

Section 6

REFERENCE MATERIALS

Section 6 contains reference information in tabular and schematic form.

6.1 Parts Lists

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Table 6-2	Amplifier Module A1
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Table 6-5	PC Card Assembly

6.2 Reference Schematics

Figure 6-1	Signal Conditioning Schematic, Dwg. 35-1004
Figure 6-2	A/D Converter Schematic, Dwg. 35-1006
Figure 6-3	Counter and Display Schematic, Dwg. 35-1005
Figure 6-4	Ranging Schematic, Dwg. 35-1003
Figure 6-5	Power Supply Schematic, Dwg. 35-1002

Table 6-1. DMM ASSEMBLY

Circuit Symbol	Description	Part Number
C52	Capacitor .01uf,250V	13-210013
C201,202	Capacitor .005uf,1KV	13-118010
DS9-13	Lamp NE2H	15-201001
F201	Fuse 3AG,2/10A,SloBlo	
L201,202	Inductor 220pHy	15-100002
R41,117	Resistor 51K,10%,4W,CC	HM5135
S201	Switch	46256LFR
T1	Transformer	C38-1002
	Switch Assembly	A38-1011
	Link,Shorting	B36-1008
	Link,Shorting	0938-9760
	Switch	WH4UEEE

Table 6-2. AMPLIFIER MODULE A1

Circuit Symbol	Description	Part Number
C1,2	Capacitor 20pf	13-311003
CR1,2	Diode, 1N4148	14-110001
Q1	Transistor	B38-1004
Q2-5	Transistor MPS6516	14-236516
Q6-10	Transistor MPS6515	14-236515
R1,2	Resistor 10K,1%,MF	12-341002
R3,4,5	Resistor 1K,5%,1/4W,CC	12-021029
R6,7	Resistor 100K,5%, 1/4W,CC	12-021049
R8	Resistor 27.4K,1%,MF	12-332742
R9	Resistor 3.32K,1%,MF	12-333321
R10	Resistor 7.5K,1%,MF	12-337501
R14	Resistor 1.8K,5%, 1/4W,CC	12-021829

Table 6-3. AMPLIFIER MODULE A2

Circuit Symbol	Description	Part Number
C1,2	Capacitor 30pf	13-211004
CR2	Diode 1N4148	14-110001
Q1	Transistor	B38-1004
Q2,3,5,6	Transistor MPS6516	14-236516
Q8,9	Transistor MPS6515	14-236515
R1,2	Resistor 10K,1%,MF	12-341002
R3,4,5	Resistor 1K,5%, 1/4W,CC	12-021029
R10	Resistor 39K,5%, 1/4W,CC	12-023939
R14	Resistor 3.3K,5%, 1/4W,CC	12-023329

Table 6-4. SWITCH MODULE ASSEMBLY

Circuit Symbol	Description	Part Number
Q1	Transistor 2N5246	A32-2010-1
Q2	Transistor 2N5246	A32-3010-2
R1-5	Resistor 10 ,10%,1/4W	12-021008

