FIELD MAINTENANCE PRINT SET

TABLE OF CONTENTS

UNIT VARIATIONS COVERED BY THIS PRINT SET

RLØ2

Field Maintenance Print Set

Digital Equipment Corporation

PRINT SET NO.
MPØØ553

REVISIONS	REV	CHG. NO.	DATE
	A	RL02-CX0005 B.MILLER	RPM 23-Aug-79
	B	RL02-CX0007 K.GUENZEL	RPM 28 Nov 79
	C	RL02-CX0014 I.WALENTA	RPM 16 DEC 80

DRB 124

USED ON OPTION/MODEL	
RL02	
SHEET 1 OF 1	

DRN. R.Michaud	DATE 21-SEP-78	digital
CHK'D W.Maier	DATE 6 JUN 79	TITLE: RL02 DISK DRIVE
PROJ. ENG. W.Stoll	DATE 6-6-79	SIZE B / CODE TC / NUMBER RL02-0-1 / REV. C
FIELD SERV. Jay Morse	DATE 6 JUN 79	DIST.

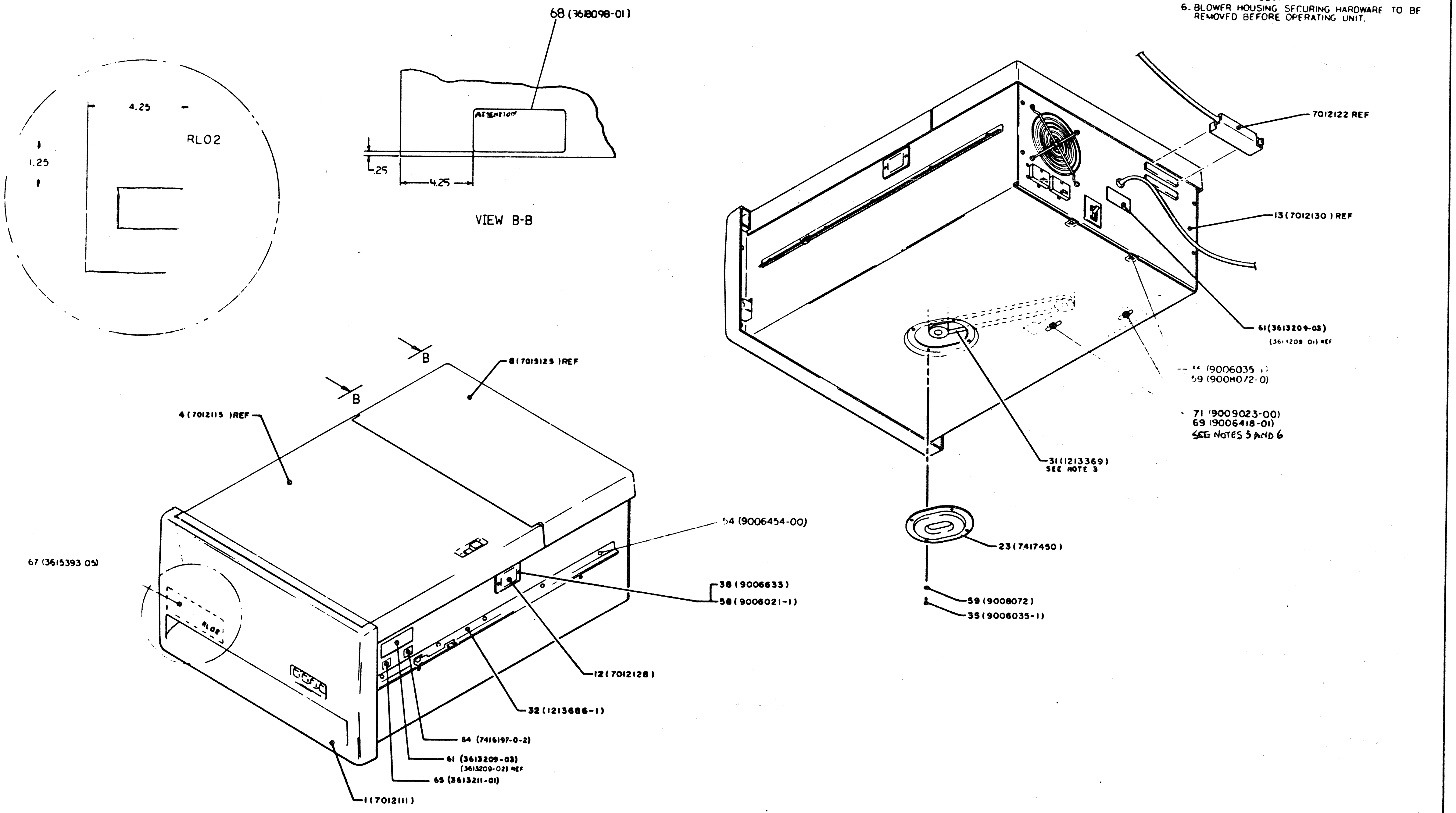
SIZE B CODE TC NUMBER RL02-0-1 REV.

NOTES

1. LOWER HEAD (ITEM 65) SMALL BE POSITIONED REARWARDS AGAINST PIN IN CARRIAGE
2. ALL SCREWS TO BE TIGHTENED AS FOLLOWS:

4-40 SCREW, TORQUE	3.5 ± 0.5	IN LBS
6-32 " "	5.0 ± 1.0	"
8-32 " "	10.0 ± 1.0	"
10-32 " "	18.0 ± 2.0	"

3. DRIVE BELT TENSION 10.0 ± 1.0 LBS.
4. 4-40 HEAD MOUNTING BOLTS TO BE TIGHTENED TO 5 ± .5 IN. LBS.
5. TORQUE 8-32 SELF TAPPING HARDWARE (ITEM 69) TO 16 18 IN LBS.
6. BLOWER HOUSING SECURING HARDWARE TO BE REMOVED BEFORE OPERATING UNIT.



CAUTION

OFF-SHEET PARTS LIST EXISTS.
SEE K-PL-RLØ2-Ø-D8P (ZØ485).

