



ICE-49™ IN-CIRCUIT EMULATOR

Order Number: 9800839-02

TITLE	NUMBER
Buffer Assembly (1 sheet)	4002437
Cable Buffer PWA (1 sheet)	1002468
Cable Buffer Schematic (2 sheets)	2002267
Emulator PWA (1 sheet)	1002464
Emulator Schematic (9 sheets)	2002539
Control Processor PWA (1 sheet)	1002433
Control Processor Schematic (7 sheets)	2002434

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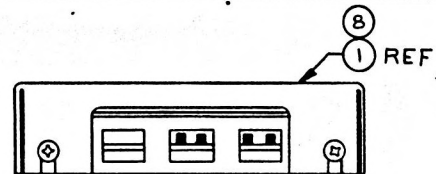
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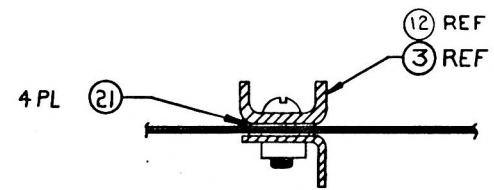
- | | | |
|----------|-----------------|-------------|
| i | iSBC | Multimodule |
| ICE | Library Manager | PROMPT |
| iCS | MCS | Promware |
| Insite | Megachassis | RMX |
| Intel | Micromap | UPI |
| Intellec | Multibus | µScope |

and the combination of ICE, iCS, iSBC, MCS, or RMX and a numerical suffix.

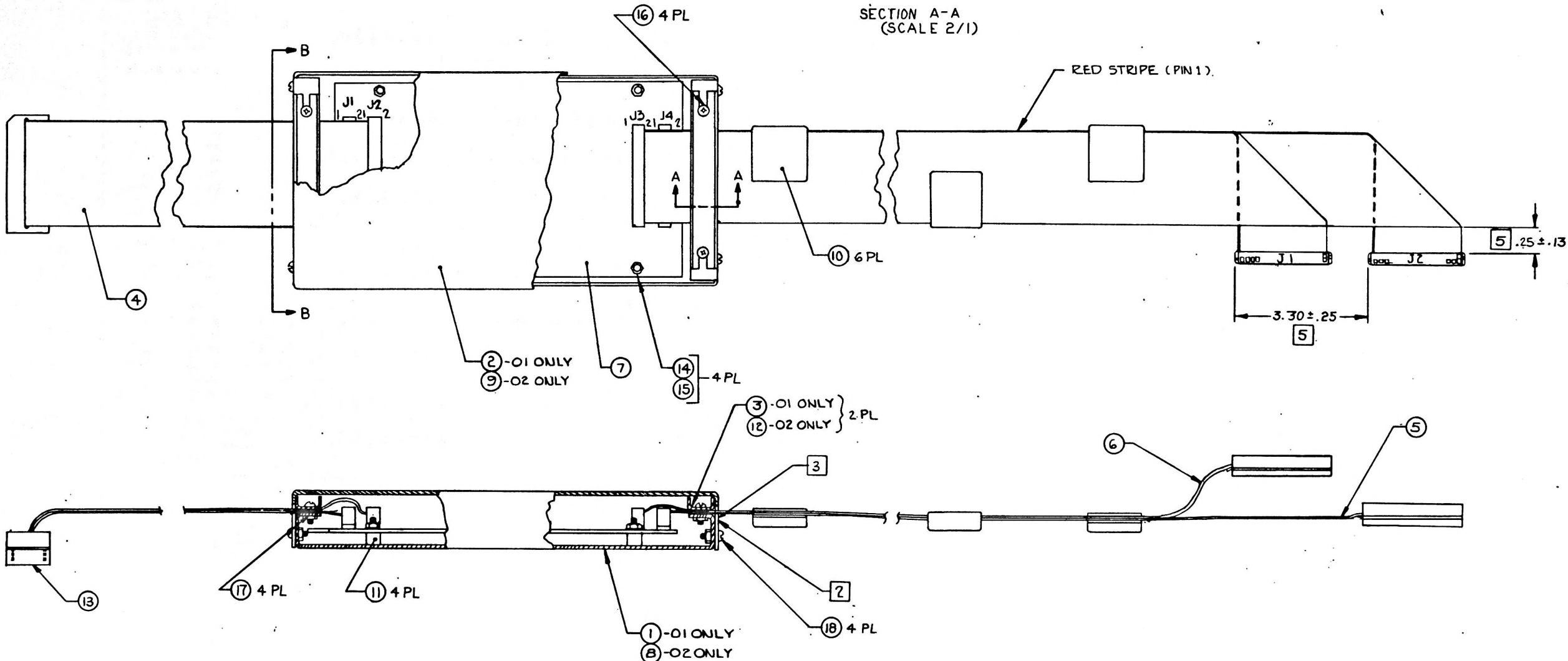
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VIEW B-B (SCALE 1/1) ROTATED 90°



SECTION A-A (SCALE 2/1)



SEE SEPARATE PARTS LIST

3 MARK VENDOR I.D. WITH CONTRASTING, PERM COLOR, APPROX WHERE SHOWN.

2 MARK PART NO. AND REV LEVEL WITH CONTRASTING, PERM COLOR, J2 HIGH, APPROX WHERE SHOWN.
 1. ASSY PART NO. IS 4002437-01.
 ASSY AND P/L ARE TRACKING DOCUMENTS.
 NOTES: UNLESS OTHERWISE SPECIFIED.

6. WORKMANSHIP PER MCSD QAW 99-0007-001.

5 FOLD AND PRESS INTO POSITION AS SHOWN

4 THE BOX (ITEM 1) HAS CUT-OUTS ON ONLY ONE SIDE. POSITION PWA INSIDE SO AS TO REVEAL TEST POINT PLUGS THRU THESE CUT-OUTS.

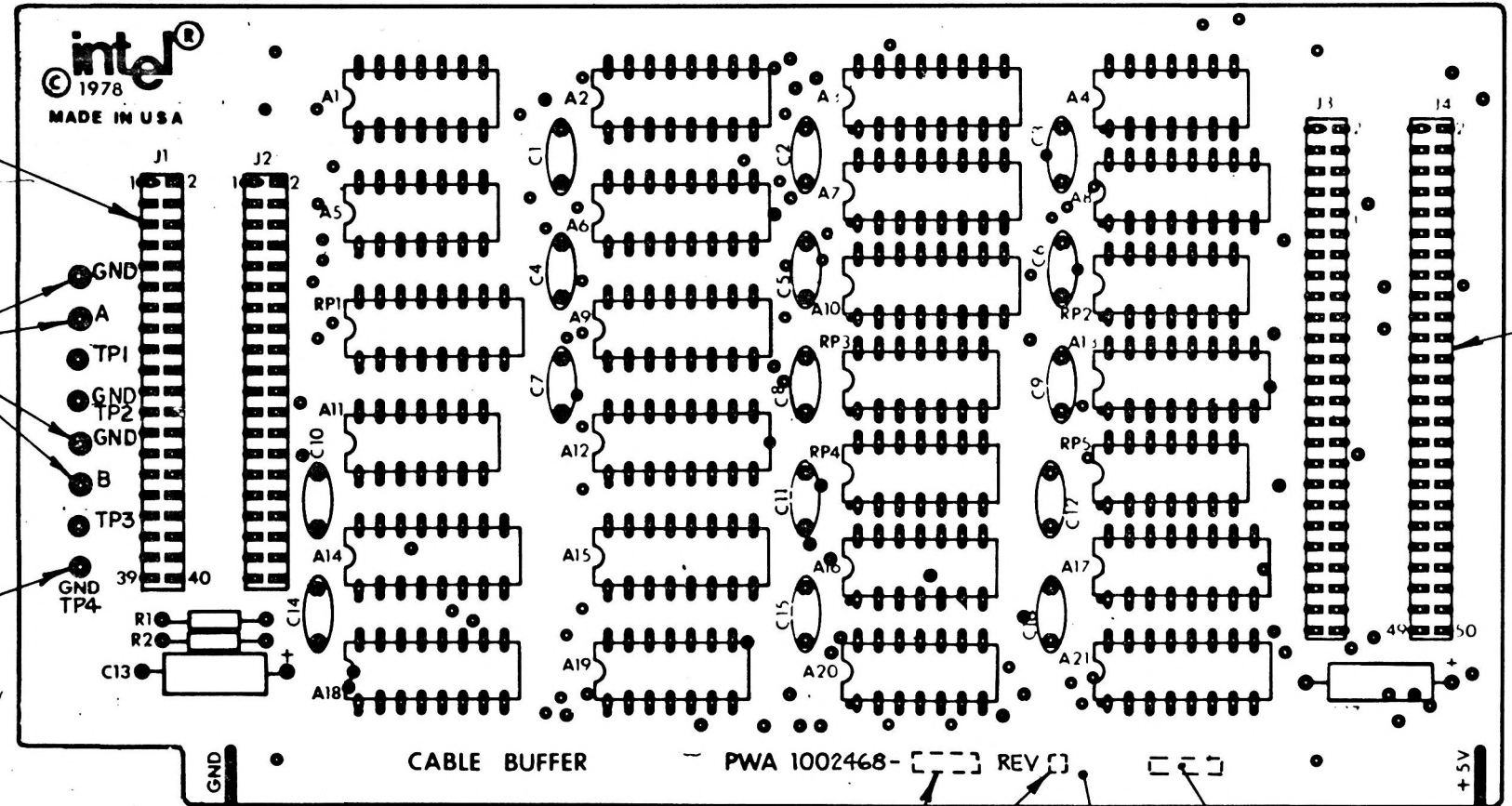
QUANTITY PER DASH NO.		ITEM NO.	PART NUMBER	DESCRIPTION
SCALE: 1/1	TOL. * 2 PLC 3 PLC ANGLE			
MATERIAL:				
FINISH:				
4002454	ETA-49			
4002432	ICE-49			
NEXT ASSY	USED ON			

PARTS LIST		3066 BOWERS AVE. SANTA CLARA CALIF. 95051
TITLE		
BUFFER ASSEMBLY		
SIZE	DEPT	DRAWING NO.
D	MCSD	E4002437
SHEET 1 OF 1	REV	1

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- 4 MARK VENDOR ID WITH CONTRASTING PERM. COLOR, NON CONDUCTIVE, APPROX WHERE SHOWN.
 - 3 MARK DASH NO. AND REV LEVEL WITH CONTRASTING PERM COLOR, NON CONDUCTIVE, .12 HIGH APPROX WHERE SHOWN.
 - 2. WORKMANSHIP PER MCSD QAWS 99-0007-001
 - 1. ASSY PART NO. IS 1002468-01. ASSY AND PL ARE TRACKING DOCUMENTS.
- NOTES: UNLESS OTHERWISE SPECIFIED

SEE SEPARATE PARTS LIST

ITEM NO		PART NUMBER		DESCRIPTION	
QUANTITY PER DASH NO					
SCALE 2:1					
TOL.		2 PLC	3 PLC	ANGLE	
MATERIAL					
FINISH					
4002437	ETA-49	PARTS LIST			
4002437	ICE-49	intel 3065 BOWERS AVE. SANTA CLARA CALIF. 95051			
NEXT ASSY USED ON		TITLE PWA CABLE BUFFER			
		SIZE	DEPT	DRAWING NO	REV
		C MCSD E1002468			1

4 3 2 1

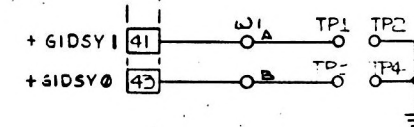
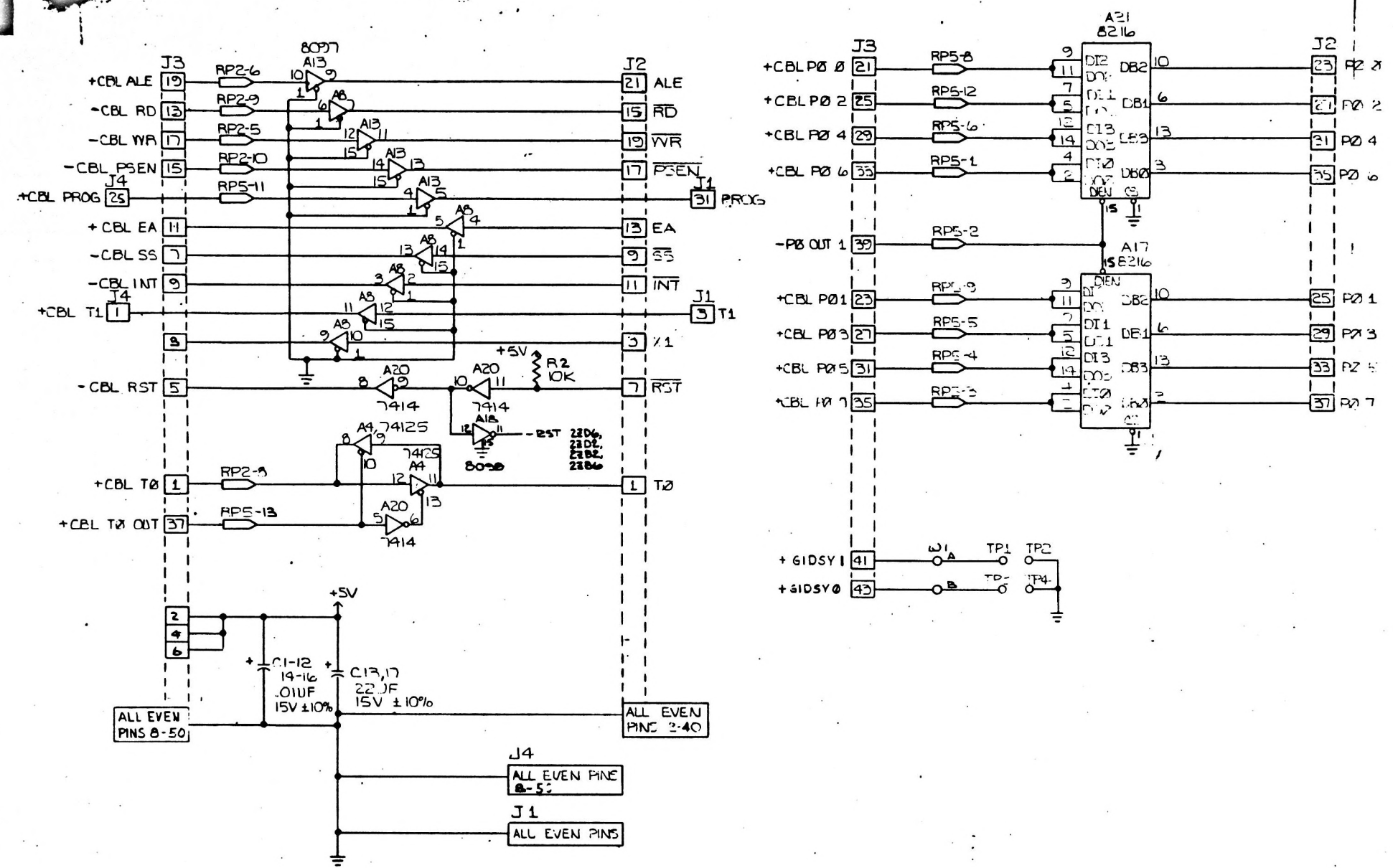
D