Table 6-5. PC BOARD ASSEMBLY

Circuit Symbol	Description	Part Number
A1	Assembly Amp 1	PL30-1002
A2	Assembly Amp 2	PL30-1001
C1	Capacitor .22uF	13-210236
C2	Capacitor 27pF,DM15	13-311022
C3,5	Capacitor 1000pF,DM15	13-311036
C4,51	Capacitor 1500pF,DM15	13-311038
C6,36,44,48, 205,206	Capacitor 12uF,10V	13-411050
C7	Capacitor 30pF,DM15	13-311004
C34	Capacitor 2uF,PolyCarb	13-510002
C35	Capacitor .68uF,10%, 50V,PolySty	13-550036
C37,38, 203	Capacitor 250uF,30V	13-620030
C39,41, 42,43	Capacitor 5.6uF,20V	13-411030
C45	Capacitor .018uF,10%, 50V,PolySty	13-550035
C46,50	Capacitor 50pF,DM10	13-310001
C47	Capacitor .01uF,Disk	13-118004
C49	Capacitor 3pF,DM15	13-311041
C204	Capacitor 2500uF,15V	13-620035
CR1,38	Diode SI-3	14-100002
CR2-20,22, 27-29,36, 39-49	Diode 1N4148	14-110001
CR21,48	Diode,Germ.S3742G	14-140001
CR30-34	Diode SI-1	14-100001
CR35,213	Diode 1N752A	14-120075
CR37	Diode,Ref.	14-130020
CR201, 203	Diode 100V Bridge, S1655	14-100010
CR202	Diode 300V Bridge, S1656	14-100011
DS1	Display, B5856	15-205856
DS2-7	Display, B5750	15-205750
DS8	Lamp, NE2H	15-201001
K1,6	Relay	15-170012
L1	Inductor,100pHy	15-100007
Q1-4, 6-10	Transistor 2N4410	14-234410
Q5,21	Transistor 2N3904	14-233904
Q11	Transistor 2N3645	14-233645

Table 6-5. PC BOARD ASSEMBLY (Continued)

Circuit Symbol	Description	Part Number
Q16	Transistor MPS6519	14-236519
Q18,20	Transistor 40319	14-2340319
Q19	Transistor 40314	14-2340314
Q22,23	Transistor 2N5246	32-3010-1
Q24,25, 27,28	Transistor 2N5246	32-3010-2
Q201	Transistor 2N5296	14-235296
R1-7	Resistor, 15K, 10%, 1/2W, CC	12-031538
R8, 118	Resistor 2.2K, 5%, 1/4W, CC	12-022229
R9-12, 27, 109, 111	Resistor 10K, 5%, 1/4W, CC	12-021039
R13, 17, 100, 101	Resistor 680 , 5%, 1/4W, CC	12-026819
R15, 49, 119	Resistor 1K, 5%, 1/4W, CC	12-021029
R16	Resistor 100 , 5%, 1/4W, CC	12-021019
R18, 20, 22	Resistor 1.5K, 5%, 1/4W, CC	12-021529
R19, 21 23, 127	Resistor 3.3K, 5%, 1/4W, CC	12-023329
R24-26, 79	Resistor 100K, 5%, 1/4W, CC	12-021049
R28	Resistor 10M, 5%, 1/4W, CC	12-021069
R42	Resistor Set: Item 1 (9.9M)	A38-1008-2
R44	Item 2 (99.75K)	
R43, 51	Trimmer 500	12-651007
R45	Trimmer 25K	12-6500
R46, 86	Trimmer 100	12-6500
R47, 48, 96	Resistor 15K, 1%	12-331502
R50	Resistor 261K, 1%	12-362613
R52	Resistor Set: Item 1 (89.75K)	A38-1007-3
R52	Item 2 (10K)	
R80	Resistor 47M, 5%, 1/4W, CC	12-024769
R84	Resistor Set: Item 1 (42K)	A38-1007-1
R81	Item 2 (10.096K)	
R89	Item 3 (10K)	
R85	Item 4 (37.95K)	
R82	Resistor 1M, 1%	12-392003
R83	Trimmer 100K	12-6500
R87	Trimmer 200	12-651005
R91	Resistor Set: Item 1 (52K)	A38-1007-2
R90	Item 2 (10K)	
R92	Resistor 33K, 5%, 1/4W, CC	12-023339
R93	Resistor 4.22K, 1%	12-334221
R94	Resistor 30.1K, 1%	12-333012
R95	Resistor 150K, 1%	12-331503
R99	Resistor 3.01K, 1%	12-333011
R102	Resistor 1.1K, 1%	12-371101
R103	Resistor 8.66K, 1%	12-348661
R104, 106	Resistor 10K, 1%	12-341002

Table 6-5. PC BOARD ASSEMBLY (Continued)