MATERIAL: SEE PARTS LIST

TITLE: RLØ2 DISK DRIVE ASSEMBLY

SIZE: E

REV: K

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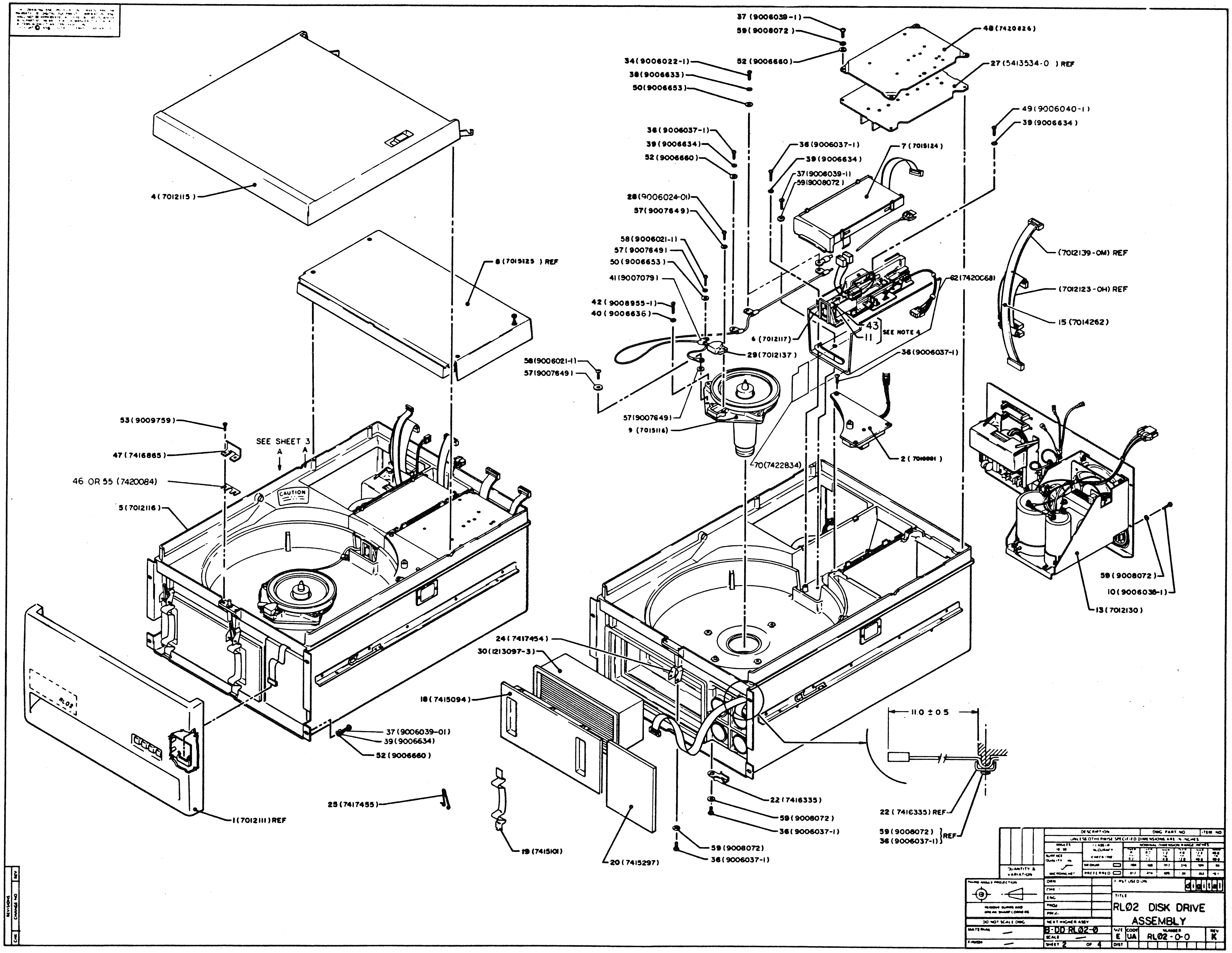
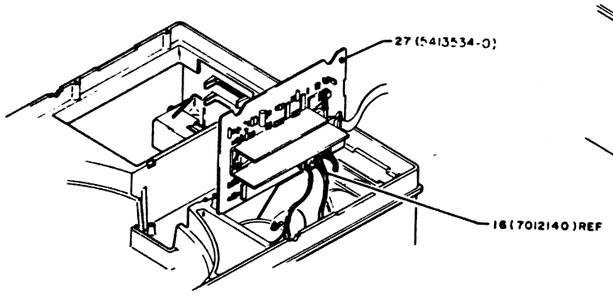
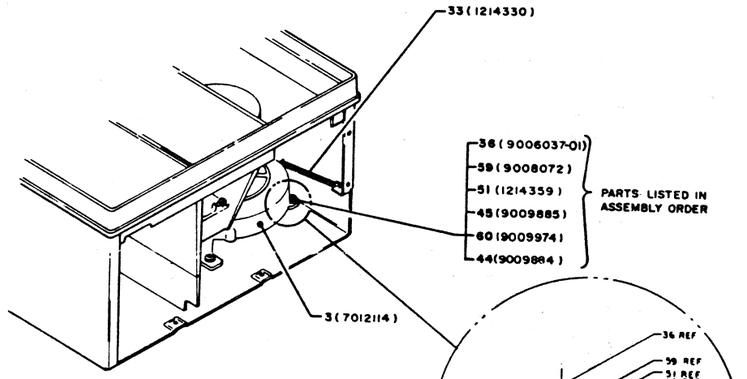
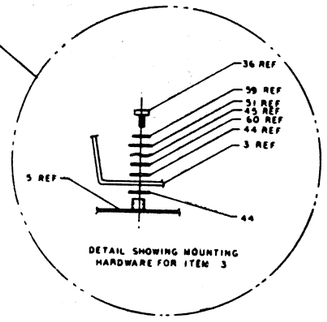
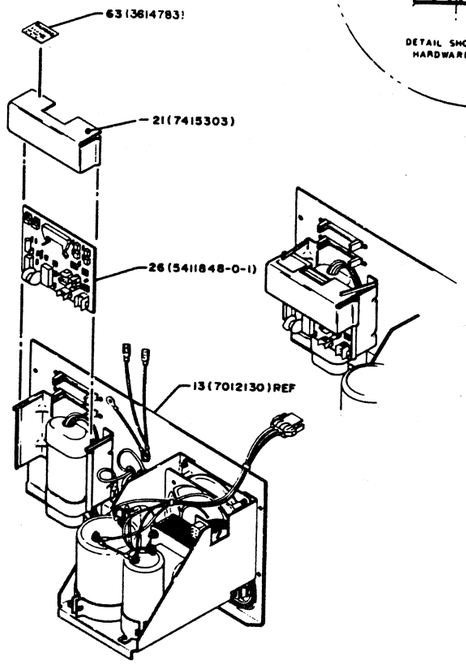

37 (9006039-1)
59 (9008072)
48 (7420826)
34 (9006022-1)
38 (9006633)
50 (9006653)
52 (9006660)
27 (5413534-0) REF
49 (9006040-1)
39 (9006634)
36 (9006037-1)
39 (9006634)
52 (9006660)
36 (9006037-1)
39 (9006634)
7 (7015124)
37 (9006039-1)
59 (9008072)
28 (9006024-01)
57 (9007649)
4 (7012115)
58 (9006021-1)
57 (9007649)
50 (9006653)
41 (9007079)
42 (9006955-1)
40 (9006636)
8 (7015125) REF
(7012139-OM) REF
62 (7420C68)
(7012123-OH) REF
15 (7014262)
6 (7012117)
43
11
SEE NOTE 4
29 (7012137)
36 (9006037-1)
58 (9006021-1)
57 (9007649)
57 (9007649)
9 (7015116)
2 (7016881)
70 (7422834)
53 (9009759)
SEE SHEET 3
A
A
47 (7416865)
46 OR 55 (7420084)
CAUTION
5 (7012116)
59 (9008072)
10 (9006036-1)
13 (7012130)
24 (7417454)
30 (1213097-3)
18 (7415094)
RL02
11.0 ± 0.5
37 (9006039-01)
39 (9006634)
52 (9006660)
22 (7416335)
59 (9008072)
36 (9006037-1)
25 (7417455)
22 (7416335) REF
1 (7012111) REF
59 (9008072)
36 (9006037-1)
REF
59 (9008072)
36 (9006037-1)
19 (7415101)
20 (7415297)
DESCRIPTION
DWG PART NO
ITEM NO
QUANTITY & VARIATION
THIRD ANGLE PROJECTION
TITLE
RL02 DISK DRIVE
ASSEMBLY
DO NOT SCALE DWG
NEXT HIGHER ASSY
B-DD-RL02-0
SIZE E
CODE UA
NUMBER RL02-0-0
REV K
SCALE
SHEET 2 OF 4
MATERIAL
FINISH
REVISIONS
CHANGE NO
REV