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REVISIONS			
LTR	DESCRIPTION	BY	CHK
A	PROD REL.		
-	CHANGED N/A & USED ON TO 100246B ICE-49, ETA-49		
-	ECO 2-3151		



2 SYMBOLIZES A TERMINATING RESISTOR, EG:

+5V
220

330

1. RESISTANCE VALUES ARE IN OHMS, ±5% 1/4W
NOTES: UNLESS OTHERWISE SPECIFIED.

RP2 - RP5	RES PACK	14	7	14
RP1	RES PACK	16		16
A8,13	8097	16	8	16
A16	7408	14	7	14
A11	7403	14	7	14
A19	7432	14	7	14
A4	74125	16	8	16
A20	7414	14	7	14
A1,5	7405	14	7	14
A2,6,9,12,18	8098	16	8	16
A3,7,10,14	74175	16	8	16
A17,21	82164	16	8	16
A15	8226	16	8	16
LOCATION	DEVICE	TOTAL PIN	GND	+5V

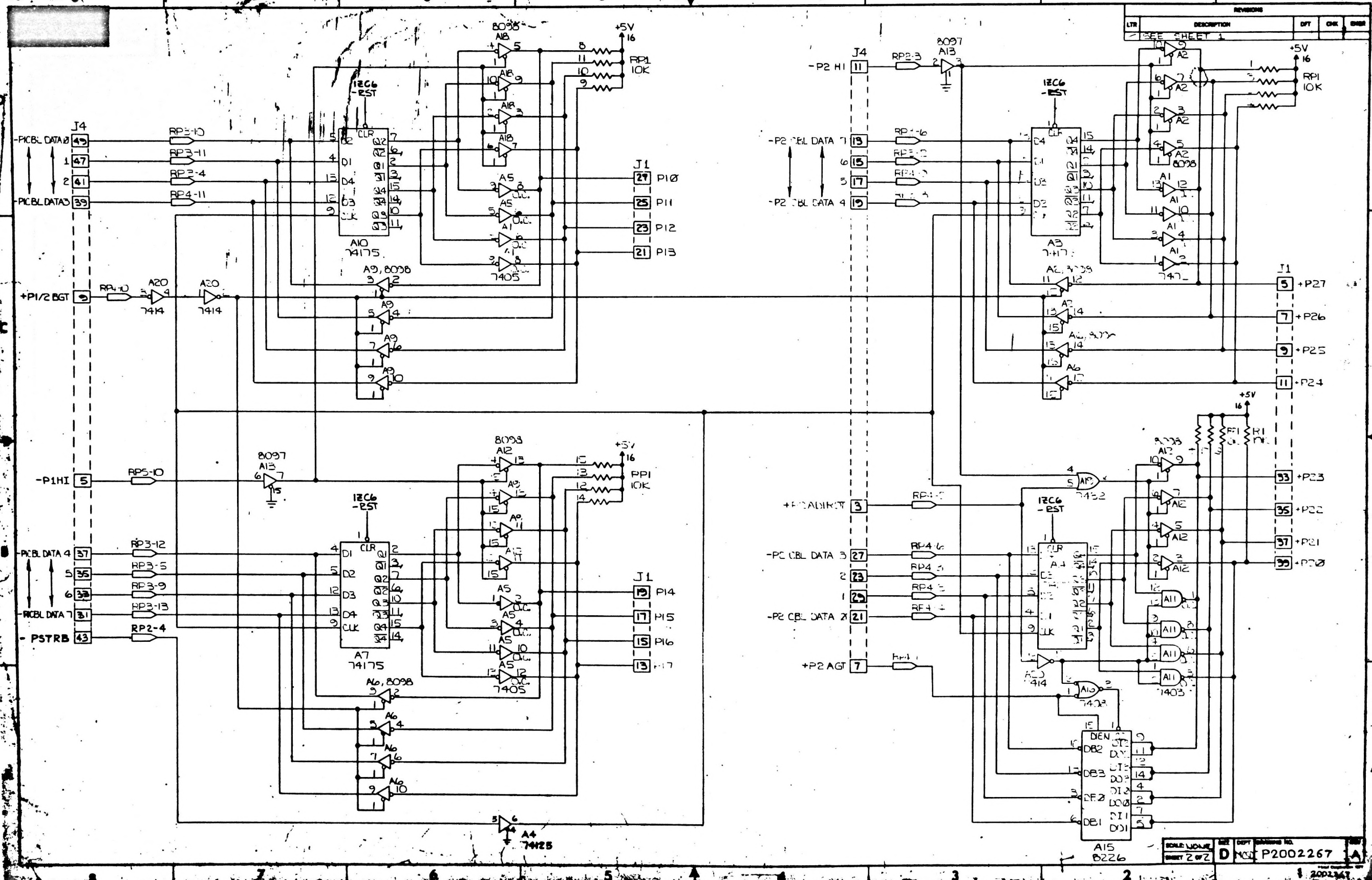
TP4	J4	C17	RP5	R2	A20	LAST USED	NOT USED	REF DESIG	SPARE GATES

QUANTITY PER DASH NO.	ITEM NO.	PART NUMBER	DESCRIPTION

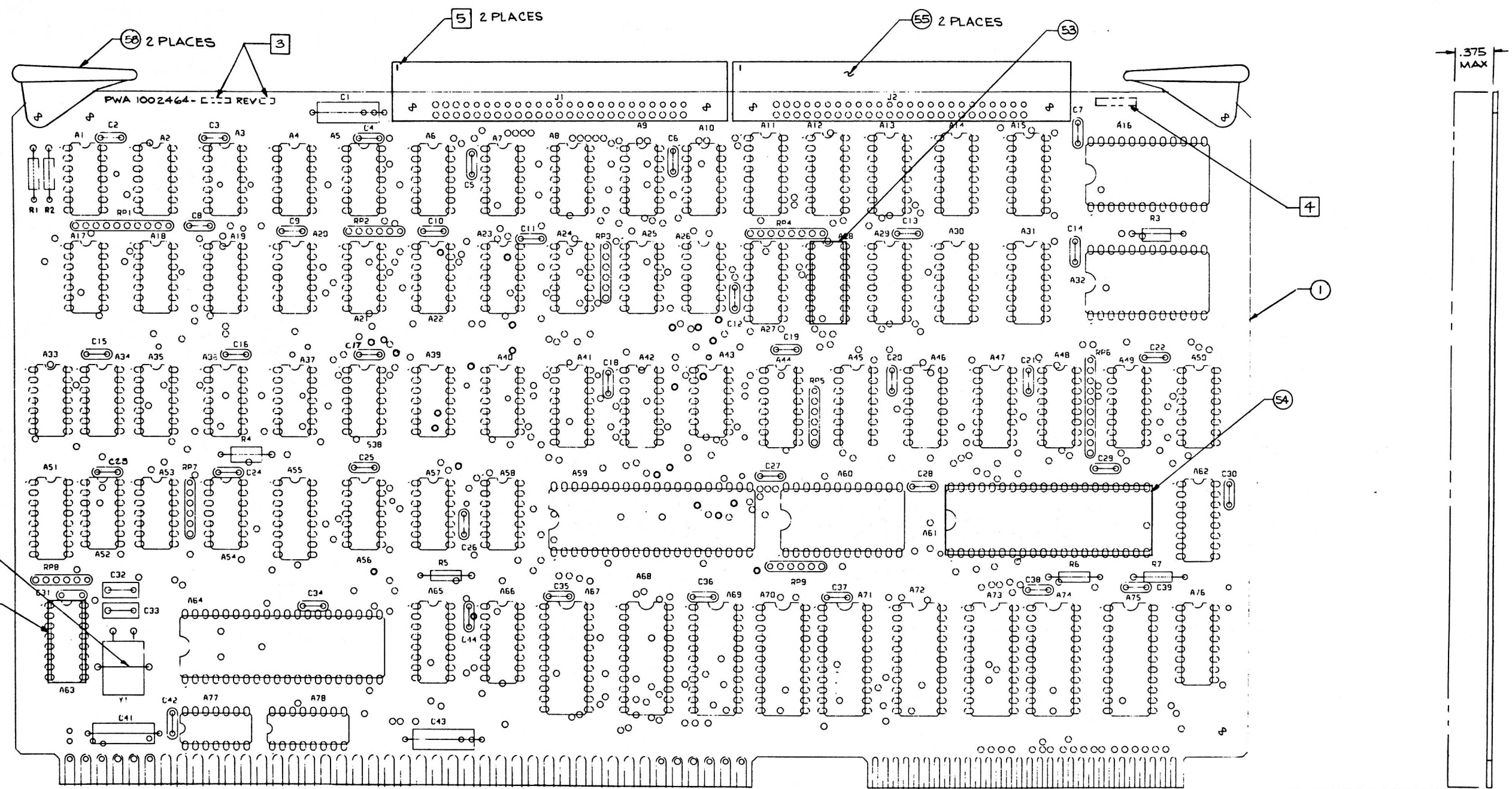
SCALE	NONE		
TOL.	2 PLC	3 PLC	ANGLE
MATERIAL:			
FINISH:			
NEXT ASBY	USED ON		

INTEL			
3065 BOWEN AVE. SANTA CLARA CALIF. 95051			
TITLE SCHEMATIC CABLE BUFFER			
REV	DEPT	DRAWING NO.	REV
	D	MC00 P2002267	A
CODE	SHEET 1 of 2		