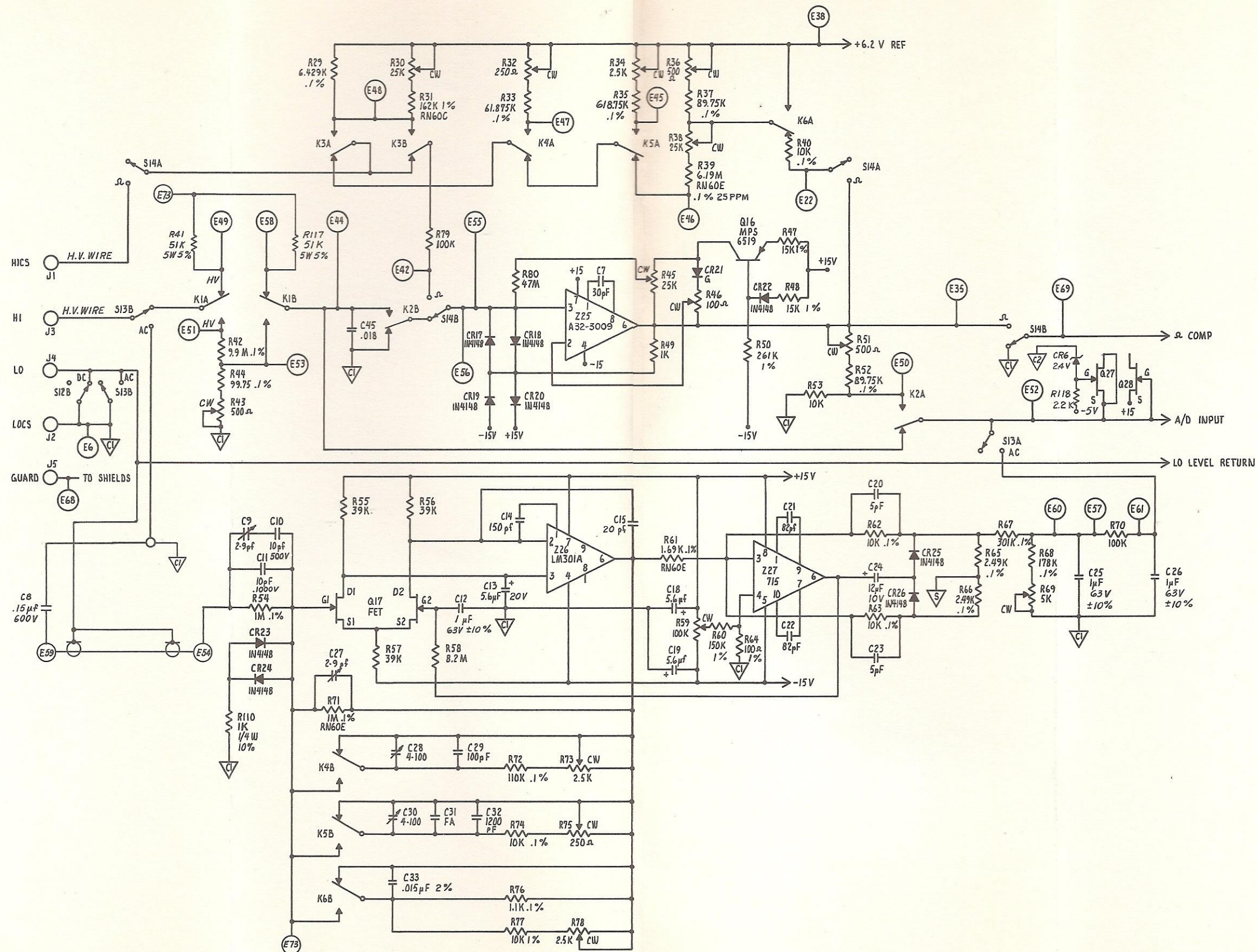
Circuit Symbol	Description	Part Number
R105	Resistor 6.19K, 1%	12-346191
R108	Resistor 100 , 5%, 1/2W, CC	12-031019
R112, 113	Resistor 20K, 5%, 1/4W, CC	12-022039
R114	Resistor 4.7K, 5%, 1/4W, CC	12-024729
R116	Resistor 100M, 10%, 1/4W, CC	12-021078
R120	Resistor 1M, 5%, 1/4W, CC	12-021059
R201	Resistor 1K, 5%, 1/2W, CC	12-031029
S1-7	Switch	A38-1010
T2-5	Transformer, Pulse	B38-1005
U1	Assembly Switch Module	PL30-1003
Y1	Crystal 1MHz	A38-1012
Z1, 24, 28 Z2, 20, 22, 31	IC 9937	14-319937
Z3, 21, 23	IC 9094	14-319094
Z4-8	IC 9949	14-219949
Z9-14	IC 7490	14-337490
Z15-19	IC 7475	14-337475
Z25	IC 7441	14-337441
Z29	IC LM308	A32-3009
Z30	IC LM311	14-300311
Z32	IC 9945	14-319945
Z33	IC 9962	14-319962
	IC N5558U	14-305558