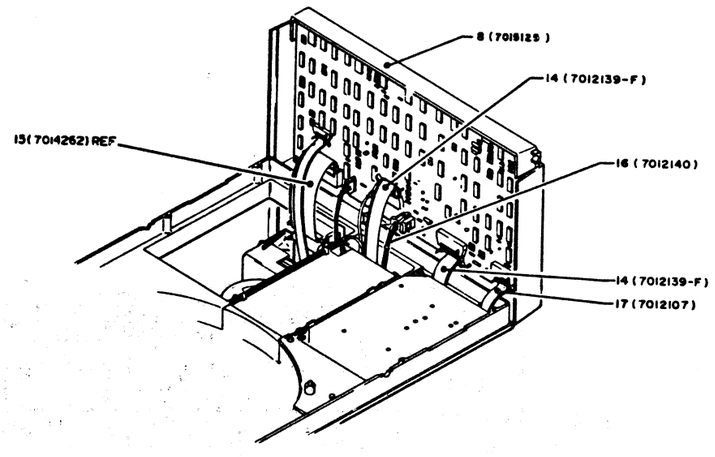
10

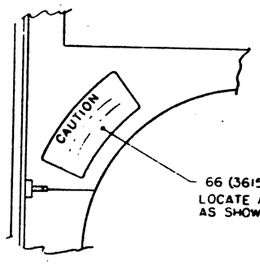










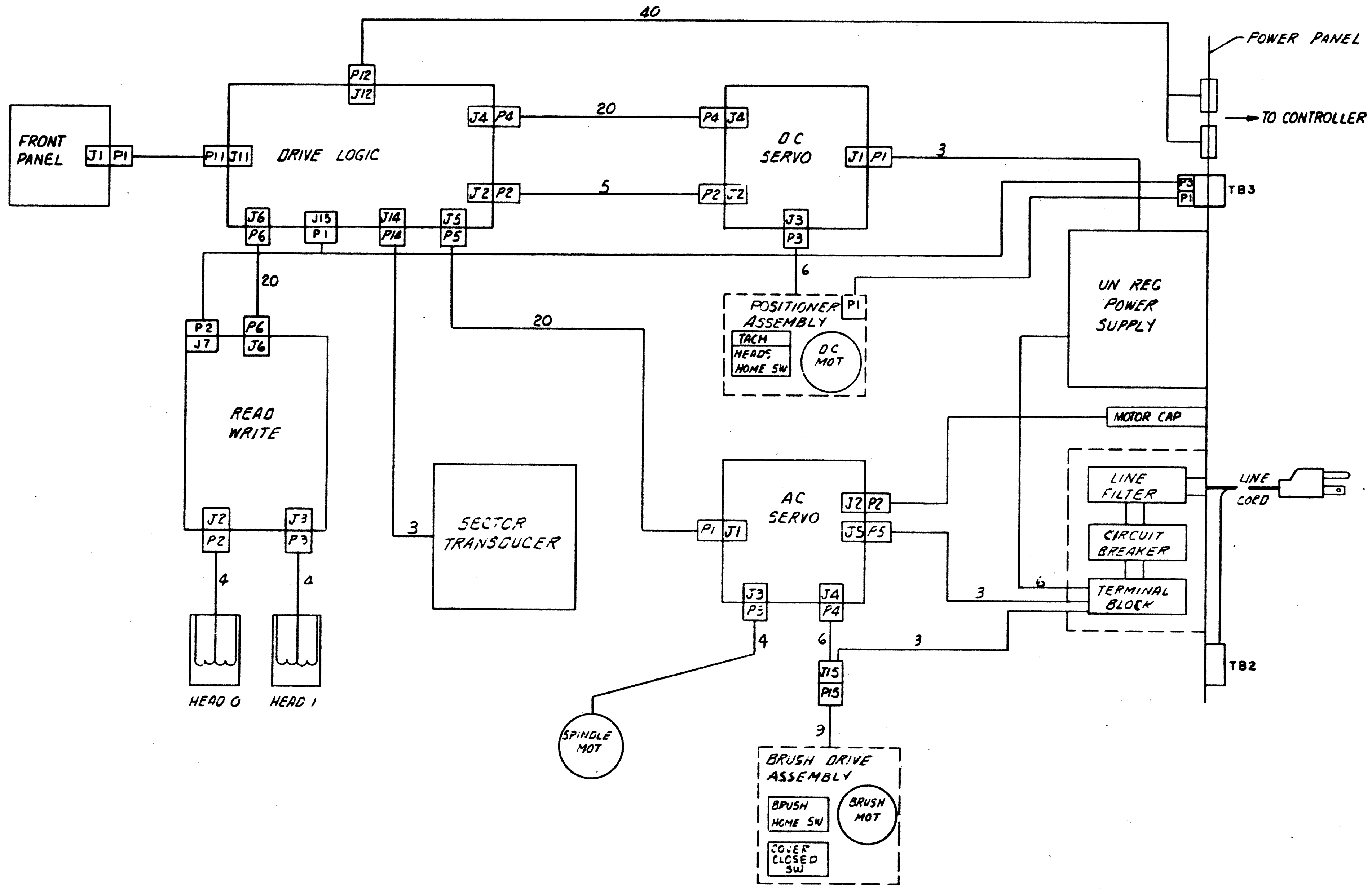


VIEW A-A

digital

RL02 DISK DRIVE
ASSEMBLY

B-DD-RL02-0
SHEET 3 OF 4
SIZE E
CODE UA
NUMBER RL02-0-0
REV K



DESCRIPTION	DWG./PART NO.	ITEM NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	OVER 0 TO 0.2	OVER 0.2 TO 1.2	OVER 1.2 TO 4.8	OVER 4.8 TO 12.0	OVER 12.0 TO 48.0	OVER 48.0 TO 96.0
SURFACE QUALITY	MEDIUM	±.004	±.008	±.012	±.016	±.034	±.04
MICROINCHES	PREFERRED	±.012	±.016	±.025	±.04	±.063	±0.1

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

DRN.	R. Nichol	25 Sep 78
CHK'D	W. Mayer	
ENG		
PROJ. ENG.		
PROD		
NEXT HIGHER ASSY.	B-DD-RLØ2-Ø	
MATERIAL		
FINISH		
SCALE		
SHEET 2 OF 2		

