

OPTi-386WB TMP Board
12/19/90

(I) Jumper Settings

(a) Cache

	<u>JP5</u>	<u>JP6</u>	<u>JP7</u>	<u>JP8</u>	<u>JP9</u>	<u>JP10</u>
32K	1-2	1-2	1-2	Open	2-3	2-3
64K	2-3	1-2	1-2	Open	2-3	1-2
128K	2-3	1-2	2-3	Close	2-3	1-2
256K	2-3	2-3	2-3	Close	1-2	1-2

Notes:

- Cache even bank: U34, U35, U36, U37
Cache odd bank: U43, U44, U45, U46
Tag RAM: U32, U33, U42
- 32K cache, put 8Kx8 SRAM at even bank,
4Kx4 SRAM at U32 and U33, 16Kx1 SRAM at U42
- 64K cache, put 8Kx8 SRAM at both even & odd bank,
4Kx4 SRAM at U32 and U33, 16Kx1 SRAM at U42
- 128K cache, put 32Kx8 SRAM at even bank
16Kx4 SRAM at U32 and U33, 16Kx1 SRAM at U42
- 256K cache, put 32Kx8 SRAM at both even & odd bank,
4Kx4 SRAM at U32 and U33, 16Kx1 SRAM at U42

(b) JP1: OPEN color monitor
CLOSE monochron monitor

(c) JP2: 2-3 normal operation
1-2 clear CMOS memory

(d) JP3: OPEN - AT Bus clock is CPU clock divided by 6
CLOSE - AT Bus clock is CPU clock divided by 8

(II) SRAM/DRAM Speed

	<u>Cache SRAM</u>	<u>Tag SRAM</u>	<u>DRAM*</u>
33MHz	25ns	15ns	80ns
40MHz	20ns	15ns	80ns

* DRAM at minimum wait state

OPTi-386WB Schematic Change History
12/19/90

386WB schematic Rev.A dated 12/18/90 is the latest and greatest. Customers who have Rev.1 schematic dated 11/16/90, please see Part I for changes. Customers who have Rev.1 schematic dated 9/28/90, please see Part II for changes.

On the Bill of Materials Rev.A dated 12/18/90, item 9 is test pins which is for debugging prupose, they are not needed for production boards.

Part I:

The following changes have been implimented at the Rev.A 386WB schematic dated 12/18/90, from Rev.1 schematic dated 11/26/90.

- (1) Battery circuit has been changed to suit for rechargeable battery, on schematic sheet 7
- (2) RA1 and RA2 have been changed, was 75 OHM, is 33 OHM on schematic sheet 10
- (3) Add eight 15pf capacitors C122-C129 to CAS lines, on schematic sheet 10

Part II:

The following changes have been implimented at the Rev.A 386WB schematic dated 12/18/90, from Rev.1 schematic dated 9/28/90.

- (1) Battery circuit has been changed to suit for rechargeable battery, on schematic sheet 7
- (2) RA1 and RA2 have been changed, was 75 OHM, is 33 OHM on schematic sheet 10
- (3) Add eight 15pf capacitors C122-C129 to CAS lines, on schematic sheet 10
- (4) LA(23:17) pull up resistor pak RP7, was 10K, is 2.2K on schematic sheet 5

- (5) CPU clock generation circuit damping resistors around the oscillator, on schematic sheet 4
R28 was 27 OHM, is 10 OHM
R22, R27, R30, R31 was 27 OHM, is 22 OHM
- (6) Add a 33 OHM resistor R29 on RFSH# signal, on schematic sheet 4 lower right corner

OPTi-386WB Benchmark Test Report
12/19/90

Configuration: 386WB TMP Board, 64K Cache, 8M DRAM on board

Power Meter 1.5: 33MHz - 8.293 mips
 40MHz - 9.968 mips

Landmark 1.14: 33MHz - 54.8 mhz
 40MHz - 65.7 mhz

PC Magazine 5.5:

33MHz - CPU instruction mix 1.59 seconds
 CPU 128 NOP loop 1.00 seconds
 CPU do nothing loop 0.77 seconds
 CPU integer addition 0.37 seconds
 CPU integer multiple 0.25 seconds
 CPU string sort & move 0.49 seconds
 CPU prime number sieve 0.24 seconds
 CPU floating point mix 2.86 seconds
 Convention memory read 0.28 seconds
 Convention memory write 0.22 seconds
 Extended memory read 0.88 seconds
 Extended memory write 0.82 seconds

40MHz - CPU instruction mix 1.33 seconds
 CPU 128 NOP loop 0.82 seconds
 CPU do nothing loop 0.64 seconds
 CPU integer addition 0.31 seconds
 CPU integer multiple 0.20 seconds
 CPU string sort & move 0.40 seconds
 CPU prime number sieve 0.20 seconds
 CPU floating point mix 2.42 seconds
 Convention memory read 0.22 seconds
 Convention memory write 0.22 seconds
 Extended memory read 0.71 seconds
 Extended memory write 0.65 seconds