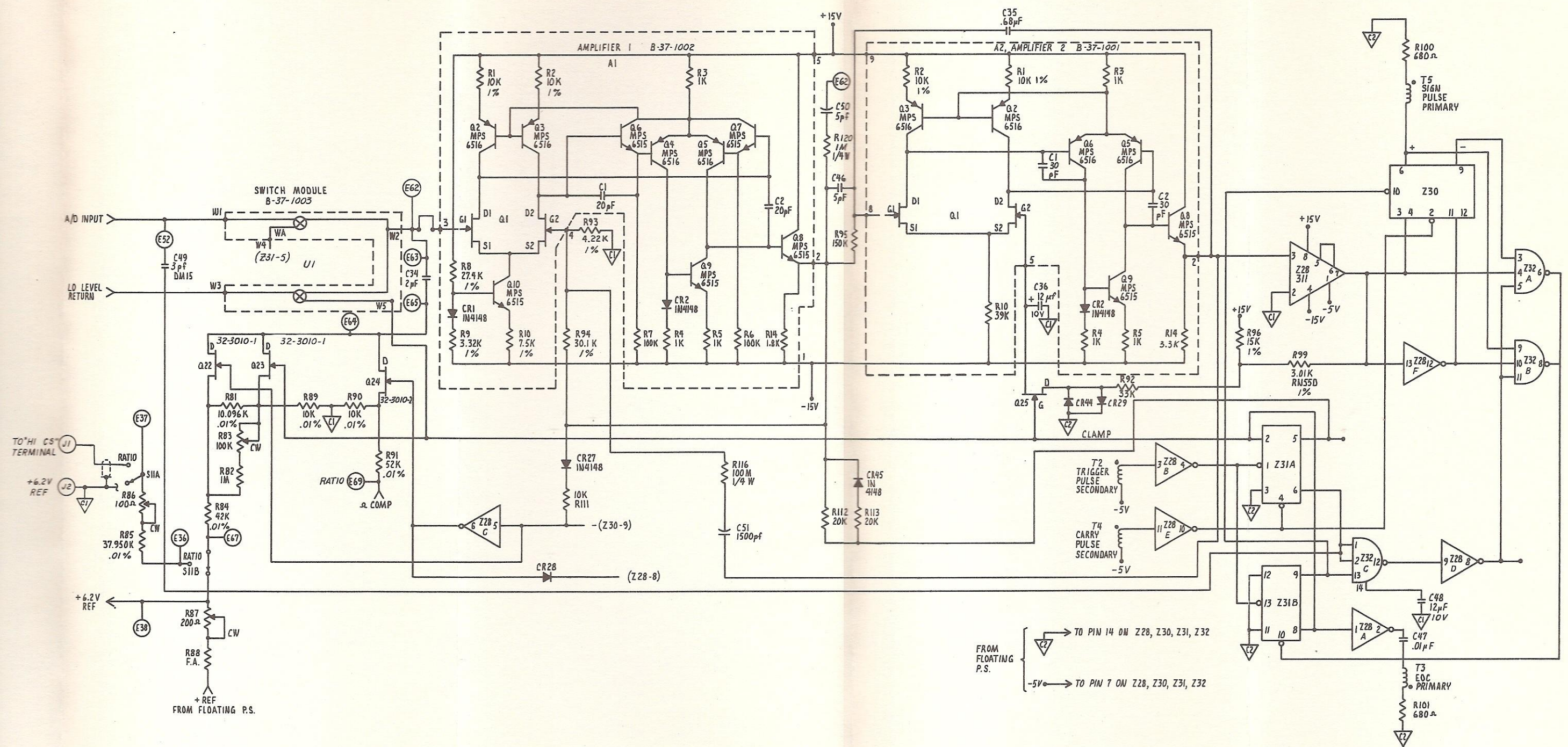
Table 6-5A. PC BOARD ASSY OPTIONS

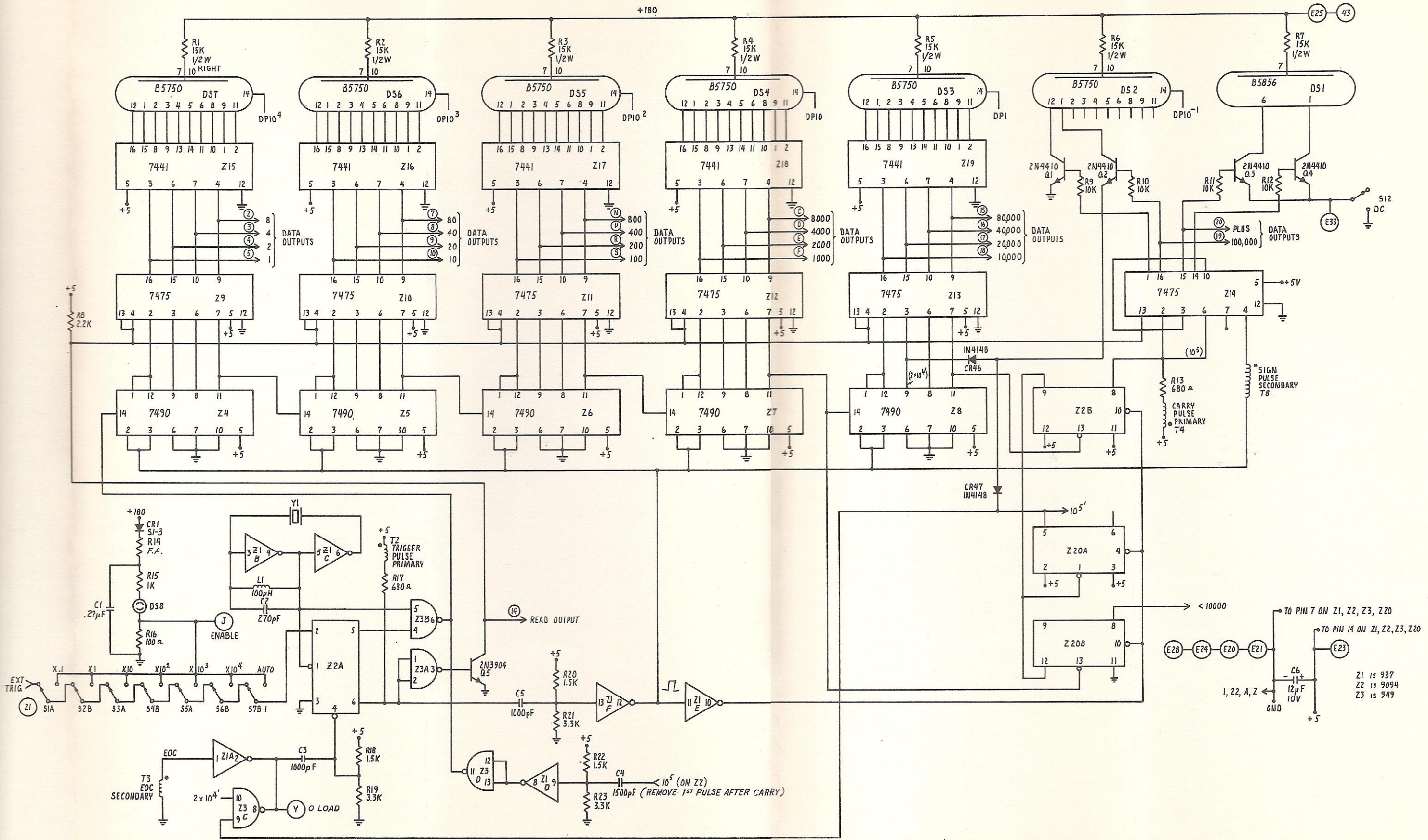
Circuit Symbol	Description	Part Number
C8	Capacitor .15uF, 600V, PolySty	13-510004
C9, 27	Capacitor 2-9pF	13-800002
C10	Capacitor 10pF, 520V, DM10	13-310002
C11	Capacitor 10pF, 1KV	
C12, 25, 26	Capacitor 1uF, 50V, PolyC	13-510001
C13, 18, 19	Capacitor 5.6uF, 20V	13-411030
C14	Capacitor 150pF, DM15	13-311015
C15	Capacitor 20pF, DM10	13-210006
C20, 23	Capacitor 5pF, DM10	13-310001
C28, 30	Capacitor 15-60pF	13-810001
C29	Capacitor 100pF, DM15	13-311011
C32	Capacitor 1200pF, DM15	13-311037
CR23-26	Diode 1N4148	14-110001
Q17	Transistor	38-1004
R29	Resistor Set: Item 1 (6429)	A38-1006
R33	Item 2 (61.875K)	
R35	Item 3 (618.75K)	
R30	Trimmer 25K	12-651014
R31	Resistor 162K, 1%, 60C	12-400001