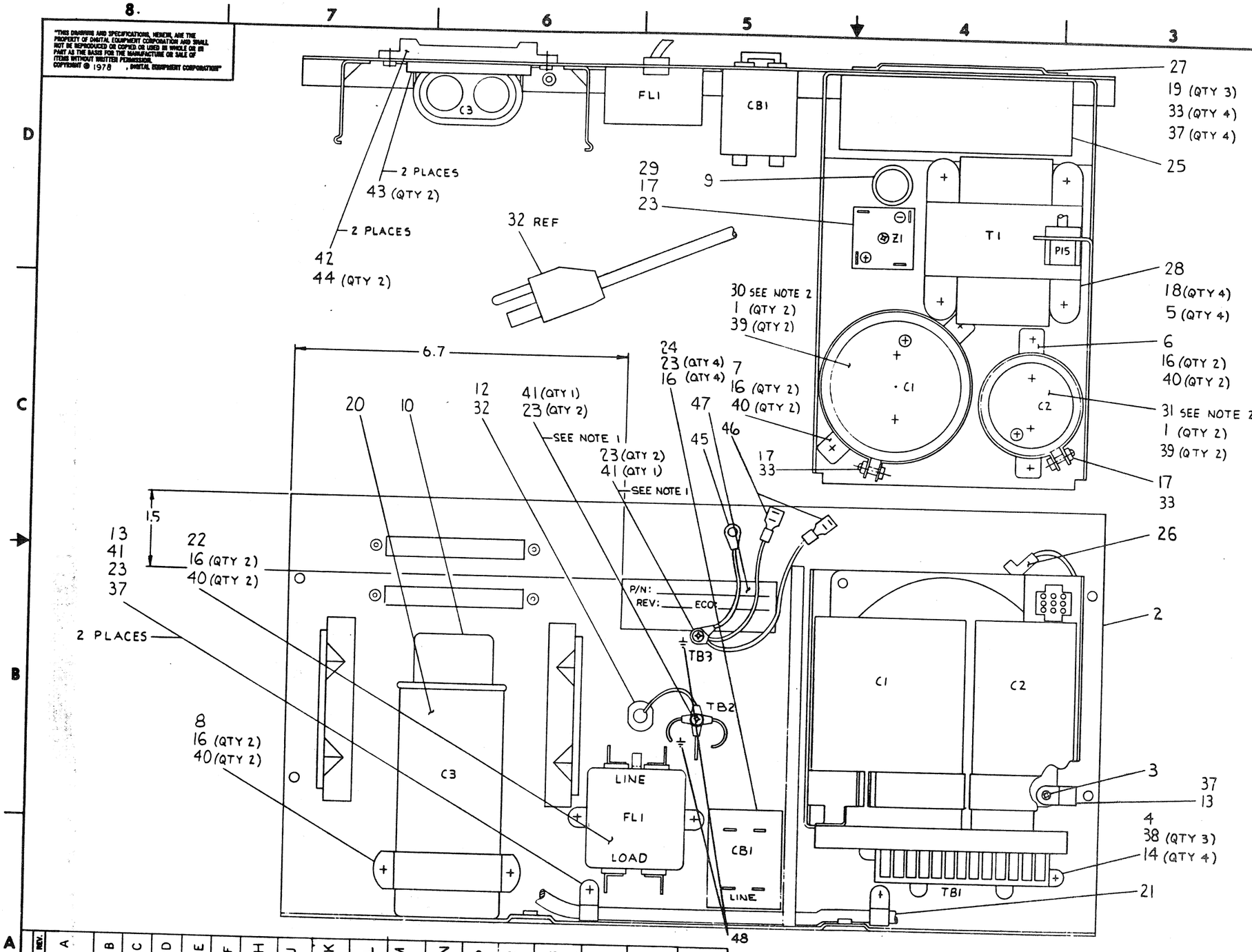
FIRST USED ON: RLØ2

digital

TITLE
RLØ2 SYSTEM CABLING

SIZE	CODE	NUMBER	REV
D	IC	RLØ2-Ø-3	C

REVISIONS: CHK. | CHANGE NO. | REV.



NOTES:
1. INT TOOTH LOCK WASHERS (ITEM 23) ARE USED OVER AND UNDER GROUND TERMINALS.
2. ORIENT TERMINALS AS SHOWN.

CAUTION: OFF SHEET PARTS LIST EXISTS.
SEE K-PL-7012130-0-DBP (ZØ849)

REVISIONS	CHK	CHANGE NO.	REV.
RELEASED AT REV A PREVIOUS REV WØ		7012130-0001 G.REICHENBERG	A
		7012130-0002 G.SCHNEIDER	B
		RLØ1-00009 G.SCHNEIDER	C
		7012130-CX003 K.GUENZEL	D
		7012130-CX004 G.REICHENBERG	E
		7012130-CX005 G.REICHENBERG	F
		RLØ1-CZØ18 K.GUENZEL	H
		7012130-CZØØ6 K.GUENZEL	J
		7012130-CZØØ7 K.GUENZEL	K
		7012130-CZØØ8 K.GUENZEL	L
		7012130-CZØØ9 K.GUENZEL	M
		7012130-CXØØ9 K.GUENZEL	N
		7012130-CXØ1Ø K.GUENZEL	P
		RLØ2-CXØØ8 K.GUENZEL	R
		7012130-CXØ11 K.GUENZEL	S
		RLØ2-CXØ1Ø M. ZARICH	T
	646	7012130-CXØ12 D.C. 30 JUL 80 K.GUENZEL	U
	705	7012130-CXØ13 J. WALENTA	V

	DESCRIPTION	DWG./PART NO.	ITEM NO.
	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		

ANGLES ±0° 30'	CLASS OF ACCURACY (CHECK ONE)	NOMINAL DIMENSION RANGE INCHES					
		OVER 0 TO 6	OVER 6 TO 30	OVER 1.3 TO 10	OVER 4.8 TO 30	OVER 12.0 TO 120	OVER 48.0 TO 120
SURFACE QUALITY ▽ MICROINCHES	MEDIUM ☐	±.004	±.008	±.012	±.016	±.024	±.04
	PREFERRED ☐	±.012	±.016	±.025	±.04	±.063	±0.1

QUANTITY & VARIATION

THIRD ANGLE PROJECTION

REMOVE BURRS AND BREAK SHARP CORNERS

DO NOT SCALE DWG

MATERIAL: SEE PARTS LIST

FINISH: —/—

DRN.	O. MELCHIOR	2/AUG/77
CHK'D	G. SCHNEIDER	2/AUG/77
ENG.	G. SCHNEIDER	2/AUG/77
PROJ. ENG.	R ARNOLD	2/AUG/77
PROD.	B. RYLANDER	2/AUG/77

NEXT HIGHER ASSY.

FIRST USED ON: RLØ1

TITLE: POWER PANEL ASSY

E-UA-RLØ1-Ø-Ø

SIZE: D | CODE | NUMBER: AD 7012130-0-0 | REV.: V

SCALE: 1/1

SHEET: OF 3

DIST.

NOTES:

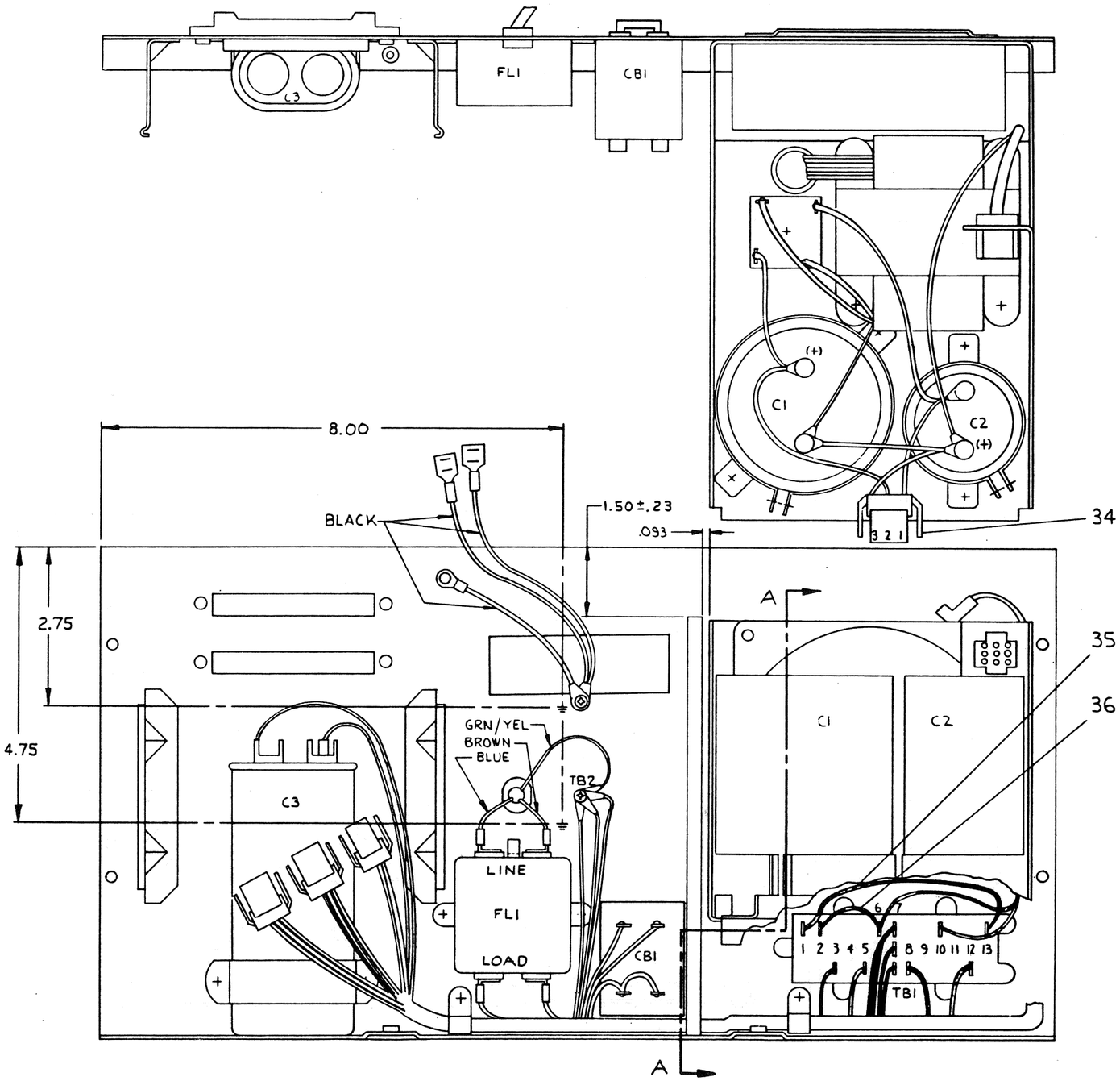
1. INPUT VOLTAGE 50 OR 60 HZ
   90 – 110, 105 – 128 VAC
   180 – 220, 210 – 256 VAC
2. OUTPUT VOLTAGE ± 11.5 VDC MIN AT MIN POINT OF THE RIPPLE. 18 VDC MAX AT HIGH LINE. (MAX OF 25 VDC AT HIGH LINE NO LOAD).
3. OUTPUT CURRENT: POSITIVE OUTPUT
   2.5 AMP CONTINUOUS
   3.5 AMP PULSE "25 MS"
   NEGATIVE OUTPUT
   .25 AMP CONTINUOUS
   3.5 AMP PULSE "25 MS"
   PULSE CURRENT ON ALTERNATE OUTPUT AT A 65 MS OUT CYCLE.
4. OUTPUT RIPPLE AT 110 VOLTS