REVISIONS			
LTR	DESCRIPTION	DTY	CHK
SEE SHEET 1			



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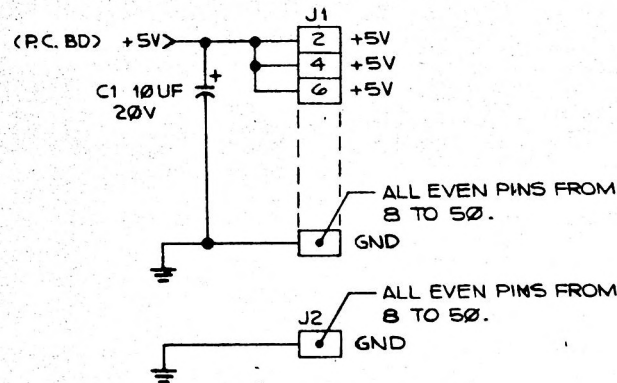
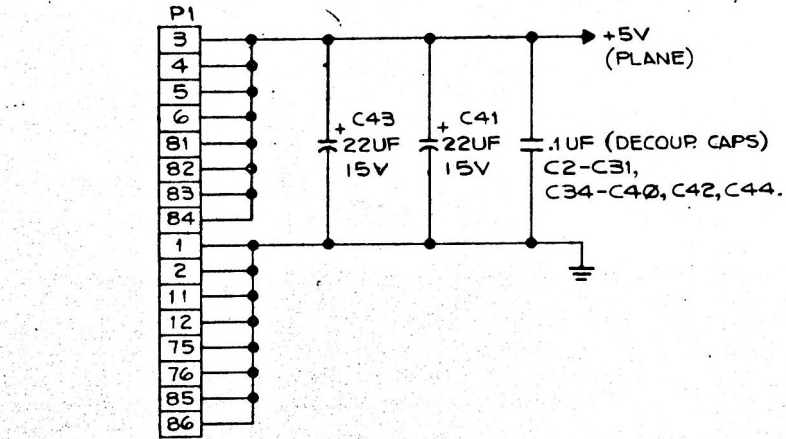
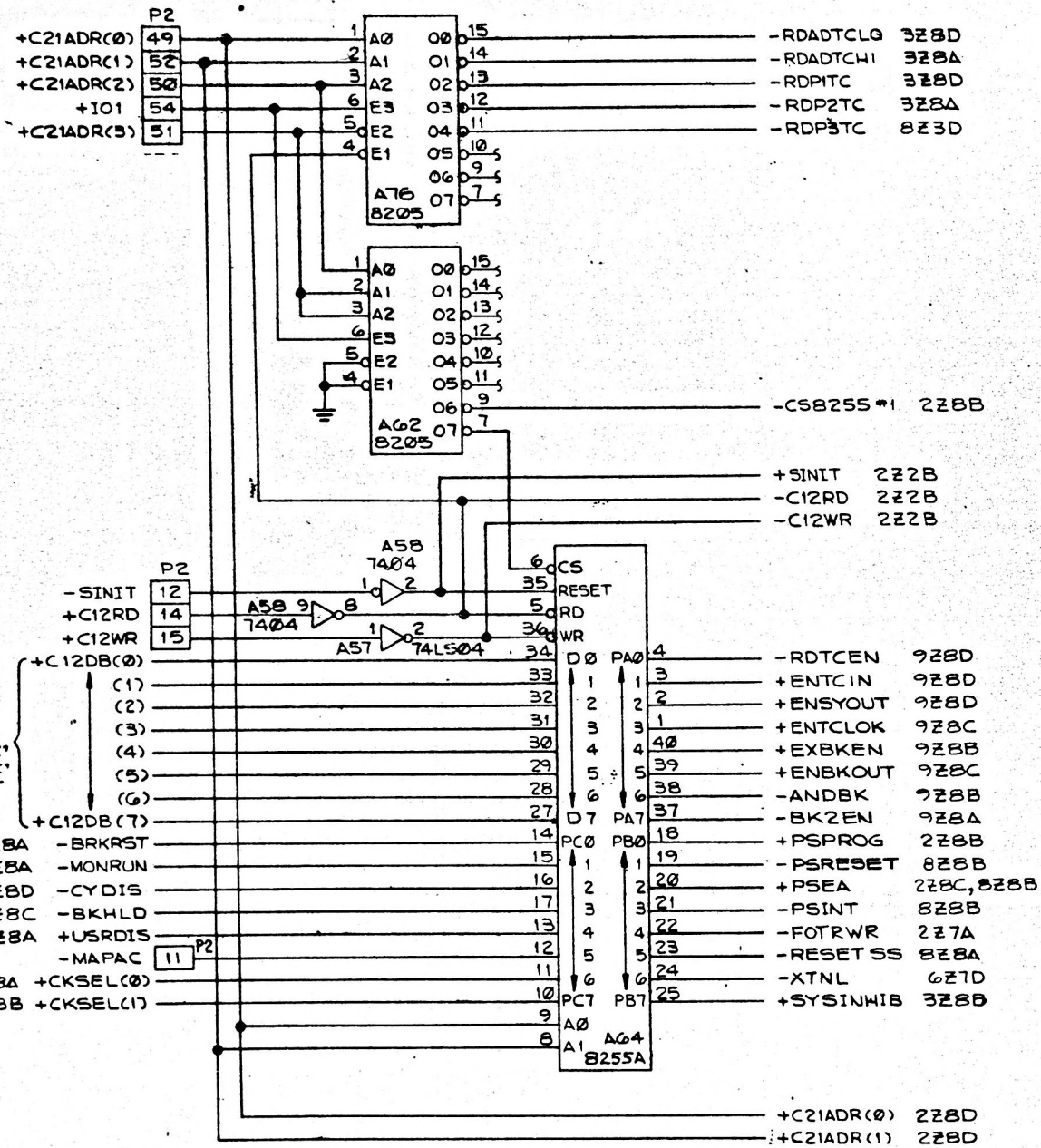


SEE SEPARATE PARTS LIST

- 5 MARK PIN1 DESIGNATION WITH CONTRASTING PERM COLOR .12 HIGH APPROX WHERE SHOWN
 - 4 MARK VENDOR ID WITH CONTRASTING PERM. COLOR, NON-CONDUCTIVE, APPROX WHERE SHOWN.
 - 3 MARK DASH NO. AND REV LEVEL WITH CONTRASTING PERM. COLOR, NON-CONDUCTIVE .12 HIGH APPROX WHERE SHOWN.
2. WORKMANSHIP PER MCSD QAWS 99-0007-001
1. ASSY PART NO. IS 1002464-01. ASSY AND PL ARE TRACKING DOCUMENTS
- NOTES: UNLESS OTHERWISE SPECIFIED

QUANTITY PER DASH NO.		ITEM NO.	PART NUMBER	DESCRIPTION
UNLESS OTHERWISE SPECIFIED:				
1. DIMENSIONS ARE IN INCHES.				
2. BREAK ALL SHARP EDGES.				
3. DO NOT SCALE DRAWING.				
4. TOLERANCES:				
ANGLES ± 2°				
XX ± .030				
XXX ± .010				
SURFACE FINISH ✓				
4001986	MDS-438			
4002454	ETA-49			
4002432	ICE-49			
NEXT ASSY	USED ON			

PARTS LIST			
intel®		3065 BOWERS AVE. SANTA CLARA CALIF. 95051	
TITLE PRINTED WIRING ASSY EMULATOR			
SIZE	CODE	DWG. NO.	REV
D	MCSD	E1002464	A
SCALE 2/1			SHEET 1 OF 1



8049	40	40	20
8255A	40	26	7
8226	16	16	8
8224	16	16	8
8216	16	16	8
8212	24	24	12
8205	16	16	8
74LS257	16	16	8
74181	24	24	12
74LS175	16	16	8
74164	14	14	7
74157	16	16	8
74125	14	14	7
74LS109	16	16	8
74LS74	14	14	7
7438	14	14	7
74LS32	14	14	7
74LS21	14	14	7
74S20	14	14	7
74LS12	14	14	7
74LS11	14	14	7
74LS10	14	14	7
74LS08	14	14	7
74LS04	14	14	7
7404	14	14	7
74LS02	14	14	7
74LS00	14	14	7
3601	16	16	8
2101A	22	22	8
DEVICE	TOTAL PINS	+5V	GND

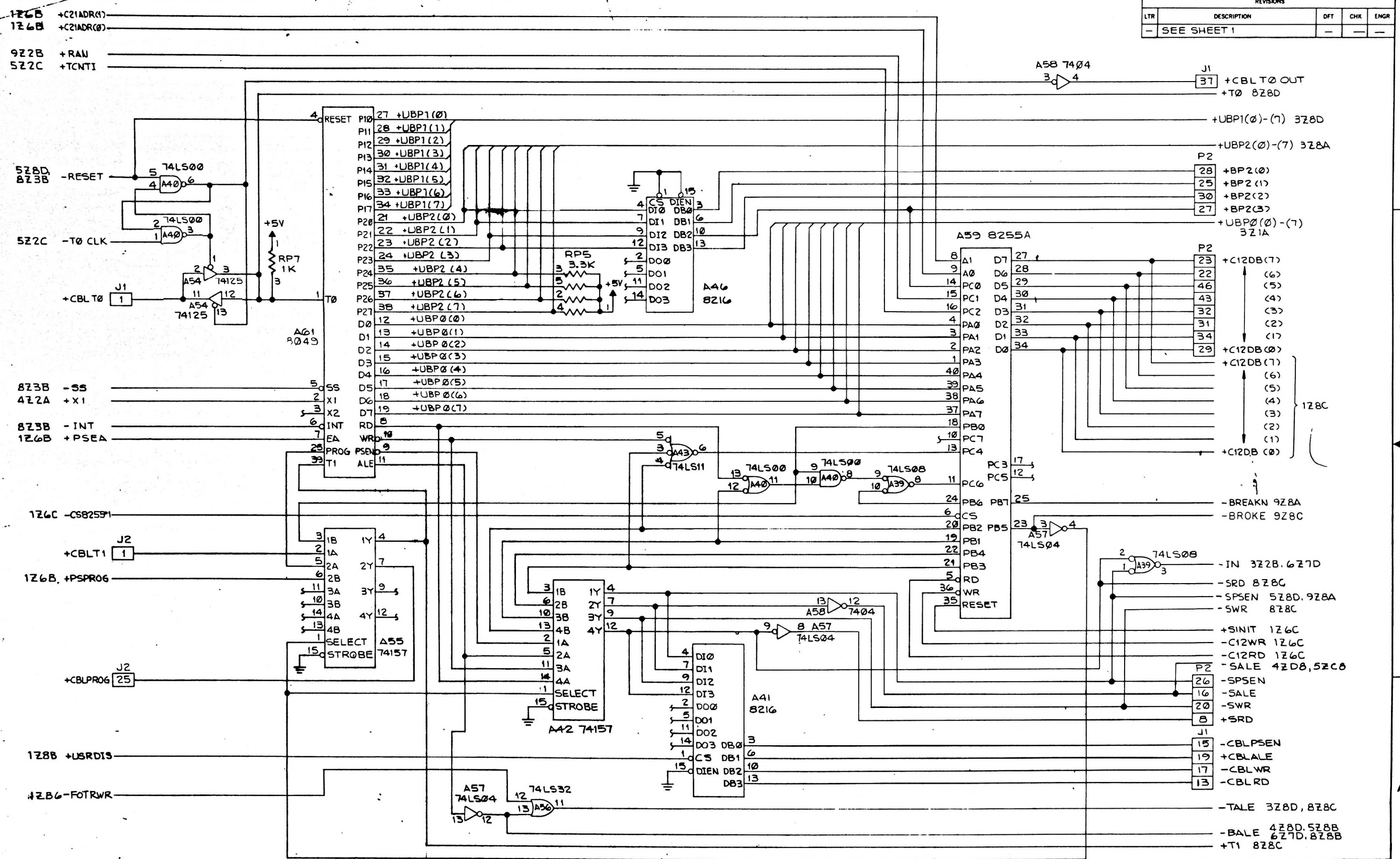
2. ALL RESISTANCE VALUES ARE 1K OHMS, ±5%, 1/4 W.
 1. ALL CAPACITANCE VALUES ARE IN UF.
 NOTES: UNLESS OTHERWISE SPECIFIED

REF DESIGNATIONS	TYPE	REF DES	QTY	NEXT ASSY	USED ON	ITEM NO.	PART NUMBER	DESCRIPTION
P2	---	74LS00	A23	1				
Y7	---	74LS00	A34	1				
RP9	---	74LS12	A37	2				
R7	---	74LS08	A39	1				
J2	---	74LS00	A40	1				
C44	---	74LS11	A45	1				
A77	---	7438	A52	2				
A77	---	74LS08	A77	3	1002464	MDS-498		
A77	---	SPARE	A78		1002464	ETA-49		
A77	---	SPARE	A79		1002464	ICE-49		
A77	---	SPARE	A80					
A77	---	SPARE	A81					
A77	---	SPARE	A82					
A77	---	SPARE	A83					
A77	---	SPARE	A84					
A77	---	SPARE	A85					
A77	---	SPARE	A86					
A77	---	SPARE	A87					
A77	---	SPARE	A88					
A77	---	SPARE	A89					
A77	---	SPARE	A90					
A77	---	SPARE	A91					
A77	---	SPARE	A92					
A77	---	SPARE	A93					
A77	---	SPARE	A94					
A77	---	SPARE	A95					
A77	---	SPARE	A96					
A77	---	SPARE	A97					
A77	---	SPARE	A98					
A77	---	SPARE	A99					
A77	---	SPARE	A100					

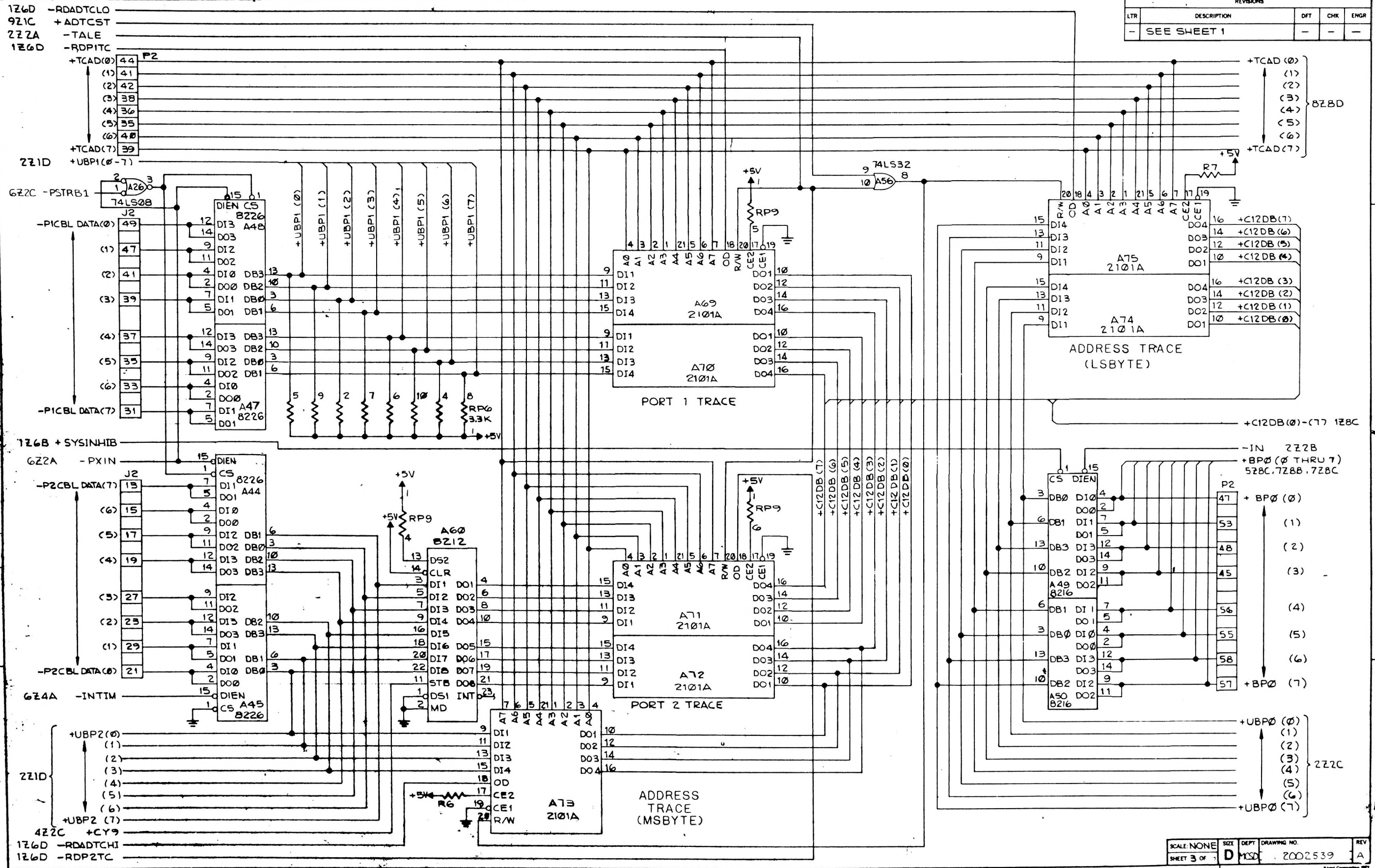
SCALE:	2 PLC	3 PLC	ANGLE
SCALE:	NONE		
TOL:			
MATERIAL:			
FINISH:			