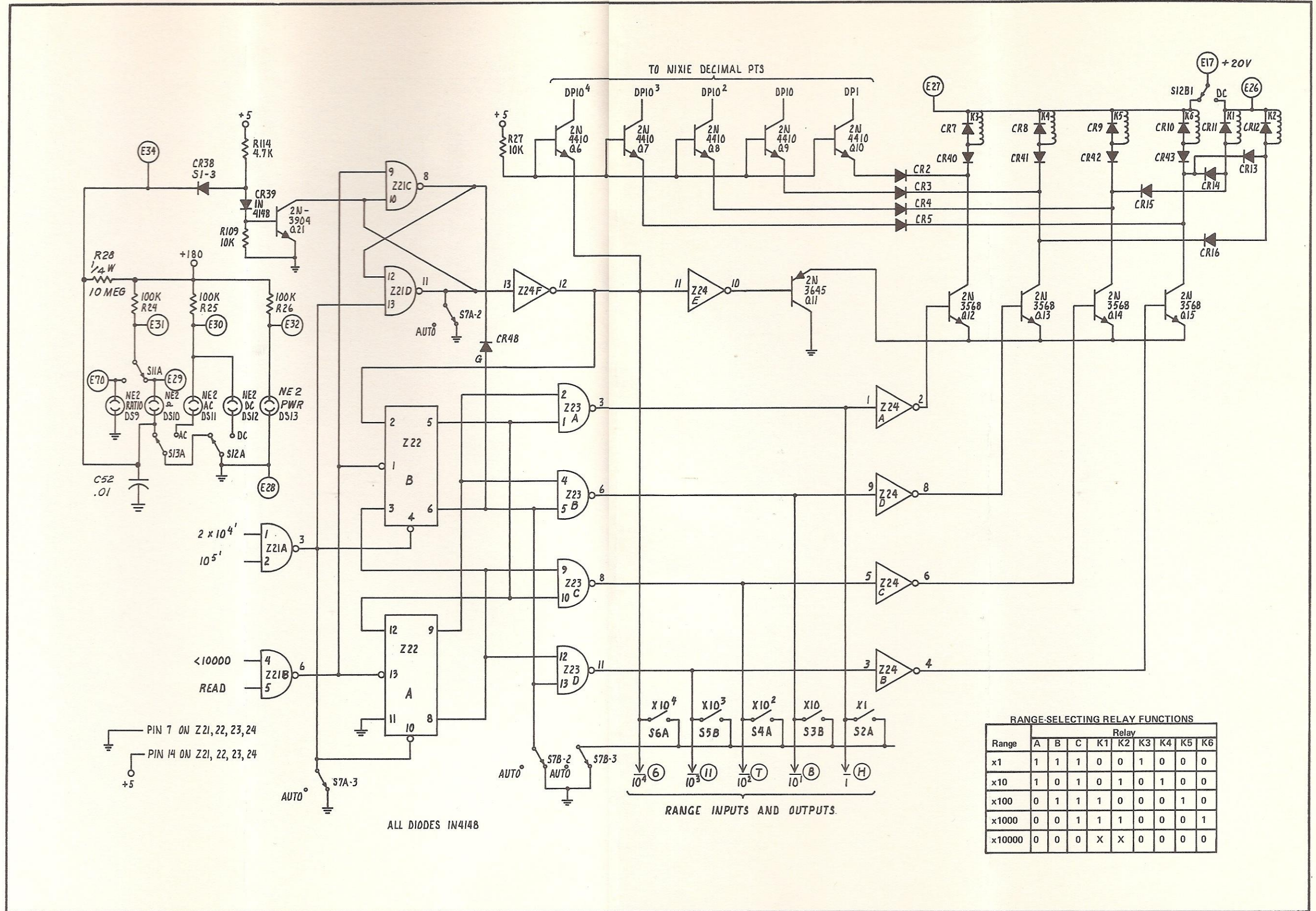
Table 6-5A. PC BOARD ASSY OPTIONS (Continued)