Norton SI 4.5, Computing Index: 33MHz - 43.2
 40MHz - 48.3

Byte Magazine 1.3, CPU Index: 33MHz - 6.54
 40MHz - 7.82

OPTI-386WB
 Bill Of Materials

Revised: December 18, 1990

Revision: A
 11:37:55

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Item	Quantity	Reference	Part
1	2	J11,J12	PS CON
2	64	C31,C18,C25,C26,C27,C37, C38,C39,C40,C41,C42,C43, C44,C45,C46,C47,C55,C56, C57,C58,C59,C61,C62,C63, C64,C66,C67,C68,C70,C71, C72,C73,C78,C81,C82,C83, C84,C85,C87,C88,C91,C93, C94,C96,C97,C98,C99,C100, C101,C102,C103,C104,C107, C108,C109,C110,C111,C112, C113,C114,C116,C117,C118, C119	0.1UF
3	40	C6,C1,C2,C3,C4,C5,C7,C8, C9,C10,C11,C12,C13,C14, C15,C16,C21,C22,C23,C24, C32,C33,C34,C35,C36,C48, C49,C50,C51,C52,C53,C54, C74,C75,C79,C80,C95,C105, C106,C115	10UF TANT
4	3	C60,C59A,C77	0.001UF
5	2	C65,C69	1.0UF
6	1	U17	80386
7	11	RP11,RP1,RP5,RP8,RP10, RP12,RP13,RP14,RP18,RP20, RP21	RSIP9 10K
8	1	U16	3167/387
9	12	5, 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12	TEST PIN
10	1	R19	510
11	3	U33,U32,U42	16KX4 W/O
12	3	JP8,JP1,JP3	JUMPER
13	2	U41,U8	74LS244
14	6	JP7,JP2,JP5,JP6,JP9,JP10	3-W JUMP
15	8	U37,U34,U35,U36,U43,U44, U45,U46	8KX8/32KX8
16	4	RA11,RA9,RA10,R32	27

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 Revision: A

Item	Quantity	Reference	Part
17	2	RP15,RP19	RSIP9 4.7K
18	2	RP17,RP16	RSIP7 4.7K
19	2	U29,U26	74F08
20	1	U28	74F86
21	6	RP22,RP2,RP3,RP4,RP6,RP9	RSIP7 10K
22	3	U30,U9,U10	74ALS245
23	1	U14	27512
24	1	SW2	ON-OFF SW
25	2	C120,C29	10UF
26	1	U27	66MHZ
27	1	U31	SYSC
28	11	C86,C90,C92,C122,C123, C124,C125,C126,C127,C128, C129	15PF
29	10	D10,D3,D4,D5,D6,D7,D8,D9, D11,D12	1N4146
30	1	U5	74LS14
31	1	L5	INDUCTOR
32	8	R26,RA1,RA2,R14,R15,R25, R29,R34	33
33	12	R22,RA3,RA4,RA5,RA6,RA7, RA8,R23,R24,R27,R30,R31	22
34	2	R28,R20	10
35	1	Y2	14.3MHZ
36	1	U15	DBC
37	1	J24	CON-4
38	1	SW1	SW PUSHBUTTON
39	1	C121	TANT 10UF
40	1	R21	1M

Item	Quantity	Reference	Part
41	3	C89,C30,C76	22PF
42	1	D13	1N917
43	1	JP4	TURBO LED
44	5	U7,U4,U11,U12,U13	74LS245
45	1	U2	74F125
46	3	R10,R11,R13	1K
47	2	R35,R6	51
48	1	RP7	RSIP7 2.2K
49	9	J21,J2,J3,J4,J5,J6,J7,J8, J9	CON-31X2
50	9	J22,J13,J14,J15,J16,J17, J18,J19,J20	CON-18X2
51	1	Q2	2N3906
52	1	Q1	2N3904
53	1	U1	8042
54	1	U6	82C206
55	1	Y1	32.8K
56	1	C28	0.0047UF
57	2	C19,C20	47PF
58	1	C17	470PF
59	2	D1,D2	1N4148
60	1	R12	2M
61	2	R9,R7	10K
62	1	R8	51K
63	1	F1	FUSE
64	4	L1,L2,L3,L4	FB
65	1	U3	MC14069
66	2	R3,R5	2K

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OPTI-386WB
Bill Of Materials

December 18, 1990

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Revision: A
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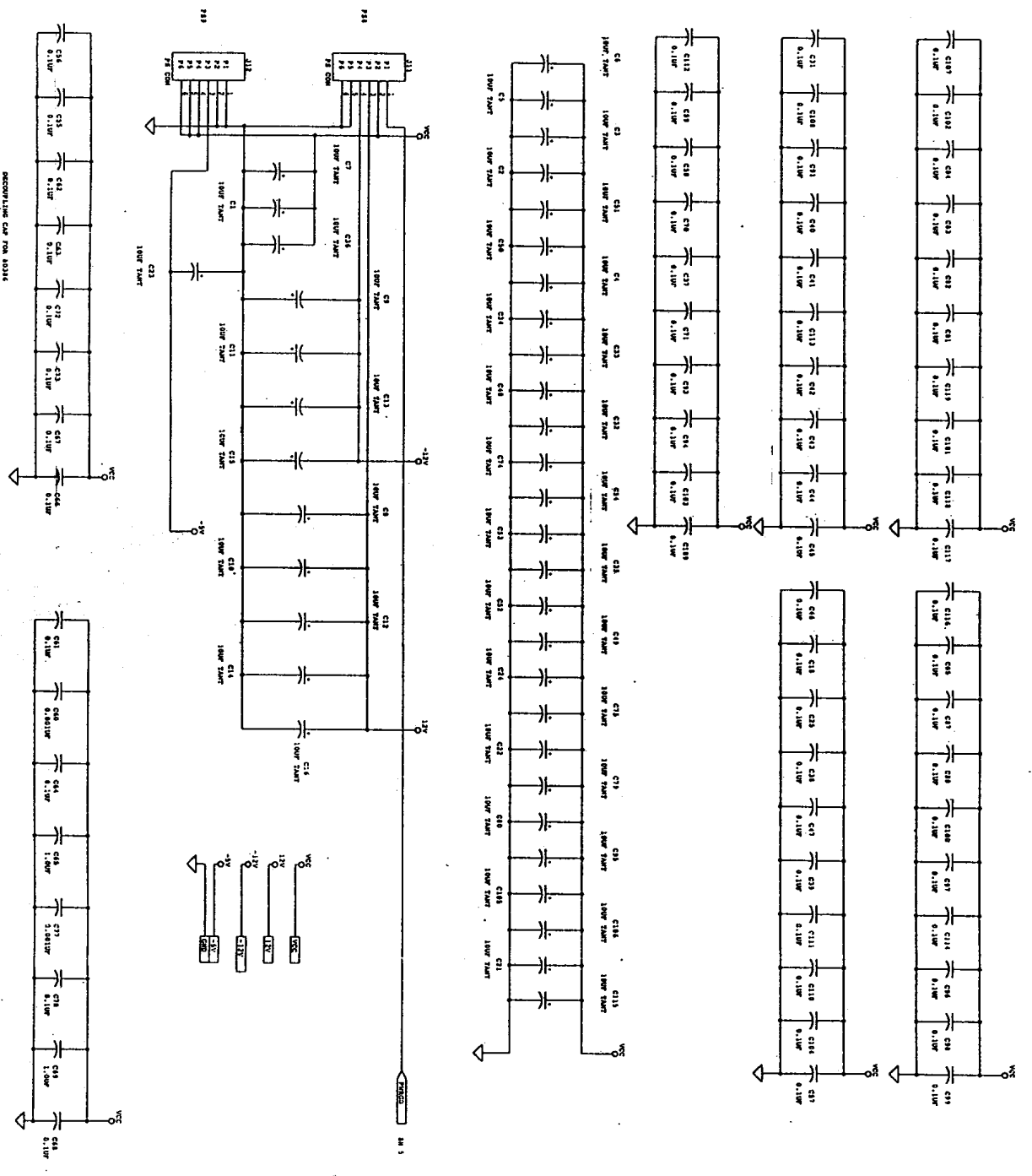
Page 4