SIZE	DEPT	DRAWING NO.	REV.
SIZE	D	MCS	1
DEPT			
DRAWING NO.		2002539	
REV.			A

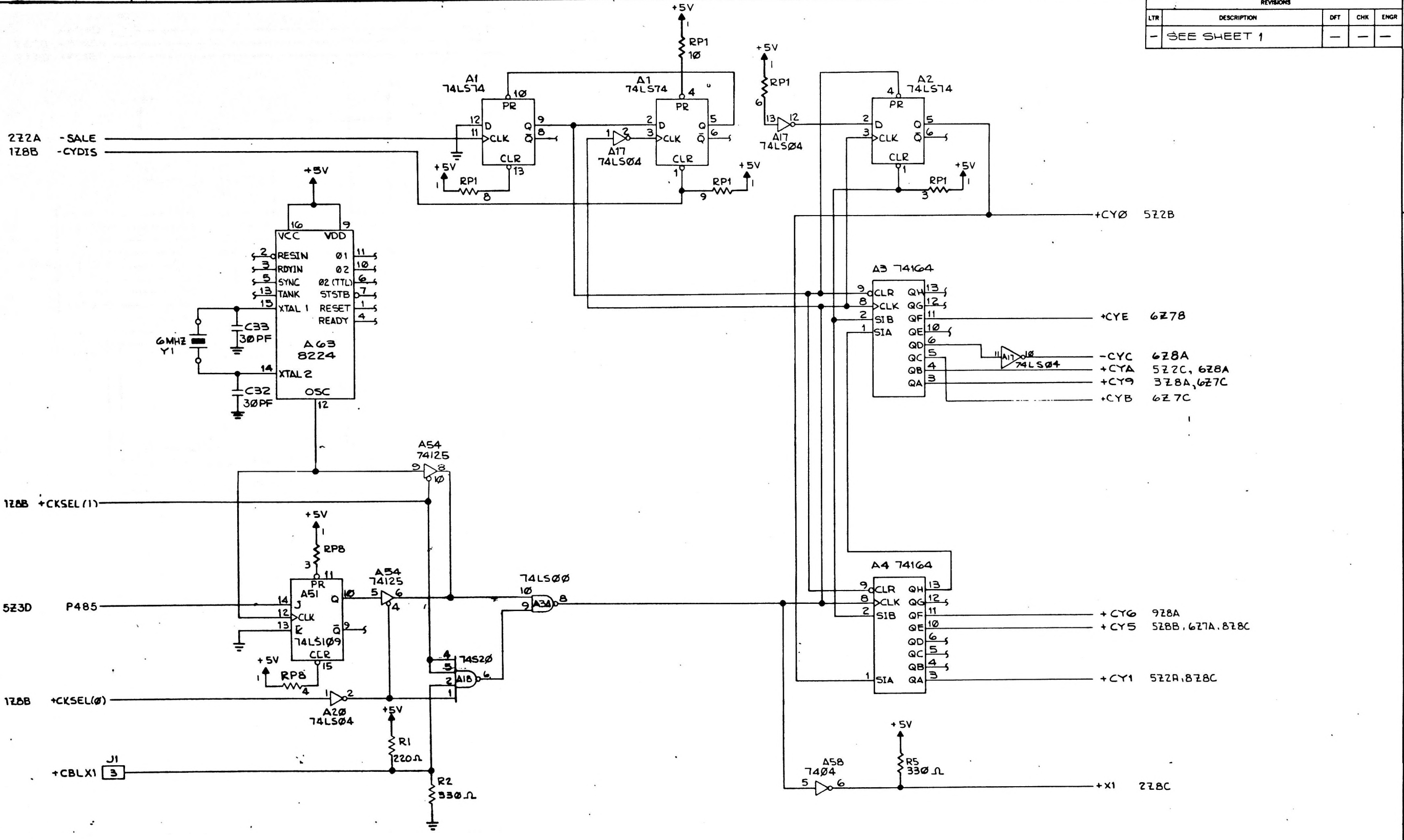
REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-

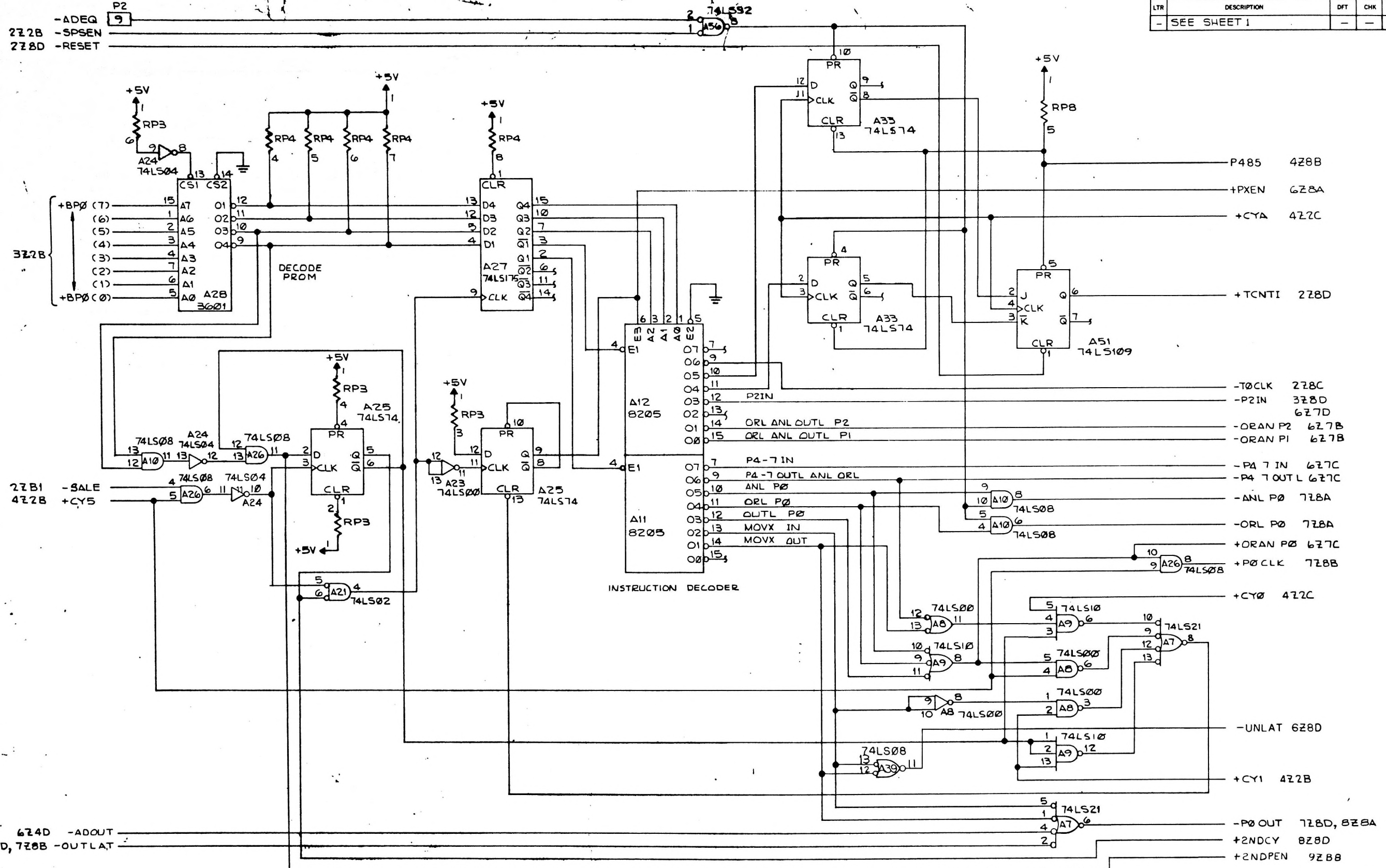


REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



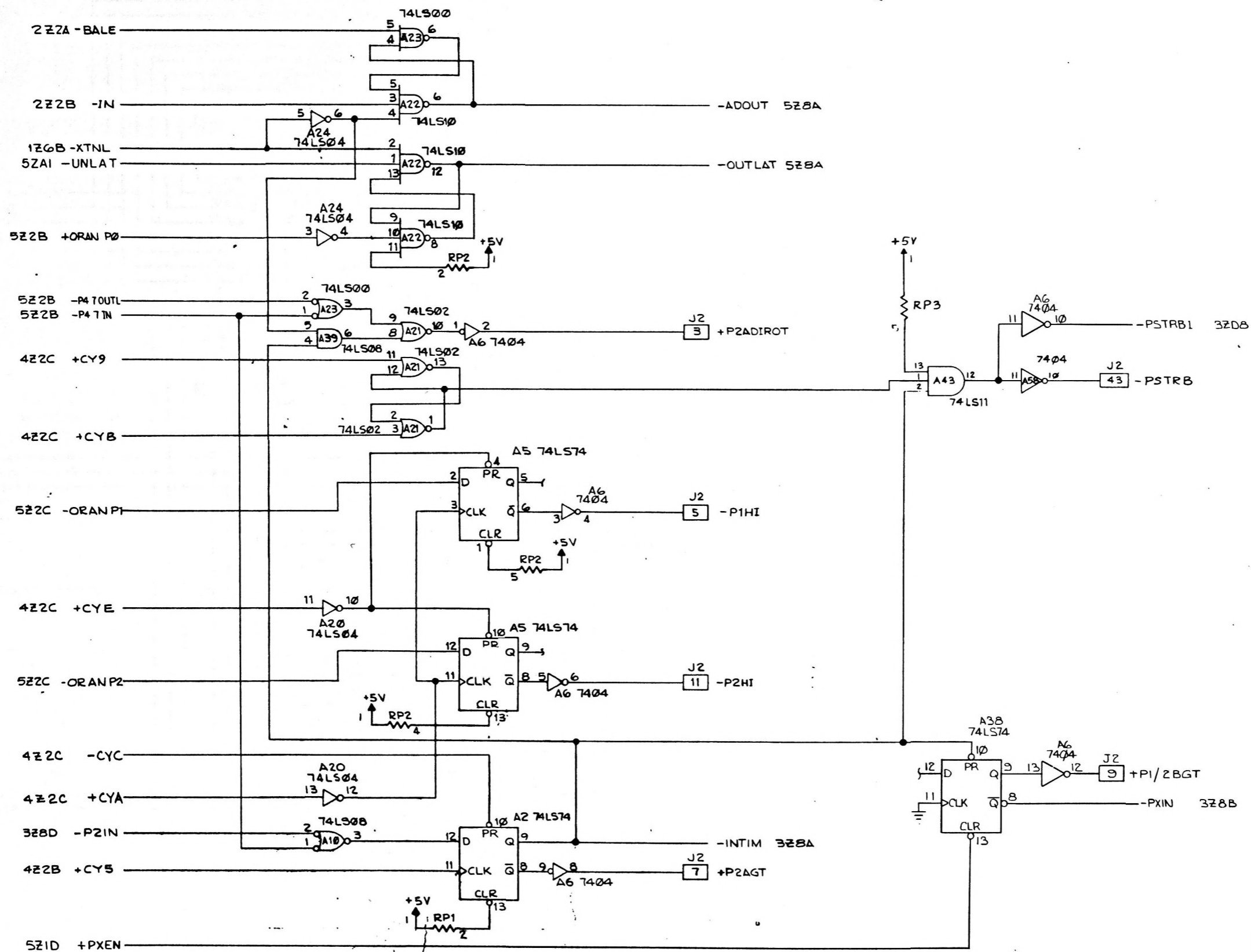
- +CY0 5Z2B
- +CYE 6Z7B
- CYC 6Z8A
- +CYA 5Z2C, 6Z8A
- +CY9 3Z8A, 6Z7C
- +CYB 6Z7C
- +CY6 9Z8A
- +CY5 5Z8B, 6Z7A, 8Z8C
- +CY1 5Z2A, 8Z8C
- +X1 2Z8C

REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-

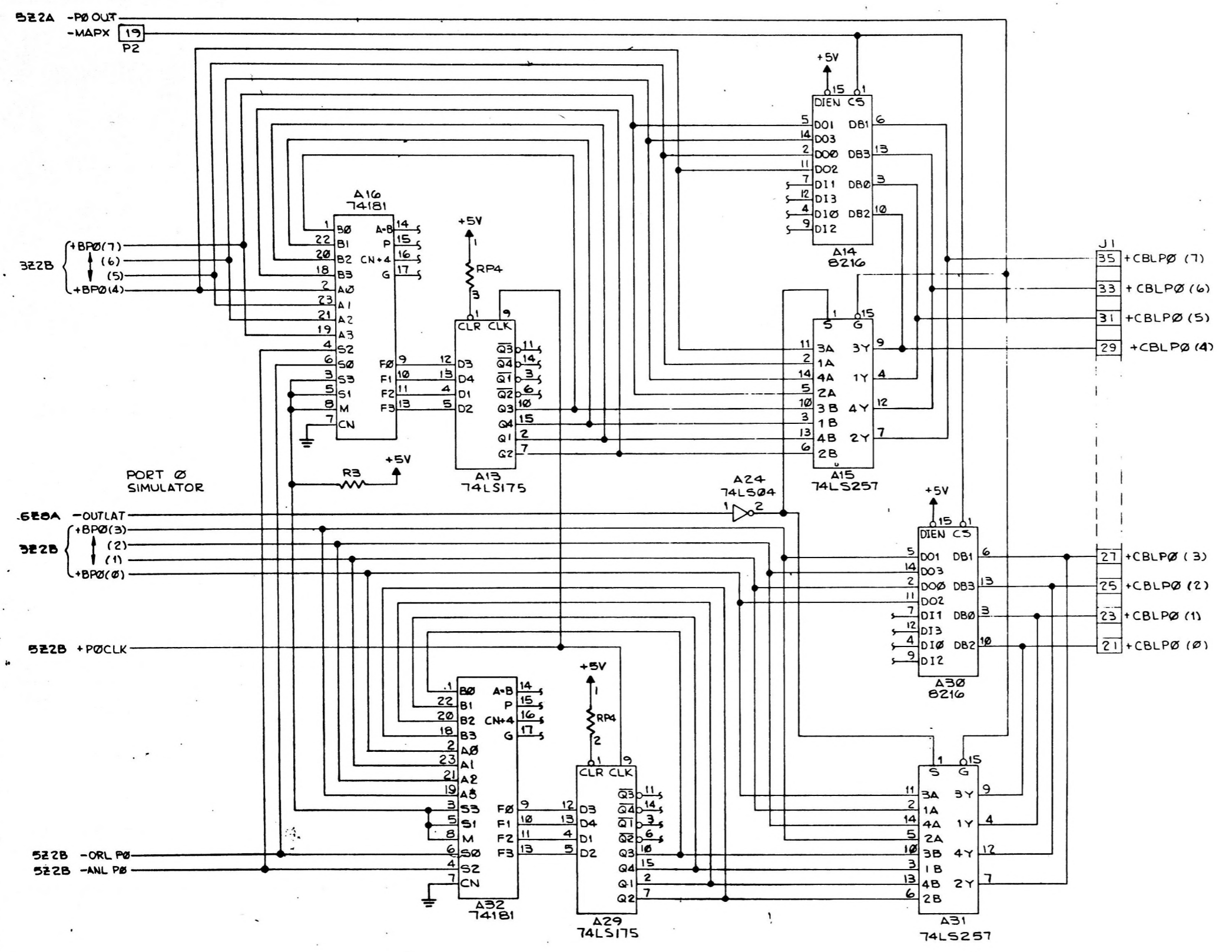


- P485 4Z8B
- +PXEN 6Z8A
- +CYA 4Z7C
- +TCNTI 2Z8D
- T0CLK 2Z8C
- P2IN 3Z8D
- 6Z7D
- ORAN P2 6Z7B
- ORAN P1 6Z7B
- P4 7 IN 6Z7C
- P4 7 OUTL 6Z7C
- ANL P0 7Z8A
- ORL P0 7Z8A
- +ORAN P0 6Z7C
- +P0CLK 7Z8B
- +CY0 4Z7C
- UNLAT 6Z8D
- +CY1 4Z7B
- P0 OUT 7Z8D, 8Z8A
- +2NDCY 8Z8D
- +2NDPEN 9Z8B

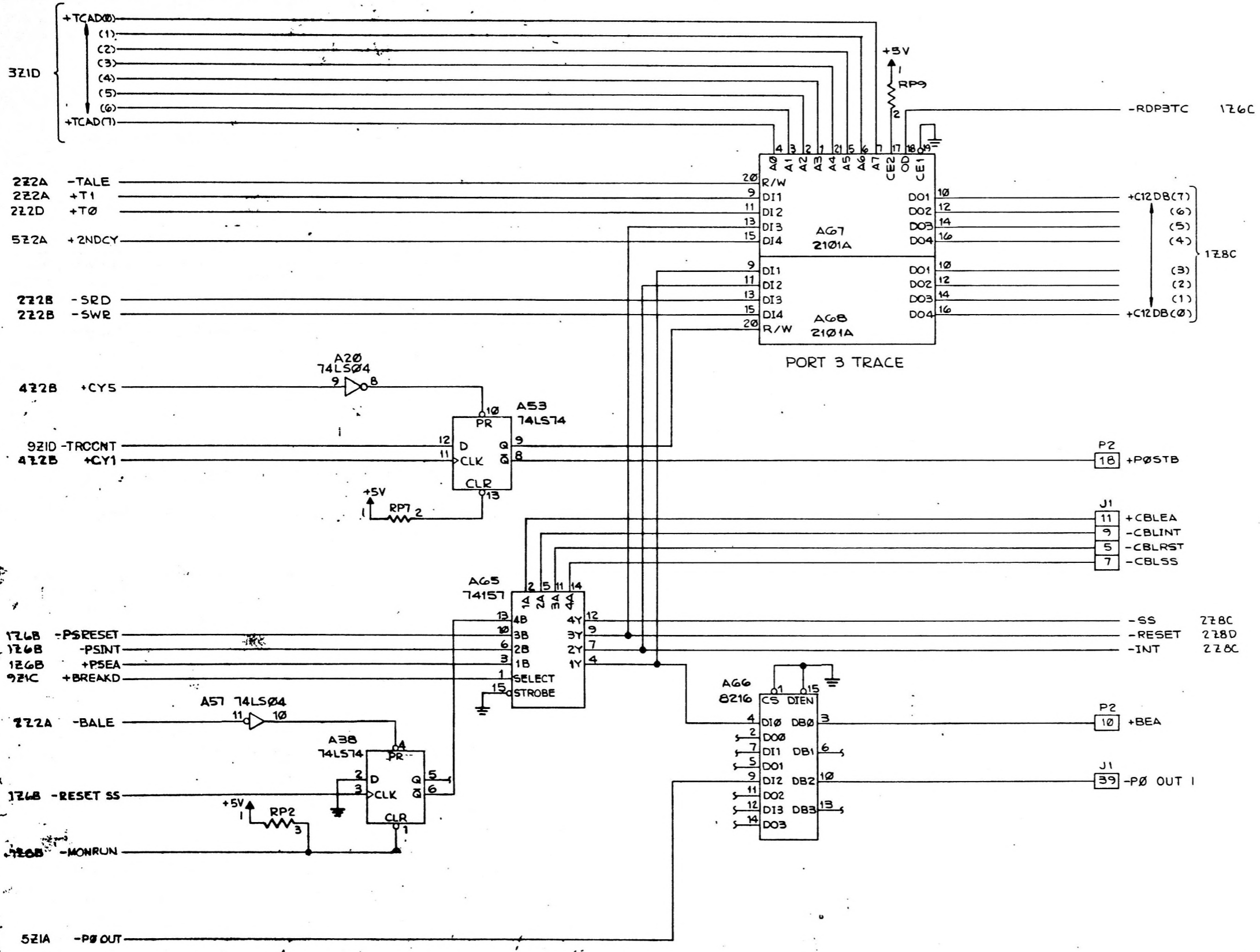
REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



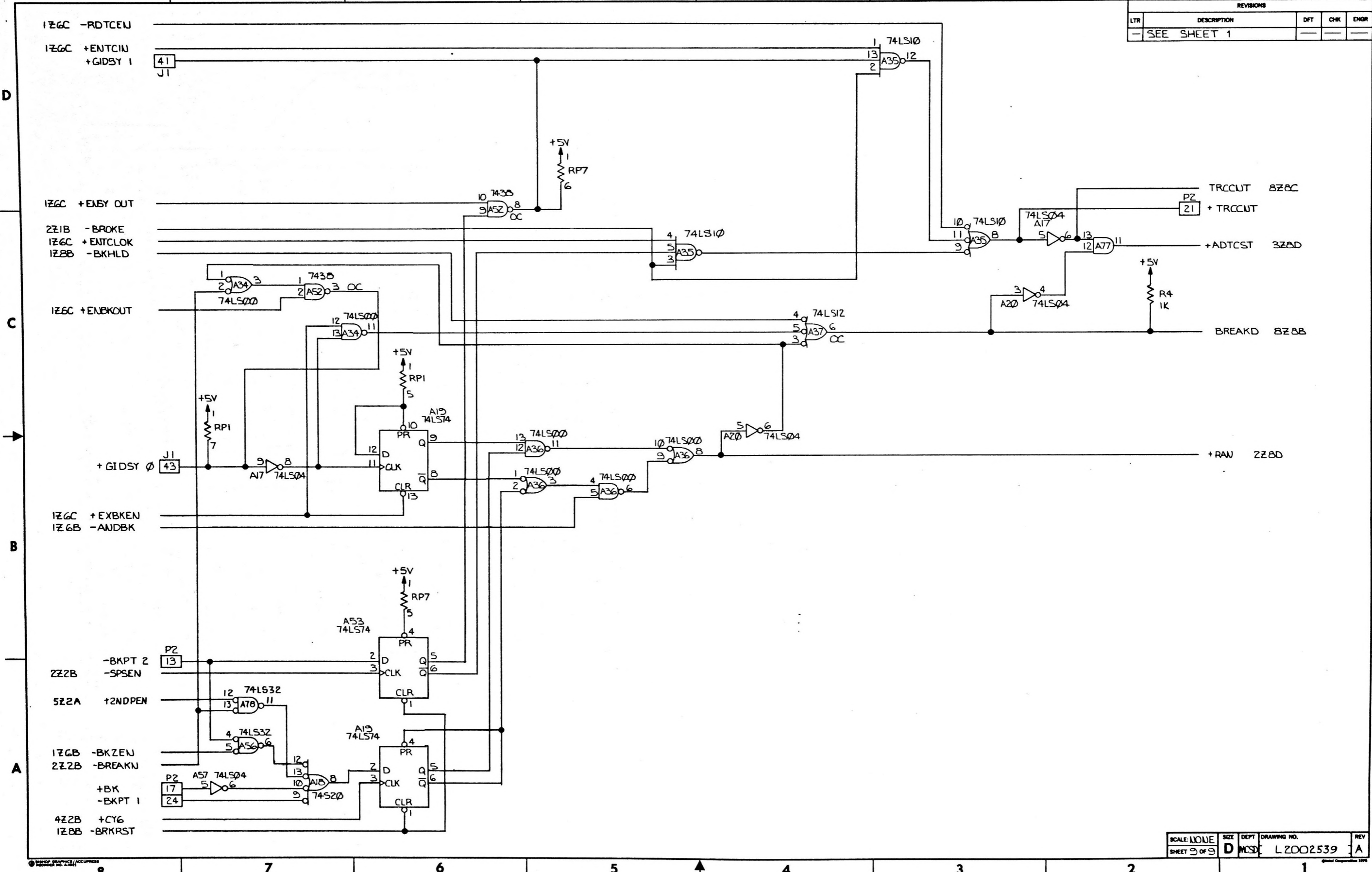
REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