Circuit Symbol	Description	Part Number
R32	Trimmer 250	12-651006
R34	Trimmer 2.5K	12-651010
R36	Trimmer 500	12-650007
	Resistor Set:	A38-1007-3
R37	Item 1 (89.75K)	
R40	Item 2 (10K)	
R38	Trimmer 25K	12-650014
R39	Resistor 6.19M, .1%, 60E	12-400002
	Resistor Set:	A38-1008-1
R54	Item 1 (1M)	
R71	Item 2 (1M)	
R72	Item 3 (110K)	
R62,63,74	Item 4 (10K)	
R76	Item 5 (1.1K)	
R61	Item 6 (1.69K)	
R65,66	Item 7 (2.49K)	
R67	Item 8 (301K)	
R68	Item 9 (178K)	
R55,56, 57	Resistor 39K, 5%, 1/4W, CC	12-023939
R58	Resistor 8.2M, 5%, 1/4W, CC	12-028259
R59	Trimmer 100K	12-650016
R60	Resistor 150K, 1%, 55D	12-331503
R64	Resistor 100, 1%, 60D	12-361000
R69	Trimmer 5K	12-650011
R70	Resistor 100K, 5%, 1/4W, CC	12-021049
R73,78	Trimmer 2.5K	12-650010
R75	Trimmer 250	12-650006
R77	Resistor 10K, 1%, 55C	12-341002
R110	Resistor 1K, 5%, 1/4W, CC	12-021029
Z26	IC LM301A	14-300301
Z27	IC 7715	14-307715