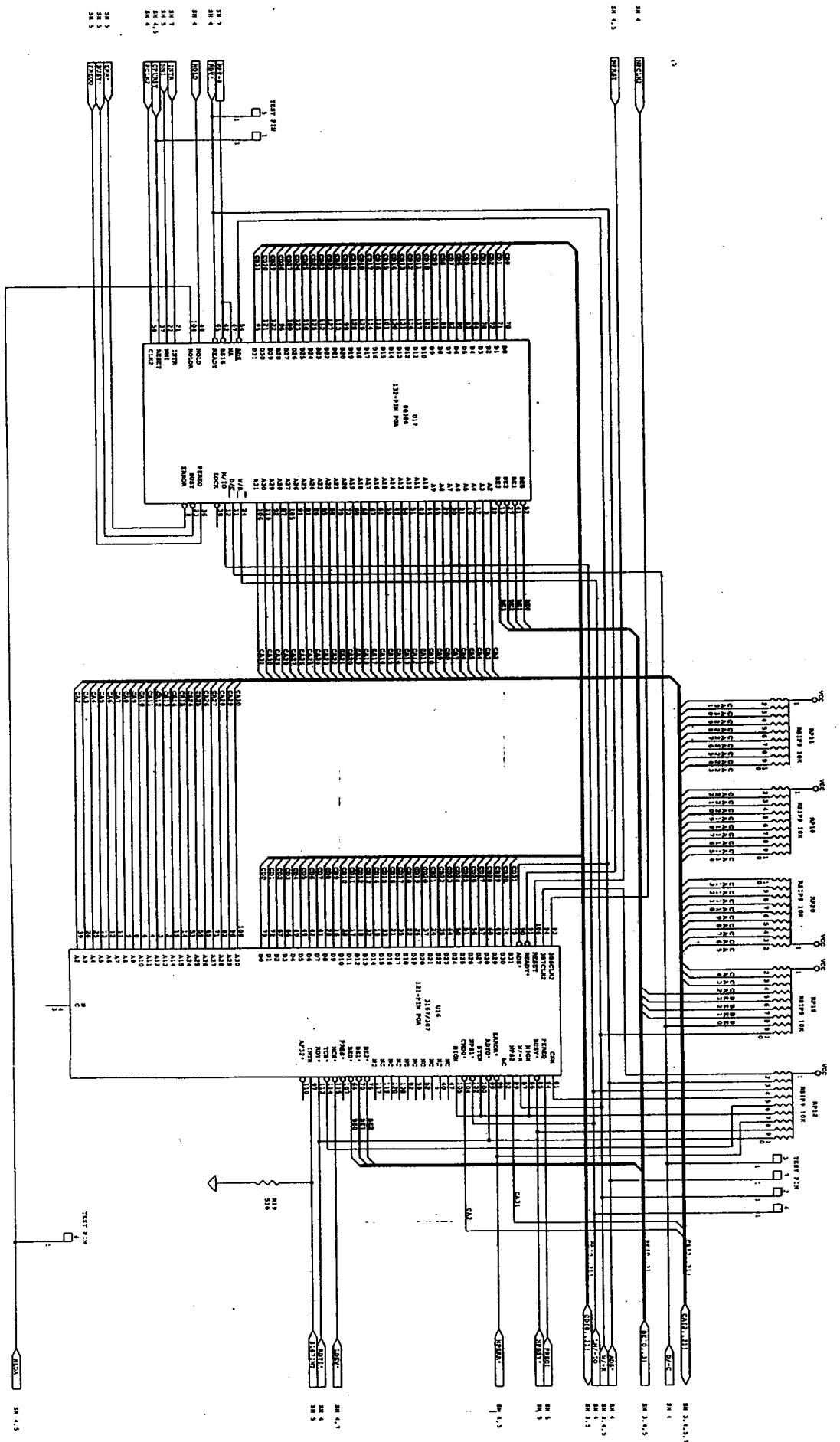
Item	Quantity	Reference	Part
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386WB.BOM

67	5	R4,R2,R16,R17,R18	330
68	1	R33	150
69	1	R36	100
70	2	D14,D15	1N914
71	1	J10	EXT BATCON
72	1	BT1	3.6V
73	1	J23	KEYLOCK CON
74	1	J1	KEYBRD CON
75	1	R1	4.7K
76	3	U38,U39,U40	74F244
77	8	U25,U18,U19,U20,U21,U22, U23,U24	SIMM

