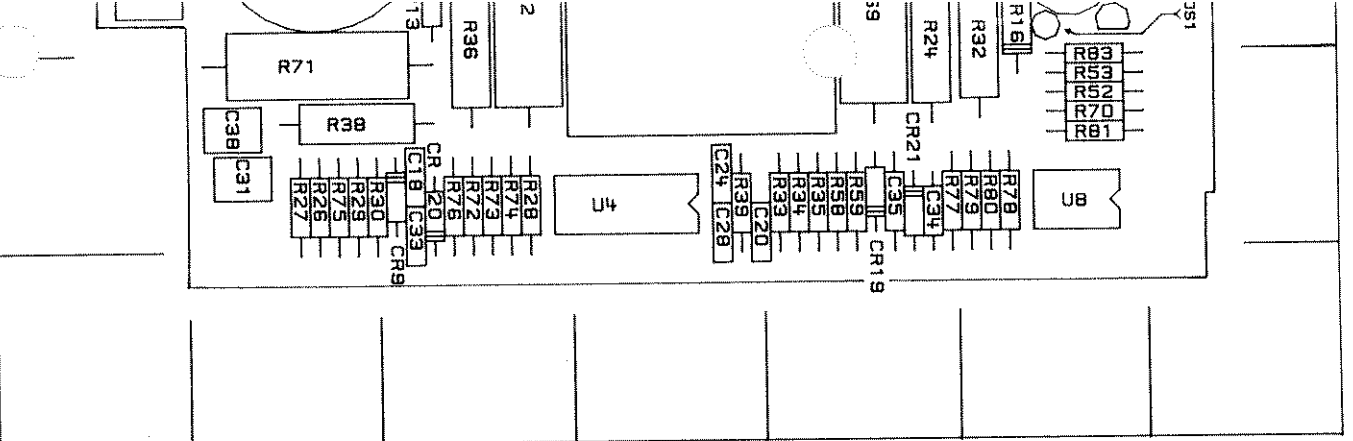
C14	G-3	C31	A-4	CR13	B-5	O1	F-1	R15	G-2	R32	F-3	T1	F-2	V1	J-5
C15	G-3	C32	A-4	CR14	B-5	O1	F-1	R16	G-2	R33	B-3	T1	F-2	V2	J-5

C16	C20	C21	C22	C23	C24	C25
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54110-66506 Digital Supply Cor

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	D-2	C26	D-7	CR8	D-5	Q1	B-4	R20	F-1
C2	B-6	C27	H-6	CR9	J-3	Q3	B-4	R21	F-1
C3	B-6	C28	J-4	CR10	H-5	Q4	G-5	R22	F-1
C4	B-6	C29	F-6	CR11	F-4		G-3	R23	F-1
C5	C-6	C30	H-2	CR12	F-2			R24	F-1
C6	B-5	C31	J-2	CR13	H-3	R1	B-2	R25	F-1
C8	C-6	C32	G-2	CR14	D-6	R2	B-3	R26	F-1
C9	C-6	C33	J-3	CR15	E-6	R3	B-2	R27	F-1
C10	C-6	C34	J-5	CR16	H-6	R4	B-3	R28	F-1
C11	B-6	C35	J-5	CR17	F-6	R5	B-6	R29	F-1
C12	B-6	C36	F-2	CR18	H-6	R6	B-6	R30	F-1
C13	C-2	C37	E-2	CR19	J-5	R7	C-7	R31	F-1
C14	C-3	C38	J-2	CR20	J-3	R8	B-6	R32	F-1
C15	A-5	C39	D-6	CR21	J-5	R9	C-7	R33	F-1
C16	E-5	C40	D-3			R10	C-7	R34	F-1
C17	G-5	C41	D-6	DS1	H-6	R11	C-6	R35	F-1
C18	J-3					R12	B-5	R36	F-1
C19	G-6	CR1	B-4	J1	A-4	R13	C-5	R37	F-1
C20	J-5	CR2	C-5			R14	C-5	R38	F-1
C21	E-3	CR3	C-2	L1	A-3	R15	C-5	R39	F-1
C22	G-4	CR4	B-5	L2	H-4	R16	C-6	R40	F-1
C23	G-3	CR5	B-4	L3	F-2	R17	C-6	R41	F-1
C24	J-4	CR6	B-4			R18	B-6	R42	F-1
C25	D-7	CR7	F-5	P1	G-1	R19	C-3	R43	F-1

16
 /R1 H-4
 /R2 D-3
 /R B-3



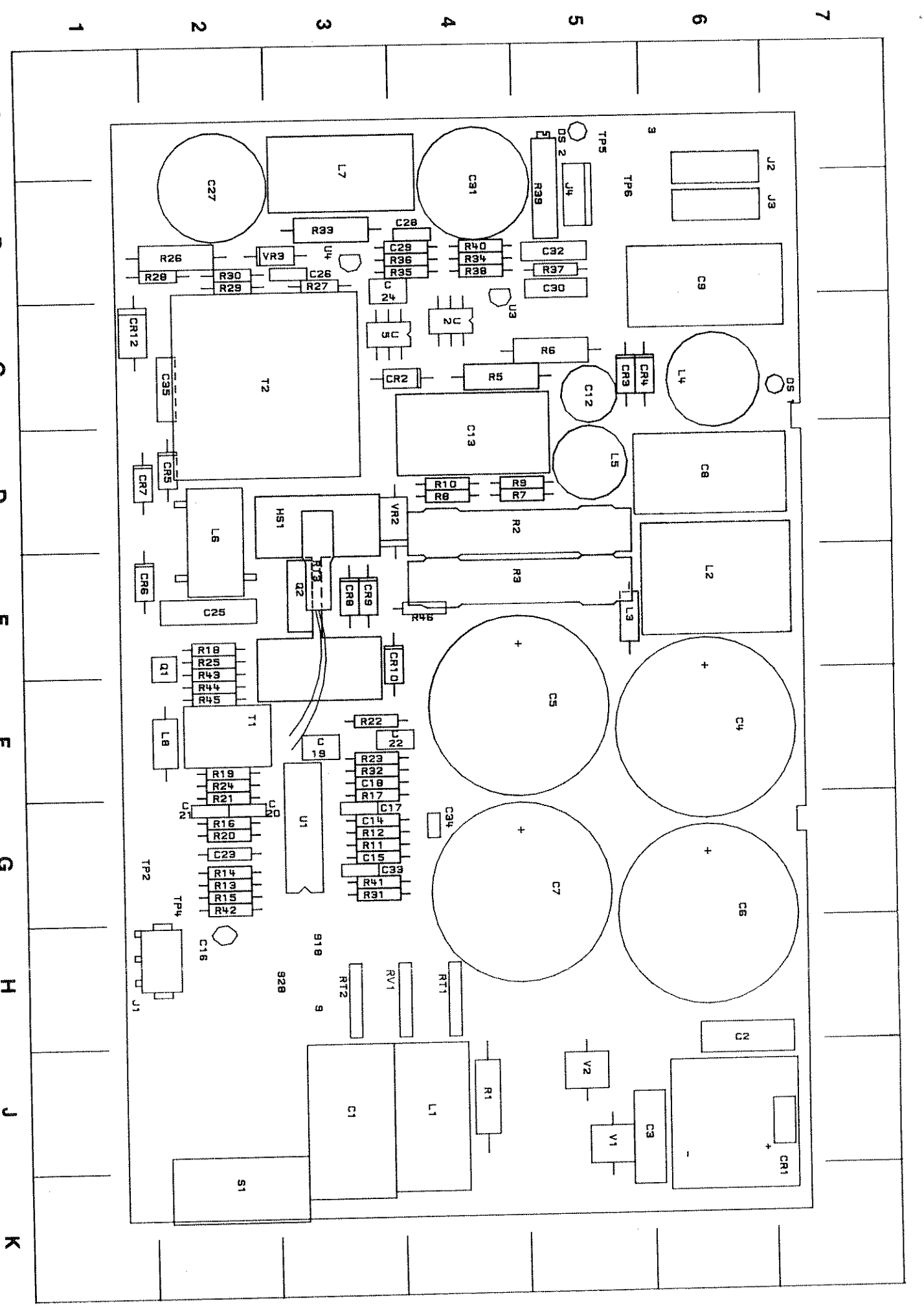
C15	A-5	C42	G-3	CR20	K-3	R6	A-6	K30	U-0	K30	J-2	K30	J-4	K30	U13	G-4
C16	D-3	C43	K-3	CR22	B-4	R7	B-7	R31	D-6	R57	L-3	R93	J-6	R93	U13	G-4
C17	D-5	C44	G-2	CR23	B-4	R8	A-6	R32	E-7	R58	D-5	R94	C-5	R94	VR1	B-5
C18	K-3	C45	J-3			R9	B-7	R34	D-6	R59	L-3	R95	B-6	R95	VR2	H-6
C19	D-4	C46	F-2	DS1	K-6	R10	B-6	R35	D-7	R60	E-4			R60	VR3	L-5
C20	D-6	C47	J-2			R11	B-6	R36	E-7	R61	K-6	RT1	A-4	R61		
C21	D-6	C48	H-2	J1	A-4	R12	A-6	R37	F-6	R62	L-6	RT2	K-2	R62		
C22	D-7					R13	B-5	R38	D-6	R63	L-5			R63		
C23	H-7	CR1	B-4	L1	A-3	R14	B-5	R39	D-6	R64	L-5	T1	B-5	R64		
C24	H-6	CR2	B-5	L2	H-4	R15	B-6	R40	J-6	R65	L-6	T2	C-4	R65		
C25	G-3	CR4	B-5	L3	H-2	R16	B-6	R41	H-6	R66	K-5			R66		

54110-66506 Digital Supply Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	D-2	C26	D-7	CR8	D-5	Q1	B-4	R20	B-6	R44	E-6	R88	E-6	TP5	B-3
C2	B-6	C27	H-6	CR9	J-3	Q3	G-5	R21	A-5	R45	F-6	R89	H-5		
C3	B-6	C28	J-4	CR10	H-5	Q4	G-3	R22	B-4	R46	D-6	R70	J-6		
C4	B-6	C29	F-6	CR11	F-4			R23	C-5	R47	D-6	R71	J-2	U1	B-6
C5	C-6	C30	H-2	CR12	F-2	R1	B-2	R24	H-5	R48	E-6	R72	J-3	U2	C-5
C6	B-5	C31	J-2	CR13	H-3	R2	B-2	R25	D-2	R49	E-6	R73	J-3	U3	C-6
C8	C-6	C32	G-2	CR14	D-6	R3	B-3	R26	J-2	R50	E-6	R74	J-3	U4	J-4
C9	C-6	C33	J-3	CR15	E-6	R4	B-2	R27	J-2	R51	E-6	R75	J-2	U5	G-6
C10	C-6	C34	J-5	CR16	H-6	R5	B-3	R28	J-3	R52	E-6	R76	J-3	U6	H-6
C11	B-6	C35	J-5	CR17	F-6	R6	B-6	R29	J-2	R53	J-6	R77	J-6	U7	E-6
C12	B-6	C36	F-2	CR18	H-6	R7	B-6	R30	J-3	R54	G-6	R78	J-6	U8	J-6
C13	C-2	C37	E-2	CR19	J-5	R8	B-6	R31	H-6	R55	G-6	R79	J-6	U9	D-7
C14	C-3	C38	J-2	CR20	J-3	R9	C-7	R32	H-6	R56	H-6	R80	J-6	U10	D-7
C15	A-5	C39	D-6	CR21	J-5	R10	C-7	R33	J-5	R57	H-6	R81	J-6		
C16	E-5	C40	D-3			R11	C-6	R34	J-5	R58	J-5	R82	H-3	VR1	B-5
C17	G-5	C41	D-6	DS1	H-6	R12	B-5	R35	J-5	R59	J-5	R83	J-6	VR2	H-6
C18	J-3					R13	B-5	R36	H-3	R60	F-6	R84	C-5	VR3	H-3
C19	G-6	CR1	B-4	J1	A-4	R14	C-5	R37	H-3	R61	F-6				
C20	J-5	CR2	C-5			R15	C-5	R38	J-2	R62	G-6	RT1	B-4		
C21	E-3	CR3	C-2	L1	A-3	R16	C-6	R39	J-4	R63	G-6		B-5		
C22	G-4	CR4	B-5	L2	H-4	R17	C-6	R40	D-6	R64	G-6	T1			
C23	G-3	CR5	B-4	L3	F-2	R18	C-6	R41	D-6	R65	E-6	T2	C-4		
C24	J-4	CR6	B-4			R19	B-6	R42	D-6	R66	E-6				
C25	D-7	CR7	F-5	P1	G-1	R19	C-3	R43	D-6	R67	E-6	T4	E-3		

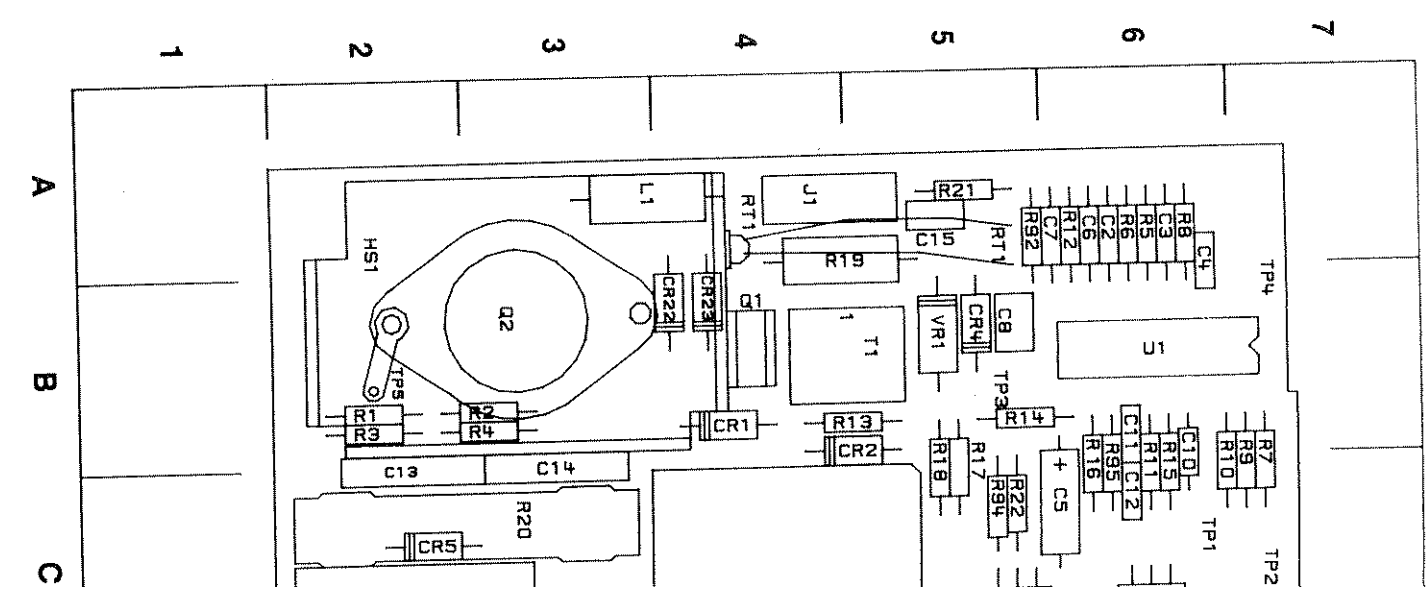
Power Supplies,
 Component Locators

11 J-5 J-5 K-2 CR18 E-3 K4 B-3 K28 E-4 K33 L-0 R81 J-6 U7 G-6
 C13 B-2 C40 K-2 CR18 E-3 K4 B-3 K28 E-4 K33 L-0 R81 J-6 U7 G-6
 C14 B-3 C41 L-6 CR19 G-5 R5 A-6 R29 D-5 R55 D-2 R81 J-6 U7 G-6

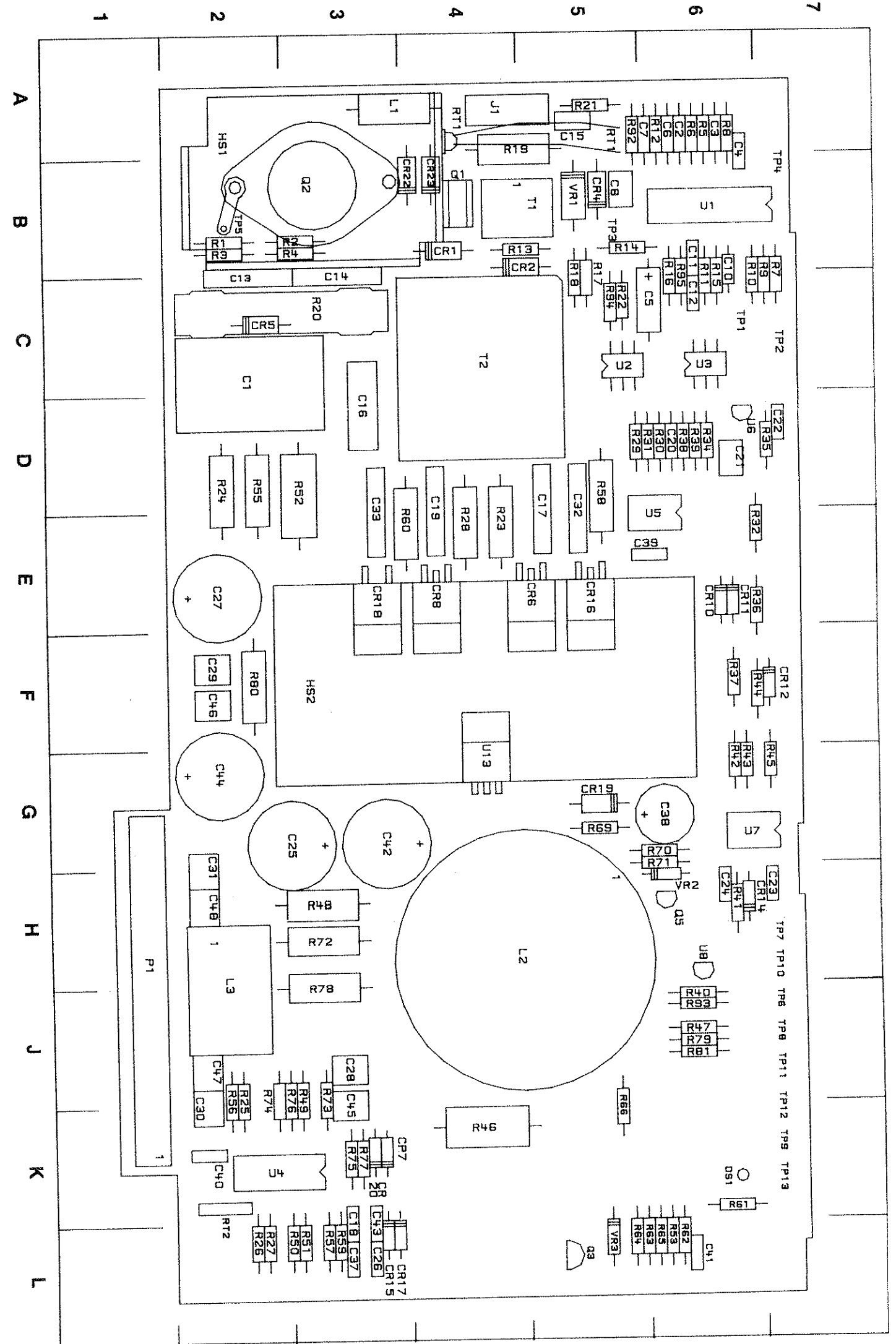
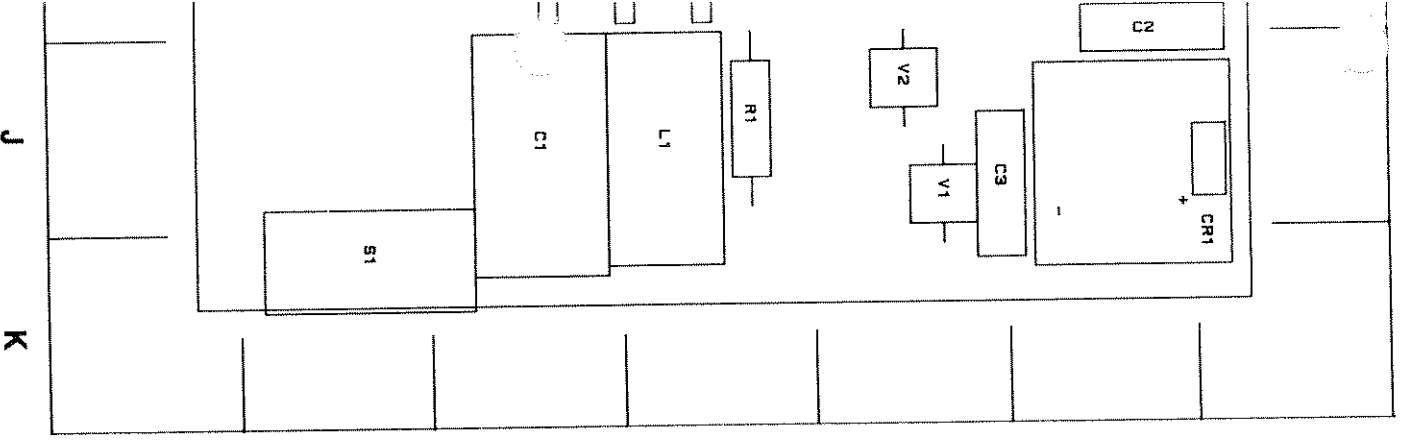


54110-66513 Primary Supply Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	J-3	C20	G-2	CR1	J-7	J2	A-6	R3	E-4	R21	F-2	R38	B-4	TP3	E-2		
C2	H-6	C21	G-2	CR2	C-4	J3	B-6	R5	C-4	R22	F-3	R39	B-5	TP4	G-2		
C3	J-5	C22	F-3	CR3	C-5	J4	B-5	R6	C-5	R23	F-3	R40	B-4	TP5	B-5		
C4	F-6	C23	G-2	CR4	C-6			R7	D-4	R24	F-2	R41	G-2	TP6	B-5		
C5	F-5	C24	B-3	CR5	D-1	L1	J-4	R8	D-4	R25	E-2				G-3		
C6	G-6	C25	E-2	CR6	D-1	L2	E-6	R9	D-4	R26	B-2				C-4		
C7	G-5	C26	B-3	CR7	D-2	L3	E-5	R10	D-4	R27	B-3				C-4		
C8	D-6	C27	B-2	CR8	E-3	L4	C-6	R11	G-3	R28	B-2				B-4		

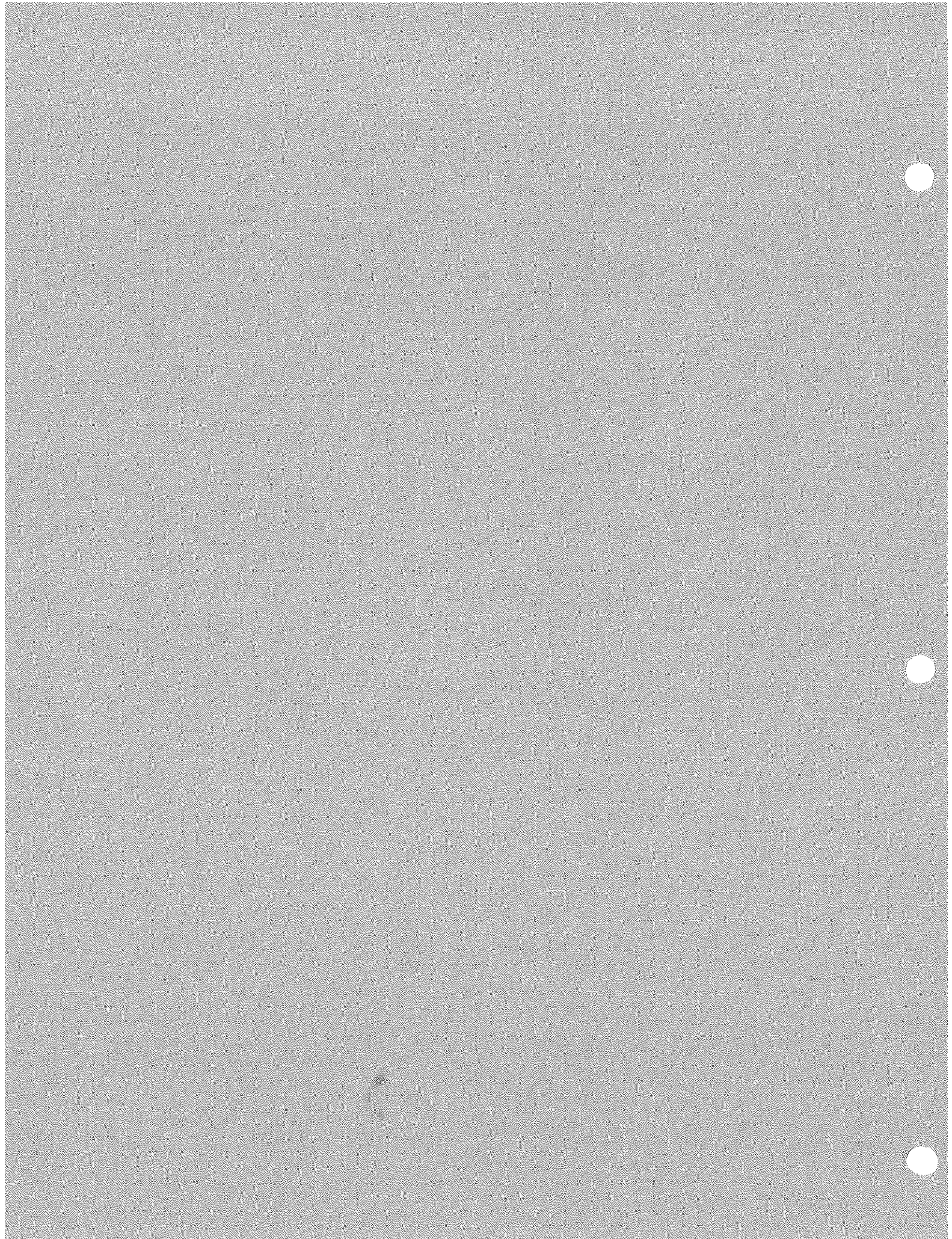


REF DES	GRID LOC	REF DES	GRID LOC
C1	C-		
C2	A-		
C3	A-		
C4	A-		
C5	C-		
C6	A-		
C7	A-		
C8	B-		
C9	B-		
C10	B-		



54110-66507 Analog Supply Component Locator

REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	C-2	C26	L-3	CR5	C-2	R17	B-5	R42	G-6	TP1	C-6	UI	G-3
C2	A-6	C27	E-2	CR6	E-5	R18	B-5	R43	G-6	TP2	C-7	U2	C-4
C3	A-6	C28	J-3	CR7	K-3	R19	A-5	R44	F-7	TP3	B-5	U3	B-4
C4	A-6	C29	F-2	CR8	E-4	R20	A-5	R45	G-7	TP4	B-7		
C5	C-6	C30	J-2	CR10	E-6	R21	C-3	R46	K-4	TP5	B-3		
C6	A-6	C31	G-2	CR11	E-6	R22	C-5	R47	J-6				
C7	A-6	C32	D-5	CR12	F-7	R23	E-4	R48	H-2				
C8	B-5	C33	D-3	CR14	H-6	R24	D-2	R49	J-3				



Component-Level Information Packets

for HP 54111D, 54112D, 54120A/B

Mainframe Assemblies

Power Supplies
Motherboard and Keyboards
Input/Output Assembly
Microprocessor Assembly
Color Display Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

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General Information

Introduction

This package provides component level information for the HP 54111D, 54112D, or 54120A/B Digitizing Oscilloscopes. Hewlett-Packard's repair policy for these instruments is by exchange of assemblies. Techniques for troubleshooting these instruments to the assembly level are provided in the appropriate instrument service manuals. This package is not intended to be a comprehensive component-level troubleshooting aid. Other information and special equipment may be necessary to fully test assemblies after a component-level repair.



Note

This package is considered to be an aid to general understanding of the operation of an instrument. Information is provided at the convenience of Hewlett-Packard for the convenience of the user. Though it may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate.

ACCORDINGLY, HEWLETT-PACKARD SHALL NOT BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER BASED ON CONTRACT, TORT, OR ANY OTHER LEGAL THEORY ARISING FROM THE USE OF THIS DOCUMENT.

Safety



Warning

The information in this package is for the use of trained service personnel. To avoid electrical shock, do not service unless you are qualified.



Warning

The Service Manual provides safety information that must be followed to avoid personal injury or damage to the instrument. Do not use this information without following all pertinent safety information in the Service Manual.

Supplement Description

This package consists of an initial section of general information and sections with specific information covering other assemblies.

The general information includes general warnings, cautions, and conventions.

Assembly information includes the following: additional warnings and cautions if applicable, parts lists, component locators, and schematics. Instrument level parts lists, since they must be kept current, are in the service manual only.

Manufacturers' Codes

A list of manufacturers' codes is given in table 1. The codes are given for parts in the parts lists. The table gives the manufacturer and address for each code.

Table 1. List of Manufacturers' Codes

Mfr. No.	Name	Address
A3500	SGS Ates	Millan Bromma SE IT
C0633	RIFA	Bromma SE
S0545	Nippon Electric Co	Tokyo JP
S4013	Hitachi America Ltd	Sunnyvale CA
00000	Any satisfactory supplier	
00853	Sangamo Weston Inc	Norcross GA
01121	Allen-Bradley Co	Millwaukee WI
01295	Texas Instr Inc Semicond Cmpnt Div	Dallas TX
01686	RCL Electronics Inc	Northbrook IL
04713	Motorola Semiconductor Products	Phoenix AZ
06665	Precision Monolithics Inc	Santa Clara CA
07263	Fairchild Semiconductor Div	Mountain View CA
1B546	Varo Semiconductor Inc	Garland TX
11236	CTS Corp Berne Div	Berne IN
17856	Siliconix Inc	Santa Clara CA
18324	Signetics Corp	Sacramento CA
19701	Mepco/Electra Corp	Mineral Wells TX
2M627	Rohm Corp	Irvine CA
24355	Analog Devices Inc	Norwood MA
24546	Corning Glass Works (Bradford)	Bradford PA
27014	National Semiconductor Corp	Palo Alto CA
28480	Hewlett-Packard Co Corporate Hq	Palo Alto CA
32997	Bourns Inc	Riverside CA
34335	Advanced Micro Devices Inc	Sunnyvale CA
34649	Intel Corp	Mountain View CA
56289	Sprague Electric Co	North Adams MA
72799	General Electric Co	Fairfield CT
73138	Beckman Industrial Corp	Fullerton CA
9N171	Unitrode Computer Products Corp	Methuen MA
91637	Dale Electronics	Columbus NE

Reference Designators

Reference designators are based on current ANSI and IEEE standards. A list of reference designators is part of table 2.

Abbreviations

A list of commonly used abbreviations is part of table 2. Differences in use of upper and lower case depends on the where the abbreviation is used. For example, all text in parts lists and on schematics is upper case.

Table 2. Reference Designators and Abbreviations

REFERENCE DESIGNATORS	ABBREVIATIONS
A	= assembly
B	= fan/motor
BT	= battery
C	= capacitor
CR	= diode; diode thyristor;
DL	= varactor
DS	= annunciator; lamp; LED
E	= misc. electrical part
F	= fuse
FL	= filter
AL	= aluminum
AMP	= amplifier
ANLG	= analog
ANSI	= American National Standards Institute
ASSY	= assembly
ASTG	= astigmatism
ASYNCHRO	= asynchronous
ATTN	= attention
AWG	= American wire gauge
BAL	= balance
BOD	= binary-code decimal
BD	= board
BR	= buffer
BIN	= binary
BDDG	= bridge
BSHG	= bushing
BW	= bandwidth
C	= ceramic; cement
CA	= centimeter
CMOS	= complementary metal-oxide-semiconductor
CMR	= common mode rejection
CNDCT	= conductor
CNTR	= counter
CON	= connector
CONT	= contact
CRT	= cathode-ray tube
CW	= clockwise
D	= diameter
D/A	= digital-to-analog
DAC	= digital-to-analog converter
DARL	= data lighting
DAT	= data
DBL	= double
DBM	= decibel referenced
DC	= direct current
DCDR	= decoder
DEG	= degree
DEMUX	= demultiplexer
DET	= detector
DIA	= diameter
DIP	= dual in-line package
DIV	= division
DMA	= direct memory access
DPDT	= double-pole, double-throw
DRC	= DAC refresh controller
DRVH	= driver
DWL	= dwell
ECL	= emitter coupled logic
ELAS	= elastomeric
EXT	= external
F	= farads; metal film
FC	= carbon film/ (resistor) composition
FD	= feed
FEM	= female
FF	= flip-flop
FL	= flat
FM	= foam; from
FR	= front
FT	= gain bandwidth
FV	= full wave
FXD	= fixed
GEN	= generator
GND	= grounded
GP	= general purpose
GRAT	= graticule
GRV	= groove
H	= henries; high
HD	= hardware
HDND	= hardened
HG	= mercury
HGT	= height
HLCL	= helical
HORIZ	= horizontal
HP-IB	= Hewlett-Packard Interface Bus
HP	= Hewlett-Packard
HP-IB	= Hewlett-Packard
HR	= hour(s)
HV	= high voltage
I/O	= input/output
IC	= integrated circuit
ID	= inside diameter
IN	= inch
INCL	= include(s)
INCAND	= incandescent
INP	= input
INTEN	= intensity
INTL	= internal
INV	= inverter
JFET	= junction field-effect transistor
JKT	= jacket
K	= kilo(10 ³)
L	= low
LB	= pound
LCH	= latch
LCL	= local
LED	= light-emitting diode
LG	= long
LK	= lock
LKWR	= lockwasher
LS	= low power Schottky
LV	= low voltage
M	= mega(10 ⁶); megohms;
MACH	= mach
MAX	= maximum
MFR	= manufacturer
MICPROC	= microprocessor
MINSTR	= miniature
MISC	= miscellaneous
MLD	= molded
MM	= millimeter
MO	= metal oxide
MTG	= mounting
MUX	= multiplexer
MW	= milliwatt
N	= nano(10 ⁻⁹)
NC	= no connection
NMOS	= n-channel metal-oxide-semiconductor
NPN	= negative-positive
NPRN	= neoprene
NPRF	= not recommended for
NUM	= numeric
OBJD	= order by description
OCL	= octal
OD	= outside diameter
OP AMP	= operational amplifier
OSC	= oscillator
P	= plastic
P/O	= part of
PC	= printed circuit
PCB	= printed circuit board
PFA	= programmable logic array
PL	= plate(d)
PI	= plug in
PF	= picofarads
PD	= power dissipation
PE	= power
POLY	= polyester
POS	= positive; position
POT	= potentiometer
POZI	= positive
PP	= peak-to-peak
PPM	= parts per million
PREC	= precision
PREAMP	= preamplifier
PRGMBL	= programmable
PRG	= programable
PSTN	= position
PT	= point
PW	= potted
PWR	= power
R-S	= reset-set
RAM	= random-access memory
RECT	= rectifier
RFT	= resistor
RGLTR	= regulator
RGRTR	= register
RK	= rack
RMS	= root-mean-square
SCR	= silicon controlled rectifier
SEC	= second(time); second
SEG	= segment
SEL	= selector
SGL	= single
SHF	= shift
SI	= silicon
SIP	= single in-line package
SMT	= skitt
SLSR	= solder
SLS	= slide
SQ	= square
SREG	= shift register
SREQ	= service request
STAT	= static
STD	= standard
SYNCHRO	= synchronous
TA	= tantalum
TBAX	= tubaxial
TC	= temperature coefficient
TD	= time delay
THD	= (thead)
THK	= thick
THRU	= through
TF	= test point
TPG	= tapping
TP	= triple
TRANS	= transformer
TRIG	= trigger(ed)
TRMR	= trimmer
TRN	= turn(s)
TTL	= transistor-transistor logic
TX	= transmitter
U	= micro(10 ⁻⁶)
UL	= Underwriters Laboratories
UNREG	= unregulated
V	= electron tube; glow microcircuit
VR	= voltage regulator; lamp
W	= cable
X	= socket
Y	= crystal unit(piezo electric or quartz)
ZNR	= Zener
ZSTR	= transistor
W/O	= without
W/	= with
W	= watts
VS	= versus
VF	= voltage; filtered
VERT	= vertical
VDC	= volt, dc
VCO	= voltage-controlled oscillator
VAR	= variable
VAC	= voltage
VA	= voltampere
OK	= degree Kelvin
OF	= degree Fahrenheit
OC	= degree Celsius (Centigrade)

Logic Symbols

Logic symbols are based on current ANSI and IEEE standards. These standards may be unfamiliar to some people. Figure 1 (next page) gives a brief explanation of the principles used for these symbols and an example with explanations.

Logic Convention

The convention used is positive logic, as follows:

- HIGH (H) - 1 - True, active, or asserted state (more positive)
- LOW (L) - 0 - False, inactive, or unasserted state (more negative)

Signals may be either HIGH true or LOW true. They are assumed to be HIGH true unless indicated by an "L" at the beginning of the mnemonic or an overline across all or part of the mnemonic.

Most circuitry uses TTL or ECL technology. Some custom ICs use other technology with various logic levels.

- TTL LOW below +0.8 V HIGH above +2.0 V
- ECL LOW below -1.50 V HIGH above -1.10 V

Parts Lists

Parts lists include parts used at the time of the first shipments. Changes from that time are covered in change information (see Changes and Updates).

Component Locators

Component locators include a drawing with a locator grid and a table giving grid locations of components.

Changes and Updates

Unless otherwise noted, the basis for information in this package is the configuration of the instrument or assembly when it was first shipped to customers. This includes the parts lists, schematics, and other information. Changes to this package are provided at the convenience of Hewlett-Packard and there may be delays between the occurrence of changes in the instrument and the provision of update information.

Change pages may be part of the original printed supplement or part of an update document. The update document is changed periodically to reflect changes since the package was printed. The update document includes replacement or insert pages for the package, as well as the instructions for including the new pages. For ease of use, incorporate updates into this package as soon as you receive them.

In addition to change information, the update may contain information for correcting errors in the package. Hewlett-Packard recommends that you periodically request the latest update. The update is identified by the print date and part number of this document, both of which appear on the cover page. Complimentary copies of the update are available from Hewlett-Packard.

GENERAL

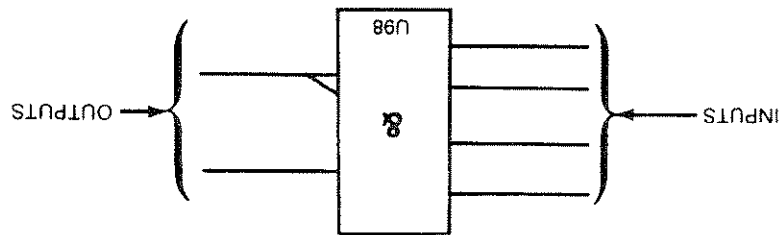
All signals flow from left to right, relative to the symbol's orientation with inputs on the left side of the symbol, and outputs on the right side of the symbol (the symbol may be reversed if the dependency notation is a single term.) All dependency notation is read from left to right (relative to the symbol's orientation).

An external state is the state of an input or output outside the logic symbol.

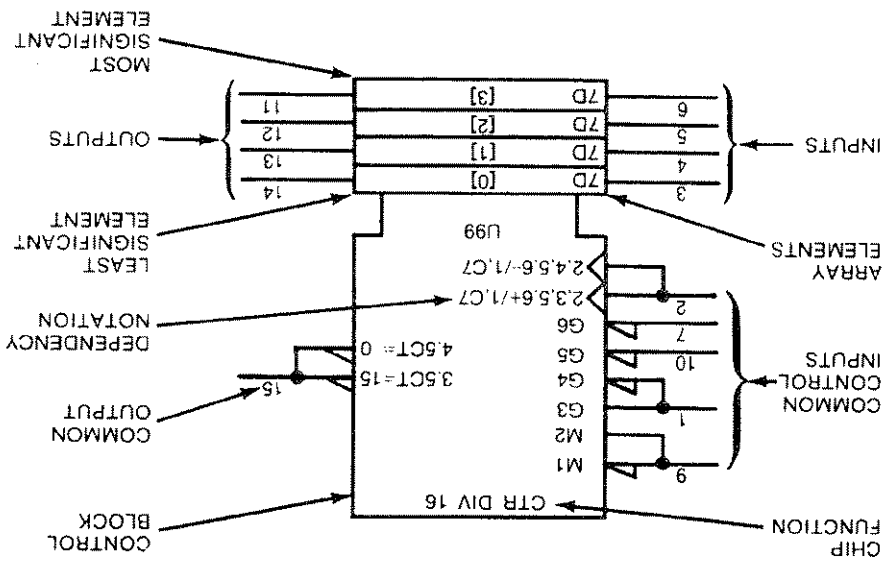
An internal state is the state of an input or output inside the logic symbol. All internal states are True = High.

SYMBOL CONSTRUCTION

Some symbols consist of an outline or combination of outlines together with one or more qualifying symbols, and the representation of input and output lines.



Some have a common Control Block with an array of elements:



CONTROL BLOCK - All inputs and dependency notation affect the array elements directly. Common outputs are located in the control block. (Control blocks may be above or below the array elements.)

ARRAY ELEMENTS - All array elements are controlled by the control block as a function of the dependency notation. Any array element is independent of all other array elements. Unless indicated, the least significant element is always closest to the control block. The array elements are arranged by binary weight. The weights are indicated by powers of 2 (shown in []).

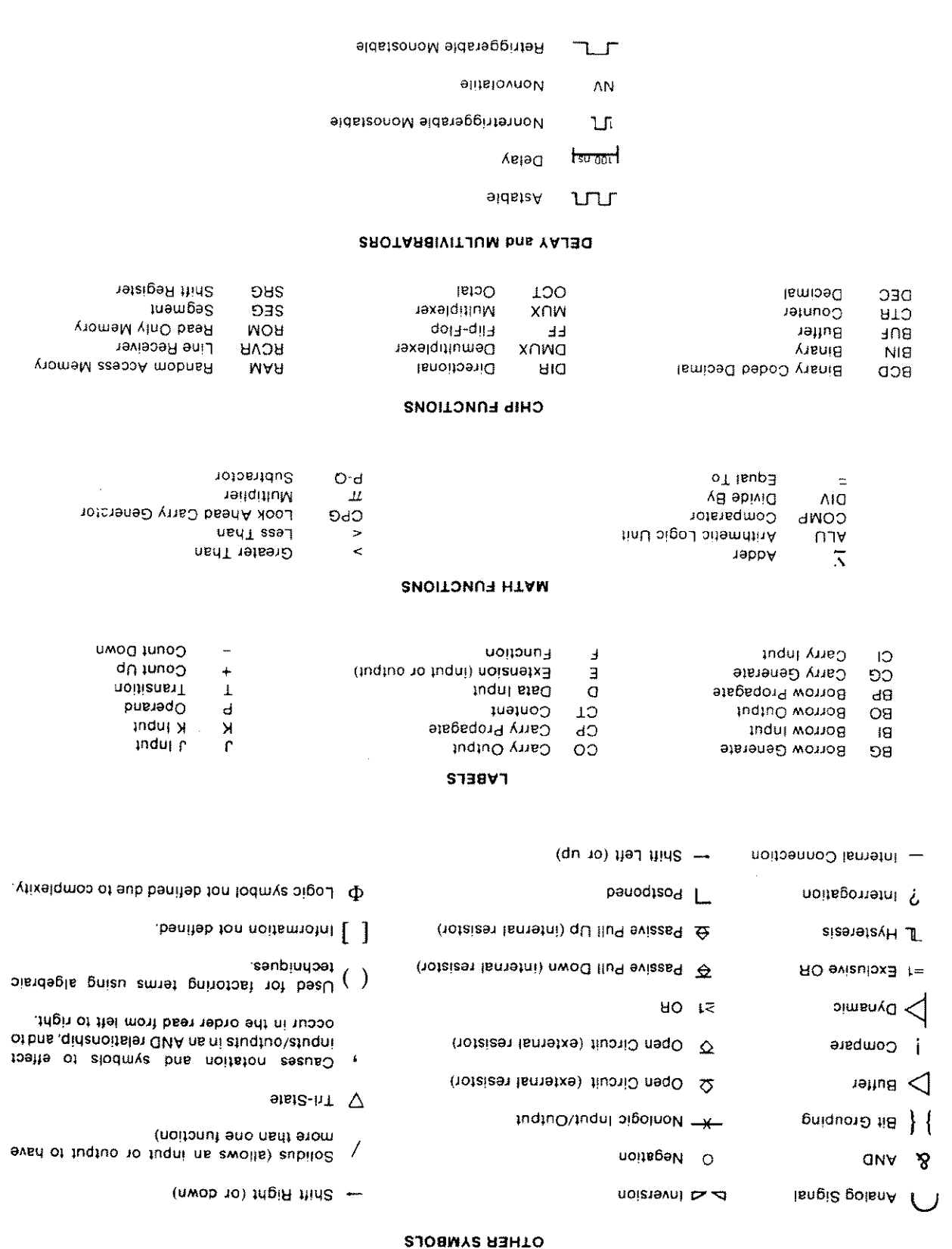


Figure 1. Logic Symbols (2 of 3)

Figure 1. Logic Symbols (3 of 3)

INPUTS - Inputs are located on the left side of the symbol and are affected by their dependency notation.

Common control inputs are located in the control block and control the inputs/outputs to the array elements according to the dependency notation.

Inputs to the array elements are located with the corresponding array element with the least significant element closest to the control block.

OUTPUTS - Outputs are located on the right side of the symbol and are effected by their dependency notation.

Common control outputs are located in the control block.

Outputs of array elements are located in the corresponding array element with the least significant bit closest to the control block.

CHIP FUNCTION - The labels for chip functions are defined, i.e., CTR - counter, MUX - multiplexer.

DEPENDENCY NOTATION

Dependency notation is always read from left to right relative to the symbol's orientation.

Dependency notation indicates the relationship between inputs, outputs, or inputs and outputs. Signals having a common relationship will have a common number, i.e., C7 and 7D...C7 controls D. Dependency notation 2,3,5,6+/1.C7 is read as when 2 and 3 and 5 and 6 are true, the input will cause the counter to increment by one count...or (/) the input (C7) will control the loading of the input value (7D) into the D flip-flops.

The following types of dependencies are defined:

- a. AND (G), OR (V), and Negate (N) denote Boolean relationship between inputs and outputs in any combination.
- b. Interconnection (Z) indicates connections inside the symbol.
- c. Control (C) identifies a timing input or a clock input and indicates which inputs are controlled by it.
- d. Set (S) and Reset (R) specify the internal logic states (outputs) of an RS bistable element when the R or S input stands at its internal 1 state.
- e. Enable (EN) identifies an enable input and indicates which inputs and outputs are controlled by it (which outputs can be in their high impedance state).
- f. Mode (M) identifies an input that selects the mode of operation of an element and indicates the inputs and outputs depending on that mode.
- g. Address (A) identifies the address inputs.
- h. Transmission (X) identifies bi-directional inputs and outputs that are connected together when the transmission input is true.

DEPENDENCY NOTATION SYMBOLS

A	Address (selects inputs/outputs) (indicates binary range)
C	Control (permits action)
EN	Enable (permits action)
G	AND (permits action)
M	Mode (selects action)
X	Transmission
Z	Interconnection
V	OR (permits action)
S	Set Input
R	Reset Input
N	Negate (complements state)

The schematics are provided on large folded sheets. They can be kept in the pocket provided. Schematics for an individual assembly are sequentially numbered by the large bold number at each schematic. These numbers are used to cross reference signal connections between the schematics.

At the schematic is a table giving the reference designators of components on that schematic. Another table shows the power connections, power grounds, and non-functional pins of ICs (integrated circuits). This helps avoid non-functional clutter on the schematic and gives one place to show IC power connections when IC sections are split between schematics.

Unless otherwise noted, the following component values apply:

- Resistance is in ohms.
- Capacitance is in microfarads.
- Inductance is in microhenries.

Notes specific to a particular schematic are located on the schematic.

Symbols on schematics are based on current ANSI and IEEE standards.

Additional schematic symbols are shown below:

- Tool-aided adjustment.
- Numbered test point. Measurement aid provided.
- Lettered test point. No measurement aid provided.
- Signal reference.
- Schematic reference.

Component-level Information Packet for HP 54111D, 54112D, 54120A/B Motherboard and Keyboards

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Reference HP Part Number CD Qty Description Mtr Code Mtr Part Number

Motherboard 54110-66511

C1	0160-5467	3	4	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C2	0160-5467	3	3	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C3	0160-5467	3	3	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
C4	0160-5467	3	3	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	0160-5467
H1	0515-0430	3	4	SCREW-MACH M3 6MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION

J1	1251-8855	3	2	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8855
J2	1251-8855	3	3	CONN-POST TYPE 0.156-PIN-SPCG 19-CONT	28480	1251-8855
J3	1252-1072	4	1	CONN-POST TYPE 0.150-PIN-SPCG 60-CONT	28480	1252-1072
J4	1251-8097	5	9	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J5	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J6	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J7	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J8	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J9	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J10	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J11	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J12	1251-8097	5	5	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1251-8097
J13	1252-0161	0	2	CONN-POST TYPE 0.156-PIN-SPCG 2-CONT	28480	1252-0161
J14	1252-0161	0	0	CONN-POST TYPE 0.156-PIN-SPCG 2-CONT	28480	1252-0161
MP1	0160-5374	1	1	CAPACITOR-FXD (NOT USED ELECTRICALLY)	28480	0160-5374
RP1	1810-0685	7	4	NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP2	1810-0685	7	7	NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP3	1810-0685	7	7	NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP4	1810-0685	7	7	NETWORK-RES 6-SIP 47.0 OHM X 5	28480	1810-0685
RP5	1810-0681	3	4	NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP6	1810-0681	3	3	NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP7	1810-0681	3	3	NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681
RP8	1810-0681	3	3	NETWORK-RES 6-SIP MULTI-VALUE	28480	1810-0681

Control Keyboard 54100-66505

J1	1251-8474	2	1	CONN-POST TYPE 0.100-PIN-SPCG 34-CONT	28480	1251-8474
J2	1251-8671	1	2	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1251-8671
J3	1251-8671	1	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1251-8671
J4	1251-4837	3	1	CONN-POST TYPE 2.5-PIN-SPCG 4-CONT	28480	1251-4837
MP1	1251-5595	2	1	POLARIZING KEY POST CONNECTOR	28480	1251-5595
MP2	1251-5595	2	1	NOT ASSIGNED	28480	1251-5595
MP3	5041-0268	5	7	KEYCAP	28480	5041-0268
MP4	5041-0268	5	5	KEYCAP	28480	5041-0268
MP5	5041-0268	5	5	KEYCAP	28480	5041-0268
MP6	5041-0268	5	5	KEYCAP	28480	5041-0268
MP7	5041-0268	5	5	KEYCAP	28480	5041-0268
MP8	5041-0268	5	5	KEYCAP	28480	5041-0268
MP9	5041-0268	5	5	KEYCAP	28480	5041-0268
MP10	5041-0906	8	1	KEYCAP 0	28480	5041-0906

HP 54111D, 54112D, 54120A/B Service Manual Supplement

Motherboard and Keyboard Assemblies

Motherboards and Keyboard Assemblies Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
MP11	5041-0907	1	9	KEYCAP 1	28480	5041-0907
MP12	5041-0908	0	1	KEYCAP 2	28480	5041-0908
MP13	5041-0909	1	1	KEYCAP 3	28480	5041-0909
MP14	5041-0910	4	1	KEYCAP 4	28480	5041-0910
MP15	5041-0911	5	1	KEYCAP 5	28480	5041-0911
MP16	5041-0912	6	2	KEYCAP 6, 9	28480	5041-0912
MP17	5041-0913	7	1	KEYCAP 7	28480	5041-0913
MP18	5041-0914	8	1	KEYCAP 8	28480	5041-0914
MP19	5041-0984	2	1	KEYCAP CLEAR	28480	5041-0984
MP20	5041-2942	6	1	KEYCAP USEC	28480	5041-2942
MP21	5041-2943	7	1	KEYCAP NSEC	28480	5041-2943
MP22	5041-2944	8	1	KEYCAP PSEC	28480	5041-2944
MP23	5041-2945	9	1	KEYCAP MSEC/MV	28480	5041-2945
MP24	5041-2946	0	1	KEYCAP SEC/VOLT	28480	5041-2946
MP25	5041-4547	1	2	KEYCAP ARROWS	28480	5041-4547
MP26	5041-4548	2	1	KEYCAP (.)	28480	5041-4548
MP27	5041-4549	3	1	KEYCAP (-)	28480	5041-4549
S1	3101-2947	7	27	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S7	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S8	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S9	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S10	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S11	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S12	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S13	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S14	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S15	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S16	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S17	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S18	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S19	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S20	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S21	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S22	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S23	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S24	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S25	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S26	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S27	3101-2947	7	7	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947

Motherboard and Keyboard Assemblies Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
MP1	5041-0400	7	8	KEYCAP	28480	5041-0400
MP2	5041-0400	7		KEYCAP	28040	5041-0400
MP3	5041-0400	7		KEYCAP	28040	5041-0400
MP4	5041-0400	7		KEYCAP	28040	5041-0400
MP5	5041-0400	7		KEYCAP	28040	5041-0400
MP6	5041-0400	7		KEYCAP	28040	5041-0400
MP7	5041-0400	7		KEYCAP	28040	5041-0400
MP8	5041-0400	7		KEYCAP	28040	5041-0400
S1	3101-2947	7	8	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S7	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S8	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
W1	54100-61605	9	1	CABLE	28480	54100-61605

Menu Keyboard 54100-66520

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
MP1	5041-0400	7	6	KEYCAP	28480	5041-0400
MP2	5041-0400	7		KEYCAP	28040	5041-0400
MP3	5041-0400	7		KEYCAP	28040	5041-0400
MP4	5041-0400	7		KEYCAP	28040	5041-0400
MP5	5041-0400	7		KEYCAP	28040	5041-0400
MP6	5041-0400	7		KEYCAP	28040	5041-0400
S1	3101-2947	7	8	SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S2	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S3	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S4	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S5	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
S6	3101-2947	7		SWITCH-PB SPST MOM 0.01A 12 VDC	28480	3101-2947
W1	54100-61605	9	1	CABLE	28480	54100-61605

Function Keyboard 54110-66502

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
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Motherboard and Keyboard Assemblies

HP 54111D, 54112D, 54120A/B
Service Manual Supplement

Motherboard and Keyboard Assemblies Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
H1	2950-0071	2	2	NUT-HEX 1/4-32	00000	ORDER BY DESCRIPTION
H2	2190-0060	7	2	WASHER-INT LCK 0.25IN-ID 0.4IN-OD	00000	ORDER BY DESCRIPTION
J1	1251-6000	6	1	CONN-POST TYPE 2.5-PIN-SPCG 5-CONT	28480	1251-6000
R1	2100-4119	6	2	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119
R2	2100-4119	6	6	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119

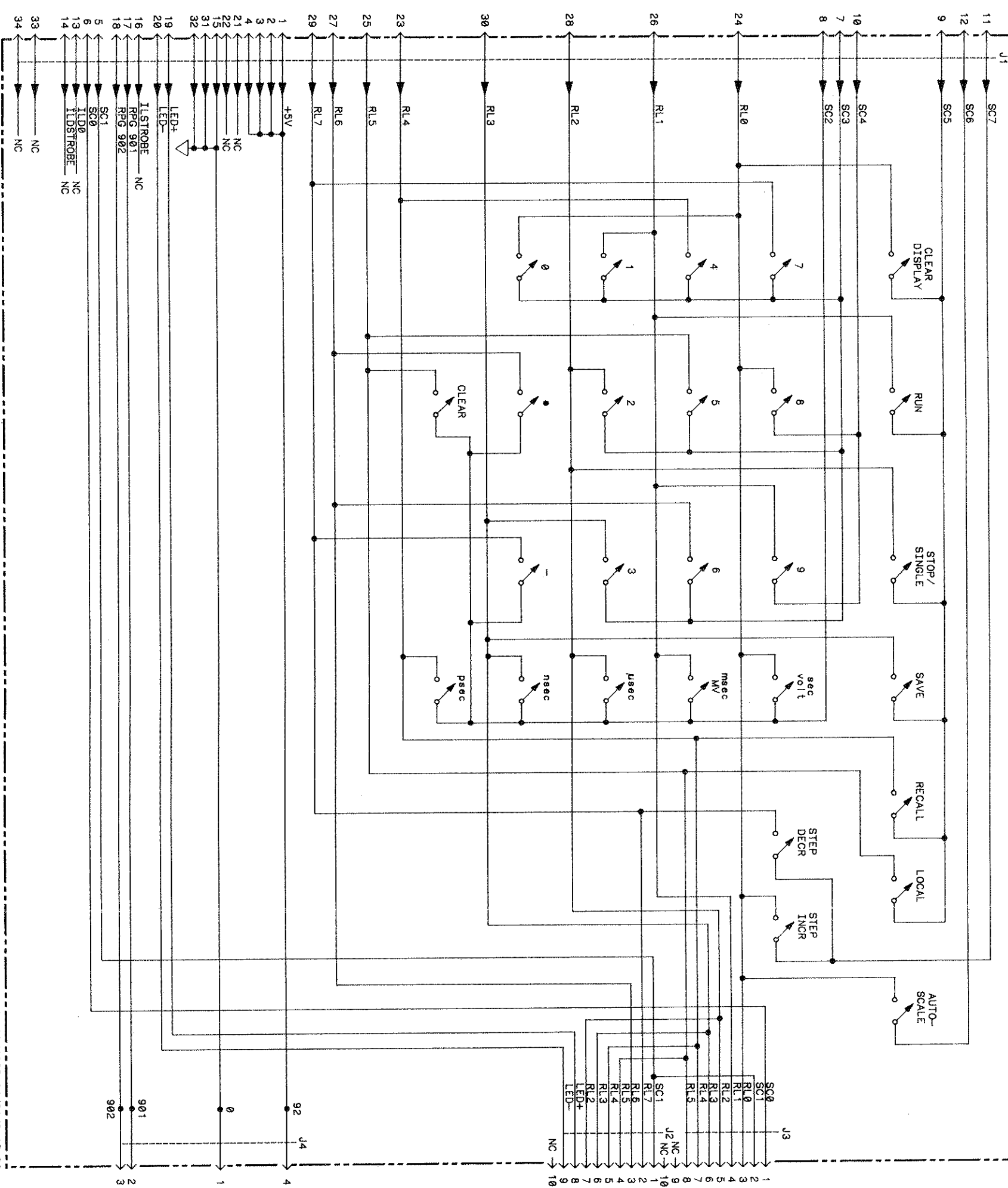
Display Control 54111-66514

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
H1	2950-0071	2	2	NUT-HEX 1/4-32	00000	ORDER BY DESCRIPTION
H2	2190-0060	7	2	WASHER-INT LCK 0.25IN-ID 0.4IN-OD	00000	ORDER BY DESCRIPTION
J1	1251-4837	3	1	CONN-POST TYPE 2.5-PIN-SPCG 4-CONT	28480	1251-4837
R1	2100-4119	6	2	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119
R2	2100-4119	6	6	RESISTOR-VAR CONTROL CP 10K 10% LIN	28480	2100-4119

Display Control 54110-66509

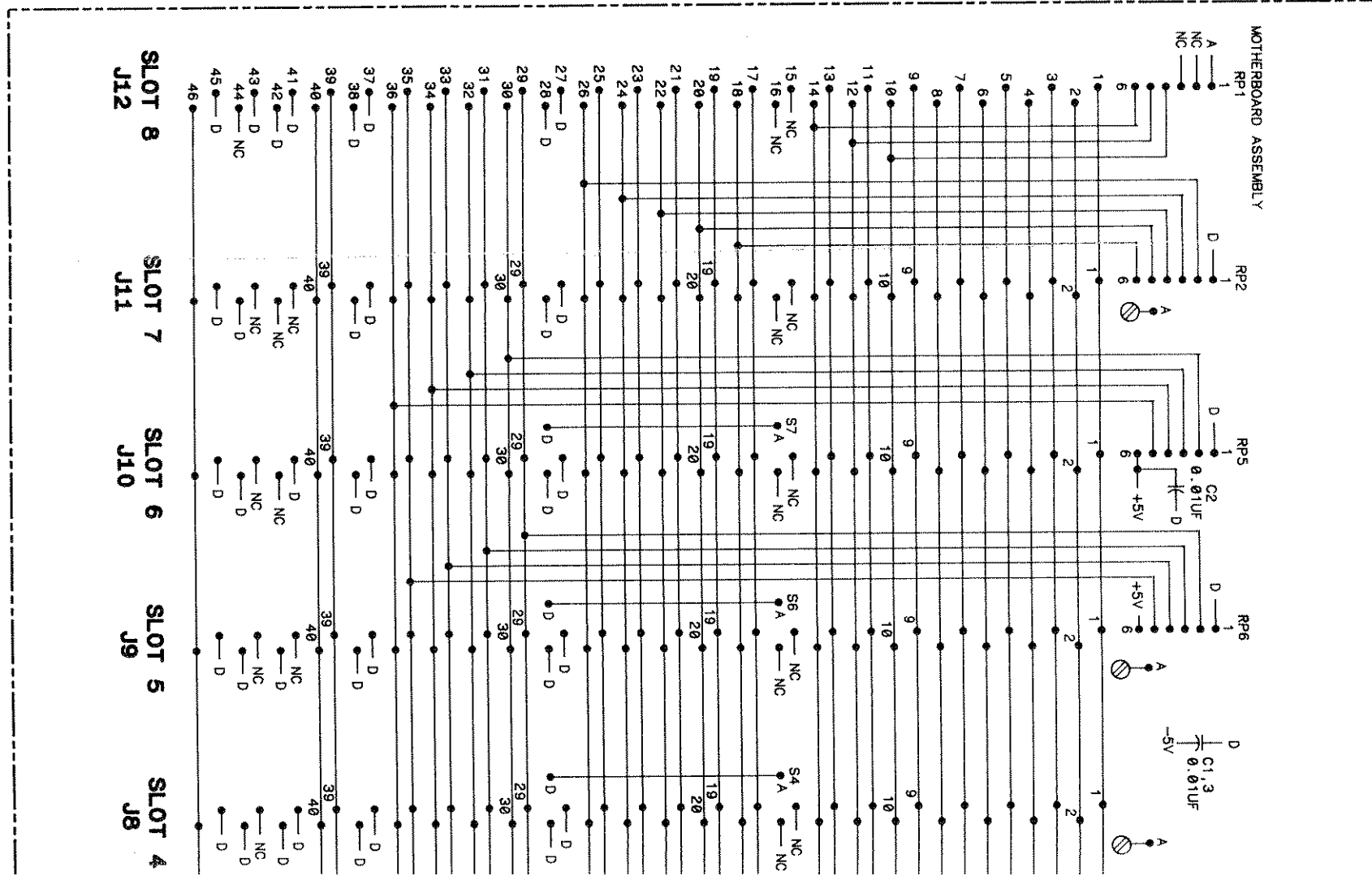
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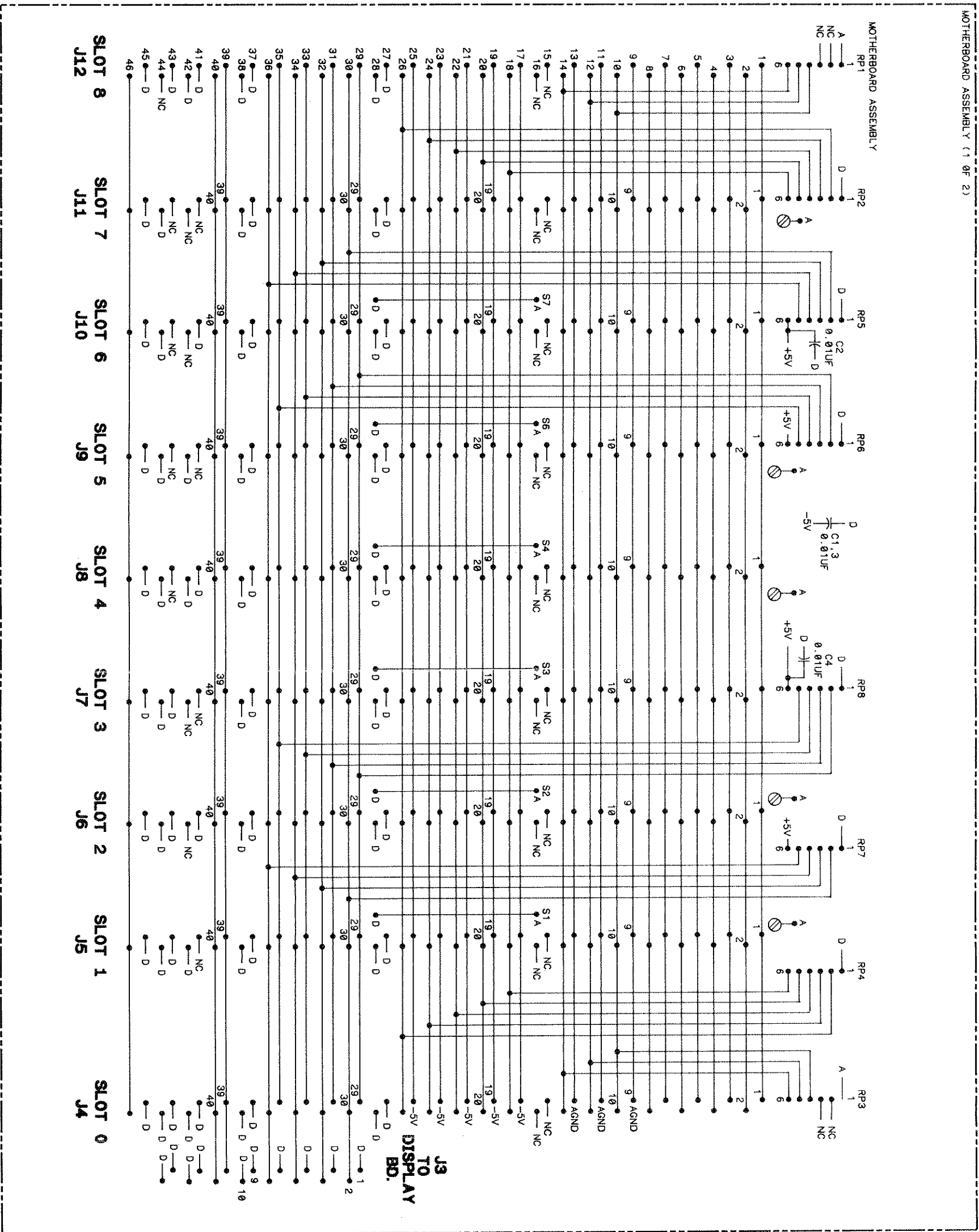
CONTROL KEYBOARD



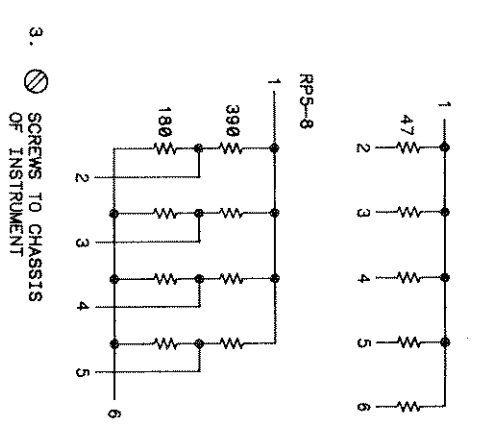
54100/SC05-01/01/9-15-86
54100-66505

MOTHERBOARD ASSEMBLY (1 OF 2)