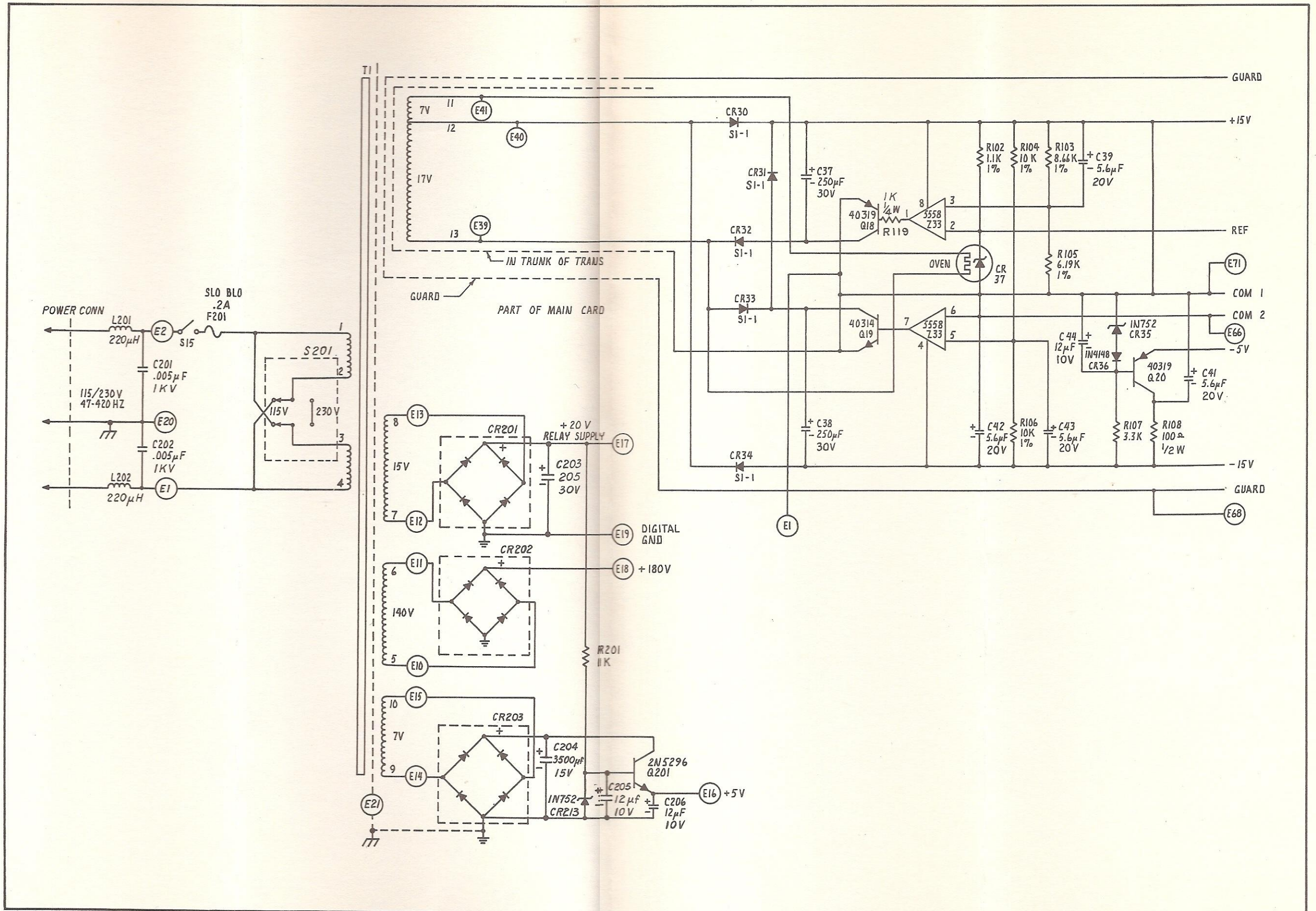


Figure 6-5. Power Supply Schematic, Dwg. 35-1002