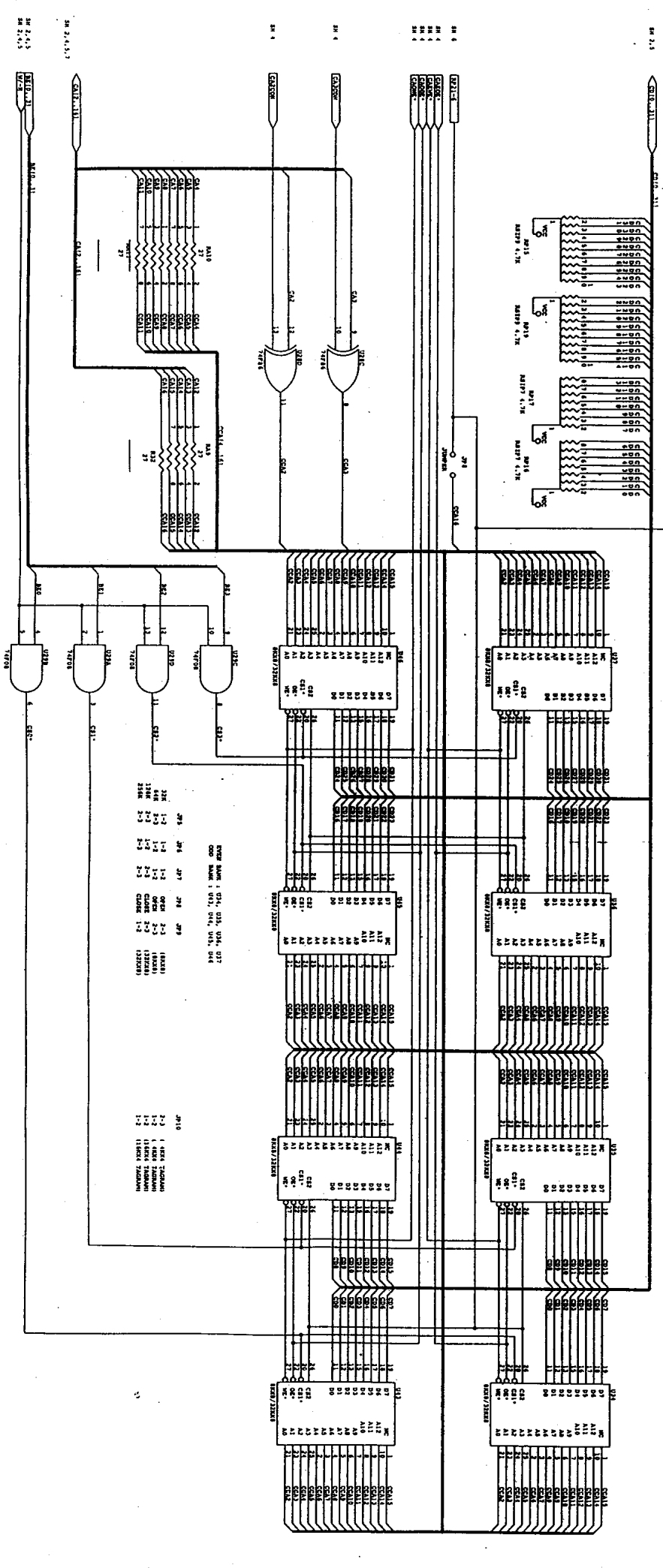
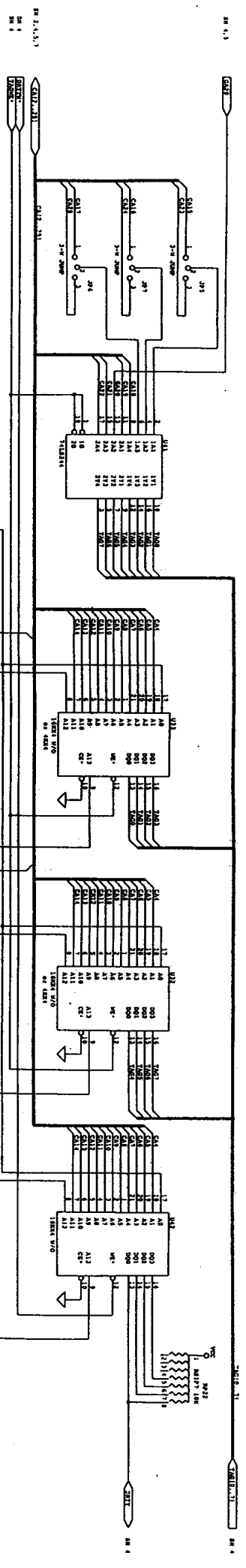
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- 2. ALL RESISTORS ARE 1/4W AND 1% UNLESS OTHERWISE SPECIFIED.