REVISIONS				
LTR	DESCRIPTION	DFT	CHK	FNGR
-	SEE SHEET 1	-	-	-

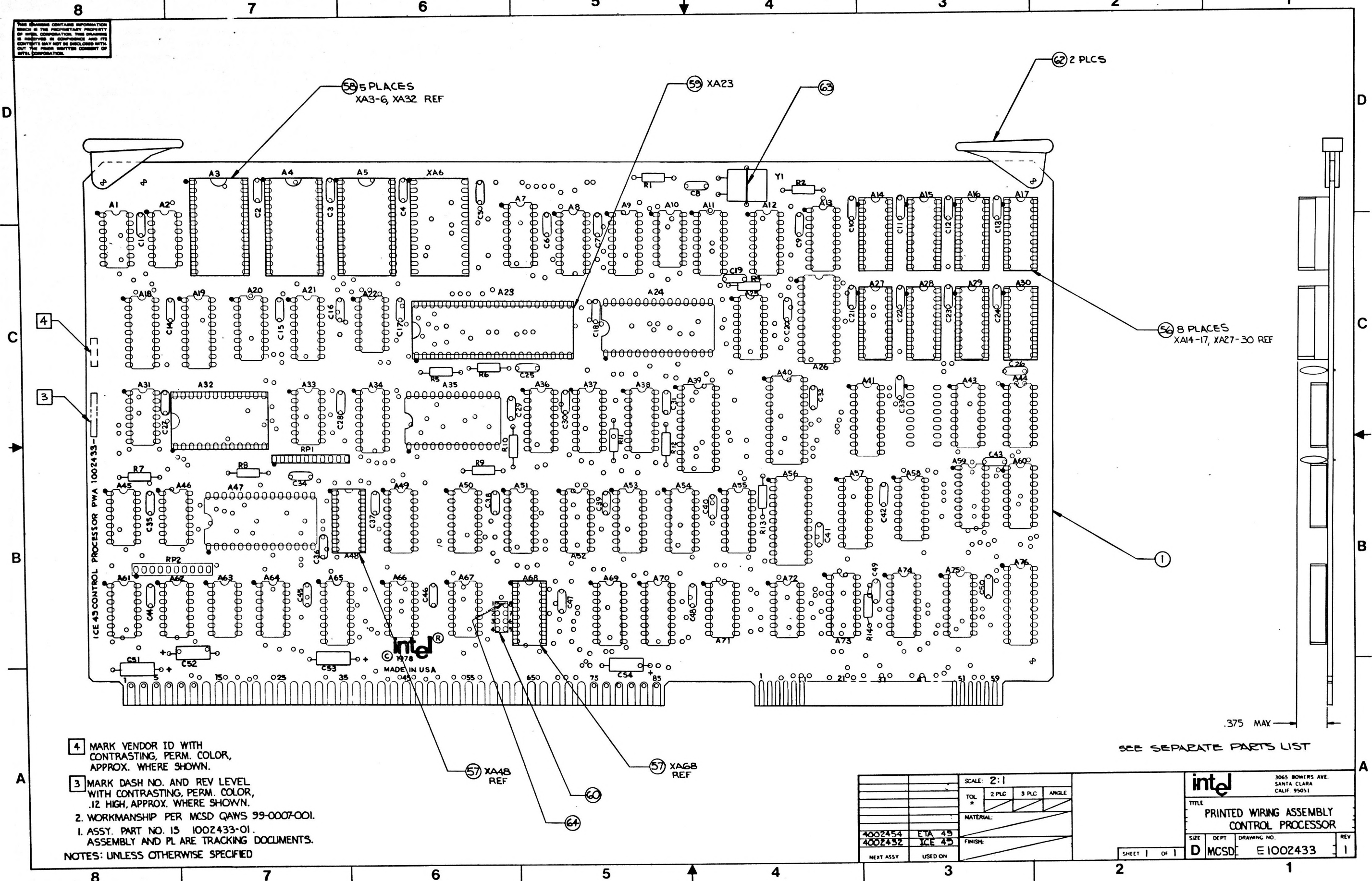


REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



SCALE: NONE	SIZE: D	DEPT: WJSD	DRAWING NO.: L2002539	REV: A
SHEET 3 OF 3				

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- 4 MARK VENDOR ID WITH CONTRASTING, PERM. COLOR, APPROX. WHERE SHOWN.
 - 3 MARK DASH NO. AND REV LEVEL WITH CONTRASTING, PERM. COLOR, .12 HIGH, APPROX. WHERE SHOWN.
 - 2. WORKMANSHIP PER MCSD QAWS 99-0007-001.
 - 1. ASSY. PART NO. IS 1002433-01. ASSEMBLY AND PL ARE TRACKING DOCUMENTS.
- NOTES: UNLESS OTHERWISE SPECIFIED

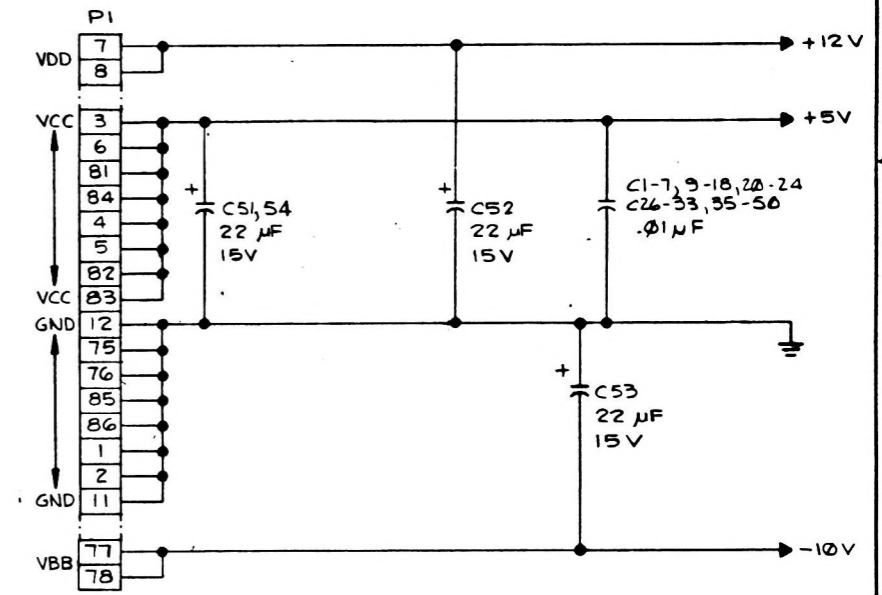
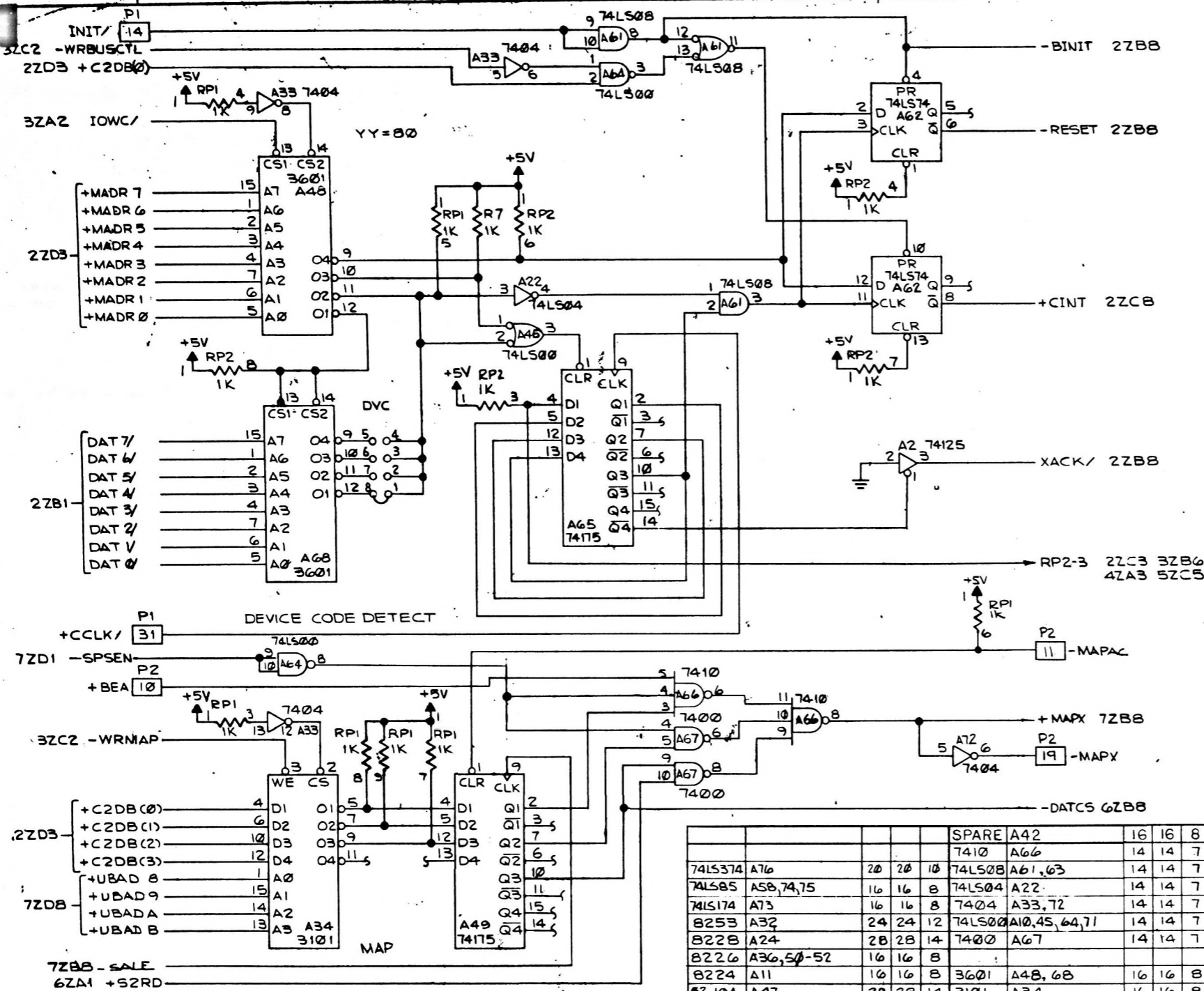
SEE SEPARATE PARTS LIST

SCALE: 2:1	
TOL ±	2 PLC 3 PLC ANGLE
MATERIAL:	
4002454	ETA 45
4002452	ICE 45
FINISH:	
NEXT ASSY	USED ON

		3065 BOWERS AVE. SANTA CLARA CALIF. 95051	
		TITLE PRINTED WIRING ASSEMBLY CONTROL PROCESSOR	
SIZE	DEPT	DRAWING NO.	REV
D	MCSD	E 1002433	1

SHEET 1 OF 1

.375 MAX



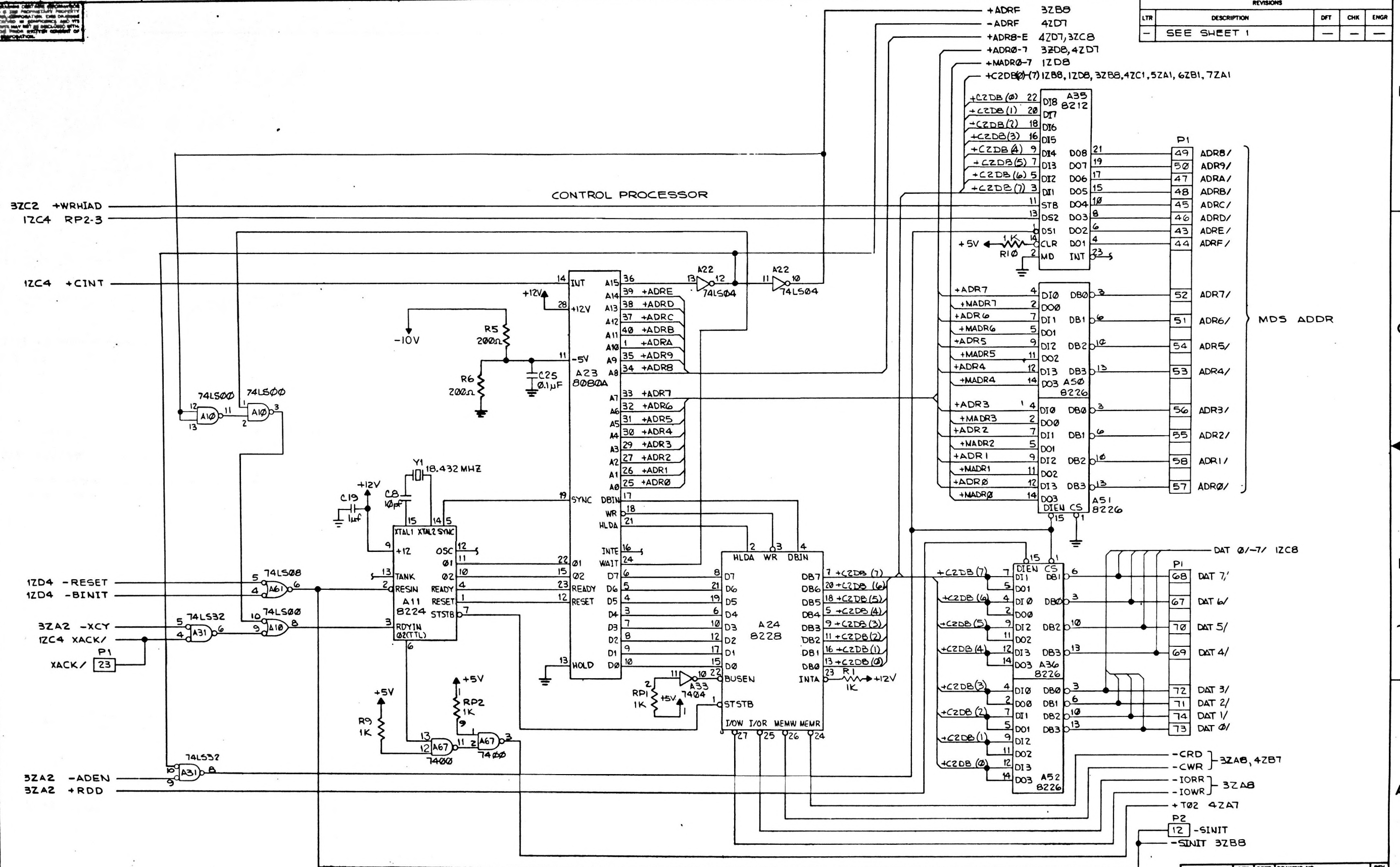
DEVICE	REF DES	PNOS	+5V	GND	REF DES	PNOS	+5V	GND	
74LS374	A76	20	20	10	74LS08	A61, 63	14	14	7
74LS85	A58, 74, 75	16	16	8	74LS04	A22	14	14	7
74LS174	A73	16	16	8	7404	A33, 72	14	14	7
B253	A32	24	24	12	74LS00	A10, 45, 64, 71	14	14	7
B228	A24	28	28	14	7400	A67	14	14	7
B226	A36, 50-52	16	16	8					
B224	A11	16	16	8	3601	A48, 68	16	16	8
52-104	A47	28	28	14	3101	A34	16	16	8
B216	A12, 20, 21, 31, 43, 44, 53-55, 57, 60, 63, 70	16	16	8					
B212	A35	24	24	12	2716	A3-6	24	24	12
B205	A7-9	16	16	8	2114	A14-17 + 27+30	18	18	9
211A	A18, 19, 41, 57	18	18	9					
B080A	A23	40	20	2	2101A	A26, 39, 40, 56	22	22	8
74175	A49, 65	16	16	8	DEVICE	REF DES	PNOS	+5V	GND
74161A	A25, 38	16	16	8	RP2				
74LS139	A13	16	16	8	Y1				
74125	A2	14	14	7	C54				
74LS74	A1, 46, 62	14	14	7	R14				
74LS32	A31	14	14	7	A76				
74LS574	A10, 45, 64, 71	14	14	7	LAST USED	NOT USED	1002433	ETA-49	
74LS32	A31	14	14	7	NEXT ASSY	USED ON	1002433	ICE-49	