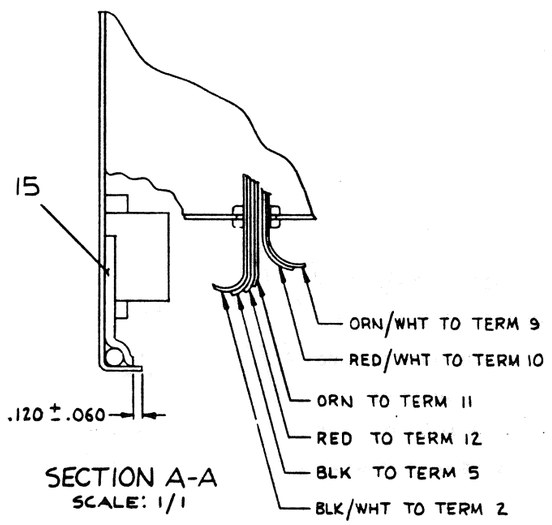
A.	NO LOAD	100 mV P/P
B.	+ 2.5 A	600 mV P/P
	– .25 A	300 mV P/P
C.	+ 2.5 A	600 mV P/P
	– 3.75 A	1.5 V DURING PULSE

   RIPPLE AT 90 V RMS

+ 2.5 A	500 mV
– 3.75 A	2 V
+ 6 A	900 mV
– .25 A	400 mV

5. HIGH POT TEST PER UL 478
   CONNECT BOTH AC LEADS TO THE POSITIVE TERMINAL OF THE SUPPLY AND GRN WIRE GROUND TO THE NEGATIVE TERMINAL OF THE SUPPLY. CLOSE CIRCUIT BREAKER AND INCREASE VOLTAGE TO 1750 VDC, ANY CURRENT INDICATES FAILURE.

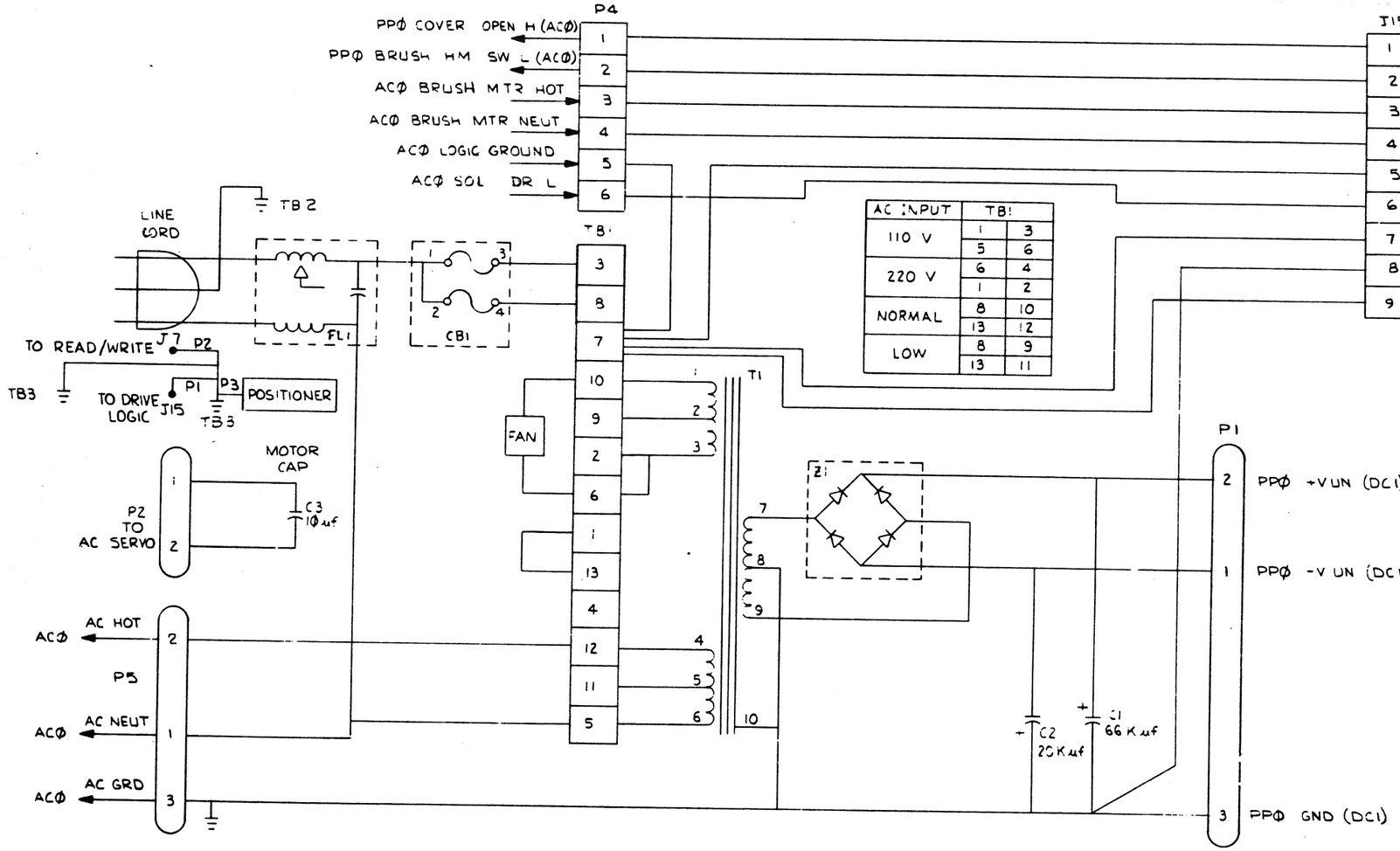




SECTION A-A
SCALE: 1/1

REVISIONS		
CHK	CHANGE NO.	REV.