0.5

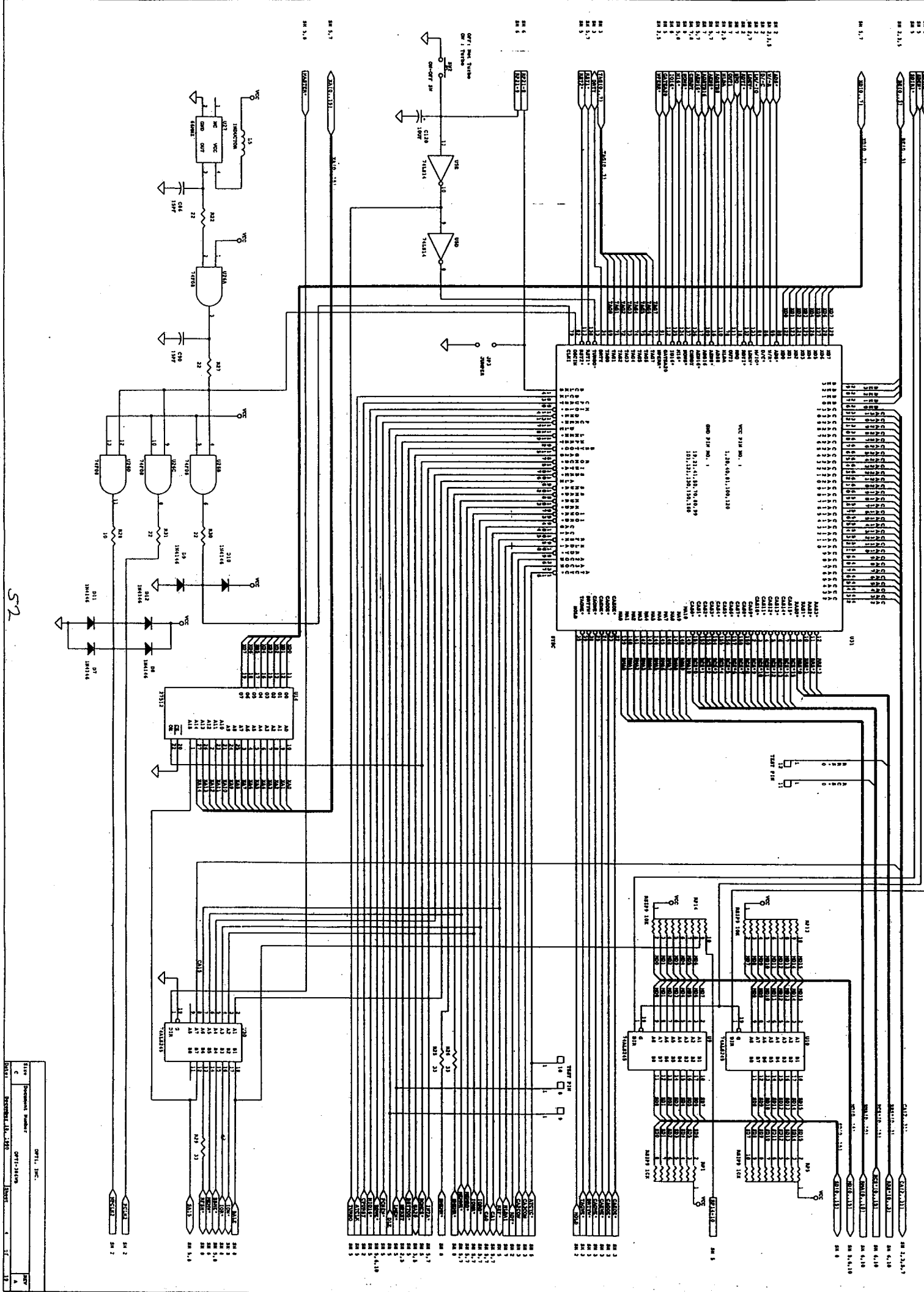
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Drawn	W. J. ...	1
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Part Number	CPFL-3140A	
Sheet	1	1



POWER SUPPLY 1 25V, 0.25, 0.25, 0.25, 0.25
 COIL NAME 1 2Y1, 2Y2, 2Y3, 2Y4

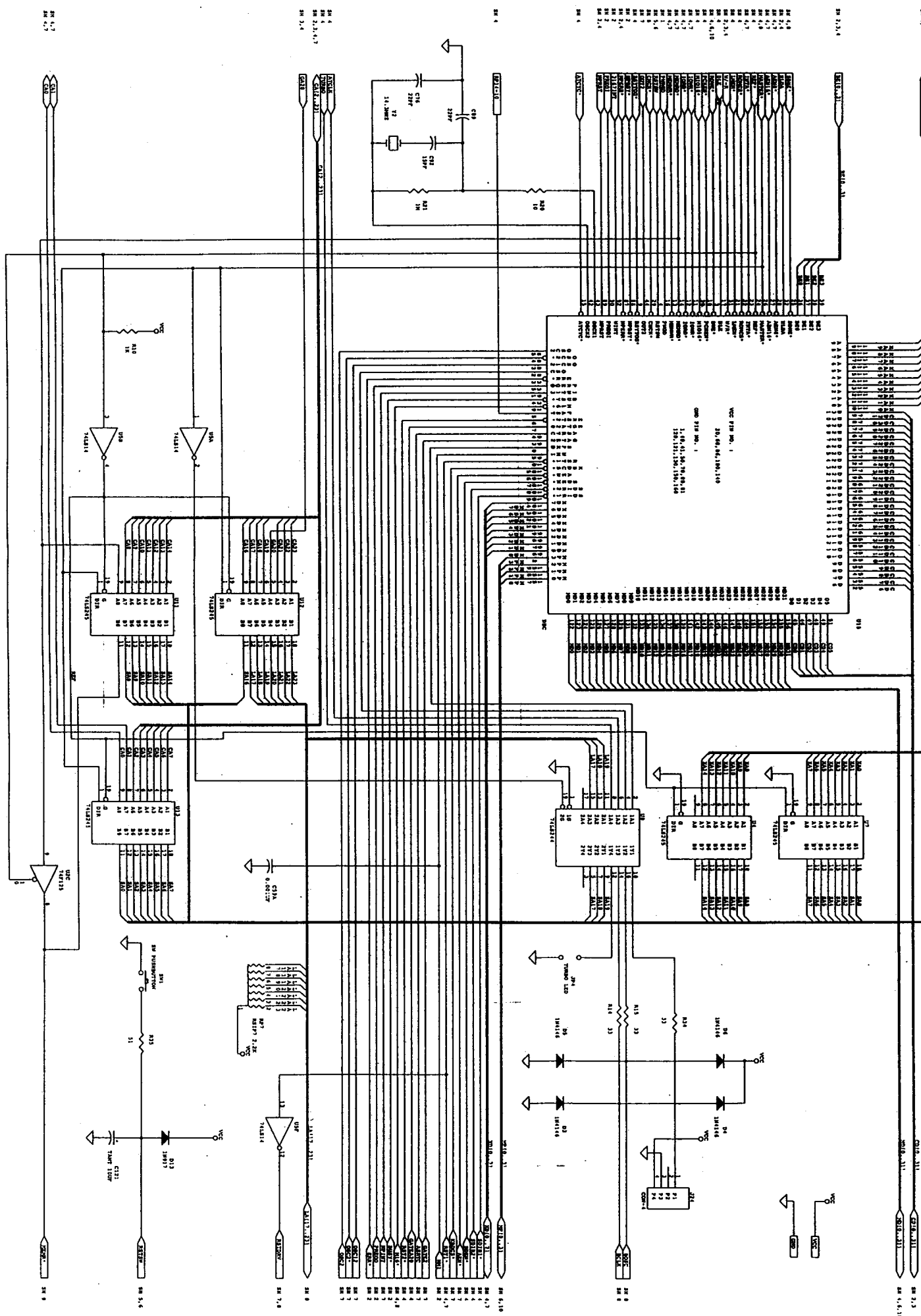
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2-3	2-3	2-3	2-3
3-4	3-4	3-4	3-4
4-5	4-5	4-5	4-5
5-6	5-6	5-6	5-6
6-7	6-7	6-7	6-7
7-8	7-8	7-8	7-8
8-9	8-9	8-9	8-9
9-10	9-10	9-10	9-10
10-11	10-11	10-11	10-11
11-12	11-12	11-12	11-12
12-13	12-13	12-13	12-13
13-14	13-14	13-14	13-14
14-15	14-15	14-15	14-15
15-16	15-16	15-16	15-16