2. ALL CAPACITANCE VALUES IN MICROFARADS.
 1. ALL RESISTANCE VALUES IN OHMS, 5% 1/4WATT.
 NOTES: UNLESS OTHERWISE SPECIFIED,

QUANTITY PER DASH NO.		ITEM NO.	PART NUMBER	DESCRIPTION
SCALE: NONE	TOL: 2 PLC 3 PLC ANGLE	PARTS LIST		
MATERIAL:				
FINISH:		3065 BOWERS AVE. SANTA CLARA CALIF. 95051		
TITLE: SCHEMATIC DIAGRAM CONTROL PROCESSOR				
SIZE	DEPT	DRAWING NO.	REV	
SHEET 1	OF 7	D MCSD	E2002434	1

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REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



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REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-

D

C

B

A

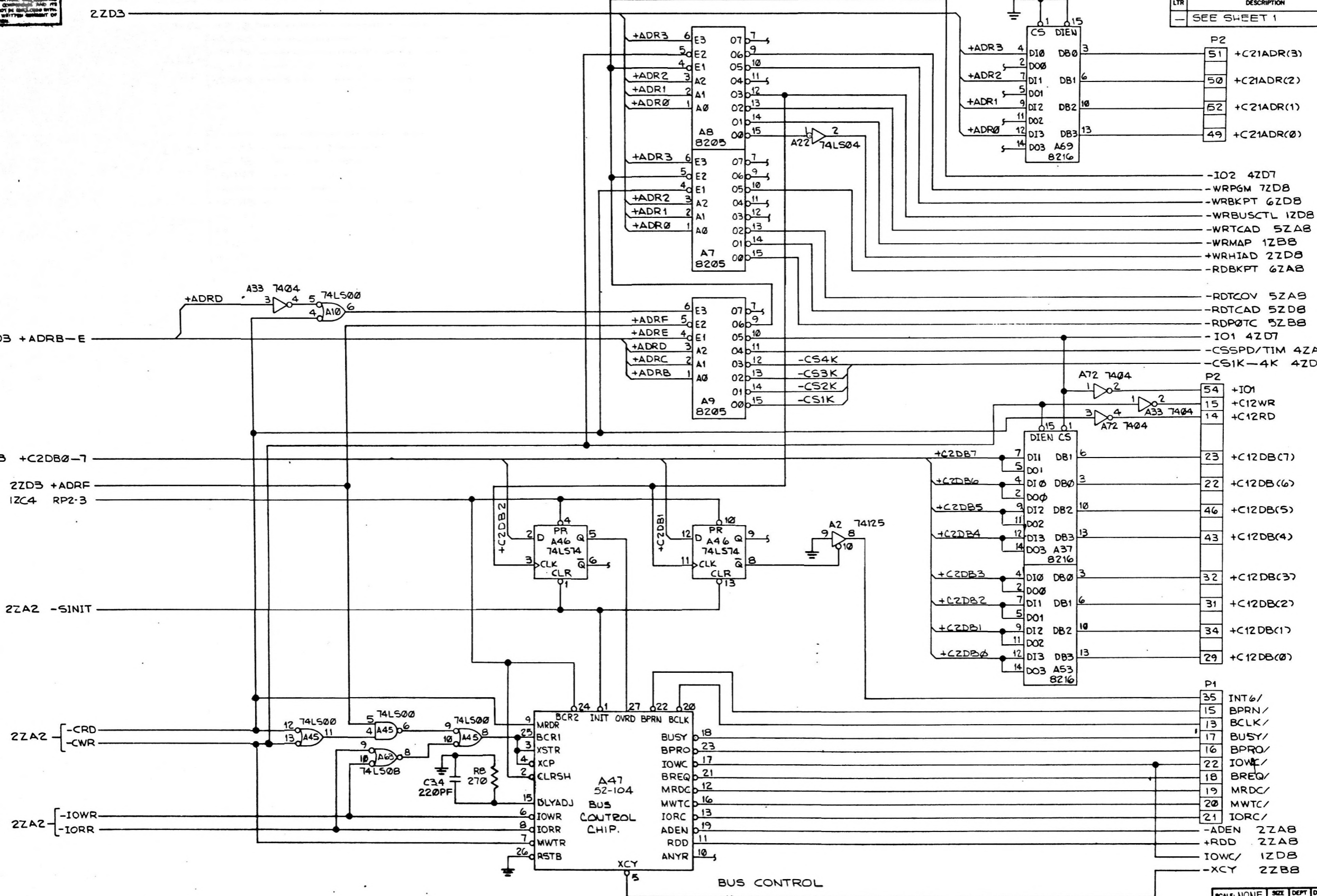
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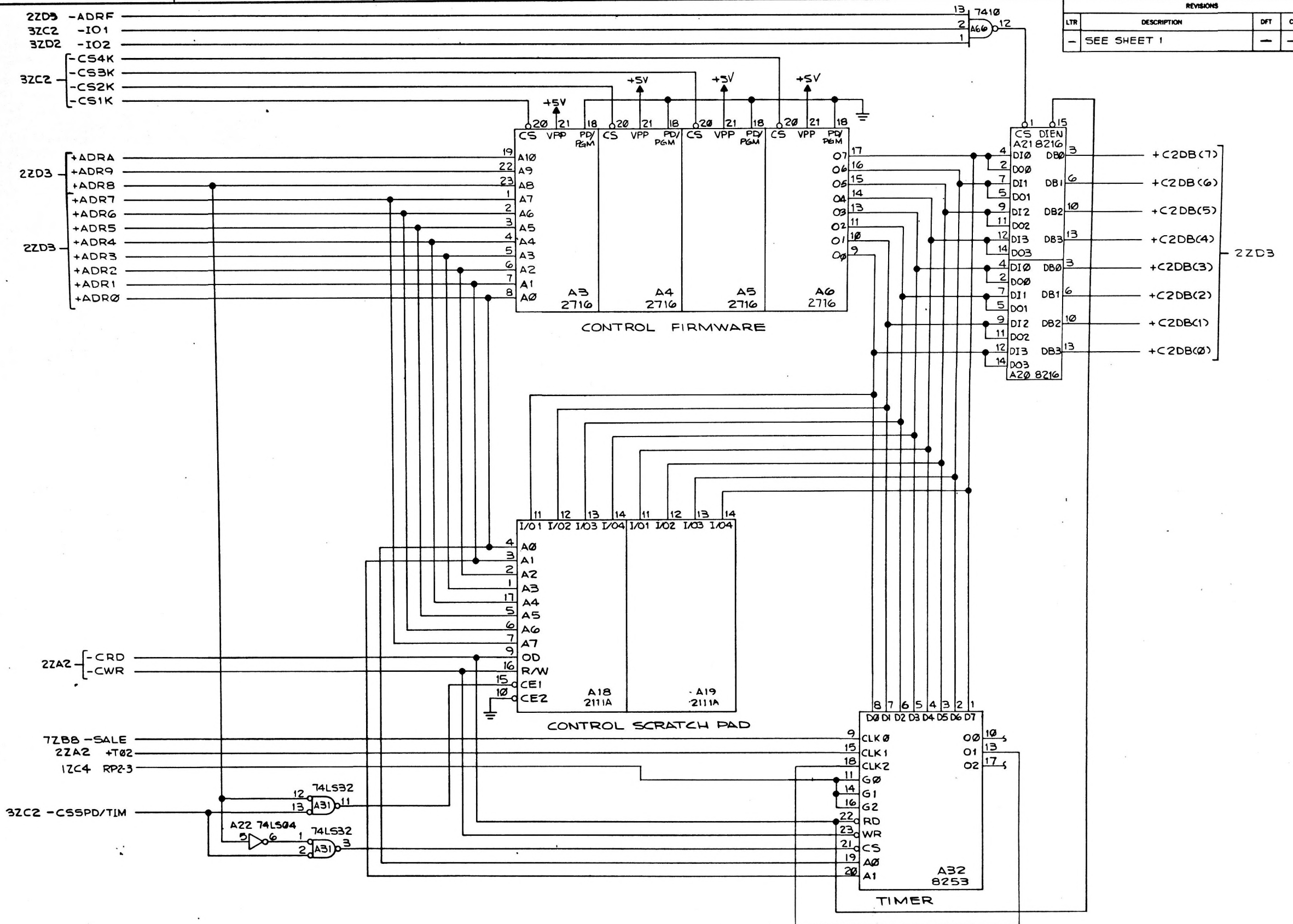
A

2ZD3



- P2
- 51 +C21ADR(3)
- 50 +C21ADR(2)
- 52 +C21ADR(1)
- 49 +C21ADR(0)
- IO2 4ZD7
- WRPGM 7ZDB
- WRBKPT 6ZDB
- WRBUSCTL 1ZDB
- WRTCAD 5ZAB
- WRMAP 1ZB8
- +WRHIAD 2ZDB
- RDBKPT 6ZAB
- RDTCOV 5ZAB
- RDTCAD 5ZDB
- RDP0TC 5ZB8
- IO1 4ZD7
- CSSPD/TIM 4ZA7
- CS1K-4K 4ZD7
- P2
- 54 +IO1
- 15 +C12WR
- 14 +C12RD
- 23 +C12DB(7)
- 22 +C12DB(6)
- 46 +C12DB(5)
- 43 +C12DB(4)
- 32 +C12DB(3)
- 31 +C12DB(2)
- 34 +C12DB(1)
- 29 +C12DB(0)
- P1
- 35 INT6/
- 15 BPRN/
- 13 BCLK/
- 17 BUSY/
- 16 BPRO/
- 22 IOWC/
- 18 BREQ/
- 19 MRDC/
- 20 MWTC/
- 21 IORC/
- ADEN 2ZAB
- +RDD 2ZAB
- IOWC/ 1ZDB
- XCY 2ZB8

REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-

3ZC2 -RDTCAD
 +BP0(7)
 +BP0(6)
 +BP0(5)
 7ZB8
 +BP0(4)
 +BP0(3)
 +BP0(2)
 +BP0(1)
 +BP0(0)

P2
 39 +TCAD(7)
 40 +TCAD(6)
 35 +TCAD(5)
 36 +TCAD(4)
 38 +TCAD(3)
 42 +TCAD(2)
 41 +TCAD(1)
 44 +TCAD(0)