- NOTES:**
1. A IS TO ANALOG GROUND
 2. D IS TO DIGITAL GROUND

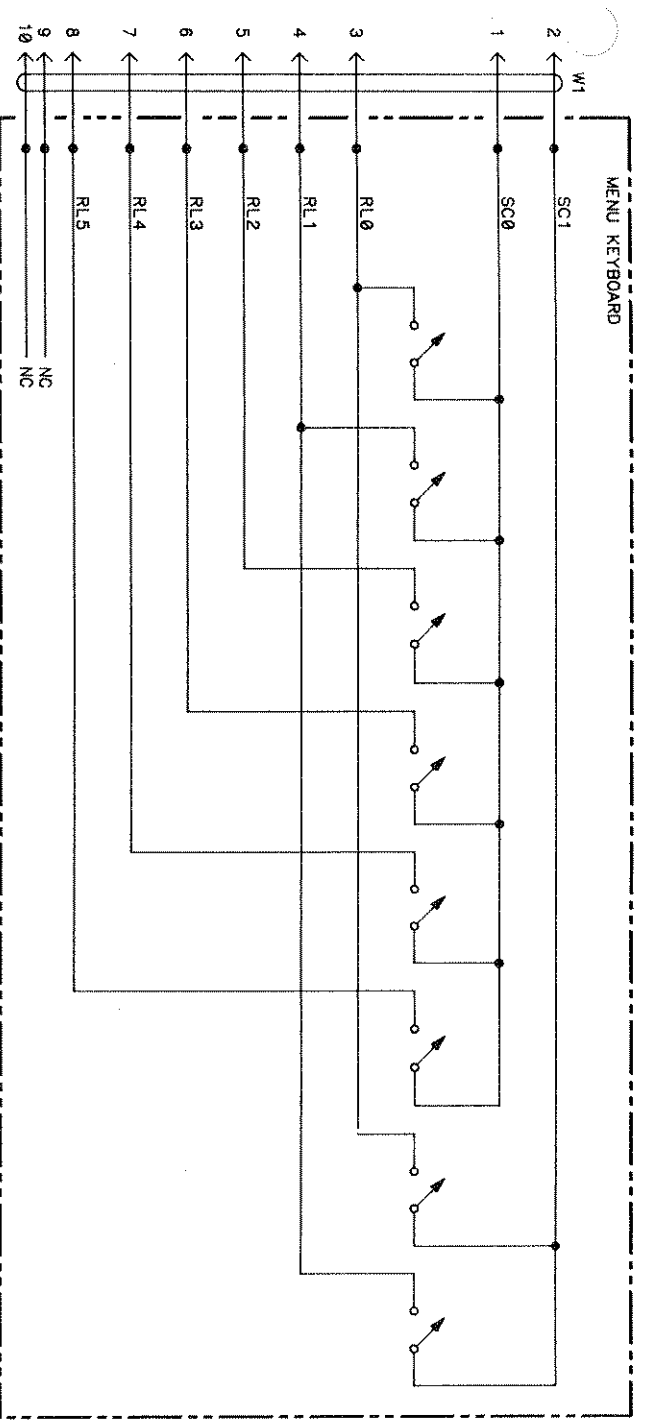


3. SCREWS TO CHASSIS OF INSTRUMENT

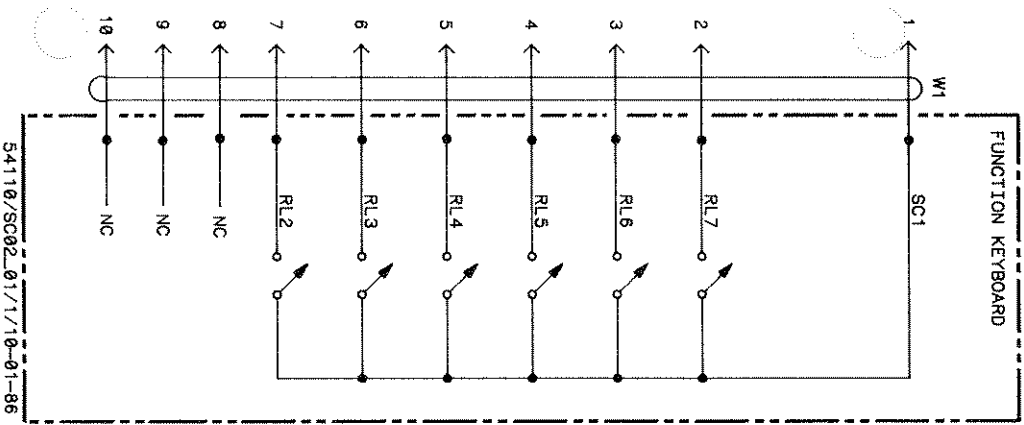
PARTS ON THIS SCHEMATIC

- C1-4
- P/O J3-12
- RP1-8
- 54110/SC11_01/02/4-87

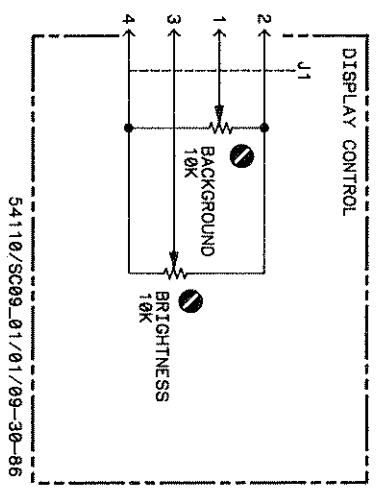
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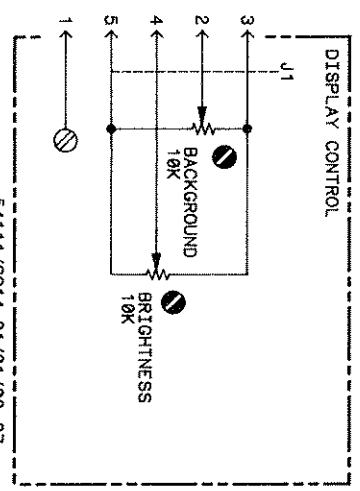
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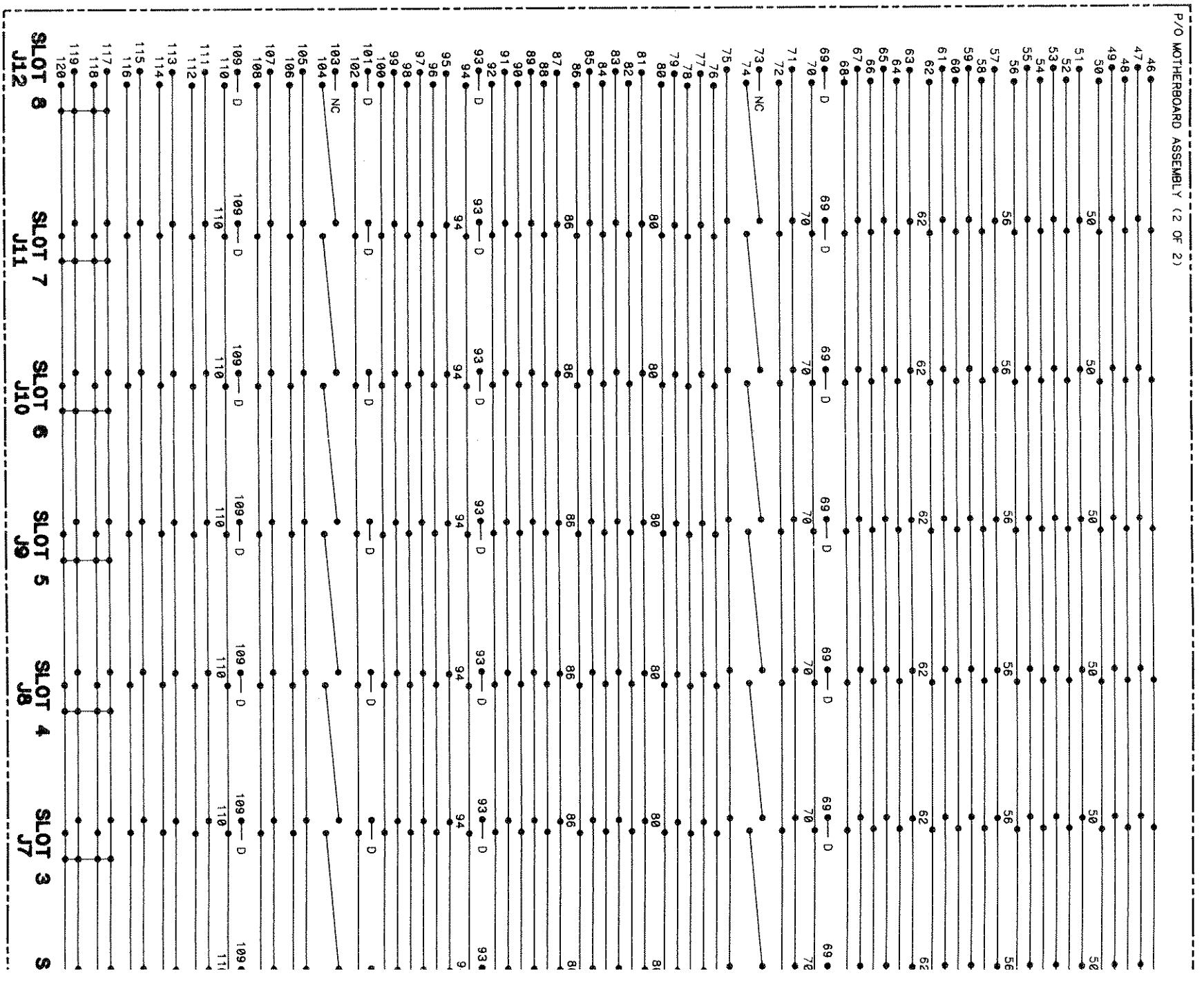
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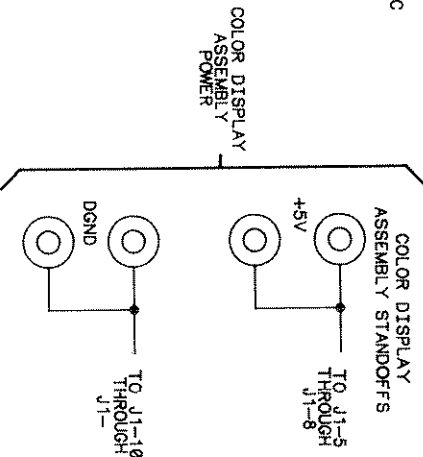
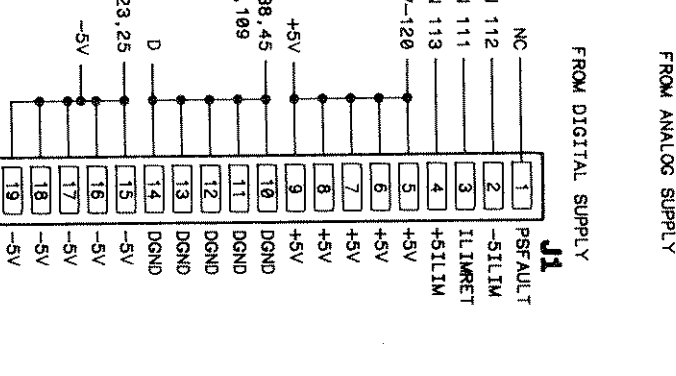
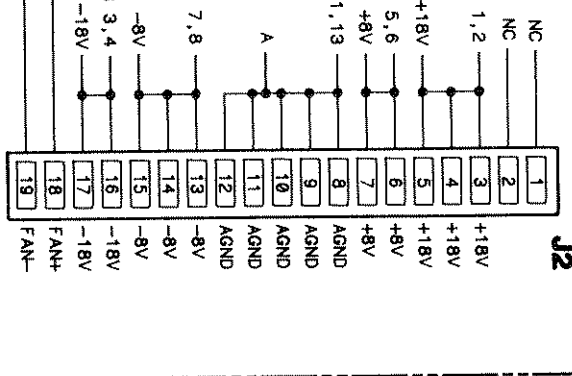
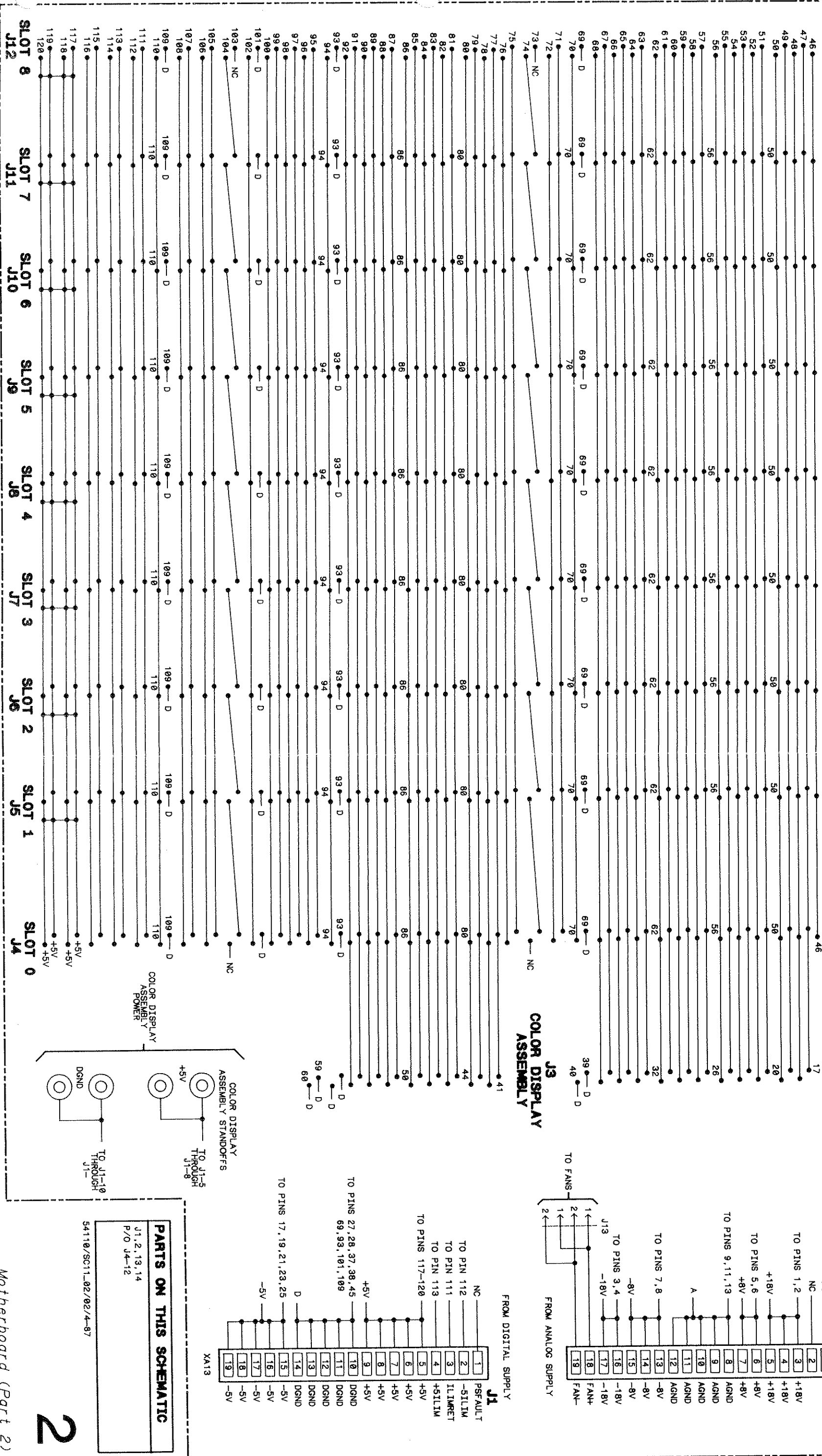


FOR: 5411D
54120A/D
54110-66509



DISPLAY CONTROL
FOR: 54112D
54111-66514





PARTS ON THIS SCHEMATIC

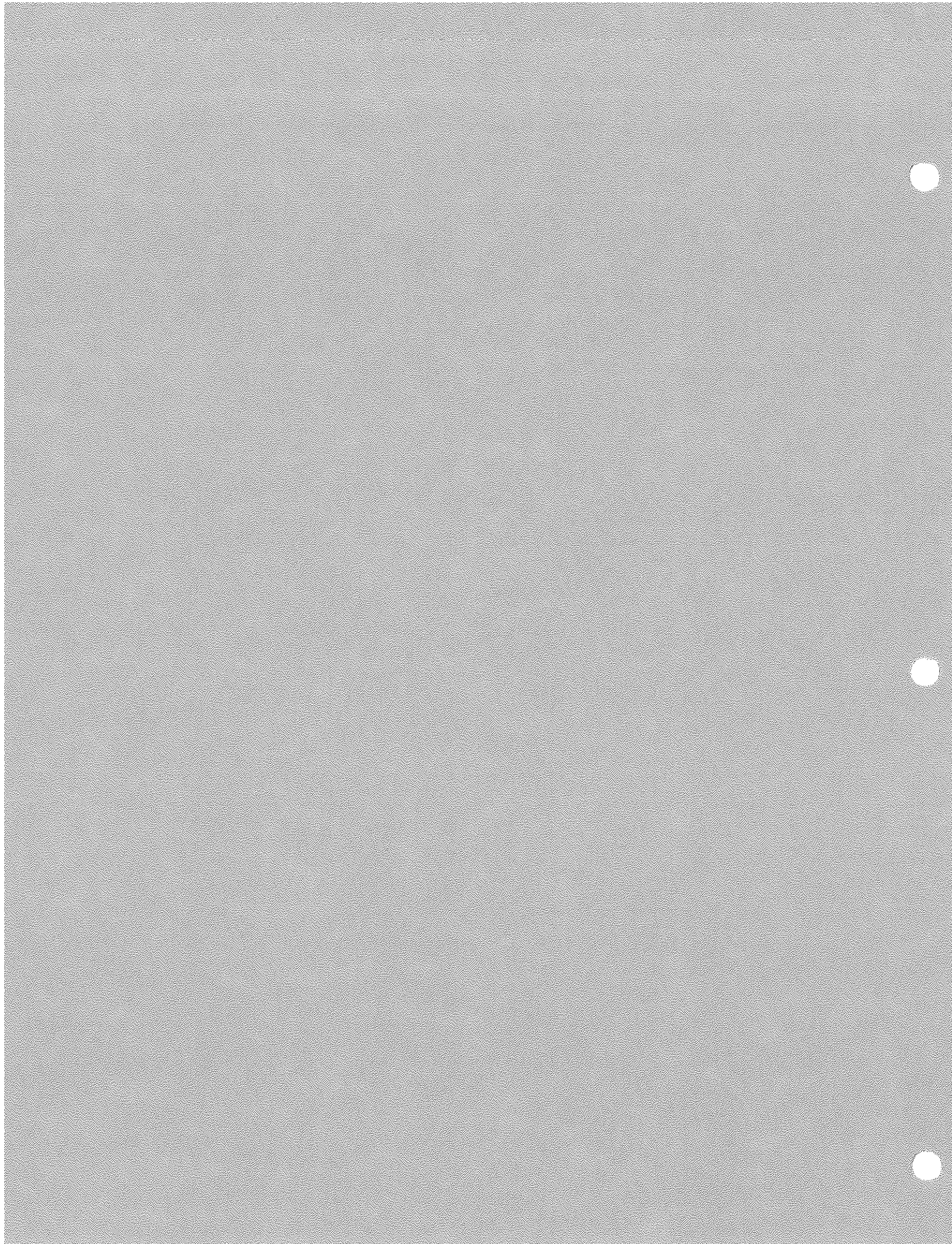
J1,2,13,14
P/O J4-12

2

Motherboard (Part 2)

54110-66511

54110/SC11-02/02/4-97





Component-Level Information Packet for HP 54112D ADC Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Contents

This packet consists of the following information:

- Parts list
- Changes
- Component locator
- Schematics – four schematics on two large sheets

HP 54112D
Service Manual Supplement

ADC Assembly

Reference	Designator	Mtr Part	Number	CD	Qty	Description	Mtr Code	Number
C1	0160-6500	28480	0.01UF +-10% 100VDC CER	7	64	CAPACITOR-FXD	28480	0160-6500
C2	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C3	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C4	NOT ASSIGNED							
C5	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C6	0180-3831	28480	10UF+-10% 35VDC TA	3	12	CAPACITOR-FXD	28480	0180-3831
C7	0160-6623	28480	0.1UF +-20% 50VDC CER	5	12	CAPACITOR-FXD	28480	0160-6623
C8	0160-4801	28480	100PF +-5% 100VDC CER	7	5	CAPACITOR-FXD	28480	0160-4801
C9	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C10	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C11	0160-4786	28480	27PF +-5% 100VDC CER 0+-30	7	1	CAPACITOR-FXD	28480	0160-4786
C12	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C13	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C14	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C15	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C16	0160-5469	28480	1UF +-10% 50VDC MET-POLYE	5	1	CAPACITOR-FXD	28480	0160-5469
C17	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C18	0160-4574	28480	1000PF +-10% 100VDC CER	1	2	CAPACITOR-FXD	28480	0160-4574
C19	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C20	0180-3848	28480	33UF+-10% 16VDC TA	2	2	CAPACITOR-FXD	28480	0180-3848
C21	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C22	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C23	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C24	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C25	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C26	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C27	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C28	0160-4801	28480	100PF +-5% 100VDC CER	7		CAPACITOR-FXD	28480	0160-4801
C29	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C30	0180-3831	28480	10UF+-10% 35VDC TA	3		CAPACITOR-FXD	28480	0180-3831
C31	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C32	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C33	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C34	0160-4801	28480	100PF +-5% 100VDC CER	7		CAPACITOR-FXD	28480	0160-4801
C35	0180-3831	28480	10UF+-10% 35VDC TA	3		CAPACITOR-FXD	28480	0180-3831
C36	0160-4801	28480	100PF +-5% 100VDC CER	7		CAPACITOR-FXD	28480	0160-4801
C37	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C38	0180-3831	28480	10UF+-10% 35VDC TA	3		CAPACITOR-FXD	28480	0180-3831
C39	0160-4886	28480	13PF +-2% 200VDC CER 0+-30	8	2	CAPACITOR-FXD	28480	0160-4886
C40	0160-3873	28480	4.7PF +-0.5PF 200VDC CER	1	1	CAPACITOR-FXD	28480	0160-3873
C41	0160-4886	28480	13PF +-2% 200VDC CER 0+-30	8		CAPACITOR-FXD	28480	0160-4886
C42	0160-4574	28480	1000PF +-10% 100VDC CER	1		CAPACITOR-FXD	28480	0160-4574
C43	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C44	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C45	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C46	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C47	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C48	0160-6623	28480	0.1UF +-20% 50VDC CER	5		CAPACITOR-FXD	28480	0160-6623
C49	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C50	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C51	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C52	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500
C53	0160-6500	28480	0.01UF +-10% 100VDC CER	7		CAPACITOR-FXD	28480	0160-6500

Reference	Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
C54		0180-3848		2	CAPACITOR-FXD 33UF+-10% 16VDC TA	28480	0180-3848
C55		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C57		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C58		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C59		0160-4801		7	CAPACITOR-FXD 100PF +-5% 100VDC CER	28480	0160-4801
C60		0160-6623		5	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C61		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C62		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64		0180-3784		5	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C65		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C70		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C73		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74		0160-6623		5	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C75		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77		0180-3784		5	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C78		0180-3784		5	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C79		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80		0160-6623		5	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C81		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87		0160-6623		5	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C88		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C89		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C90		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C91		0160-6500		7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C92		0180-3771		0	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C93		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C94		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C95		0180-3771		0	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C96		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C97		0180-3771		0	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C98		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C99		0180-3770		9	CAPACITOR-FXD 2.2UF+-10% 35VDC TA	28480	0180-3770
C100		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C101		0180-3770		9	CAPACITOR-FXD 2.2UF+-10% 35VDC TA	28480	0180-3770
C102		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C103		0180-3771		0	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771
C104		0180-3831		3	CAPACITOR-FXD 10UF+-10% 35VDC TA	28480	0180-3831
C105		0180-3771		0	CAPACITOR-FXD 1UF+-10% 35VDC TA	28480	0180-3771

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Reference	HP Part	CD	Qty	Description	Mtr Code	Mtr Part
C106	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C107	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C108	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C109	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C110	0180-3784	5	5	CAPACITOR-FXD 22UF+-20% 25VDC TA	28480	0180-3784
C111	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C112	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C113	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C114	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C115	0160-4795	8	1	CAPACITOR-FXD 4.7PF +-5PF 100VDC CER	28480	0160-4795
CR1	1901-0050	3	21	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR2	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR3	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR4	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR5	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR6	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR7	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1901-1081	2	2	DIODE-PWR RECT 100V 3A	04713	MR501
CR9	1901-1081	2	2	DIODE-PWR RECT 100V 3A	04713	MR501
CR10	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR16	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR17	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR18	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR19	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR20	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR21	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR22	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR23	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
J1	NOT ASSIGNED					
J2	1251-5971	8	1	CONN-POST TYPE 2.5-PIN-SPCG 3-CONT	28480	1251-5971
J3	1251-8347	8	1	CONN-POST TYPE 0.100-PIN-SPCG 26-CONT	28480	1251-8347
J4	1252-1707	2	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1707
J5	1252-1920	1	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1920
J6	1250-2201	9	1	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-2201
L1	9135-0071	1	1	INDUCTOR RF-CH-MLD 62NH +-5.806%	28480	9135-0071
L2	NOT ASSIGNED					
L3	9140-1227	2	1	INDUCTOR 1MH +-10%	28480	9140-1227
L4	5081-7682	5	5	CHOKERF	28480	5081-7682
L5	5081-7682	5	5	CHOKERF	28480	5081-7682
L6	5081-7682	5	5	CHOKERF	28480	5081-7682
L7	5081-7682	5	5	CHOKERF	28480	5081-7682
L8	5081-7682	5	5	CHOKERF	28480	5081-7682
L9	5081-7682	5	5	CHOKERF	28480	5081-7682
L10	5081-7682	5	5	CHOKERF	28480	5081-7682
L11	5081-7682	5	5	CHOKERF	28480	5081-7682
L12	5081-7682	5	5	CHOKERF	28480	5081-7682

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Reference	HP Part Number	CD	Qty	Description	MFR Code	MFR Part Number
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1-3	1854-0591	6	1	TRANSISTOR NPN SI PD=180MW FT=4GHZ	04713	BFR90
Q5	1854-0092	2	1	TRANSISTOR NPN SI PD=200MW FT=600MHZ	28480	1854-0092
R1	0757-0280	3	4	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R2	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R3	0757-0465	6	4	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1003-F
R4	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1003-F
R5	0757-0394	0	4	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-51R1-F
R6	0757-0394	0	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-51R1-F
R7	0698-7528	0	1	RESISTOR 375K 0.1% 0.125W TF TC=0+-50	19701	5033R-1/8-T2-3753-B
R8	0698-4511	5	1	RESISTOR 86.6K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-8662-F
R9	0757-0394	0	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-51R1-F
R10	0757-0394	0	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-51R1-F
R11	0698-3430	5	1	RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R12	0698-3438	3	3	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-147R-F
R13	0698-3438	3	3	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-147R-F
R14	0757-0440	7	1	RESISTOR 7.5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-7501-F
R15	0698-3156	2	1	RESISTOR 14.7K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1472-F
R16	NOT ASSIGNED					
R17	0757-0276	7	2	RESISTOR 61.9 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-6192-F
R18	0757-0276	7	7	RESISTOR 61.9 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-6192-F
R19	0757-0401	0	4	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-101-F
R20	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-101-F
R21	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1003-F
R22	0698-5437	6	1	RESISTOR 12K 0.1% 0.125W TF TC=0+-50	28480	0698-5437
R23	0698-3136	8	1	RESISTOR 17.8K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1782-F
R24	0698-3271	2	1	RESISTOR 115K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1153-F
R25	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F
R26	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1003-F
R27	0698-4158	6	1	RESISTOR 100K 0.1% 0.125W TF TC=0+-50	28480	0698-4158
R28	0698-3158	4	1	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-2372-F
R29	0757-0441	8	1	RESISTOR 8.25K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-8251-F
R30	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1002-F
R31	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1002-F
R32	0698-4002	9	1	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-5001-F
R33	0698-7529	1	1	RESISTOR 150K 0.1% 0.125W TF TC=0+-50	19701	5033R-1/8-T2-1503-B
R34	0698-8958	2	1	RESISTOR 511K 1% 0.125W TF TC=0+-100	28480	0698-8958
R35	NOT ASSIGNED					
R36	0683-1025	9	1	RESISTOR 1K 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-1K
R37	0757-0407	6	8	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R38	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R39	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R40	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R41	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R42	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1002-F
R43	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R44	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1002-F
R45	0757-0407	6	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-201-F
R46	0698-3155	1	2	RESISTOR 4.64K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-4641-F
R47	0698-8961	7	1	RESISTOR 909K 1% 0.125W TF TC=0+-100	28480	0698-8961
R48	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-T0-1001-F

Reference	HP Part Number	CD Qty	Description	Mfr Code	Mtr Part Number
R49	0698-3155	1	RESISTOR 4.64K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-4641-F
R50	8159-0005	0	RESISTOR ZERO-OHMS	28480	8159-0005
R51	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R52	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R53	0757-0408	7	RESISTOR 243 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-243R-F
R54	0698-3438	3	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-147R-F
R55	0757-0442	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1002-F
R56	0757-0429	2	RESISTOR 1.82K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1821-F
R57	0811-1666	7	RESISTOR 1 5% 2W TF TC=0+-800	28480	0811-1666
R58	2100-3161	6	RESISTOR-TRMR 20K 10% TKF SIDE-ADJ	32997	3006P-1-203
R59	NOT ASSIGNED				
R60	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-201-F
R61	0698-4367	9	RESISTOR 20.5 1% 0.125W TF TC=0+-100	28480	0698-4367
RP1	1810-0411	7	NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP2	1810-0124	9	NETWORK-RES 16-DIP 200.0 OHM X 8	28480	1810-0124
RP3	1810-0411	7	NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP4	1810-0411	7	NETWORK-RES 10-SIP 50.0 OHM X 9	28480	1810-0411
RP5	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP6	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
U1	1826-0635	0	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U2	1826-1379	1	D/A 8-DGT 20-PLASTIC CMOS	24355	AD7226KN
U3	1826-0635	0	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U4	1826-1246	1	D/A 12-BIT 28-CERDIP BPLR	24355	AD667AD
U5	1820-4685	6	IC FF ECL D-M/S POS-EDGE-TRIG COM CLOCK	52648	SP9131DG
U6	1820-1298	1	IC MUXR/DATA-SEL TTL LS 8-T0-1-LINE	01295	SN74LS251N
U7	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U8	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U9	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U10	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U11	1820-1298	1	IC MUXR/DATA-SEL TTL LS 8-T0-1-LINE	01295	SN74LS251N
U12	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U13	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U14	1826-1381	5	IC OP AMP LOW-BIAS-H-IMPD 8-DIP-P PKG	00000	LT1012CN8
U15	1826-1246	1	D/A 12-BIT 28-CERDIP BPLR	24355	AD667AD
U16	1820-2715	9	IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U17	1820-2715	9	IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U18	1820-2715	9	IC-INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U19	1826-0890	9	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U20	1N87-8094	5	IC HYBRID ANALOG-TO-DIGITAL CONVERTER	28480	1N87-8094
U21	1820-1199	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U22	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U23	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U24	1820-1941	1	ANALOG SWITCH 4 SPST 16-DIP-P	27014	LF13201N
U25	1820-3124	6	IC XLTR ECL TTL-T0-ECL QUAD	04713	MC10124P
U26	1820-1298	1	IC MUXR/DATA-SEL TTL LS 8-T0-1-LINE	01295	SN74LS251N
U27	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U28	1818-4016	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U29	1826-0635	0	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP
U30	1826-0635	0	IC OP AMP LOW-OFS 8-DIP-P PKG	06665	OP-07CP

Reference	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
U31	1820-4152	2	2	IC FF CMOS/74HC D-TYPE POS-EDGE-TRIG COM	01295	SN74HCT574N
U32	1820-3670	7	1	IC GATE CMOS/74HC NAND 13-1NP	04713	MC74HC133N
U33	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U34	1820-4142	0	1	IC BFR TTL AS NAND QUAD 2-1NP	01295	SN74AS1000AN
U35	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U36	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U37	NOT ASSIGNED					
U38	1820-4152	2	2	IC FF CMOS/74HC D-TYPE POS-EDGE-TRIG COM	01295	SN74HCT574N
U39	1820-3664	9	1	IC GATE CMOS/74HC NAND QUAD 2-1NP	18324	74HCT00N
U40	1820-1298	1	1	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U41	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U42	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U43	1826-0175	3	1	IC COMPARATOR GP DUAL 14-DIP-P PKG	27014	LM319N
U44	1820-2711	5	4	IC DRIVER TTL LS LINE DRVR OCTL	01295	SN74LS541N
U45	1820-4944	0	1	IC GATE-ARRAY ECL	34335	AMD3550GC
U46	1820-1211	8	2	IC GATE TTL LS EXCL-OR QUAD 2-1NP	01295	SN74LS86AN
U47	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U48	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U49	1820-0495	8	1	IC DCDR TTL 4-TO-16-LINE 4-1NP	01295	SN74154N
U50	1820-1298	1	1	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U51	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U52	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U53	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-1NP	01295	SN74LS32N
U54	1820-2711	5	5	IC DRIVER TTL LS LINE DRVR OCTL	01295	SN74LS541N
U55	1820-1211	8	8	IC GATE TTL LS EXCL-OR QUAD 2-1NP	01295	SN74LS86AN
U56	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U57	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U58	1826-0635	0	1	IC OP AMP LOW-OPS 8-DIP-P PKG	06665	OP-07CP
U59	1820-1246	9	1	IC GATE TTL LS AND QUAD 2-1NP	01295	SN74LS09N
U60	1820-2711	5	5	IC DRIVER TTL LS LINE DRVR OCTL	01295	SN74LS541N
U61	1820-2711	5	5	IC DRIVER TTL LS LINE DRVR OCTL	01295	SN74LS541N
U62	1820-1199	1	1	IC INV TTL LS HEX 1-1NP	01295	SN74LS04N
U63	1820-1298	1	1	IC MUXR/DATA-SEL TTL LS 8-TO-1-LINE	01295	SN74LS251N
U64	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U65	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U66	1826-0393	7	1	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U67	1826-0147	9	1	IC V RGLTR-FXD-POS 11.5/12.5V TO-220 PKG	04713	UA7812UC
U68	1826-0106	0	1	IC V RGLTR-FXD-POS 14.4/15.6V TO-220 PKG	04713	MC7815CT
U69	1826-0214	1	1	IC V RGLTR-FXD-NEG 14.4/15.6V TO-220 PKG	50545	UPC7915H
U70	1826-0294	7	1	IC V RGLTR-FXD-NEG 4.8/5.2V TO-220 PKG	04713	MC7905CT
U71	1826-0527	9	1	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U72	1826-0122	0	1	IC V RGLTR-FXD-POS 4.8/5.2V TO-220 PKG	04713	MC7805CT
U73	1820-1195	7	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U74	1820-1419	8	1	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U75	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U76	1820-2075	4	4	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74LS245N
U77	1820-1244	7	1	IC MUXR/DATA-SEL TTL LS 4-TO-1-LINE DUAL	01295	SN74LS153N
U78	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U79	1818-4016	2	2	IC CMOS 16384 (16K) STAT RAM 25-NS 3-S	00000	CY7C168-25PC
U80	1826-1099	2	1	IC V RGLTR-ADJ-NEG TO-92 PKG	27014	LM337LZ

CHANGE 1, FOR 54112-66503

Schematic 1

A capacitor was changed to optimize performance. There was no change in the part number of the assembly.

HP PART NUMBER	CD NUMBER	DESCRIPTION	MFR PART NUMBER
0180-3770	9	CAPACITOR-FXD 2.2UF +-10%	28480 0180-3770

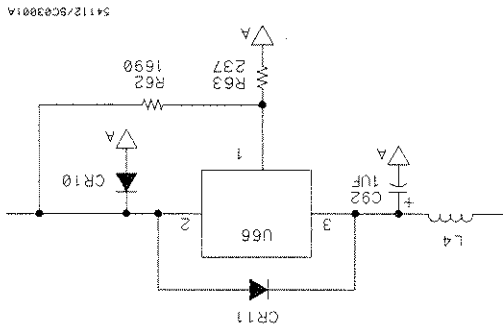
CHANGE 2, FOR 54112-66504

Schematics 1 and 4

The reference voltage of a voltage regulator was changed to correct an oscillation problem. The diagram shows the circuitry changed on schematic 1. In addition, on schematic 4, this change eliminates the +10VREF connection from U15 (lower left corner) to schematic 1.

DELETE: C91 and U58

HP PART NUMBER	CD NUMBER	DESCRIPTION	MFR PART NUMBER
0698-4228	1	RESISTOR 1.69K 1% 0.125W	28480 0698-4228
0698-3442	9	RESISTOR 237 1% 0.125W	24546 CT4-1/8-T0-237R-F



CHANGE 3, FOR 54112-66504

Schematic 4

To optimize the self-calibration routines, a resistor was changed in the offset circuitry. The new part is preferred, and should be used to replace the old part if there is a vertical calibration failure or if the attenuator is replaced.

HP PART NUMBER	CD NUMBER	DESCRIPTION	MFR PART NUMBER
0757-0466	7	RESISTOR 110K 1% 0.125W	28480 0757-0466

CHANGE 4, FOR 54112-66504

Schematic 1

The raw PC board was changed to solve minor manufacturing issues. The only significant change was the elimination of R50, a 0 Ω resistor.

Schematic 1

A change was made to optimize performance of the decelerator, U45. Two diodes, in a supply line, were replaced with 0.5 resistors.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
R64	0	RESISTOR ZERO-OHMS	28480	8159-0005
R65	0	RESISTOR ZERO-OHMS	28480	8159-0005

CHANGE CR8 and CR9 to:

Schematic 4

A part change was made to correct false indications of input overload.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
C74 to 0160-4802	8	CAPACITOR-FXD 82PF 100V	28480	0160-4802
R47 to 0757-0280	3	RESISTOR 1K 1% 0.125W	24546	CT4-1/8-T0-1001-F

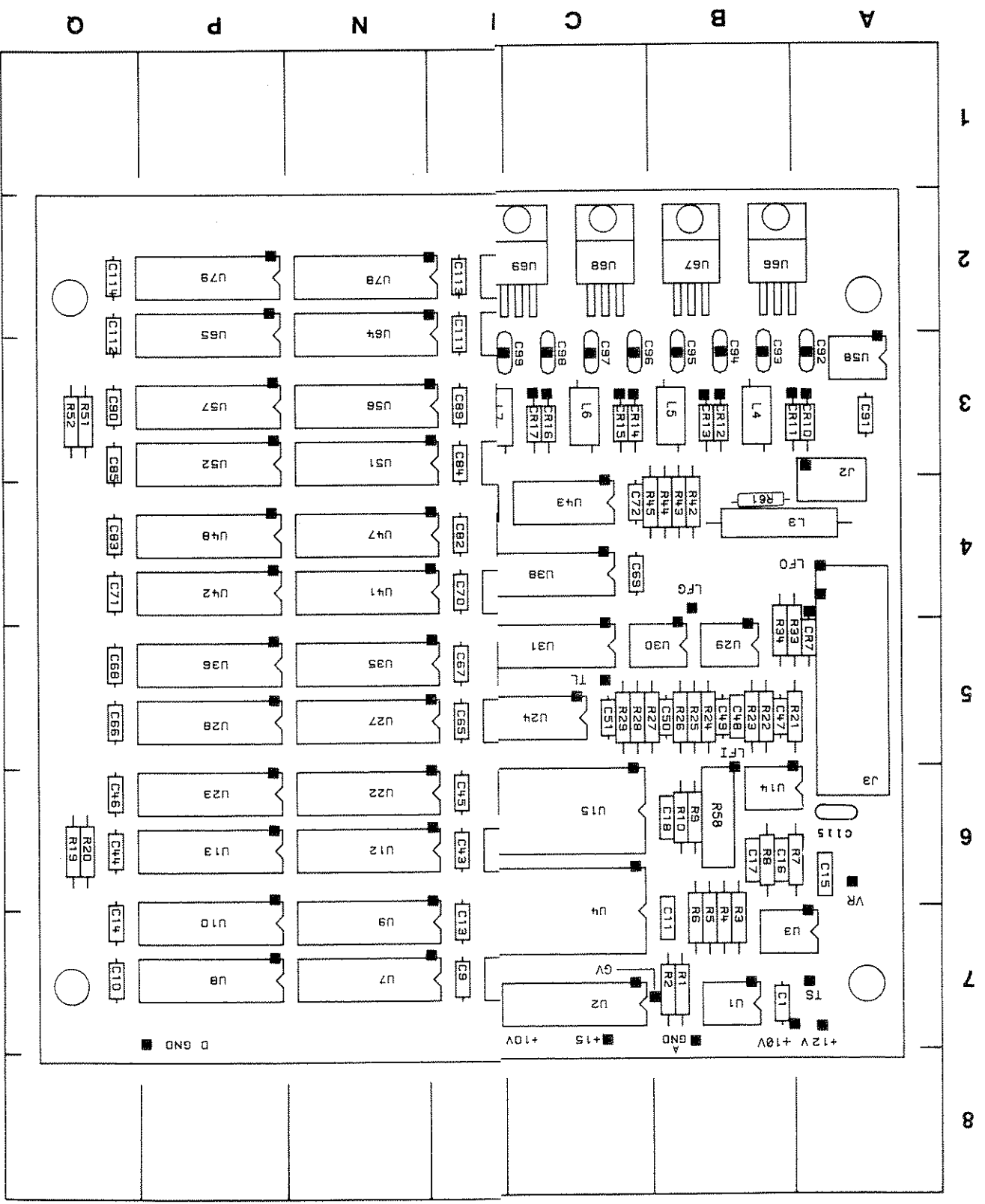
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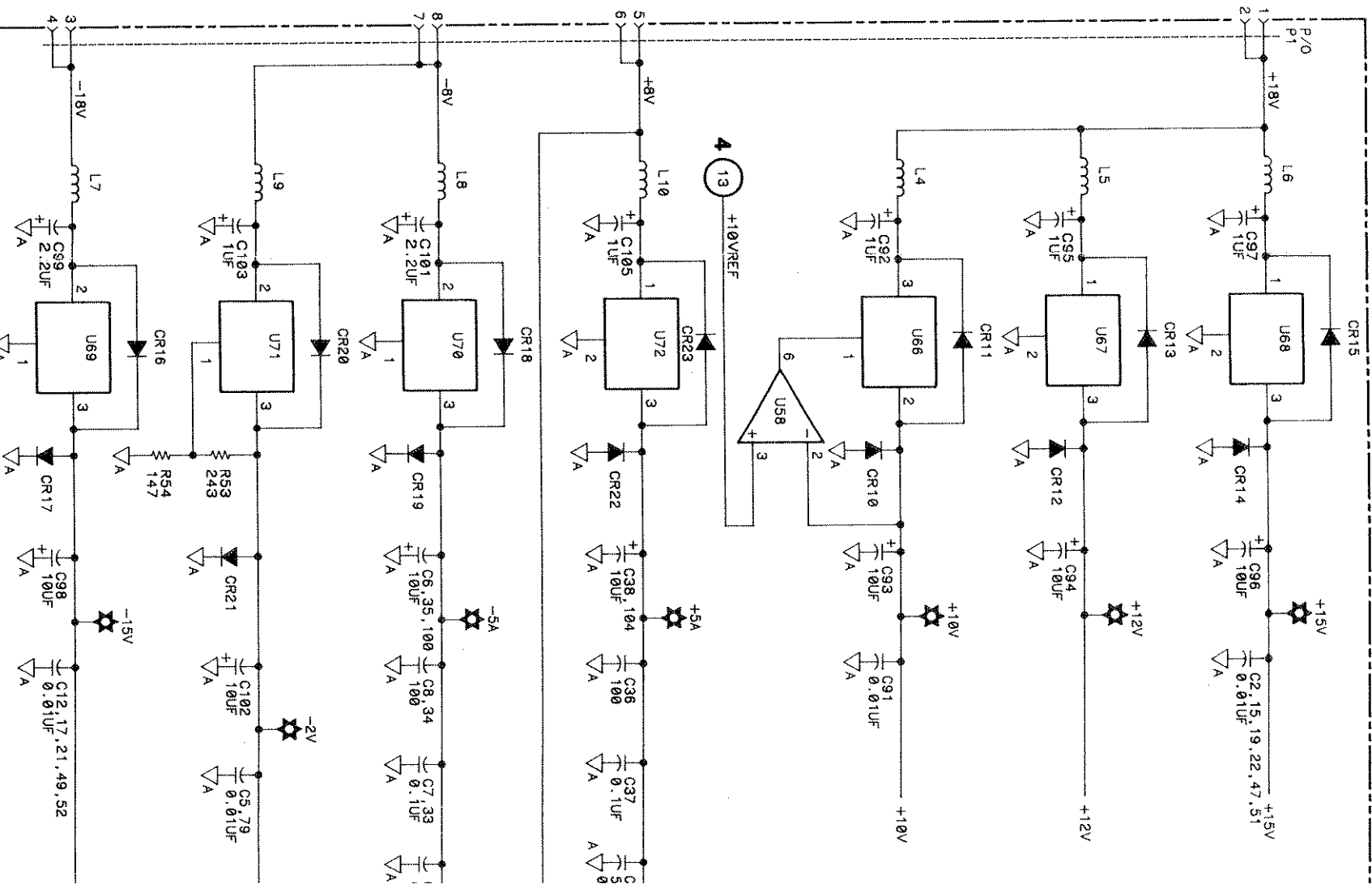
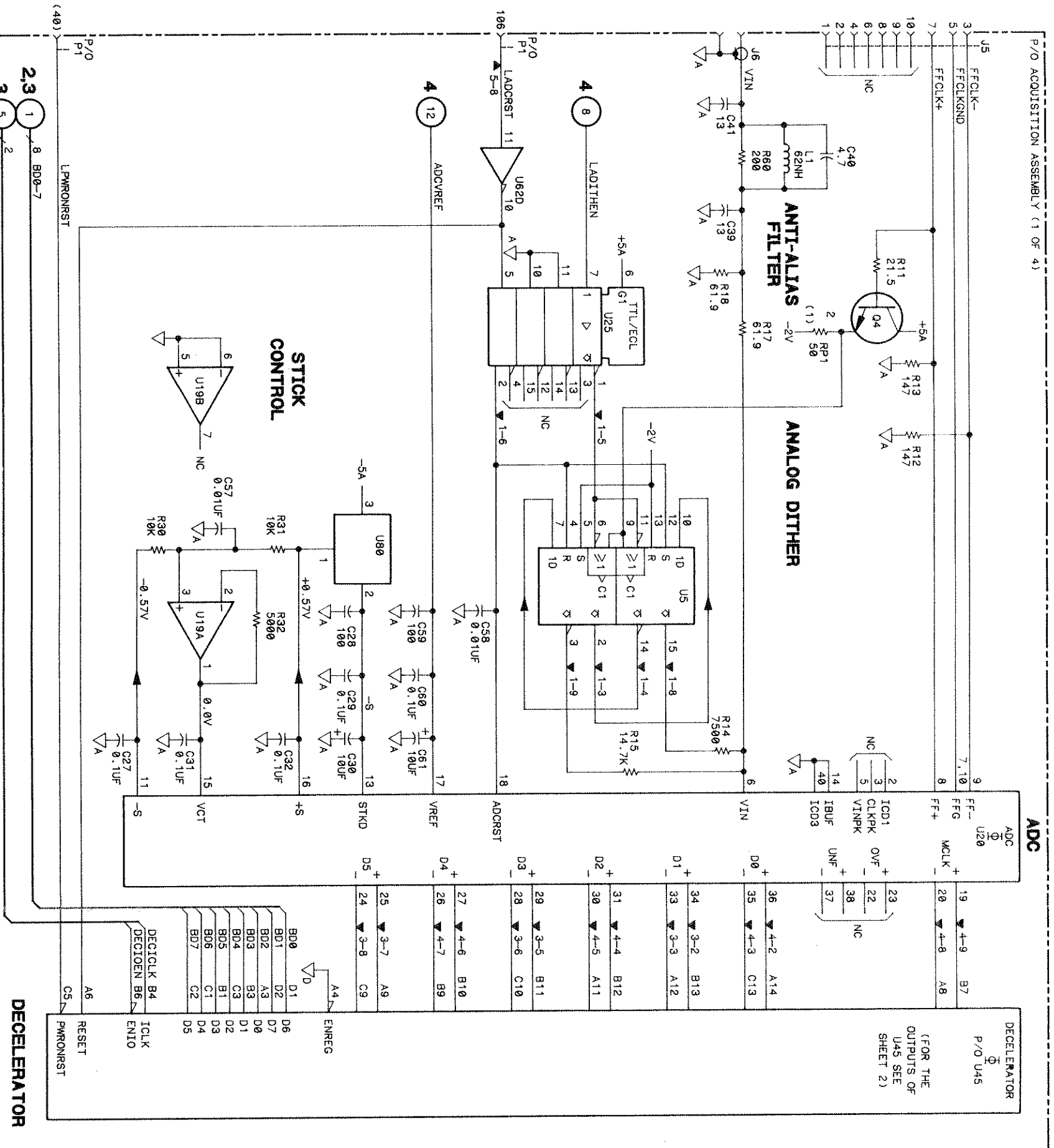
ADC Assembly

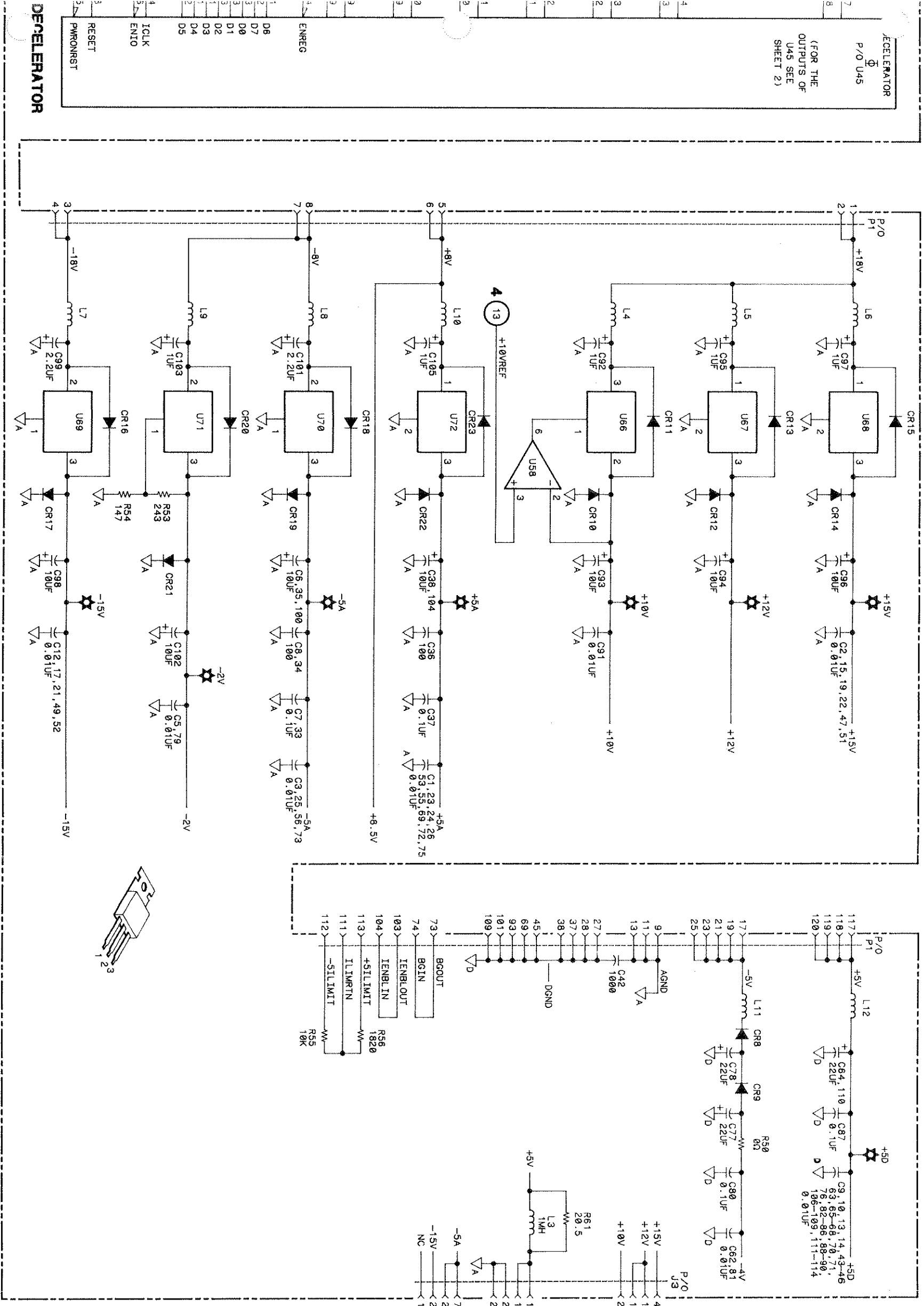
HP 54112D
Service Manual Supplement

REF	DES	LOC	C1	B-7	C42	L-5	C82	M-4	CR6	CR7	A-5	F-6	Q5	Q5	R41	R41	F-4	U3	U3	U44	F-4	F-4
REF	DES	LOC	C2	D-7	C43	M-6	C83	Q-4	CR7	CR8	M-3	Q-4	CR7	A-5	R1	R2	B-7	U4	U4	U45	B-4	B-4
REF	DES	LOC	C3	D-7	C44	Q-6	C84	M-3	CR8	CR9	F-4	Q-3	CR8	M-3	R1	R2	B-7	U5	U5	U46	H-7	H-7
REF	DES	LOC	C5	G-7	C45	M-6	C85	Q-3	CR9	CR10	A-3	Q-3	CR9	F-4	R2	R2	B-7	U6	U6	U47	M-7	M-7
REF	DES	LOC	C6	G-7	C46	Q-6	C86	J-3	CR10	CR11	A-3	Q-3	CR10	A-3	R3	R3	B-7	U7	U7	U48	N-7	N-7
REF	DES	LOC	C7	G-7	C47	B-5	C87	J-3	CR11	CR12	K-3	M-3	CR11	A-3	R4	R4	B-7	U8	U8	U49	P-7	P-7
REF	DES	LOC	C8	G-7	C48	B-5	C88	K-3	CR12	CR13	B-3	M-3	CR12	B-3	R5	R5	B-7	U9	U9	U50	N-7	N-7
REF	DES	LOC	C9	M-7	C49	B-5	C89	M-3	CR13	CR14	C-3	M-3	CR13	B-3	R6	R6	B-7	U10	U10	U51	P-7	P-7
REF	DES	LOC	C10	Q-7	C50	B-5	C90	Q-3	CR14	CR15	A-3	Q-3	CR14	C-3	R7	R7	A-6	U11	U11	U52	M-6	M-6
REF	DES	LOC	C11	B-7	C51	C-5	C91	A-3	CR15	CR16	C-3	C-3	CR15	C-3	R8	R8	B-6	U12	U12	U53	N-6	N-6
REF	DES	LOC	C12	D-7	C52	D-5	C92	A-3	CR16	CR17	C-3	D-5	CR16	C-3	R9	R9	B-6	U13	U13	U54	P-6	P-6
REF	DES	LOC	C13	M-7	C53	D-5	C93	B-3	CR17	CR18	B-3	D-5	CR17	C-3	R10	R10	B-6	U14	U14	U55	B-6	B-6
REF	DES	LOC	C14	Q-7	C54	D-5	C94	B-3	CR18	CR19	B-3	D-5	CR18	B-3	R11	R11	H-6	U15	U15	U56	C-6	C-6
REF	DES	LOC	C15	A-6	C55	E-5	C95	B-3	CR19	CR20	D-3	E-5	CR19	D-3	R12	R12	H-6	U16	U16	U57	E-6	E-6
REF	DES	LOC	C16	B-6	C56	F-5	C96	C-3	CR20	CR21	D-3	F-5	CR20	D-3	R13	R13	H-6	U17	U17	U58	E-6	E-6
REF	DES	LOC	C17	B-6	C57	F-5	C97	C-3	CR21	CR22	D-3	F-5	CR21	D-3	R14	R14	H-6	U18	U18	U59	F-6	F-6
REF	DES	LOC	C18	B-6	C58	G-5	C98	C-3	CR22	CR23	F-3	G-5	CR22	F-3	R15	R15	H-6	U19	U19	U60	G-6	G-6
REF	DES	LOC	C19	D-6	C59	G-5	C99	C-3	CR23		F-3	G-5	CR23	F-3	R17	R17	J-6	U20	U20	U61	H-5	H-5
REF	DES	LOC	C20	D-6	C60	G-5	C100	D-2	D-2		D-2	G-5	C100	D-2	R18	R18	J-6	U21	U21	U62	M-6	M-6
REF	DES	LOC	C21	D-6	C61	G-5	C101	D-3	D-3	J2	A-3	G-5	C101	D-3	R19	R19	Q-6	U22	U22	U63	N-6	N-6
REF	DES	LOC	C22	D-6	C62	J-5	C102	E-2	E-2	J3	A-6	E-2	C102	E-2	R20	R20	Q-6	U23	U23	U64	P-6	P-6
REF	DES	LOC	C23	F-6	C63	J-5	C103	E-3	E-3	J4	E-7	E-3	C103	E-3	R21	R21	A-5	U24	U24	U65	C-5	C-5
REF	DES	LOC	C24	F-6	C64	K-5	C104	E-3	E-3	J5	J-7	E-3	C104	E-3	R22	R22	B-5	U25	U25	U66	F-5	F-5
REF	DES	LOC	C25	G-6	C65	M-5	C105	E-3	E-3	J6	K-7	E-3	C105	E-3	R23	R23	B-5	U26	U26	U67	M-5	M-5
REF	DES	LOC	C26	G-6	C66	Q-5	C106	G-2	G-2	L1	K-6	G-2	C106	G-2	R24	R24	B-5	U27	U27	U68	N-5	N-5
REF	DES	LOC	C27	G-6	C67	M-5	C107	G-2	L1	L1	K-6	G-2	C107	G-2	R25	R25	B-5	U28	U28	U69	P-5	P-5
REF	DES	LOC	C28	G-6	C68	Q-5	C108	J-2	L3	L3	A-4	J-2	C108	Q-5	R26	R26	B-5	U29	U29	U70	B-5	B-5
REF	DES	LOC	C29	G-6	C69	C-4	C109	J-2	L4	L4	B-3	J-2	C109	C-4	R27	R27	B-5	U30	U30	U71	B-5	B-5
REF	DES	LOC	C30	G-6	C70	M-4	C110	K-3	L5	L5	B-3	K-3	C110	M-4	R28	R28	C-5	U31	U31	U72	C-5	C-5
REF	DES	LOC	C31	G-6	C71	Q-4	C111	M-2	L6	L6	C-3	M-2	C111	Q-4	R29	R29	C-5	U32	U32	U73	D-5	D-5
REF	DES	LOC	C32	H-5	C72	C-4	C112	Q-2	L7	L7	D-3	Q-2	C112	C-4	R30	R30	G-6	U33	U33	U74	F-5	F-5
REF	DES	LOC	C33	H-5	C73	D-4	C113	M-2	L8	L8	D-3	M-2	C113	D-4	R31	R31	G-6	U34	U34	U75	M-5	M-5
REF	DES	LOC	C34	J-6	C74	D-4	C114	Q-2	L9	L9	E-3	Q-2	C114	D-4	R32	R32	G-6	U35	U35	U76	N-5	N-5
REF	DES	LOC	C35	J-6	C75	D-4	C115	A-6	L10	L10	E-3	A-6	C115	D-4	R33	R33	A-5	U36	U36	U77	P-5	P-5
REF	DES	LOC	C36	J-6	C76	F-4	CR1	E-6	L11	L11	F-3	F-4	CR1	E-6	R34	R34	B-5	U38	U38	U78	C-4	C-4
REF	DES	LOC	C37	J-6	C77	G-4	CR2	E-6	L12	L12	L-2	G-4	CR2	E-6	R36	R36	E-4	U39	U39	U79	D-4	D-4
REF	DES	LOC	C38	J-6	C78	G-3	CR3	E-6	R37	R37	E-4	G-3	CR3	E-6	R38	R38	F-4	U40	U40	U80	M-4	M-4
REF	DES	LOC	C39	J-6	C79	J-4	CR4	E-6	R39	R39	F-4	J-4	CR4	E-6	R39	R39	F-4	U41	U41	U80	N-4	N-4
REF	DES	LOC	C40	K-6	C80	J-4	CR5	F-6	R40	R40	F-4	J-4	CR5	F-6	R39	R39	F-4	U42	U42	U80	P-4	P-4
REF	DES	LOC	C41	K-6	C81	J-3	CR5	F-6	R40	R40	F-4	J-3	CR5	F-6	R39	R39	F-4	U43	U43	U80	C-4	C-4

Component Locator for ADC Assembly







DECELERATOR

ACCELERATOR
 P/O U45
 (FOR THE
 OUTPUTS OF
 U45 SEE
 SHEET 2)

ENREG
 D8
 D7
 D0
 D1
 D2
 D3
 D4
 D5

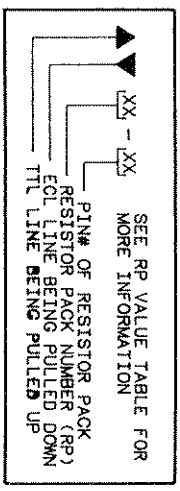
ICLK
 ENIO

RESET
 P/MONRST

**IC DEVICE
 POWER CONNECTIONS**

SUPPLY	IC PIN NO.	IC GROUP
-5A	8	U5
AGND	1, 16	
+5A	8	U19
-5A	4	
+5A	39	U20
-5A	4	
AGND	1, 12, 21, 32	
+5A	9	U25
-5A	8	
AGND	16	
+5D	C4, 7, D16, E3, J1, 15, R11	U45
-4V	A2, B2, 17, G3, 15-17, T12, 17, U17	
-2V	B8, C14	
DGND	A1, 5, 7, 10, 13, 15-17, 85, 14, 15, C6, 8, 11, 12, 16, 17	
	D4, E2, G1; K17, L1, 3, 15, 16, 17	
	M2, P2, 15; R6, 7, 9, 15	
	T16; U1, 2, 4, 12, 16	
+15V	7	U58
AGND	4	
NC	1, 5, 8	
+5D	14	U62
DGND	7	

RESISTOR PACK DESCRIPTIONS:



PARTS ON THIS SCHEMATIC

U1-3, 5-10, 12-15, 17, 19, 21-47, 49, 51-53, 55-73, 75-114
 CR0-23
 U5, 6
 P/O J3
 L1, 3-12
 P/O P1
 Q4
 R11-15, 17, 18, 30-32, 50, 53-56, 60, 61
 RP1, 3, 4
 P/O RP5
 U5, 19, 20, 25, 58, 66-72, 80
 P/O U45, 62
 54112/SG03, 1/4-9-87

Analog Input, ADC, Decelerator,
 Power Supplies and Decoupling
 54112-66503

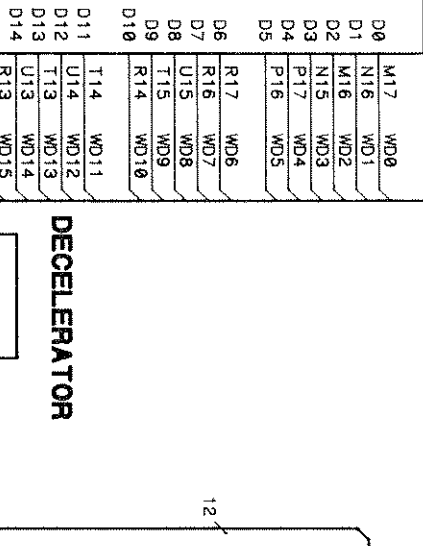


TABLE 1. MEMORY BANK 1. DATA IN/OUT CONNECTIONS

RAM	RAM DATA PINS	RAM	RAM DATA PINS
U7	WD0 WD1 WD2 WD3	U9	WD4 WD5 WD6 WD7
U12	WD8 WD9 WD10 WD11	U22	WD12 WD13 WD14 WD15
U27	WD16 WD17 WD18 WD19	U35	WD20 WD21 WD22 WD23
U41	WD24 WD25 WD26 WD27	U47	WD28 WD29 WD30 WD31
U51	WD32 WD33 WD34 WD35	U56	WD36 WD37 WD38 WD39
U64	WD40 WD41 WD42 WD43	U78	WD44 WD45 WD46 WD47

TABLE 2. MEMORY BANK 2. DATA IN/OUT CONNECTIONS

RAM	RAM DATA PINS	RAM	RAM DATA PINS
U8	WD0 WD1 WD2 WD3	U10	WD4 WD5 WD6 WD7
U13	WD8 WD9 WD10 WD11	U23	WD12 WD13 WD14 WD15
U28	WD16 WD17 WD18 WD19	U36	WD20 WD21 WD22 WD23
U42	WD24 WD25 WD26 WD27	U48	WD28 WD29 WD30 WD31
U52	WD32 WD33 WD34 WD35	U57	WD36 WD37 WD38 WD39
U65	WD40 WD41 WD42 WD43	U79	WD44 WD45 WD46 WD47

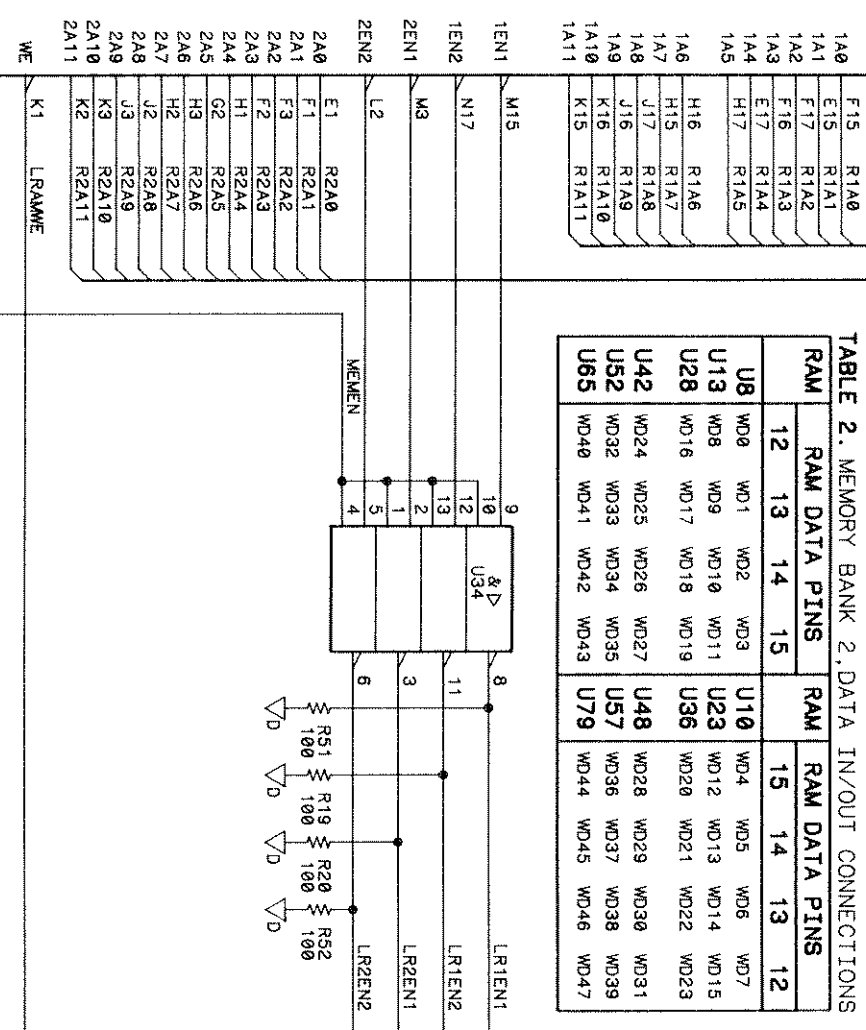


TABLE 3. CHIP ENABLE INPUTS (PIN 9)

MEMORY BANK 1	MEMORY BANK 2
LRIEN1	LREZ1
LRIEN2	LREZ2
LRIEN3	LREZ3
LRIEN4	LREZ4
LRIEN5	LREZ5
LRIEN6	LREZ6
LRIEN7	LREZ7
LRIEN8	LREZ8
LRIEN9	LREZ9
LRIEN10	LREZ10
LRIEN11	LREZ11
LRIEN12	LREZ12
LRIEN13	LREZ13
LRIEN14	LREZ14
LRIEN15	LREZ15
LRIEN16	LREZ16
LRIEN17	LREZ17
LRIEN18	LREZ18
LRIEN19	LREZ19
LRIEN20	LREZ20
LRIEN21	LREZ21
LRIEN22	LREZ22
LRIEN23	LREZ23
LRIEN24	LREZ24
LRIEN25	LREZ25
LRIEN26	LREZ26
LRIEN27	LREZ27
LRIEN28	LREZ28
LRIEN29	LREZ29
LRIEN30	LREZ30
LRIEN31	LREZ31
LRIEN32	LREZ32
LRIEN33	LREZ33
LRIEN34	LREZ34
LRIEN35	LREZ35
LRIEN36	LREZ36
LRIEN37	LREZ37
LRIEN38	LREZ38
LRIEN39	LREZ39
LRIEN40	LREZ40
LRIEN41	LREZ41
LRIEN42	LREZ42
LRIEN43	LREZ43
LRIEN44	LREZ44
LRIEN45	LREZ45
LRIEN46	LREZ46
LRIEN47	LREZ47
LRIEN48	LREZ48
LRIEN49	LREZ49
LRIEN50	LREZ50
LRIEN51	LREZ51
LRIEN52	LREZ52
LRIEN53	LREZ53
LRIEN54	LREZ54
LRIEN55	LREZ55
LRIEN56	LREZ56
LRIEN57	LREZ57
LRIEN58	LREZ58
LRIEN59	LREZ59
LRIEN60	LREZ60
LRIEN61	LREZ61
LRIEN62	LREZ62
LRIEN63	LREZ63
LRIEN64	LREZ64
LRIEN65	LREZ65
LRIEN66	LREZ66
LRIEN67	LREZ67
LRIEN68	LREZ68
LRIEN69	LREZ69
LRIEN70	LREZ70
LRIEN71	LREZ71
LRIEN72	LREZ72
LRIEN73	LREZ73
LRIEN74	LREZ74
LRIEN75	LREZ75
LRIEN76	LREZ76
LRIEN77	LREZ77
LRIEN78	LREZ78
LRIEN79	LREZ79
LRIEN80	LREZ80
LRIEN81	LREZ81
LRIEN82	LREZ82
LRIEN83	LREZ83
LRIEN84	LREZ84
LRIEN85	LREZ85
LRIEN86	LREZ86
LRIEN87	LREZ87
LRIEN88	LREZ88
LRIEN89	LREZ89
LRIEN90	LREZ90
LRIEN91	LREZ91
LRIEN92	LREZ92
LRIEN93	LREZ93
LRIEN94	LREZ94
LRIEN95	LREZ95
LRIEN96	LREZ96
LRIEN97	LREZ97
LRIEN98	LREZ98
LRIEN99	LREZ99
LRIEN100	LREZ100

(FOR THE INPUTS TO U45 SEE SHEET 1)

P/O U45

DECCELERATOR

WE

K1 LRAMWE

M15

M17

N17

M3

2EN1

2EN2

2A0

F1 R2A0

2A1 R2A1

F2 R2A2

2A2 R2A3

2A3 R2A4

H1 R2A5

2A4 R2A6

G2 R2A7

H2 R2A8

2A5 R2A9

H3 R2A10

2A6 R2A11

2A7 R2A12

2A8 R2A13

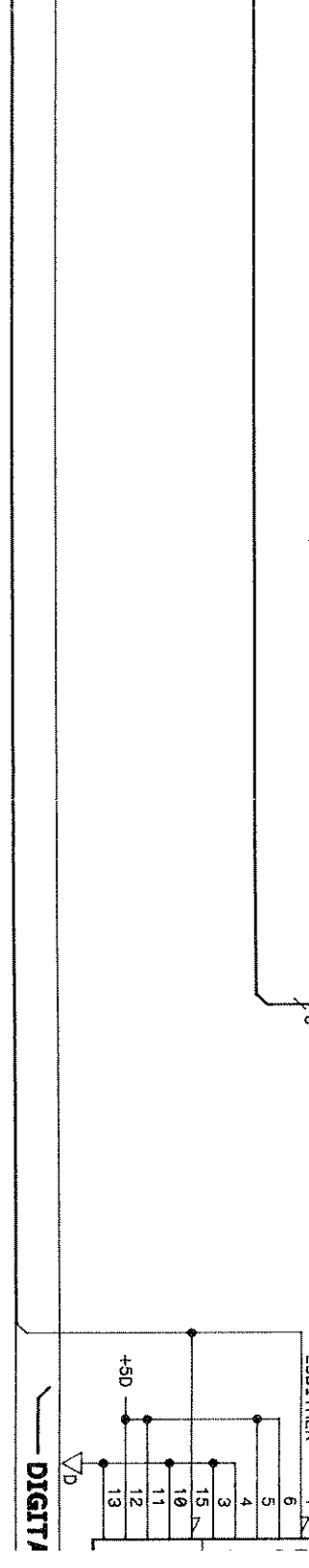
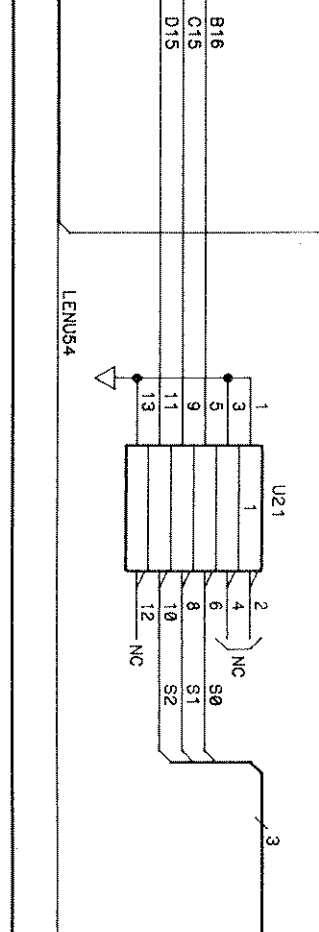
2A9 R2A14