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VCC 230V NO. 1
 1.20, 40, 81, 100, 120
 000 230V NO. 1
 1.20, 40, 81, 100, 120
 101, 121, 130, 150, 180

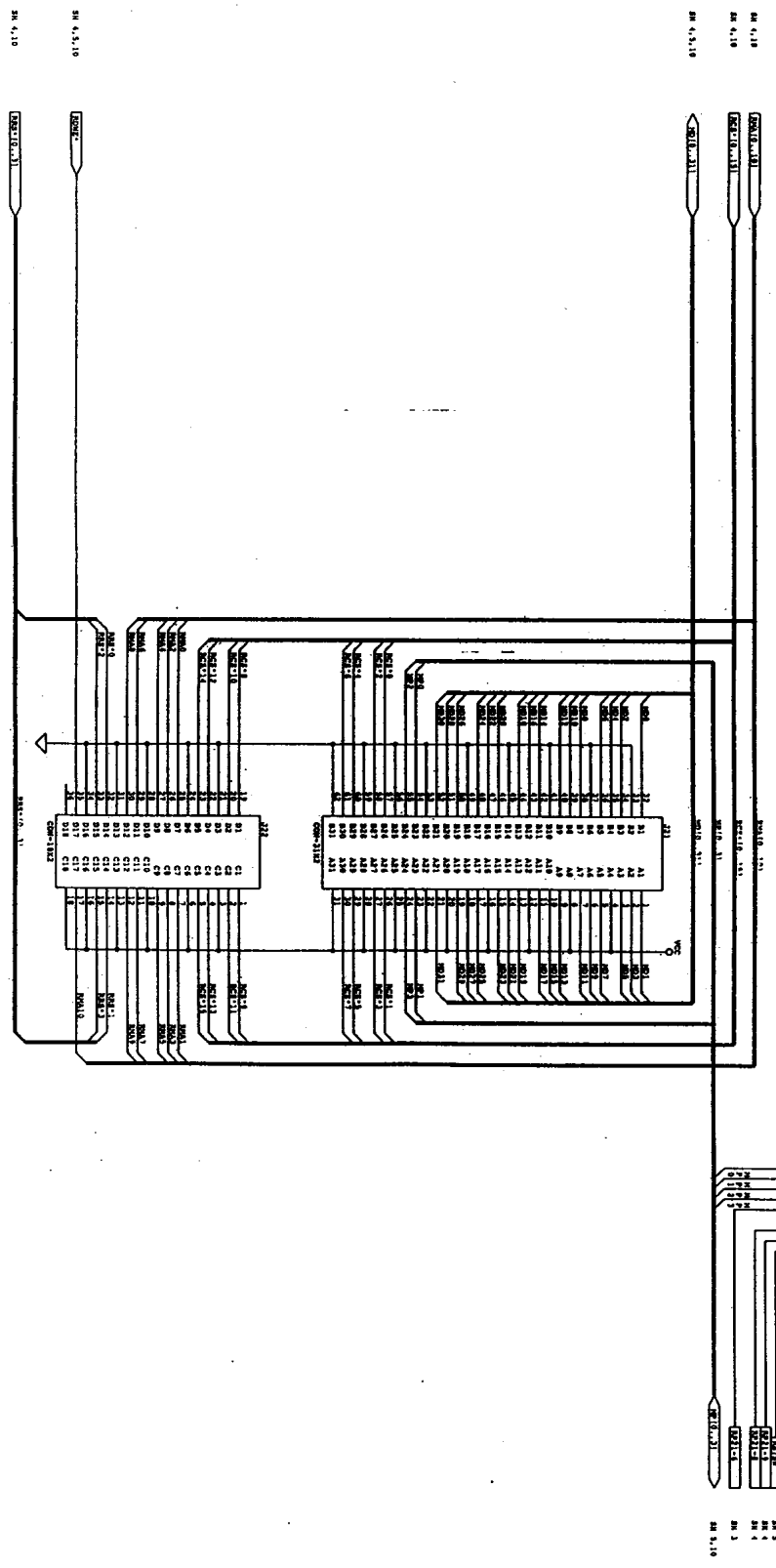
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53
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 08711, INC.
 Document Number
 08711-21800
 3 51

54

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OPERATOR	W. J. ...
TEST	...
...	...