TITLE: POWER PANEL ASSY		SIZE: D	CODE: AD	NUMBER: 7012130 – 0 – 0
SCALE: 1/1	SHEET 2 OF 3	DIST.		REV. V



REVISIONS		
CHK	CHANGE NO.	REV.

TITLE	SIZE	CODE	NUMBER	REV.
POWER PANEL ASSY (PPO)	D	AD	7012130-0-0	V
SCALE: 1/1	SHEET 3 OF 3	DIST.		

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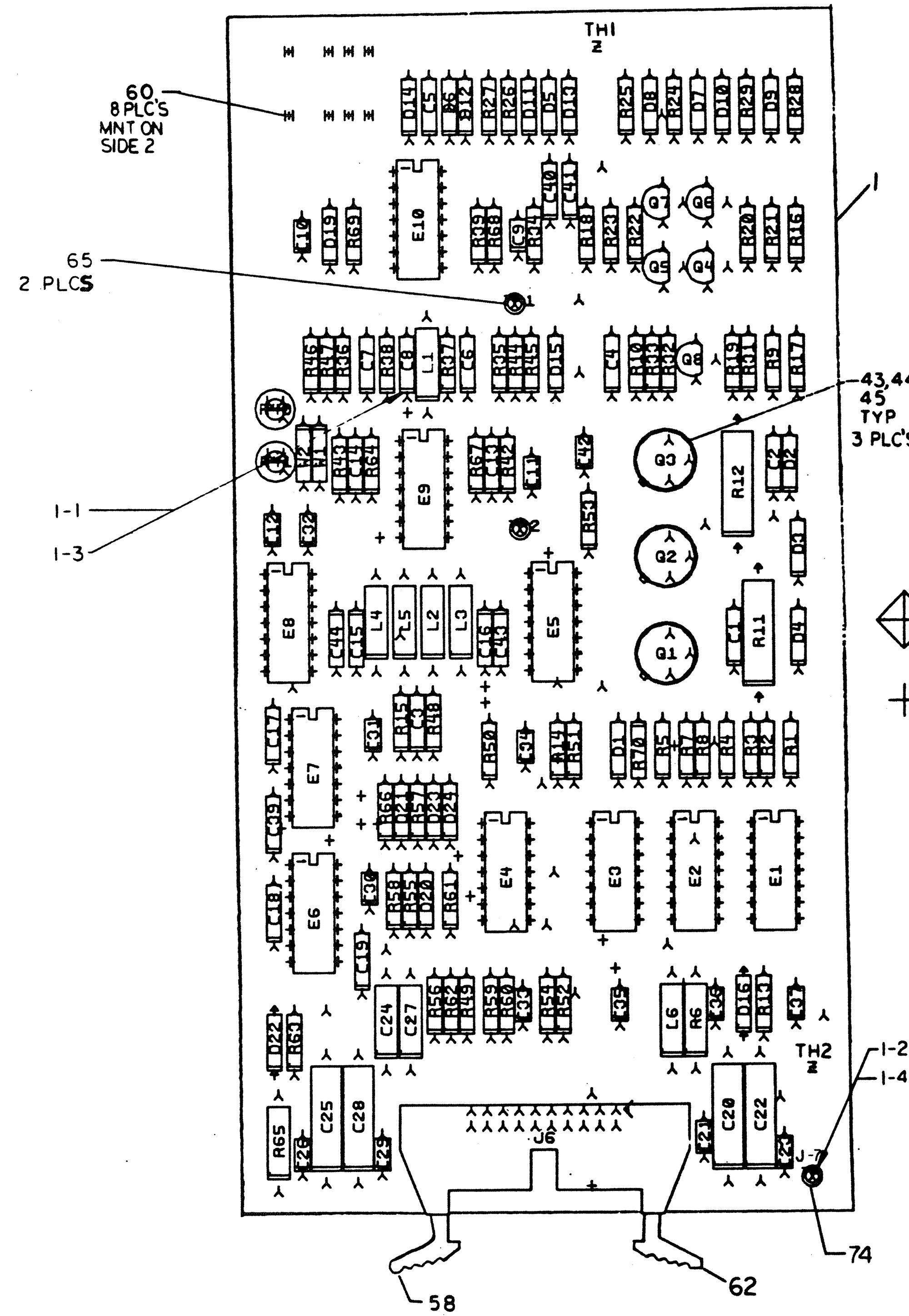
COMPONENT SIDE VIEW



NOTES:

CHK	CHANGE NO	REV
	5413536-CX001 M.ZARICH	B

ETCH REV. B
P.C. DESIGN DATA BASE REV. BL

SIGNATURES		DATE
DRN.		8/3/78
CHK'D.		8/3/78
ENG.		
PROJ. ENG.		
PROD.		

digital

TITLE RL02 READ/WRITE BOARD

SCALE 2/1
SHT 1 OF 2
NEXT HIGHER ASSY. B-DD-5413536-0

SIZE	CODE	NUMBER	REV
D	UA	5413536-0-0	B

1 MS#291-022

D UA 5413536-0-0 B

AUTOMATED BY PRTLST.2E(3)

P A R T S L I S T

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION *00	REFERENCE DESIGNATOR
1	1	D-MD-5013535-0-0	5013535-00	ETCHED CIRCUIT BD	1	
2	2		1001610-00	.01 MFD 50V -20+80 Z5U AXIAL	17	C9-C12,C21,C23,C26,C29-C37,C42
3	3		1005306-00	6.8MFD 35V 10% S.TANT	4	C20,C22,C25,C28
4	4		1013466-14	82.0 MMF 50V 5% CER	2	C16,C43
5	5		1013466-06	100.0 MMF 50V 5% CER.	1	C8
6	6		1013466-05	56.0 MMF 50V 5% CER.	1	C5
7	7		1013466-07	220.0 MMF 50V 5% CER.	5	C1,C2,C4,C17,C39
8	8		1013466-09	1000.0 MMF 50V 10% CER.	1	C18
9	9		1013466-11	.22 MFD 50V +80/-20% CER.	2	C24,C27
10	10		1013466-15	1200.0 MMF 50V 5% CER.	3	C19,C40,C41
11	11		1109943-00	1N 4733A VZ= 5.1 5% 1W Y	2	D16,D22
12	12		1113953-00	1N 5523D VZ= 5.1 1%	1	D1
13	13		1100122-00	1N 748A VZ= 3.9 5%	1	D19
14	14		1111577-00	1N 4454 TR= 4NS PIV= 50 S	11	D5-D10,D15,D20,D21,D23,D24
15	15		1300250-00	150.0 .25 W 5.0 % CC	1	R5
16	16		1300229-00	100.0 .25 W 5.0 % CC	5	R39,R52,R54,R59,R69
17	17		1300232-00	100.0 1.0 W 5.0 % CC	2	R11,R12
18	18		1300247-00	120.0 .25 W 5.0 % CC	1	R56
19	19		1300365-00	1.0 K .25 W 5.0 % CC	8	R13,R14,R35,R36,R48,R49,R66,R70
20	20		1300444-00	3.90 K .25 W 5.0 % CC	1	R46
21	21		1300447-00	4.70 K .25 W 5.0 % CC	3	R9,R10,R32
22	22		1301775-00	820.0 .25 W 5.0 % CC	1	R31
23	23		1301317-00	10.0 .25 W 5.0 % CC	1	R63
24	24		1302612-00	1.78 K 1/4W 1% RN55D-F 100PPM	2	R50,R51
25	25		1300195-00	33.0 .50 W 5.0 % CC	2	R6,R65
26	26		1304725-00	300 1/4W 1% RN55D-F 100PPM	1	R62
27	27		1312930-00	5.10 K .25 W 5.0 % CC	2	R55,R58
28	28		1301424-00	680.0 .25 W 5.0 % CC	4	R16,R18,R21,R23
29	29		1302391-00	20.0 K .25 W 5.0 % CC	1	R60
30	30		1300426-00	2.70 K .25 W 5.0 % CC	1	R33