2A10 R2A15

2A11 R2A16

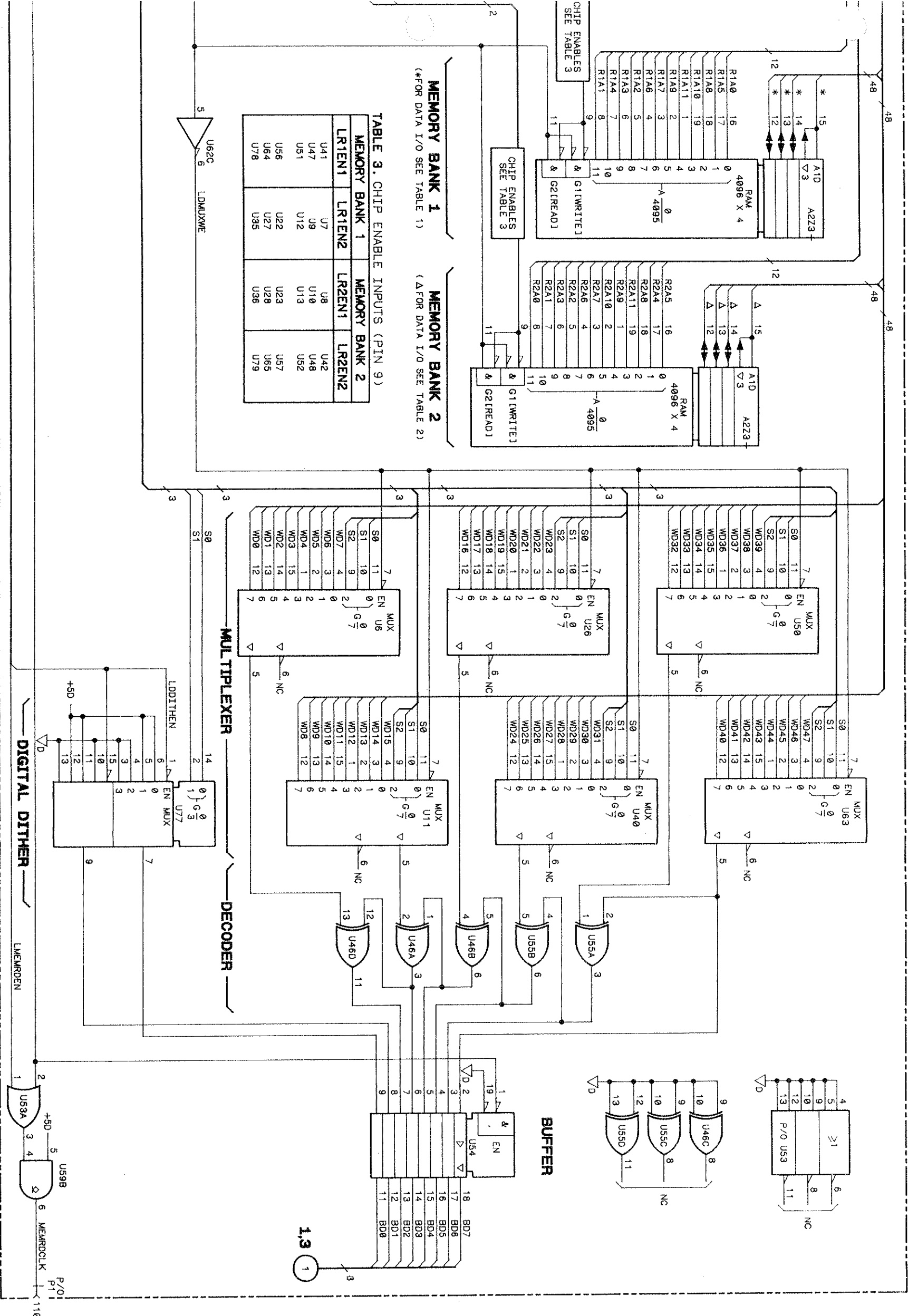
K2 R2A17

K1 LRAMWE



**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5D	16	U6, 11, 26, 40,
DGND	8	50, 63, 77
+5D	20	U7-10, 12, 13,
DGND	10	22, 23, 27, 28,
		35, 36, 41, 42,
		47, 48, 51, 52,
		54, 56, 57, 64,
		65, 78, 79
+5D	14	U21, 34, 46, 53,
DGND	7	55, 59
+5D		U45
-4V		
DGND		
-2V		
DGND		



MEMORY BANK 1
(*FOR DATA I/O SEE TABLE 1)

MEMORY BANK 2
(*FOR DATA I/O SEE TABLE 2)

TABLE 3. CHIP ENABLE INPUTS (PIN 9)

MEMORY BANK 1		MEMORY BANK 2	
LR1EN1	LR1EN2	LR2EN1	LR2EN2
U41	U7	U8	U42
U47	U9	U10	U48
U51	U12	U13	U52
U56	U22	U23	U57
U64	U27	U28	U65
U78	U35	U36	U79

MULTIPLEXER

DECODER

BUFFER

DIGITAL DITHER

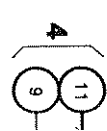
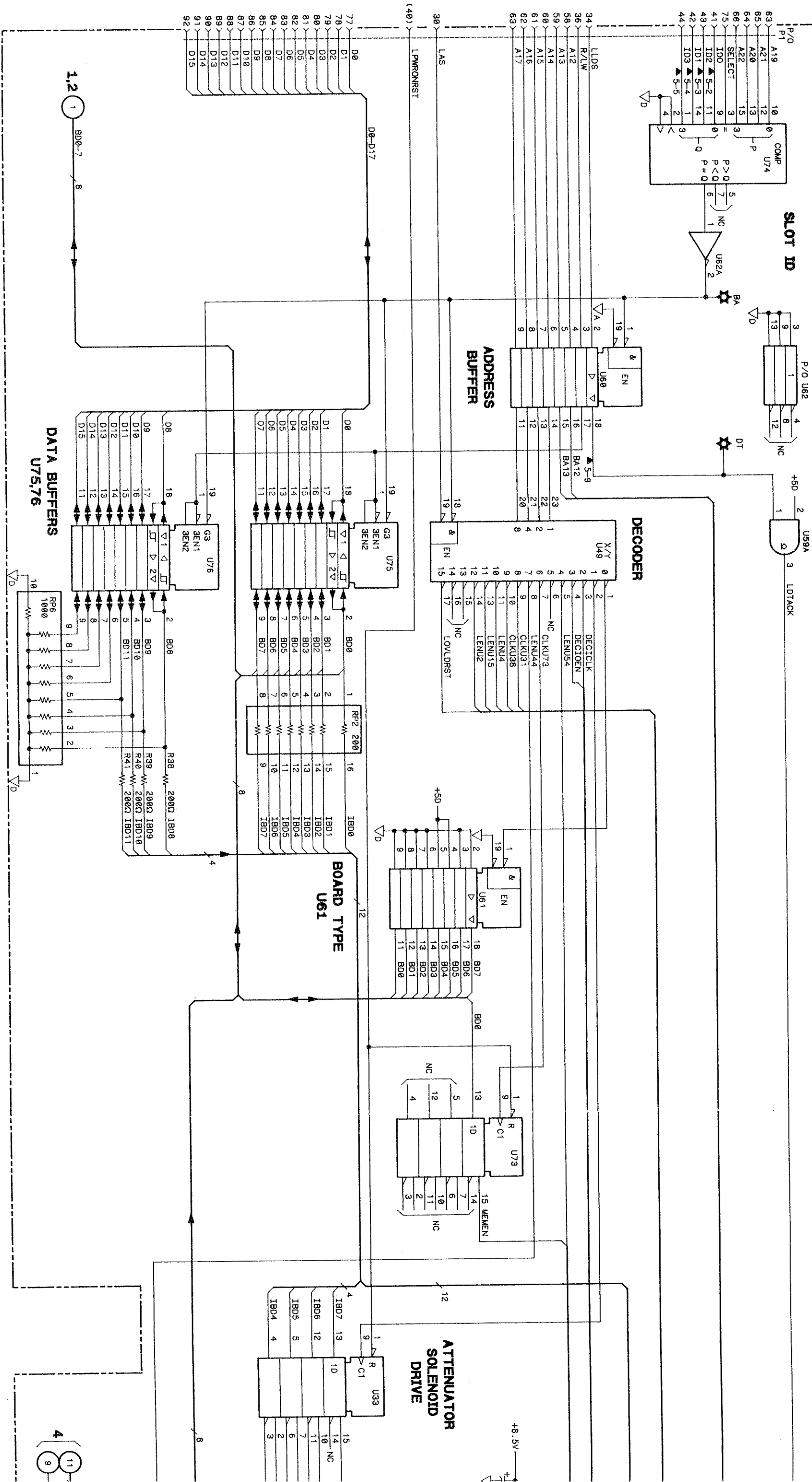
PARTS ON THIS SCHEMATIC

P/O P1	R19, 20, 51, 52
	U6-13, 21-23, 26-28, 34-36, 40-42, 46-48,
	50-57, 63-65, 77-79
	P/O U45, 59, 62
54112/SC03.2/4/9-87	

Acquisition Memory and Multiplexer

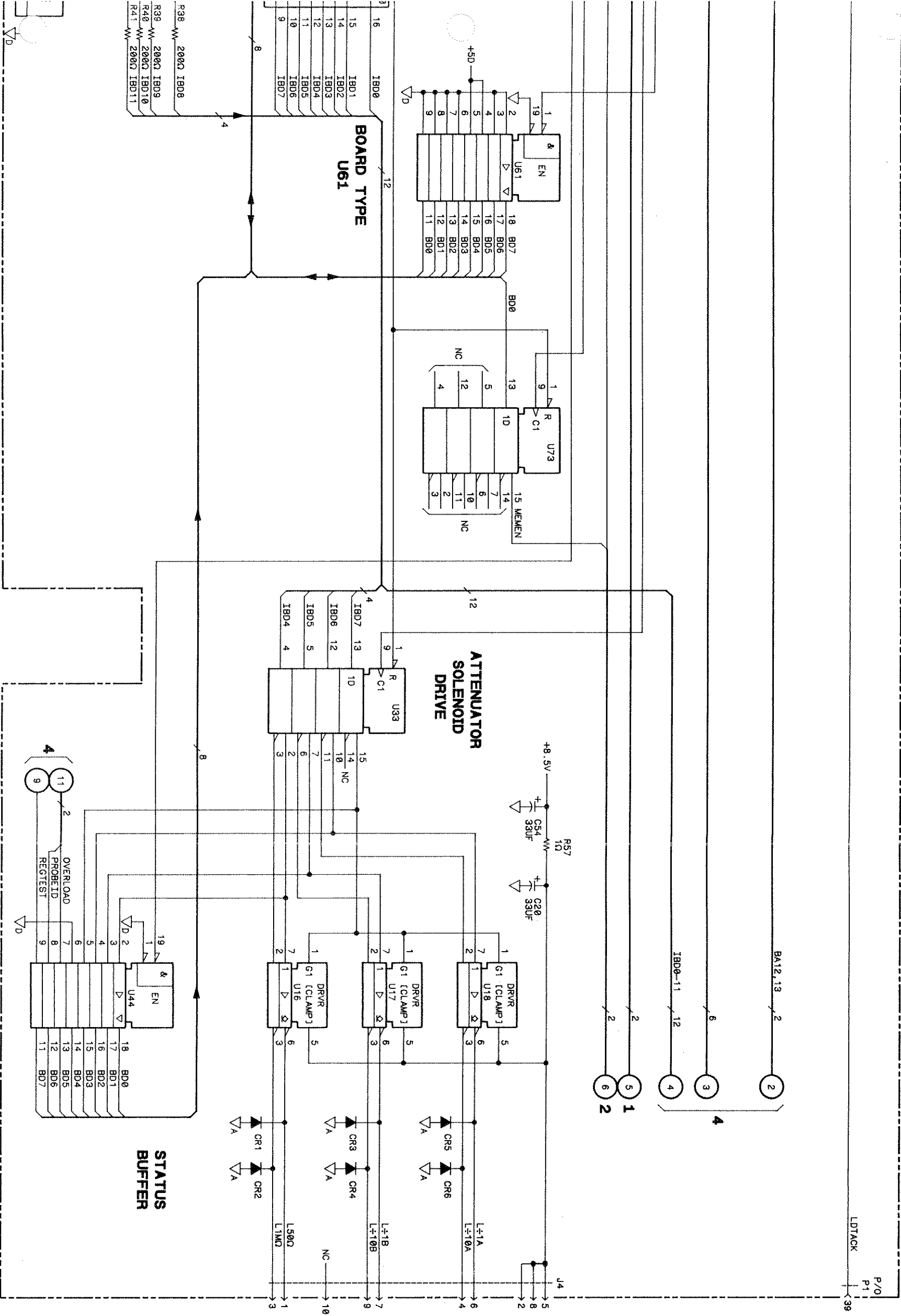
54112-66503

2

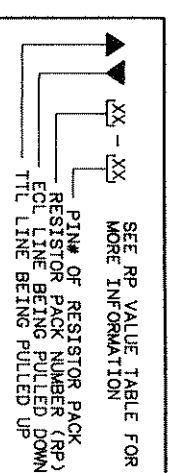


IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5D	8	U16-18
AGND	4	
+5D	16	U33, 73, 74
DGND	8	
+5D	20	U44, 60, 61, 75, 76
DGND	10	
+5D	24	U49
DGND	12	
+5D	14	U59, 62
DGND	7	



RESISTOR PACK DESCRIPTIONS:

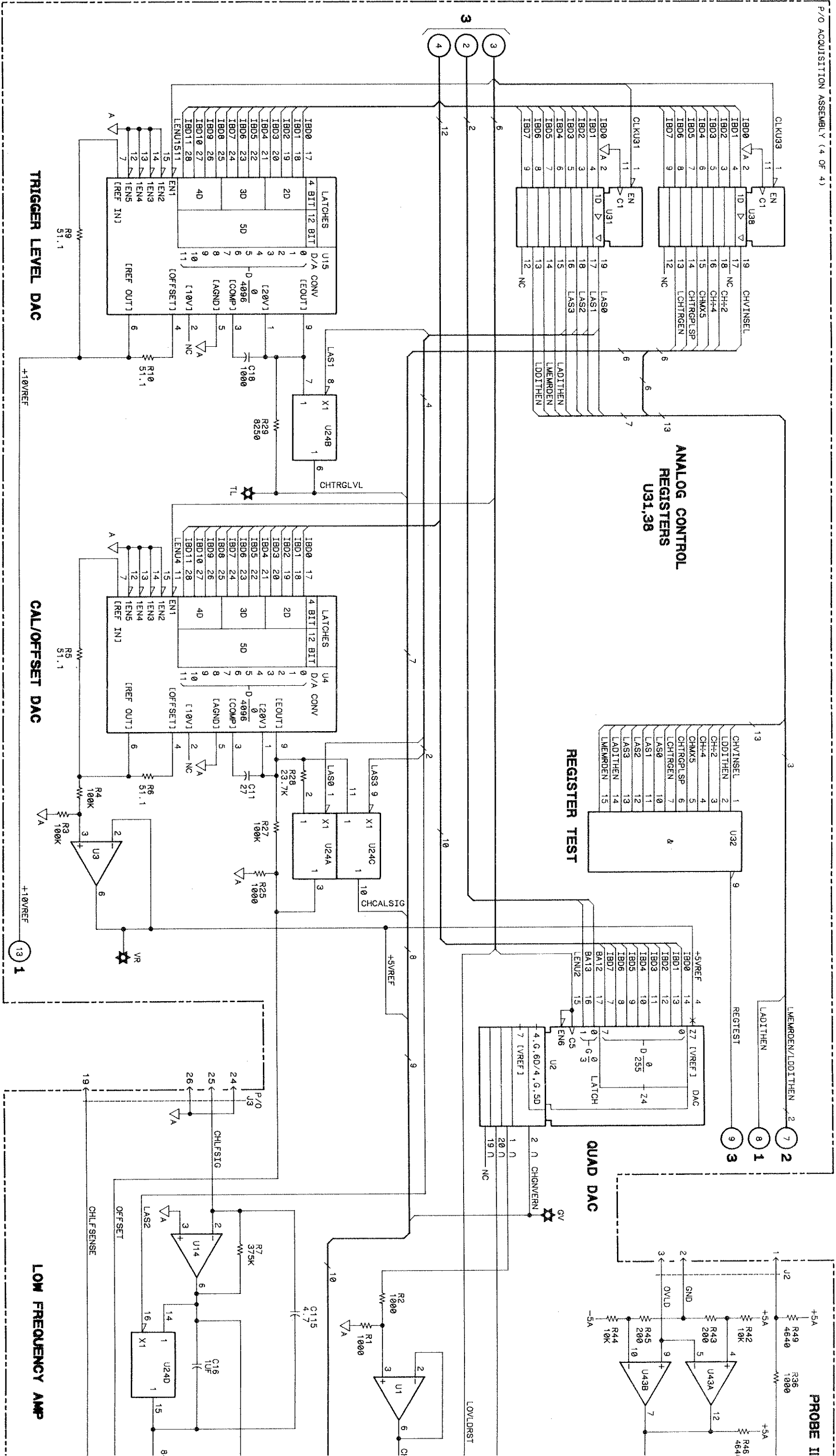


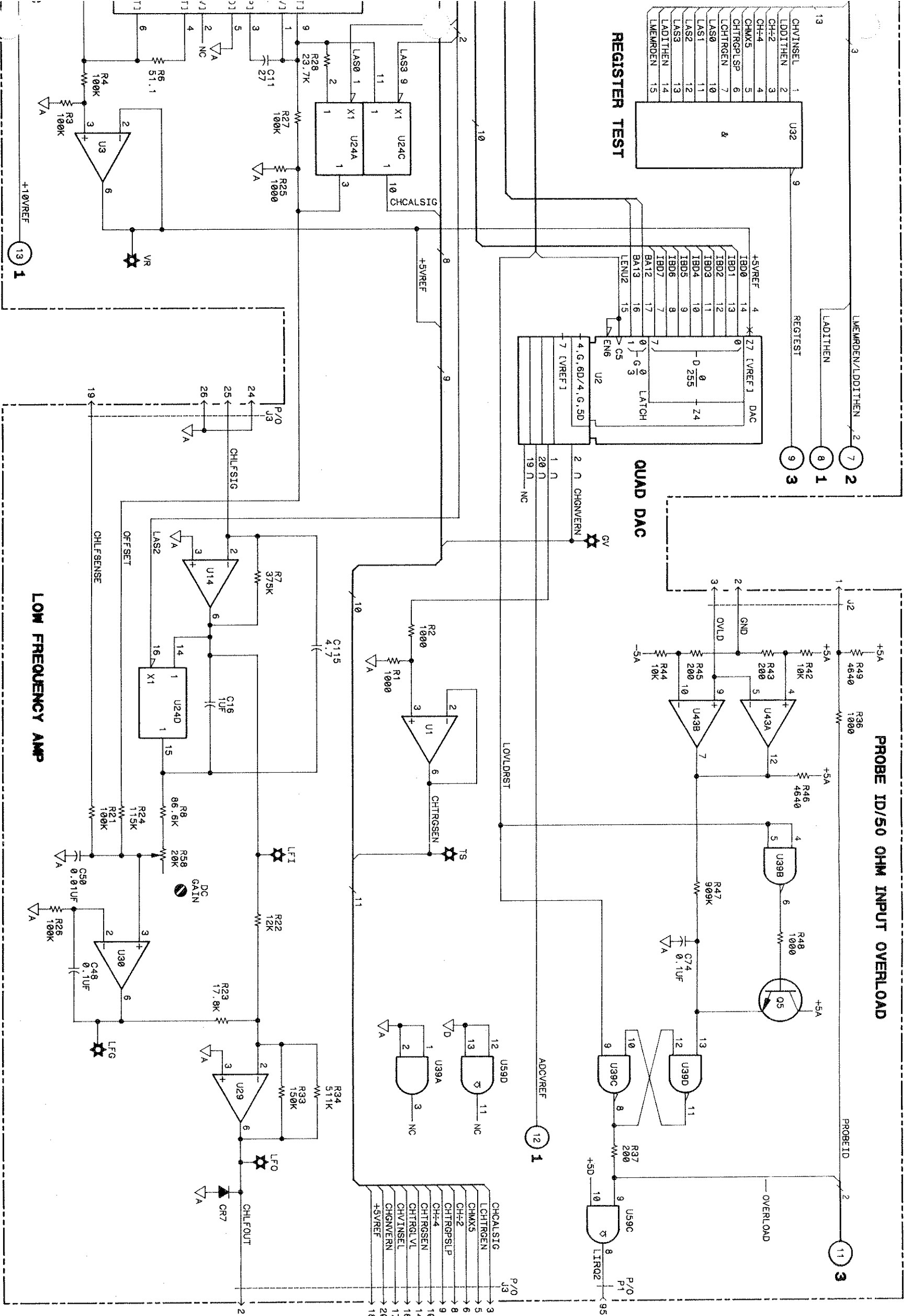
RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1	1KX9	1, 10	+5D

PARTS ON THIS SCHEMATIC

C20, 54
CR1-6
J4
P/O P1
R38-41, 57
RP2, 6
P/O RP5
TP-BA, DT
U16-18, 33, 44, 49, 60, 61, 73-76
P/O U59, 62

54112/SC03.3/4/9-87





IC DEVICE POWER CONNECTIONS

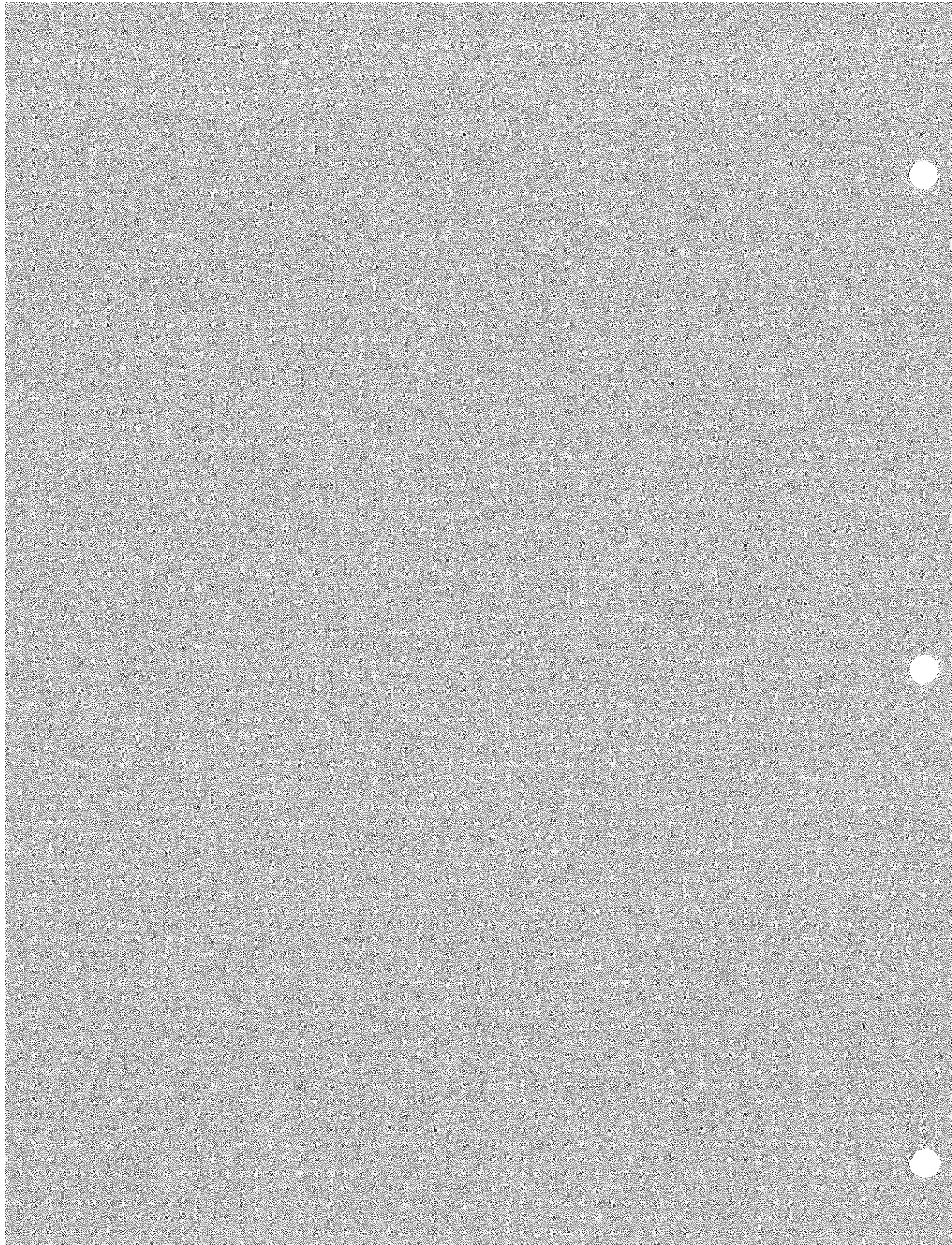
SUPPLY	PIN NO.	IC GROUP
+5A	7	U1
-5A	4	
NC	1, 5, 8	
+15V	18	U2
-5A	3	
AGND	5, 6	
+15V	7	U3
AGND	4	
NC	1, 5, 8	
+15V	8	U4, 15
-15V	10	
AGND	5, 16	
+15V	7	U14, 29, 30
-15V	4	
NC	1, 5, 8	
+15V	13	U24
-15V	4	
AGND	5	
NC	12	
+5A	20	U31, 38
AGND	10	
+5A	14	U39
AGND	7	
+5A	11	U43
-5A	6	
AGND	3, 8	
NC	1, 2, 13, 14	
+5D	14	U59
DGND	7	

PARTS ON THIS SCHEMATIC

- C11, 16, 18, 48, 50, 74, 115
- CR7
- J2
- P/O J3
- P/O P1
- Q5
- R1-10, 21-29, 33, 34, 36, 37, 42-49, 58, TP-GV, LFG, LFI, LFO, TL, TS, VR
- U1-4, 14, 15, 24, 29-32, 38, 39, 43
- P/O U59

54112/SC03.4/4/9-87

D/A Converters, Probe ID/50 Ohm Overload, Low Frequency Amplifier
54112-66503





Component-level Information Packet for HP 54111D, 54112D, 54120A/B Input/Output Assembly

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.



HP 5411ID, 54112D, 54120A/B
Service Manual Supplement

Input/Output Assembly

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
B11	1420-0273	2	1	BATTERY 3V 1.2A-HR LITHIUM POLYCARBON	28480	1420-0273
C1	0160-6500	7	69	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-4574	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41-42	NOT ASSIGNED					
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	NOT ASSIGNED					
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	NOT ASSIGNED					
C50	0180-0229	7	5	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C51	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2



54111-66506 Input/Output Assembly Replaceable Parts

HP 54111D, 54112D, 54120A/B
Service Manual Supplement

Input/Output Assembly
2

Reference	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C52	0180-0229	7	7	CAPACITOR-FXD 33UF+10% 10VDC TA	56289	150D336X9010B2
C53	0180-0229	7	7	CAPACITOR-FXD 33UF+10% 10VDC TA	56289	150D336X9010B2
C54	0180-0229	7	7	CAPACITOR-FXD 33UF+10% 10VDC TA	56289	150D336X9010B2
C55	0160-4574	1	1	CAPACITOR-FXD 100PF +-10% 10VDC CER	28480	0160-4574
C56	0160-4574	1	1	NOT ASSIGNED	28480	0160-4574
C57	0160-4574	1	1	CAPACITOR-FXD 100PF +-10% 10VDC CER	28480	0160-4574
C58	0160-4574	1	1	CAPACITOR-FXD 100PF +-10% 10VDC CER	28480	0160-4574
C59	0160-4574	1	1	CAPACITOR-FXD 100PF +-10% 10VDC CER	28480	0160-4574
C60	0180-0228	6	1	CAPACITOR-FXD 22UF+10% 15VDC TA	56289	150D226X9015B2
C61	0160-5469	5	1	CAPACITOR-FXD 1UF +-10% 50VDC MET-POLYE	28480	0160-5469
C62	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C65	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69	0160-4810	8	1	CAPACITOR-FXD 330PF +-5% 100VDC CER	28480	0160-4810
C70	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C73	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C75	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C78	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C79	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
CR1	1901-0050	3	24	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR2	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR3	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR4	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR5	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR6	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR7	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR8	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR9	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR10	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR11	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR12	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR13	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR14	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150
CR15	1901-0050	3	3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	1N4150

Input/Output Assembly

HP 5411D, 5412D, 54120A/B
Service Manual Supplement

5411-65506 Input/Output Assembly Replaceable Parts

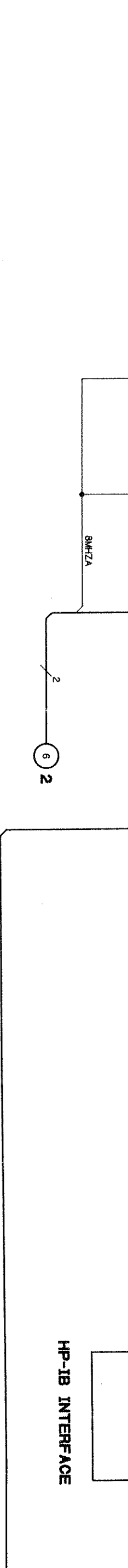
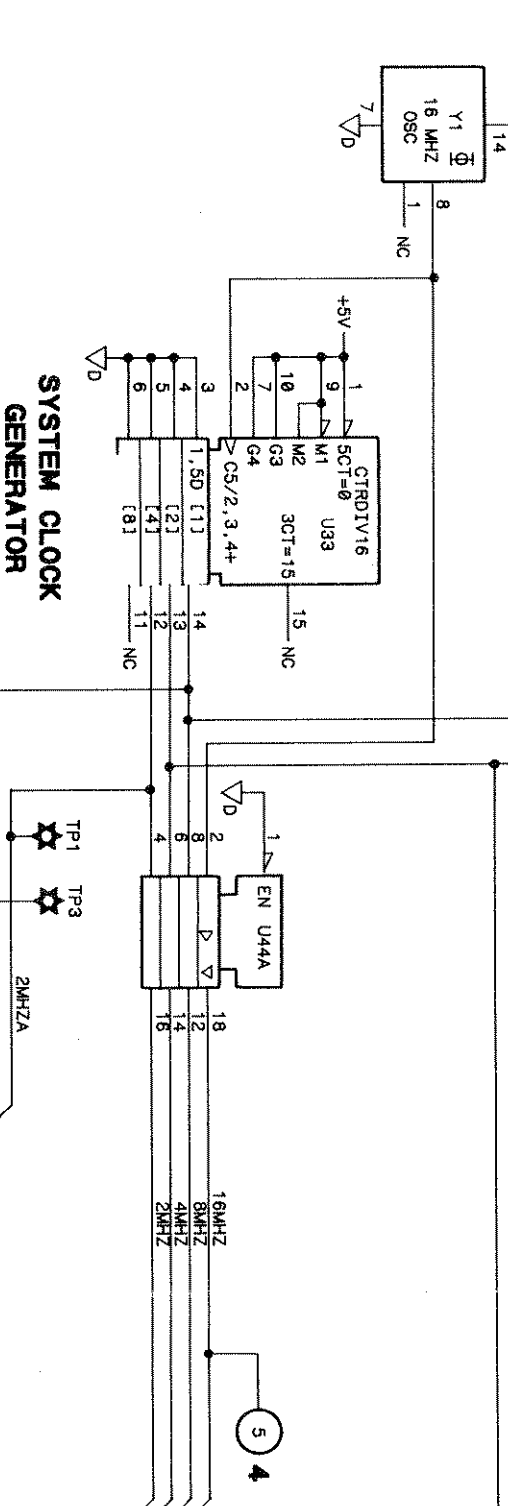
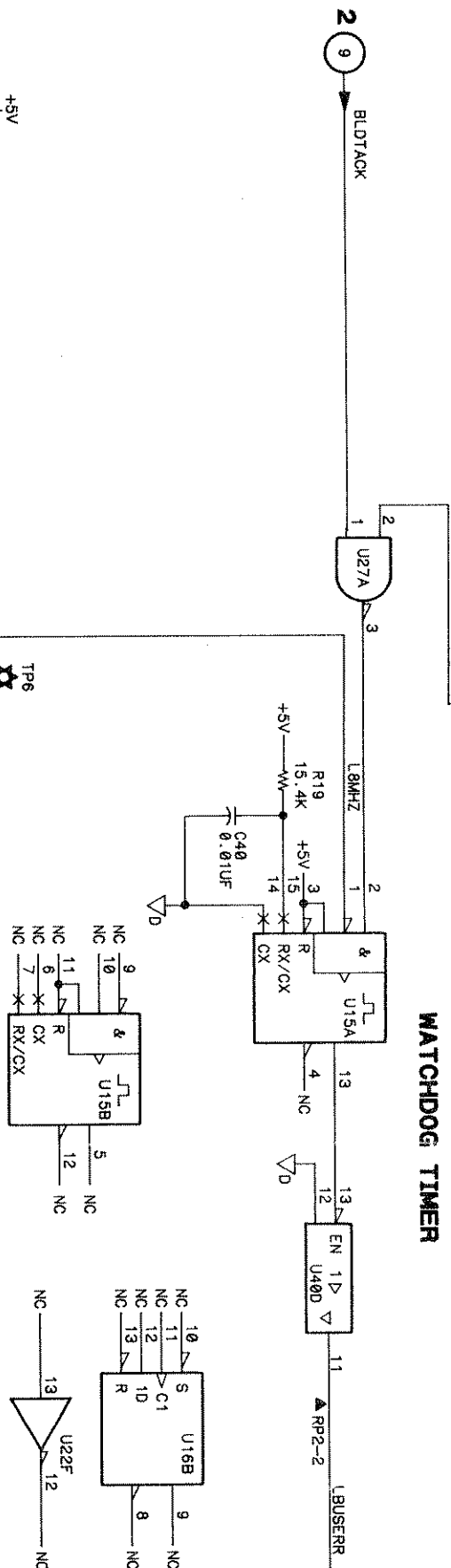
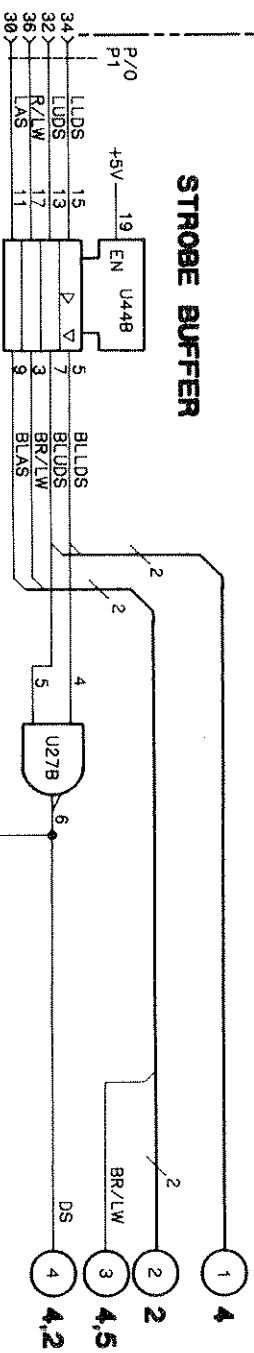
Reference	Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
CR16		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR17		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR18		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR19		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR20		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR21		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR22		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR23		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
CR24		1901-0050		3	DIODE-SWITCHING 80V 200MA 2NS DO-35	9N171	IN4150
DL1		1813-0262		2	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	56289	FSDM1-180
DL2		1813-0263		3	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	56289	DSP-223
DS1		1990-0485		5	LED-LAMP LUM-INT=2MCD IF=30MA-MAX BVR=5V	28480	HLMP-1503
F1		2110-0384		0	FUSE 0.062A 125V AX	28480	2110-0384
H1		0515-0372		2	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1		1251-8474		2	CONN-POST TYPE 0.1-PIN-SPCG 34-CONT	28480	1251-8474
J2		1252-0003		9	CONN-POST TYPE 0.1-PIN-SPCG 24-CONT	28480	1252-0003
L1		5081-7682		5	CHOKER RF	28480	5081-7682
MP1		5411-00604		1	SHIELD I/O ASSEMBLY	28480	5411-00604
MP2		5411-45004		1	EXTRACTOR RIGHT	28480	5411-45004
MP3		5411-45005		2	EXTRACTOR LEFT	28480	5411-45005
P1		1252-0198		3	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1		1854-0215		1	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
Q2		1853-0234		2	TRANSISTOR PNP SI PD=65W FT=3MHZ	01295	T1P42A
Q3		1854-0215		1	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
R1		0698-6631		4	RESISTOR 2.5K 0.1% 0.125W TF TC=0+-25	28480	0698-6631
R2		0699-1000		3	RESISTOR 4.25K 0.1% 0.125W TF TC=0+-25	28480	0699-1000
R3		0698-6688		1	RESISTOR 99.8K 0.1% 0.125W TF TC=0+-25	28480	0698-6688
R4		0698-6688		1	RESISTOR 99.8K 0.1% 0.125W TF TC=0+-25	28480	0698-6688
R5		0757-0442		9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R6		0698-3443		0	RESISTOR 287 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-287R-F
R7		0757-0280		2	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R8		0699-0241		1	RESISTOR 2.4K 0.1% 0.125W TF TC=0+-25	28480	0699-0241
R9		0699-1011		6	RESISTOR 3.32K 0.1% 0.125W TF TC=0+-25	28480	0699-1011
R10		0698-4421		6	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R11		0757-0274		5	RESISTOR 1.21K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1211-F
R12		0757-0442		6	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R13		0757-0283		6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R14		0757-0449		6	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2002-F
R15		0757-0283		6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R16		0757-0283		6	RESISTOR 2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2001-F
R17		NOT ASSIGNED					
R18		0698-0082		7	RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R19		0698-3540		8	RESISTOR 15.4K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1542-F
R20		0757-0438		3	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R21		NOT ASSIGNED					
R22		0757-0273		4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R23		0757-0273		4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F

Reference	HP Part Number	CD Qty	Description	Mtr Code	Mtr Part Number
R24	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R25	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R26	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R27	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R28	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R29	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R30	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R31	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R32	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R33	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R34	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R35	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R36	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R37	0757-0273	4	RESISTOR 3.01K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3011-F
R38	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R39	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R40	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R41	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R42	0757-0407	6	RESISTOR 200 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-201-F
R43	0698-4421	6	RESISTOR 249 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-249R-F
R44	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R45	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R46	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R47	0698-3460	1	RESISTOR 422K 1% 0.125W TF TC=0+-100	28480	0698-3460
R48	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R49	0757-0472	5	RESISTOR 200K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2003-F
R50	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R51	0698-4519	3	RESISTOR 140K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1403-F
R52	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R53	0698-3158	4	RESISTOR 23.7K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-2372-F
R54	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R55	0698-4501	3	RESISTOR 59K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5902-F
R56	0757-0454	3	RESISTOR 33.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3322-F
R57	0698-3243	8	RESISTOR 178K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1783-F
R58	0757-0442	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R59	0757-0410	1	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
R60	0757-0346	2	RESISTOR 10 1% 0.125W TF TC=0+-100	28480	0757-0346
R61	0757-0416	7	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R62	0757-0416	7	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R63	0683-2225	3	RESISTOR 2.2K 5% 0.25W CF TC=0-400	19701	(CR-25) 1-4-5P-2K2
R64	0757-0180	2	RESISTOR 31.6 1% 0.125W TF TC=0+-100	28480	0757-0180
R65	0757-0410	1	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-301R-F
RP1	1810-0231	9	NETWORK-RES 8-SIP 2.2K OHM X 7	28480	1810-0231
RP2	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP3	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP4	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP5	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP6	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP7	1810-0275	1	NETWORK-RES 10-SIP 1.0K OHM X 9	28480	1810-0275
RP8	1810-0533	4	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
RP9	1810-0533	4	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
RP10	1810-0533	4	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533



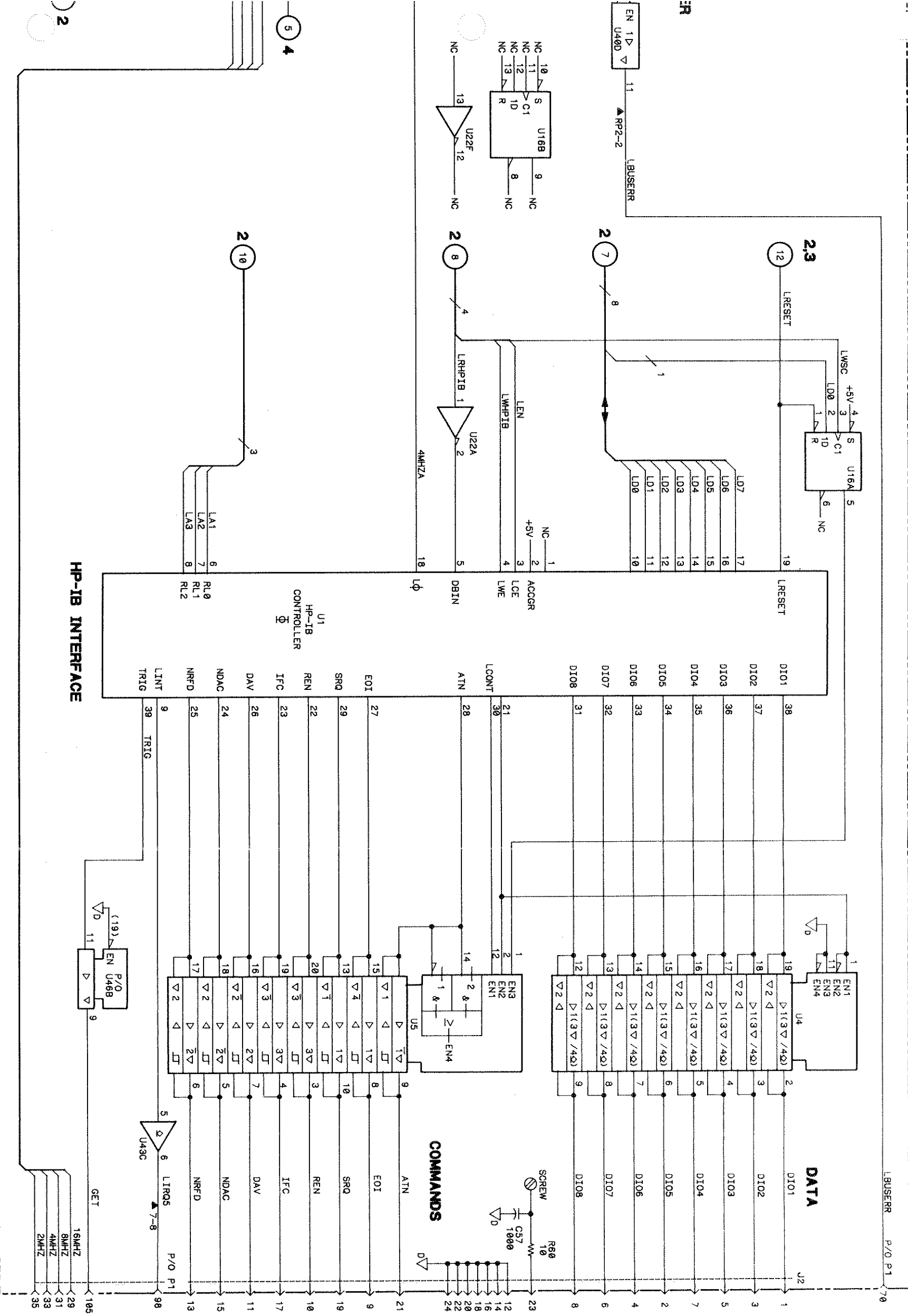
Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U1	1820-2548	6	1	IC-GENERAL PURPOSE INTERFACE BUS ADAPTER	01295	TMS9914ANL
U2	1826-0138	8	4	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U3	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	M74F08P
U4	1820-3431	8	1	IC-INTERFACE XCVR BCD UP/DOWN INSTRUMENT	27014	DS75160AN
U5	1820-3518	2	1	IC-INTERFACE XCVR BCD UP/DOWN INSTRUMENT	27014	DS75162AN
U6	1820-2024	3	4	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U7	1826-0138	8	1	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U8	1820-1307	3	1	IC SCHMITT-TRIG TTL S NAND QUAD 2-INP	01295	SN74LS132N
U9	NOT ASSIGNED					
U10	1820-2695	4	3	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	M74F158N
U11	1820-2695	4	4	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	M74F158N
U12	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U13	1820-1112	8	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U14	1820-2096	9	3	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U15	1820-1423	4	1	IC MV TTL LS MONOSTBL RETRIG DUAL	01295	SN74LS123N
U16	1820-1112	8	8	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U17	NOT ASSIGNED					
U18	1820-2688	5	1	IC GATE TTL F AND TPL 3-INP	04713	M74F11N
U19	1820-2096	9	9	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U20	1826-0138	8	8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U21	1820-2150	6	1	IC-PROGRAMMABLE KEYBOARD/DISPLAY	34649	D8279-5
U22	1820-1199	1	3	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U23	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U24	1820-1451	8	1	IC GATE TTL S NAND QUAD 2-INP	01295	SN74S38N
U25	1820-2691	0	1	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	M74F74N
U26	1826-0138	8	8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U27	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U28	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U29	1820-2690	9	1	IC GATE TTL F OR QUAD 2-INP	04713	M74F32P
U30	1820-2763	7	2	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	M74F258N
U31	1820-2024	3	3	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U32	1820-2075	4	3	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U33	1820-1453	0	1	IC CNTR TTL S BIN SYNCHRO POS-EDGE-TRIG	01295	SN74S163N
U34	1820-1208	3	1	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U35	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U36	1820-2096	9	9	IC CNTR TTL LS BIN DUAL 4-BIT	01295	SN74LS393N
U37	1820-1195	7	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U38	1820-2763	7	7	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	M74F258N
U39	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U40	1820-1568	8	1	IC BFR TTL LS BUS QUAD	01295	SN74LS125AN
U41	1820-1281	2	1	IC DCDR TTL LS 2-TO-4-LINE DUAL	01295	SN74LS139AN
U42	1820-2024	3	3	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U43	1820-0618	7	1	IC BFR TTL NON-INV HEX	01295	SN7417N
U44	1820-2699	8	1	IC DRIVER TTL F LINE DRIVER OCTL	07263	74F241PC
U45	1820-1419	8	2	IC COMPTR TTL LS MAG10 4-BIT	01295	SN74LS85N
U46	1820-2024	3	3	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U47	1820-2075	4	4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U48	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U49	1820-2075	4	4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U50	1820-2695	4	4	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	04713	M74F158N

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U51	1820-1419	8	16	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U52	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U53	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U54	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U55	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U56	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U57	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U58	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U59	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U60	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U61	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U62	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U63	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U64	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U65	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U66	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
U67	1818-3538	1	1	DRAM 64KX4 150 NS PLSTC 5V	S0545	UPD41464C-15
VR1	1826-0643	0	2	IC V RGLTR-V-REF-ADJ 3/30V T0-92 PKG	01295	TL431CLP
VR2	1826-0643	0	2	IC V RGLTR-V-REF-ADJ 3/30V T0-92 PKG	01295	TL431CLP
XU1	1200-1310	4	2	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-1310
XU2-20	1200-1310	4	4	SOCKET-IC 40-CONT DIP DIP-SLDR	28480	1200-1310
Y1	1813-0130	3	1	CLOCK-OSCILLATOR-XTAL 16-MHZ 0.05% TTL	04713	RASCO PLUS-16MHZ



HP-IB INTERFACE

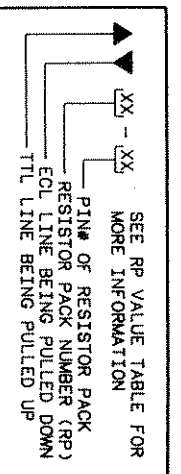
LRESET	19
D101	38
D102	37
D103	36
D104	35
D105	34
D106	33
D107	32
D108	31
LCONT	21
ATN	28
EOI	27
SRQ	29
REN	22
IFC	23
DAV	26
NDAC	24
NRFD	25
LINT	9
TRIG	39



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U16, 22, 27, 40, 43
DGND	7	
+5V	16	U15, 33
DGND	8	
+5V	20	U4, 44, 46
DGND	10	
+5V	48	U1
DGND	28	
+5V	22	U5
DGND	11	

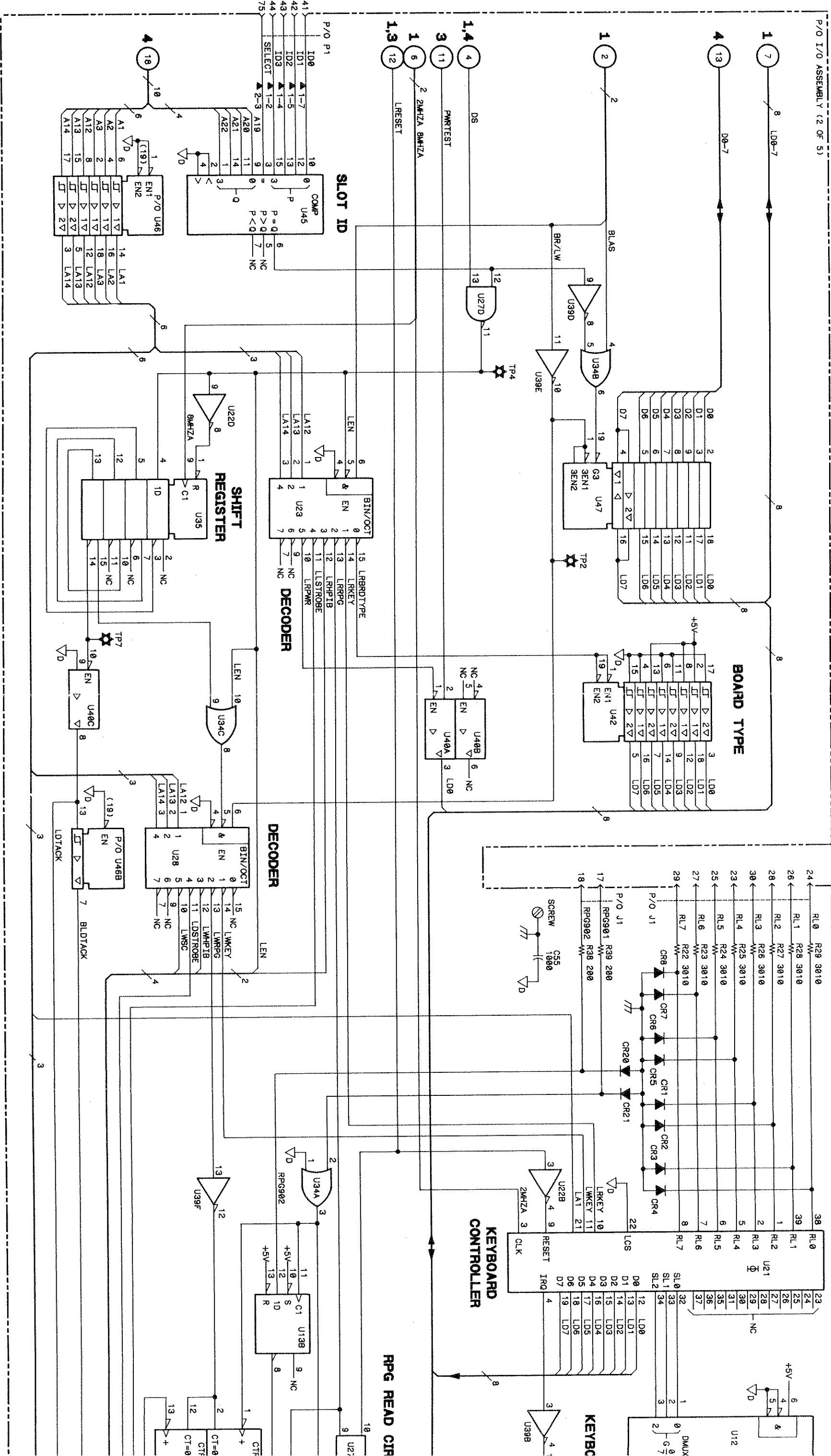
RESISTOR PACK DESCRIPTIONS:



RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP2,7	1000	1	+5V

PARTS ON THIS SCHEMATIC

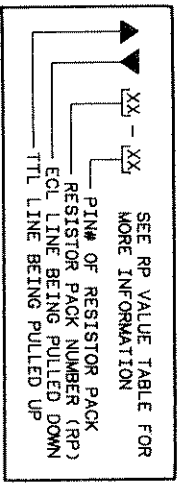
C40, 57
U2
P/O P1
R19, 60
P/O RP2, 7
TP1, 3, 6
U1, 4, 5, 15, 16, 33, 44
P/O U22, 27, 40, 43, 46
Y1



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U13, 14, 22, 27, 34,
DGND	7	39, 40, 43
+5V	16	U12, 23, 28, 35, 45
DGND	8	
+5V	20	U6, 42, 46, 47
DGND	10	
+5V	40	
DGND	20	U21

RESISTOR PACK DESCRIPTIONS:

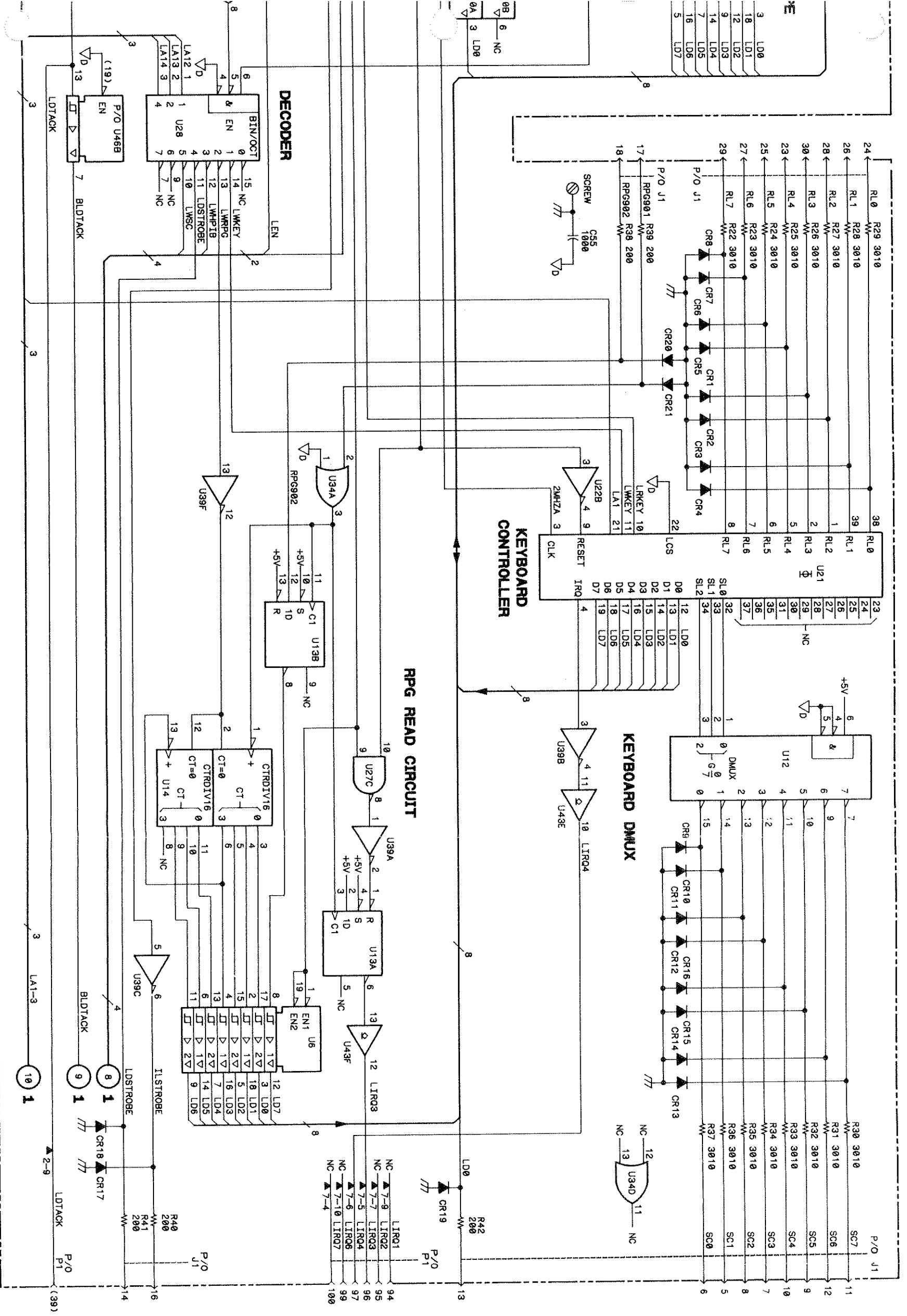


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP1	2200	1	+5V
RP2, 7	1000	1	+5V

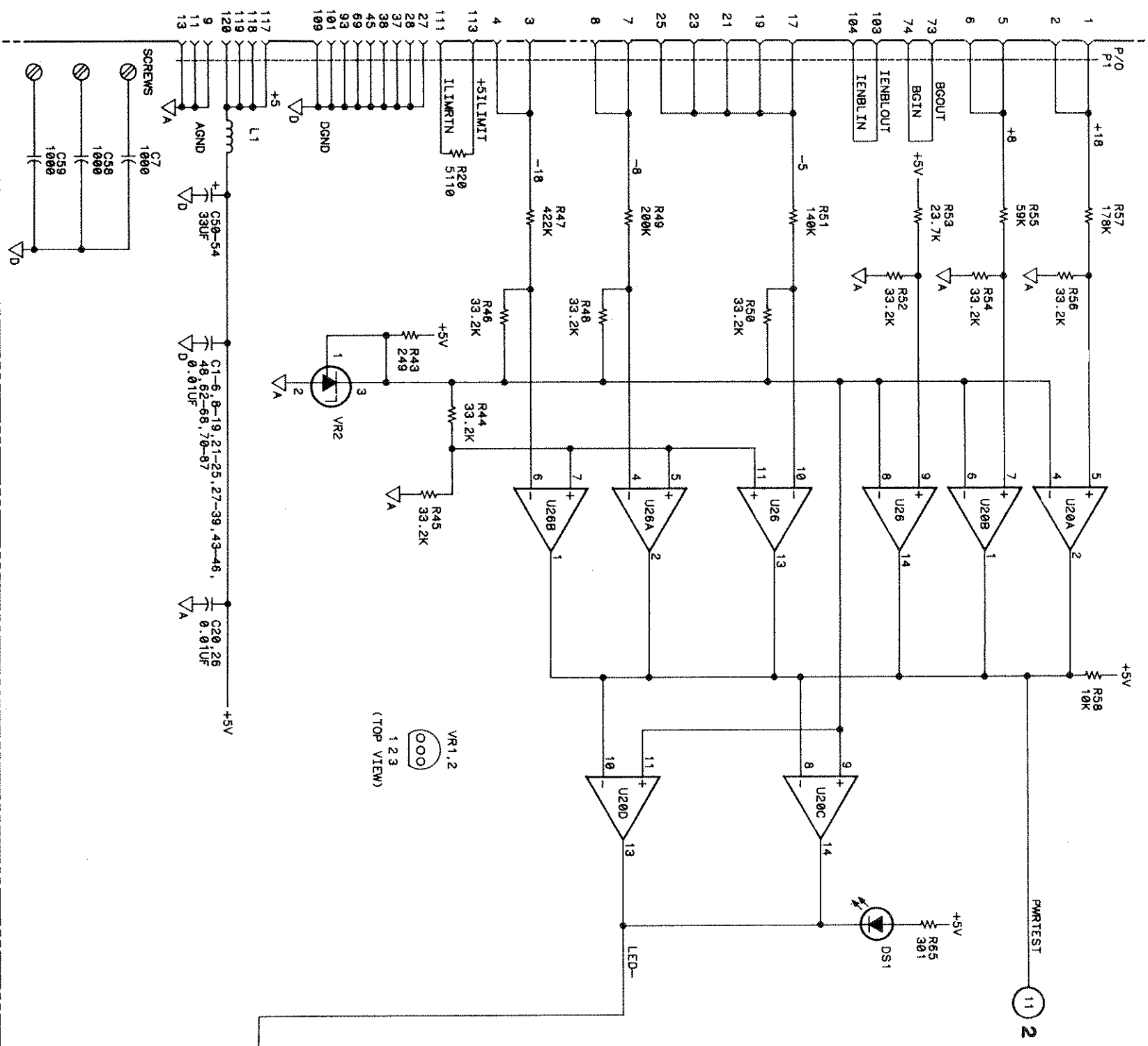
PARTS ON THIS SCHEMATIC

CR1-21	P/O J1
P/O P1	
R22-42	P/O RP1, 2, 7
TP2, 4, 7	
U6, 12-14, 21, 23, 28, 34, 35, 39, 42, 45, 47	
P/O U22, 27, 40, 43, 46	

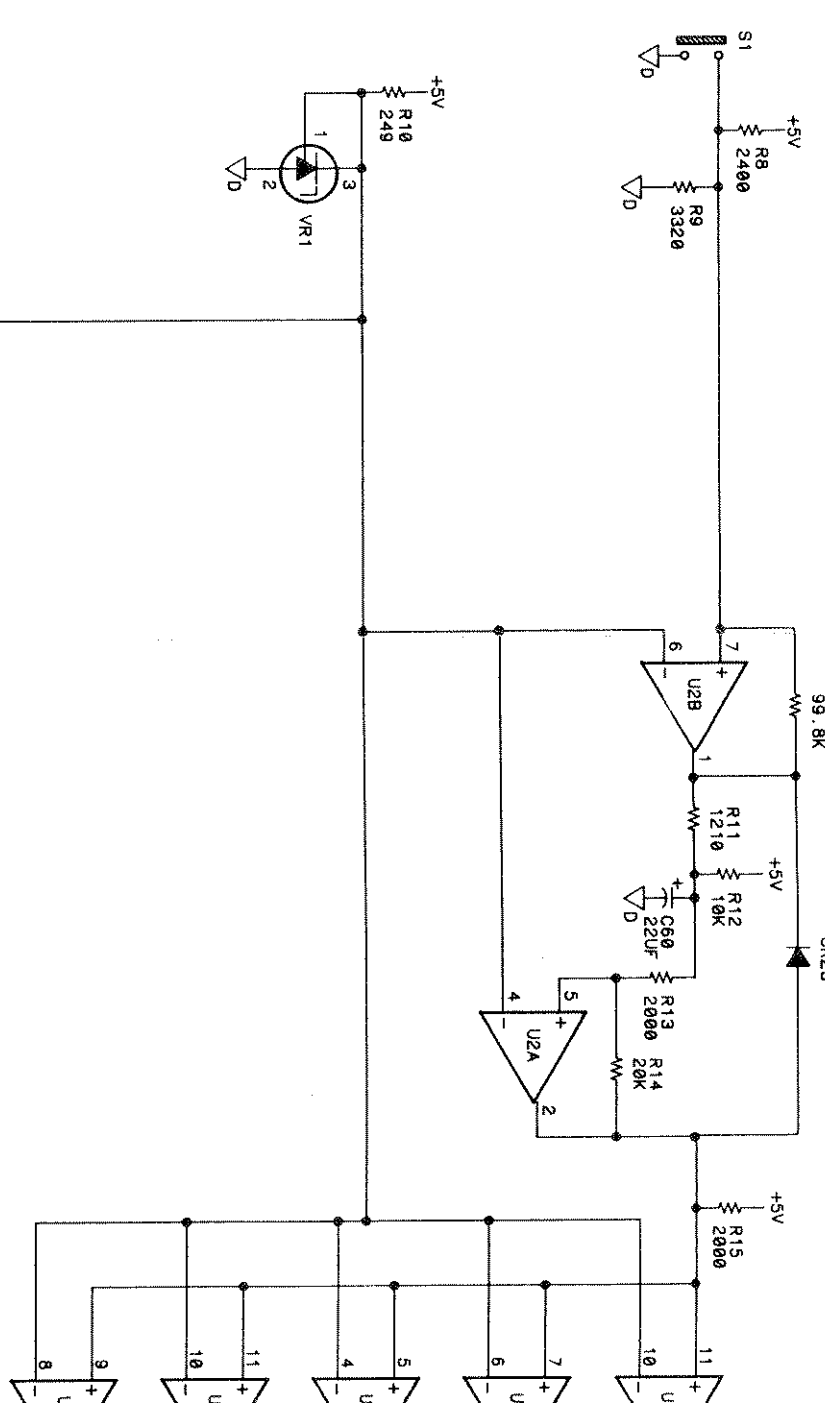
Bus Interface, Keyboard Control, RPG Read



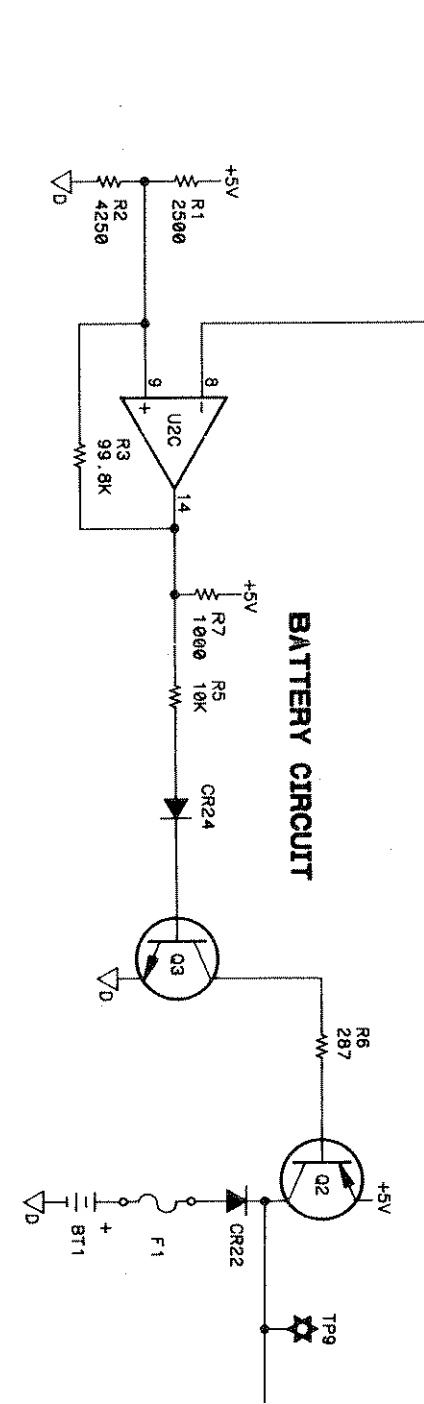
POWER TEST CIRCUIT



POWER ON RESET



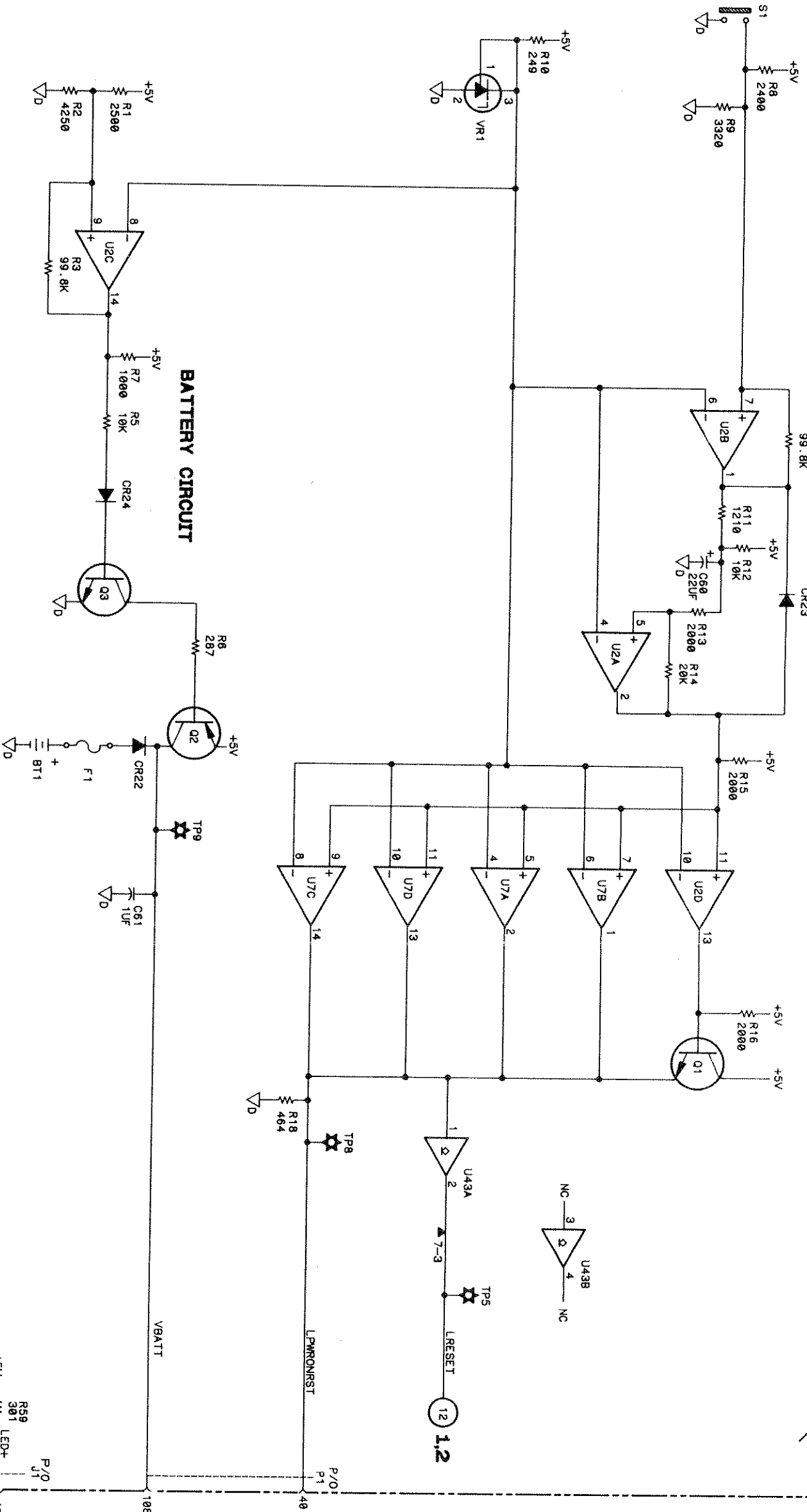
BATTERY CIRCUIT



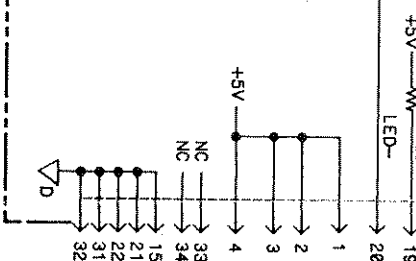
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U43
DGND	7	
+5V	3	U2, 7
DGND	12	
+5V		
AGND	12	U20, 26

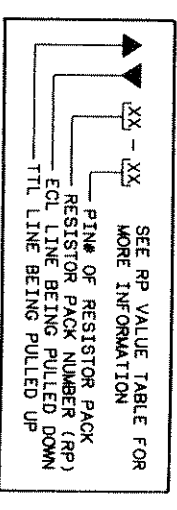
POWER ON RESET



BATTERY CIRCUIT



RESISTOR PACK DESCRIPTIONS:

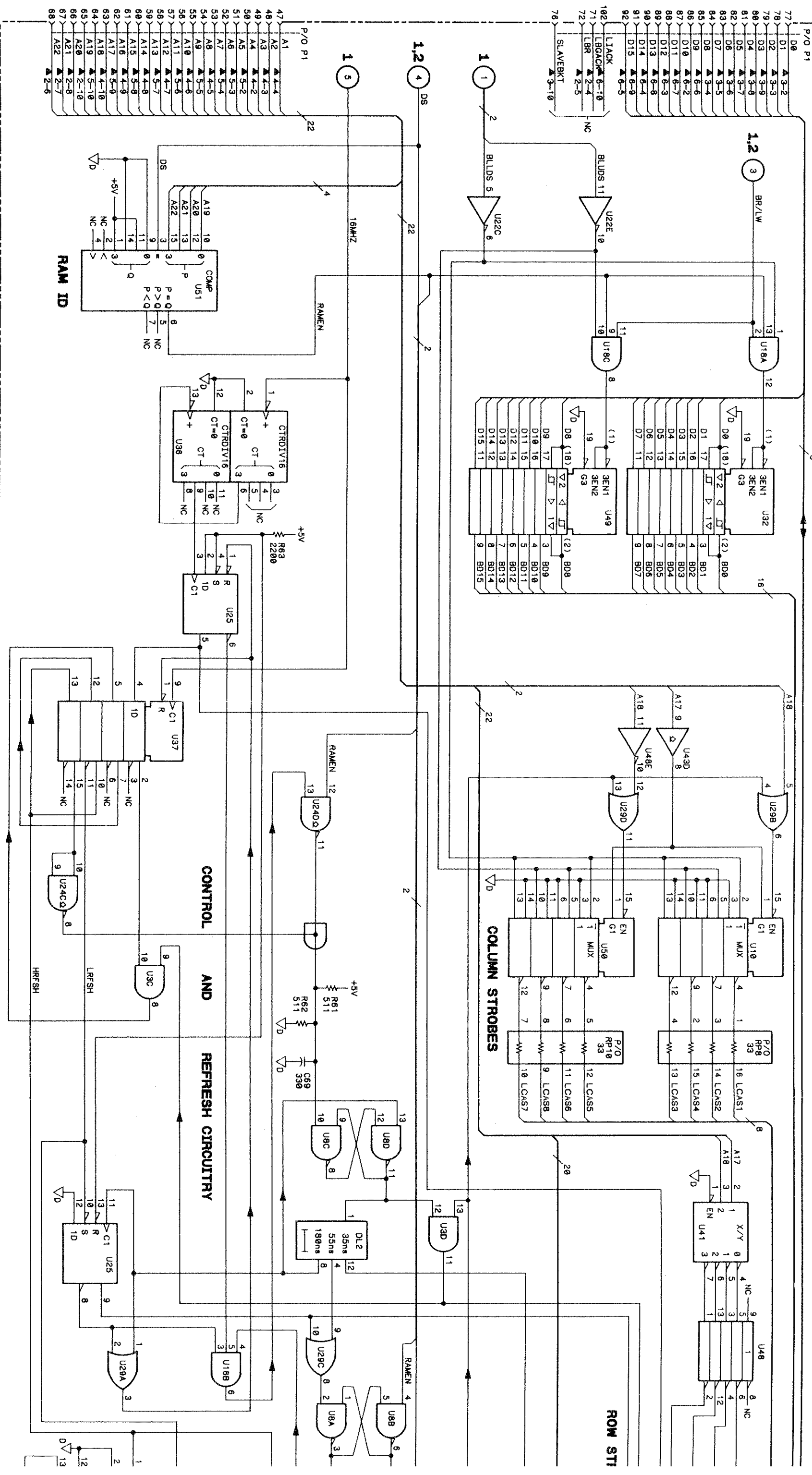


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
7	1000	1	+5V

PARTS ON THIS SCHEMATIC

BT1	01-3
C1-39, 43-46, 49,	R1-16, 18, 20, 43-58, 65
50-54, 58-68, 70-87	P/O RP7
CR22-24,	S1
DS1	TP5, 8, 9
F1	U2, 7, 20, 26
L1	P/O U43
P/O J1	VR1, 2
P/O P1	

54111/SC06_03/5/09-87



RAM ID

CONTROL

AND

REFRESH CIRCUITRY

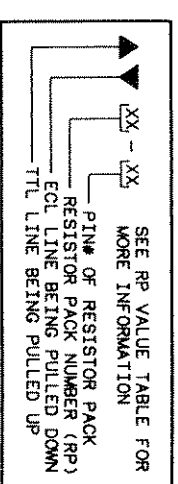
COLUMN STROBES

ROW STI

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	DL1,2
DNND	7	U3,8,18,19,22,24 25,29,36,43,48
+5V	16	U10,11,30,37, 38,41,50,51
+5V	8	38,41,50,51
DNND	20	U31,32,49
DNND	10	

RESISTOR PACK DESCRIPTIONS:

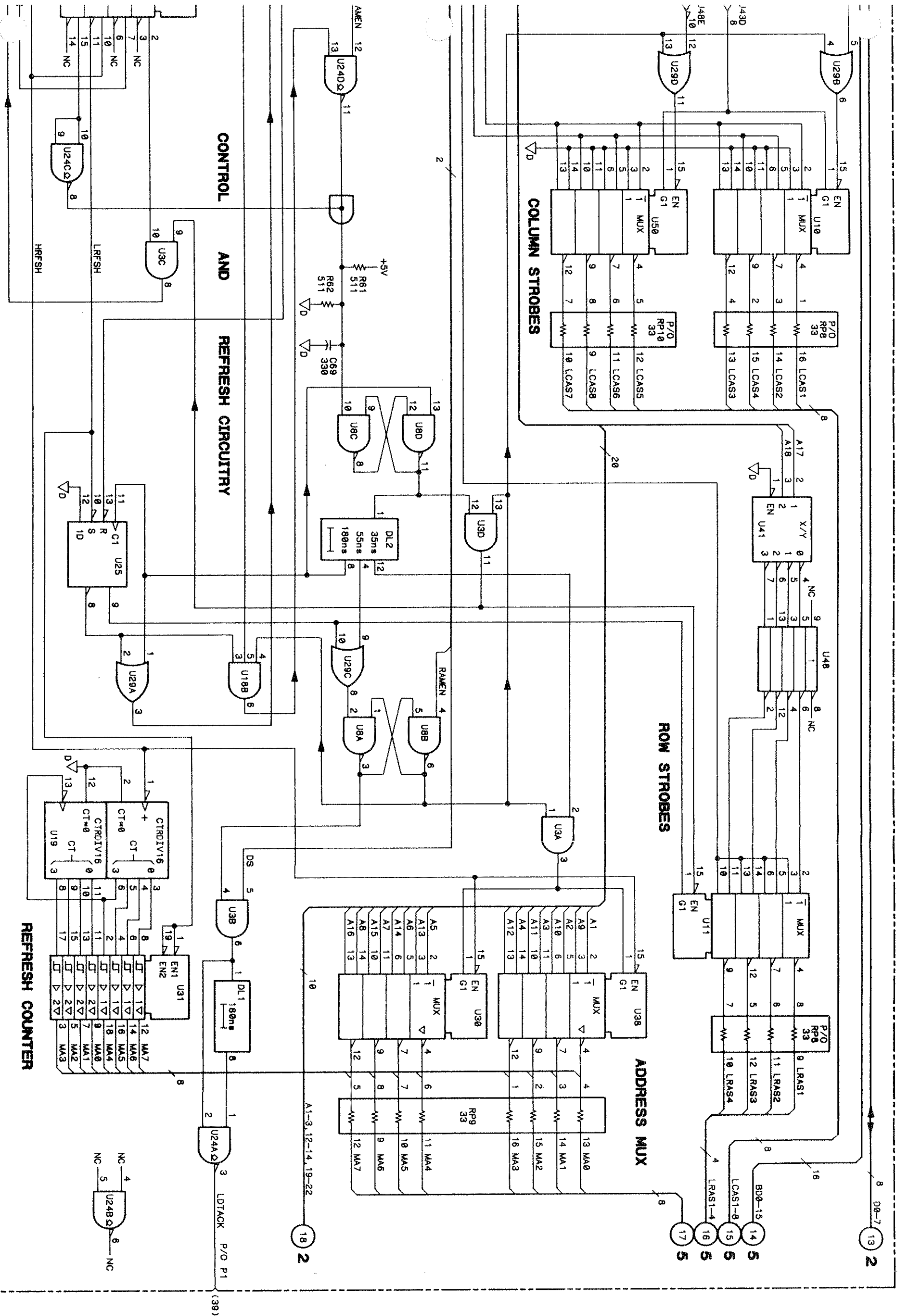


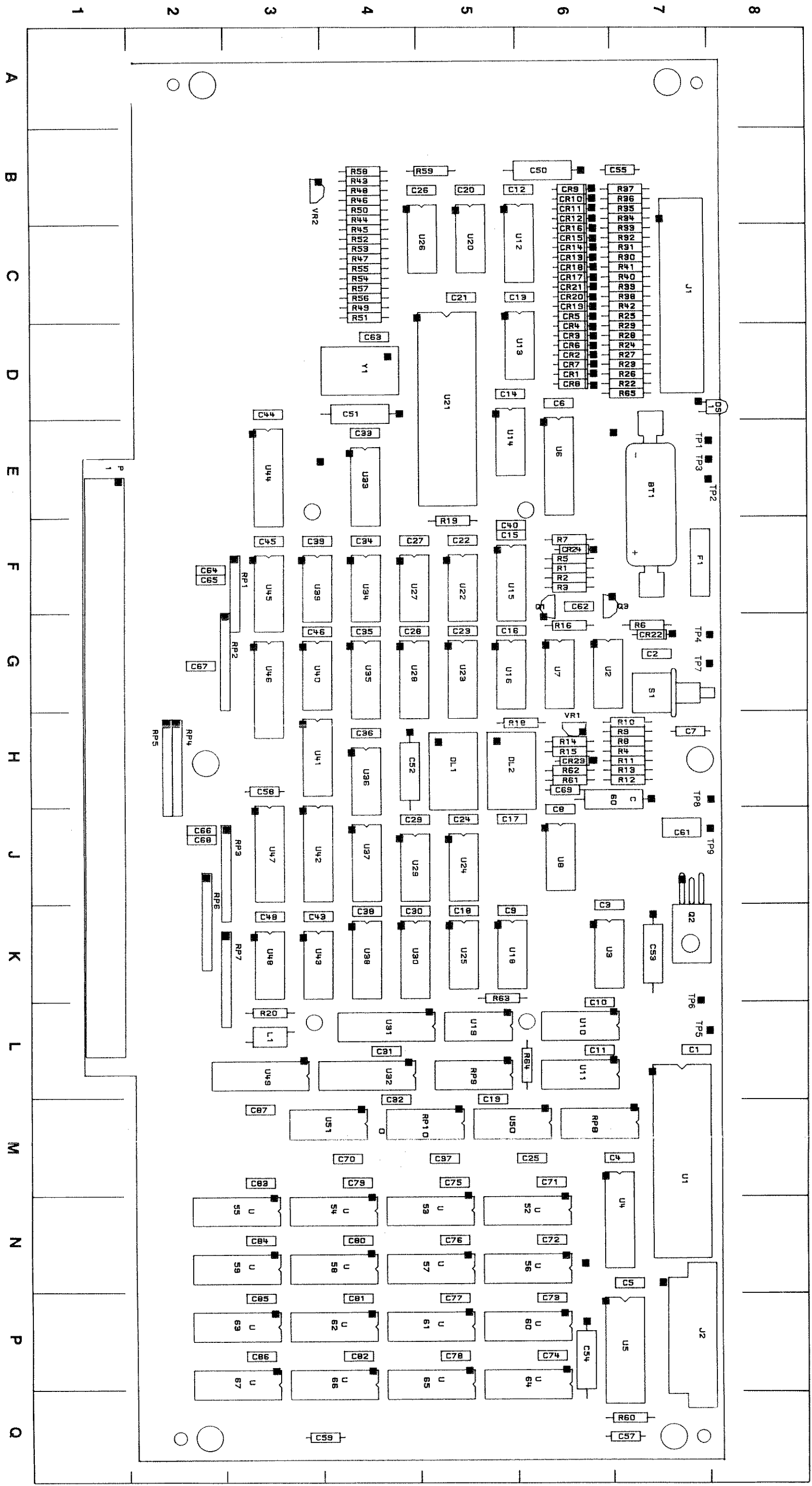
RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
2-6	1000	1	+5V
8-10	33		

PARTS ON THIS SCHEMATIC

- C69 DL1,2
- P/O P1 RP1-63
- RP3-6,8,9
- P/O RP2 U3,8,10,11,18,19,24,25,29-32,36-38,41,48-51
- P/O U22,43

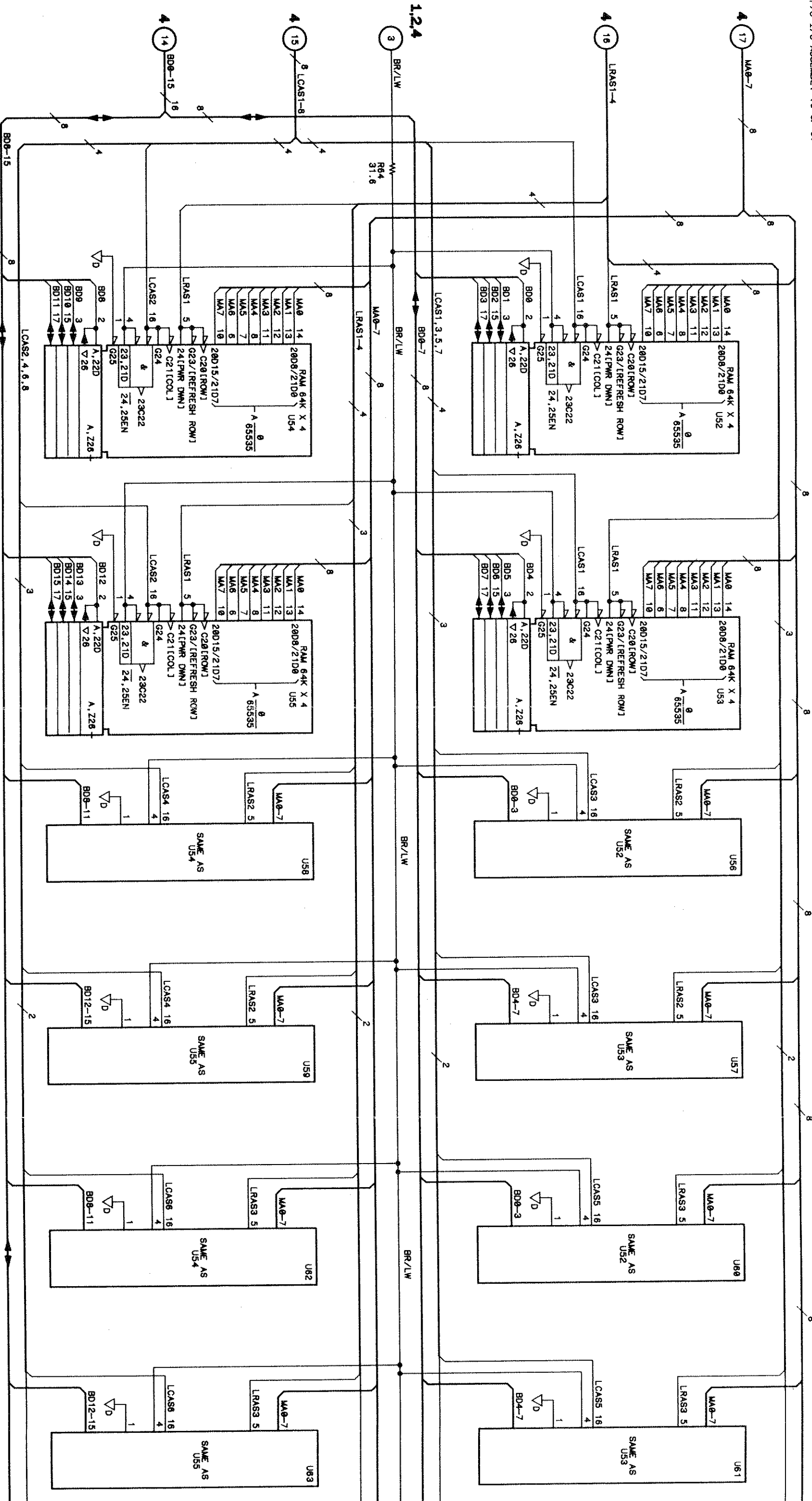
54111/SC06,04/5/09-87





A B C D E F G H J K L M N P Q

1 2 3 4 5 6 7 8



1.2.4

BR/LW

R64
31.6

MA0-7

LRA1-4

BR/LW

MA0-7

LRA1-4

BR/LW

MA0-7

LRA1-4

BR/LW

MA0-7

LRA1-4

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BR/LW

MA0-7

LRA1-4

BR/LW

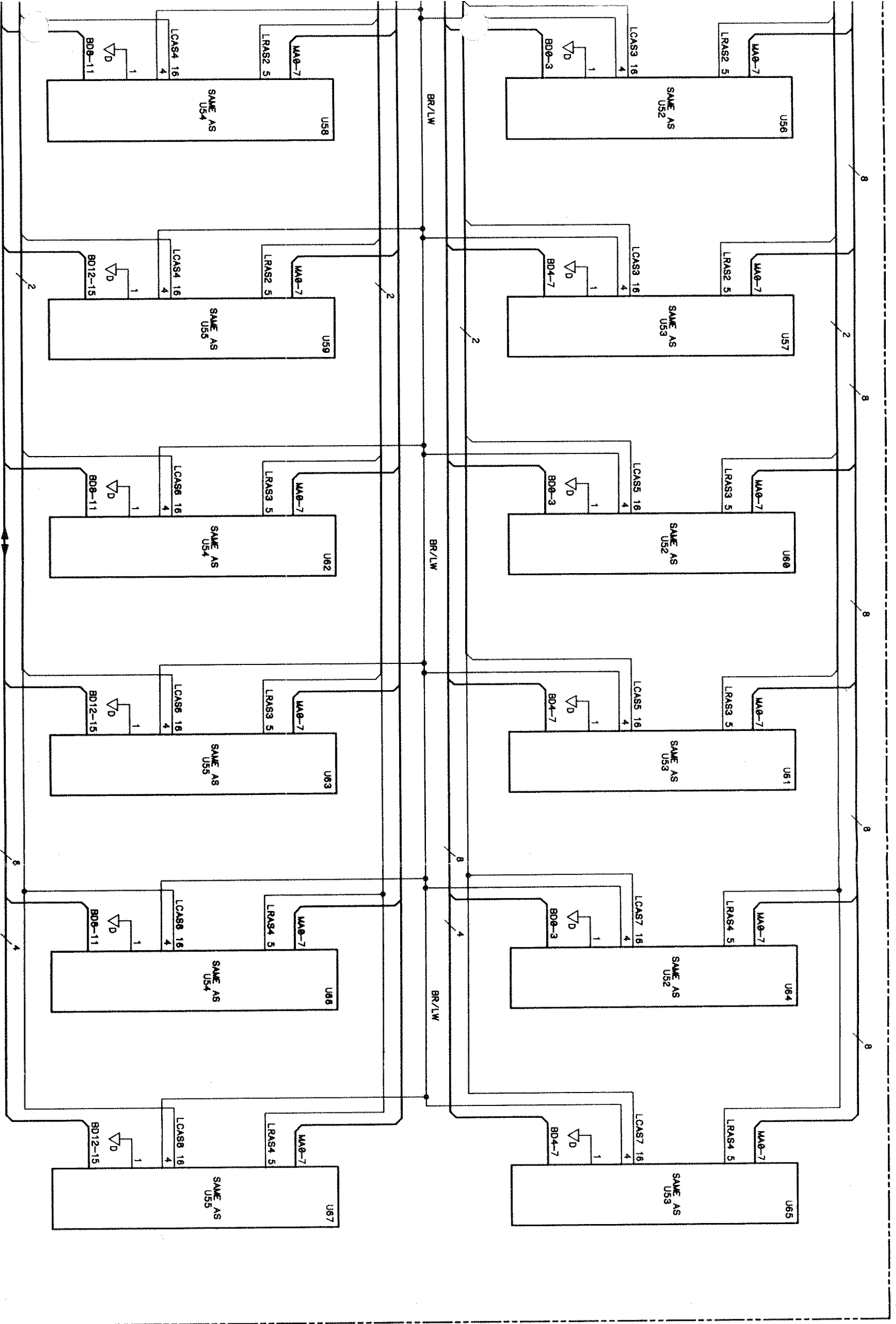
MA0-7

LRA1-4

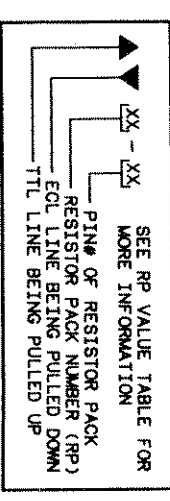
BR/LW

**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5V	9	US2-67
DGND	18	



RESISTOR PACK DESCRIPTIONS:

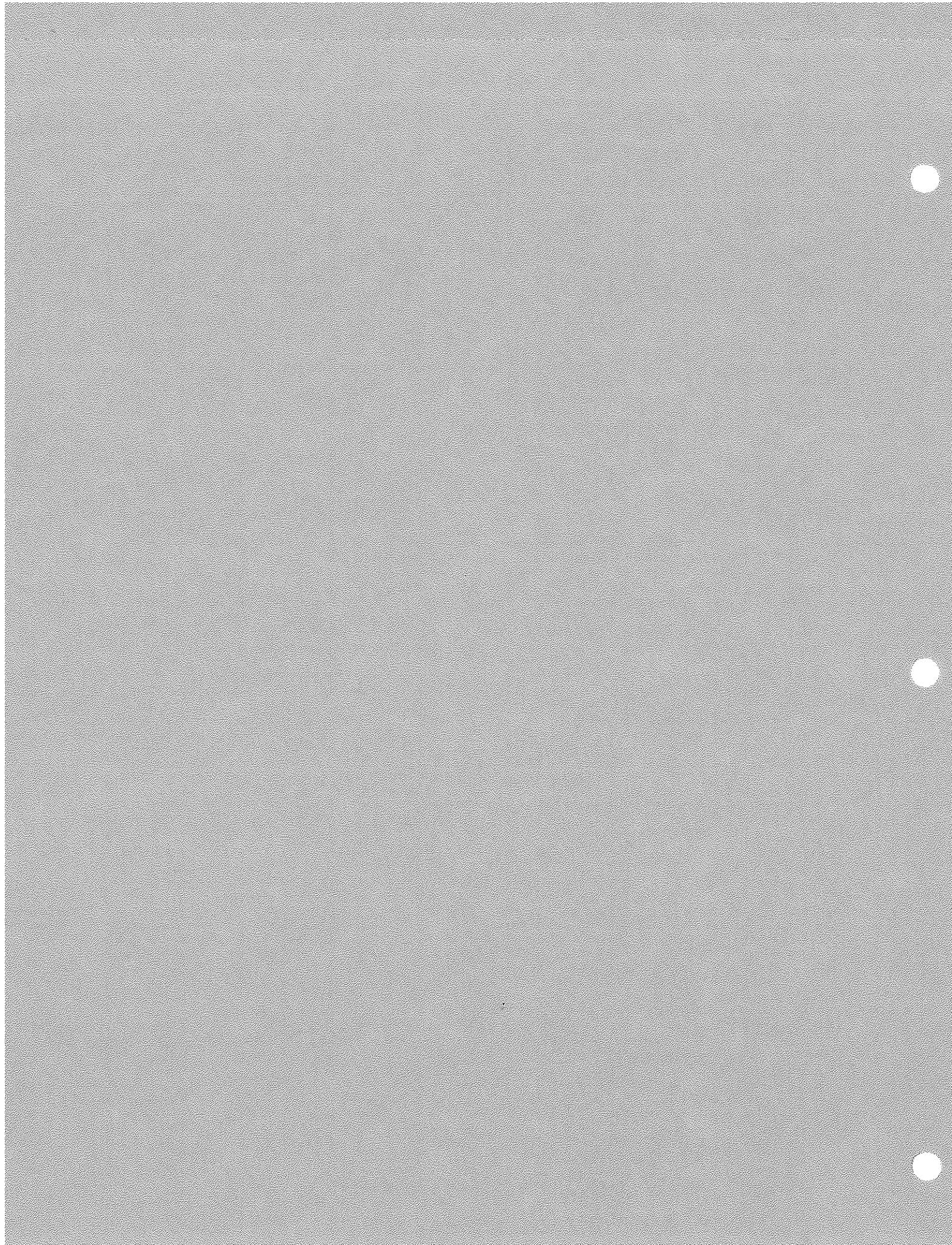


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

PARTS ON THIS SCHEMATIC

US2-67	R64
--------	-----

54111/SC06.05/5/09-97



Component-level Information Packet for HP 54111D and 54120A/B

Microprocessor

54111-66507
54111-66510
54111-66517
54111-66522
54111-66525

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Reference HP Part Number CD Qty Description Mtr Code Mtr Part Number

C1	0160-6500	7	51	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	1	2	CAPACITOR-FXD 0.01UF +-10% 50VDC MET-POLYE	28480	0160-6500
C3	0160-6041	1		CAPACITOR-FXD 0.1UF +-10% 100VDC CER	28480	0160-6041
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
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C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
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C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574

HP 5411D, 5412D, 54120A/B
Service Manual Supplement

Microprocessor Assembly
1

Reference	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-4575	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C55	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C57	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0180-0309	4	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C60	0180-0309	4	4	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C61	0180-0229	7	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C62	NOT ASSIGNED			NOT ASSIGNED		
C63	0160-6041	1	1	CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6041
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKER RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
R1-32	NOT ASSIGNED			NOT ASSIGNED		
R33	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R34	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R35	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R36	0757-0442	9	9	RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R37	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8	8	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	6	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP12	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TF1	0360-1653	5	18	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF2	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF3	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF4	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF5	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF6	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF7	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF8	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF9	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF10	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF11	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF12	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TF13	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

TP14	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP15	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
U1	1820-1730	6	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS273N
U2	1820-3347	5	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74ALS245N
U5	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U6	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U7	54111-80001	2	IC ROM	28480	54111-80001
U8	54111-80003	4	IC ROM	28480	54111-80003
U9	54111-80005	6	IC ROM	28480	54111-80005
U10	54111-80007	8	IC ROM	28480	54111-80007
U11	54111-80009	0	IC ROM	28480	54111-80009
U12	54111-80011	4	IC ROM	28480	54111-80011
U13	54111-80013	6	IC ROM	28480	54111-80013
U14	54111-80015	8	IC ROM	28480	54111-80015
U15	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U16	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U17	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U18	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U19	1820-1216	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U20	1820-1204	9	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N
U21	1820-2075	4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74ALS245N
U22	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U23	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U24	54111-80002	3	IC ROM	28480	54111-80002
U25	54111-80004	5	IC ROM	28480	54111-80004
U26	54111-80006	7	IC ROM	28480	54111-80006
U27	54111-80008	9	IC ROM	28480	54111-80008
U28	54111-80010	3	IC ROM	28480	54111-80010
U29	54111-80012	5	IC ROM	28480	54111-80012
U30	54111-80014	7	IC ROM	28480	54111-80014
U31	54111-80016	9	IC ROM	28480	54111-80016
U32	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U33	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U34	1820-1861	2	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6	IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U41	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS240N
U44	1820-2024	3	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U45	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U46	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U47	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N

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Microprocessor Assembly 3

54111-66507 Microprocessor Assembly Replacement Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7	7	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	M74F08P
U51	1820-0629	0	1	IC FF TTL S J-K NEG-EDGE-TRIG	01295	SN74S112N
U52	1820-0684	7	1	IC INV TTL S HEX 1-INP	01295	SN74S05N
XU1-6	1200-0861	8	16	NOT ASSIGNED		
XU7	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU8	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU9	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU10	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU11	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU12	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU13	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU14	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU15-23	1200-0861	8		NOT ASSIGNED		
XU24	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU25	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU26	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU27	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU28	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU29	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU30	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU31	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861

CHANGE 1 for 54111-66510, Microprocessor

Schematic 2

ROM was changed to make a new assembly for use in the HP 54120A. Except for the different ROM the assembly is identical to the 54111-66507.

The 54111-66510 was superseded by the 54111-66522. To use later ROM in an HP 54120A that uses the 54111-66510, the Horizontal Control Board must be modified. refer to Service Note 54120A-02.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
U7 to 54120-80001	3	IC ROM	28480	54120-80001
U8 to 54120-80003	5	IC ROM	28480	54120-80003
U9 to 54120-80005	7	IC ROM	28480	54120-80005
U10 to 54120-80007	9	IC ROM	28480	54120-80007
U11 to 54120-80009	1	IC ROM	28480	54120-80009
U12 to 54120-80011	5	IC ROM	28480	54120-80011
U24 to 54120-80002	4	IC ROM	28480	54120-80002
U25 to 54120-80004	6	IC ROM	28480	54120-80004
U26 to 54120-80006	8	IC ROM	28480	54120-80006
U27 to 54120-80008	0	IC ROM	28480	54120-80008
U28 to 54120-80010	4	IC ROM	28480	54120-80010
U29 to 54120-80012	6	IC ROM	28480	54120-80012

CHANGE:

CHANGE 1 for 54111-66517, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54111D. The Microprocessor assembly part number was changed from 54111-66507 to 54111-66517.

The 54111-66517 was superseded by the 54111-66519 which is covered in a different information packet.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
U7 to 54111-80017	0	IC ROM	28480	54111-80017
U8 to 54111-80019	2	IC ROM	28480	54111-80019
U9 to 54111-80021	6	IC ROM	28480	54111-80021
U10 to 54111-80023	8	IC ROM	28480	54111-80023
U11 to 54111-80025	0	IC ROM	28480	54111-80025
U12 to 54111-80027	2	IC ROM	28480	54111-80027
U13 to 54111-80029	4	IC ROM	28480	54111-80029
U14 to 54111-80031	8	IC ROM	28480	54111-80031
U24 to 54111-80018	1	IC ROM	28480	54111-80018
U25 to 54111-80020	5	IC ROM	28480	54111-80020
U26 to 54111-80022	7	IC ROM	28480	54111-80022
U27 to 54111-80024	9	IC ROM	28480	54111-80024
U28 to 54111-80026	1	IC ROM	28480	54111-80026
U29 to 54111-80028	3	IC ROM	28480	54111-80028
U30 to 54111-80030	7	IC ROM	28480	54111-80030
U31 to 54111-80032	9	IC ROM	28480	54111-80032

CHANGE:

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U7 to	54123-80001	6	IC ROM	28480	54123-80001
U8 to	54123-80003	8	IC ROM	28480	54123-80003
U9 to	54123-80005	0	IC ROM	28480	54123-80005
U10 to	54123-80007	2	IC ROM	28480	54123-80007
U11 to	54123-80009	4	IC ROM	28480	54123-80009
U12 to	54123-80011	8	IC ROM	28480	54123-80011
U13 to	54123-80013	0	IC ROM	28480	54123-80013
U24 to	54123-80002	7	IC ROM	28480	54123-80002
U25 to	54123-80004	9	IC ROM	28480	54123-80004
U26 to	54123-80006	1	IC ROM	28480	54123-80006
U27 to	54123-80008	3	IC ROM	28480	54123-80008
U28 to	54123-80010	7	IC ROM	28480	54123-80010
U29 to	54123-80012	9	IC ROM	28480	54123-80012
U30 to	54123-80014	1	IC ROM	28480	54123-80014

CHANGE :

HP PART	NUMBER	CD	DESCRIPTION	MFR	CODE	MFR PART	NUMBER
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ROM was changed to update the firmware of the HP 54120B and updated HP 54120A. (See service note 54120A-02 to update an HP 54120A). The Microprocessor assembly part number was changed from 54111-66522 to 54111-66525.

Schematic 2

CHANGE 1 for 54111-66525, Microprocessor

U7 to	54122-80001	5	IC ROM	28480	54122-80001
U8 to	54122-80003	7	IC ROM	28480	54122-80003
U9 to	54122-80005	9	IC ROM	28480	54122-80005
U10 to	54122-80007	1	IC ROM	28480	54122-80007
U11 to	54122-80009	3	IC ROM	28480	54122-80009
U12 to	54122-80011	7	IC ROM	28480	54122-80011
U13 to	54122-80013	9	IC ROM	28480	54122-80013
U24 to	54122-80002	6	IC ROM	28480	54122-80002
U25 to	54122-80004	8	IC ROM	28480	54122-80004
U26 to	54122-80006	0	IC ROM	28480	54122-80006
U27 to	54122-80008	2	IC ROM	28480	54122-80008
U28 to	54122-80010	6	IC ROM	28480	54122-80010
U29 to	54122-80012	8	IC ROM	28480	54122-80012
U30 to	54122-80014	0	IC ROM	28480	54122-80014

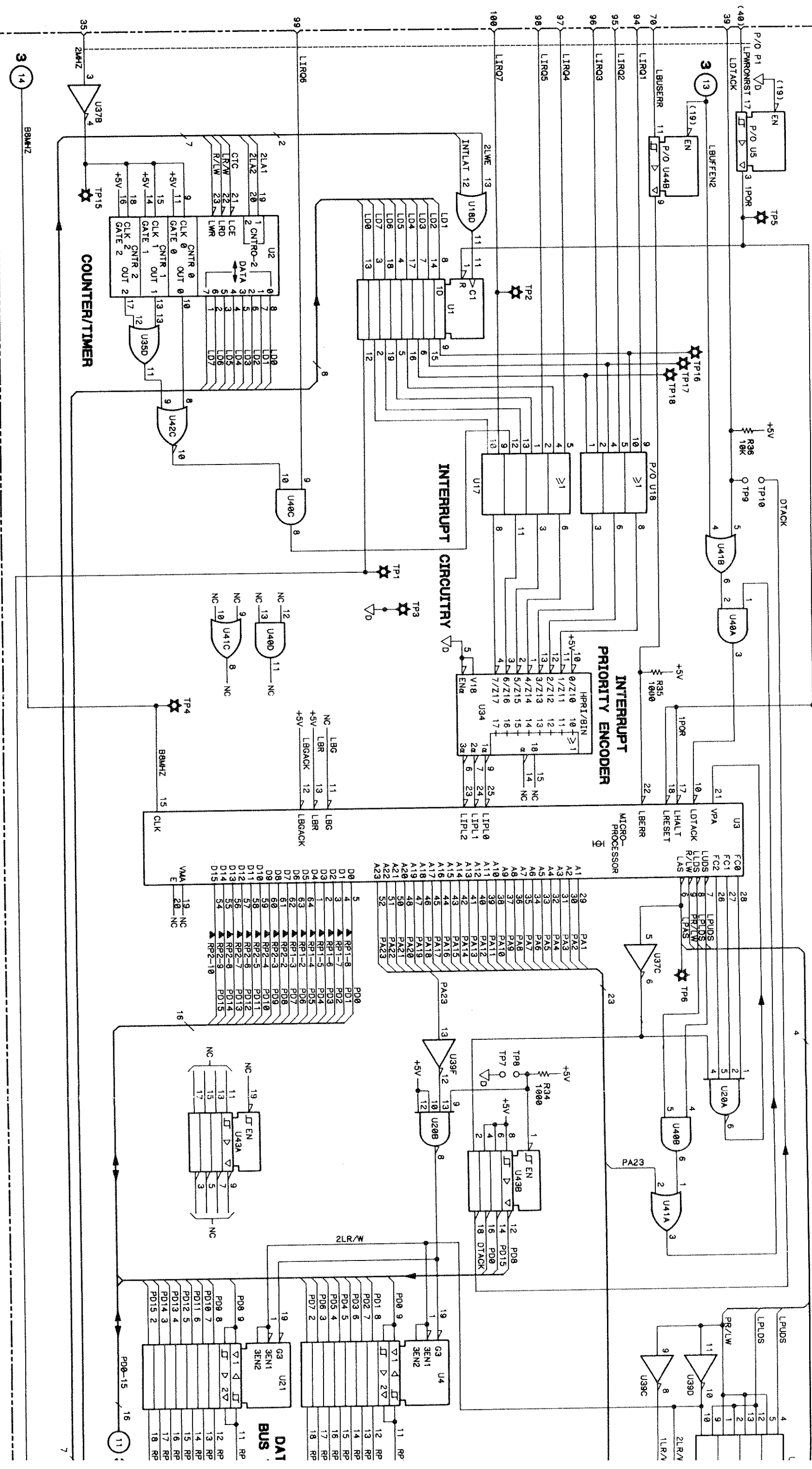
CHANGE :

HP PART	NUMBER	CD	DESCRIPTION	MFR	CODE	MFR PART	NUMBER
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ROM was changed to update the firmware of the HP 54120B. The Microprocessor assembly part number was changed from 54111-66510 to 54111-66522. The 54111-66522 was superseded by the 54111-66525.

Schematic 2

CHANGE 1 for 54111-66522, Microprocessor



3 14

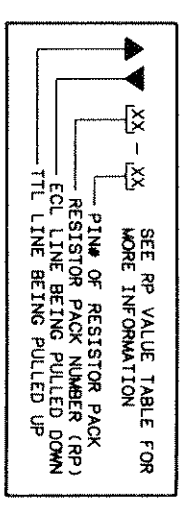
11

**IC DEVICE
POWER CONNECTIONS**

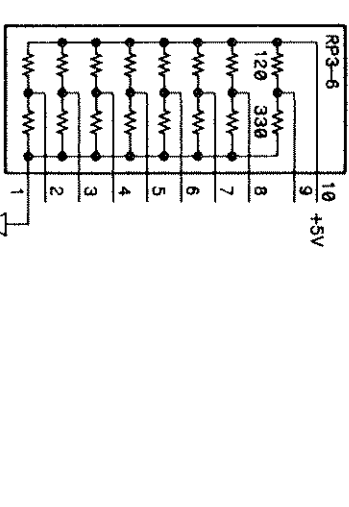
SUPPLY	PIN NO.	IC GROUP
+5V	14	U17, 18, 20, 35,
DGND	7	37-42
+5V	16	U19, 34, 36
DGND	8	
+5V	20	U1, 4-6, 21-23, 43,
DGND	10	44
+5V	24	U2
DGND	12	
+5V	14, 49	U3
DGND	16, 53	

NOTES:

RESISTOR PACK DESCRIPTIONS:

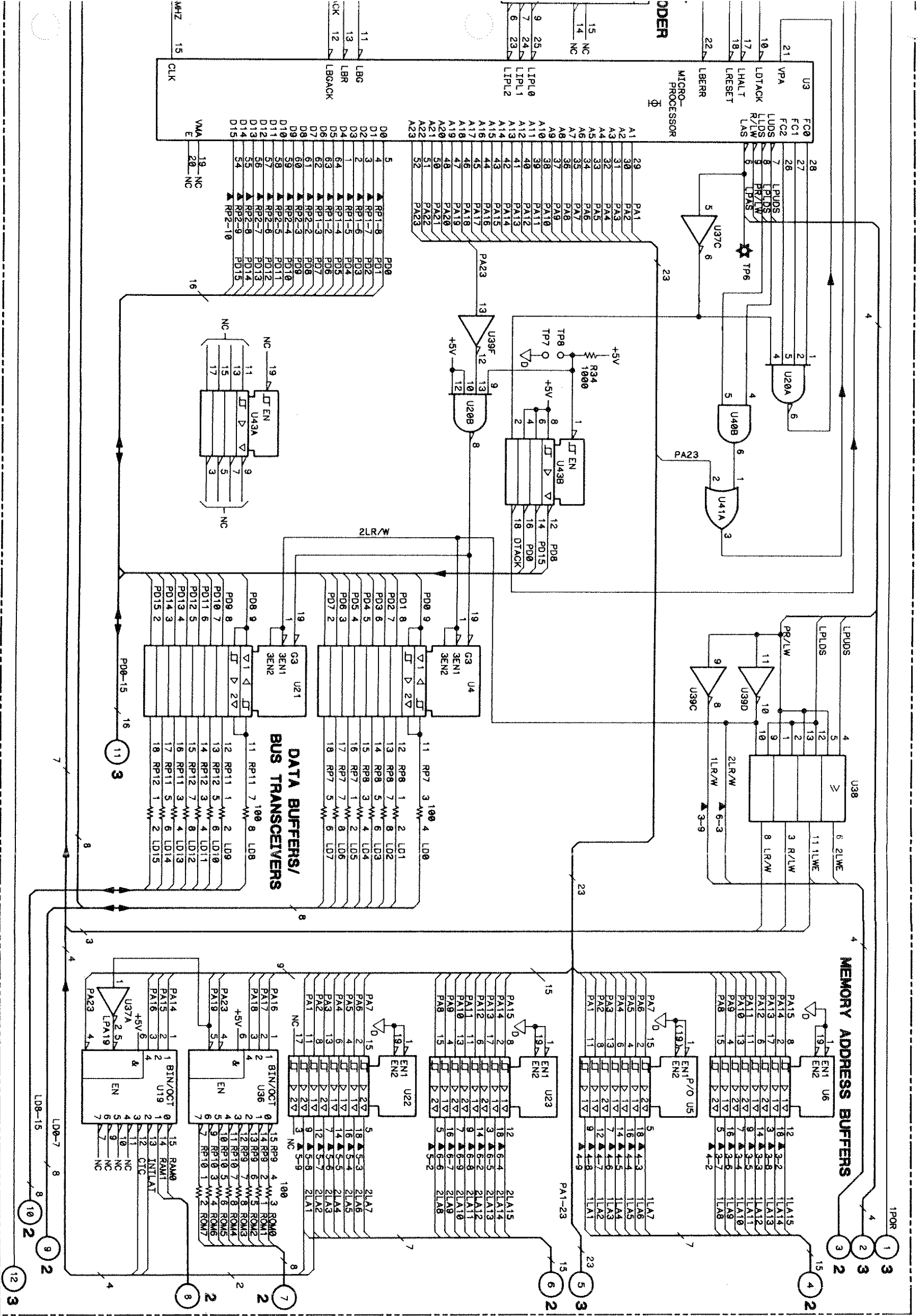


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1, 2	10K	10	+5V



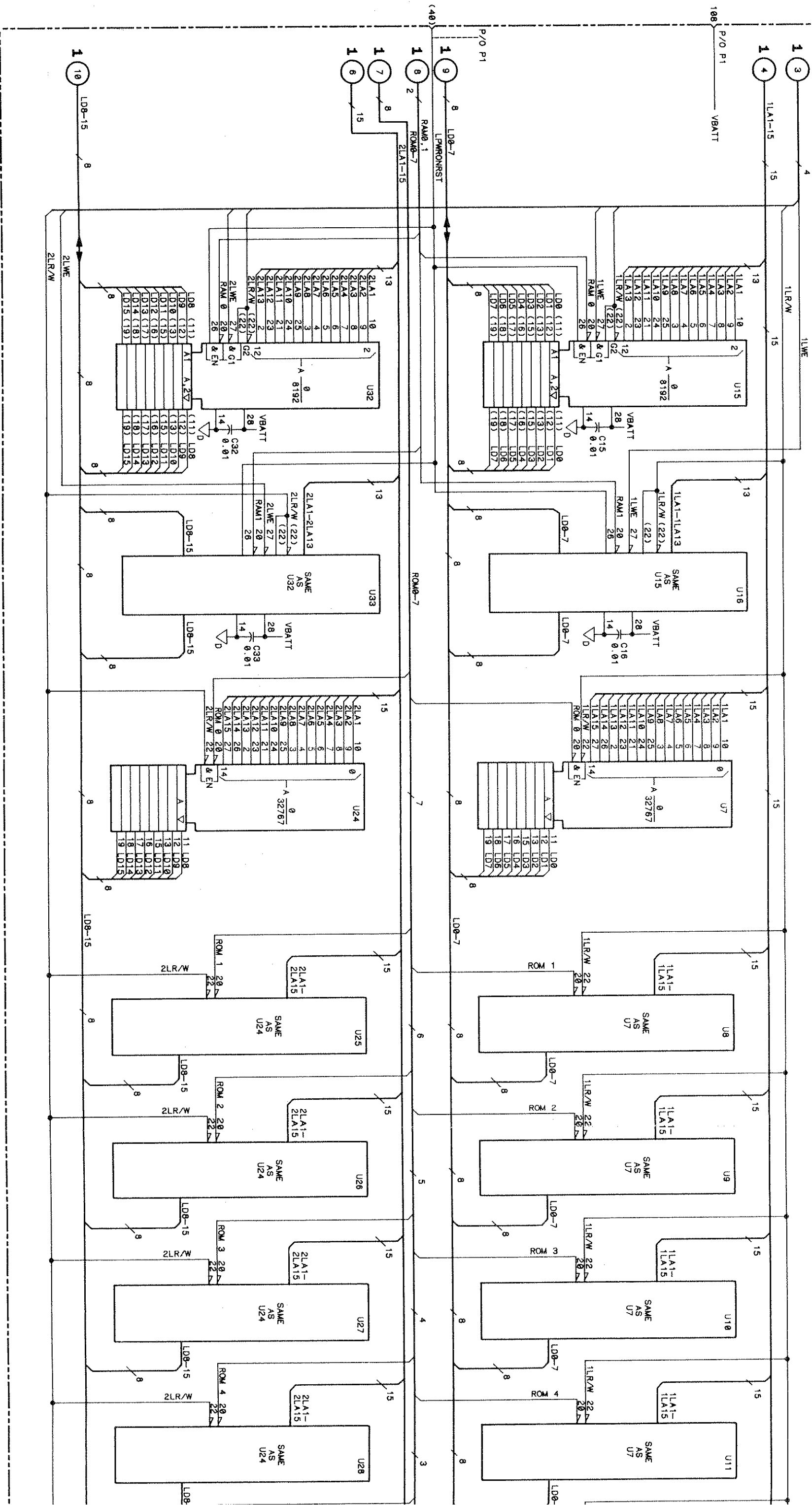
PARTS ON THIS SCHEMATIC

P/O P1	R34-36
RP1-12	U1-6, 17-23, 34, 36, 38, 40, 43
U1-6	U19, 37, 39, 41, 42, 44
P/O U35	Tp1-10, 15-18

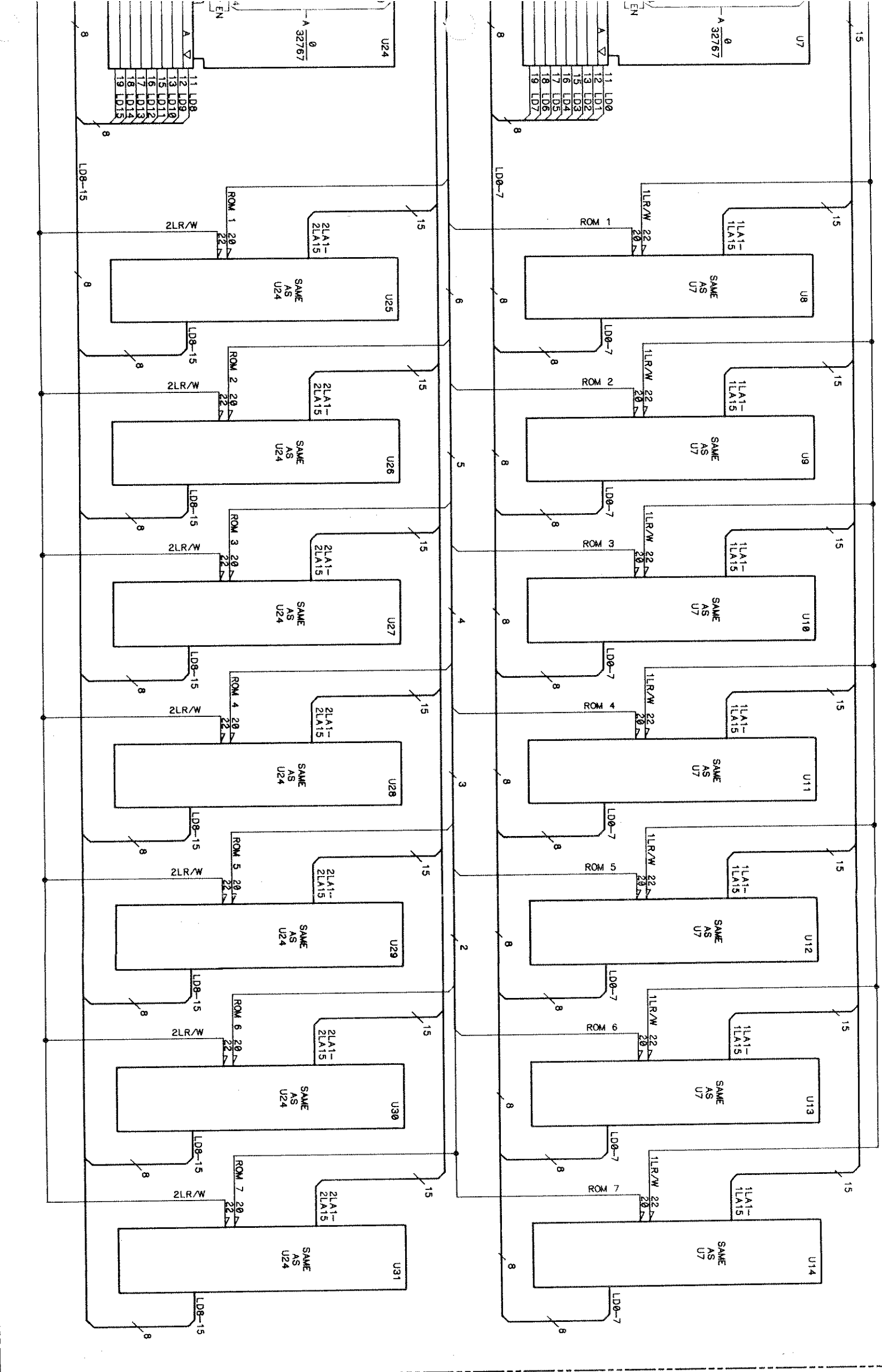


RAM

ROM



ROM



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	1, 28	U7-14, 24-31
DGND	14	
VBAT	28	U15, 16, 32, 33
DGND	14	

NOTES:
1. GATES ARE SYMBOLIZED ACCORDING TO CIRCUIT FUNCTION.

PARTS ON THIS SCHEMATIC

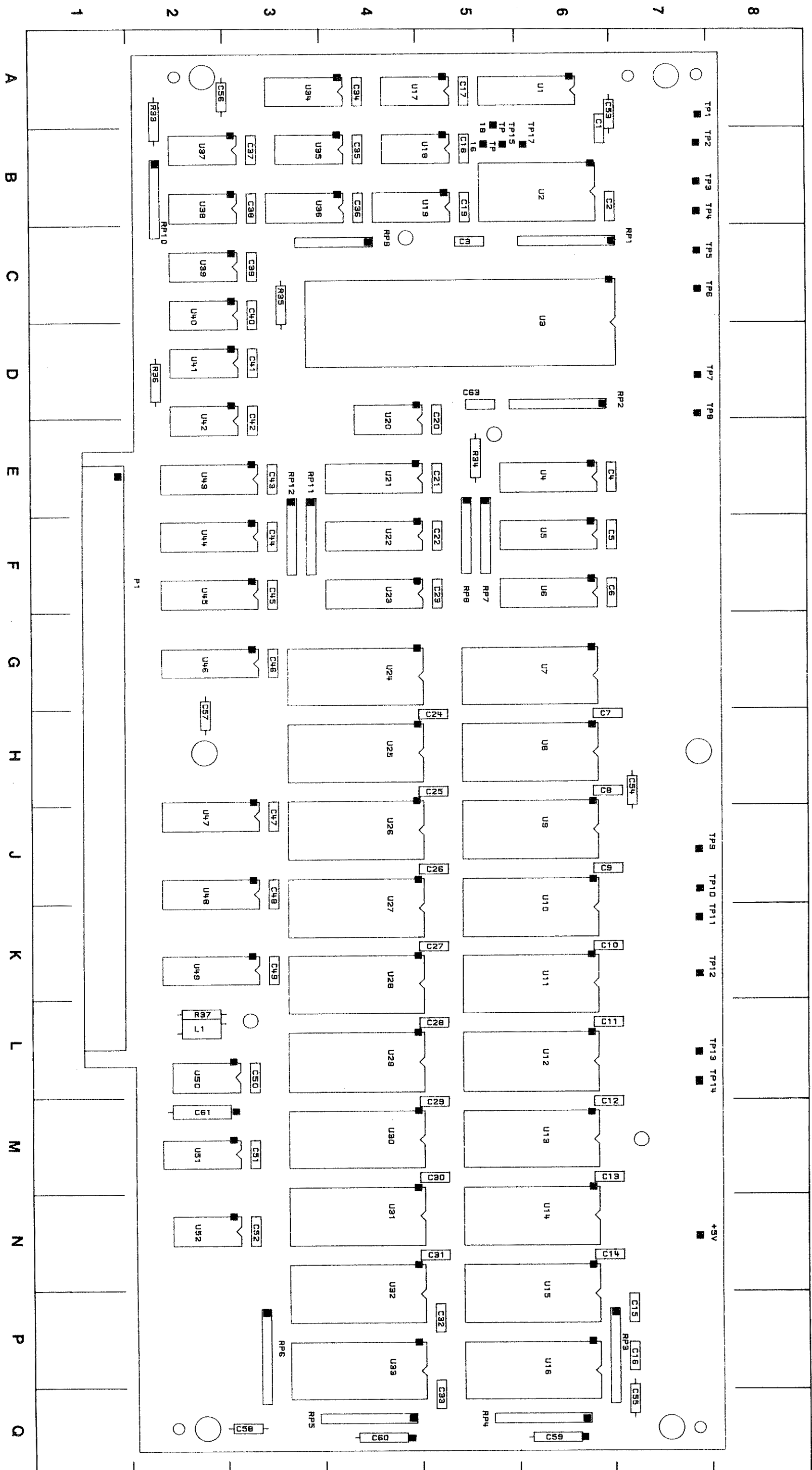
C15, 16, 32, 33
P/O P1
U7-16, 24-33

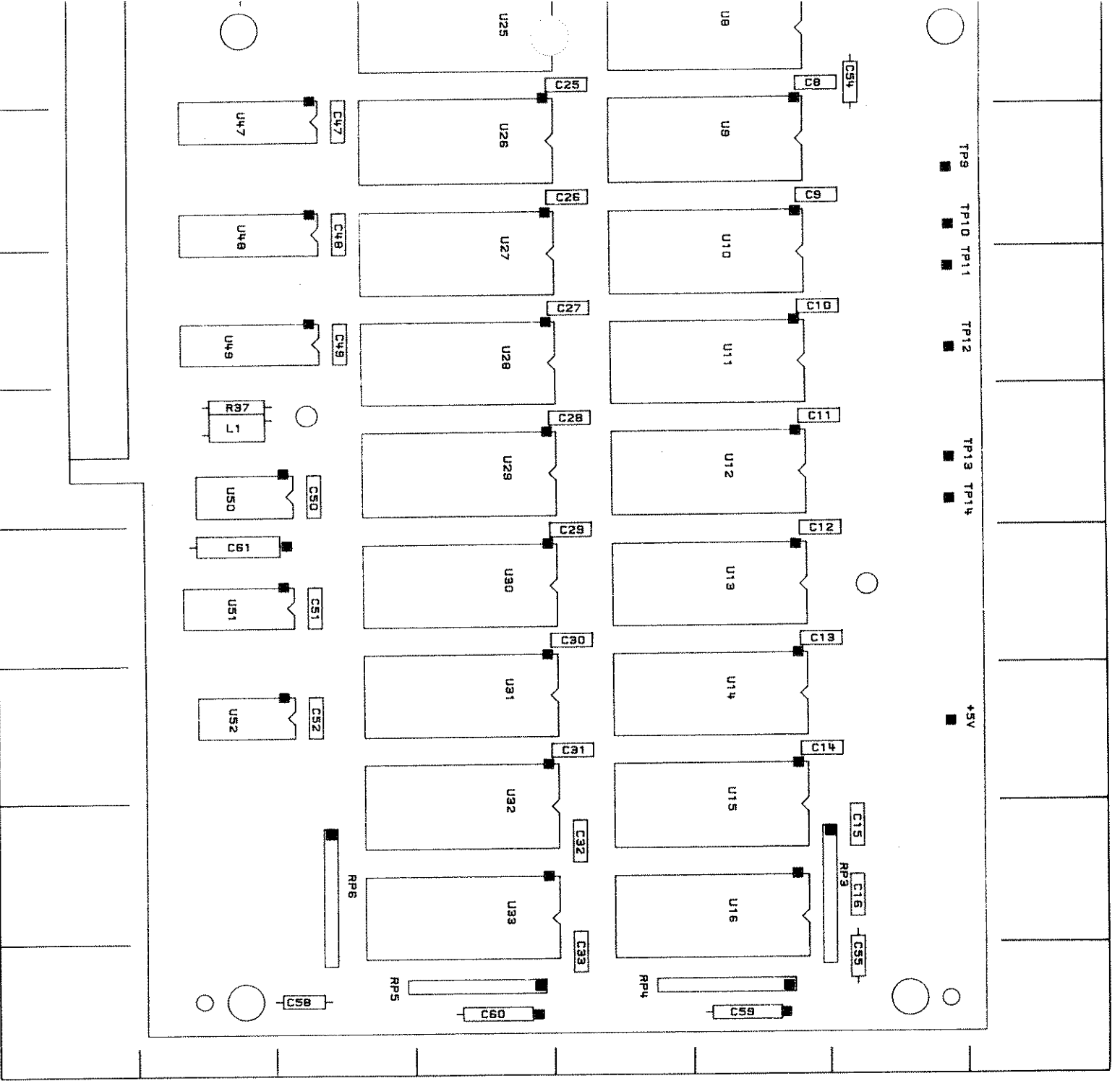
54111/SC07_02/3/04-97

2

CPU ROM, RAM

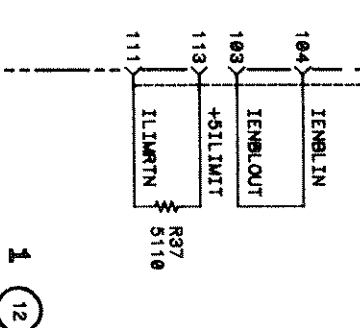
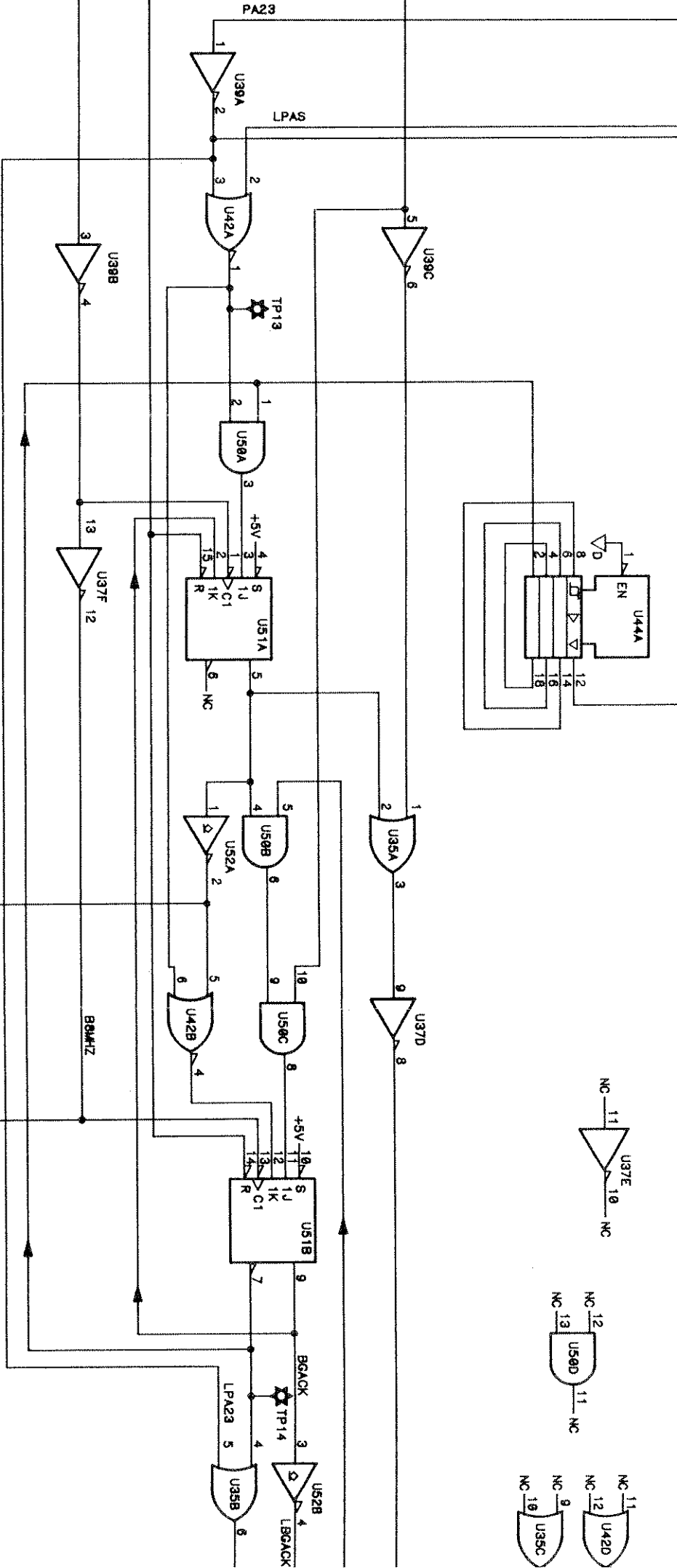
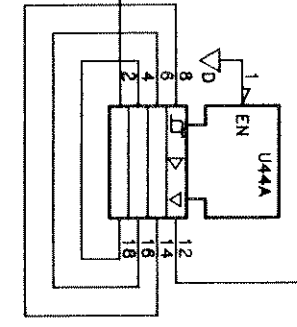
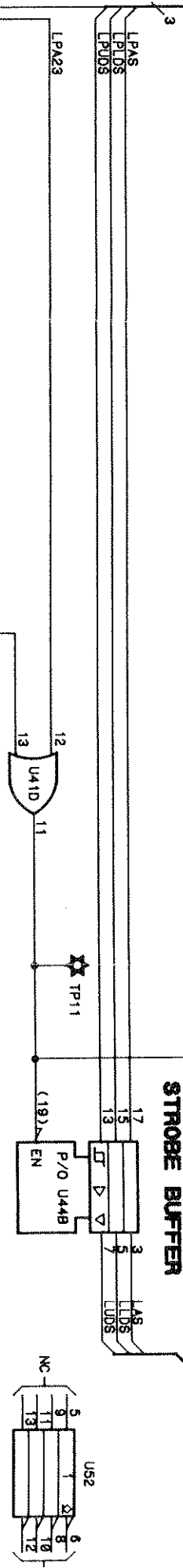
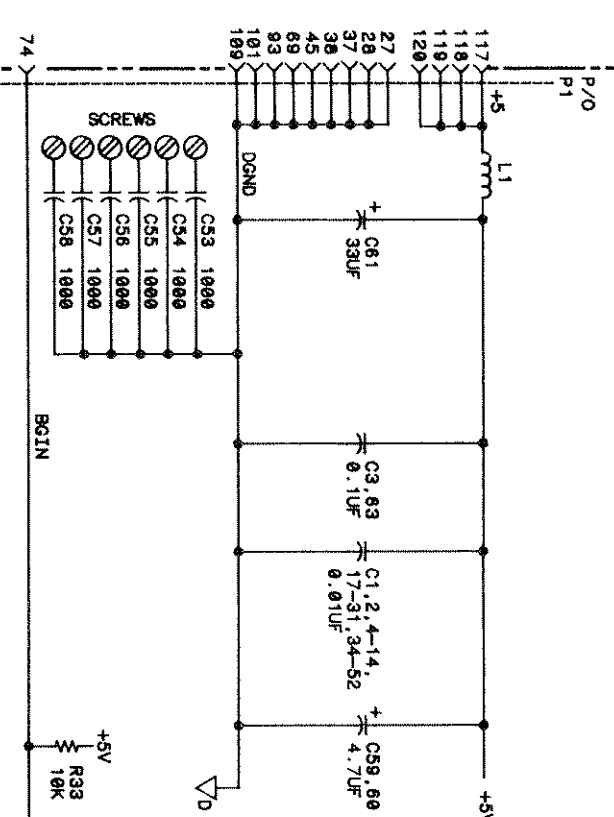
54111-66507





REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	A-6	C41	D-3	RP8	F-5	U16	P-6
C2	B-6	C42	E-3	RP9	C-4	U17	A-5
C3	C-5	C43	E-3	RP10	C-2	U18	B-5
C4	E-6	C44	F-3	RP11	E-3	U19	B-5
C5	F-6	C45	F-3	RP12	E-3	U20	E-4
C6	F-6	C46	G-3			U21	E-4
C7	H-6	C47	J-3	TP1	A-8	U22	F-4
C8	H-6	C48	J-3	TP2	B-8	U23	F-4
C9	J-6	C49	K-3	TP3	B-8	U24	G-4
C10	K-6	C50	L-3	TP4	B-8	U25	H-4
C11	L-6	C51	M-3	TP5	C-8	U26	J-4
C12	M-6	C52	N-3	TP6	C-8	U27	K-4
C13	M-6	C53	A-7	TP7	D-8	U28	K-4
C14	N-6	C54	H-7	TP8	D-8	U29	L-4
C15	P-7	C55	Q-7	TP9	J-8	U30	M-4
C16	P-7	C56	A-2	TP10	J-8	U31	N-4
C17	A-5	C57	H-2	TP11	K-8	U32	P-4
C18	B-5	C58	Q-3	TP12	K-8	U33	P-4
C19	B-5	C59	Q-6	TP13	L-8	U34	A-3
C20	E-5	C60	Q-4	TP14	L-8	U35	B-3
C21	E-5	C61	M-2	TP15	B-5	U36	B-3
C22	F-5	C63	D-5	TP16	B-5	U37	B-2
C23	F-5			TP17	B-6	U38	B-2
C24	H-5	L1	L-2	TP18	A-5	U39	C-2
C25	H-5					U40	C-2
C26	J-5	P1	F-2	U1	A-6	U41	D-2
C27	K-5			U2	B-6	U42	E-2
C28	L-5	R33	A-2	U3	C-6	U43	E-2
C29	M-5	R34	E-5	U4	E-6	U44	F-2
C30	M-5	R35	C-3	U5	F-6	U45	F-2
C31	N-5	R36	D-2	U6	F-6	U46	G-2
C32	P-5	R37	L-2	U7	G-6	U47	J-2
C33	Q-5			U8	H-6	U48	J-2
C34	A-4	RP1	C-7	U9	J-6	U49	K-2
C35	B-4	RP2	D-7	U10	K-6	U50	L-2
C36	B-4	RP3	P-7	U11	K-6	U51	M-2
C37	B-3	RP4	Q-5	U12	L-6	U52	N-2
C38	B-3	RP5	Q-3	U13	M-6		
C39	C-3	RP6	P-3	U14	N-6		
C40	C-3	RP7	F-5	U15	P-6		

1 11
1 2
1 5
29 PA1-23



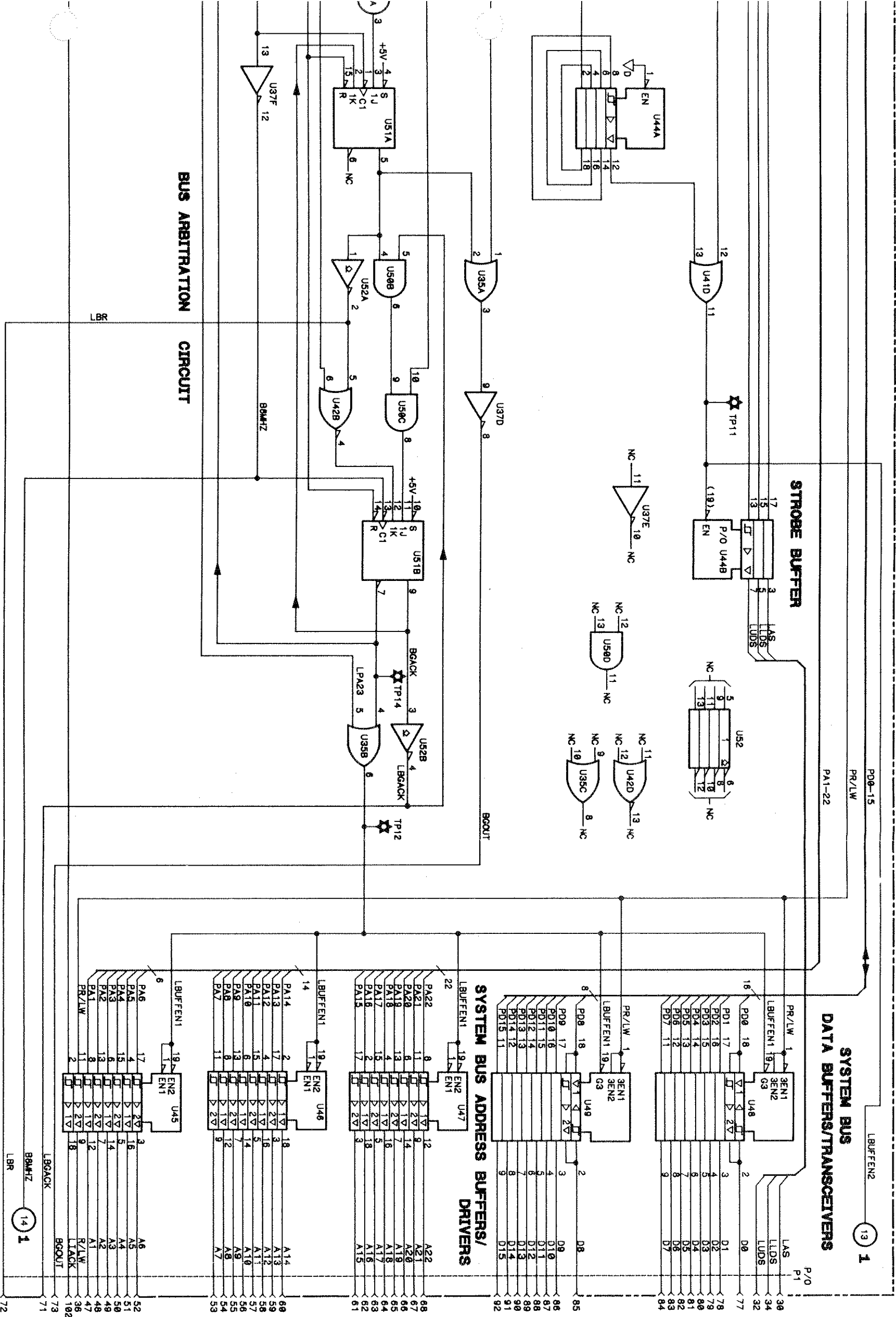
**BUS ARBITRATION
CIRCUIT**



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U35, 37, 39, 41, 42, 50, 52
DGND	7	U51
+5V	16	U44-49
DGND	8	
+5V	20	
DGND	10	