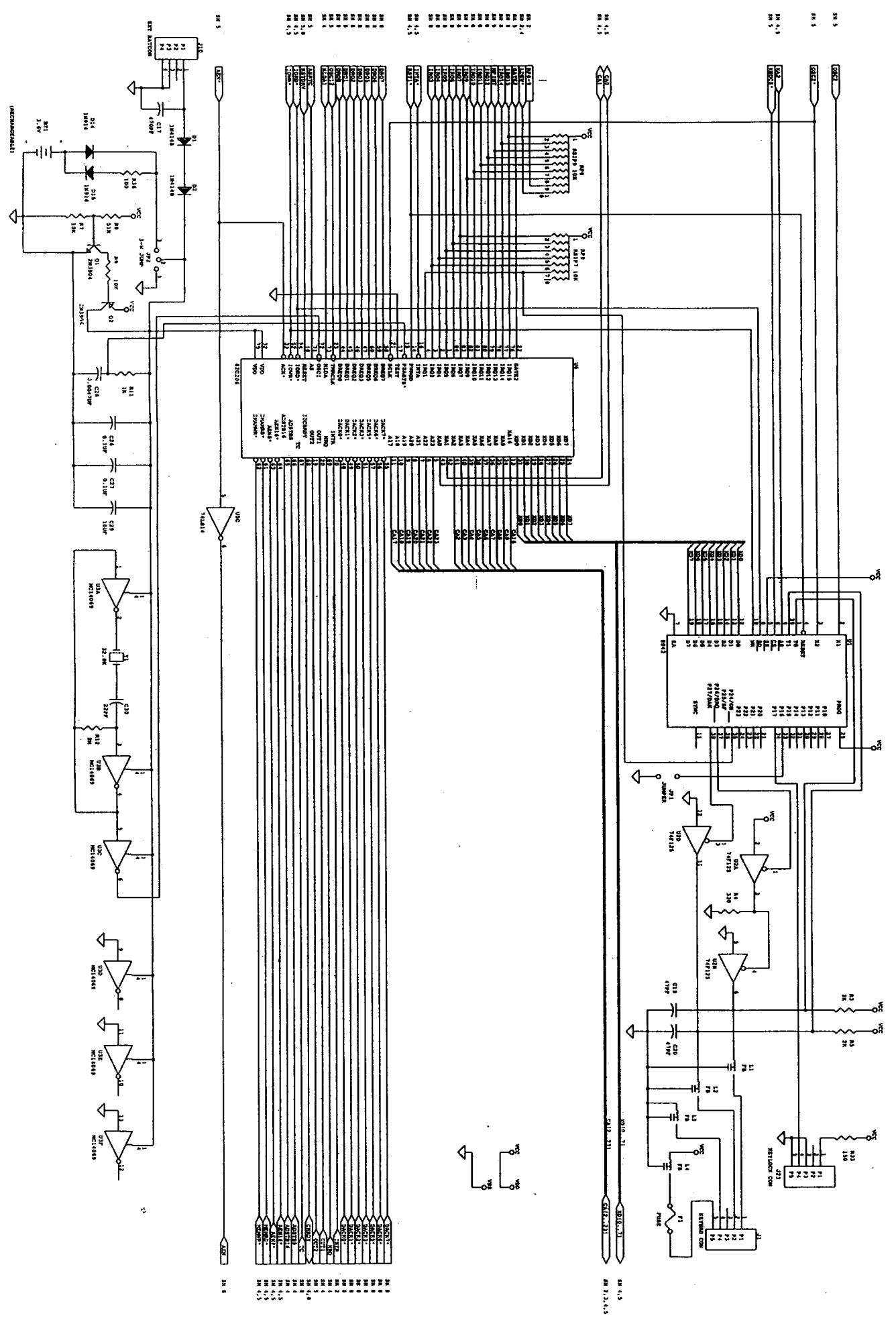
TO ADAPTER
 SIGNAL SIDE

TO ADAPTER
 COMMAND SIDE

GROUND

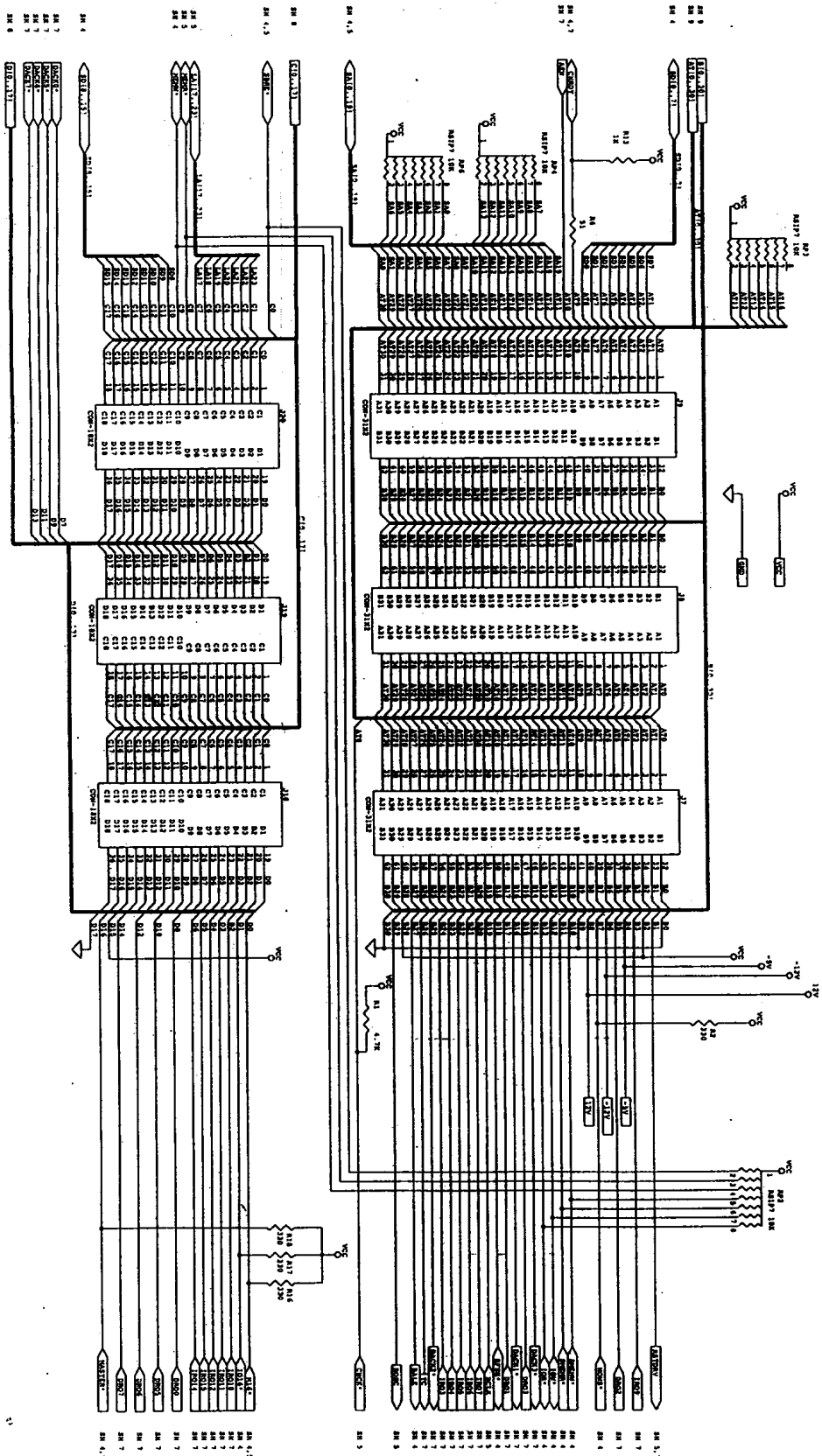
R10.1
 R10.2
 R10.3

R10.1
 R10.2
 R10.3



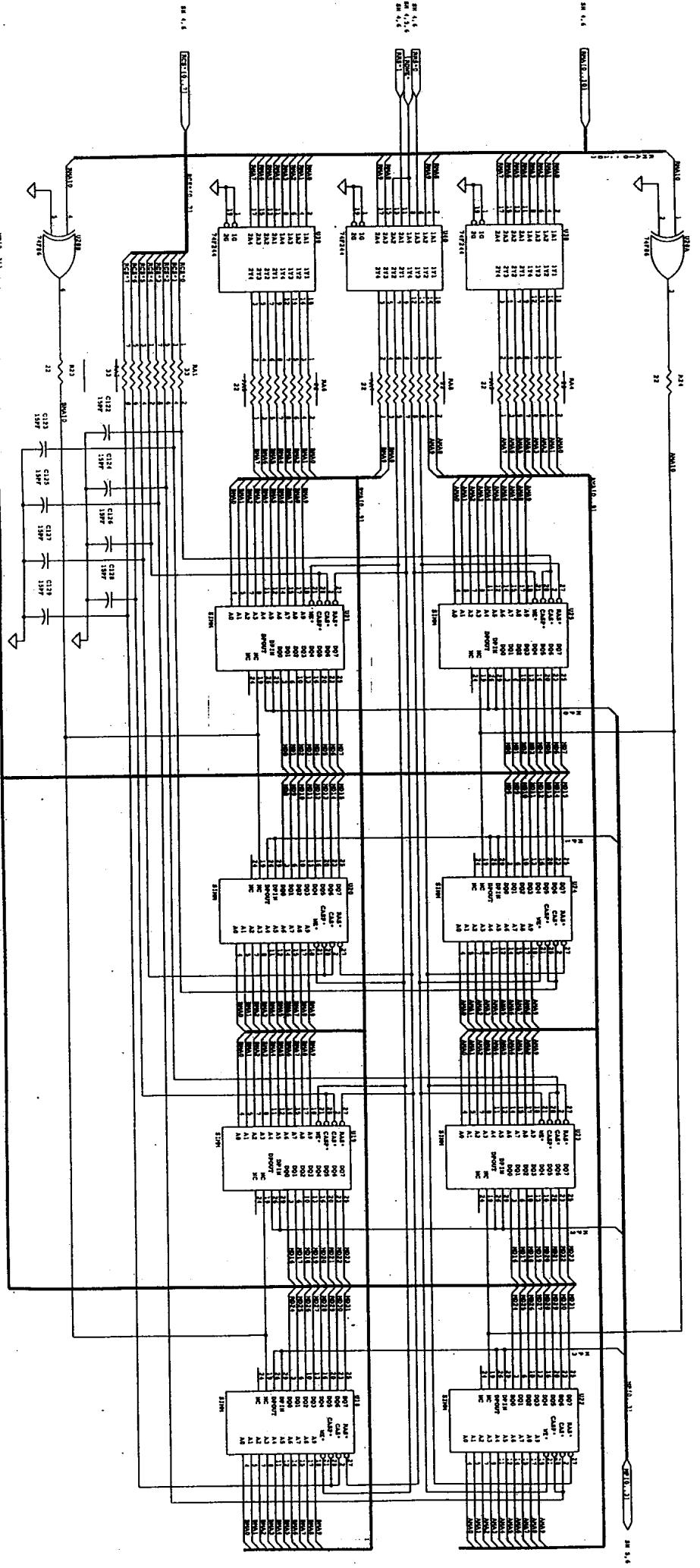
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REV	A				
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OPTI, Inc.					



56

REV	DATE	BY	CHKD
A	8-51		
C			
Equipment Number: OPTI-3498 MODEL: DISCORDER, LB. 1150			
OPTI, INC.			



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DATE	07/11/2006
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CHECKED	1/2006
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FIG. NO.	13
TOTAL FIGS.	21
REV.	1