1ZC4 RP2-3

3ZC2 -RDP0TC
 P2
 +P0STB 18
 A22 74LS04
 9
 8
 20
 +5V
 R12
 1K
 17
 19
 PORT 0 TRACE

+TRCONTEN P2 21
 7ZB8 -SALE

3ZC2 -WRTCAD
 3ZC2 -RDTCOV

+C2DB(7)
 +C2DB(6)
 +C2DB(5)
 +C2DB(4)
 +C2DB(3)
 +C2DB(2)
 +C2DB(1)
 +C2DB(0)
 2ZD3

D

D

C

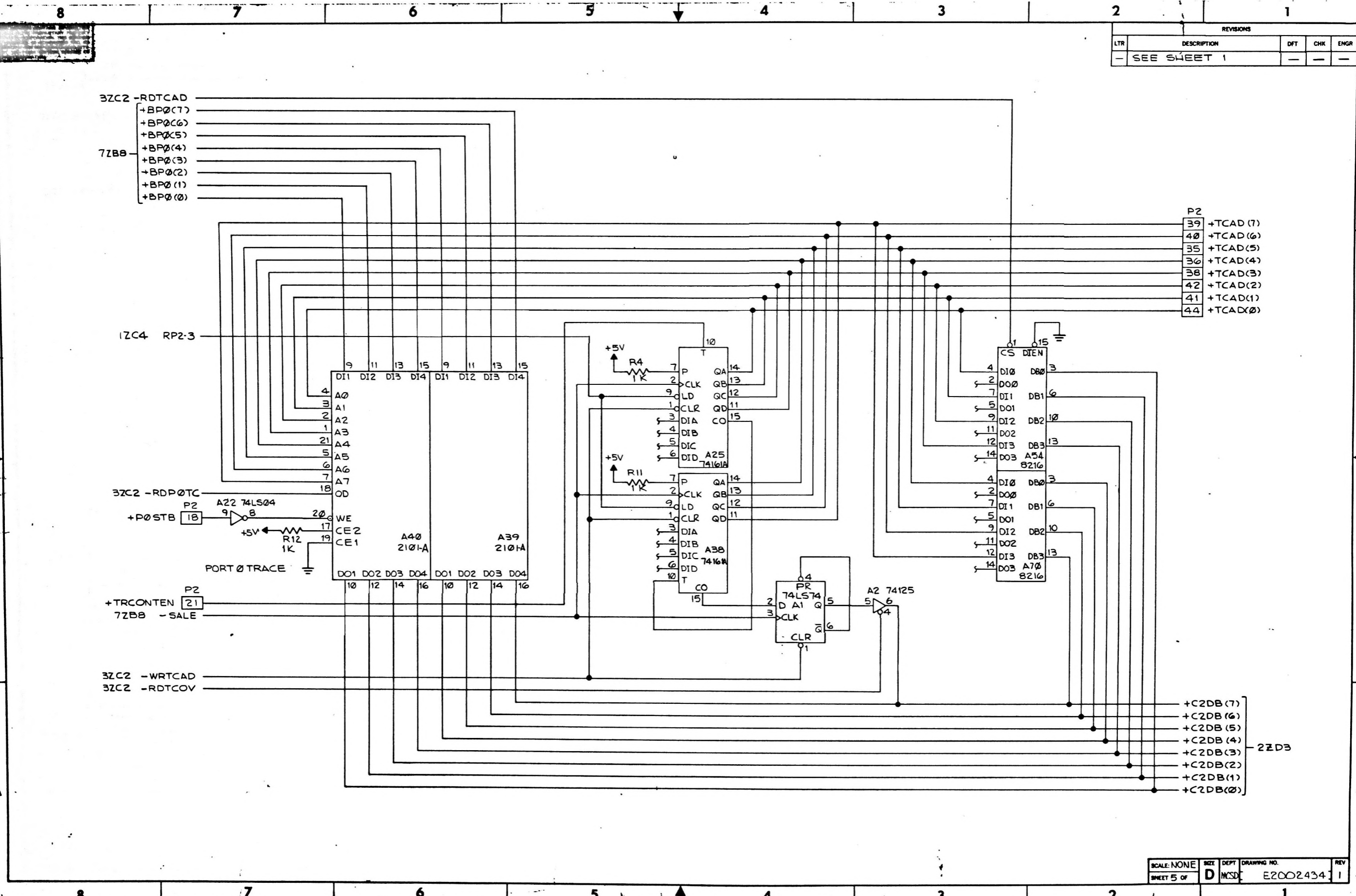
C

B

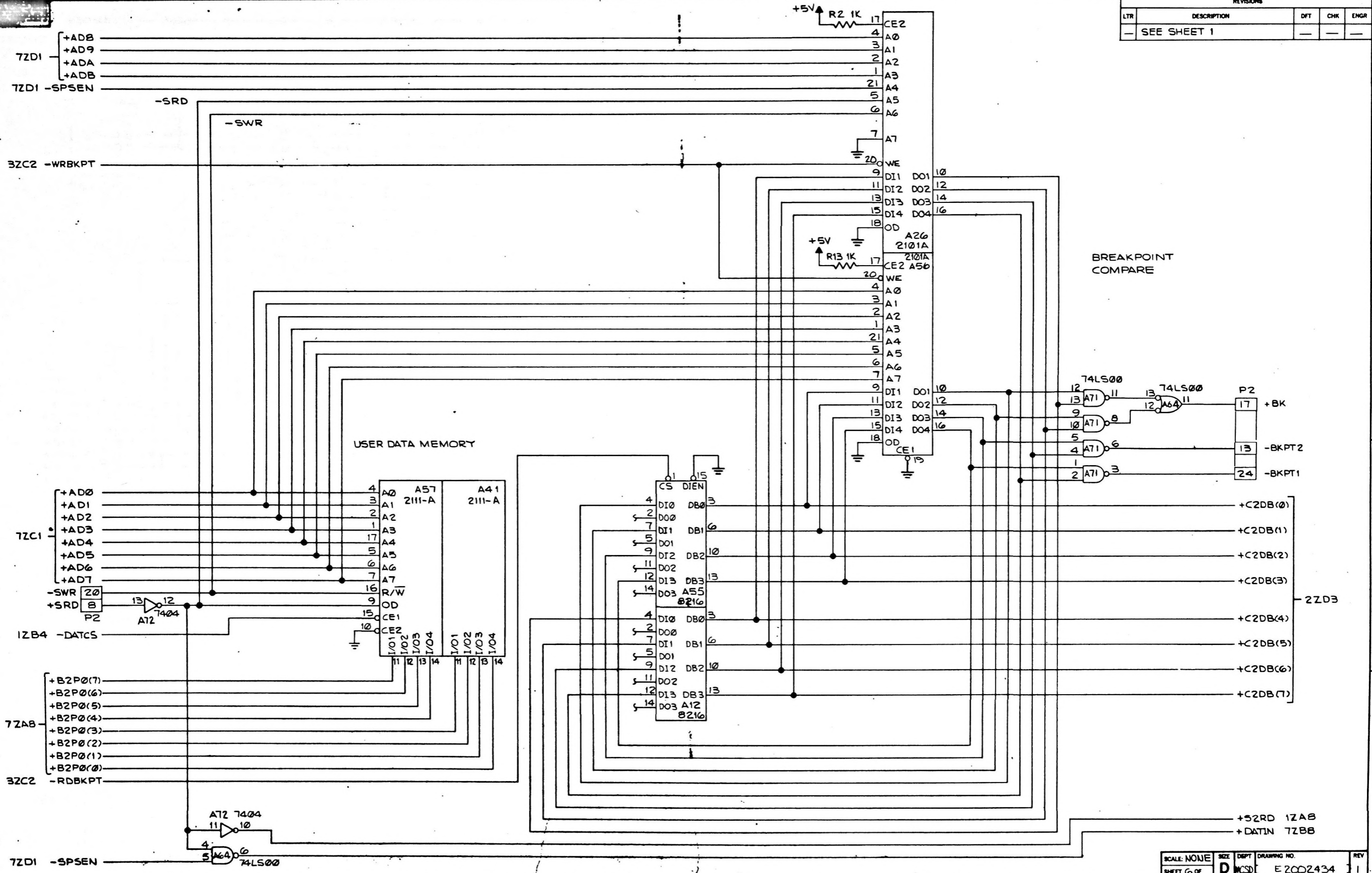
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A

A

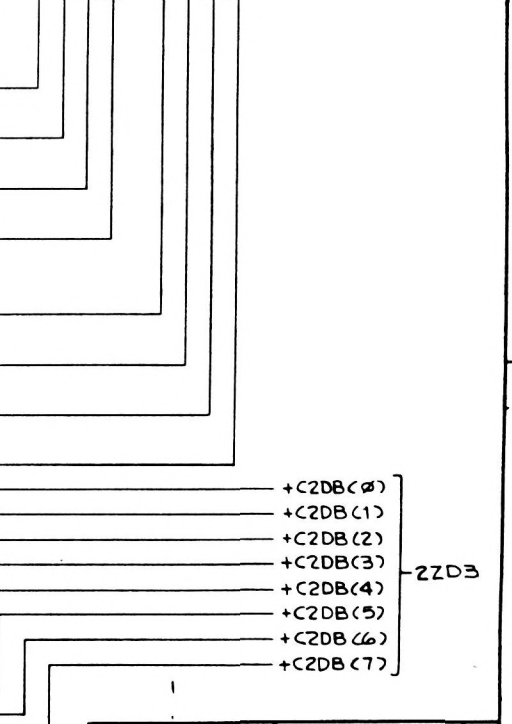
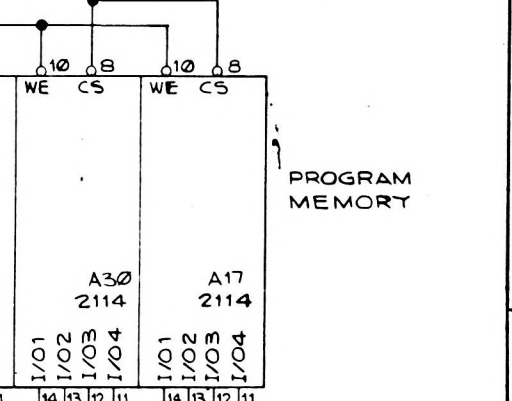
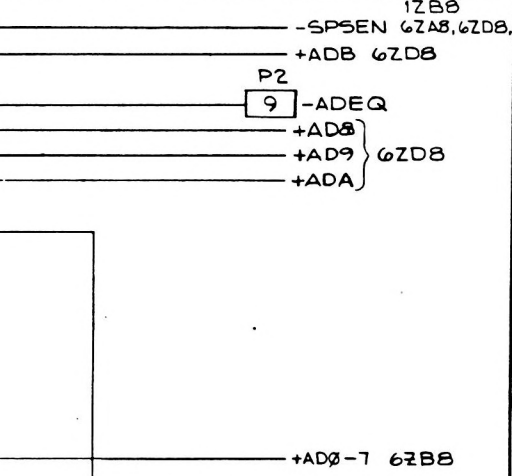
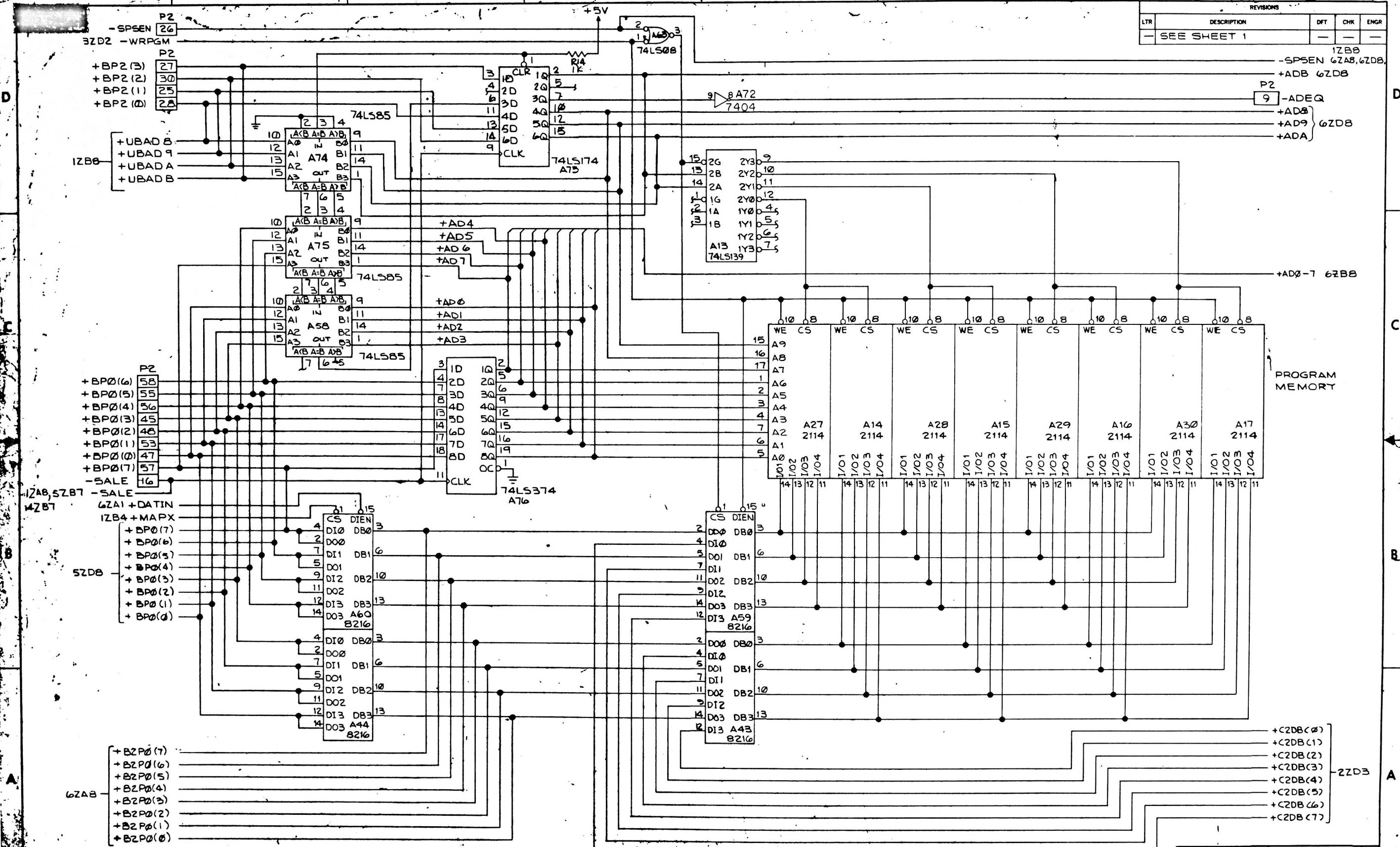


REVISIONS				
LTR	DESCRIPTION	DFT	CHK	ENGR
-	SEE SHEET 1	-	-	-



SCALE: NONE	SIZE: D	DEPT: MCS	DRAWING NO: E 2002434	REV: 1
SHEET 6 OF				

REVISIONS			
LTR	DESCRIPTION	DFT	ENGR
-	SEE SHEET 1	-	-



SCALE: NONE	SIZE: D	DEPT: MUSD	DRAWING NO: E 2002434	REV: 1
SHEET 7 OF 8				