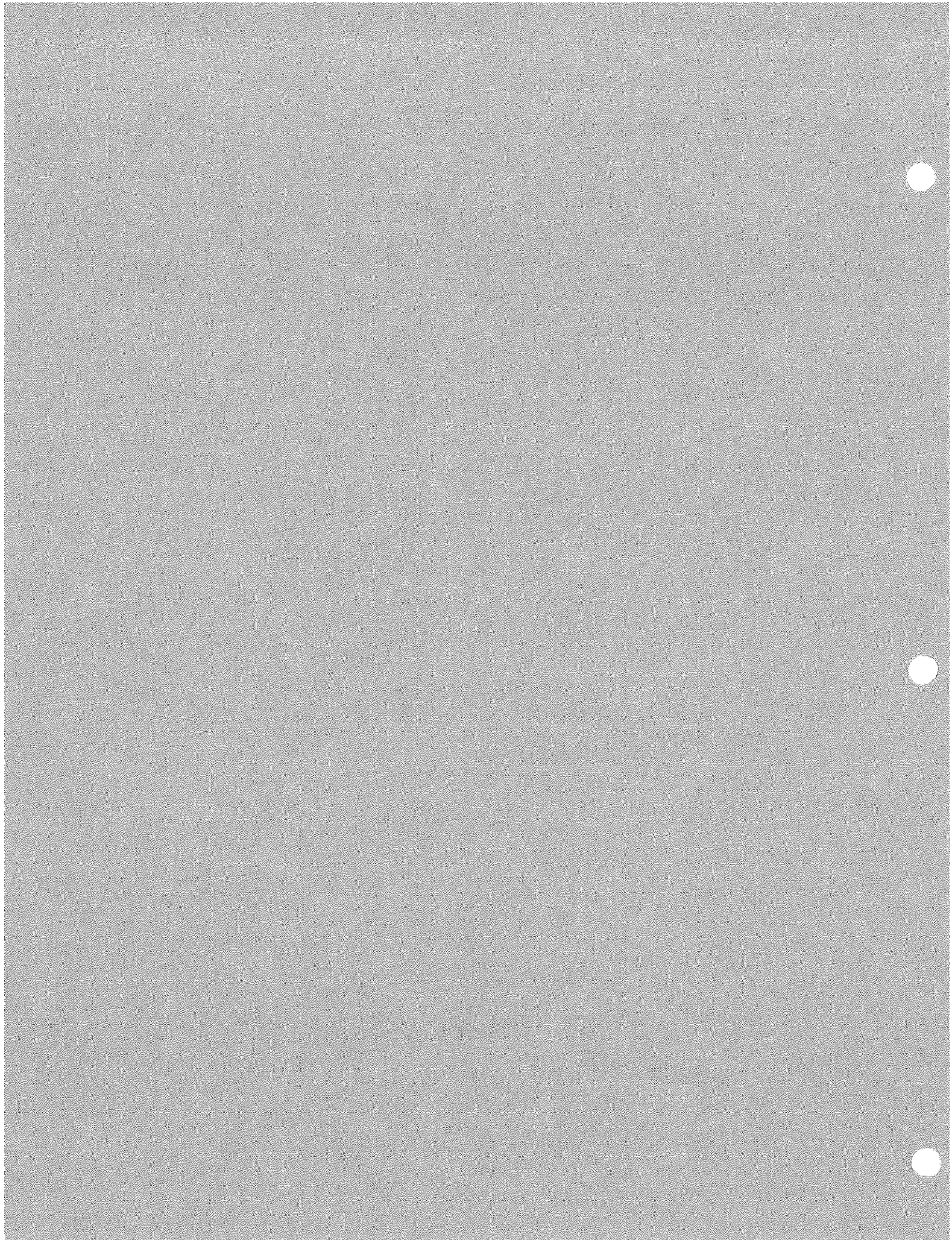
NOTES:



PARTS ON THIS SCHEMATIC

- C1-14, 17-31, 34-61, 63
- L1
- P/O P1
- R33, 37
- TP11-14
- U45-52
- P/O U35, 37, 39, 41, 42, 44

541111/SC07_03/3/04-07





Component-level Information Packet

for HP 54112D

Microprocessor

54111-66511
54111-66521
54111-66524

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While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Reference Designator HP Part Number CD Qty Description Mfr Code Mtr Part Number

C1	0160-6500	7	51	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7	2	CAPACITOR-FXD	0.1UF +-10% 50VDC MET-POLYE	28480	0160-6500
C3	0160-6500	5	2	CAPACITOR-FXD	0.1UF +-10% 50VDC MET-POLYE	28480	0160-6500
C4	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7	7	CAPACITOR-FXD	0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-4574	1	1	CAPACITOR-FXD	1000PF +-10% 100VDC CER	28480	0160-4574

HP 54111D, 54112D, 54120A/B Service Manual Supplement

54111-66511 Microprocessor Assembly Replaceable Parts

Microprocessor Assembly 1

Microprocessor Assembly 2
 HP 54111D, 54112D, 54120A/B Service Manual Supplement

Reference	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
C54	0160-4575	1	5	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C55	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C56	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C57	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C58	0160-4575	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C59	0180-3845	9	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C60	0180-3809	4	4	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C61	0180-3848	2	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C62	NOT ASSIGNED					
C63	0160-6623	5	5	CAPACITOR-FXD 0.1UF +-10% 50VDC MET-POLYE	28480	0160-6623
H1	0515-0372	2	1	SCREW MACH M3 6MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKER RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	1	TRANSISTOR NPN SI T0-92 PD=350MW	04713	2N3904
R1-32	NOT ASSIGNED					
R33	0757-0442	9	2	RESISTOR 10K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R34	0757-0280	3	2	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R35	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1001-F
R36	0757-0442	9	9	RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-1002-F
R37	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R38	0698-7212	9	2	RESISTOR 100 1% 0.05W TF TC=0+-100	28480	0698-7212
R39	0757-0419	0	2	RESISTOR 681 1% 0.125W TF TC=0+-100	2M627	CT4-1/8-T0-6810-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0	6	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP12	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	18	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653



Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

FP11	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP12	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP13	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP14	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP15	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP16	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP17	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
FP18	0360-1653	5	CONN-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

U1	1820-1730	6	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74ALS273N
U2	1820-3347	5	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	IC-MPU; CLK FREQ=8MHZ; INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74ALS245N
U5	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N

U6	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U7	54112-80001	3	IC ROM	28480	54112-80001
U8	54112-80003	5	IC ROM	28480	54112-80003
U9	54112-80005	7	IC ROM	28480	54112-80005
U10	54112-80007	9	IC ROM	28480	54112-80007

U11	54112-80009	1	IC ROM	28480	54112-80009
U12	54112-80011	5	IC ROM	28480	54112-80011
U13	54112-80013	7	IC ROM	28480	54112-80013
U15	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L

U16	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U17	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U18	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN75LS32N
U19	1820-1216	3	IC DCDR TTL LS 3-T0-8-LINE 3-INP	01295	SN74LS138N
U20	1820-1204	9	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74LS20N

U21	1820-2075	4	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74ALS245N
U22	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U23	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U24	54112-80002	4	IC ROM	28480	54112-80002
U25	54112-80004	6	IC ROM	28480	54112-80004

U26	54112-80006	8	IC ROM	28480	54112-80006
U27	54112-80008	0	IC ROM	28480	54112-80008
U28	54112-80010	4	IC ROM	28480	54112-80010
U29	54112-80012	6	IC ROM	28480	54112-80012
U30	54112-80014	8	IC ROM	28480	54112-80014

U32	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U33	1818-3183	2	IC CMOS 65536 (64K) STAT RAM 150-NS 3-S	50545	UPD4364C-15L
U34	1820-1851	2	IC ENCDR TTL LS	01295	SN74LS148N
U35	1820-2690	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P

U36	1820-2861	6	IC DCDR TTL F 3-T0-8-LINE	04713	MC74F138N
U37	1820-2506	6	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6	IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N

U41	1820-1208	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U42	1820-2685	2	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	IC DRIVER TTL LS LINE OCTL	01295	SN74LS240N
U44	1820-2024	3	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS244N
U45	1820-2795	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N

HP 5411D, 5412D, 54120A/B
Service Manual Supplement

Microprocessor Assembly
3

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
U46	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	M074F244N
U47	1820-2795	5		IC DRVR TTL F LINE DRVR OCTL	04713	M074F244N
U48	1820-3224	7	2	IC TRANSCIEVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7		IC TRANSCIEVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	M074F08P
U51	1820-0629	0	1	IC FF TTL S J-K NEG-EDGE-TRIG	01295	SN74S112N
U52	1820-0684	7	1	IC INV TTL S HEX 1-INP	01295	SN74S05N
XU1-6	1200-0861	8	16	NOT ASSIGNED		
XU7	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU8	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU9	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU10	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU11	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU12	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU13	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU14	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU15-23				NOT ASSIGNED		
XU24	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU25	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU26	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU27	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU28	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU29	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU30	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861
XU31	1200-0861	8		SOCKET-IC 28-CONT DIP DIP-SLDR	28480	1200-0861

CHANGE 1 for 54111-66521, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66511 to 54111-66521. The 54111-66521 was superseded by the 54111-66524.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
54112-80015	9	IC ROM	28480	54112-80015
54112-80017	1	IC ROM	28480	54112-80017
54112-80019	3	IC ROM	28480	54112-80019
54112-80021	7	IC ROM	28480	54112-80021
54112-80023	9	IC ROM	28480	54112-80023
54112-80025	1	IC ROM	28480	54112-80025
54112-80027	3	IC ROM	28480	54112-80027
54112-80016	0	IC ROM	28480	54112-80016
54112-80018	2	IC ROM	28480	54112-80018
54112-80020	6	IC ROM	28480	54112-80020
54112-80022	8	IC ROM	28480	54112-80022
54112-80024	0	IC ROM	28480	54112-80024
54112-80026	2	IC ROM	28480	54112-80026
54112-80028	4	IC ROM	28480	54112-80028

CHANGE:

CHANGE 1 for 54111-66524, Microprocessor

Schematic 2

ROM was changed to update the firmware of the HP 54112D. The Microprocessor assembly part number was changed from 54111-66521 to 54111-66524.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
54112-80043	3	IC ROM	28480	54112-80043
54112-80045	5	IC ROM	28480	54112-80045
54112-80047	7	IC ROM	28480	54112-80047
54112-80049	9	IC ROM	28480	54112-80049
54112-80051	3	IC ROM	28480	54112-80051
54112-80053	5	IC ROM	28480	54112-80053
54112-80055	7	IC ROM	28480	54112-80055
54112-80044	4	IC ROM	28480	54112-80044
54112-80046	6	IC ROM	28480	54112-80046
54112-80048	8	IC ROM	28480	54112-80048
54112-80050	2	IC ROM	28480	54112-80050
54112-80052	4	IC ROM	28480	54112-80052
54112-80054	6	IC ROM	28480	54112-80054
54112-80056	8	IC ROM	28480	54112-80056

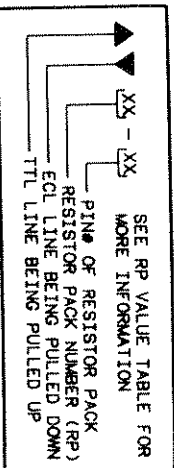
CHANGE:

**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5V	14	U17, 18, 20, 35,
DGND	7	37-42
+5V	18	U19, 34, 36
DGND	8	
+5V	20	U1, 4-6, 21-23, 43,
DGND	10	44
+5V	24	U2
DGND	12	
+5V	14, 48	U3
DGND	18, 53	

NOTES:

RESISTOR PACK DESCRIPTIONS:

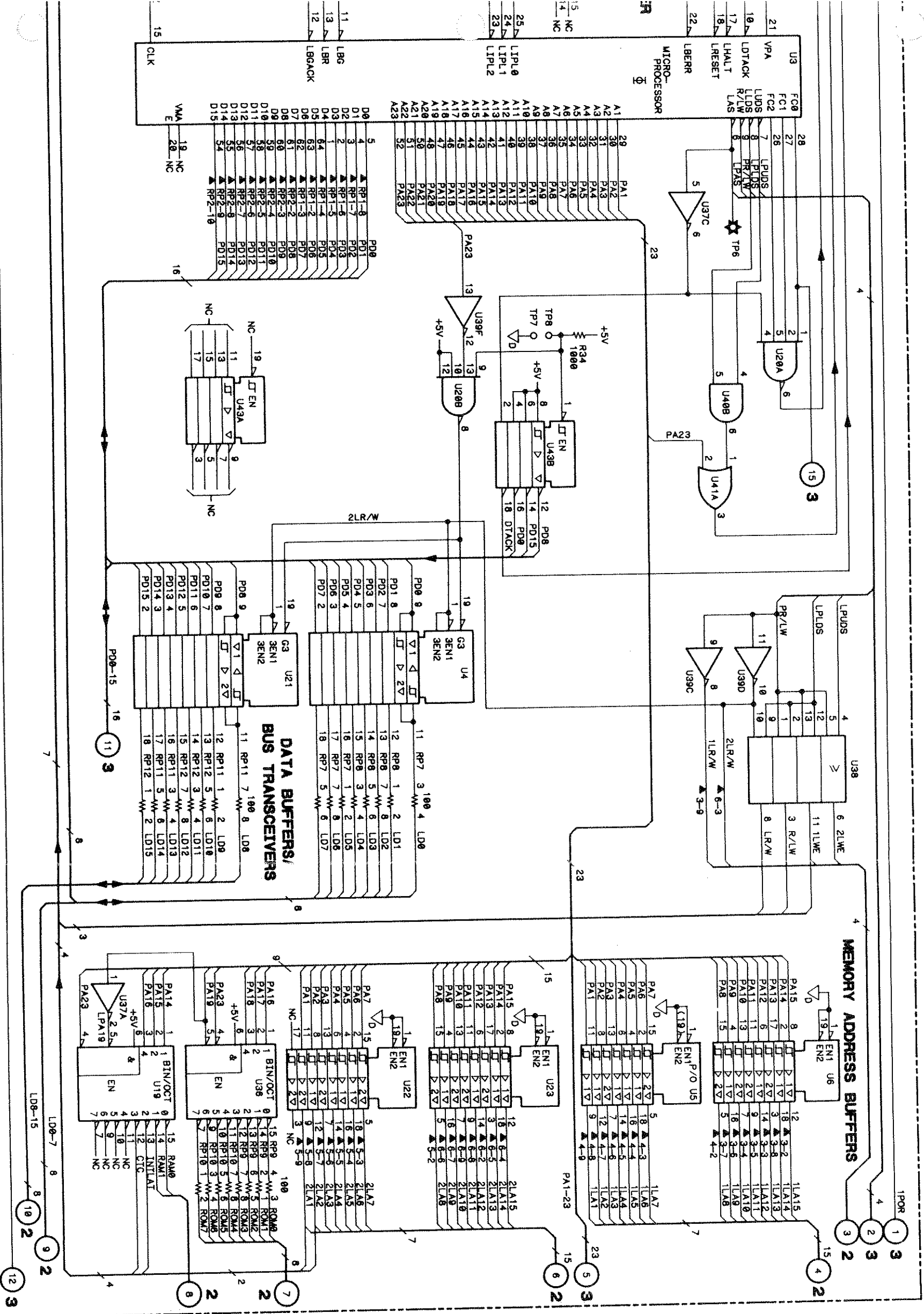


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
1, 2	10K	10	+5V
RP1-2			
RP3-6			
120	330	8	
		7	
		6	
		5	
		4	
		3	
		2	
		1	

PARTS ON THIS SCHEMATIC

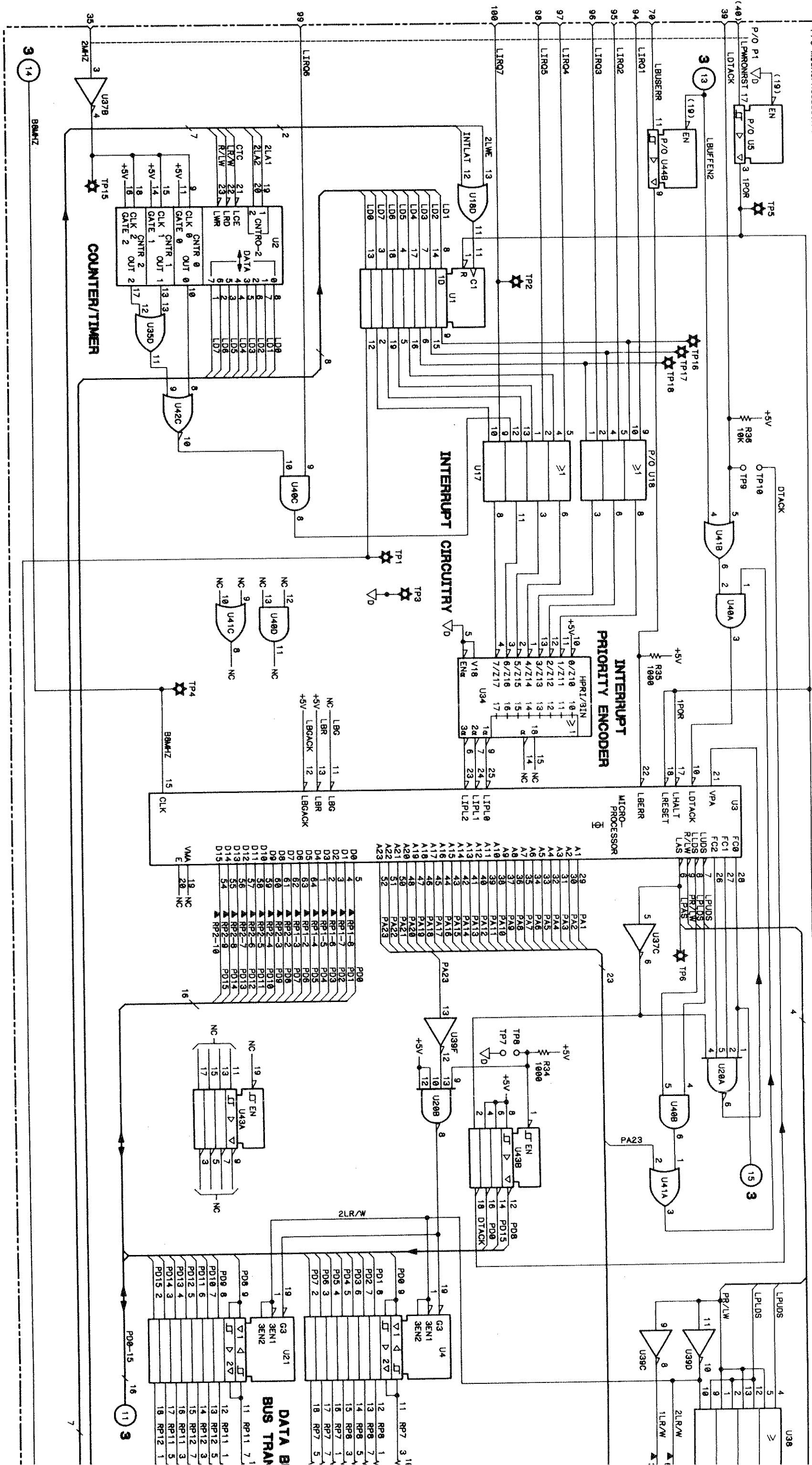
- P/O P1
- R34-36
- RP1-12
- U1-6, 17-23, 34, 36, 38, 40, 43
- P/O U35, 37, 38, 41, 42, 44
- TP1-10, 18-18

54111/SG11.01/3/3-87



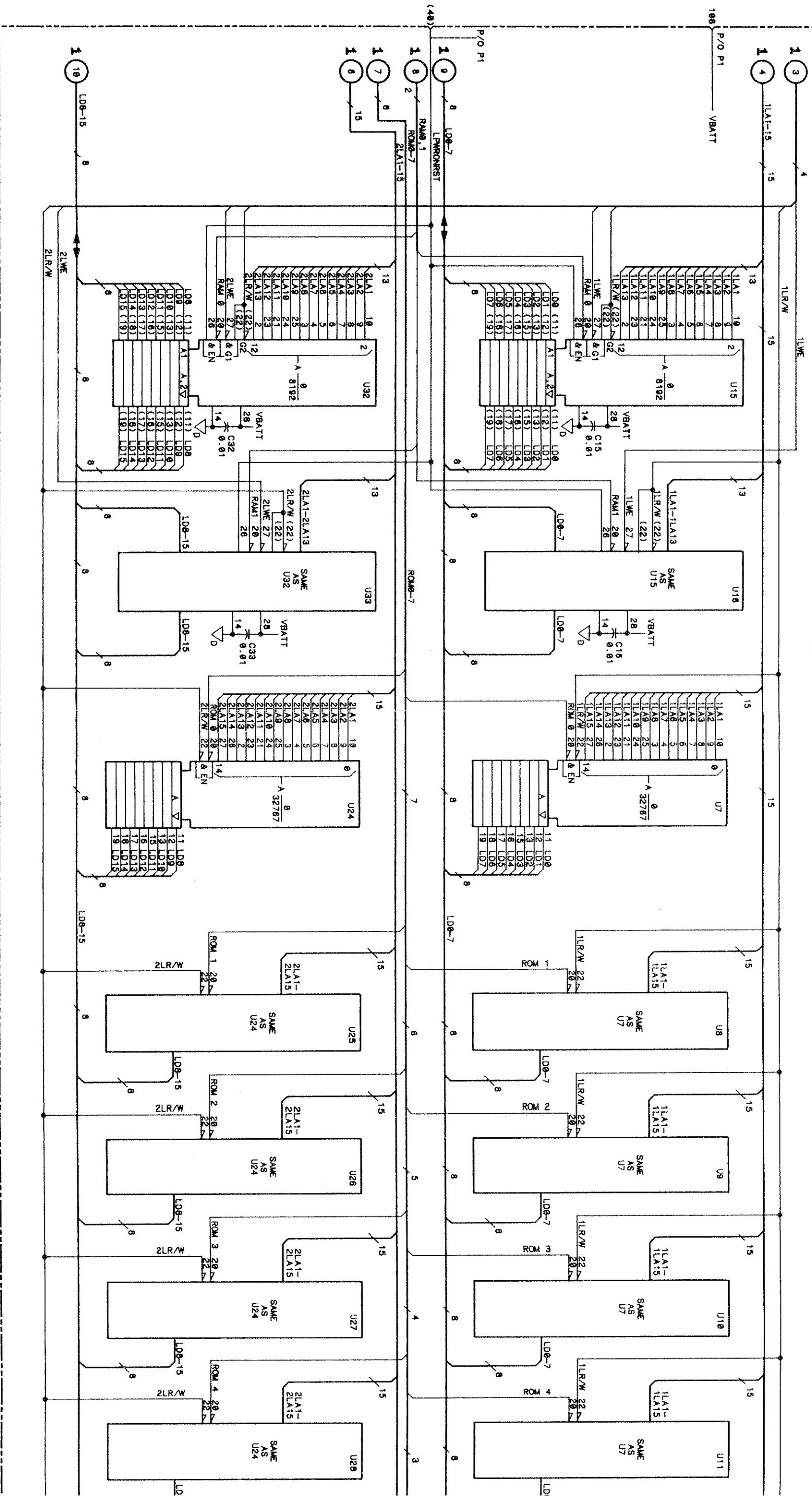
Microprocessor, Interrupt Circuits
Memory Bus Drivers
54111-66511

P/O MICROPROCESSOR ASSEMBLY (1 OF 3)

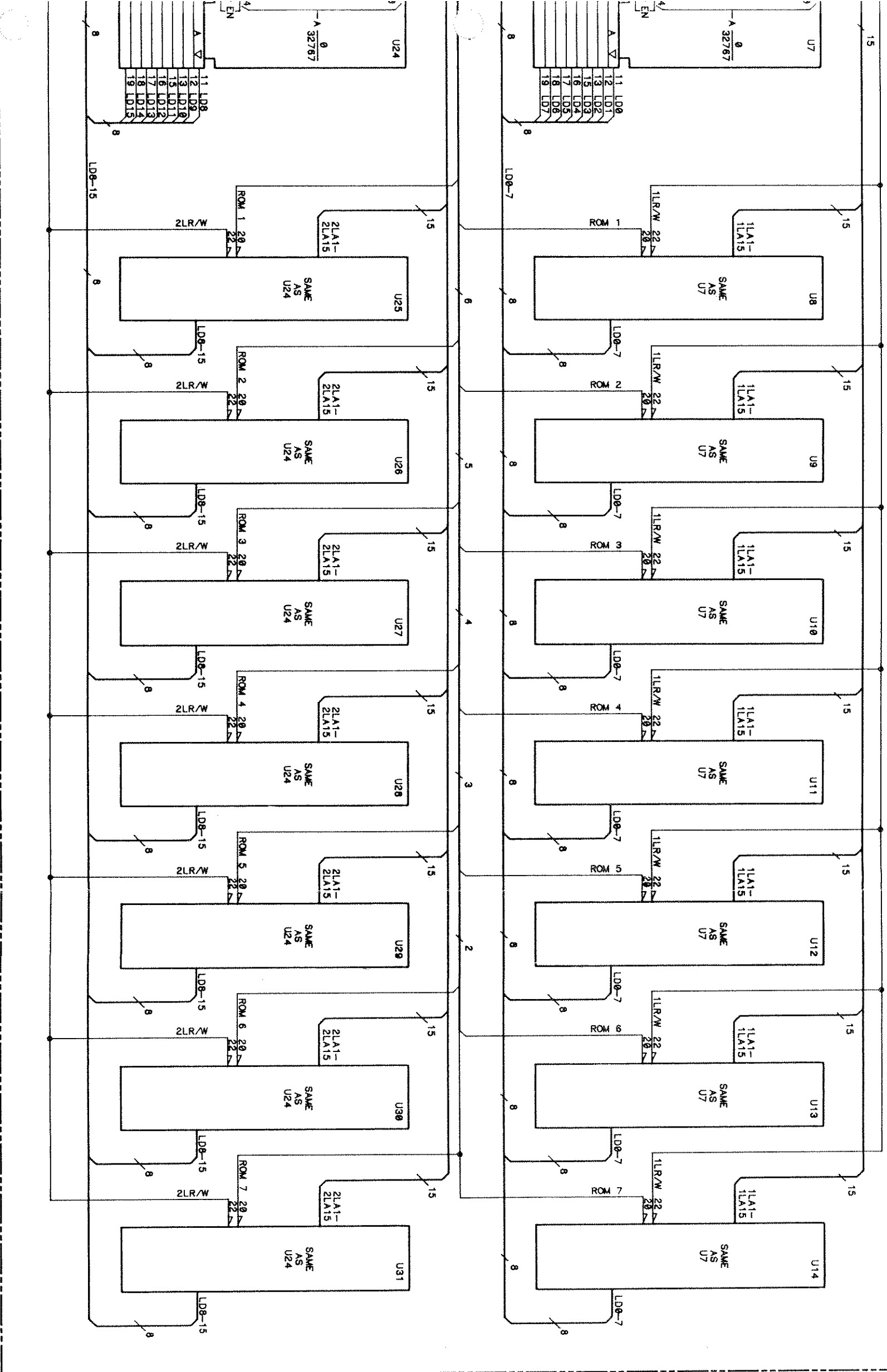


RAM

ROM



ROM



IC DEVICE
POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	1, 28	U7-14, 24-31
DGND	14	
VBATT	28	U15, 16, 32, 33
DGND	14	

NOTES:
1. GATES ARE SYMBOLIZED ACCORDING TO CIRCUIT FUNCTION.

PARTS ON THIS SCHEMATIC

C15, 16, 32, 33
P/O P1
U7-16, 24-33

54111/SC11_02/3/9-87

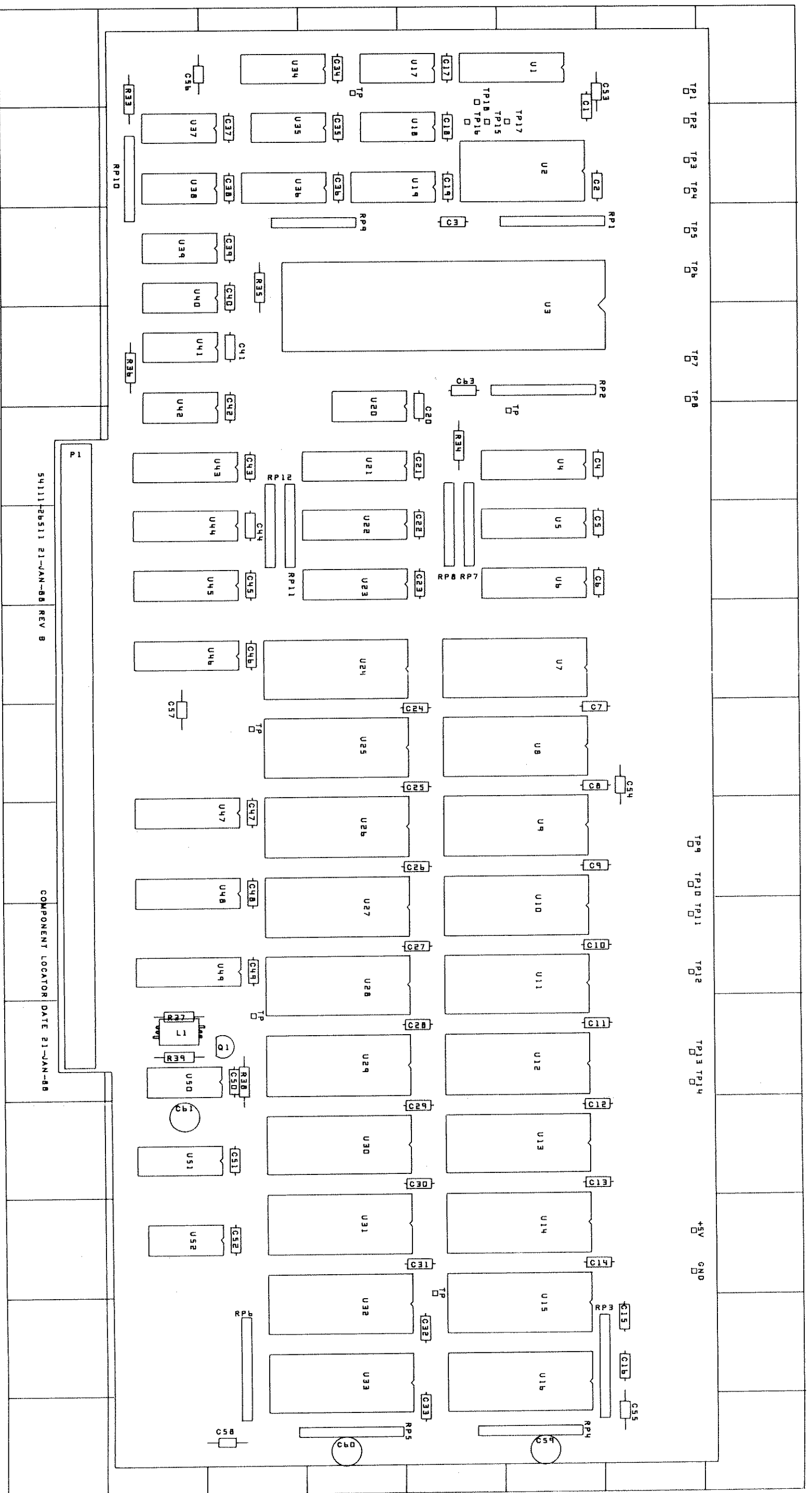
2

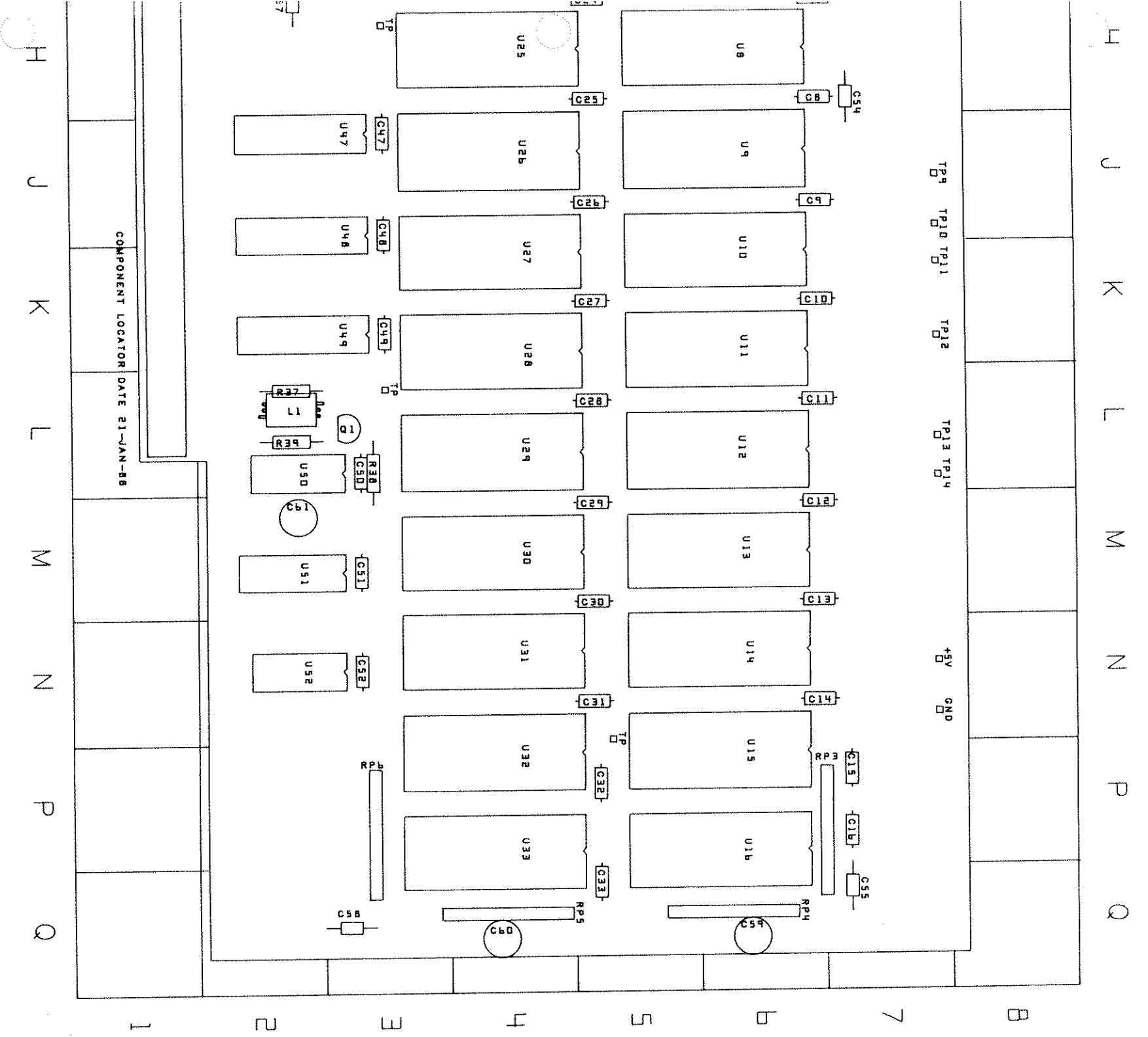
CPU ROM, RAM

54111-66511

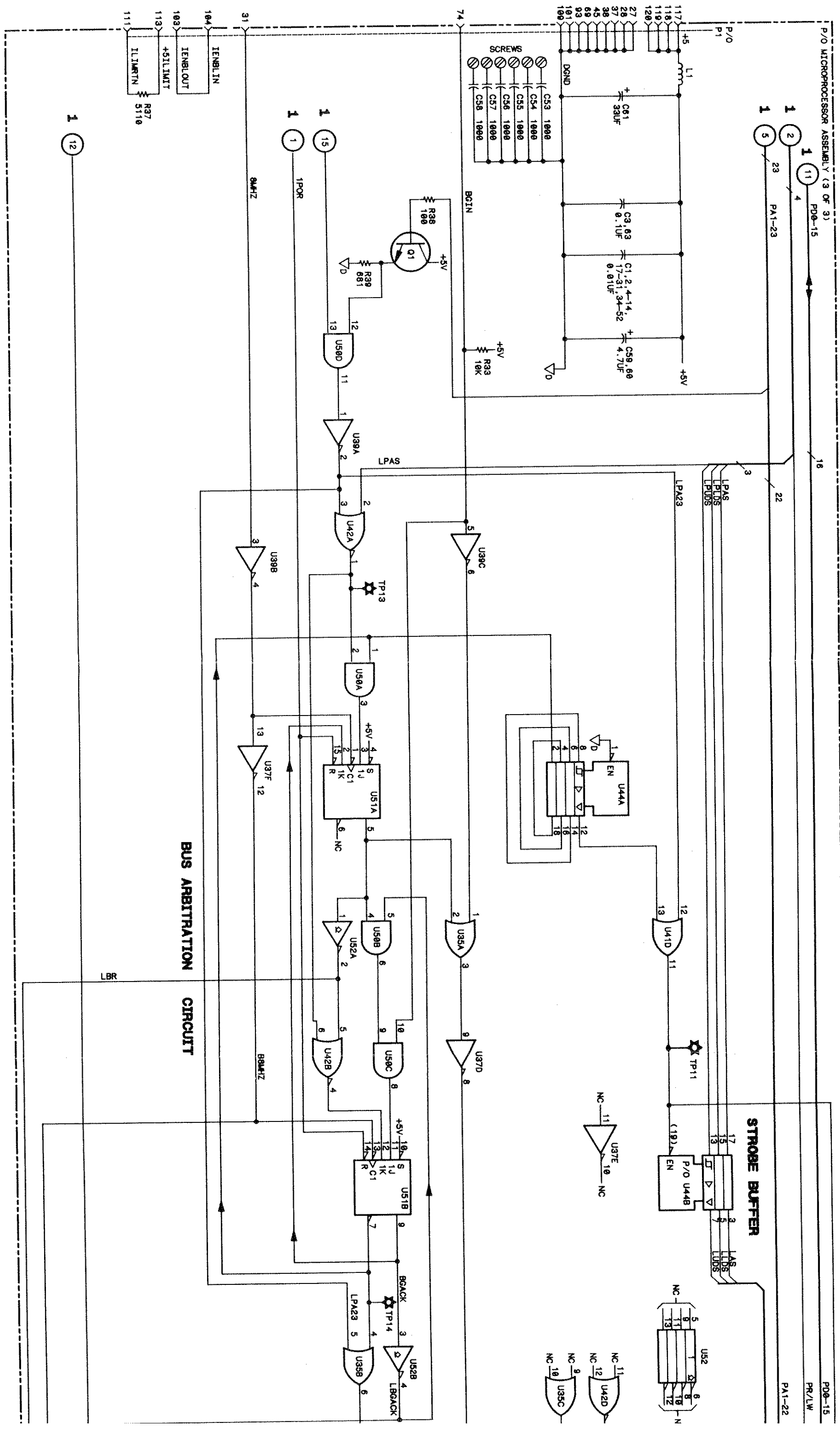
A B C D E F G H J K L M N P Q

1 2 3 4 5 6 7 8





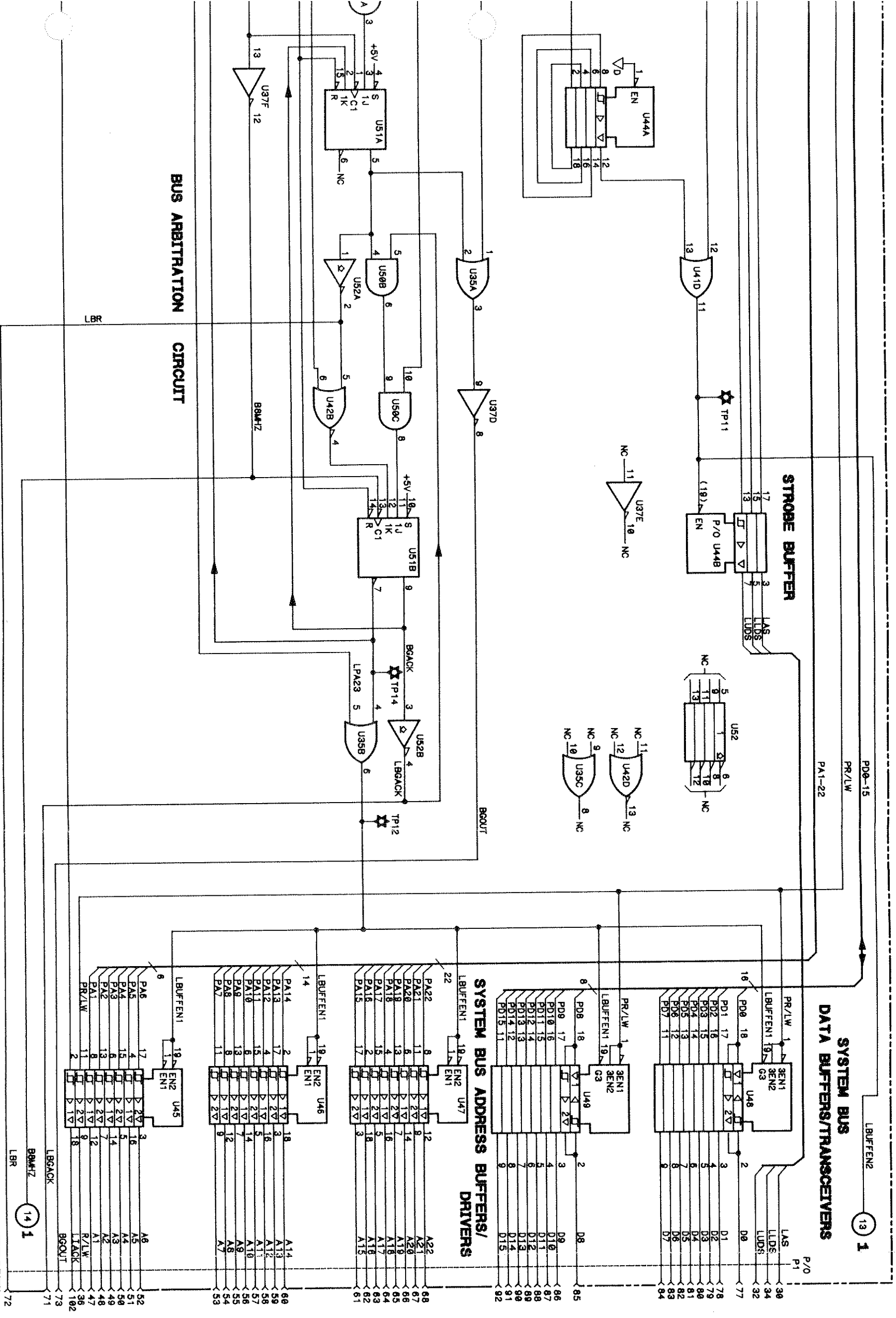
REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	B-6	C42	E-3	RP6	P-3	U15	P-6
C2	B-6	C43	E-3	RP7	F-5	U16	P-6
C3	C-5	C44	F-3	RP8	F-5	U17	A-5
C4	E-6	C45	F-3	RP9	C-4	U18	B-5
C5	F-6	C46	G-3	RP10	B-2	U19	B-5
C6	F-6	C47	J-3	RP11	F-3	U20	E-4
C7	H-6	C48	J-3	RP12	E-3	U21	E-4
C8	H-6	C49	K-3			U22	F-4
C9	J-6	C50	L-3	TP1	A-7	U23	F-4
C10	K-6	C51	M-3	TP2	B-7	U24	G-4
C11	L-6	C52	N-3	TP3	B-7	U25	H-4
C12	M-6	C53	A-7	TP4	B-7	U26	J-4
C13	M-6	C54	H-7	TP5	C-7	U27	K-4
C14	N-6	C55	Q-7	TP6	C-7	U28	K-4
C15	P-7	C56	A-2	TP7	D-7	U29	L-4
C16	P-7	C57	H-2	TP8	D-7	U30	M-4
C17	A-5	C58	Q-3	TP9	J-7	U31	N-4
C18	B-5	C59	Q-6	TP10	J-7	U32	P-4
C19	B-5	C60	Q-4	TP11	K-7	U33	P-4
C20	E-5	C61	M-2	TP12	K-7	U34	A-3
C21	E-5	C63	D-5	TP13	L-7	U35	B-3
C22	F-5	L1	L-2	TP14	L-7	U36	B-3
C23	F-5			TP15	B-6	U37	B-2
C24	H-5	P1	E-2	TP16	B-5	U38	B-2
C25	H-5			TP17	B-6	U39	C-2
C26	J-5	Q1	L-3	TP18	A-5	U40	C-2
C27	K-5					U41	D-2
C28	L-5	R33	A-1	U1	A-6	U42	E-2
C29	M-5	R34	E-5	U2	B-6	U43	E-3
C30	M-5	R35	C-3	U3	D-6	U44	F-3
C31	N-5	R36	D-2	U4	E-6	U45	F-3
C32	P-5	R37	L-2	U5	F-6	U46	G-3
C33	Q-5	R38	L-3	U6	F-6	U47	J-3
C34	A-4	R39	L-2	U7	G-6	U48	J-3
C35	B-4			U8	H-6	U49	K-3
C36	B-4	RP1	C-7	U9	J-6	U50	L-2
C37	B-3	RP2	D-7	U10	K-6	U51	M-2
C38	B-3	RP3	P-7	U11	K-6	U52	M-2
C39	C-3	RP4	Q-6	U12	L-6		
C40	C-3	RP5	Q-5	U13	M-6		
C41	D-3			U14	N-6		



**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5V	14	U35, 37, 39, 41, 42, 50, 52
DGND	7	
+5V	16	U51
DGND	8	
+5V	20	U44-49
DGND	10	

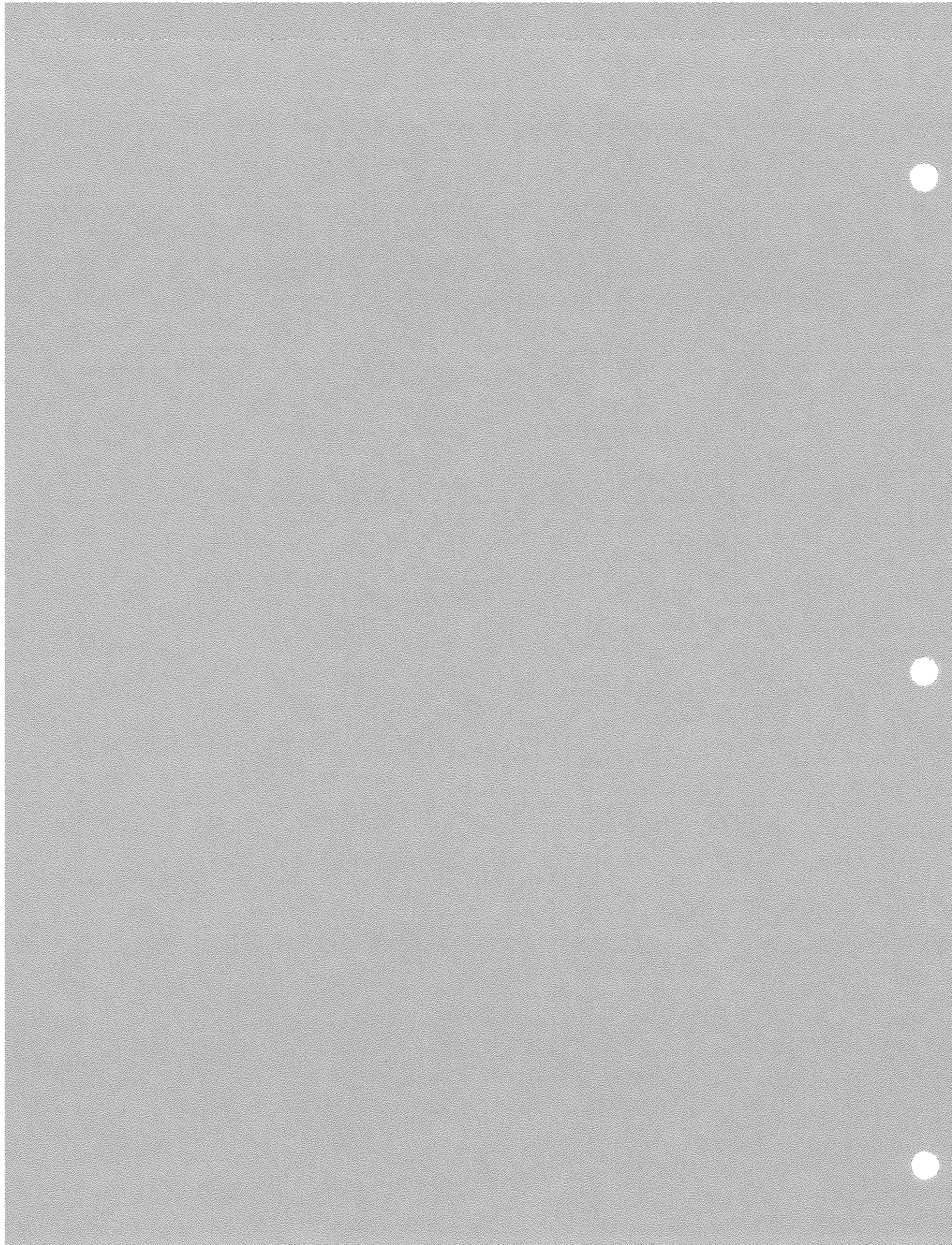
NOTES:



PARTS ON THIS SCHEMATIC

C1-14, 17-31, 34-61, 63
L1
P/O P1
Q1
R33, 37-39
TP11-14
U45-52
P/O U35, 37, 39, 41, 42, 44

54111/SC11.03/3/9-87



Component-level Information Packet for HP 54111D Microprocessor

54111-66519
54111-66526

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Printed in USA



While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6623	5	2	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C2	0160-6623	5	5	CAPACITOR-FXD 0.1UF +-20% 50VDC CER	28480	0160-6623
C3	0180-0309	4	2	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C4	0180-0309	4	4	CAPACITOR-FXD 4.7UF+-20% 10VDC TA	56289	150D475X0010A2
C5	0180-0229	7	1	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D3336X9010B2
C6	0160-4574	1	6	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C7	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C8	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C9	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C10	0160-4574	1	1	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C11	0160-4574	1	45	CAPACITOR-FXD 1000PF +-10% 100VDC CER	28480	0160-4574
C12	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C31	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C42	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C43	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500



54111-66519 Microprocessor Assembly Replaceable Parts

HP 54111D, 54112D, 54120A/B
Service Manual Supplement

2
Microprocessor Assembly

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C55	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
H1	0515-0372	2	1	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
L1	5081-7682	5	1	CHOKER RF	28480	5081-7682
MP1	54111-00605	2	1	SHIELD-PROCESSOR	28480	54111-00605
MP2	54111-45004	1	1	EXTRACTOR RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR LEFT	28480	54111-45005
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1854-0215	1	2	TRANSISTOR NPN SI T0-92 PD=350MW	2M627	2N3904
Q2	1854-0215	1	1	TRANSISTOR NPN SI T0-92 PD=350MW	2M627	2N3904
R1	0757-0419	0	1	RESISTOR 681 +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-681R-F
R2	0757-0438	3	1	RESISTOR 5.1K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-5111-F
R3	0757-0280	3	4	RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1001-F
R4	0757-0442	3	2	RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1002-F
R5	0757-0442	9	9	RESISTOR 10K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1002-F
R6	0757-0437	2	1	RESISTOR 4.75K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-4751-F
R7	0757-0280	3	3	RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1001-F
R8	0757-0280	3	3	RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1001-F
R9	0757-0280	3	3	RESISTOR 1K +-1% 0.125W TF TC=0+-100	2M627	C14-1/8-T0-1001-F
RP1	1810-0280	8	2	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP2	1810-0280	8	8	NETWORK-RES 10-SIP 10.0K OHM X 9	28480	1810-0280
RP3	1810-0696	0	4	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP4	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP5	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP6	1810-0696	0	0	NETWORK-RES 10-SIP MULTI-VALUE	28480	1810-0696
RP7	1810-0350	3	5	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP8	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP9	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP10	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
RP11	1810-0350	3	3	NETWORK-RES 8-SIP 100.0 OHM X 4	11236	750-83-R100
TP1	0360-1653	5	21	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP2	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP3	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP4	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP5	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP6	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP7	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP8	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP9	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP10	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP11	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP12-14	NOT ASSIGNED					
TP15	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP16	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP17	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653
TP18	0360-1653	5	5	CONNECTOR-SGL CONT PIN 0.045-IN-BSC-SZ SQ	28480	0360-1653

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
U1	1820-1730	6	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	S4013	SN74ALS273N
U2	1820-3347	5	1	IC-10 MHZ PROGRAMMABLE INTERVAL TIMER	34649	P8254-2
U3	1820-2505	5	1	IC-MPU; CLK FREQ=8MHZ, INSTRUCTION	04713	MC68000L8
U4	1820-2075	4	2	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74ALS245N
U5	1820-2795	5	8	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U6	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U7	54111-80033	0	1	IC ROM	28480	MC74F244N
U8	54111-80035	2	1	IC ROM	28480	54111-80033
U9-13	NOT ASSIGNED					
U14	1818-4228	8	6	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U15	1818-4228	8	8	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U16	1818-4228	8	3	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U17	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74ALS32N
U18	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74ALS32N
U19	1820-3220	3	1	IC DCDR TTL F BIN 2-TO-4-LINE DUAL	04713	MC74F139N
U20	1820-1204	9	1	IC GATE TTL LS NAND DUAL 4-INP	01295	SN74ALS20N
U21	1820-2075	4	4	IC TRANSCEIVER TTL LS BUS OCTL	01295	SN74ALS245N
U22	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U23	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U24	54111-80034	1	1	IC ROM	28480	54111-80034
U25	54111-80036	3	1	IC ROM	28480	54111-80036
U26-29	NOT ASSIGNED					
U30	1820-2686	3	1	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U31	1818-4228	8	8	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U32	1818-4228	8	8	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U33	1818-4228	8	8	IC CMOS 262144 (256K) STAT RAM 120-NS	S4013	HM62256LP-12SL
U34	1820-1851	2	1	IC ENCDR TTL LS	01295	SN74ALS148N
U35	1820-2690	9	2	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U36	1820-2861	6	1	IC DCDR TTL F 3-TO-8-LINE	04713	MC74F138N
U37	1820-2506	6	2	IC INV TTL F HEX	04713	MC74F04N
U38	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U39	1820-2506	6	6	IC INV TTL F HEX	04713	MC74F04N
U40	1820-1201	6	1	IC GATE TTL LS AND QUAD 2-INP	01295	SN74ALS08N
U41	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74ALS32N
U42	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U43	1820-1917	1	1	IC DRIVER TTL LS LINE OCTL	01295	SN74ALS240N
U44	1820-2024	3	1	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74ALS244N
U45	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U46	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U47	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U48	1820-3224	7	2	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U49	1820-3224	7	7	IC TRANSCEIVER TTL F BUS OCTL	07263	74F245PC
U50	1820-2795	5	5	IC DRIVER TTL F LINE DRIVER OCTL	04713	MC74F244N
U51	1820-2688	5	1	IC GATE TTL F AND TPL_3-INP	04713	MC74F11N
U52	1820-4721	1	1	IC GATE CMOS/74HC OR QUAD 2-INP	18324	74HCT32N
XU1-6	NOT ASSIGNED					
XU7	1200-1351	3	4	SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU8	1200-1351	3	3	SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU9-23	NOT ASSIGNED					
XU24	1200-1351	3	3	SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351
XU25	1200-1351	3	3	SOCKET-IC 32-CONT DIP DIP-SLDR	28480	1200-1351

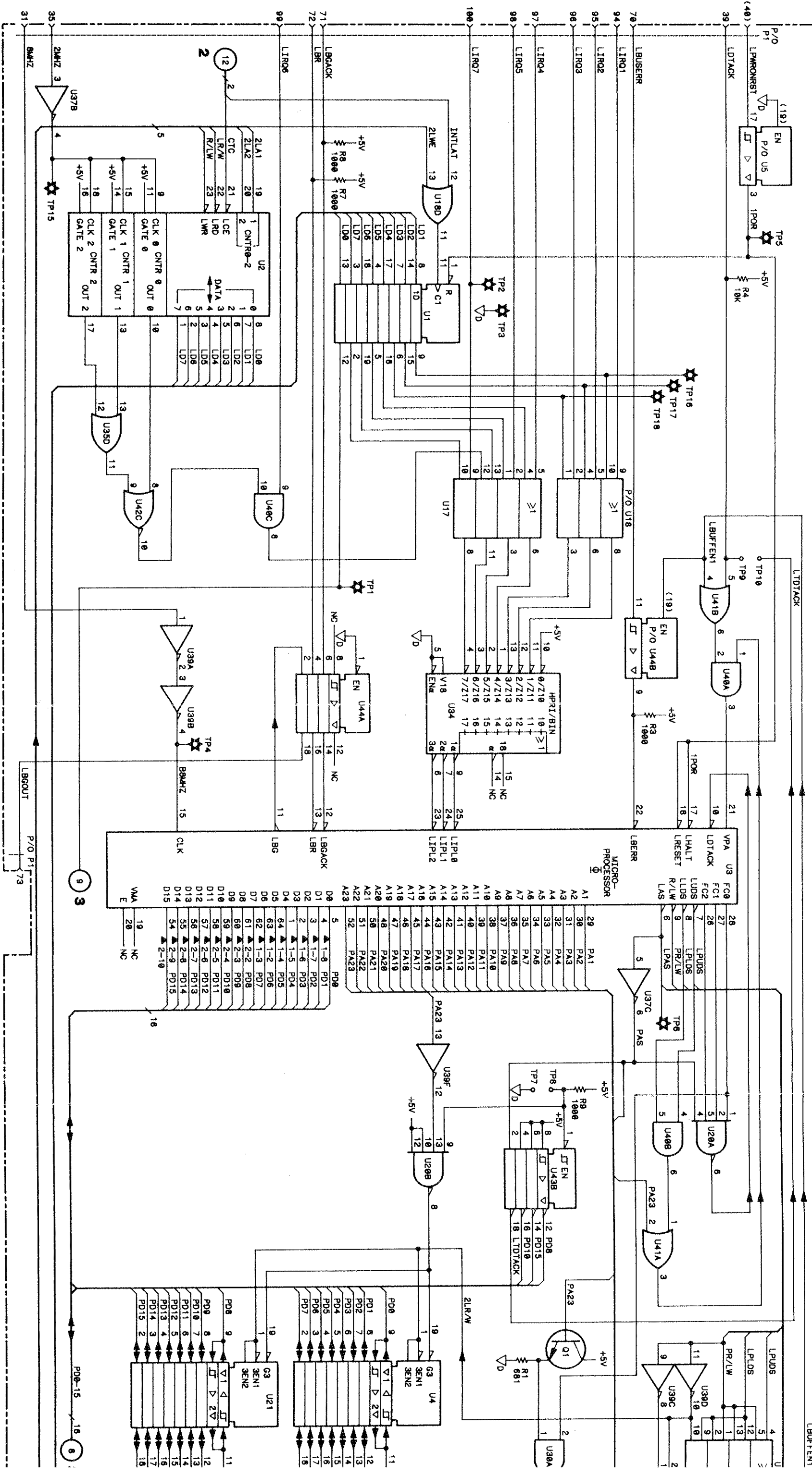
CHANGE 1 for 54111-66526, Microprocessor

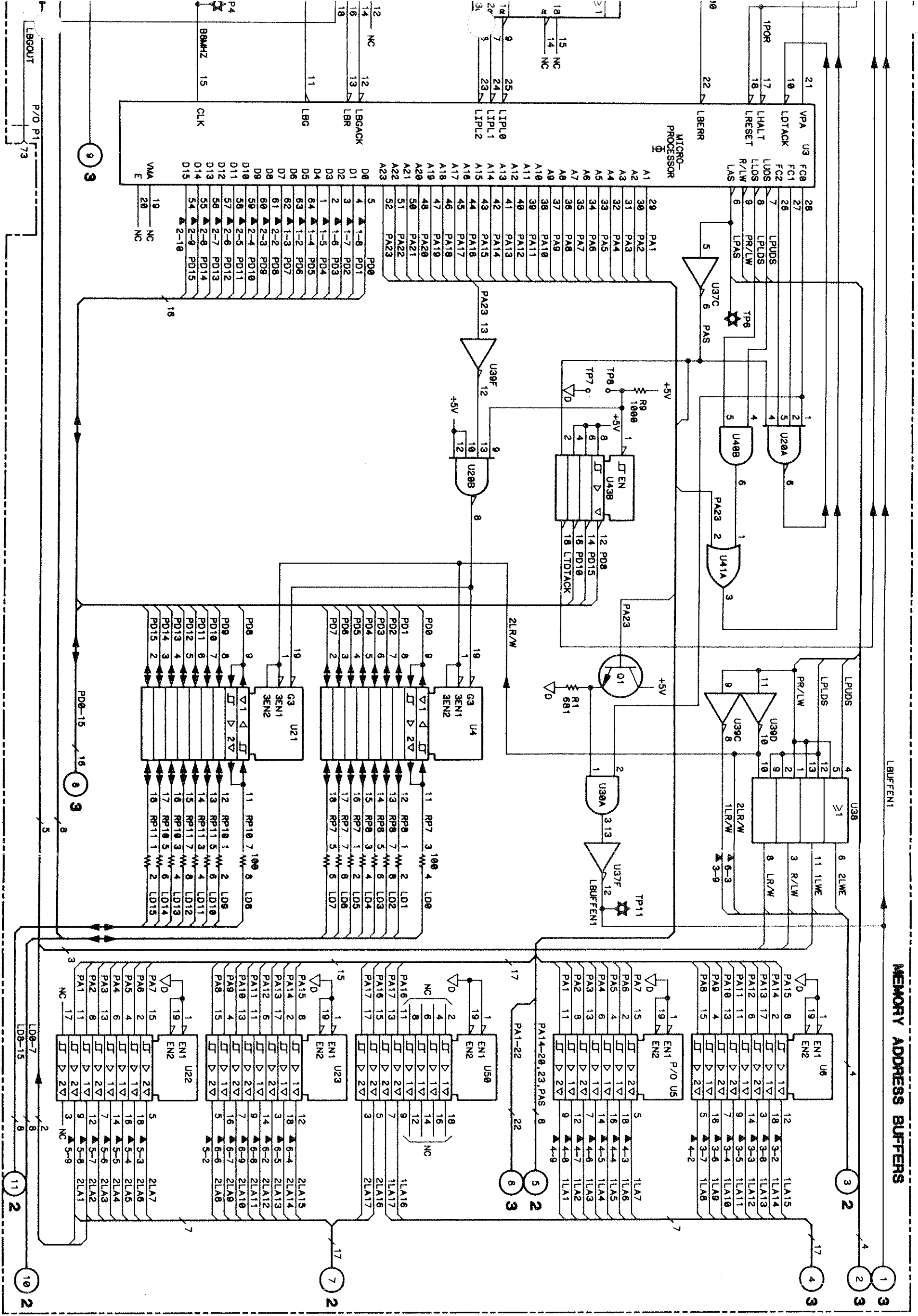
Schematic 2

ROM was changed to update the firmware of the HP 54111D. The Microprocessor assembly part number was changed from 54111-66519 to 54111-66526.