REVISION HISTORY

ENG	ECO NUMBER	REV
MZ	INIT	A
	5413536-CX001 M.Zarch W.C.K. 17 JAN 80	B

BASIC PART NO: 13536

SECTION A OF A

SECTION.VARIATION INDEX
[A] 00
[B]
[C]
[D]
[E]
[F]
[H]
[J]
[K]
[L]
[M]
[N]

DRN: JERRY BEST
DATE: 14-AUG-78

CHK'D: L. ROOHR
DATE: 14-AUG-78

DES.ENG: B. NOGUCHI
DATE:

RESP.ENG.: B. NOGUCHI
DATE: 14-AUG-78

MFG.ENG.: P. CHURCH
DATE:

ASSEMBLY NUMBER:
D-UA-5413536-0-0

TOP DOCUMENT NUMBER:
RL02

D	I	G	I	T	A	L

TITLE PARTS LIST

READ/WRITE BOARD

DOCUMENT NUMBER

SIZE	CODE	NUMBER	REV
K	PL	5413536-0-DBP	B

FILE NAME: Z1091B.PLS

EDIT #: 7

17

AUTOMATED BY PRTLST.2E(3)

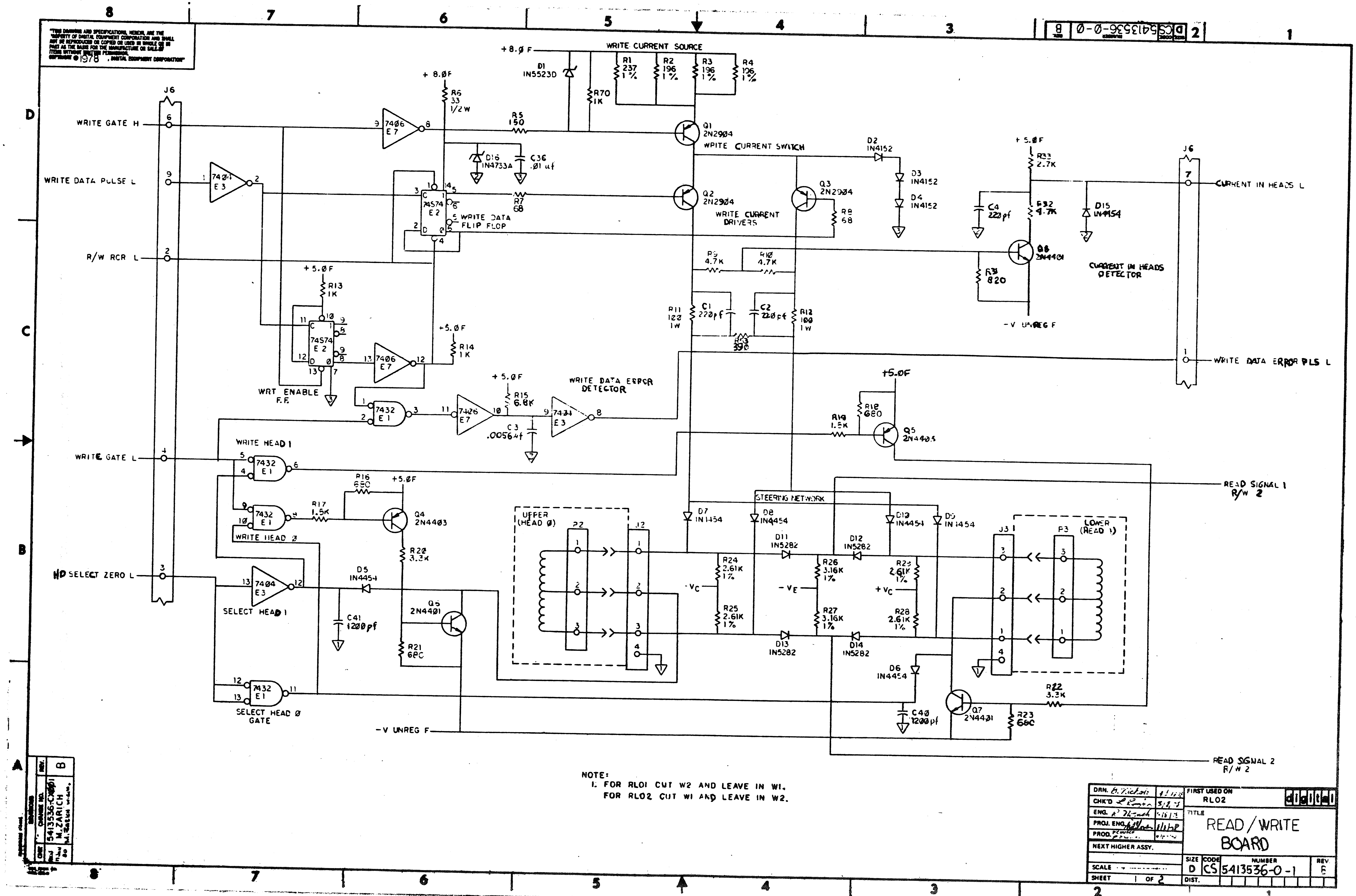
P A R T S L I S T

LINE	ITEM	DOCUMENT NUMBER	PART NUMBER	DESCRIPTION	QTY PER VARIATION *00	REFERENCE DESIGNATOR
31	31		1302956-00	196 1/4W 1% RN55D-F 100PPM	3	R2,R3,R4
32	32		1300439-00	3.30 K .25 W 5.0 % CC	2	R20,R22
33	33		1305143-00	825 1/4W 1% RN55D-F 100PPM	2	R44,R45
34	34		1303303-00	2.61 K 1/4W 1% RN55D-F 100PPM	4	R24,R25,R28,R29
35	35		1302645-00	1.1 K 1/4W 1% RN55D-F 100PPM	1	R61
36	36		1301477-00	82.0 .25 W 5.0 % CC	1	R68
37	37		1301322-00	180.0 .25 W 5.0 % CC	2	R37,R38
38	38		1313469-00	240.0 .25 W 5.0 % CC	1	R34
39	39		1303045-00	3.16 K 1/4W 1% RN55D-F 100PPM	2	R26,R27
40	40		1501913-00	2N 2904A PNP 600MW SI 60 40 Y	3	Q1-Q3
41	41		1513489-00	2N 4401 NPN 350MW SI 40 20	3	Q6-Q8
42	42		1513490-00	2N 4403 PNP 350MW SI-40 30	2	Q4,Q5
43	43		1210001-00	HEAT SINK BLACK	3	
44	44		9007201-00	TRANSIPADS #10253	3	
45	45		9008268-00	COMPOUND, THERMAL JOINT $	A/R	
46	46		1611257-01	CHOKE(CERAMIC BEAD)AXIAL LEAD,ON	1	L6
47	47		1613898-01	33.0 UH INDUCTOR	4	L2-L5
48	48		1613898-02	39.0 UH INDUCTOR	1	L1
49	49		1910268-00	DEC 75107B RECEIVER,LINE,DUAL,	1	E8
50	50		1909686-00	7404 INVERTER GATE-HEX 1I	1	E3
51	51		1910544-00	74S74 FF-D DUAL,EDGE TRIGG	1	E2
52	52		1910644-00	733 DIFFERENTIAL AMP,WID	2	E9,E10
53	53		1910741-00	7406 INVERTER GATE-HEX 1I	1	E7
54	54		1911521-00	7432 OR GATE-QUAD 2IN, PO	1	E1
55	55		1910268-01	DEC 75107B-01 RECEIVER,LINE,DUA	2	E5,E4
56	56		1910725-00	75108B RECEIVER,LINE,DUAL,	1	E6
57	57		1209941-06	HEADER,100 20POS RT ANGLE	1	J6
58	58		1209941-03	HEADER RT ANGLE LEFT L	1	
59	59		1209941-04	HEADER RT ANGLE,RIGHT	1	
60	60		1210385-01	PIN 1POS WIRE WRAP	8	
61	61		9007791-00	TERM PCB 2POS SOLDER,TURRET	2	TP1,TP2
62	62		1303067-00	422 1/4W 1% RN55D-F 100PPM	2	R42,R43
63	63		1300219-00	68.0 .25 W 5.0 % CC	4	R7,R8,R47,R57
64	64		1301423-00	6.80 K .25 W 5.0 % CC	3	R15,R64,R67
65	65		1300391-00	1.50 K .25 W 5.0 % CC	2	R17,R19
66	66		1114117-00	1N 4152 PIV=450 I=75M	3	D2-D4
67	67		1113003-00	IN 5282 PIV=55 I=500M D035	4	D11-D14
68	68		1015573-01	5600.0 MMF 50V 5% CER. $	5	C3,C6,C7,C13,C14
69	69		1304857-00	237 1/4W 1% RN55D-F 100PPM	1	R1
70	70		1300309-00	390.0 .25 W 5.0 % CC	1	R53
71	71		1013466-17	150 MMF 50V 5% CER	2	C15,C44
72	72		1309150-07	2 K 1/2W10% POT 100PPM	2	R40,R41
73	73		9009185-00	JUMPER, WIRE, INSULATED, BLACK B	2	W1,W2
74	74		1217377-00	TERM QUICK 1POS TAB PC MNT	1	J7