CHANGE:

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
U7 to 54111-80037	4	IC ROM	28480	54111-80037
U8 to 54111-80039	6	IC ROM	28480	54111-80039
U24 to 54111-80038	5	IC ROM	28480	54111-80038
U25 to 54111-80040	9	IC ROM	28480	54111-80040



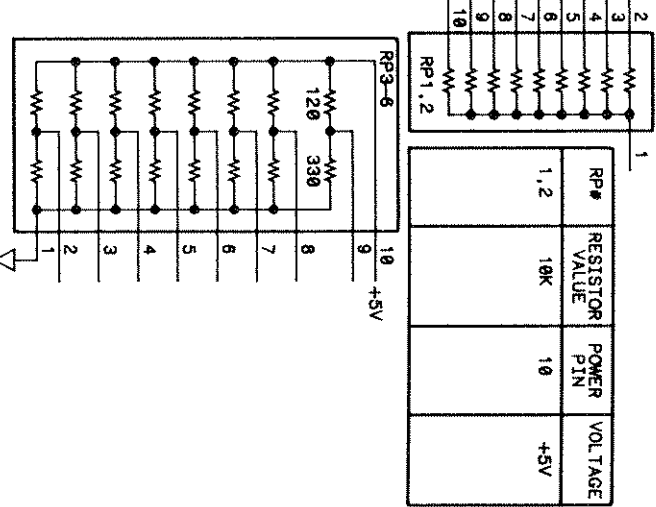
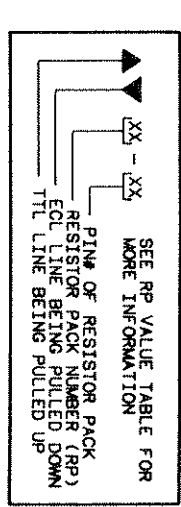


MEMORY ADDRESS BUFFERS

IC DEVICE POWER CONNECTIONS

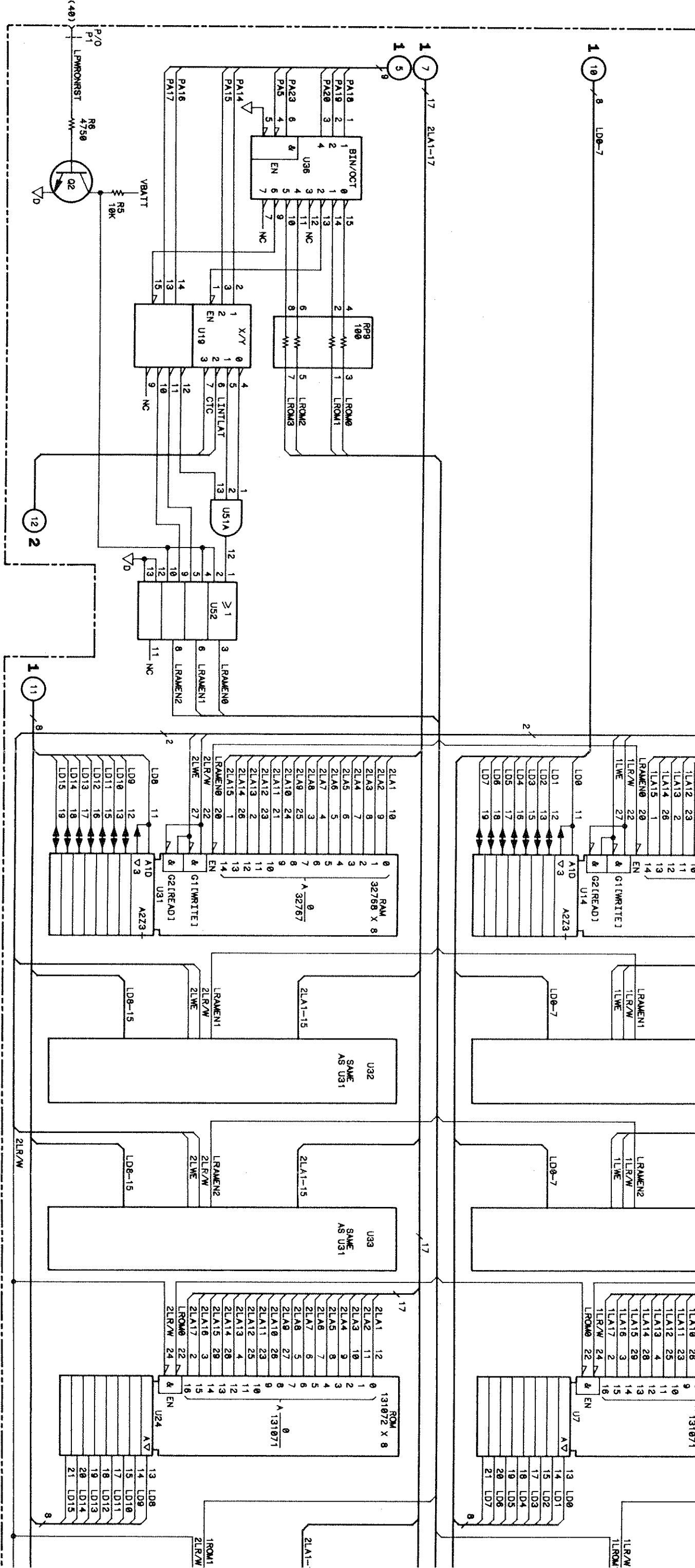
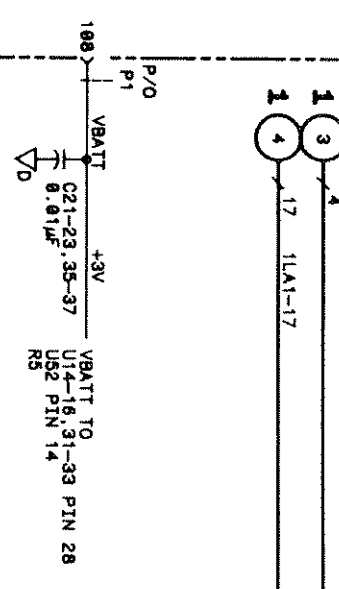
SUPPLY	PIN NO.	IC GROUP
+5V	20	U1, 4-6, 21-23,
DGND	10	43, 44, 50
+5V	24	U2
DGND	12	
+5V	14, 49	U3
DGND	16, 53	
+5V	7	U17, 18, 20, 30,
DGND	14	35, 37-42
+5V	16	U34
DGND	8	

RESISTOR PACK DESCRIPTIONS:



PARTS ON THIS SCHEMATIC

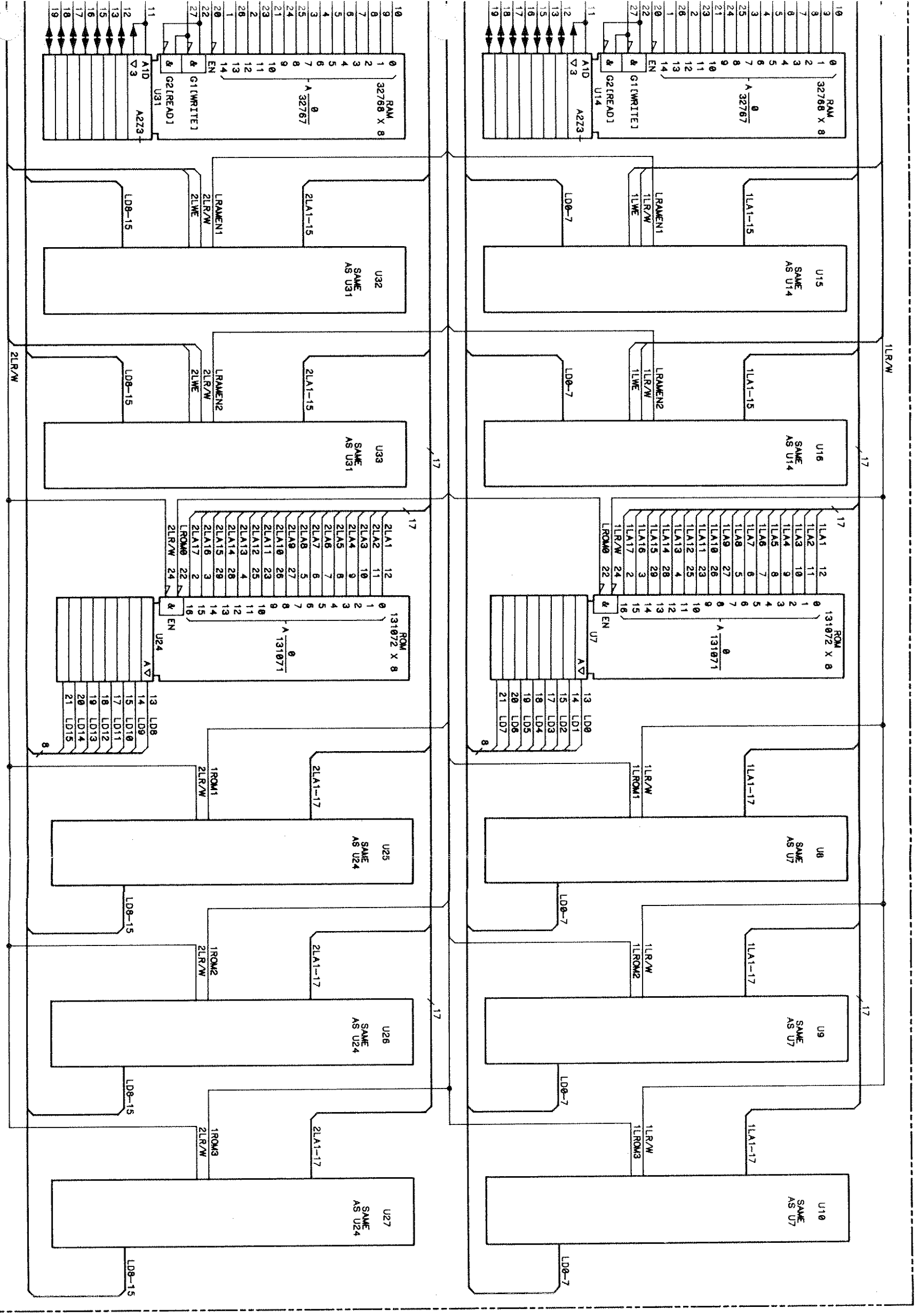
- P/O P1
- Q1
- R1, 3, 4, 7-9
- RP1-8, 10, 11
- TP1-11, 15-18
- U1-5, 17, 18, 20-23, 34, 38, 50
- P/O U30, 35, 39-44



(40)

**IC DEVICE
POWER CONNECTIONS**

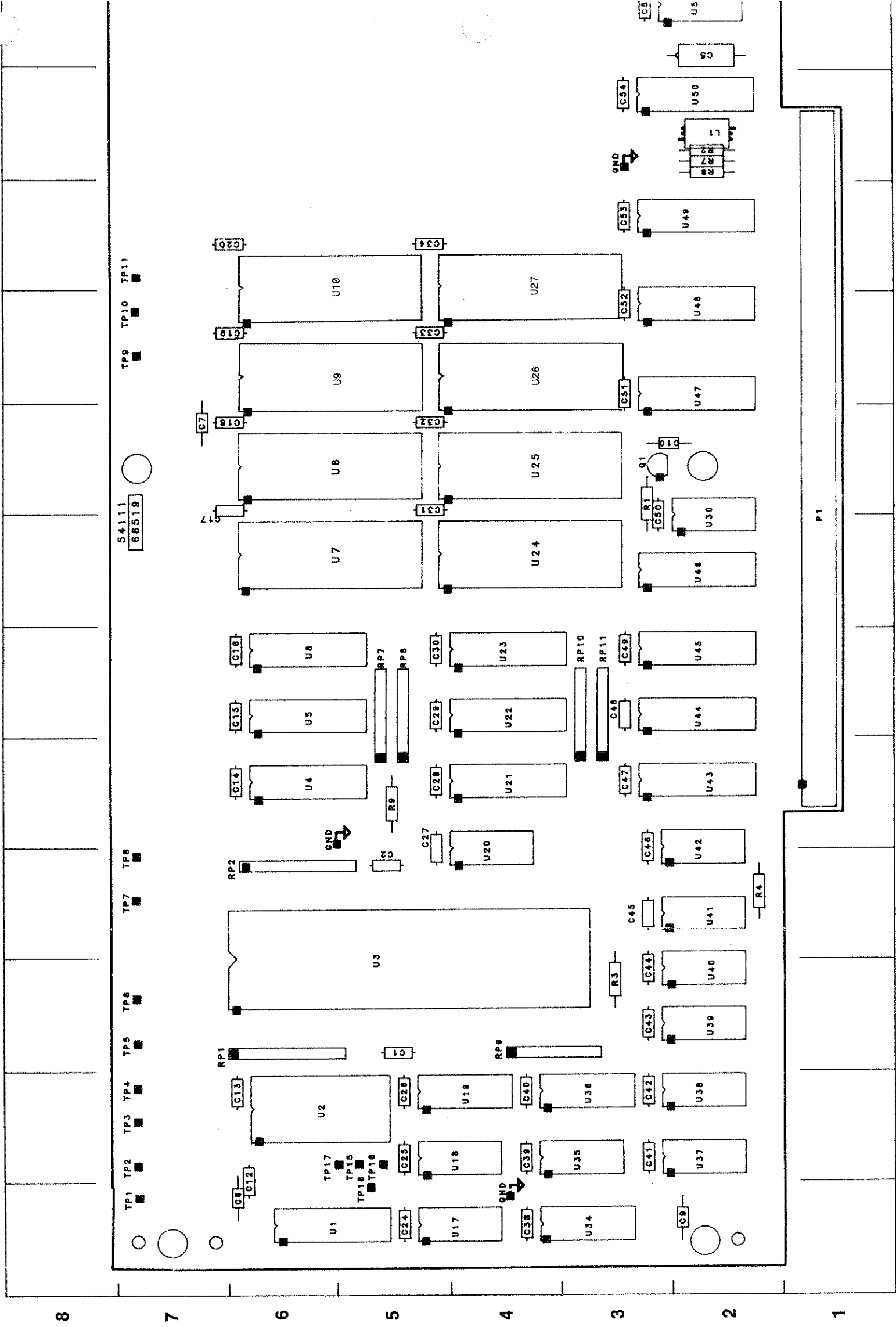
SUPPLY	PIN NO.	IC GROUP
+5V	1,32	U7-10,24-27
DGND	16	
VBIATT	28	U14-16,31-33
DGND	14	
+5V	16	U19,36
DGND	8	
+5V	14	U51,52
DGND	8	



PARTS ON THIS SCHEMATIC

- C21-23,35-37
- P/O P1
- Q2
- RS,6
- RP9
- U7-10,14-16,19,24-27,31-33,36,52
- P/O U51

54111/SC19,02/3/10-88

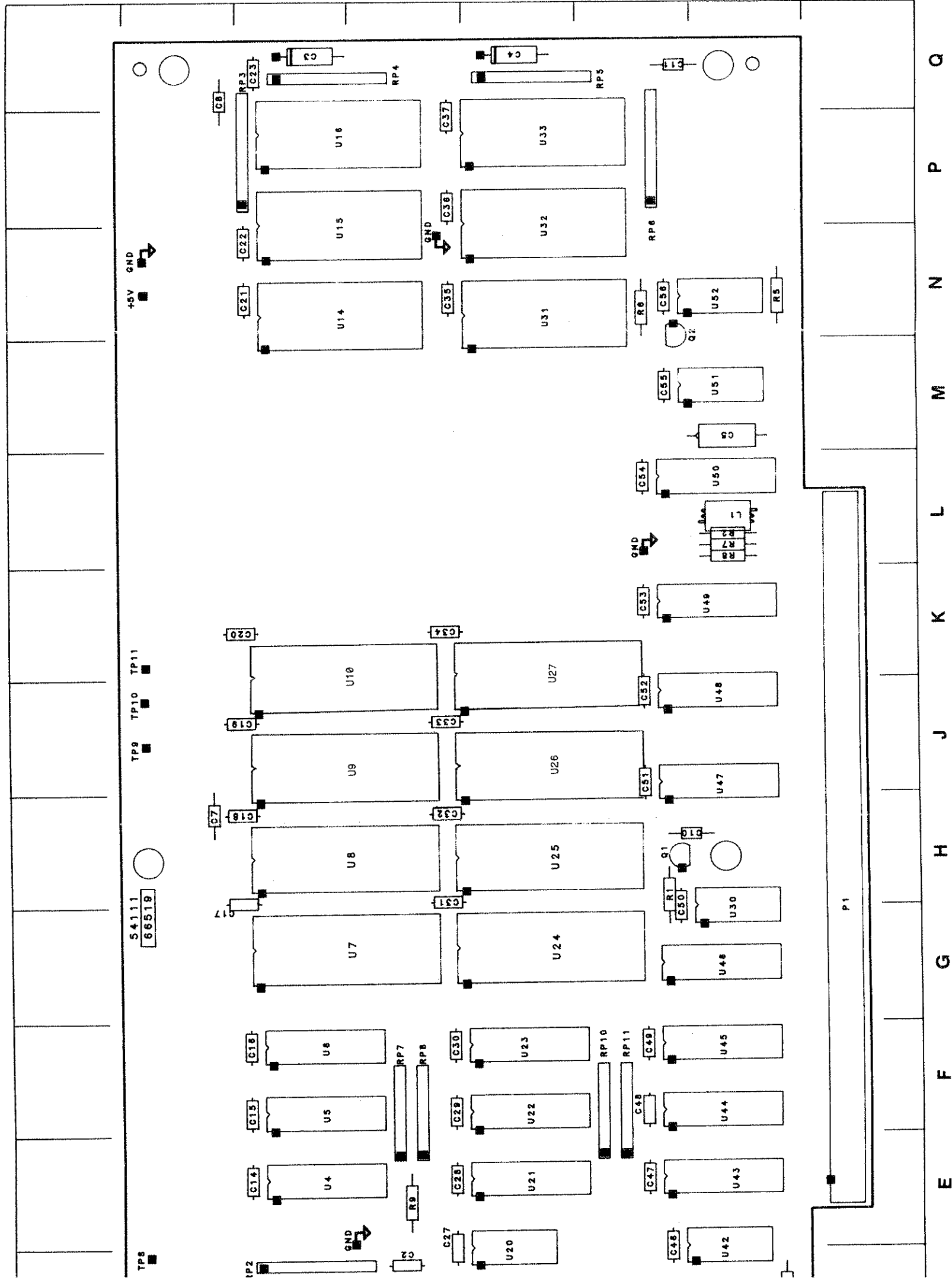


8
7
6
5
4
3
2
1

TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11

54111
66519

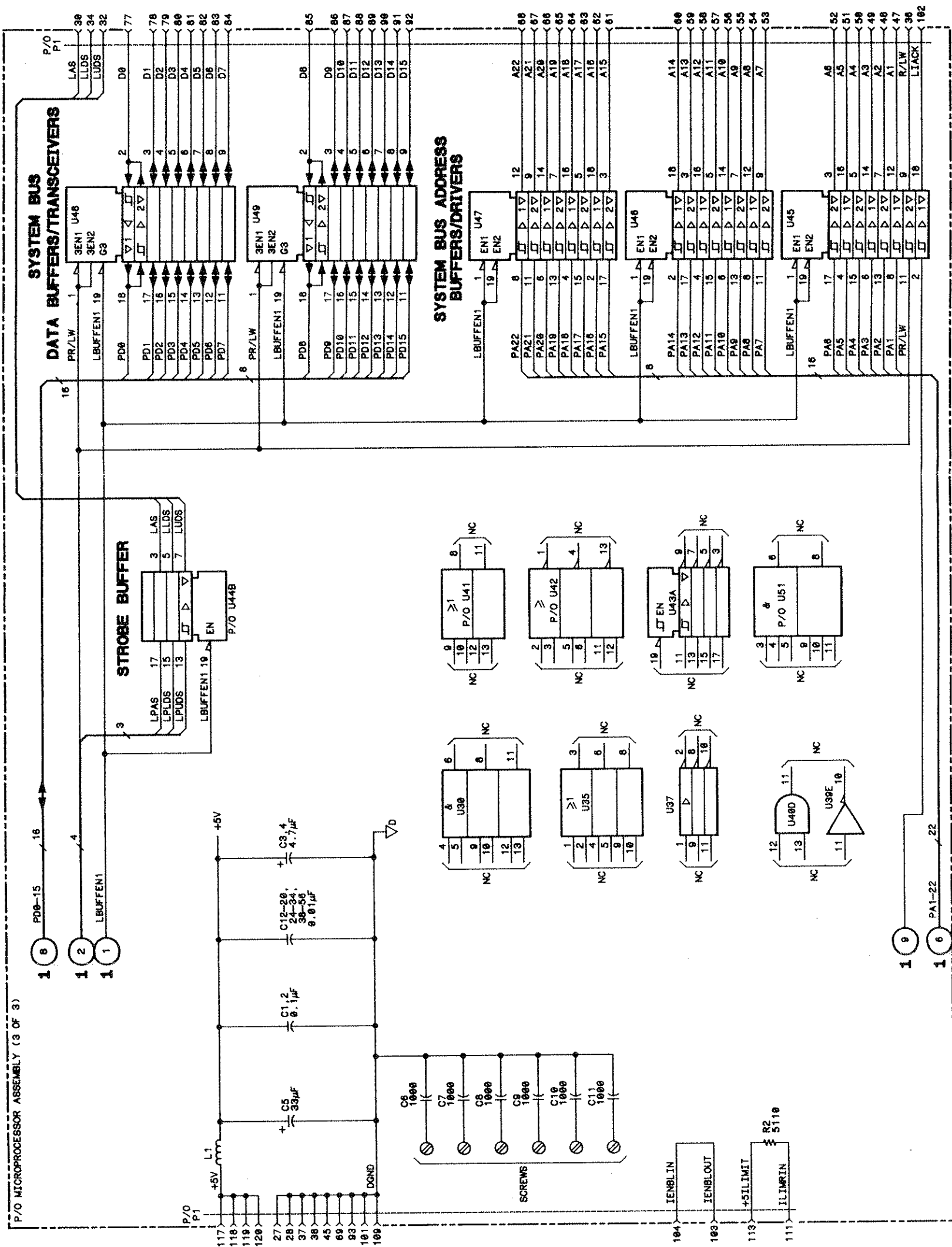
A B C D E F G H J K L M



REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC	REF DES	GRID LOC
C1	C-5	C52	J-3	C1	C-5	C52	J-3
C2	D-5	C53	K-3	C2	D-5	C53	K-3
C3	Q-6	C54	L-3	C3	Q-6	C54	L-3
C4	Q-4	C55	M-3	C4	Q-4	C55	M-3
C5	M-2	C56	N-3	C5	M-2	C56	N-3
C6	A-6	L1	L-2	C6	A-6	L1	L-2
C7	H-7	P1	G-1	C7	H-7	P1	G-1
C8	Q-7	Q1	H-3	C8	Q-7	Q1	H-3
C9	A-2	Q2	N-2	C9	A-2	Q2	N-2
C10	H-3	R1	H-3	C10	H-3	R1	H-3
C11	Q-3	R2	L-2	C11	Q-3	R2	L-2
C12	B-6	R3	C-3	C12	B-6	R3	C-3
C13	B-6	R4	D-2	C13	B-6	R4	D-2
C14	E-6	R5	N-2	C14	E-6	R5	N-2
C15	F-6	R6	N-3	C15	F-6	R6	N-3
C16	F-6	R7	L-2	C16	F-6	R7	L-2
C17	G-7	R8	L-2	C17	G-7	R8	L-2
C18	H-6	R9	E-5	C18	H-6	R9	E-5
C19	J-6	RP1	C-7	C19	J-6	RP1	C-7
C20	K-6	RP2	D-6	C20	K-6	RP2	D-6
C21	N-6	RP3	Q-6	C21	N-6	RP3	Q-6
C22	N-6	RP4	Q-5	C22	N-6	RP4	Q-5
C23	Q-6	RP5	Q-3	C23	Q-6	RP5	Q-3
C24	A-5	RP6	N-3	C24	A-5	RP6	N-3
C25	B-5	RP7	F-5	C25	B-5	RP7	F-5
C26	B-5	RP8	F-5	C26	B-5	RP8	F-5
C27	E-5	RP9	C-4	C27	E-5	RP9	C-4
C28	E-5	RP10	F-3	C28	E-5	RP10	F-3
C29	F-5	RP11	F-3	C29	F-5	RP11	F-3
C30	F-5	TP1	A-7	C30	F-5	TP1	A-7
C31	H-5	TP2	B-7	C31	H-5	TP2	B-7
C32	H-5	TP3	B-7	C32	H-5	TP3	B-7
C33	J-5	TP4	B-7	C33	J-5	TP4	B-7
C34	K-5	TP5	C-7	C34	K-5	TP5	C-7
C35	N-5	TP6	C-7	C35	N-5	TP6	C-7
C36	P-5	TP7	D-7	C36	P-5	TP7	D-7
C37	P-5	TP8	D-7	C37	P-5	TP8	D-7
C38	A-4	TP9	J-7	C38	A-4	TP9	J-7
C39	B-4	TP10	J-7	C39	B-4	TP10	J-7
C40	B-4	TP11	K-7	C40	B-4	TP11	K-7
C41	B-3	TP15	B-5	C41	B-3	TP15	B-5
C42	B-3	TP16	B-5	C42	B-3	TP16	B-5
C43	C-3	TP17	B-6	C43	C-3	TP17	B-6
C44	C-3	TP18	A-5	C44	C-3	TP18	A-5
C45	D-3	U1	A-6	C45	D-3	U1	A-6
C46	D-3	U2	B-6	C46	D-3	U2	B-6
C47	E-3	U3	C-5	C47	E-3	U3	C-5
C48	F-3	U4	E-6	C48	F-3	U4	E-6
C49	F-3	U5	F-6	C49	F-3	U5	F-6
C50	G-3	U6	F-6	C50	G-3	U6	F-6
C51	J-3	U7	G-6	C51	J-3	U7	G-6
		U8	H-6			U8	H-6
		U9	J-6			U9	J-6
		U10	K-6			U10	K-6
		U14	N-6			U14	N-6
		U15	N-6			U15	N-6
		U16	P-6			U16	P-6
		U17	A-4			U17	A-4
		U18	B-4			U18	B-4
		U19	B-4			U19	B-4
		U20	D-4			U20	D-4
		U21	E-4			U21	E-4
		U22	F-4			U22	F-4
		U23	F-4			U23	F-4
		U24	G-4			U24	G-4
		U25	H-4			U25	H-4
		U26	J-4			U26	J-4
		U27	K-4			U27	K-4
		U30	G-2			U30	G-2
		U31	N-4			U31	N-4
		U32	N-4			U32	N-4
		U33	P-4			U33	P-4
		U34	A-3			U34	A-3
		U35	B-3			U35	B-3
		U36	B-3			U36	B-3
		U37	B-2			U37	B-2
		U38	B-2			U38	B-2
		U39	C-2			U39	C-2
		U40	C-2			U40	C-2
		U41	D-2			U41	D-2
		U42	D-2			U42	D-2
		U43	E-2			U43	E-2
		U44	F-2			U44	F-2
		U45	F-2			U45	F-2
		U46	G-2			U46	G-2
		U47	J-2			U47	J-2
		U48	J-2			U48	J-2
		U49	K-2			U49	K-2
		U50	L-2			U50	L-2
		U51	M-2			U51	M-2
		U52	N-2			U52	N-2

IC DEVICE POWER CONNECTIONS

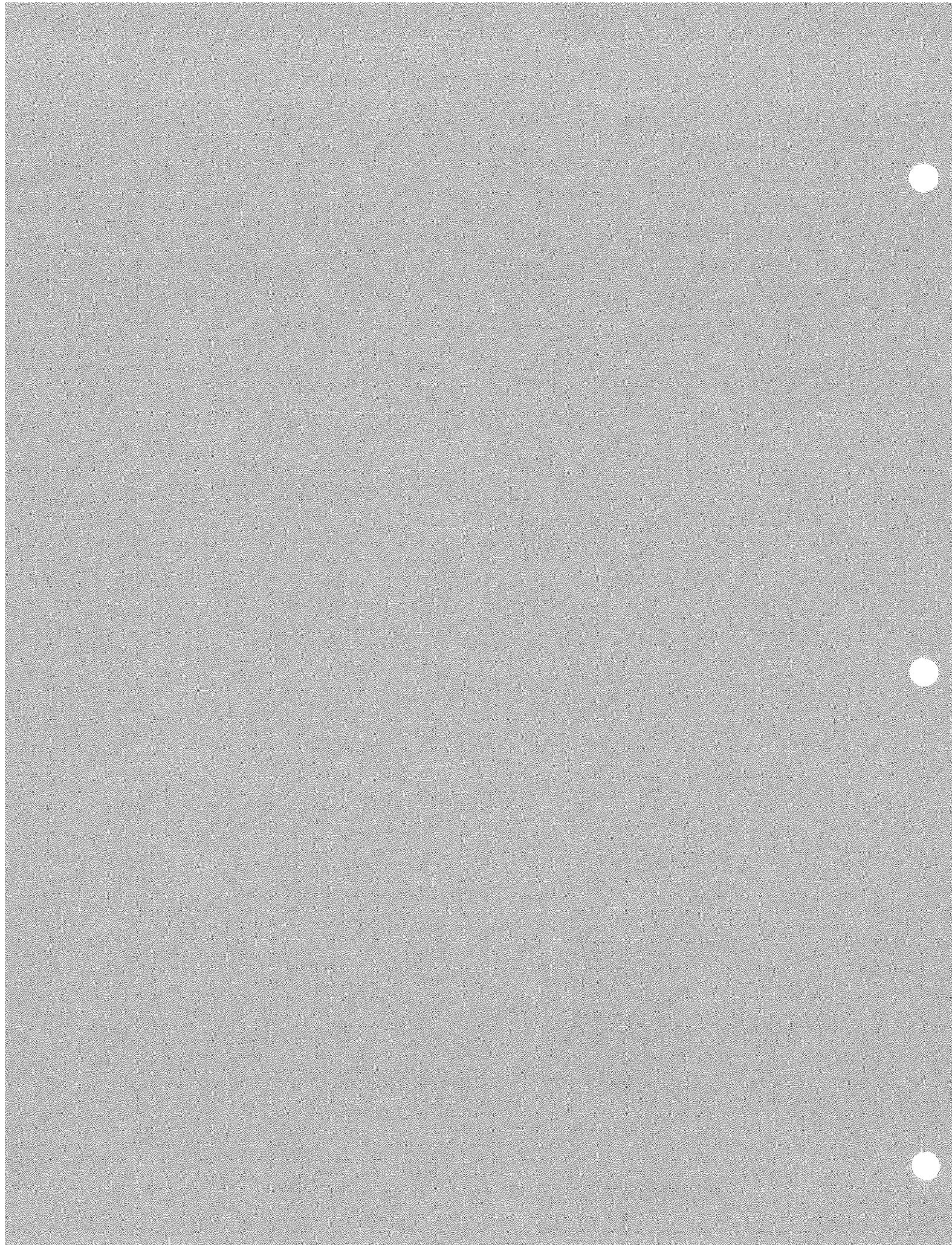
SUPPLY	PIN NO.	IC GROUP
+5V	14	U38, 35, 37, 38-42, 51
DGND	7	
+5V	28	U44-48
DGND	18	



PARTS ON THIS SCHEMATIC

C1-20, 24-34, 38-56
L1
P/O P1
R2
U45-48
P/O U38, 35, 37, 39-44, 51

54111/SC19_03/3/19-88





Component-level Information Packet

for HP 54111D, 54112D, 54120A/B
Color Display Assembly

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Printed in USA



While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Color Display Assembly 1

HP 5411D, 5412D, 54120A/B Service Manual Supplement

54110-66512 Color Display Assembly Replaceable Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C1	0160-6500	7	79	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C2	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C3	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C4	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C5	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C6	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C7	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C8	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C9	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C10	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C11	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C12	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C13	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C14	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C15	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C16	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C17	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C18	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C19	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C20	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C21	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C22	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C23	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C24	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C25	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C26	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C27	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C28	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C29	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C30	0180-0229	7	5	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C31	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C32	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C33	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C34	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C35	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C36	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C37	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C38	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C39	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C40	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C41	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C42	0180-0229	7		CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	150D336X9010B2
C43	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C44	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C45	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C46	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C47	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C48	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C49	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C50	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C51	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C52	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C53	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

54110-66512 Color Display Assembly Replaceable Parts

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
C54	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C55	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C56	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C57	0180-0229	7	7	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	1500336X9010B2
C58	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C59	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C60	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C61	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C62	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C63	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C64	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C65	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C66	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C67	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C68	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C69	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C70	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C71	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C72	0180-0229	7	7	CAPACITOR-FXD 33UF+-10% 10VDC TA	56289	1500336X9010B2
C73	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C74	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C75	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C76	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C77	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C78	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C79	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C80	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
DS1	1990-0486	6	1	LED-LAMP LUM-INT=2MCD IF=25MA-MAX BVR=5V	28480	HMP-1301
E1	1252-1157	6	2	CONNECTOR-PIN ASSEMBLY	28480	1252-1157
E2	1252-1157	6	2	CONNECTOR-PIN ASSEMBLY	28480	1252-1157
H1	0515-0664	5	2	SCREW MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION
J1	1252-1072	4	1	CONN-POST TYPE 0.150-PIN-SPC6 60-CONT	28480	1252-1072
J2	1251-8158	9	1	CONN-POST TYPE 0.100-PIN-SPC6 40-CONT	28480	1251-8158
L1	5081-7682	5	1	CHOKER RF	28480	5081-7682
MP1	54110-40503	4	1	GUIDE-CONNECTOR	28480	54110-40503
R1	0757-0410	1	1	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-301R-F
R2	0757-0280	3	1	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1001-F
RP1	1810-0279	5	1	NETWORK-RES 10-SIP 4.7K OHM X 9	28480	1810-0279
U1	1818-3214	0	24	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U2	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U3	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U4	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U5	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL

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Color Display Assembly Repeatability Parts

Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mfr Part Number
U56	1820-1199	1	1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U57	1820-5177	3	12	IC SHF-RGTR SYNC/ASYNCR PRL-IN SERIAL-OUT	18324	74HCT597N
U58	1820-5177	3	3	IC SHF-RGTR SYNC/ASYNCR PRL-IN SERIAL-OUT	18324	74HCT597N
U51	1820-4177	1	1	IC-INTERFACE MISC-DGTL CMOS	18324	SCN2672BC4N40
U52	1820-1997	7	19	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U53	1820-1997	7	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U54	1820-2691	0	0	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U55	1820-1922	8	1	IC SHF-RGTR TTL LS PRL-IN SERIAL-OUT	01295	SN74LS166AN
U46	1820-2826	3	1	IC-INTERFACE DRVR BCD UP/DOWN MEMORY	34335	AM2966PC (SELECTED)
U47	1820-2654	5	5	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U48	1820-2654	5	5	IC MUXR/DATA-SEL TTL F 2-TO-1-LINE QUAD	07263	74F157PC
U49	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U50	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U41	1820-1112	8	8	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U42	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U43	1820-2691	0	0	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U44	1820-2692	1	1	IC GATE TTL F EXCL-OR QUAD 2-INP	07263	74F86PC
U45	1810-0828	0	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	28480	1810-0828
U36	1820-2506	6	6	IC INV TTL F HEX	04713	MC74F04N
U37	1820-2691	0	0	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U38	1820-1207	2	1	IC GATE TTL LS NAND 8-INP	01295	SN74ALS30N
U39	1820-1208	3	8	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U40	1820-2690	9	6	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U31	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U32	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U33	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U34	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U35	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U26	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U27	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U28	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U29	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U30	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U21	1820-1457	4	4	IC SHF-RGTR TTL S D-TYPE PRL-IN PRL-OUT	01295	SN74S299N
U22	1820-2685	2	1	IC GATE TTL F NOR QUAD 2-INP	04713	MC74F02N
U23	1820-2506	6	3	IC INV TTL F HEX	04713	MC74F04N
U24	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U25	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U16	1820-3348	6	1	IC CNTR TTL F BIN SYNCRPO POS-EDGE-TRIG	07263	74F163APC
U17	1820-2686	3	2	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U18	1820-2691	0	6	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U19	1820-2691	0	0	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U20	1820-1457	4	2	IC SHF-RGTR TTL S D-TYPE PRL-IN PRL-OUT	01295	SN74S299N
U15	1820-1112	8	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U14	1820-1195	7	2	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74LS175N
U13	1813-0285	9	1	CLOCK-OSCILLATOR-XTAL 20.0000-MHZ 0.01%	04713	RASCO PLUS-20MHZ
U12	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U11	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U10	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U9	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U8	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U7	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL
U6	1818-3214	0	0	DRAM 16KX4 150 NS PLSTC 5V	01295	TMS4416-15NL

Reference Designator HP Part Number CD Qty Description Mfr Code Mfr Part Number

U59	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U60	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U61	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U62	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U63	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U64	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U65	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U66	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U67	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U68	1820-5177	3	IC SHF-RGTR SYNC/ASYNC PRL-IN SERIAL-OUT	18324	74HCT597N
U69	1820-2654	5	IC MUXR/DATA-SEL TTL F 2-10-1-LINE QUAD	07263	74F157PC
U70	1820-2654	5	IC MUXR/DATA-SEL TTL F 2-10-1-LINE QUAD	07263	74F157PC
U71	1820-2654	5	IC MUXR/DATA-SEL TTL F 2-10-1-LINE QUAD	07263	74F157PC
U72	1820-1216	3	IC DDDR TTL LS 3-10-8-LINE 3-INP	01295	SN74ALS138N
U73	1820-1196	8	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74ALS174N
U74	1818-1611	7	IC CMOS 16384 (16K) STAT RAM 150-NS 3-S	34335	AM9128-15PC
U75	1818-1611	7	IC CMOS 16384 (16K) STAT RAM 150-NS 3-S	34335	AM9128-15PC
U76	54110-80018	0	IC CHARACTER ROM	28480	54110-80018
U77	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U78	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U79	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U80	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U81	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U82	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U83	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U84	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U85	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U86	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U87	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U88	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U89	1820-2654	5	IC MUXR/DATA-SEL TTL F 2-10-1-LINE QUAD	07263	74F157PC
U90	1820-1989	7	IC CNTR TTL LS BIN DUAL 4-BIT	07263	74LS393PC
U91	1820-1989	7	IC CNTR TTL LS BIN DUAL 4-BIT	07263	74LS393PC
U92	1816-0724	7	IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74A189N
U93	1816-0724	7	IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74A189N
U94	1820-1195	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG COM	01295	SN74ALS175N
U95	1820-0697	2	IC DRV R TTL S NAND LINE DUAL 4-INP	01295	SN74AS140N
U96	1820-2684	1	IC GATE TTL F NAND QUAD 2-INP	04713	MC74F00N
U97	1820-2701	3	IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U98	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U99	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U100	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U101	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U102	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U103	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U104	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U105	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U106	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U107	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N
U108	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U109	1820-2024	3	IC DRV R TTL LS LINE DRV R OCT L	01295	SN74ALS244N
U110	1820-1997	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74ALS374N

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Reference Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
U111	1820-1997	7	1	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U112	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U113	1820-2701	3	3	IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U114	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U115	1820-1072	9	2	IC DCDR TTL S 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
U116	1816-0724	7	7	IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U117	1816-0724	7	7	IC TTL S 64-BIT STAT RAM 35-NS 3-S	01295	SN74S189N
U118	1820-0690	5	1	IC BFR TTL S NAND DUAL 4-INP	01295	SN74S40N
U119	1820-2795	5	2	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U120	1820-2701	3	3	IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U121	1820-2506	6	1	IC INV TTL F HEX	04713	MC74F04N
U122	1810-0829	1	1	DELAY LINE ACTIVE DEVICE W/DUAL IN-LINE	28480	1810-0829
U123	1820-1997	7	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U124	1820-1997	7	7	IC FF TTL LS D-TYPE POS-EDGE-TRIG PRL-IN	01295	SN74LS374N
U125	1820-1197	9	1	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U126	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U127	1820-1208	3	3	NOT ASSIGNED		
U128	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U129	1820-1208	3	3	NOT ASSIGNED		
U130	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U131	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U132	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U133	1820-1208	3	3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U134	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U135	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U136	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U137	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U138	1820-2024	3	3	IC DRVR TTL LS LINE DRVR OCTL	01295	SN74LS244N
U139	1820-2075	4	2	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U140	1820-2075	4	4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U141	1820-1419	8	1	IC COMPTR TTL LS MAG10 4-BIT	01295	SN74LS85N
U142	1820-2701	3	3	IC FF TTL F D-TYPE POS-EDGE-TRIG COM	04713	MC74F374N
U143	1820-2795	5	5	IC DRVR TTL F LINE DRVR OCTL	04713	MC74F244N
U144	1820-2684	1	1	IC GATE TTL F NAND QUAD 2-INP	04713	MC74F00N
U145	1826-1536	2	1	D/A 4-BIT 24-DIP-C CMOS	33967	RGBDAC3404
U146	1820-2686	3	3	IC GATE TTL F AND QUAD 2-INP	04713	MC74F08P
U147	1820-1072	9	9	IC DCDR TTL S 2-TO-4-LINE DUAL 2-INP	01295	SN74LS139N
U148	1820-1201	6	3	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U149	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U150	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U151	1820-1201	6	6	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U152	1820-1201	6	6	IC GATE TTL LS AND QUAD 2-INP	01295	SN74LS08N
U153	1820-2690	9	9	IC GATE TTL F OR QUAD 2-INP	04713	MC74F32P
U154	1820-1216	3	3	IC DCDR TTL LS 3-TO-8-LINE 3-INP	01295	SN74LS138N
U155	1820-2691	0	0	IC FF TTL F D-TYPE POS-EDGE-TRIG	04713	MC74F74N
U156	1820-1448	3	1	IC GATE TTL S AND QUAD 2-INP	01295	SN74S09N
UR1-126				NOT ASSIGNED		
UR127	1810-0533	4	2	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533
UR128				NOT ASSIGNED		
UR129	1810-0533	4	4	NETWORK-RES 16-DIP 33.0 OHM X 8	28480	1810-0533

04110-0012 Color Display Assembly replaceable parts

CHANGE 1 for 54110-66514, Color Display Assembly

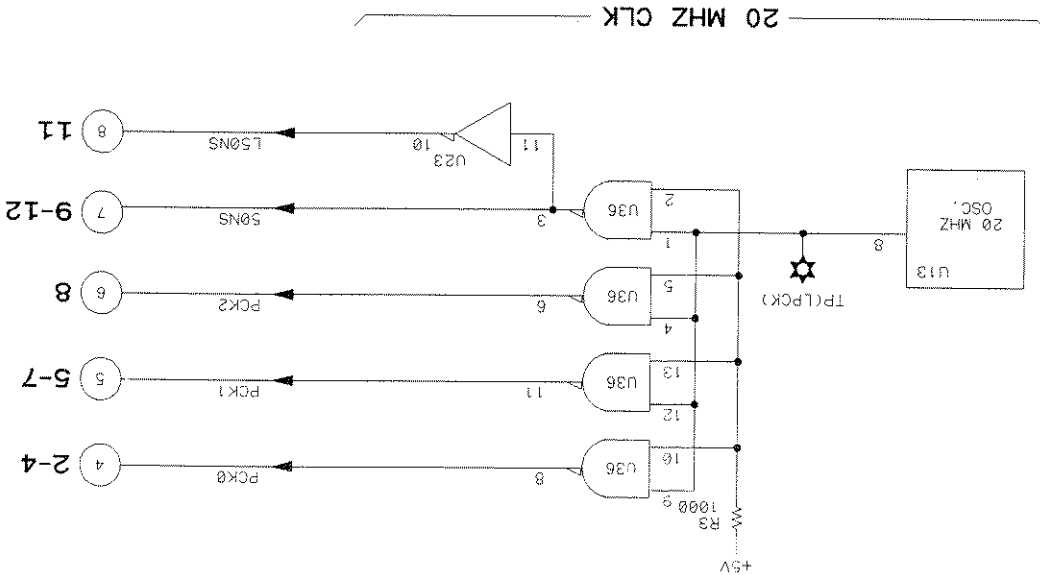
The 54110-66512 Color Display assembly was replaced by the 54110-66514. There are changes for three schematics.

Schematic 1

On schematic 1, the change involves the clock distribution and supply filter capacitors. A partial schematic is provided below.

HP PART NUMBER	CD	DESCRIPTION	MFR	CODE	MFR PART NUMBER
U36 to 1820-2684	1	IC GATE TTL F NAND QUAD 2-INP	07263		74F00PC
C30,41	0180-3848	CAP-FXD 33UF	28480		0180-3848

CHANGE: 42,57,72



54110/SC12_01A/9-88

Schematic 8

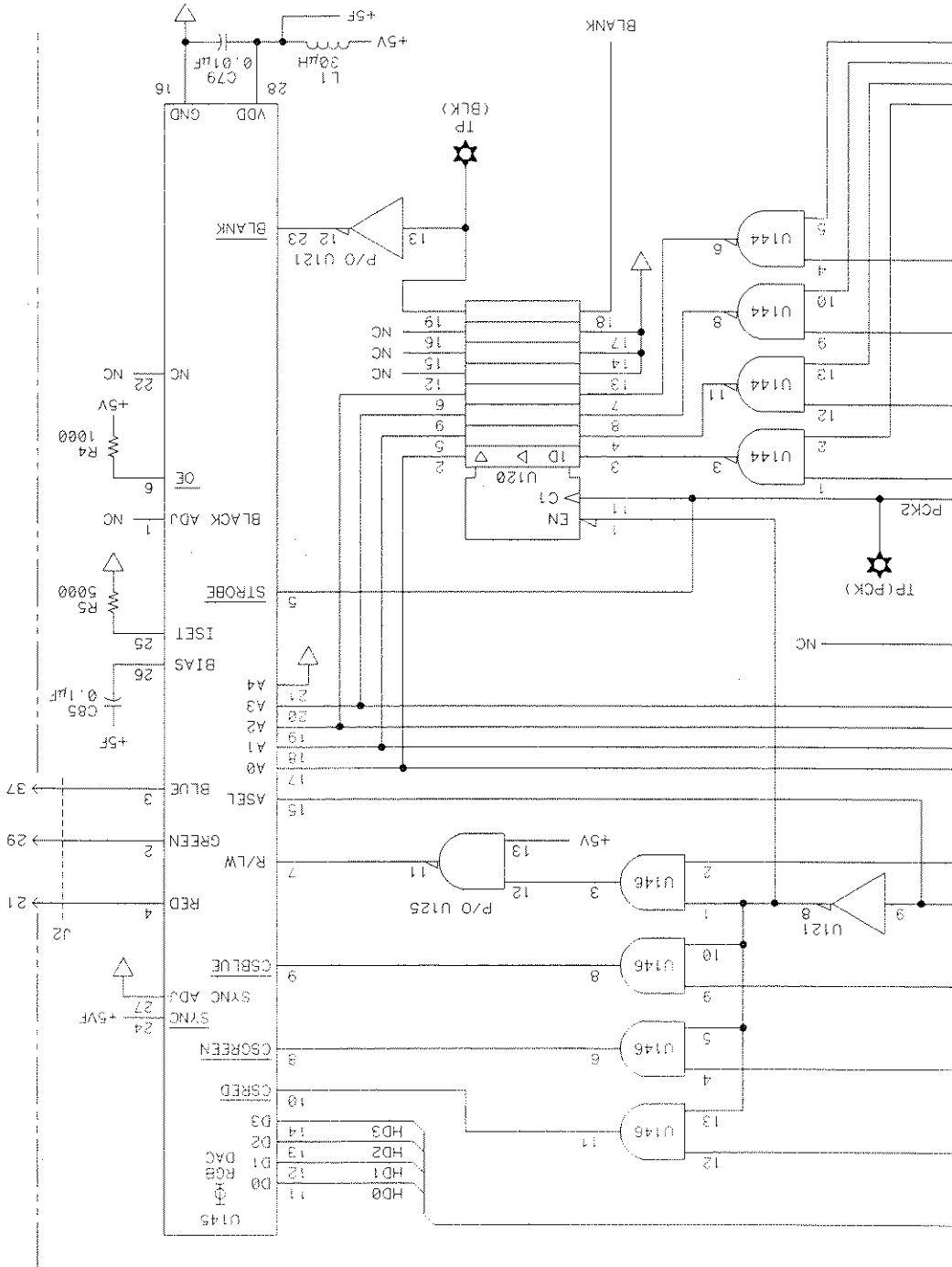
For schematic 8, the change involves the RGB DAC and associated circuitry. A partial schematic is provided on the next page.

DELETE: U122

HP PART NUMBER	CD	DESCRIPTION	MFR	CODE	MFR PART NUMBER
U145 to 1826-1928	6	IC DAC RGB 3405SW	28480		1826-1928
C85	0160-6623	CAP-FXD 0.1UF+-20% 50VDC	28480		0160-6623
R4	0757-0280	RESISTOR 1K +-1% 0.125W TF	2M627		CT4-1/8-T0-1001-F
R5	0698-4002	RESISTOR 5K +-1% 0.125W TF	2M627		CT4-1/8-T0-5001-F

ADD: U145 to 1826-1928

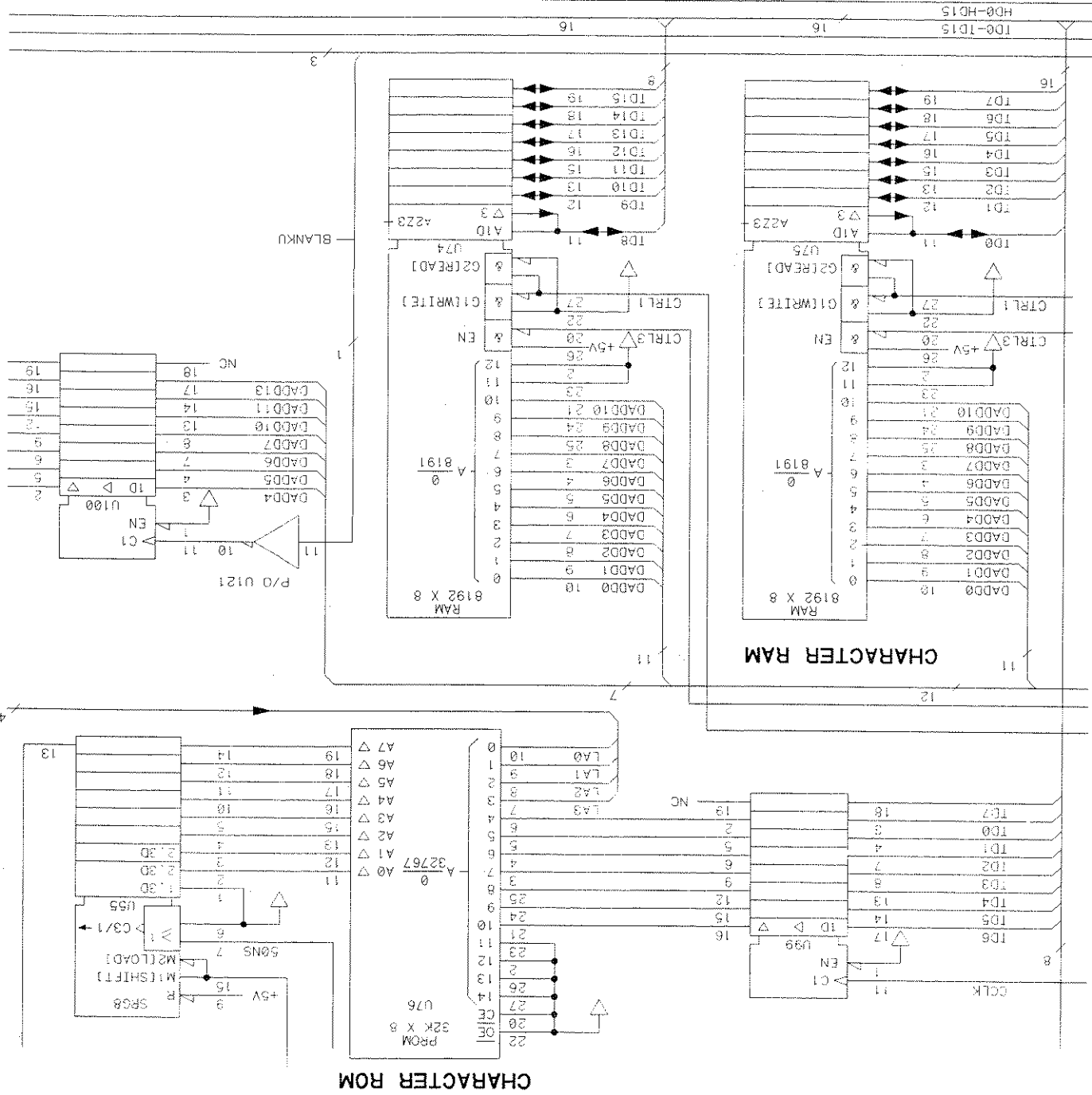
54110/SC12-08B/1-89

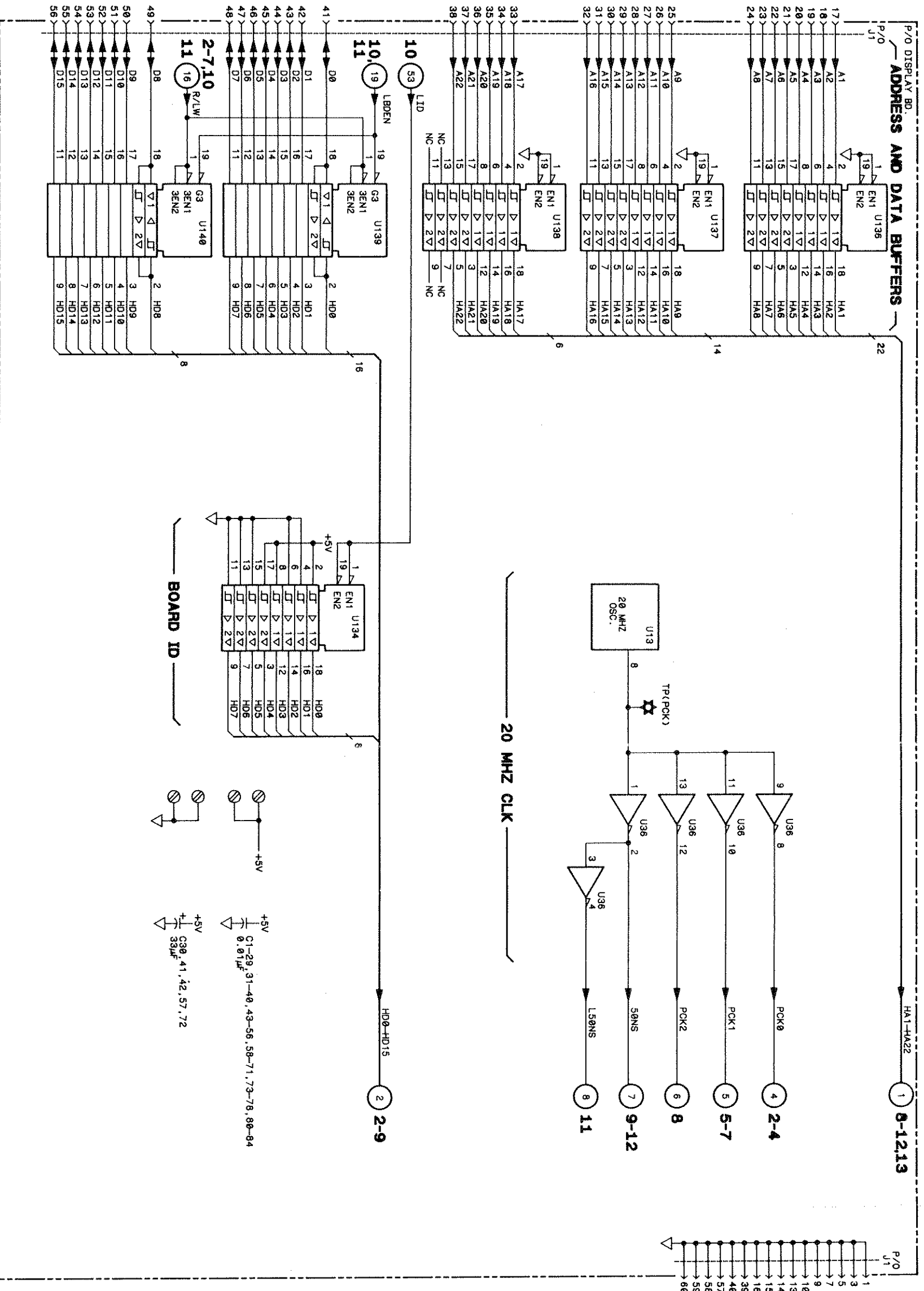


Schematic 9

For schematic 9, the change involves the Character ROM and RAM. A partial schematic is provided below.

HP PART NUMBER	CD	DESCRIPTION	MFR MFR PART NUMBER	CODE NUMBER
U74 to 1818-3183	2	IC CMOS 8K STATIC RAM	28480	1818-3183
U75 to 1818-3183	2	IC CMOS 8K STATIC RAM	28480	1818-3183
U76 to 54110-80027	1	IC CHARACTER ROM	28480	54110-80027





IC DEVICE POWER CONNECTIONS

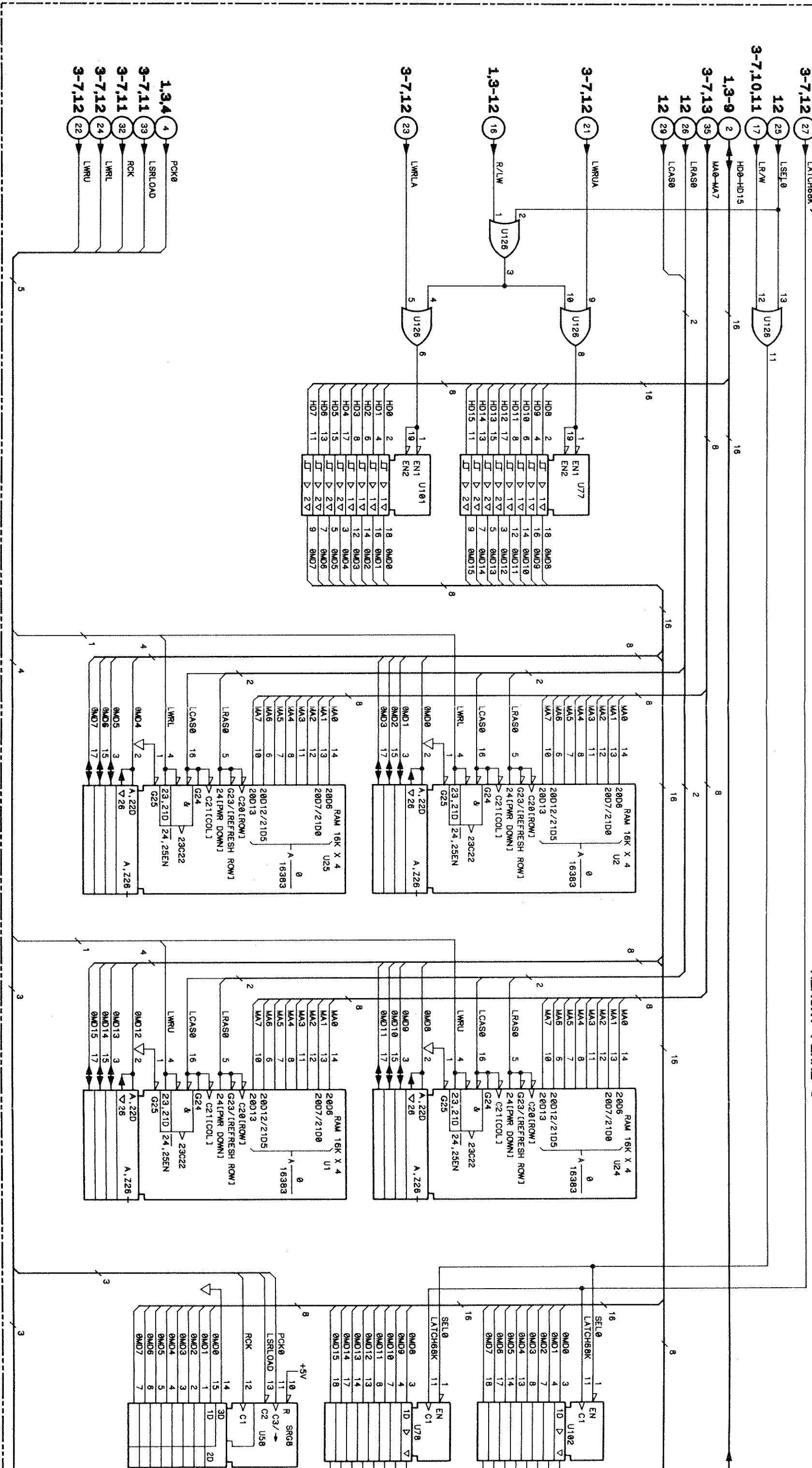
SUPPLY	PIN NO.	IC GROUP
+5V	14	U13, 36
GND	7	
+5V	20	U134, 136-140
GND	10	

PARTS ON THIS SCHEMATIC

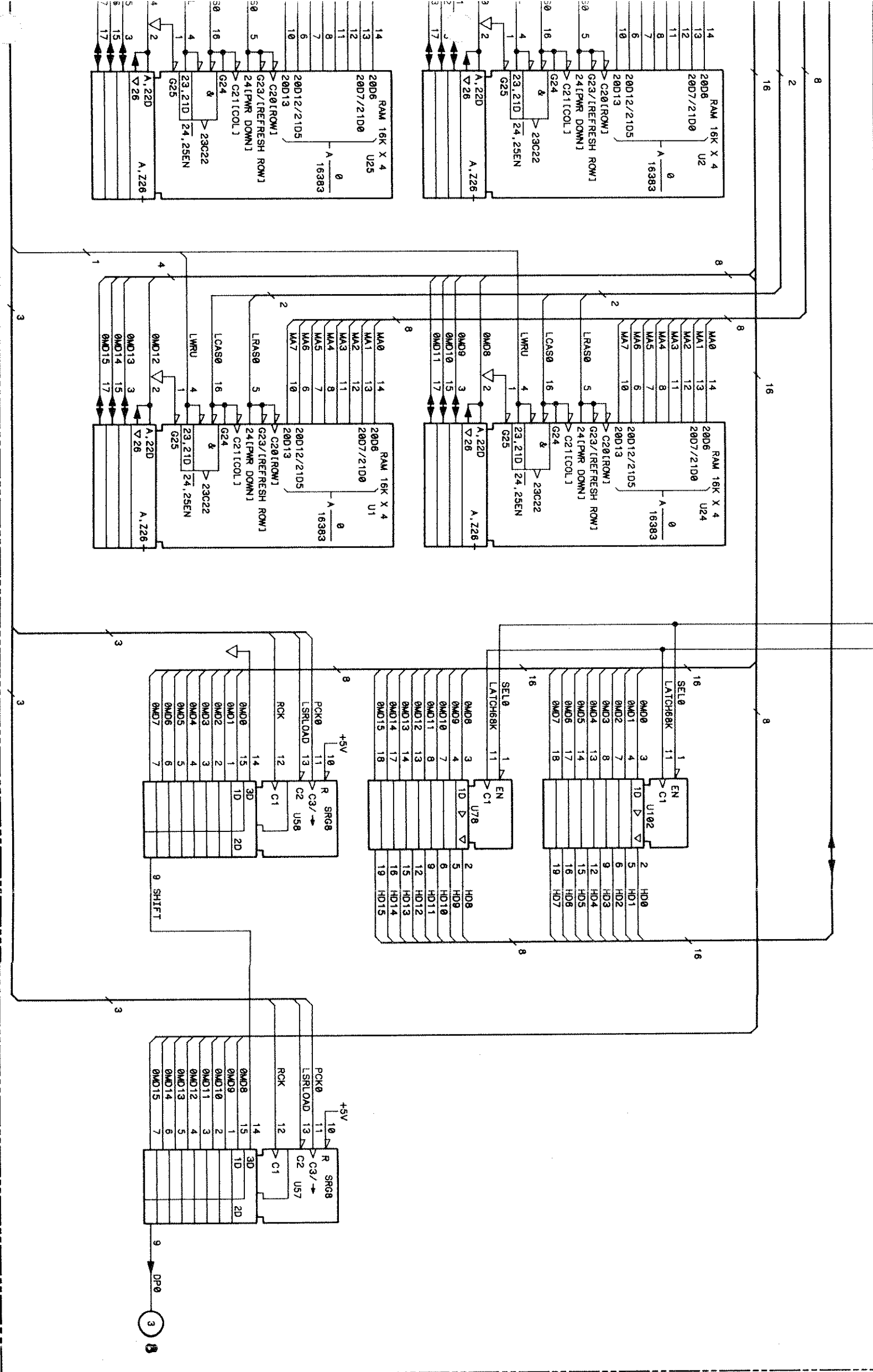
C1-78, 80-84
P/O J1
P/O U23
TP (PCLK)
U13, 36, 134, 136-140
S4110/SC12_01/1/10-89

1

Address and Data Buffers, 20Mhz Oscillator



MEMORY PLANE 0



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	9	U1, 2, 24, 25
GND	18	
+5V	16	U57, 58
GND	8	
+5V	20	U77, 78, 101, 102
GND	10	
+5V	14	U128
GND	7	

PARTS ON THIS SCHEMATIC

U1, 2, 24, 25, 57, 58, 77, 78, 101, 102, 128

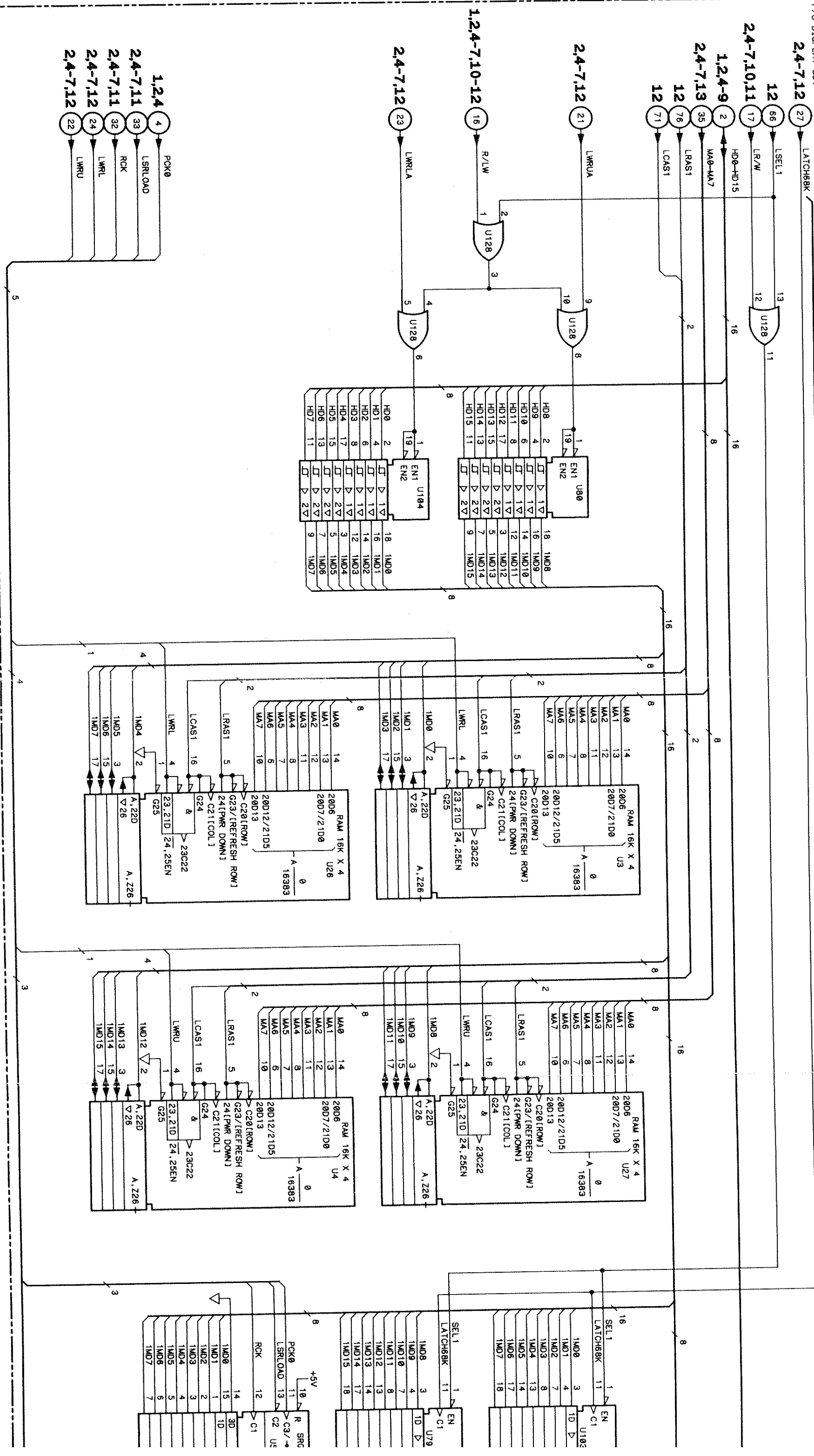
54110/SC12_02/13/8-88

2

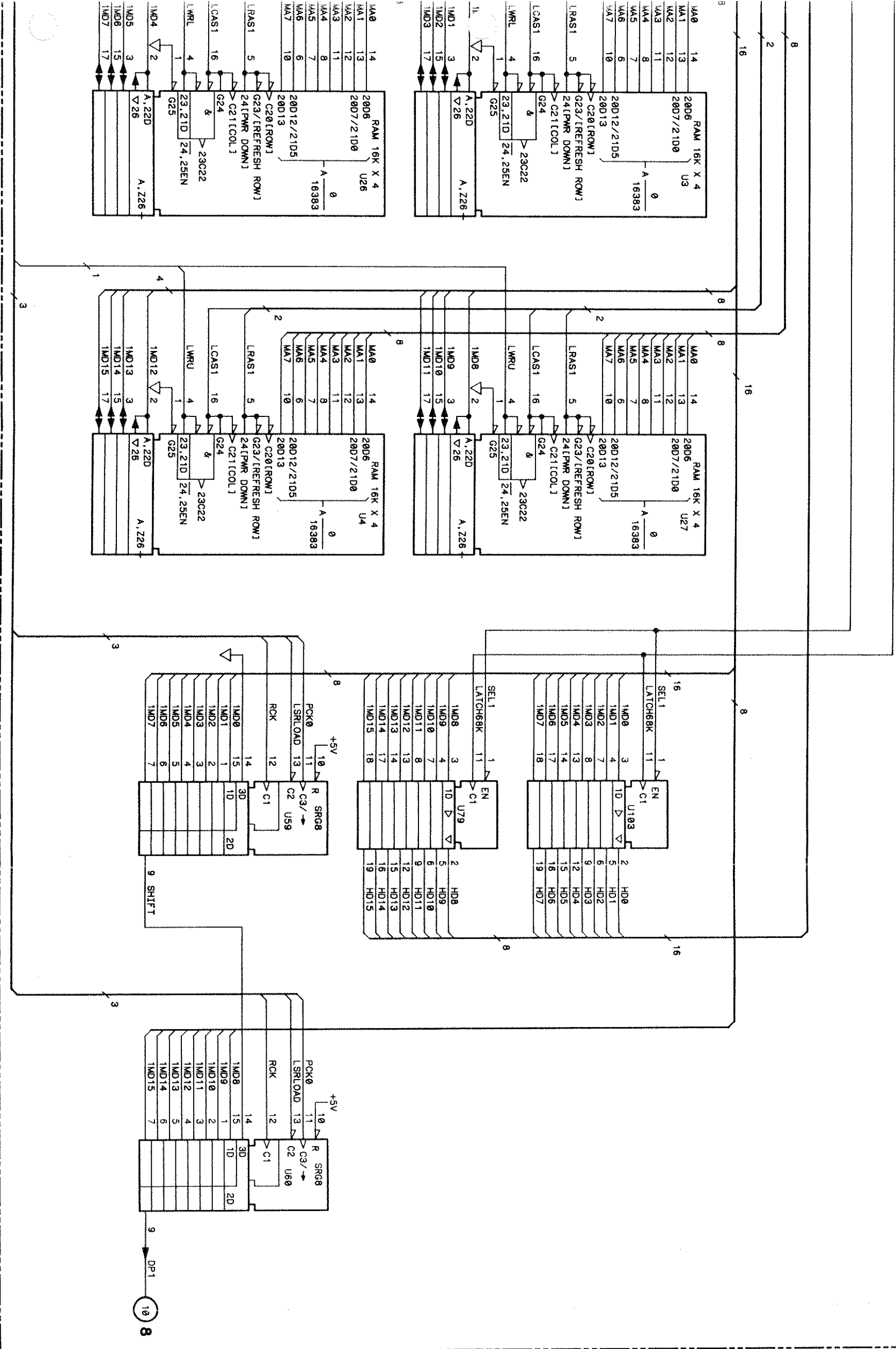
Memory Plane 0

54110-66512

COLOR DISPLAY ASSEMBLY



MEMORY PLANE 1



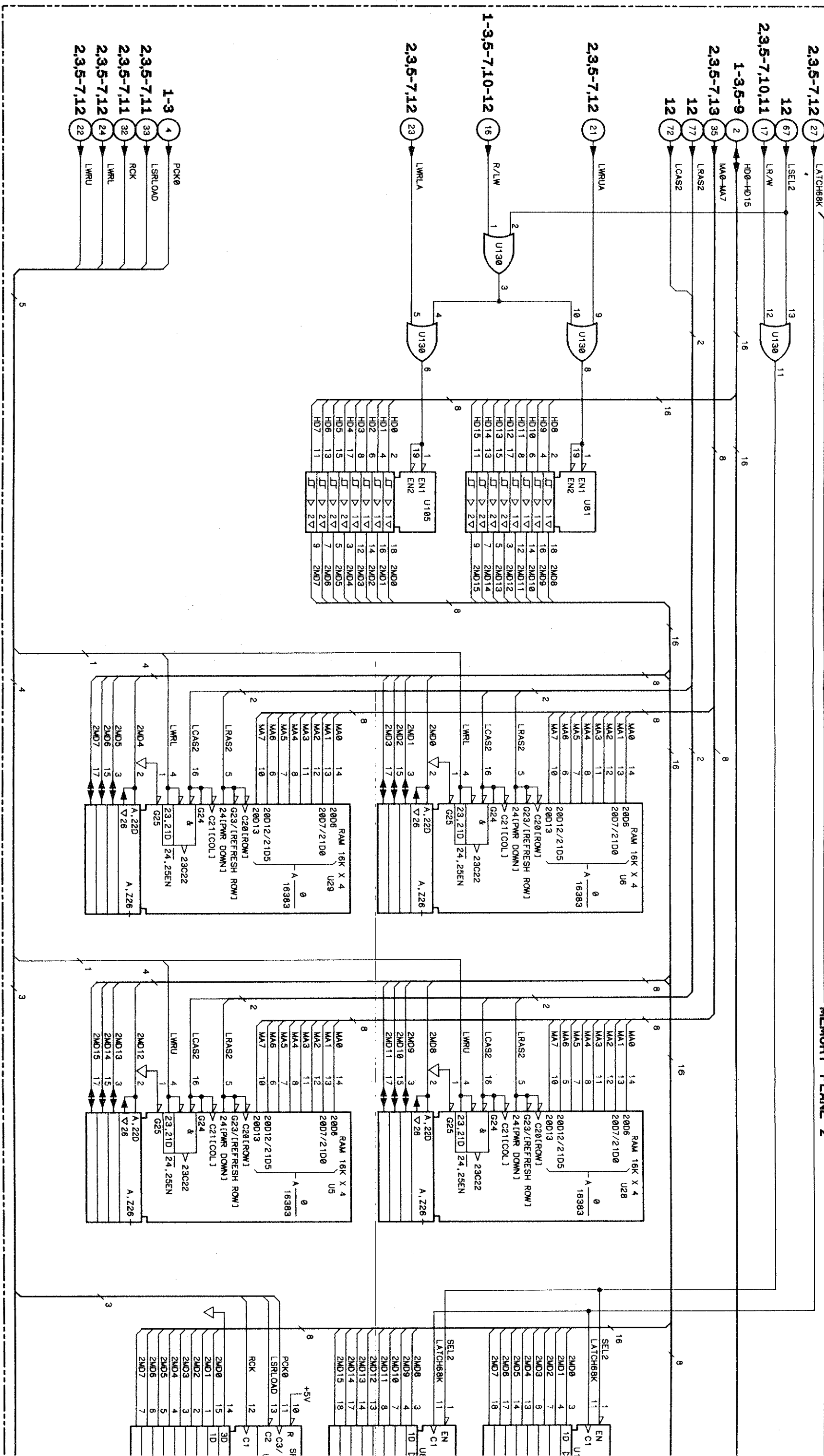
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	9	U3, 4, 26, 27
GND	18	
+5V	16	U59, 60
GND	8	
+5V	20	U79, 80, 103, 104
GND	10	
+5V	14	U128
GND	7	

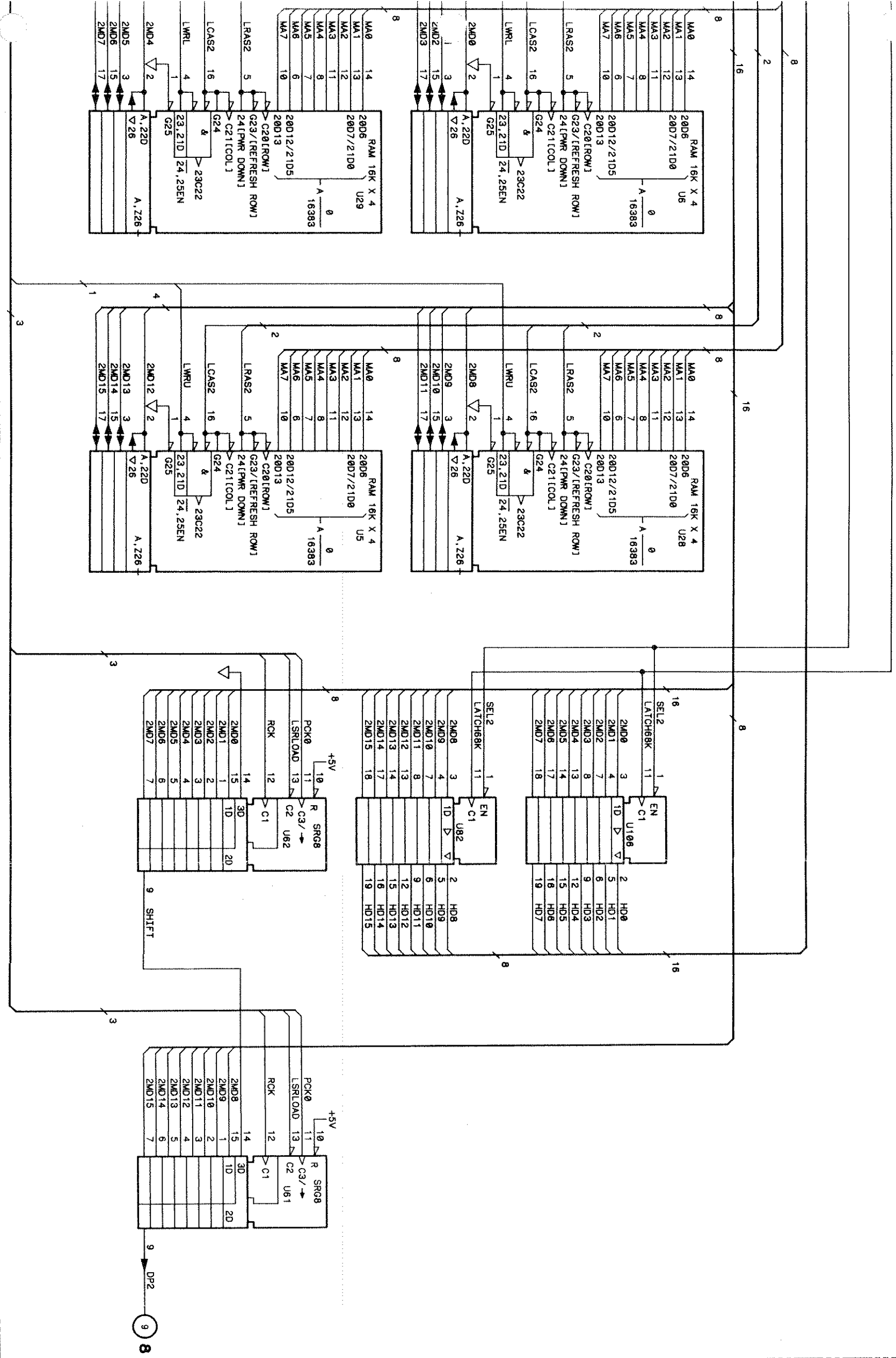
PARTS ON THIS SCHEMATIC

U3, 4, 26, 27, 59, 60, 79, 80, 103, 104, 128
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54110/SC12.03/13/8-88



MEMORY PLANE 2



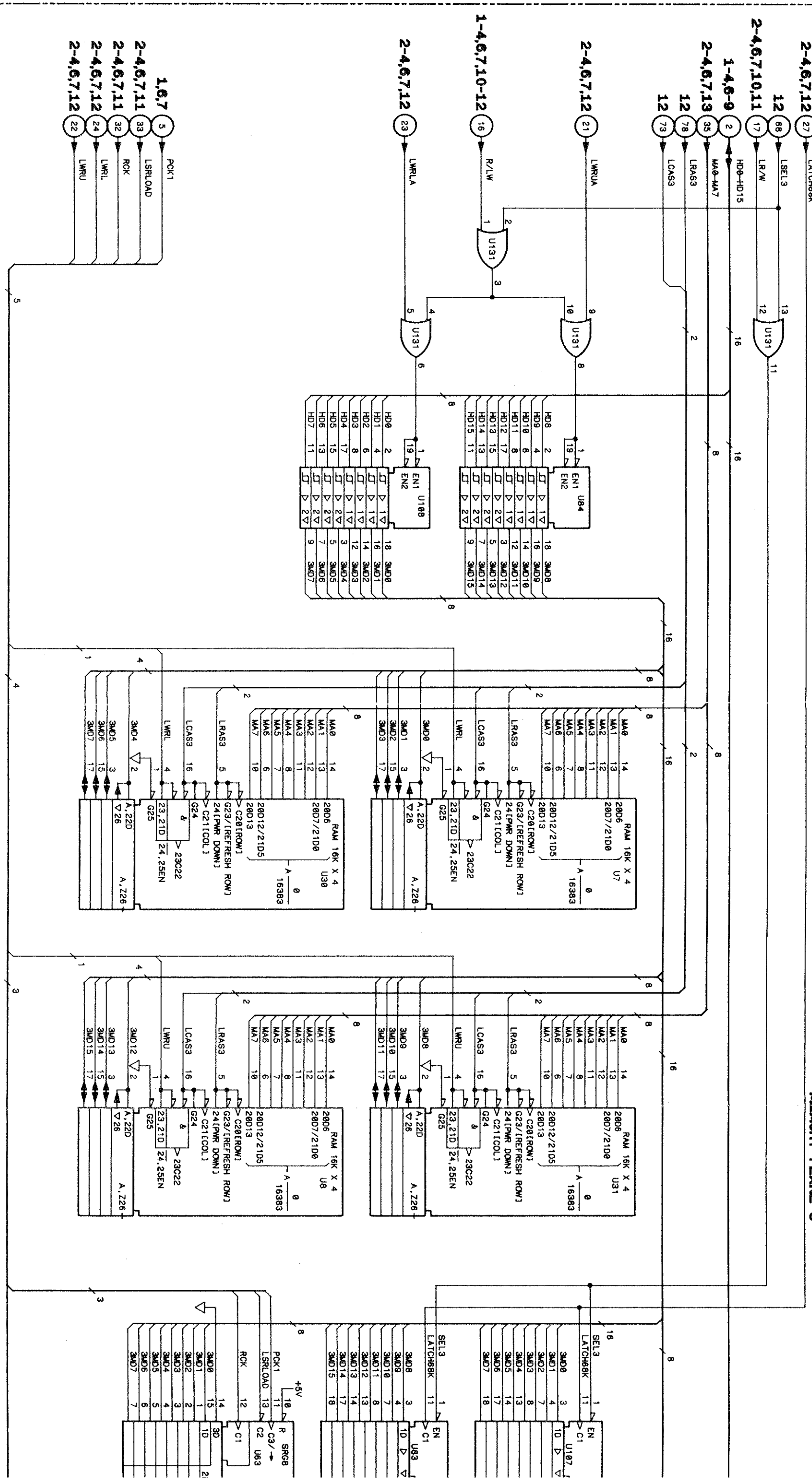
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	9	U5, 6, 28, 29
GND	18	
+5V	16	U61, 62
GND	8	
+5V	20	U81, 82, 105, 106
GND	10	
+5V	14	U130
GND	7	

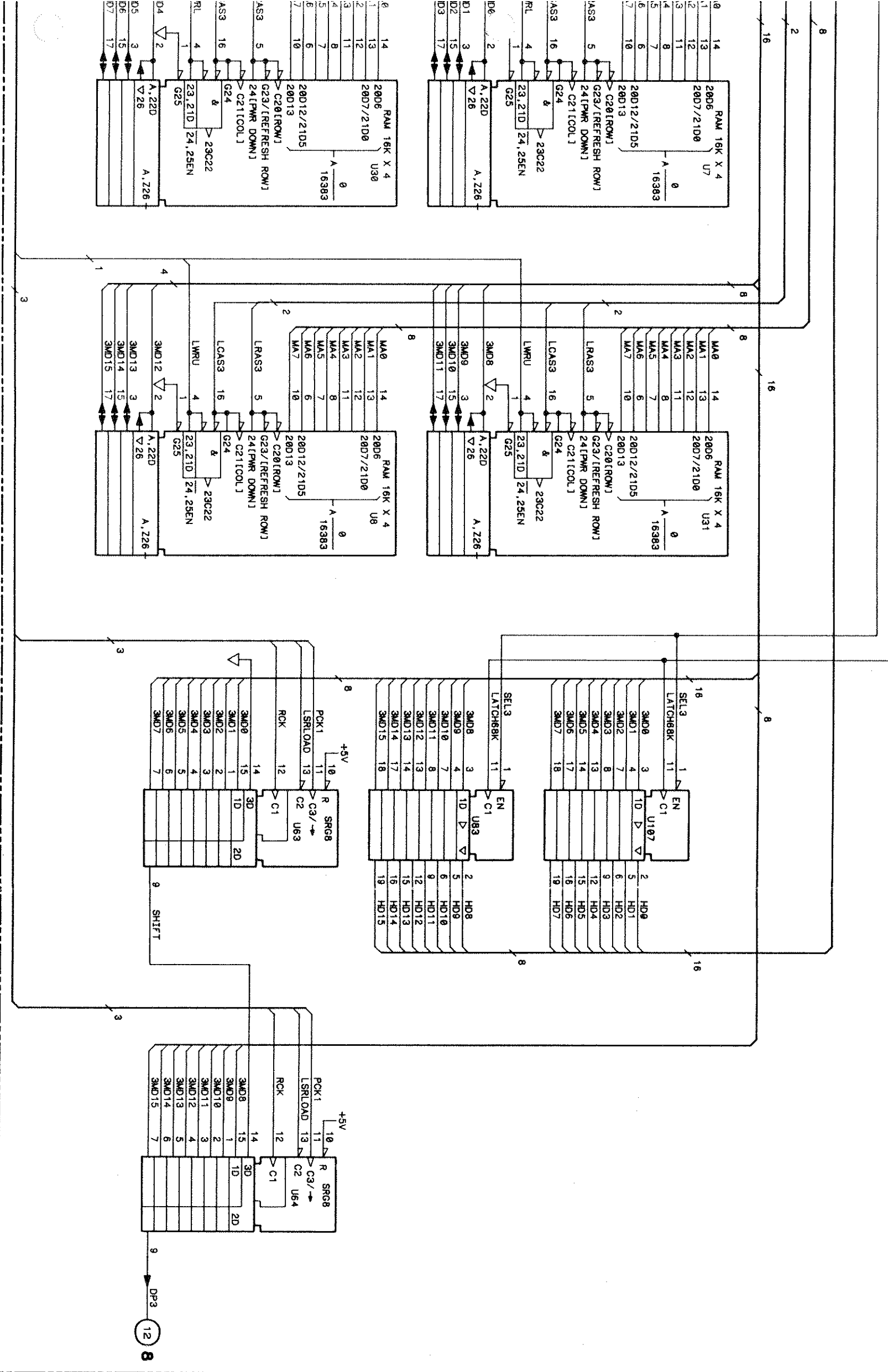
PARTS ON THIS SCHEMATIC

US, 6, 28, 29, 61, 62, 81, 82, 105, 106, 130
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54110/SC12_04/13/8-98



MEMORY PLANE 3



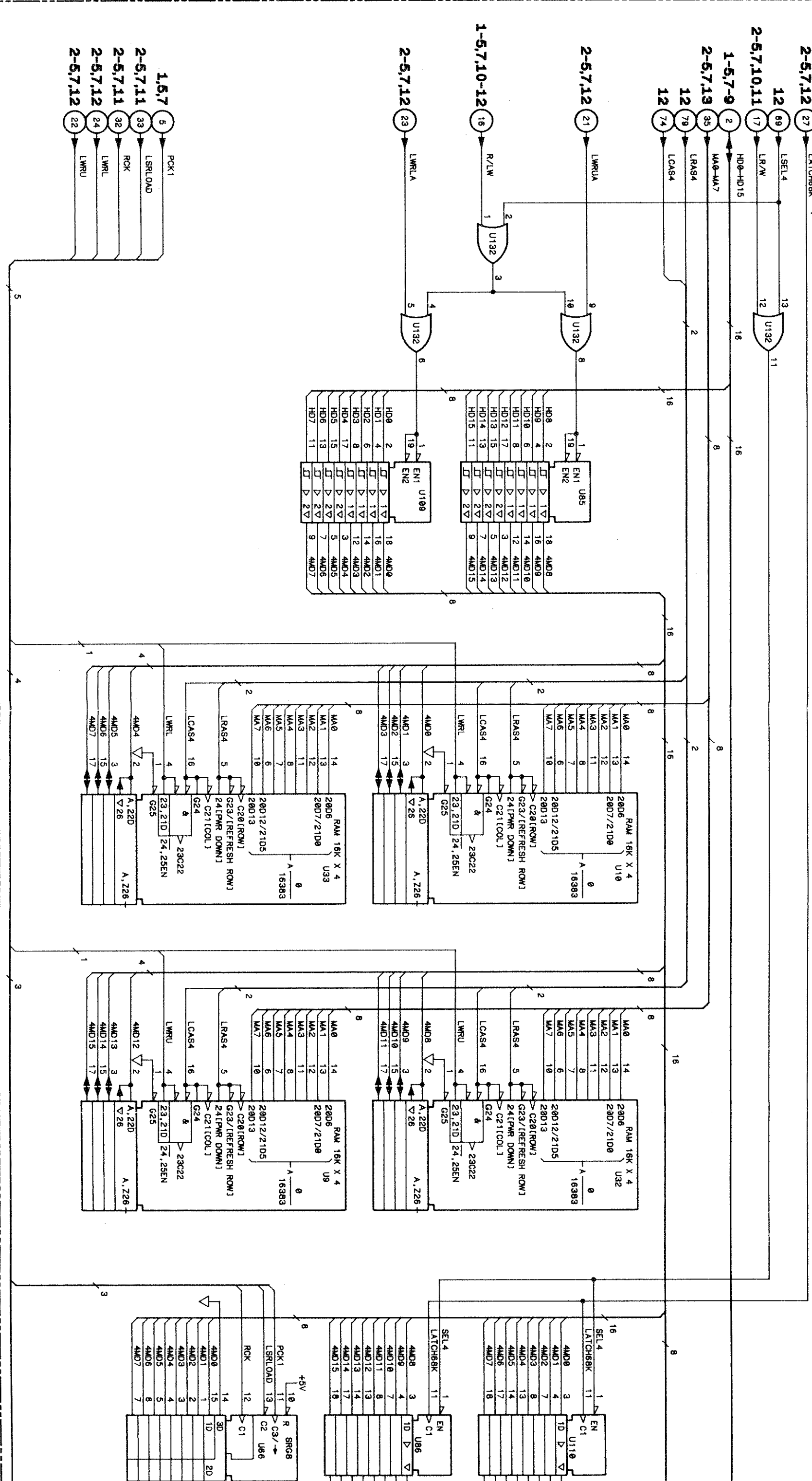
IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	9	U7, 8, 30, 31
GND	18	
+5V	16	U63, 64
GND	8	
+5V	20	U63, 64, 107, 108
GND	10	
+5V	14	U131
GND	7	

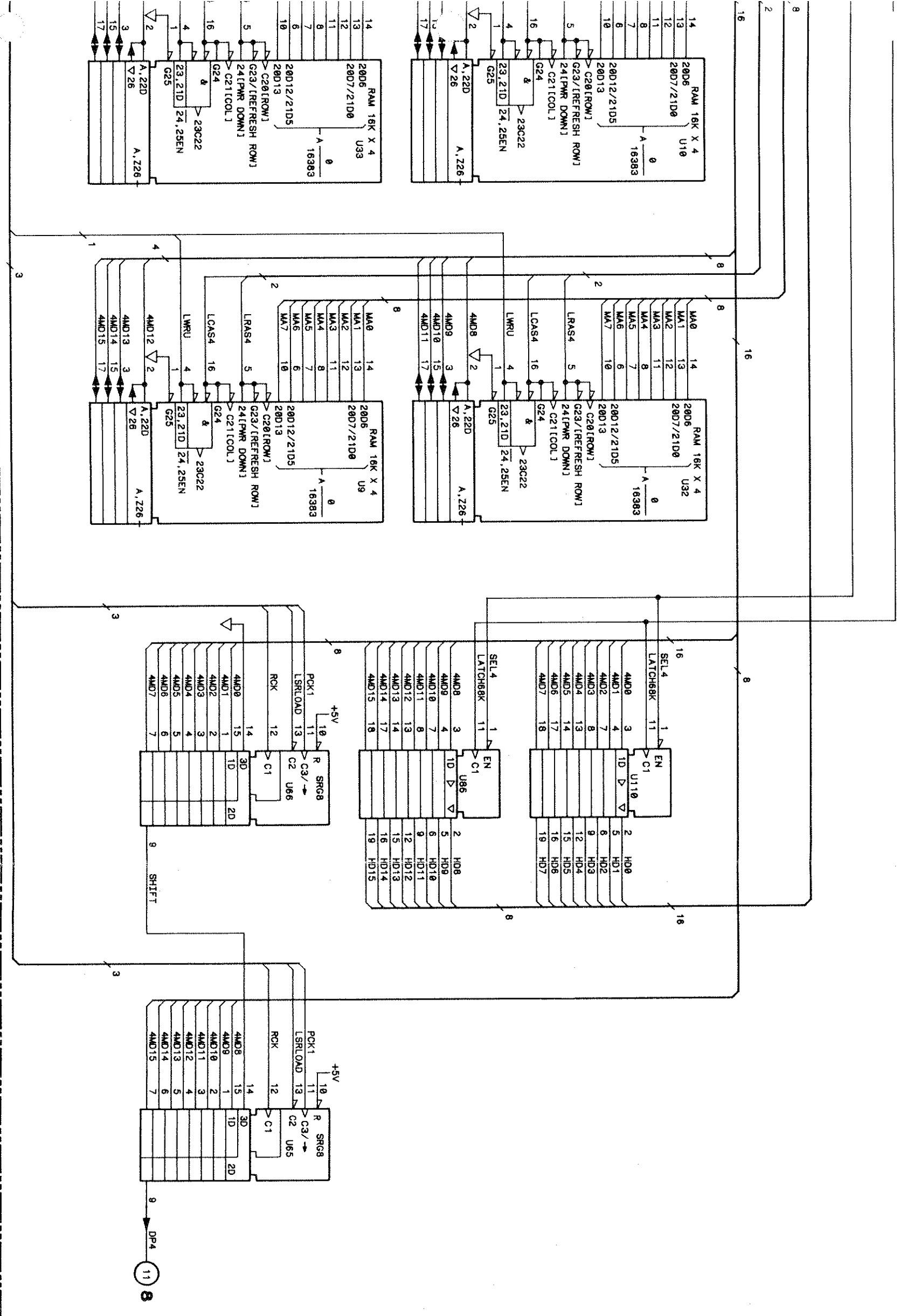
PARTS ON THIS SCHEMATIC

U7, 8, 30, 31, 63, 64, 83, 84, 107, 108, 131

54110/SC12_05/13/8-88



MEMORY PLANE 4



IC DEVICE POWER CONNECTIONS

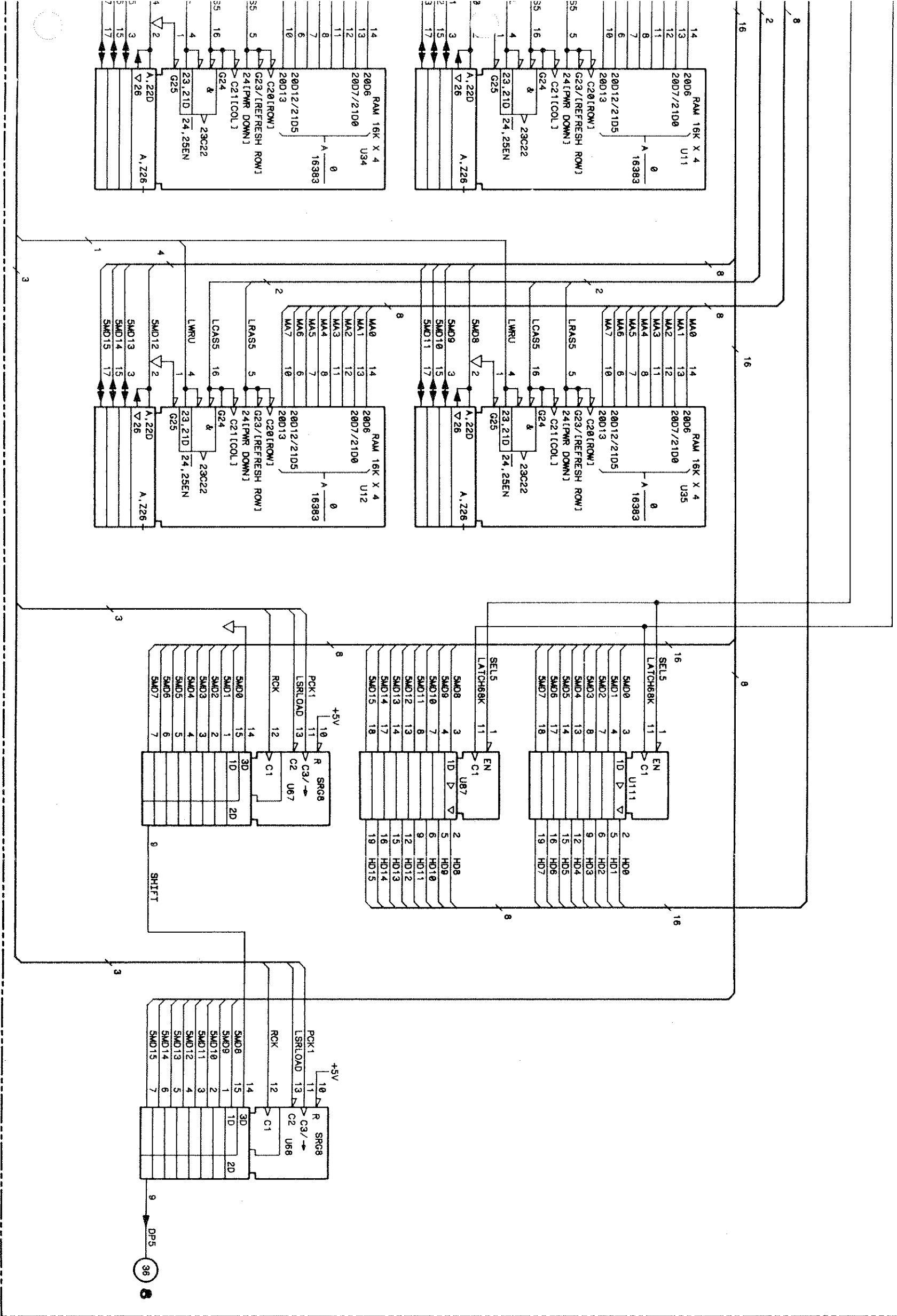
SUPPLY	PIN NO.	IC GROUP
+5V	9	U9, 10, 32, 33
GND	18	
+5V	16	U65, 66
GND	8	
+5V	20	U65, 66, 109, 110
GND	10	
+5V	14	U132
GND	7	

PARTS ON THIS SCHEMATIC

U9, 10, 32, 33, 65, 66, 85, 86, 109, 110, 132

54110/SC12_06/13/8-98

MEMORY PLANE 5



IC DEVICE POWER CONNECTIONS

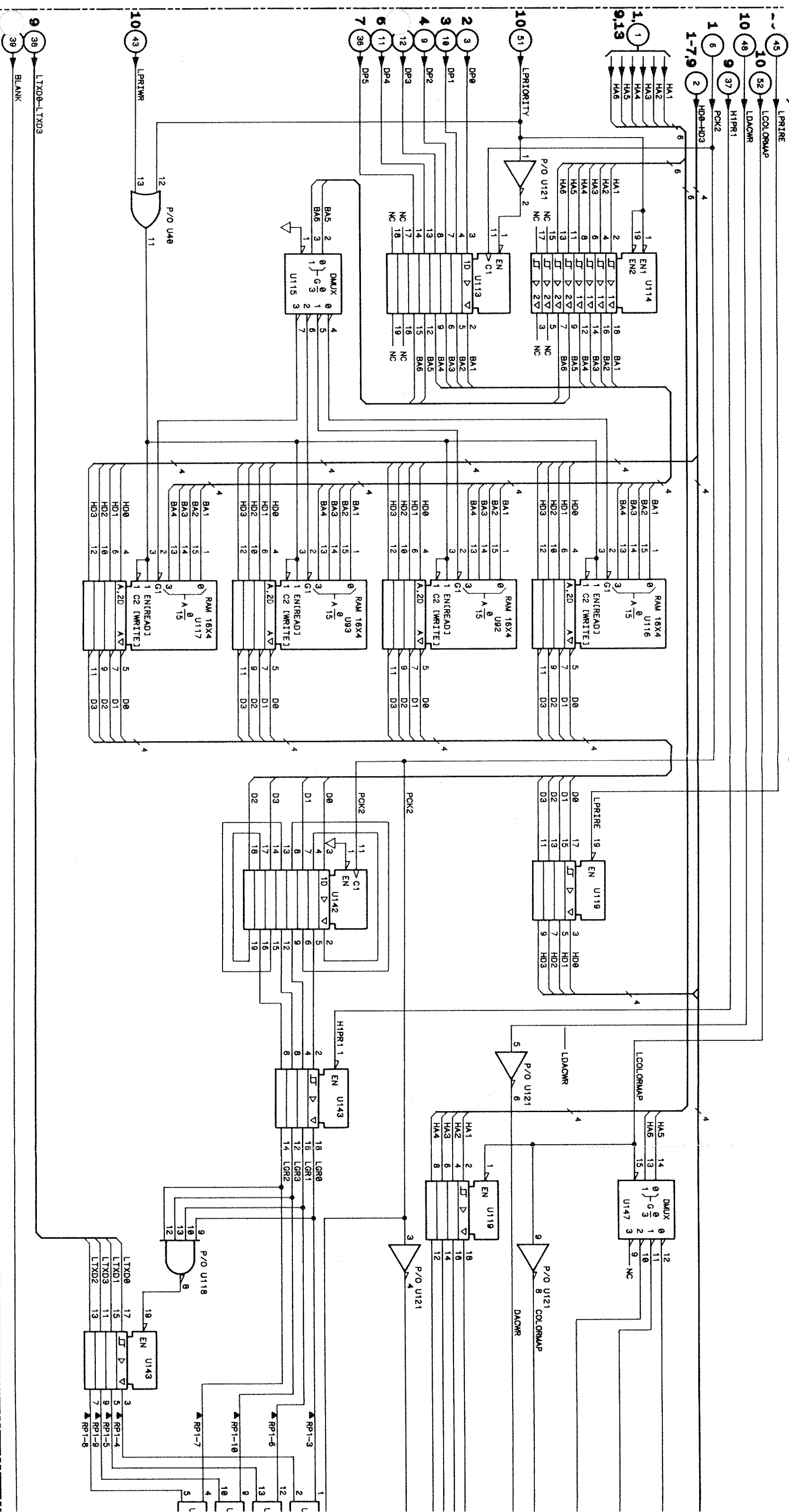
SUPPLY	PIN NO.	IC GROUP
+5V	9	U11, 12, 34, 35
GND	18	
+5V	18	U67, 68
GND	8	
+5V	20	U67, 68, 111, 112
GND	10	
+5V	14	U133
GND	7	

PARTS ON THIS SCHEMATIC

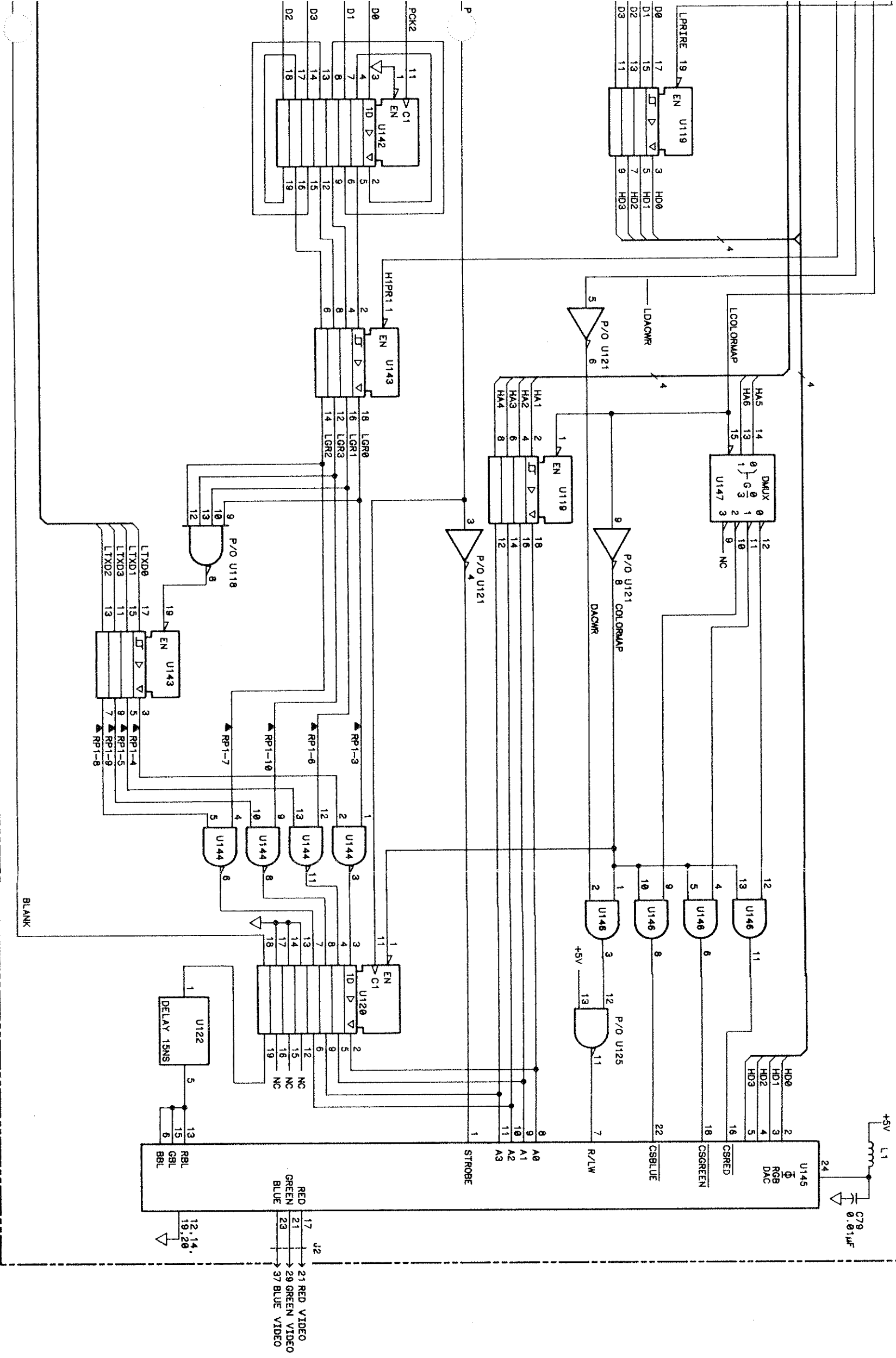
U11, 12, 34, 35, 67, 68, 87, 88, 111, 112, 133

54110/SC12_07/13/9-98

7



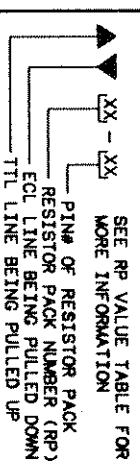
INTERFACE



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U40, 110, 121, 125, 144, 146
GND	7	
+5V	16	U92, 93, 115-117, 147
GND	8	
+5V	20	U113, 114, 119, 120, 142, 143
GND	10	
+5V	8	U122
GND	4	

RESISTOR PACK DESCRIPTIONS:

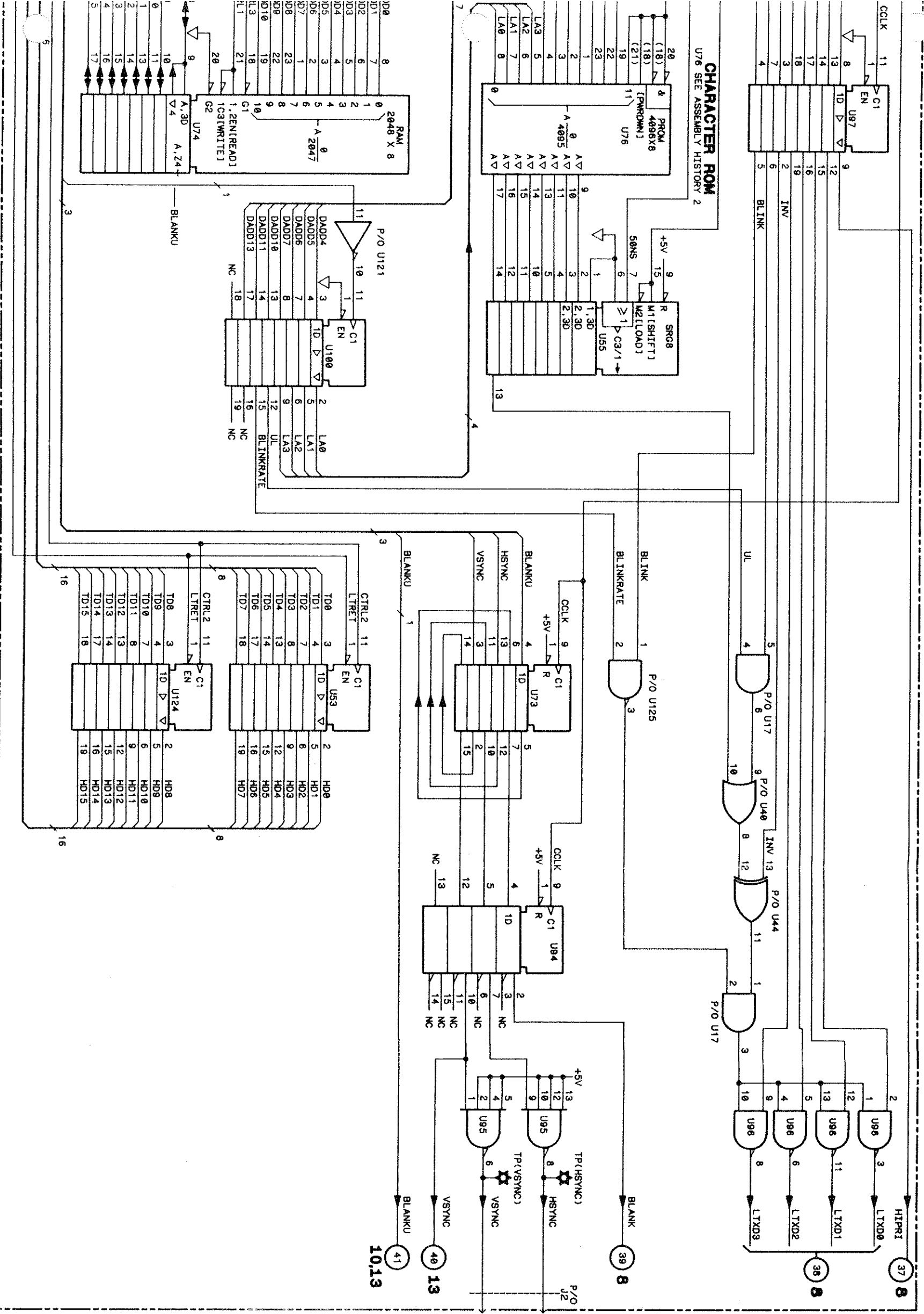


RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
RP1	4700	1	+5V

PARTS ON THIS SCHEMATIC

C78	
L1	
P/O J2	
P/O U40, 110, 121, 125	
P/O U40, 110, 121, 125	
RP1	
U92, 93, 113-117, 119, 120, 122, 142-147	

54110/SC12_00/13/1-89



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U17, 22, 40, 44, 95,
GND	7	96, 121, 125
+5V	40	U51
GND	28	
+5V	20	U52, 53, 97-100,
GND	10	123, 124
+5V	8	U55, 73, 94
GND	16	
+5V	24	U74-76
GND	12	

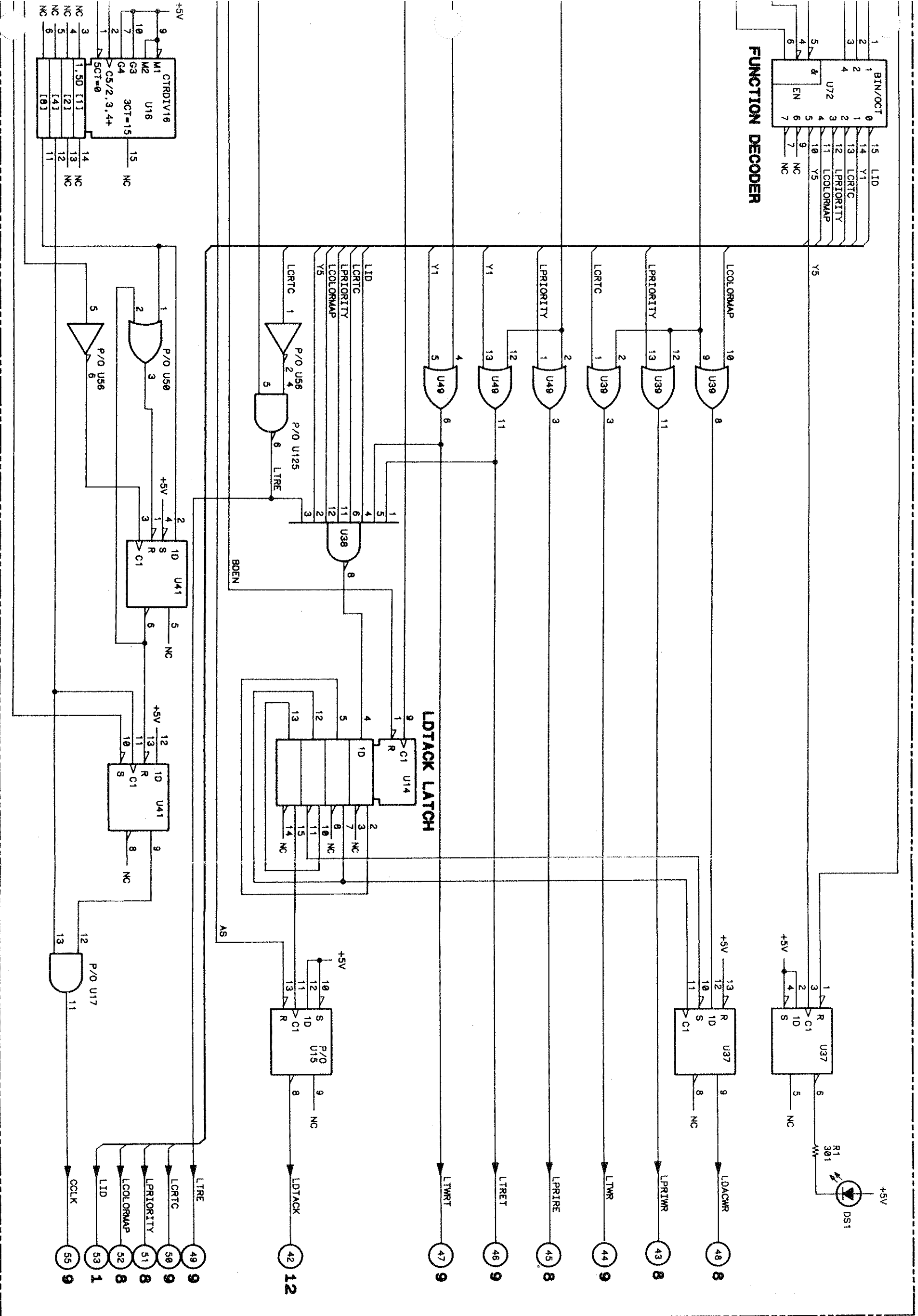
PARTS ON THIS SCHEMATIC

P/O J2
P/O U17, 22, 40, 44, 121, 125
U51-53, 55, 73-76, 94-100, 123, 124

54110/SC12_09/13/1-89

**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+SV	18	U14, 16, 72
GND	8	
+SV	14	U15, 17, 37-39, 41
GND	7	49, 50, 56, 125, 148



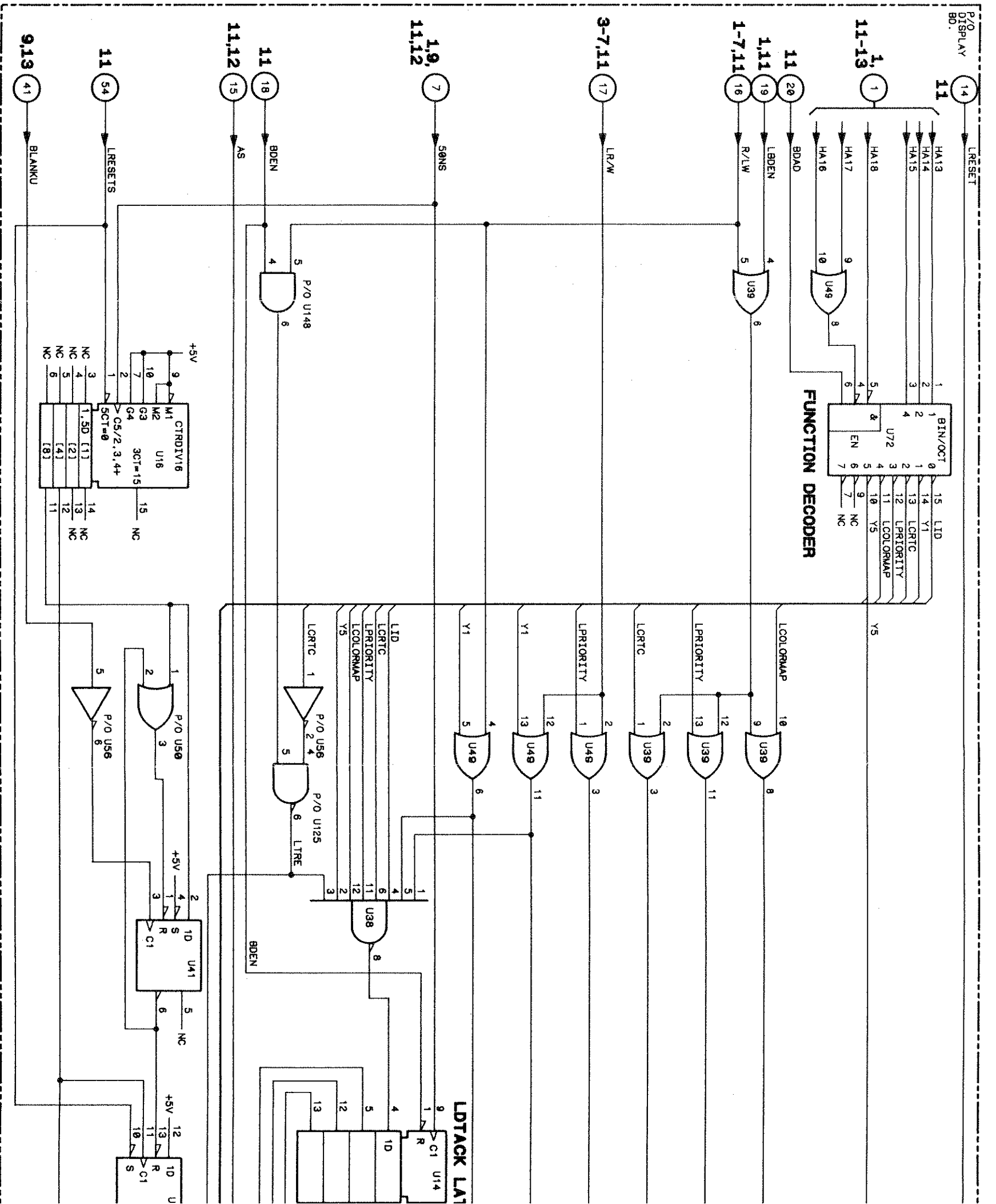
PARTS ON THIS SCHEMATIC

DS1
R1
P/O U15, 17, 50, 56, 125, 148
U14, 16, 37-39, 41, 49, 72
54110/SC12, 10/13/12/1-89

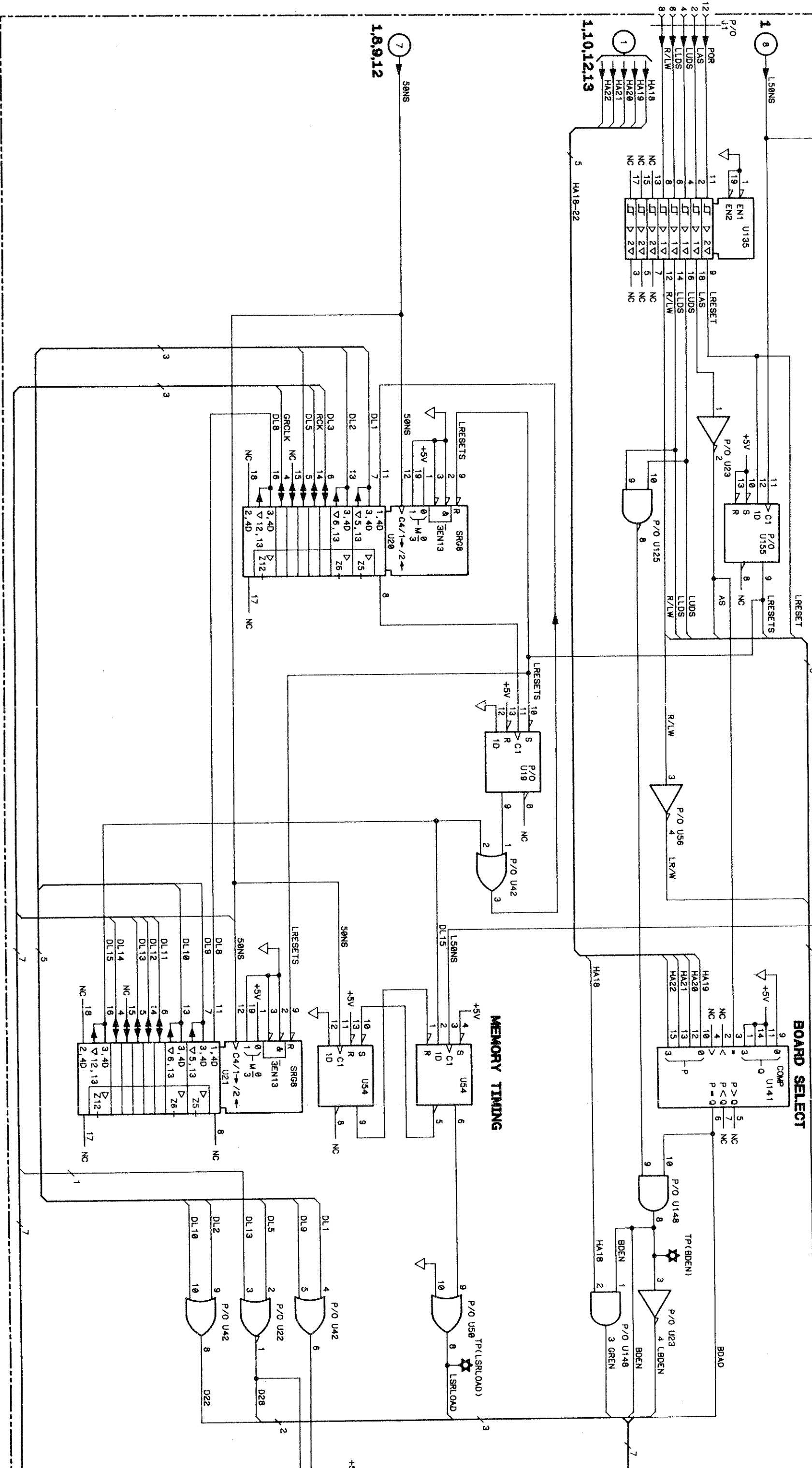
10

Function Decoder, LDTACK Latch

54110-66512

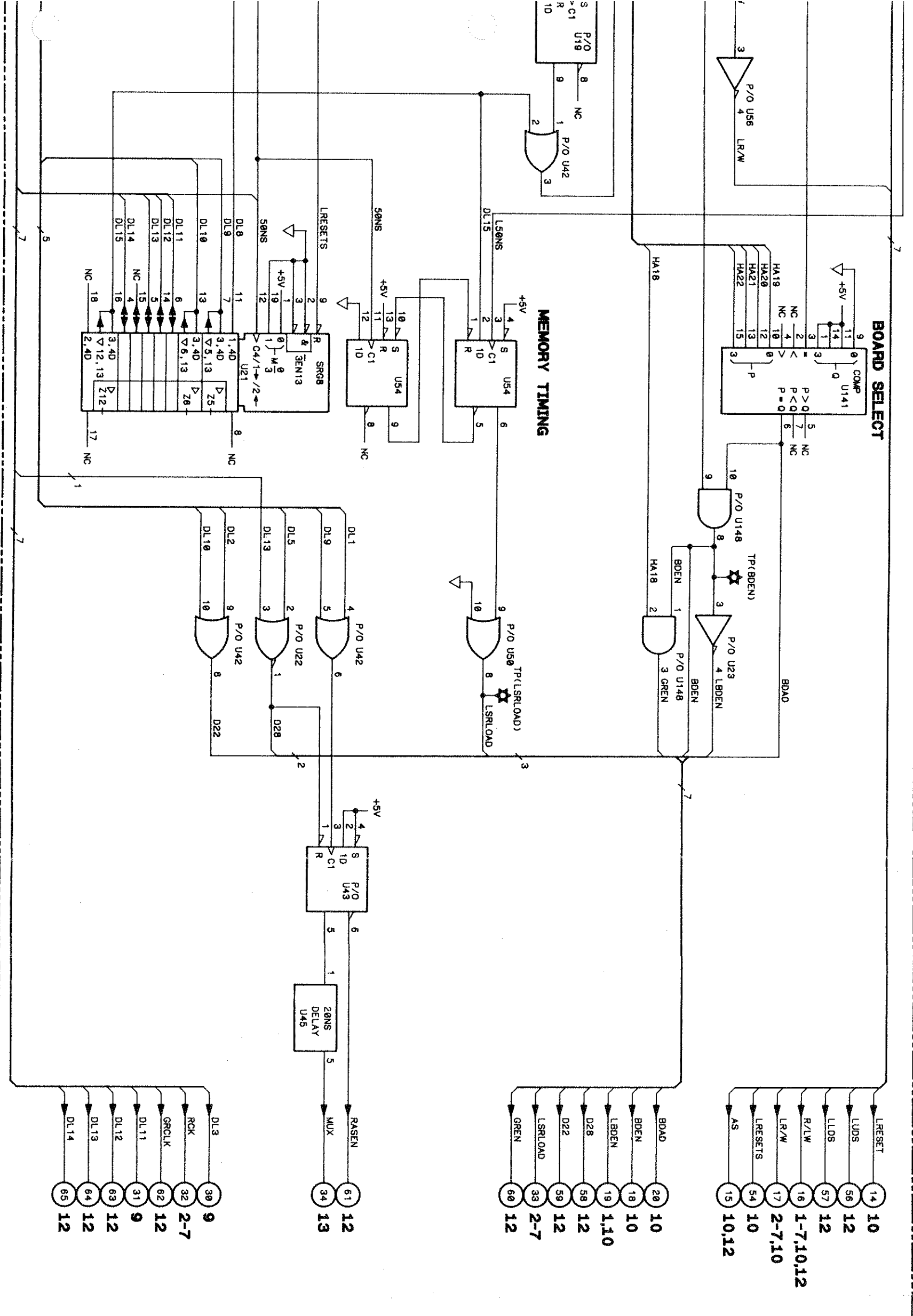


P/O DISPLAY BD.



**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5V	14	U19, 22, 23, 42, 43
GND	7	50, 54, 56, 125, 148, 155
+5V	20	U20, 21, 135
GND	10	
+5V	8	U45
GND	4	
+5V	16	U141
GND	8	



PARTS ON THIS SCHEMATIC

P/O U1	P/O U19, 22, 23, 42, 43, 50, 56, 125, 148, 155
U20, 21, 45, 54, 135, 141	

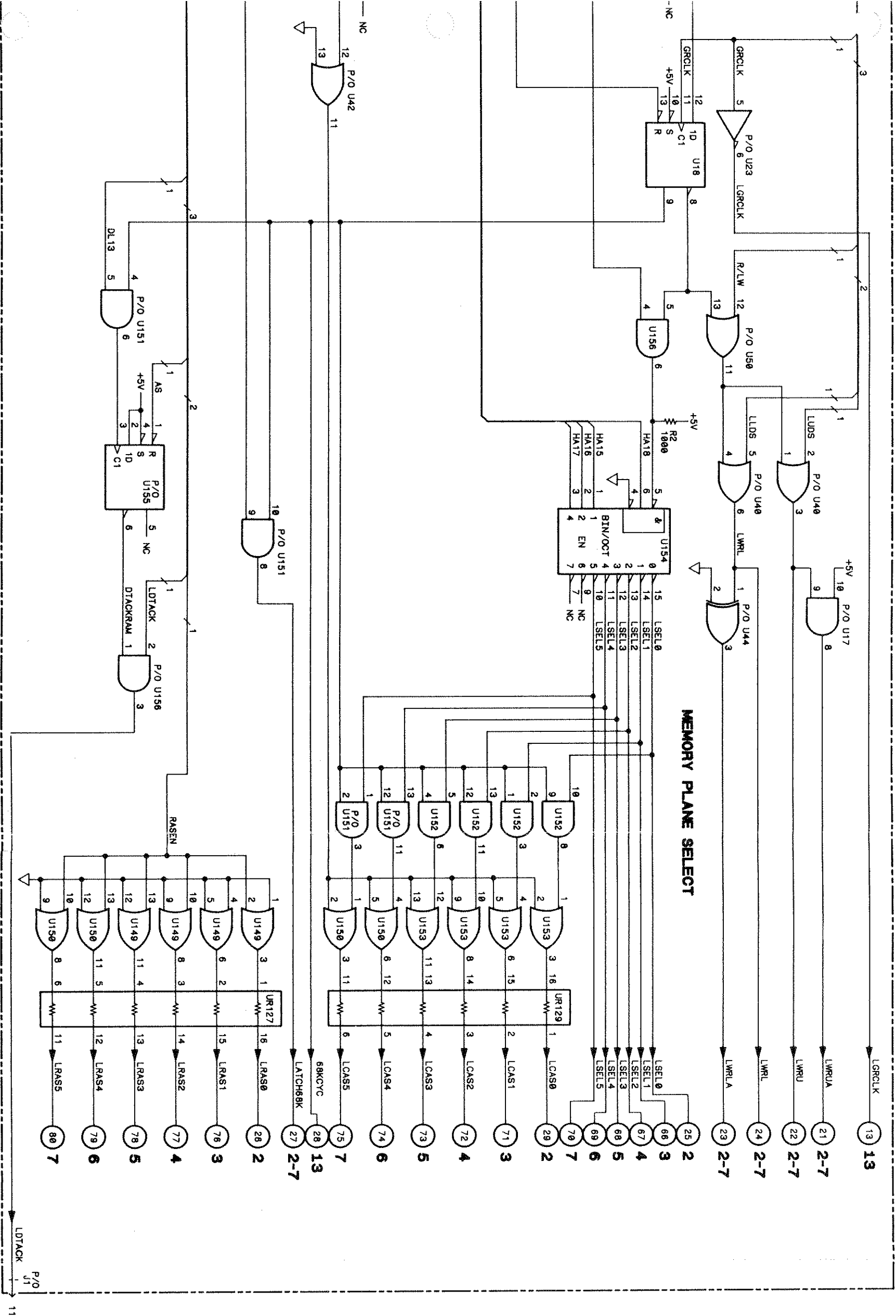
54110/SC12_11/13/1-89

11

Board Select, Memory Timing

**IC DEVICE
POWER CONNECTIONS**

SUPPLY	PIN NO.	IC GROUP
+5V	14	U15, 17-19, 23, 40
GND	7	42-44, 50, 118, 149-153, 155, 156
+5V	16	U154
GND	8	



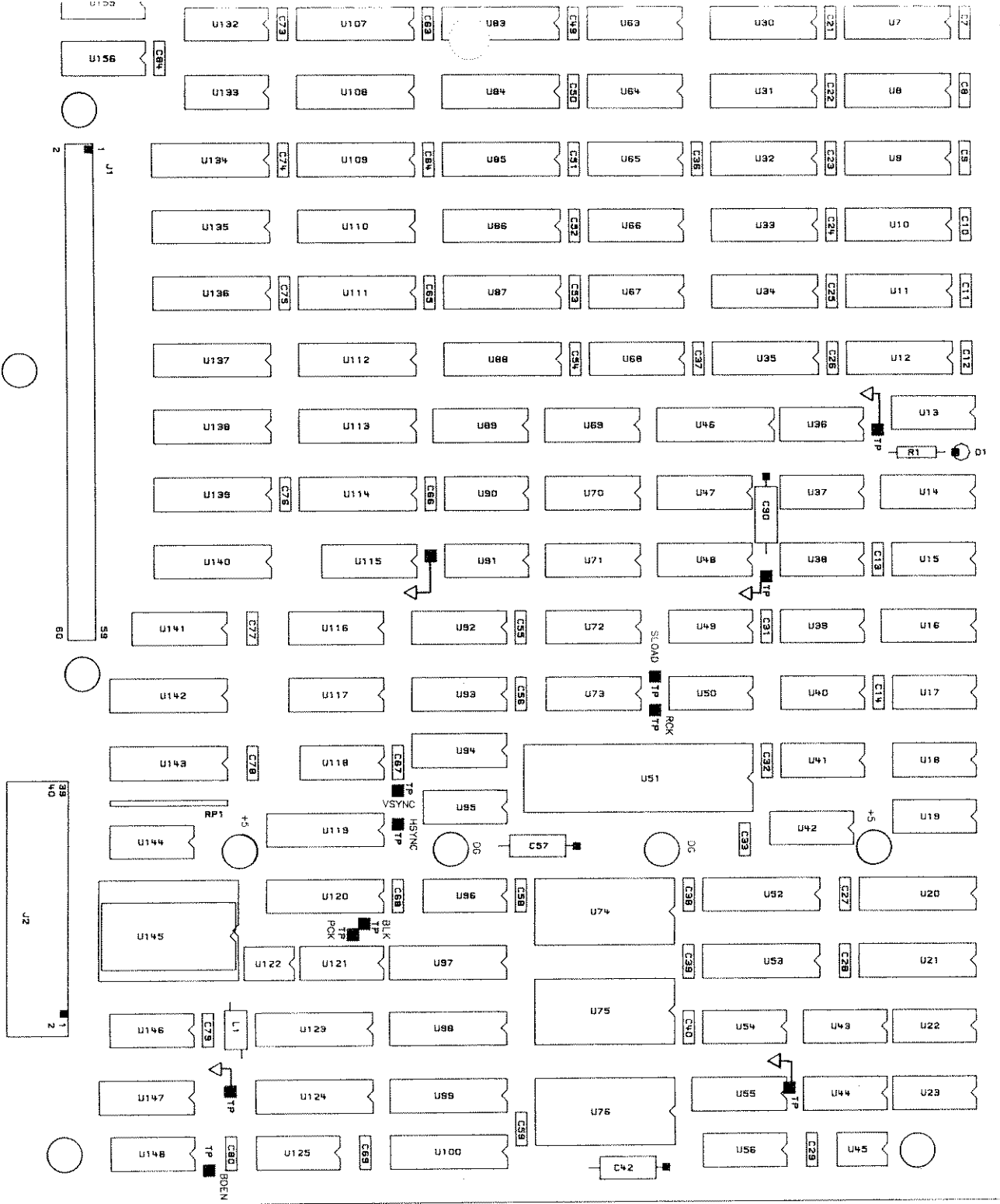
RESISTOR PACK DESCRIPTIONS:

RP#	RESISTOR VALUE
UR127, 129	33

PARTS ON THIS SCHEMATIC

P/O J1	P/O 15, 17, 19, 23, 40, 42-44, 50, 118, 155
R2	U18, 149-154, 156
U18, 149-154, 156	UR127, 129
U18, 149-154, 156	54110/SC12_12/13/1-89

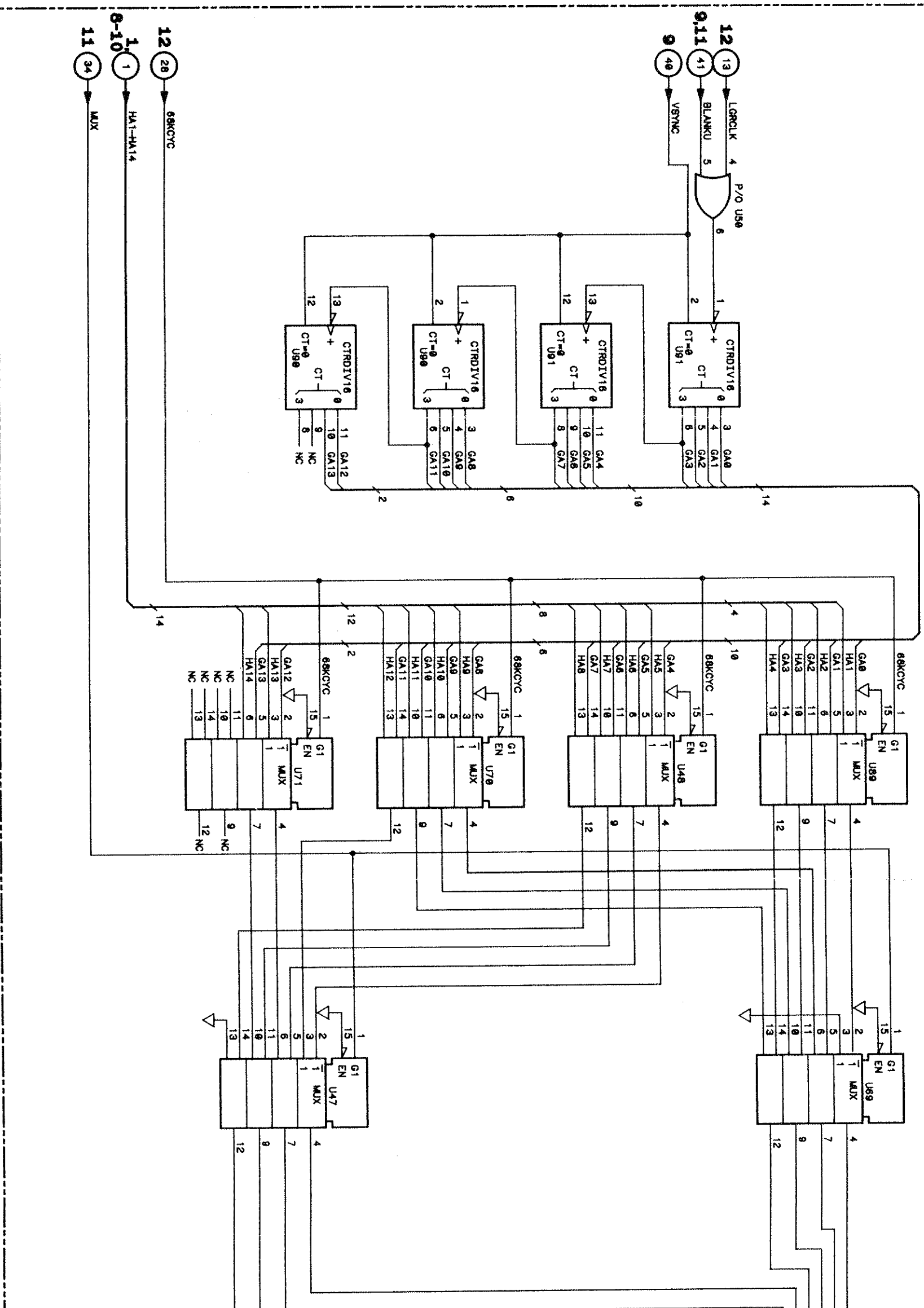
E F G H J K L M



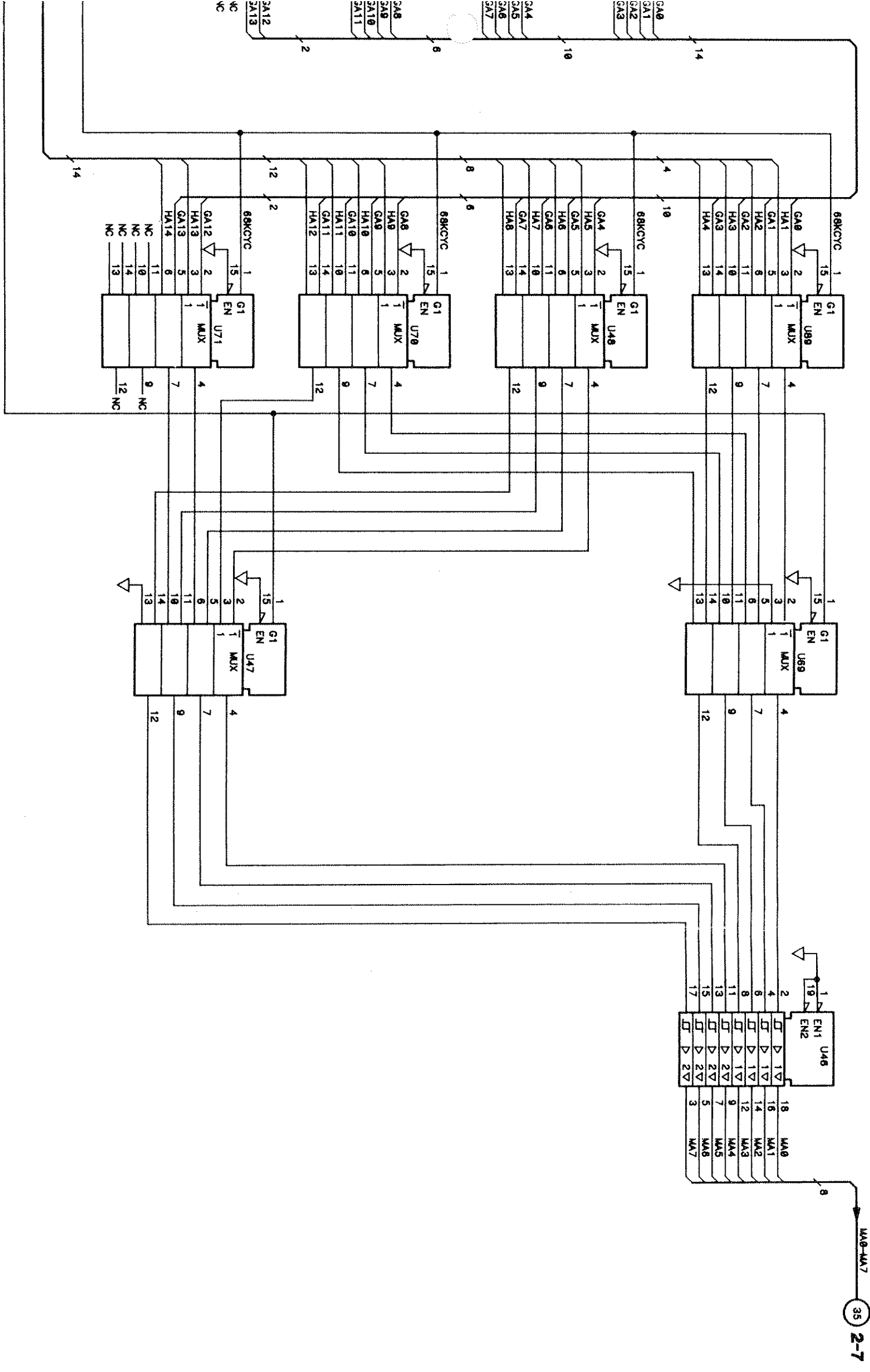
REF	GRID	REF	GRID	REF	GRID	REF	GRID	REF	GRID	REF	GRID	REF	GRID
DES	LOC	DES	LOC	DES	LOC	DES	LOC	DES	LOC	DES	LOC	DES	LOC
C1	A-8	C45	B-5	J2	K-1	U37	G-7	U81	C-5	U125	M-3		
C2	B-8	C46	C-5			U38	H-7	U82	D-5	U126	A-3		
C3	B-8	C47	C-5	L1	L-3	U39	H-7	U83	D-5	U128	B-3		
C4	C-8	C48	D-5			U40	J-7	U84	E-5	U130	C-3		
C5	C-8	C49	D-5	R1	G-7	U41	J-7	U85	E-5	U131	D-3		
C6	D-8	C50	E-5	R2	C-2	U42	K-7	U86	F-5	U132	D-3		
C7	D-8	C51	E-5			U43	L-7	U87	F-5	U133	E-3		
C8	E-8	C52	F-5	RP1	J-3	U44	L-7	U88	F-5	U134	E-3		
C9	E-8	C53	F-5			U45	M-7	U89	G-5	U135	F-3		
C10	F-8	C54	F-5			U46	G-6	U90	G-5	U136	F-3		
C11	F-8	C55	H-5			U47	G-6	U91	H-5	U137	F-3		
C12	F-8	C56	J-5			U48	H-6	U92	H-4	U138	G-3		
C13	H-7	C57	K-5			U49	H-6	U93	J-4	U139	G-3		
C14	J-7	C58	K-5			U50	J-6	U94	J-4	U140	H-3		
C15	A-7	C59	M-5			U51	J-6	U95	J-4	U141	H-2		
C16	B-7	C60	A-4			U52	K-6	U96	K-4	U142	J-2		
C17	B-7	C61	B-4			U53	L-6	U97	L-4	U143	J-2		
C18	C-7	C62	C-4			U54	L-6	U98	L-4	U144	K-2		
C19	C-7	C63	D-4			U55	L-6	U99	L-4	U145	K-2		
C20	D-7	C64	E-4			U56	M-6	U100	M-4	U146	L-2		
C21	D-7	C65	F-4			U57	A-5	U101	A-4	U147	L-2		
C22	E-7	C66	G-4			U58	B-5	U102	B-4	U148	M-2		
C23	E-7	C67	J-4			U59	C-5	U103	B-4	U149	A-2		
C24	F-7	C68	K-4			U60	B-5	U104	C-4	U150	B-2		
C25	F-7	C69	M-4			U61	C-5	U105	C-4	U151	B-2		
C26	F-7	C70	B-3			U62	D-5	U106	D-4	U152	C-2		
C27	K-7	C71	C-3			U63	D-5	U107	D-4	U153	C-2		
C28	L-7	C72	C-3			U64	E-5	U108	E-4	U154	D-2		
C29	M-7	C73	D-3			U65	E-5	U109	E-4	U155	D-2		
C30	H-6	C74	E-3			U66	F-5	U110	F-4	U156	D-2		
C31	H-6	C75	F-3			U67	F-5	U111	F-4				
C32	J-6	C76	G-3			U68	F-5	U112	F-4				
C33	K-6	C77	H-3			U69	G-5	U113	G-4				
C34	A-6	C78	J-3			U70	G-5	U114	G-4				
C35	C-6	C79	L-3			U71	H-5	U115	H-4				
C36	E-6	C80	M-3			U72	H-5	U116	H-4				
C37	F-6	C81	B-2			U73	J-5	U117	J-4				
C38	K-6	C82	C-2			U74	K-5	U118	J-4				
C39	L-6	C83	D-2			U75	L-5	U119	K-4				
C40	L-6	C84	D-2			U76	M-5	U120	K-4				
C41	C-5					U77	A-5	U121	L-4				
C42	M-5	DS1	G-8			U78	B-5	U122	L-3				
C43	A-5					U79	B-5	U123	L-3				
C44	B-5	J1	E-2			U80	C-5	U124	L-3				

P/O DISPLAY BD.

MEMORY ADDRESS SELECT



MEMORY ADDRESS SELECT



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	20	U46, 48, 69-71, 88
GND	10	
+5V	16	U47
GND	8	
+5V	14	U50, 90, 91
GND	7	

PARTS ON THIS SCHEMATIC

P/O U50
U46-48, 69-71, 89-91
54118/SC12_13/13/1-89

Component-Level Information Packet for HP 54112D Timebase/Trigger Assembly

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Printed in USA



While this document may provide a certain degree of information concerning changes, it is not subject to a revision or change program intended to keep it current or accurate. The configuration of some assemblies may differ from that indicated in this document.