########## UNDERGOING CHANGE ##########

D	I	G	I	T	A	L	TITLE	SECTION A OF A
							READ/WRITE BOARD	

SIZE	CODE	DOCUMENT NUMBER	REV
K	PL	5413536-0-DBP	B



WRITE CURRENT SOURCE
WRITE CURRENT SWITCH
WRITE CURRENT DRIVERS
WRITE DATA FLIP FLOP
WRT ENABLE F.F.
WRITE DATA ERROR DETECTOR
CURRENT IN HEADS DETECTOR
STEERING NETWORK
WRITE HEAD 1
WRITE HEAD Ø
SELECT HEAD 1
SELECT HEAD Ø GATE
UPPER (HEAD Ø)
LOWER (HEAD 1)
WRITE GATE H
WRITE DATA PULSE L
R/W RCR L
WRITE GATE L
HD SELECT ZERO L
CURRENT IN HEADS L
WRITE DATA ERROR PLS L
READ SIGNAL 1 R/W 2
READ SIGNAL 2 R/W 2
-V UNREG F
NOTE:
1. FOR RLO1 CUT W2 AND LEAVE IN W1.
FOR RLO2 CUT W1 AND LEAVE IN W2.
FIRST USED ON RLO2
TITLE READ / WRITE BOARD
SIZE D CODE CS NUMBER 5413536-0-1 REV. B
SHEET 1 OF 2
digital
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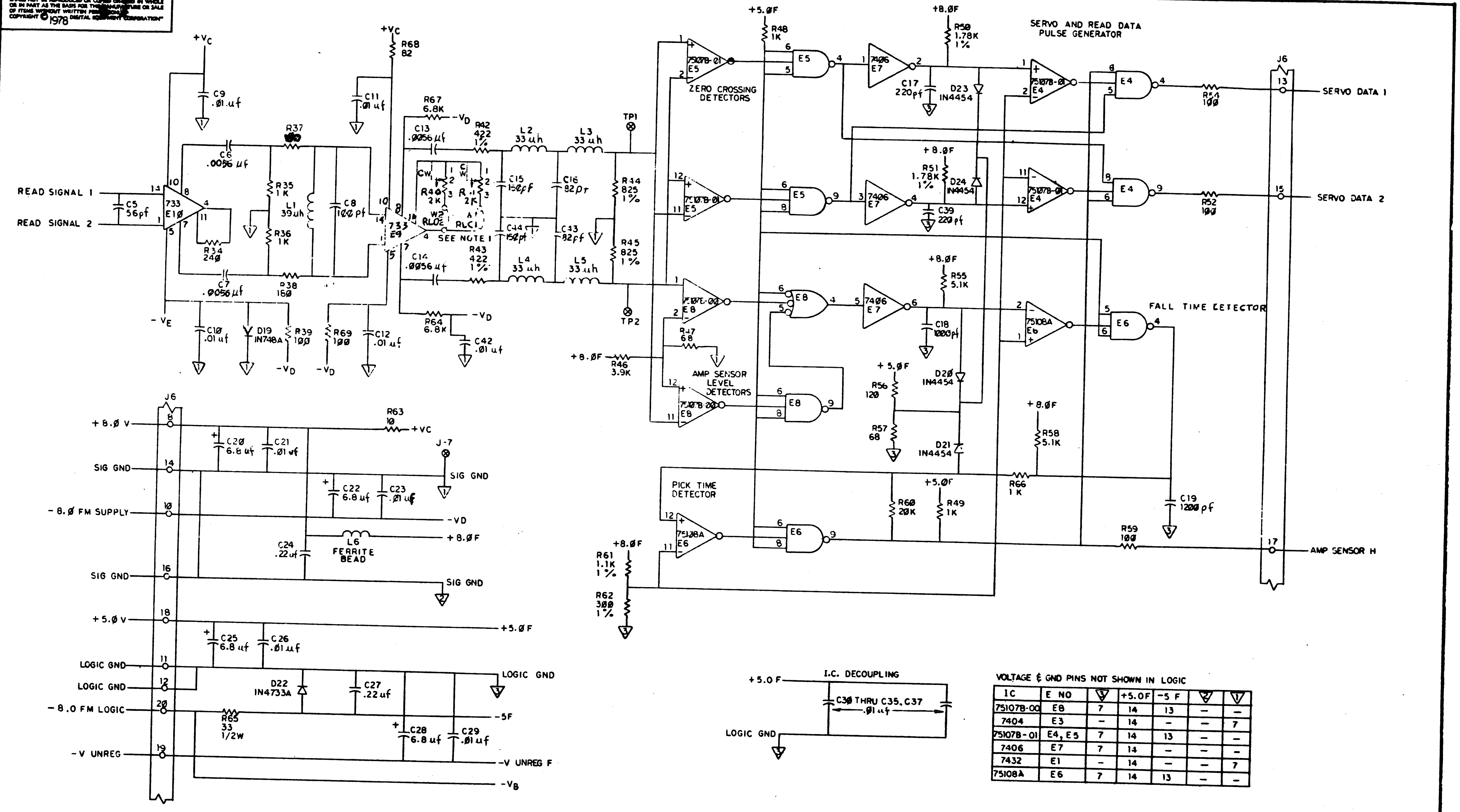

VOLTAGE & GND PINS NOT SHOWN IN LOGIC

IC	E NO	⚠3	+5.0F	-5 F	⚠2	⚠1
75107B-00	E8	7	14	13	—	—
7404	E3	—	14	—	—	7
75107B-01	E4, E5	7	14	13	—	—
7406	E7	7	14	—	—	—
7432	E1	—	14	—	—	7
75108A	E6	7	14	13	—	—

REVISIONS

CHK	CHANGE NO.	REV.

TITLE: READ/WRITE BOARD

SIZE: D | CODE: CS | NUMBER: 5413536-Ø-1 | REV.: B

SCALE: —/— | SHEET 2 OF 2

D CS 5413536-Ø-Ø B