Contents

This packet consists of the following information:

- Parts list
- Changes
- Component locator
- Schematics – four schematics on two large sheets

HP 54112D Service Manual Supplement
 Trigger Assembly

Reference	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
C1-9	0180-3741	4	13	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C10	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C11	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C12	0160-6500	7	83	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C13	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C14	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C15	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C16	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C17	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C18	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C19	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C20	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C21	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C22	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C23	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C24	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C25	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C26	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C27	0180-3741	4	4	CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	28480
C28	0160-3802	6	1	CAPACITOR-FXD 150PF +-10% 100VDC CER	28480	28480
C29	0160-3713	8	1	CAPACITOR-FXD 4700PF +-10% 25VDC	28480	28480
C30	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C31	0160-6500	7	6	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C32	0160-3874	2	6	CAPACITOR-FXD 10PF +-5PF 200VDC CER	28480	28480
C33	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C34	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C35	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C36	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C37	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C38	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C39	0160-4787	8	1	CAPACITOR-FXD 22PF +-5% 100VDC CER 0+-30	28480	28480
C40	0160-5467	3	1	CAPACITOR-FXD 0.01UF +-10% 63VDC	28480	28480
C41	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C42	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C43	0160-3878	6	2	CAPACITOR-FXD 1000PF +-20% 100VDC CER	28480	28480
C44	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C45	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C46	0160-6500	7	7	NOT ASSIGNED		
C47	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C48	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C49	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C50	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C51	0160-4389	6	2	CAPACITOR-FXD 100PF +-5% 200VDC CER	28480	28480
C52-70				NOT ASSIGNED		
C71	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C72	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C73	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C74	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C75	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C76	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C77	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480
C78	0160-6500	7	7	CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	28480

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Timebase/Trigger Assembly

Reference	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
C79	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C81	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C82	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C83	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C84	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C85	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C86	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C87	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C88				NOT ASSIGNED		
C89	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C90	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C91	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C92	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C93	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C94	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C95	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C96	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C97	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C98	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C99	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C100	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C101	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C102	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C103	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C104	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C105	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C106	0160-3879	7	11	CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C107	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C108	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C109	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C110	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C111	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C112	0160-3878	6		CAPACITOR-FXD 1000PF +-20% 100VDC CER	28480	0160-3878
C113	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C114	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C115	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C116	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C117				NOT ASSIGNED		
C118	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C119	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C120	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C121	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C122				NOT ASSIGNED		
C123	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C124	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C125	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C126	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879
C127	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C128	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C129	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500
C130	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500

HP 54112D
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Reference	HP Part	CD	Qty	Description	Mtr Code	Mtr Part	Number
C131	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C132	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C133	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C134	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C135	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C136	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C137	0160-3873	1	1	CAPACITOR-FXD 4.7PF +- .5PF 200VDC CER	28480	0160-3873	
C138	0160-3874	2		CAPACITOR-FXD 10PF +- .5PF 200VDC CER	28480	0160-3874	
C139	0160-3874	2		CAPACITOR-FXD 10PF +- .5PF 200VDC CER	28480	0160-3874	
C140	0160-3874	2		CAPACITOR-FXD 10PF +- .5PF 200VDC CER	28480	0160-3874	
C141	0160-3874	2		CAPACITOR-FXD 10PF +- .5PF 200VDC CER	28480	0160-3874	
C142	0160-3874	2		CAPACITOR-FXD 10PF +- .5PF 200VDC CER	28480	0160-3874	
C143	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879	
C144	0180-3741	4		CAPACITOR-FXD 2.2UF+-20% 25VDC TA	28480	0180-3741	
C145	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C146	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C147	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879	
C148	0160-3879	7		CAPACITOR-FXD 0.01UF +-20% 100VDC CER	28480	0160-3879	
C149	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C150	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C151	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C152	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C153	0160-6500	7		CAPACITOR-FXD 0.01UF +-10% 100VDC CER	28480	0160-6500	
C154	0160-4389	6		CAPACITOR-FXD 100PF +-5% 200VDC CER	28480	0160-4389	
C1	1901-0047	8	8	DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
C2	1901-0047	8	8	DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
C3	1901-0047	8	8	DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
C4	1901-0047	8	8	DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
C5	1901-0050	3	8	DIODE-SWITCHING 80V 200MA ZNS DO-35	28480	1901-0050	
C6	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR7-8	1901-0050	3		NOT ASSIGNED			
CR9	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR10	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR11	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR12	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR13	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR14	1901-0050	3		DIODE-SWITCHING 80V 200MA ZNS DO-35	9N171	1N4150	
CR15	NOT ASSIGNED						
CR16	1901-0535	9	2	DIODE-SCHOTTKY SM SIG	28480	1901-0535	
CR17	1901-0047	8		DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
CR18	1901-0535	9		DIODE-SCHOTTKY SM SIG	28480	1901-0535	
CR19	1901-0047	8		DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
CR20	1901-0047	8		DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
CR21	1901-0047	8		DIODE-SWITCHING 20V 75MA IONS DO-35	28480	1901-0047	
DL1	1810-1069	3	1	DELAY LINE PASSIVE DEVICE W/SINGLE	28480	1810-1069	
DL2	1810-0841	7	1	DELAY LINE PASSIVE DEVICE W/SINGLE	28480	1810-0841	
E1	9170-0029	3	1	CORE-SHIELDING BEAD	28480	9170-0029	
E2	0340-1074	2	3	INSULATOR TO-220	28480	0340-1074	
H1	0515-0372	2	6	SCREW MACH M3 8MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION	
H2	0515-0664	5	3	SCREW MACH M3 12MM-LG PAN-HD T10	00000	ORDER BY DESCRIPTION	
H3	5041-2676	3	2	WASHER-SHOULDER	00000	ORDER BY DESCRIPTION	

Timebase/Trigger Assembly

Reference Designator HP Part Number CD Qty Description Mtr Code Mtr Part Number

J1	1251-4836	2	1	CONN-POST TYPE 2.5-PIN-SPCG 2-CONT	28480	1251-4836
J2	1250-1368	7	12	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J3	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J4	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J5	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J6	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J7	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J8	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J9	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J10	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J11	1252-1920	1	1	CONN-POST TYPE 0.100-PIN-SPCG 10-CONT	28480	1252-1920
J12	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J13	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
J14	1250-1368	7	7	CONNECTOR-RF SMB M PC 50-OHM	28480	1250-1368
L1	5081-7682	5	8	CHOKERF	28480	5081-7682
L2	5081-7682	5	5	CHOKERF	28480	5081-7682
L3	5081-7682	5	5	CHOKERF	28480	5081-7682
L4	5081-7682	5	5	CHOKERF	28480	5081-7682
L5	5081-7682	5	5	CHOKERF	28480	5081-7682
L6	5081-7682	5	5	CHOKERF	28480	5081-7682
L7	5081-7682	5	5	CHOKERF	28480	5081-7682
L8	9170-1366	3	14	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L9	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L10	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L11	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L12	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L13	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L14	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L15	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L16	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L17	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L18	NOT ASSIGNED					
L19	5081-7682	5	5	CHOKERF	28480	5081-7682
L20	9100-2251	0	1	INDUCTOR RF-CH-MLD 220NH +-10%	28480	9100-2251
L21	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L22	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L23	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
L24	9170-1366	3	3	CORE-MAGNETIC SHIELDING BEAD; IMPEDANCE	28480	9170-1366
MP1	54112-00602	2	1	SHIELD-TIMEBASE/TRIGGER	28480	54112-00602
MP2	54111-45004	1	1	EXTRACTOR-RIGHT	28480	54111-45004
MP3	54111-45005	2	1	EXTRACTOR-LEFT	28480	54111-45005
MP4	54112-21101	0	3	HEATSINK	28480	54112-21101
P1	1252-0198	3	1	CONN-POST TYPE 0.100-PIN-SPCG 120-CONT	28480	1252-0198
Q1	1855-0020	8	1	TRANSISTOR J-FET N-CHAN D-MODE TO-18 SI	04713	SFE793
Q2	1854-0636	0	9	TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q3	1854-0215	1	3	TRANSISTOR NPN SI TO-92 PD=350MW	28480	1854-0636
Q4	1853-0036	2	1	TRANSISTOR PNP SI PD=310MW FT=250MHZ	27014	2N3906
Q5	1854-0215	1	1	TRANSISTOR NPN SI TO-92 PD=350MW	28480	2N3904
Q6	1855-0540	7	2	TRANSISTOR J-FET P-CHAN D-MODE TO-18 SI	17856	2N5115(SEL)
Q7	1854-0248	0	1	TRANSISTOR-DUAL NPN 2N4044 TO-77	72799	2N4044
Q8	1855-0540	7	7	TRANSISTOR J-FET P-CHAN D-MODE TO-18 SI	17856	2N5115(SEL)

4
Timebase/Trigger Assembly

HP 54112D
Service Manual Supplement

0412-0002 Timebase/Trigger Assembly Replacement Parts

Timebase/Trigger Assembly

HP 54112D Service Manual Supplement

Reference	HP Part	CD	Qty	Description	Mtr Code	Mtr Part Number
Q9	1854-0296	8	3	TRANSISTOR NPN SI TO-92 PD=350W	04713	MP56543 SELECTED
Q10	1854-0296	8	8	TRANSISTOR NPN SI TO-92 PD=350W	04713	MP56543 SELECTED
Q11	1854-0296	8	8	TRANSISTOR NPN SI TO-92 PD=350W	04713	MP56543 SELECTED
Q12-13	NOT ASSIGNED					
Q14	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q15	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q16	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q17	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q18	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q19	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q20	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q21	1854-0636	0	0	TRANSISTOR NPN SI TO-92 PD=350W	28480	1854-0636
Q22	1854-0215	1	1	TRANSISTOR NPN SI TO-92 PD=350MW	2M627	2N3904
R1-6	NOT ASSIGNED					
R7	0698-3442	9	5	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R8	0698-4422	7	1	RESISTOR 1.27K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1271-F
R9-10	NOT ASSIGNED					
R11	0698-3442	9	9	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R12	0698-3446	3	3	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R13	0698-3442	9	9	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R14	0698-3438	3	1	RESISTOR 147 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-147R-F
R15	0698-3442	9	9	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R16	0698-3446	3	3	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-383R-F
R17	0698-3442	9	9	RESISTOR 237 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-237R-F
R18	0698-3700	2	1	RESISTOR 715 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-715R-F
R19	0757-0465	6	7	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R20	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R21	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R22	0757-0398	4	16	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R23	0698-3498	5	1	RESISTOR 8.66K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-866R-F
R24	0698-8827	4	1	RESISTOR 1M 1% 0.125W TF TC=0+-100	28480	0698-8827
R25	0757-0442	9	5	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R26	0757-0444	1	1	RESISTOR 12.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1212-F
R27	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R28	0698-3457	6	1	RESISTOR 316K 1% 0.125W TF TC=0+-100	28480	0698-3457
R29	0757-0472	5	1	RESISTOR 200K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-200K-F
R30	0757-0288	1	1	RESISTOR 9.09K 1% 0.125W TF TC=0+-100	19701	5033R-1/8-T0-9091-F
R31	0757-0438	3	1	RESISTOR 5.11K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5111-F
R32	0698-3444	1	2	RESISTOR 316 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-316R-F
R33	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R34	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-100K-F
R35	0757-0401	0	20	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R36	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F
R37	0698-3226	7	1	RESISTOR 6.49K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-6491-F
R38	0757-0346	2	1	RESISTOR 10 1% 0.125W TF TC=0+-100	28480	0757-0346
R39	NOT ASSIGNED					
R40	0757-0280	3	14	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R41	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1002-F
R42	0757-0459	8	1	RESISTOR 56.2K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-5622-F
R43	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R44	0757-0394	0	19	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F

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Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
R45	0757-0394	0	3	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-51R1-F
R46	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1001-F
R47	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1001-F
R48	0757-0467	8	8	RESISTOR 121K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1213-F
R49	0757-0465	6	6	RESISTOR 100K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1003-F
R50	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1002-F
R51	0698-4431	8	2	RESISTOR 2.05K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-2051-F
R52	0698-4431	8	8	RESISTOR 2.05K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-2051-F
R53	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1001-F
R54	2100-3123	0	1	RESISTOR-TRMR 500 10% KRF SIDE-ADJ	32997	3006P-1-501
R55	0757-0418	9	1	RESISTOR 619 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-619R-F
R56	0698-4418	1	1	RESISTOR 205 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-205R-F
R57	0757-0411	2	19	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-332R-F
R58	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R59	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R60	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R61	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R62	0757-0397	3	19	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-68R1-F
R63	0757-0416	7	4	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-511R-F
R64	0757-0416	7	7	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-511R-F
R65	0757-0399	5	6	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R66	0757-0399	5	5	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R67	0757-0411	2	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-332R-F
R68	0757-0411	2	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-332R-F
R69-73	NOT ASSIGNED					
R74	0698-0085	0	2	RESISTOR 2.61K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-2611-F
R75	0757-0399	5	5	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R76	0757-0399	5	5	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R77	NOT ASSIGNED					
R78	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R79	0757-0398	4	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R80	0757-0410	1	2	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-301R-F
R81	0757-0410	1	1	RESISTOR 301 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-301R-F
R82	0757-0442	9	9	RESISTOR 10K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1002-F
R83	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R84	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R85	0698-0085	0	0	RESISTOR 2.61K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-2611-F
R86	0698-8959	3	1	RESISTOR 619K 1% 0.125W TF TC=0+-100	28480	0698-8959
R87	0698-3156	2	1	RESISTOR 14.7K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1472-F
R88	0698-3444	1	1	RESISTOR 316 1% 0.125W TF TC=0+-100	28480	0698-3444
R89	0698-4002	9	2	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-5001-F
R90	0757-0449	5	5	RESISTOR 20K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-2002-F
R91	0698-4002	9	1	RESISTOR 5K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-5001-F
R92	0698-8958	2	2	RESISTOR 511K 1% 0.125W TF TC=0+-100	28480	0698-8958
R93	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R94	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R95	0757-0399	5	5	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R96	0757-0399	5	5	RESISTOR 82.5 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-82R5-F
R97	0757-0401	0	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-101-F
R98	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1001-F
R99	0757-0280	3	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-1001-F
R100	0757-0416	7	1	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	C14-1/8-10-511R-F

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R101-108					NOT ASSIGNED		
R109	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R110	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F	
R111	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R112	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F	
R113	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R114	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F	
R115	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F	
R116	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R117	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R118	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R119	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R120	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R121	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R122	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R123	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R124	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R125				NOT ASSIGNED			
R126	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R127				NOT ASSIGNED			
R128	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R129	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R130				NOT ASSIGNED			
R131	0757-0427	0	5	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F	
R132				NOT ASSIGNED			
R133	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F	
R134-135				NOT ASSIGNED			
R136	0757-0427	0		RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1501-F	
R137				NOT ASSIGNED			
R138				NOT ASSIGNED			
R139	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F	
R140	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R141	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R142	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R143-144				NOT ASSIGNED			
R145	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R146	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R147	0757-0397	3		RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-68R1-F	
R148-149				NOT ASSIGNED			
R150	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F	
R151	0757-0280	3		RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F	
R152-154				NOT ASSIGNED			
R155	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R156	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R157-158				NOT ASSIGNED			
R159	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R160	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R161	0757-0411	2		RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-332R-F	
R162	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R163	0757-0398	4		RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398	
R164	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	
R165	0757-0394	0		RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F	
R166	0757-0401	0		RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-101-F	

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Reference	HP Part Number	CD Qty	Description	Mfr Code	Mfr Part Number
R167	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R168	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R169	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R170	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R171	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R172	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R173	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R174	0757-0397	3	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-68R1-F
R175	0757-0427	0	RESISTOR 1.5K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1501-F
R176			NOT ASSIGNED		
R177	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R178	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R179	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R180	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R181	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R182	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R183	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R184	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R185	0757-0398	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R186	0757-0398	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R187	0757-0398	4	RESISTOR 75 1% 0.125W TF TC=0+-100	28480	0757-0398
R188	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R189	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R190	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R191	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R192	0757-0397	3	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-68R1-F
R193	0757-0397	3	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-68R1-F
R194			NOT ASSIGNED		
R195	0757-0411	2	RESISTOR 332 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-332R-F
R196-197			NOT ASSIGNED		
R198	0757-0401	0	RESISTOR 100 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-101-F
R199	0698-3446	3	RESISTOR 383 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-383R-F
R200	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1001-F
R201	0757-0984	4	RESISTOR 10 1% 0.5W TF TC=0+-100	28480	0757-0984
R202	0757-0984	4	RESISTOR 10 1% 0.5W TF TC=0+-100	28480	0757-0984
R203	0698-3398	4	RESISTOR 46.4 1% 0.5W TF TC=0+-100	28480	0698-3398
R204			NOT ASSIGNED		
R205	2100-3103	6	RESISTOR-TRMR 10K 10% TKF SIDE-ADJ	32997	3006P-1-103
R206	0757-0280	3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-1001-F
R207	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R208	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R209	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R210	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R211	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R212	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R213-214			NOT ASSIGNED		
R215	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R216	0757-0394	0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-51R1-F
R217	0698-3427	0	RESISTOR 13.3 1% 0.125W TF TC=0+-100	28480	0698-3427
R218	0698-6295	6	RESISTOR 300 0.1% 0.125W TF TC=0+-50	28480	0698-6295
R219	0699-1203	8	RESISTOR 120 0.1% 0.125W TF TC=0+-25	28480	0699-1203
R220	0757-0397	3	RESISTOR 68.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-10-68R1-F

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Timebase/Trigger Assembly

Reference Designator	HP Part Number	CD	Qty	Description	Mtr Code	Mtr Part Number
R221	0757-0400		9	RESISTOR 90.9 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-90R9-F
R222	0757-0416		7	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R223	0757-0416		7	RESISTOR 511 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-511R-F
R224	0698-3430		5	RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R225	0698-3430		5	RESISTOR 21.5 1% 0.125W TF TC=0+-100	28480	0698-3430
R226	0757-0280		3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R227	NOT ASSIGNED					
R228	0698-0082		7	RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R229	0698-0082		7	RESISTOR 464 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-4640-F
R230	0757-0280		3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
R231	0757-0394		0	RESISTOR 51.1 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-51R1-F
R232	0698-4458		9	RESISTOR 590 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-590R-F
R233	0698-3405		4	RESISTOR 422 1% 0.5W TF TC=0+-100	28480	0698-3405
R234	0757-0453		2	RESISTOR 30.1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-3012-F
R235	0757-0280		3	RESISTOR 1K 1% 0.125W TF TC=0+-100	24546	CT4-1/8-T0-1001-F
RP1	1810-0204		6	NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP2	1810-0204		6	NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP3	1810-0204		6	NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP4	1810-0204		6	NETWORK-RES 8-SIP 1.0K OHM X 7	28480	1810-0204
RP5	1810-0272		8	NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP6	1810-0272		8	NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP7	1810-0272		8	NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP8	1810-0272		8	NETWORK-RES 10-SIP 330.0 OHM X 9	28480	1810-0272
RP9	1810-0332		1	NETWORK-RES 8-SIP 680.0 OHM X 7	28480	1810-0332
RP10	NOT ASSIGNED					
RP11	1810-0318		3	NETWORK-RES 6-SIP 1.0K OHM X 5	28480	1810-0318
U1	1826-0271		0	IC OP AMP GP 8-DIP-P PKG	01295	UA741CP
U2	1820-1197		9	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS00N
U3	1820-1052		5	IC XLTR ECL-T0-TTL QUAD 2-INP	04713	MC10125L
U4	1N87-8142		4	IC HYBRID MUX-SYNC	28480	1N87-8142
U5	1820-2654		5	IC MUXR/DATA-SEL TTL F 2-T0-1-LINE QUAD	07263	74F157PC
U6	1820-3461		4	IC RCVR ECL/10KH LINE RCVR QUAD	04713	MC10H115P
U7	1820-3461		4	IC RCVR ECL/10KH LINE RCVR QUAD	04713	MC10H115P
U8	1820-1208		3	IC GATE TTL LS OR QUAD 2-INP	01295	SN74LS32N
U9	1820-2715		9	IC INTERFACE DRVR BCD NAND DUAL	01295	SN75447P
U10	1813-0247		3	CLOCK-OSCILLATOR-XTAL 32.768-KHZ 0.0045%	28480	1813-0247
U11	1N84-5008		9	IC HYBRID 24-BIT COUNTER	28480	1N84-5008
U12	1820-3337		3	IC GATE ECL/10KH AND QUAD 2-INP	04713	MC10H104P
U13	1820-3337		3	IC GATE ECL/10KH AND QUAD 2-INP	04713	MC10H104P
U14	1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U15	1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U16	1820-1112		8	IC FF TTL LS D-TYPE POS-EDGE-TRIG	01295	SN74LS74AN
U17	1820-2849		0	IC FF ECL/10KH D-M/S DUAL	04713	MC10H131P
U18	1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U19	1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U20	1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U21	1820-4081		6	IC XLTR ECL/10KH TTL-T0-ECL QUAD	04713	MC10H124P
U22	1826-0890		9	IC OP AMP GP DUAL 8-DIP-P PKG	27014	LM358AN
U23	1820-0810		1	IC RCVR ECL LINE RCVR TPL 2-INP	04713	MC10116P
U24	1SE6-0056		0	IC HYBRID TIMEBASE	28480	1SE6-0056
U25	1813-0546		5	OSCILLATOR-CRYSTAL OUTPUT:400MHZ,ECL;TEMP	28480	1813-0546

30.00

04713-0002 Timebase/Trigger Assembly replaceable parts

Reference	Designator	HP Part Number	CD	Qty	Description	Mfr Code	Mtr Part Number
U26		1826-0524		6	IC OP AMP GP QUAD 14-DIP-P PKG	27014	LM324AN
U27		1826-1018		5	IC ANALOG SWITCH 4 SPST 16-DIP-P	17856	06201ACJ
U28		1826-1378		0	IC COMPARATOR HS DUAL 16-DIP-C PKG	34335	AM6887DL
U29		1826-0393		7	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U30		1820-2849		0	IC FF ECL/10KH D-M/S DUAL	04713	MC10H131P
U31		1820-2823		0	IC GATE ECL/10KH NOR QUAD 2-INP	04713	MC10H102P
U32		1820-2711		5	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS541N
U33		1826-0138		8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U34		1826-0138		8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U35		1820-2757		9	IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U36		1820-1199		1	IC INV TTL LS HEX 1-INP	01295	SN74LS04N
U37		1820-2757		9	IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U38		1826-0883		0	IC COMPARATOR HS 16-DIP-C PKG	34335	AM685DL
U39		1826-0281		2	IC V RGLTR-FXD-NEG 14.3/15.7V TO-92 PKG	04713	MC79L15ACP
U40		1826-0527		9	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U41		1826-0393		7	IC V RGLTR-ADJ-POS 1.2/37V TO-220 PKG	01295	LM317KC
U42		1826-0138		8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U43		1826-0138		8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U44		1820-2757		9	IC FF TTL ALS D-TYPE POS-EDGE-TRIG OCTL	01295	SN74ALS574AN
U45		1820-1198		0	IC GATE TTL LS NAND QUAD 2-INP	01295	SN74LS03N
U46		1820-2711		5	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS541N
U47		1826-0274		3	IC V RGLTR-FXD-POS 14.4/15.6V TO-92 PKG	04713	MC78L15ACP
U48		1826-0138		8	IC COMPARATOR GP QUAD 14-DIP-P PKG	01295	LM339N
U49		1820-0495		8	IC DCDR TTL 4-TO-16-LINE 4-INP	01295	SN74154N
U50		1820-1419		8	IC COMPTR TTL LS MAGTD 4-BIT	01295	SN74LS85N
U51		1826-1246		1	IC D/A CONVERTER12-BIT 28-CERDIP BPLR	24355	AD667AD
U52		1826-0527		9	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U53		1826-0527		9	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
U54		1826-0215		2	IC V RGLTR-FXD-NEG 5/5.4V TO-220 PKG	04713	MC7905.2CT
U55		1820-2711		5	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS541N
U56		1820-2711		5	IC DRIVER TTL LS LINE DRIVER OCTL	01295	SN74LS541N
U57		1820-2075		4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U58		1820-2075		4	IC TRANSCIEVER TTL LS BUS OCTL	01295	SN74LS245N
U59		1820-0668		7	IC BFR TTL NON-INV HEX 1-INP	01295	SN7407N
U60		1826-0527		9	IC V RGLTR-ADJ-NEG 1.2/37V TO-220 PKG	27014	LM337T
XU1		1200-0690		1	SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690
XU2		1200-0690		1	SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690
XU3		1200-0690		1	SOCKET-XSTR 3-CONT DIP-SLDR	28480	1200-0690

CHANGE 1, for 54112-66502

Schematic 3

Three resistors were changed to optimize the performance of the Fine Interpolator. There was no change in the part number of the assembly.

Three resistors (R90, R92, and R100) were changed to increase stability in the current sources of the fine interpolator. The three resistor values are interdependent. Replace a resistor with the same value as the original, unless resistors are being changed to correct interpolator failure. If you are correcting an interpolator failure, replace all three resistors with the new values.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
R90 to 0757-0442	9	RESISTOR 10K 1% 0.125W	24546	CT4-1/8-10-1002-F
R92 to 0757-0486	1	RESISTOR 750K 1% 0.125W	24546	CT4-1/8-10-7503-F
R100 to 0757-0420	3	RESISTOR 750 1% 0.125W	24546	CT4-1/8-10-750R-F

CHANGE 2, for 54112-66502

Schematic 1

Three resistors were changed to optimize the performance. There was no change in the part number of the assembly.

Resistor R55 was changed to center the adjustment of the calibrator output.

Schematic 3

Resistors R88 and R100 were replaced to optimize performance of the fine interpolator.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
R55 to 0757-0421	4	RESISTOR 825 1% 0.125W	24546	CT4-1/8-10-825R-F
R88 to 0757-0407	6	RESISTOR 200 1% 0.125W	24546	CT4-1/8-10-201-F
R100 to 0757-0421	4	RESISTOR 825 1% 0.125W	24546	CT4-1/8-10-825R-F

CHANGE 3, for 54112-66502

Schematic 3

The Mux/Sync hybrid, U4, was changed to a selected part. There was no change in the part number of the assembly. U4 was changed again in CHANGE 4.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
U4 to 54112-89501	6	IC HYBRID MUX/SYNC	28480	54112-89501

CHANGE 4, for 54112-66505

Schematic 3

The Mux/Sync hybrid, U4, was changed and an adjustment was eliminated. If U4 is being replaced on an assembly which has the adjustment, make the following changes to accommodate the new mux/sync hybrid. If you have questions, consult your HP customer service representative.

Delete R205

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
R199 to 0698-3443	0	RESISTOR 287 1% 0.125W	24546	CT4-1/8-T0-287R-F
U4 to 1NB7-8189	9	IC HYBRID MUX/SYNC	28480	1NB7-8189

CHANGE 5, for 54112-66505

Schematic 4

A capacitor was added to control noise. C46 was added between U50 pin 6 and AGND.

HP PART NUMBER	CD	DESCRIPTION	MFR CODE	MFR PART NUMBER
C46	1	CAPACITOR-FXD 1000PF 100V	28480	0160-4574

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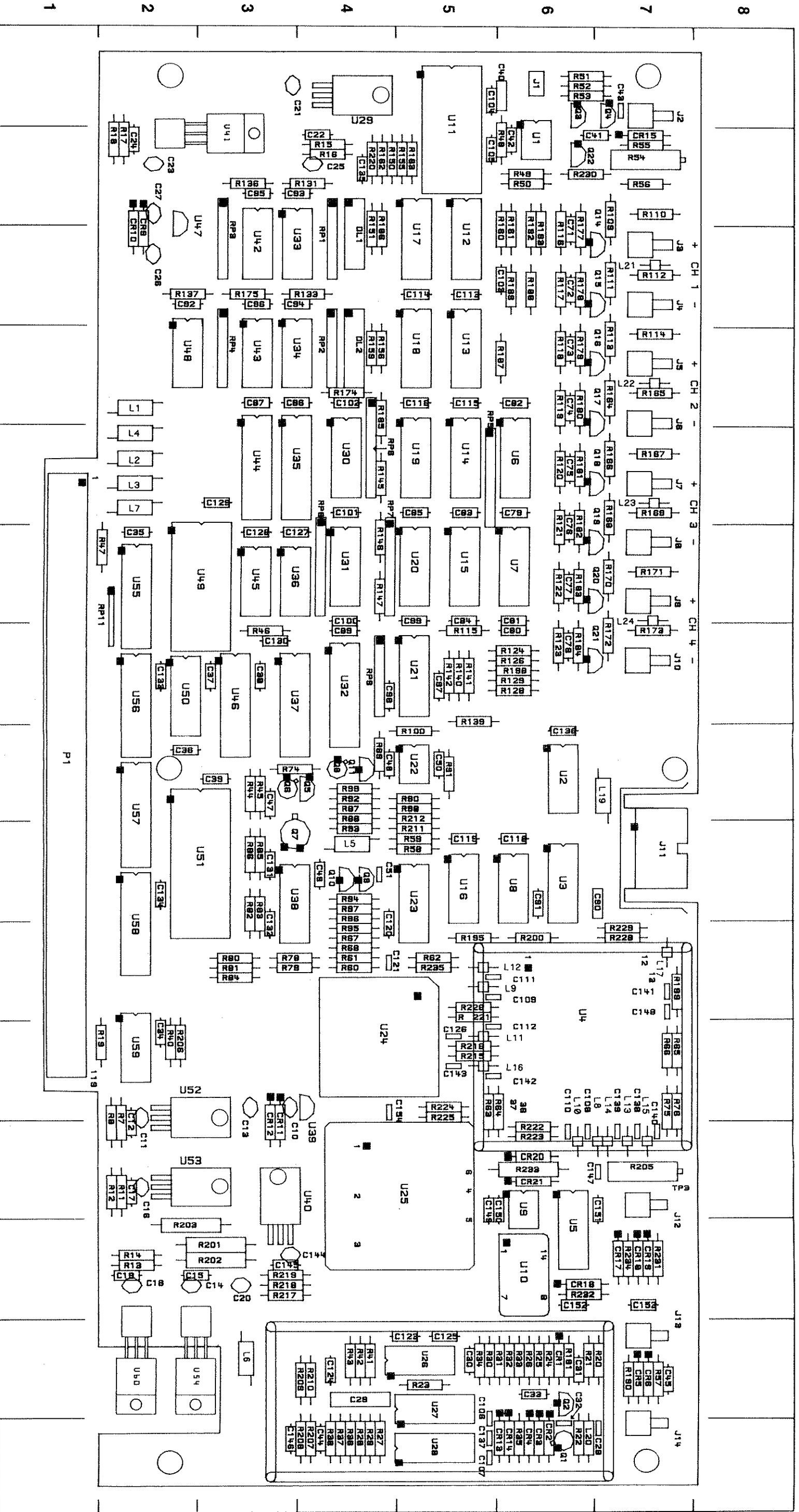
Timebase/Tigger Assembly
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Timebase/Trigger Assembly

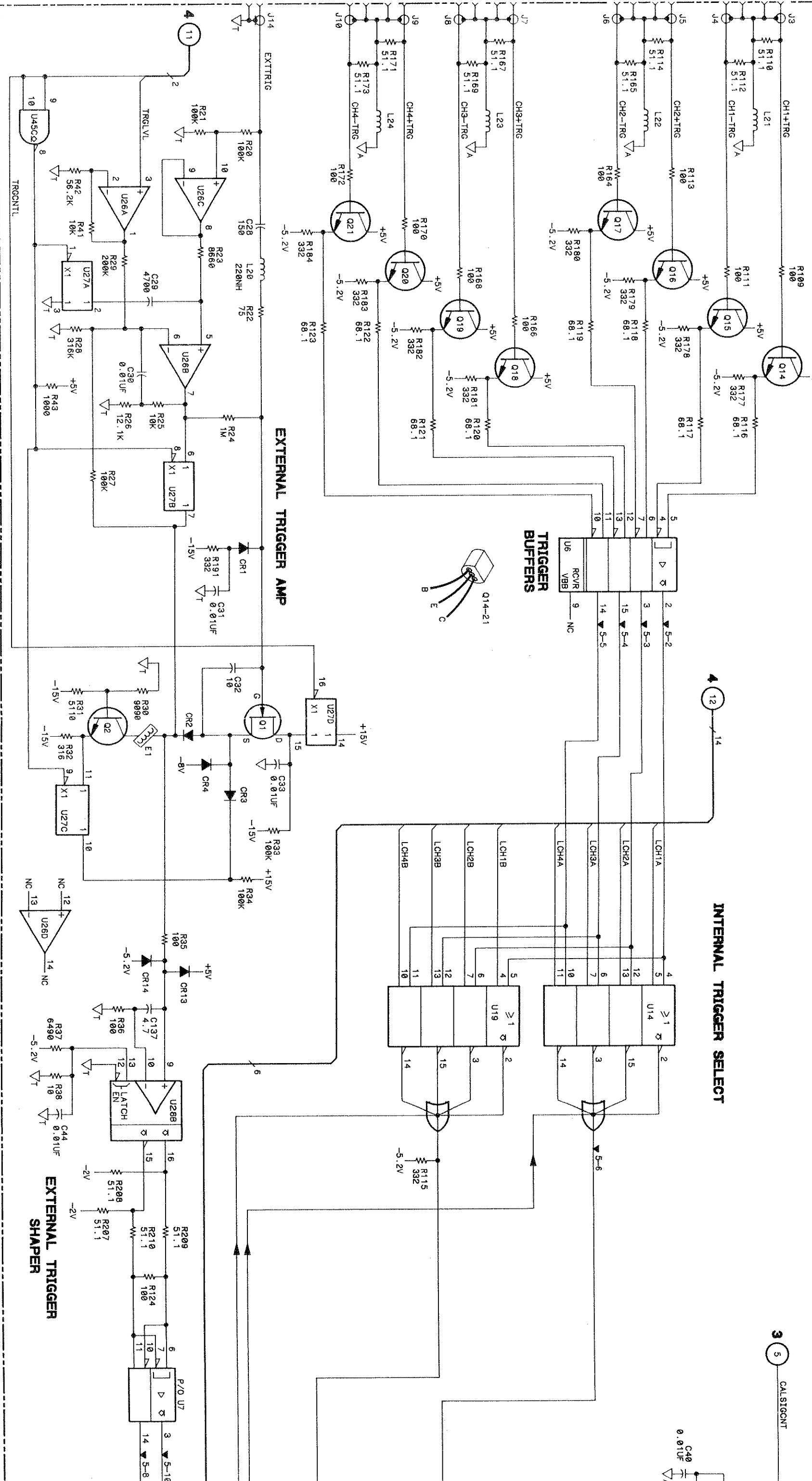
54112-66502 Timebase/Trigger Assembly Component Locator

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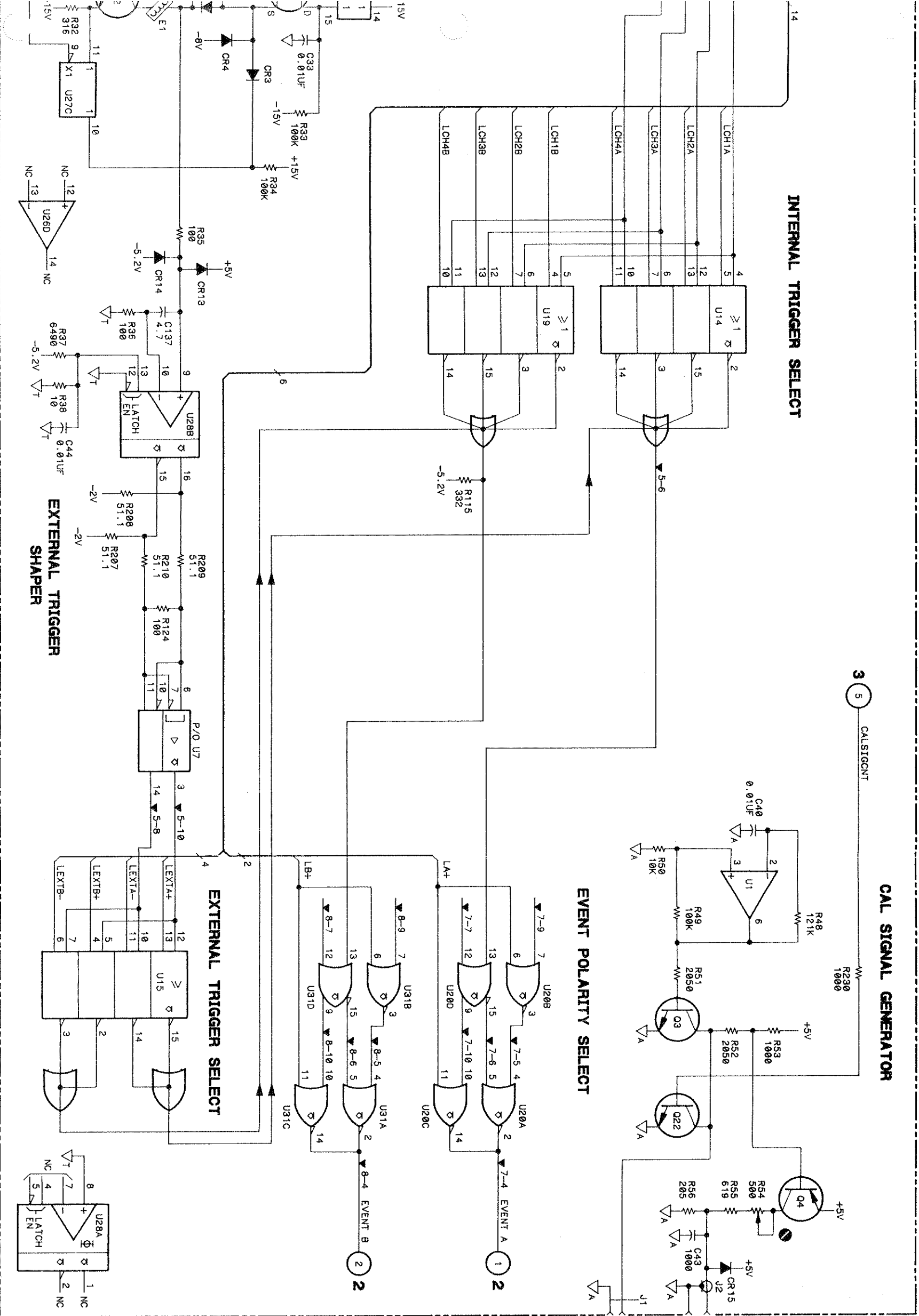
REF	GRID	LOC	REF	GRID	LOC	REF	GRID	LOC	REF	GRID	LOC	REF	GRID	LOC	REF	GRID	LOC	REF	GRID	LOC	
C10	M-3	C90	C51	J-7	C151	M-7	L15	L-7	R35	H-5	R109	R109	H-5	R109	H-5	R109	H-5	R109	H-5	R109	H-5
C11	M-2	C91	C52	J-6	C152	N-6	L16	L-6	R36	H-4	R110	R110	H-4	R110	H-4	R110	H-4	R110	H-4	R110	H-4
C12	L-2	C92	C53	C-2	C153	N-7	L17	K-7	R37	H-3	R111	R111	H-3	R111	H-3	R111	H-3	R111	H-3	R111	H-3
C13	M-3	C93	C54	B-3	C154	L-5	L19	H-7	R38	H-2	R112	R112	H-2	R112	H-2	R112	H-2	R112	H-2	R112	H-2
C14	M-3	C94	C94	C-3	CR1	P-6	L20	Q-6	R40	H-1	R113	R113	H-1	R113	H-1	R113	H-1	R113	H-1	R113	H-1
C15	M-2	C95	C95	B-3	CR2	P-6	L21	C-7	R41	H-1	R114	R114	H-1	R114	H-1	R114	H-1	R114	H-1	R114	H-1
C16	M-2	C96	CR2	C-3	CR2	Q-6	L22	D-7	R42	H-1	R115	R115	H-1	R115	H-1	R115	H-1	R115	H-1	R115	H-1
C17	M-2	C97	CR3	G-5	CR3	Q-6	L23	E-7	R43	H-1	R116	R116	H-1	R116	H-1	R116	H-1	R116	H-1	R116	H-1
C18	N-2	C98	CR4	Q-6	CR4	Q-6	L24	F-7	R44	H-1	R117	R117	H-1	R117	H-1	R117	H-1	R117	H-1	R117	H-1
C19	N-2	C99	CR5	F-5	CR5	P-7	P1	H-1	R45	H-1	R118	R118	H-1	R118	H-1	R118	H-1	R118	H-1	R118	H-1
C20	N-3	C100	CR6	F-4	CR6	P-7	P1	H-1	R46	H-1	R119	R119	H-1	R119	H-1	R119	H-1	R119	H-1	R119	H-1
C21	A-3	C101	CR9	E-4	CR9	B-2	B-2	B-2	R47	H-1	R120	R120	H-1	R120	H-1	R120	H-1	R120	H-1	R120	H-1
C22	B-4	C102	CR10	D-4	CR10	B-2	B-2	B-2	R48	H-1	R121	R121	H-1	R121	H-1	R121	H-1	R121	H-1	R121	H-1
C23	B-2	C103	CR11	M-3	CR11	M-3	Q2	P-6	R49	H-1	R122	R122	H-1	R122	H-1	R122	H-1	R122	H-1	R122	H-1
C24	B-2	C104	CR12	M-3	CR12	M-3	Q3	A-6	R50	H-1	R123	R123	H-1	R123	H-1	R123	H-1	R123	H-1	R123	H-1
C25	B-4	C105	CR13	Q-6	CR13	Q-6	Q4	A-7	R51	H-1	R124	R124	H-1	R124	H-1	R124	H-1	R124	H-1	R124	H-1
C26	C-2	C106	CR14	Q-6	CR14	Q-6	Q5	H-4	R52	H-1	R126	R126	H-1	R126	H-1	R126	H-1	R126	H-1	R126	H-1
C27	B-2	C107	CR15	Q-5	CR15	B-7	Q6	H-3	R53	H-1	R128	R128	H-1	R128	H-1	R128	H-1	R128	H-1	R128	H-1
C28	Q-7	C108	CR16	L-6	CR16	N-6	Q7	J-3	R54	H-1	R129	R129	H-1	R129	H-1	R129	H-1	R129	H-1	R129	H-1
C29	P-4	C109	CR17	N-7	CR17	N-7	Q8	H-4	R55	H-1	R131	R131	H-1	R131	H-1	R131	H-1	R131	H-1	R131	H-1
C30	P-5	C110	CR18	L-6	CR18	N-7	Q9	J-4	R56	H-1	R133	R133	H-1	R133	H-1	R133	H-1	R133	H-1	R133	H-1
C31	P-6	C111	CR19	N-7	CR19	N-7	Q10	J-4	R57	H-1	R136	R136	H-1	R136	H-1	R136	H-1	R136	H-1	R136	H-1
C32	P-6	C112	CR20	M-6	CR20	M-6	Q11	H-4	R58	H-1	R137	R137	H-1	R137	H-1	R137	H-1	R137	H-1	R137	H-1
C33	P-6	C113	CR21	C-5	CR21	M-6	Q14	B-7	R59	H-1	R139	R139	H-1	R139	H-1	R139	H-1	R139	H-1	R139	H-1
C34	L-2	C114	DL1	D-5	DL1	C-4	Q15	C-7	R60	H-1	R140	R140	H-1	R140	H-1	R140	H-1	R140	H-1	R140	H-1
C35	F-2	C115	DL2	D-5	DL2	D-4	Q17	D-7	R62	H-1	R142	R142	H-1	R142	H-1	R142	H-1	R142	H-1	R142	H-1
C36	H-2	C116	DL2	D-5	DL2	D-4	Q18	E-7	R63	H-1	R145	R145	H-1	R145	H-1	R145	H-1	R145	H-1	R145	H-1
C37	G-3	C118	E1	J-5	E1	P-6	Q19	E-7	R64	H-1	R146	R146	H-1	R146	H-1	R146	H-1	R146	H-1	R146	H-1
C38	G-3	C119	E1	J-5	E1	P-6	Q19	E-7	R64	H-1	R146	R146	H-1	R146	H-1	R146	H-1	R146	H-1	R146	H-1
C39	H-3	C120	K-4	K-4	Q20	F-7	Q20	F-7	R65	H-1	R147	R147	H-1	R147	H-1	R147	H-1	R147	H-1	R147	H-1
C40	A-6	C121	J1	A-6	Q21	A-7	Q22	A-7	R67	H-1	R150	R150	H-1	R150	H-1	R150	H-1	R150	H-1	R150	H-1
C41	B-6	C123	J2	P-5	J2	A-7	Q22	A-7	R67	H-1	R151	R151	H-1	R151	H-1	R151	H-1	R151	H-1	R151	H-1
C42	B-6	C124	J3	P-4	J3	C-7	Q3	C-7	R68	H-1	R155	R155	H-1	R155	H-1	R155	H-1	R155	H-1	R155	H-1
C43	A-7	C125	J4	P-5	J4	C-7	R7	L-2	R74	H-1	R156	R156	H-1	R156	H-1	R156	H-1	R156	H-1	R156	H-1
C44	Q-4	C126	J5	L-5	J5	D-7	R8	L-2	R75	H-1	R159	R159	H-1	R159	H-1	R159	H-1	R159	H-1	R159	H-1
C45	H-3	C127	J6	F-3	J6	D-7	R11	M-2	R76	H-1	R160	R160	H-1	R160	H-1	R160	H-1	R160	H-1	R160	H-1
C47	P-7	C128	J7	E-7	J7	E-7	R12	M-2	R78	H-1	R161	R161	H-1	R161	H-1	R161	H-1	R161	H-1	R161	H-1
C48	H-4	C129	J8	E-3	J8	F-7	R13	N-2	R79	H-1	R162	R162	H-1	R162	H-1	R162	H-1	R162	H-1	R162	H-1
C49	J-4	C130	J9	G-3	J9	F-7	R14	N-2	R80	H-1	R163	R163	H-1	R163	H-1	R163	H-1	R163	H-1	R163	H-1
C50	H-5	C131	J10	H-3	J10	G-7	R15	B-4	R81	H-1	R164	R164	H-1	R164	H-1	R164	H-1	R164	H-1	R164	H-1
C51	J-4	C132	J11	K-3	J11	J-7	R16	B-4	R82	H-1	R165	R165	H-1	R165	H-1	R165	H-1	R165	H-1	R165	H-1
C52	C-6	C133	J12	G-2	J12	M-7	R17	B-2	R83	H-1	R166	R166	H-1	R166	H-1	R166	H-1	R166	H-1	R166	H-1
C53	C-6	C134	J13	N-7	J13	N-7	R18	B-2	R84	H-1	R167	R167	H-1	R167	H-1	R167	H-1	R167	H-1	R167	H-1
C72	C-6	C134	J13	N-7	J13	N-7	R18	B-2	R84	H-1	R167	R167	H-1	R167	H-1	R167	H-1	R167	H-1	R167	H-1
C73	D-6	C135	J14	B-4	J14	Q-7	R19	L-2	R85	H-1	R168	R168	H-1	R168	H-1	R168	H-1	R168	H-1	R168	H-1
C74	D-6	C136	H-6	H-6	R20	P-7	R20	P-7	R86	H-1	R169	R169	H-1	R169	H-1	R169	H-1	R169	H-1	R169	H-1
C75	E-6	C137	L-1	Q-5	R21	P-6	R21	P-6	R87	H-1	R170	R170	H-1	R170	H-1	R170	H-1	R170	H-1	R170	H-1
C76	E-6	C138	L-2	E-2	R22	Q-6	R22	Q-6	R88	H-1	R171	R171	H-1	R171	H-1	R171	H-1	R171	H-1	R171	H-1
C77	F-6	C139	L-3	E-2	R23	P-5	R23	P-5	R89	H-1	R172	R172	H-1	R172	H-1	R172	H-1	R172	H-1	R172	H-1
C78	G-6	C140	L-4	E-2	R24	P-6	R24	P-6	R90	H-1	R173	R173	H-1	R173	H-1	R173	H-1	R173	H-1	R173	H-1
C79	E-6	C141	L-5	K-7	R25	P-6	R25	P-6	R91	H-1	R174	R174	H-1	R174	H-1	R174	H-1	R174	H-1	R174	H-1
C80	G-6	C142	L-6	L-6	R26	P-6	R26	P-6	R92	H-1	R175	R175	H-1	R175	H-1	R175	H-1	R175	H-1	R175	H-1
C81	F-6	C143	L-7	E-2	R27	Q-4	R27	Q-4	R93	H-1	R177	R177	H-1	R177	H-1	R177	H-1	R177	H-1	R177	H-1
C82	D-6	C144	L-8	L-7	R28	Q-4	R28	Q-4	R94	H-1	R178	R178	H-1	R178	H-1	R178	H-1	R178	H-1	R178	H-1
C83	E-5	C145	L-9	K-6	R29	Q-4	R29	Q-4	R95	H-1	R179	R179	H-1	R179	H-1	R179	H-1	R179	H-1	R179	H-1
C84	F-5	C146	L-10	L-6	R30	P-5	R30	P-5	R96	H-1	R180	R180	H-1	R180	H-1	R180	H-1	R180	H-1	R180	H-1
C85	E-5	C147	L-11	L-6	R31	P-6	R31	P-6	R97	H-1	R181	R181	H-1	R181	H-1	R181	H-1	R181	H-1	R181	H-1
C86	D-3	C148	L-12	K-6	R32	P-6	R32	P-6	R98	H-1	R182	R182	H-1	R182	H-1	R182	H-1	R182	H-1	R182	H-1
C87	D-3	C149	L-13	L-7	R33	P-6	R33	P-6	R99	H-1	R183	R183	H-1	R183	H-1	R183	H-1	R183	H-1	R183	H-1
C89	G-4	C150	L-14	L-7	R34	P-5	R34	P-5	R100	H-1	R184	R184	H-1	R184	H-1	R184	H-1	R184	H-1	R184	H-1
C90	M-3	C90	C51	J-7	C151	M-7	L15	L-7	R35	H-5	R109	R109	H-5	R109	H-5	R109	H-5	R109	H-5	R109	H-5
C91	M-2	C91	C52	J-6	C152	N-6	L16	L-6	R36	H-4	R110	R110	H-4	R110	H-4	R110	H-4	R110	H-4	R110	H-4
C92	L-2	C92	C53	C-2	C153	N-7	L17	K-7	R37	H-3	R111	R111	H-3	R111	H-3	R111	H-3	R111	H-3	R111	H-3
C93	M-3	C93	C54	B-3	C154	L-5	L19	H-7	R38	H-2	R112	R112	H-2	R112	H-2	R112	H-2	R112	H-2	R112	H-2
C94	M-3	C94	C94	C-3	CR1	P-6	L20	Q-6	R40	H-1	R113	R113	H-1	R113	H-1	R113	H-1	R113	H-1	R113	H-1
C95	M-2	C95	C95	B-3	CR2	P-6	L21	C-7	R41	H-1	R114	R114	H-1	R114	H-1	R114	H-1	R114	H-1	R114	H-1
C96	M-2	C96	CR2	C-3	CR2	Q-6	L22	D-7	R42	H-1	R115	R115	H-1	R115	H-1	R115	H-1	R115	H-1	R115	H-1
C97	M-2	C97	CR3	G-5	CR3	Q-6	L23	E-7	R43	H-1	R116	R116	H-1	R116	H-1	R116	H-1	R116	H-1	R116	H-1
C98	N-2	C98	CR4	Q-6	CR4	Q-6	L24	F-7	R44	H-1	R117	R117	H-1	R117	H-1	R117	H-1	R117	H-1	R117	H-1
C99	N-2	C99	CR5	F-5	CR5	P-7	P1	H-1	R45	H-1	R118	R118	H-1	R118	H-1	R118	H-1	R118	H-1	R118	H-1
C100	N-3	C100	CR6	F-4	CR6	P-7	P1	H-1	R46	H-1	R119	R119	H-1	R119	H-1	R119	H-1	R119	H-1	R119	H-1
C101	A-3	C101	CR9	E-4	CR9	B-2	B-2	B-2	R47	H-1	R120	R120	H-1	R120	H-1	R120	H-1	R120	H-1	R120	H-1
C102	B-																				



Component Locator for Timebase/Trigger Assembly



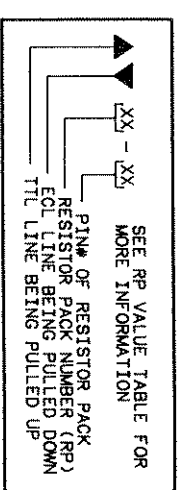
0.01uF



IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	7	U1
-5.2V	4	U1
-5.2V	8	U6,7,14,15,19, 20,31
AGND	1,16	U26
+15V	4	U26
-15V	11	U26
+15V	13	U27
TGND	5	U27
-15V	4	U27
NC	12	U28
+5V	11	U28
TGND	3,14	U28
-5.2V	6	U28
+5V	14	U45
AGND	7	U45

RESISTOR PACK DESCRIPTIONS:



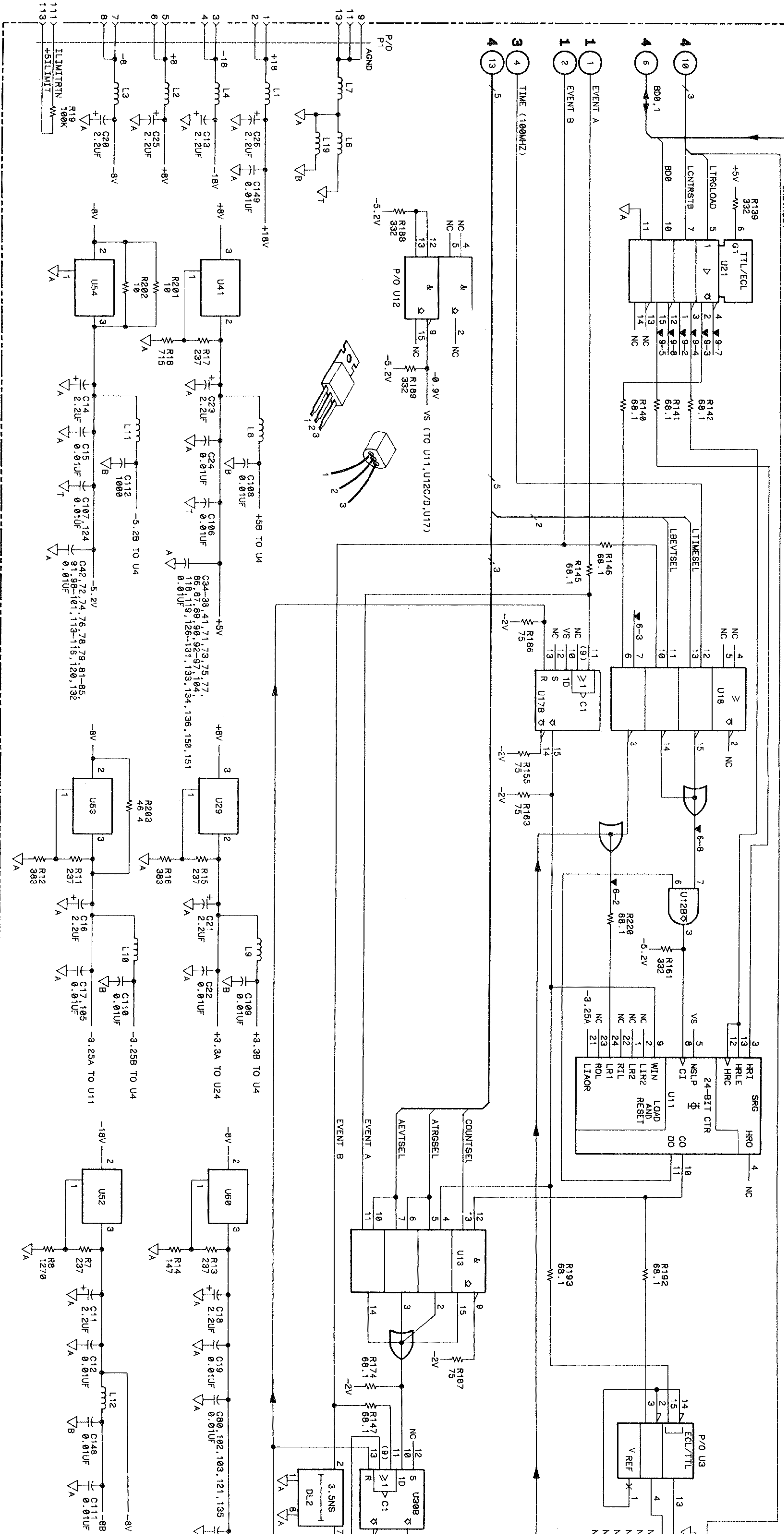
RP#	RESISTOR VALUE	POWER PIN	VOLTAGE
5,7,8	330X9	1	-5.2V

PARTS ON THIS SCHEMATIC

- C28-33,40,43,44,137
- CR1-4,13-15
- E1
- J1-10,14
- L20-24
- O1-4,14-22
- R20-38,41-43,48-56,109-124,164-173,177-184,191,207-210,230
- P/O RP5,7,8
- U1,6,14,15,19,20,26-28,31
- P/O U7,45
- 54112/SC02.01/4/9-87

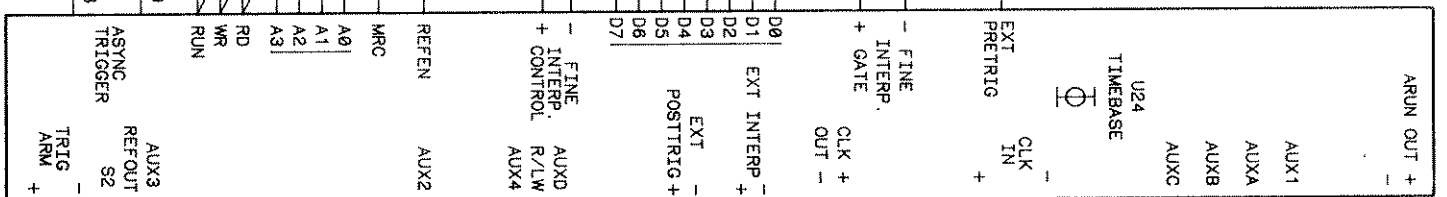
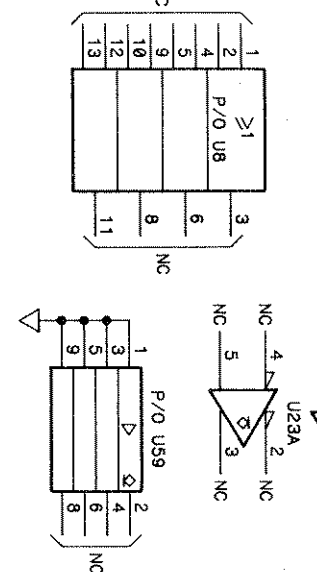
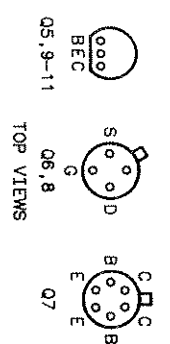
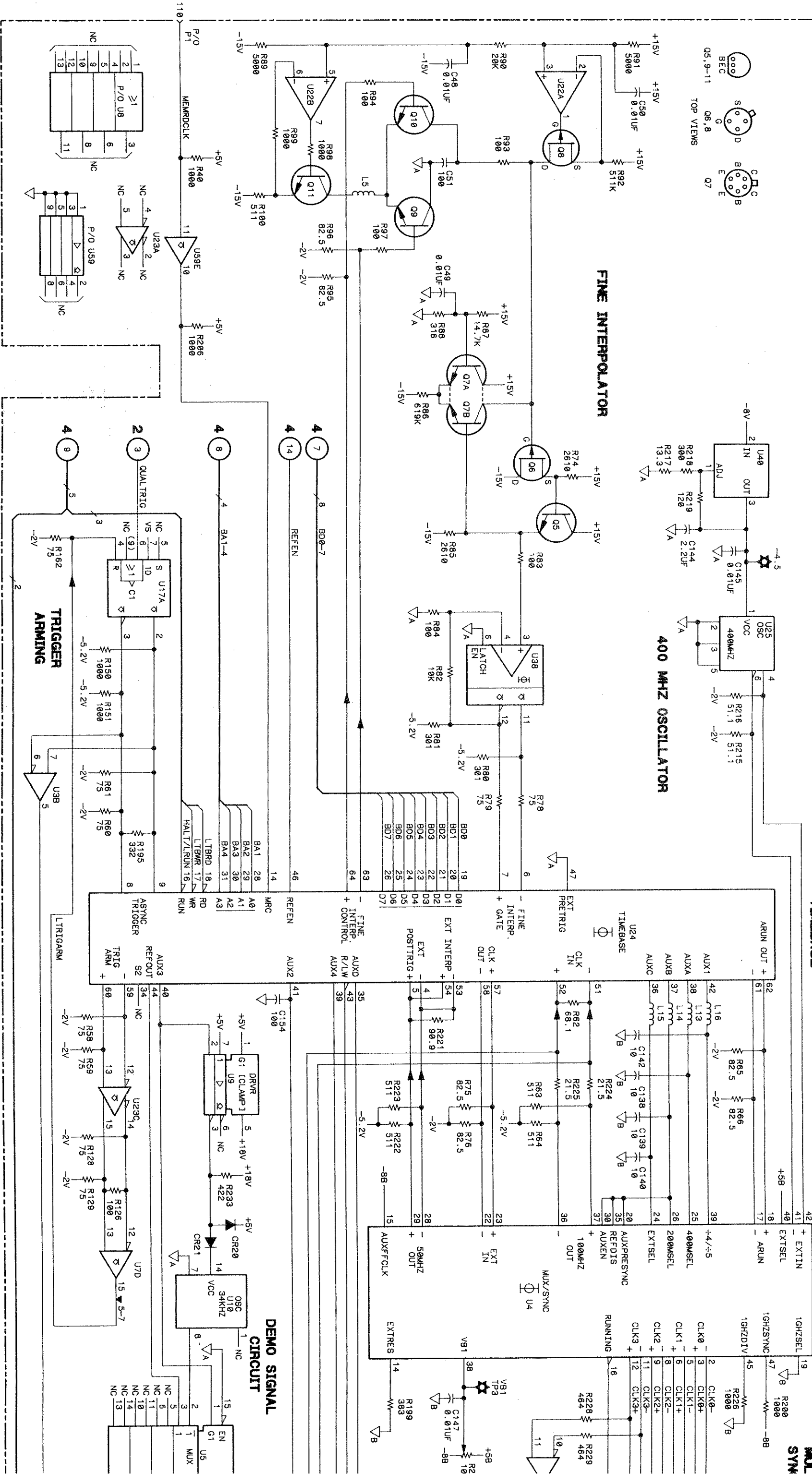
External Trigger Amp, Trigger Select, Cal Signal Generator

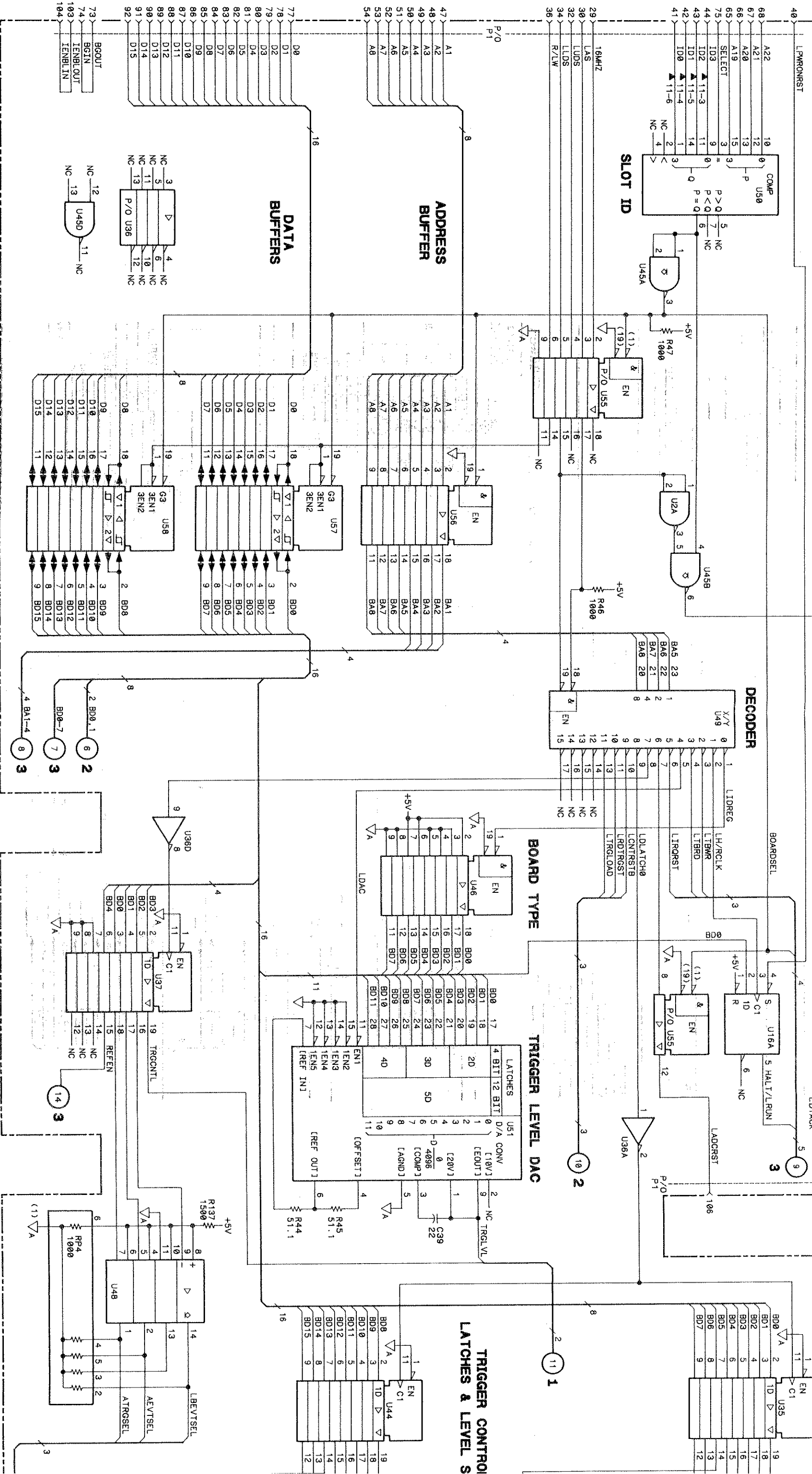
EVENTS/TIME COUNTER



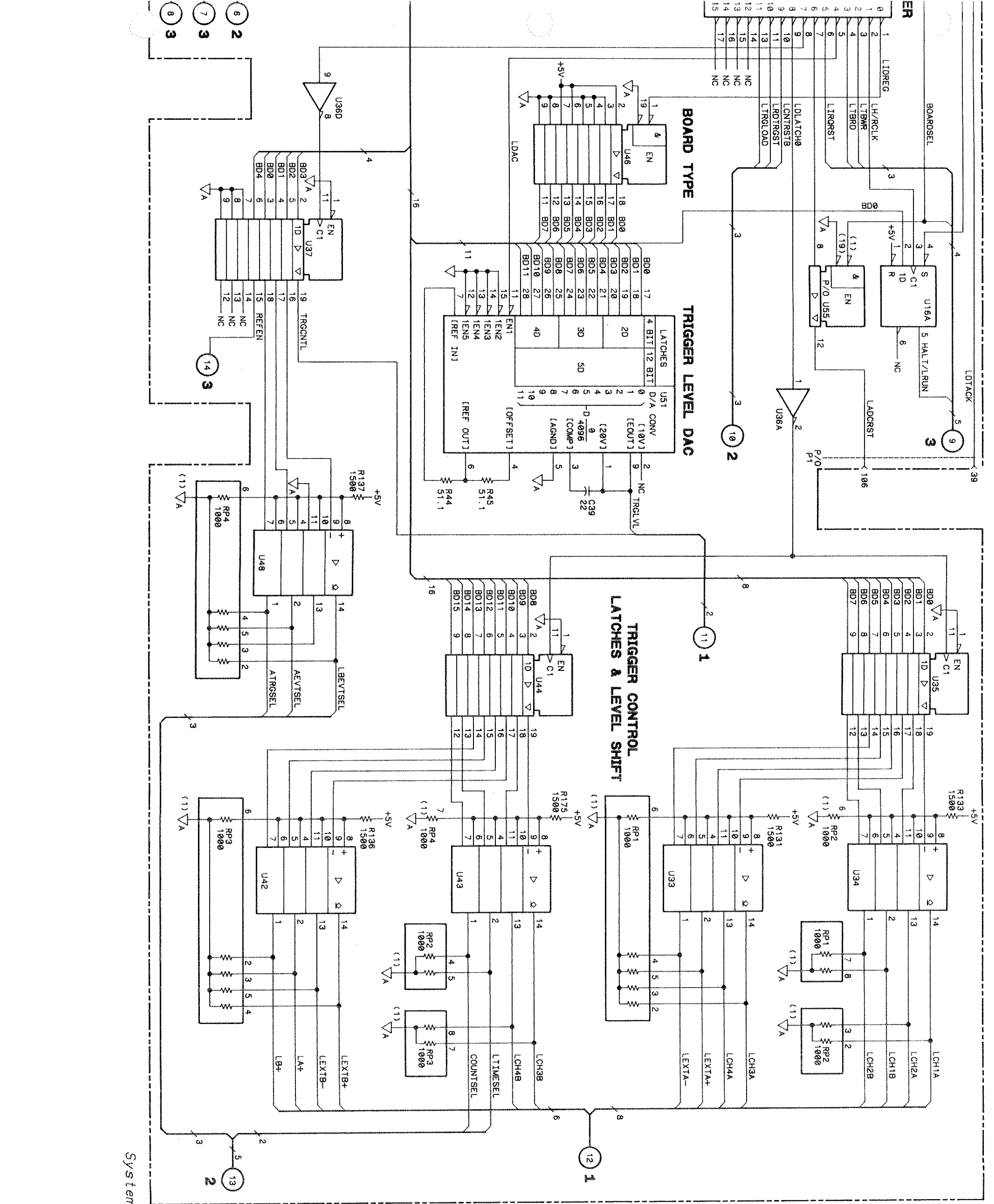
TIMEBASE

MUL SYM







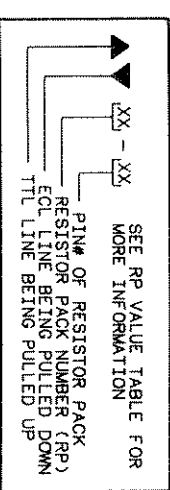


System Bus Interface, Triggering Control

IC DEVICE POWER CONNECTIONS

SUPPLY	PIN NO.	IC GROUP
+5V	14	U2, 16, 36
AGND	7	
+5V	3	U33, 34, 42, 43, 48
-2V	12	
+5V	20	U35, 37, 44, 46,
AGND	10	56-58
+5V	24	U49
AGND	12	
+5V	16	U50
AGND	8	
+5V	8	U51
AGND	16	
-15V	10	

RESISTOR PACK DESCRIPTIONS:



RESISTOR VALUE	POWER PIN	VOLTAGE
11	1000X5	+5V

PARTS ON THIS SCHEMATIC

C39	P/O P1
R44-47, 131, 133, 136, 137, 175	
RP1-4, 11	
U33-37, 42-44, 46, 48-51, 56-58	
P/O U2, 16, 45, 55	

54112/SC02-04/4/9-87

